APPENDIX 1-1

MINTO MINE SITE CHARACTERIZATION – SEISMIC HAZARD ASSESSMENT FOR MINTO, YT

Seismic Hazard Assessment for Minto, YT

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Seismic Hazard Assessment for Minto, YK

1- Introduction

A limited site-specific seismic hazard analysis has been performed for the site of a tailings facility near Minto, Yukon (62.62N 137.23W), for annual exceedence probabilities in the range from 1/100 to 1/10,000 per annum (p.a.). The rationale and input parameters for the hazard assessment are provided in Sections 2 to 4. Section 5 provides the ground-motion parameters determined in this study for a range of probability levels.

The analysis determines the likelihood of ground motion at the site by considering the magnitudes, rates of occurrence, and locations of earthquakes throughout the region, using the probabilistic Cornell-McGuire method. The method is widely used throughout North America and forms the basis for seismic zoning maps in building codes in Canada (Adams and Halchuk, 2003; Halchuk et al., 2014). This assessment represents an update and refinement of the type of estimate provided in the 2005 and 2010 National Seismic Hazard maps by the Geological Survey of Canada (GSC), both of which were based on the model described by Adams and Halchuk (2003). The results of this study consider the effects of major uncertainties on the hazard at the site, and incorporate up-to-date information on seismicity and ground motion prediction equations (GMPEs), which have evolved considerably over the last 10 years (e.g. see Atkinson and Goda, 2011; Atkinson and Adams, 2013 for discussion). The model employed here makes use of information developed for the new national seismic hazard maps of Canada produced by the GSC, which have been approved for incorporation into the 2015 National Building Code of Canada (NBCC) (Halchuk et al., 2014). Additional factors that are important to the Minto site, but not evaluated in the national-level model, are also considered. We note that this analysis addresses natural seismicity, and does not address the probability of potential induced seismicity sources, if any.

In analyzing the engineering effects of ground motion, both the amplitude and frequency content of the vibrations are important. Therefore the seismic ground motions are expressed using the response spectrum (PSA(f)), which shows the maximum acceleration that a simple structure would experience as a function of its natural frequency. The response spectrum result is a Uniform Hazard Spectrum (UHS), in which the amplitude for each frequency corresponding to a specified exceedence probability is provided. The peak ground acceleration (PGA) for this probability is also estimated, as is the peak ground velocity (PGV). The frequency associated with the PGA varies, but in general the PGA is associated with high-frequency motions (near 10 Hz); the PGV is associated with motions near 2 Hz. The UHS results of this study are presented in the figures and tables provided in Section 5.

We perform hazard calculations at the site for NEHRP B/C conditions (near-surface shear-wave velocity of 760 m/s); this is the reference site condition for the results. These results would apply to facilities at or near the site, provided it is founded on NEHRP B/C or a similar soft-rock condition. The results can be adjusted for site class A to be applicable to very hard rock site conditions (shear-wave velocity >1500 m/s), using conversion factors that represent average site amplifications for such conditions. The conversion factors for correcting results to site class A are given herein.

2 – Seismicity and Tectonic Setting

The Minto site is located in an area of moderate seismicity and complex geology. The active Denali fault system lies >100 km to the south, while the less-active Tintina fault lies to the north. The less-known Teslin fault passes near the site, and could be associated with moderate seismicity. In view of the geological complexity of the site area, a desktop fault study was conducted by SRK (Kramer, 2015). Figure 1 highlights the main findings of that study with regards to faults in the site area that may be associated with seismicity. It is noted that although the Teslin fault is the most prominent, the site area is traversed by a network of faults. The major faults identified by SRK include the northwest-trending Denali, Tintina, Teslin, Coghlan, and Big Creek faults, and the north northwest-trending Braeburn, Towhata, and Big Salmon faults. SRK recommended to treat the Teslin fault as a fault system with distributed seismicity. Specifically, Kramer (2015) recommended the faults be considered as an areal zone, roughly 23 km measured at surface across the Minto mine in a northeast-southwest direction (perpendicular to the strike of the faults), and extending 100 km beyond the Minto mine to the northwest.

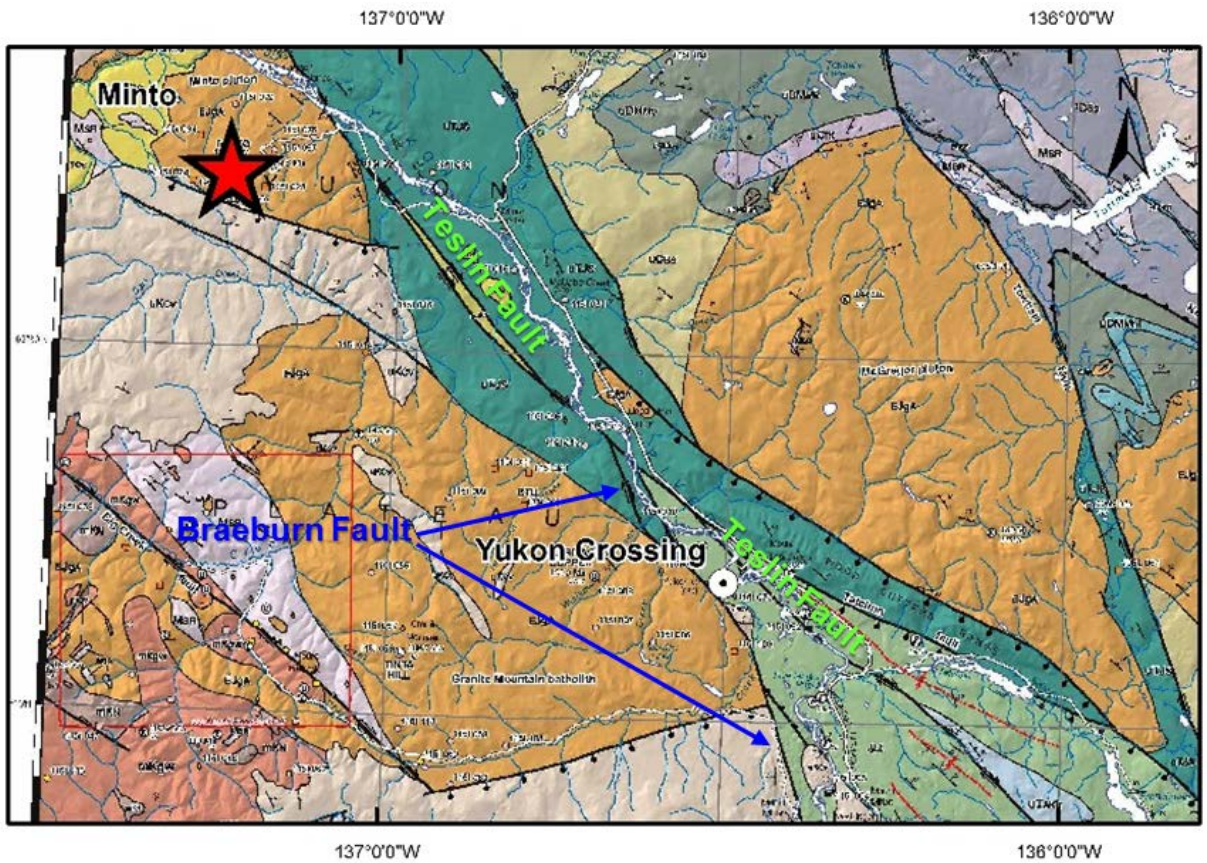

Figure 1 – Faults intersecting near the Minto site, from Kramer (2015) memorandum. Minto site is indicated by the red star.

Figure 2 shows the seismicity in the region around the site in relation to seismotectonic source zones considered in this study. Within the new seismic zoning models developed by the Geological Survey of Canada for the 2015 National Building Code of Canada (Halchuk et al., 2014), the Minto area lies within the YUS areal source zone. This is a very broad areal source zone that apparently contains non-homogeneous seismicity, with events tending to preferentially occur close to the Tintina and Teslin faults, at least in some regions (by inspection of Fig. 2). The GSC model uses fault sources for the active Denali faults to the south, but does not explicitly model the Tintina or Teslin faults, probably because these faults are less active, and there is less available information about them. Site-specific aspects such as the relationship of a site to particular potential seismic sources are not generally considered in the overview-level treatment of seismic sources that is incorporated into the national hazard maps.

We examined the GSC national model to consider the potential impact of defining an areal source zone for the observed seismicity in the region of the Teslin fault and its extension. Because the site lies within this zone, the hazard will be sensitive to how its seismicity is modeled. (By contrast, the Tintina fault is far enough away that hazard is less sensitive to how it is modeled.)

We considered defining a specific source zone to represent the network of faults identified by SRK, as shown by the irregular polygon source on Figure 2 (in which the points of the polygon were provided by Kramer). However, a careful examination of the seismicity at the M>2.7 level reveals that there is no concentration of seismicity in this zone relative to the average rate observed in the YUS zone as a whole. We verified through preliminary hazard calculations that defining this as a separate source, based on the observed rates of M>2.7 events, does not impact the calculated hazard.

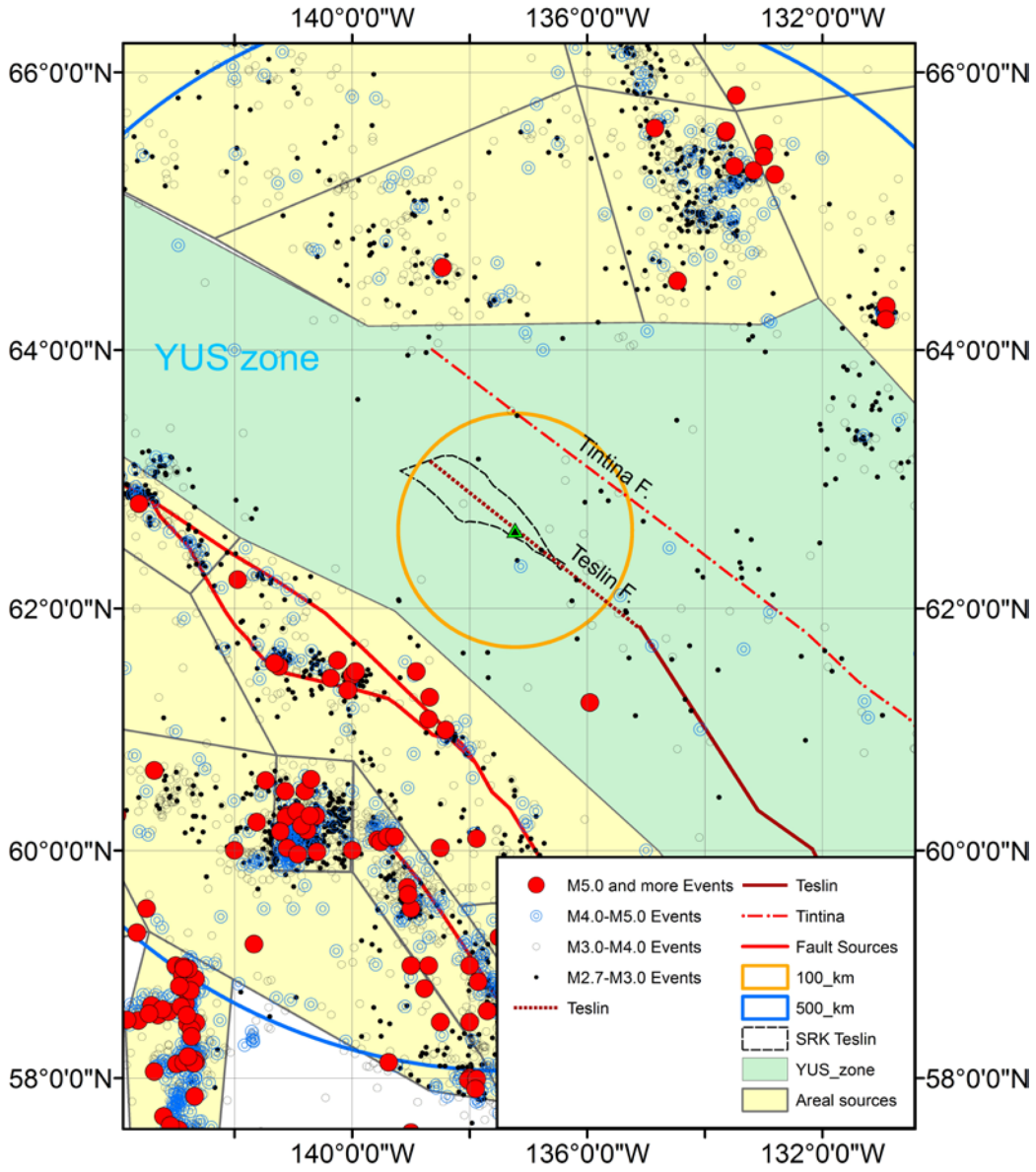

Figure 2 – Historical Seismicity in the Minto area, showing all events of M>2.7 in the catalog within approximately 500 km of the site. Note that the catalog is not complete at lower magnitude levels. We show the regional sources defined in the GSC 2015 model (the solid red lines are the Denali fault sources, the grey lines are areal source zone boundaries, with the YUS zone shown in green). We also show the approximate trace of the Tintina and Teslin Faults as dashed red lines. The dashed black lines outline an alternative source model that contain a group of faults, as suggested by SRK.

While examining the seismicity that might be associated with the network of faults in the site area in detail, we noted that there is an apparent linear trend of low-level (M2 to 2.5) seismicity that passes through the site area, approximately perpendicular to the trace of the Teslin fault. This apparent seismicity trend is shown in Figure 3. Although these events are listed as earthquakes in the Geological Survey of Canada catalogue, a close inspection reveals that they must in fact be blasting events. In addition to the narrow range of magnitudes that they exhibit, we note that if one looks at the time of day of the events, plotted in Figure 4, they occur almost exclusively between 8am and 7pm local time, with most events occurring between 4pm and 6pm – this is characteristic of blasting activity. Therefore we filtered out all events of M<2.7 (thus excluding potential blasts that may have been misidentified as earthquakes) to properly examine the regional seismicity with relation to the faults (Figure 2). Our conclusion is that, in the absence of evidence to suggest geologically-recent activity associated with the faults in the site area, the seismicity environment is best represented by the broad YUS areal source zone. It is recognized that within this broad source zone seismicity occurs at a moderate rate on a diffuse network of faults, which may or may not be recognized in surface expression.

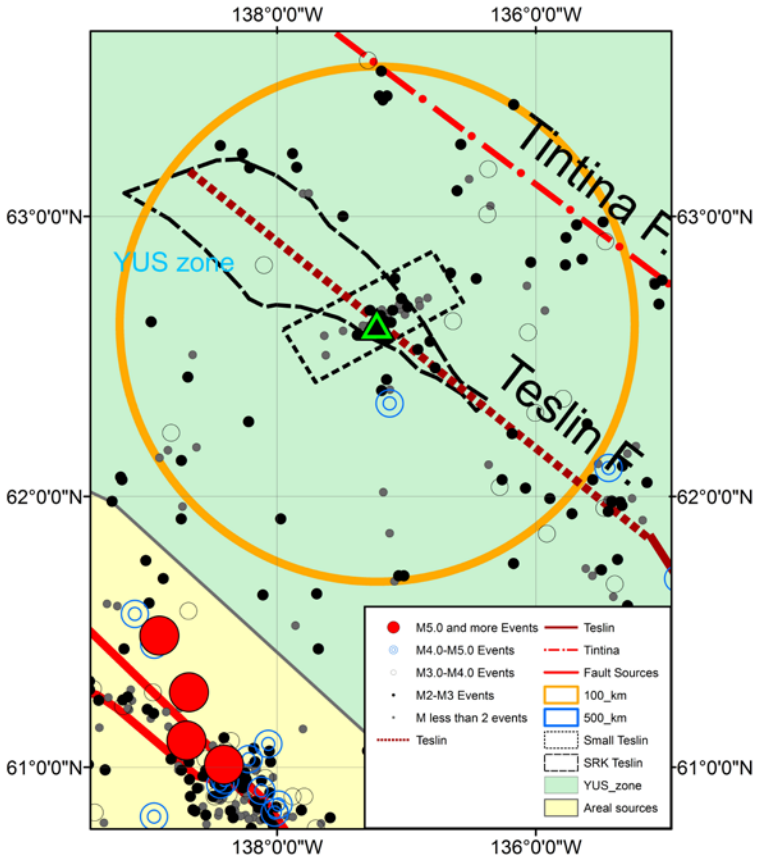

Figure 3 –Enlargement of alternative definitions of the Teslin areal zones. The small dashed black line shows an apparent linear trend of seismicity (see Figure 4). The large dashed black line outlines the fault zone surrounding the Teslin fault as defined by SRK. Dotted red line shows main trend of Teslin fault.

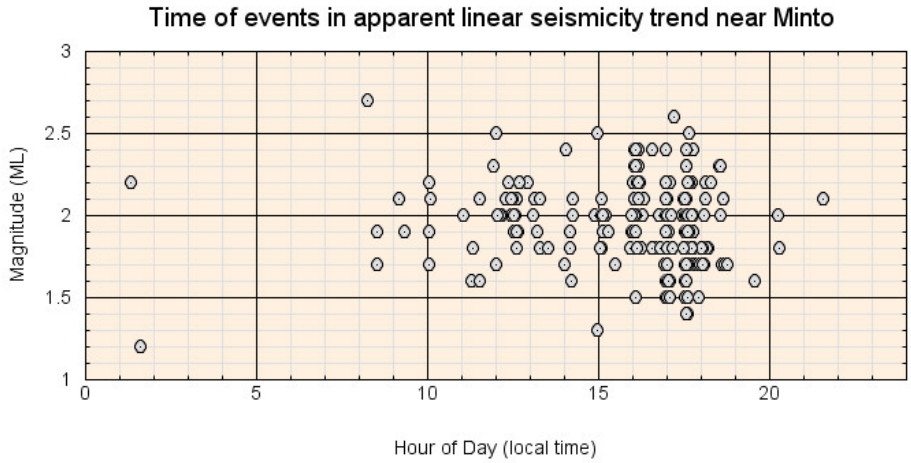

Figure 4 – Plot of time of day in which the events within the apparent linear trend of seismicity noted in Figure 3 occur. Because the events occur almost exclusively between 8am and 7pm, with most being clustered from 4pm to 6pm, we conclude these are actually blasts, not earthquakes.

3 - Seismic Hazard Methodology

We conduct the seismic hazard analysis for Minto using the EqHaz software (Assatourians and Atkinson, 2013). This is an open-source software package that performs probabilistic seismic hazard analysis according to the Cornell-McGuire method, using a Monte Carlo algorithm. It has been validated by checking against the results of FRISK88 as implemented by the Geological Survey of Canada, at selected cities, as described in Assatourians and Atkinson (2013). Furthermore, it was validated for this particular project by checking that the calculated 1/2500 per annum (p.a.) ground motions obtained using EqHaz, for the standard GSC-2015 hazard model, closely match the corresponding results obtained by GSC for the national hazard maps, at a nearby site.

Seismic hazard analyses in Canada are based on probabilistic concepts which allow incorporation of both geologic interpretations of seismic potential and statistical data regarding the locations and sizes of past earthquakes. The Cornell-McGuire method (Cornell, 1968; McGuire, 1976, 1977, 1995; Risk Engineering, 1988) has proven particularly well-suited to calculate expected ground motions for a wide range of seismic hazard environments, offering flexibility in the consideration of spatial and temporal characteristics of regional earthquake occurrence, and the basic physics of the earthquake process.

The spatial distribution of earthquakes is described by defining seismic source zones (areas or faults) on the basis of seismicity and seismotectonic interpretations. The earthquake potential of these zones is often assumed to be spatially uniform; however, an alternative is a “smoothed seismicity” approach, in which the spatial distributions of past event clusters drives the expected seismicity pattern. The GSC uses the uniform seismicity approach exclusively in national

seismic hazard mapping, as the software they are currently using does not have the capability to implement the smoothed-seismicity approach. The U.S. Geological Survey uses a smoothed-seismicity approach (Petersen et al., 2008). In this study, we consider both alternatives.

The frequency of earthquake occurrence within each source zone is described by a magnitude recurrence relationship, truncated at an upper magnitude bound, Mx. Earthquake ground motion prediction equations (GMPEs) provide the link between the occurrence of earthquakes of various magnitudes and the resulting ground motion levels at any site of interest. The probability of exceeding a specified level of ground motion at a site can then be calculated by summing up the hazard contributions over all magnitudes and distances, including all source zones. In most cases, including this study, the hazard is generally dominated by contributions from the source zone within which the site is located – although sometimes active distant sources can be important contributors to long-period hazard. The hazard integral sums up the likelihood of earthquakes at all distances within all source zones, assuming that earthquakes are distributed randomly in space across the source zone (or alternatively by using a spatial smoothing algorithm to consider the historical distribution of seismicity patterns more closely). To obtain ground motion levels or earthquake response spectra for a specified probability, calculations are repeated for a number of ground motion values, for all desired ground motion parameters, and interpolation is used to determine the relationship between ground-motion amplitude and annual probability.

The Cornell-McGuire framework has been well-accepted in all parts of North America. In Canada, it forms the basis for the seismic hazard maps in the National Building Code of Canada (NBCC, 1985 and beyond), and is the usual basis for seismic hazard evaluations of all important engineered structures. The results are generally expressed as a Uniform Hazard Spectrum (UHS), in which the amplitude for each frequency corresponding to a specified target probability is provided. The peak ground acceleration (PGA) and velocity (PGV) for the target probability may also be estimated. When time histories of ground-motion are required for use in engineering analyses, these may be derived to be consistent with the expected ground motion characteristics of the UHS for the target probability (e.g. McGuire, 2004).

The calculations are carried out using the EqHaz program set developed by Assatourians and Atkinson (2013) (www.seismotoolbox.ca/EQHAZ.html). This program performs probabilistic seismic-hazard analysis (PSHA) by the Monte Carlo simulation method (Musson, 1998, 1999, 2000, 2012a; Hong and Goda, 2006; Assatourians and Atkinson, 2013). The program can handle areal and fault sources with magnitude-recurrence statistics as described by Gutenberg–Richter (untruncated, truncated, or tapered), or a user-specified discretized cumulative or incremental magnitude-recurrence distribution. Ground-motion amplitudes are modeled as user-specified functions of magnitude and distance (in a table format). Both epistemic and aleatory uncertainty in the key input parameters can be modeled. The user may treat these uncertainty sources as equivalent (in terms of our ability to predict future ground motions), enabling the treatment of ground motions realized over a long simulated catalog as an extreme-value statistical problem. Alternatively, the user may treat epistemic uncertainty separately using confidence fractiles on

the input parameters, which has been traditional practice (e.g., McGuire, 2004). The mean-hazard results, which are the focus of this study, are not sensitive to this choice.

To utilize the capabilities of EqHaz, we require a description of seismic hazard parameters and their uncertainties. This includes the delineation of the region into alternative source zone models (which may include both areal sources and fault sources), representing alternative tectonic interpretations of the seismicity, with estimates of the likelihood that each zonation model is the 'true' model. Within each source model, alternative geometric configurations (and associated weights) may be specified for each individual source, if desired. For this study, the main focus is on the regional hazard model defined by the GSC for the 2015 national hazard maps, including its alternative seismicity parameters. However, we also examined the implications of faults not modeled in the GSC model, specifically the Tintina and Teslin faults. We evaluated the sensitivity of the hazard calculations to alternative treatments of seismicity that appears to be associated with these faults.

For each source zone of each model, magnitude recurrence parameters and their uncertainty are modeled by alternative No, beta pairs (eg. rate and slope of the Gutenberg - Richter recurrence relation), with associated weights. Three pairs were used for each source zone. Maximum magnitudes for each source zone were also specified by three alternative values. For each ground motion parameter, three alternative GMPEs were defined; parameters included the 5% damped pseudo-acceleration (average horizontal component), for frequencies of 0.2 to 20 Hz, plus peak ground acceleration and velocity. The alternatives for each input parameter and their weightings follow the GSC 2015 national seismic hazard model, with one exception. The exception is that we also consider a smoothed-seismicity representation of the distribution of epicenters, which better models the spatial distribution of seismicity within the zones. This may help to consider the implications of fault zones that lie within areal sources, which may act to concentrate seismicity over the regional background levels.

4 - Input Parameters for Seismic Hazard Analysis at Minto

To explore the main uncertainties in seismic hazard assessment at Minto, while keeping the scope of the study limited, we have used the GSC national hazard model (as summarized in Halchuk et al., 2014, and Atkinson and Adams, 2013) as a starting point, then added in consideration of the uncertainties that are specific to the Minto site, including information from the geological report on faulting in the site area prepared by SRK (Kramer, 2015). In essence, we use the GSC regional model, but examine the implications of alternative definitions for the seismogenic source zone in which Minto is located, in particular considering the potential sensitivity of hazard to major faults that are near the site (the Tintina and Teslin faults). We also consider uncertainty in the distribution of events within zones, by considering a smoothed-seismicity model that better reproduces concentrations of events that have occurred historically within the source zones. For the smoothed seismicity model, and for consideration of fault activity, we use the Canadian Composite Seismicity Catalogue (CCSC), updated to 2013. The Appendix lists the model parameters employed in the analysis by EqHaz, which follow those used by the GSC in the national hazard maps for 2015.

Source Zones

Known seismicity in the Minto region is mapped in Figure 2, along with the source zones used to characterize seismicity in the Minto region region. The seismicity is taken from the Canadian Composite Seismicity Catalogue (CCSC) (see Fereidoni et al., 2012); information downloaded from the GSC website (www.earthquakescanada.nrcan.gc.ca) is also considered in Figures 3 and 4. All catalogue events for Figure 2 were converted from local magnitude scales to moment magnitude as required, as described in Fereidoni et al. (2012). Most of the events in the catalogue are local magnitude (ML), which was converted to moment magnitude (**M**), using **M**= ML-0.18. This relationship was developed using empirical correlations between **M** and ML for events in the region.

The areal source zones follow those defined by the GSC. In addition to using the GSC approach of assuming uniform seismicity within each zone, we also consider the sensitivity of results to use of the smoothed-seismicity approach, in which epicenters tend to cluster in a manner similar to their historical distribution. The GSC includes fault-source zones for the Denali faults (shown in red in Figure 2; parameters as given in Appendix A).

In the GSC model, a very large geographic region is included within the YUS source zone. Based on examination of the seismicity and major regional faults, it appears that the seismicity within YUS is in places concentrated along the trends of the Tintina and Teslin faults. Moreover, the Teslin fault is part of a complex system of faults in the site area, as documented by SRK (Kramer, 2015). The properties of these faults are not well known, probably due in part to the remoteness of the area. As discussed in Section 2, a careful evaluation of the seismicity in the area led us to the conclusion that it is best modeled using the broad YUS source zone. To consider the implications of clustering of seismicity with the YUS zone, along potential fault sources that it may include, we consider both the uniform and smoothed-seismicity spatial distributions.

Our seismic hazard assessment explicitly considers the influence of all source zones within a 300 km radius of Minto. There are additional active zones at greater distance, but these are too far away to contribute significantly to hazard, relative to the nearby sources. A possible exception is that at long periods (>2 s), there may be a significant contribution to hazard from the subduction zone bordering Alaska. We treat this subduction source deterministically, by considering a M9 scenario event at a distance of 530 km (approximate distance for the nearest approach of the subduction zone). Ground motions from this event will be assessed at the median plus sigma level, and compared to the results from the probabilistic hazard assessment. For this exercise, the medium-level subduction GMPE as given in Atkinson and Adams (2013) (at the +sigma level) is used.

Magnitude Recurrence Relations

Recurrence data, expressing the relative frequency of occurrence of earthquakes within a zone as a function of magnitude, can generally be fit to the Gutenberg-Richter relation:

$$\text{Log } N(M) = a - b\,\mathbf{M}$$

where N(M) is the number of events per annum of magnitude **≥M**, **M** is moment magnitude, and *a* and *b* are the rate and slope of the relation. (Note: various types of truncation to a maximum magnitude can be applied to the above expression; in EQHAZ we use an exponential truncation.) In most parts of the world, *b* values are in the range from 0.8 to 1, while *a* values vary widely depending on the activity level of the region.

For this study, as we have adopted the recently-developed source zone models of the GSC, we likewise adopt their magnitude-recurrence relations for all zones (from Halchuk et al., 2014). These recurrence relations were calculated with a maximum likelihood algorithm, using the seismicity data of the SHEEF2011 moment-magnitude catalog of the GSC (Halchuk et al, 2014). The SHEEF2011 catalog (Geological Survey of Canada) is very similar to the Canadian Composite Catalog of Fereidoni et al. (2011). The magnitude recurrence relations for the most critical zone, the YUS zone, is shown in Figure 5, including the best-estimate rates, and upper and lower alternative curves that express uncertainty in the recurrence rates; the uncertainty in the maximum magnitude is also shown.

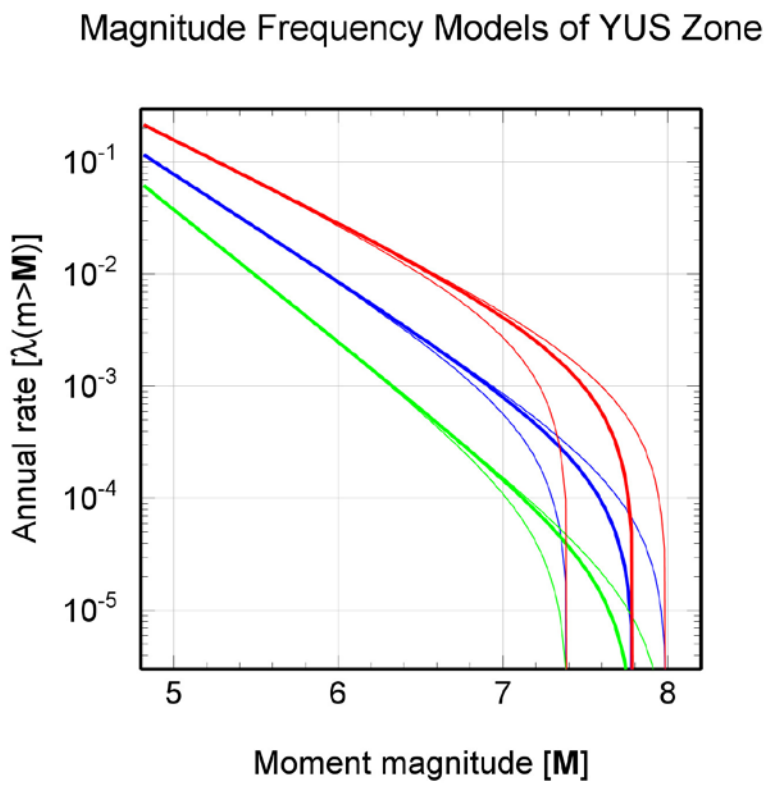

Figure 5 – Recurrence Relations for the YUS (Yukon South) zone. The best-estimate (most-heavily weighted) is the heavy blue line, while red line shows upper-branch recurrence model and green line shows lower-branch recurrence model. Each alternative relation (line) is associated with three alternative Mx (maximum magnitude) values (low, best, high).

The complete set of seismicity parameters for all zones as implemented in this study are given in the Appendix. For all zones outside the YUS the contributions to hazard at Minto will be relatively modest by comparison. For all zones we follow the distributions of the recurrence relations and maximum magnitudes used by the GSC.

The implemented source model incorporates epistemic uncertainty in recurrence parameters and maximum magnitudes. For the minimum magnitude, we used a value of 4.8, consistent with the GSC value. For the maximum magnitude, the range of considered values in the YUS zone is from **M**7.4 to **M**8.0. Larger events, up to **M**8.4, are considered for the Denali fault zone. The relative weights for the alternative models follow those used by GSC, as provided in the Appendix.

An additional modification to the GSC approach that we consider concerns the distribution of seismicity within the zones. In the GSC model, the seismicity within each zone is assumed to be uniformly distributed in space over the entire zone. We consider also an alternative, in which the spatial smoothing algorithm described by Assatourians and Atkinson (2013) is implemented. The spatially-smoothed seismicity more nearly accords with historical clustering of seismicity within each zone (as based on the Canadian Composite Catalog). The spatial smoothing approach is similar to that implemented by the USGS (Petersen et al., 2008). This provides a test of the sensitivity of results to the spatial distribution of events, and its unevenness in some zones.

The completeness intervals used in interpreting the historical seismicity distribution for the spatial-smoothing model are as follows (where it is assumed that the historical catalog is complete for each magnitude level beginning with the years quoted):

Year to begin statistics:

M3.0	**M**3.8	**M**4.3	**M**4.8	**M**5.3	**M**5.8	**M**6.3	**M**7.2
1979	1972	1965	1962	1951	1935	1917	1899

Ground motion prediction equations

Ground motions for the reference ground condition of B/C boundary are given in this analysis by the ground-motion prediction equations (GMPEs) of Atkinson and Adams (2013) for crustal events in western North America (WNA). The equations provide peak ground acceleration (PGA) and velocity (PGV), as well as response spectra (PSA, 5% damped horizontal component) as a function of moment magnitude and distance. The equations were developed considering the alternative GMPEs available from the NGA-West1 project. To consider epistemic uncertainty in the median GMPEs, Atkinson and Adams define a central, lower, and upper suite of GMPEs for input to the hazard analysis. These alternatives were defined by considering alternative proposed GMPEs for WNA, and the data that guided them. The central (preferred) curve follows the Boore and Atkinson (2008) GMPE, as updated by Atkinson and Boore (2011); this is referred to as BA08'. Low and high alternative curves were defined considering uncertainty as indicated by the alternative NGA-West GMPEs (shown in Figure 6), and the constraints on these curves suggested by the data from which they were developed. The epicentral distance version of the

Atkinson and Adams equations is used for areal sources, as the events are treated as point sources in the hazard analysis, with appropriate conversions from finite-source to point-source distance metrics implemented as described by Atkinson and Adams (2013).

We considered these three alternative GMPEs with weights of 0.5 (middle), 0.3 (upper) and 0.2 (lower). The considered suite of ground-motion relations is shown on Figure 6 for NEHRP B/C site conditions (random horizontal component). Conversion of results to other site conditions is discussed in Section 5.

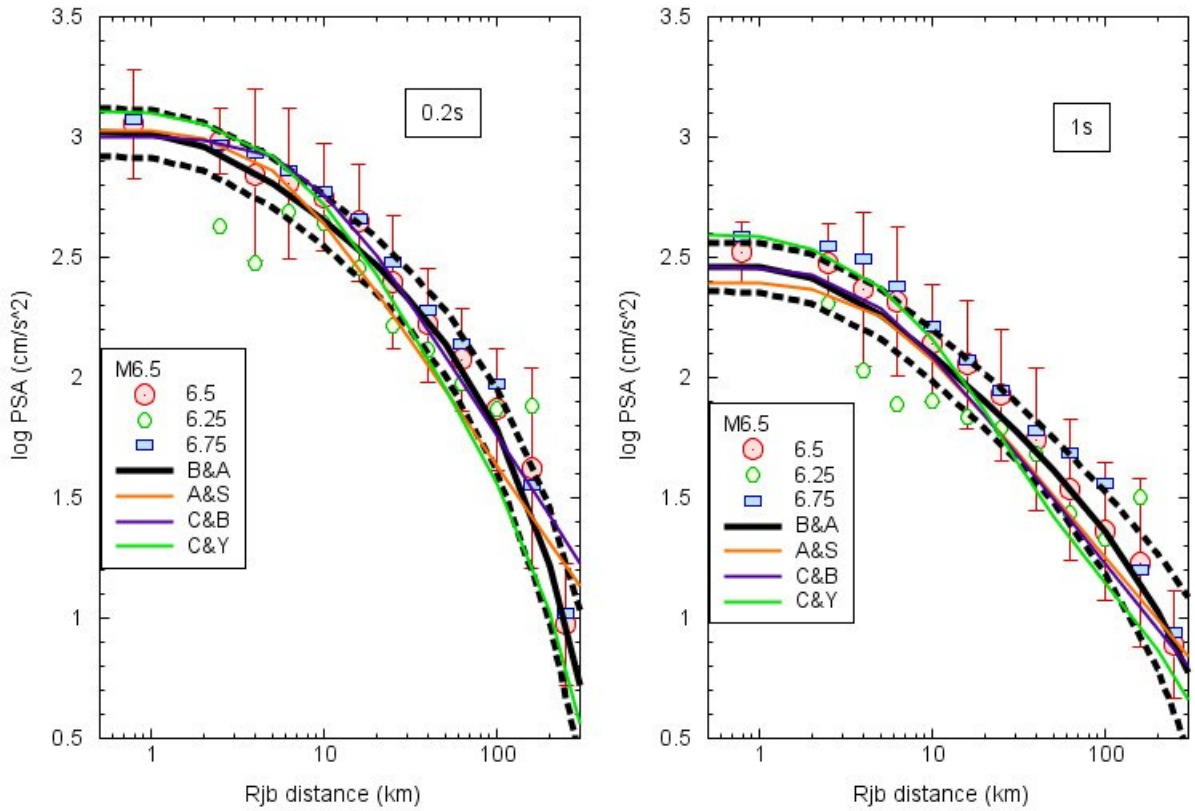

*Figure 6 – Proposed lower, central and upper GMPEs, for **M**6.5 crustal events in WNA. Solid black line is central equation (BA08'); dashed black lines are lower and upper equations, obtained by adding and subtracting delta from the central equation. Solid lines show other PEER-NGA equations. Symbols show means of the log amplitudes for various 0.5 unit magnitude bins; error bars show standard deviation for the M6.5 magnitude bin. (from Atkinson and Adams, 2013)*

Random uncertainty in the GMPEs was modeled by a lognormal distribution of ground motion amplitudes about these median relations, with a standard deviation of 0.23 log (base 10) units for high frequencies, increasing to 0.27 units at low frequencies. This random uncertainty is consistent with recent studies (eg. Atkinson, 2012; Atkinson and Adams, 2013).

Ground-motion prediction equations are also required to consider the deterministic scenario postulated for the subduction zone bordering Alaska. For this event, we use the "weighted-

mean" GMPE of Atkinson and Adams (2013) for a **M**9 subduction event at 530 km, multiplied by a factor of two to provide median plus one sigma motions (approximately).

5 - Seismic Hazard Results for Minto

Figure 7 provides the mean-hazard curves for the Minto site for a selection of frequencies, showing how the amplitude of motion increases as the probability of its exceedence decreases. The calculations are performed for a B/C reference site condition (near-surface shear wave velocity of 760 m/s). We show hazard curves for both the uniform and smoothed-seismicity distribution of seismicity. It is noted that the results are very similar. Our preferred model is that from the uniform-seismicity approach as it is slightly more conservative, yet not so different as to suggest that the uniform-seismicity distribution is unreasonable for the site area.

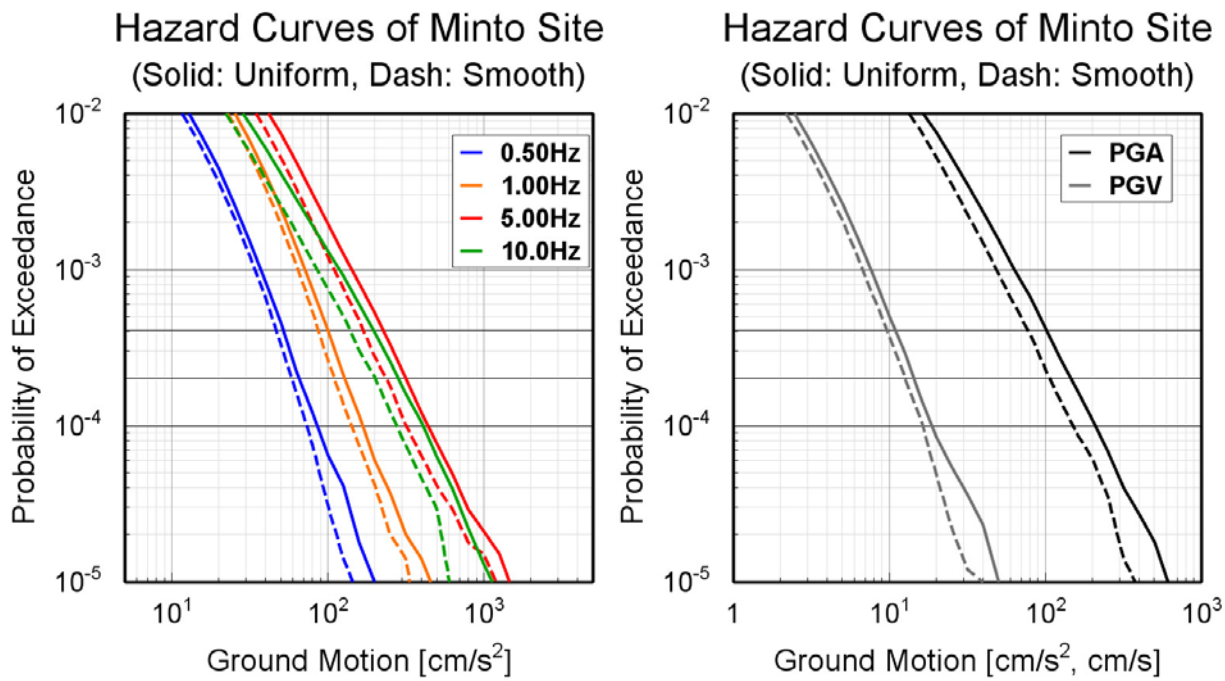

Figure 7 – Mean-hazard curves for Minto for selected frequencies(B/C site conditions). Both the uniform-seismicity and the smoothed-seismicity spatial distribution implementations are shown.

Figure 8 provides an overview of mean-hazard results for a range of probabilities, for B/C conditions (the reference condition, for which all hazard calculations were performed). Probability levels of 0.01 to 0.0001 per annum, corresponding to "return periods" of 100 to 10,000 years, are shown; note that the return period is simply the inverse of the annual probability. The results are given as a Uniform Hazard Spectrum (UHS), in which the mean-hazard motion for each spectral frequency is plotted for a specified probability of exceedence. The peak ground acceleration (PGA) is plotted at 90Hz for reference, even though it does not correspond to a specific frequency.

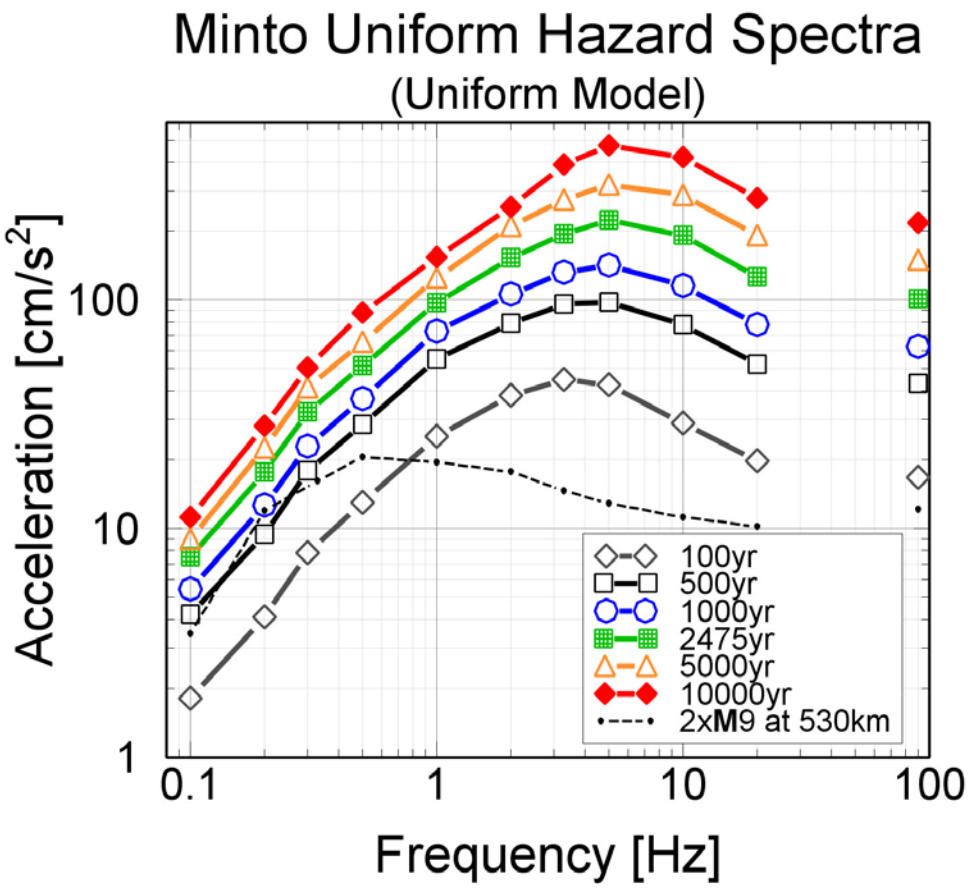

*Figure 8 – Mean-hazard Uniform Hazard Spectrum (UHS) at Minto for a range of return periods (B/C conditions). Deterministic scenario motions for a **M**9 subduction event at 530 km are also shown (the median **M**9 motions are multiplied by a factor of two to represent median + one standard deviation amplitudes). PGA is plotted for reference at a frequency of 90Hz. The uniform seismicity model is assumed.*

Table 1 presents the plotted values in cgs units, while Table 2 presents the equivalent values in units of g (where 1g=980 cm/s^2). (Note: these values use the uniform-seismicity assumption within each source zone.) We also include conversion factors if results are desired for hard-rock site conditions (NEHRP A with near-surface shear wave velocities of >2000 m/s) or NEHRP C (firm ground, with near-surface shear wave velocities of 450 m/s). The conversion to NEHRP A follows that given in Atkinson and Adams (2013), while the conversion to C follows that being recommended for the 2015 NBCC.

Table 1 – Mean-hazard UHS results (average horizontal-component PSA, 5% damped, ***in cm/s²*** *for Minto for B/C conditions.* ***M****9 deterministic scenario motions (B/C), where these should be applied in place of UHS motions where larger. Multiplicative conversion factors to apply to go from B/C to C (450 m/s) are also listed. The uniform-seismicity approach is used.*

Frequency	0.01 p.a.	0.002 p.a.	0.001 p.a.	0.0004 p.a.	0.0002 p.a.	0.0001 p.a.	**M9 scenario (deterministic)**	B/C to C
0.1	1.8	4.2	5.4	7.5	9.0	11.2	**3.5**	1.47
0.2	4.1	9.4	12.6	17.6	22.5	28.1	**12.0**	1.47
0.33	7.8	17.8	22.9	32.4	41.4	50.4	**16.1**	1.47
0.5	13.0	28.5	36.8	51.4	65.4	87.9	**20.6**	1.47
1	25.3	55.1	72.7	96.9	124.8	154.0	**19.4**	1.44
2	38.1	79.0	105.7	152.3	209.9	254.2	**17.8**	1.37
3.33	44.9	95.6	131.4	194.3	275.2	391.7	**14.6**	1.26
5	42.5	97.8	141.6	223.6	319.9	473.0	**12.9**	1.18
10	28.8	77.9	115.6	191.7	287.2	420.3	**11.2**	1.14
20	19.7	52.3	77.8	126.2	190.9	278.0	**10.2**	1.14
PGA	16.7	43.1	62.4	100.8	149.6	218.0	**12.1**	1.21
PGV	2.5	5.6	7.7	10.7	14.4	18.6	**4.2**	1.37

Table 2 – Mean-hazard UHS results (average horizontal-component PSA, 5% damped, in ***units of g****, for Minto for B/C conditions.* ***M****9 deterministic scenario motions (B/C), where these should be applied in place of UHS motions where larger. Multiplicative conversion factors to apply to go from B/C to C (450 m/s) are also listed. The uniform-seismicity approach is used.*

Frequency	0.01 p.a.	0.002 p.a.	0.001 p.a.	0.0004 p.a.	0.0002 p.a.	0.0001 p.a.	**M9 scenario (deterministic)**	B/C to A
0.1	0.002	0.004	0.006	0.008	0.009	0.011	**0.004**	0.92
0.2	0.004	0.010	0.013	0.018	0.023	0.029	**0.012**	0.87
0.33	0.008	0.018	0.023	0.033	0.042	0.051	**0.016**	0.84
0.5	0.013	0.029	0.038	0.052	0.067	0.090	**0.021**	0.81
1	0.026	0.056	0.074	0.099	0.127	0.157	**0.020**	0.78
2	0.039	0.081	0.108	0.155	0.214	0.259	**0.018**	0.72
3.33	0.046	0.097	0.134	0.198	0.281	0.399	**0.015**	0.74
5	0.043	0.100	0.144	0.228	0.326	0.482	**0.013**	0.76
10	0.029	0.079	0.118	0.195	0.293	0.428	**0.011**	0.93
20	0.020	0.053	0.079	0.129	0.195	0.283	**0.010**	1.26
PGA	0.017	0.044	0.064	0.103	0.152	0.222	**0.012**	$10^{(0.3-0.15\times\log R_{epi})}$
PGV(m/s)	0.025	0.056	0.077	0.107	0.144	0.186	**0.004**	0.81

The ground-motion spectrum for the **M**9 deterministic scenario subduction median+sigma event at 530 km is also shown on Figure 8 and in Table 1. The motions from this event are much less than the UHS at all frequencies, for return periods of 1000 years and greater. Therefore the **M**9 scenario can be neglected, except for any facilities that may be sensitive to low amplitudes of shaking with very long duration.

On Figure 9, the UHS is compared to the motions in the current (2010) building code. To make the comparisons applicable to the same site condition, the building code results for Class C were first reduced to the equivalent values for B/C, dividing by the B/C to C factors shown in Table 1. The increase in the UHS relative to the 2010 NBCC values largely reflects additional modeled fault sources in the region, as well as updated representations of ground motions and their uncertainty. Moreover, it may be noted that both this study and the 2015 GSC model provide mean-hazard spectra, whereas the 2010 model is closer to median-hazard.

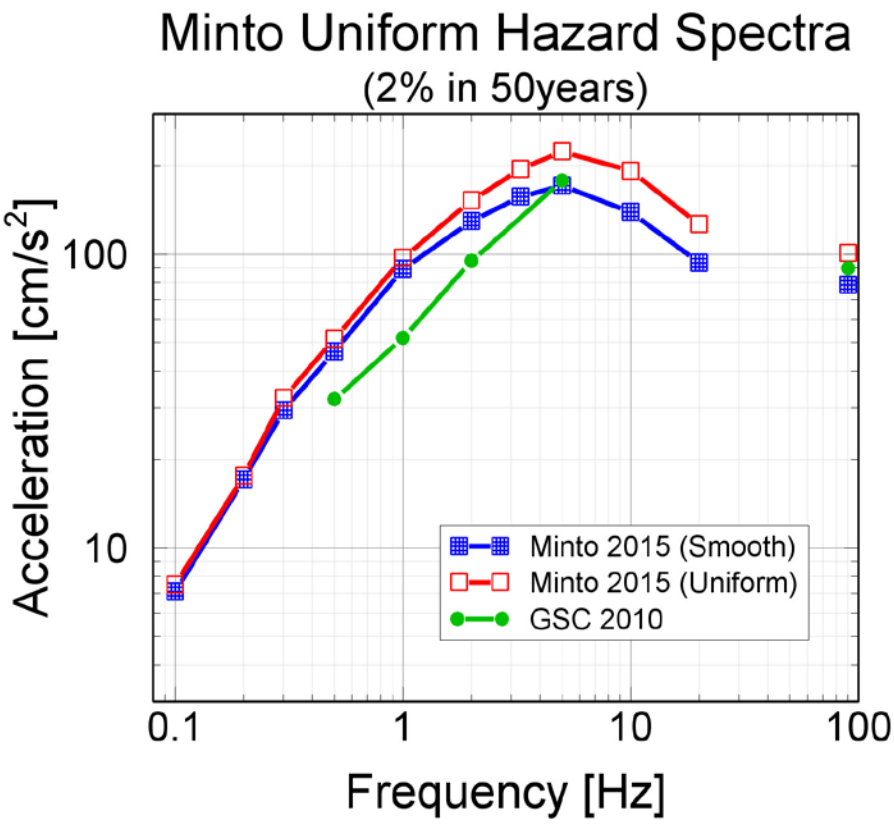

Figure 9 – Comparison of mean-hazard spectrum for Minto at 1/2500 p.a.(2% in 50 years) with results from 2010 building code values, all for B/C site conditions. PGA plotted at 90 Hz for reference. GSC 2010 model is derived from GSC online automatic calculator and converted to B/C site class, while Minto 2015 model is based on implementing 2015 NBCC model in EqHaz.

The seismic hazard can be deaggregated to show the dominant contributions to the hazard at any probability level as a function of magnitude and distance. Figure 10 presents such deaggregations, for selected frequencies, for the 1/10,000 p.a. probability. Note that

deaggregations for the 1/2500 p.a. probability are similar, except that the weights of the distributions shift to slightly closer distances, and slightly lower magnitudes.

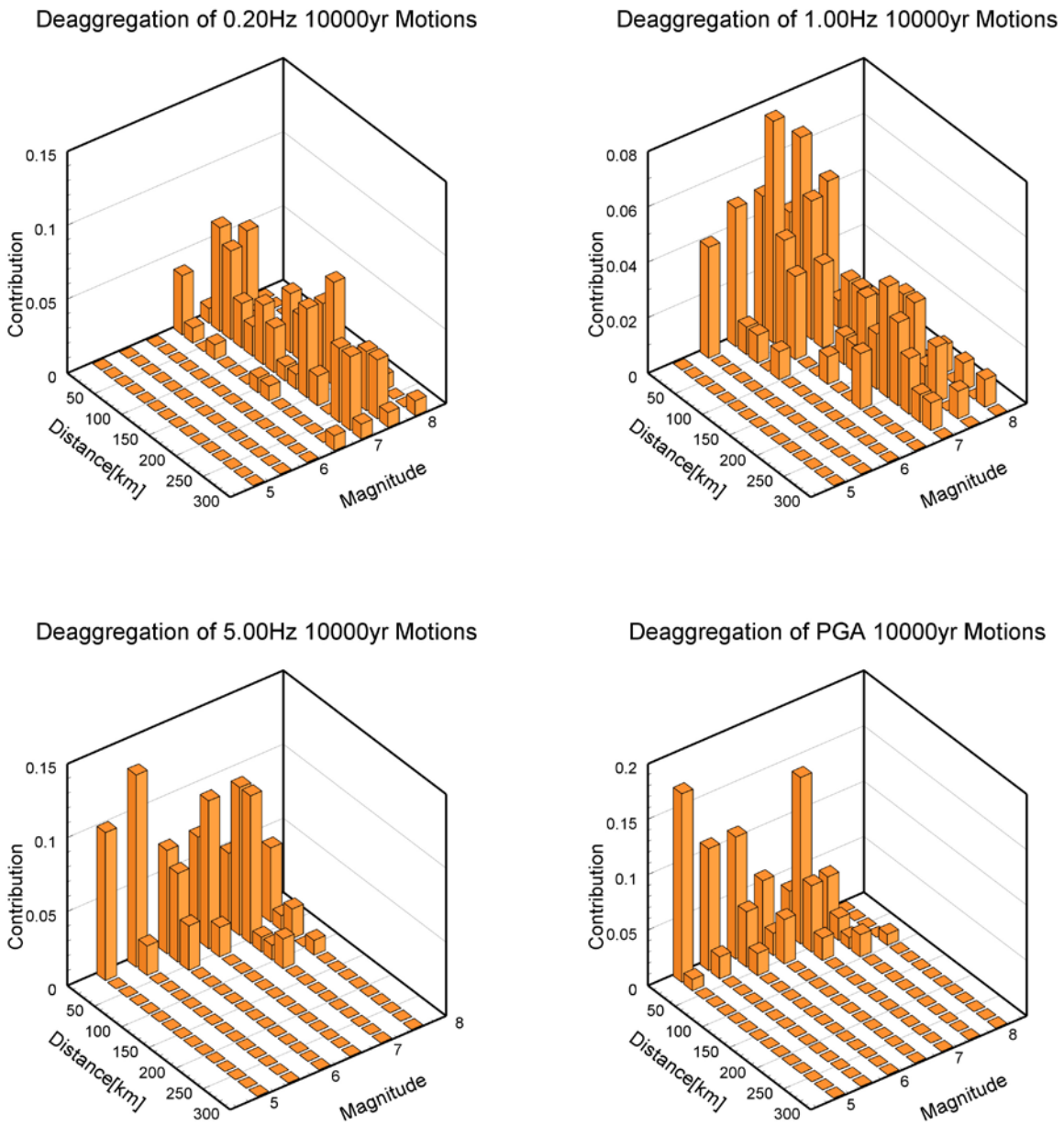

Figure 10 – Deaggregation of Minto hazard for 1/10,000 p.a. motions, for selected frequencies and PGA.

The deaggregation results are useful in the selection of time histories for use in analyses of the dynamic response of structures. Based on the deaggregation results shown, representative time

histories for low-probability events would be events in the M 6.5 to 7.5 range, at distances less than 50 km; at high frequencies the contributions shift to somewhat lower magnitudes. On Figure 11, we compare some typical scenario events in the appropriate magnitude-distance range to the Minto mean-hazard UHS at 1/10,000 p.a. probability.

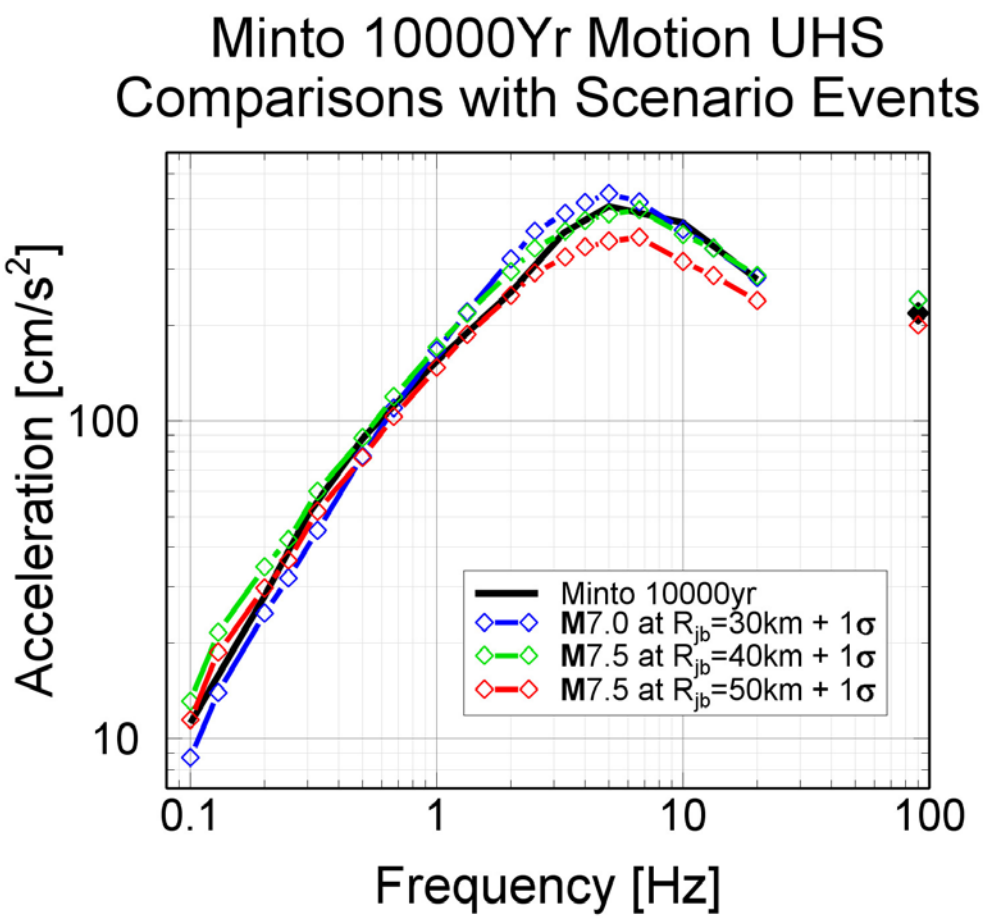

Figure 11 – Comparison of mean-hazard UHS at Minto (B/C site conditions) at 1/10,000 p.a. to selected scenario events. The central GMPE (BA08'), at approximately the +one sigma level, is used to estimate spectra for the scenario events.

6 – Summary and Conclusions

A seismic hazard analysis has been performed for the Minto, Yukon site. Considering the major regional source zones as defined in the GSC national seismic hazard model, for an annual probability of exceedence of 0.0001, corresponding to a 10,000 year return period ground motion, the mean-hazard value of peak ground acceleration (PGA) at Minto is approximately 22%g (220 cm/s^2) for NEHRP B/C soil conditions (average shear-wave velocity of 760 m/s in upper 30 m). The mean-hazard ground motions are provided in Table 1. The motions at 1/10,000 p.a. are similar to those that would be expected for events in the M7 range, at distances

less than 50 km. Such an event could be considered as a deterministic scenario on a fault in the site area.

We note that the calculated hazard is potentially sensitive to the treatment of activity near the site. Under the source-zone geometry defined by SRK, the site lies within a broad network of area faults having seismicity levels that are consistent with those in the broader YUS area as a whole. Thus the local area faults have minimal impact on the computed seismic hazard in this study. However, if any of the faults near the site has indications of geologically-recent activity, this could impact the hazard significantly. In this study, we have assumed that none of the faults in the site area have enhanced activity, relative to that for the region as a whole. This assumption is consistent with the observed seismicity in the site area.

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Appendix – EQHAZ input parameters for calculations

EqHaz1 Input:

```
! EqHaz1 input for SRK project
! GSC 2015 NW model implemented. 12 areal sources within 500 km from site. 12 fault sources are treated after areal sources'
        block.
! This run will generate 1000000 years of synthetic events to be used in EqHaz2
100 10000.                !Number of subcatalogue simulations and number of years of each subcatalog
12  12                    !Number of zones and number of faults
1   1   0                 !Seed value of random generation subroutine (Use 0 for random seed, integer for repeatable seed), mixing
        epistemic/aleatory uncertainties (Yes=1, No=0), do smooth seismicity (Yes=1, No=0)
!ccsc11west.txt  smooth.par    !Name of earthquake catalog file used for smooth seismicity approach, name of parameter file used
        for smooth seismicity approach
DSR      1   2   4.80
1  10   10.0    2.0    0.0
3
      1.8799     2382.9600        0.6800
      2.3300    13130.1299        0.1600
      1.4299      429.4700        0.1600
3
      7.2000        0.6000
      6.9000        0.3000
      7.5000        0.1000
3
     10.0000        0.5000
     15.0000        0.2500
      5.0000        0.2500
 58.860  -135.446
 59.597  -136.557
 59.521  -138.150
 60.750  -139.982
 60.799  -141.284
 62.116  -142.754
 62.565  -141.900
 61.981  -139.251
 60.005  -134.795
 59.286  -133.669
DCZ      1   2   4.80
1   4   10.0    2.0    0.0
3
      2.2000     3557.8501        0.6800
      2.7190    23664.0195        0.1600
      1.6810      517.3500        0.1600
3
      7.6000        0.6000
      7.4000        0.3000
      7.8000        0.1000
3
     10.0000        0.5000
     15.0000        0.2500
      5.0000        0.2500
 64.175  -139.732
 64.822  -142.342
 65.911  -136.191
 64.203  -135.031
GCB      1   2   4.80
1   4   10.0    2.0    0.0
3
```

```
      2.1791     5157.6499        0.6800
      2.8312    61414.3711        0.1600
      1.5269      403.1200        0.1600
3
      7.2000        0.6000
      7.0000        0.3000
      7.4000        0.1000
3
     10.0000        0.5000
     15.0000        0.2500
      5.0000        0.2500
 59.521  -138.150
 59.597  -136.556
 58.860  -135.447
 58.517  -136.777
RMN      1   2   4.80
1   5   10.0    2.0    0.0
3
      2.0300     2865.2300        0.6800
      2.2030     4410.2300        0.1600
      1.8570     1803.4399        0.1600
3
      7.8000        0.6000
      7.5000        0.3000
      8.0000        0.1000
3
     10.0000        0.5000
     15.0000        0.2500
      5.0000        0.2500
 67.255  -135.166
 66.340  -134.435
 65.729  -133.477
 65.910  -136.189
 67.224  -137.083
RMS      1   2   4.80
1   5   10.0    2.0    0.0
3
      1.8000     1846.3400        0.6800
      1.9730     2889.6799        0.1600
      1.6270     1166.9700        0.1600
3
      7.8000        0.6000
      7.5000        0.3000
      8.0000        0.1000
3
     10.0000        0.5000
     15.0000        0.2500
      5.0000        0.2500
 65.910  -136.191
 65.729  -133.476
 64.382  -132.063
 64.187  -133.047
 64.203  -135.031
WMR      1   2   4.80
1   5   10.0    2.0    0.0
3
      2.0000      818.5100        0.6800
      2.5190     4688.3999        0.1600
      1.4810      138.2200        0.1600
3
      7.6000        0.6000
      7.4000        0.3000
```

```
      7.8000        0.1000
3
     20.0000        0.5000
     30.0000        0.2500
     10.0000        0.2500
 61.131  -145.331
 63.115  -147.674
 63.156  -146.091
 62.116  -142.754
 60.799  -141.284
WSE      1   2   4.80
1   4   10.0    2.0    0.0
3
      2.2726    20668.6309        0.6800
      2.6212    74235.5234        0.1600
      1.9239     5740.2798        0.1600
3
      7.3000        0.6000
      7.1000        0.3000
      7.5000        0.1000
3
     10.0000        0.5000
     15.0000        0.2500
      5.0000        0.2500
 59.831  -141.373
 60.800  -141.285
 60.752  -139.977
 59.817  -140.032
YAK      1   2   4.80
1   8   10.0    2.0    0.0
3
      1.4373      421.7400        0.6800
      1.7047     1060.4700        0.1600
      1.1699      165.3700        0.1600
3
      8.1000        0.6000
      7.9000        0.3000
      8.4000        0.1000
3
     10.0000        0.5000
     15.0000        0.2500
      5.0000        0.2500
 61.131  -145.332
 60.800  -141.285
 59.826  -141.371
 59.813  -139.993
 58.190  -137.790
 57.782  -137.423
 57.885  -138.689
 59.299  -143.454
YAR      1   2   4.80
1   5   10.0    2.0    0.0
3
      2.2000     6720.3101        0.6800
      2.7190    48309.0508        0.1600
      1.6810      923.0400        0.1600
3
      7.8000        0.6000
      7.4000        0.3000
      8.0000        0.1000
3
     10.0000        0.5000
```

```
     15.0000        0.2500
      5.0000        0.2500
 68.222  -137.833
 65.911  -136.190
 64.822  -142.342
 65.551  -145.713
 66.028  -145.592
YUS      1   2   4.80
1  13   10.0    2.0    0.0
3
      2.2000     4442.3630        0.6800
      2.7190    29723.1114        0.1600
      1.6810      620.4459        0.1600
3
      7.8000        0.6000
      7.4000        0.3000
      8.0000        0.1000
3
     10.0000        0.5000
     15.0000        0.2500
      5.0000        0.2500
 63.878  -146.103
 65.550  -145.717
 64.175  -139.730
 64.203  -135.038
 64.187  -133.051
 64.382  -132.065
 62.029  -127.307
 60.785  -127.267
 59.526  -128.270
 59.286  -133.669
 59.999  -134.786
 61.980  -139.267
 62.564  -141.901
FWFA     1   2   4.80
1  10   10.0    2.0    0.0
3
      1.1700       83.7000        0.6800
      1.7063      862.6200        0.1600
      0.6337        7.8700        0.1600
3
      6.7000        0.6000
      6.5000        0.3000
      6.9000        0.1000
3
     10.0000        0.5000
     15.0000        0.2500
      5.0000        0.2500
 55.468  -135.491
 56.556  -136.364
 58.190  -137.790
 59.033  -138.900
 59.813  -139.993
 60.752  -139.977
 59.495  -138.113
 58.398  -136.624
 56.940  -135.350
 55.701  -134.376
CST      1   2   4.80
1  13   10.0    2.0    0.0
3
      2.3991     2728.0200        0.6800
```

```
      3.2540    44174.0391        0.1600
      1.5441      159.6100        0.1600
3
      7.2000        0.6000
      6.9000        0.3000
      7.5000        0.1000
3
     10.0000        0.5000
     15.0000        0.2500
      5.0000        0.2500
 58.517  -136.777
 59.286  -133.669
 57.012  -130.663
 53.269  -126.703
 51.650  -124.430
 50.070  -127.090
 51.620  -130.380
 52.060  -130.930
 52.600  -129.700
 53.650  -130.620
 54.400  -131.500
 54.500  -133.480
 58.402  -136.644
EDF      1   2   6.50
2  13   10.0    2.0    0.0
3
      0.0002        0.0053        0.6800
      0.0002        0.0044        0.1600
      0.0002        0.0064        0.1600
3
      8.0200        0.6000
      7.8700        0.3000
      8.1700        0.1000
0
      1.0000        0.5000
     15.0000        0.5000
 14.  90.  1.                !Width, dip angle, and depth of fault (km, deg., km)
 59.147  -135.393
 59.174  -135.446
 59.268  -135.676
 59.457  -135.982
 59.959  -136.833
 60.127  -137.040
 60.355  -137.318
 60.495  -137.623
 60.735  -137.898
 60.877  -138.100
 61.693  -139.851
 61.960  -140.453
 62.232  -141.320
EDF      1   2   6.50
2  13   10.0    2.0    0.0
3
      1.8421      474.5768        0.6800
      1.8421      310.2034        0.1600
      1.8421      730.4868        0.1600
3
      8.0200        0.6000
      7.8700        0.3000
      8.1700        0.1000
0
      1.0000        0.5000
```

```
    15.0000        0.5000
 14.  90.  1.              !Width, dip angle, and depth of fault (km, deg., km)
 59.147  -135.393
 59.174  -135.446
 59.268  -135.676
 59.457  -135.982
 59.959  -136.833
 60.127  -137.040
 60.355  -137.318
 60.495  -137.623
 60.735  -137.898
 60.877  -138.100
 61.693  -139.851
 61.960  -140.453
 62.232  -141.320
CDT      1   2   6.50
2  19   10.0    2.0    0.0
3
     0.0002        0.0168        0.6800
     0.0002        0.0231        0.1600
     0.0002        0.0118        0.1600
3
     7.9800        0.6000
     7.8300        0.3000
     8.1300        0.1000
0
     1.0000        0.5000
    15.0000        0.5000
 14.  90.  1.              !Width, dip angle, and depth of fault (km, deg., km)
 61.510  -141.300
 61.595  -141.514
 61.678  -141.671
 61.746  -141.759
 61.855  -141.981
 61.976  -142.160
 62.259  -142.508
 62.487  -142.779
 62.731  -143.270
 62.856  -143.422
 63.162  -144.629
 63.228  -144.935
 63.468  -146.154
 63.500  -146.694
 63.527  -147.083
 63.528  -147.204
 63.524  -147.372
 63.510  -147.609
 63.489  -147.998
CDT      1   2   6.50
2  19   10.0    2.0    0.0
3
     1.8421    1400.3054        0.6800
     1.8421    1528.6735        0.1600
     1.8421    1255.3637        0.1600
3
     7.9800        0.6000
     7.8300        0.3000
     8.1300        0.1000
0
     1.0000        0.5000
    15.0000        0.5000
 14.  90.  1.              !Width, dip angle, and depth of fault (km, deg., km)
```

```
 61.510  -141.300
 61.595  -141.514
 61.678  -141.671
 61.746  -141.759
 61.855  -141.981
 61.976  -142.160
 62.259  -142.508
 62.487  -142.779
 62.731  -143.270
 62.856  -143.422
 63.162  -144.629
 63.228  -144.935
 63.468  -146.154
 63.500  -146.694
 63.527  -147.083
 63.528  -147.204
 63.524  -147.372
 63.510  -147.609
 63.489  -147.998
WCD      1   2   6.50
2  14   10.0    2.0    0.0
3
      0.0002        0.0209        0.6800
      0.0002        0.0260        0.1600
      0.0002        0.0158        0.1600
3
      8.0300        0.6000
      7.8800        0.3000
      8.1800        0.1000
0
      1.0000        0.5000
     15.0000        0.5000
 14.  90.  1.                !Width, dip angle, and depth of fault (km, deg., km)
 62.232  -141.320
 62.460  -142.130
 62.848  -143.395
 63.169  -144.661
 63.468  -146.149
 63.500  -146.694
 63.527  -147.082
 63.528  -147.209
 63.522  -147.382
 63.480  -148.172
 63.465  -148.667
 63.414  -149.319
 63.370  -149.694
 63.296  -150.237
WCD      1   2   6.50
2  14   10.0    2.0    0.0
3
      1.8421     1906.9710        0.6800
      1.8421     1868.7288        0.1600
      1.8421     1835.2780        0.1600
3
      8.0300        0.6000
      7.8800        0.3000
      8.1800        0.1000
0
      1.0000        0.5000
     15.0000        0.5000
 14.  90.  1.                !Width, dip angle, and depth of fault (km, deg., km)
 62.232  -141.320
```

```
 62.460  -142.130
 62.848  -143.395
 63.169  -144.661
 63.468  -146.149
 63.500  -146.694
 63.527  -147.082
 63.528  -147.209
 63.522  -147.382
 63.480  -148.172
 63.465  -148.667
 63.414  -149.319
 63.370  -149.694
 63.296  -150.237
DRF      1   2   6.50
2   8   10.0    2.0    0.0
3
      0.0002        0.0209        0.6800
      0.0002        0.0118        0.1600
      0.0002        0.0213        0.1600
3
      7.6900        0.6000
      7.4900        0.3000
      7.8900        0.1000
0
      1.0000        0.5000
     15.0000        0.5000
 24.4 35.  1.                !Width, dip angle, and depth of fault (km, deg., km)
 60.756  -137.941
 60.931  -138.317
 60.968  -138.624
 61.219  -139.235
 61.270  -139.391
 61.332  -139.851
 61.463  -141.009
 61.495  -141.272
DRF      1   2   6.50
2   8   10.0    2.0    0.0
3
      1.8421     1122.5174        0.6800
      1.8421      473.7144        0.1600
      1.8421     1552.7743        0.1600
3
      7.6900        0.6000
      7.4900        0.3000
      7.8900        0.1000
0
      1.0000        0.5000
     15.0000        0.5000
 24.4 35.  1.                !Width, dip angle, and depth of fault (km, deg., km)
 60.756  -137.941
 60.931  -138.317
 60.968  -138.624
 61.219  -139.235
 61.270  -139.391
 61.332  -139.851
 61.463  -141.009
 61.495  -141.272
CSF      1   2   6.50
2  13   10.0    2.0    0.0
3
      0.0002        0.0058        0.6800
      0.0002        0.0048        0.1600
```

```
     0.0002       0.0035       0.1600
3
     7.9500       0.6000
     7.8000       0.3000
     8.1000       0.1000
0
     1.0000       0.5000
    15.0000       0.5000
 14.  90.  1.              !Width, dip angle, and depth of fault (km, deg., km)
 55.578  -134.922
 55.923  -134.724
 56.222  -134.607
 56.669  -134.596
 56.820  -134.628
 57.125  -134.720
 57.426  -134.764
 57.930  -134.854
 58.005  -134.876
 58.151  -134.965
 58.522  -135.080
 59.027  -135.291
 59.144  -135.398
CSF      1   2   6.50
2  13   10.0    2.0    0.0
3
     1.8421     461.6482       0.6800
     1.8421     302.8469       0.1600
     1.8421     354.3336       0.1600
3
     7.9500       0.6000
     7.8000       0.3000
     8.1000       0.1000
0
     1.0000       0.5000
    15.0000       0.5000
 14.  90.  1.              !Width, dip angle, and depth of fault (km, deg., km)
 55.578  -134.922
 55.923  -134.724
 56.222  -134.607
 56.669  -134.596
 56.820  -134.628
 57.125  -134.720
 57.426  -134.764
 57.930  -134.854
 58.005  -134.876
 58.151  -134.965
 58.522  -135.080
 59.027  -135.291
 59.144  -135.398
FWF      1   2   6.50
2  11   10.0    2.0    0.0
3
     0.0002       0.0525       0.6800
     0.0002       0.0829       0.1600
     0.0002       0.0332       0.1600
3
     8.2700       0.6000
     8.1200       0.3000
     8.4200       0.1000
0
     0.0000       0.5000
    20.0000       0.5000
```

```
 20.  90.  0.              !Width, dip angle, and depth of fault (km, deg., km)
 55.559  -135.062
 55.863  -135.331
 56.880  -135.958
 57.618  -136.539
 57.938  -136.756
 58.483  -137.170
 58.684  -137.495
 58.922  -137.782
 59.469  -138.486
 59.737  -138.851
 60.088  -139.425
FWF      1   2   6.50
2  11   10.0    2.0    0.0
3
      1.8421     7002.6646        0.6800
      1.8421     8675.9844        0.1600
      1.8421     5663.0855        0.1600
3
      8.2700        0.6000
      8.1200        0.3000
      8.4200        0.1000
0
      0.0000        0.5000
     20.0000        0.5000
 20.  90.  0.              !Width, dip angle, and depth of fault (km, deg., km)
 55.559  -135.062
 55.863  -135.331
 56.880  -135.958
 57.618  -136.539
 57.938  -136.756
 58.483  -137.170
 58.684  -137.495
 58.922  -137.782
 59.469  -138.486
 59.737  -138.851
 60.088  -139.425
```

APPENDIX 1-2

MINTO MINE SITE CHARACTERIZATION - HYDROMETEOROLOGY

MINTO MINE - SITE CHARACTERIZATION

HYDROMETEOROLOGY

FINAL

File: MIN-17-01-300_001_Minto Hydrometeorology Site Characterization_RevA_171129

January 25, 2018

Prepared for:

MINTO EXPLORATIONS LTD.

ALEXCO ENVIRONMENTAL GROUP INC. SIGNATURES

Report prepared by:	Catherine Henry Catherine Henry, M.Sc. Environmental Scientist	11/29/2017
Report reviewed by:	T. Scott Keesey, B.Sc. EP Sr. Environmental Manager	11/29/2017

EXECUTIVE SUMMARY

Existing climatological, meteorological and hydrological conditions at and around the Minto Mine site are characterized using regional and local data. Regional data are obtained through Environment Canada, Environment Yukon or Water Survey of Canada and provide a long-term record, while local data are collected via instrumentation deployed at site and manual surveys.

The long-term (>50 years) regional records shows an increasing trend in annual mean, minimum, and maximum temperatures. The average annual minimum temperature has been increasing at a faster rate than the average annual maximum temperature, and similarly, January (winter) mean temperatures have experienced much higher rates of increase than July (summer) mean temperatures. The mean annual temperature at site for the period of record is -1.9°C for the HOBO (2005-2014) station and -0.9°C for the Campbell Scientific station (2010-2016). Extremes ranged from -43.2°C to 30.3°C.

Mean annual precipitation at regional stations range from 279 mm to 345 mm. The proportion of total annual precipitation falling as rain ranges from 61% to 68%. At site, average annual total precipitation is 281.2 mm as measured with the tipping bucket and snowfall adaptor and 248.5 mm as measured with the total precipitation gauge. Both values are less than the estimated total of 303.2 mm based on the HOBO rainfall measurements and regional data. Peak snowpack is generally observed in April at all regional stations with SWE values ranging between 78 and 127 mm. Ten years of snow surveys conducted at site have found that the average water-equivalent snow depth remaining on the first day of March and April is 86.3 mm and 86.7 mm, respectively. Data indicate that the majority of runoff due to snowmelt occurs in April.

Dominant winds at site originate from the South, Southeast and Northwest, with an average speed of 2.8 m/s and gusts up to 26.8 m/s. Relative humidity is typically greater than 80% between October and February. During the summer months, the daily mean is typically in the range of 50% to 60%. Annually, mean RH is 70%. A strong seasonal pattern is evident in incoming solar radiation, with maximum near the summer solstice in late June, and values just slightly above zero around the winter solstice when the site experiences only about 3 hours of direct sunlight per day. Large fluctuations from the general trend during the summer are due to cloud cover. Barometric pressure is slightly higher on average between May and August (above 1009 hPa), and lowest between September and April (below 1008 hPa). Mean annual sea-level equivalent barometric pressure is 1006.5 hPa. Mean annual lake evaporation is estimated to be 460 mm for Pelly Ranch. Potential evapotranspiration is calculated at site using other meteorological parameters and the annual average is 428 mm.

Regional hydrometric stations operated by Water Survey of Canada (WSC) can provide insight on long-term trends. Big Creek near the Mouth station located in the vicinity of the Project area has been monitored since 1975. No clear long-term trend in mean monthly or annual discharge emerges from Big Creek data. Minto Explorations Ltd. maintains a network of hydrometric stations as part of its regular monitoring of surface water hydrological conditions at the Minto Mine in Minto and McGinty Creeks. Minto personnel conduct regular discrete discharge measurements and maintenance at the stations where Solinst Levelogger and Barometric Loggers are utilized to capture continuous stage records. The hydrological data record is relatively short at most sites and does not allows to detect trends. Sites W1 and W3 have a longer record for the open water season and capture more year to year variability, but no long-term trend in flow rates or timing emerges at this point.

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GLOSSARY

Coefficient of determination (R^2): statistical measure of how well the regression line approximates the real data points.

Evapotranspiration: the process by which water is transferred from the land to the atmosphere by evaporation from the soil and other surfaces and by transpiration from plants.

Hectopascal: a metric measurement unit of pressure commonly used to measure atmospheric pressure.

Penman Combination Equation: approximates net evapotranspiration, requiring input data including daily mean temperature, wind speed, relative humidity and solar radiation.

Quality Assurance: the process or set of processes used to measure and assure the quality of a product.

Quality Control: the process of ensuring products and services meet consumer expectations.

Snow Water Equivalent: the amount of water contained within the snowpack.

Velocity-Area: a method of measuring discharge in a channel cross section by dividing it into imaginary vertical panels of known area and measuring and assigning a mean velocity to each panel which cumulatively can be used to compute total discharge.

LIST OF ACRONYMS AND ABBREVIATIONS

°C	degrees Celsius
%	percentage
ACG	Access Consulting Group
AEG	Alexco Environmental Group Inc.
AES	Atmospheric Environment Service
ASCE	American Society of Civil Engineers
cm	centimetre
CS	Campbell Scientific
EC	Environment Canada
ET	Evapotranspiration
hPa	hectoPascal
L/s	litre per second
m	meter
mm	millimeter
m/s	meter per second
m^3/s	cubic meter per second
masl	meters above sea level
PET	Potential Evapotranspiration
QA/QC	Quality Assurance/Quality Control
R^2	Coefficient of determination
RH	Relative humidity
SWE	Snow Water Equivalent
W/m^2	Watt per square meter
WSC	Water Survey of Canada
YESAA	Yukon Environmental and Socio-economic Assessment Act
YESAB	Yukon Environmental and Socio-economic Assessment Board
YG	Yukon Government

1. INTRODUCTION

The existing meteorology of the project area and the climate trends and projections for the region of Yukon Territory around the Minto Mine were first described in detail in EBA's report "Minto Mine—2010 Climate Baseline Report" (EBA, 2010). This report was subsequently updated by Access Consulting Group (ACG) in 2012 (ACG, 2012) with a data cut off date of July 31, 2012, in support of the Minto Phase V/VI Project Proposal submission to Yukon Environmental and Socio-Economic Assessment Board (YESAB).

The baseline surface water hydrology of the Minto Creek watershed prior to mining activity was detailed in Clearwater Consultants Ltd. Memorandum CCL-MC6 "Minto Copper Project—Surface Water Hydrology Conditions" (CCL, 2010). CCL-MC6 also covered conditions during Mine Operations until 2009. A subsequent report was prepared by ACG to update CCL-MC6 by presenting those previous data, and data gathered since then until the end of the 2012 open water season (ACG, 2013). Additionally, this report included data since 2009 gathered in McGinty Creek, a catchment of similar size to Minto Creek, also draining into the Yukon River and located directly north of the Minto Creek catchment (Figure 2-1).

Because of their interconnected nature, meteorology and surface water hydrology are combined in the present report, which constitutes an update to the latest "Minto Climate Baseline Report" and to the "Surface Water Hydrology Baseline Conditions" and includes additional data collected to the end of 2016. This is a component to the more comprehensive Site Characterization Plan for Minto Mine, provided under a condition of Minto's Quartz Mining Licence QML-0001.

1.1 REGIONAL SETTING

The Minto Mine is in the subarctic continental climate zone (Köppen climate classification), which is characterized by long, cold winters and short, cool summers. The area experiences moderate precipitation in the form of rain and snow and a large range of temperatures on a yearly basis with a mean annual temperature below 0°C.

1.2 SITE DESCRIPTION

The Minto Mine is a high grade copper mine located within Selkirk First Nation (SFN) Category A Settlement Land Parcel R-6A approximately 240 km northwest of Whitehorse, Yukon Territory (62° 37' N latitude and 137 °15' W longitude; Figure 1-1). It is owned and operated by the Minto Explorations Ltd. a wholly owned subsidiary of Capstone Mining Corporation. Development of the mine was initiated in 1997, commercial operations started in October 2007, and the currently anticipated operating life is to 2020 with permitted resources to 2022. The Minto Mine is permitted to conduct open pit and underground mining, and to mill the copper/gold/silver ore at a rate of 4,200 tonnes of per day. In 2016 (the most recent year of record), the Minto Mine produced 69.3 million pounds of copper from milling approximately 1.49 million tones or ore.

In addition to open pit mines, underground mines, and the mill, the Minto Mine site includes a number of waste rock dumps, a concentrate storage shed, a dry stack tailings storage facility (DSTSF), a water retention dam with a water storage pond (WSP), a water treatment plant, administrative offices, an airstrip, and a camp (Figure 1-2). Mill tailings are stored in the DSTSF and in mined-out open pits. Mine-impacted seepage from the DSTSF and under the Mill Valley Fill (MVF) is collected at the toe of the MVF in sump W62 and is pumped to the Main Pit (Figure 1-2). Non-impacted water and treated mine-impacted water are collected in the WSP (Figure 1-2). Effluent from the WSP is periodically discharged to Minto Creek under conditions specified in Water Use Licence (WUL) QZ14-031 (August 2015). Minto Creek, in turn, discharges to the Yukon River approximately 7.7 km south-east of the WSP (Figure 1-2).

capstone
MINTO MINE

ALEXCO ENVIRONMENTAL GROUP

MINTO MINE
CAPSTONE MINTO MINE -
SITE CHARACTERIZATION PLAN

FIGURE 1-1
PROJECT LOCATION

JANUARY 2018

D:\Project\AllProjects\Minto\gis\mxd\Overview_Maps\01-Project Location\Project_Location_MASTER_ESRI_Layers_20170802.mxd (*Last edited by: amatlashevska; 05/01/2018/13:21 PM*)

MINTO MINE

CAPSTONE MINTO MINE - SITE CHARACTERIZATION PLAN

FIGURE 1-2

MINE SITE LAYOUT

JANUARY 2018

capstone MINTO MINE

1:13,500 *when printed on 11 x 17 inch paper*

0 50 100 200 300 400 500 Meters

ALEXCO ENVIRONMENTAL GROUP

Aerial imagery obtained from Challenger Geomatics. Imagery acquired August 9rd 2017

Datum: NAD 83 Projection: UTM Zone 8N

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(*Last edited by: amatlashevska;12/01/2018/13:39 PM*)

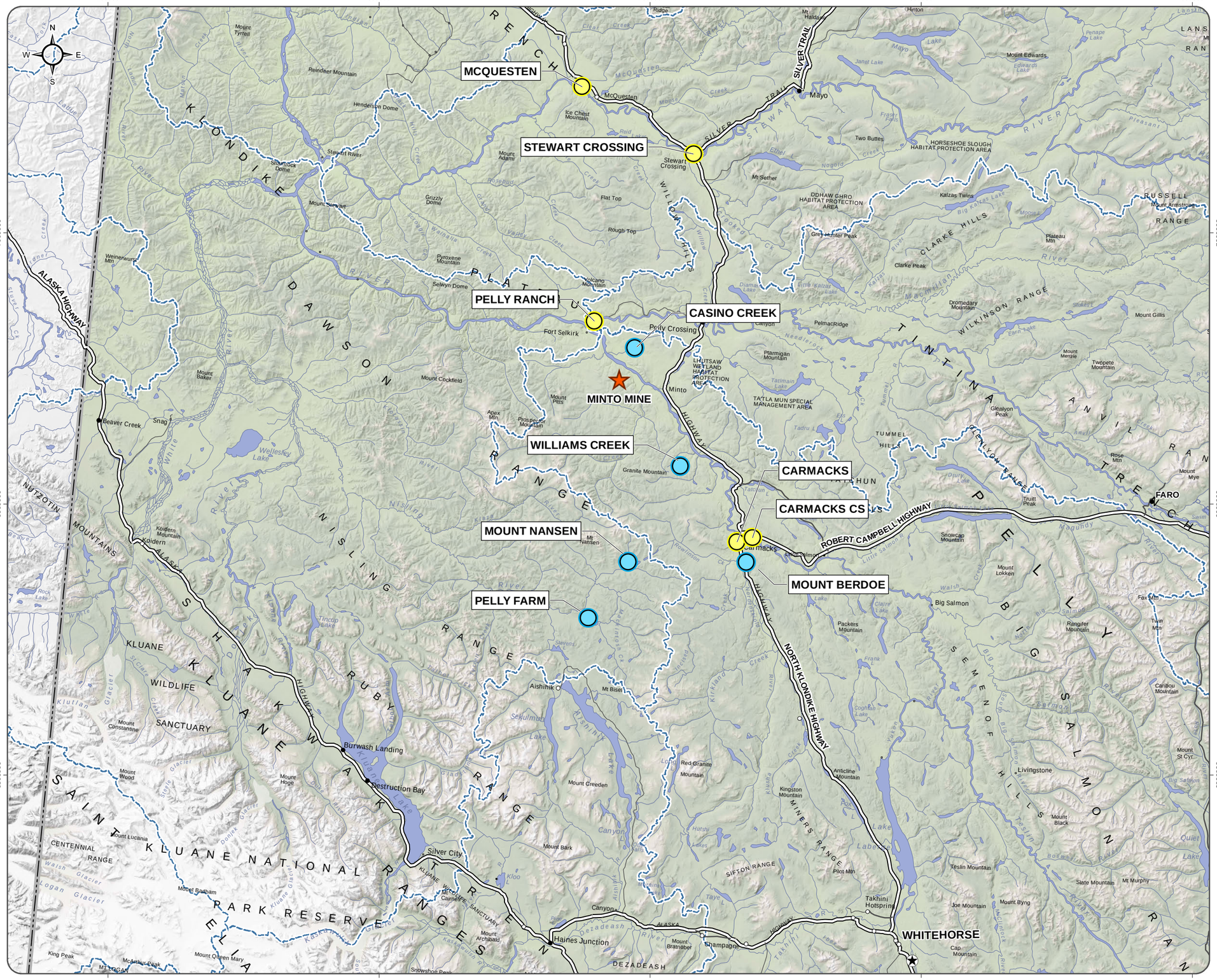
2. CLIMATE AND METEOROLOGICAL DATA

The following section presents regional and site-specific climatic and meteorological data. Regional data are available through Environment Canada (EC) and Environment Yukon. Meteorological data have been collected on site continuously since a first meteorological station was installed in 2005. A second meteorological station was commissioned in late October 2010 while the first was decommissioned in 2014.

2.1 METHODS

2.1.1 REGIONAL DATA

Long-term trends were evaluated by reviewing long-term records from stations in the region (regional analysis). EC meteorological stations used for this regional analysis were selected based on location/proximity and data availability, and are presented in Table 2-1 below. Figure 2-1 shows the location of these stations.



capstone
MINTO MINE
OPERATED BY MINTO EXPLORATIONS LTD.

MINTO PROJECT

FIGURE 2-1
REGIONAL METEOROLOGICAL AND SNOW MONITORING STATIONS

OCTOBER 2017

Minto Project Location

Meteorological Station

Snow Survey Station

ALEXCO ENVIRONMENTAL GROUP

Digital elevation model created by the Yukon Department of the Environment interpolated from the digital 1:50,000 Canadian National Topographic Database (NTDB Edition 2) contour and watercourse layers. Obtained from Geomatics Yukon.

Canvec compiled by Natural Resources Canada at a scale of 1:10,000 - 1:50,000. Reproduced under license from Her Majesty the Queen in Right of Canada, as represented by the Minister of Natural Resources Canada. All rights reserved.
Drainage areas obtained from National Hydrology Network 2011

Datum: NAD 83; Projection UTM Zone 8N

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1:1,400,000 when printed on 11 x 17 inch paper

0 10 20 30 40

Kilometers

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Table 2-1: Regional Environment Canada Meteorological Stations.

Station	Climate ID	Years of data	Latitude	Longitude	Elevation	Distance from Minto
Pelly Ranch	2100880	1956-2015	62°49'00" N	137°22'00" W	454.20 m	26 km
Carmacks	2100300	1963-2007	62°06'00" N	136°18'00" W	524.90 m	107 km
Carmacks CS	2100301	1999-present	62°06'54" N	136°11'31" W	542.90 m	115 km
Stewart Crossing	2101030	1963-2007	63°22'48" N	136°40'48" W	480.1 m	102 km
McQuesten	2100719	1986-2014	63°35'24" N	137°31'12" W	458.2 m	114 km

2.1.2 SITE DATA

To record meteorological parameters on site, a basic meteorological station was established at the Minto Mine site in late September 1993 at an elevation of 884 meters above sea level (masl) and intermittent temperature and precipitation data were collected in September and October 1993 as well as in June, July and August 1994 (HKP 1994).

On September 7, 2005, a HOBO meteorological station on a three-metre tripod was installed by ACG, with instrumentation to record wind speed and direction, air temperature, relative humidity, barometric pressure, solar radiation and rainfall at a location near camp. On April 11, 2006, the station was relocated to the airstrip (N 62°36'17", W 137°13'19", el. 887 masl). The station has recorded, at hourly sampling intervals, the parameters of: average wind speed and direction; highest three-second wind gust; air temperature; relative humidity; on-site barometric pressure; incident solar radiation and total wet precipitation. Specifications of the installed instrumentation and details of the data collection program are contained in Appendix A. This station was decommissioned on June 25, 2014.

On October 15, 2010, a Campbell Scientific (CS) meteorological station was installed adjacent to the existing HOBO meteorological station, whose anemometer was damaged by strong winds in May 2010. The other sensors of the HOBO station remained functional during the summer of 2010; therefore, only wind data are missing for the transition period. The Campbell Scientific meteorological station's anemometer was installed on a 10-meter mast, which is the standard height for collecting wind data used in air dispersion models. The other sensors installed on the Campbell Scientific station include a temperature and relative humidity sensor, a pyranometer, a rain gauge and a barometer. A snowfall conversion adaptor was added in October 2011; a total precipitation gauge was installed in November 2014 and an evaporation pan and outgoing radiation sensor were commissioned in 2016. Specifications of the installed instrumentation and details of the data collection program are presented in Appendix A.

2.1.2.1 QA/QC

The site meteorological station is regularly visited and inspected by Minto Mine staff and all maintenance actions are documented. Suspicious data are identified graphically, investigated and invalidated where needed. Third party review of the data is conducted when suspicious data or inconsistent instrument performance are identified.

2.2 RESULTS

2.2.1 TEMPERATURE

2.2.1.1 Regional Data

Extreme and average minimum and maximum, as well as mean monthly and annual temperatures were calculated for each regional station over the entire period of existing records (Table 2-2), except for Carmacks where the two stations were combined to provide a longer record. The mean annual temperatures ranged from -2.4°C at Stewart Crossing to -3.7°C at Pelly Ranch, and extreme annual temperatures ranged from -60.0°C at Pelly Ranch in February to 35.0°C at Pelly Ranch in June and Carmacks in May and June.

Table 2-2: Regional Monthly and Annual Temperatures (°C).

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Annual
Extreme Monthly Minimum Temperature (period of record) in °C													
Pelly Ranch	-58.9	-60.0	-50.0	-38.3	-12.2	-5.0	-2.8	-7.0	-20.0	-37.0	-51.0	-56.7	-60.0
Carmacks Combined	-57.8	-57.2	-50.0	-34.0	-12.2	-3.9	-1.1	-5.0	-16.5	-32.5	-46.7	-54.4	-57.8
Stewart Crossing	-55.0	-49.5	-46.0	-34.0	-12.0	-3.5	-0.6	-5.0	-22.0	-35.0	-45.0	-52.8	-55.0
McQuesten	-54.5	-53.0	-47.5	-34.5	-13.5	-6.0	-3.5	-9.5	-21.5	-37.0	-50.0	-52.5	-54.5
Monthly Mean Minimum Temperature (period of record)													
Pelly Ranch	-32.2	-27.4	-20.7	-7.2	0.5	5.9	8.2	5.5	0.2	-7.1	-20.4	-29.4	-10.4
Carmacks Combined	-30.1	-24.8	-18.8	-6.9	0.2	5.9	8.2	5.5	0.4	-6.3	-18.1	-27.0	-9.3
Stewart Crossing	-27.1	-23.6	-20.1	-7.5	0.8	6.7	8.4	5.2	0.0	-6.8	-19.3	-24.3	-9.0
McQuesten	-29.5	-25.0	-19.7	-6.8	0.4	5.6	7.4	4.8	-0.5	-7.8	-21.2	-26.7	-9.9
Mean Monthly Temperature (period of record)													
Pelly Ranch	-26.9	-20.3	-11.6	0.2	8.0	13.5	15.4	12.7	6.7	-2.5	-15.8	-24.3	-3.7
Carmacks Combined	-24.7	-17.7	-10.0	0.6	7.8	13.5	15.3	12.9	6.9	-1.7	-13.8	-22.0	-2.8
Stewart Crossing	-21.9	-16.8	-11.5	0.0	8.3	14.0	15.6	12.6	6.4	-2.5	-14.7	-18.6	-2.4
McQuesten	-24.5	-18.5	-11.4	0.7	8.3	13.7	15.2	12.2	5.9	-3.4	-16.8	-21.6	-3.4
Monthly Mean Maximum Temperature (period of record)													
Pelly Ranch	-21.6	-13.2	-2.5	7.6	15.4	21.2	22.5	19.9	13.1	2.2	-11.4	-19.2	2.8
Carmacks Combined	-19.4	-10.8	-1.1	8.2	15.5	21.0	22.4	20.2	13.4	3.1	-9.6	-17.0	3.8
Stewart Crossing	-16.3	-10.6	-2.9	7.4	15.8	21.5	22.9	19.9	12.8	1.7	-9.9	-13.0	4.1
McQuesten	-19.6	-12.1	-3.0	8.1	16.2	21.8	22.9	19.6	12.3	1.0	-12.3	-16.5	3.2
Extreme Monthly Maximum Temperature (period of record)													
Pelly Ranch	10.0	17.0	20.0	23.5	32.5	35.0	34.0	33.0	25.6	23.0	13.9	10.0	35.0
Carmacks Combined	9.5	13.0	17.3	24.0	35.0	35.0	34.2	33.0	27.0	24.0	12.8	9.5	35.0
Stewart Crossing	7.5	12.0	13.0	23.5	30.0	34.0	33.0	32.0	26.1	22.0	12.0	7.5	34.0
McQuesten	15.0	10.0	12.5	23.5	33.5	33.5	33.3	33.0	25.0	22.5	20.5	15.0	33.5

Source: EC, 2017

Long-Term Trends

Of the four regional stations presented above, Pelly Ranch and Carmacks have the longest records and were analyzed for historical trends. Figure 2-2 and Figure 2-3 illustrate the annual maximum (plotted in red), mean (green) and minimum (blue) air temperatures along with the respective trendlines and slopes for Pelly Ranch for the available data

set between 1957 and 2014 and for Carmacks between 1964 and 2016 respectively. Annual maximums and minimums are calculated as an average of monthly maximum and minimum temperatures for each year.

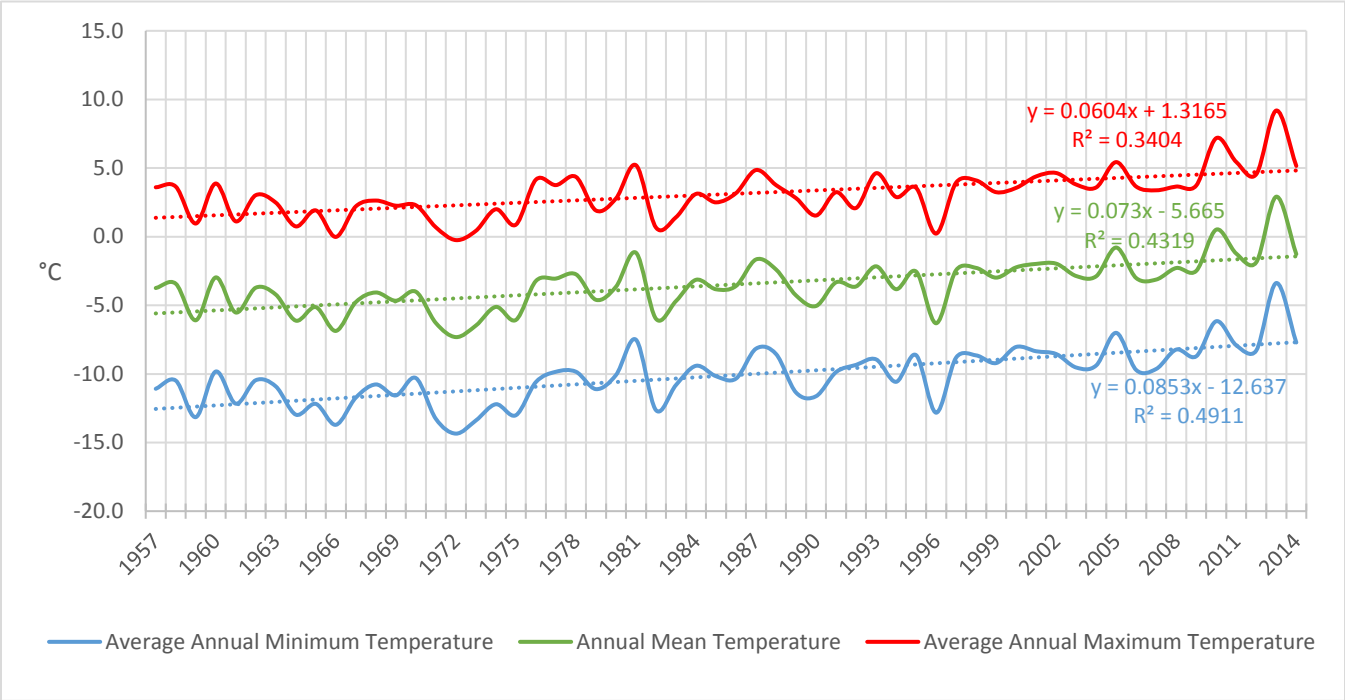

Figure 2-2: Pelly Ranch Average Annual Air Temperature Trends 1957-2014.

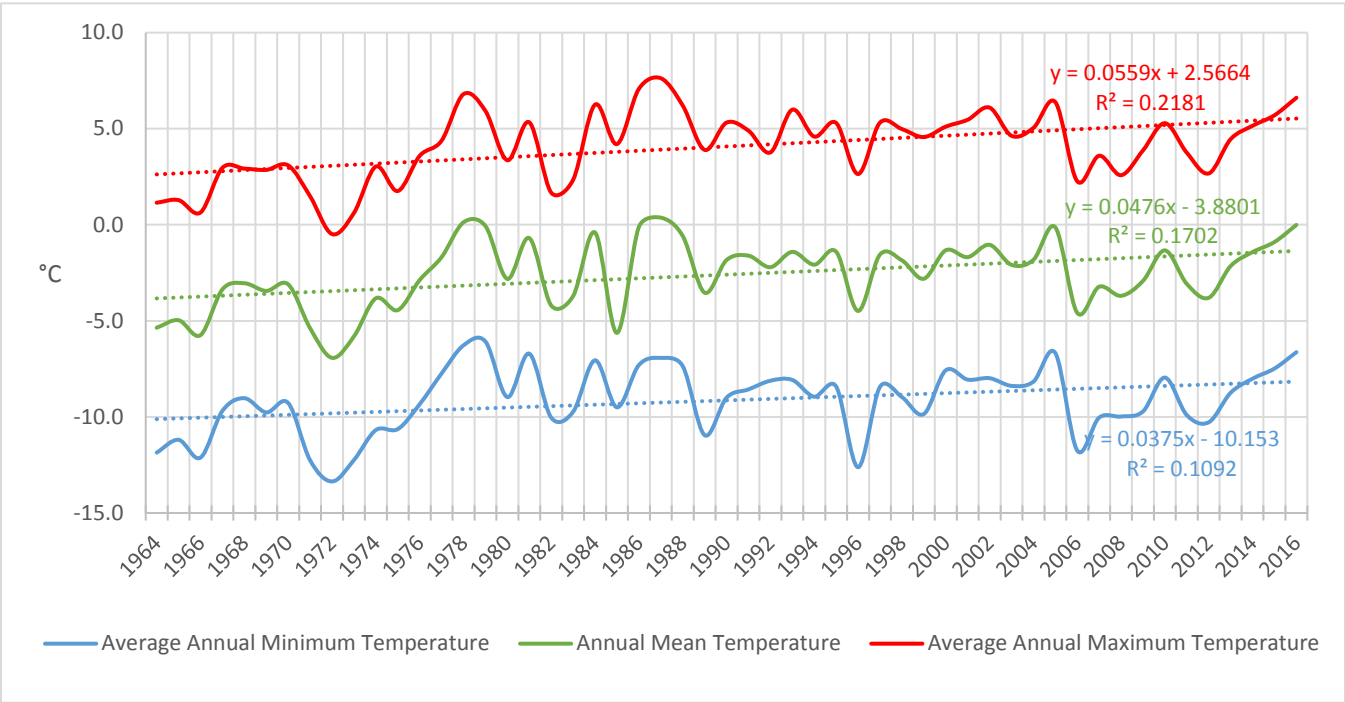

Figure 2-3: Carmacks Average Annual Air Temperature Trends 1964-2016.

The plots show a similar trend for all annual averages. The annual mean temperature has been increasing at Pelly Ranch by 0.07°C per year on average over the 57-year period corresponding to a total average increase of 4.2°C from 1957 to 2014. For Carmacks, the average rate of increase of the annual mean temperature is slightly less at 0.05°C per year, resulting in an average increase of 2.5°C for the 52-year period. It is also important to note that the average annual minimum temperature has been increasing at a faster rate than the average annual maximum temperature at both stations, thus implying that the average diurnal range has also been decreasing.

Figure 2-4 and Figure 2-5 illustrate the mean temperatures for January (blue) and July (orange) at the two regional stations over the same periods as above, in order to better illustrate the trend with respect to seasonality. The graphs show that January (winter) mean temperatures have experienced much higher rates of increase (0.15°C per year at Pelly Ranch and 0.22°C per year at Carmacks) than July (summer) mean temperatures (0.03°C per year at Pelly Ranch and 0.02°C per year at Carmacks).

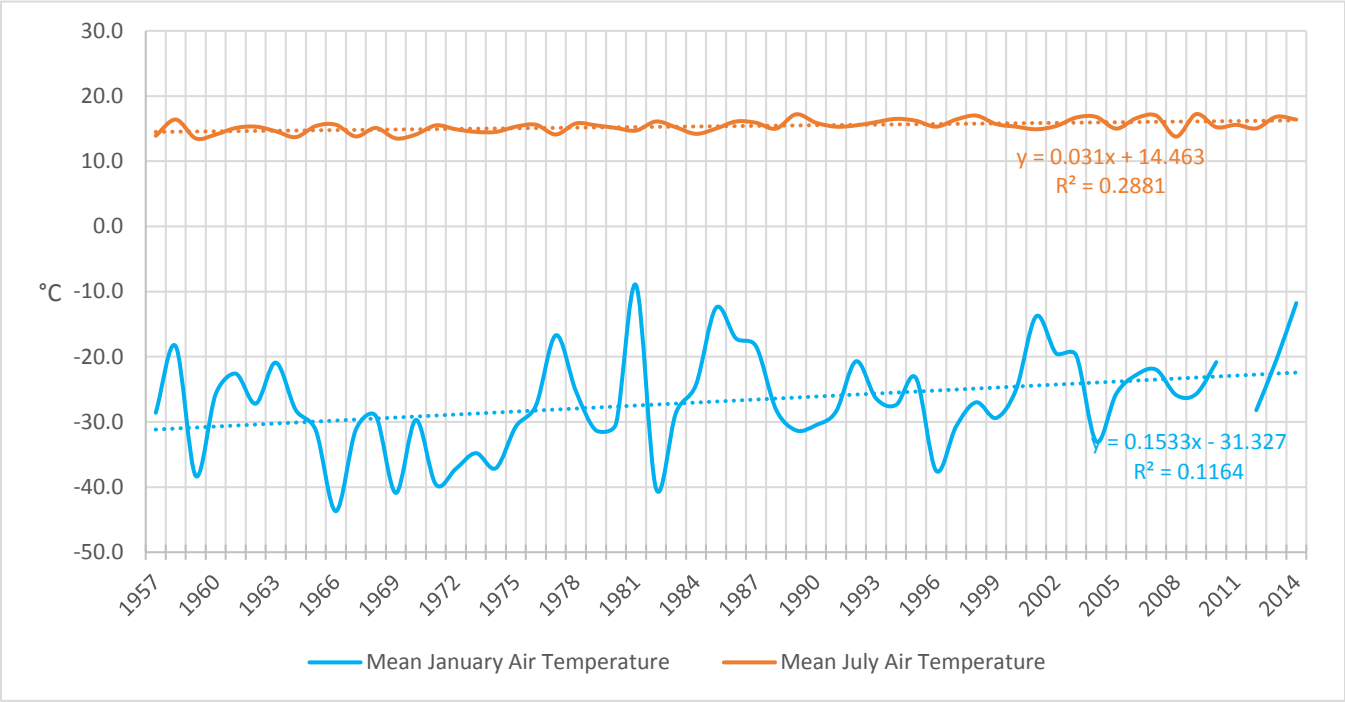

Figure 2-4: Pelly Ranch Seasonal Air Temperature Trends 1957-2014.

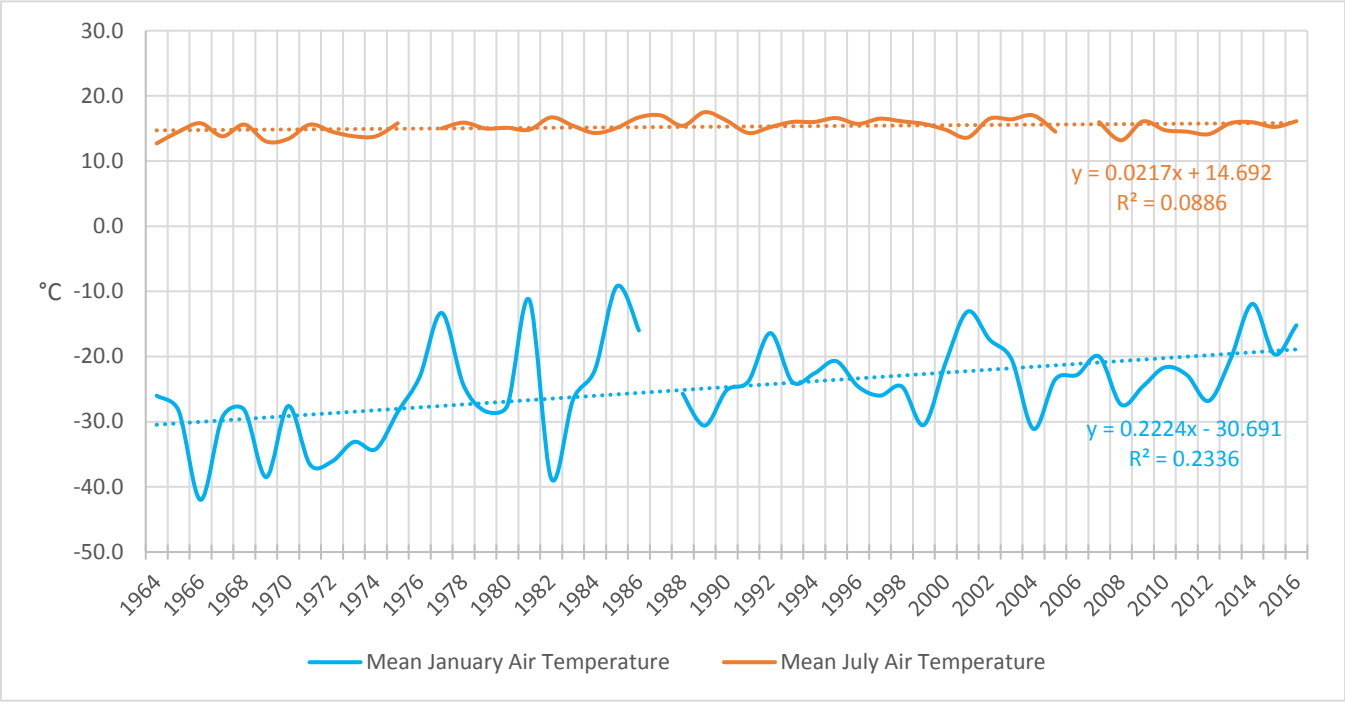

Figure 2-5: Carmacks Seasonal Air Temperature Trends 1964-2016.

2.2.1.2 Site Data

Hourly air temperatures have been plotted for the entire period of record for both stations in Figure 2-6. The plot shows a strong sinusoidal seasonal pattern. The summer period, between late-May and early-September, is characterized by temperatures in the range of 10 to 20°C. The winter period, between October and March, is characterized by a much larger day-to-day variation in air temperatures, typically between –10 and –30°C, although winter temperatures in the range of 0 and –40°C are not uncommon. The transitions between these seasons are characterized by a quick rise or fall in air temperatures during March/April and mid-September/early-October, respectively.

Monthly average minimum, maximum, mean and extreme temperatures were compiled from the hourly data collected at the Project's two meteorological stations for the period of record and are shown in Table 2-3. The mean annual temperature for the period of record is -1.9°C for the HOBO station and -0.9°C for the Campbell Scientific station. Extremes ranged from -43.2°C to 30.3°C.

Based on the data record, air temperatures would be expected to remain above zero throughout the day between June and September, while between October and March, air temperatures would typically remain below zero. The maximum air temperature ever recorded was 30.3°C on July 29, 2009. The minimum air temperature ever recorded was –43.2°C on November 27, 2006 and again on January 8, 2009. Air temperatures higher than 5°C have been observed in every winter month. Sub-zero temperatures have been recorded every month except in July.

Table 2-3: Minto Mine Monthly Extreme and Average Air Temperature (°C).

Parameter	Air Temperature (°C) HOBO 2005-2014					Air Temperature (°C) Campbell Scientific 2010-2016				
	Extreme Hourly Maximum	Average Daily Maximum	Average Daily Mean	Average Daily Minimum	Extreme Hourly Minimum	Extreme Hourly Maximum	Average Daily Maximum	Average Daily Mean	Average Daily Minimum	Extreme Hourly Minimum
January	9.4	-15.0	-17.8	-20.6	-43.2	9.0	-12.2	-14.7	-17.3	-37.9
February	5.8	-11.8	-14.5	-17.3	-41.3	6.3	-8.9	-12.3	-15.2	-34.2
March	5.4	-6.5	-9.9	-13.2	-32.5	13.9	-3.9	-7.6	-11.1	-25.9
April	17.5	3.6	0.0	-3.7	-18.1	14.7	4.5	1.0	-2.5	-17.8
May	23.6	11.9	7.9	3.8	-5.8	25.8	13.3	9.3	5.2	-5.4
June	29.5	17.1	13.0	8.9	-0.6	29.5	17.5	13.4	9.5	1.9
July	30.3	18.6	14.6	10.9	4.2	26.4	18.3	14.4	10.8	4.2
August	27.5	15.9	12.2	8.7	2.5	27.4	16.1	12.4	8.9	-0.4
September	21.7	9.9	6.6	3.5	-7.3	21.7	10.0	6.6	3.4	-3.7
October	15.2	-0.1	-2.4	-4.5	-21.8	10.6	0.3	-2.2	-4.4	-20.8
November	7.4	-12.2	-14.5	-16.8	-43.2	4.6	-11.1	-13.5	-15.8	-35.1
December	6.2	-15.4	-18.0	-20.7	-38.0	3.1	-14.7	-17.3	-19.9	-36.9
ANNUAL	**30.3**	**1.3**	**-1.9**	**-5.1**	**-43.2**	**29.5**	**2.4**	**-0.9**	**-4.0**	**-37.9**

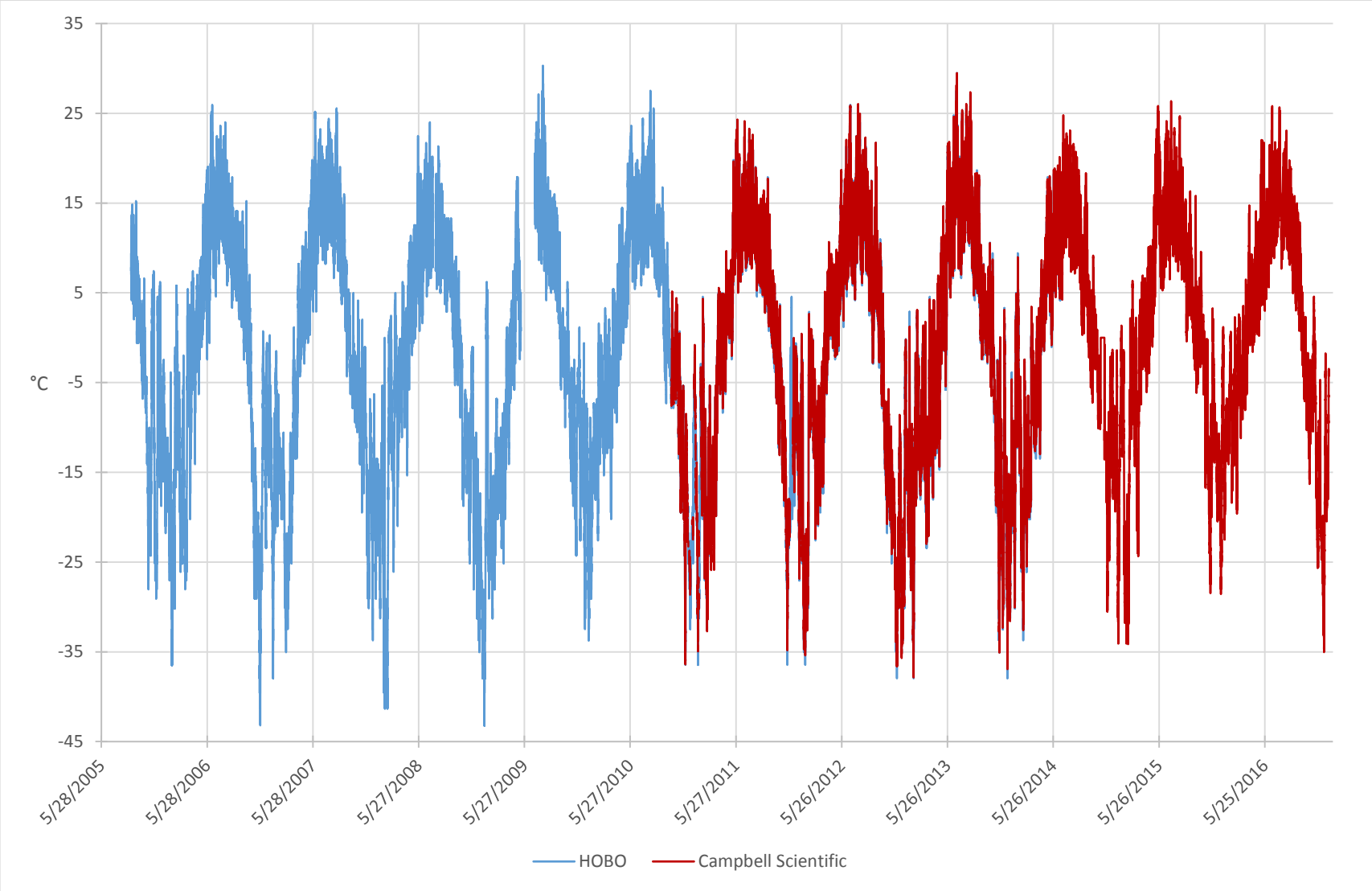

Figure 2-6: **Minto Mine Hourly Air Temperatures 2005–2016.**

2.2.2 PRECIPITATION

2.2.2.1 Regional Data

Mean monthly rain, snow and total precipitations were calculated for the entire period of record for each station listed in Table 2-1 (with the two Carmacks stations combined). Mean annual precipitation ranges from 279 mm at Carmacks to 345 mm at McQuesten. The proportion of total annual precipitation falling as rain ranges from 61% at McQuesten to 68% at Carmacks (Table 2-4). Figure 2-7 presents the average monthly distribution of rain and snow across all regional stations. The greatest amount of precipitation generally falls between June and September for all stations.

Table 2-4: Regional Monthly and Annual Rainfall, Snowfall and Total Precipitation, for period of record.

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Annual*
Mean Monthly Rainfall (mm)													
Pelly Ranch	0.2	0.1	0.2	3.6	22.1	36.5	54.8	39.7	26.7	7.8	0.3	0.1	192.0
Carmacks Combined	0.0	0.0	0.2	1.7	21.2	34.7	53.7	40.4	29.6	6.5	0.3	0.0	188.3
Stewart Crossing	0.0	0.0	0.1	2.0	25.7	39.9	52.7	45.8	32.4	10.4	0.4	0.0	209.5
McQuesten	0.0	0.0	0.2	4.4	24.3	38.8	58.4	43.1	32.6	8.4	0.4	0.0	210.6
Mean Monthly Snowfall (cm)													
Pelly Ranch	20.6	14.2	11.2	6.6	0.5	0.0	0.0	0.0	2.0	15.4	25.0	21.4	116.8
Carmacks Combined	17.5	11.6	7.9	4.6	1.1	0.0	0.0	0.0	1.2	14.0	18.8	16.5	93.2
Stewart Crossing	21.8	13.2	10.2	8.0	0.2	0.0	0.0	0.3	1.0	14.3	27.8	24.0	120.7
McQuesten	24.7	13.9	13.1	4.6	0.8	0.0	0.0	0.0	3.9	16.8	30.5	26.8	135.0
Mean Monthly Precipitation (mm)													
Pelly Ranch	20.7	14.3	11.4	10.2	22.4	36.5	54.8	39.7	28.6	23.2	25.3	21.5	308.6
Carmacks Combined	17.2	11.4	8.1	6.6	22.2	33.3	52.8	41.0	30.2	20.5	19.0	16.5	278.8
Stewart Crossing	21.9	13.2	10.3	9.7	25.9	39.9	52.7	46.1	33.6	24.7	28.2	24.0	330.1
McQuesten	24.7	13.9	13.3	9.1	25.1	38.8	58.4	43.1	36.5	24.9	30.9	26.8	345.3
% of Total Precipitation Falling as Rain													
Pelly Ranch	0.7	0.7	1.3	35.5	98.6	100.0	100.0	100.0	93.1	33.5	1.3	0.4	62.2
Carmacks Combined	0.0	0.4	1.9	25.7	95.7	104.3	101.7	98.6	98.1	31.8	1.3	0.0	67.6
Stewart Crossing	0.2	0.0	1.2	20.6	99.3	100.0	100.0	99.3	96.5	42.1	1.3	0.0	63.5
McQuesten	0.0	0.3	1.2	48.8	96.9	100.0	100.0	100.0	89.3	33.9	1.2	0.0	61.0

**Annual indicates total for rain, snow and precipitation, and average for % of total precipitation falling as rain*

Source: EC, 2017

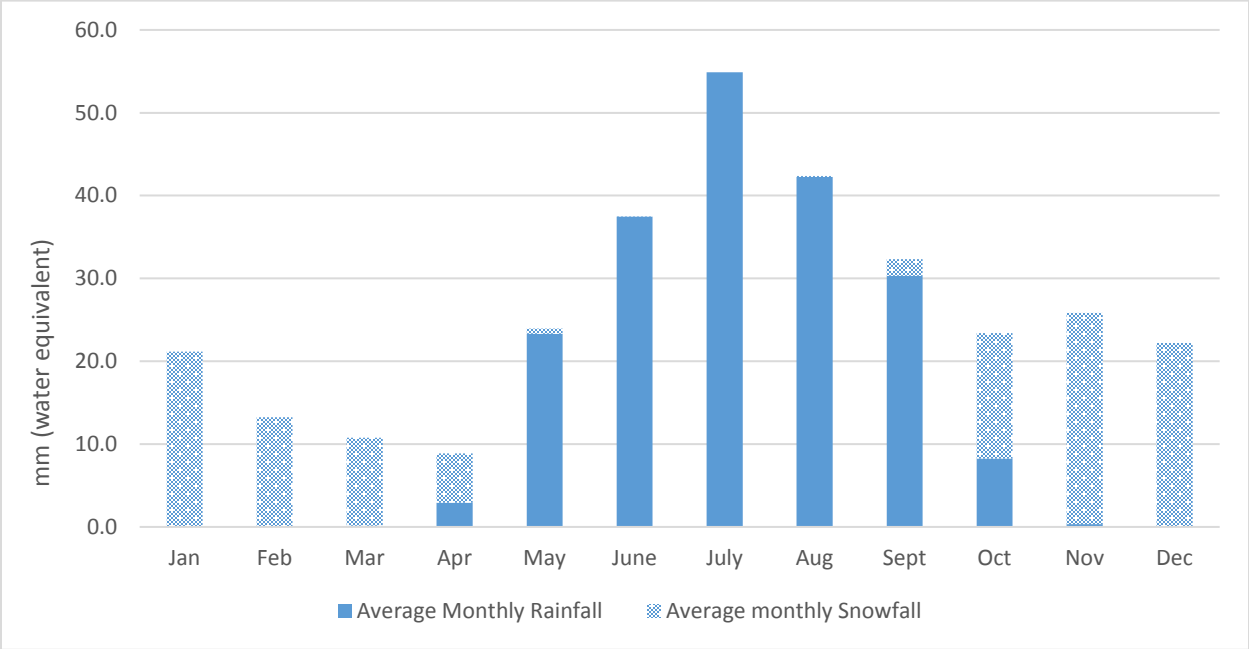

Figure 2-7: Monthly Distribution of Rain and Snow across Four Regional Stations for the Period of Record.

Long-Term Trends

Of the four regional stations presented above, Pelly Ranch and Carmacks have the longest records and were analyzed for historical trends. Figure 2-8 illustrates total annual precipitation along with the respective trendlines and slopes for Pelly Ranch between 1957 and 2014 and for Carmacks between 1964 and 2016 respectively. Although an increasing trend is observed at both stations, the correlation is weak (R^2 of 0.04 and 0.03 for Pelly Ranch and Carmacks respectively). Figure 2-9 shows that the proportion of total precipitation falling as rain also displays an increasing trend of the period of record, but again, the correlation is weak (R^2 of 0.13 and 0.02 for Pelly Ranch and Carmacks respectively).

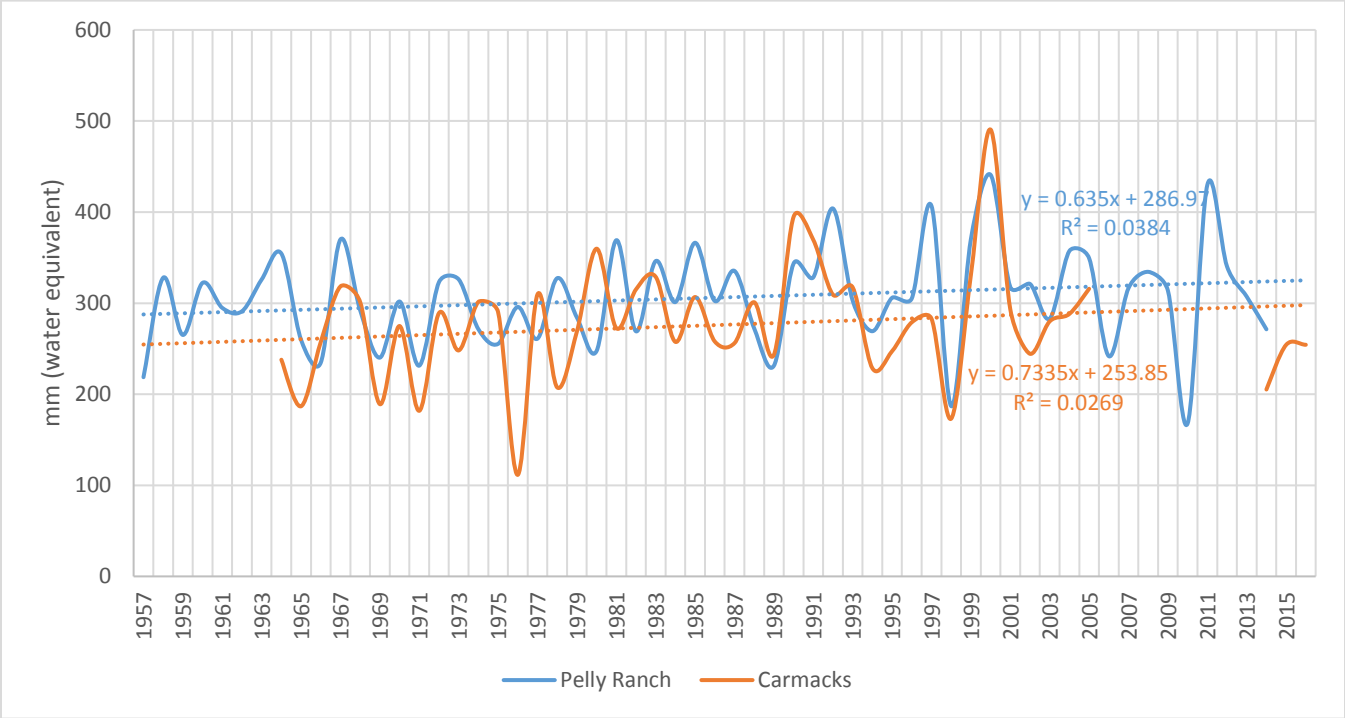

Figure 2-8: Long-Term Trends in Total Annual Precipitation at Regional Stations.

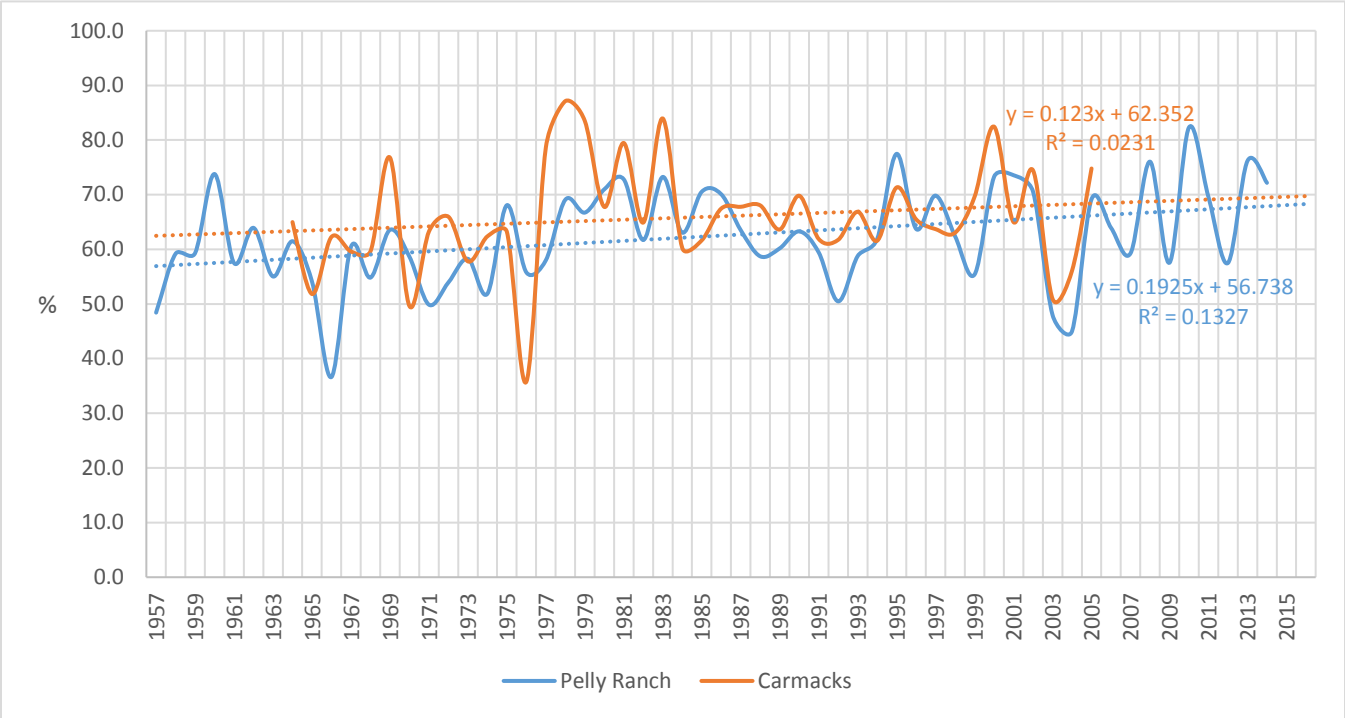

Figure 2-9: Long-Term Trends in Percent of Total Annual Precipitation Falling as Rain at Regional Stations.

2.2.2.2 Site Data

Rainfall

The Minto Mine HOBO meteorological station has been recording rainfall on site since its installation in September 2005 until decommissioning in June 2014. Table 2-5 below presents monthly and annual total for the period of record. Note that only complete months/years were used for computing average values.

Table 2-5: Monthly and Annual Rainfall (mm) - Minto HOBO Station.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2005									*21.6*	23	11.6	4.6	
2006	0	*0.4*	*2.8*	0	22.8	35.8	28.6	29.2	12.2	12.2	0	0	144
2007	0.2	0	0.4	5.8	4.6	36	47.8	21	33.8	11.8	0	0	161.4
2008	1.2	2	0.8	1.8	9.6	26.2	*25.8*	100.6	21.8	6.4	0	0	196.2
2009	5.2	0	0.8	3.2	*9.2*		*6.1*	*50.8*	7.2	16.6	0	0	*99.1*
2010	0	0	0	0	7.6	48.8	75.6	46.4	18	10.2	0	0	206.6
2011	0	6	0	0.2	8.9	*43.8*	95.2	58	15	6.4	0	4.6	238.1
2012	0	0.6	0.6	0.4	8.8	33.4	44	36.6	36	13.8	0	0.6	174.8
2013	0.2	0.2	1.4	3.6	18.4	36.2	77.6	31.4	36.8	15.4	0	7.2	228.4
2014	3.4	0	0	2.4	14	*7.6*							
Avg	**1.1**	**1.1**	**0.5**	**1.9**	**11.8**	**36.1**	**61.5**	**46.2**	**22.6**	**12.9**	**1.3**	**1.9**	**192.8**

Note: Values in grey italics indicate a partial total

Based on regional data presented above, about 64% of total annual precipitation falls as rain (average proportion over the period of record for four regional stations). Applying this ratio to the average annual rainfall of 192.8 mm measured at the Minto Mine HOBO station would result in a total annual precipitation value of 303.2 mm.

Total Precipitation

The Campbell Scientific station was recording rainfall only from time of commissioning until October 14, 2011, when a snowfall conversion adaptor was installed on the tipping bucket to allow for measurement of total precipitation. It consists of an antifreeze reservoir, over-flow tube, and catch tube. Snow captured in the catch tube dissolves into the antifreeze and the melted snow raises the level of the antifreeze and water solution. The mixture then flows through the over-flow tube into the tipping bucket where it is measured by the tipping bucket mechanism. On November 18, 2014, a Geonor T-200B vibrating wire all weather precipitation gauge was installed in addition to the existing tipping bucket and rainfall adaptor to improve accuracy and validate total precipitation measurements. Tables 2-6 and 2-7 present monthly and annual snow-water equivalent (SWE) totals with the tipping bucket and snowfall adaptor and total precipitation gauge respectively, while Figure 2-10 shows a graphical comparison of results with the two different instruments.

Table 2-6: Monthly and Annual Total Precipitation (mm SWE) - Minto Mine Campbell Scientific Tipping Bucket and Snowfall Adaptor.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2010											1.2	0.0	
2011	0.0	6.4	0.4	0.6	15.4	56.0	101.8	64.8	15.6	10.8	0.1	3.9	275.9
2012	9.0	9.9	34.9	0.0	0.1	31.1	44.8	20.7	26.0	16.5	17.1	18.4	228.5
2013	4.4	73.8	7.4	0.0	7.9	21.0	113.5	47.0	59.5	13.6	36.6	37.9	422.7
2014	16.9	49.2	0.0	3.8	15.0	12.0	50.5	13.4	30.5	22.0	2.9	19.4	235.7
2015	9.1	6.9	3.1	3.8	6.3	18.7	35.3	79.7	19.0	14.7	14.6	9.5	220.5
2016	9.1	6.9	2.6	14.7	39.3	30.2	74.7	46.0	18.5	6.7	24.2	7.4	280.4
Avg	**9.7**	**29.3**	**9.6**	**4.5**	**13.7**	**22.6**	**63.8**	**41.4**	**30.7**	**14.7**	**15.9**	**16.1**	**277.6**

Note: Shaded cells indicate rainfall only (prior to installation of snowfall adaptor) and were not used in calculating averages

Table 2-7: Monthly and Annual Total Precipitation (mm SWE) - Minto Mine Campbell Scientific Total Precipitation Gauge.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2014											9.5	21.0	
2015	12.3	0.0	11.8	8.5	4.8	20.5	37.7	80.3	16.7	27.7	7.1	11.3	238.0
2016	11.7	7.8	3.3	14.7	31.5	22.2	68.2	35.8	17.8	9.8	22.0	14.1	258.9
Avg	**12.0**	**3.5**	**7.5**	**11.6**	**18.2**	**21.4**	**52.9**	**58.0**	**17.2**	**18.8**	**12.9**	**15.5**	**248.5**

Average annual total precipitation is 277.6 mm with the tipping bucket and snowfall adaptor and 248.5 mm with the total precipitation gauge. Both values are less than the estimated total of 303.2 mm based on the HOBO rainfall measurements and regional data. This could indicate potential undercatch of both the snowfall adaptor and total precipitation gauge, however, other factors such as wind or snow pillow formation can also play a role. More years of total precipitation data will allow a more meaningful comparison.

Figure 2-10 shows a relatively good agreement in total precipitation measured with both instruments, with no systematic bias one way or the other. The difference in annual totals measured with the two instruments for the years 2015 and 2016 is less than 10%.

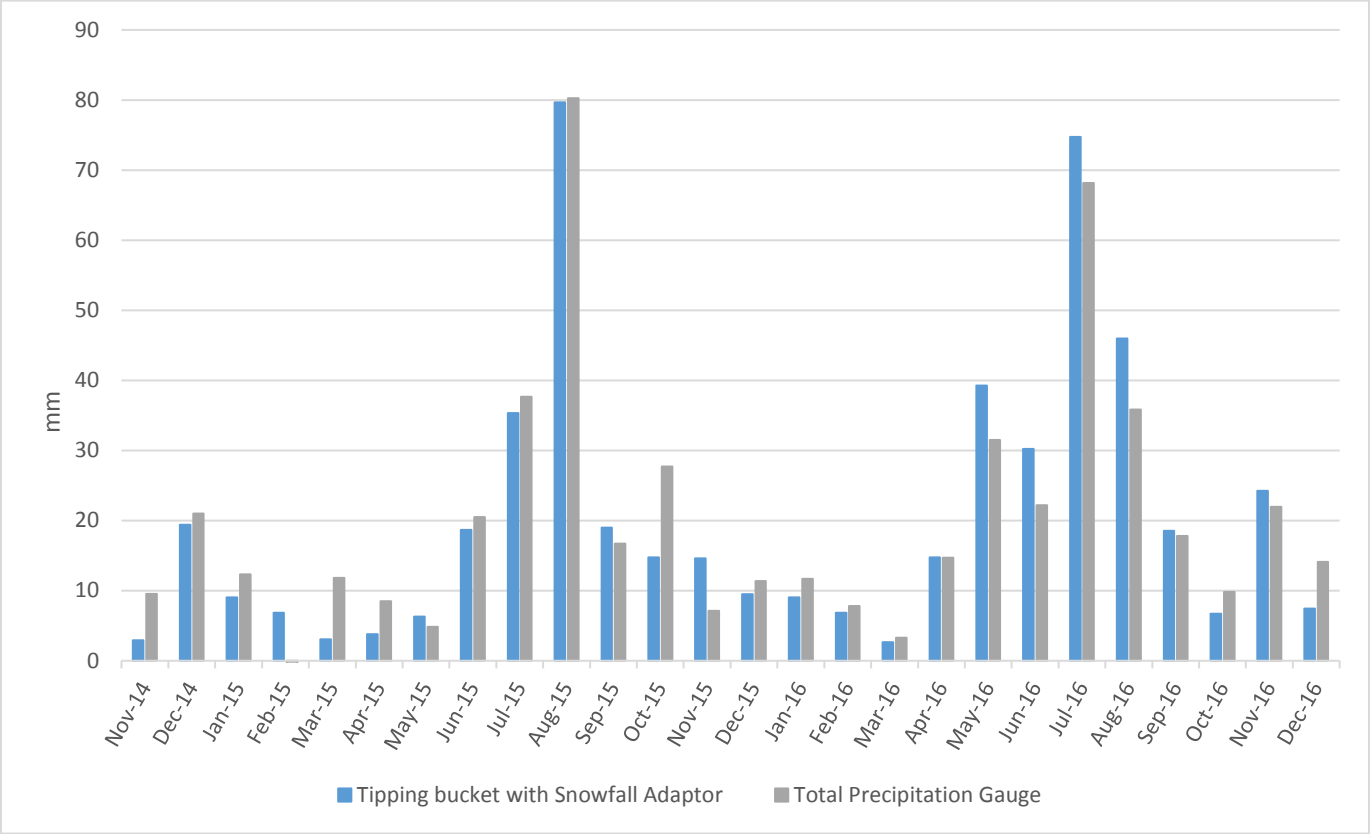

Figure 2-10: Monthly Total Precipitation (SWE) - Minto Mine Campbell Scientific Meteorological Station.

2.2.3 SNOWPACK

2.2.3.1 Regional Data

Environment Yukon conducts regular snow surveys across the territory, on or around March 1, April 1, and May 1 of each year. Average SWE values for the stations located in the Project region are summarized in Table 2-8 (see Figure 2-1 for station locations). Peak snowpack is generally observed in April at all stations.

Table 2-8: Regional Average Snow Water Equivalent (mm).

Station Name	Pelly Farm	Williams Creek	Mount Nansen	Casino Creek	Mount Berdoe
Station ID	09CD-SC03	09AH-SC04	09CA-SC01	09CD-SC01	09AH-SC01
Latitude	61°50'	62°20'48"	62°01'29"	62°44'	60°02'
Longitude	-137°20'	-136°42'50"	-137°03'59"	-138°48'	-136°14'
Elevation (masl)	472	914	1,021	1,164	1,035
Distance from Minto Mine (km)	26	40	66	82	82
Years of data	1986-present	1995-present	1976-present	1977-present	1975-present
March Average SWE (mm)	76	89	69	108	97
April Average SWE (mm)	78	101	80	127	110
May Average SWE (mm)	19	41	20	121	61
March 2016 SWE (mm)	81	n/a	n/a	n/a	118
April 2016 SWE (mm)	n/a	102	83	115	103
May 2016 SWE (mm)	0	75	52	120	70

Source: Environment Yukon, 2017

2.2.3.2 Site Data

Annual snow surveys have been conducted by J. Gibson & Associates in 1994, 1995, 1998, and annually from 2006 to 2013, at three locations in the Minto Creek catchment area. Minto#1 is located south of the airstrip with a north-facing aspect. Minto#2 is located near the explosives storage area with an east-facing aspect. Minto#3 is located north of the mill with a south-facing aspect. From 2013 to date, Minto environmental staff have conducted the annual snow surveys at the same stations described above. Due to site operations, the snow survey sites were relocated to their present positions in 2007 at the approximate aspects and elevations of the previous sites. A fourth station located at the dry stack storage facility was added in 2016. Snow sampling locations are shown on Figure 2-11.

Snow surveys have been conducted on the first day of March, April and May, or within 2 days before or after these dates, as conditions allowed. Due to the lack of snow remaining on site by May 1, February snow surveys were initiated in 2009 to ensure a consistent annual 3-month record. May snow surveys have subsequently been discontinued for the same reason. Snow collection procedures are in accordance with the Snow Survey Sampling Guide (SS13-81) published by the British Columbia Ministry of Environment (Water Management Branch, Surface Water Section).

Table 2-9 shows, as an average of data recorded at all snow survey stations, the mean snowpack depth (cm), snow density (%) and water-equivalency (mm) on the first day of each month of the survey. Possible errors in the record identified in quality checking of the field data (where the recorded water-equivalency does not equal the product of the recorded snow density and snow depth) have been shaded grey, and retained in the analysis.

MINTO MINE

FIGURE 2-11
MINTO SNOW SAMPLING LOCATIONS

DECEMBER 2017

capstone MINTO MINE

Snow Monitoring Location

1:13,500 *when printed on 11 x 17 inch paper*

0 50 100 200 300 400 500 Meters

ALEXCO ENVIRONMENTAL GROUP

Aerial imagery obtained from Challenger Geomatics. Imagery acquired September 9th 2014.

Datum: NAD 83 Projection: UTM Zone 8N

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D:\Project\AllProjects\Minto\gis\mxd\Overview_Maps\03-SpecificTopics\Environmental Monitoring Locations\Minto_MineSite_Snow_Stations_20171003.mxd
(*Last edited by: amatlashevska;27/12/2017/10:47 AM*)

Table 2-9: Summary of Minto Mine Snow Survey Data.

Year	February 1			March 1			April 1			May 1		
	Snow Depth (cm)	Snow Density (%)	Water-equivalent (mm)	Snow Depth (cm)	Snow Density (%)	Water-equivalent (mm)	Snow Depth (cm)	Snow Density (%)	Water-equivalent (mm)	Snow Depth (cm)	Snow Density (%)	Water-equivalent (mm)
1994				52.2	17.1	89.7	50.3	18.8	94.3	0.0	n/a	0.0
1995				41.7	13.8	57.3	38.9	14.9	58.0	4.1	*30.7	18.0
1998				37.3	****18.1	65.0	39.3	18.2	70.7	0.0	n/a	0.0
2006				44.7	16.2	72.7	57.4	17.1	97.7	15.4	**34.5	52.7
2007				40.5	16.9	79.3	49.0	20.2	98.7	0.0	n/a	0.0
2008				50.9	17.1	87.0	48.9	***20.0	97.5	10.3	**25.1	34.0
2009	55.6	16.6	92.7	70.2	15.7	110.0	67.4	22.3	150.7	0.0	n/a	0.0
2010	60.5	17.8	107.7	58.1	20.7	120.7	40.4	**13.9	56.0			
2011	57.2	18.7	106.0	70.3	20.1	141.7	52.3	22.8	111.7			
2012	54.7	20.3	111.0	64.6	19.6	127.0	61.3	21.5	132.7			
2013	58.7	15.7	91.3	45.8	23.2	101.0	33.5	15.4	62.6			
2014	44.3	19.0	95.3	49.7	22.3	111.0	41.0	25.7	98.0			
2015	44.4	220.7	90.3	25.3	29.0	76.7	45.0	23.0	101.7			
2016	40.5	19.3	77.8	38.6	19.4	78.5	15.5	33.6	52.0			
Mean	**46.6**	**19.1**	**88.6**	**45.6**	**19.5**	**86.3**	**44.3**	**19.2**	**86.7**	**4.3**	**32.6**	**15.0**

All snow surveys from 1994 - 2013 performed by J. Gibson & Associates

= possible measurement error

** zero snow recorded at #2 and #3 - density is based on #1 only, average depth and water-equivalent is average of all sites*
*** zero snow at #3, density is an average of snowpack at #1 and #2, average depth and water-equivalent is average of all sites*
**** omitted snow survey site #3 - error in snow depth reading*
***** includes potential measurement error from site 3*

Based on the ten years of snow surveys, the average water-equivalent snow depth remaining on the first day of March and April is 86.3 mm and 86.7 mm, respectively.

In four of the seven May surveys, the snowpack had melted entirely by May 1. In the three years where snow remained on the ground on May 1 (1995, 2006, & 2008), the mean snowpack had reduced 10%, 27%, and 20%, respectively, of the peak measured snowpack in that year. The data indicate that the majority of runoff due to snowmelt occurs in April.

Figure 2-12 below shows the average snow water equivalent trend over the period of record.

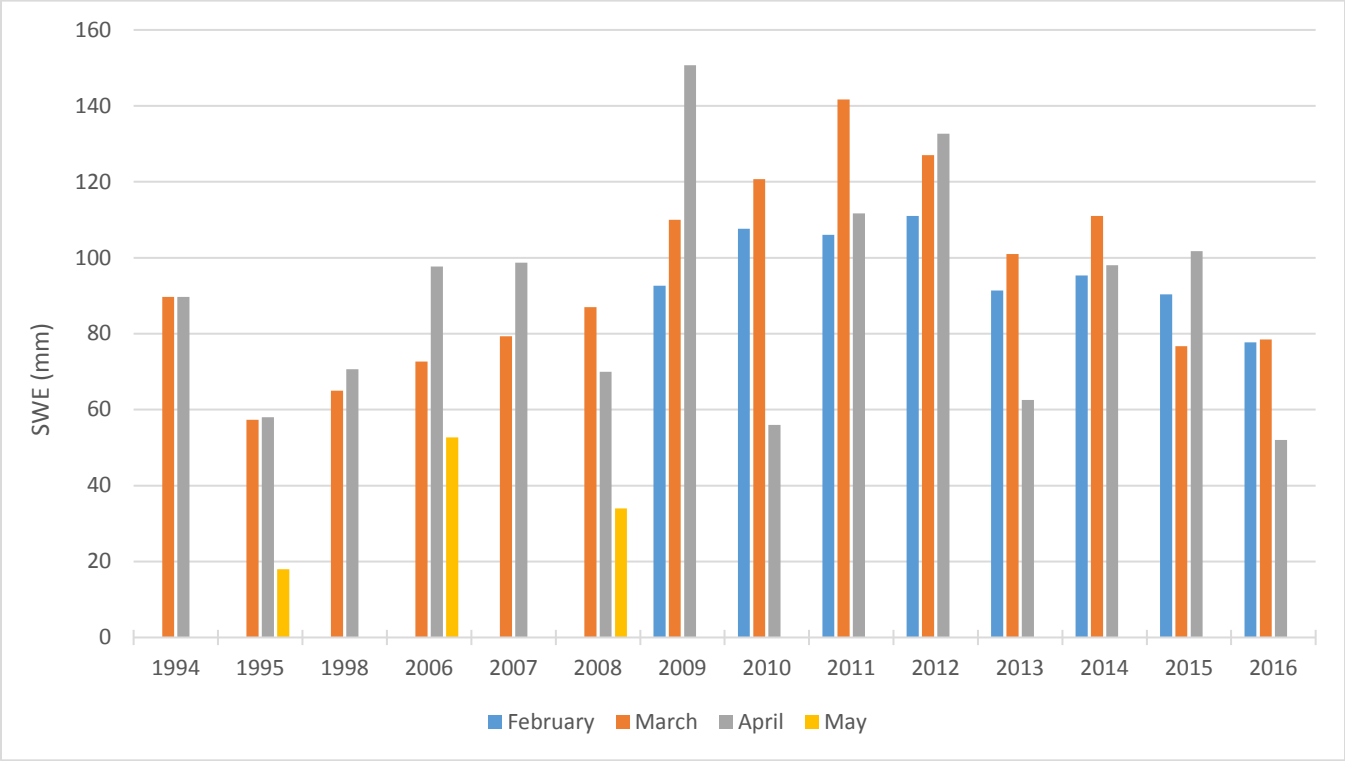


Figure 2-12: Snow Water Equivalent (SWE) Data from Minto Mine Snow Surveys, 1994 – 2016.

2.2.4 WIND SPEED AND DIRECTION

The average wind speed and direction and the maximum wind gust averaged over a three second period for each hour were recorded by the Minto Mine HOBO meteorological station, at a height of 3 meters above the ground. The anemometer was damaged by strong winds in May 2010, so that month marks the extent of the HOBO wind record. Since the HOBO wind sensor was strongly affected by rime icing (see Figure 2-13), much of the record is ice-affected at temperatures below zero.

Figure 2-13: Rime Icing Affecting the Minto Mine HOBO Anemometer *(Source*: *EBA 2010*).

Periods when the anemometer cups are not rotating due to ice build-up are recorded as 0 m/s and are easily identified in the record and flagged (for both the HOBO and the Campbell Scientific anemometers). However, ice build-up on the anemometer can result in extended periods of non-zero but diminished wind speeds of varying degree and duration which are difficult to arbitrarily omit from the record. In EBA's *2010 Climate Baseline Report*, all wind speeds and directions recorded below 0°C were flagged and omitted from analysis to reduce uncertainty in the data. For consistency, that same approach was kept in the present report for the HOBO wind data. Note that this introduces a bias in the winter wind data, as almost exclusively strong southerly winds (associated with warmer temperatures) end up being kept in the winter wind record.

The new Campbell Scientific anemometer is at a height of 10 meters above the ground and was programmed to record wind speed and direction. This anemometer seems to have been much less affected by ice so far, so most of the winter wind data were retained in the record, to provide a general idea of winter wind patterns. It is however important to keep in mind that if some icing occurred on the Campbell Scientific anemometer, winter wind speeds may be underestimated in the record. Summary statistics for both weather stations are presented in Table 2-10.

The wind roses in Figure 2-14 and Figure 2-15 are graphical representations of wind observations recorded by the two Minto Mine meteorological stations over the period of record. Because the anemometer height is different on the two stations (3 meters for the HOBO stations and 10 meters for the CS station), the wind data collected by each station were treated separately. Table 2-11 contains information on the data used for each wind rose, and Figure 2-16 shows statistics on the wind data used to produce the HOBO wind rose with regards to seasonal availability as discussed above.

Table 2-10: Monthly and Annual Average and Maximum Wind Speed, Minto Mine.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
HOBO (2005-2010)													
Average Wind Speed (m/s)	3.9	6.0	3.8	2.6	3.0	2.6	2.5	2.0	2.5	3.2	5.3	4.0	2.7
Peak Wind Gust (m/s)	18.9	16.5	23.8	21.3	20.6	16.1	17.9	17.7	15.8	20.4	19.5	17.3	23.8
Campbell Scientific (2010-2016)													
Average Wind Speed (m/s)	2.0	2.4	2.3	3.5	3.9	3.5	3.3	3.3	3.5	2.2	2.1	1.6	2.8
Peak Wind Gust (m/s)	23.1	21.6	23.4	23.2	23.2	23.1	17.1	18.1	26.8	26.3	24.3	20.0	26.8

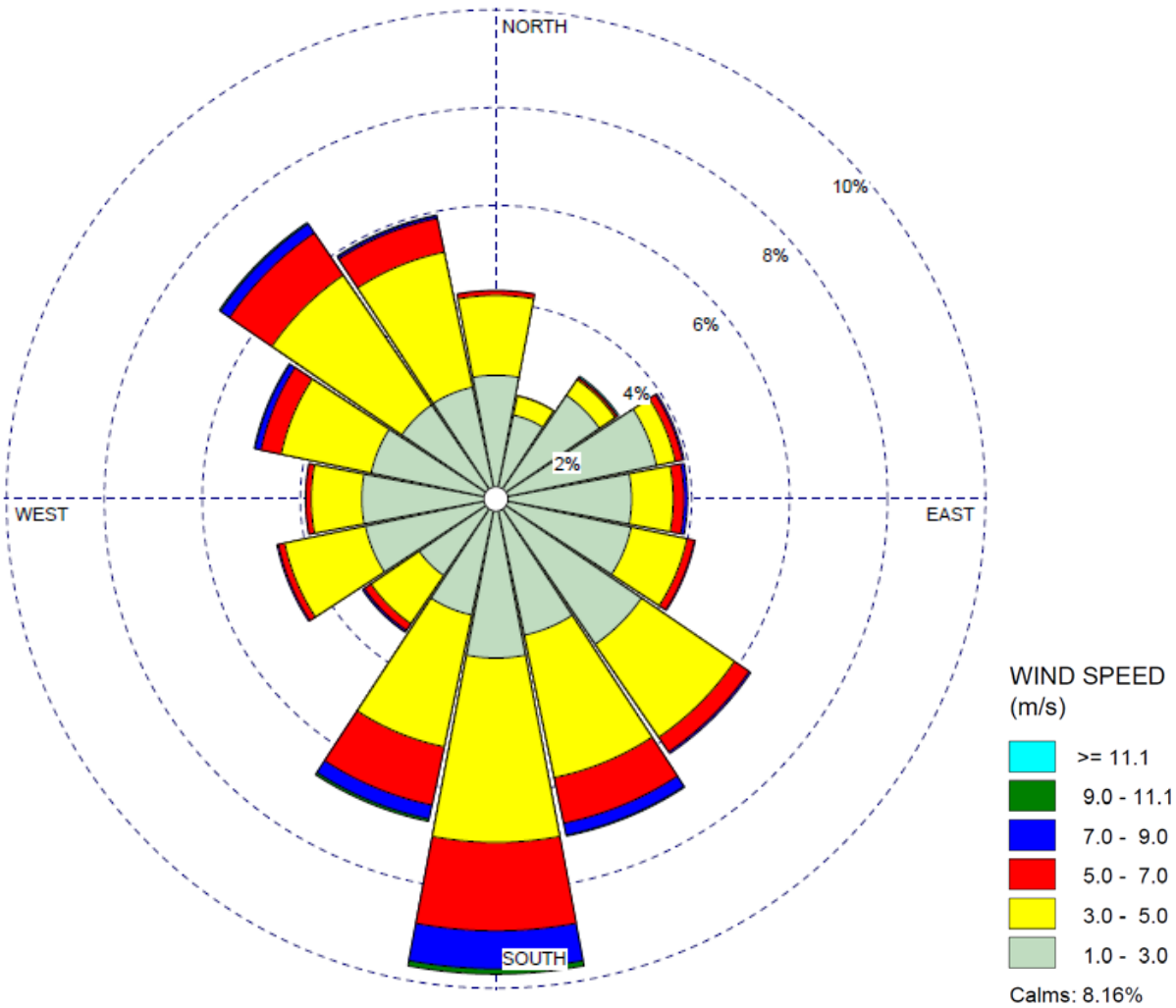


Figure 2-14: Minto Mine HOBO Meteorological Station Wind Plot, September 2005 – April 2010.

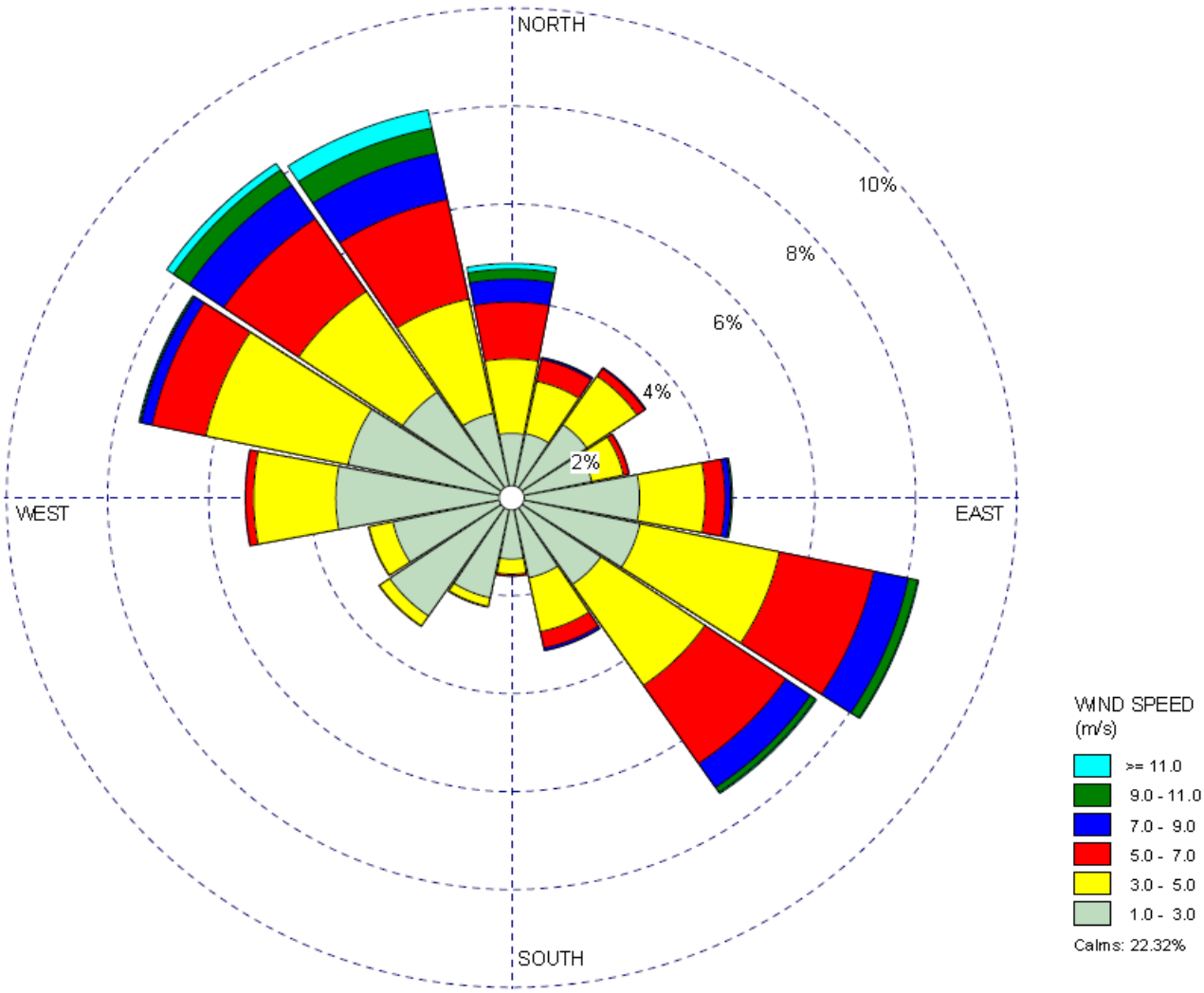


Figure 2-15: Minto Mine Campbell Scientific Meteorological Station Wind Plot, October 2010 – December 2016.

Table 2-11: Wind Data Summary Table.

	HOBO	Campbell Scientific
Dates	September 2005 – April 2010	October 2010 – December 2016
Number of hours of data	39,531	54,366
Average wind speed	2.65 m/s	2.75 m/s
Calm winds count	3,227	12,135
Calm winds frequency	8.16%	22.32%
Data Available	42.17%	90.74%
Incomplete or missing data count	22,862	5,032
Total data used	16669	49,334

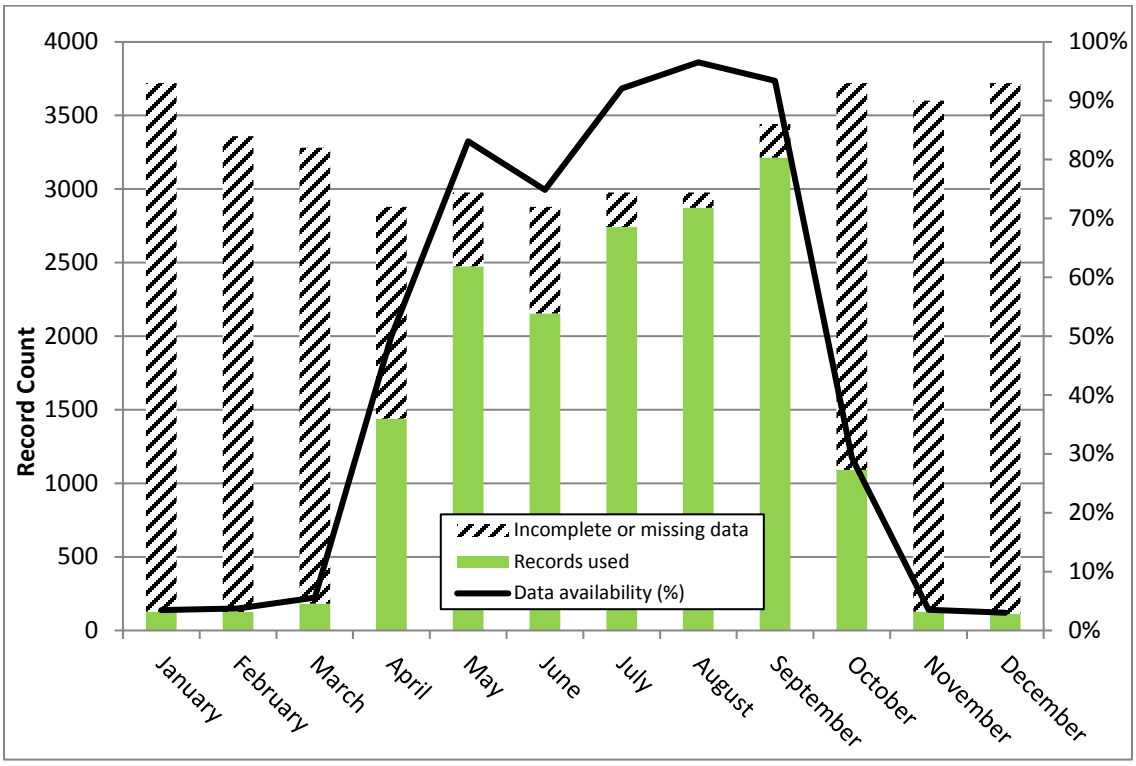


Figure 2-16: HOBO Wind Data Availability Statistics 2005–2010.

It is interesting to note that the record from the two stations is relatively consistent in terms of wind speed and direction, although the Campbell Scientific station generally recorded higher wind speeds and a more southeasterly direction while the HOBO displays a more southerly direction. This can be explained by the fact that the CS anemometer is higher above the ground (where there is less friction and less turbulence) and that the CS record is missing less data (90.74% data available for CS anemometer versus 42.16% for the HOBO).

2.2.5 RELATIVE HUMIDITY

Hourly relative humidity (RH) recorded at the site is plotted for the entire period of record in Figure 2-17 and illustrates a seasonal pattern. RH is highest during the winter months (typically in the range of 75% to 95%) and lowest during the spring and early summer, typically in the range of 40% to 60%; although levels exceeding 90% in summer are not uncommon.

RH has a much larger day-to-day variability during the summer months. The lowest recorded hourly RH was 10.25% (June 20, 2007). The highest was 100%, on several occasions. Table 2-12 shows the average monthly mean %RH.

Table 2-12: Monthly and Annual Average Relative Humidity (%), Minto Mine.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
HOBO (2005-2014)	83	79	68	57	52	57	61	69	71	84	85	83	71
Campbell Scientific (2010-2016)	83	78	61	55	49	54	62	65	68	81	85	83	69

RH is typically greater than 80% between October and February. During the summer months, the daily mean is typically in the range of 50% to 60%, although part of the reason for the lower average is a higher variance. Annually, mean RH is 70% (average over the two meteorological stations).

Figure 2-17 shows the hourly RH record for both stations.

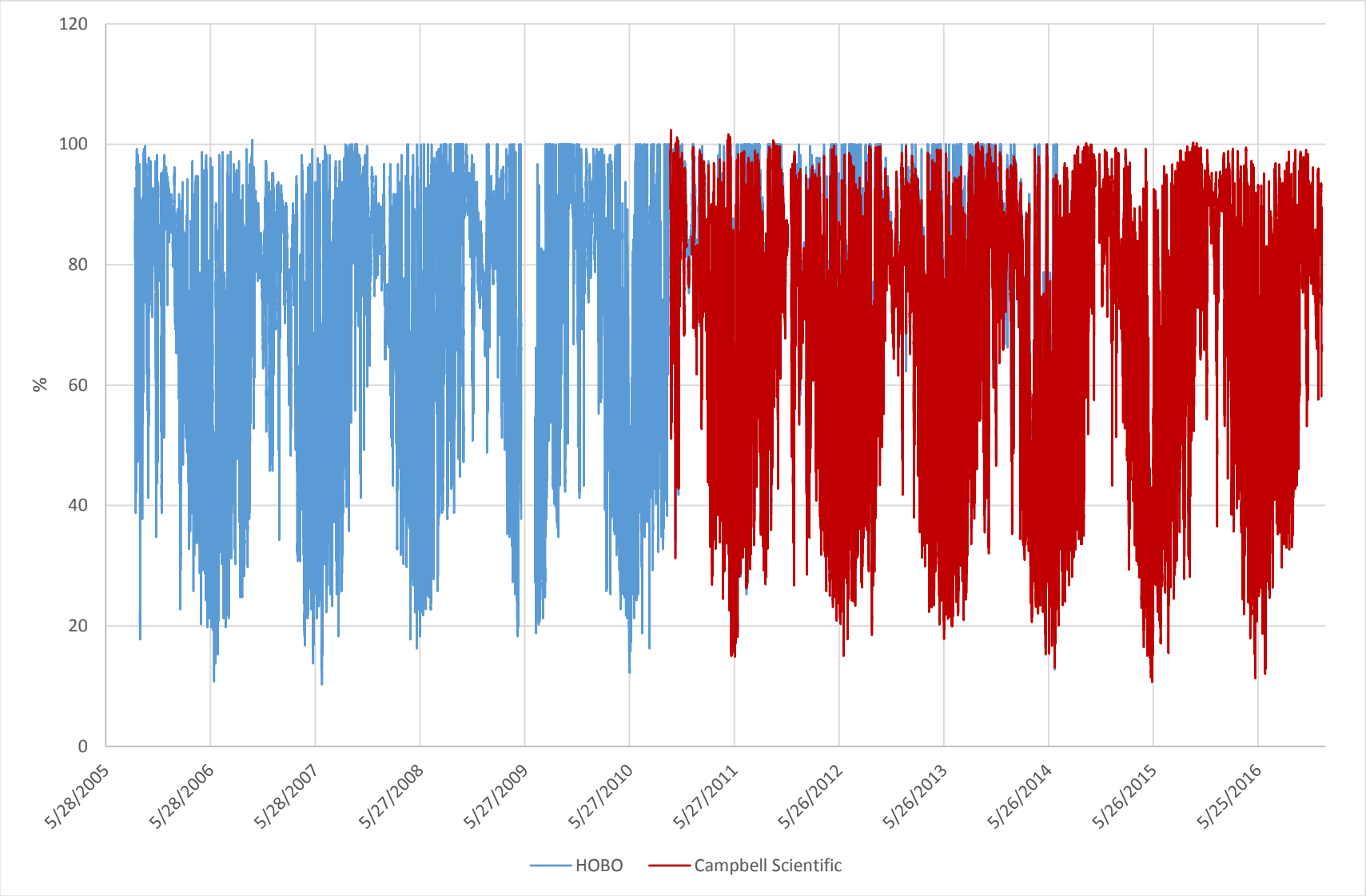


Figure 2-17: Minto Mine Hourly Relative Humidity (%), 2005–2016.

2.2.6 SOLAR RADIATION

Table 2-13 shows the average amount of solar radiation received each day at the site by month. The highest amount is received on average in June and the lowest is in December. Mean annual solar radiation is 108 W/m^2 (averaged over the two meteorological stations).

Table 2-13: Monthly and Annual Average Incoming Solar Radiation (W/m^2), Minto Mine.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
HOBO (2005-2014)	10	41	109	175	221	237	215	168	104	47	14	5	112
Campbell Scientific (2010-2016)	9	31	98	167	216	225	197	154	95	42	10	4	104

Hourly solar radiation is plotted for the entire period of record in Figure 2-18. As would be expected at a latitude of 62.6 °N, a strong seasonal pattern is evident, with maximum solar radiation observed near the summer solstice in late June, and values just slightly above zero around the winter solstice when the site experiences only about 3 hours of direct sunlight per day. Large fluctuations from the general trend during the summer are due to cloud cover.

On July 20, 2016, a second pyranometer was installed at the Campbell Scientific station to measure outgoing radiation. Monthly averages for July (partial) to December are shown in Table 2-14.

Table 2-14: Monthly Average Outgoing Radiation (W/m^2), Minto Mine.

	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16
Campbell Scientific	*32*	34	22	24	12	6

Note: grey italics indicate an average based on partial data

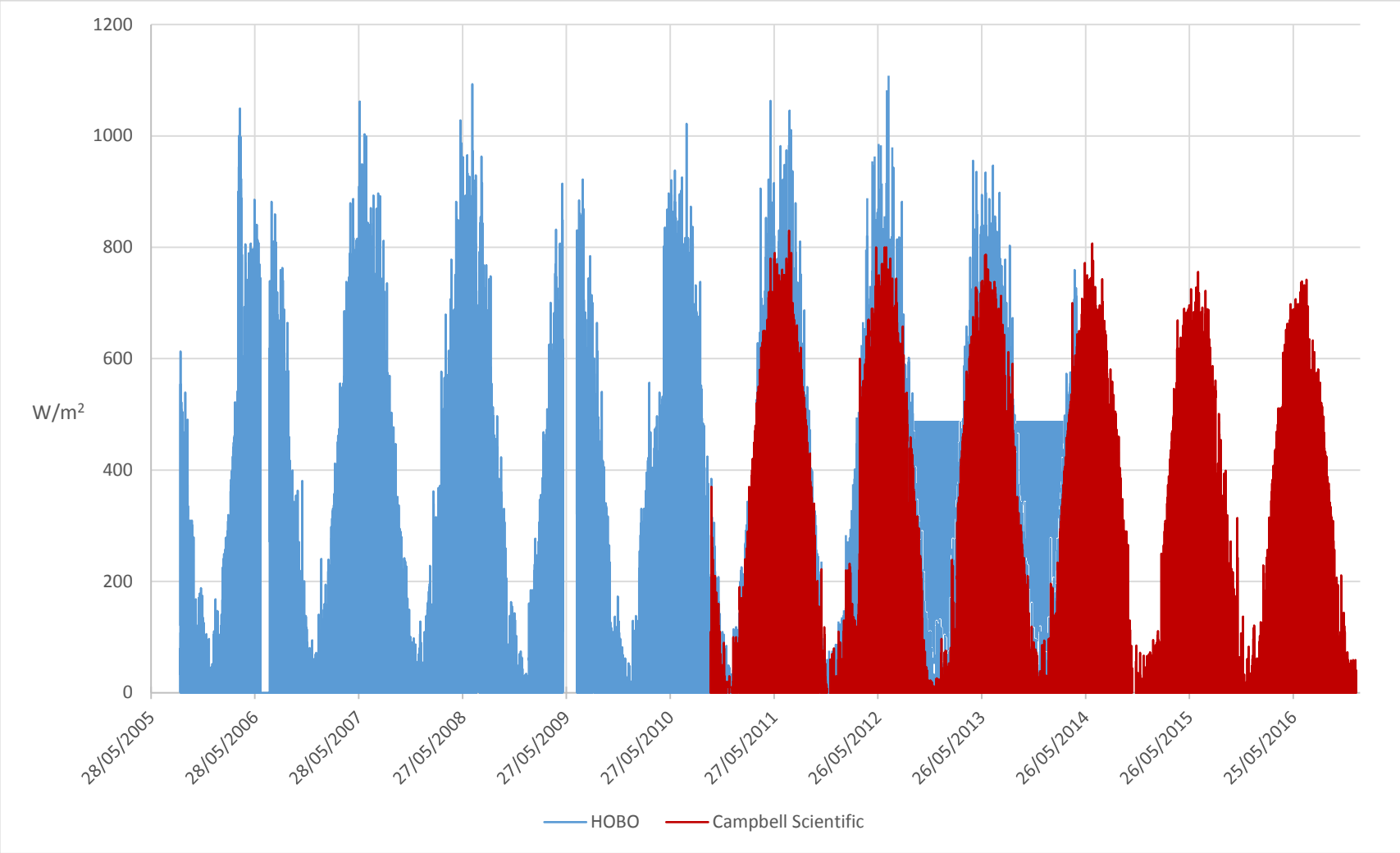


Figure 2-18: Minto Mine Hourly Incoming Solar Radiation (W/m²), 2005–2016.

2.2.7 BAROMETRIC PRESSURE

Barometric pressure recorded on-site at 885 m elevation has been converted into a meteorological standard sea-level equivalent using the formula:

$$BP_{sl} = BP_{el} + 1013.25\left[1 - \left(1 - \frac{h}{44307.69231}\right)^{5.253283}\right]$$

where: BP_{sl} = sea-level equivalent barometric pressure
BP_{el} = barometric pressure recorded at elevation
h = height above sea level (in m)

Table 2-15 shows average sea-level equivalent barometric pressure by month at the site. Barometric pressure is slightly higher on average between May and August (above 1009 hPa), and lowest between September and April (below 1008 hPa). Mean annual sea-level equivalent barometric pressure is 1006.5 hPa (average of both meteorological stations).

Table 2-15: Monthly and Annual Average Sea-Level Equivalent Barometric Pressure (hPa), Minto Mine.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
HOBO (2005-2014)	1006	1007	1003	1007	1011	1010	1011	1009	1008	1006	1005	1006	1006
Campbell Scientific (2010-2016)	1005	1006	1005	1006	1011	1010	1011	1010	1005	1007	1004	1006	1007

Hourly sea-level equivalent barometric pressure recorded at the site is plotted for the entire period of record in Figure 2-19. A slight seasonal pattern can be observed with higher values during summer than during fall and early winter. Winter is also characterized by a much higher day-to-day variability. Note that the barometric pressure sensor on the Campbell Scientific weather station malfunctioned (possibly as a consequence of low battery voltage) and had to be sent back for repair; hence the data gap between November 12, 2010 and March 4, 2012.

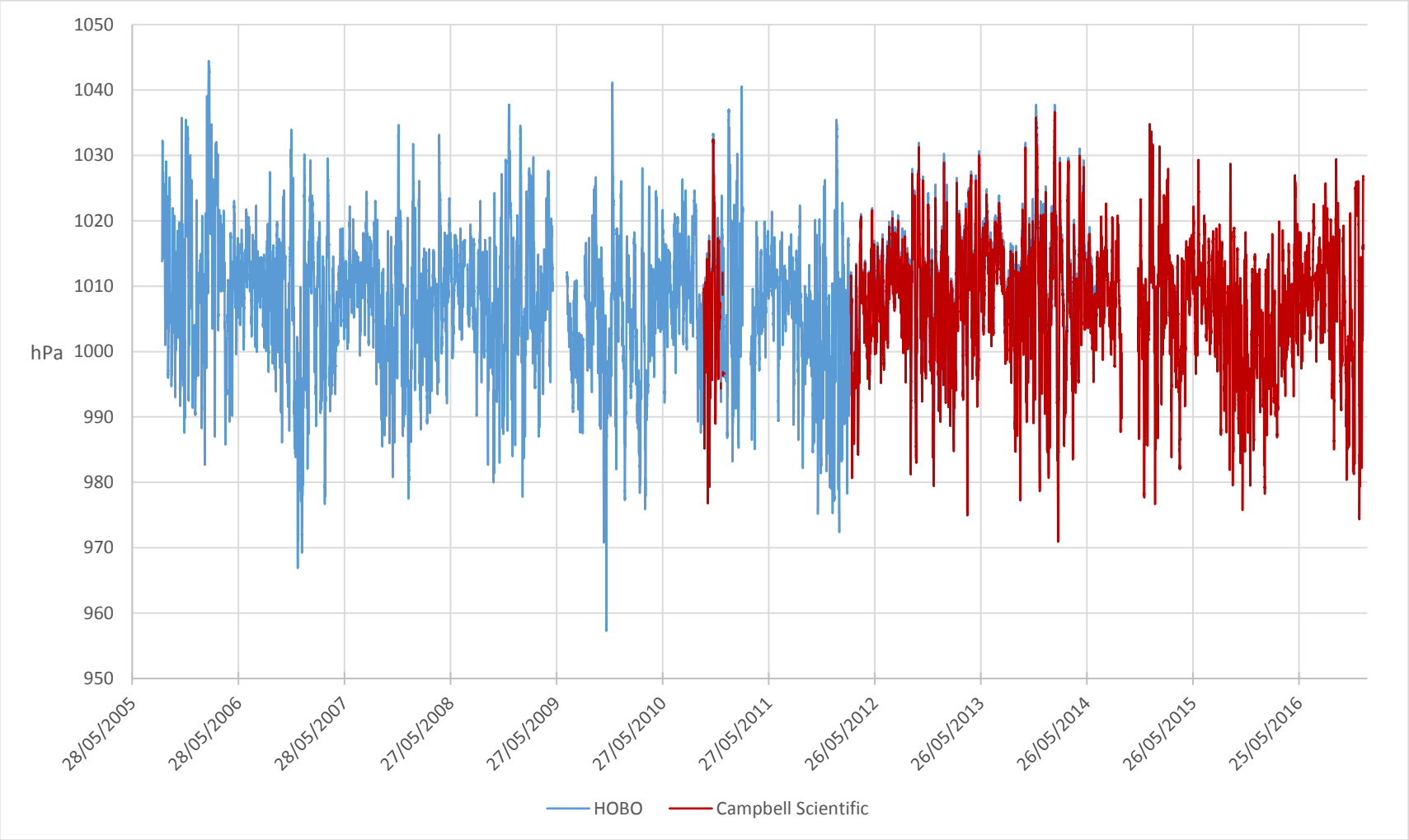


Figure 2-19: Minto Mine Hourly Sea-Level Equivalent Barometric Pressure (hPa), 2005–2016.

2.2.8 EVAPORATION AND EVAPOTRANSPIRATION

2.2.8.1 Regional Data

Monthly lake evaporation was reported by Environment Canada for Pelly Ranch over the period of 1971–1999 as a mean daily evaporation. Data show measurable evaporation occurring only between May and September. An estimate of mean annual lake evaporation is determined to be 460 mm for Pelly Ranch by multiplying each month's daily mean by the number of days in the month. The Ministry of Environment's Manual of Operational Hydrology in B.C. suggests a reduction in evaporation with elevation equal to 10% per 350 m elevation rise (HPK 1994). With an elevation difference of slightly over 400 m, the extrapolation would suggest an annual evaporation at site on the order of 400 mm/year.

2.2.8.2 Site Data

No evaporation records are available for the Minto Mine site. An evaporation pan was deployed on site during the summer of 2016, however, due to a system error, data are invalid.

Starting in August 2012, the Campbell Scientific datalogger program incorporated an instruction for the calculation of potential evapotranspiration (PET) using the American Society of Civil Engineers (ASCE) standardized reference evapotranspiration equation (Penman-Monteith). The PET instruction uses temperature, relative humidity, wind speed, solar radiation, latitude, longitude and altitude to calculate an evaporation rate for a short grass crop. This provides an approximation of actual evaporation, which varies locally depending on surface type and micro topography. Table 2-16 presents the average monthly calculated PET.

Table 2-16: Monthly and Annual Average Potential Evapotranspiration (mm), Minto Mine.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
-5.7	-0.5	19.9	47.4	95.6	106.5	81.7	64.5	31.1	0.9	-3.2	-5.3	427.8

The average total annual PET is 428 mm which is similar to the estimated mean evaporation value of 400 mm/year based on regional data. Figure 2-20 shows the hourly calculated PET, which displays a strong seasonal pattern. Maximum PET occurs in June while winter months (November to February) often display negative values, which can be interpreted as an increase in soil moisture.

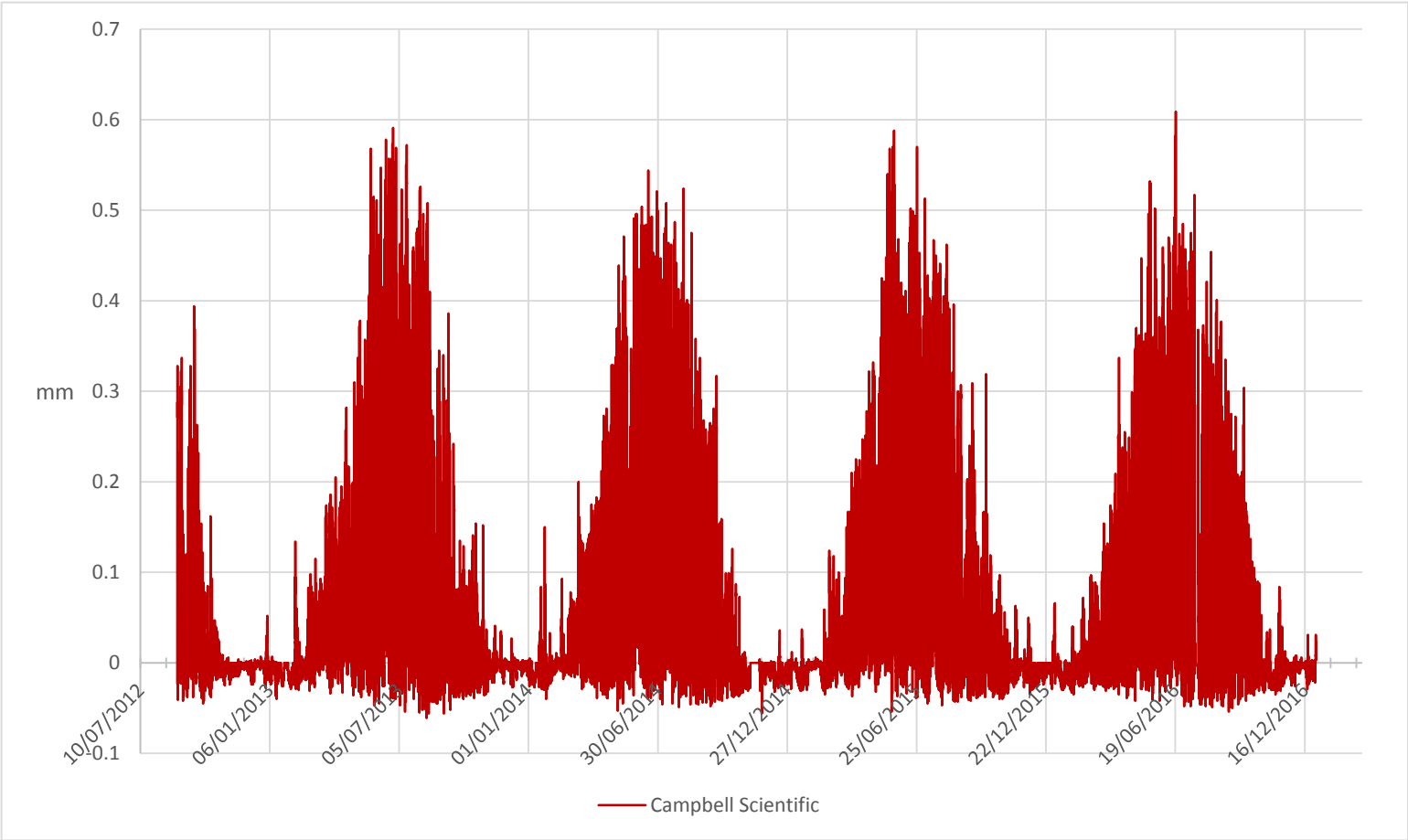


Figure 2-20: Minto Mine Hourly Potential Evapotranspiration (mm), 2012–2016.

3. SURFACE WATER HYDROLOGY

3.1 METHODS

3.1.1 REGIONAL DATA

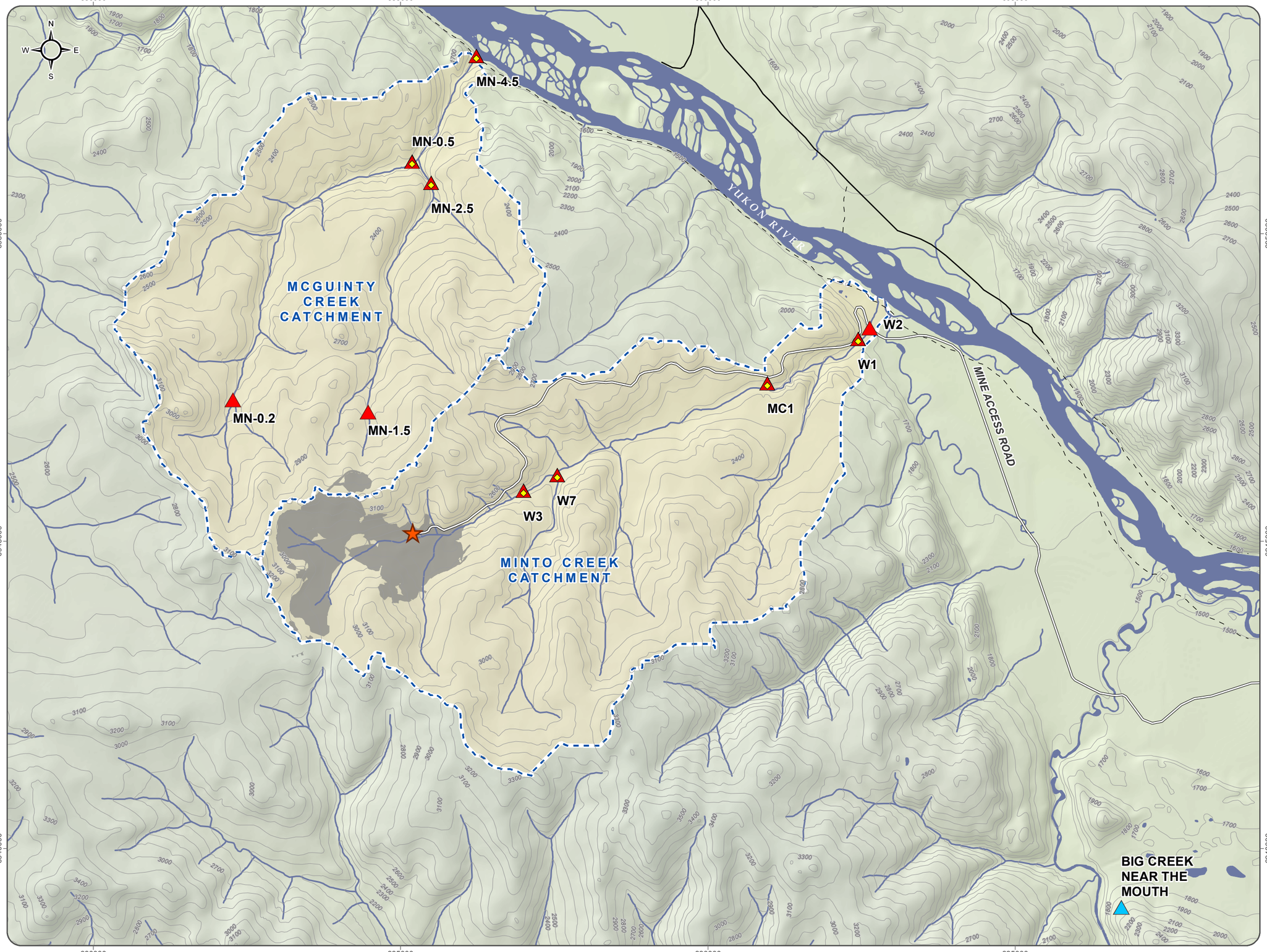
Regional hydrometric stations operated by Water Survey of Canada (WSC) can provide insight on long-term trends. Big Creek near the Mouth station (09AH003) is located in the vicinity of the Project area (see Figure 3-1) and has been monitored since 1975. Although the drainage area of Big Creek is much larger than that of Minto Creek or McGinty Creek (1800 km^2 compared to 42.2 km^2 and 33.8 km^2 for Minto creek and McGinty creek catchments respectively), the long-term record at Big Creek can be used as a proxy for the site.

3.1.2 SITE DATA

Minto Explorations Ltd. (Minto) maintains a network of hydrometric stations as part of its regular monitoring of surface water hydrological conditions at the Minto Mine in Minto and McGinty Creeks (Figure 3-1). Minto Mine personnel conduct regular discrete discharge measurements and maintenance at the stations where Solinst Levelogger and Barometric Loggers are utilized to capture continuous stage records.

Data coverage from year to year varies, depending on when in situ dataloggers were installed and removed, and when instantaneous discharge measurements were taken. Instantaneous discharge is measured using the velocity-area method using a current meter. Solinst Water Leveloggers are used to collect continuous stage readings which are then corrected based on physical staff gauge measurements. The records are processed into a continuous discharge record based on the stage-discharge relationship. This relationship (stage and discharge) is established each season through rating measurements obtained during regular field visits to the sites. Hydrographs for stations and seasons where enough data are available to produce rating curves are presented in Appendix B.

Paired Solinst Leveloggers and Barologgers are utilized to collect the continuous stage record. All measurements are entered into a master spreadsheet and .CSV files are created which include date, time, staff gauge height and discharge measured. These rating measurements are then imported into a data management software package (Aquatic Informatics' Aquarius Time-Series was used from 2012 to 2015) and a rating curve is built. Rating curve development considers which measurements should be included and when and where shifts to the rating are appropriate. All measurements within the continuous period are included in the hydrographs (Appendix B). Rating curve shifts are used at some Minto sites when and where appropriate.



MINTO MINE

FIGURE 3-1

REGIONAL, MINTO AND MCGINTY CREEK SURFACE HYDROLOGY MONITORING SITES

OCTOBER 2017

capstone MINTO MINE

- Water Quality Monitoring Station
- Water Quality and Hydrometric Monitoring Station
- Regional Hydrometric Station
- Mine Footprint
- Catchment
- Minto Access Road
- Limited-use road
- Trail
- Contours (100ft)

1:60,000 *when printed on 11 x 17 inch paper*

0 500 1,000 1,500 2,000 Meters

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National Topographic Data Base (NTDB) compiled by Natural Resources Canada at a scale of 1:50,000. Cadastral data compiled by Natural Resources Canada. Reproduced underlicense from Her Majesty the Queen in Right of Canada, Department of Natural Resources Canada. All rights reserved.

Datum: NAD 83 Projection: UTM Zone 8N

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(*Last edited by: amatlashevska; 10/10/2017/14:18 PM*)

3.1.2.1 QA/QC

Hydrometric data are collected and managed throughout the open water season by Minto staff on both Minto and McGinty Creeks. Minto utilizes the Velocity-Area method of discharge calculation and measures velocity using a Hach FH950 handheld electromagnetic flow meter. Measurements are conducted manually and paired with staff gauge observations and site photographs. In general, multiple visits per month occur on Minto Creek and monthly visits occur on McGinty Creek during the open water season.

These data are checked for entry and calculation errors and suspect measurements by Minto after field personnel have entered measurements into a calculation spreadsheet. Suspect measurements are verified against photos and field notes (e.g. if they differ greatly from the stage-discharge relationship). This can be due to ice effects or other changing control conditions such as scour, aggradation and vegetation control.

Barometrically compensated Solinst water level data are imported into Aquarius software from .CSV files which are exported from Solinst software following compensation. Aquarius allows for adjustment of the Solinst record to match the staff gauge observations, for development of rating curves with the field data, and for automatic processing of continuous discharge records. This preserves the raw data in an easy to reference format and changes can be made to the data at any time which then cascade through the various time series. For example, at new sites, rating curves may improve after several seasons and alter a previous year's continuous record as the high or low end of the rating curve becomes better defined. Stage time series are adjusted for drift, offset and erroneous data are deleted or omitted from discharge computation if they are deemed ice affected. The rating curve is automatically applied to the continuous stage record for a specified time period to create the continuous discharge time series.

3.2 RESULTS

3.2.1 REGIONAL DATA

Table 3-1 presents the mean monthly discharge for the period of record at WSC station Big Creek near the Mouth, and Figure 3-2 displays the annual mean discharge. No clear long-term trend in mean monthly or annual discharge emerges from Big Creek data. Peak flows typically occur in May.

Table 3-1: Mean monthly discharge (m^3/s), Big Creek near the Mouth (WSC station).

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
1974								19.6	4.53	2.16	0.608	0.118	
1975	0.058	0.083	0.149	0.443	37.3	14.6	23.9	23.1	13.8	4.06	0.423	0.199	**9.96**
1976	0.121	0.081	0.062	0.4	23.4	25.7	42.5	5.94	2.92	1.69	0.758	0.256	**8.72**
1977	0.224	0.201	0.152	0.512	17.6	17.9	15.8	3.92	4.28	2.79	0.696	0.087	**5.39**
1978	0.048	0.028	0.023	0.023	7.04	20.8	40.1	23.4	7.72	4.81	1.77	0.635	**8.95**
1979	0.342	0.125	0.123	0.178	18	18.4	19.6	12	10.3	3.46	1.07	0.355	**7.05**
1980	0.152	0.157	0.184	0.304	7.8	4.7	16.6	11	22.1	7.68	0.781	0.189	**5.99**
1981	0.175	0.169	0.173	0.225	12.8	4.72	18.4	14	5.89	4.8	1.61	0.432	**5.35**
1982	0.153	0.135	0.14	0.218	24	20.1	4.88	16	2.73	1.91	0.85	0.298	**6**
1983	0.125	0.068	0.05	0.054	8.49	21.3	17.9	27.3	8.89	3.27	0.426	0.026	**7.38**
1984	0.005	0.006	0.012	0.124			19.6	4.29	13.8	2.56	0.375	0.073	
1985	0.03	0.02	0.045	0.089	25.9	23.4	20.1	11.7	10.8	3.46	1.34	0.759	**8.21**
1986	0.496	0.298	0.111	0.052	21.6	18.4	17.2	10.9	9.28	3.51	0.668	0.595	**6.98**
1987	0.412	0.207	0.081	0.684	26.8	18.6	7.01	12	7.78	3.28	1.04	0.433	**6.58**
1988	0.192	0.167	0.211	0.499	26.7	11	23	15.7	6.14	3.2	1.66	0.786	**7.5**
1989	0.404	0.181	0.081	0.18	10.6	7.88	6.13	4.74	3.96	2.47	1.13	0.515	**3.22**
1990	0.262	0.113	0.065	21.8	76.8	17	8.48	3.65	19	5.88	0.96	0.317	**12.9**
1991	0.21	0.257	0.368	2.77	49.6	23	18.1	18	20.5	5.75	3.59	2.15	**12.1**
1992	1.1	0.447	0.488	1.37	52.2	33.7	36.2	12.4	16.5	4.92	2.02	1.1	**13.6**
1993	0.481	0.242	0.189	5.33	36	10	12.6	13.5	7.22	2.04	1.89	1.33	**7.64**
1994	0.675	0.294	0.162	7.91	19.1	9.01			3.03	2.27	0.529	0.286	
1996	0.207	0.035	0.006	0.003	6.34	6.03	22.5	21.2	12.1	2.91	0.717	0.147	**6.05**
1997	0.045	0.028	0.022	0.049	28.7	38.8	26.5	24.4	11	3.85	1.78	0.661	**11.4**
1998	0.179	0.128	0.105	0.224	8.61	8.29	2.67	1.87	2.37	1.19	0.221	0.035	**2.17**
1999	0.022	0.018	0.019	0.173	9.6	22	6.31	4.18	8.94	3.12	0.356	0.074	**4.57**
2000	0.033	0.024	0.032	0.682	53.2	26.6	27.8	30.6	34.2	11.8	4.09	2.42	**16**
2001	1.28	0.708	0.571	1.76	15.3	35.4	33.9	19.5	14.8	5.42	2.54	1.09	**11.1**
2002	0.519	0.288	0.227	0.732	19.4	9.12	9.15	14.8	16.4	4.62	1.9	1	**6.56**
2003	0.543	0.264	0.132	3.98	12.3	18.5	20.1	11.7	7.09	4.67	1.63	0.655	**6.84**
2004	0.369	0.378	0.423	2.38	40.2	6.27	4.79	7.13	6.14	4.82	1.25	0.621	**6.29**
2005	0.434	0.352	0.336	7	14.8	8.64	11.8	12.8	16.4	6.1	2.13	0.446	**6.8**
2006	0.207	0.168	0.176	0.625	20.2	10.6	9.55	5.9	4.92	2.86	1.15	0.277	**4.77**
2007	0	0	0.04	2.83	23.3	8.93	11	6.8	7.61	3.66	0.852	0.276	**5.49**
2008	0.146	0.117	0.136	1.28	42.4	11.6	6.74	31.8	16.6	5.92	2.44	1.33	**10.1**
2009	0.864	0.652	0.587	1.7	45.1	19	3.59	4.33	4.78	2.75	1.64	0.755	**7.2**
2010	0.398	0.258	0.242	8.71	17.7	7.69	38	23	16.7	4.74	2.44	1.35	**10.2**
2011	1.21	1.27	0.888	3.7	44.2	31.8	37.2	36.8	12	5.37	3.02	1.69	**15.1**
2012	1.09	0.872	0.98	8.67	28.2	24.9	19.2	20.2	16	6.08	2.64	1.51	**10.9**
2013	1.36	1.27	1.21	1.18	46.3	18.3	17.7	10.6	15	9.08	3.17	1.69	**10.7**
2014	1.35	0.988	0.692	2.82	23.9	4.84	8.79	6.98	12.3	6.18	2.54	1.34	**6.11**
2015	0.593	0.297	0.387	1.47	11.3	5.28	8.13	24.9	16.4	5.16	2.39	1.42	**6.53**
Mean	**0.41**	**0.28**	**0.25**	**2.33**	**25.97**	**16.48**	**17.78**	**14.57**	**11.05**	**4.30**	**1.54**	**0.73**	**8.12**

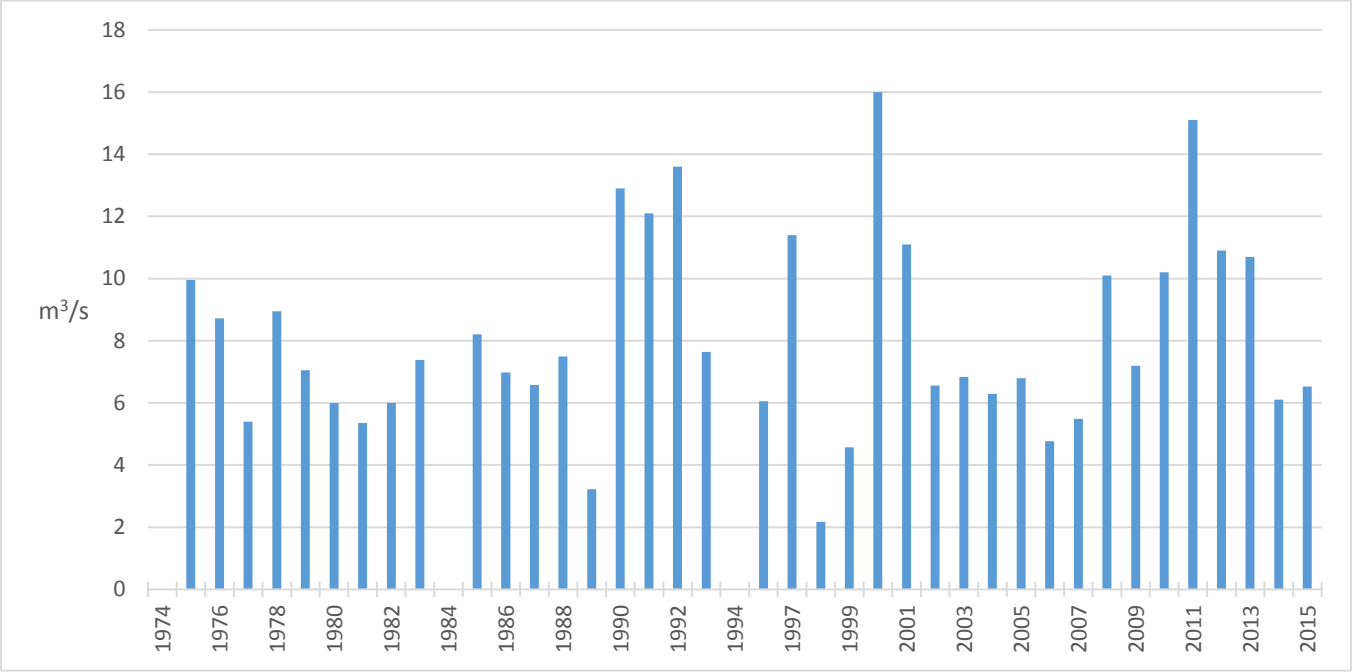

Figure 3-2: Mean annual discharge (m^3/s), Big Creek near the Mouth (WSC station).

3.2.2 MINTO CREEK

Monitoring of hydrological parameters on Minto Creek began in 1993 and has continued intermittently to date at sites W1 and W3 (Figure 3-1). Monitoring has been more intensive since mine commissioning in 2007. The locations for which the greatest amount of data have been collected are stations W1, "Minto Creek near the mouth" (catchment area of 42 km^2); and W3, "Minto Creek downstream of water storage pond dam" (catchment area of 10.4 km^2 area). In 2010, another continuously monitored hydrometric site called MC-1 was added, approximately 2 km upstream of W1. W3 is now an in-stream trapezoidal flume with a manufacturer-specified stage-discharge relationship. Both discharge and stage are read on an integrated gauge in the throat of the flume. A Solinst Levelogger record is calibrated with these field observations to process a continuous discharge record at this site. Sites MC-1 and W1 are natural stream channels where manual velocity measurements are taken across the channel and discharge is calculated using the velocity area method. Continuous water levels from Solinst Leveloggers are processed into continuous discharge using these rating measurements.

3.2.2.1 Station W3 – Flume below Water Storage Pond Dam

Water level is continuously monitored in the flume which is approximately 500m from the toe of the Minto Water Storage Pond dam via a Solinst Levelogger in combination with a barometric logger. Frequent observations by Minto staff (minimum weekly) allow for correction of the level logger to the actual height of water in the flume and confirmation of the manufacturer's specified stage-discharge relationship. This provides a record with a high degree of accuracy. Table 3-2 summarizes the continuous data as mean monthly flows, hydrographs are presented in Appendix B. The winter stage record was interpolated using the discrete stage observations. In general, the flume typically flows at 3-4 L/s, but it should be noted that flows at W3 are impacted by storage within, and discharge from the Water Storage Pond.

Table 3-2: Mean monthly discharge (m^3/s), Minto Creek at W3.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1993									0.028			
1994					0.101	0.028	0.039	0.011	0.028			
1995						0.004	0.017		0.027	0.008		
1996					0.013		0.087		0.021			
1997					0.554							
1998								0.006				
1999								0.006				
2000												
2001					0.160							
2002												
2003								0.037				
2004							0.026					
2005					0.046	0.008	0.014	0.017	0.022	0.020		
2006				0.018	0.128	0.042	0.006	0.015	0.009	0.010		
2007				0.001	0.012	0.009	0.006					
2008								0.064[2]	0.122[2]	0.003		
2009						0.026[2]	0.106[2]	0.092[2]	0.124[2]	0.110		
2010				0.002	0.004	0.005	0.034	0.071	0.086	0.070		
2011						0.005	0.005	0.006	0.005			
2012				0.004	0.020	0.003	0.004	0.004	0.004	0.004		
2013						<0.001	<0.001	0.002	0.003	0.003	0.003	0.006
2014	0.003	0.006	0.006	0.057	0.086	0.003	0.003	0.003	0.004	0.004	0.004	0.006
2015	0.004	0.002	0.001	0.075	0.052	0.003	0.003	0.004	0.004	0.004	0.004	0.003
2016				0.022	0.052	0.003	0.003	0.004	0.004	0.004	0.003	0.004
Mean												
Pre-Mine 1993 to 2006	-[3]	-[3]	-[3]	-[3]	0.167	0.02	0.032	0.015	0.023	0.013	-[3]	-[3]
Mining Period 2007 to 2016	0.004	0.004	0.004	0.027	0.038	0.007	0.021	0.028	0.040	0.025	0.004	0.005
All Data 1993 to 2016	0.004	0.004	0.004	0.026	0.102	0.012	0.025	0.023	0.033	0.022	0.004	0.005

[1]Monthly flows calculated by averaging all available flow data for a given month. Average flow in months with only a single spot flow measurement assumed equal to the spot flow measurement.

[2]Flows impacted by storage within, and emergency releases from, the Water Storage Pond in August and September 2008 and in June through October 2009.

[3]Insufficient data for calculation.

3.2.2.2 Station MC-1 – Minto Creek Mid-Catchment

Hydrometric station MC-1 is located between the flume at W3 and is just upstream of the canyon on lower Minto Creek. This site is characterized by shallow channel slope and slower moving water above the control of the canyon. Table 3-3 summarizes these data as mean monthly flows and Appendix B presents the hydrographs.

MC-1 experiences a later summer shift which is likely due to aggradation in the channel. This seasonal shift from the base rating curve appears consistently, but is not exactly the same from year to year. Minto staff report that MC-1 freezes to the stream bed in winter. Discharge is again observed to be greater at this site than at W1 which supports the theory that Minto creek loses significant water to groundwater networks as it flows towards the Yukon River.

Table 3-3: Mean monthly discharge (m^3/s), Minto Creek at MC-1.

	Month					
Year	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**
2011					0.118	0.093
2012	0.179	0.065	0.052	0.041	0.108	-
2013	0.358	0.085	0.103	0.044	0.089	0.064 [2]
2014	0.187	0.028	0.031	0.036	0.028	0.033 [2]
2015	0.862 [2]	0.014	0.028	0.042	0.035	0.031 [1]
2016	-	0.029 [1]	0.036	0.048	0.076	-
Mean	**0.397**	**0.044**	**0.050**	**0.042**	**0.076**	**0.055**

Notes: [1] Based on incomplete or derived data
[2] Based on multiple discrete measurements

3.2.2.3 Station W7 – Tributary of Minto Creek

This site is located on the first tributary of Minto Creek below W3 (Figure 3-1). A staff gauge was installed at this station during the summer of 2013. Historically, this station was a regularly monitored surface water station prior to the installation of the staff gauge. In 2014, the staff gauge was damaged by ice and repaired for the hydrometric program in 2015. In 2016, several discrete discharge measurements were recorded without a corresponding stage. Table 3-4 provides a summary of historically measured flows at W7. These flows are based on discrete measurements only. Although pressure transducers were deployed at this site in 2013, 2014, and 2015, a rating curve was not established given the limited amount of flow and stage data available. There currently is no pressure transducer and datalogging unit at this site. The low discharge combined with the dynamic nature of channel morphology at this site do not contribute to the consistent development of a continuous record, and instead contribute low confidence in the existing continuous record. To obtain good quality data with a pressure transducer, an artificial control such as a v-notch weir is recommended. Appendix B presents hydrographs for seasons where a pressure transducer was deployed at this site.

Table 3-4: Mean monthly discharge (m^3/s), Minto Creek at W7.

	Month					
Year	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**
2013			0.013	0.031	0.019	0.006
2014	0.112					
2015		0.006	0.004	0.011	0.011	0.029
2016		0.006	0.010	0.010	0.013	0.010

Notes: [1] Based on discrete measurements only

3.2.2.4 Station W1 – Lower Minto Creek above Road Crossing

W1 station is located on the lower reach of Minto Creek before flowing into the Yukon River. W1 is located downstream of MC-1 and it is expected that flows would be larger because it has a much larger catchment area than MC-1. W1 flows are typically lower than MC-1 from mid-spring through fall suggesting that the section of stream from the bottom of the Minto Creek canyon (upstream of W1) to near the mouth is a 'losing' reach. A portion of the surface water downstream

of MC-1 and the canyon recharges the groundwater system and by-passes the surface water hydrometric measurements at station W1. Table 3-5 summarizes these W1 data as mean monthly flows and hydrographs can be found in Appendix B.

Table 3-5: Mean monthly discharge (m^3/s), Minto Creek at W1.

	Apr	May	Jun	Jul	Aug	Sep	Oct
1993						0.069	
1994		0.312	0.058	0.095	0.007	0.073	
1995		0.027	0.001	0.091		0.133	
1996		0.031	0.024	0.324		0.146	
1997		1.447			0.265		
1998		0.161			0.003		
1999					0.033		
2000		1.004					
2001		0.467					
2002							
2003					0.129		
2004				0.118			
2005		0.097	0.012	0.127	0.209	0.219	0.134
2006	0.203	0.354	0.15	0.02	0.0068		0.031
2007	0.645	0.175	0.053	0.061	0.025	0.034	0.035
2008		0.117	0.015	0.026	0.184	0.184	0.026
2009		0.868	0.351	0.249	0.139	0.026	
2010	0.560	0.081	0.038	0.106	0.118	0.125	0.092
2011			0.229	0.200	0.200	0.082	
2012		0.269	0.073	0.052	0.051	0.078	0.056 [2]
2013		0.485 [1]	0.064	0.065	0.044	0.085	0.059 [2]
2014		0.138 [1]	0.022	0.020	0.014	0.031	0.025 [2]
2015		0.117	0.010	0.010	0.030	0.024	0.020 [1]
2016	0.252 [1]	0.047	0.020	0.017	0.024	0.043	0.026
Mean							
Pre-Mine 1993 to 2006	0.203	0.433	0.049	0.129	0.093	0.128	0.083
Mining Period 2007 to 2016	0.486	0.255	0.088	0.081	0.083	0.071	0.042
All Data 1993 to 2016	0.415	0.344	0.075	0.099	0.087	0.090	0.050

Notes: [1] Based on incomplete or derived data

[2] Based on multiple discrete measurements

3.2.3 McGINTY CREEK

McGinty Creek has two main sub-catchments that each have two water quality monitoring stations, one just above the confluence and one near the headwaters. MN-4.5 is located on the main stem below the confluence of the tributaries near the mouth; just above the Yukon River (Figure 3-1). MN-0.5 and MN-0.2 are the lower and upper stations on the west tributary, respectively. MN-2.5 and MN-1.5 are the lower and upper stations on the east tributary, respectively. Stations MN-0.2 and MN-1.5 are not set up with continuous loggers and generally exhibit very low flows. As such they are not included in the discussion below.

3.2.3.1 Station MN-4.5 – McGinty Creek near the Mouth

Station MN-4.5, situated near the mouth of McGinty Creek, is similar in catchment area to Minto Creek, but exhibits consistently higher flows than W1 (located at a similar location Minto Creek). Table 3-6 summarizes the monthly mean values from the continuous record with earlier years' values included for comparison. Hydrographs are presented in Appendix B.

Table 3-6: Mean monthly discharge (m^3/s), McGinty Creek at MN-4.5.

	Month						
Year	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**
2009	-	0.018 [1]	0.033	0.019	0.031	0.016	0.013 [1]
2010	-	0.028 [1]	0.051	0.079	0.047	0.034	-
2011	-	0.444	0.093	0.125	0.134	0.068	0.045 [1]
2012	0.212 [1]	0.230	0.180	0.082	0.053	0.109	-
2013	-	-	0.054 [1]	0.103	0.093	0.116	-
2014	-	0.230 [1]	0.041	0.037	0.026	0.046 [1]	-
2015	-	-	0.013	0.046	0.049	0.029	0.029 [1]
2016	-	0.017 [1]	0.015	0.026	0.028	0.028	0.010 [1]

Notes: [1] Based on incomplete or derived data

3.2.3.2 Station MN-2.5 – East Tributary of McGinty Creek

MN-2.5 station is located on the lower stem of McGinty Creek. Hydrographs are presented in Appendix B. Table 3-7 summarizes the monthly mean values from the continuous record. Hydrographs are presented in Appendix B.

Table 3-7: Mean monthly discharge (m^3/s), McGinty Creek at MN-2.5.

	Month						
Year	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**
2014 [1]	-	0.032	-	-	-	-	-
2015 [1]	-	0.015	0.003	0.011	0.038	0.010	0.010
2016 [1]	0.034	0.008	-	-	0.009	0.014	0.003

Notes: [1] Based on incomplete or derived data

3.2.3.3 Station MN-0.5 – West Tributary of McGinty Creek

MN-0.5 station is located on the upper west stem of McGinty Creek. Table 3-8 summarizes the monthly mean values from the continuous record. Hydrographs are presented in Appendix B.

Table 3-8: Mean monthly discharge (m^3/s), McGinty Creek at MN-0.5.

	Month						
Year	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**
2014 [1]	-	0.045	-	-	-	-	-
2015 [1]	-	0.035	0.013	0.054	0.098	0.029	0.025
2016 [1]	-	0.028	0.016	0.010	0.016	0.035	0.018

Notes: [1] Based on incomplete or derived data

4. CONCLUSIONS

Regional and local hydrometeorological data are used to characterize existing conditions at the Project site, which are being refined and updated as more years of data become available. Ten years of meteorological data collected at site allow a reasonably good characterization of year to year variability, but may not capture extremes. No clear trend emerges from site meteorological data over the period of record. The hydrological data record is relatively short at most sites and does not allows for the detection of meaningful trends. Sites W1 and W3 have a longer record for the open water season and capture more year to year variability, but no long-term trend in flow rates or timing emerges at this point.

5. REFERENCES

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APPENDIX A.

Minto Meteorological Stations Description

MINTO HOBO METEOROLOGICAL STATION

Site Identification: Minto HOBO Station

Installation Date: September 18, 2005
Decommissioning Date: June 25, 2014

Station Coordinates: North 62° 36' 17"
West 137° 13' 19"

Tower Height: 3 m
Site Elevation above Sea Level: 887 m

STATION DESCRIPTION

The weather station consists of a three-meter tripod with instrumentation to measure wind speed and direction, air temperature, relative humidity, barometric pressure, incident solar radiation, and rainfall (wet-precipitation). The station is powered by four AA batteries. Data are recorded to a HOBO data logger. Data are averaged over the one-hour archiving period and saved to the logger memory. The station has an internal flash memory capacity of 512 Kb.

SITE LOCATION

The meteorological station is located approximately 70 meters northeast of the north end of the airstrip. The station sits on the southern ridge of the main river valley and has good exposure in all directions. Surrounding the station are sparse conifers under 2 meters.

INSTALLATION NOTES

The tower base supports are fixed to a square wooden frame. Sandbags are used at the base of the tripod legs to help stabilize the station.

The wind anemometer is installed at the top of the tower with the pyranometer and tipping bucket rain gauge fastened on the center pole slightly below. The air temperature/RH sensor is installed inside a radiation shield near the middle of the tower. The barometric pressure sensor is located inside the logger box.

RECORDED DATA NOTES

Winds

Cup revolutions are accumulated every three seconds for the duration of the logging interval (one hour). Wind speed is the average speed for the entire logging interval. Gust speed is the highest three-second wind in the logging interval.

Vector components of wind direction are accumulated every three seconds for the duration of the logging interval. Average direction is calculated from the sum of the vector components over the logging interval, and represents the direction from which the wind is blowing.

HOBO STATION INSTRUMENTATION

Instrument	Model	Measuring Range	Sensitivity/Accuracy
Wind Speed and Direction	S-WCA-M003	Speed: 0–44 m/s	Accuracy: ± 0.5 m/s (± 3% 17–30 m/s) Resolution: 0.19 m/s Threshold wind = 0.5 m/s
		Direction: 0–358° (2-degree dead band)	Accuracy: ± 5° Resolution: 1.4°
Relative Humidity/ Air Temperature	Smart Sensor	RH : 0–100%	Accuracy: ± 3%; ± 4% RH (condensing environment) Resolution (at 25°C): 0.5%
		Temp: -40°C–+75°C	Accuracy (at 25°C): ± 0.7°C Resolution (at 25°C): 0.4°C
Barometric Pressure	S-BPA-CM10	660–1070 hPa	Accuracy (at 25°C): ± 1.5 hPa Resolution: 0.1 hPa
Pyranometer	S-LIB-M003	0–1280 W/m^2 Spectral Range: 3001100 m	Accuracy: greater of ± 10 W/m^2 or 5% Resolution: 1.25 W/m^2
Tipping Bucket Rain Gauge	RGA-M0XX RGB-M0xx	0–127 cm/hr	Accuracy: ±1.0% up to 20 mm/hr Resolution : 0.2 mm

PHOTO

Source: EBA 2010

MINTO CAMPBELL SCIENTIFIC METEOROLOGICAL STATION

Site Identification:	**Minto Campbell Scientific Station**	Installation Date:	October 15, 2010
Station Coordinates:	North 62° 36' 17"	Tower Height:	10 m
	West 137° 13' 19"	Site Elevation above Sea Level:	887 m

STATION DESCRIPTION

The weather station consists of a ten-meter tower with instrumentation to measure wind speed and direction, air temperature, relative humidity, barometric pressure and incident solar radiation. Rainfall (wet-precipitation) is measured with a tipping bucket installed on a separate mounting post, located about 2m away from the main tower. The station is powered by a 12V battery which is recharged by a 20W solar panel. Data are averaged over one-hour and 24-hour archiving periods, and saved to the data logger memory. The logger has an internal flash memory capacity of 2 Mb.

SITE LOCATION

The meteorological station is located approximately 70 meters northeast of the north end of the airstrip. The station sits on the southern ridge of the main river valley and has good exposure in all directions. Surrounding the station is sparse growth of conifers under 2 meters. A radius of 30m around the tower is clear of trees.

INSTALLATION NOTES

The tower base is anchored into a 91 X 91 X 122 cm concrete block and three guy wires are attached to the tower at a height of about 8 meters. The guy wires are tied to dead man anchors located five meters away from the tower that consist of 3-foot long 6” X 6” timber buried 2–4 feet underground.

The wind anemometer is installed on a cross arm at the top of the tower. The pyranometer is on a mounting arm at a height of about 2 m and is facing southeast. The solar panel faces south and has a tilt angle of 78°. For latitudes between 46° and 65°, the tilt angle is obtained by adding 15° to the latitude. The air temperature/RH sensor is installed inside a radiation shield at a height of about 1.75 m above the ground and faces west. The barometric pressure sensor is located inside the logger box, which is at a height of 1.5 m, on the north-facing side of the tower. To ensure moisture doesn’t affect the instruments in the enclosure, desiccant was placed inside (it should be replaced periodically, when its indicator turns pink). The tipping bucket rain gauge is fastened onto a 1 m-high mounting pole located about 2 m east of the tower.

RECORDED DATA NOTES

Time

All data are recorded in standard time and is not adjusted for daylight saving time.

Barometric Pressure

The barometric pressure sensor is powered for one minute before the top of each hour, at which time the sensor is polled for a measurement.

The datalogger program includes a correction for elevation and pressure is reported as sea-level-equivalent. The correction formula is as follows:

$$BP_{sl} = BP_{el} + 1013.25\left[1 - \left(1 - \frac{h}{44307.69231}\right)^{5.253283}\right]$$

where: BP_{sl} = sea-level-equivalent barometric pressure
BP_{el} = barometric pressure recorded at elevation
h = height above sea level (in m)

Winds

Wind data are recorded as wind vector. Output data include mean horizontal wind speed (S), unit vector mean wind direction (θ1), and standard deviation of wind direction (σ(θ1)). Note that in this case of a wind vector, the wind direction is the direction **towards** which the wind is blowing.

CAMPBELL SCIENTIFIC STATION INSTRUMENTATION

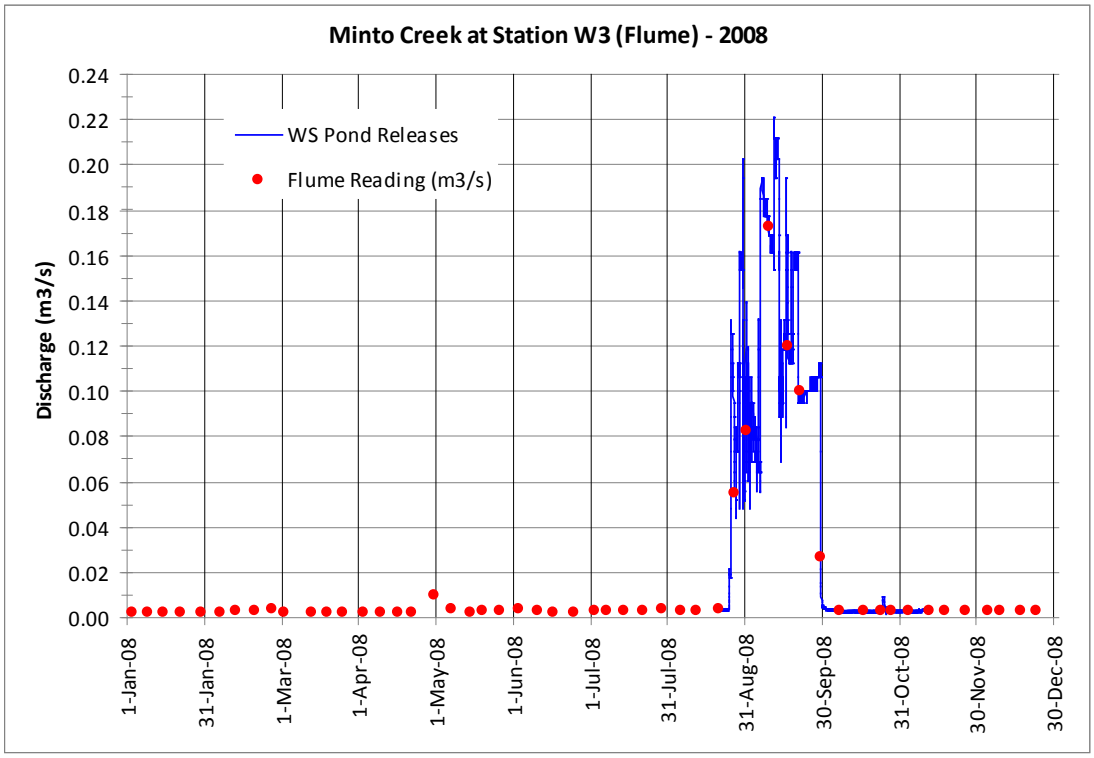
Instrument	Model	Measuring Range	Sensitivity/Accuracy
Wind Speed and Direction	RM Young 05103AP-10	Speed: 0–60 m/s Gust survival 100 m/s	Accuracy: ± 0.3 m/s Threshold sensitivity = 1.1 m/s
		Direction: 0–355° (5° deadband)	n/a
Relative Humidity/ Air Temperature	HC-S3-XT	RH : 100%	Accuracy: ± 1.5% (at 23°C) Resolution: 0.1%
		Temp: -50°C–+50°C	Accuracy: ± 0.1°C (at 0°C), ± 0.35°C (at ±50°C) Resolution: 0.1°C
Barometric Pressure	RM Young 61302V	500–1100 hPa	Accuracy (at 25°C): ± 0.2 hPa Resolution: 0.01 hPa
Pyranometer	Kipp & Zonen SP Lite 2	Spectral Range: 400–1100 m	Sensitivity: <±2% shift per year
Tipping Bucket Rain Gauge	Texas Electronics TE525M	Infinite in increments of tip (least count) of rainfall	Accuracy: ±1.0% up to 10 mm/hr +0, -3% (10–20 mm/hr) +0, -5% (20–30 mm/hr) Resolution : 0.1 mm
Snowfall Conversion Adaptor	CS705	Depends on tipping bucket	Depends on tipping bucket
Total Precipitation Gauge	Geonor T-200B (one sensor)	600 mm capacity	Better than 0.1 mm

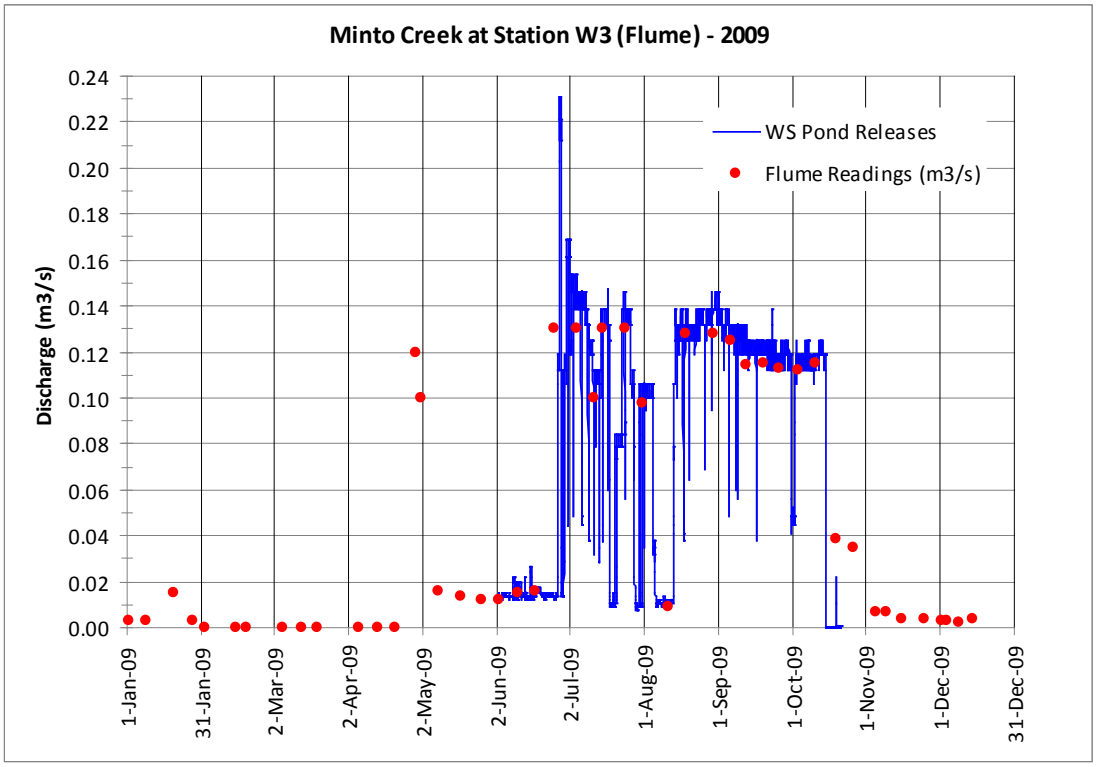
PHOTO

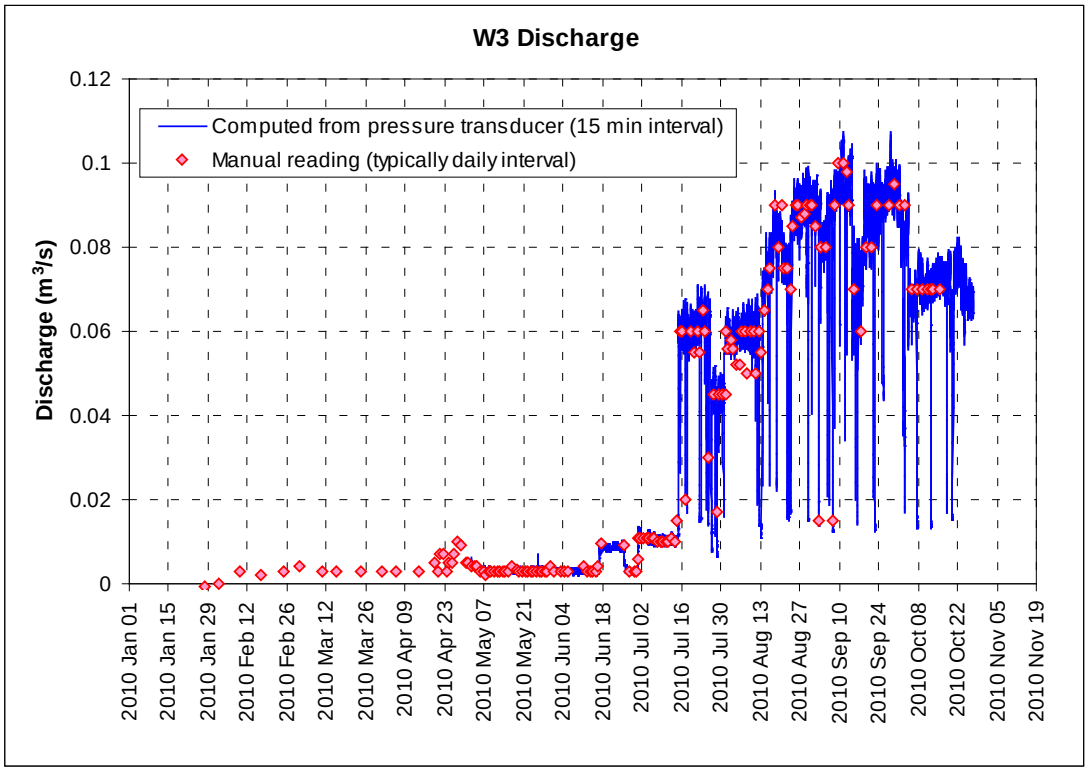
APPENDIX B.

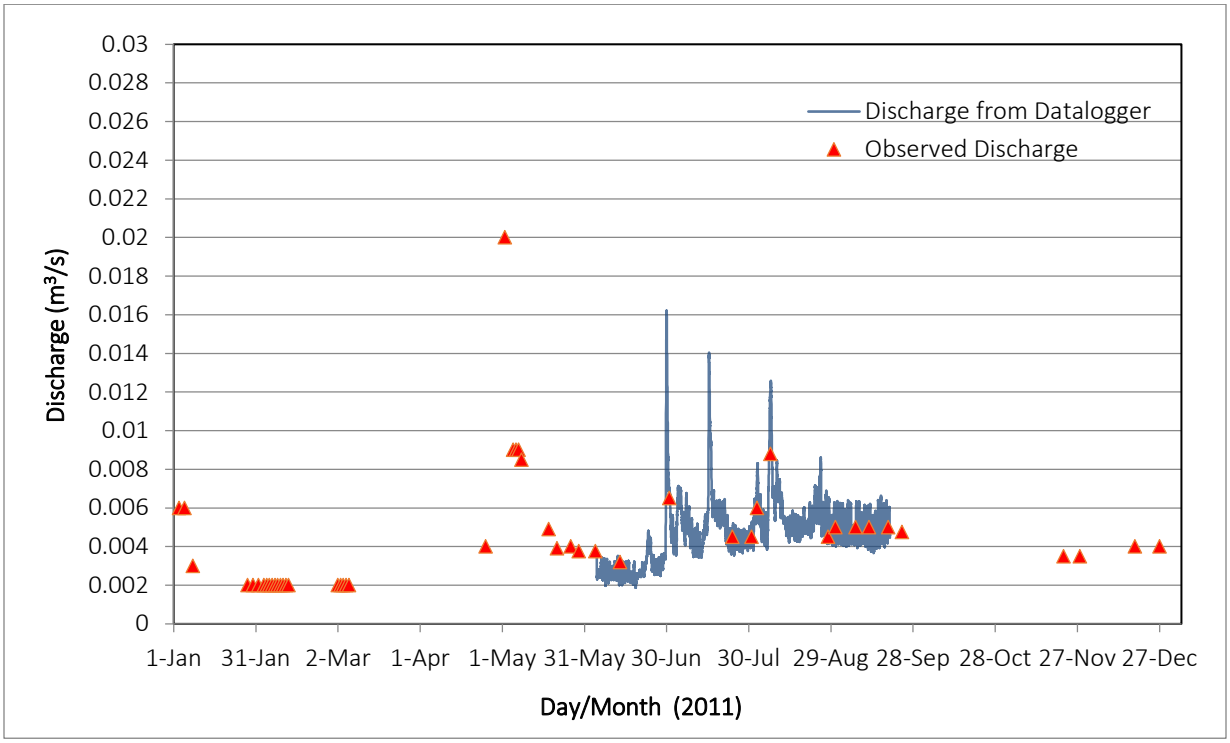
Minto and McGinty Creek Hydrographs

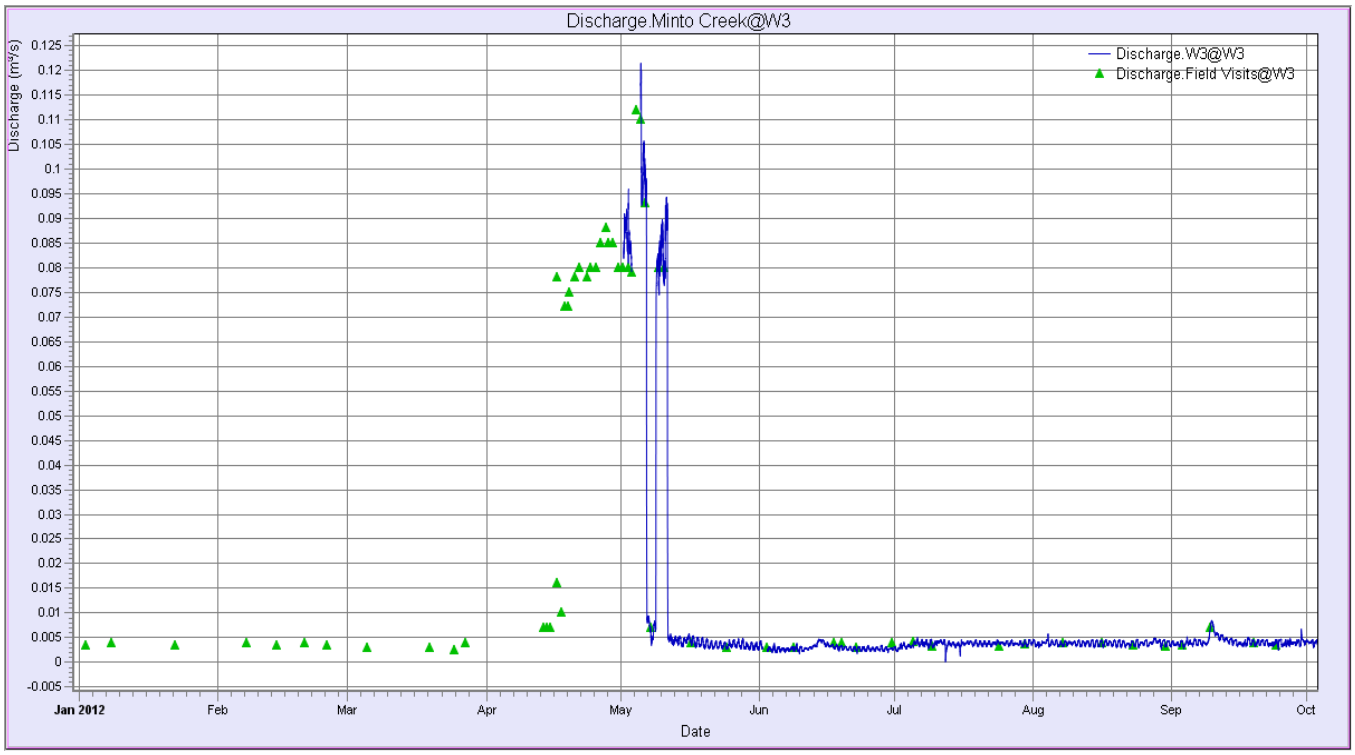
W3 Hydrographs

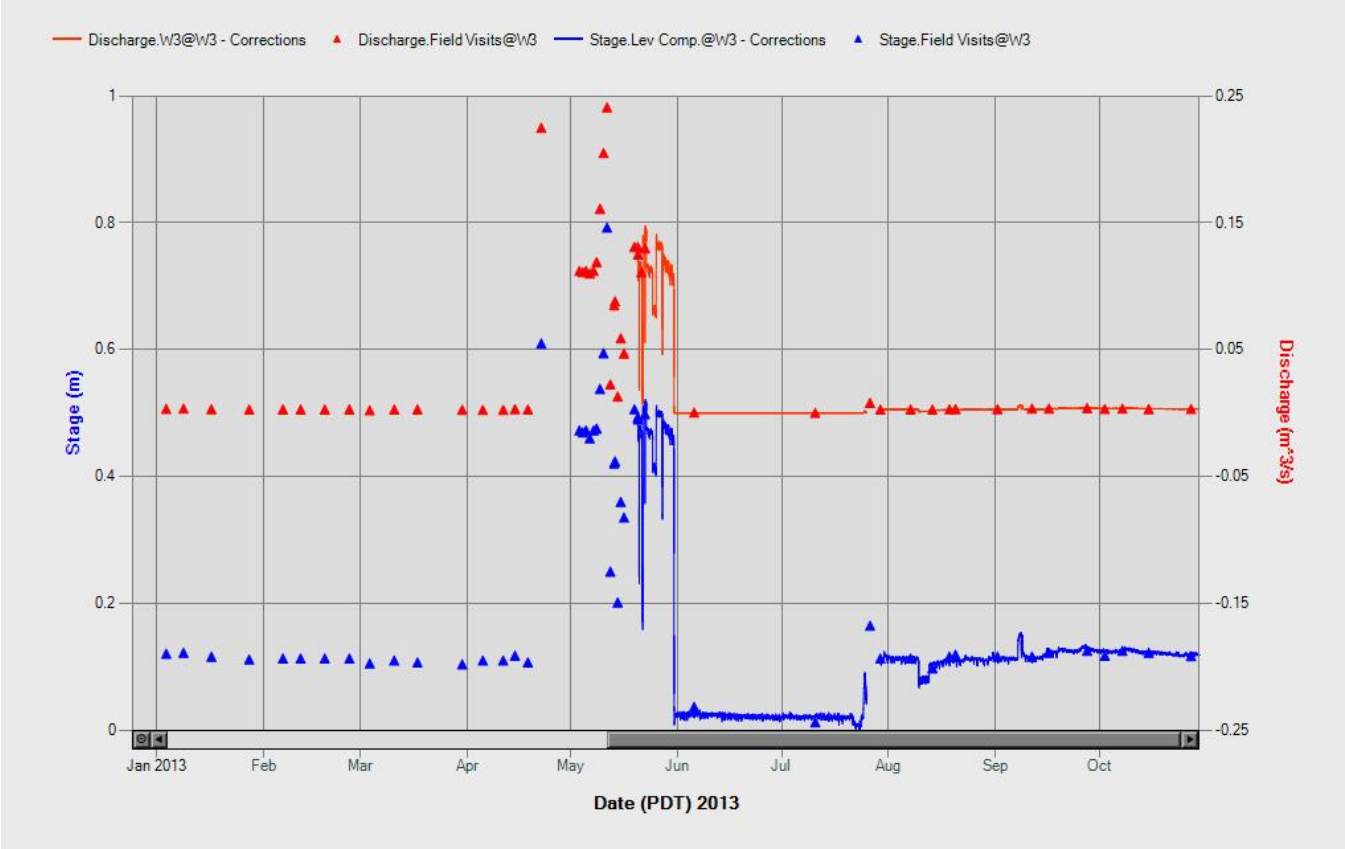


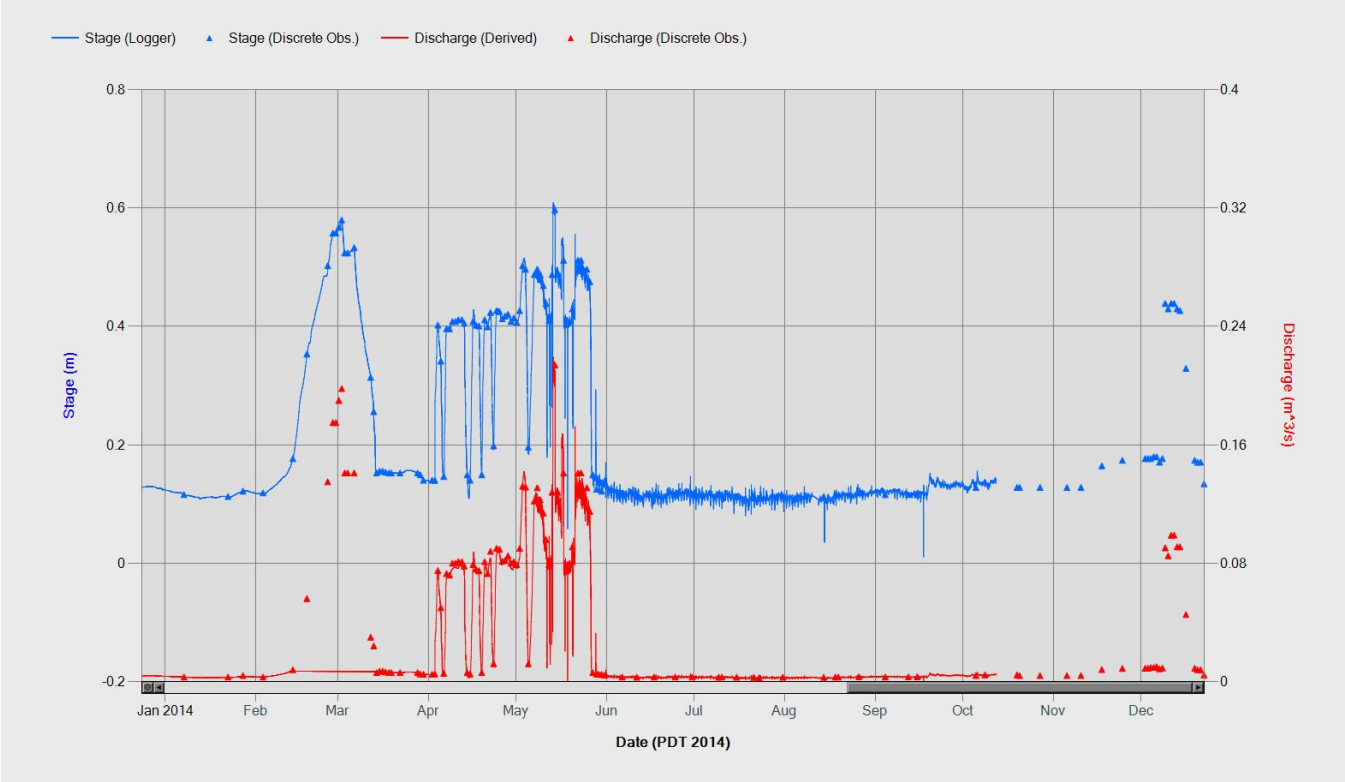


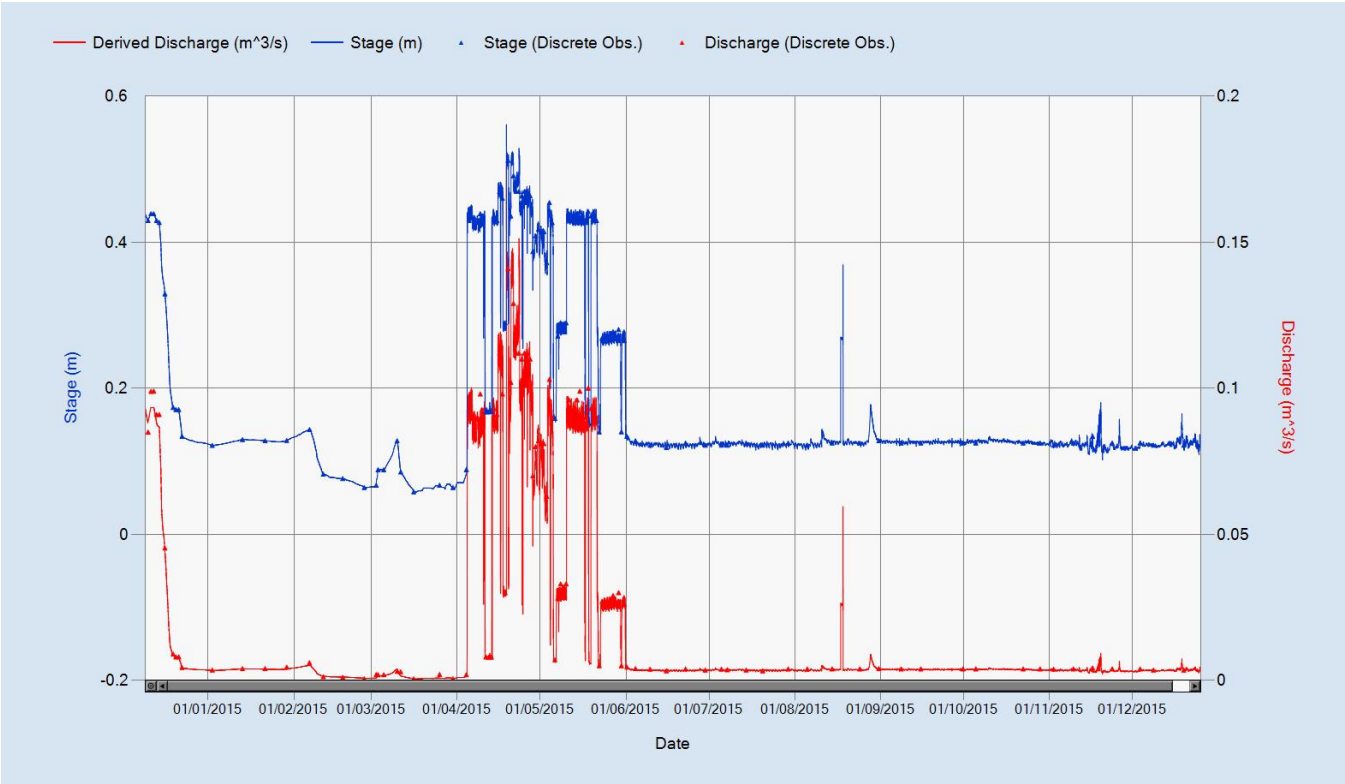

W3 Discharge
Computed from pressure transducer (15 min interval)
Manual reading (typically daily interval)
Discharge (m³/s)
0.12
0.1
0.08
0.06
0.04
0.02
0
2010 Jan 01
2010 Jan 15
2010 Jan 29
2010 Feb 12
2010 Feb 26
2010 Mar 12
2010 Mar 26
2010 Apr 09
2010 Apr 23
2010 May 07
2010 May 21
2010 Jun 04
2010 Jun 18
2010 Jul 02
2010 Jul 16
2010 Jul 30
2010 Aug 13
2010 Aug 27
2010 Sep 10
2010 Sep 24
2010 Oct 08
2010 Oct 22
2010 Nov 05
2010 Nov 19

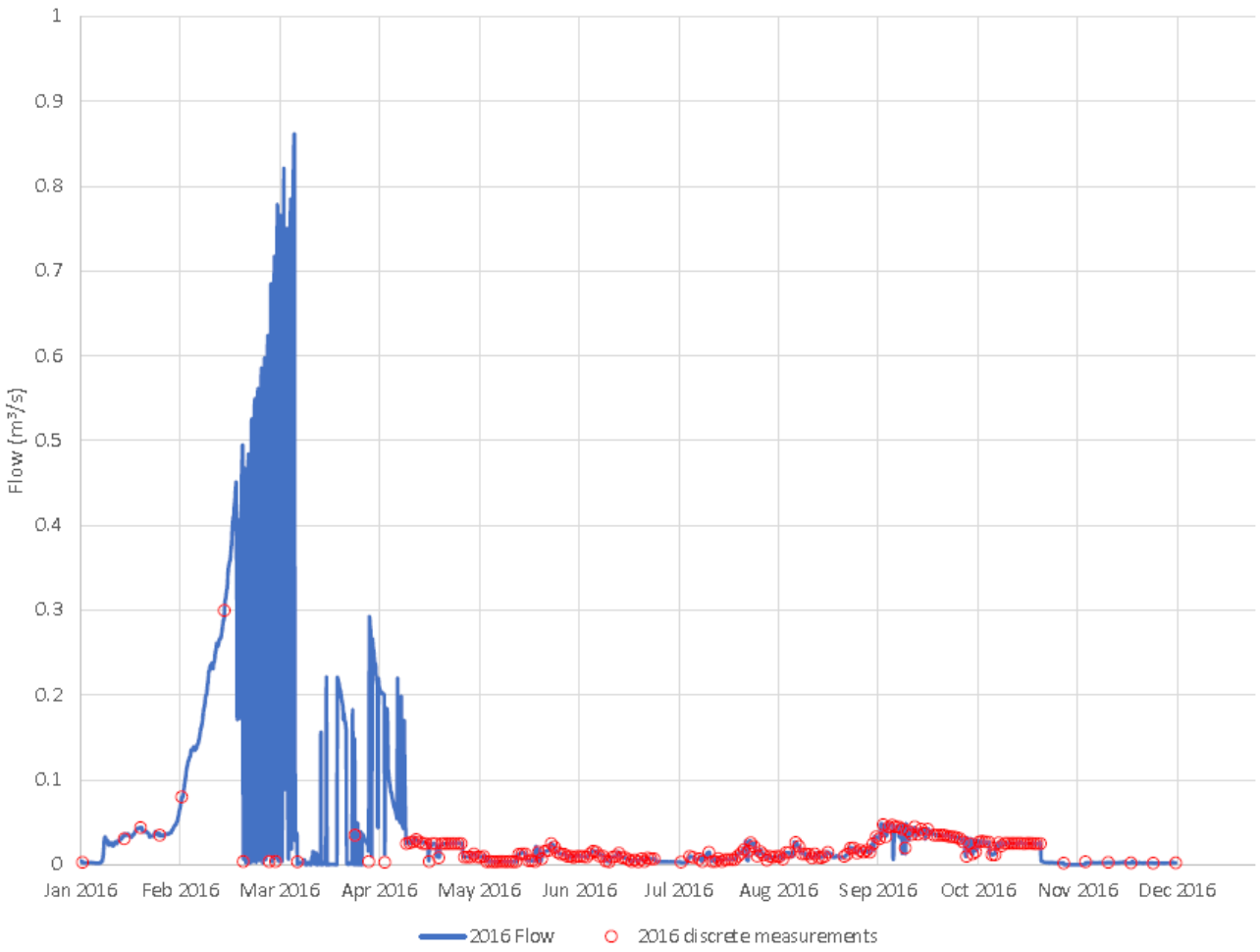

Discharge from Datalogger
Observed Discharge
Discharge (m³/s)
0.03
0.028
0.026
0.024
0.022
0.02
0.018
0.016
0.014
0.012
0.01
0.008
0.006
0.004
0.002
0
1-Jan
31-Jan
2-Mar
1-Apr
1-May
31-May
30-Jun
30-Jul
29-Aug
28-Sep
28-Oct
27-Nov
27-Dec
Day/Month (2011)


Discharge.Minto Creek@W3
Discharge (m³/s)
Discharge.W3@W3
Discharge.Field Visits@W3
Jan 2012
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Date


Discharge.W3@W3 - Corrections
Discharge.Field Visits@W3
Stage.Lev Comp.@W3 - Corrections
Stage.Field Visits@W3
Stage (m)
Discharge (m^3/s)
Jan 2013
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Date (PDT) 2013

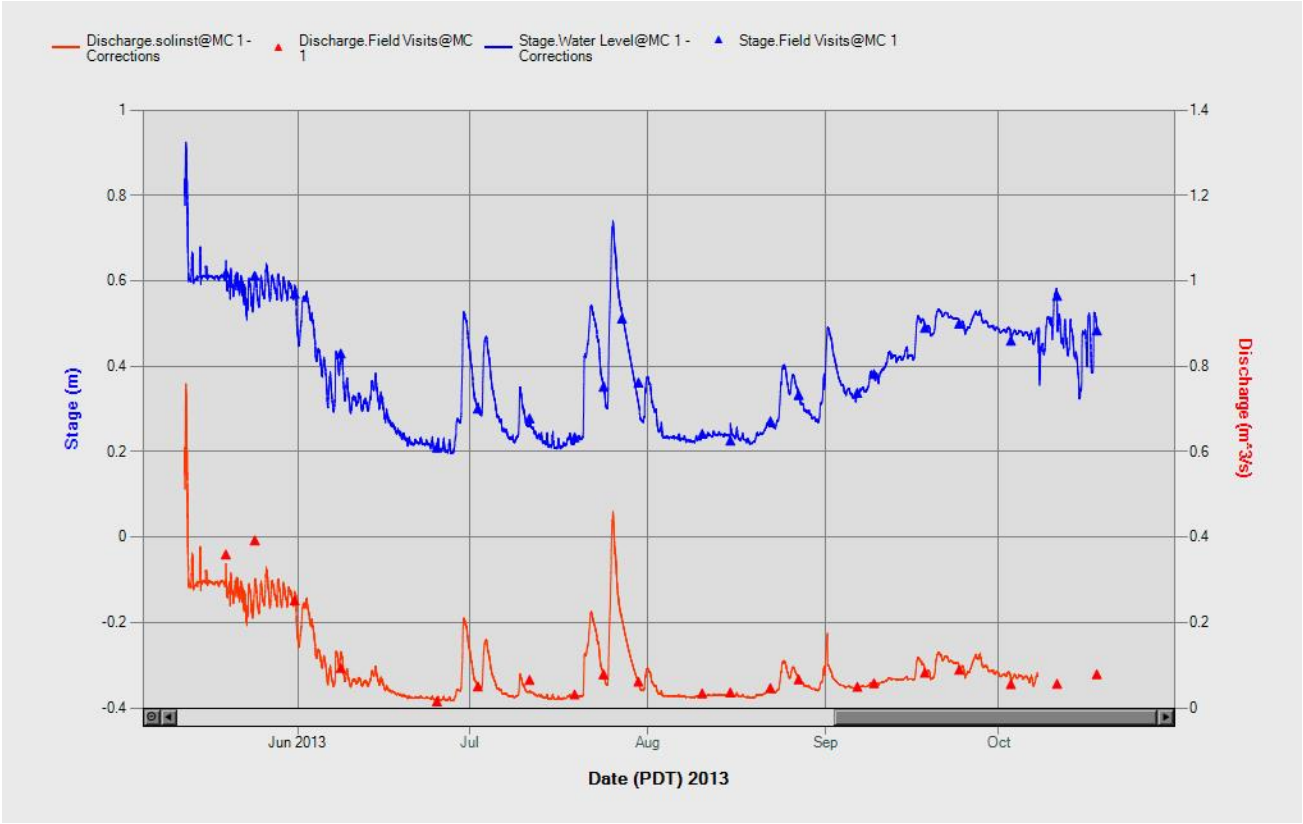

Stage (Logger)
Stage (Discrete Obs.)
Discharge (Derived)
Discharge (Discrete Obs.)
Stage (m)
Discharge (m^3/s)
0.8
0.6
0.4
0.2
0
-0.2
0.4
0.32
0.24
0.16
0.08
0
Jan 2014
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Date (PDT 2014)

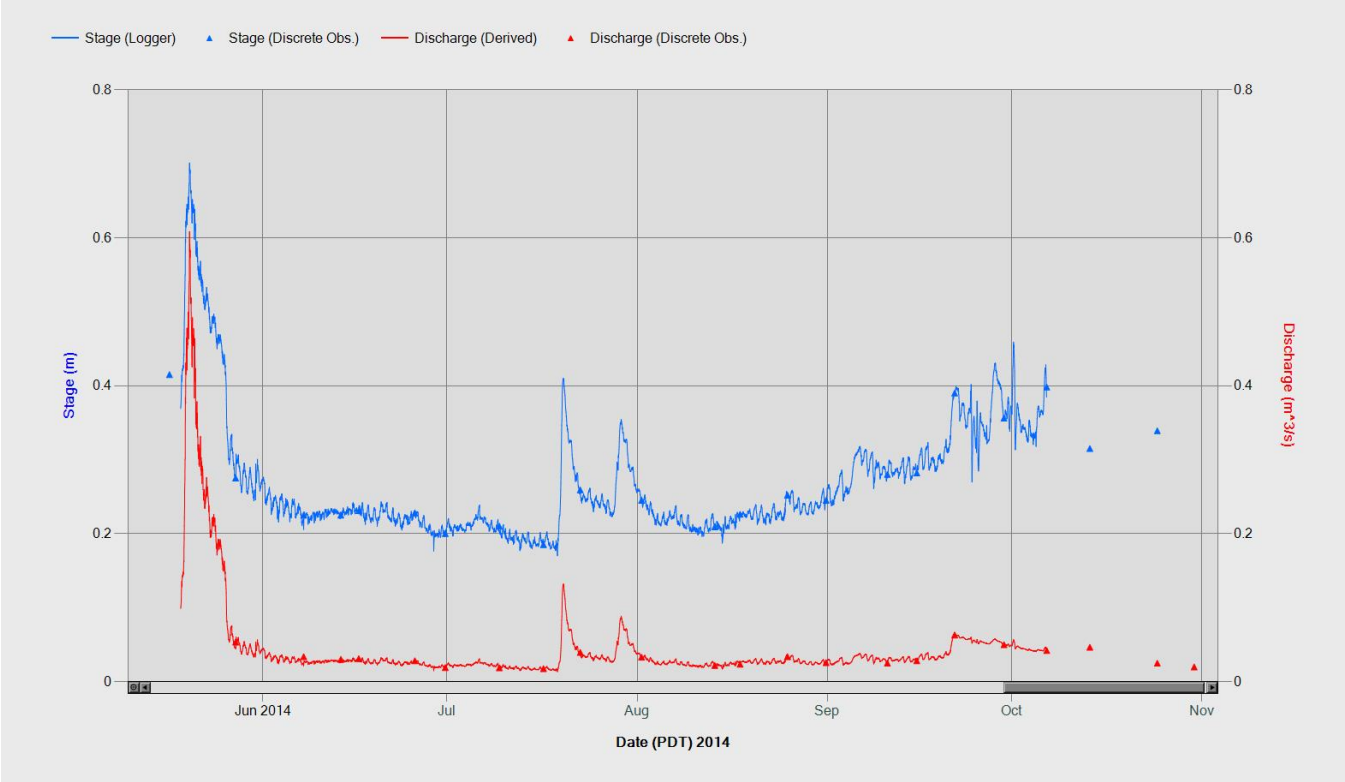

Derived Discharge (m^3/s)
Stage (m)
Stage (Discrete Obs.)
Discharge (Discrete Obs.)
Stage (m)
Discharge (m^3/s)
0.6
0.4
0.2
0
-0.2
0.2
0.15
0.1
0.05
0
01/01/2015
01/02/2015
01/03/2015
01/04/2015
01/05/2015
01/06/2015
01/07/2015
01/08/2015
01/09/2015
01/10/2015
01/11/2015
01/12/2015
Date

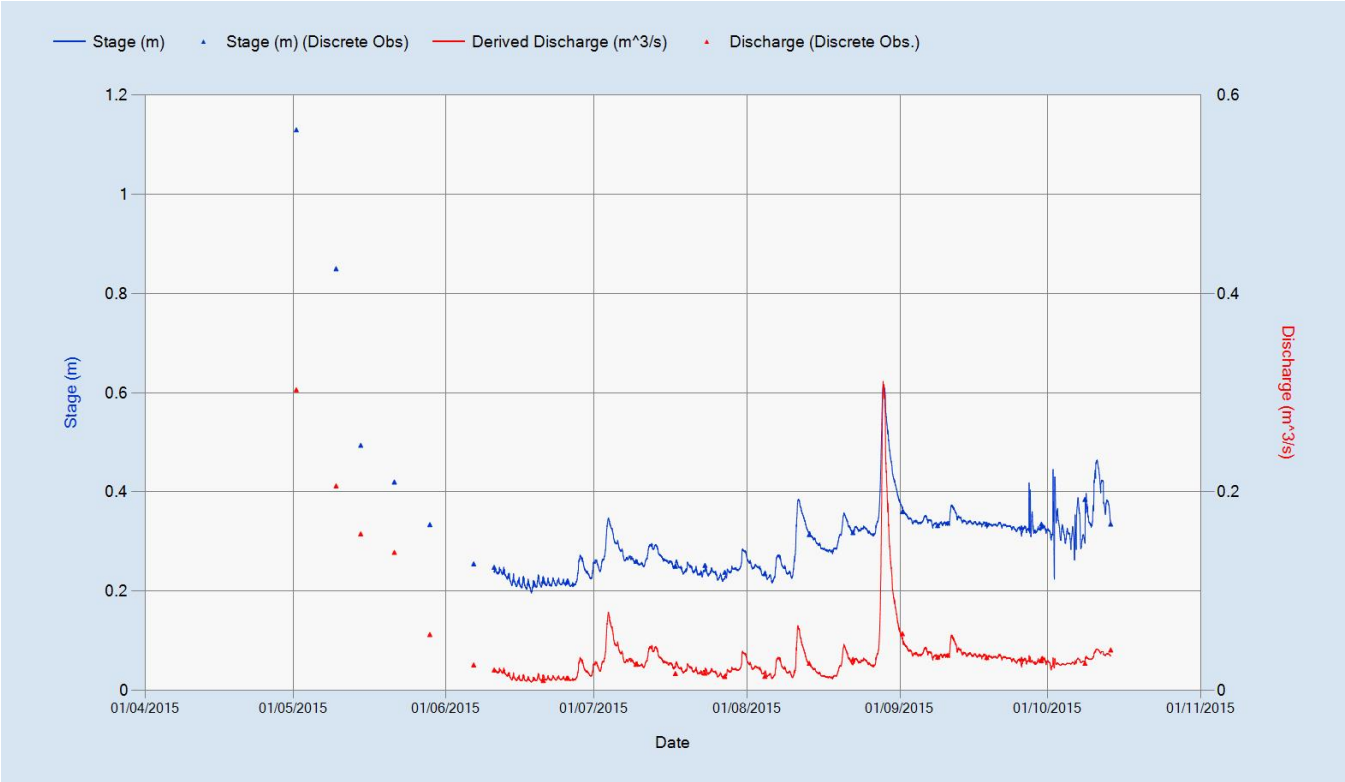


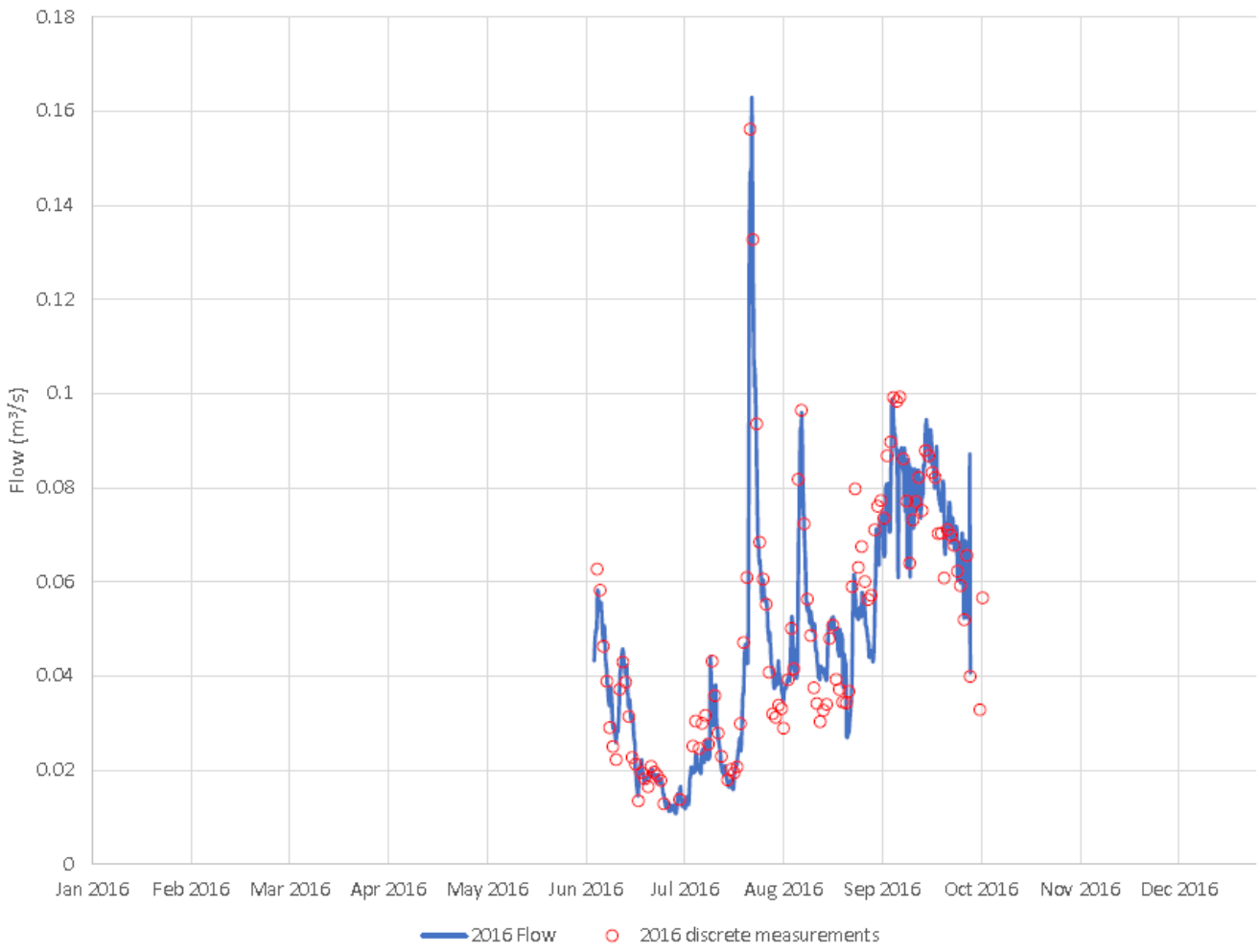
Source: SRK, 2017

MC-1 Hydrographs



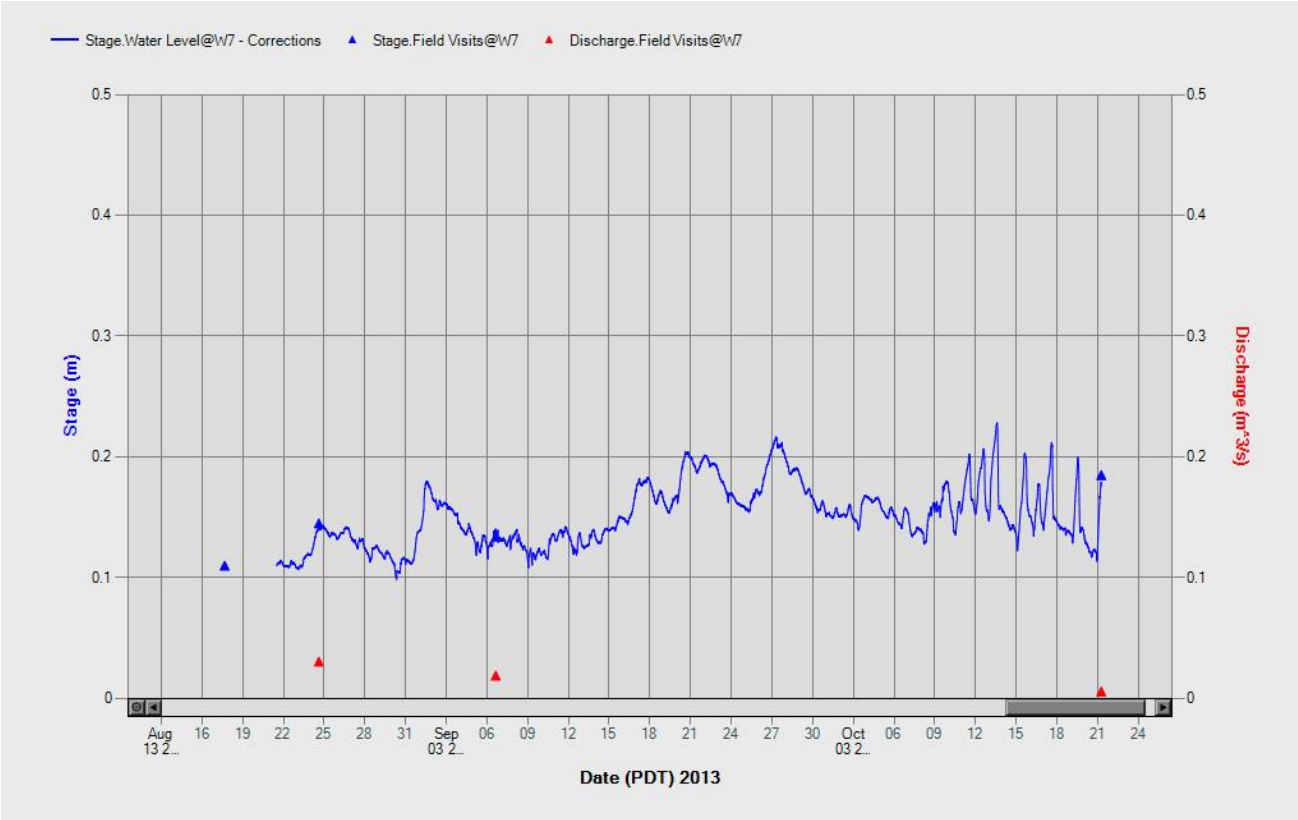

Stage (Logger)
Stage (Discrete Obs.)
Discharge (Derived)
Discharge (Discrete Obs.)
Stage (m)
Discharge (m^3/s)
0.8
0.6
0.4
0.2
0
Jun 2014
Jul
Aug
Sep
Oct
Nov
Date (PDT) 2014

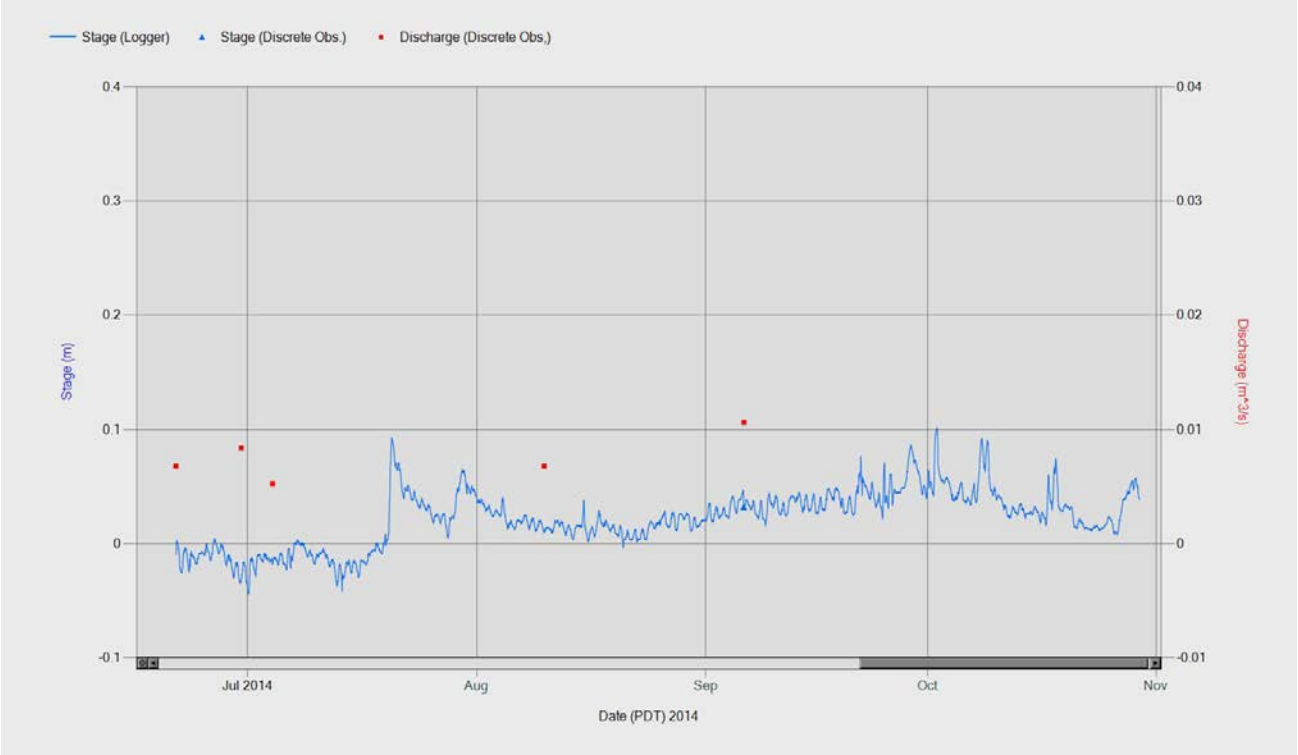

Stage (m)
Stage (m) (Discrete Obs)
Derived Discharge (m^3/s)
Discharge (Discrete Obs.)
Stage (m)
Discharge (m^3/s)
1.2
1
0.8
0.6
0.4
0.2
0
01/04/2015
01/05/2015
01/06/2015
01/07/2015
01/08/2015
01/09/2015
01/10/2015
01/11/2015
Date

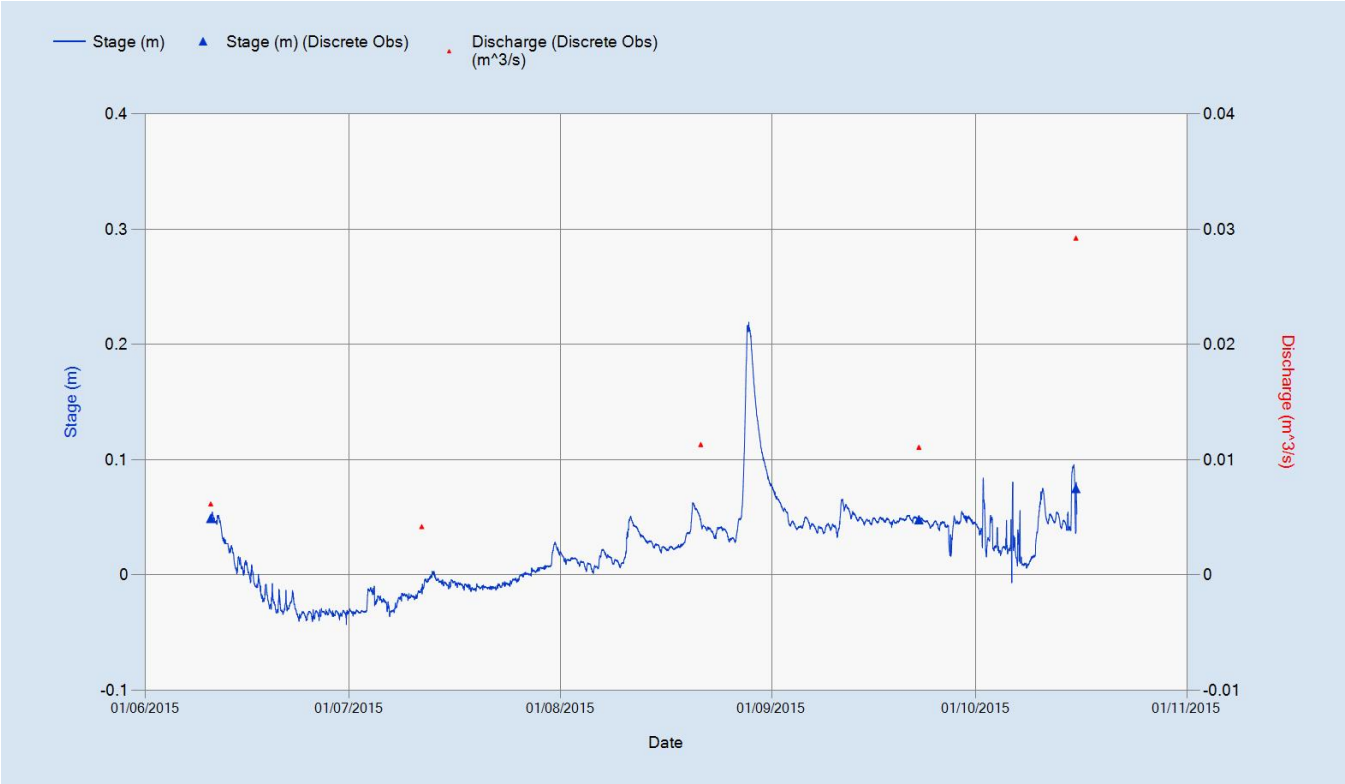


Source: SRK, 2017

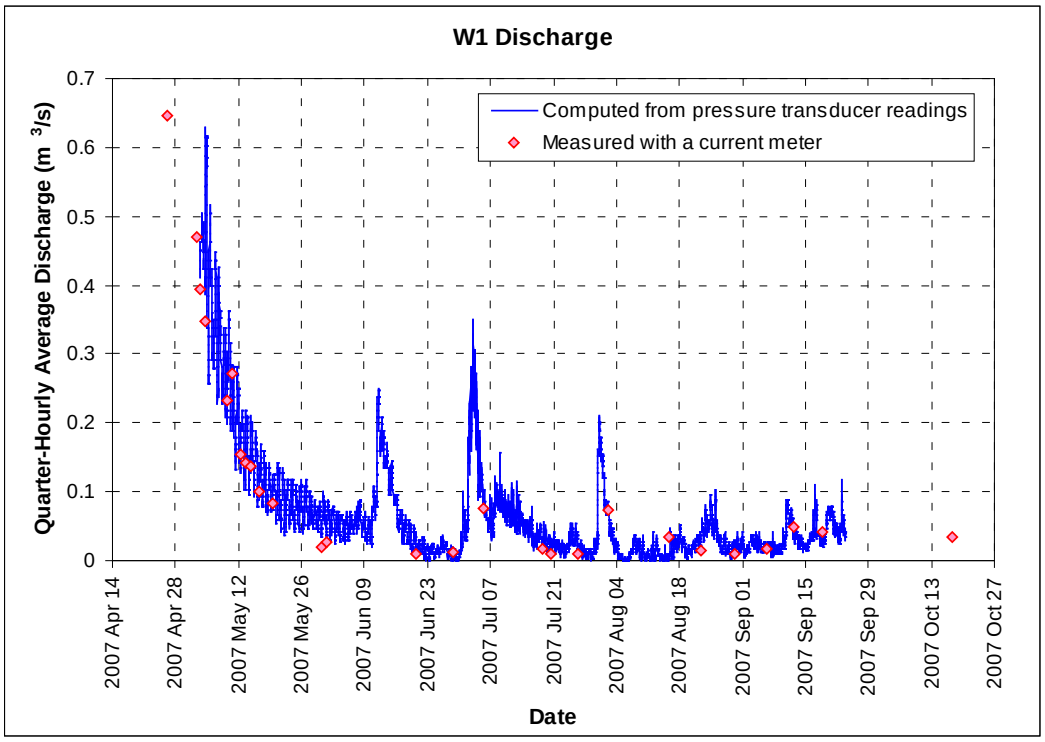
W7 Hydrographs

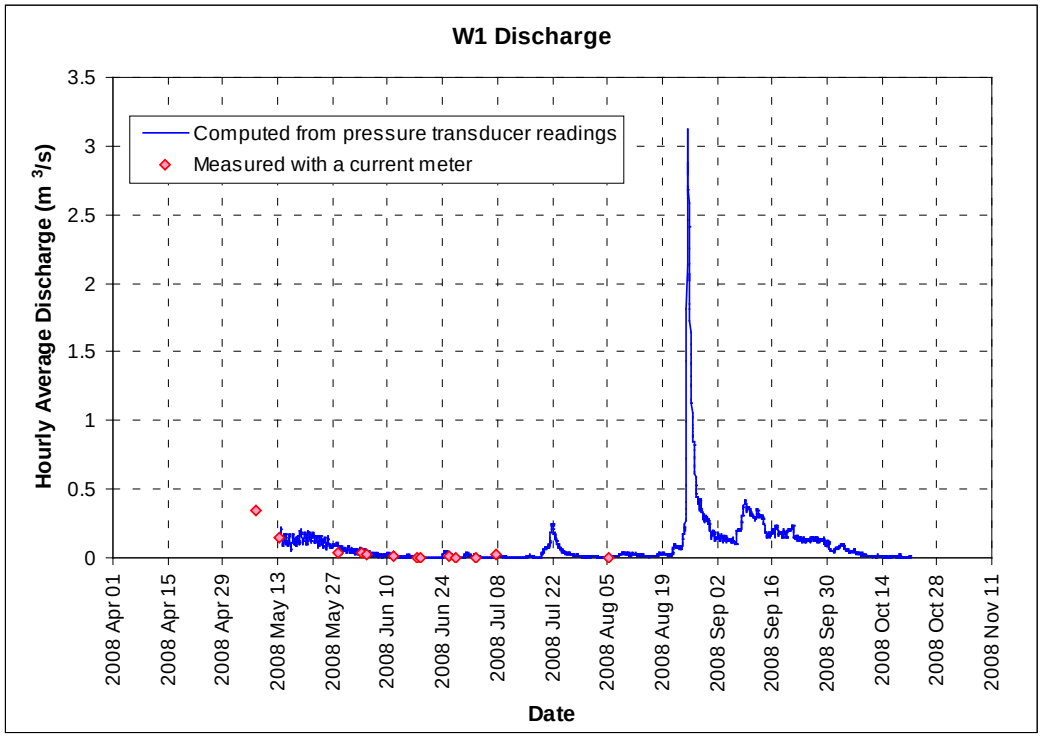


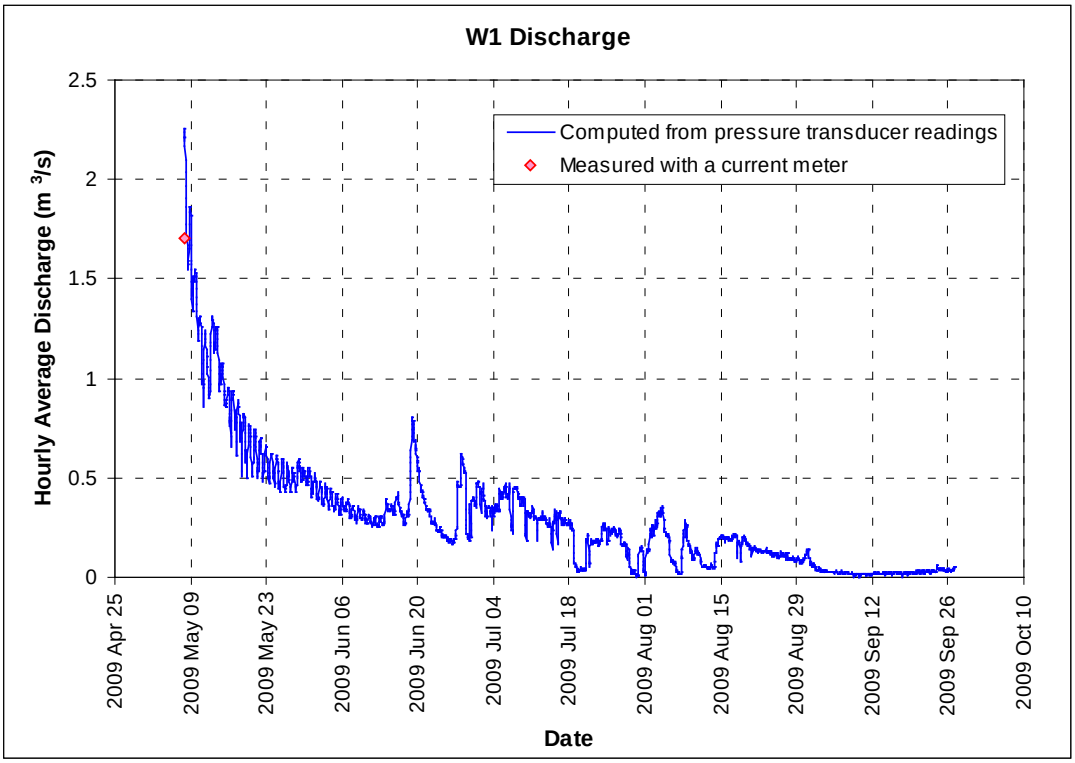


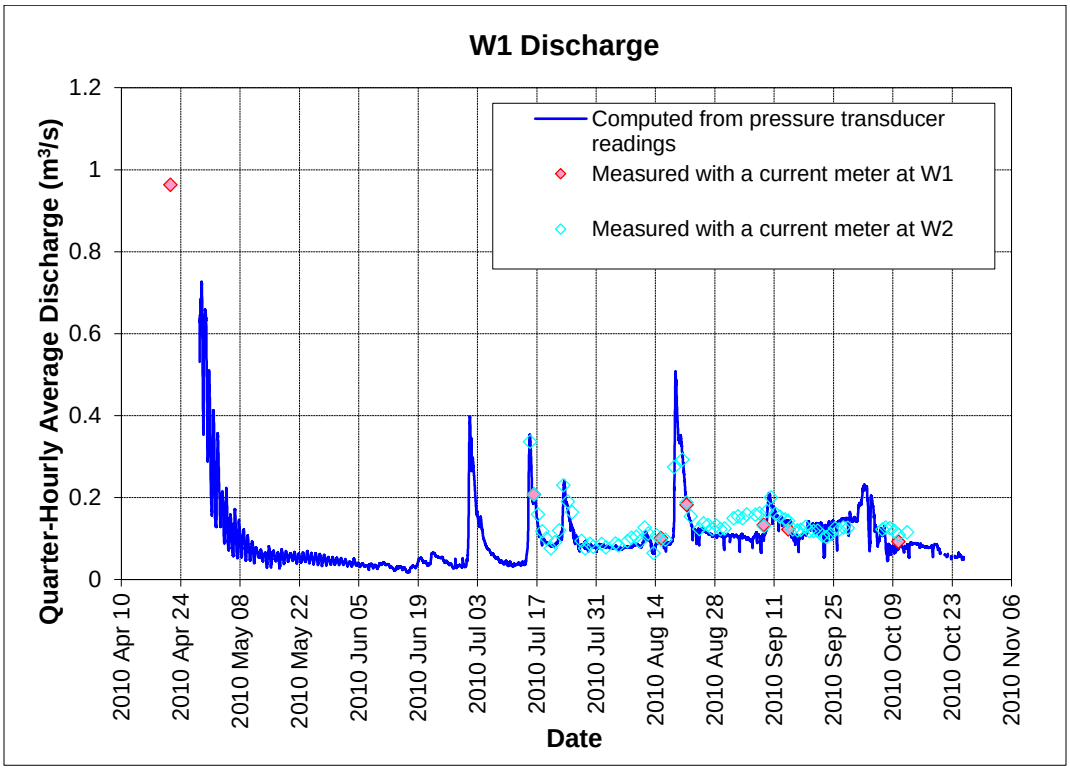

Stage (m)
Stage (m) (Discrete Obs)
Discharge (Discrete Obs) (m^3/s)
0.4
0.3
0.2
0.1
0
-0.1
0.04
0.03
0.02
0.01
0
-0.01
Stage (m)
Discharge (m^3/s)
01/06/2015
01/07/2015
01/08/2015
01/09/2015
01/10/2015
01/11/2015
Date

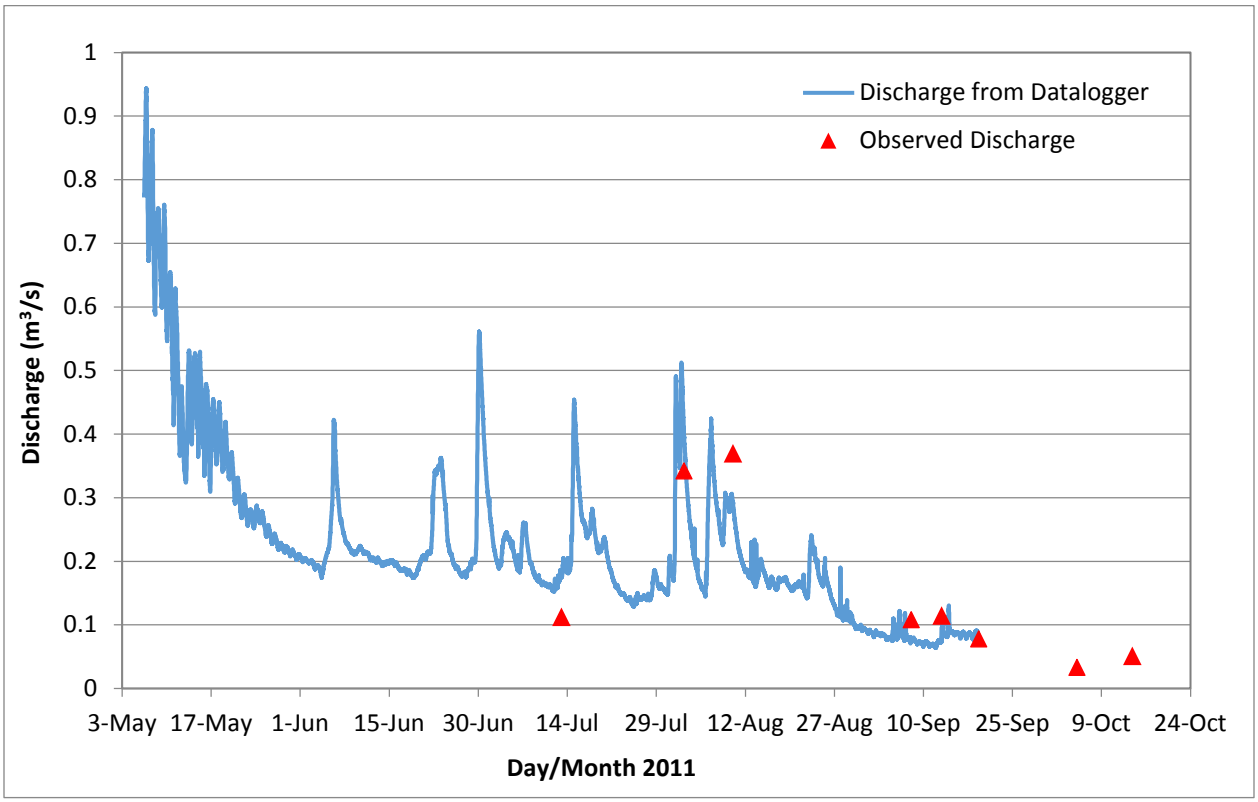
W1 Hydrographs

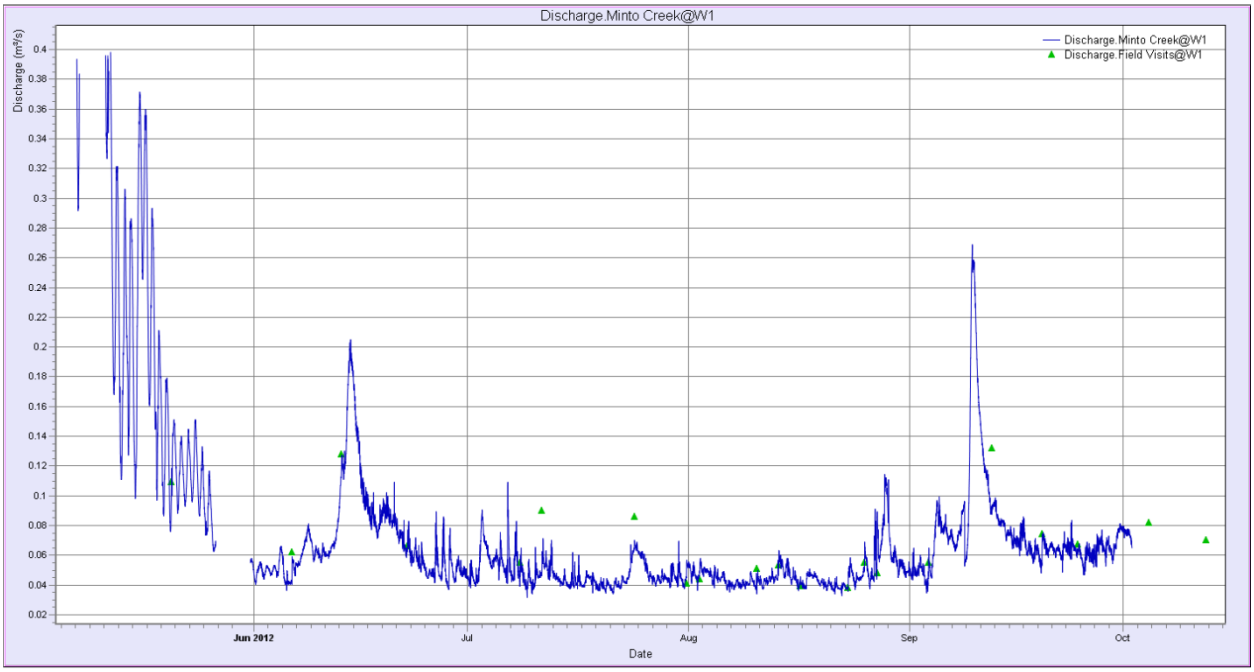


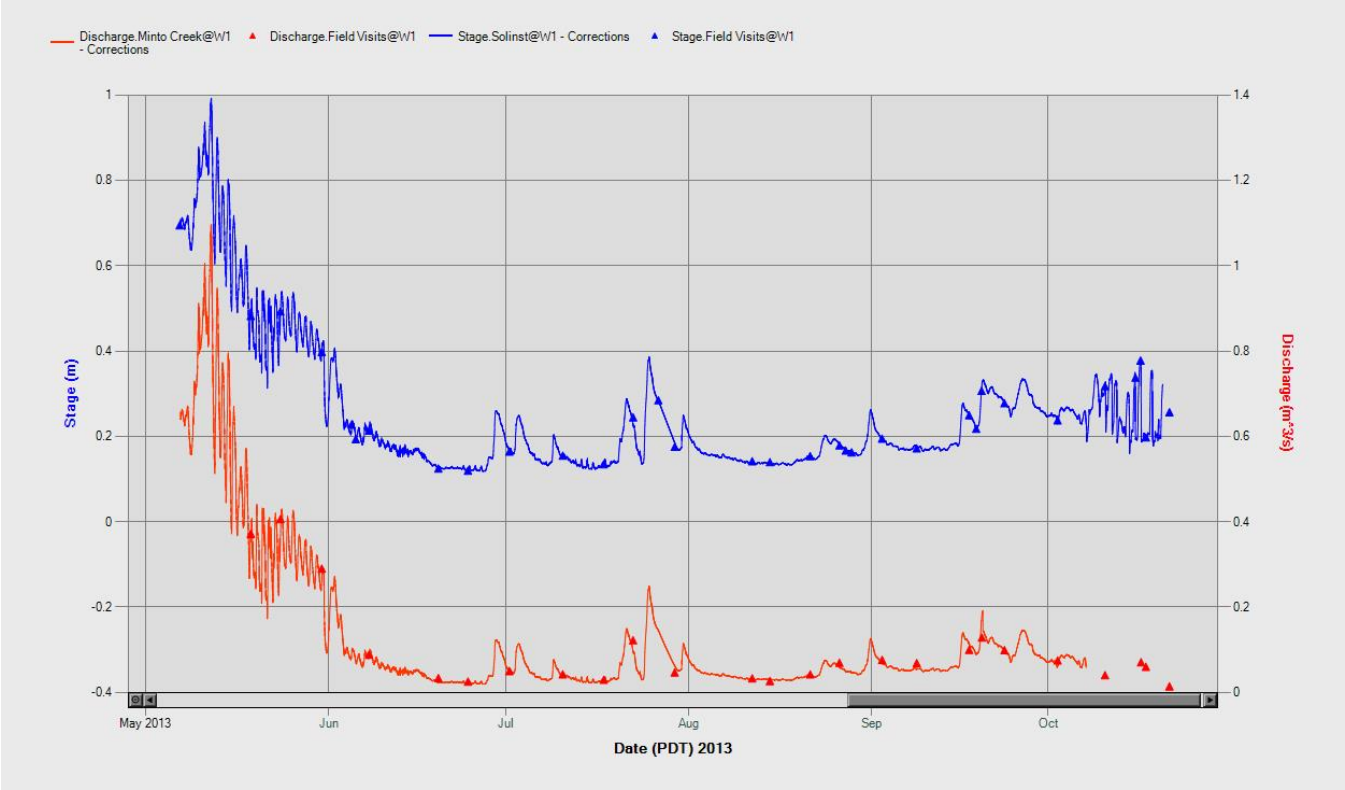


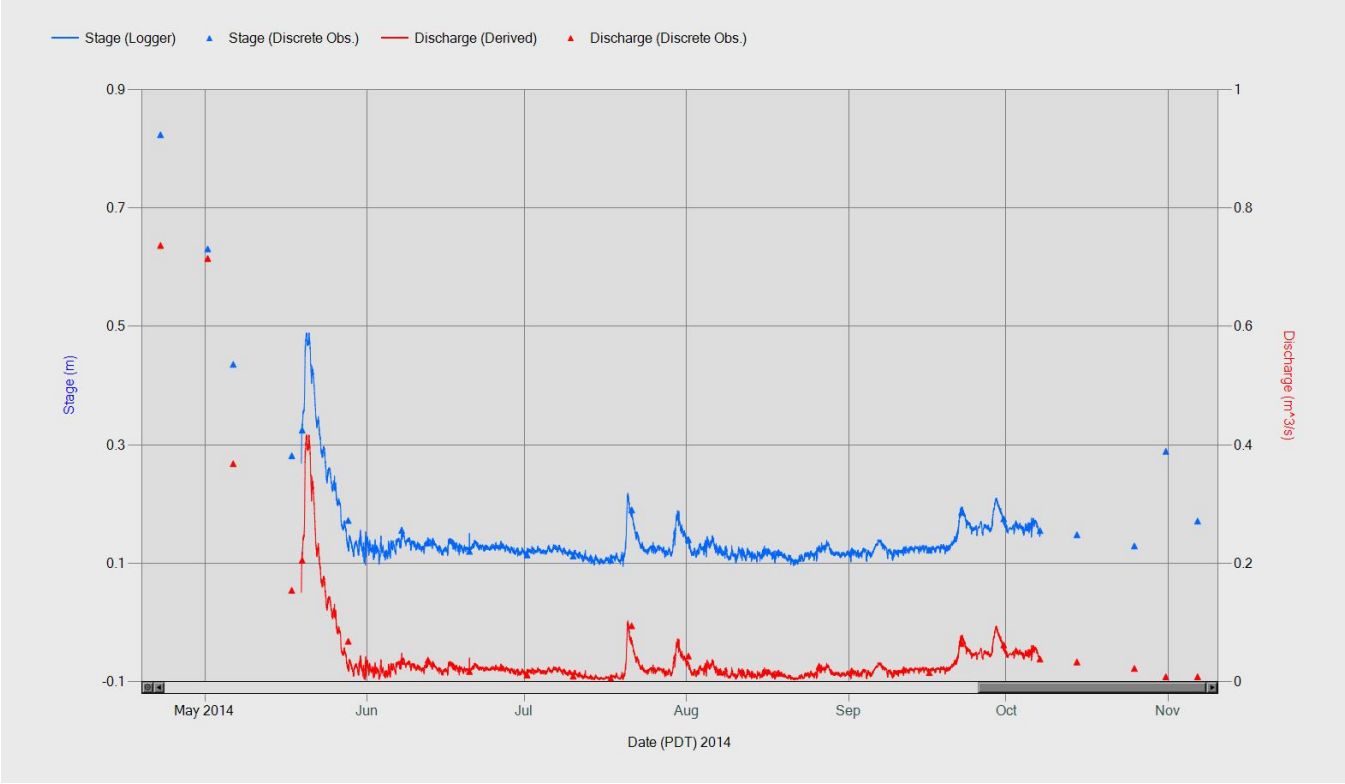

W1 Discharge
Hourly Average Discharge (m 3/s)
2.5
2
1.5
1
0.5
0
Computed from pressure transducer readings
Measured with a current meter
2009 Apr 25
2009 May 09
2009 May 23
2009 Jun 06
2009 Jun 20
2009 Jul 04
2009 Jul 18
2009 Aug 01
2009 Aug 15
2009 Aug 29
2009 Sep 12
2009 Sep 26
2009 Oct 10
Date

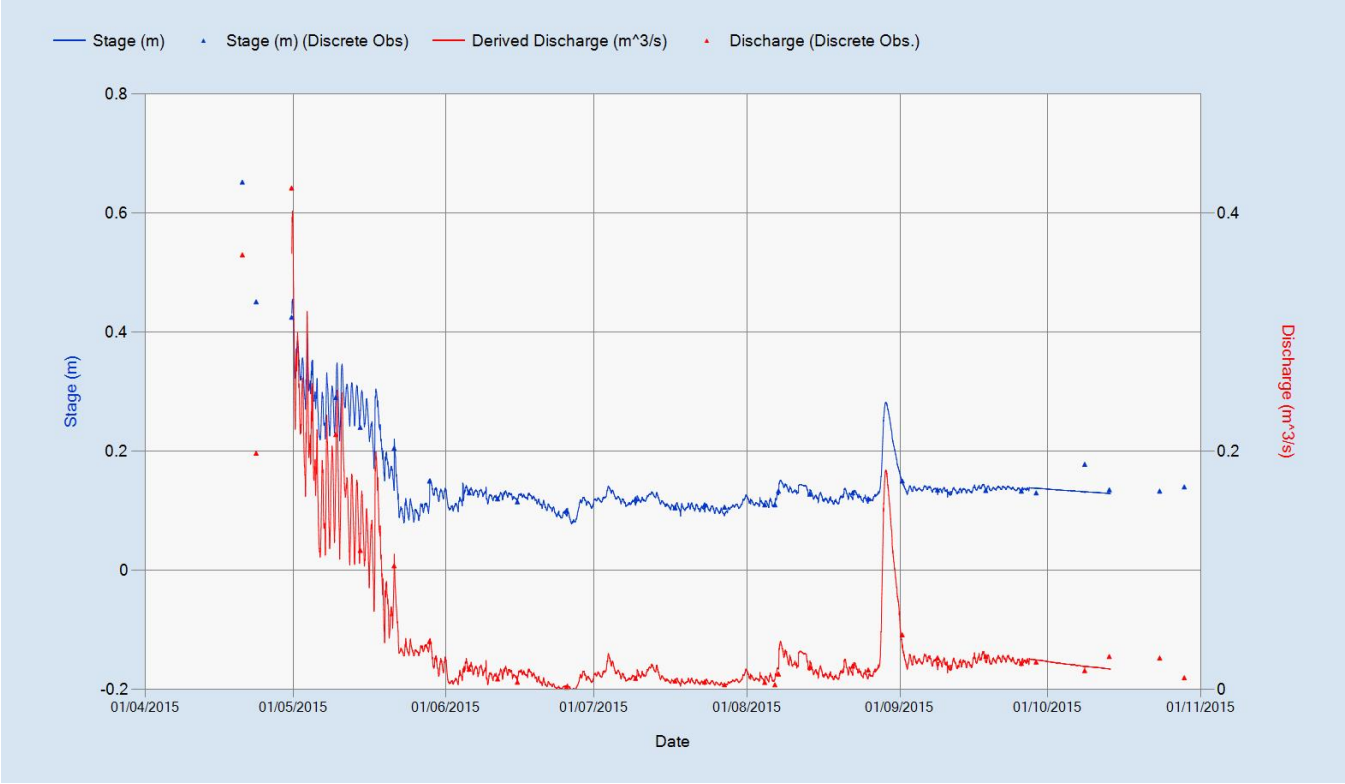

W1 Discharge
Quarter-Hourly Average Discharge (m³/s)
1.2
1
0.8
0.6
0.4
0.2
0
Computed from pressure transducer readings
Measured with a current meter at W1
Measured with a current meter at W2
2010 Apr 10
2010 Apr 24
2010 May 08
2010 May 22
2010 Jun 05
2010 Jun 19
2010 Jul 03
2010 Jul 17
2010 Jul 31
2010 Aug 14
2010 Aug 28
2010 Sep 11
2010 Sep 25
2010 Oct 09
2010 Oct 23
2010 Nov 06
Date

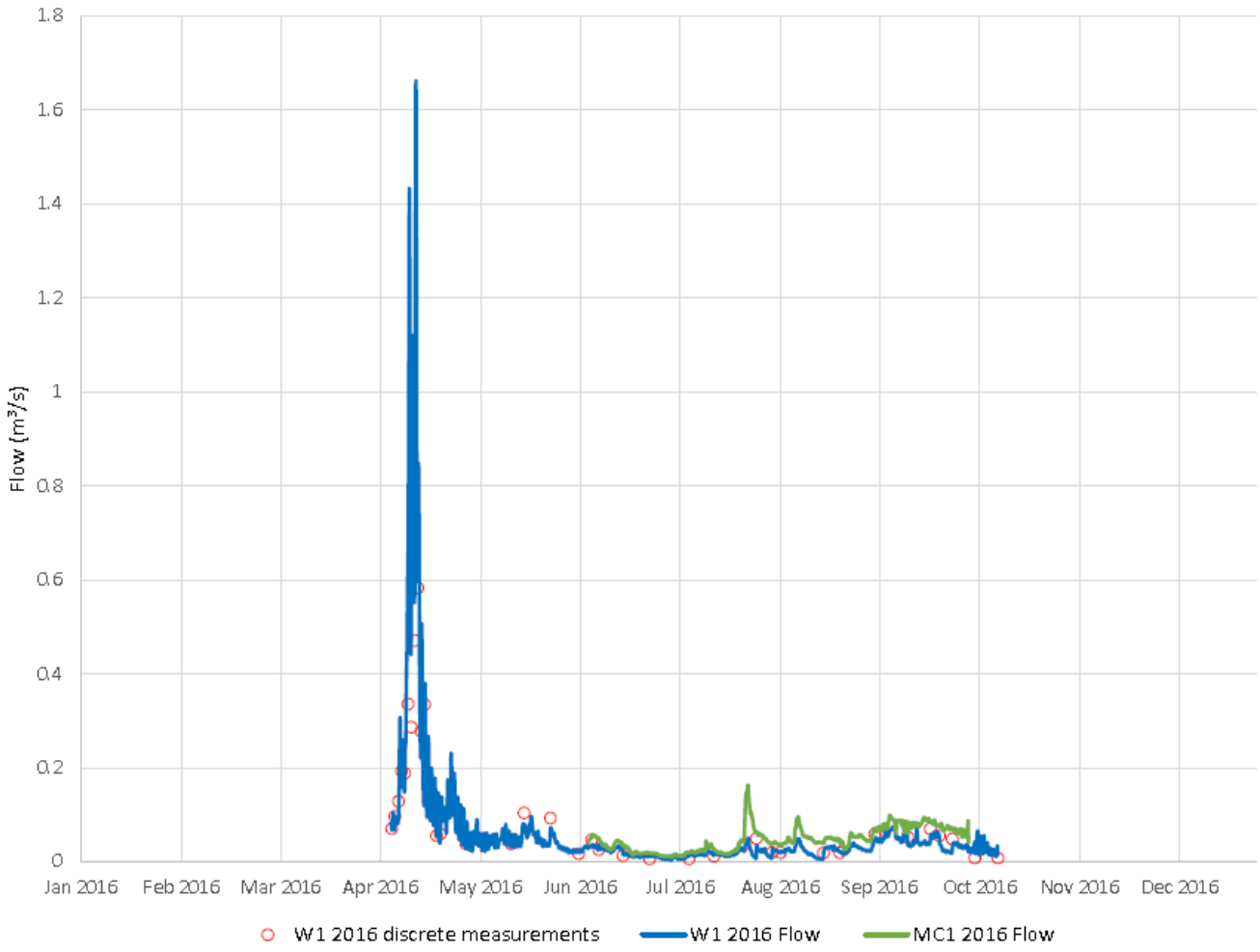

Discharge from Datalogger
Observed Discharge
Discharge (m³/s)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
3-May
17-May
1-Jun
15-Jun
30-Jun
14-Jul
29-Jul
12-Aug
27-Aug
10-Sep
25-Sep
9-Oct
24-Oct
Day/Month 2011


Discharge.Minto Creek@W1
Discharge.Minto Creek@W1
Discharge.Field Visits@W1
Discharge (m³/s)
Jun 2012
Jul
Aug
Sep
Oct
Date


Discharge.Minto Creek@W1 - Corrections
Discharge.Field Visits@W1
Stage.Solinst@W1 - Corrections
Stage.Field Visits@W1
Stage (m)
Discharge (m^3/s)
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
1.4
1.2
1
0.8
0.6
0.4
0.2
0
May 2013
Jun
Jul
Aug
Sep
Oct
Date (PDT) 2013

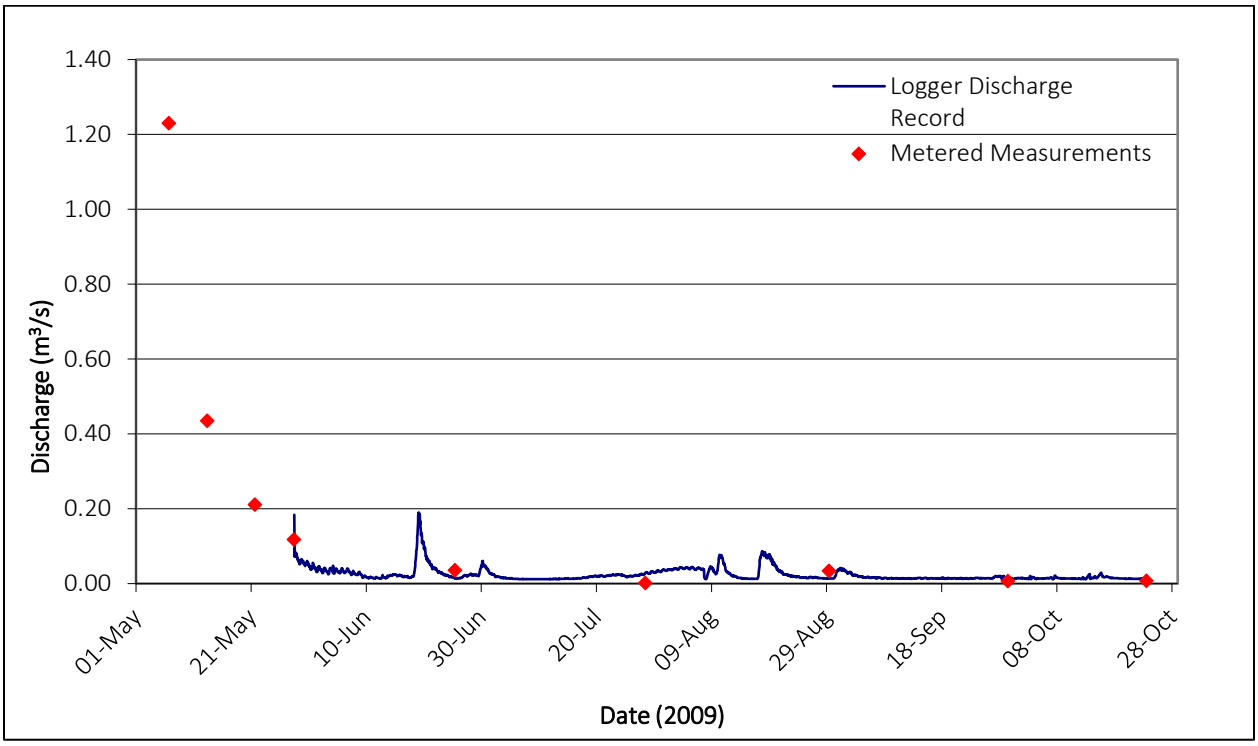

Stage (Logger)
Stage (Discrete Obs.)
Discharge (Derived)
Discharge (Discrete Obs.)
Stage (m)
Discharge (m^3/s)
0.9
0.7
0.5
0.3
0.1
-0.1
1
0.8
0.6
0.4
0.2
0
May 2014
Jun
Jul
Aug
Sep
Oct
Nov
Date (PDT) 2014

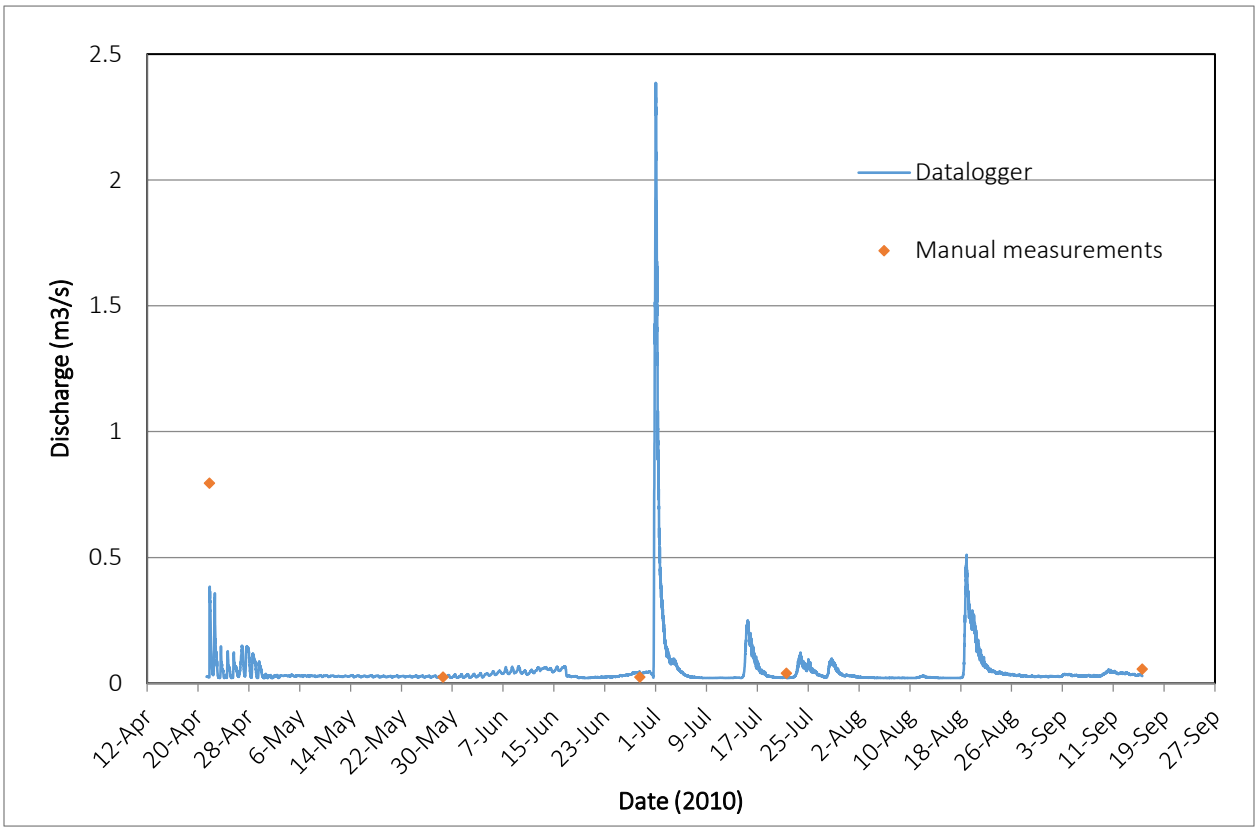

Stage (m)
Stage (m) (Discrete Obs)
Derived Discharge (m^3/s)
Discharge (Discrete Obs.)
0.8
0.6
0.4
0.2
0
-0.2
Stage (m)
0.4
0.2
0
Discharge (m^3/s)
01/04/2015
01/05/2015
01/06/2015
01/07/2015
01/08/2015
01/09/2015
01/10/2015
01/11/2015
Date

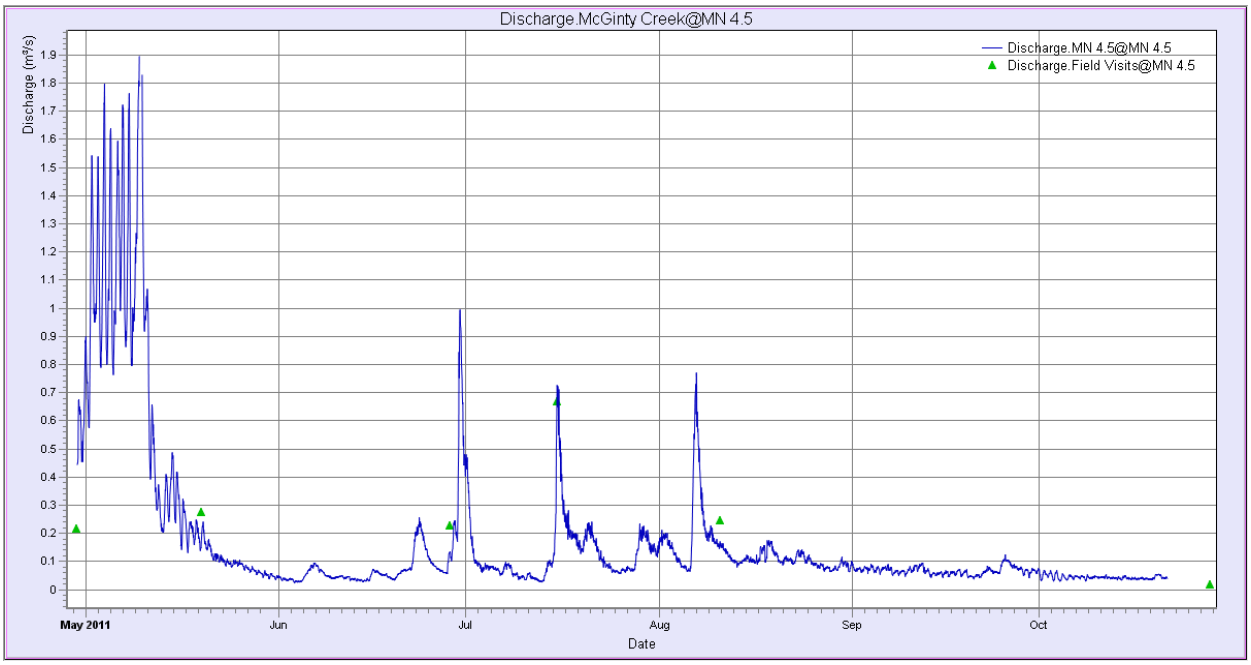


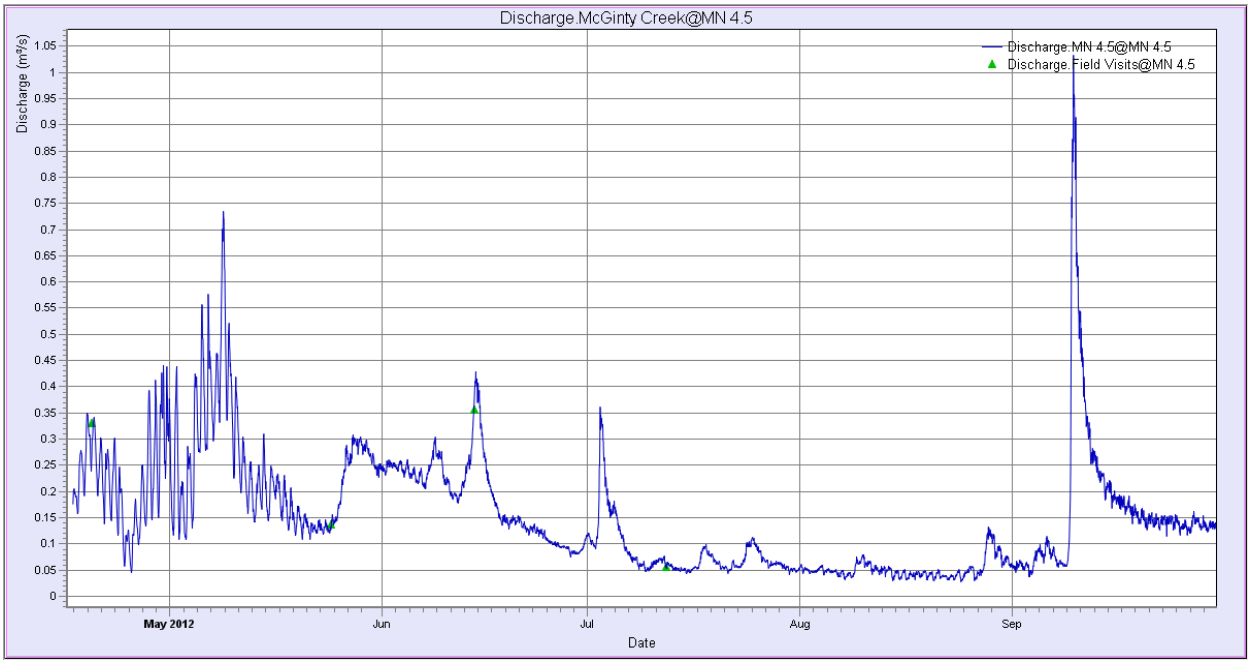
Source: SRK, 2017

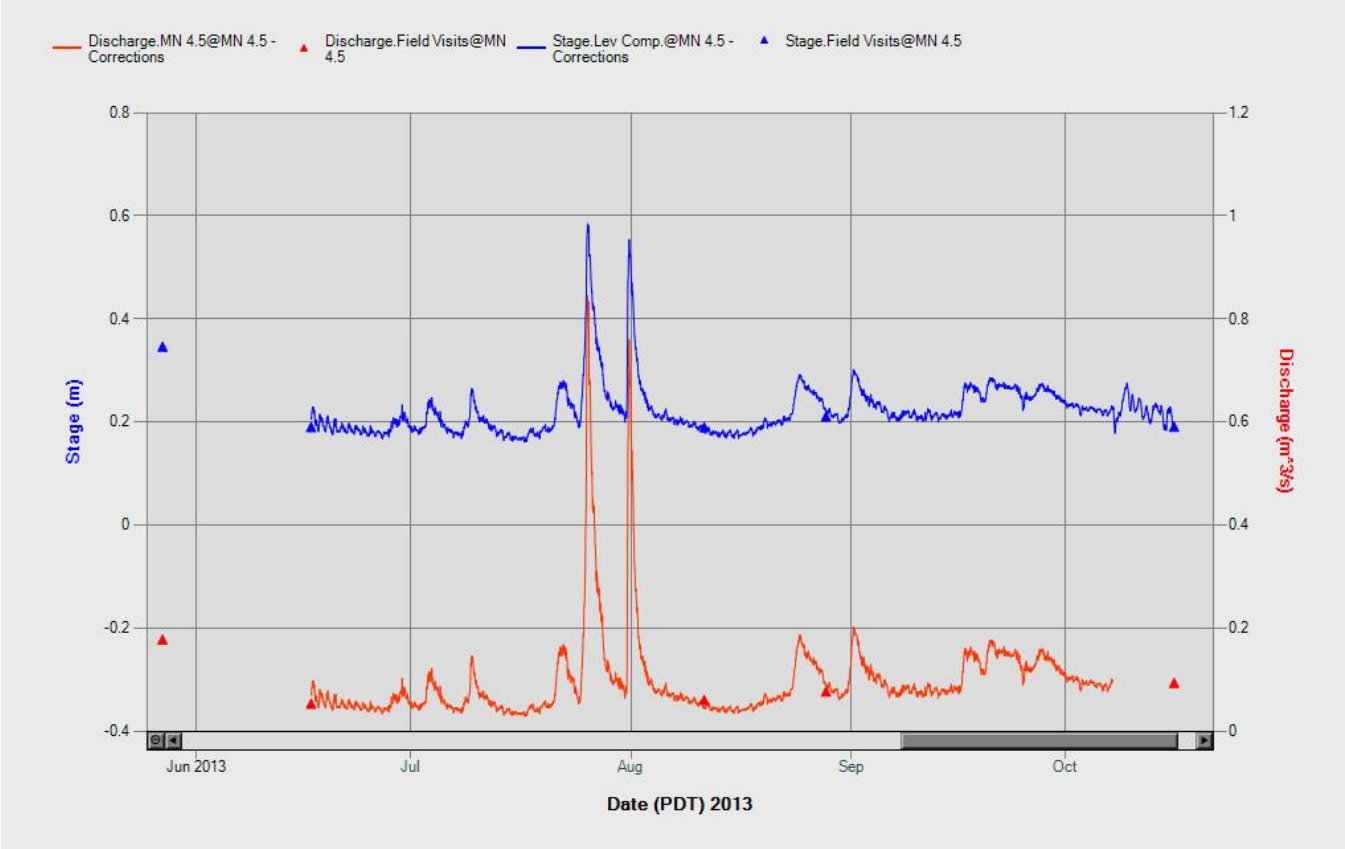
MN-4.5 Hydrographs

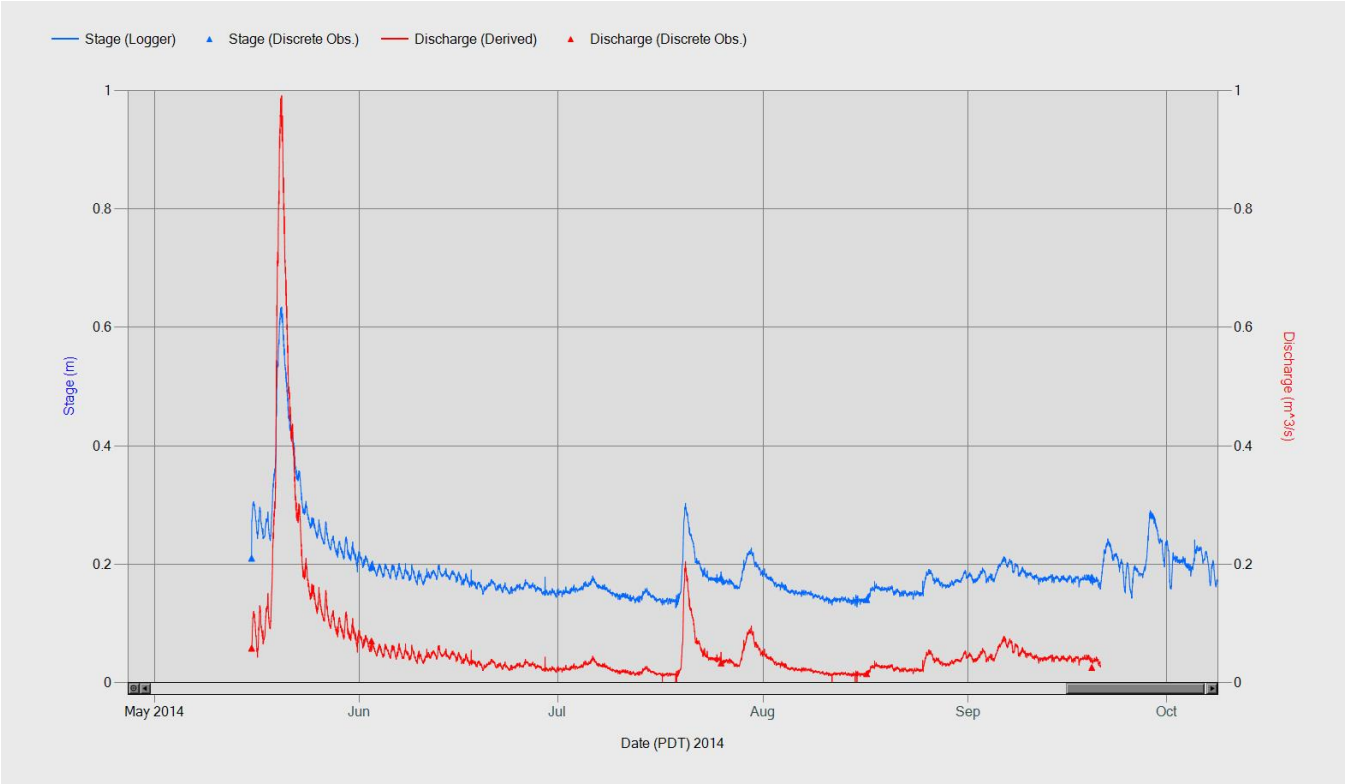


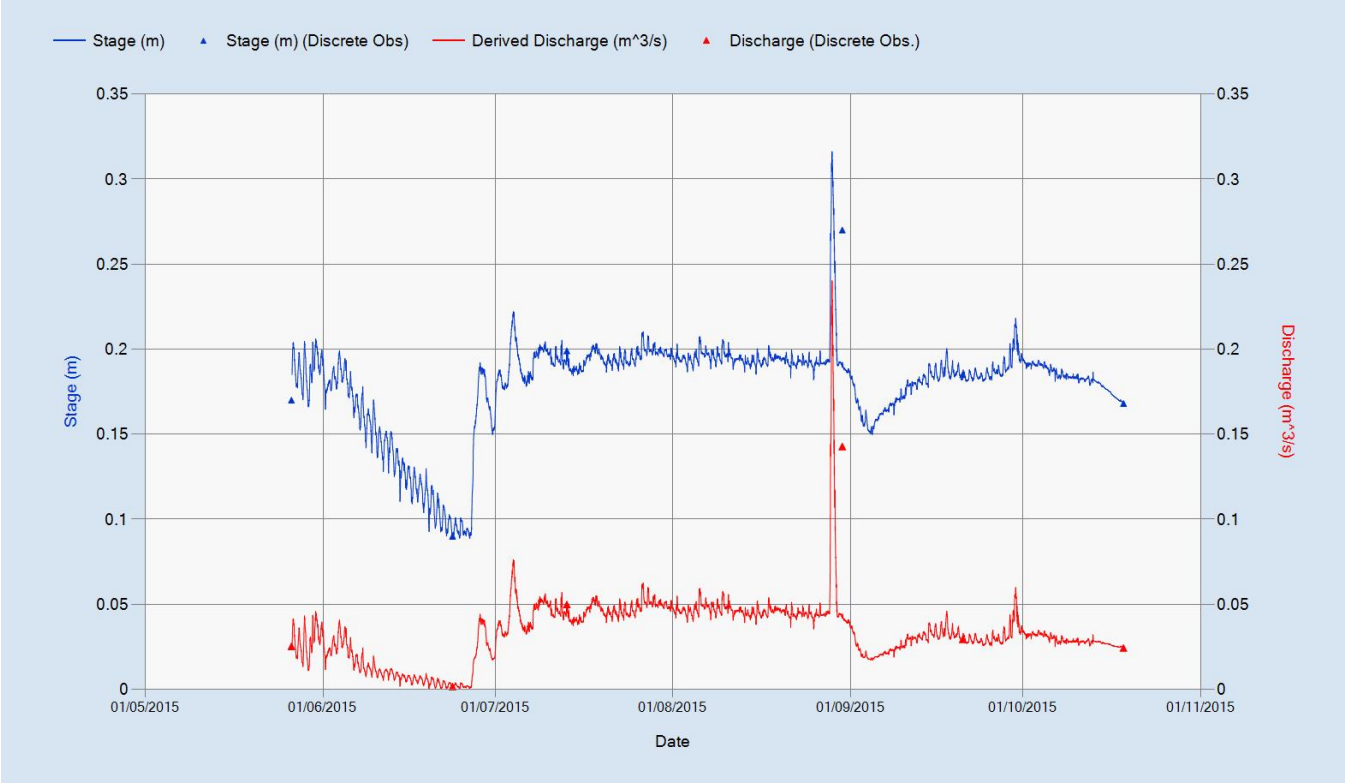


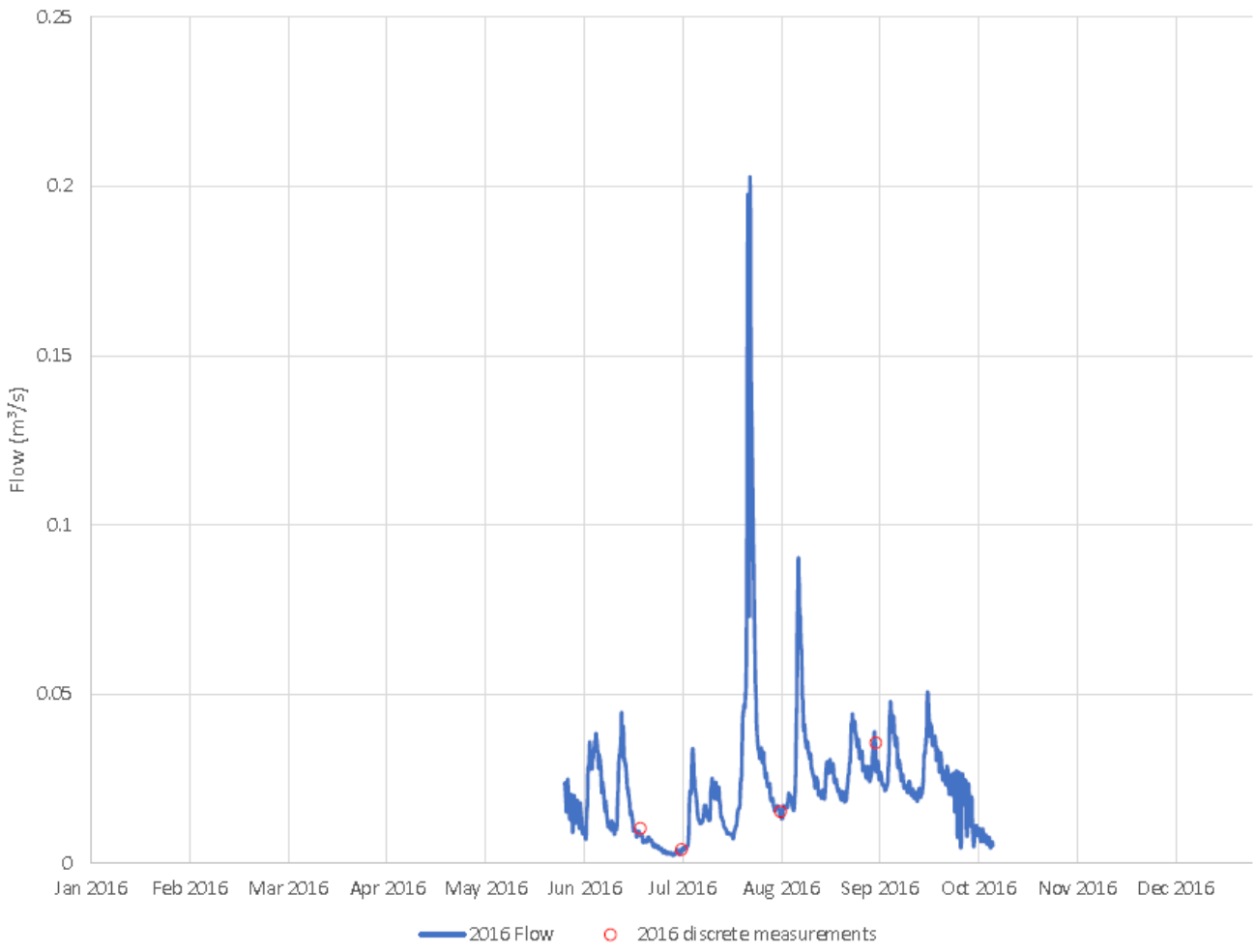

Discharge.McGinty Creek@MN 4.5
Discharge (m³/s)
Discharge.MN 4.5@MN 4.5
Discharge.Field Visits@MN 4.5
May 2011
Jun
Jul
Aug
Sep
Oct
Date


Discharge.McGinty Creek@MN 4.5
Discharge (m³/s)
Discharge.MN 4.5@MN 4.5
Discharge.Field Visits@MN 4.5
May 2012
Jun
Jul
Aug
Sep
Date


Discharge.MN 4.5@MN 4.5 - Corrections
Discharge.Field Visits@MN 4.5
Stage.Lev Comp.@MN 4.5 - Corrections
Stage.Field Visits@MN 4.5
Stage (m)
Discharge (m^3/s)
0.8
0.6
0.4
0.2
0
-0.2
-0.4
1.2
1
0.8
0.6
0.4
0.2
0
Jun 2013
Jul
Aug
Sep
Oct
Date (PDT) 2013

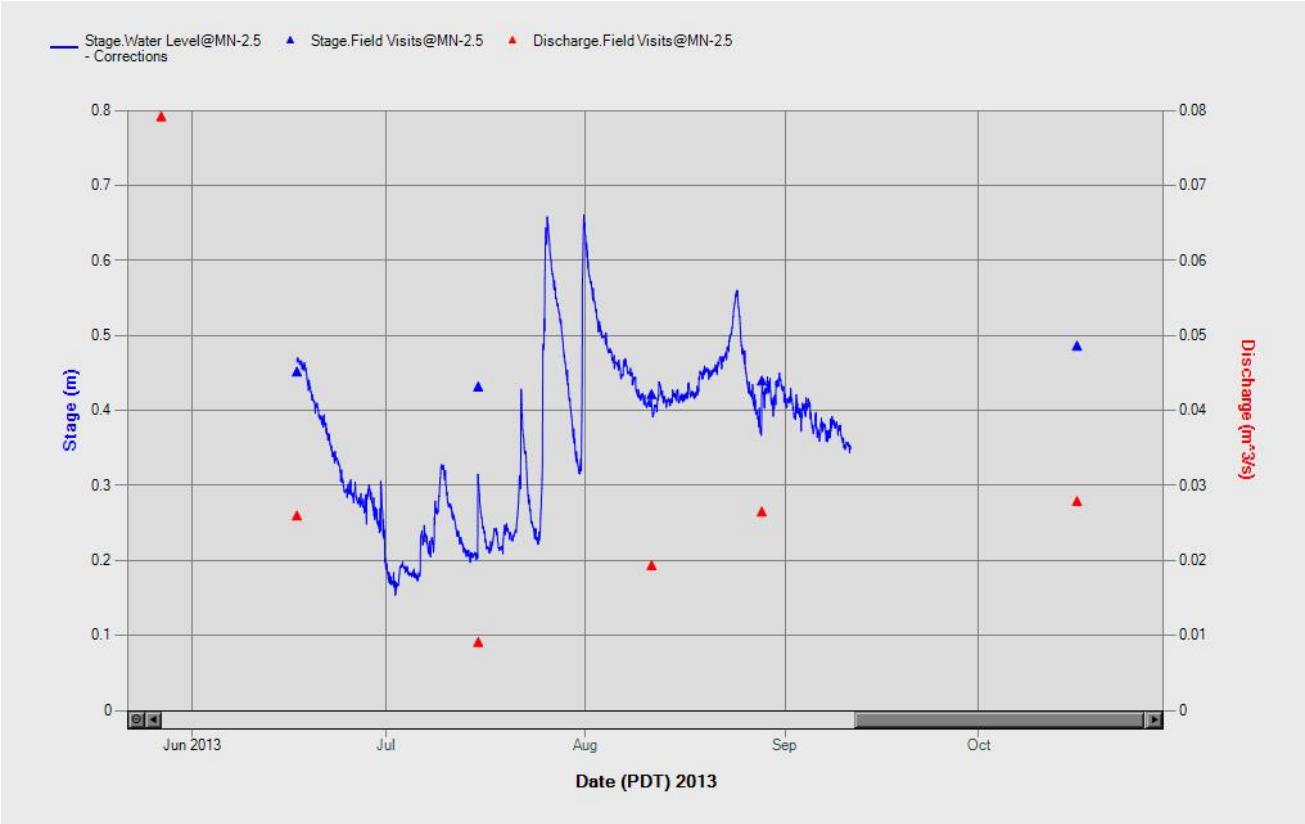

Stage (Logger)
Stage (Discrete Obs.)
Discharge (Derived)
Discharge (Discrete Obs.)
Stage (m)
Discharge (m^3/s)
1
0.8
0.6
0.4
0.2
0
May 2014
Jun
Jul
Aug
Sep
Oct
Date (PDT) 2014

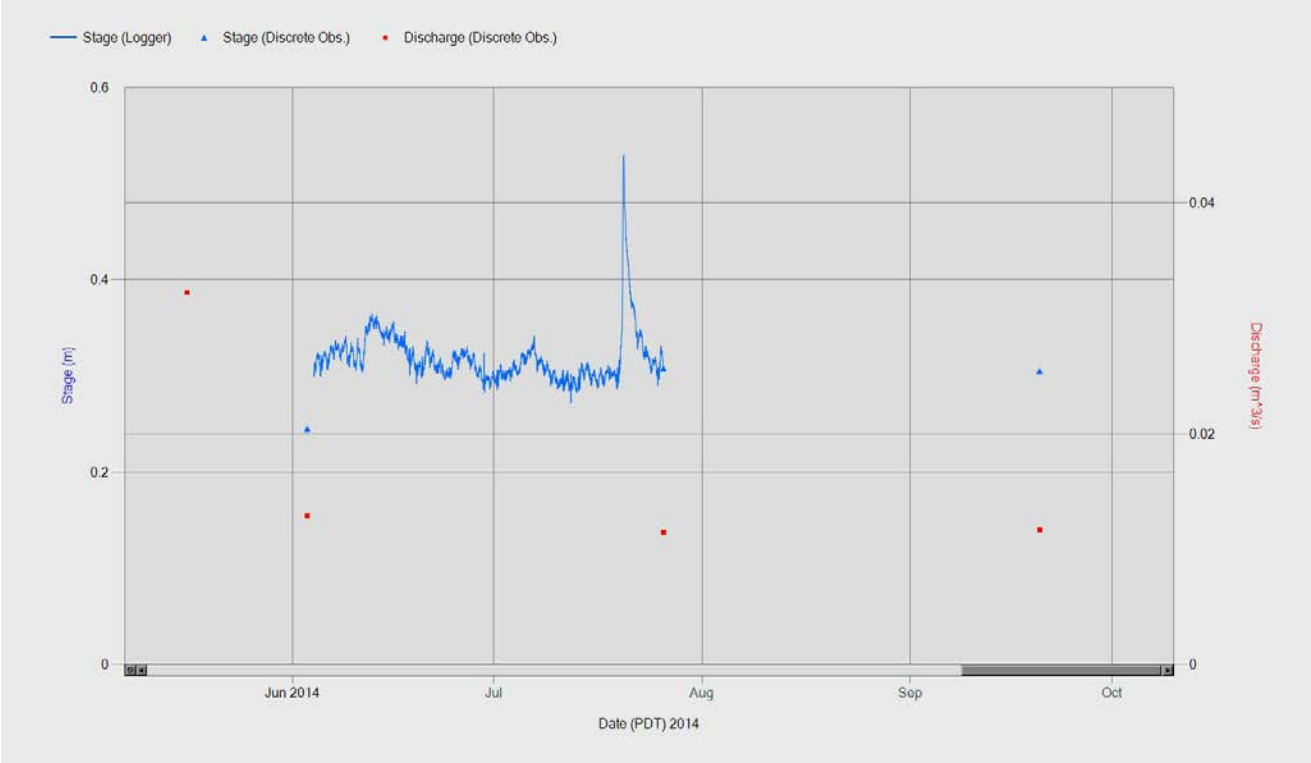

Stage (m)
Stage (m) (Discrete Obs)
Derived Discharge (m^3/s)
Discharge (Discrete Obs.)
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
Stage (m)
Discharge (m^3/s)
01/05/2015
01/06/2015
01/07/2015
01/08/2015
01/09/2015
01/10/2015
01/11/2015
Date

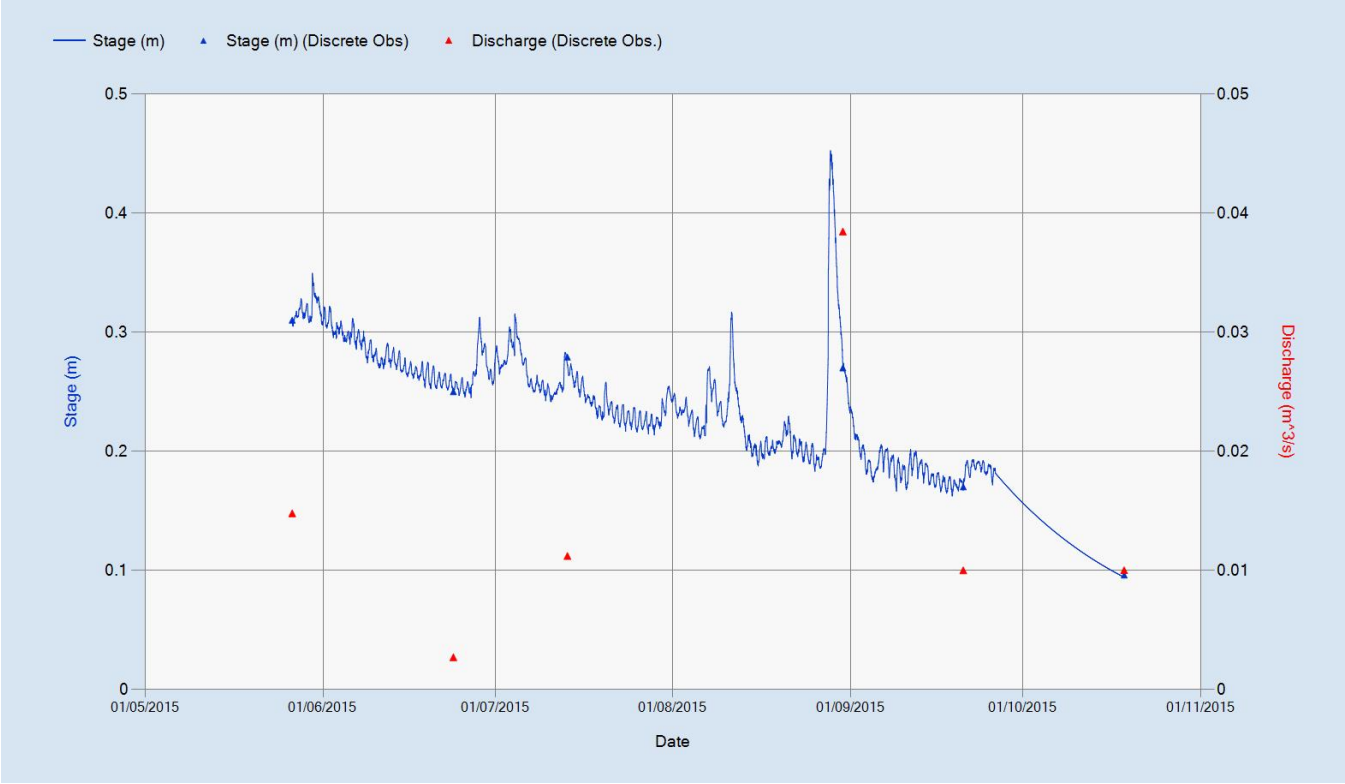


Source: SRK, 2017

MN-2.5 Hydrographs



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Stage (m) (Discrete Obs)
Discharge (Discrete Obs.)
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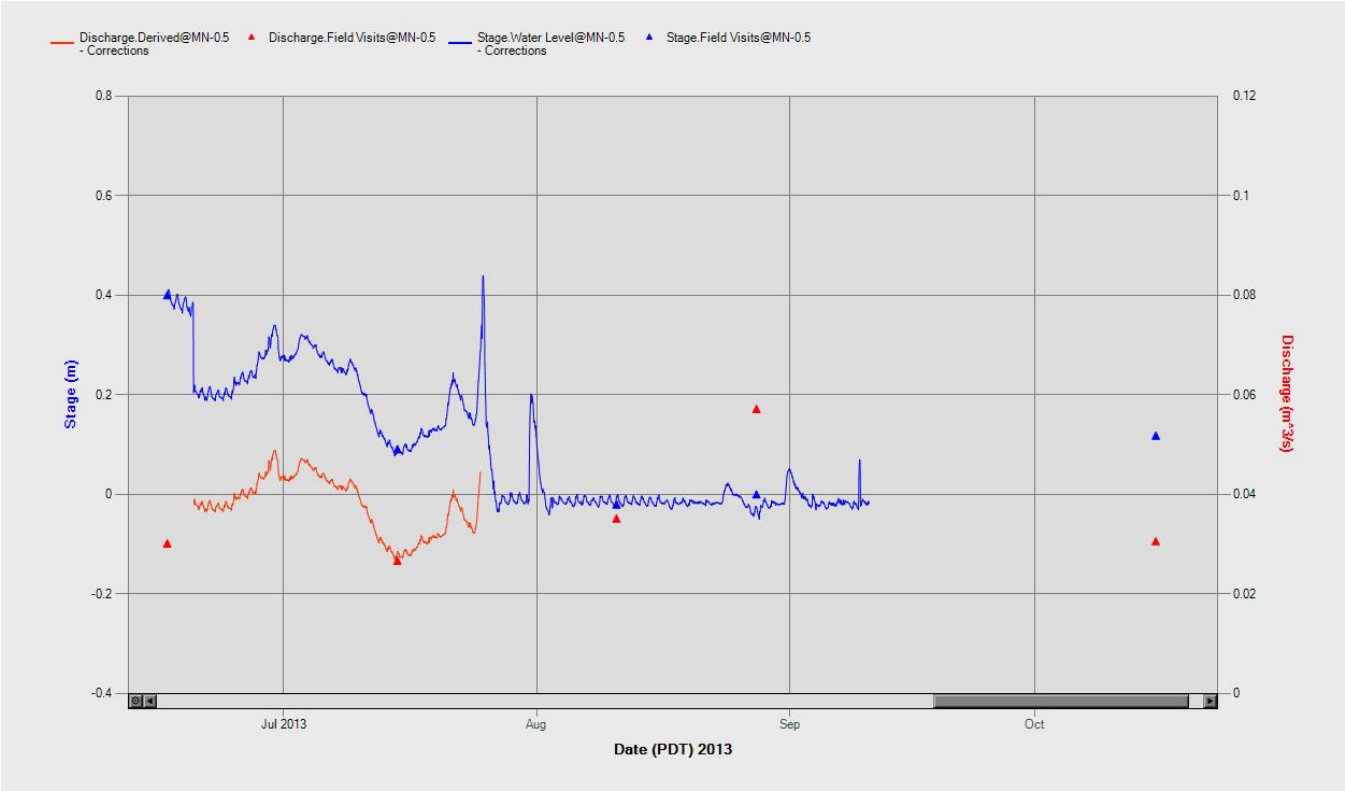
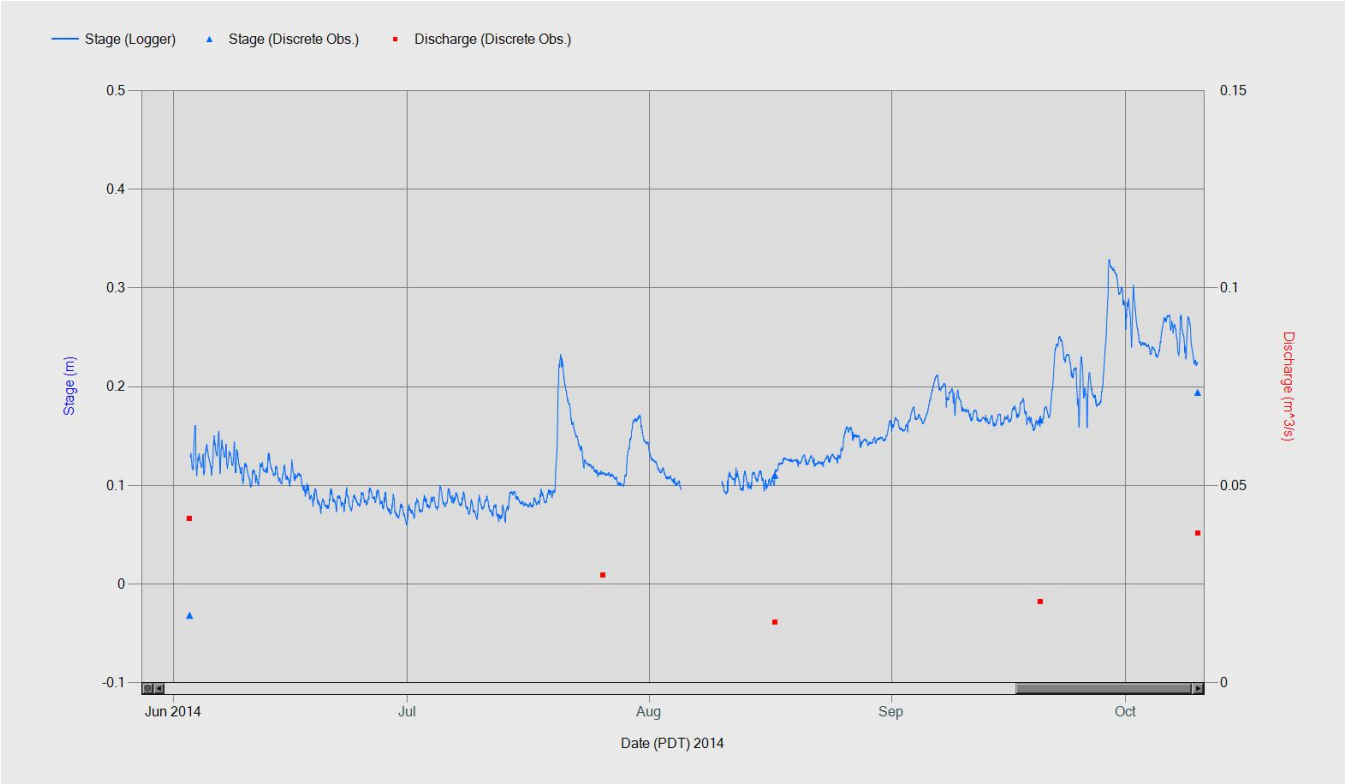
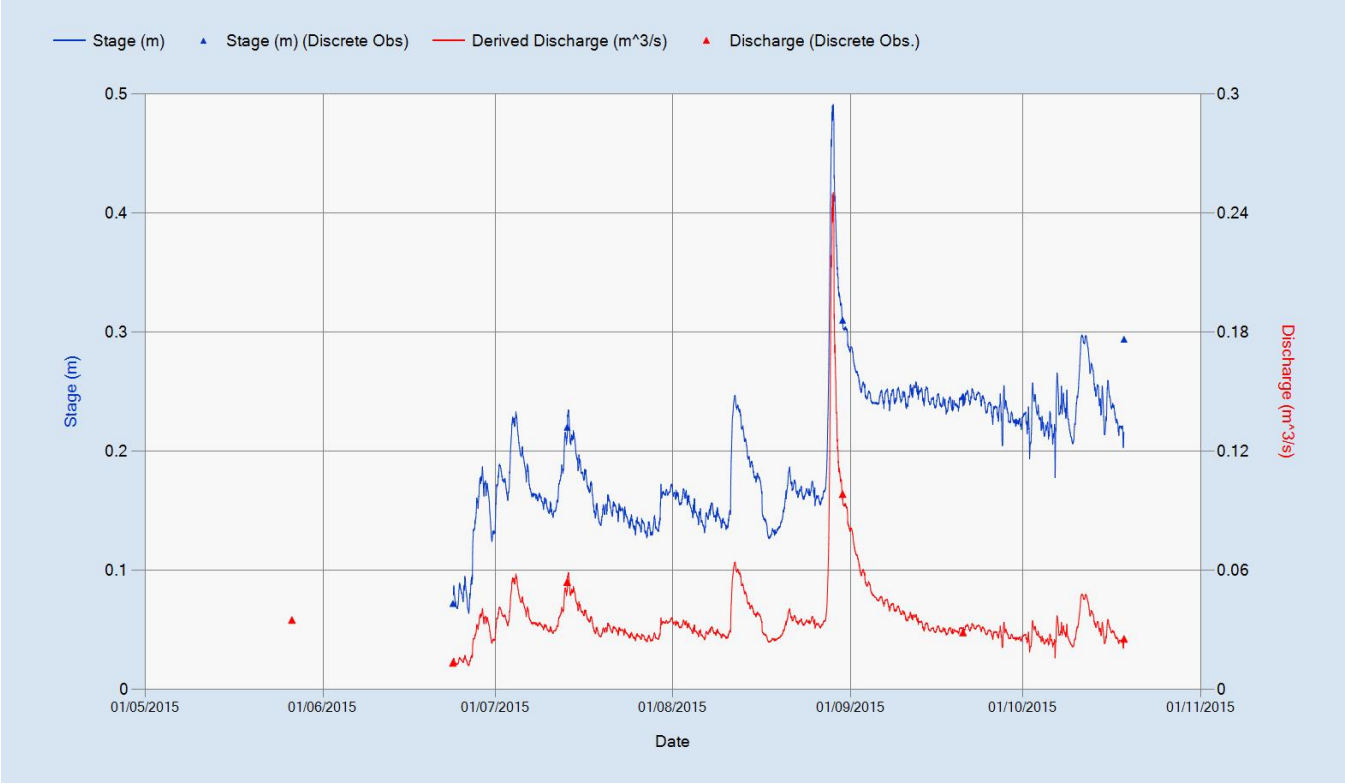
0.4
0.3
0.2
0.1
0
0.05
0.04
0.03
0.02
0.01
0
Stage (m)
Discharge (m^3/s)
01/05/2015
01/06/2015
01/07/2015
01/08/2015
01/09/2015
01/10/2015
01/11/2015
Date

MN-0.5 Hydrographs






Stage (m)
Stage (m) (Discrete Obs)
Derived Discharge (m^3/s)
Discharge (Discrete Obs.)
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0.4
0.3
0.2
0.1
0
0.3
0.24
0.18
0.12
0.06
0
Stage (m)
Discharge (m^3/s)
01/05/2015
01/06/2015
01/07/2015
01/08/2015
01/09/2015
01/10/2015
01/11/2015
Date

APPENDIX 1-3

MINTO MINE SITE CHARACTERIZATION – SURFACE WATER QUALITY

MINTO AND MCGINTY CREEKS WATER QUALITY CHARACTERIZATION

JANUARY 2005 – DECEMBER 2016

MIN-17-01-500_005_Minto Site Characterization Water Quality_RevA_180125

January 2018

Prepared for:

MINTO EXPLORATIONS LTD.

ALEXCO ENVIRONMENTAL GROUP INC. SIGNATURES

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APPENDIX B METHODS FOR COMPUTING SUMMARY STATISTICS FOR CENSORED DATA

APPENDIX C MINTO CREEK, MCGINTY CREEK AND MINTO MINE WATER QUALITY DATA (JANUARY 2005 – DECEMBER 2016)

EXECUTIVE SUMMARY

Surface water quality in and around the Minto Mine has been the subject of numerous characterization efforts since 1994. In this report, surface water quality at the Minto Mine site and downstream water courses was characterized using data collected from January 2005 to December 2016. The water quality characterization was organized by grouping data into areas including critical water management monitoring locations in the Minto Mine site operational area, the mainstem of Minto Creek during the operational phase of the Minto Mine, the Minto North Pit, and McGinty Creek. Minto Creek receiving environment data were further divided into periods of active effluent discharge and no discharge from the mine site. Where applicable, comparison of water quality was made to the effluent quality standards (EQS) and water quality objectives (WQO) stipulated within water use licence (WUL) QZ14-031. Summary statistics are presented with graphical plots of concentrations over time at key water quality monitoring stations.

The pH of the Mine Site, Minto North Pit, Minto Creek, and McGinty Creek waters was predominantly circumneutral to slightly alkaline. Nitrogen species concentrations were generally highest in the pit lake and DSTSF drainage sites reflecting leaching of nitrogen residue from blasting activity. Nitrate-N levels showed marked seasonality in Minto Creek sites within the site and downstream of the site and in McGinty Creek with higher concentrations in the winter and lower concentrations in the spring and summer, responding to nitrogen uptake demand by primary producers and dilution from spring meltwater. Nitrate-N levels were typically higher in Minto Creek during and following mine discharge periods. Dissolved organic carbon (DOC) concentrations were often highest during spring snowmelt likely due to flushing of labile organic carbon from soils. Higher DOC levels were also observed in late summer in sampling locations farther downstream in Minto Creek and McGinty Creek.

At all flowing sites, dissolved hardness concentrations were typically lowest during spring snowmelt and increased through the year, peaking in winter, suggestive of a marked groundwater component to hardness levels. Dissolved iron, and to a lesser extent aluminum, were often observed at concentrations higher than expected from equilibrium with their oxyhydroxide minerals under the prevalent oxidizing, circumneutral pH conditions. Reasonable correlations between dissolved iron and DOC at several sites on the mine site and in McGinty and Minto Creek suggest complexation with dissolved organic matter likely maintains these elevated dissolved iron (and often arsenic) and aluminum levels.

On the Mine Site, dissolved copper concentrations were highest in the DSTSF drainage and tended to peak with freshet, suggestive of some association with DOC. Dissolved copper concentrations in Minto Creek were higher during and following mine discharge periods, particularly during the emergency site discharge period of June 26 to August 6, 2009. Dissolved copper concentrations in McGinty Creek also tended to be higher during spring snowmelt, correlating reasonably well with DOC concentrations.

Dissolved concentrations of both selenium and molybdenum increased approximately four-fold in the pit lake sites over the past two to three years, alongside sulphate. In Minto Creek and downstream of the mine site and in McGinty Creek, selenium exhibited seasonal cycling with concentrations lowest at freshet, then rising through the year, peaking in winter, suggestive of a strong groundwater contribution. The opposite pattern was observed in the drainage from the DSTSF where selenium levels oscillated on an annual basis between summer peaks and winter troughs. Dissolved selenium concentrations in Minto Creek downstream of the mine site were higher during and following mine effluent discharge periods, while in McGinty Creek higher selenium concentrations were observed in the west arm (reference tributary) of McGinty Creek than the east arm.

1 INTRODUCTION

The Minto Mine is a high-grade copper mine located within Selkirk First Nation (SFN) Category A Settlement Land Parcel R-6A approximately 240 km northwest of Whitehorse, Yukon Territory (62°37'N latitude and 137°15'W longitude; Figure 1-1). It is owned and operated by the Capstone Mining Corporation. Development of the mine was initiated in 1997, commercial operations started in October 2007, and the currently anticipated operating life is to 2020. The Minto Mine is permitted to conduct open pit and underground mining, and to mill the copper/gold/silver ore at a rate of 4,200 tonnes of per day. In 2016 (the most recent year of record), the Minto Mine produced 69.3 million pounds of copper from the milling of 1.49 million tonnes of ore. Mill tailings are deposited into both the Main Pit Tailings Management Facility and the Area 2 Pit Tailings Management Facility (Figure 1-2). Mine-impacted seepage from the Dry Stack Tailings Storage Facility (DSTSF) and under the Mill Valley Fill Expansion (MVFE) is collected at the toe of the MVFE and pumped to the Main Pit (Figure 1-2). Non-impacted water and treated mine-impacted water are collected in a Water Storage Pond (WSP; Figure 1-2). Effluent from the WSP is periodically discharged to Minto Creek under conditions specified in Water Use Licence (WUL) QZ14-031 (August 2015). Minto Creek, in turn, discharges to the Yukon River approximately 7.7 km south-east of the WSP (Figure 1-2).

Minto Creek and McGinty Creek are receiving environments for Minto Mine and both have been previously characterized in numerous reports. These previous reporting initiatives are summarized in Section 1.2. This report provides updates to the water quality characterizations of both Minto and McGinty Creek stations and for key mine site water management and monitoring stations, and includes monitoring results to December 2016. Methods used in the evaluation of water quality data are summarized in Section 2 and results which form the basis of the characterization of water quality for Minto Creek and McGinty Creek are provided in Section 3.

1.1 WATER MANAGEMENT HISTORY

Minto constructed, commissioned and operated the Minto Mine under the water management plan and restrictions in the initial project Water Use Licence, QZ96-006. Extremely low effluent quality standards (EQS) – for copper in particular – and low precipitation in 2006 and 2007 led to no effluent discharge from the site. Minto had begun test work and planning to support a licence amendment application to revise the water management strategy – including discharge standards – in 2008, when exceptional summer precipitation led to an inevitable discharge of inventory water that did not meet current EQS. Minto applied for and received an Emergency WUL amendment to release water in August and September of 2008. Minto did so, releasing 350,000m^3 of water from the Pit and Water Storage Pond over 35 days.

The Yukon Territory's unusually high precipitation of the 2008 summer continued throughout the 2008/2009 winter and snow pack measurements taken in February 2009 at the Minto Mine were at least 50% above average (70% in some locations). As a result of this and unusually high spring temperatures, the Minto Mine experienced a more voluminous freshet than normal in early May 2009 and diverted all run-off into the WSP and Pit in order to avoid non-compliant discharge. Following 2009 freshet the WSP contained 300,000 m^3 of water and the Pit contained 700,000 m^3. On application from Minto, the Water Board determined the existence of an emergency and granted an amendment to the WUL on June 26, 2009 authorizing Minto to discharge up to 300,000 m^3 of water from the WSP and the Pit, provided such water met, at a minimum, MMER standards. Minto discharged this water between June 26 and August 6, 2009. In August 2009, Minto received an Inspector's direction from Yukon Government to reduce the inventory of water in the Main Pit for geotechnical reasons. Again, Minto

applied for and received an emergency amendment to the WUL and discharged water to Minto Creek between August 13 and October 30, 2009.

Following this event, Minto commissioned a study to evaluate options for implementing a permanent water treatment plant at the mine. Shortly after the completion of the water treatment evaluation, Minto commissioned detailed design, procurement, and construction of a water treatment plant. The water treatment plant installed at Minto in 2010 was designed to remove suspended solids and dissolved metals; in particular, copper and cadmium. The design was based on meeting effluent quality limits in effect at the time (Water Use Licence QZ96-006 Amendment 6). The total copper concentration limit of 0.01 mg/L was the primary water treatment challenge.

In June 2010, Minto applied for amended effluent quality standards. When Amendment 7 of the Water Use Licence came into effect in March 2011, Minto completed an evaluation of water treatment technologies that would be suitable for producing effluent that would meet the new effluent quality limits. The water treatment evaluation concluded that the main water treatment challenges would be to meet the selenium, nitrate and (to a lesser extent) nitrite limits specified in Amendment 7 (0.003 mg/L, 7.65 mg/L and 0.15 mg/L, respectively). Minto's existing plant would not be effective at removing these parameters.

In 2012, two reverse osmosis (RO) trains capable of handling 2,500 m^3/day per train were added to the treatment process downstream of the existing clarification and filtration units, for treating nitrate and selenium, based on water quality limits received in the Water Use Licence Amendment 7. Treated effluent from the RO units may also be amended, when necessary, with sodium bicarbonate to adjust the pH and add salinity and alkalinity. The RO process removes 95–99% of all constituents in the feed water. The feed water for the RO unit is the effluent from clarification and filtration unit, which is operated as a pre-treatment step.

In 2014, Minto submitted an amendment application for the Phase V/VI Expansion Project, which included operational downstream water quality objectives (WQO) and revised EQS. These WQO and EQS were included in Amendment 8 (August 2015) and are the regulatory benchmarks currently in place for the project.

These water management and effluent discharge milestones are important in understanding the Minto site and receiving environment water quality, as presented and interpreted in this report.

1.2 PREVIOUS WATER QUALITY CHARACTERIZATION REPORTING

1.2.1 Minto Creek

Minnow Environmental Inc. (Minnow) first characterized background water quality of Minto Creek to the end of 2008 within the report entitled *Evaluation of the Background Water Quality of Minto Creek and Options for the Derivation of Site Specific Water Quality Objectives* (Minnow 2009). In 2010, Minnow prepared the *Characterization of Baseline and Operational Water Quality of Minto Creek* including water quality results to the end of 2009 (Minnow 2010). The Minnow 2009 evaluation report focused on defining background concentrations of key metals to represent Minto Creek as a whole and for potential application as site-specific water quality objectives in lower Minto Creek (Minnow 2009). The Minnow 2010 report characterized water quality for discrete time intervals of relevance to the mine (Minnow 2010). In 2014, Access Consulting Group (ACG) and Minnow worked in conjunction to update the water quality characterization for Minto Creek (including data

collected between 2005 and 2012). The most recent report provided an update to the 2014 characterization of Minto Creek water quality and included January 2005 to December 2015 monitoring data. This update also included a dedicated evaluation of background water quality data, which was commissioned to support the development of post-closure water quality objectives, an initiative that was undertaken as a collaboration with Selkirk First Nation representatives in the Bilateral Technical Working Group. The report *Background Water Quality of Lower Minto Creek for Application in the Derivation of Post-Closure Water Quality Objectives* was issued in 2016 (Minnow, 2016). The pre-operational water quality characterization for Minto Creek has not been updated from that which was provided in Minnow's 2016 report (Appendix A). This characterization report focuses on updates to the operational period (with and without mine discharge).

1.2.2 McGinty Creek

Access Consulting Group (ACG) and Minnow Environmental Inc. prepared an initial baseline water quality characterization report for McGinty Creek in 2013, which included water quality data collected between May 2009 and July 2012 (ACG, 2013). In 2016, ACG prepared an update to the initial characterization report with the inclusion of additional water quality data collected between July 2012 and December 2015.

Activity within the upper McGinty watershed consisted of surface exploration between 2008 and 2009. Road construction and pit stripping started on August 5th, 2015, when water use license QZ14-031 was issued, allowing mining of the Minto North open pit, which was completed on October 1, 2016. During this pit development period, Minto North pit water was collected and trucked to the Main Pit Tailings Management Facility (MPTMF) within the Minto Creek catchment area and managed with the mine water management systems. Water quality monitoring in the McGinty Creek catchment is ongoing as required under WUL QZ14-031. Where relevant, McGinty Creek data are analyzed for the pre-operations period (May 2009 to July 2015) and operations period (August 2015 to December 2016).

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MINTO MINE
MINTO AND MCGINTY CREEKS
WATER QUALITY CHARACTERIZATION

FIGURE 1-1
PROJECT LOCATION

OCTOBER 2017

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MINTO MINE

MINTO AND MCGINTY CREEKS WATER QUALITY CHARACTERIZATION

FIGURE 1-2

MINE SITE FACILITIES

JANUARY 2017

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2 METHODS

Section 2 presents water quality sampling locations, steps followed for water quality data collection and handling, and methodology for data interpretation.

2.1 MONITORING STATION ORGANIZATION

Minto monitors water quality at several locations on the mine site and in the receiving environment downstream of mining operations. Key monitoring stations were selected for inclusion in this characterization of water quality, and were organized into four distinct groupings:

- Minto Mine Site (Section 2.1.1);
- Minto North Pit (Section 2.1.2);
- Minto Creek (Section 2.1.3); and
- McGinty Creek (Section 2.1.4).

2.1.1 Minto Mine Site

This report summarizes the water quality for ten monitoring stations around the Minto Mine Site including W8, W8A, W12, W15, W16, W35, W35A, W35B, W45, and W62. For ease of discussion and presentation of results, these stations are further divided into two groupings: the "upper mine site" and "lower mine site". The Minto Mine Site stations and groupings are described in Table 2-1 and shown in Figure 2-1. Water quality is monitored at many more locations on the Minto site, but these ten stations are the most critical with respect to decisions regarding the conveyance, storage, and treatment of site water.

Table 2-1: Minto Mine Monitoring Station Locations.

Station	Description / Location
Upper Mine Site	
W12	Main Pit
W15	Minto Creek, d/s of Southwest Waste Rock Dump
W35	South Diversion Ditch
W35A	North End of South Diversion Ditch
W35B	South End of South Diversion Ditch
W45	Area 2 Pit
Lower Mine Site	
W8	Dry Stack Tailings Storage Facility drainage, west
W8A	Dry Stack Tailings Storage Facility drainage, east
W16	Water Storage Pond
W62	Sump at toe of Mill Valley Fill Extension

2.1.1.1 Upper Mine Site

The upper mine site grouping consists of the W12, W15, W35, W35A, W35B, and W45 stations described in detail below.

The Main Pit (W12) has been used as the reservoir for any site water that could not be directly discharged. Given the water management constraints at the site (effluent and water quality standards), the Main Pit has received a significant influx of site water each year and has carried an inventory of runoff and impacted water each year since 2007. The W12 monitoring water quality data determine ongoing site water treatment.

Station W15 is a key water collection point downstream of the Southwest Waste Dump (SWD). Runoff and seepage water currently collects at W15 in a sump and then is conveyed to the Main Pit for treatment (if required) or off site for discharge if appropriate. Monitoring of the water quality at this location determines the fate of this runoff and provides an indication of altered seepage quality from the SWD.

W35 is the current monitoring station at the south end of the South Diversion Ditch. It receives runoff from the Ridgetop exploration areas, the exploration camp and the airstrip, but the majority of the W35 catchment is undisturbed. The quality of this water determines its ultimate storage facility, and as such monitoring at this location is of importance to site water managers. W35A and W35B – at the south end/inlet and north end/outlet of the diversion ditch, respectively – are historic sites which have not been monitored since December 2012.

W45 is a monitoring station in the Area 2 Pit. Water in this pit is a collection of local surface runoff, underground mine water, groundwater, Main Pit water, and tailings supernatant.

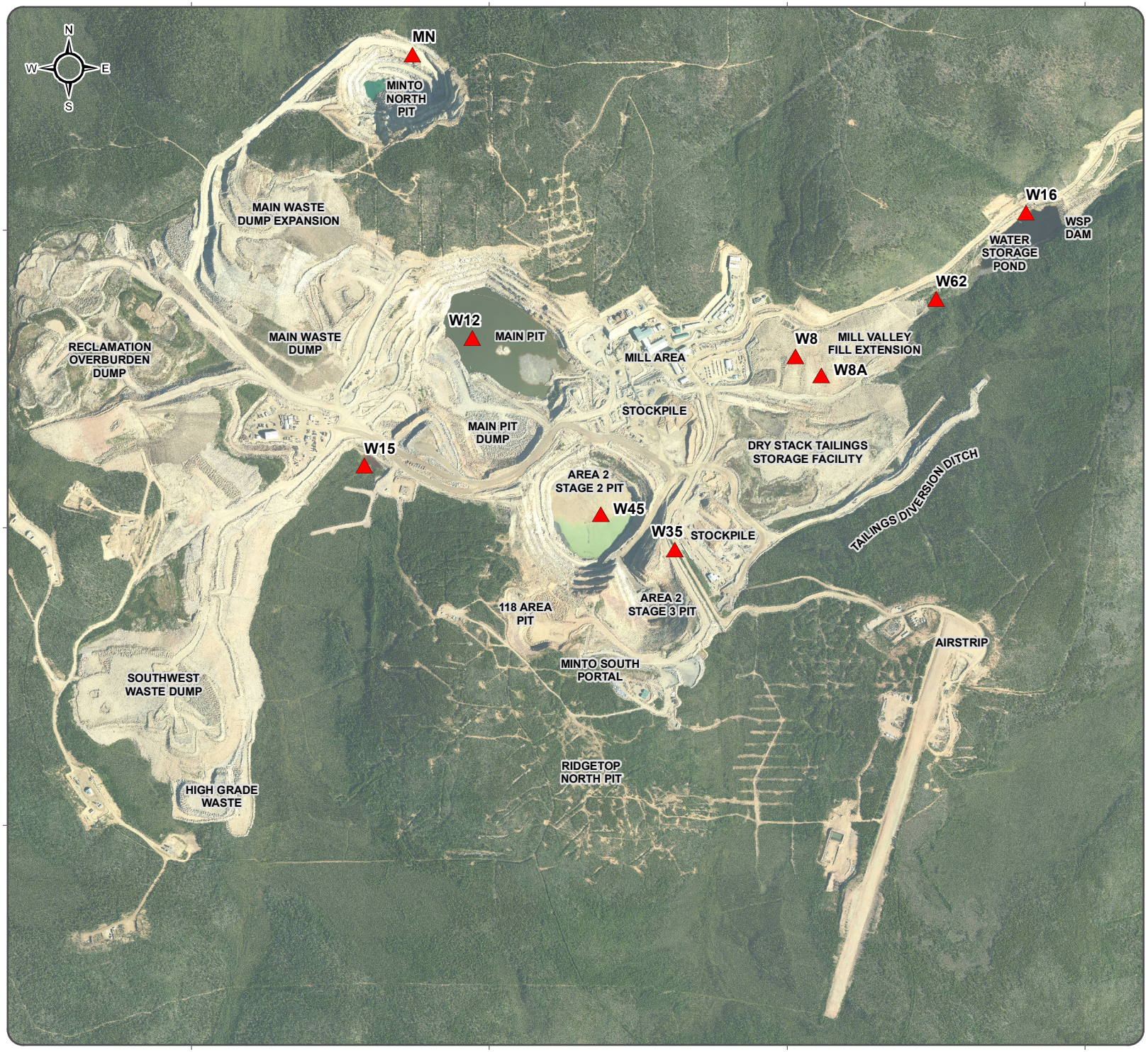
2.1.1.2 Lower Mine Site

The lower mine site grouping consists of the W8, W8A, W62, and W16 stations described in detail below.

Stations W8 and W8A are monitoring locations for seepage from the Dry Stack Tailings Storage Facility (DSTSF). These two sites are monitored weekly (although W8 has been dry since 2014) and the combined flows are represented by flow at W62.

W62 is a collection sump at the toe of the MFVE and replaced W37 which was buried by the expansion of the MVFE. Contributors to this collection point include subsurface drainage from the DSTSF, the Mill Valley Fill and extension, and other local groundwater contributions.

Station W16 is the Water Storage Pond (WSP). This important site water management feature accepts water from all site diversions and drainage, except for Water Treatment Plant effluent or other directly discharged runoff (although each of these is often combined with WSP water prior to discharge.) Results from monitoring at Station W16 determine the WSP's fitness for discharge, or alternatively any requirements to withhold or further treat the WSP water.



MINTO MINE

MINTO AND MCGINTY CREEKS WATER QUALITY CHARACTERIZATION

FIGURE 2-1

MINE SITE MONITORING STATION LOCATIONS

JANUARY 2018

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▲ Surface Water Surveillance Program Monitoring Station Locations

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Aerial imagery obtained from Challenger Geomatics. Imagery acquired August 3rd th 2017.

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2.1.2 Minto North Pit

The Minto North Pit is located at the northernmost tip of the mine site (Figure 2-1). Station MN was established with the initiation of the mining activities in the Minto North Pit (August 2015), and the monitoring results presented in the report for this station are all 'operational' results. Water quality data from the Minto North Pit are considered in isolation since the pit does not discharge at present and is not anticipated to discharge during the operational period.

2.1.3 Minto Creek

Several water quality stations are monitored on Minto Creek during the operational period. Data from four of these monitoring stations are provided in this report: W50, W3, MC1, and W2. These stations are described in Table 2-2 and their location shown in Figure 2-2. These stations are all on the 'mainstem' of Minto Creek.

Table 2-2: Minto Creek Monitoring Station Locations

Station	Description / Location
W50	Minto Creek, approximately 50m downstream of toe of WSP dam
W3	Downstream of Water Storage Pond dam, MMER Final Discharge Point (Flume) – Effluent
MC1	Receiving Environment station upstream of the canyon fish barrier on Minto Creek.
W2	Lower Minto-Creek at Road Crossing – Receiving Environment station in reach with documented fisheries usage.

W50 is located downstream of the inflow of the treated water and is a point of compliance for EQS as outlined in WUL QZ14-031 (August 5th, 2015). EQS are presented and discussed in further detail in Section 2.3. Station W3 – located downstream of the Water Storage Pond dam – is the mine effluent monitoring and compliance point per the Metal Mining Effluent Regulations (MMER). Station W2 is the lowermost Minto Creek receiving environment monitoring location before the confluence with the Yukon River, and is the "WQO Station" designated in the Water Use Licence QZ94-031 during the period when flow is encountered at stations W15 and W35 (see Section 2.3). Both W2 and W3 have been monitored regularly since 2005. Station MC1 in Minto Canyon serves as a comparison monitoring point between W3 and W2 and began regular monitoring in 2010.

Four additional stations (W6, W7, C4 and C10) situated on tributaries to Minto Creek are monitored regularly or semi-regularly. The data for these stations are not included in this reporting update as they were a component of the Minto Creek background water quality evaluation in 2016, and are included in Minnow Environmental Inc. (2016) (Appendix A).

For the most part, sampling occurs during the open water season between April and October. Minto Creek, like most small creek systems in the region, freezes entirely during the winter months with only periodic and localized flow persisting in some locations due to groundwater discharge (e.g. station W3). Minto Creek can also be dry at W2 in summer months during prolonged periods without precipitation.

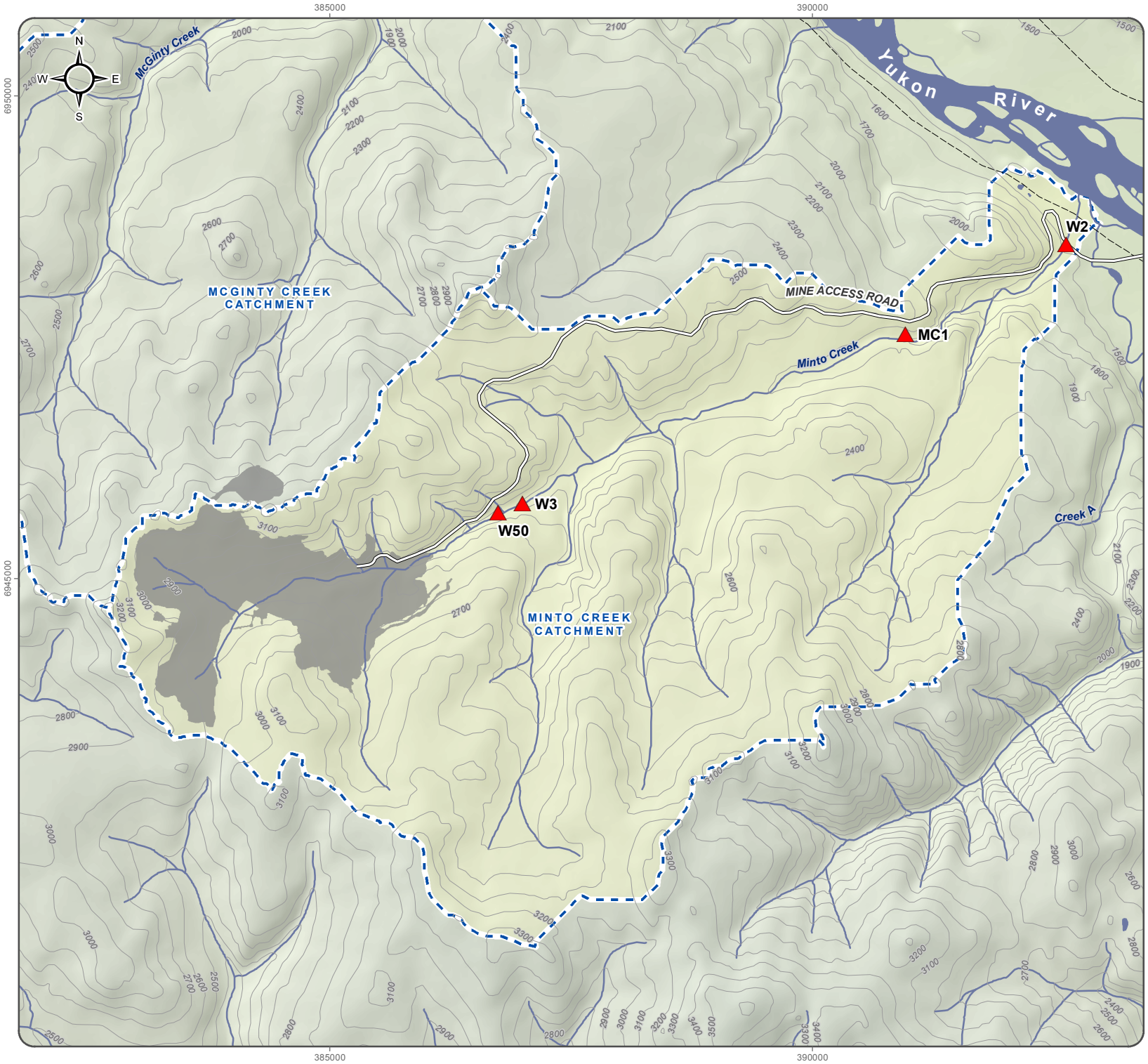
The Minto Creek water quality characterization is divided into pre-mining (January 2005 to March 31, 2006) and operational (April 1, 2006 to December 31, 2016) periods. Monitoring results from the pre-mining period were compiled and included in the Minto Creek background water quality evaluation in 2016, and are reported in *Background Water Quality of Lower Minto Creek for Application in the Derivation of Post-Closure Water Quality Objectives* report by Minnow Environmental Inc. (2016) (Appendix A). This data evaluation was developed in collaboration with technical representatives from Selkirk First Nation through Minto and SFN's Bilateral Technical Working Group as the basis for representing background (non-degraded) water quality, so this data set, including the pre-mining results, has not been updated or re-evaluated.

The Minto Creek operational phase data are further differentiated by grouping data from periods when the mine was discharging effluent, and periods when there was no mine discharge. Operational phase periods with mine discharge to Minto Creek included:

- August 26 to September 30, 2008;*
- June 26 to August 6, 2009;*
- August 13 to October 30, 2009;*
- July 14 to October 27, 2010;
- April 16 to May 11, 2012;
- April 20 to May 22, 2013;
- April 3 to May 26, 2014;
- December 8 to December 16, 2014;
- April 3 to June 1, 2015;
- April 8 to May 6, 2016;
- May 15 to Jun 11, 2016;
- June 13 to June 26, 2016; and
- July 7 to Oct 25, 2016.

**Note that discharge during the first three effluent discharge periods was through emergency amendments to the WUL, as described in Section 1.1.*

These periods are illustrated for reference on the data plots in Section 3.3.



MINTO MINE

MINTO AND MCGINTY CREEKS WATER QUALITY CHARACTERIZATION

FIGURE 2-2

MINTO CREEK MONITORING STATION LOCATIONS

JANUARY 2018

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- Surface Water Surveillance Program Monitoring Station Locations
- Catchment
- Mine Footprint
- Minto Access Road
- Trail

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2.1.4 McGinty Creek

McGinty Creek water quality was monitored monthly by ACG from May 2009 until July 2012 and has since been monitored monthly by Minto Mine Environment Department staff.

Water quality is monitored at five stations in the McGinty Creek watershed, described in Table 2-3 and shown in Figure 2-3. Water quality results for McGinty Creek stations are presented and discussed in two groups:

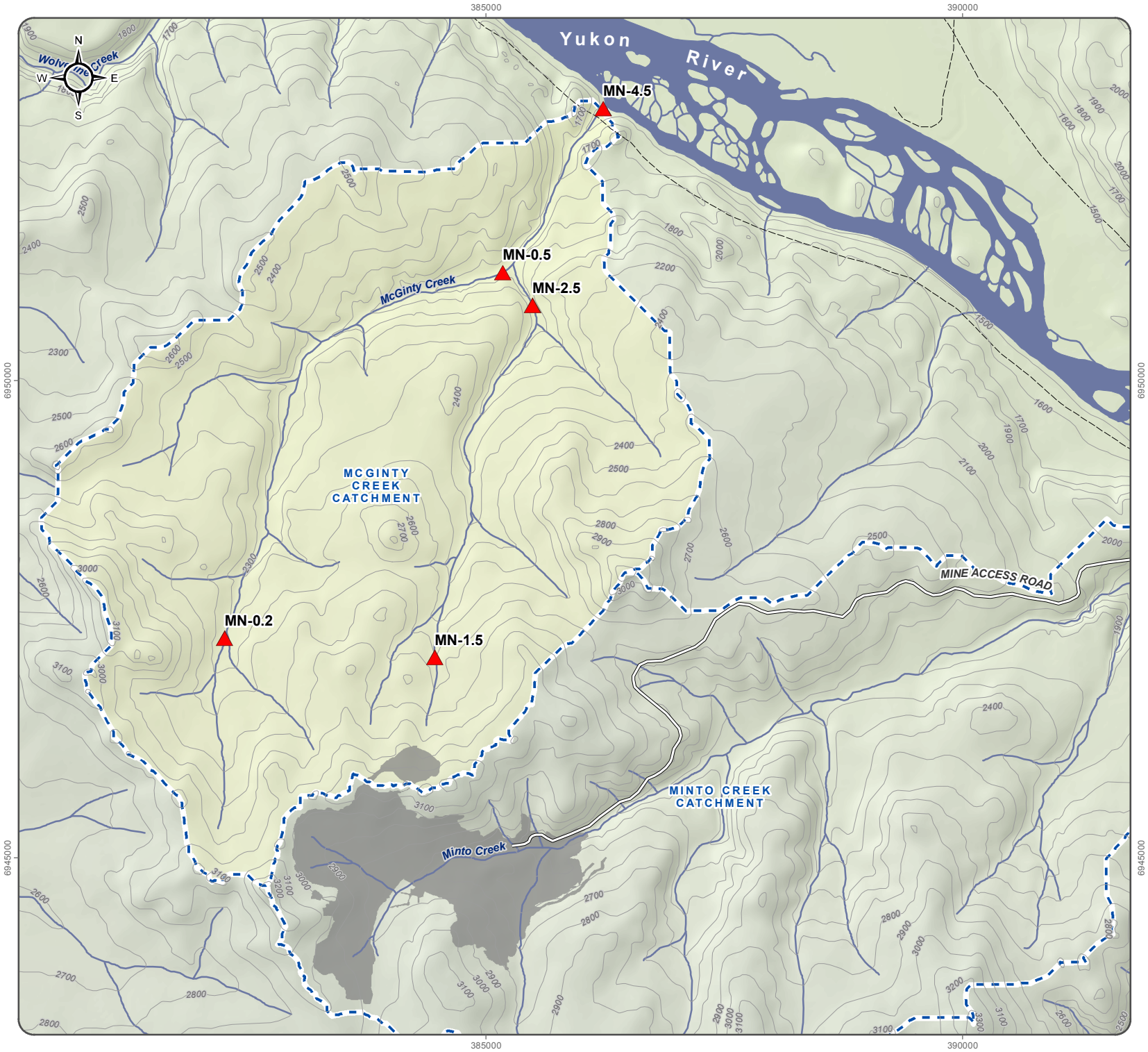
1. East arm of McGinty Creek (MN-1.5 and MN-2.5) and MN-4.5; and
2. West arm of McGinty Creek (MN-0.2 and MN-0.5).

The east arm of McGinty Creek is considered the 'exposure tributary' as it originates downgradient of the Minto North deposit where the Minto North pit is located, while the west arm of McGinty Creek is considered the 'reference tributary'. It is important to note that no discharge from the Minto North Pit to McGinty Creek (or elsewhere) has occurred as of the time of writing (January 2018) and no future discharge is anticipated during the operational period.

Table 2-3: McGinty Creek Monitoring Station Locations

Station	Description / Location
East Arm of McGinty Creek	
MN-1.5	Upper east arm of McGinty Creek downstream of the Minto North deposit
MN-2.5	East arm of McGinty Creek just upstream of confluence with the west arm
MN-4.5	Lower mainstem McGinty Creek near confluence with Yukon River
West Arm of McGinty Creek (Reference Stations)	
MN-0.2	Upper west arm of McGinty Creek
MN-0.5	West arm of McGinty Creek just upstream of the confluence with the east arm

Monitoring at the upper reference station MN-0.2 was suspended between June 2009 and April 2011, which explains in part the lower total number of samples collected at this station. Similar to Minto Creek, McGinty Creek typically freezes in the winter months with little to no flow observed at all monitoring stations during this time.



MINTO MINE

MINTO AND MCGINTY CREEKS WATER QUALITY CHARACTERIZATION

FIGURE 2-3

MCGINTY CREEK MONITORING STATION LOCATIONS

JANUARY 2018

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Surface Water Surveillance Program Monitoring Station Locations

Catchment

Mine Footprint

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2.2 DATA COLLECTION, HANDLING AND QUALITY ASSESSMENT

Water quality data were obtained from Minto Mine with the understanding that results have been subject to appropriate quality assurance and quality control procedures so that they may be used in the characterization of Minto and McGinty Creeks.

All water quality data are imported and managed in an EQWin database. This continually growing database allows for the assessment of temporal water quality trends for specific parameters of interest, although it is noted that higher detection limits for some parameters limit the value of some of the older data.

An assessment of data outliers has been carried out for water quality data from monitoring stations from May 2005 to December 2016. The purpose of the outlier assessment was to identify potentially erroneous results (e.g., incorrectly transcribed from field notes or laboratory certificates of analysis [COA]) or results that were not representative of the water quality present at a particular site at a particular time (e.g., substrate disturbed in sample collection). The methodology for identifying outliers was adopted from Minnow (2016), as those methods were developed in collaboration with SFN through the Bilateral Technical Working Group. The methodology is summarized below.

The following parameters were examined in the outlier screening process. These are the parameters which have either an associated EQS and/or WQO or are important for the interpretation of other water quality conditions (e.g., toxicity modification):

- pH, conductivity, temperature, turbidity;
- Total suspended solids (TSS), TDS, hardness, alkalinity, chloride, fluoride, sulphate, dissolved organic carbon (DOC);
- Nitrate, nitrite, and ammonia;
- Total and dissolved aluminum, arsenic, cadmium, chromium, copper, iron, lead, molybdenum, nickel, selenium, silver and zinc;
- Radium-226; and
- Total and weak acid dissociable (WAD) cyanide.

First any sample entries in the database that were a replicate of another entry (i.e., erroneously entered twice or duplicated) were identified and removed to avoid biasing any entries. The data were then screened for results that returned very high detection limits. For some analytes, older analyses would have detection limits that were elevated relative to detection limits from more recent analyses, such that the detection limit of older analyses were higher than more recent measured results. These high detection limit results would then bias the dataset containing lower concentration measured data. Therefore, detection limits that exceeded the upper quartile of measured data (i.e., >75%) were removed. The remaining detection limit data were converted to half the detection limit. The lower and upper quartile and the interquartile range (IQR; the difference between the upper and lower quartile of the dataset) were then calculated for each analyte. Outliers for an analyte dataset were

considered to be results that were either less than the lower outlier boundary or above the high outlier boundary such that:

Low Outlier Boundary = Lower Quartile – 3*IQR; and

High Outlier Boundary = Upper Quartile + 3*IQR;

As the water quality data exhibit a log-normal distribution, the outlier screening was performed on the regular dataset and a log10-transformed dataset (note that since pH is a log function, the pH data were anti-log transformed). A result was only deemed an outlier if both the untransformed and log10-transformed value met the outlier criteria.

Outliers were identified and reviewed by AEG and returned to Minto for comparison of outlier result with original COA and/or field notes. Where obvious errors were identified (i.e., transcription, incorrect units reported, etc.), erroneous results were replaced with the correct values. Where review of field notes indicated problematic sampling conditions or instruments, or professional judgement indicated an erroneous result (e.g., dissolved element concentration significantly greater than the corresponding total, unfiltered concentration), the outlier result was removed from the dataset. Most "outliers" were kept in the datasets as either the result was confirmed as "real", a typo correction was made, or there was insufficient evidence to justify their removal. The removed outliers for parameters focussed on this report are summarized in Table 2-4.

Table 2-4: Summary of removed outlier water quality data.

Station	Date	Parameter	Concentration (mg/L)	Rationale for Removal
W8	27-May-08	Dissolved Aluminum	0.99	Significantly higher than total concentration
W8	19-Oct-09	Dissolved Arsenic	0.0085	Significantly higher than total concentration
W8	30-Jun-11	Dissolved Arsenic	0.0028	Significantly higher than total concentration
W8A	19-Oct-09	Dissolved Arsenic	0.0066	Significantly higher than total concentration
W16	19-Oct-12	Dissolved Zinc	0.083	Significantly higher than total concentration
W16	24-Nov-12	Dissolved Zinc	0.066	Significantly higher than total concentration
W35A	10-Apr-12	TSS	1460	Poor sampling conditions
W35A	10-Apr-12	Hardness	355	Poor sampling conditions
W35B	8-Jul-09	Field Conductivity	11358	Typo Assumed
W50	19-Oct-09	Dissolved Arsenic	0.0031	Significantly higher than total concentration
W50	13-Apr-12	Dissolved Arsenic	0.0017	Significantly higher than total concentration
W3	28-Oct-06	Dissolved Chromium	0.0098	Significantly higher than total concentration
W3	30-Oct-07	Nitrite-N	4.04	Likely incorrect data entered, original COA unavailable
W3	30-Oct-07	Nitrate-N	<0.02	Likely incorrect data entered, original COA unavailable
W3	27-May-09	Dissolved Cadmium	0.0437	Significantly higher than total concentration
W3	5-Jan-10	Dissolved Cadmium	0.0037	Significantly higher than total concentration
W3	10-Mar-10	Dissolved Cadmium	0.0058	Significantly higher than total concentration
W3	24-Apr-10	Dissolved Oxygen	404.5 (%)	Typo Assumed
W3	30-Dec-10	Dissolved Oxygen	192 (%)	Typo Assumed
W3	2-Apr-12	Dissolved Oxygen	105.7	Typo Assumed
W2	20-May-08	Dissolved Arsenic	0.0018	Significantly higher than total concentration
W2	30-Apr-09	Dissolved Cadmium	0.001	Significantly higher than total concentration
W2	6-Dec-10	Dissolved Cadmium	0.00049	Significantly higher than total concentration

The outlier-screened data were supplied to Minnow to generate summary statistics for each water quality sampling station. A robust method of handling below detection level values was employed by Minnow to avoid

biasing summary statistics that can occur with data sets that contain significant portions of below detection level data. Further details of the statistical processing employed by Minnow are provided in Appendix B.

2.3 WATER QUALITY STANDARDS AND OBJECTIVES

Water quality performance (effluent and receiving environment) for Minto Mine is governed by both the Type A Water Use Licence QZ14-031 and the federal Metal Mining Effluent Regulations (MMER). The Water Use Licence is typically more restrictive in terms of effluent parameter concentrations and sets EQS for compliance comparison at "Effluent Points". Effluent points include: W16a, W17, W50 and WTP. The focus of comparison for effluent water quality and compliance standards in this report is Station W50 vs. the current WUL QZ14-031 EQS (Table 2-5) and Station W3 vs. the MMER guidelines (Table 2-6).

Table 2-5: Effluent Quality Standards for Site W50

Parameter	Effluent Standards
Total Suspended Solids, excluding March, April and May, mg/L	15
Total Suspended Solids, March, April and May Only, mg/L	30
pH, pH Units	6.0 – 9.0
Ammonia - N, mg/L	0.75
Nitrite - N, mg/L	0.18
Nitrate - N, mg/L	27.3
Aluminum (dissolved), mg/L	0.3
Arsenic (dissolved), mg/L	0.015
Cadmium[1] (dissolved), µg/L	$3*e^{(0.736(\ln(hardness)-4.943)}$
Chromium (dissolved), mg/L	0.003
Copper (dissolved), mg/L (when [DOC] @ W2 >10 mg/L)	0.06
Copper (dissolved), mg/L (when [DOC] @ W2 ≤10 mg/L)	0.039
Iron (dissolved), mg/L	3.3
Lead (dissolved), mg/L	0.012
Molybdenum (dissolved), mg/L	0.219
Nickel (dissolved), mg/L	0.33
Silver (dissolved), mg/L	0.0003
Selenium (dissolved), mg/L	0.006
Zinc (dissolved), mg/L	0.09

Table 2-6: MMER Authorized Limits of Deleterious Substances for Site W3

Parameter	Maximum Authorized Monthly Mean Concentration	Maximum Authorized Concentration in a Composite Sample	Maximum Authorized Concentration in a Grab Sample
Total Suspended Solids, mg/L	15	22.5	30
Arsenic (total), mg/L	0.5	0.75	1.0
Copper (total), mg/L	0.3	0.45	0.6
Cyanide, (total), mg/L	1.0	1.5	2.0
Lead (total), mg/L	0.2	0.3	0.4
Nickel (total), mg/L	0.5	0.75	1.0
Zinc (total), mg/L	0.5	0.75	1.0
Radium 226 (total), Bq/L	0.37	0.74	1.11

The Operations Adaptive Management Plan (AMP; Minto 2017) includes performance thresholds for surface water quality in both Minto Creek and McGinty Creek based on the parameters that comprise the EQS and WQO lists in WUL QZ14-031. The AMP thresholds – based primarily on WQO – are evaluated at WQO Stations upstream of the confluence with the Yukon River. For Minto Creek, the WQO Station is defined as:

- Station W2 during the period when flow is encountered at stations W15 and W35; or
- Station W50 during the period when flow is not encountered at stations W35 and W15.

The Minto Creek WQO are presented in Table 2-7 below. Since the issuance of QZ14-031 in August of 2015, there has predominantly been no discharge of effluent when flow is not encountered at stations W35 and W15 (winter). Between October 11th and 26th 2016, W50 was used as the WQO station as there was no flow at W15/W35 due to frozen conditions and discharge occurred. Aside from this date range, there was no discharge of effluent when flow was not encountered at W35 and W15. As such, this report uses Station W2 as the WQO Station for evaluation purposes.

Table 2-7: Water Quality Objectives for Minto Creek Site W2

Parameter	Water Quality Objectives
pH, pH Units	6.0 - 9.0
Ammonia - N, mg/L	0.25
Nitrite - N, mg/L	0.06
Nitrate - N, mg/L	9.1
Aluminum (dissolved), mg/L	0.1
Arsenic (dissolved), mg/L	0.005
Cadmium[1] (dissolved), µg/L	$e^{(0.736(\ln(hardness)-4.943)}$
Chromium (dissolved), mg/L	0.001
Copper (dissolved), mg/L (when [DOC] @ W2 >10 mg/L)	0.02
Copper (dissolved), mg/L (when [DOC] @ W2 ≤10 mg/L)	0.013
Iron (dissolved), mg/L	1.1
Lead (dissolved), mg/L	0.004
Molybdenum (dissolved), mg/L	0.073
Nickel (dissolved), mg/L	0.11
Silver (dissolved), mg/L	0.0001
Selenium (dissolved), mg/L	0.002
Zinc (dissolved), mg/L	0.03

Site MN-4.5 is the WQO station on McGinty Creek as part of the AMP (Minto, 2017). The WQO for individual data points at MN-4.5 are presented in Table 2-8 and used for discussion of water quality data in McGinty Creek at MN-4.5.

Table 2-8: Water Quality Objectives for McGinty Creek Site MN-4.5, AMP Individual Data Point Evaluator

Parameter	Water Quality Objectives
TSS, mg/L	269
Ammonia - N, mg/L	0.12
Nitrite - N, mg/L	0.05
Nitrate - N, mg/L	0.232
Aluminum (dissolved), mg/L	0.135
Arsenic (dissolved), mg/L	0.00061
Cadmium (dissolved), mg/L	0.000041
Chromium (dissolved), mg/L	0.001
Copper (dissolved), mg/L	0.0035
Iron (dissolved), mg/L	0.403
Lead (dissolved), mg/L	0.00020
Molybdenum (dissolved), mg/L	0.001
Nickel (dissolved), mg/L	0.0018
Silver (dissolved), mg/L	0.000020
Selenium (dissolved), mg/L	0.00020
Zinc (dissolved), mg/L	0.0052

2.4 INTERPRETATION OF WATER QUALITY DATA

Interpretation of water quality data incorporated summary statistics generated from complete water quality data sets and a discussion of parameters over time (i.e., identification of trends, seasonality, etc.) at each station. The parameters discussed included those stipulated in the EQS and WQO lists as well as additional physical parameters that aid in interpretation of results or derivation of an EQS/WQO (i.e., hardness, DOC). The statistical summaries for each parameter at each station include the following:

- Maximum detection limit (DL);
- Average;
- Count (total number of entries for a parameter);
- Minimum;
- Maximum;
- Percent below DL;
- Standard deviation;
- First quartile;
- Median; and
- Third quartile.

For stations W50, W2, and MN-4.5 for which EQS or WQO apply, the following statistics are also provided when applicable:

- Count above EQS/WQO; and
- Percent above EQS/WQO.

Plots were generated for each parameter for temporal discussions. Concentrations that were reported as less than DL were plotted as half the DL. For each group of locations, physical parameters, anions and nutrients are first discussed, followed by dissolved metal concentrations.

3 RESULTS AND DISCUSSION

For the discussion of water quality data, results are presented from monitoring locations in four groupings:

1. Minto Mine Site (Section 3.1);
2. Minto North Pit (Section 3.2);
3. Minto Creek (Section3.3); and
4. McGinty Creek (Section 3.4).

For the sites in each grouping, in situ and EQS/WQO-regulated anion (nitrate, nitrite) and nutrient (ammonia) parameters are discussed. Hardness and DOC that act as modifiers of metal toxicity are also discussed, along with metals that are regulated within Water License QZ14-031 (dissolved aluminum, arsenic, cadmium, chromium, copper, iron, lead, molybdenum, nickel, silver, selenium, and zinc). All summary statistic tables were based on the water quality dataset supplied to AEG by Minto and were calculated by Minnow (2017) as per the methodology described in Appendix B. For graphical presentation purposes only, results that were below laboratory detection levels are presented as one half the detection limit. The full water quality dataset (excluding outliers) is presented in Appendix C.

3.1 MINTO MINE SITE

Discussion of water quality data on the Minto Mine property comprises results for sample stations in the upper mine site group (W12, W15, W35, W35A, W35B, W45) and lower mine site group (W8, W8A, W16, W62) as described in Section 2.1.1. Examined parameters included those with designated EQS in Water License QZ14-031.

3.1.1 Upper Minto Mine Site

Upper Minto Mine Site station water quality is presented in discussed with respect to physical parameters and anion and nutrient concentrations in Section 3.1.1.1 and dissolved metals concentrations in Section 3.1.1.2.

3.1.1.1 Physical Parameters, Anions and Nutrients

Statistical summaries of physical parameters and anion and nutrient concentrations at sites W12, W15, W35, W35A, W35B and W45 are presented in Table 3-1 through Table 3-6. TSS, field pH, nitrate, nitrite, ammonia, and sulphate data at each of the lower Minto Mine Site stations are presented in Figure 3-1 through Figure 3-6.

The pH of the upper mine site sampling locations has largely remained circumneutral to mildly alkaline over the period of record (Figure 3-2), with median pH ranging between 7.5 (site W35A) to 8.0 (site W12). Temperature varied seasonally from -0.3 to 23 °C. Aside from the Main Pit (W12) and the Area 2 Pit (W45), the surface waters in the upper mine site were typically well oxygenated, with median oxygen content of 81% to 92% saturation. The flooded pits exhibited lower dissolved oxygen levels (median 59% and 61% respectively), which tended to vary seasonally such that dissolved oxygen was lowest over winter as ice cover restricted replenishment of oxygen to the underlying lake water that was consumed by indigenous microorganisms, whereas higher dissolved oxygen measurements were recorded during the ice-free months. Field conductivity was highest at the

flooded pit sites (median 652 and 869 µS/cm for sites W12 and W45, respectively), with the highest measurements typically occurring during winter. The South Diversion ditch sites (W35, W35A and W35B) had the lowest median conductivity (120 to 144 µS/cm), with the lowest conductivity typically observed in April/May when spring meltwaters provided dilution. The Minto Creek W15 site exhibited similarly seasonality, with conductivity lowest in April/May before generally rising through the spring before stabilizing in summer/fall.

Flowing water sites on Minto Creek (W15) and the South Diversion Ditch (W35, W35A and W35B) typically returned higher TSS values in April or May (Figure 3-1), likely caused by erosional mobilization of particulate material with higher flow rates caused by snowmelt; much lower TSS values were often observed throughout the rest of the year (median range of 1 to 6.5 mg/L). TSS concentrations in the pit lake sites did not show this same seasonality and had higher median concentrations than flowing water sites (9 and 17 mg/L for W12 and W45, respectively).

The pit lake sites (W12 and W45) had the highest median nitrogen species concentrations for the Upper Mine Site area, with median nitrite-N, nitrate-N, and ammonia N for W12 of 0.24, 15.2, and 1.5 mg/L, respectively, and 1.0, 17.7, and 3.2 mg/L for W45, respectively (Table 3-1 and Table 3-6; Figure 3-3 to Figure 3-5. These elevated nitrogen species concentrations likely reflect nitrogen residues from blasting activity. Nitrite-N and nitrate-N showed marked seasonality in Minto Creek at site W15 (Figure 3-3 and Figure 3-4), with concentrations highest in winter and lowest over summer/fall due to uptake by primary producers that are most active over summer/fall.

Median DOC concentrations ranged from 12.4 mg/L in the Main Pit (W12; Table 3-1) to 24.8 mg/L at W35B in the South Diversion Ditch. Concentrations were generally highest in April/May when runoff from spring snowmelt likely flushed surface soils, leaching labile organic carbon that had accumulated over the previous summer/fall.

Sulphate concentrations were highest in the pit lakes (median 419 mg/L and 182 mg/L at W45 and W12, respectively), with an increasing trend noted in the Main Pit, where sulphate concentrations have gradually risen from approximately 120 mg/L in summer 2013 to 650 mg/L by December 2016 (Figure 3-6). Sulphate levels in Minto Creek (W15) displayed distinct seasonality, with the lowest concentrations observed during freshet in April/May followed by an increase over the year peaking in winter before declining again during spring due to snowmelt dilution. The South Diversion Ditch sites (W35, W35A, W35B) generally had low sulphate concentrations (median 5 mg/L), with sporadic spikes up to 200 mg/L noted for W35A and W35B (Figure 3-6).

Table 3-1: Summary Statistics for Physical Parameters, Anions and Nutrients at Site W12

	W12														
	TSS	Field pH	Field Conductivity	Temperature	Dissolved Oxygen		ORP	Chloride	Fluoride	Dissolved Sulphate	Ammonia-N	Nitrite-N	Nitrate-N	DOC	Total Phosphorus (colourimetric)
Units	mg/L		uS/cm	°C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit	1	NA [a]	10	NA [a]	0.1	1	NA [a]	0.2	0.01	0.5	0.001	0.001	0.002	0.5	0.005
Average	18.9	7.9	683	7.6	14.0	57	89	12.7	1.07	200.4	2.4	0.82	21.1	14.0	0.061
Count	109	100	97	100	70	74	66	110	66	104	98.0	101	107	26	34
Minimum	<1	6.0	0	-0.2	0.4	3.0	-412	0.84	0.14	14.8	<0.005	0.007	<0.01	4.3	0.010
Maximum	251	9.0	1919	20.5	12.7	135	239	36.4	3.20	653.0	24.0	8.78	141	28.2	0.44
% <DL	10.1	0	0	0	0	0	0	0.91	0	0	3.06	0	0.93	0	20.6
Standard Deviation	31.1	0.5	344	5.6	62.7	24.6	114	11.4	0.52	134.7	3.33	1.40	21.3	6.1	0.073
1st Quartile	3.7	7.8	443	2.7	4.7	39.9	58	2.50	0.57	83.4	0.64	0.13	11.5	10.8	0.030
Median	9.3	8.0	652	7.1	6.8	59.0	108	9.20	1.30	182.0	1.50	0.24	15.2	12.4	0.040
3rd Quartile	20.8	8.1	837	12.6	8.3	73.8	154	20.0	1.40	284.0	2.90	0.73	23.8	16.1	0.070

[a] Not applicable

Table 3-2: Summary Statistics for Physical Parameters, Anions and Nutrients at Site W15

	W15														
	TSS	Field pH	Field Conductivity	Temperature	Dissolved Oxygen		ORP	Chloride	Fluoride	Dissolved Sulphate	Ammonia-N	Nitrite-N	Nitrate-N	DOC	Total Phosphorus (colourimetric)
Units	mg/L		uS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit	1	NA [a]	10	NA [a]	0.1	1	NA [a]	0.2	0.01	0.5	0.001	0.001	0.002	0.5	0.005
Average	17.3	7.7	412	5.7	10.0	79	129	4.64	0.18	77.2	0.12	0.099	12.5	19.9	0.050
Count	252	462	457	465	384	419	380	239	188	238	230	233	241	124	58
Minimum	<1	6.2	34	-0.2	0.1	0.7	-168	0.24	0.07	<0.5	<0.005	<0.005	<0.01	3.2	0.020
Maximum	370	9.95	1873	19.4	21.3	218	1235	44.0	1.60	1220	5.30	3.78	265	53.9	0.27
% <DL	9.9	0	0	0	0	0	0	0	0	2.5	8.7	6.87	0.83	0	6.9
Standard Deviation	35.1	3.0	222	5.4	2.5	19.4	81.1	5.05	0.17	104.3	0.36	0.26	21.7	8.4	0.038
1st Quartile	2.9	7.5	241	0.5	8.6	73.2	107	2.30	0.13	27.3	0.038	0.019	3.2	14.85	0.030
Median	6.5	7.7	403	4.4	10.0	80.9	134	3.10	0.16	54.5	0.070	0.038	6.1	18.7	0.040
3rd Quartile	15.3	7.9	551	10.3	11.6	87.9	154	4.40	0.18	89.0	0.12	0.11	14.2	23.3	0.050

[a] Not applicable

Table 3-3: Summary Statistics for Physical Parameters, Anions and Nutrients at Site W35

	W35													
	TSS	Field pH	Field Conductivity	Temperature	Dissolved Oxygen		ORP	Chloride	Fluoride	Dissolved Sulphate	Ammonia-N	Nitrite-N	Nitrate-N	DOC
Units	mg/L		uS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit	1	NA [a]	10	NA [a]	0.1	1	NA [a]	0.2	0.01	0.5	0.001	0.001	0.002	0.5
Average	25.4	7.8	158	4.7	14.4	84	134	1.9	0.10	8.7	0.052	0.036	5.23	19.1
Count	37	308	301	306	280	285	285	36	28	36	36	36	36	12
Minimum	<1	6.6	19.8	-0.1	0.08	0.6	-338	0.38	0.062	<0.5	0.0059	<0.005	<0.02	2.78
Maximum	465	9.9	478	22.9	17.6	120	1320	11.0	0.17	30.3	0.30	0.34	28.7	25.7
% <DL	32.4	0	0	0	0	0	0	0	0	31	0	25	3	0
Standard Deviation	83.8	0.38	96	4.8	56.6	13.6	90.1	2.0	0.022	9.4	0.063	0.064	6.80	6.6
1st Quartile	1.0	7.5	77	0.10	9.6	78.4	117	1.2	0.092	<0.5	0.019	0.0054	0.91	18.0
Median	3.6	7.8	126	3.3	11.7	87.4	134	1.5	0.10	5.3	0.025	0.012	2.62	21.4
3rd Quartile	9.1	7.9	214	8.3	13.0	92.5	152	1.8	0.12	15.2	0.065	0.029	5.06	22.4

[a] Not applicable

Table 3-4: Summary Statistics for Physical Parameters, Anions and Nutrients at Site W35A

	W35A														
	TSS	Field pH	Field Conductivity	Temperature	Dissolved Oxygen		ORP	Chloride	Fluoride	Dissolved Sulphate	Ammonia-N	Nitrite-N	Nitrate-N	DOC	Total Phosphorus (colourimetric)
Units	mg/L		uS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit	1	NA [a]	10	NA [a]	0.1	1	NA [a]	0.2	0.01	0.5	0.001	0.001	0.002	0.5	0.005
Average	4.59	7.5	143	4.2	9.9	77	68	2.2	0.11	10.2	0.087	0.064	0.79	23.3	0.087
Count	72	66	64	66	21	50	17	71	56	69	60	60	63	61	26
Minimum	<1	6.2	37.0	-0.1	2.34	4.3	-34	0.10	0.070	<0.5	<0.005	<0.005	<0.01	3.3	0.010
Maximum	60.1	8.7	938	19.2	13.3	140	141	61.0	0.66	170.0	1.3	3.1	16.9	40.6	1.4
% <DL	56.9	0	0	0	0	0	0	10	0	41	10	83.3	76	0	0
Standard Deviation	8.63	0.52	123	4.7	2.4	31.1	41	7.3	0.081	26.0	0.21	0.42	3.2	6.7	0.26
1st Quartile	<1	7.1	74	0.6	8.4	65.5	48	0.81	0.080	<0.5	0.010	<0.005	<0.02	18.7	0.025
Median	1.0	7.5	120	2.0	9.8	82.2	64	1.12	0.10	5.2	0.030	<0.005	<0.02	22.9	0.031
3rd Quartile	3.7	7.9	186	6.3	11.6	91.7	87	1.5	0.11	10.0	0.060	<0.005	0.030	26.1	0.050

[a] Not applicable

Table 3-5: Summary Statistics for Physical Parameters, Anions and Nutrients at Site W35B

	W35B														
	TSS	Field pH	Field Conductivity	Temperature	Dissolved Oxygen		ORP	Chloride	Fluoride	Dissolved Sulphate	Ammonia-N	Nitrite-N	Nitrate-N	DOC	Total Phosphorus (colourimetric)
Units	mg/L		uS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit	1	NA [a]	10	NA [a]	0.1	1	NA [a]	0.2	0.01	0.5	0.001	0.001	0.002	0.5	0.005
Average	86.3	7.8	269	7.6	11.2	88	109	4.9	0.15	30.5	0.46	0.49	4.9	26.3	0.043
Count	61	53	51	53	7	36	5	58	44	58	48	48	52	49	18
Minimum	<1	6.5	45.4	-0.2	8.5	5.8	57	0.35	0.070	<0.5	<0.005	<0.005	<0.02	<0.5	0.019
Maximum	3000	8.6	1335	20.8	13.1	180	276	33.5	0.97	261.0	12.0	6.0	95.4	69	0.095
% <DL	37.7	0	0	0	0	0	0	2	0	40	15	64.6	48	2.0	0
Standard Deviation	402	0.46	327	5.8	1.7	37.0	94	8.6	0.15	62.9	1.76	1.4	15.5	11.1	0.022
1st Quartile	2.6	7.5	82	2.9	9.6	78.5	61	1.0	0.080	<0.5	0.012	<0.005	<0.02	19.8	0.029
Median	4	7.9	144	6.5	12.0	91.5	68	1.4	0.10	4.7	0.037	<0.005	0.030	24.8	0.040
3rd Quartile	21	8.1	251	11.4	12.5	110.1	84	2.0	0.12	12.9	0.20	0.0080	0.15	29.7	0.050

[a] Not applicable

Table 3-6: Summary Statistics for Physical Parameters, Anions and Nutrients at Site W45

	W45													
	TSS	Field pH	Field Conductivity	Temperature	Dissolved Oxygen		ORP	Chloride	Fluoride	Dissolved Sulphate	Ammonia-N	Nitrite-N	Nitrate-N	DOC
Units	mg/L		uS/cm	°C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit	1	NA [a]	10	NA [a]	0.1	1	NA [a]	0.2	0.01	0.5	0.001	0.001	0.002	0.5
Average	27.1	7.8	877	5.9	7.9	62	70	15.2	1.73	461	5.1	1.6	22.1	17.8
Count	41	39	39	39	37	37	39	41	32	41	41	41	41	6
Minimum	<1	6.8	1	-0.3	1.1	9.5	-424	1.0	0.19	78.2	0.072	0.022	1.7	1.1
Maximum	291	8.4	1521	17.6	19.3	138	268	44.0	2.20	1200	37	7.6	77.2	38.4
% <DL	2.44	0	0	0	0	0	0	2.4	0	0	0	0	0	0
Standard Deviation	47.0	0.30	297	4.9	4.2	29.6	151	16.1	0.45	199	7.0	1.72	17.6	14.9
1st Quartile	6.3	7.7	762	2.2	4.2	38.9	4	2.8	1.70	371	2.4	0.46	7.0	1.2
Median	17.4	7.8	869	4.5	8.1	60.8	86	5.3	1.80	419	3.2	1.0	17.7	20.1
3rd Quartile	31.2	8.0	1039	8.0	10.6	88.3	190	31.0	2.0	561	4.7	1.95	29.3	25.9

[a] Not applicable

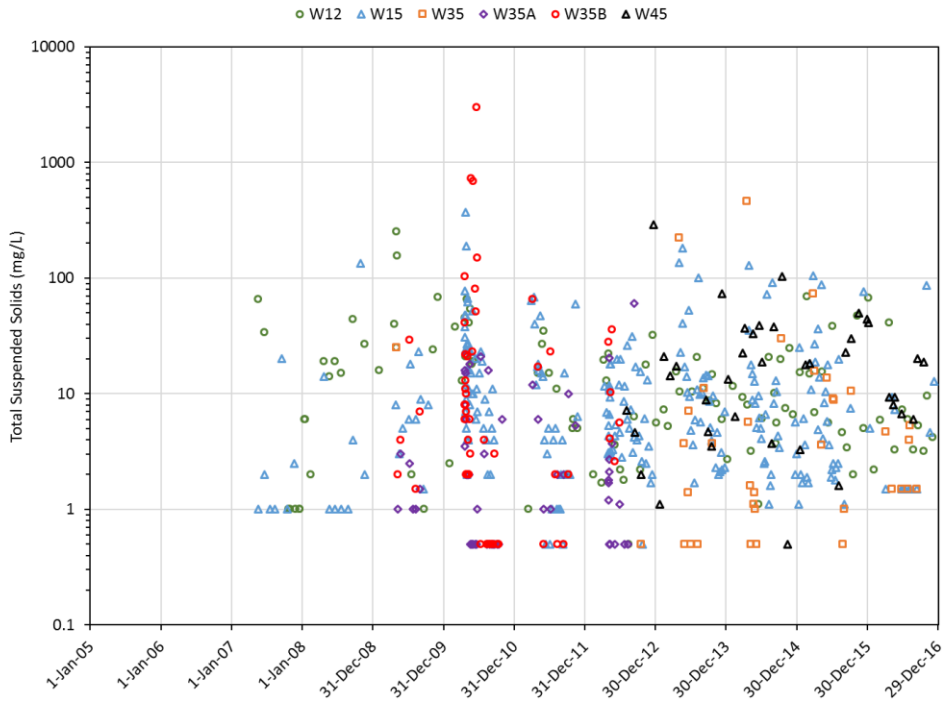

Figure 3-1: Concentrations of Total Suspended Solids at Upper Minto Mine Facility Monitoring Locations. Note Log Scale.

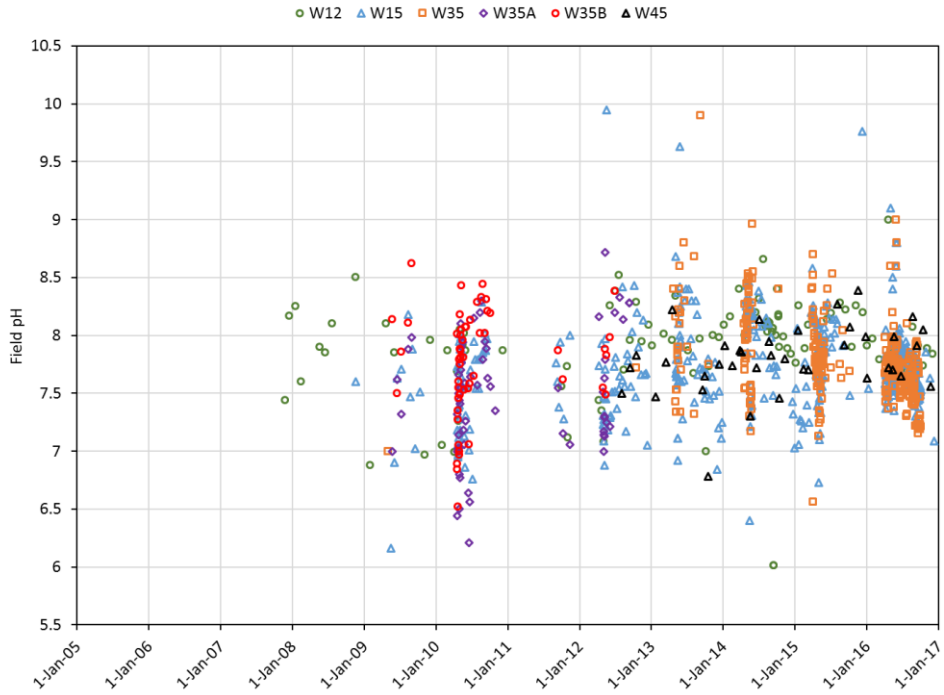

Figure 3-2: Field pH at Upper Minto Mine Facility Monitoring Locations.

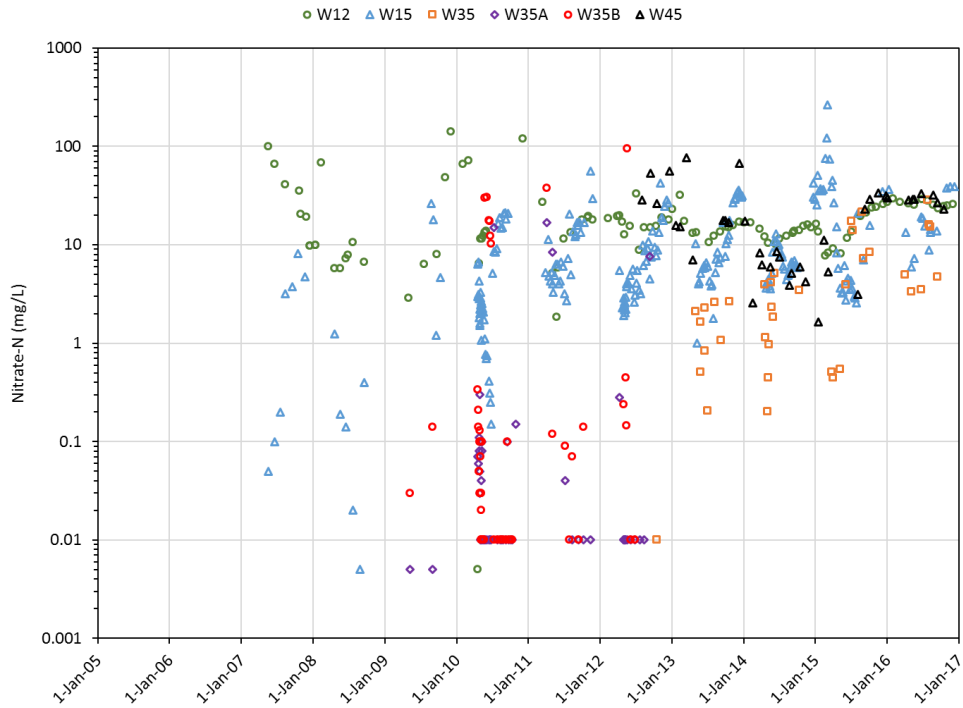

Figure 3-3: Concentrations of Nitrate (N) at Upper Minto Mine Facility Monitoring Locations. Note Log Scale.

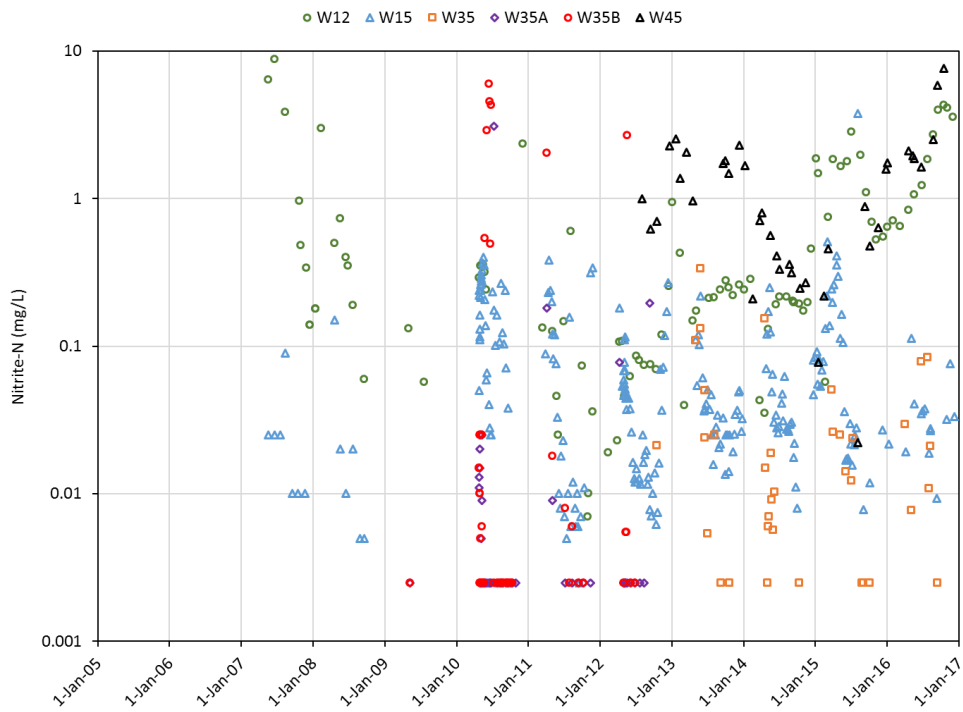

Figure 3-4: Concentrations of Nitrite (N) at Upper Minto Mine Facility Monitoring Locations. Note Log Scale.

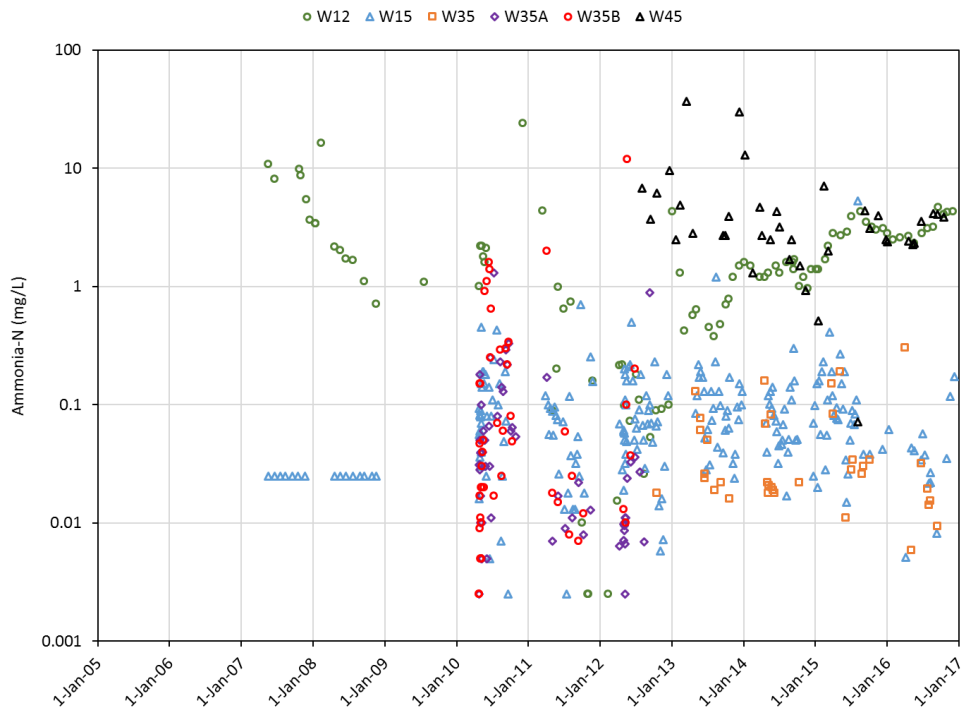

Figure 3-5: Concentrations of Ammonia (N) at Upper Minto Mine Facility Monitoring Locations. Note Log Scale.

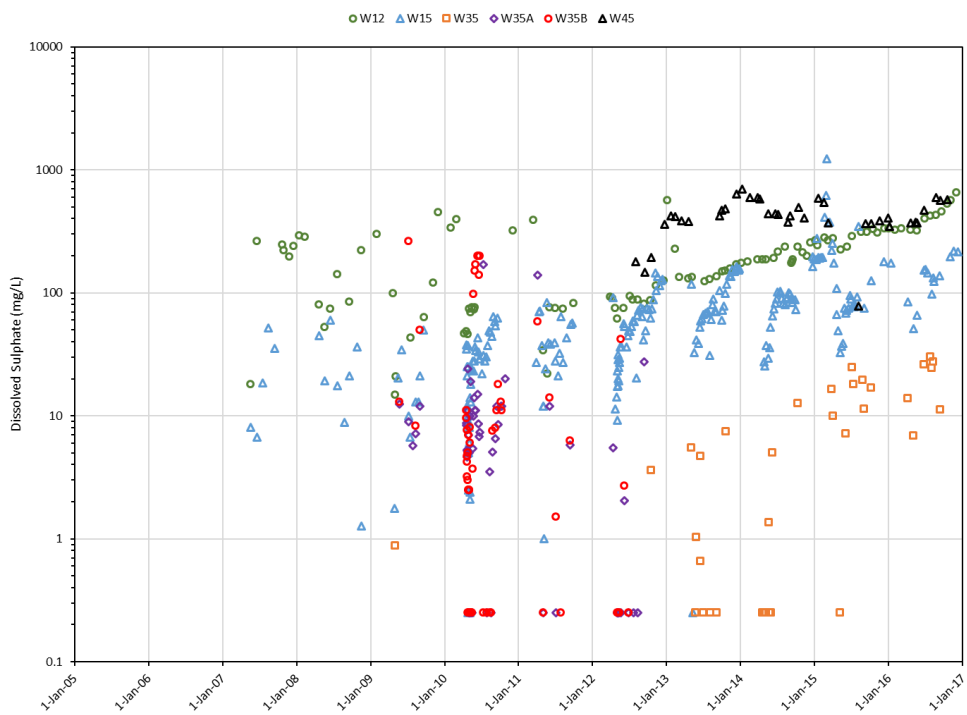

Figure 3-6: Dissolved Sulphate at Upper Minto Mine Facility Monitoring Locations. Note Log Scale.

3.1.1.2 Metals

Statistical summaries of dissolved metals concentrations at sites W12, W15, W35, W35A, W35B and W45 are presented in Table 3-7 through Table 3-12. Dissolved metal concentrations at each of the upper Minto Mine Site stations are plotted in Figure 3-7 through Figure 3-18.

Dissolved hardness concentrations, which has a toxicity modifying effect on a number of metals (e.g., copper, cadmium, lead, nickel, zinc), were highest in the pit waterbodies (median 274 mg/L and 562 mg/L at W12 and W45, respectively; Table 3-7 and Table 3-12). Although no seasonal variation was noted in the pit lakes, hardness levels displayed strong seasonal changes in Minto Creek (W15) and the South Diversion Ditch sites (W35, W35A, W35B), where hardness concentrations were lowest in April/May due to dilution from snow meltwater, and increased over the remainder of the year, peaking in winter. This is consistent with the ephemeral nature of the South Diversion Ditch with groundwater from various up-gradient spring sources providing flow to the ditch outside of precipitation events and freshet-related flows.

Dissolved chromium, lead, and silver concentrations showed little variation since they were typically close to or below their respective detection limits (Table 3-7 to Table 3-12). Dissolved aluminum and iron concentrations were lowest in the pit lake sites (median 0.018 mg/L aluminum and 0.013 mg/L iron at W12; median 0.01 mg/L aluminum and 0.02 mg/L iron at W45), reflecting the low solubility of these elements at circumneutral pH and residence time for iron oxidation and precipitation. Median dissolved aluminum and iron concentrations were highest at W35A (0.042 mg/L) and W15 (0.28 mg/L), respectively. Indeed, elevated dissolved aluminum and iron concentrations were observed in both the Minto Creek (W15) and South Diversion Ditch (W35, W35A, W35B) sites, perhaps maintained as soluble species via complexation with dissolved organic matter given the high DOC concentrations recorded at these sites.

Dissolved arsenic, cadmium, nickel, and zinc concentrations exhibited sporadic spikes in concentrations at most sites, but generally showed no seasonality and were often close to or below detection (Figure 3-8, Figure 3-9, Figure 3-15, and Figure 3-18). Between April 2013 and March 2015, dissolved cadmium (0.0001 to 0.0005 mg/L) and zinc (0.006 to 0.07 mg/L) concentrations were elevated relative to their baselines at site W45 (Figure 3-9 and Figure 3-18). Molybdenum and copper concentrations were also relatively elevated at W45 during this period (Figure 3-11 and Figure 3-14), as was sulphate. Indeed, molybdenum concentrations increased markedly in the Area 2 Pit (W45), from a range of 0.01 to 0.05 mg/L between April 2013 and March 2015 to 0.09 to 0.12 mg/L between September 2015 and October 2016. Dissolved molybdenum levels also showed an increasing trend in the Main Pit (W12), rising from 0.02 mg/L in November 2012 to 0.1 in August 2015, before stabilizing around 0.08 mg/L (Figure 3-14).

Selenium exhibited similar behaviour to molybdenum in the pit lakes, rising from 0.004 mg/L in early 2013 in the Main Pit (W12) to 0.021 mg/L in August 2015, before stabilizing at approximately 0.015 mg/L (Figure 3-17). Dissolved selenium concentrations in the Area 2 Pit (W45) also rose sharply in September 2015 to 0.024 mg/L, then stabilized close to 0.02 mg/L (Figure 3-17). Minto Creek (W15) selenium levels ranged between 0.00015 and 0.05 mg/L (median 0.0014 mg/L). Here, dissolved selenium displayed some seasonality, with concentrations lowest during spring freshet and highest over winter, suggestive of a significant groundwater component to Minto Creek selenium levels. The South Diversion Ditch sites typically had the lowest selenium concentrations (generally <0.001 mg/L).

Dissolved copper showed sporadic peaks of between 0.28 and 0.48 mg/L for sites W12, W15, W35B, and W45, typically during the winter (Figure 3-11). Otherwise, dissolved copper concentrations were generally below 0.1 mg/L. One exception was the Area 2 Pit (W45), which varied markedly between 2012 and 2015 (0.01 to 0.28 mg/L) before declining to lower concentrations between 0.001 and 0.02 mg/L in 2016 (Figure 3-11).

Table 3-7: Summary Statistics for Dissolved Metals of Interest at W12

	W12												
	Hardness (dissolved)	Aluminum (dissolved)	Arsenic (dissolved)	Cadmium (dissolved)	Chromium (dissolved)	Copper (dissolved)	Iron (dissolved)	Lead (dissolved)	Molybdenum (dissolved)	Nickel (dissolved)	Silver (dissolved)	Selenium (dissolved)	Zinc (dissolved)
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit		0.001	0.0001	0.000005	0.0001	0.001	0.005	0.00002	0.0001	0.0005	0.000005	0.0001	0.0001
Average	301	0.02	0.00069	0.000047	0.00021	0.058	0.042	0.000083	0.045	0.0015	0.000013	0.0072	0.0043
Count	94	97	97	97	106	97	97	97	97	96	94	97	97
Minimum	68.0	0.0016	0.00027	<0.000005	<0.0001	0.00046	<0.005	<0.00005	0.0030	<0.0005	<0.00001	<0.0006	0.0010
Maximum	1180	0.12	0.0030	0.00049	0.0025	0.48	0.39	0.00050	0.10	0.0038	0.00020	0.021	0.031
% <DL	0	4.1	1.03	11.3	93.4	0	20.6	85.6	0	32.3	95.7	1.03	66.0
Standard Deviation	159	0.022	0.00044	0.000066	0.00031	0.082	0.062	0.000095	0.028	0.00078	0.000025	0.0046	0.0043
1st Quartile	223	0.011	0.00043	0.000016	0.0010	0.0082	0.007	0.00020	0.020	0.00080	0.000020	0.0047	0.0030
Median	274	0.018	0.00050	0.000028	0.0010	0.027	0.013	0.00020	0.041	0.0014	0.000020	0.0061	0.0037
3rd Quartile	327	0.027	0.00080	0.000050	0.0010	0.074	0.054	0.000052	0.073	0.0020	0.000020	0.0090	0.0040

Table 3-8: Summary Statistics for Dissolved Metals of Interest at W15

		W15											
	Hardness (dissolved)	Aluminum (dissolved)	Arsenic (dissolved)	Cadmium (dissolved)	Chromium (dissolved)	Copper (dissolved)	Iron (dissolved)	Lead (dissolved)	Molybdenum (dissolved)	Nickel (dissolved)	Silver (dissolved)	Selenium (dissolved)	Zinc (dissolved)
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit		0.001	0.0001	0.000005	0.0001	0.001	0.005	0.00002	0.0001	0.0005	0.000005	0.0001	0.0001
Average	301	0.054	0.00054	0.000039	0.00040	0.024	0.41	0.000065	0.0041	0.0012	0.0000061	0.0027	0.0034
Count	225	230	229	214	210	230	230	230	230	228	209	230	210
Minimum	22.0	0.0019	0.00015	<0.000005	<0.0001	0.0038	<0.005	0.000031	<0.00010	<0.0005	<0.000005	0.00015	<0.001
Maximum	3120	2.65	0.0022	0.0023	0.0053	0.42	6.5	0.0027	0.11	0.0080	0.00018	0.050	0.041
% <DL	0	0	0.87	32.2	88.6	0	1.3	93.5	3.0	28.9	98.1	8.7	74.3
Standard Deviation	275	0.18	0.00028	0.00017	0.00082	0.030	0.58	0.00021	0.010	0.00082	0.000013	0.0045	0.0046
1st Quartile	161	0.013	0.00040	0.000010	0.00015	0.012	0.11	0.00005	0.0020	0.00089	0.00002	0.00075	0.0012
Median	251	0.022	0.00050	0.000014	0.00022	0.018	0.28	0.00005	0.0027	0.0010	0.00002	0.0014	0.0024
3rd Quartile	329	0.049	0.00060	0.000031	0.00050	0.029	0.54	0.00005	0.0034	0.0012	0.00002	0.0029	0.0040

Table 3-9: Summary Statistics for Dissolved Metals of Interest at W35

	W35												
	Hardness (dissolved)	Aluminum (dissolved)	Arsenic (dissolved)	Cadmium (dissolved)	Chromium (dissolved)	Copper (dissolved)	Iron (dissolved)	Lead (dissolved)	Molybdenum (dissolved)	Nickel (dissolved)	Silver (dissolved)	Selenium (dissolved)	Zinc (dissolved)
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit		0.001	0.0001	0.000005	0.0001	0.001	0.005	0.00002	0.0001	0.0005	0.000005	0.0001	0.0001
Average	125	0.027	0.00034	<0.00001	0.00029	0.033	0.091	0.000051	0.0014	0.0011	<0.00001	0.00025	0.0021
Count	34	34	34	34	7	34	34	7	34	34	7	34	34
Minimum	42	0.0061	0.00023	<0.000005	0.00021	0.017	0.014	<0.00005	0.00078	0.00064	<0.00001	<0.0001	<0.001
Maximum	269	0.10	0.00048	0.000046	0.00038	0.055	0.32	0.000057	0.0055	0.0016	0.000012	0.00048	0.0068
% <DL	0	0	0	64.7	0.0	0	3	86	32	29	85.7	9	85
Standard Deviation	64	0.020	0.000063	0.0000088	0.000066	0.0094	0.075	NA [a]	0.0011	0.00034	NA [a]	0.00012	0.0016
1st Quartile	68	0.014	0.00030	0.0000063	0.00022	0.026	0.028	<0.00005	0.00094	0.00082	<0.00001	0.00015	0.0021
Median	116	0.021	0.00033	0.0000063	0.00031	0.032	0.074	<0.00005	0.0011	0.0011	<0.00001	0.00021	0.0021
3rd Quartile	158	0.033	0.00038	0.000010	0.00035	0.039	0.13	<0.00005	0.0014	0.0014	<0.00001	0.00032	0.0023

[a] Not applicable due to too few measurements above the detection limit

Table 3-10: Summary Statistics for Dissolved Metals of Interest at W35A

	W35A												
	Hardness (dissolved)	Aluminum (dissolved)	Arsenic (dissolved)	Cadmium (dissolved)	Chromium (dissolved)	Copper (dissolved)	Iron (dissolved)	Lead (dissolved)	Molybdenum (dissolved)	Nickel (dissolved)	Silver (dissolved)	Selenium (dissolved)	Zinc (dissolved)
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit		0.001	0.0001	0.000005	0.0001	0.001	0.005	0.00002	0.0001	0.0005	0.000005	0.0001	0.0001
Average	80	0.055	0.00036	0.000036	0.00055	0.027	0.18	0.00013	0.0011	0.0014	<0.000010	0.00039	0.0028
Count	67	73	73	73	57	73	73	73	73	73	73	73	73
Minimum	31	<0.01	<0.00020	<0.00001	<0.0004	0.0031	0.022	<0.0001	<0.00030	<0.001	<0.00001	<0.0001	<0.001
Maximum	414	0.27	0.0024	0.00061	0.0014	0.11	1.4	0.00090	0.012	0.0050	0.00010	0.011	0.019
% <DL	0	1.4	21	39.7	84.2	0	0	89	74	11	98.6	58	81
Standard Deviation	55	0.049	0.00026	0.000073	0.00038	0.025	0.16	0.00011	0.0019	0.00061	NA [a]	0.0015	0.0037
1st Quartile	45	0.026	0.00030	0.000010	0.00040	0.0086	0.11	0.00020	0.00070	0.0010	<0.000010	0.00010	0.0010
Median	72	0.042	0.00030	0.000020	0.00040	0.015	0.13	0.00020	0.00080	0.0012	<0.000010	0.00010	0.0020
3rd Quartile	93	0.061	0.00040	0.000038	0.00070	0.037	0.19	0.00020	0.00090	0.0020	<0.000010	0.00013	0.0030

[a] Not applicable due to too few measurements above the detection limit

Table 3-11: Summary Statistics for Dissolved Metals of Interest at W35B

	W35B												
	Hardness (dissolved)	Aluminum (dissolved)	Arsenic (dissolved)	Cadmium (dissolved)	Chromium (dissolved)	Copper (dissolved)	Iron (dissolved)	Lead (dissolved)	Molybdenum (dissolved)	Nickel (dissolved)	Silver (dissolved)	Selenium (dissolved)	Zinc (dissolved)
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit		0.001	0.0001	0.000005	0.0001	0.001	0.005	0.00002	0.0001	0.0005	0.000005	0.0001	0.0001
Average	154	0.044	0.00078	0.000029	0.00056	0.068	0.13	0.00014	0.0024	0.0022	0.000019	0.00077	0.0042
Count	54	61	61	61	61	61	61	61	61	61	61	61	61
Minimum	37	0.010	<0.00020	<0.00001	<0.0004	0.0070	0.018	<0.0001	<0.00030	<0.001	<0.00001	<0.0001	<0.001
Maximum	836	0.29	0.0069	0.00024	0.0026	0.42	0.51	0.00070	0.015	0.016	0.00042	0.0094	0.038
% <DL	0	0	13	32.8	90.2	0	0	89	54	18	96.7	36	74
Standard Deviation	182	0.038	0.0012	0.000037	0.00048	0.062	0.087	0.00015	0.0040	0.0026	0.000054	0.0017	0.0074
1st Quartile	51	0.025	0.00030	0.000010	0.00050	0.038	0.083	0.00010	0.00050	0.0010	0.00002	0.00010	0.0010
Median	84	0.037	0.00030	0.000020	0.00050	0.047	0.12	0.00010	0.00060	0.0010	0.00002	0.00010	0.0020
3rd Quartile	124	0.054	0.00040	0.000030	0.00050	0.077	0.16	0.00010	0.0014	0.0020	0.0001	0.00020	0.0030

Table 3-12: Summary Statistics for Dissolved Metals of Interest at W45

		W45											
	Hardness (dissolved)	Aluminum (dissolved)	Arsenic (dissolved)	Cadmium (dissolved)	Chromium (dissolved)	Copper (dissolved)	Iron (dissolved)	Lead (dissolved)	Molybdenum (dissolved)	Nickel (dissolved)	Silver (dissolved)	Selenium (dissolved)	Zinc (dissolved)
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit		0.001	0.0001	0.000005	0.0001	0.001	0.005	0.00002	0.0001	0.0005	0.000005	0.0001	0.0001
Average	548	0.021	0.0010	0.00011	<0.001	0.061	0.067	0.000073	0.051	0.0018	0.000016	0.0089	0.0099
Count	41	41	41	41	41	41	41	41	41	41	41	41	41
Minimum	253	0.0032	0.00032	<0.000005	<0.0001	0.00025	<0.005	<0.00005	0.0033	<0.001	<0.00001	0.00048	<0.001
Maximum	1040	0.34	0.0023	0.00052	<0.001	0.28	0.73	0.00066	0.12	0.0047	0.00010	0.030	0.067
% <DL	0	0	0	17.1	100	0	17.1	95.1	0	36.6	80.5	0	46.3
Standard Deviation	187	0.052	0.00057	0.00013	NA [a]	0.075	0.13	0.000061	0.036	0.0010	0.000015	0.0091	0.014
1st Quartile	367	0.0047	0.00045	0.000012	<0.001	0.0049	0.011	0.0002	0.023	<0.001	0.00002	0.0015	<0.005
Median	562	0.010	0.0010	0.000064	<0.001	0.037	0.020	0.0002	0.035	0.0013	0.00002	0.0036	0.0024
3rd Quartile	671	0.014	0.0014	0.00017	<0.001	0.079	0.053	0.0002	0.091	0.0026	0.00002	0.019	0.012

[a] Not applicable due to too few measurements above the detection limit

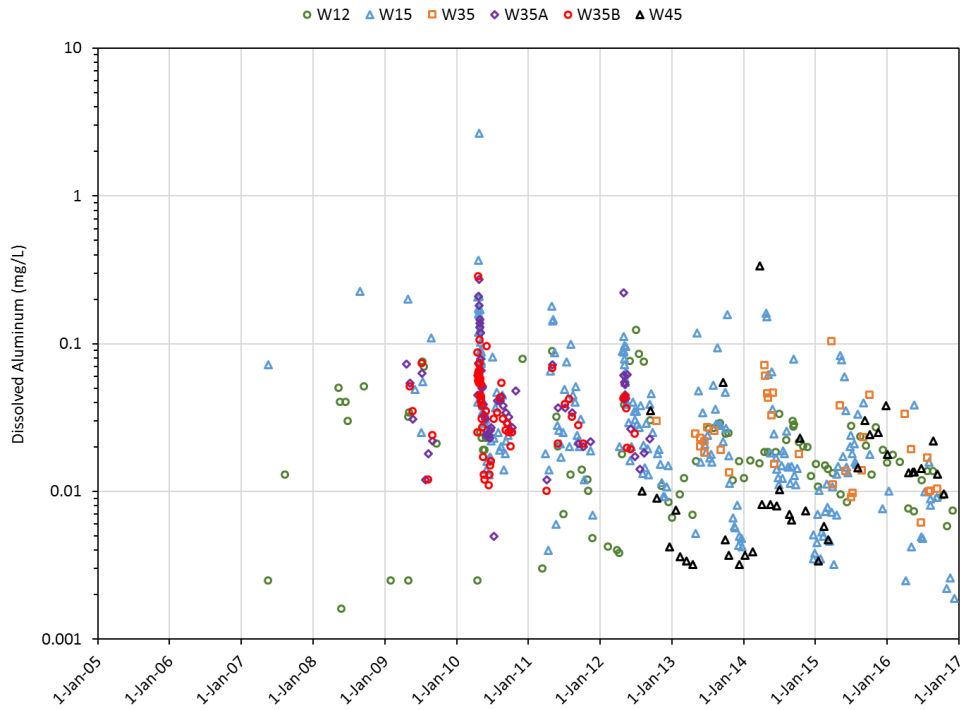

Figure 3-7: Concentrations of Dissolved Aluminum at Upper Minto Mine Facility Monitoring Locations. Note Log Scale.

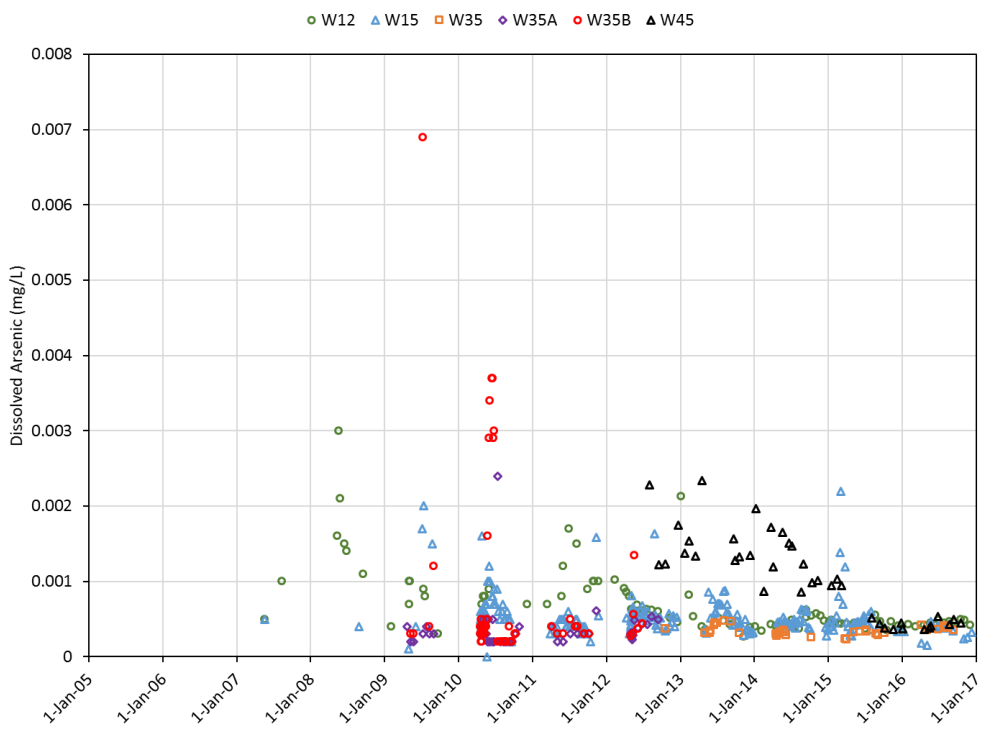

Figure 3-8: Concentrations of Dissolved Arsenic at Upper Minto Mine Facility Monitoring Locations.

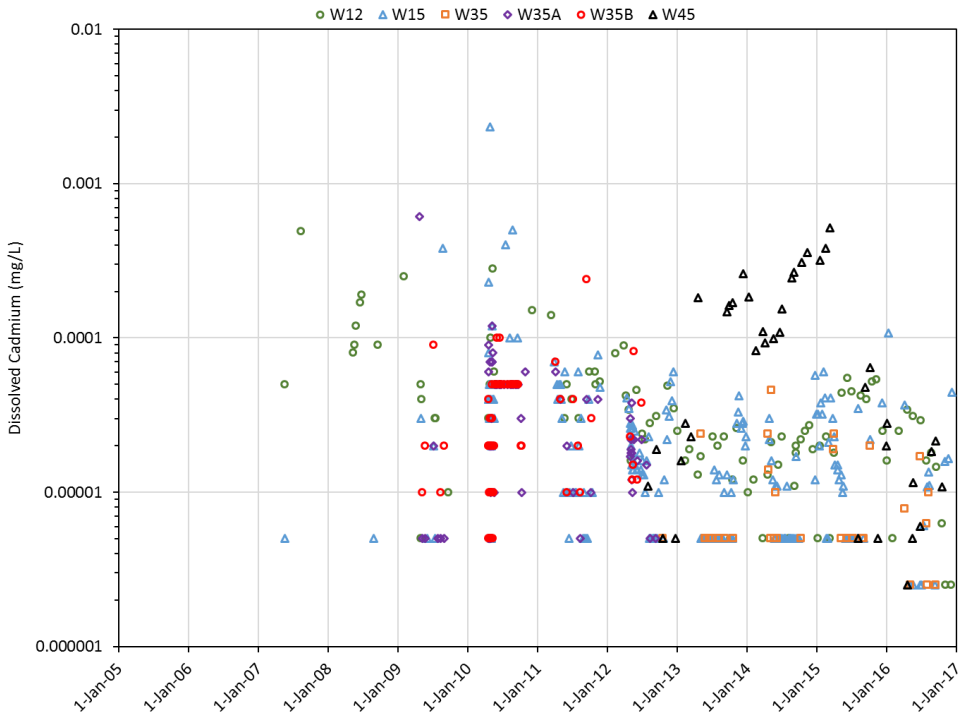

Figure 3-9: Concentrations of Dissolved Cadmium at Upper Minto Mine Facility Monitoring Locations. Note Log Scale.

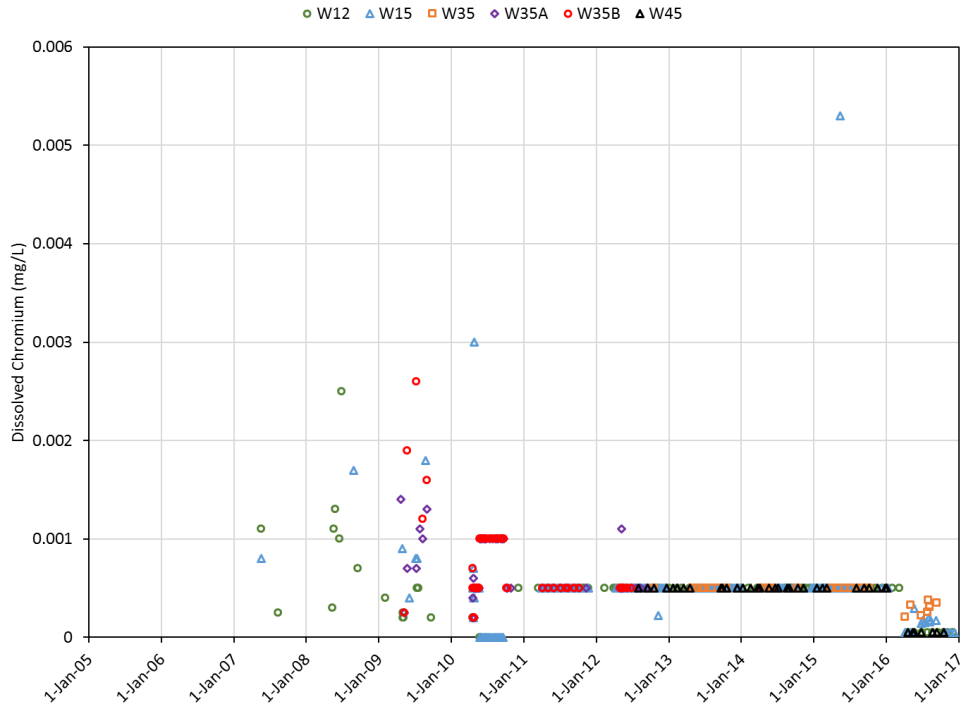

Figure 3-10: Concentrations of Dissolved Chromium at Upper Minto Mine Facility Monitoring Locations.

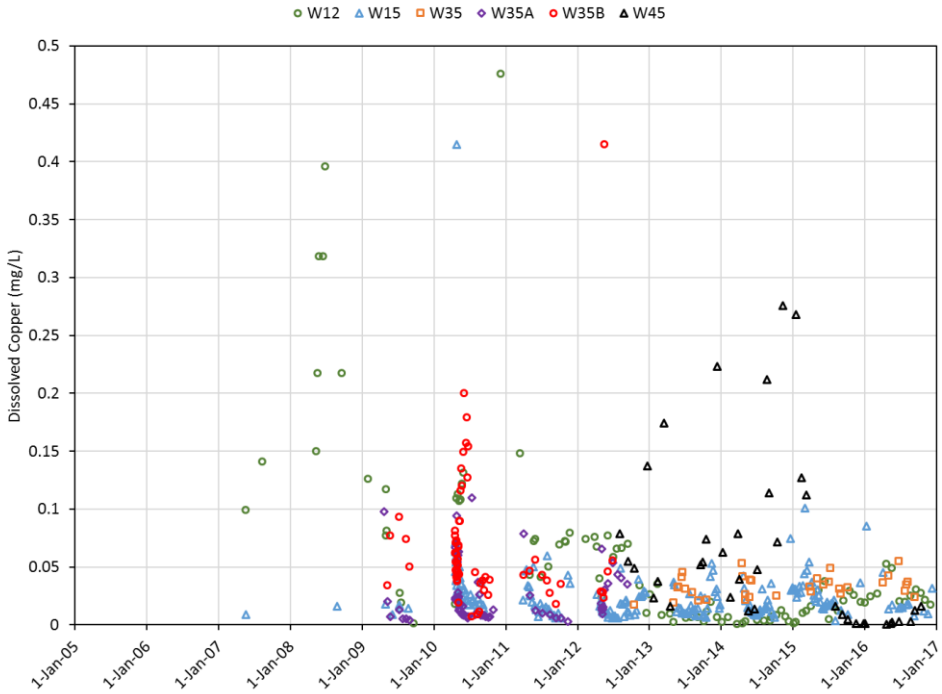

Figure 3-11: Concentrations of Dissolved Copper at Upper Minto Mine Facility Monitoring Locations.

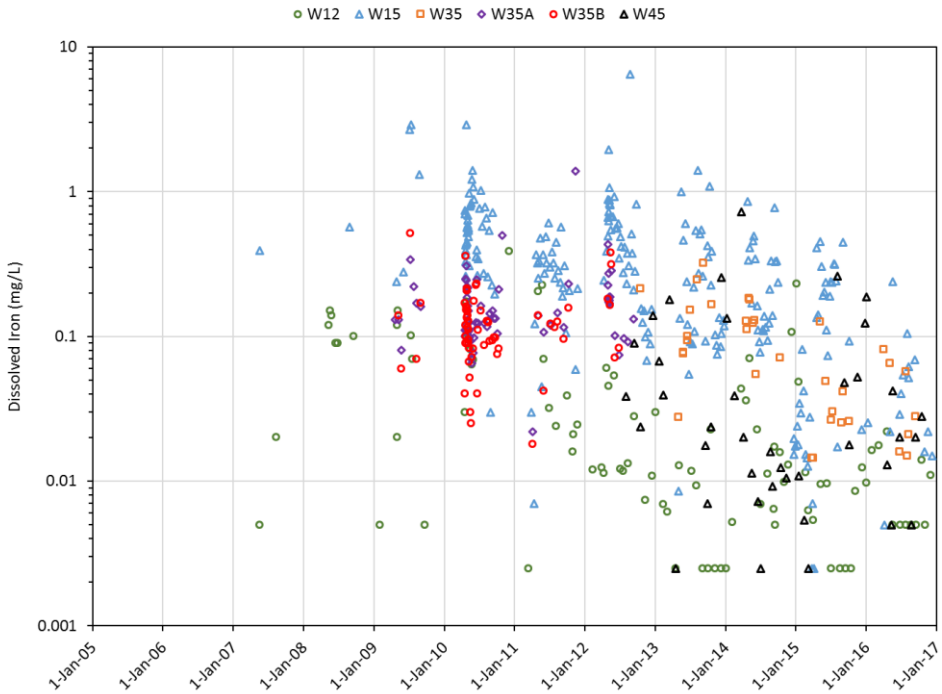

Figure 3-12: Concentrations of Dissolved Iron at Upper Minto Mine Facility Monitoring Locations. Note Log Scale.

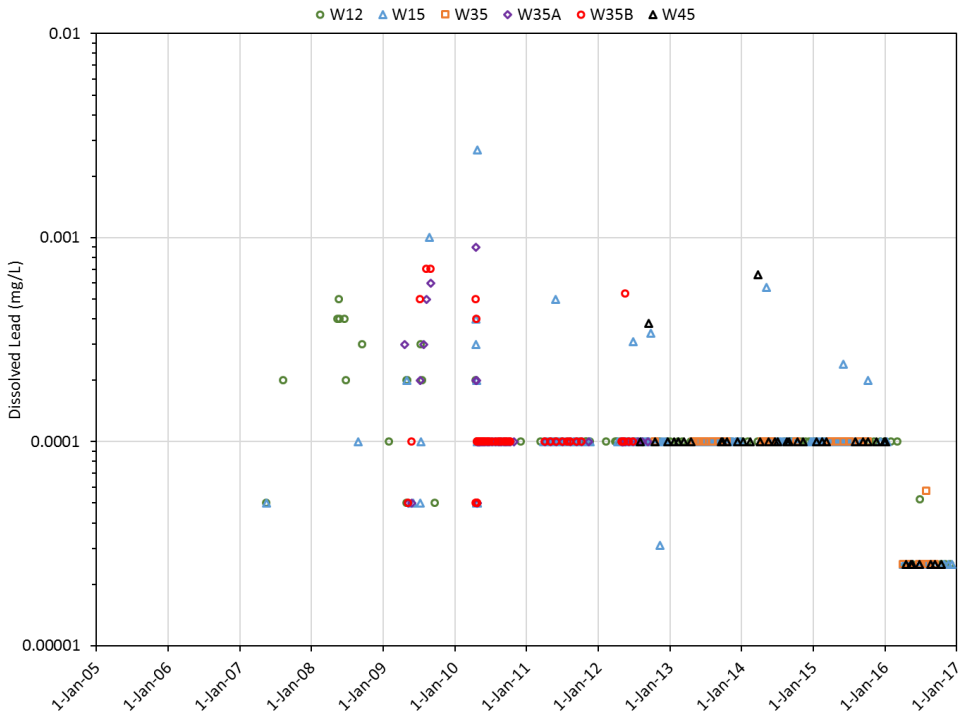

Figure 3-13: Concentrations of Dissolved Lead at Upper Minto Mine Facility Monitoring Locations. Note Log Scale.

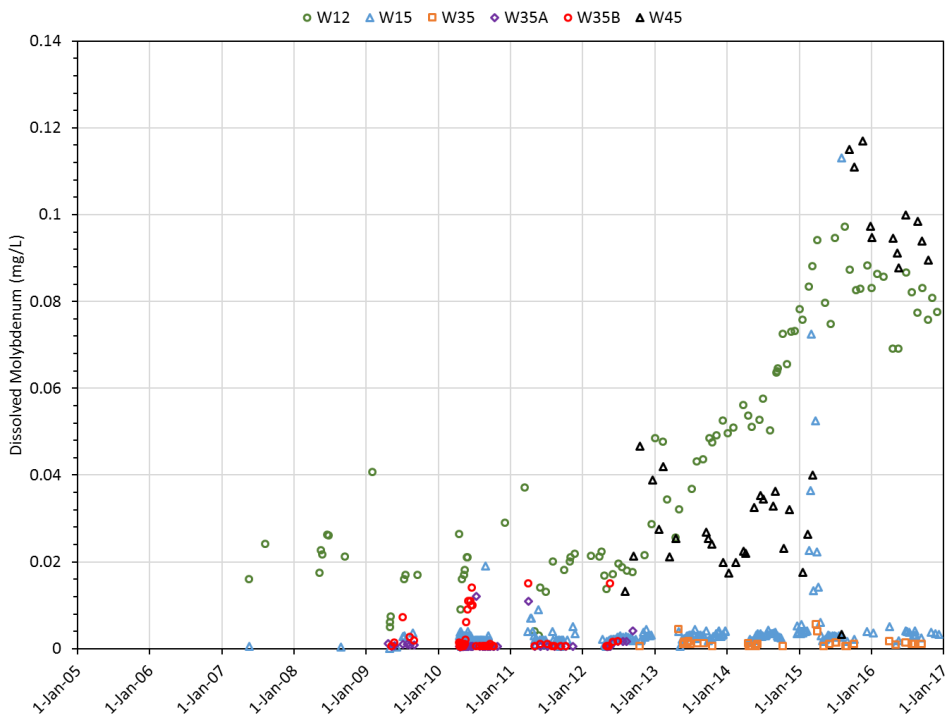

Figure 3-14: Concentrations of Dissolved Molybdenum at Upper Minto Mine Facility Monitoring Locations.

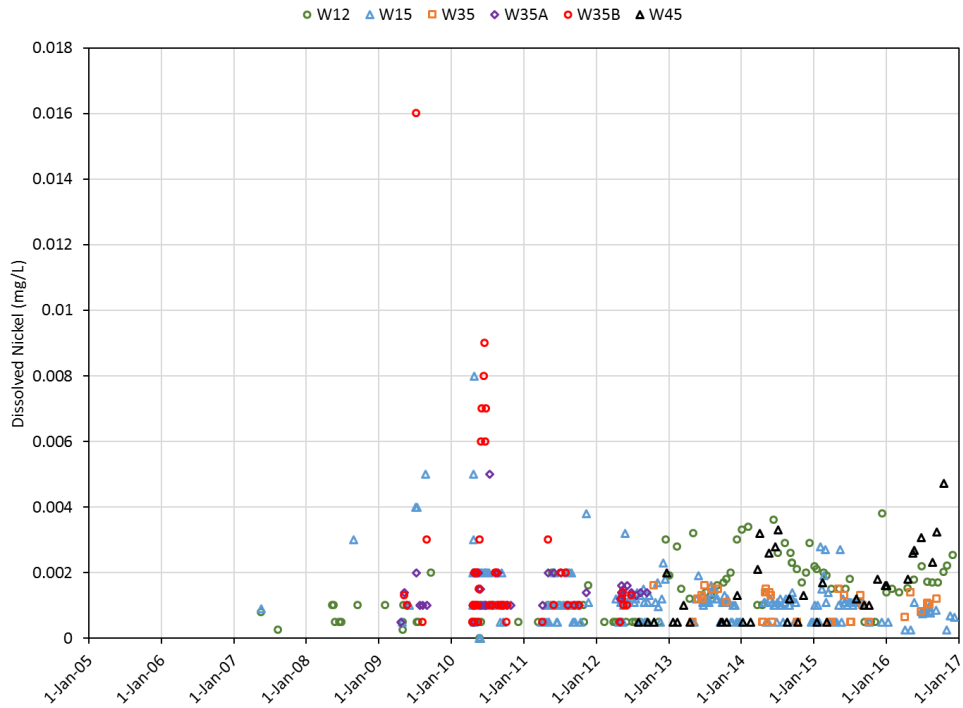

Figure 3-15: Concentrations of Dissolved Nickel at Upper Minto Mine Facility Monitoring Locations.

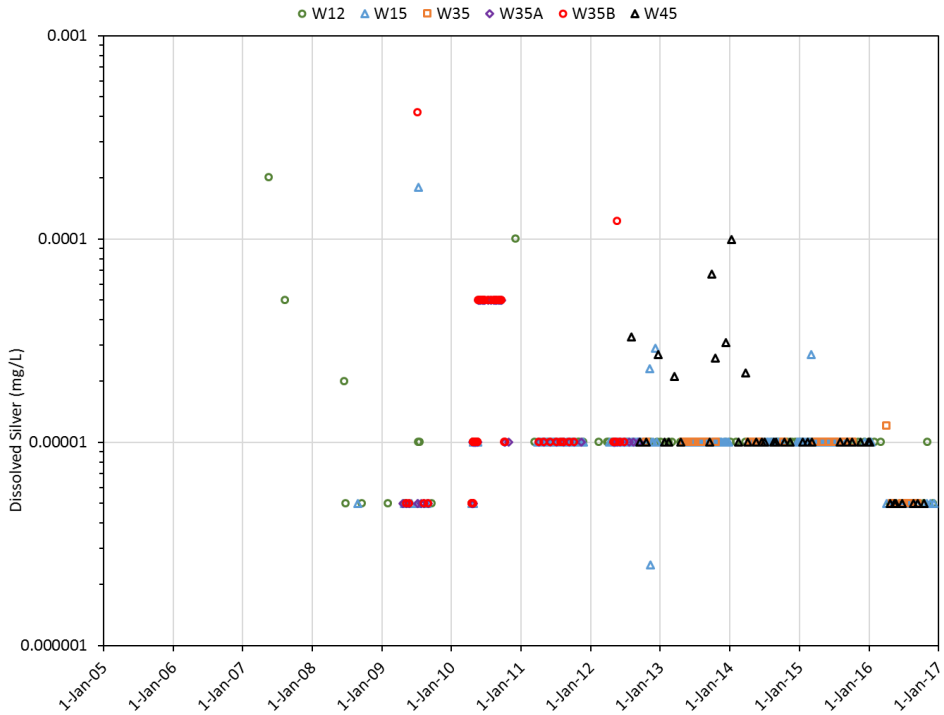

Figure 3-16: Concentrations of Dissolved Silver at Upper Minto Mine Facility Monitoring Locations. Note Log Scale.

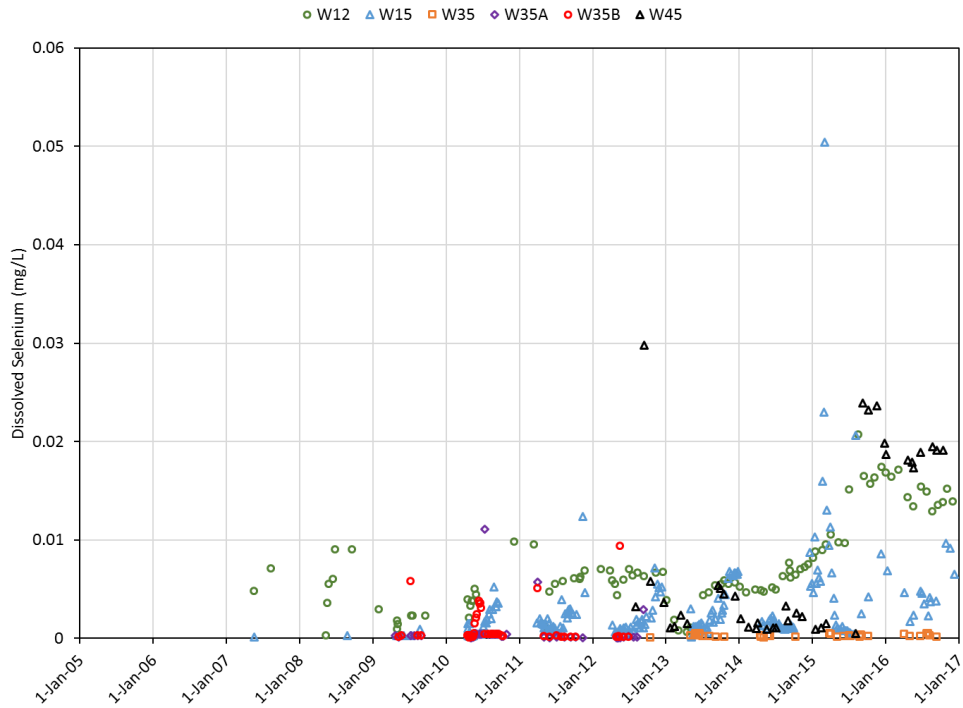

Figure 3-17: Concentrations of Dissolved Selenium at Upper Minto Mine Facility Monitoring Locations.

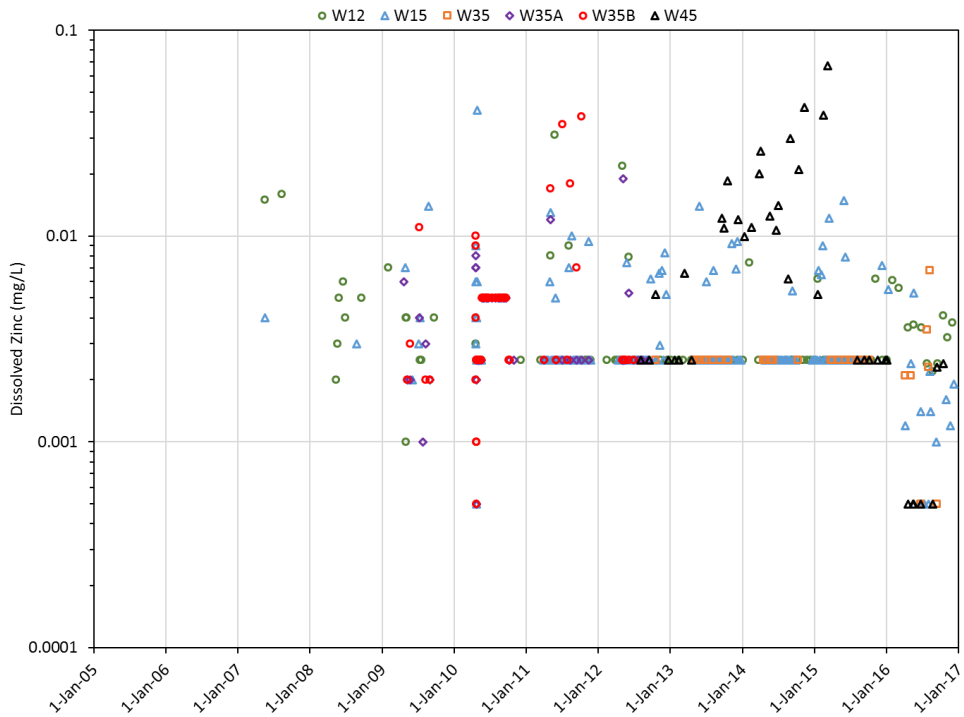

Figure 3-18: Concentrations of Dissolved Zinc at Upper Minto Mine Facility Monitoring Locations. Note Log Scale.

3.1.2 Lower Minto Mine Site

Lower Minto Mine Site station water quality is presented and discussed with respect to physical parameters and anion and nutrient concentrations in Section 3.1.2.1 and dissolved metals concentrations in Section 3.1.2.2.

3.1.2.1 Physical Parameters, Anions and Nutrients

Statistical summaries of physical parameters and anion and nutrient concentrations at sites W8, W8A, W16 and W62 are presented in Table 3-13 through Table 3-16. TSS, field pH, sulphate, nitrate, nitrite, and ammonia data at each of the lower Minto Mine Site stations are presented in Figure 3-19 through Figure 3-24.

The pH at all of the Lower Mine Sites was typically circumneutral to mildly alkaline, with the median pH ranging from 7.4 (W8A) to 7.9 (W16). Temperature varied seasonally from -1 to 24 °C. Median dissolved oxygen levels ranged from 53% (W8A) to 83% (W8) saturation, with lower levels typically recorded during the winter months, likely due to ice cover and associated limitations on oxygen replenishment of the under-ice waters. The highest field conductivity was typically measured in drainage from the DSTSF (median 1194 and 647 µS/cm at W8 and W8A, respectively).

In 2009 through 2011 at W8, TSS was typically highest in spring months – likely due to erosional inputs from spring meltwater – and lower throughout the rest of the year (median 13 mg/L), whereas higher TSS concentrations at W8A were observed later in the summer (median 12 mg/L; Figure 3-19). Relatively higher spring TSS concentrations were also observed at W62 in certain years (e.g. 2012). TSS was more variable and showed less seasonality at all lower mine site since 2013, likely related to day-to-day activities at the mine site.

Nitrate-N concentrations were highest in drainage from the DSTSF (median 22.1 mg/L and 9.4 mg/L for W8 and W8A, respectively) and demonstrated some seasonality, typically recorded low concentrations during freshet with its associated dilution, followed by a rise over spring and summer, then declining in winter (Figure 3-22). Nitrite-N and ammonia-N concentrations did not display any distinct seasonal changes. The east drainage from the DSTSF (W8) generally returned the highest concentrations (median 0.17 mg/L nitrite-N and 0.14 mg/L ammonia-N). Similar nitrite-N levels were observed for sites W8A (median 0.023 mg/L), W16 (median 0.029 mg/L), and W62 (median 0.021 mg/L). Ammonia-N concentrations at sites W8A and W16 were also comparable (median 0.06 mg/L; Figure 3-24), with the lowest concentrations typically observed in the MVF sump (W62; <0.005 to 0.23 mg/L, median 0.008 mg/L).

Excluding W62 (for which only two DOC analyses are available), DOC concentrations generally ranged between 1 and 30 mg/L for all sites (median 12 mg/L). DOC concentrations were typically highest during spring freshet as organic matter was flushed from surrounding soils by snowmelt.

The highest sulphate concentrations in the Lower Mine Site were observed at the MVF Sump (W62; median 154 mg/L) and DSTSF drainages (median 120 mg/L for both W8 and W8A). The longer period of record for the east DSTSF drainage (W8A) exhibits an increasing trend, with annual maxima increasing from approximately 180 mg/L in 2012 to 350 mg/L in 2016 (Figure 3-21). This increasing trend shows a seasonal wave-like overprint, with concentrations peaks and troughs typically observed in November/December and April/May, respectively (Figure 3-21). Sulphate concentrations displayed a similar trend in the Water Storage Pond (W16), but the pattern was more subdued than that of W8A (Figure 3-21).

Table 3-13: Summary Statistics for Physical Parameters, Anions and Nutrients at Site W8

	W8													
	TSS	Field pH	Field Conductivity	Temperature	Dissolved Oxygen		ORP	Chloride	Fluoride	Dissolved Sulphate	Ammonia-N	Nitrite-N	Nitrate-N	DOC
	mg/L		uS/cm	°C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit	1	NA [a]	10	NA [a]	0.1	1	NA [a]	0.2	0.01	0.5	0.001	0.001	0.002	0.5
Average	37.9	7.6	1125	2.3	9.4	77	143	19.7	0.49	112	0.43	0.71	34.3	14.2
Count	128	58	59	60	7	31	3	95	62	107	94	92	115	73
Minimum	<2	6.6	189	-0.13	2.0	3.8	108	<0.02	0.049	<0.5	0.003	<0.001	<0.002	<0.5
Maximum	660	8.2	1857	11	17.4	145	164	210	1.85	310	4.2	4.5	116	30.4
% <DL	18.0	0	0	0	0	0	0	14.7	0	1.87	4.3	15.2	19.1	2.7
Standard Deviation	87.0	0.34	418	2.5	5.7	32.6	30	41.2	0.45	76.4	0.67	1.08	31.8	6.1
1st Quartile	5.0	7.4	820	0.86	3.0	67.6	NA	3.6	0.27	48.1	0.042	0.068	5.1	10.4
Median	12.9	7.6	1194	1.4	11.7	82.9	156	7.8	0.32	120	0.14	0.17	22.1	12
3rd Quartile	37.5	7.9	1474	3.3	13.5	95.1	NA	20.0	0.40	160	0.53	0.73	64.0	16.3

[a] Not applicable

Table 3-14: Summary Statistics for Physical Parameters, Anions and Nutrients at Site W8A

	W8A													
	TSS	Field pH	Field Conductivity	Temperature	Dissolved Oxygen		ORP	Chloride	Fluoride	Dissolved Sulphate	Ammonia-N	Nitrite-N	Nitrate-N	DOC
	mg/L		uS/cm	°C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit	1	NA [a]	10	NA [a]	0.1	1	NA [a]	0.2	0.01	0.5	0.001	0.001	0.002	0.5
Average	47.0	7.5	659	1.9	7.0	55	146	14.2	0.48	146	0.11	0.072	10.2	12.8
Count	300	242	241	243	174	200	171	279	213	280	267	272	287	94
Minimum	1	6.2	8.06	-1.4	1.5	2.3	-427	<0.5	0.24	6.15	0.007	<0.005	0.53	0.60
Maximum	6540	21.6	2460	14.4	18.2	126	321	1300	1.6	353	1.6	0.61	72	30.8
% <DL	1.67	0	0	0	0	0	0	0.36	0	0	0	12.1	0	0
Standard Deviation	379	0.99	218	2.3	2.6	22.2	125	78.1	0.15	76.3	0.15	0.11	7.3	6.1
1st Quartile	6.1	7.2	549	0.20	5.2	38.6	120	4.7	0.39	88.0	0.032	0.012	5.6	8.5
Median	11.8	7.4	647	1.5	7.0	52.8	169	8.6	0.44	120	0.061	0.023	9.4	12.4
3rd Quartile	23.0	7.7	770	3.2	8.5	67.8	205	11.0	0.56	193	0.14	0.083	13.5	15.7

[a] Not applicable

Table 3-15: Summary Statistics for Physical Parameters, Anions and Nutrients at Site W16

	W16														
	TSS	Field pH	Field Conductivity	Temperature	Dissolved Oxygen		ORP	Chloride	Fluoride	Dissolved Sulphate	Ammonia-N	Nitrite-N	Nitrate-N	DOC	Total Phosphorus (colourimetric)
	mg/L		uS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit	1	NA [a]	10	NA [a]	0.1	1	NA [a]	0.2	0.01	0.5	0.001	0.001	0.002	0.5	0.005
Average	7.2	7.9	274	7.0	9.1	69	81	5.5	0.3	44.2	0.15	0.11	3.7	11.2	0.038
Count	388	340	332	338	271	295	252	373	258	378	373	379	385	307	132
Minimum	<1	5.7	23.0	-1.3	2.4	10.9	-423	0.4	<0.01	<0.5	0.004	<0.005	0.010	0.97	<0.005
Maximum	181	10.1	790	24.3	20.1	145	335	23.9	0.8	286	2.0	8.6	35	31.2	0.21
% <DL	16.2	0	0	0	0	0	0	2.1	0.39	2	2.7	12.4	1.3	0	12.9
Standard Deviation	13.0	0.53	137	7.0	9.3	23.2	153	3.64	0.14	27.0	0.22	0.49	3.7	5.1	0.026
1st Quartile	2.0	7.6	202	1	6.7	52.9	74	2.9	0.20	28.4	0.029	0.010	1.0	8.3	0.020
Median	4.0	7.9	242	3.8	8.3	70.6	121	4.98	0.26	41.1	0.06	0.029	3.2	11.7	0.030
3rd Quartile	8.0	8.2	329	14.2	9.8	86.0	149	7.1	0.34	54	0.15	0.090	4.8	14.1	0.050

[a] Not applicable

Table 3-16: Summary Statistics for Physical Parameters, Anions and Nutrients at Site W62

	W62													
	TSS	Field pH	Field Conductivity	Temperature	Dissolved Oxygen		ORP	Chloride	Fluoride	Dissolved Sulphate	Ammonia-N	Nitrite-N	Nitrate-N	DOC
	mg/L		uS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit	3	NA [a]	10	NA [a]	0.1	1	NA [a]	0.2	0.01	0.5	0.001	0.001	0.002	0.5
Average	12.8	7.7	553	2.1	11.0	81	111	22.5	NA	164	0.036	0.029	7.5	NA
Count	12	12	12	12	12	12	12	12	2	12	12.0	12.0	12.0	2
Minimum	<3	7.2	418	0.30	6.5	45.6	64	0.53	0.36	1.71	<0.005	<0.001	0.008	10.6
Maximum	58	8.1	676	4.5	17.4	128	154	30.1	0.38	294	0.23	0.12	11.3	14.1
% <DL	8.3	0	0	0	0	0	0	0	0	0	33.3	8.3	0	0
Standard Deviation	15.7	0.25	73	1.4	2.8	21.3	32	7.5	NA	70.3	0.066	0.030	3.0	NA
1st Quartile	4.6	7.5	507	1.1	9.3	69.5	76	21.1	NA	138	<0.005	0.012	6.3	NA
Median	7.3	7.8	563	1.8	10.9	83.4	118	24.3	NA	154	0.0077	0.021	7.0	NA
3rd Quartile	11.7	7.9	602	3.2	12.3	87.6	139	26.3	NA	202	0.040	0.027	10.1	NA

[a] Not applicable

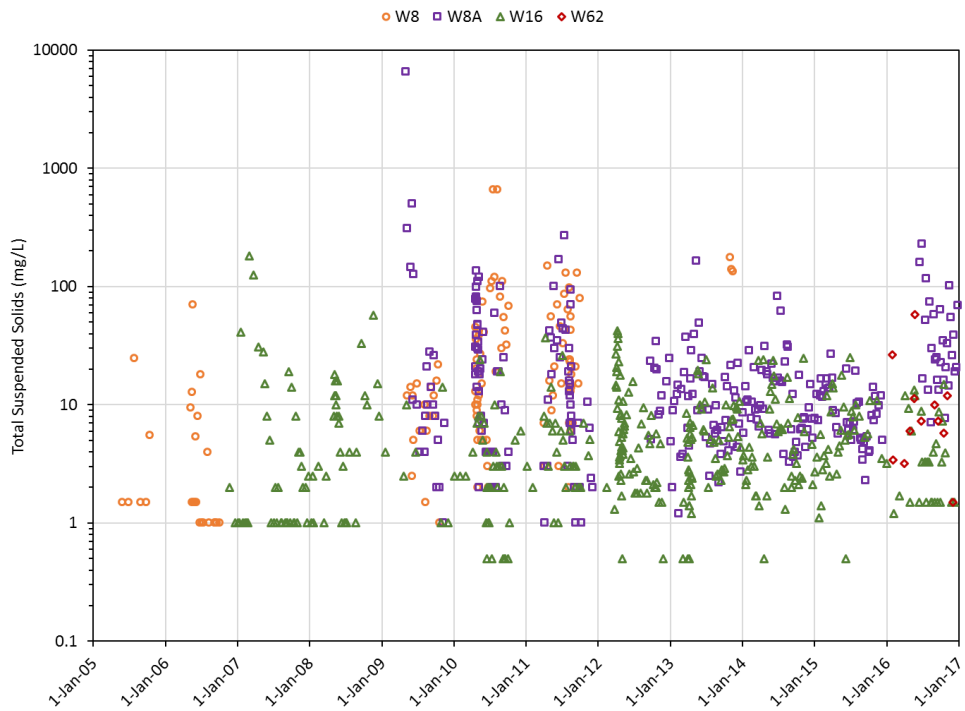

Figure 3-19: TSS at Lower Minto Mine Facility Monitoring Locations. Note Log Scale.

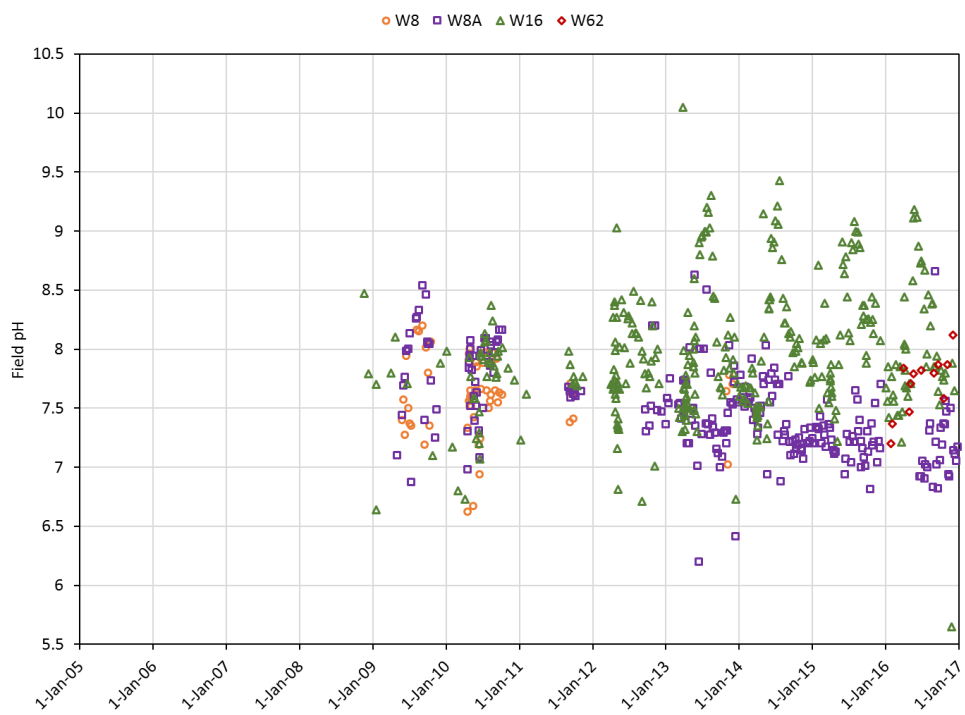

Figure 3-20: Field pH at Lower Minto Mine Facility Monitoring Locations.

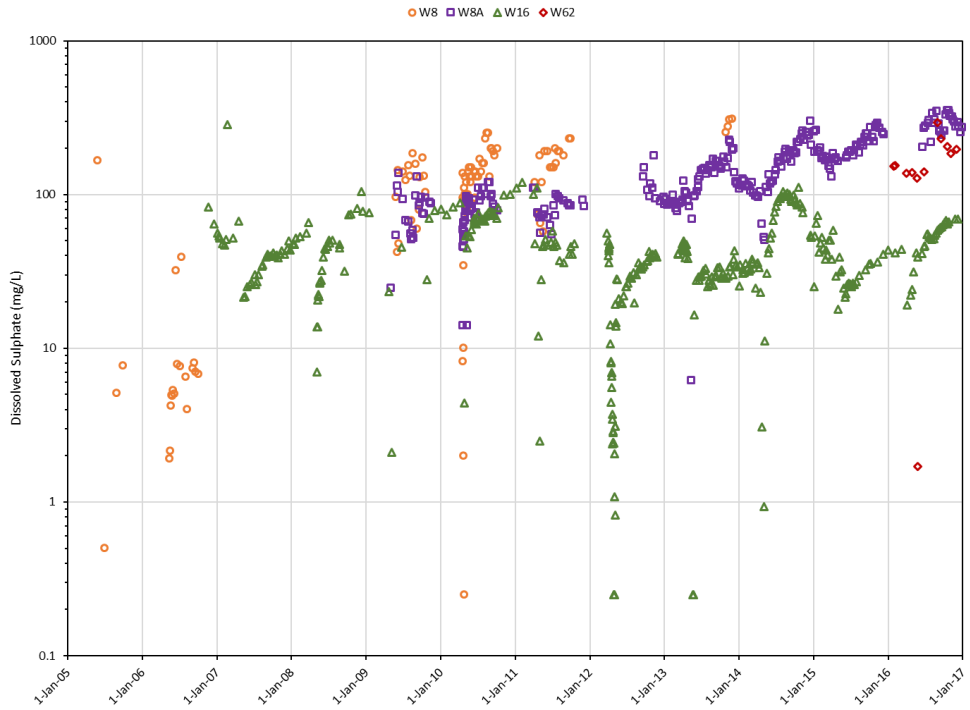

Figure 3-21: Dissolved Sulphate at Lower Minto Mine Facility Monitoring Locations. Note Log Scale.

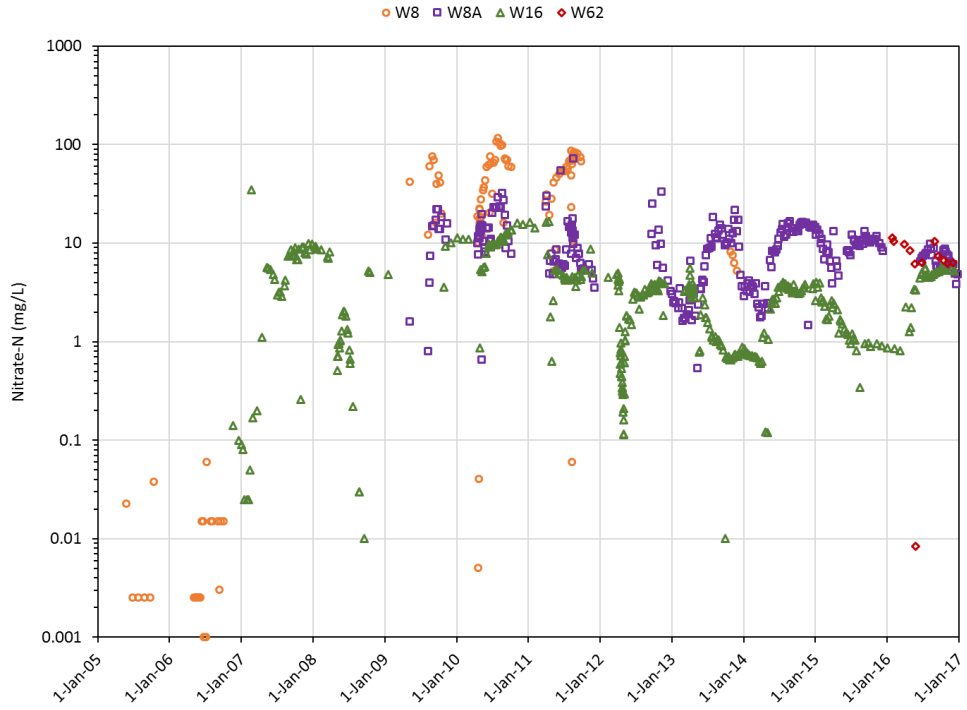

Figure 3-22: Nitrate (N) at Lower Minto Mine Facility Monitoring Locations. Note Log Scale.

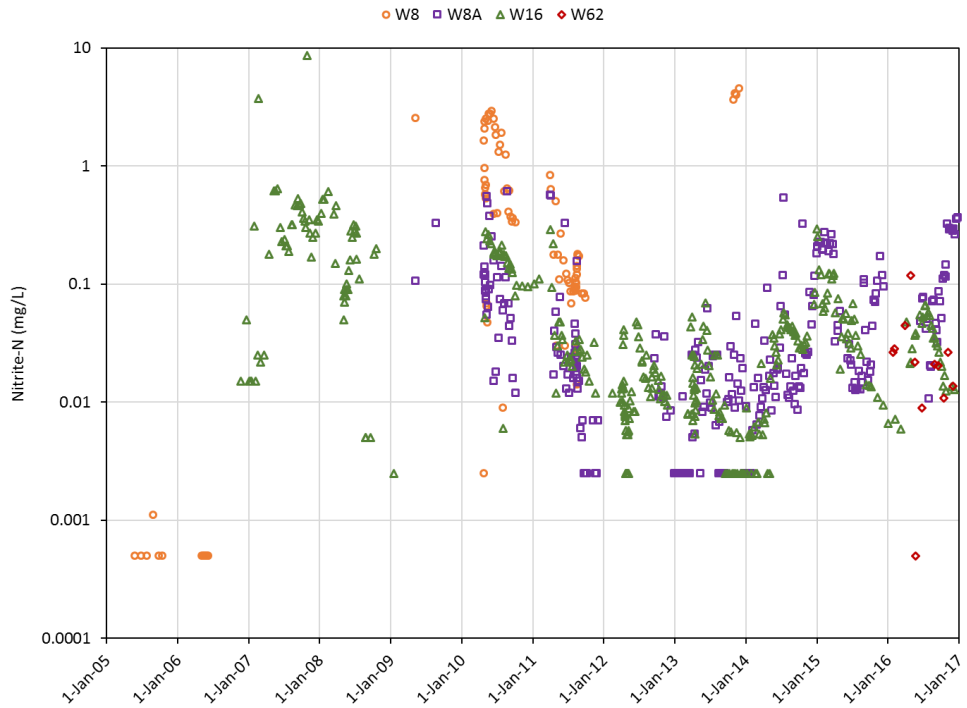

Figure 3-23: Nitrite (N) at Lower Minto Mine Facility Monitoring Locations. Note Log Scale.

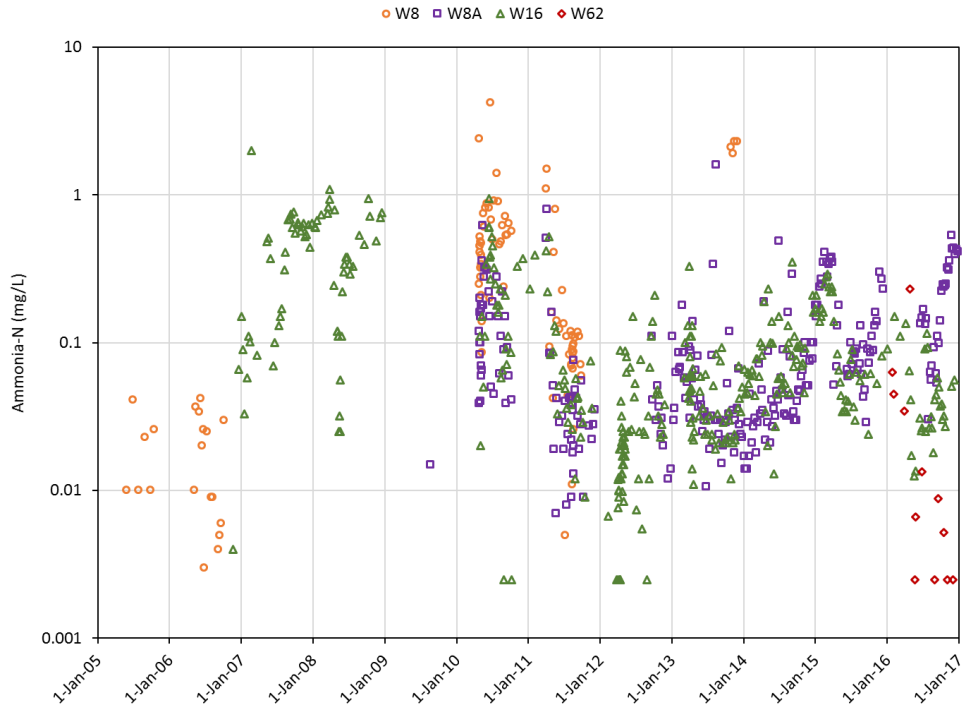

Figure 3-24: Ammonia (N) at Lower Minto Mine Facility Monitoring Locations. Note Log Scale.

3.1.2.2 Metals

Statistical summaries of dissolved metals concentrations at sites W8, W8A, W16 and W62 are presented in Table 3-17 through Table 3-20. Dissolved metal concentrations at each of the lower Minto Mine Site stations are plotted in Figure 3-25 through Figure 3-36.

It should be noted that the final few samples collected in October and November 2013 at site W8 are likely influenced by the installation of galvanized vertical culverts, as evidenced by the elevated hardness, iron, and particularly zinc concentrations present in these samples (Figure 3-30 and Figure 3-36). As such, the discussion of the dissolved metals data does not consider these final few samples from W8, although they are included in the figures and summary statistics.

For the Lower Mine Sites, dissolved hardness was highest in drainage from the DSTSF (median 551 mg/L at W8 and 475 at W8A). Aside from the limited dataset for site W62, hardness levels displayed marked seasonal patterns: dilution from snowmelt results in the lowest hardness levels in April/May, followed by a steady increase over the year peaking in winter immediately before the next snowmelt cycle. This is suggestive of a prominent groundwater component to the hardness content of the DSTSF drainage (W8 and W8A) and water storage pond (W16) since the groundwater contribution will be highest during the low flow winter period and lowest during the high surface flows of freshet.

Dissolved concentrations of chromium, lead, and silver were generally close to or below detection (Figure 3-28, Figure 3-31, and Figure 3-35). Dissolved nickel concentrations were also generally close to or below detection, with sporadic spikes throughout the period of record (Figure 3-33). Similarly, cadmium and zinc concentrations were close to or below detection for all sites except for the east drainage from the DSTSF (W8A). At W8A, dissolved cadmium showed an increasing trend from approximately 0.00011 mg/L in early 2013 rising to 0.00067 in February 2015, before declining and stabilizing at 0.0003 mg/L in fall 2016 (Figure 3-27). Dissolved zinc concentrations at W8A showed more striking changes, increasing by approximately two orders of magnitude from ≤0.025 mg/L prior to May 2011 to 0.07 to 5.2 mg/L since September 2012 (Figure 3-36). This change is an artefact of the installation of galvanized vertical culverts at this site which leach zinc.

Dissolved aluminium and arsenic concentrations were comparable across all four Lower Mine Sites with medians ranging between 0.004 and 0.009 mg/L for aluminium and 0.0004 and 0.0005 for arsenic (Table 3-17 to Table 3-20). Little seasonal variation was evident for either constituent. Dissolved iron concentrations also displayed no clear patterns over the period of record at any of the Lower Mine Sites. Iron concentrations were slightly higher in the DSTSF drainage (median 0.09 and 0.1 mg/L for W8 and W8A, respectively) than the Water Storage Pond (W16; median 0.06 mg/L) or the MVF Sump (W62; median 0.05 mg/L). That dissolved iron concentrations were often higher than may be expected for well oxygenated, circumneutral pH waters, where equilibrium with ferric oxyhydroxides would be expected to maintain dissolved iron levels at <0.01 mg/L, may be due to complexation by dissolved organic matter given the relatively high DOC concentrations in these waters.

Copper concentrations were highest in the DSTSF drainage (median 0.09 and 0.11 mg/L for W8 and W8A, respectively) and lowest in the Water Storage Pond (W16; median 0.02 mg/L). Dissolved copper levels tended to peak during spring freshet (Figure 3-29), consistent with peaks in DOC concentrations. Dissolved molybdenum levels were also highest in the DSTSF drainages (median 0.008 and 0.01 mg/L at W8 and W8A, respectively), with sporadic spikes in concentration observed for W8 (Figure 3-32). No seasonal trend was discernible in the molybdenum dataset.

Finally, dissolved selenium concentrations were also highest in the DSTSF drainages (median 0.004 and 0.005 mg/L for W8 and W8A, respectively), with the lowest concentrations generally observed in the Water Storage Pond (W16; median 0.001 mg/L). Selenium levels in the DSTSF east drainage (W8) displayed distinct seasonality (Figure 3-34). Here, the lowest selenium concentrations were observed over winter, followed by a sharp rise over spring and summer, peaking in late summer/fall before declining sharply in early winter. Such behaviour mirrored the seasonality observed for sulphate concentrations.

Table 3-17: Summary Statistics for Dissolved Metals of Interest at W8

		W8											
	Hardness (dissolved)	Aluminum (dissolved)	Arsenic (dissolved)	Cadmium (dissolved)	Chromium (dissolved)	Copper (dissolved)	Iron (dissolved)	Lead (dissolved)	Molybdenum (dissolved)	Nickel (dissolved)	Silver (dissolved)	Selenium (dissolved)	Zinc (dissolved)
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit		0.001	0.0001	0.000005	0.0001	0.001	0.005	0.00002	0.0001	0.0005	0.000005	0.0001	0.0001
Average	500	0.024	0.00052	0.00012	0.00067	0.10	0.14	0.00010	0.012	0.0021	0.000025	0.0057	0.25
Count	112	127	126	127	127	127	127	127	127	127	125	127	127
Minimum	64.0	<0.003	<0.00020	<0.00001	<0.0004	<0.001	<0.01	<0.00005	0.00018	<0.0005	<0.00001	<0.0001	<0.001
Maximum	1280	0.99	0.0028	0.0021	0.0053	0.35	0.83	0.0023	0.064	0.0090	0.00076	0.019	9.5
% <DL	0	21	8	18.1	76	0.79	6	87	9	12.6	83	23	61
Standard Deviation	262	0.090	0.00028	0.00020	0.00060	0.091	0.15	0.00022	0.013	0.0016	0.000079	0.0052	1.4
1st Quartile	240	0.0050	0.00040	0.000030	0.0010	0.021	0.039	0.00010	0.0050	0.0010	0.000020	0.0011	0.0010
Median	551	0.0090	0.00050	0.00010	0.00052	0.094	0.089	0.00020	0.0080	0.0019	0.000020	0.0039	0.0020
3rd Quartile	677	0.018	0.00060	0.00017	0.00080	0.13	0.19	0.00020	0.013	0.0020	<0.0001	0.012	0.0042

Table 3-18: Summary Statistics for Dissolved Metals of Interest at W8A

		W8A											
	Hardness (dissolved)	Aluminum (dissolved)	Arsenic (dissolved)	Cadmium (dissolved)	Chromium (dissolved)	Copper (dissolved)	Iron (dissolved)	Lead (dissolved)	Molybdenum (dissolved)	Nickel (dissolved)	Silver (dissolved)	Selenium (dissolved)	Zinc (dissolved)
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit		0.001	0.0001	0.000005	0.0001	0.001	0.005	0.00002	0.0001	0.0005	0.000005	0.0001	0.0001
Average	490	0.012	0.00052	0.00018	0.00049	0.11	0.15	0.000039	0.011	0.0014	0.000012	0.0064	0.65
Count	294	301	300	301	281	301	301	301	301	301	280	301	301
Minimum	57.0	0.0026	0.00014	0.000020	0.00010	0.013	0.017	0.000013	0.00033	0.00068	0.0000070	0.00040	<0.001
Maximum	1190	0.16	0.0014	0.0013	0.0020	0.27	0.65	0.00050	0.049	0.0060	0.00025	0.018	5.2
% <DL	0	10	1	3.3	82	0	0	93	0	29.6	84	1	26
Standard Deviation	159	0.016	0.00016	0.00014	0.00047	0.039	0.13	0.00010	0.0054	0.00084	0.000019	0.0042	0.90
1st Quartile	391	0.0055	0.00040	0.000098	0.00033	0.082	0.060	0.000013	0.0065	0.00094	0.0000070	0.0027	0.0040
Median	475	0.0077	0.00050	0.00014	0.00040	0.11	0.10	0.000013	0.010	0.0011	0.0000070	0.0052	0.32
3rd Quartile	575	0.012	0.00060	0.00024	0.00054	0.13	0.21	0.000013	0.014	0.0016	0.000011	0.010	1.0

Table 3-19: Summary Statistics for Dissolved Metals of Interest at W16

	W16												
	Hardness (dissolved)	Aluminum (dissolved)	Arsenic (dissolved)	Cadmium (dissolved)	Chromium (dissolved)	Copper (dissolved)	Iron (dissolved)	Lead (dissolved)	Molybdenum (dissolved)	Nickel (dissolved)	Silver (dissolved)	Selenium (dissolved)	Zinc (dissolved)
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit		0.001	0.0001	0.000005	0.0001	0.001	0.005	0.00002	0.0001	0.0005	0.000005	0.0001	0.0001
Average	155	0.018	0.00040	0.000037	0.00036	0.024	0.13	0.000055	0.0061	0.0011	0.0000066	0.0012	0.0036
Count	331	342	341	302	319	342	342	342	342	341	301	342	340
Minimum	13	0.0013	<0.0001	<0.000005	<0.0001	0.0016	0.0066	<0.000020	0.00074	<0.0005	<0.000005	<0.0001	<0.001
Maximum	355	0.23	0.0015	0.0056	0.017	0.12	1.4	0.00080	0.027	0.0090	0.00030	0.0064	0.026
% <DL	0	8.5	8	39.7	86.5	0	1	91	5	49	96.7	6	77
Standard Deviation	62	0.024	0.00019	0.00032	0.0012	0.018	0.24	0.00011	0.0046	0.0012	0.000018	0.0011	0.0054
1st Quartile	113	0.0053	0.00032	0.0000068	0.00010	0.015	0.027	0.000020	0.0036	0.00064	0.000010	0.00052	0.0015
Median	174	0.0093	0.00040	0.000011	0.00010	0.019	0.055	0.000020	0.0044	0.00075	0.000010	0.00093	0.0015
3rd Quartile	201	0.021	0.00049	0.000020	0.00025	0.029	0.094	0.00010	0.0080	0.0011	0.000010	0.0014	0.0030

Table 3-20: Summary Statistics for Dissolved Metals of Interest at W62

		W62											
	Hardness (dissolved)	Aluminum (dissolved)	Arsenic (dissolved)	Cadmium (dissolved)	Chromium (dissolved)	Copper (dissolved)	Iron (dissolved)	Lead (dissolved)	Molybdenum (dissolved)	Nickel (dissolved)	Silver (dissolved)	Selenium (dissolved)	Zinc (dissolved)
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit		0.001	0.0001	0.000005	0.0001	0.001	0.005	0.00002	0.0001	0.0005	0.000005	0.0001	0.0001
Average	474	0.0051	0.00035	0.000021	0.00015	0.040	0.042	<0.0002	0.0060	0.0011	<0.00002	0.0034	0.21
Count	12	12	12	12	10	12	12	12	12	12	12	12	12
Minimum	84.0	0.0022	0.00011	<0.000005	<0.0001	0.0020	0.011	<0.00005	0.00042	0.00082	<0.00001	0.000095	0.0018
Maximum	623	0.014	0.00044	0.000038	0.00022	0.063	0.072	<0.0002	0.0082	0.0016	<0.00002	0.0049	0.80
% <DL	0	0	0	8.3	10	0	0	100	0	16.7	100	0	0
Standard Deviation	135	0.0035	0.000095	0.000008	0.000036	0.018	0.019	NA [a]	0.0021	0.00022	NA [a]	0.0012	0.23
1st Quartile	452	0.0026	0.00034	0.000014	0.00013	0.030	0.031	<0.00005	0.0054	0.00092	<0.00001	0.0031	0.066
Median	500	0.0041	0.00038	0.000019	0.00015	0.046	0.046	<0.00005	0.0062	0.0010	<0.00001	0.0036	0.12
3rd Quartile	547	0.0057	0.00040	0.000028	0.00018	0.050	0.055	<0.00005	0.0075	0.0011	<0.00001	0.0041	0.33

[a] Not applicable due to too few measurements above the detection limit

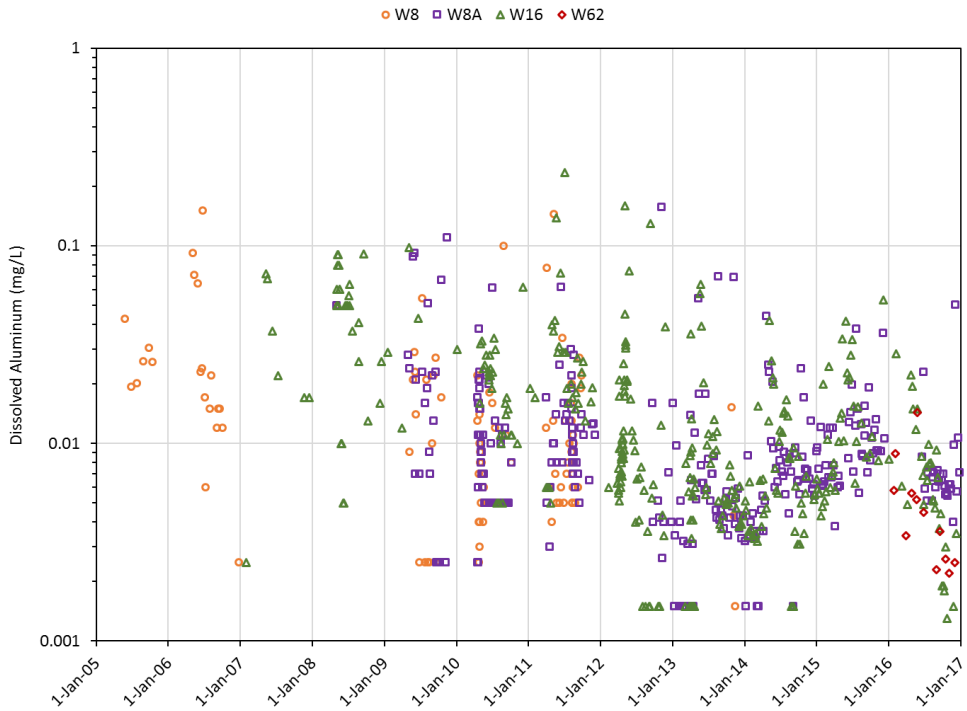

Figure 3-25: Concentrations of Dissolved Aluminum at Lower Minto Mine Facility Monitoring Locations. Note Log Scale.

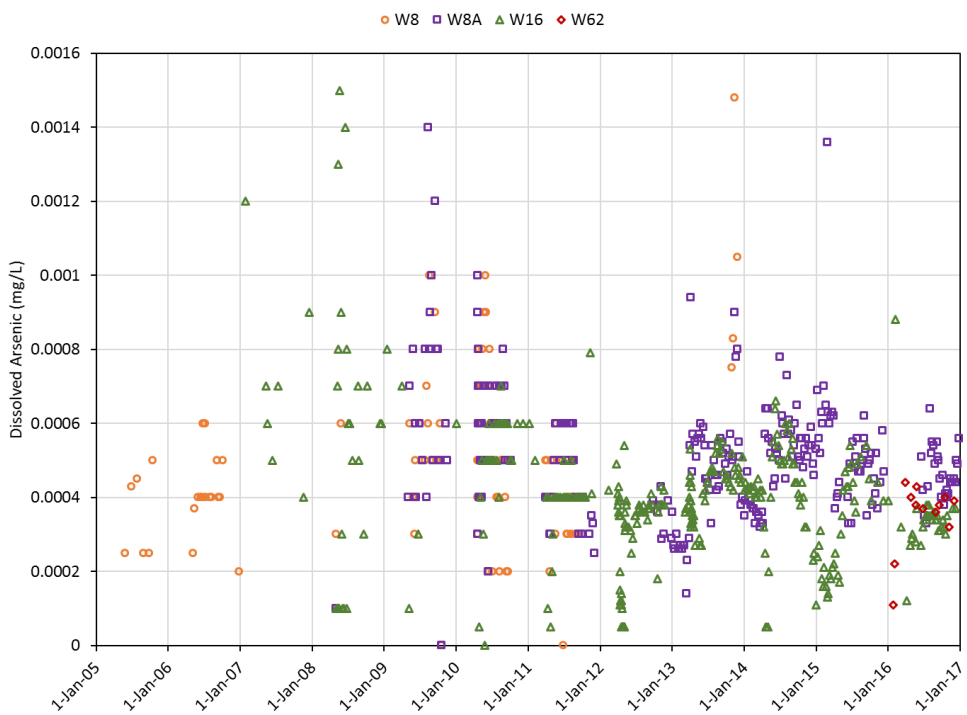

Figure 3-26: Concentrations of Dissolved Arsenic at Lower Minto Mine Facility Monitoring Locations.

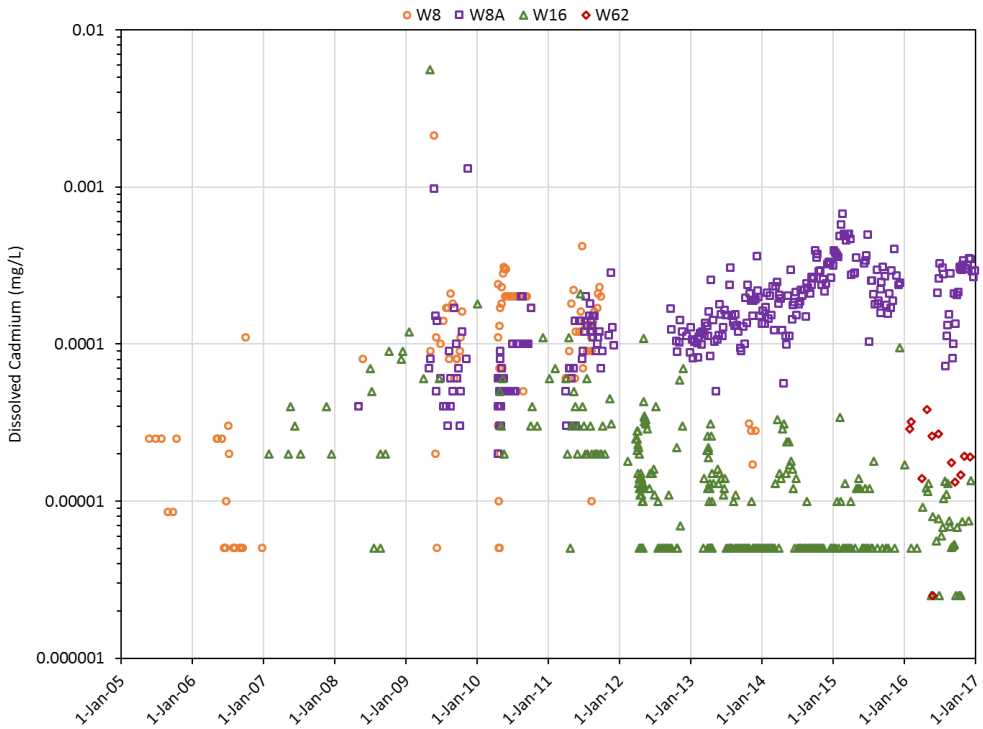

Figure 3-27: Concentrations of Dissolved Cadmium at Lower Minto Mine Facility Monitoring Locations. Note Log Scale.

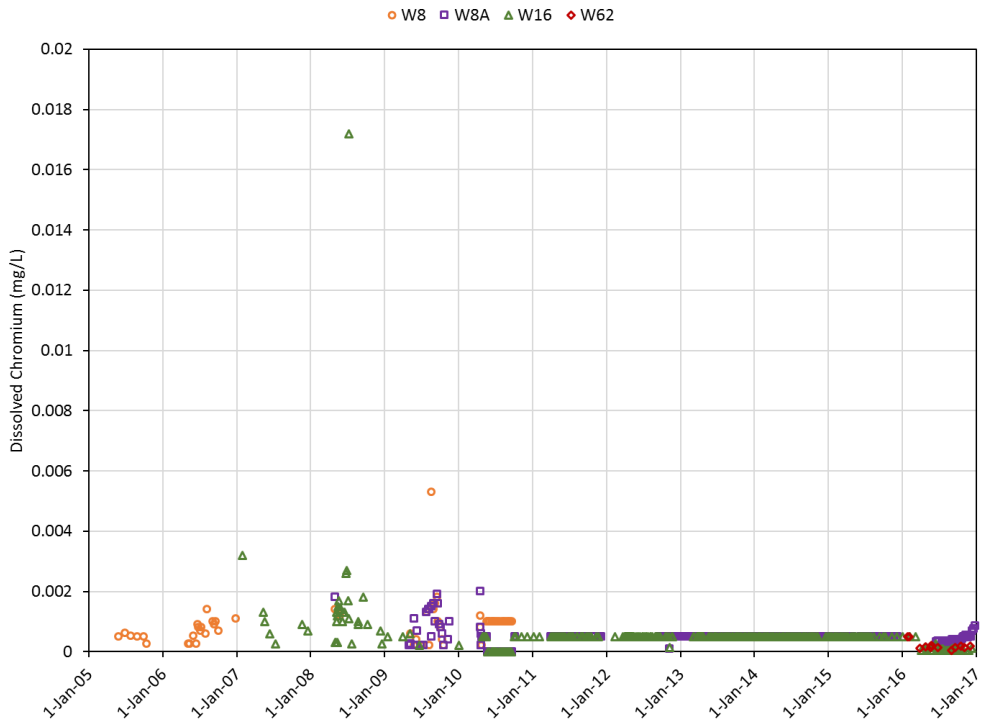

Figure 3-28: Concentrations of Dissolved Chromium at Lower Minto Mine Facility Monitoring Locations.

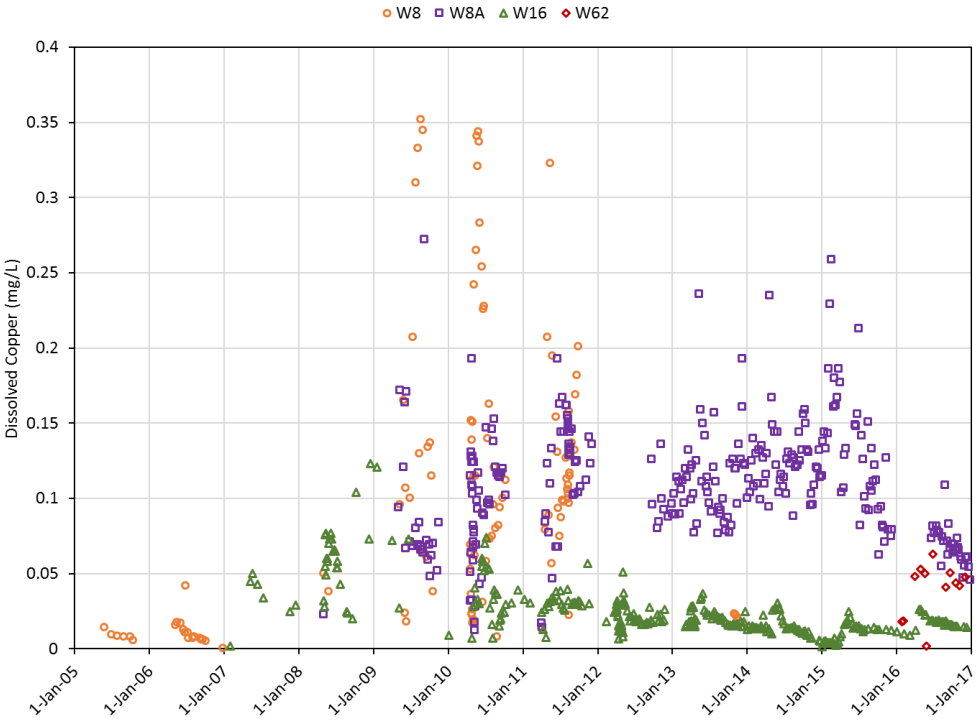

Figure 3-29: Concentrations of Dissolved Copper at Lower Minto Mine Facility Monitoring Locations.

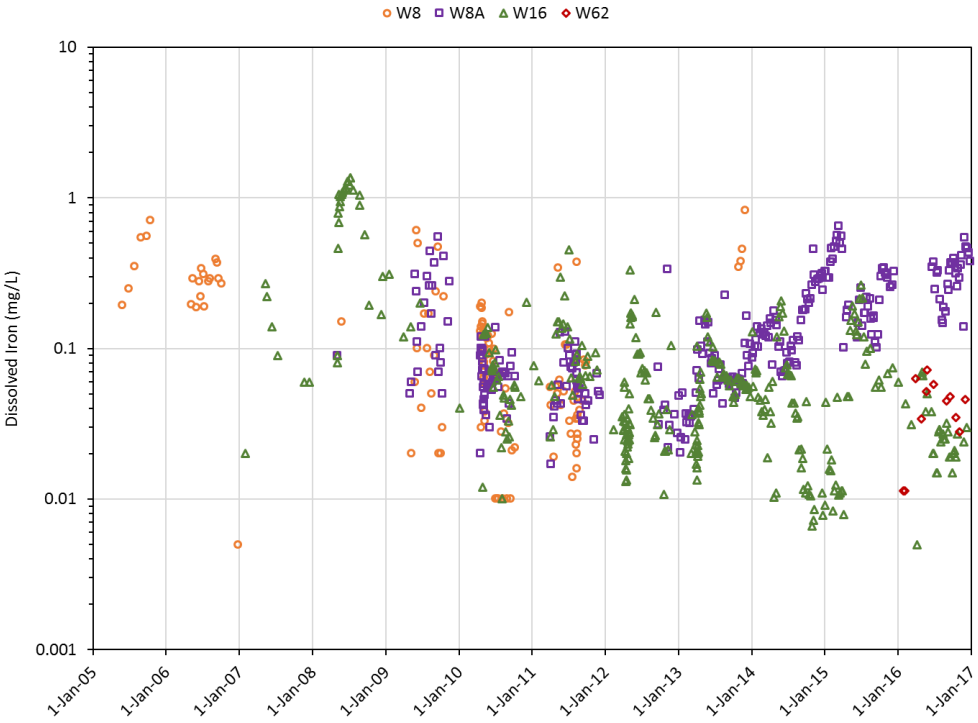

Figure 3-30: Concentrations of Dissolved Iron at Lower Minto Mine Facility Monitoring Locations. Note Log Scale.

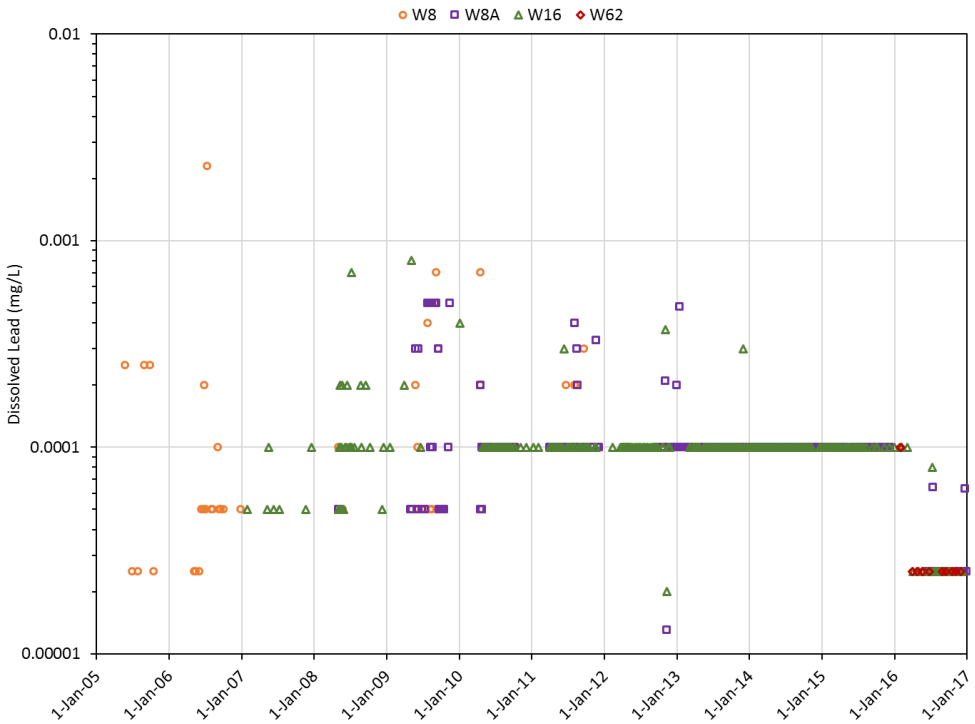

Figure 3-31: Concentrations of Dissolved Lead at Lower Minto Mine Facility Monitoring Locations. Note Log Scale.

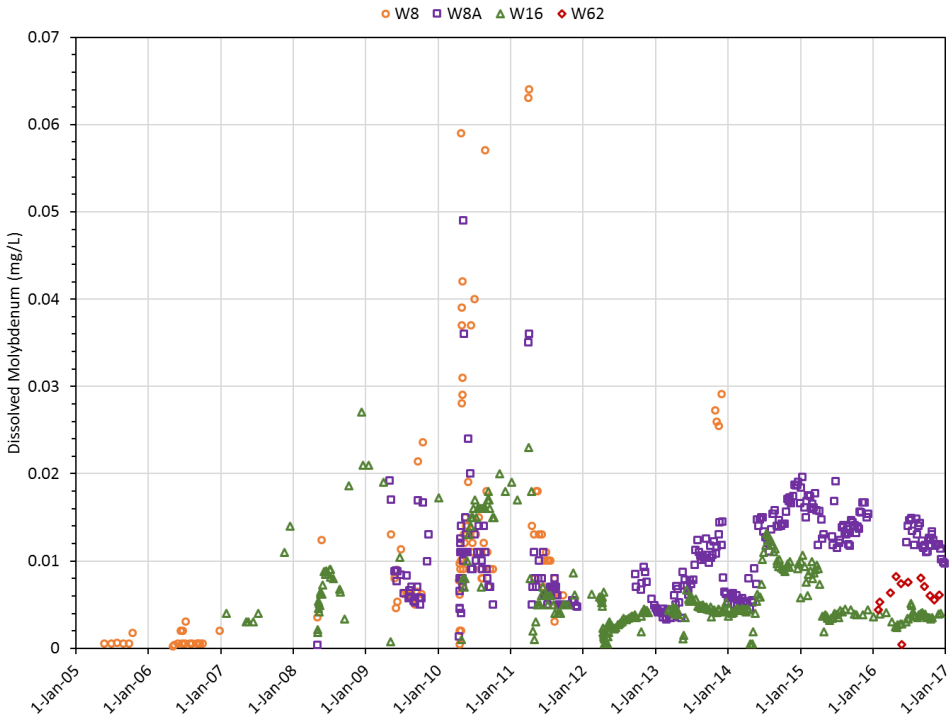

Figure 3-32: Concentrations of Dissolved Molybdenum at Lower Minto Mine Facility Monitoring Locations.

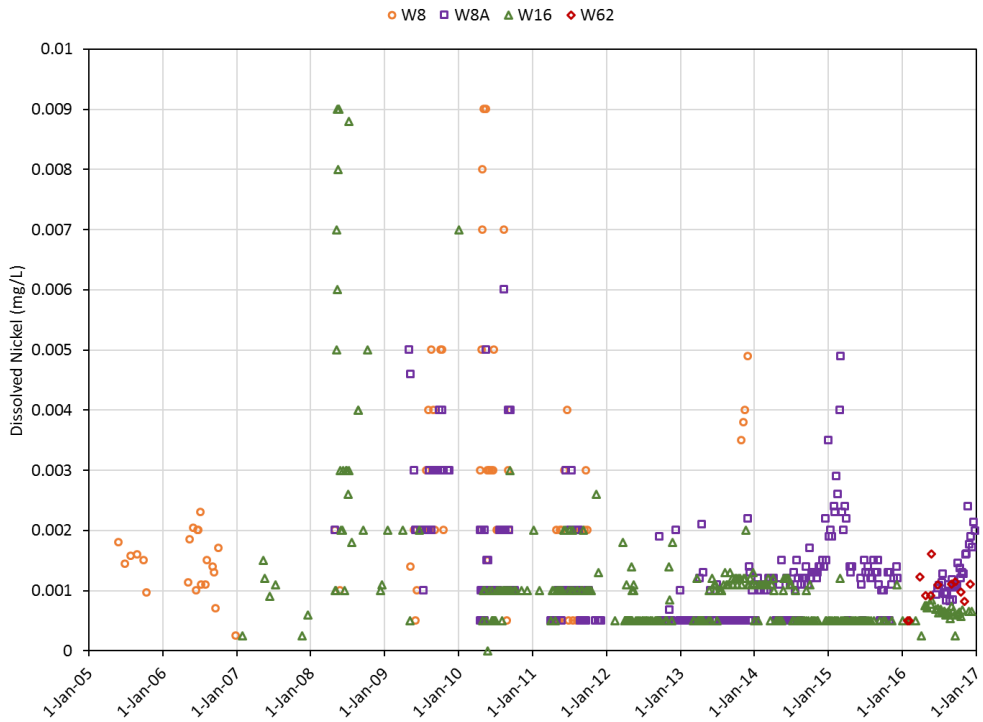

Figure 3-33: Concentrations of Dissolved Nickel at Lower Minto Mine Facility Monitoring Locations.

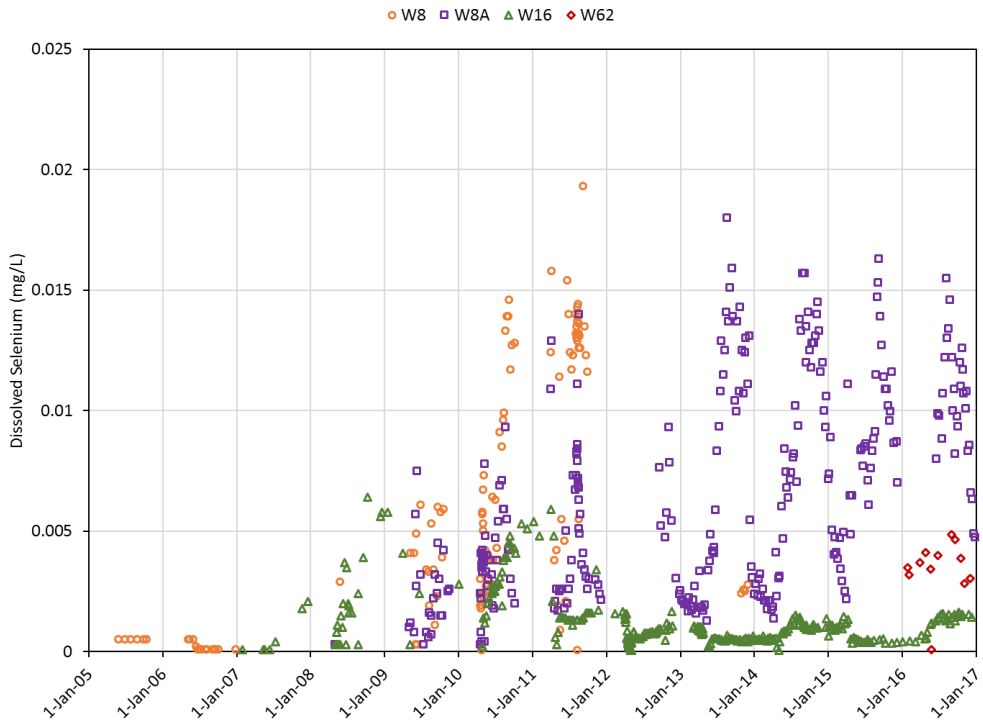

Figure 3-34: Concentrations of Dissolved Selenium at Lower Minto Mine Facility Monitoring Locations.

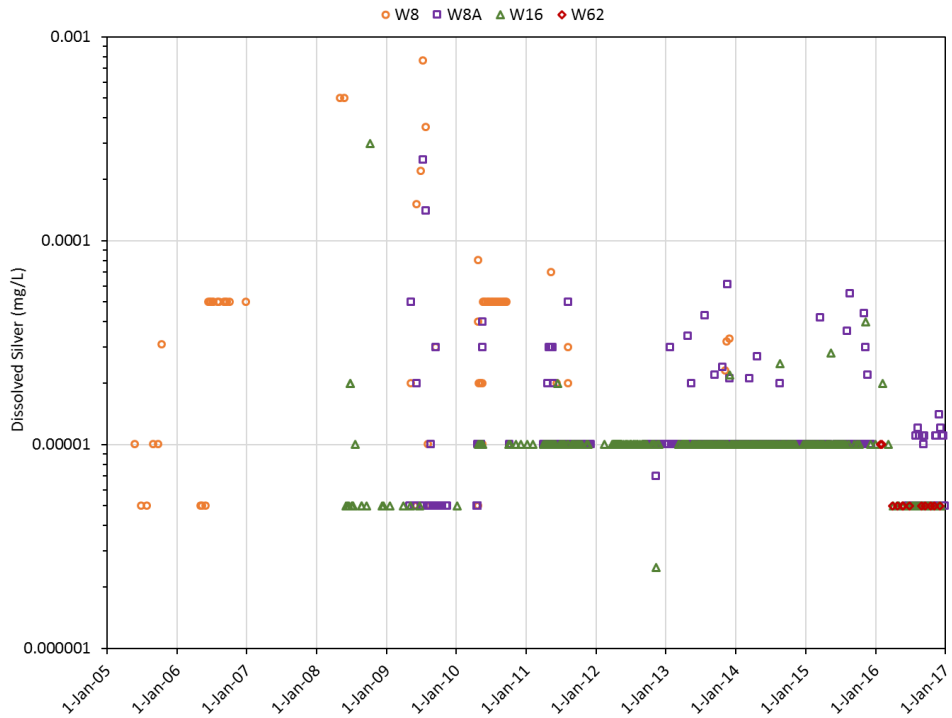

Figure 3-35: Concentrations of Dissolved Silver at Lower Minto Mine Facility Monitoring Locations. Note Log Scale.

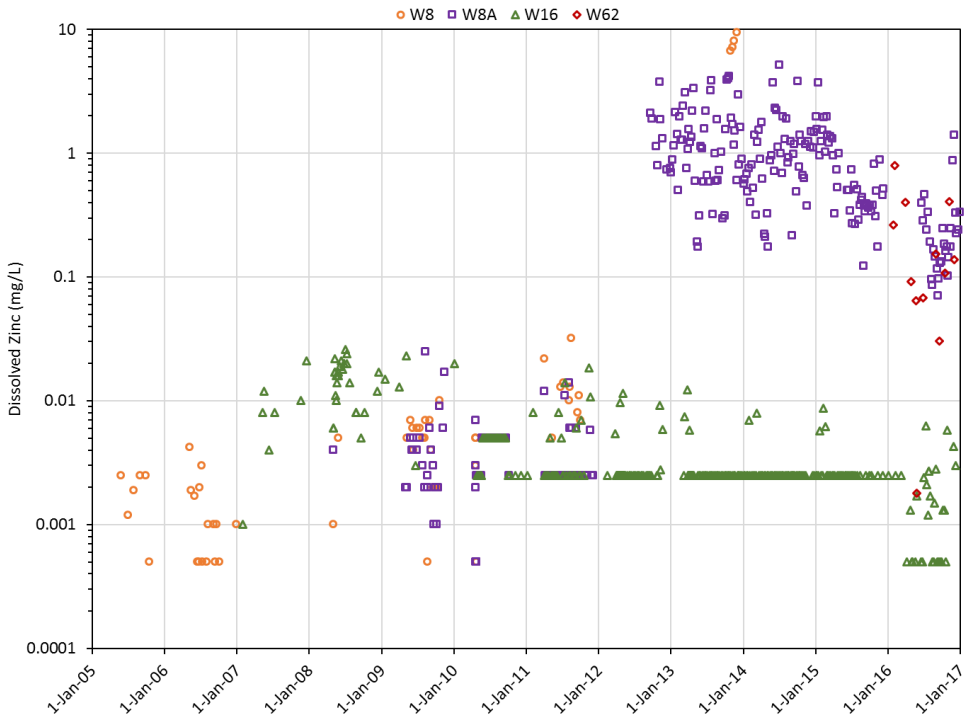

Figure 3-36: Concentrations of Dissolved Zinc at Lower Minto Mine Facility Monitoring Locations. Note Log Scale.

3.2 MINTO NORTH PIT

The Minto North Pit (sampling site MN) has not discharged any water and is not expected to discharge water during the operational period. As such, its water quality is considered separately here.

3.2.1 Physical Parameters, Anions and Nutrients

Statistical summaries of physical parameters and anion and nutrient concentrations at site MN are presented in Table 3-21. TSS, field pH, nitrate, nitrite, ammonia, and sulphate data are presented in Figure 3-37 through Figure 3-42.

The waters in the Mino North pit were circumneutral to mildly alkaline, ranging from pH 7.0 to 8.6 (median 7.7). Temperature varied seasonally from 0.2 to 18°C. Unlike the other flooded pits at the mine site, the Minto North Pit water appeared relatively well oxygenated (median 85% oxygen saturation) and did not exhibit any oxygen diminution over winter; however, only one set of winter data has been collected to date. Field measured conductivity was relatively high (median 1132 µS/cm) and showed no clear seasonal trends. TSS ranged from <3 mg/L to 142 mg/L (median 29 mg/L) and also showed no seasonal trends.

Sulphate concentrations ranged from 27 to 193 mg/L (median 77 mg/L) with the highest concentrations observed over summer/fall 2016. Elevated concentrations of nitrogen species were observed in the Minto North Pit with median concentrations of nitrite-N, nitrate-N and ammonia-N of 3.8, 122, and 8.7 mg/L, respectively. These elevated nitrogen species concentrations are likely related to nitrogen resides from blasting activity in the pit.

3.2.2 Metals

Statistical summaries of dissolved metals concentrations at site MN are presented in Table 3-22. Dissolved metal concentrations are plotted in Figure 3-43 through Figure 3-54.

Minto North Pit water has high hardness (median 567 mg/L) and did not display any seasonal variation during the monitored period. Indeed, no obvious seasonal trends were observed in the Minto North Pit trace element data, perhaps due to its relatively limited dataset.

Dissolved chromium and lead concentrations were below detection for all the MN samples collected to date. The majority of silver (73%) and zinc (55%) measurements were also below detection, with the measurable data indicating generally low concentrations of both elements in the Minto North Pit.

Concentrations of dissolved aluminum, arsenic, cadmium, molybdenum, and nickel were also unremarkable, with median values of 0.004, 0.0005, 0.00003, 0.02, and 0.0006 mg/L, respectively. Dissolved iron levels were also generally low (median 0.03 mg/L), with sporadic spikes in concentration approximately an order of magnitude higher than the median (Figure 3-48). Dissolved selenium concentrations were also relatively stable throughout the period of record (median 0.01 mg/L). MN waters generally contained elevated dissolved copper concentrations (0.012 to 0.56 mg/L; median 0.1 mg/L).

Table 3-21: Summary Statistics for Physical Parameters, Anions and Nutrients at MN (Minto North Pit)

	MN													
	TSS	Field pH	Field Conductivity	Temperature	Dissolved Oxygen		ORP	Chloride	Fluoride	Dissolved Sulphate	Ammonia-N	Nitrite-N	Nitrate-N	DOC
Units	mg/L		uS/cm	°C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit	1	NA [a]	10	NA [a]	0.1	1	NA [a]	0.2	0.01	0.5	0.001	0.001	0.002	0.5
Average	62.2	7.8	1183	7.0	10.4	84	125	5.0	1.3	86.7	13.8	5.4	150	NA [b]
Count	11	11	11	11	9	9	9	11	4	11	11	11	11	1
Minimum	<3	7.0	240.7	0.2	5.9	60.8	49	1.07	0.27	26.7	1.5	0.3	14.2	8.36
Maximum	142	8.6	1975	18.4	13.66	99	203	16.0	2.5	193	51	14.7	342	NA [b]
% <DL	9	0	0	0	0	0	0	18.2	0	0	0	0	0	0
Standard Deviation	57.4	0.44	578	6.3	2.9	14.4	59	4.46	0.97	55.8	14.5	4.8	101	NA [b]
1st Quartile	8.3	7.6	688	2	8.2	80.8	66	2.0	0.55	32.3	5.9	1.4	77.1	NA [b]
Median	29.3	7.7	1132	6.7	9.7	85.4	131	3.2	1.26	76.9	8.7	3.8	122	NA [b]
3rd Quartile	115	8.1	1676	9.8	13.4	96.1	167	6.6	2.09	118	23.4	8.2	183	NA [b]

[a] Not applicable

[b] Not applicable due to too few measurements above the detection limit

Table 3-22: Summary Statistics for Dissolved Metals of Interest at MN (Minto North Pit)

	MN												
	Hardness (dissolved)	Aluminum (dissolved)	Arsenic (dissolved)	Cadmium (dissolved)	Chromium (dissolved)	Copper (dissolved)	Iron (dissolved)	Lead (dissolved)	Molybdenum (dissolved)	Nickel (dissolved)	Silver (dissolved)	Selenium (dissolved)	Zinc (dissolved)
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit		0.001	0.0001	0.000005	0.0001	0.001	0.005	0.00002	0.0001	0.0005	0.000005	0.0001	0.0001
Average	634	0.0087	0.00064	0.000061	<0.001	0.16	0.10	<0.0001	0.021	0.0013	0.00046	0.015	0.0041
Count	11	11	11	11	11	11	11	11	11	11	11	11	11
Minimum	124	0.0025	0.00020	<0.00001	<0.0001	0.012	<0.01	<0.00005	0.0077	<0.0005	<0.00001	0.0039	<0.001
Maximum	1260	0.027	0.0014	0.00028	<0.001	0.56	0.45	<0.0002	0.038	0.0041	0.0048	0.063	0.016
% <DL	0	0	0	9.1	100.0	0	27	100	0	45	72.7	0	55
Standard Deviation	352	0.0086	0.00034	0.000083	NA [a]	0.17	0.14	NA [a]	0.0097	0.0012	0.0017	0.017	0.0052
1st Quartile	341	0.0032	0.00041	0.000013	<0.0001	0.024	<0.01	<0.00005	0.013	<0.0005	<0.00001	0.0047	<0.002
Median	567	0.0044	0.00051	0.000027	<0.0001	0.095	0.030	<0.00005	0.020	0.00060	0.000015	0.0096	0.0021
3rd Quartile	880	0.0091	0.00080	0.000071	<0.0002	0.28	0.22	<0.0001	0.032	0.0020	0.000015	0.014	0.0066

[a] Not applicable due to too few measurements above the detection limit

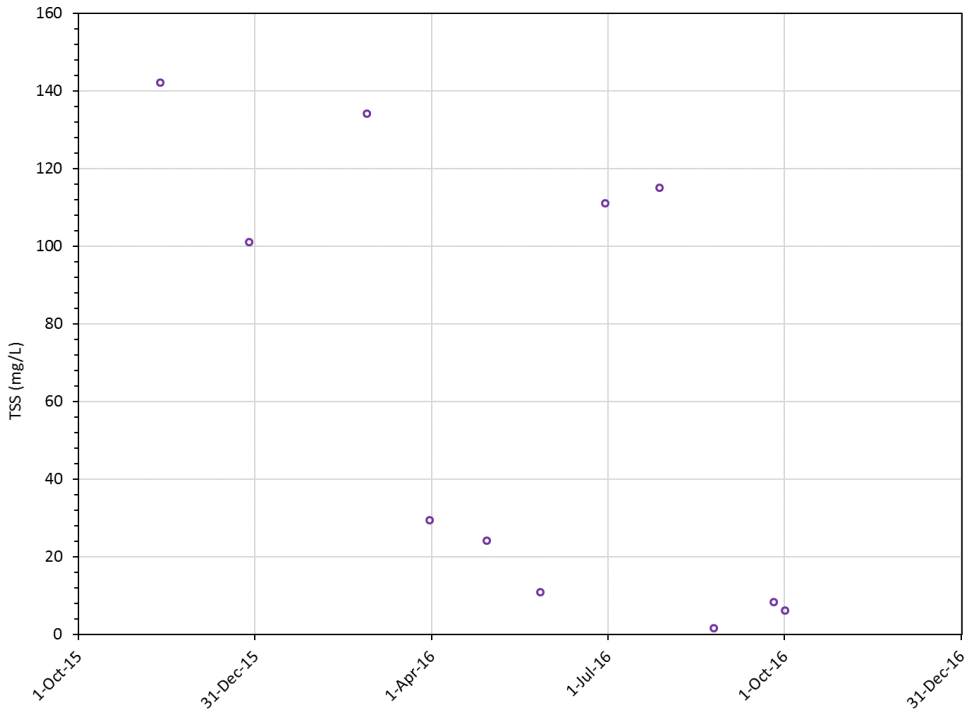

Figure 3-37: TSS in Minto North Pit.

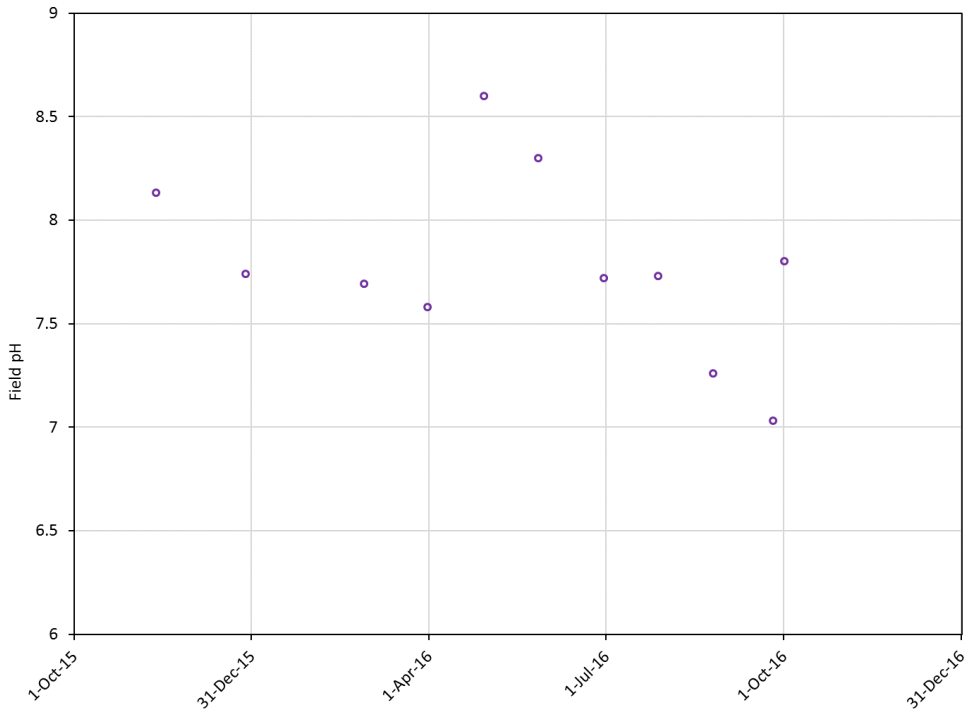

Figure 3-38: Field pH in Minto North Pit.

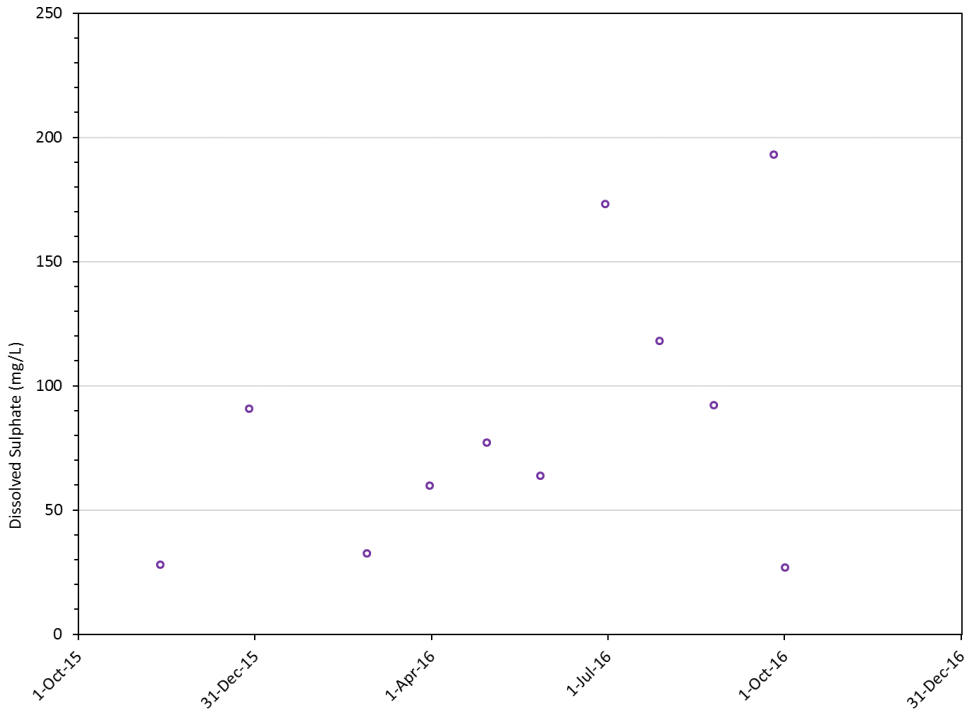

Figure 3-39: Dissolved Sulphate Concentrations in Minto North Pit.

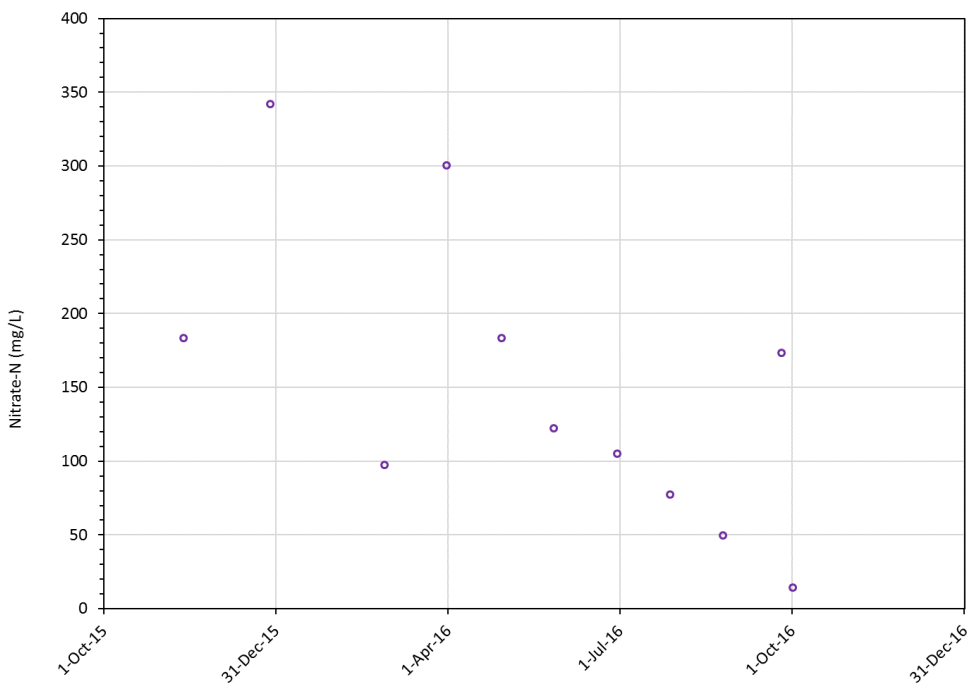

Figure 3-40: Nitrate (N) Concentrations in Minto North Pit.

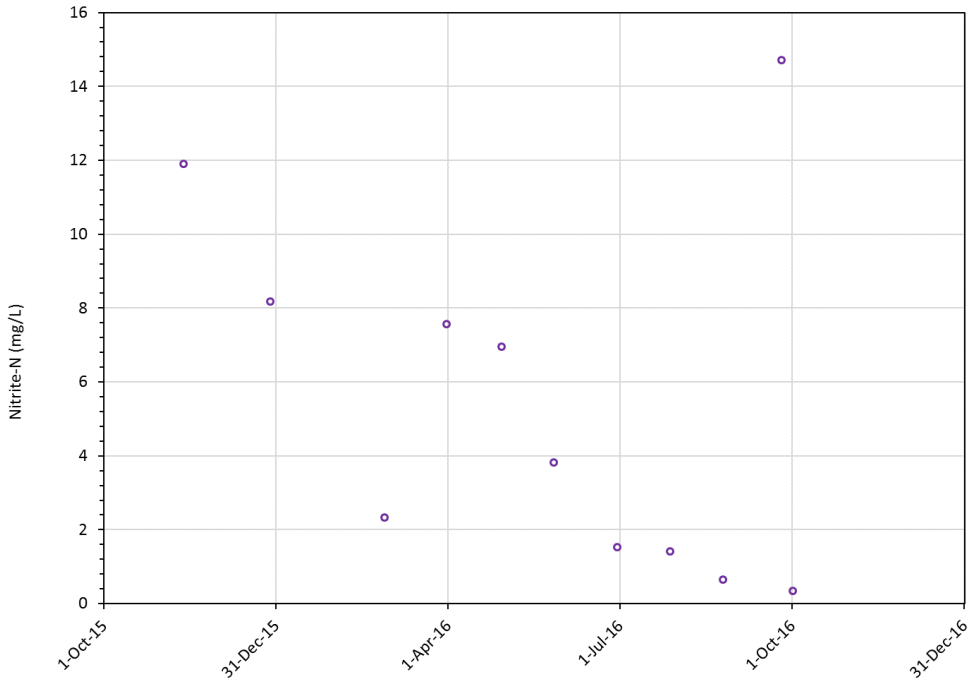

Figure 3-41: Nitrite (N) Concentrations in Minto North Pit.

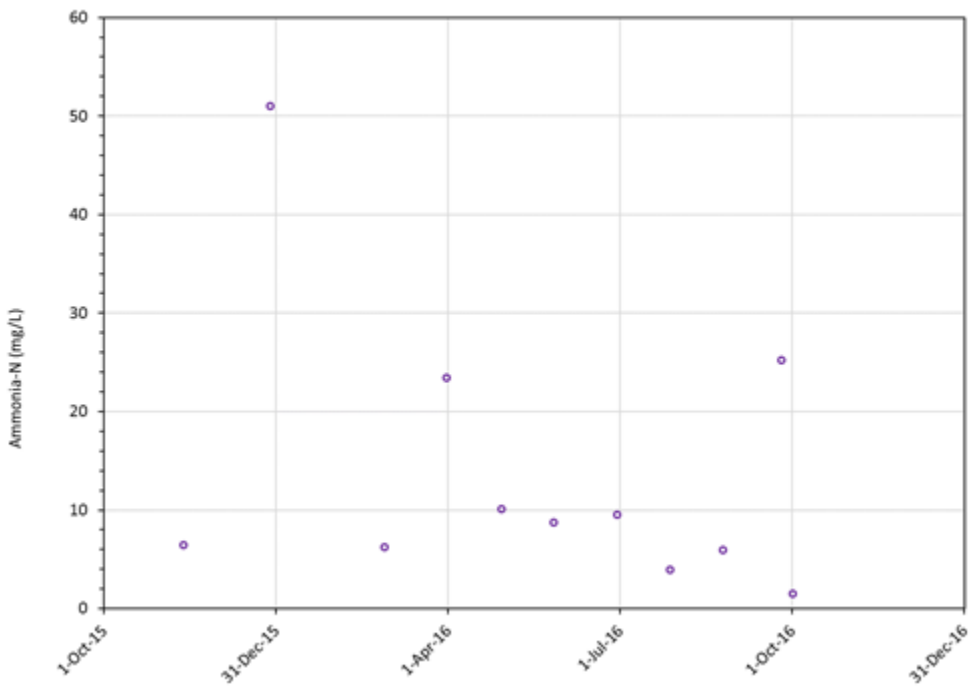

Figure 3-42: Ammonia (N) Concentrations in Minto North Pit.

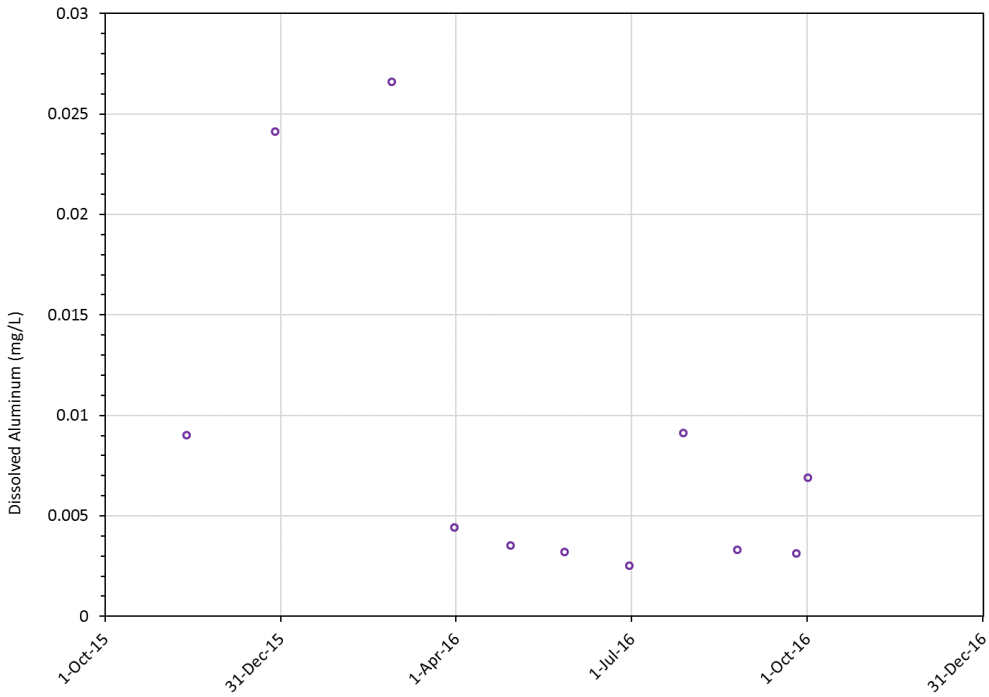

Figure 3-43: Dissolved Aluminum Concentrations in Minto North Pit.

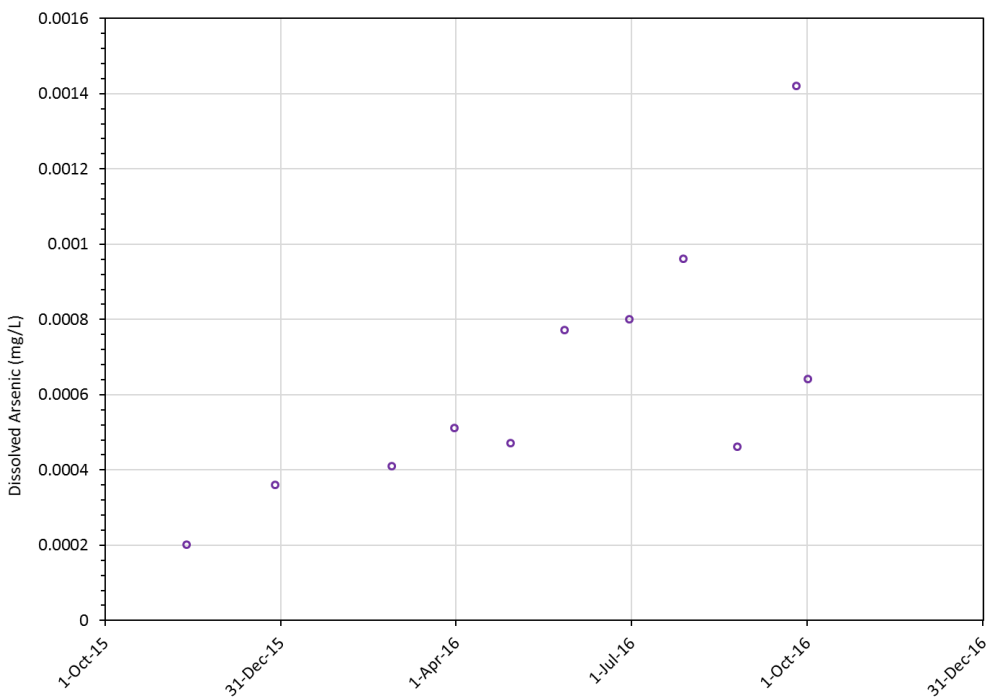

Figure 3-44: Dissolved Arsenic Concentrations in Minto North Pit.

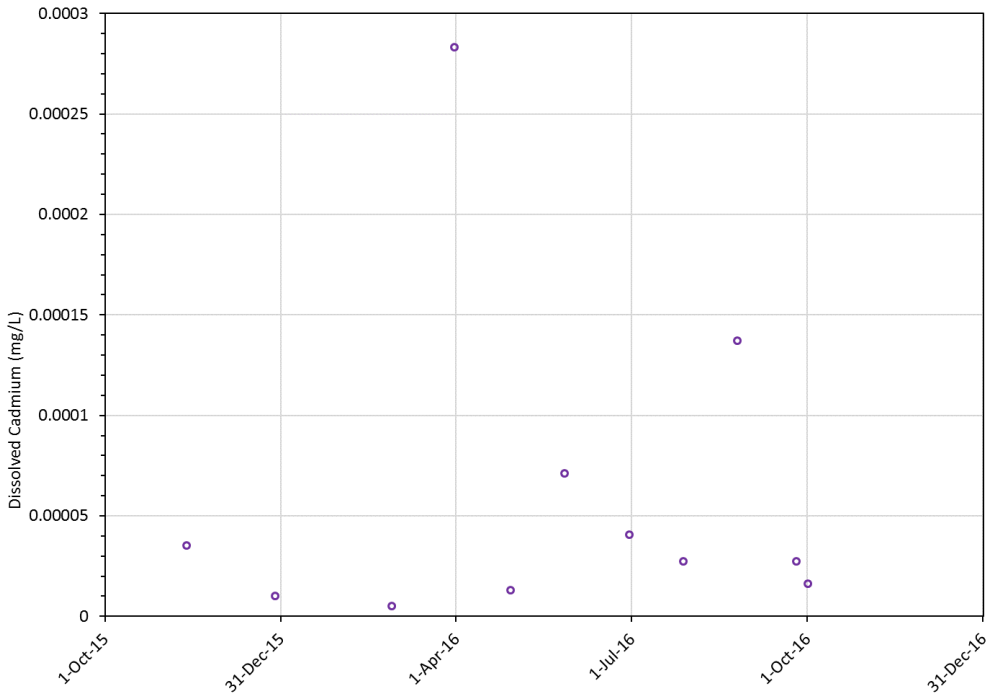

Figure 3-45: Dissolved Cadmium Concentrations in Minto North Pit.

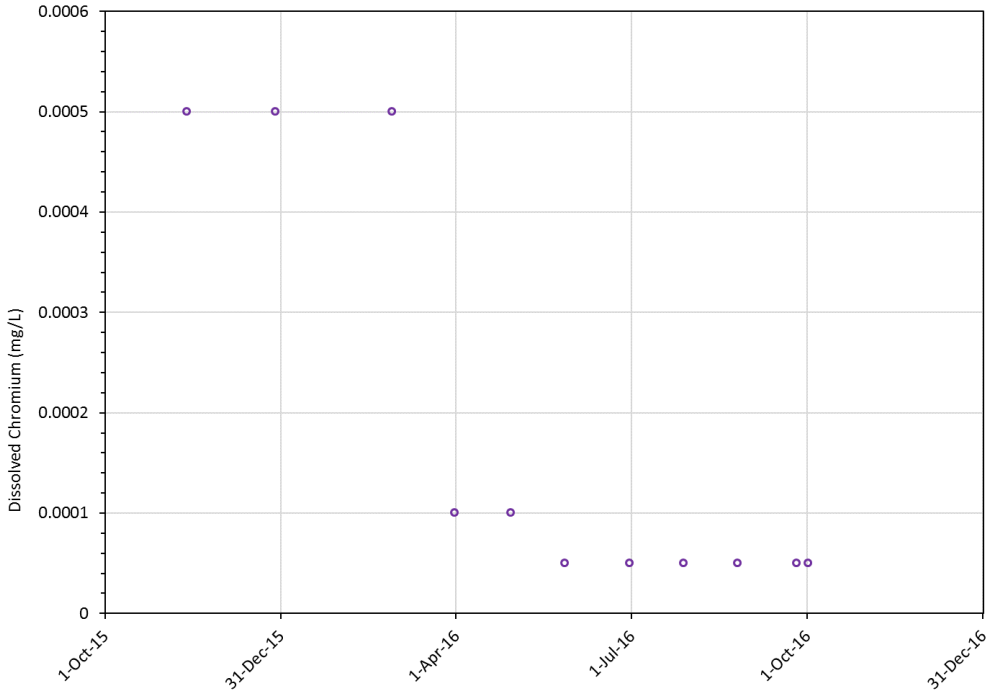

Figure 3-46: Dissolved Chromium Concentrations in Minto North Pit.

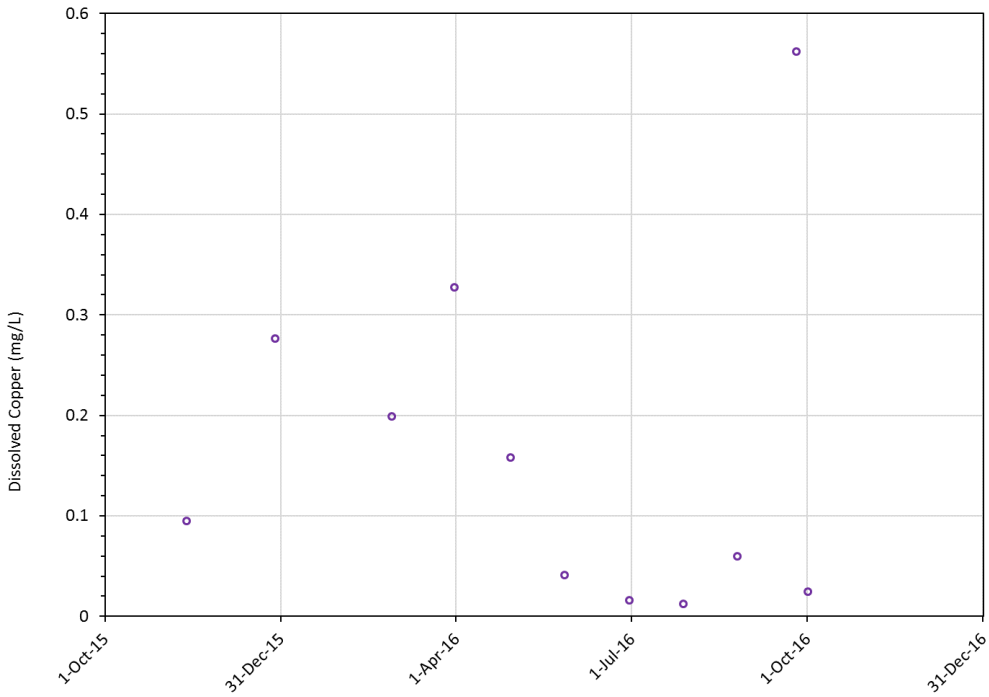

Figure 3-47: Dissolved Copper Concentrations in Minto North Pit.

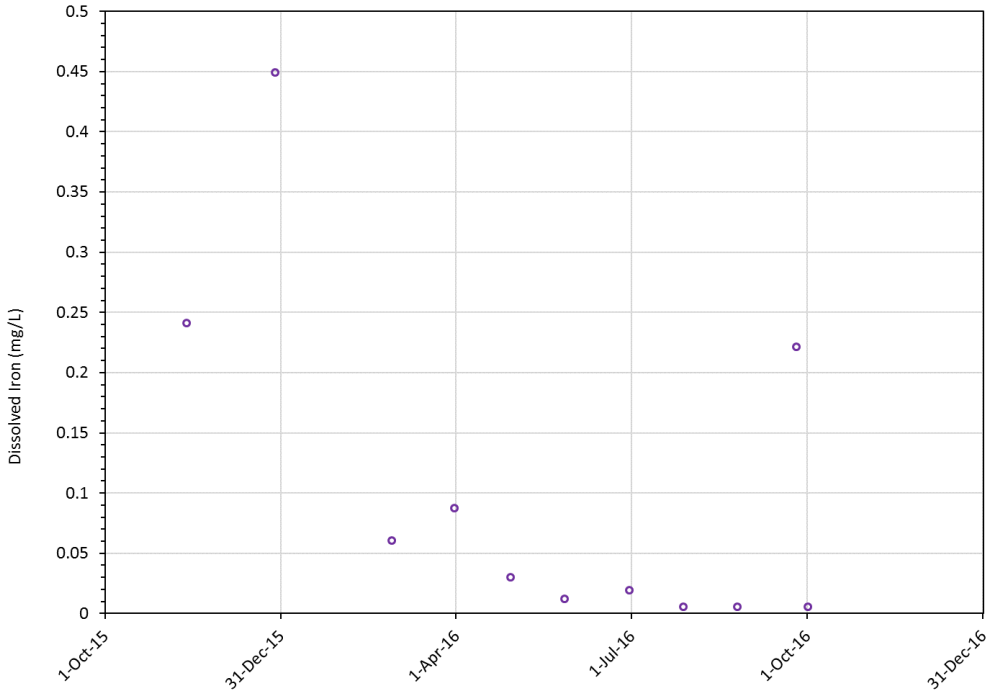

Figure 3-48: Dissolved Iron Concentrations in Minto North Pit.

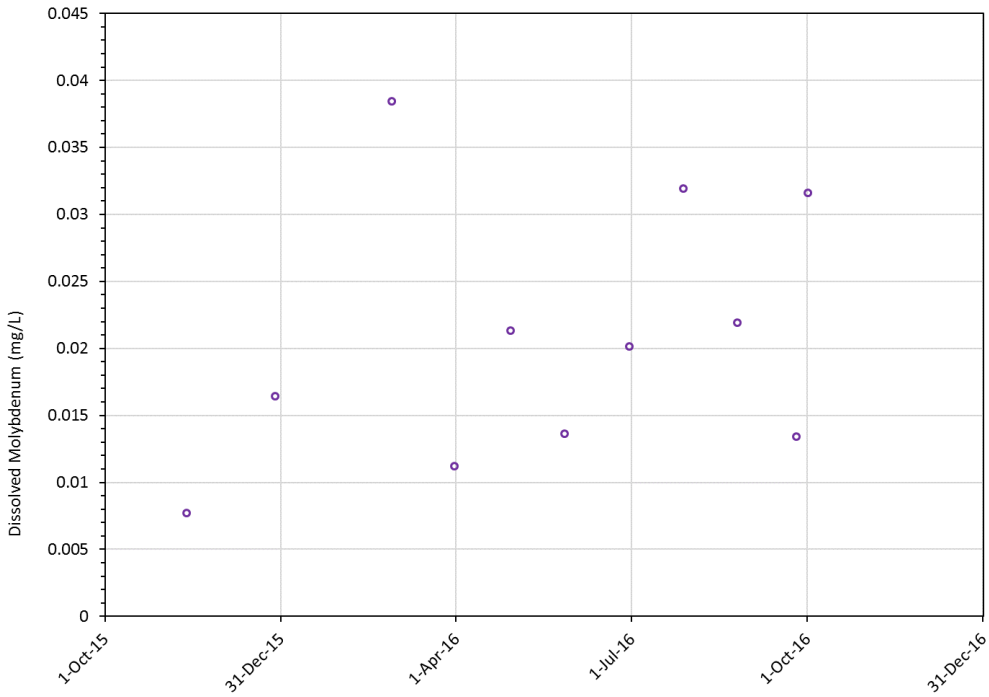

Figure 3-49: Dissolved Molybdenum Concentrations in Minto North Pit.

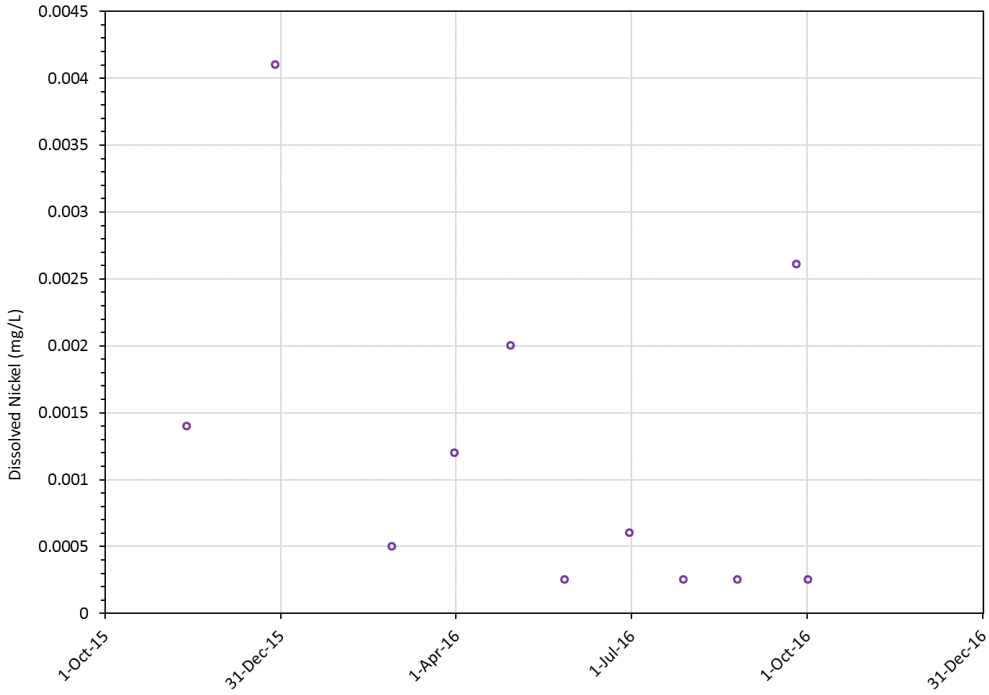

Figure 3-50: Dissolved Nickel Concentrations in Minto North Pit.

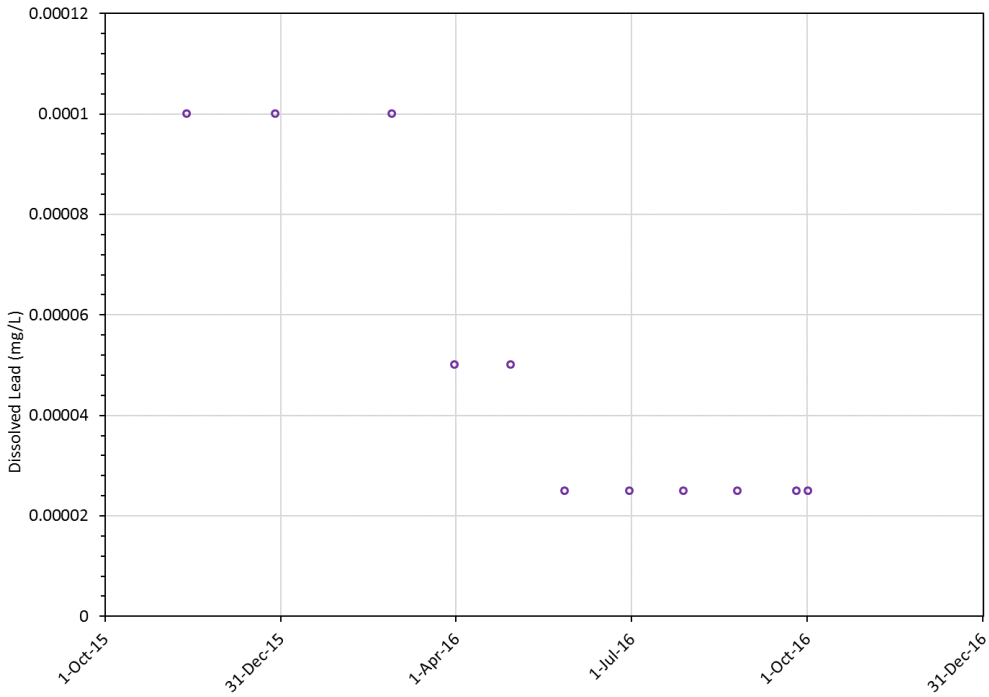

Figure 3-51: Dissolved Lead Concentrations in Minto North Pit.

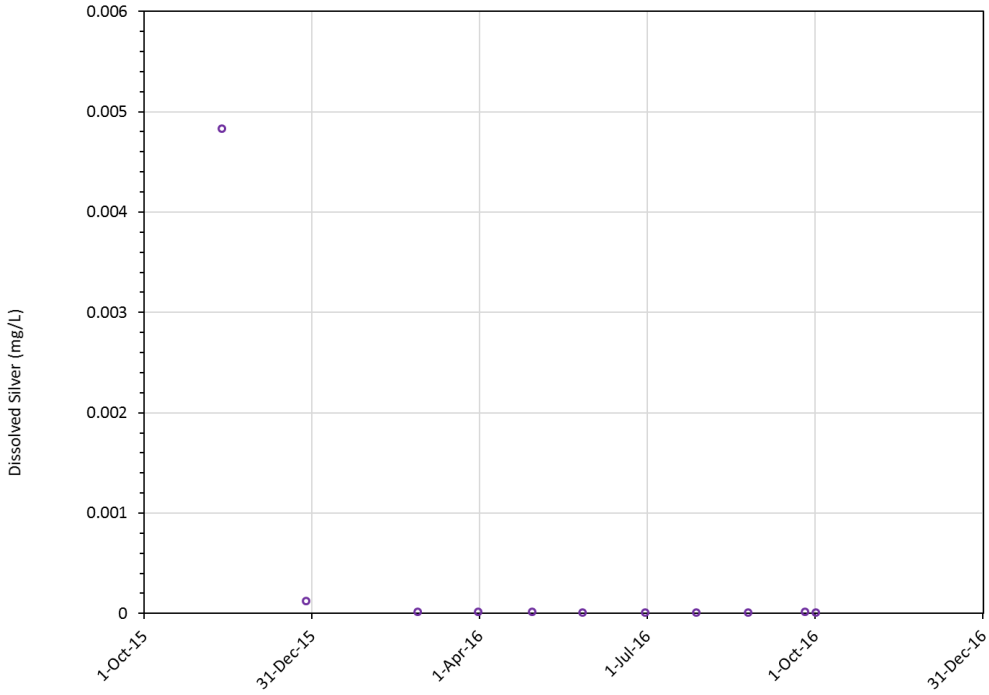

Figure 3-52: Dissolved Silver Concentrations in Minto North Pit.

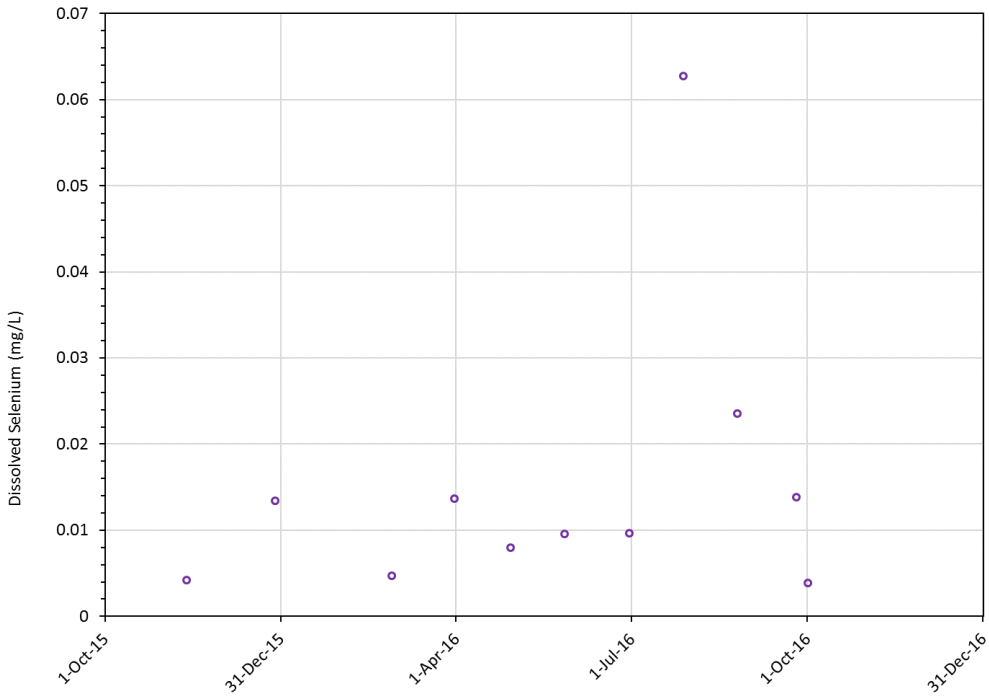

Figure 3-53: Dissolved Selenium Concentrations in Minto North Pit.

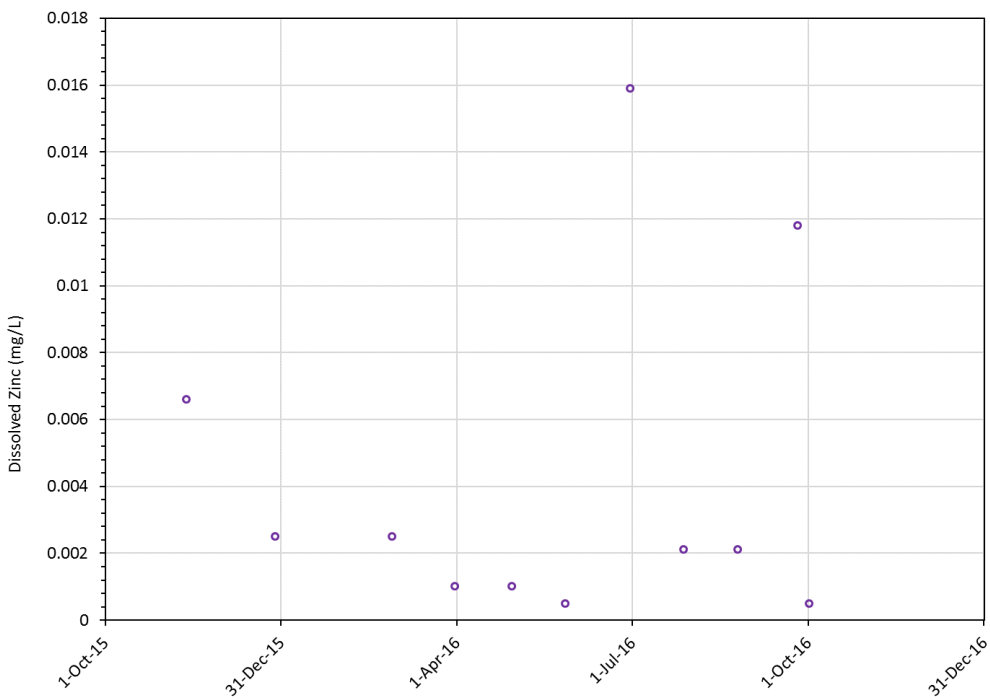

Figure 3-54: Dissolved Zinc Concentrations in Minto North Pit.

3.3 MINTO CREEK

Discussion of water quality data in Minto Creek comprises results for sample stations W50, W3, MC1 and W2 as outlined in Section 2.1.3. Examined parameters included those included in the list of EQS and WQO in Water License QZ14-031. Interpretation of water quality results was performed in terms of operations without mine discharge (Section 3.3.1) and operations with mine discharge (Section 3.3.2). Water quality in the pre-operations phase was presented and discussed previously in Minnow, 2016 which is found as Appendix A. Plots depicting examined parameters (physical parameters, anions, nutrients and dissolved metals concentrations) temporally at Minto Creek stations are shown in Figure 3-55 through Figure 3-105.

EQS, WQO, and MMER standards are shown on plots for W50, W2, and W3, respectively, for reference. In the case of the hardness-dependent cadmium EQS/WQO, the line depicting the EQS/WQO was calculated based on lower quartile hardness at W2 without mine discharge (121 mg/L). In the case of the DOC-dependent EQS/WQO for copper, the lower EQS/WQO is depicted on the plots for reference. Actual exceedances of these varying EQS/WQO were determined on a sample to sample basis and are reflected in the count of exceedances listed in the summary statistics tables.

To delineate the effects of mine site discharge on downstream water quality in Minto Creek, Sections 3.3.1 and 3.3.2 review the chemistry of Minto Creek for periods with and without mine site discharge, respectively. In general, higher concentrations of constituents related to the mine site (e.g., nitrogen species, copper, molybdenum, and selenium) were observed in downstream Minto Creek waters during periods of mine discharge.

3.3.1 Operational Phase without Mine Discharge

Water quality data collected at Minto Creek stations during the operational phase without mine discharge are presented and discussed for physical parameters and anion and nutrient concentrations in Section 3.3.1.1 and for dissolved metals in Section 3.1.1.2.

3.3.1.1 Physical Parameters, Anions and Nutrients

Statistical summaries for physical parameters and anion and nutrient concentrations at Minto Creek stations during periods without mine discharge are presented in Table 3-23 through Table 3-26.

The pH in Minto Creek without mine discharge has been circumneutral with medians ranging from pH 7.7 at W3 to pH 8.0 at MC1 and W2. Temperature varied seasonally from -1.5 to 13.7 ^{o}C. The waters of Minto Creek were well oxygenated with occasional lower oxygen content measurements (<40% saturation) generally made in winter months when ice cover could inhibit oxygen ingress to the creek. Median field conductivity decreased going downstream from W50 (280 µS/cm) and W3 (297 µS/cm) to MC1 (200 µS/cm) and W2 (215 µS/cm). Lower conductivity values at W2 were typically measured during high flow periods where dilution would have been provided by spring meltwater while higher measurements were typically made in late summer, fall and winter. This seasonal trend was less apparent at W3 closer to the site where higher conductivity measurements appeared to follow periods of mine discharge.

At all sites, TSS concentrations typically peak in April/May during freshet when the resulting higher flow regime washes particulates into Minto Creek and promotes erosive mobilization of particulates within the wetted width of the creek. TSS levels were generally lower at the upstream sites W3 and W50 (median 1 and 2 mg/L, respectively) than further downstream (median 5 and 8 mg/L at sites W2 and MC1, respectively). TSS concentrations exceed the EQS at W50 in two samples (5% of dataset) when there was no discharge from the mine site; however, both sampling events occurred before this TSS EQS came into effect with the issuance of WUL QZ14-031 (August 2015). Exceedances of the MMER grab sample TSS guideline (30 mg/L) occurred in 20 samples (3% of dataset) at site W3 when there was no discharge from the mine site.

Nitrate-N concentrations at W3 and W50 appeared to be influenced by site discharge with higher concentrations often following periods of site discharge. Concentrations decreased following the end of a discharge period and typically reached minima in late summer/early fall due to uptake by primary producers that are most active during those times. Aside from mine discharge – and more apparent farther downstream at MC1 and W2 – nitrate-N concentrations typically increased during winter when uptake by primary producers was likely lowest. During periods without discharge from the mine site, ammonia-N concentrations were similar throughout Minto Creek stations with median concentrations ranging from 0.018 mg/L at W50 to 0.025 mg/L at MC1. No seasonal trends are apparent and higher concentrations often followed periods of mine discharge. Nitrite-N concentrations were often close to or below detection level at W3 and were higher downstream at W2 after periods of mine discharge. No exceedances of the nitrogen species EQS were observed at W50 during periods when the mine was not discharging. Four exceedances of the ammonia-N WQO were observed at W2; however, these occurred prior to August 2015 when this WQO was established with water licence QZ14-031.

DOC concentrations were higher in downstream stations MC1 (median 10.5 mg/L) and W2 (median 10.4 mg/L) than upstream station W3 (median 5.7 mg/L); however, DOC concentrations at W50 were similar to downstream stations (9.3 mg/L), albeit in relatively fewer samples. At W3, higher DOC concentrations typically were recorded after a period of discharge or in April/May when high flows from snowmelt likely mobilized organic carbon that had accumulated in soils from the previous year. At MC1 and W2, DOC concentrations were generally higher in later summer (August/September) and were lowest in the winter.

Table 3-23: Summary Statistics for Physical Parameters, Anions and Nutrients at Site W50, Minto Creek without Mine Discharge.

	W50 - No Discharge														
	TSS	Field pH	Field Conductivity	Temperature	Dissolved Oxygen		ORP	Chloride	Fluoride	Dissolved Sulphate	Ammonia-N	Nitrite-N	Nitrate-N	DOC	Total Phosphorus (colourimetric)
Units	mg/L		uS/cm	°C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit	1	NA [a]	10	NA [a]	0.1	1	NA [a]	0.2	0.01	0.5	0.001	0.001	0.002	0.5	0.005
EQS	15 – 30 [b]	6.0 - 9.0	-	-	-	-	-	-	-	-	0.75	0.18	27.3	-	-
Average	5.8	7.9	320	3.4	11.6	86	107	6.3	0.33	49.2	0.032	0.015	2.5	11.5	0.029
Count	42	42	41	39	24	28	19	42	29	40	29	32	32	29	14
Minimum	<1	7.0	0.57	-0.60	2.3	19.1	-12	1.1	0.060	<0.5	<0.005	<0.005	<0.02	5.29	0.011
Maximum	30.4	8.6	625	8.5	16.7	119	226	10.0	0.53	88.0	0.11	0.060	10.8	43	0.040
% <DL	38	0	0	0	0	0	0	0	0	8	7	46.9	6	0	0
Standard Deviation	7.9	0.33	167	2.4	3.3	22.0	81	2.4	0.12	25.4	0.029	0.017	2.9	7.4	0.0095
1st Quartile	<1	7.8	219	1.2	11.3	84.3	35	4.5	0.24	32.1	0.012	<0.005	0.22	8.7	0.020
Median	2.1	7.9	280	3.2	12.1	89.8	122	6.1	0.35	50.1	0.018	0.0060	2.0	9.3	0.030
3rd Quartile	6.0	8.0	490	5.4	12.7	96.2	195	7.7	0.42	70.0	0.043	0.011	2.8	10.6	0.038
Count Over EQS	2 [c]	0	-	-	-	-	-	-	-	-	0	0	0	-	-
% Over EQS	4.8%	0%	-	-	-	-	-	-	-	-	0%	0%	0%	-	-

[a] Not applicable

[b] Total Suspended Solids (TSS) of 15 mg/L except during March, April and May when the TSS limit is a maximum grab concentration of 30 mg/L

[c] Values over EQS occurred before issuance of QZ14-031 WUL

Table 3-24: Summary Statistics for Physical Parameters, Anions and Nutrients at Site W3, Minto Creek without Mine Discharge

	W3 - No Discharge															
	TSS	Field pH	Field Conductivity	Temperature	Dissolved Oxygen		ORP	Chloride	Fluoride	Dissolved Sulphate	Total Cyanide	Ammonia-N	Nitrite-N	Nitrate-N	DOC	Total Phosphorus (colourimetric)
Units	mg/L		uS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit	1	NA [a]	10	NA [a]	0.1	1	NA [a]	0.2	0.01	0.5	0.0010	0.001	0.001	0.002	0.5	0.005
MMER [b]	30	-	-	-	-	-	-	-	-	-	2.0	-	-	-	-	-
Average	5.10	7.7	378	1.4	12.0	83	83	5.2	0.46	55.3	0.013	0.029	0.004	1.5	7.5	0.040
Count	612	501	471	468	307	369	260	583	399	579	31	533	536	580	435	173
Minimum	<1	2.0	5.0	-1.5	1.5	6.9	-409	0.13	0.063	<0.5	<0.001	<0.002	<0.001	<0.005	<0.5	<0.005
Maximum	283	10.1	1880	10.9	106	301	308	25.2	0.87	220	0.14	0.62	0.19	13.7	48	0.17
% <DL	53.8	0	0	0	0	0	0	2	0	0	32	24	81.5	7	0	22.0
Standard Deviation	15.4	0.48	167	1.9	7.1	21.9	89	3.2	0.12	19.5	0.032	0.046	0.02	2.2	6.2	0.026
1st Quartile	<1	7.5	263	0.04	10.8	77.0	53	3.2	0.41	42.9	<0.001	0.011	0.0016	0.24	4.7	0.020
Median	1.0	7.7	297	0.7	11.6	84.4	85	4.7	0.48	52.7	0.0010	0.018	0.0016	0.67	5.7	0.040
3rd Quartile	4.0	7.9	523	2.4	12.4	91.5	124	6.6	0.55	67.0	0.013	0.030	0.0016	1.4	8.0	0.050
Count Over MMER	20	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
% Over MMER	3.3%	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-

[a] Not applicable

[b] MMER maximum authorized concentration in a grab sample

Table 3-25: Summary Statistics for Physical Parameters, Anions and Nutrients at Site MC1, Minto Creek without Mine Discharge

	MC1 - No Discharge														
	TSS	Field pH	Field Conductivity	Temperature	Dissolved Oxygen		ORP	Chloride	Fluoride	Dissolved Sulphate	Ammonia-N	Nitrite-N	Nitrate-N	DOC	Total Phosphorus (colourimetric)
Units	mg/L		uS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit	5.0	NA [a]	10	NA [a]	0.1	1	NA [a]	0.2	0.01	0.5	0.001	0.001	0.002	0.5	0.005
Average	52.8	8.0	219	2.5	13.4	97	97	2.5	0.36	19.7	0.036	0.0027	0.17	11.5	0.156
Count	182	159	157	159	128	133	115	174	158	176	174	174	180	179	18
Minimum	<1	7.3	73.3	-1.5	0.67	2.3	-506	0.80	0.11	<0.5	<0.005	<0.001	<0.005	5.33	0.020
Maximum	660	9.7	557	8.7	98.1	699	268	61.8	1.1	104.0	0.36	0.034	2.3	30.5	0.60
% <DL	14.3	0	0	0	0	0	0	0	0	2	5	82.8	12	0	0
Standard Deviation	116.4	0.30	81	2.6	8.0	55.8	114	4.7	0.12	14.0	0.039	0.0037	0.22	4.2	0.19
1st Quartile	2.3	7.8	169	0.0	11.8	91.5	71	1.6	0.3	12.9	0.013	<0.005	0.080	8.4	0.041
Median	8.2	8.0	200	2.2	12.7	95.0	124	1.8	0.36	16.2	0.025	<0.005	0.13	10.5	0.069
3rd Quartile	43.6	8.1	250	4.9	13.7	98.0	157	2.2	0.40	21.7	0.040	<0.005	0.18	13.0	0.19

[a] Not applicable

Table 3-26: Summary Statistics for Physical Parameters, Anions and Nutrients at Site W2, Minto Creek without Mine Discharge.

	W2 - No Discharge															
	TSS	Field pH	Field Conductivity	Temperature	Dissolved Oxygen		ORP	Chloride	Fluoride	Dissolved Sulphate	Total Cyanide	Ammonia-N	Nitrite-N	Nitrate-N	DOC	Total Phosphorus (colourimetric)
Units	mg/L		uS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit	1.0	NA [a]	10	NA [a]	0.1	1	NA [a]	0.2	0.01	0.5	0.0005	0.001	0.001	0.002	0.5	0.005
WQO	15 – 30 [b]	6.0 - 9.0	-	-	-	-	-	-	-	-	-	0.25	0.06	9.1	-	-
Average	74.8	8.0	232	3.7	13.3	97	112	2.1	0.31	19.9	0.013	0.039	0.0040	0.34	11.6	0.23
Count	343	290	257	262	155	206	138	317	265	317	25	279	298	332	290	56
Minimum	<1	6.3	62.4	-1.4	8.6	11.5	-236	<0.5	0.025	<0.5	<0.001	<0.002	<0.001	0.0030	<0.5	0.020
Maximum	2600	9.4	745	13.7	103	295	257	14.0	0.80	82.8	0.17	0.55	0.044	8.9	27.5	2.1
% <DL	29.7	0	0	0	0	0	0	3	0	4	32	10	72.1	17	1	14.3
Standard Deviation	239	0.35	95	3.3	7.4	21.2	69	1.8	0.11	14.4	0.034	0.057	0.0072	1.1	4.40	0.37
1st Quartile	1.0	7.8	174	0.21	11.6	92.4	66	1.3	0.25	10.7	<0.001	0.010	0.0024	0.040	8.40	0.040
Median	5.0	8.0	215	3.5	12.5	96.4	131	1.8	0.30	17.0	0.0010	0.022	0.0024	0.10	10.4	0.070
3rd Quartile	40.9	8.2	273	6.6	13.9	101	158	2.2	0.35	23.2	0.015	0.045	0.0024	0.18	13.9	0.25
Count Over WQO	-	1 [c]	-	-	-	-	-	-	-	-	-	4 [c]	0	0	-	-
% Over WQO	-	0.3%	-	-	-	-	-	-	-	-	-	1.4%	0%	0%	-	-

[a] Not applicable

[b] Total Suspended Solids (TSS) of 15 mg/L except during March, April and May when the TSS limit is a maximum grab concentration of 30 mg/L

[c] Values over WQO occurred before issuance of QZ14-031 WUL.

3.3.1.2 Metals

Statistical summaries for dissolved metal concentrations of interest at Minto Creek stations during periods without mine discharge are presented in Table 3-27 through Table 3-30.

Dissolved hardness was consistently highest at station W3 in Minto Creek without mine discharge with a median hardness of 243 mg/L and decreased going downstream to stations MC1 (median 150 mg/L) and W2 (median 145 mg/L). Seasonal variations in hardness were apparent, particularly in W50 and downstream stations MC1 and W2, as the lowest concentrations were observed in April/May when dilution was likely provided by snowmelt and concentrations increased through the summer, fall and winter as baseflow – the portion of flow that seeps from the ground and is not from runoff or direct precipitation – likely comprised an increasing proportion of Minto Creek flow. The seasonal trend is less obvious in W3 perhaps due to a more consistent, year-round contribution of groundwater to Minto Creek between W50 and W3.

Dissolved aluminium concentrations were generally higher in downstream Minto Creek stations MC1 and W2 (both median 0.012 mg/L) than in upstream stations W50 (median 0.007 mg/L) and W3 (median 0.006 mg/L). Concentrations were typically higher in April/May when higher flows caused by snowmelt likely mobilized more aluminium and decreased through the remainder of the year. Dissolved arsenic and iron were also higher in downstream stations MC1 (median 0.00057 mg/L arsenic and 0.17 mg/L iron) and W2 (0.0005 mg/L arsenic and 0.10 mg/L iron) than upstream stations W50 (median 0.00039 mg/L arsenic and 0.016 mg/L iron) and W3 (median 0.0003 mg/L arsenic and 0.026 mg/L iron). Concentrations of arsenic and iron followed a seasonal trend with higher concentrations typically observed in August/September and lower concentrations in winter and early spring. A moderate correlation between dissolved iron and DOC concentrations at W2 suggests that DOC may be responsible for higher concentrations of iron in solution in Minto Creek throughout the summer months.

Concentrations of dissolved cadmium and nickel were often below detection in Minto Creek at all four monitoring stations. Above detection level concentrations typically followed periods of mine discharge and appear to have decreased during 2009 to 2012. Aside from some scatter in pre-2011, dissolved chromium, lead, and zinc concentrations were also predominantly below or close to detection.

During periods without discharge from the mine site, dissolved copper concentrations were generally higher at W50 and W3 with medians of 0.007 mg/L and 0.003 mg/L, respectively, than at downstream sites MC1 and W2 (median of 0.002 mg/L at both). Higher concentrations typically occurred following a mine discharge period or during April/May when higher DOC concentrations (associated with higher freshet flows) could likely mobilize more copper. Dissolved molybdenum was also higher at upstream stations W50 and W3 with median concentrations of 0.0059 and 0.004 mg/L, respectively. While dissolved molybdenum concentrations were fairly stable, more of a seasonal trend was apparent at MC1 and W2 where higher concentrations were typically observed in May and lower concentrations in the winter, suggesting that the higher spring flows caused by meltwater could be responsible for mobilizing more molybdenum.

During periods without discharge from the mine site, dissolved selenium was consistently higher at W50 (median 0.00060 mg/L) and W3 (median 0.00039 mg/L) than at downstream stations MC1 and W2 with median concentrations of 0.00013 and 0.00012 mg/L, respectively. Higher concentrations appeared to follow mine discharge periods – particularly the discharge period ending October 27, 2010. Aside from discharge periods, a marked seasonality was evident with higher concentrations observed in the winter and lower concentrations

observed in the summer, suggesting that baseflow likely contributes a significant portion of selenium to Minto Creek.

During periods when the mine site was not discharging, one exceedance of the dissolved copper EQS at site W50 and the dissolved copper WQO at site W2 were recorded; however, these occurred before these EQS and WQO came into effect with the issuance of WUL QZ14-031 (August 2015). Similarly, one dissolved silver, four dissolved selenium, and ten dissolved chromium concentrations exceeded their respective WQO at W2; however, this occurred before the WQO at this site came into effect with the issuance of WUL QZ14-031 (August 2015). No MMER grab sample exceedances were observed for dissolved metals at site W3.

Table 3-27: Summary Statistics for Dissolved Metals of Interest at Site W50, Minto Creek without Mine Discharge

	W50 - No Discharge												
	Hardness (dissolved)	Aluminum (dissolved)	Arsenic (dissolved)	Cadmium (dissolved)	Chromium (dissolved)	Copper (dissolved)	Iron (dissolved)	Lead (dissolved)	Molybdenum (dissolved)	Nickel (dissolved)	Silver (dissolved)	Selenium (dissolved)	Zinc (dissolved)
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit		0.001	0.0001	0.000005	0.0001	0.001	0.005	0.00005	0.0001	0.0005	0.000005	0.0001	0.0001
EQS	-	0.3	0.015	0.00103 [a]	0.003	0.039 – 0.06 [b]	3.3	0.012	0.219	0.33	0.0003	0.006	0.09
Average	193	0.016	0.00037	0.000017	0.00074	0.011	0.046	0.00013	0.0060	0.0014	0.000010	0.00073	0.0045
Count	40	41	40	37	37	41	41	41	41	41	11	41	37
Minimum	29	<0.003	0.00027	<0.00001	0.00040	0.0032	<0.005	<0.0001	<0.001	<0.001	<0.00001	<0.0001	<0.001
Maximum	270	0.12	0.00050	0.000060	0.0017	0.075	0.29	0.00040	0.011	0.0030	0.000010	0.0026	0.018
% <DL	0	17.1	10	45.9	67.6	0	27	76	2	49	90.9	7	68
Standard Deviation	59	0.022	0.000068	0.000013	0.00051	0.013	0.067	0.000078	0.0018	0.00064	NA [c]	0.00058	0.0029
1st Quartile	192	0.0044	0.00031	<0.00001	0.00040	0.0051	0.0090	0.00010	0.0052	<0.001	<0.00001	0.00032	0.0040
Median	210	0.0070	0.00039	0.000010	0.00070	0.0070	0.016	0.00010	0.0059	0.0010	<0.00001	0.00060	0.0040
3rd Quartile	228	0.018	0.00040	0.000020	0.00080	0.011	0.030	0.00010	0.0069	0.0020	<0.00001	0.00080	0.0050
Count Over EQS	-	0	0	0	0	1 [d]	0	0	0	0	0	0	0
% Over EQS	-	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%

[a] Based on lower quartile hardness for reference purposes only; hardness-dependent EQS are calculated on a sample-specific basis.
[b] When DOC concentration at W2 ≤ 10 mg/L, dissolved copper EQS is 0.039 mg/L; when DOC concentration at W2 >10 mg/L, dissolved copper EQS is 0.06 mg/L.
[c] Not applicable due to too few measurements above the detection limit
[d] Value over EQS occurred before issuance of QZ14-031 WUL.

Table 3-28: Summary Statistics for Dissolved Metals of Interest at Site W3, Minto Creek without Mine Discharge

	W3 - No Discharge												
	Hardness (dissolved)	Aluminum (dissolved)	Arsenic (dissolved)	Cadmium (dissolved)	Chromium (dissolved)	Copper (dissolved)	Iron (dissolved)	Lead (dissolved)	Molybdenum (dissolved)	Nickel (dissolved)	Silver (dissolved)	Selenium (dissolved)	Zinc (dissolved)
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit		0.001	0.0001	0.000005	0.0001	0.001	0.005	0.00005	0.0001	0.0005	0.000005	0.0001	0.0001
MMER [a]	-	-	1.0	-	-	0.6	-	0.4	-	1.0	-	-	1.0
Average	241	0.012	0.00031	0.0012	0.00048	0.0041	0.044	0.00016	0.0039	0.0010	0.0000056	0.00049	0.0033
Count	513	572	569	490	539	572	572	571	572	568	560	572	519
Minimum	61	0.0013	0.00019	<0.000005	<0.0001	<0.001	<0.005	0.0000090	0.00032	<0.0005	<0.000005	<0.0001	0.00067
Maximum	795	0.30	0.0014	0.57	0.0039	0.067	0.75	0.060	0.015	0.0060	0.00010	0.0040	0.091
% <DL	0	27.8	10	60.4	78.3	0.70	6	88	0	53	98.2	29	64
Standard Deviation	42	0.021	0.00014	0.026	0.00057	0.0046	0.055	0.0025	0.0015	0.00065	0.0000046	0.00046	0.0051
1st Quartile	227	0.0036	0.00024	0.0000073	0.00040	0.0020	0.016	0.0000090	0.0030	0.00086	0.000010	0.00030	0.0020
Median	243	0.0060	0.00030	0.0000073	0.00040	0.0030	0.026	0.0000090	0.0040	0.00086	0.000010	0.00039	0.0024
3rd Quartile	260	0.010	0.00033	0.000011	0.00070	0.0040	0.050	0.000052	0.0049	0.0010	0.000010	0.00050	0.0040
Count Over MMER	-	-	0	-	-	0	-	0	-	0	-	-	0
% Over MMER	-	-	0%	-	-	0%	-	0%	-	0%	-	-	0%

[a] MMER maximum authorized concentration in a grab sample

Table 3-29: Summary Statistics for Dissolved Metals of Interest at Site MC1, Minto Creek without Mine Discharge

	MC1 - No Discharge												
	Hardness (dissolved)	Aluminum (dissolved)	Arsenic (dissolved)	Cadmium (dissolved)	Chromium (dissolved)	Copper (dissolved)	Iron (dissolved)	Lead (dissolved)	Molybdenum (dissolved)	Nickel (dissolved)	Silver (dissolved)	Selenium (dissolved)	Zinc (dissolved)
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit		0.001	0.0001	0.000005	0.0001	0.001	0.005	0.00005	0.0001	0.0005	0.000005	0.0001	0.0001
Average	158	0.016	0.00061	0.000010	0.00038	0.002	0.263	0.00005	0.0015	0.0013	0.000010	0.00015	0.0016
Count	179	180	179	158	10	180	180	180	180	179	158	157	180
Minimum	41	0.0032	0.00030	<0.000005	0.00013	0.0010	0.024	<0.00005	0.00030	0.00055	<0.00001	<0.0001	<0.001
Maximum	529	0.070	0.0013	0.000060	0.0021	0.010	1.1	0.00048	0.0040	0.0040	0.000024	0.00082	0.033
% <DL	0	7.8	2	70.3	0.0	0	0	98	11	20	99.4	15	93
Standard Deviation	60	0.011	0.00020	0.0000088	0.00061	0.0013	0.23	0.000026	0.00055	0.00052	NA [a]	0.000091	0.0030
1st Quartile	131	0.0080	0.00047	0.0000064	0.00015	0.0016	0.075	0.00020	0.0011	0.0010	<0.00002	0.00010	0.0011
Median	150	0.012	0.00057	0.0000064	0.00018	0.0020	0.17	0.00020	0.0015	0.0012	<0.00002	0.00013	0.0011
3rd Quartile	169	0.020	0.00079	0.000010	0.00025	0.0025	0.44	0.00020	0.0018	0.0016	<0.00002	0.00016	0.0011

[a] Not applicable due to too few measurements above the detection limit

Table 3-30: Summary Statistics for Dissolved Metals of Interest at Site W2, Minto Creek without Mine Discharge

	W2 - No Discharge												
	Hardness (dissolved)	Aluminum (dissolved)	Arsenic (dissolved)	Cadmium (dissolved)	Chromium (dissolved)	Copper (dissolved)	Iron (dissolved)	Lead (dissolved)	Molybdenum (dissolved)	Nickel (dissolved)	Silver (dissolved)	Selenium (dissolved)	Zinc (dissolved)
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit		0.001	0.0001	0.000005	0.0001	0.001	0.005	0.00005	0.0001	0.0005	0.000005	0.0001	0.0001
WQO	-	0.1	0.005	0.00024 [a]	0.001	0.013 – 0.02 [b]	1.1	0.004	0.073	0.11	0.0001	0.002	0.03
Average	142	0.019	0.00053	0.000013	0.00063	0.0028	0.20	0.000070	0.0014	0.0012	0.000011	0.00019	0.0024
Count	288	307	303	255	64	307	307	306	307	303	304	307	255
Minimum	10	0.0028	<0.0002	<0.000005	0.00012	<0.001	0.019	<0.00005	0.00018	<0.0005	<0.00001	<0.0001	<0.001
Maximum	311	0.10	0.0011	0.00026	0.0069	0.016	0.91	0.00090	0.0090	0.0040	0.00032	0.0024	0.020
% <DL	0	17.3	13	69.4	40.6	0.65	5	93	13	24	99.3	46	78
Standard Deviation	41	0.018	0.00021	0.000027	0.00093	0.0020	0.21	0.000076	0.0010	0.00054	0.000021	0.00029	0.0031
1st Quartile	121	0.0078	0.00040	0.0000086	0.00018	0.0018	0.040	0.000063	0.0010	0.00086	<0.00002	0.00010	0.0020
Median	145	0.012	0.00050	0.0000086	0.00040	0.0020	0.10	0.000063	0.0012	0.0010	<0.00002	0.00012	0.0020
3rd Quartile	162	0.024	0.00069	0.000010	0.00080	0.0030	0.35	0.000063	0.0016	0.0016	0.000060	0.00016	0.0030
Count Over WQO	-	0	0	0	10 [c]	1 [c]	0	0	0	0	1 [c]	4 [c]	0
% Over WQO	-	0%	0%	0%	16%	0.3%	0%	0%	0%	0%	0.3%	1%	0%

[a] Based on lower quartile hardness for reference purposes only; hardness-dependent WQO are calculated on a sample-specific basis

[b] When DOC concentration at W2 ≤ 10 mg/L, dissolved copper EQS is 0.013 mg/L; when DOC concentration at W2 >10 mg/L, dissolved copper EQS is 0.02 mg/L.

[c] Values over WQO occurred before the issuance of QZ14-031 WUL.

3.3.2 Operational Phase with Mine Discharge

3.3.2.1 Physical Parameters, Anions and Nutrients

Statistical summaries for physical parameters and anion and nutrient concentrations at Minto Creek stations during mine discharge periods are presented in Table 3-31 and Table 3-34.

During mine discharge, the pH of the waters of Minto Creek was circumneutral to slightly alkaline with medians ranging from pH 7.7 at W50 to pH 8.2 at W2. Temperatures varied seasonally with the highest generally minimum and maximum temperatures recorded at W50 -1.2°C and 15.3°C, respectively. The waters of Minto Creek were generally well oxygenated with median oxygen content increasing moving downstream from 88.4% at W50 to 99.4% at W2. Field conductivity was generally higher at upstream stations W50 and W3 than downstream stations MC1 and W2. Increasing trends in field conductivity were visible, particularly during longer duration discharge periods (e.g. August 13, 2009 to October 30, 2009 and July 14, 2010 to Oct 27, 2010). However, many of the discharge periods that displayed these trends were in the months following early spring when meltwater would likely have diluted the waters of Minto Creek and therefore the increase in conductivity could also be partially due to less dilution from meltwater in summer and fall.

The highest TSS concentrations throughout Minto Creek were typically encountered during April/May due to mobilization of particulates under the high flow freshet conditions typical of this time of year. TSS concentrations were typically lower in upper Minto Creek (median 1 and 3.8 mg/L at W3 and W50, respectively) than farther downstream (median 6 and 15 mg/L at W2 and MC1, respectively). Two TSS measurements exceeded the EQS at site W50; however, both of these events occurred before the current TSS EQS came into effect with the issuance of WUL QZ14-031 (August 2015). Exceedances of the MMER grab sample TSS guideline (30 mg/L) occurred in 11 samples (4% of dataset) at site W3 when there was discharge from the mine site.

Nitrogen species were higher at W50 and W3 during mine discharge phases than at MC1 and W2. At W50, the median concentrations of ammonia-N and nitrite-N during mine discharge were 0.062 and 0.016 mg/L, respectively, and 0.019 and 0.0080 mg/L at W2, respectively. While median nitrate-N concentrations were similar at W50 and W2, visual inspection shows a marked decrease in nitrate-N from upstream to downstream stations on Minto Creek. Generally, nitrogen species were higher during discharge periods than non-discharge periods.

DOC concentrations were fairly similar at all sites in Minto Creek during mine discharge with medians ranging from 9.3 mg/L at W3 to 12.0 mg/L at W2. While it appears higher DOC concentrations were observed during mine discharge, discharge periods commonly occurred during April/May when higher flows caused by snowmelt would likely mobilize organic carbon from soils and these increased flows likely played an important role in these elevated DOC concentrations.

Table 3-31: Summary Statistics for Physical Parameters, Anions and Nutrients at Site W50, Minto Creek during Mine Discharge.

	W50 - Discharge														
	TSS	Field pH	Field Conductivity	Temperature	Dissolved Oxygen		ORP	Chloride	Fluoride	Dissolved Sulphate	Ammonia-N	Nitrite-N	Nitrate-N	DOC	Total Phosphorus (colourimetric)
Units	mg/L		uS/cm	°C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit	1	NA [a]	10	NA [a]	0.1	1	NA [a]	0.2	0.01	0.5	0.001	0.001	0.002	0.5	0.005
EQS	15 or 30 [b]	6.0 - 9.0	-	-	-	-	-	-	-	-	0.75	0.18	27.3	-	-
Average	5.17	7.7	294	5.9	11.1	87	120	9.7	0.34	53	0.11	0.030	4.4	10.9	0.024
Count	103	109	110	110	88	93	84	102	58	102	90	91	101	87	35
Minimum	<1	7.1	70	1.2	4.5	8.4	-418	1.8	0.1	0.82	0.0062	0.0037	0.16	1.17	0.010
Maximum	42	9.5	641	15.34	16.9	129	397	40.5	0.52	110	1.0	0.16	16.2	20.3	0.059
% <DL	30.1	0	0	0	0	0	0	0	0	0	0	2.2	0	0	0
Standard Deviation	6.27	0.32	93	4.3	1.9	14.2	78	8.4	0.08	20.2	0.15	0.030	3.7	3.5	0.0098
1st Quartile	1.3	7.6	237	2.5	10.0	83.0	104	5.2	0.29	40	0.026	0.0091	2.5	8.2	0.018
Median	3.8	7.7	286	3.8	11.5	88.4	124	5.8	0.36	49.9	0.062	0.016	3.1	11.6	0.020
3rd Quartile	6.0	7.8	305	9.6	12.2	93.5	146	10.6	0.38	59.1	0.15	0.050	4.8	12.9	0.030
Count Over EQS	2 [c]	1 [c]	-	-	-	-	-	-	-	-	2 [c]	0	0	-	-
% Over EQS	1.9%	0.9%	-	-	-	-	-	-	-	-	2.2%	0%	0%	-	-

[a] Not applicable

[b] Total Suspended Solids (TSS) of 15 mg/L except during March, April and May when the TSS limit is a maximum grab concentration of 30 mg/L

[c] Values over EQS occurred before issuance of QZ14-031 WUL

Table 3-32: Summary Statistics for Physical Parameters, Anions and Nutrients at Site W3, Minto Creek during Mine Discharge

	W3 - Discharge														
	TSS	Field pH	Field Conductivity	Temperature	Dissolved Oxygen		ORP	Chloride	Fluoride	Dissolved Sulphate	Ammonia-N	Nitrite-N	Nitrate-N	DOC	Total Phosphorus (colourimetric)
Units	mg/L		uS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Detection Limit	4	NA[a]	NA[a]	NA[a]	NA[a]	NA[a]	NA[a]	NA[a]	NA[a]	0.5[a]	0.05	0.01	NA[a]	NA[a]	0.05
MMER	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Average	8.9	7.8	332	6.3	11.7	93	106	15.0	0.38	64.9	0.117	0.076	6.6	9.8	0.13
Count	275	544	543	545	328	524	335	180	132	180	184	191	192	152	13
Minimum	<1	5.0	2.1	-0.80	0.090	0.70	-420	0.60	0.12	<0.5	<0.005	<0.001	0.040	3.0	0.017
Maximum	985.0	9.1	677	15.0	17.3	150	256	31.0	0.61	252	0.62	0.35	18.7	25.8	0.94
% <DL	52	0	0	0	0	0	0	0	0	1	4	7.3	0.0	0	7.7
Standard Deviation	60.1	0.30	134	4.2	1.6	13.6	65.9	9.85	0.080	28.2	0.10	0.065	5.1	3.4	0.25
1st Quartile	1.0	7.7	240	2.5	10.7	86.2	91.8	5.26	0.335	43.4	0.034	0.012	1.8	8.4	0.019
Median	1.0	7.9	288	5.4	12.0	91.5	110	16.5	0.39	67.0	0.091	0.079	5.4	9.3	0.060
3rd Quartile	5.0	8.0	443	10.1	12.7	99.2	135	25.0	0.44	85.5	0.18	0.12	11.3	10.0	0.060
Count over MMER	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% over MMER	4%	-	-	-	-	-	-	-	-	-	-	-	-	-	-

[a] Not applicable

Table 3-33: Summary Statistics for Physical Parameters, Anions and Nutrients at Site MC1, Minto Creek during Mine Discharge

	MC1 - Discharge														
	TSS	Field pH	Field Conductivity	Temperature	Dissolved Oxygen		ORP	Chloride	Fluoride	Dissolved Sulphate	Ammonia-N	Nitrite-N	Nitrate-N	DOC	Total Phosphorus (colourimetric)
Units	mg/L		uS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit	3.0	NA [a]	10	NA [a]	0.1	1	NA [a]	0.2	0.01	0.5	0.001	0.001	0.002	0.5	0.005
Average	62.6	7.9	183	2.3	13.4	95	117	4.4	0.29	25.8	0.027	0.002	1.3	13.2	0.075
Count	62	76	75	76	64	76	57	61	33	61	61	61	62	62	4
Minimum	<1	7.3	64.8	-0.1	10.9	75.7	-190	1.18	0.13	<0.5	<0.005	<0.001	<0.005	6.7	0.050
Maximum	727	8.6	454	9.56	17.7	111	222	14.0	0.51	87.7	0.20	0.032	7.3	31.2	0.099
% <DL	9.7	0	0	0	0	0	0	0	0	5	10	49.2	4.8	0	0
Standard Deviation	138.5	0.26	102	3.1	1.3	7.0	58	3.6	0.10	16.5	0.033	0.0074	1.9	5.3	0.024
1st Quartile	5.2	7.7	103	0.0	12.3	92.1	96	2.0	0.21	16.7	0.0081	<0.001	0.21	9.8	0.055
Median	14.6	7.9	167	0.1	13.5	94.8	117	2.7	0.29	21.4	0.015	0.0012	0.58	11.6	0.076
3rd Quartile	34.1	8.1	230	5.5	14.2	99.2	144	5.1	0.35	34.5	0.032	0.011	1.1	14.8	0.096

[a] Not applicable

Table 3-34: Summary Statistics for Physical Parameters, Anions and Nutrients at Site W2, Minto Creek during Mine Discharge

	W2 - Discharge														
	TSS	Field pH	Field Conductivity	Temperature	Dissolved Oxygen		ORP	Chloride	Fluoride	Dissolved Sulphate	Ammonia-N	Nitrite-N	Nitrate-N	DOC	Total Phosphorus (colourimetric)
Units	mg/L		uS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit	4	NA [a]	10	NA [a]	0.1	1	NA [a]	0.2	0.01	0.5	0.001	0.001	0.002	0.5	0.005
WQO	15 – 30 [b]	6.0 - 9.0	-	-	-	-	-	-	-	-	0.25	0.06	9.1	-	-
Average	27.4	8.1	332	4.9	13.3	99	115	8.1	0.32	36.9	0.034	0.011	3.4	12.8	0.21
Count	282	303	301	302	82	289	77	190	156	190	193	200	200	174	10
Minimum	<1	7.1	32.20	-1.4	8.6	39.8	-95	0.94	0.040	<0.5	<0.005	<0.001	<0.005	0.61	<0.05
Maximum	597	8.9	545	13.65	19.1	152	252	27.0	0.75	92.5	0.83	0.125	8.8	33.9	0.56
% <DL	14.5	0	0	0	0	0	0	0	0	5	23	33.0	2	0	20
Standard Deviation	77.9	0.26	121	3.8	1.7	15.7	62	5.0	0.09	18.7	0.070	0.013	2.7	4.2	0.20
1st Quartile	3.0	7.9	242	0.83	12.0	91.5	96	2.8	0.285	22.7	0.0052	0.0012	0.46	10.3	0.070
Median	6.0	8.1	384	5.9	13.4	99.4	125	9.25	0.33	39.0	0.019	0.0080	3.4	12	0.087
3rd Quartile	14	8.2	413	8.2	14.4	107.9	146	12.0	0.37	49.0	0.038	0.014	5.8	13.4	0.42
Count Over WQO	-	0	-	-	-	-	-	-	-	-	2 [c]	1 [c]	0	-	-
% Over WQO	-	0%	-	-	-	-	-	-	-	-	1.0%	0.5%	0%	-	-

[a] Not applicable

[b] Total Suspended Solids (TSS) of 15 mg/L except during March, April and May when the TSS limit is a maximum grab concentration of 30 mg/L

[c] Values over EQS occurred before issuance of QZ14-031 WUL

3.3.2.2 Metals

Statistical summaries for dissolved metal concentrations of interest at Minto Creek stations during mine discharge periods are presented in Table 3-35 through Table 3-38.

Dissolved hardness was generally higher in the upstream Minto Creek stations W50 and W3 than downstream stations MC1 and W2 during mine discharge. As was the case with field conductivity, dissolved hardness appeared to increase through several of the longer duration discharge periods. It is likely that high flows related to April/May snowmelt that commonly coincide with the beginning portion of discharge periods and dilute the hardness to decreasing extent moving into the summer and fall months.

Dissolved aluminum concentrations ranged from medians 0.0095 mg/L at W50 to 0.057 mg/L at W3; however, the relatively high median aluminum concentration for W3 is buoyed by numerous, high concentrations observed during the July 14 to October 27, 2010 discharge period. Aside from this discharge period, dissolved aluminum concentrations were often similar in all Minto Creek stations and appear elevated relative to during non-discharge periods likely due to mine discharge often occurring in April/May when high flows caused by meltwater could mobilize aluminum.

Dissolved arsenic was commonly below detection in Minto Creek before 2011. Dissolved arsenic concentrations were generally lower in upstream sites W50 and W3 with median concentrations of 0.00036 and 0.00030 mg/L, respectively compared to downstream sites MC1 and W2, which both had a median concentration of 0.00050 mg/L. Dissolved arsenic concentrations at W50 and W3 were generally slightly higher or similar with or without mine discharge, whereas arsenic concentrations at MC1 and W2 were generally dependent on the seasonality discussed in Section 3.3.1.2 than on mine discharge.

Dissolved cadmium was often elevated in Minto Creek stations during periods when the mine site was discharging water relative to without mine discharge, with slightly higher concentrations observed at upstream stations W50 and W3 than downstream stations. Nevertheless, many dissolved cadmium concentrations were close to or below detection limits, particularly in older samples (pre-2012) when detection levels were higher than in more recent years. Generally, above detection level concentrations appear to have decreased in since 2009.

Aside from some above detection level concentrations observed in the discharge period between August 13, 2009 to October 30, 2009, dissolved chromium, lead and zinc were predominantly below detection levels during mine discharge periods from 2010 to 2015. In 2016 with lower detection levels, above detection level concentrations were observed but concentrations were fairly similar to previous detection limits. In the case of dissolved lead, concentrations were higher at W50 during 2016 discharge periods, but were below detection at downstream stations. Dissolved silver was consistently below detection levels during mine discharge periods.

Dissolved nickel concentrations were often below detection levels during mine discharge and were generally higher in downstream stations MC1 and W2 than upstream stations W50 and W3.

Dissolved copper, molybdenum and selenium were higher in upstream stations W50 and W3 than downstream stations MC1 and W2 during mine discharge periods. Median dissolved copper concentrations were highest at W50 (0.017 mg/L) and decreased moving downstream with medians of 0.0047, 0.0029, and 0.0022 mg/L at sites

W3, MC1, and W2, respectively. The dissolved copper concentrations were higher during the August 13 to October 30, 2009 discharge period - an emergency discharge period, as discussed in Section 1.1. Dissolved copper concentrations exceeded its WQO at W50 in four samples collected during this period, but it is important to note that the WQO had not yet been established, and DOC – a toxicity modifier used in the determination of the WQO for dissolved copper - was not analyzed in three of these four samples. Similarly, dissolved selenium and molybdenum concentrations were highest at W50 and W3 and decreased moving downstream to MC1 and W2. This downstream decrease in dissolved selenium concentrations was evident graphically on discharge period to discharge period bases, but was not as well represented in statistical summaries. Higher concentrations of dissolved selenium were observed in all Minto Creek stations during the mine discharge phase of July 14, 2010 to October 27, 2010 and to a lesser extent August 13, 2009 to October 30, 2009 – an emergency discharge period – which skewed the statistics for the discharge periods.

Dissolved iron concentrations were often higher in downstream stations MC1 and W2 with medians of 0.11 and 0.079 mg/L, respectively, than upstream stations W50 (median 0.043 mg/L) and W3 (median 0.016 mg/L). Higher concentrations downstream were likely related to seasonal factors and correlated with DOC concentrations as opposed to influences from mine discharge, as discussed in Section 3.3.1.2.

During periods when the mine site was discharging, one exceedance of the dissolved copper EQS at site W50 was recorded; however, this occurred before this EQS came into effect with the issuance of WUL QZ14-031 (August 2015). Similarly, one dissolved aluminium, two dissolved chromium, four dissolved copper, and 46 dissolved selenium concentrations exceeded their respective WQO at W2; however, this occurred before the WQO at this site came into effect with the issuance of WUL QZ14-031 (August 2015). No MMER grab sample exceedances were observed for dissolved metals at site W3.

Table 3-35: Summary Statistics for Dissolved Metals of Interest at Site W50, Minto Creek during Mine Discharge.

	W50 - Discharge												
	Hardness (dissolved)	Aluminum (dissolved)	Arsenic (dissolved)	Cadmium (dissolved)	Chromium (dissolved)	Copper (dissolved)	Iron (dissolved)	Lead (dissolved)	Molybdenum (dissolved)	Nickel (dissolved)	Silver (dissolved)	Selenium (dissolved)	Zinc (dissolved)
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit		0.001	0.0001	0.000005	0.0001	0.001	0.005	0.00005	0.0001	0.0005	0.000005	0.0001	0.0001
EQS	NA	0.3	0.015	0.00093 [a]	0.003	0.039 – 0.06 [b]	3.3	0.012	0.219	0.33	0.0003	0.006	0.09
Average	192	0.018	0.00036	0.000016	0.00018	0.016	0.05	0.000099	0.0065	0.0009	0.0000101	0.0014	0.0018
Count	102	102	101	101	101	102	102	102	102	102	101	102	101
Minimum	41	0.0013	0.00012	<0.000005	<0.0001	<0.001	<0.005	<0.00005	0.00103	<0.0005	<0.00001	0.0003	<0.001
Maximum	272	0.12	0.0008	0.0003	0.001	0.07	0.3	0.00080	0.019	0.0030	0.00002	0.0049	0.011
% <DL	0	2.9	0	42.6	82.2	1.0	13	79	0	40	99.0	1	74
Standard Deviation	47	0.021	0.00010	0.00003	0.0003	0.010	0.06	0.00014	0.0047	0.0004	NA [c]	0.0010	0.0019
1st Quartile	167	0.0047	0.00030	0.0000076	0.00013	0.008	0.015	0.000069	0.0033	0.00061	<0.00001	0.00072	0.0010
Median	200	0.0095	0.00036	0.000008	0.00013	0.017	0.043	0.000069	0.0048	0.00069	0.000020	0.00104	0.0010
3rd Quartile	229	0.022	0.00040	0.000019	0.00013	0.024	0.060	0.00007	0.0063	0.0010	0.000020	0.0017	0.0018
Count Over EQS	-	0	0	0	0	1 [d]	0	0	0	0	0	0	0
% Over EQS	-	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%

[a] Based on lower quartile hardness for reference purposes only; hardness-dependent EQS are calculated on a sample-specific basis

[b] When DOC concentration at W2 ≤ 10 mg/L, dissolved copper EQS is 0.039 mg/L; when DOC concentration at W2 >10 mg/L, dissolved copper EQS is 0.06 mg/L.

[c] Not applicable due to too few measurements above the detection limit

[d] Value over EQS occurred before issuance of QZ14-031 WUL

Table 3-36: Summary Statistics for Dissolved Metals of Interest at Site W3, Minto Creek during Mine Discharge

	W3 - Discharge												
	Hardness (dissolved)	Aluminum (dissolved)	Arsenic (dissolved)	Cadmium (dissolved)	Chromium (dissolved)	Copper (dissolved)	Iron (dissolved)	Lead (dissolved)	Molybdenum (dissolved)	Nickel (dissolved)	Silver (dissolved)	Selenium (dissolved)	Zinc (dissolved)
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit		0.001	0.0001	0.000005	0.0001	0.001	0.005	0.00005	0.0001	0.0005	0.000005	0.0001	0.0001
MMER	-	-	1.0	-	-	0.6	-	0.4	-	1.0	-	-	1.0
Average	206	0.048	0.00040	0.000017	0.00023	0.0093	0.047	0.000061	0.011	0.0010	<0.00008	0.0026	0.0051
Count	171	176	176	113	112	176	176	175	176	175	176	176	120
Minimum	57	0.0017	0.00015	<0.000005	<0.0001	0.0012	<0.005	<0.00005	0.0015	<0.0005	<0.00001	0.00024	<0.001
Maximum	275	0.12	0.0011	0.00021	0.0024	0.062	0.64	0.00050	0.10	0.0060	<0.0001	0.035	0.14
% <DL	0	2.3	10	48.7	81.3	0	38	95	1	55	100	1	70
Standard Deviation	37	0.034	0.00014	0.000026	0.00047	0.011	0.098	0.000046	0.0089	0.00067	NA [a]	0.0029	0.016
1st Quartile	198	0.0097	0.00030	0.0000058	0.00010	0.0033	0.0080	0.000082	0.0046	0.00076	<0.00002	0.00080	0.0012
Median	215	0.057	0.00040	0.0000063	0.00010	0.0047	0.016	0.000082	0.013	0.00093	<0.00002	0.0021	0.0012
3rd Quartile	226	0.076	0.00050	0.000020	0.00013	0.011	0.039	0.000082	0.016	0.0010	<0.0001	0.0041	0.0030
Count over MMER	-	-	0	-	-	0	-	0	-	0	-	-	0
% over MMER	-	-	0%	-	-	0%	-	0%	-	0%	-	-	0%

[a] Not applicable due to too few measurements above the detection limit

Table 3-37: Summary Statistics for Dissolved Metals of Interest at Site MC1, Minto Creek during Mine Discharge

	MC1 - Discharge												
	Hardness (dissolved)	Aluminum (dissolved)	Arsenic (dissolved)	Cadmium (dissolved)	Chromium (dissolved)	Copper (dissolved)	Iron (dissolved)	Lead (dissolved)	Molybdenum (dissolved)	Nickel (dissolved)	Silver (dissolved)	Selenium (dissolved)	Zinc (dissolved)
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit		0.001	0.0001	0.000005	0.0001	0.001	0.005	0.00005	0.0001	0.0005	0.000005	0.0001	0.0001
Average	145	0.017	0.00051	0.000012	0.00023	0.004	0.145	0.00005	0.0027	0.0011	<0.00002	0.00049	0.0015
Count	62	62	62	54	27	62	62	27	62	62	53	62	53
Minimum	53	0.0032	0.00034	<0.000005	<0.0001	0.0019	0.0275	<0.00005	0.00065	0.00075	<0.00001	0.00011	<0.001
Maximum	225	0.052	0.00077	0.00020	0.00035	0.0084	0.40	0.000070	0.0080	0.0016	<0.00002	0.0022	0.0052
% <DL	0	0.0	0	66.7	3.7	0	0	93	6	24	100	0	75
Standard Deviation	42	0.012	0.000096	0.000027	0.000070	0.0021	0.095	0.000002	0.0022	0.00023	NA [a]	0.00058	0.0013
1st Quartile	105	0.0074	0.00042	<0.000005	0.00016	0.0022	0.080	<0.00005	0.0013	0.00094	<0.00001	0.00016	<0.001
Median	151	0.014	0.00050	0.0000060	0.00022	0.0029	0.11	<0.00005	0.0018	0.0010	<0.00001	0.00025	0.0016
3rd Quartile	179	0.025	0.00057	0.000011	0.00027	0.0059	0.18	<0.00005	0.0026	0.0012	<0.00002	0.00042	0.0016

[a] Not applicable due to too few measurements above the detection limit

Table 3-38: Summary Statistics for Dissolved Metals of Interest at Site W2, Minto Creek during Mine Discharge.

	W2 - Discharge												
	Hardness (dissolved)	Aluminum (dissolved)	Arsenic (dissolved)	Cadmium (dissolved)	Chromium (dissolved)	Copper (dissolved)	Iron (dissolved)	Lead (dissolved)	Molybdenum (dissolved)	Nickel (dissolved)	Silver (dissolved)	Selenium (dissolved)	Zinc (dissolved)
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit	-	0.001	0.0001	0.000005	0.0001	0.001	0.005	0.00005	0.0001	0.0005	0.000005	0.0001	0.0001
WQO	-	0.1	0.005	0.00029 [a]	0.001	0.013 – 0.02 [b]	1.1	0.004	0.073	0.11	0.0001	0.002	0.03
Average	165	0.020	0.00047	0.000013	0.00032	0.004	0.107	0.00005	0.0051	0.0010	<0.0001	0.00113	0.0016
Count	191	192	192	123	31	192	192	192	192	192	192	192	122
Minimum	40	<0.003	0.00030	<0.000005	0.00012	0.0010	0.0211	<0.00005	0.00046	0.0007	<0.00001	<0.0001	<0.001
Maximum	386	0.20	0.00122	0.000200	0.0021	0.023	0.76	0.00030	0.015	0.0020	<0.0001	0.0026	0.010
% <DL	0	1.6	3	47.2	0.0	0	0	98	6	29	100	7	85
Standard Deviation	43	0.017	0.000102	0.000020	0.00038	0.004	0.111	0.000020	0.0031	0.00029	NA [c]	0.00084	0.0016
1st Quartile	152	0.0130	0.00040	0.0000068	0.00018	0.0020	0.0455	0.00010	0.0017	0.00095	<0.00002	0.00023	0.0012
Median	174	0.0180	0.00050	0.000007	0.00021	0.0022	0.079	0.00010	0.0060	0.0010	<0.00002	0.00110	0.0012
3rd Quartile	186	0.022	0.00050	0.000015	0.00026	0.004	0.111	0.00010	0.0080	0.0010	<0.0001	0.0020	0.0017
Count Over WQO	-	1 [d]	0	0	2 [d]	4 [e]	0	0	0	0	0	46 [d]	0
% Over WQO	-	1%	0%	0%	6%	2.1%	0%	0%	0%	0%	0%	24%	0%

[a] Based on lower quartile hardness for reference purposes only; hardness-dependent EQS are calculated on a sample-specific basis

[b] When DOC concentration at W2 ≤ 10 mg/L, dissolved copper EQS is 0.013 mg/L; when DOC concentration at W2 >10 mg/L, dissolved copper EQS is 0.02 mg/L.

[c] Not applicable due to too few measurements above the detection limit

[d] Values over WQO occurred before the issuance of QZ14-031 WUL

[e] Exceedances of the WQO occurred during the emergency discharge period of June 26 to August 6, 2009, before the WQO were established; DOC – the toxicity modifier for dissolved copper – was not analysed for three of the four exceedances and therefore the dissolved copper WQO is not known for these samples.

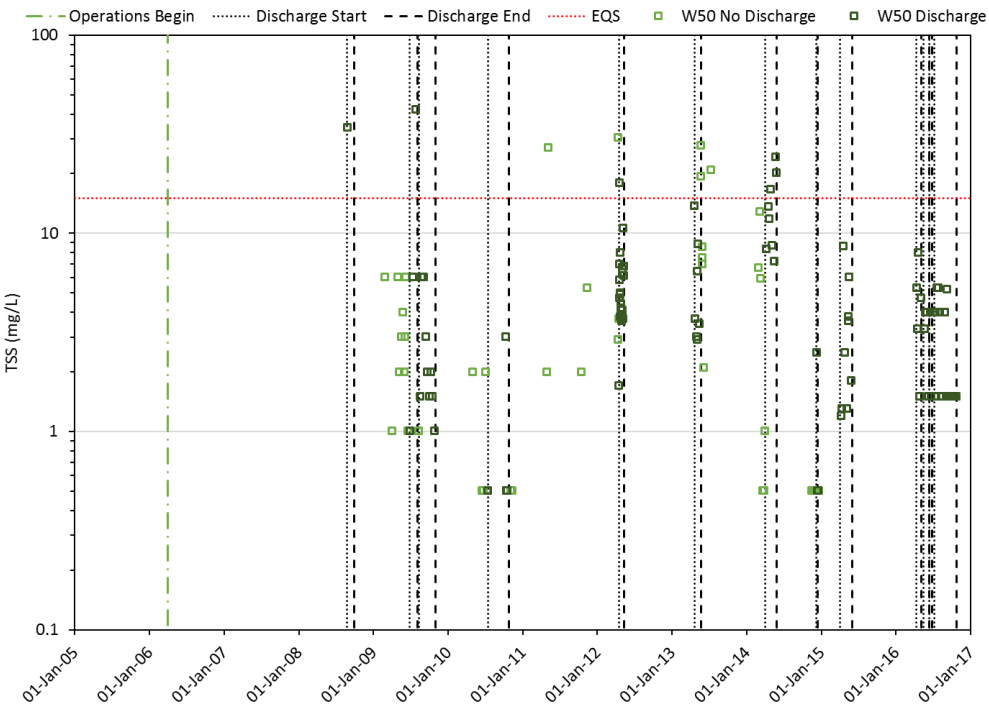

Figure 3-55: TSS in Minto Creek at W50. Note Log Scale.

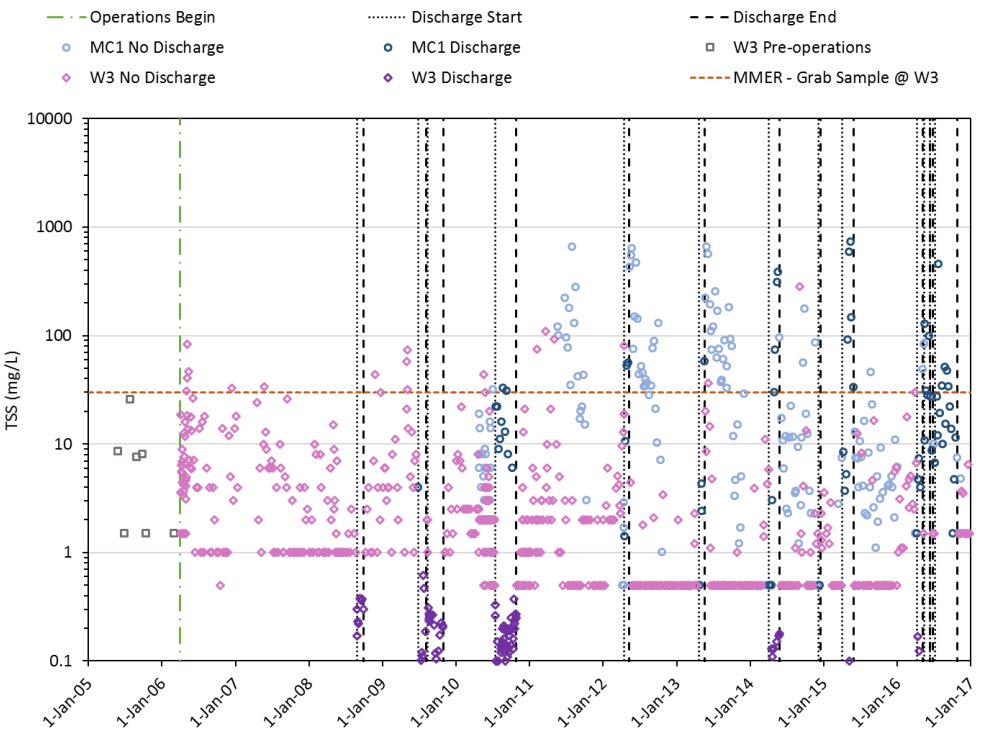

Figure 3-56: Total Suspended Solids in Minto Creek at W3 and MC1. Note Log Scale.

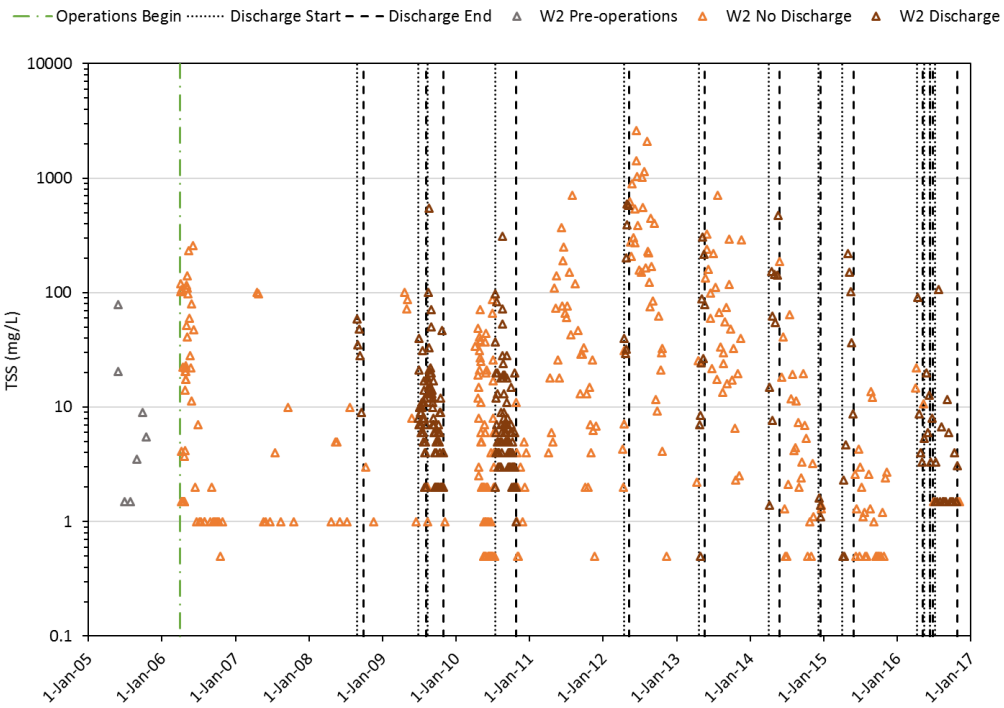

Figure 3-57: Total Suspended Solids in Minto Creek at W2. Note Log Scale.

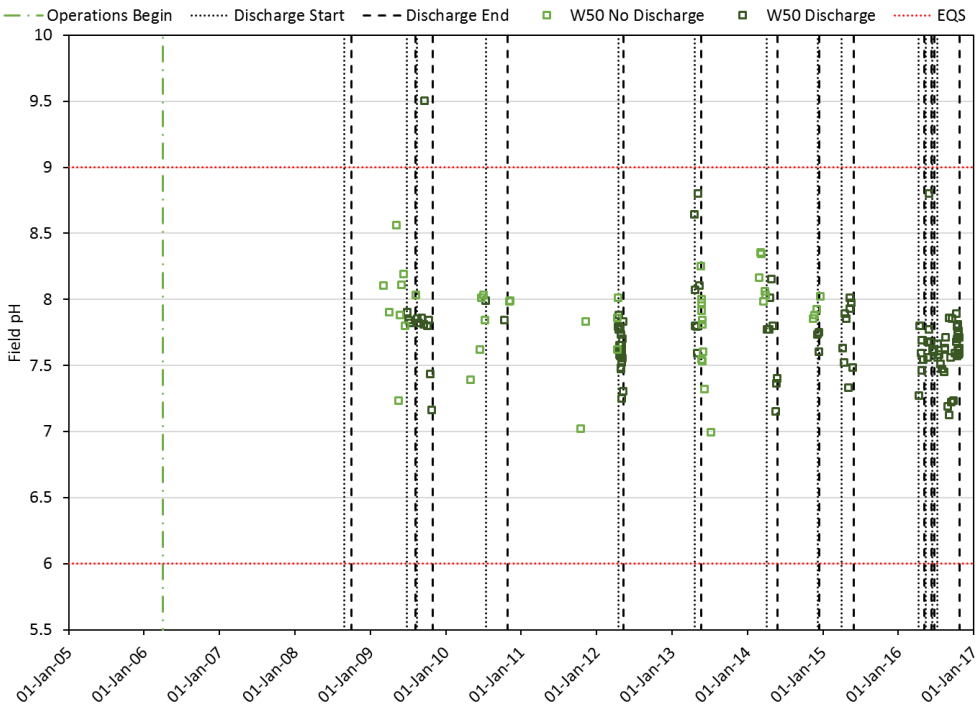

Figure 3-58: Field pH in Minto Creek at W50.

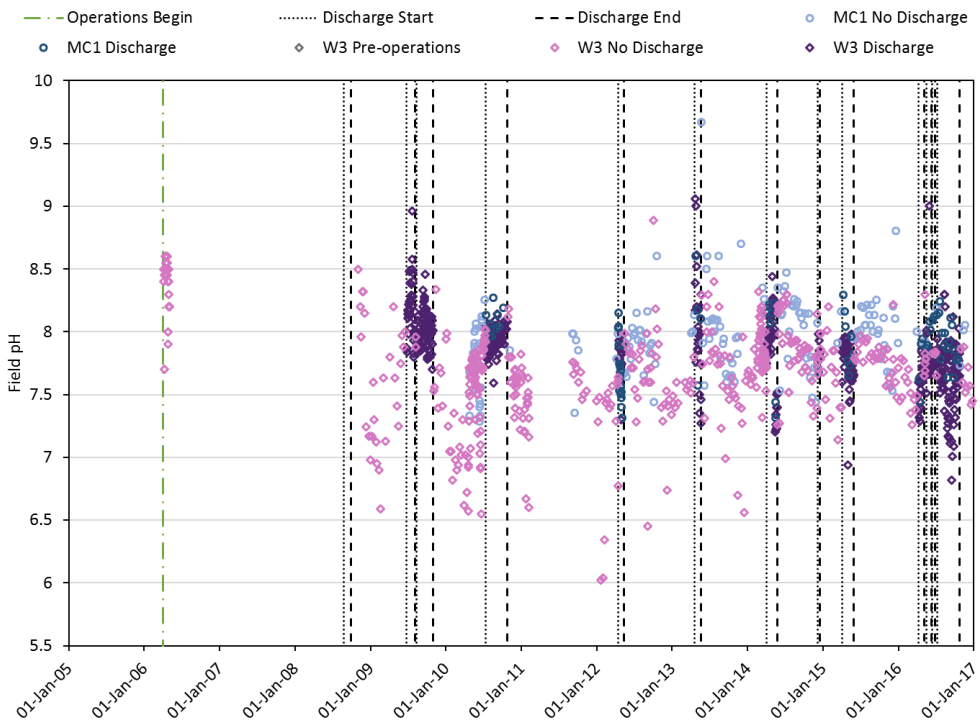

Figure 3-59: Field pH in Minto Creek at W3 and MC1.

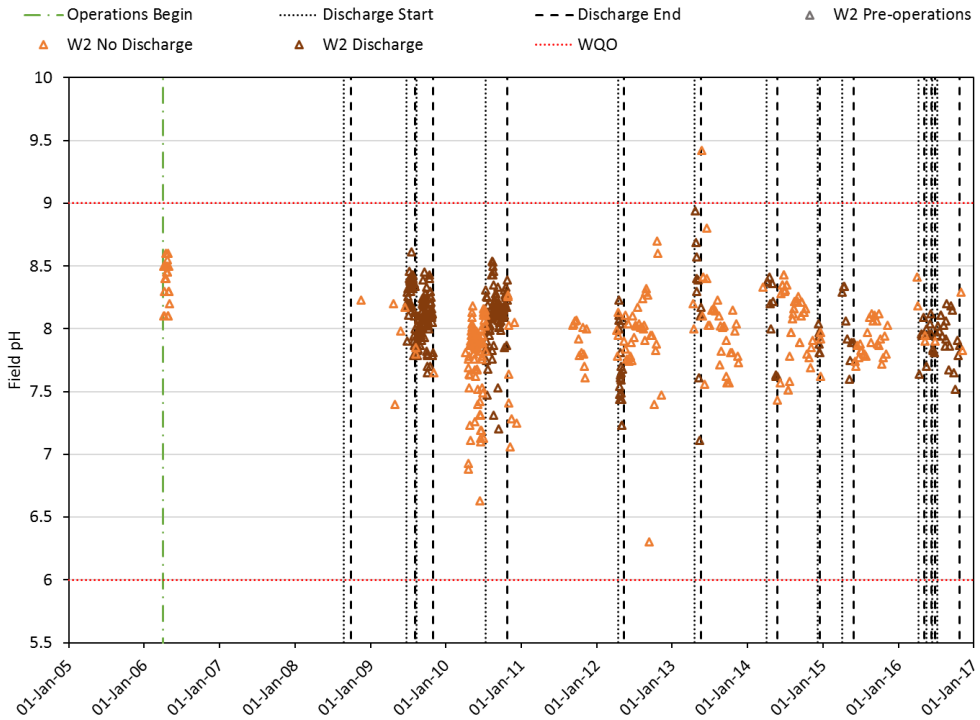

Figure 3-60: Field pH in Minto Creek at W2.

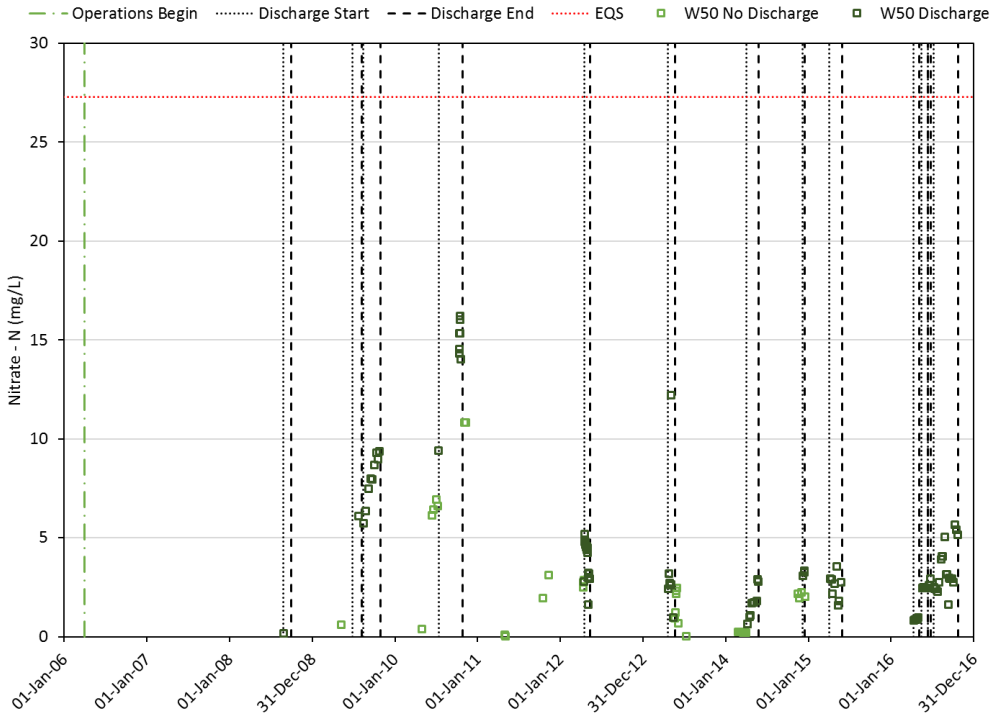

Figure 3-61: Concentrations of Nitrate (N) in Minto Creek at W50.

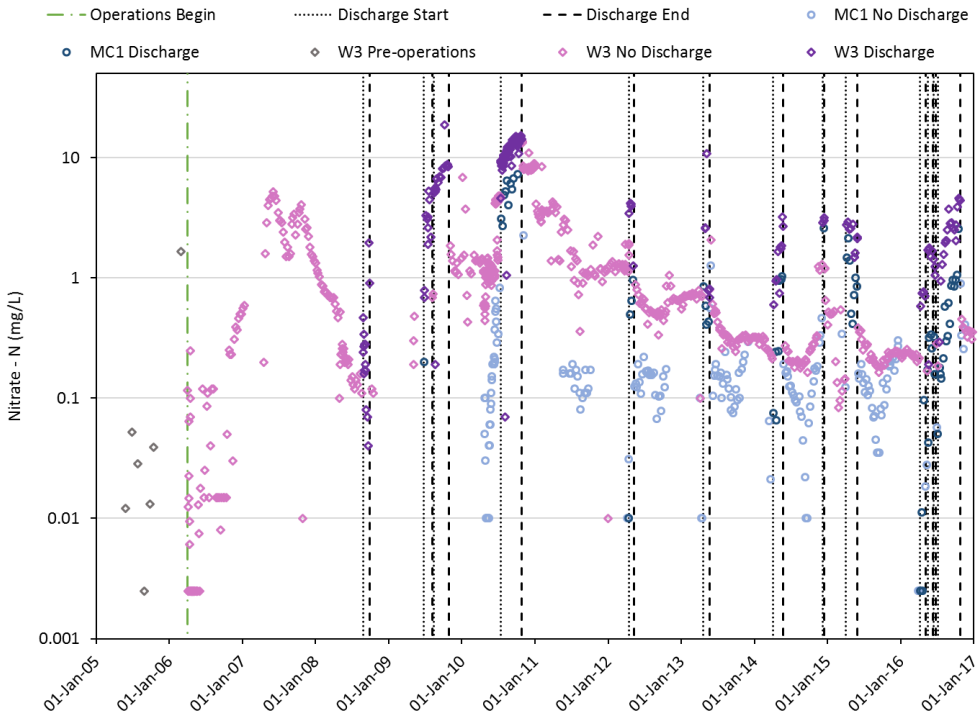

Figure 3-62: Concentrations of Nitrate (N) in Minto Creek at W3 and MC1. Note Log Scale.

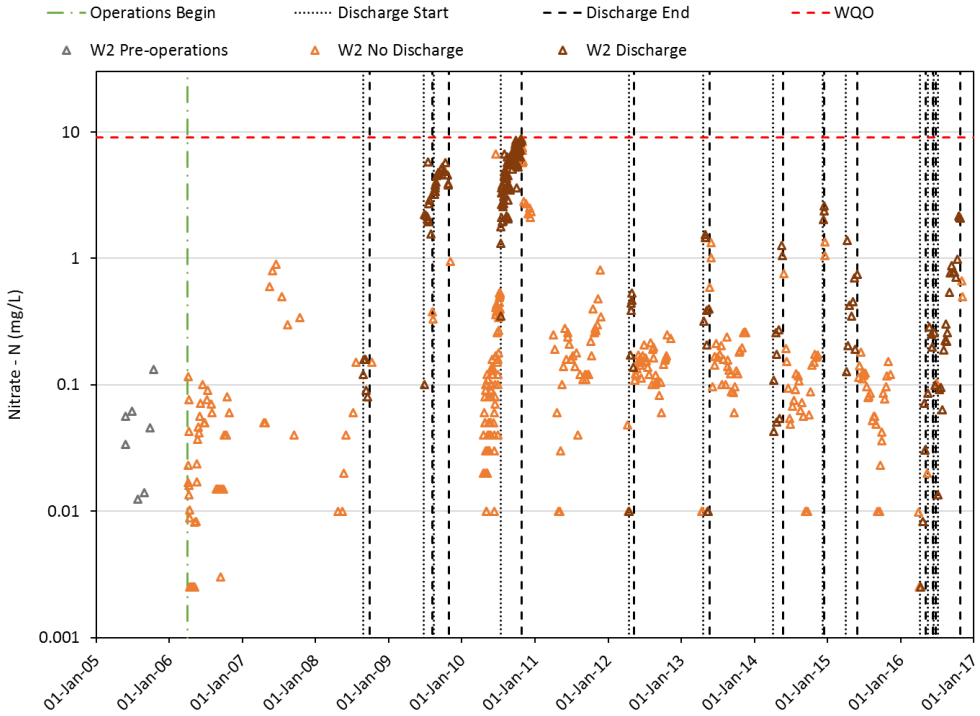

Figure 3-63: Concentrations of Nitrate (N) in Minto Creek at W2. Note Log Scale.

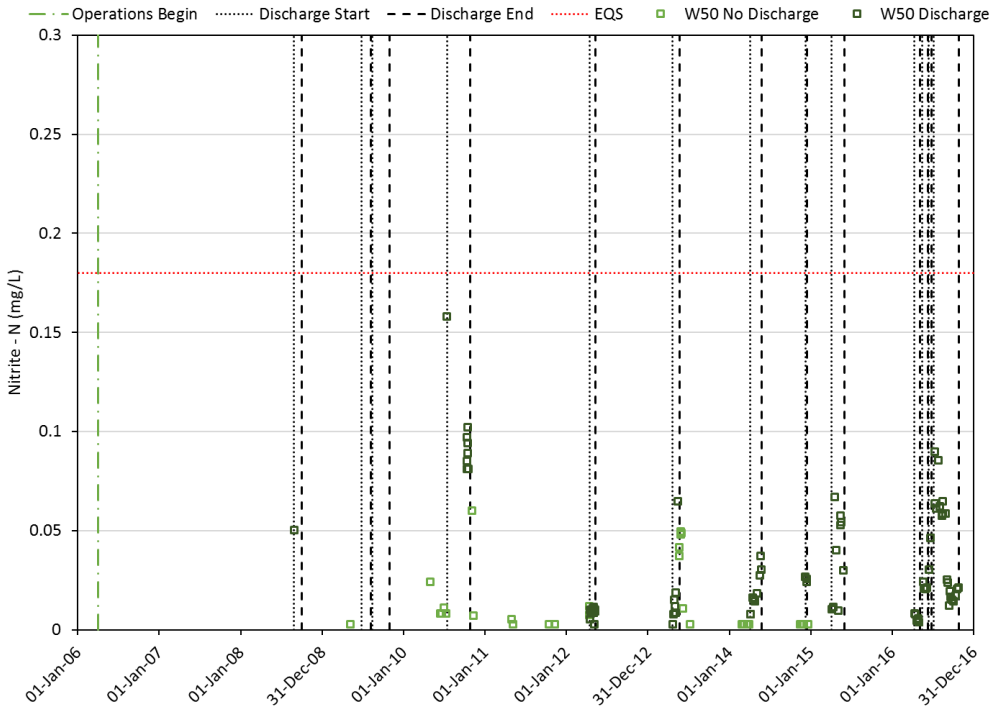

Figure 3-64: Concentrations of Nitrite (N) in Minto Creek at W50.

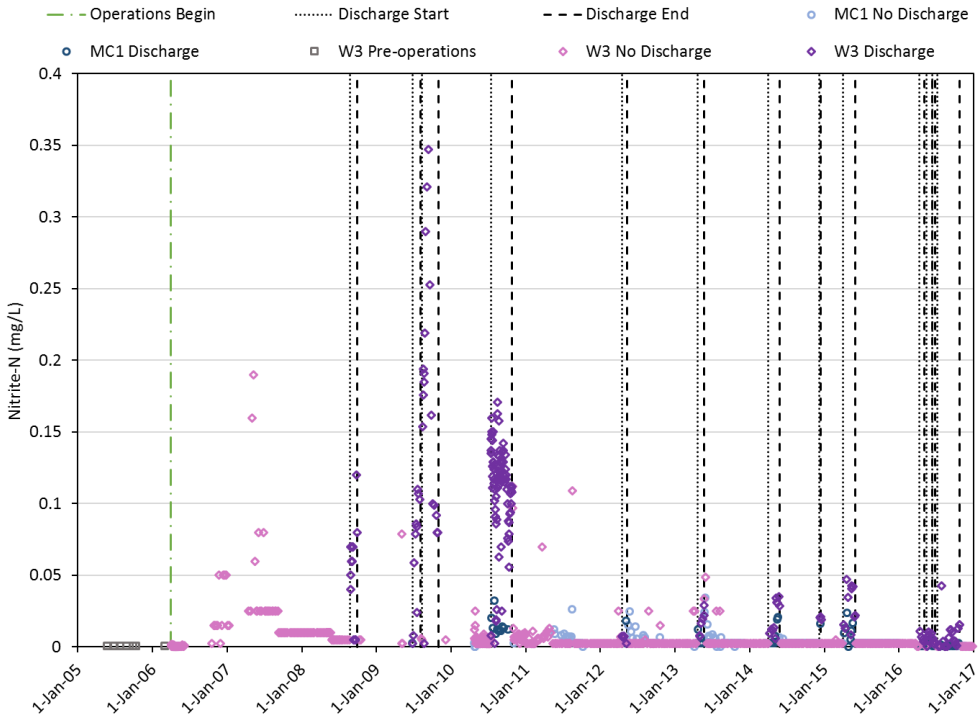

Figure 3-65: Concentrations of Nitrite (N) in Minto Creek at W3 and MC1.

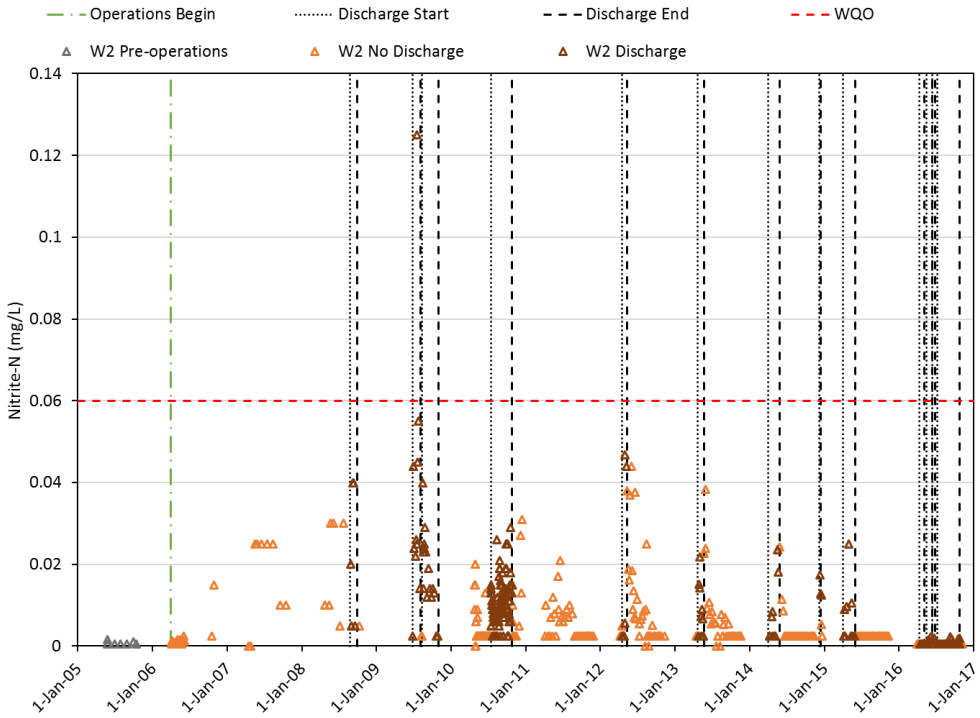

Figure 3-66: Concentrations of Nitrite (N) in Minto Creek at W2.

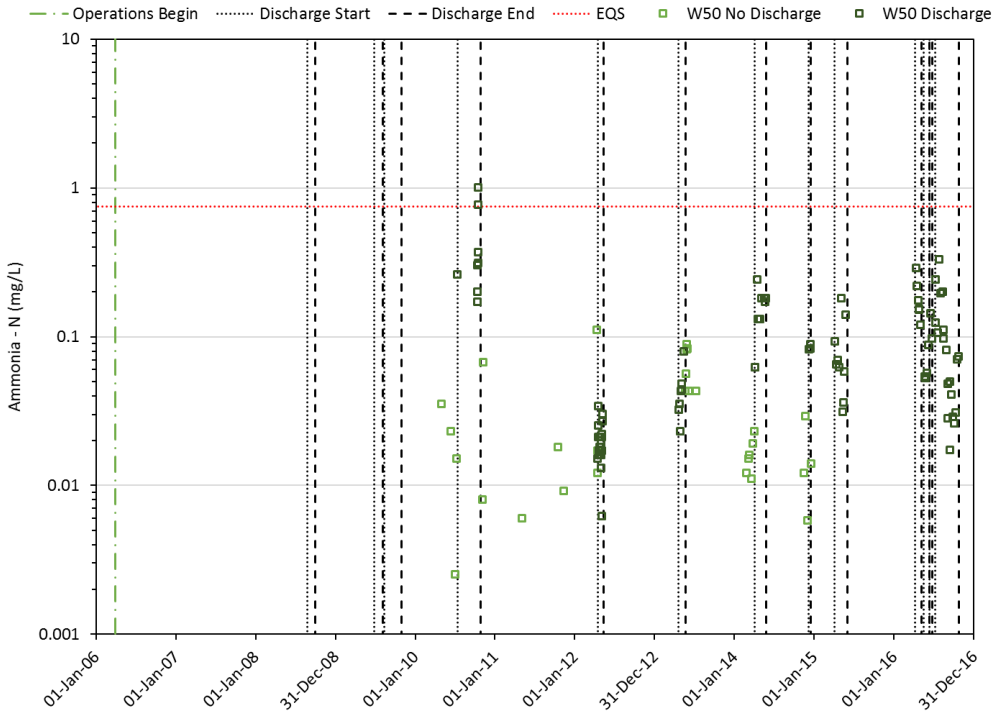

Figure 3-67: Concentrations of Ammonia (N) in Minto Creek at W50. Note Log Scale.

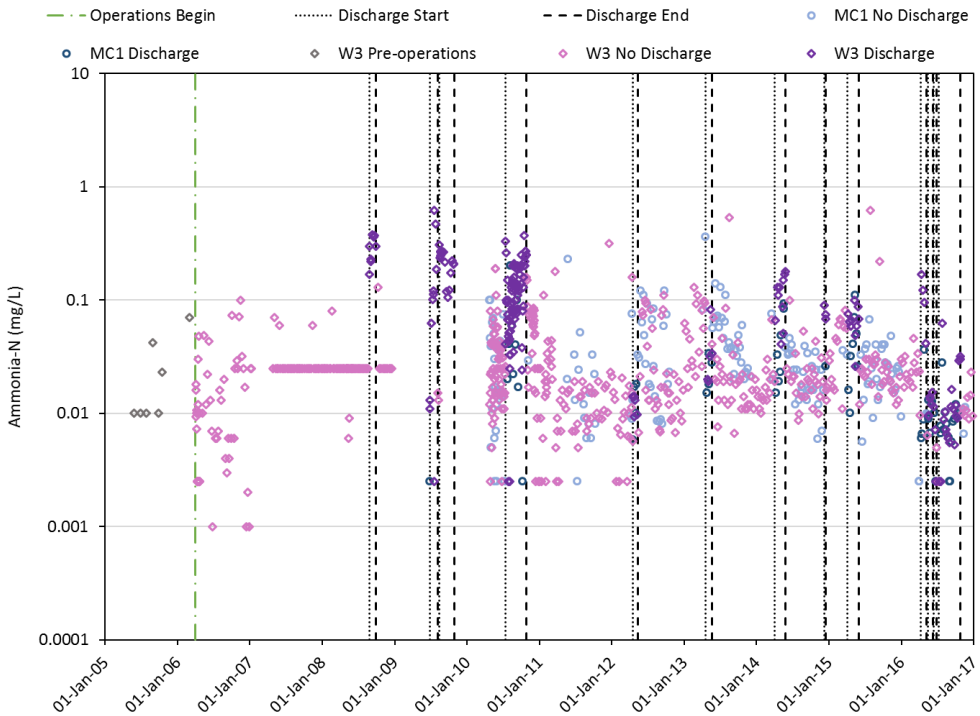

Figure 3-68: Concentrations of Ammonia (N) in Minto Creek at W3 and MC1. Note Log Scale.

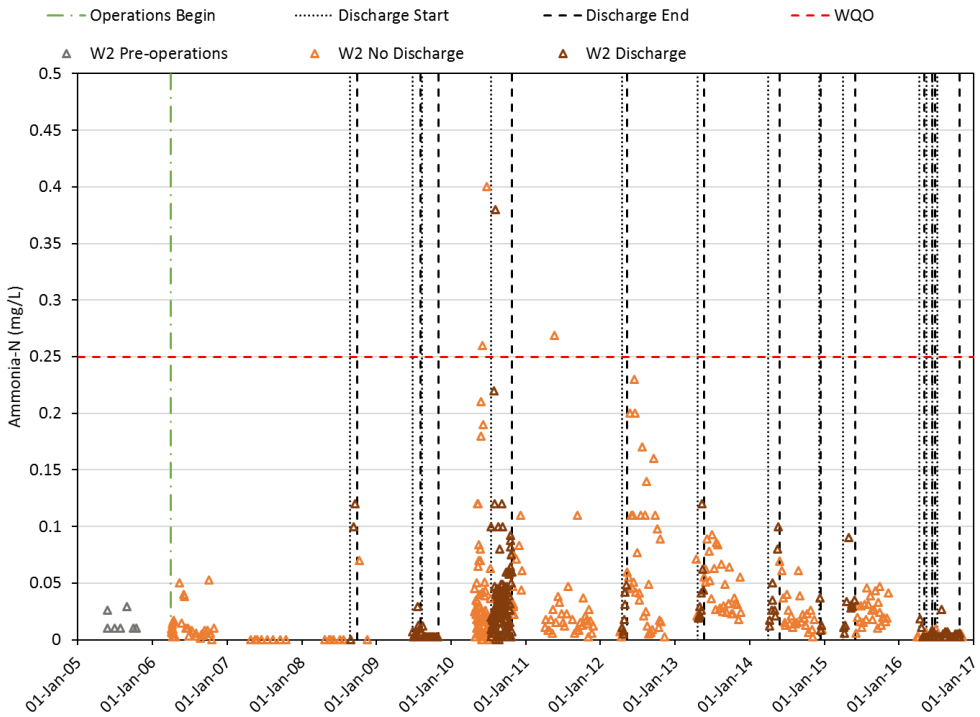

Figure 3-69: Concentrations of Ammonia (N) in Minto Creek at W2.

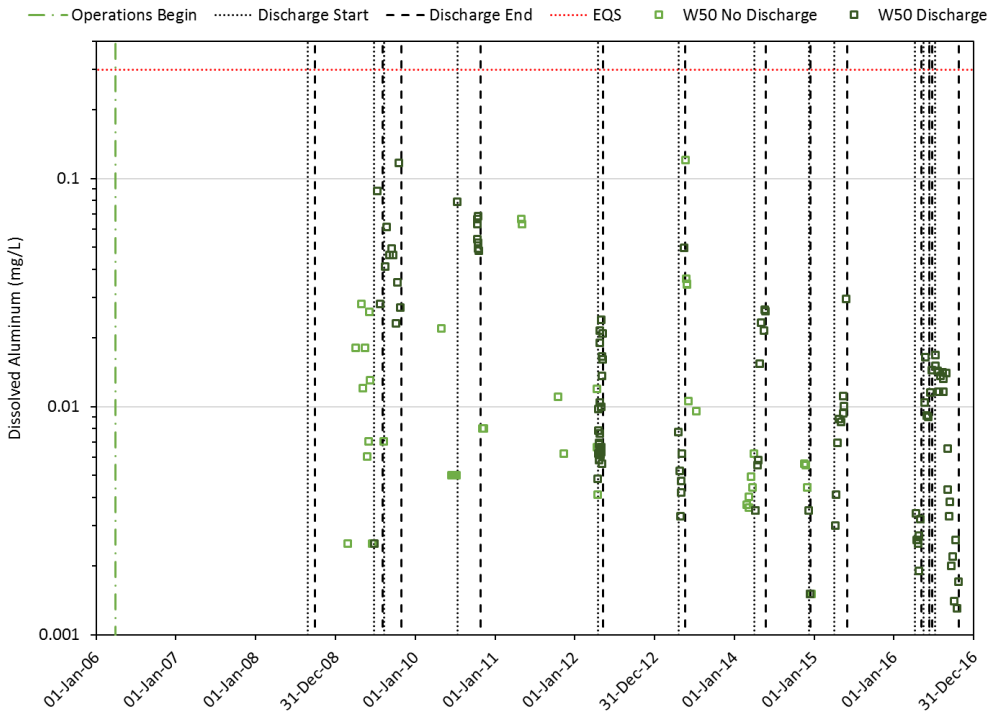

Figure 3-70: Concentrations of Dissolved Aluminum in Minto Creek at W50. Note Log Scale.

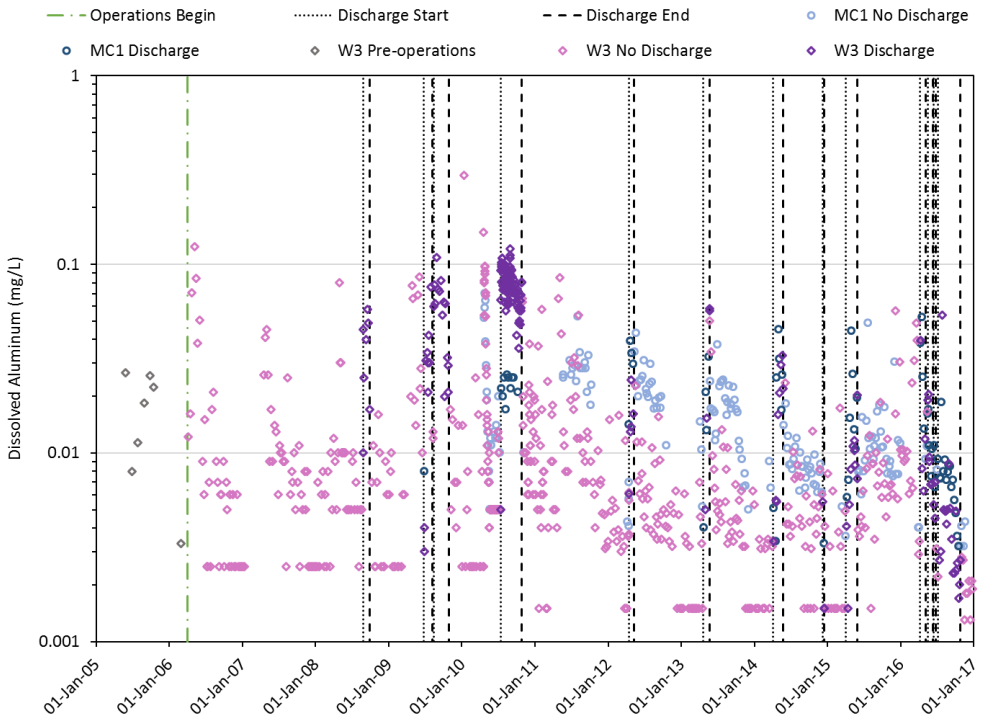

Figure 3-71: Concentrations of Dissolved Aluminum in Minto Creek at W3 and MC1. Note Log Scale.

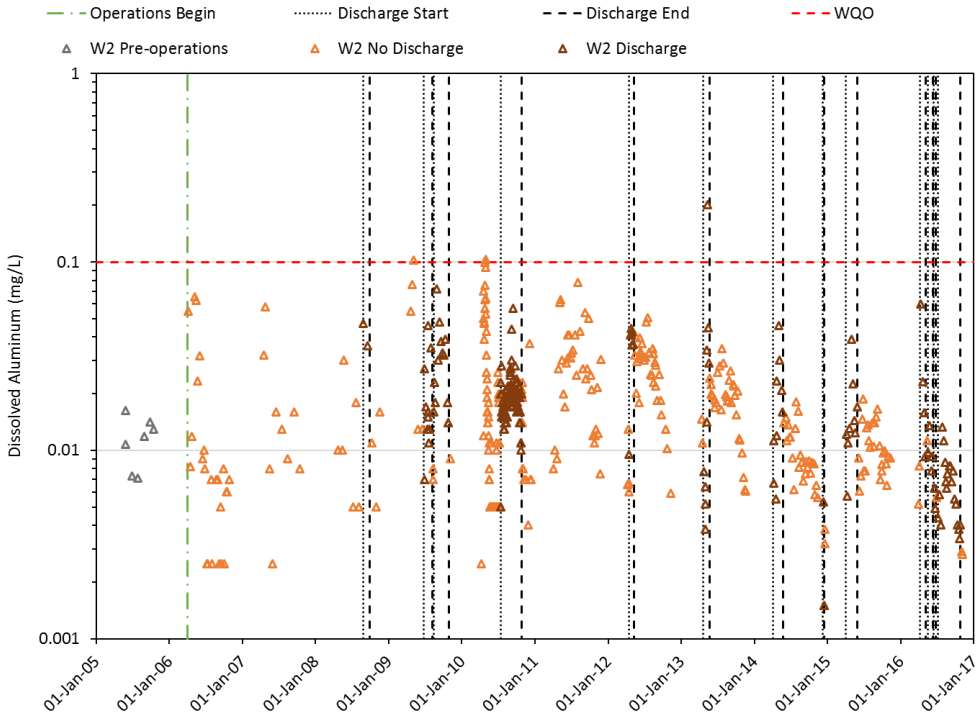

Figure 3-72: Concentrations of Dissolved Aluminum in Minto Creek at W2. Note Log Scale.

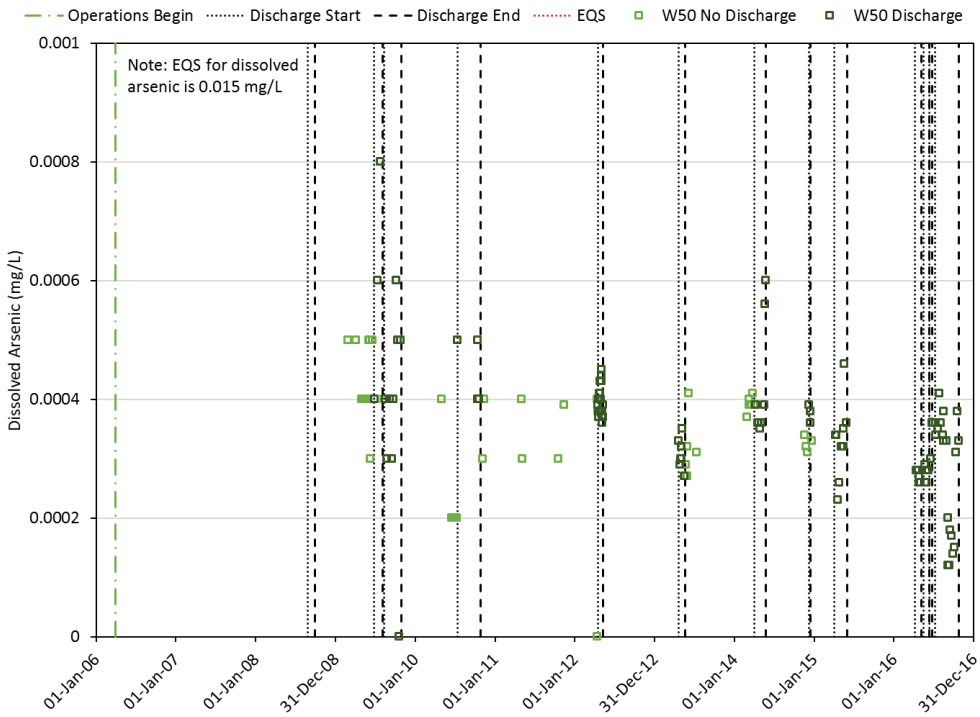

Figure 3-73: Concentrations of Dissolved Arsenic in Minto Creek at W50.

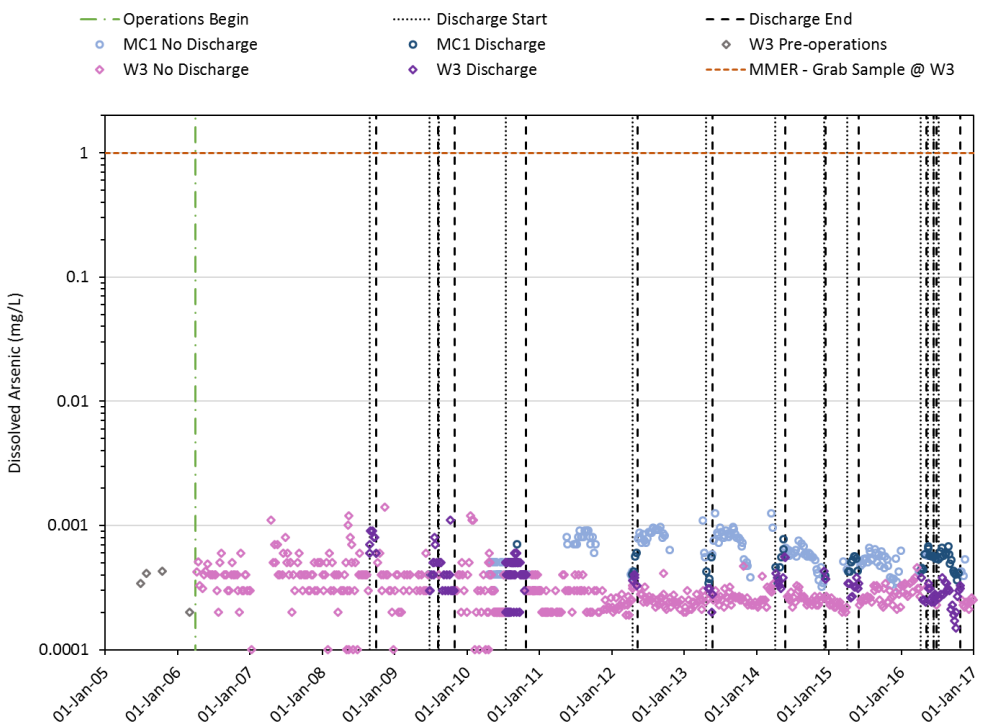

Figure 3-74: Concentrations of Dissolved Arsenic in Minto Creek at W3 and MC1.

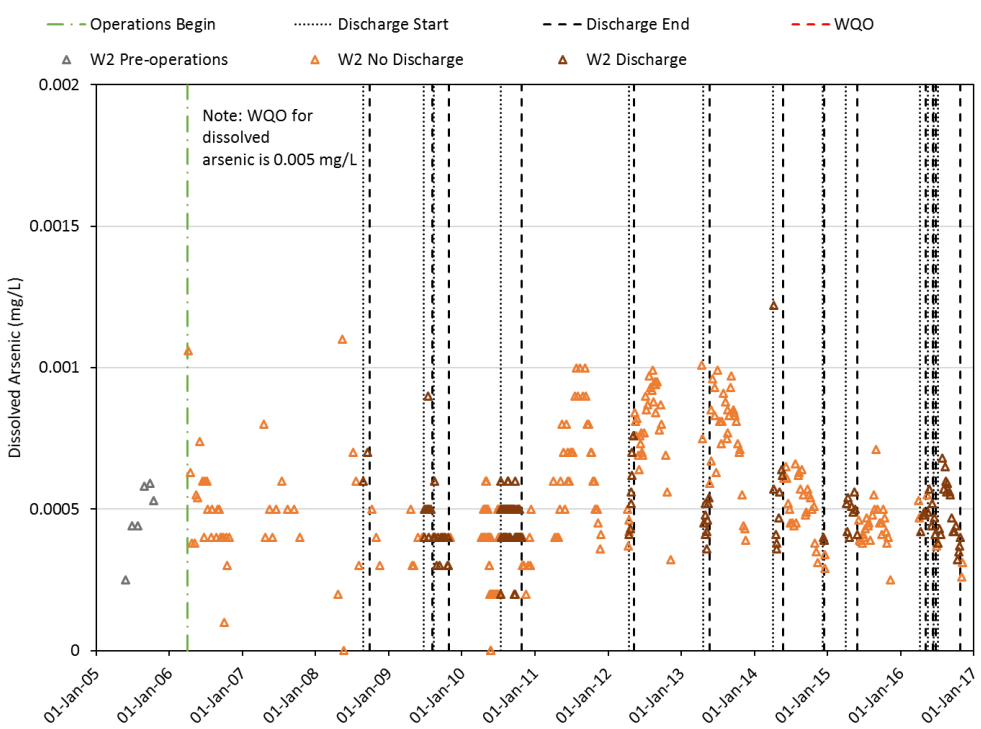

Figure 3-75: Concentrations of Dissolved Arsenic in Minto Creek at W2.

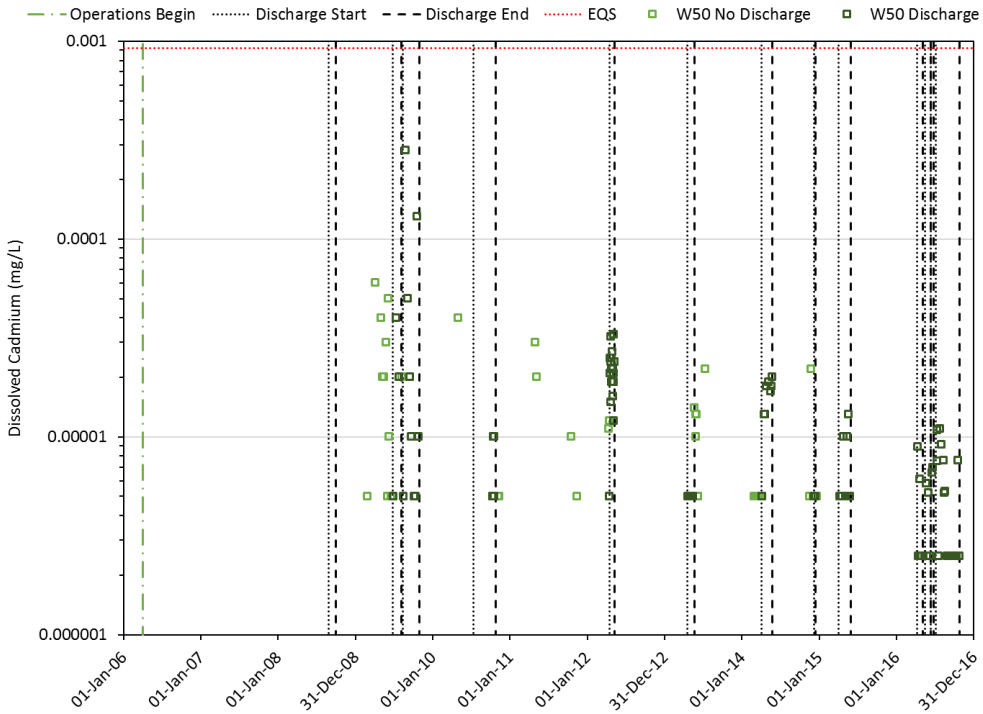

Figure 3-76: Concentrations of Dissolved Cadmium in Minto Creek at W50. Note Log Scale.

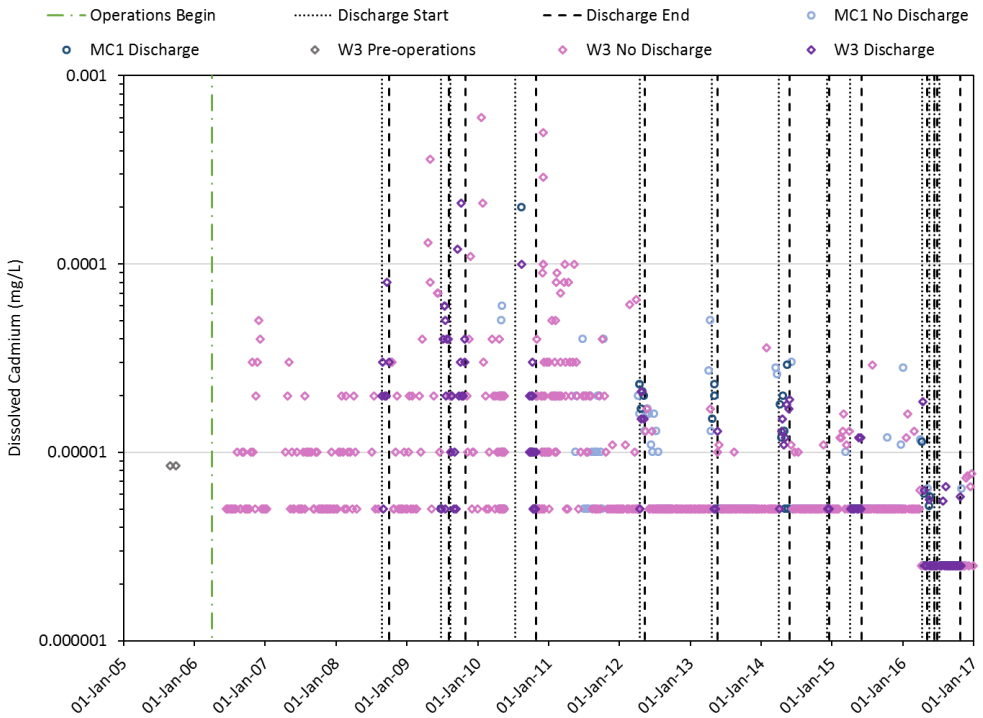

Figure 3-77: Concentrations of Dissolved Cadmium in Minto Creek at W3 and MC1. Note Log Scale.

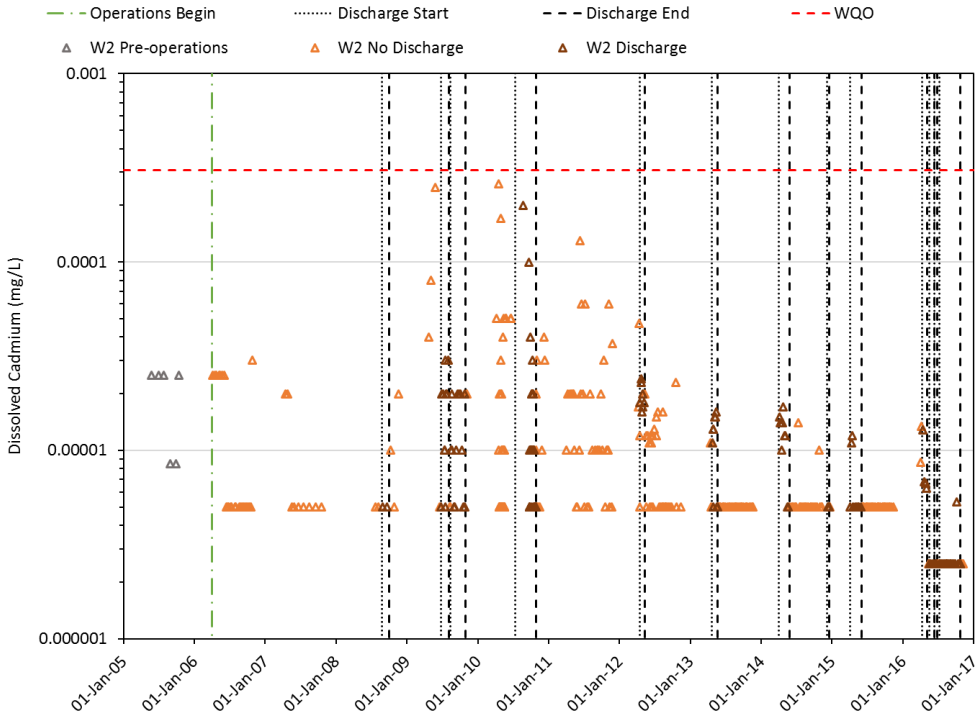

Figure 3-78: Concentrations of Dissolved Cadmium in Minto Creek at W2. Note Log Scale.

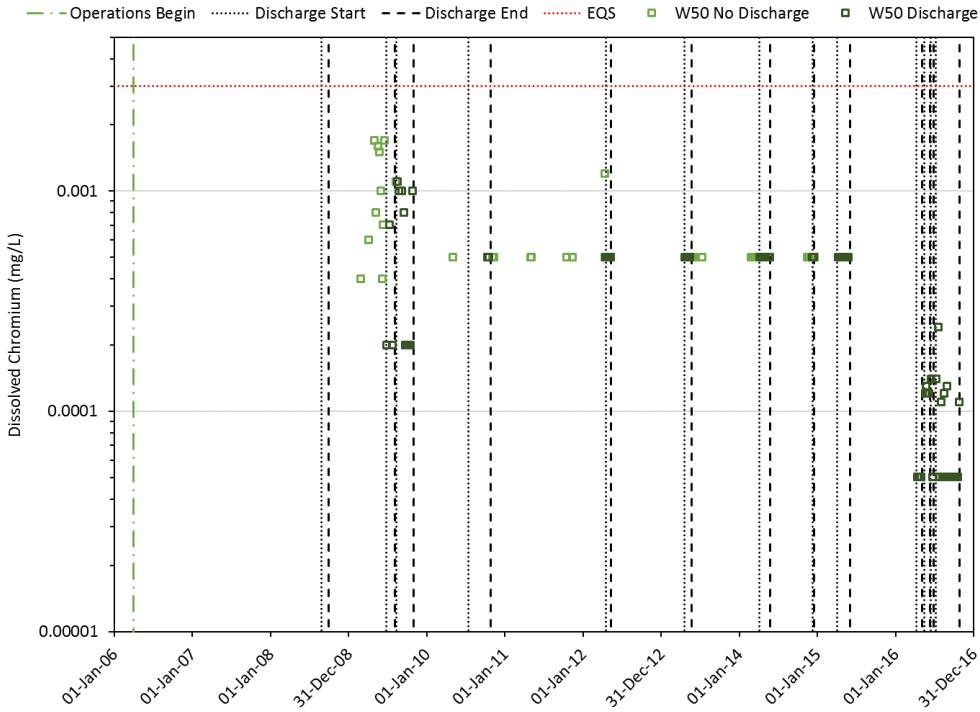

Figure 3-79: Concentrations of Dissolved Chromium in Minto Creek at W50. Note Log Scale.

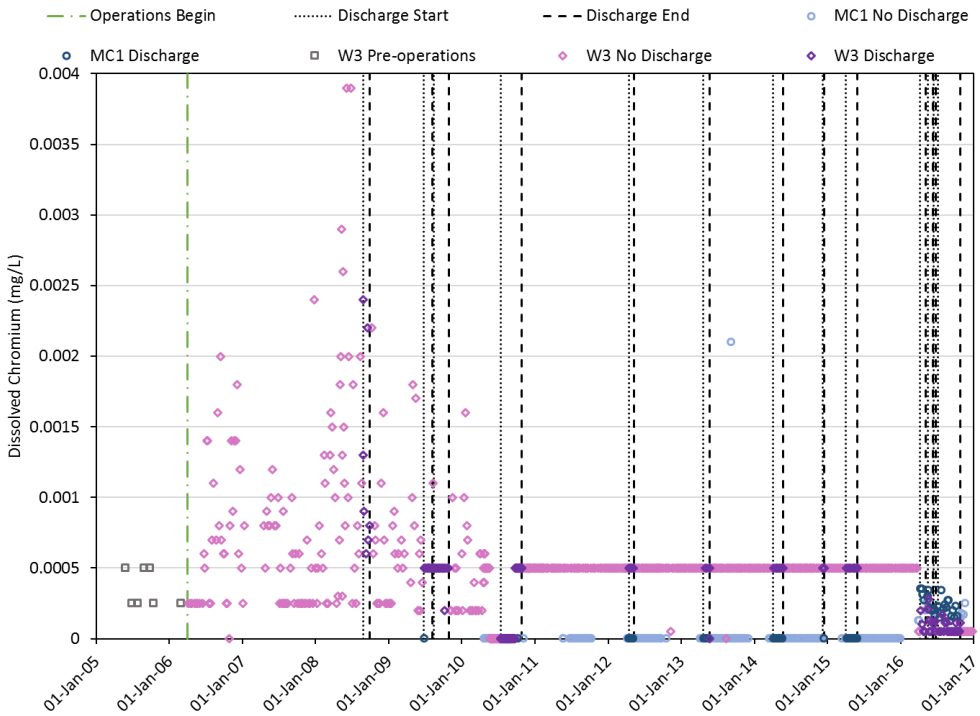

Figure 3-80: Concentrations of Dissolved Chromium in Minto Creek at W3 and MC1.

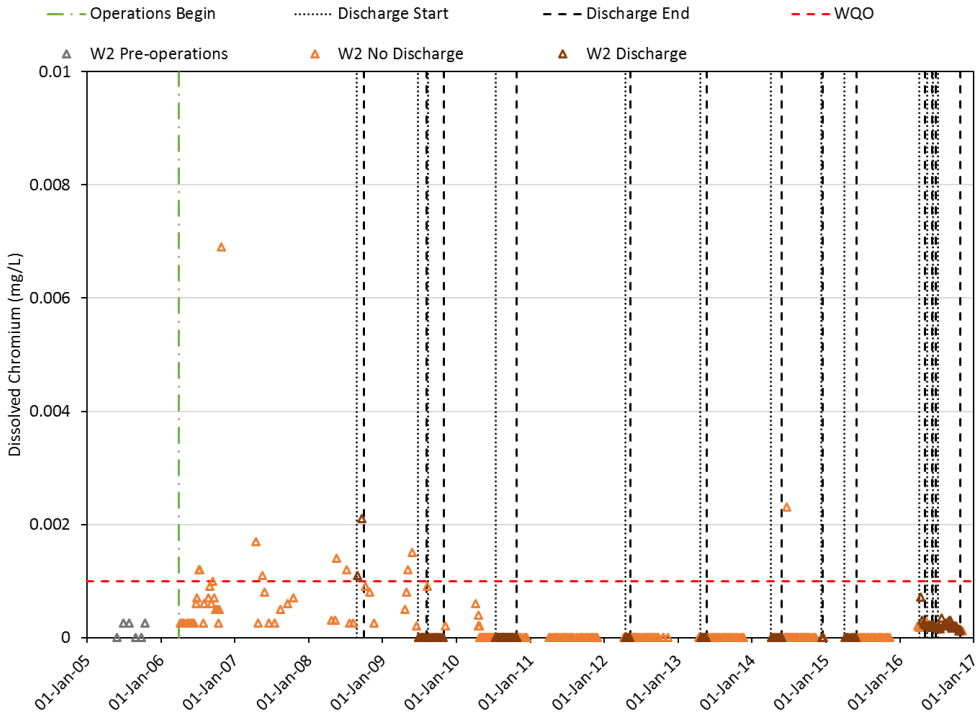

Figure 3-81: Concentrations of Dissolved Chromium in Minto Creek at W2.

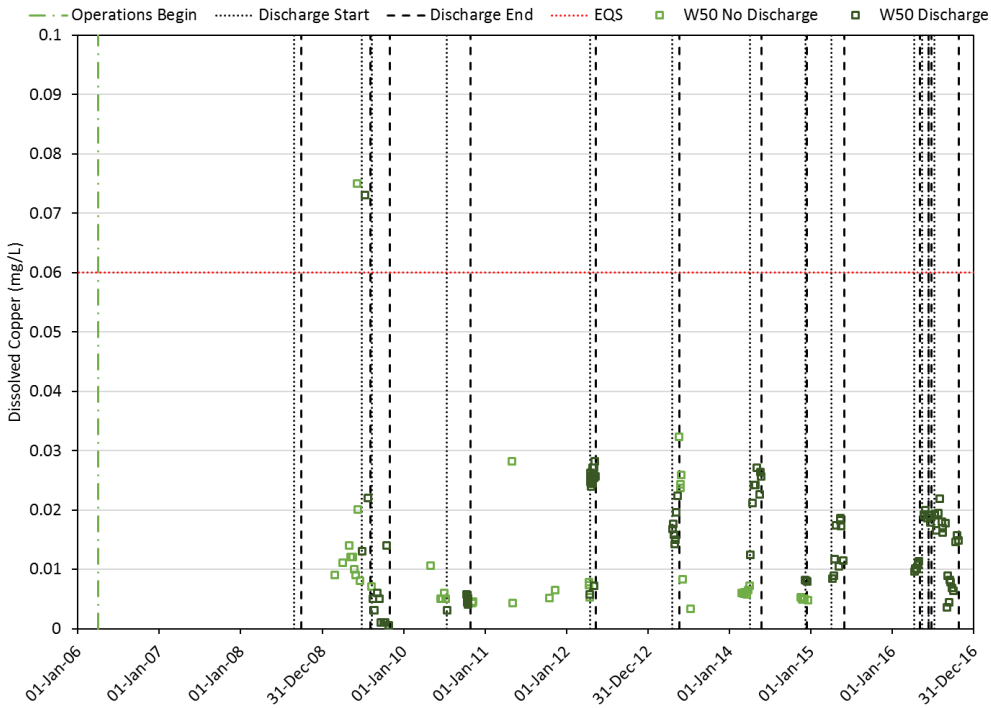

Figure 3-82: Concentrations of Dissolved Copper in Minto Creek at W50.

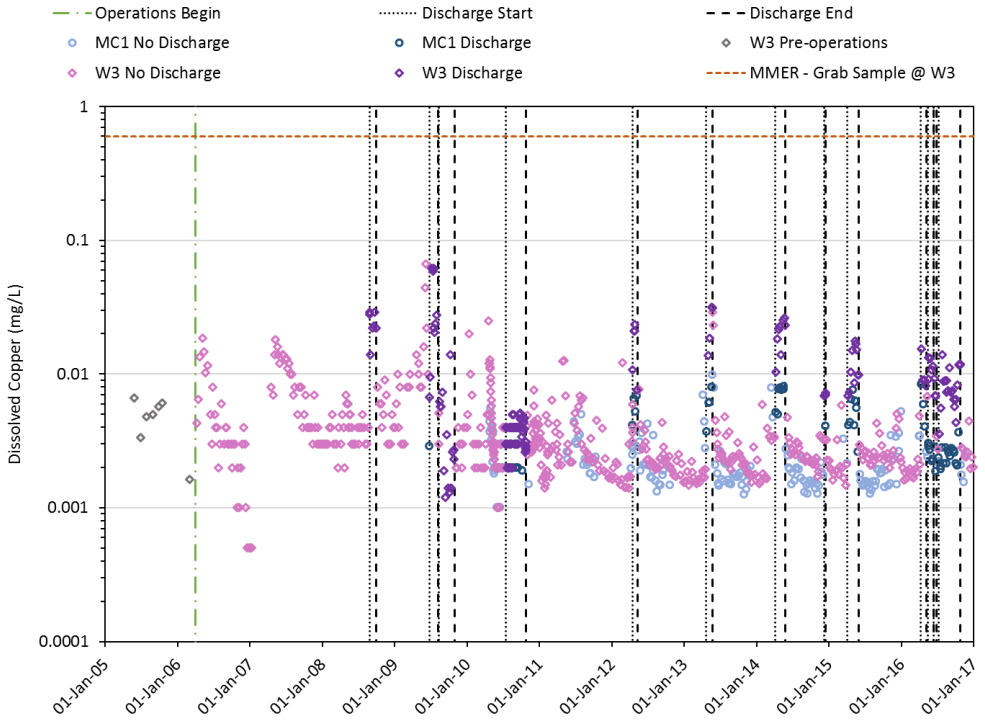

Figure 3-83: Concentrations of Dissolved Copper in Minto Creek at W3 and MC1.

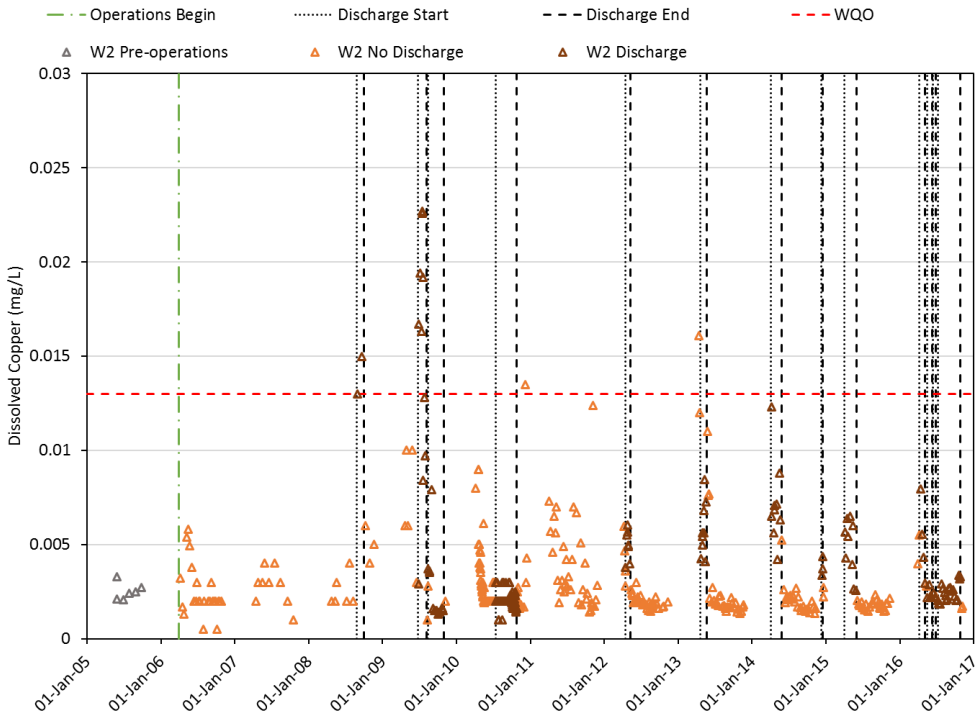

Figure 3-84: Concentrations of Dissolved Copper in Minto Creek at W2.

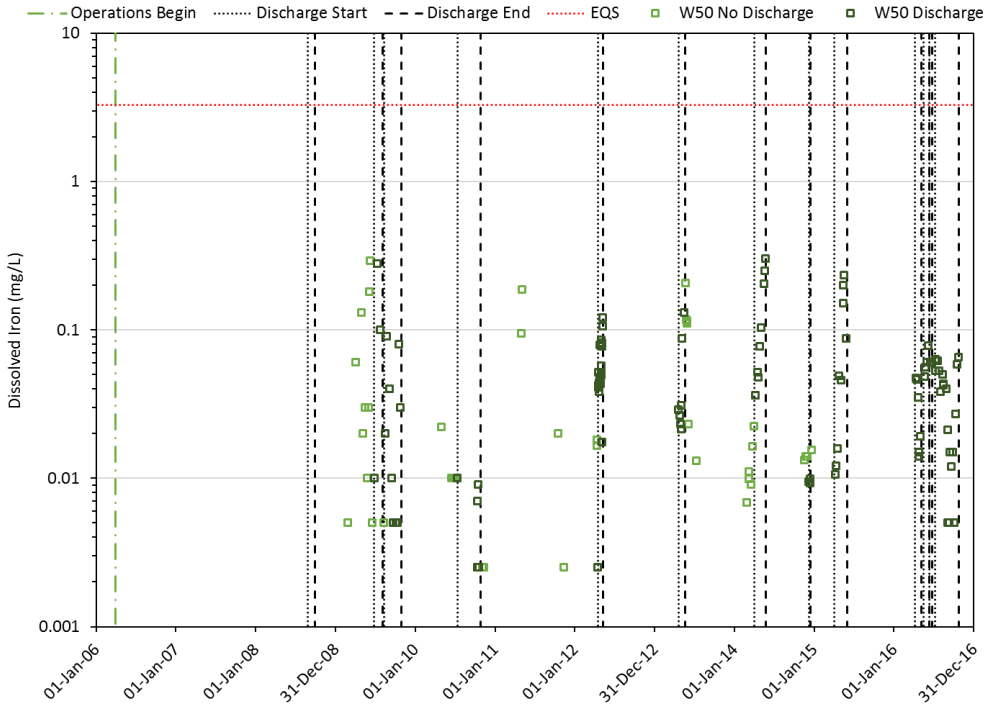

Figure 3-85: Concentrations of Dissolved Iron in Minto Creek at W50. Note Log Scale.

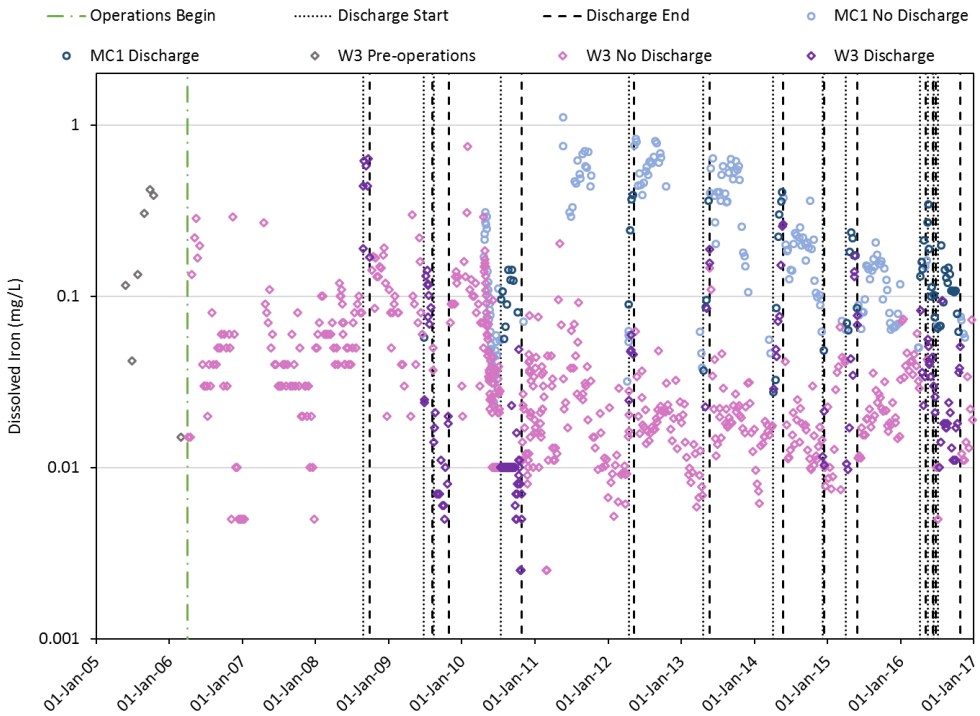

Figure 3-86: Concentrations of Dissolved Iron in Minto Creek at W3 and MC1. Note Log Scale.

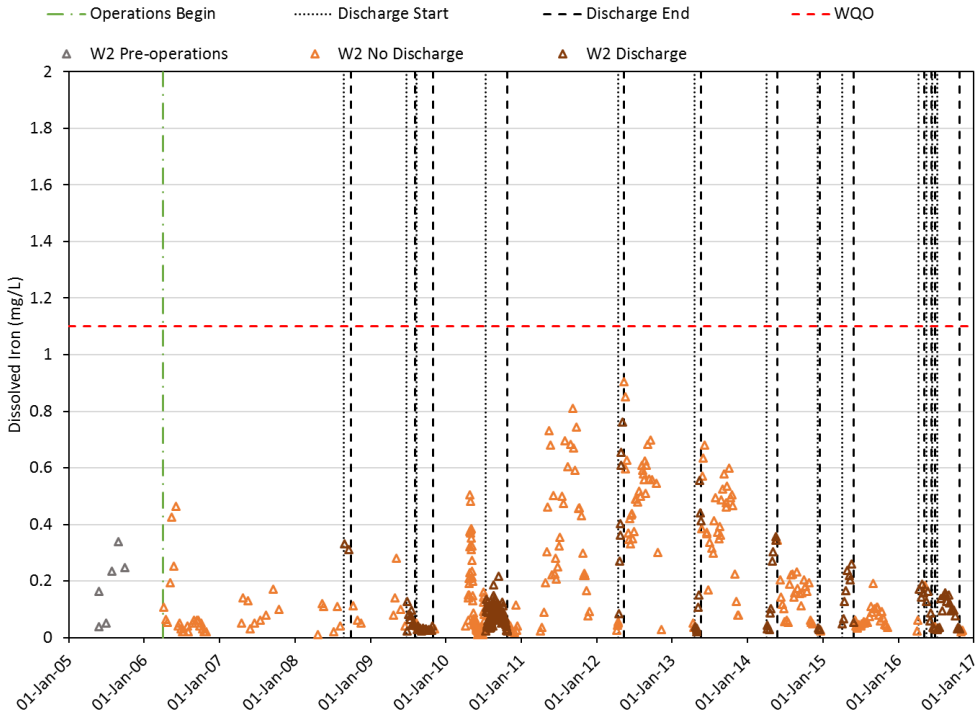

Figure 3-87: Concentrations of Dissolved Iron in Minto Creek at W2.

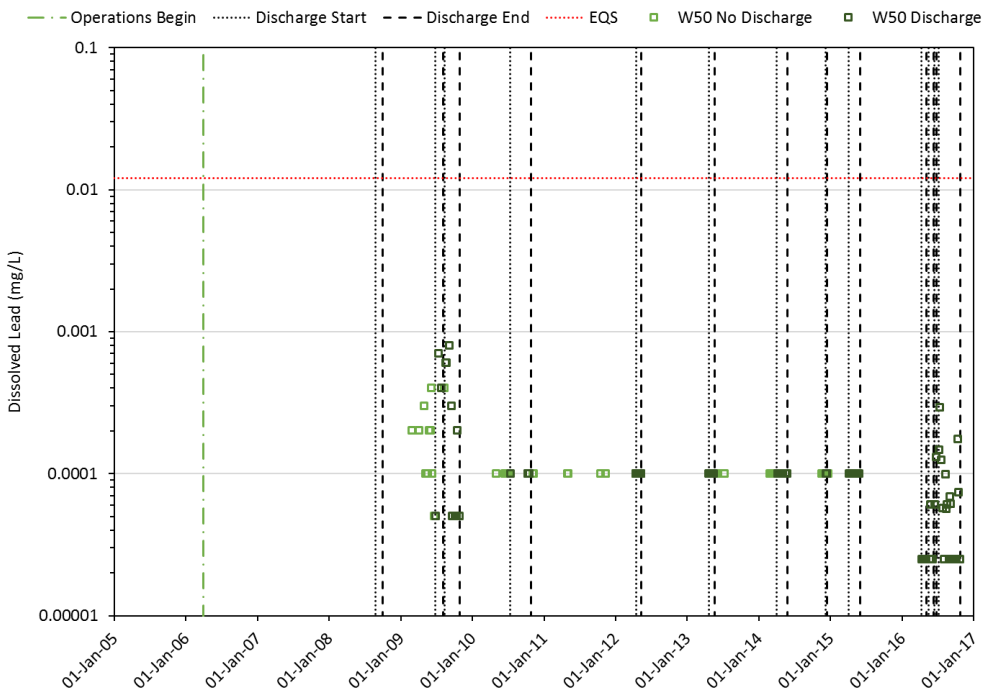

Figure 3-88: Concentrations of Dissolved Lead in Minto Creek at W50. Note Log Scale.

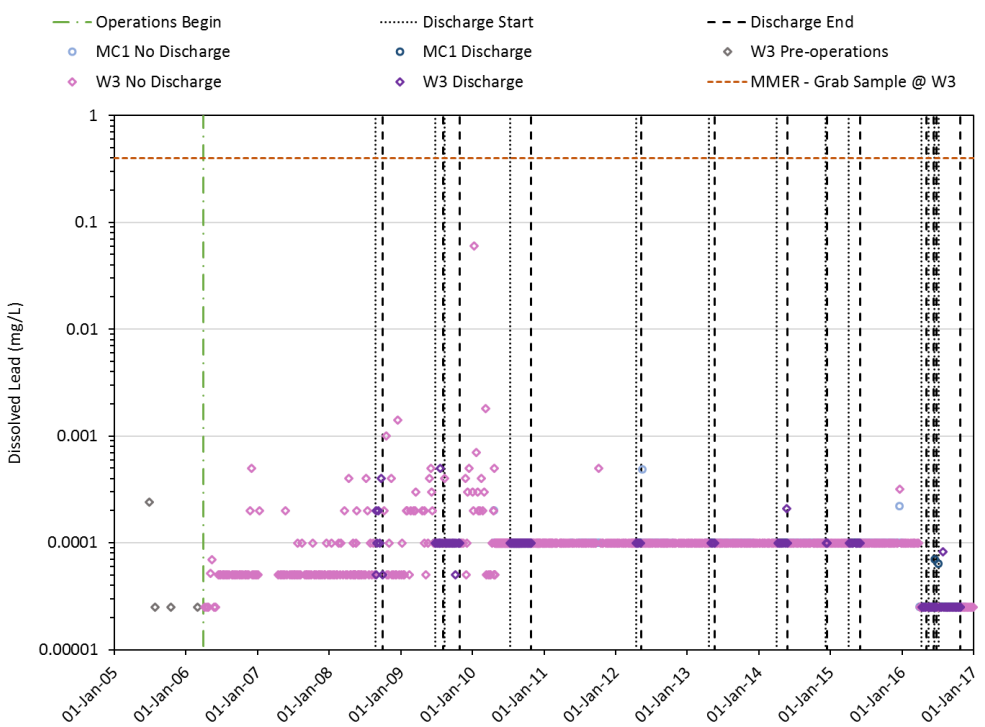

Figure 3-89: Concentrations of Dissolved Lead in Minto Creek at W3 and MC1. Note Log Scale.

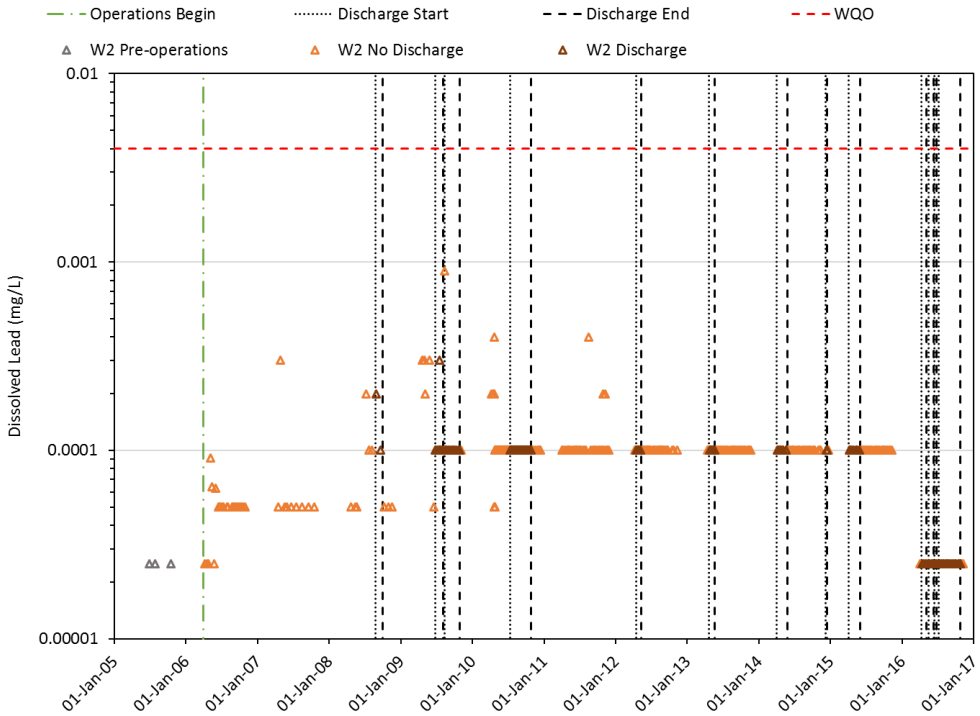

Figure 3-90: Concentrations of Dissolved Lead in Minto Creek at W2. Note Log Scale.

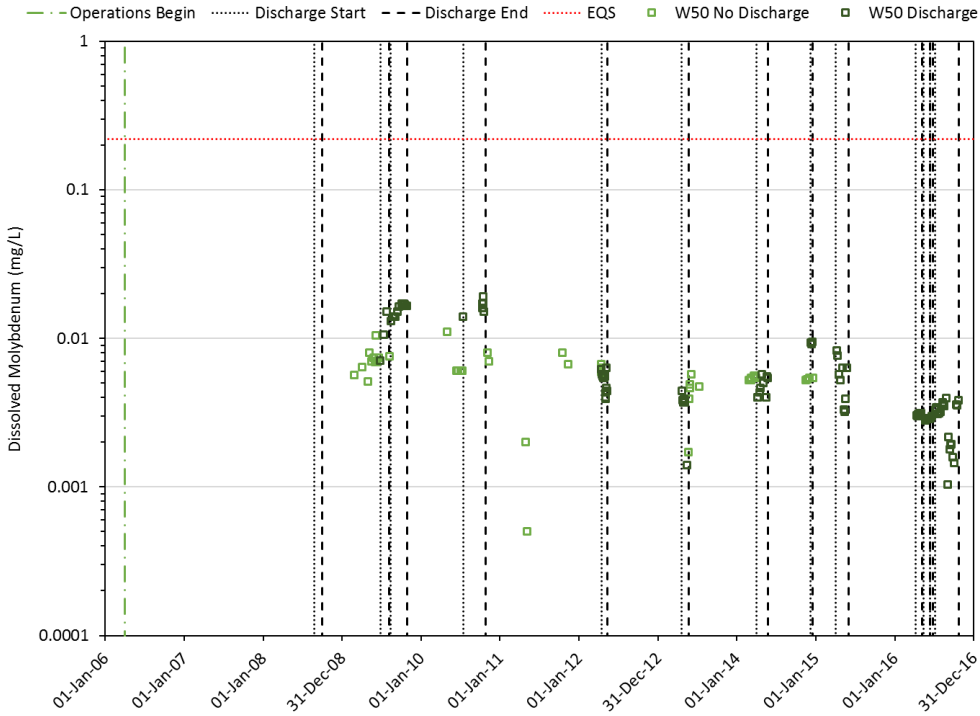

Figure 3-91: Concentrations of Dissolved Molybdenum in Minto Creek at W50. Note Log Scale.

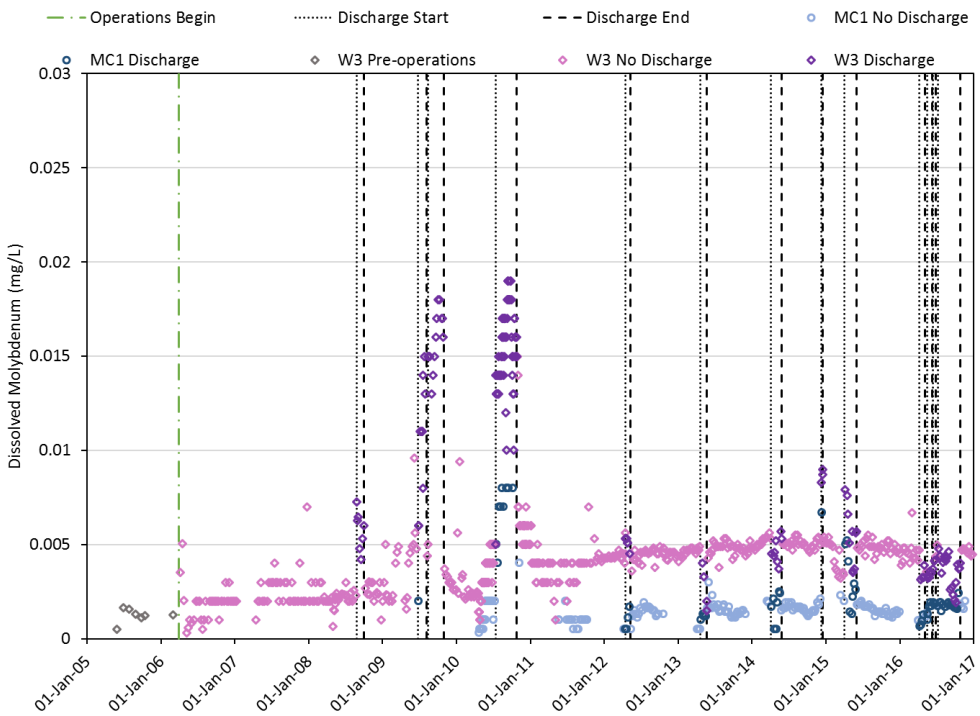

Figure 3-92: Concentrations of Dissolved Molybdenum in Minto Creek Catchment at W3 and MC1.

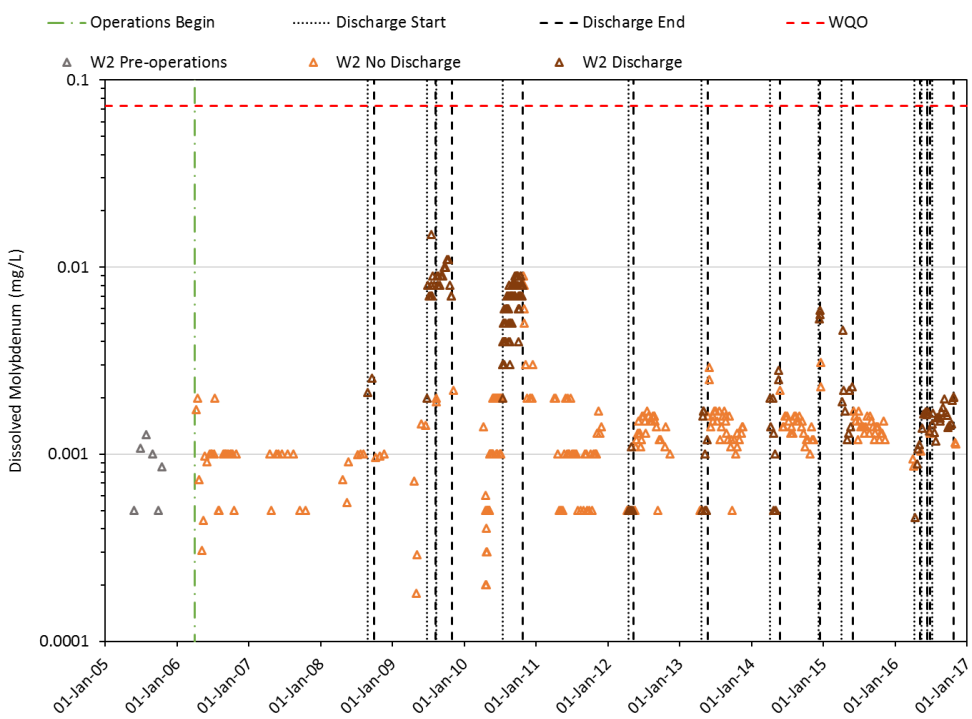

Figure 3-93: Concentrations of Dissolved Molybdenum in Minto Creek Catchment at W2. Note Log Scale.

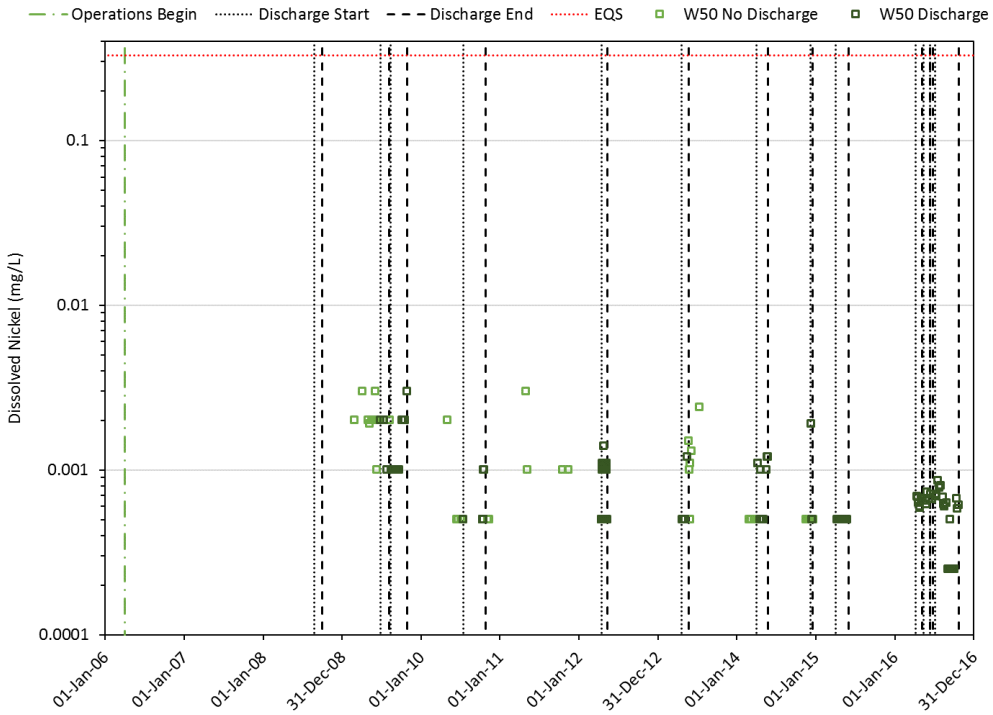

Figure 3-94: Concentrations of Dissolved Nickel in Minto Creek at W50. Note Log Scale.

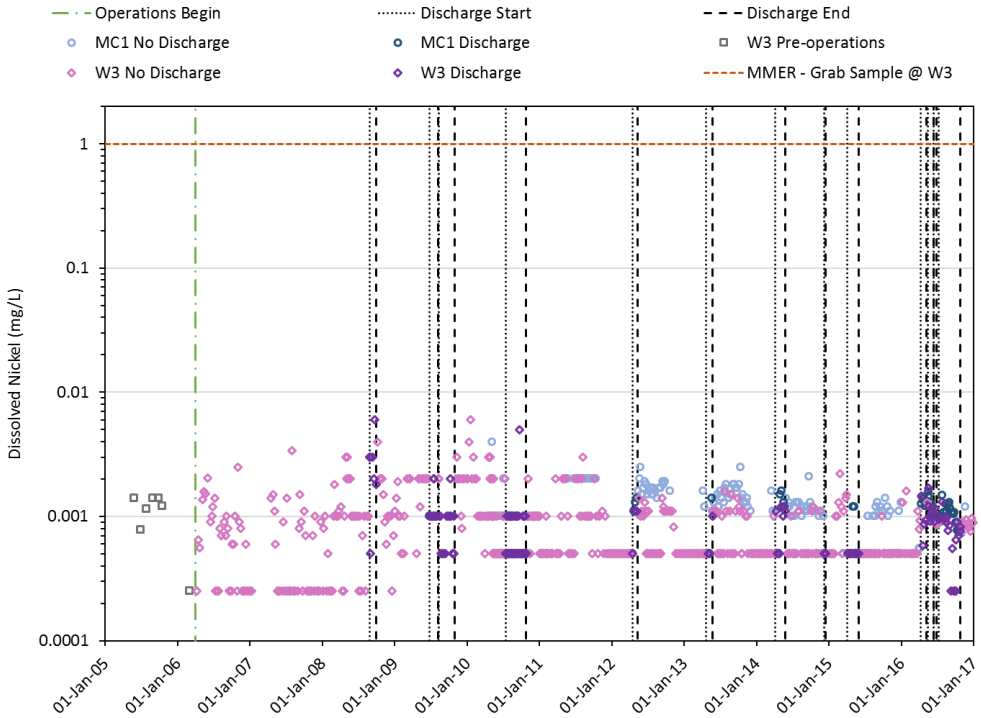

Figure 3-95: Concentrations of Dissolved Nickel in Minto Creek at W3 and MC1.

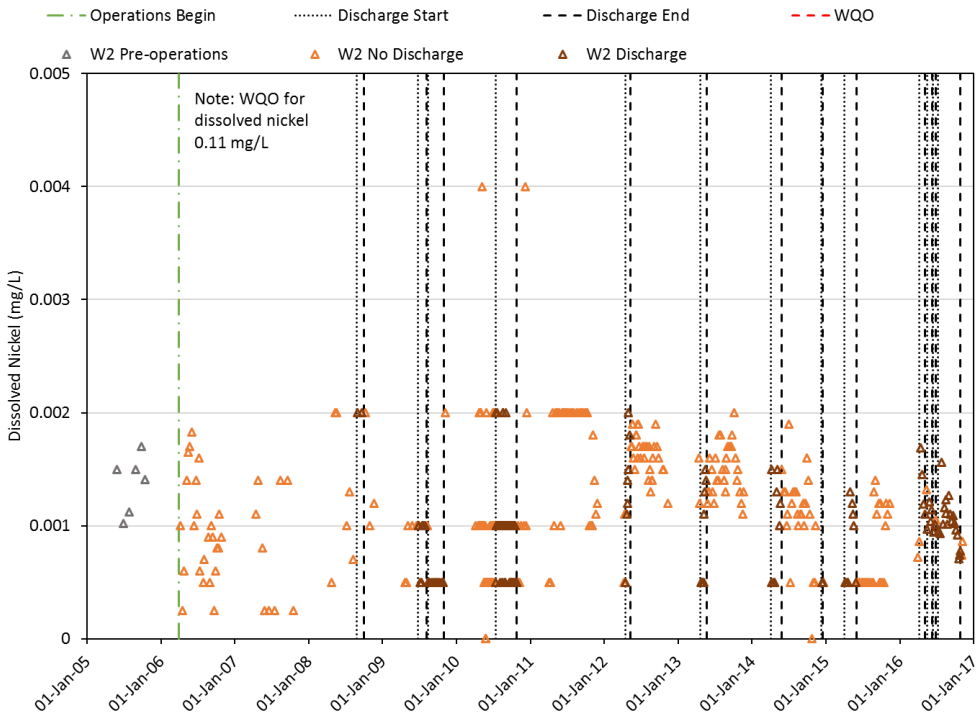

Figure 3-96: Concentrations of Dissolved Nickel in Minto Creek at W2.

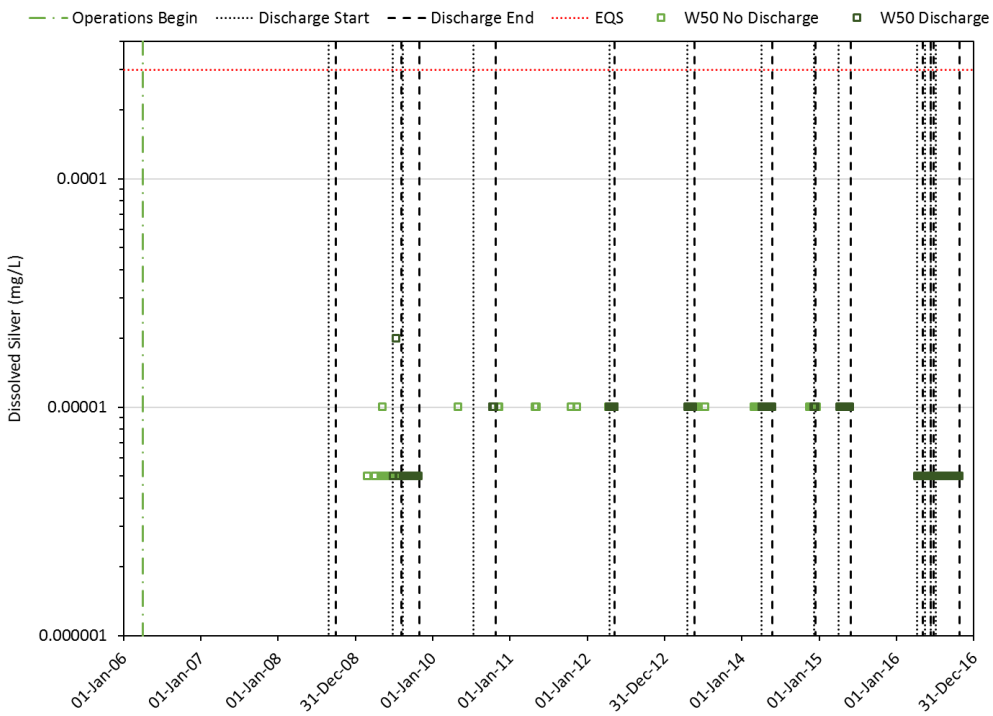

Figure 3-97: Concentrations of Dissolved Silver in Minto Creek at W50. Note Log Scale.

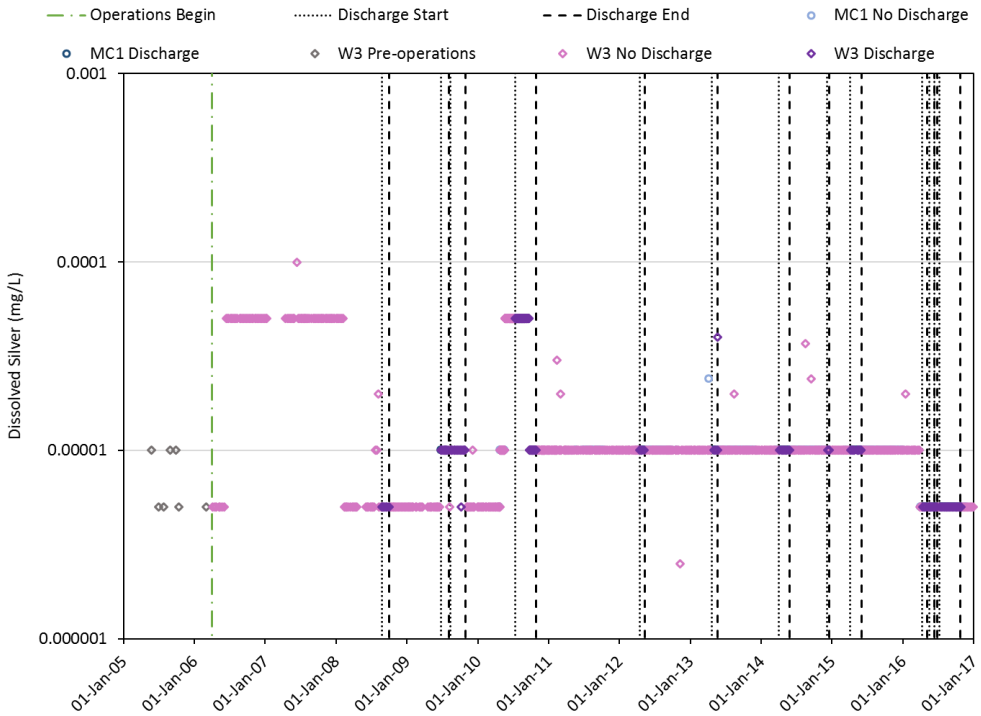

Figure 3-98: Concentrations of Dissolved Silver in Minto Creek at W3 and MC1. Note Log Scale.

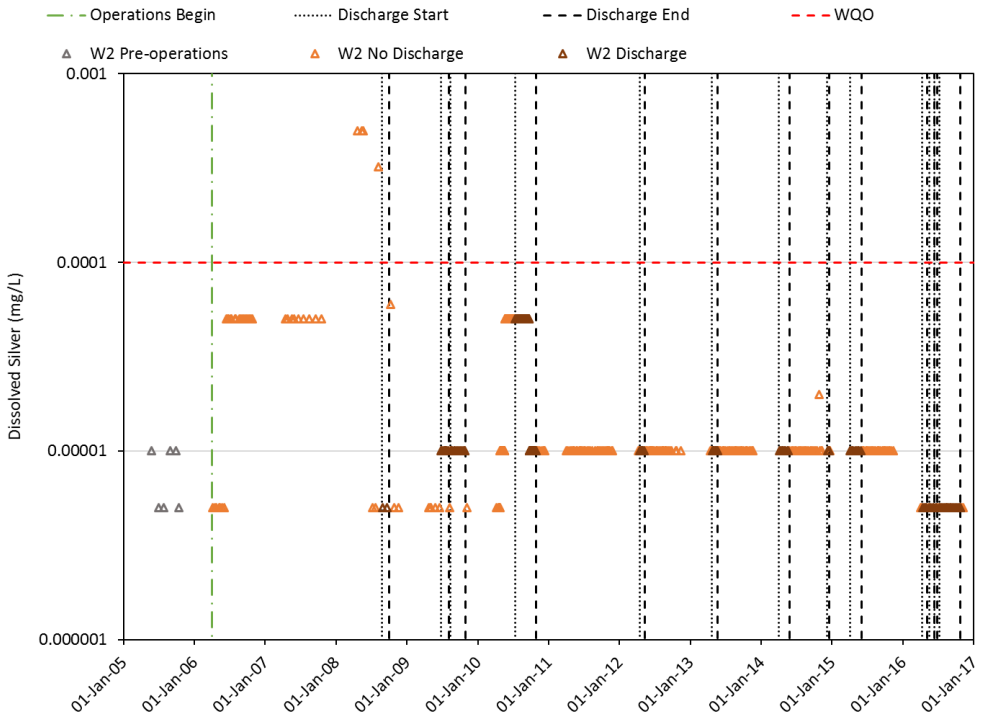

Figure 3-99: Concentrations of Dissolved Silver in Minto Creek at W2. Note Log Scale.

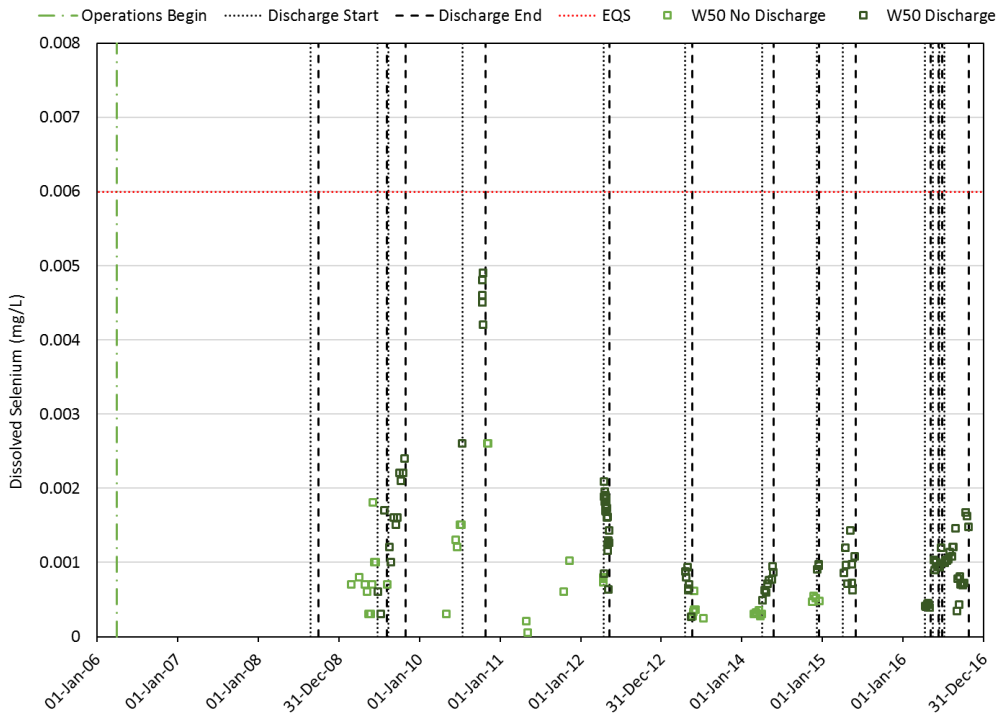

Figure 3-100: Concentrations of Dissolved Selenium in Minto Creek at W50.

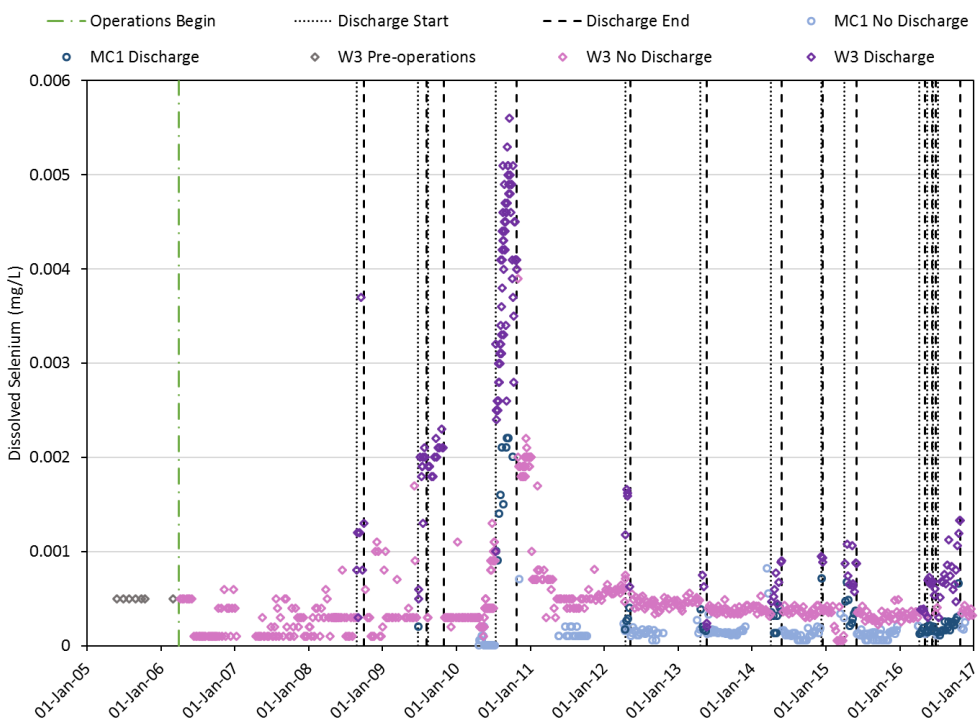

Figure 3-101: Concentrations of Dissolved Selenium in Minto Creek at W3 and MC1.

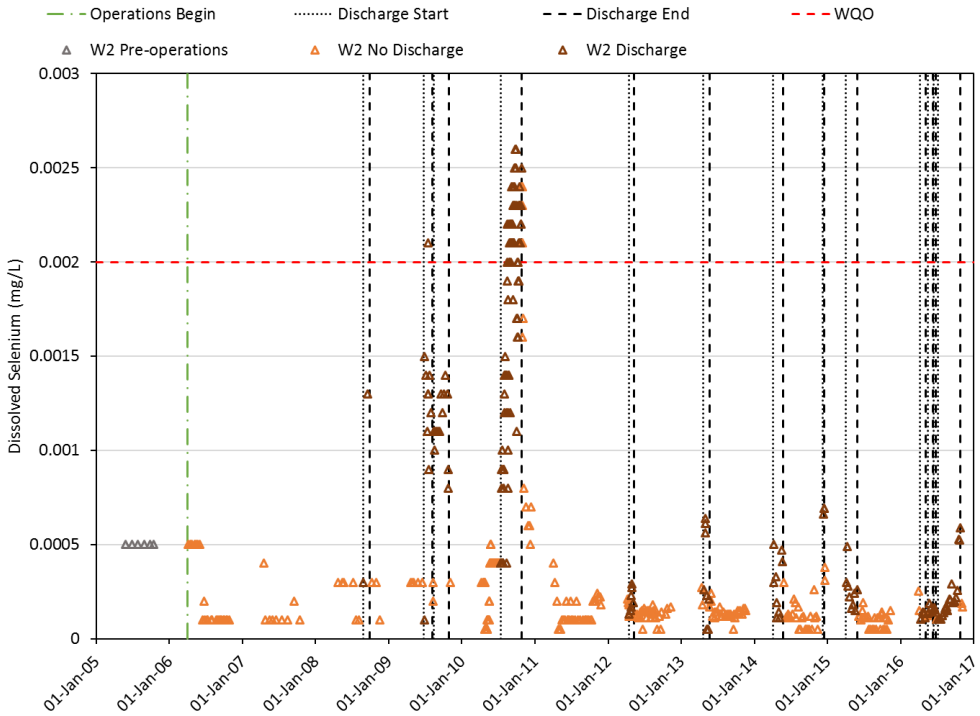

Figure 3-102: Concentrations of Dissolved Selenium in Minto Creek at W2.

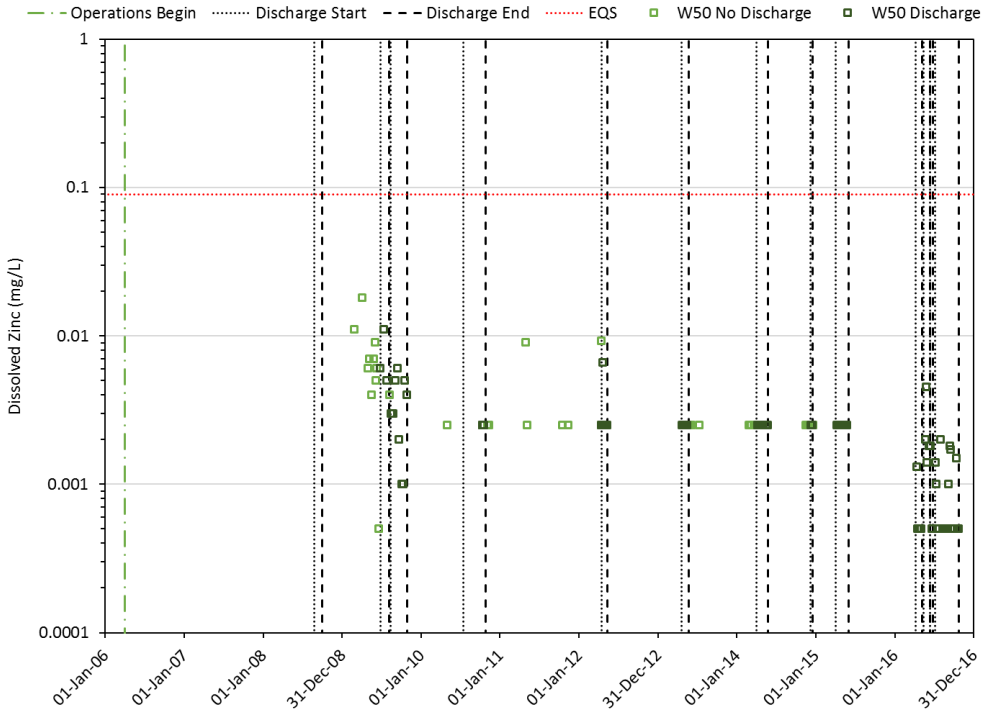

Figure 3-103: Concentrations of Dissolved Zinc in Minto Creek at W50. Note Log Scale.

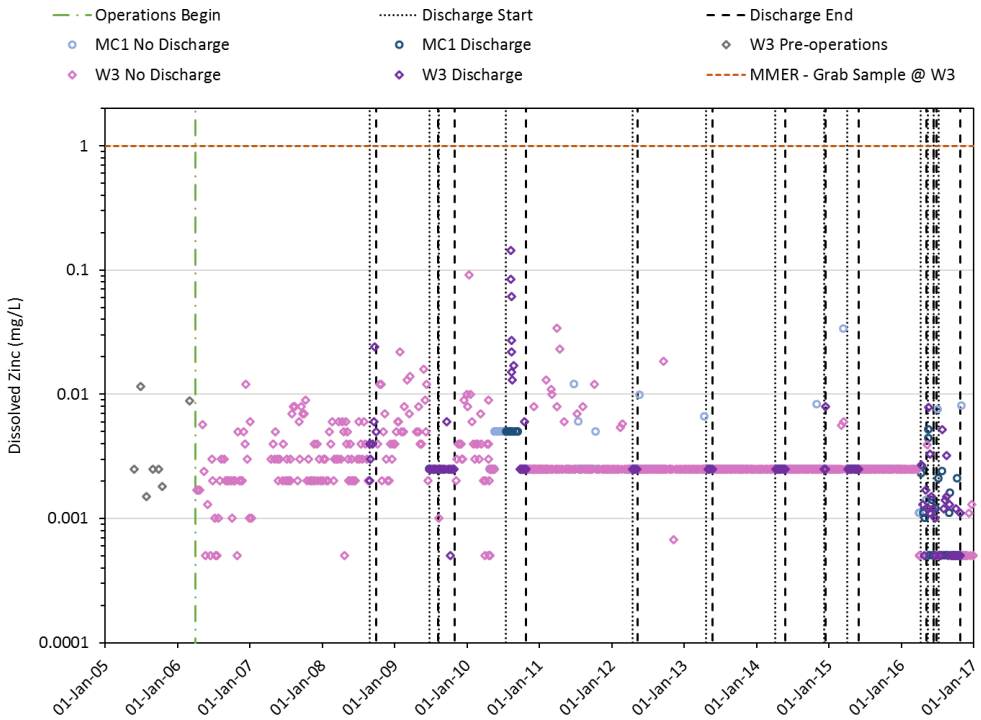

Figure 3-104: Concentrations of Dissolved Zinc in Minto Creek at W3 and MC1.

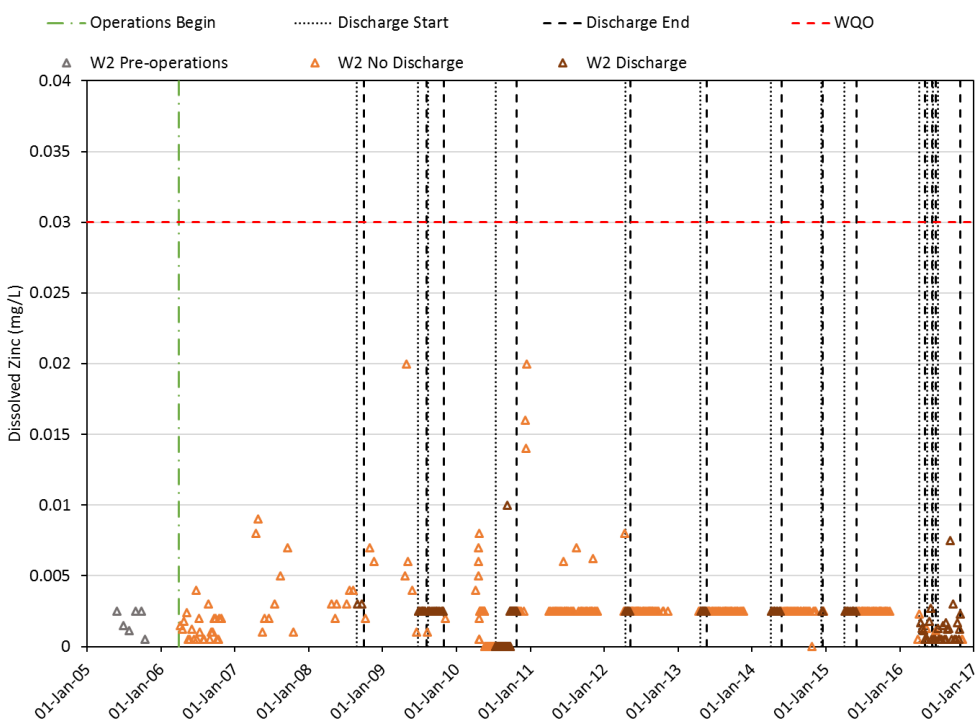

Figure 3-105: Concentrations of Dissolved Zinc in Minto Creek at W2.

3.4 MCGINTY CREEK

Discussion of water quality data in Minto Creek comprises results for sample stations MN-1.5, MN-2.5, MN-0.2, MN-0.5 and MN-4.5 as outlined in Section 2.1.4. Examined parameters included those in the list of EQS and WQO in Water License QZ14-031.

3.4.1 McGinty Creek East Arm

The water quality results for the McGinty Creek east arm (MN-1.5, MN-2.5 and MN-4.5) are presented for physical parameters and anion and nutrient concentrations in Section 3.4.1.1 and for dissolved metals in Section 3.4.1.2.

3.4.1.1 Physical Parameters, Anions and Nutrients

Statistical summaries of physical parameters, anions and nutrients in the east arm of McGinty Creek stations are presented in Table 3-39 through Table 3-41. Plots that depict TSS, field pH and nitrogen species temporally at the McGinty Creek east arm stations are presented in Figure 3-106 through Figure 3-110.

The pH in the east arm of McGinty Creek has generally been circumneutral and increases moving downstream from MN-1.5 (median pH 7.3) to MN-4.5 (median pH 7.8) (Figure 3-107). Temperature varied seasonally in McGinty Creek (median 0.5 to 2.4 ^{o}C) and its waters were often well oxygenated; however, relatively lower dissolved oxygen measurements were recorded at MN-1.5 and MN-2.5 during winter months when ice cover likely restricted oxygen ingress to the creek. McGinty Creek typically demonstrated seasonal variability in field conductivity as the lowest annual measurements were predominantly observed in April due to dilution from snowmelt.

Unlike the mine site and Minto Creek locations, the highest TSS concentrations were typically observed during the summer. TSS concentrations were highest at the most upstream station (median 25 mg/L at MN-1.5), where concentrations as high as 8,200 mg/L were recorded (Table 3-39). Much lower TSS concentrations were observed downstream with sites MC-2.5 and MC-4.5 sharing similar median TSS levels (4 and 6 mg/L, respectively). Four sampling events at site MN-4.5 exceeded the AMP WQO (269 mg/L); however, these sampling events occurred before this WQO came into effect (March 2016).

Nitrite-N concentrations were typically below detection levels in McGinty Creek with occasional greater than detection data in later summer measurements. Nitrate-N concentrations in McGinty Creek showed some seasonality with low or below detection level values in April/May due to dilution meltwater, and higher concentrations generally later in the year. Median ammonia-N was highest in the upstream station MN-1.5 (0.04 mg/L), with lower concentrations observed moving downstream to MN-2.5 (median 0.017 mg/L) and MN-4.5 (median 0.013 mg/L). Two ammonia-N results exceeded AMP WQO at MN-4.5, but both these samples were collected before this WQO came into effect (March 2016).

DOC concentrations were highest at the upstream station MN-1.5 (median 17.2 mg/L) compared to MN-2.5 (median 12.1 mg/L) and MN-4.5 (median 12.6 mg/L). In general, DOC levels were highest in April/May when high flows and runoff likely flushed organic carbon that had accumulated in soils during the past year.

Table 3-39: Summary Statistics for Physical Parameters, Anions and Nutrients at MN-1.5, East Arm of McGinty Creek

	MN-1.5														
	TSS	Field pH	Field Conductivity	Temperature	Dissolved Oxygen		ORP	Chloride	Fluoride	Dissolved Sulphate	Total Cyanide	Ammonia-N	Nitrite-N	Nitrate-N	DOC
Units	mg/L		uS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit	1	NA [a]	10	NA [a]	0.1	1	NA [a]	0.2	0.01	0.5	0.0005	0.001	0.001	0.002	0.5
Average	286.5	7.1	56	2.1	11.7	88	77	1.1	0.11	0.93	0.0012	0.059	0.0030	0.033	18.3
Count	57	44	40	44	39	39	37	56	50	53	36	57	51	51	54
Minimum	<1	4.4	16.3	-1.4	7.3	46.5	-7.1	<0.5	0.050	<0.5	<0.0005	<0.005	<0.001	<0.005	<0.5
Maximum	8200	8.3	221	9.3	17.52	120	326	3.0	0.19	5.2	0.0043	0.66	0.050	0.20	38
% <DL	4	0	0	0	0	0	0	19.6	0	70	11	21.1	88.2	47.1	1.9
Standard Deviation	1106	0.82	33	2.8	1.7	13.1	75	0.60	0.021	0.95	0.00071	0.10	0.0077	0.039	6.2
1st Quartile	5.0	6.8	40	0.0	10.6	84.5	22	0.60	0.10	<0.5	0.00070	0.0077	0.0050	0.013	14.6
Median	25.0	7.3	47	1.8	12.0	89.3	54	0.90	0.11	<0.5	0.0011	0.040	0.0050	0.015	17.2
3rd Quartile	89.4	7.6	69	4.2	12.8	95.8	110	1.4	0.11	1	0.0016	0.060	0.0050	0.040	20

[a] Not applicable

Table 3-40: Summary Statistics for Physical Parameters, Anions and Nutrients at MN-2.5, East Arm of McGinty Creek

	MN-2.5														
	TSS	Field pH	Field Conductivity	Temperature	Dissolved Oxygen		ORP	Chloride	Fluoride	Dissolved Sulphate	Total Cyanide	Ammonia-N	Nitrite-N	Nitrate-N	DOC
Units	mg/L		uS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit	1	NA [a]	10	NA [a]	0.1	1	NA [a]	0.2	0.01	0.5	0.0005	0.001	0.001	0.002	0.5
Average	39.8	7.5	102	1.6	11.9	87	99	1.2	0.18	2.1	0.00092	0.033	0.0012	0.027	14.5
Count	63	49	45	49	43	43	41	61	54	63	37	63	57	58	60
Minimum	<1	4.1	33.6	-1.3	0.7	4.9	0	<0.5	0.060	<0.5	<0.0005	<0.005	<0.001	<0.005	6.58
Maximum	350	8.6	445	6.2	17.13	118	339	4.7	1.13	30	0.0027	0.30	0.0070	0.12	45
% <DL	19	0	0	0	0	0	0	8.2	0	52	24	19.0	96.5	48.3	0
Standard Deviation	82	0.69	60	2.3	2.9	20.9	86	0.67	0.140	4.2	0.00048	0.048	0.00019	0.024	7.1
1st Quartile	2.0	7.4	75	-0.1	11.6	86.4	42	0.77	0.15	<0.5	0.00050	0.0098	<0.005	0.0091	10.0
Median	4.0	7.6	95	0.5	12.5	92.0	65	1.1	0.17	0.58	0.00080	0.017	<0.005	0.018	12.1
3rd Quartile	24.0	7.8	116	3.8	13.5	94.9	125	1.5	0.18	2.3	0.0011	0.036	<0.005	0.036	16.6

[a] Not applicable

Table 3-41: Summary Statistics for Physical Parameters, Anions and Nutrients at MN-4.5, McGinty Creek

	MN-4.5														
	TSS	Field pH	Field Conductivity	Temperature	Dissolved Oxygen		ORP	Chloride	Fluoride	Dissolved Sulphate	Total Cyanide	Ammonia-N	Nitrite-N	Nitrate-N	DOC
Units	mg/L		uS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit	1	NA [a]	10	NA [a]	0.1	1	NA [a]	0.2	0.01	0.5	0.0005	0.001	0.001	0.002	0.5
WQO	269	-	-	-	-	-	-	-	-	-	-	0.12	0.05	0.232	-
Average	42	7.8	111	2.6	12.6	95	150	1.0	0.25	5.0	0.00084	0.026	0.0016	0.069	14.9
Count	55	42	37	42	38	38	37	52	46	55	32	54	49	50	53
Minimum	<1	7.3	37.9	-1.5	9.6	81.8	-18	<0.5	0.080	<0.5	<0.0005	<0.005	<0.001	<0.005	3.20
Maximum	570	8.43	194	6.6	14.86	110	336	2.4	0.35	12.8	0.0018	0.27	0.017	0.32	44.7
% <DL	22	0	0	0	0	0	0	15.4	0	27	44	27.8	91.8	26.0	0
Standard Deviation	113	0.27	36	2.4	1.4	6.8	85	0.47	0.072	3.6	0.00039	0.045	0.0027	0.071	7.5
1st Quartile	2	7.6	88	0.60	11.6	90.3	102	0.60	0.21	0.8	<0.0005	<0.005	0.0014	0.020	10.0
Median	6	7.8	110	2.4	12.7	95.9	129	1.0	0.26	5.7	0.00070	0.013	0.0014	0.052	12.6
3rd Quartile	23	8.0	130	4.5	13.6	100	170	1.4	0.30	8.0	0.0012	0.027	0.0014	0.090	17.2
Count Over WQO	4 [b]	-	-	-	-	-	-	-	-	-	-	2 [b]	0	0	
% Over WQO	7%	-	-	-	-	-	-	-	-	-	-	4%	0%	0%	

[a] Not applicable

[b] Values over AMP WQO occurred before WQO came into effect in March 2016

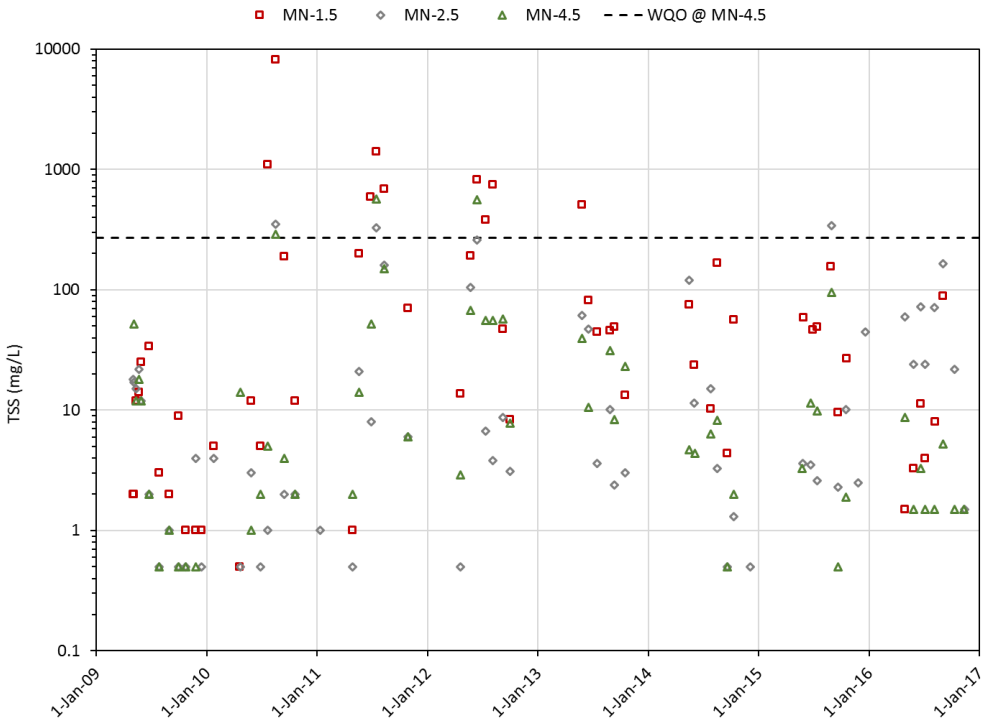

Figure 3-106: TSS at East Arm of McGinty Creek Monitoring Locations. Note Log Scale.

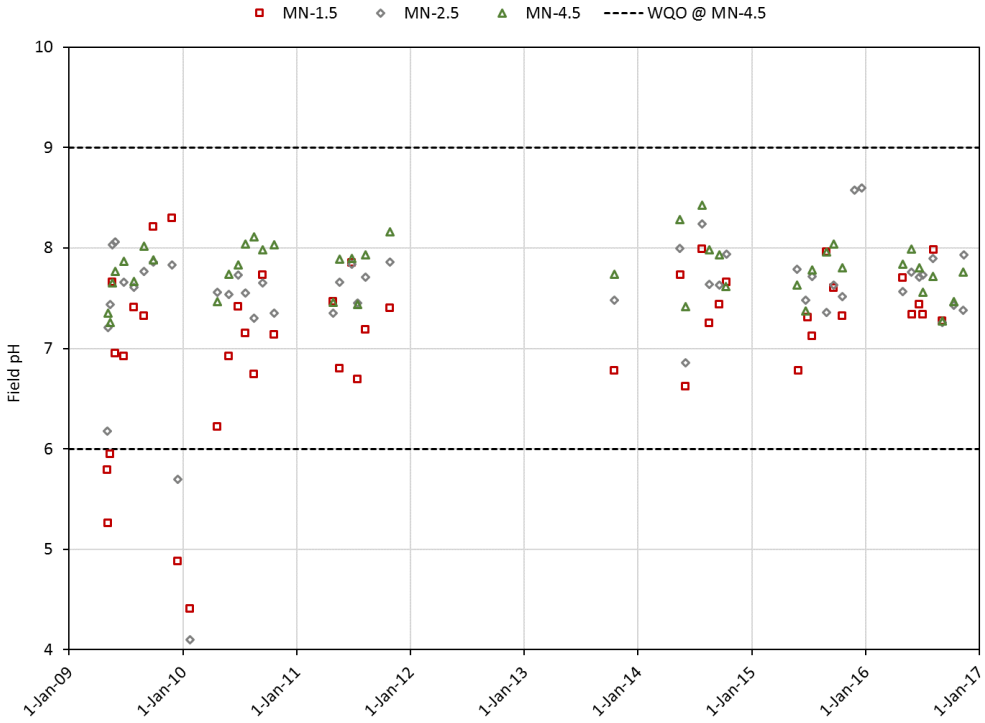

Figure 3-107: Field pH at East Arm of McGinty Creek Monitoring Locations.

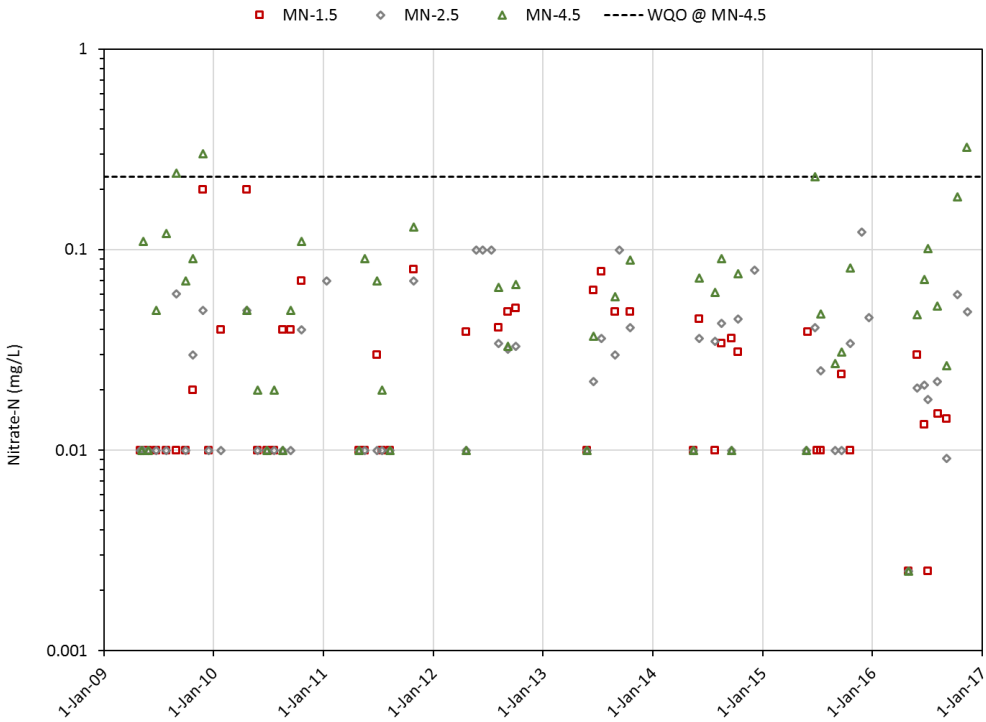

Figure 3-108: Concentrations of Nitrate (N) at East Arm of McGinty Creek Monitoring Locations. Note Log Scale.

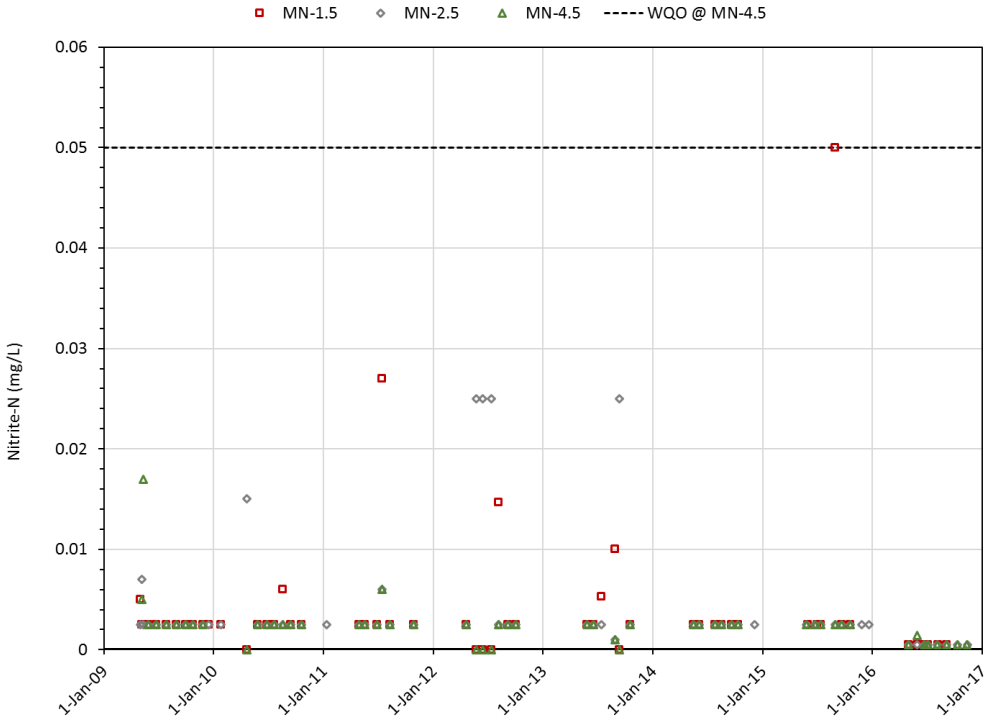

Figure 3-109: Concentrations of Nitrite (N) at East Arm of McGinty Creek Monitoring Locations. Note Log Scale.

Figure 3-110: Concentrations of Ammonia (N) at East Arm of McGinty Creek Monitoring Locations. Note Log Scale.

3.4.1.2 Metals

Statistical summaries of metal concentrations from the McGinty Creek east arm stations are presented in Table 3-42 through Table 3-44. Plots that depict metal concentrations temporally at the McGinty Creek east arm stations are presented in Figure 3-111 through Figure 3-122.

Dissolved hardness typically increased moving downstream in McGinty Creek from MN-1.5 (median 36 mg/L) to MN-2.5 (median 81 mg/L) and MN-4.5 (median 87 mg/L). Hardness levels generally varied seasonally with lower concentrations in April/May due to dilution from meltwater, followed by increasing concentrations through the rest of the year.

In the east arm of McGinty Creek, dissolved aluminum, arsenic, chromium, copper and iron concentrations were generally higher at the most upstream station MN-1.5 and decreased downstream to MN-2.5 and MN-4.5. Concentrations of dissolved aluminum and copper in McGinty Creek at MN-1.5 were typically higher in late spring, likely due mobilization by the higher DOC concentrations observed at this time of year, and decreased throughout the summer although several spikes in dissolved aluminum were observed in August and September. Dissolved aluminum and copper decreased going downstream from MN-1.5 (median 0.1 mg/L aluminum and 0.0062 mg/L copper) to MN-2.5 (median 0.028 mg/L aluminum and 0.0019 mg/L copper) and MN-4.5 (median 0.017 mg/L and 0.0019 mg/L copper).

Dissolved arsenic and iron concentrations were typically highest in July through September at MN-1.5 and lowest in the spring and winter months. A negative correlation between dissolved iron and oxidation reduction

potential (ORP) suggests the presence of reducing waters (e.g., groundwater seep) perhaps contributing elevated concentrations of dissolved iron to McGinty Creek upstream of MN-1.5. It is possible that the contribution of dissolved arsenic and iron from a reducing groundwater source was muted in spring due to dilution from meltwater, and in fall and winter due to very low flow rates or ice blockage. Dissolved arsenic and iron concentrations decrease moving downstream from MN-1.5 (median 0.00047 mg/L arsenic and 0.54 mg/L iron) to MN-2.5 (median 0.00039 mg/L arsenic and 0.16 mg/L iron) and MN-4.5 (median 0.00038 mg/L and 0.11 mg/L iron), likely due to precipitation of iron minerals and/or dilution.

Dissolved cadmium, lead and zinc have generally decreased in the east arm of McGinty Creek stations from 2009 to 2012 and have often been close to or below their respective detection limits from 2013 through 2016.

Dissolved molybdenum and selenium concentrations were higher at the downstream McGinty Creek station of MN-4.5 (median 0.00085 mg/L molybdenum and 0.00014 mg/L selenium) relative to the east arm of McGinty Creek stations MN-1.5 (median 0.00030 mg/L molybdenum and 0.000078 mg/L selenium) and MN-2.5 (0.00063 mg/L molybdenum and 0.000080 mg/L selenium). MN-4.5 is downstream of the confluence with the west arm of McGinty Creek and relatively elevated concentrations of molybdenum and selenium in the west arm of McGinty Creek likely contributed to the higher concentrations in MN-4.5 compared to MN-1.5 and MN-2.5.

Dissolved nickel concentrations were similar throughout the McGinty Creek east arm stations with median concentrations at MN-1.5, MN-2.5 and MN-4.5 of 0.0012, 0.0012 and 0.0011 mg/L, respectively. Dissolved nickel levels were generally lower in April/May and increased throughout the remainder of the year suggesting dilution by meltwater in the spring and an increasing proportion of dissolved nickel from baseflow in the summer through to the winter.

Exceedances of the AMP WQO for individual indicators evaluated at MN-4.5 were generally limited to samples collected before the WQO came into effect at this station (March 2016); however, one dissolved selenium exceedance of its AMP WQO has occurred since March 2016. Since no discharge from the mine site has occurred during this period, such exceedances are part of the natural variability observed in the water quality of McGinty Creek and are addressed as part of the AMP (Minto, 2017).

Table 3-42: Summary Statistics for Dissolved Metals of Interest at MN-1.5, East Arm of McGinty Creek

	MN-1.5												
	Hardness (dissolved)	Aluminum (dissolved)	Arsenic (dissolved)	Cadmium (dissolved)	Chromium (dissolved)	Copper (dissolved)	Iron (dissolved)	Lead (dissolved)	Molybdenum (dissolved)	Nickel (dissolved)	Silver (dissolved)	Selenium (dissolved)	Zinc (dissolved)
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit		0.001	0.0001	0.000005	0.0001	0.001	0.005	0.00005	0.0001	0.0005	0.000005	0.0001	0.0001
Average	39	0.11	0.00049	0.000018	0.00051	0.0061	0.59	0.000053	0.00035	0.0013	0.0000063	0.000078	0.0027
Count	57	57	57	57	38	57	57	57	38	57	38	57	57
Minimum	13	0.031	0.00015	<0.000005	0.00020	0.0030	0.13	0.0000080	0.000080	0.00078	<0.000005	<0.00004	0.00030
Maximum	206	0	0.0011	0.00011	0.00090	0.0098	1.6	0.00053	0.00092	0.0023	0.000018	0.00015	0.012
% <DL	0	0	0	42.1	0.0	0	0	43.9	0	2	68.4	32	37
Standard Deviation	26	0.046	0.00021	0.000020	0.00016	0.0015	0.37	0.000086	0.00019	0.00027	0.0000033	0.000024	0.0027
1st Quartile	28	0.081	0.00033	0.0000080	0.00040	0.0052	0.30	0.000019	0.00021	0.0011	<0.000005	0.000062	0.0011
Median	36	0.10	0.00047	0.0000080	0.00051	0.0062	0.54	0.000025	0.00030	0.0012	<0.000005	0.000078	0.0016
3rd Quartile	46	0.13	0.00064	0.000022	0.00060	0.0071	0.89	0.000048	0.00044	0.0014	0.0000060	0.000090	0.0029

Table 3-43: Summary Statistics for Dissolved Metals of Interest at MN-2.5, East Arm of McGinty Creek

	MN-2.5												
	Hardness (dissolved)	Aluminum (dissolved)	Arsenic (dissolved)	Cadmium (dissolved)	Chromium (dissolved)	Copper (dissolved)	Iron (dissolved)	Lead (dissolved)	Molybdenum (dissolved)	Nickel (dissolved)	Silver (dissolved)	Selenium (dissolved)	Zinc (dissolved)
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit		0.001	0.0001	0.000005	0.0001	0.001	0.005	0.00005	0.0001	0.0005	0.000005	0.0001	0.0001
Average	83	0.025	0.00043	0.000013	0.00028	0.0022	0.21	0.000050	0.00061	0.0013	0.0000055	0.000086	0.0018
Count	63	63	63	63	41	63	63	63	63	63	41	63	63
Minimum	23	0.0060	0.00020	<0.000005	<0.0001	0.00071	0.023	<0.000005	0.00011	0.0007	<0.000005	0.000040	0.00040
Maximum	479	0.11	0.0015	0.000075	0.00070	0.0046	0.87	0.00082	0.0012	0.0038	0.000013	0.00038	0.0061
% <DL	0	0	0	47.6	4.9	0	0	49.2	30	8	80.5	30	41
Standard Deviation	56	0.024	0.00018	0.000014	0.00011	0.00085	0.19	0.00011	0.00030	0.00043	0.0000016	0.000045	0.0017
1st Quartile	60	0.010	0.00032	0.0000062	0.00020	0.0016	0.08	0.000014	0.00043	0.0010	<0.000005	0.000070	0.00080
Median	81	0.017	0.00039	0.0000064	0.00026	0.0019	0.16	0.000029	0.00063	0.0012	<0.000005	0.000080	0.0011
3rd Quartile	91	0.028	0.00048	0.000012	0.00036	0.0027	0.29	0.000051	0.00077	0.0015	0.0000060	0.000090	0.0023

Table 3-44: Summary Statistics for Dissolved Metals of Interest at MN-4.5, McGinty Creek

	MN-4.5												
	Hardness (dissolved)	Aluminum (dissolved)	Arsenic (dissolved)	Cadmium (dissolved)	Chromium (dissolved)	Copper (dissolved)	Iron (dissolved)	Lead (dissolved)	Molybdenum (dissolved)	Nickel (dissolved)	Silver (dissolved)	Selenium (dissolved)	Zinc (dissolved)
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit		0.001	0.0001	0.000005	0.0001	0.001	0.005	0.00005	0.0001	0.0005	0.000005	0.0001	0.0001
WQO	-	0.135	0.00061	0.00004	0.001	0.0035	0.403	0.0002	0.001	0.0018	0.00002	0.0002	0.0052
Average	81	0.029	0.00041	0.000013	0.00028	0.0021	0.15	0.000053	0.00076	0.0011	0.0000052	0.000145	0.0020
Count	55	55	55	55	37	55	55	55	55	55	37	55	55
Minimum	26	0.0044	0.00025	<0.000005	<0.0001	0.0011	<0.01	<0.000005	0.00017	0.00054	<0.000005	0.000060	0.00020
Maximum	118	0.17	0.00065	0.00014	0.00060	0.0047	0.56	0.00047	0.0012	0.0019	0.000011	0.00023	0.014
% <DL	0	0	0	56.4	2.7	0	2	52.7	27	16	94.6	2	38
Standard Deviation	23	0.034	0.00011	0.000019	0.00012	0.00072	0.14	0.000078	0.00031	0.00036	0.0000011	0.000033	0.0023
1st Quartile	62	0.010	0.00034	<0.000005	0.00020	0.0017	0.044	0.000014	0.00057	0.00090	<0.000005	0.00013	0.00080
Median	87	0.017	0.00038	0.0000060	0.00027	0.0019	0.11	0.000032	0.00085	0.0011	<0.000005	0.00014	0.0012
3rd Quartile	99	0.030	0.00047	0.000013	0.00039	0.0025	0.23	0.000060	0.00096	0.0015	0.0000063	0.00017	0.0023
Count Over WQO	-	3 [a]	2 [a]	3 [a]	0	3 [a]	4 [a]	2 [a]	5 [a]	3 [a]	0	3 [b]	2 [a]
% Over WQO	-	5%	4%	5%	0%	5%	7%	4%	9%	5%	0%	5%	4%

[a] Values over WQO occurred before WQO came into effect in March 2016
[b] 2 of 3 values over WQO occurred before WQO came into effect in March 2016

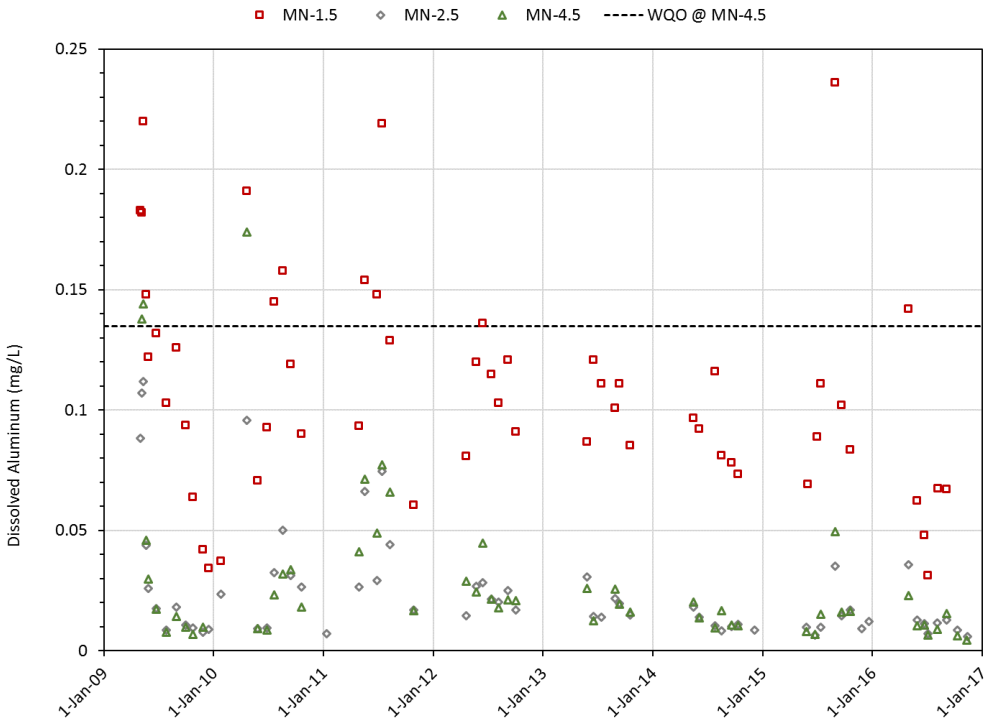

Figure 3-111: Concentrations of Dissolved Aluminum at East Arm of McGinty Creek Monitoring Locations. Note Log Scale.

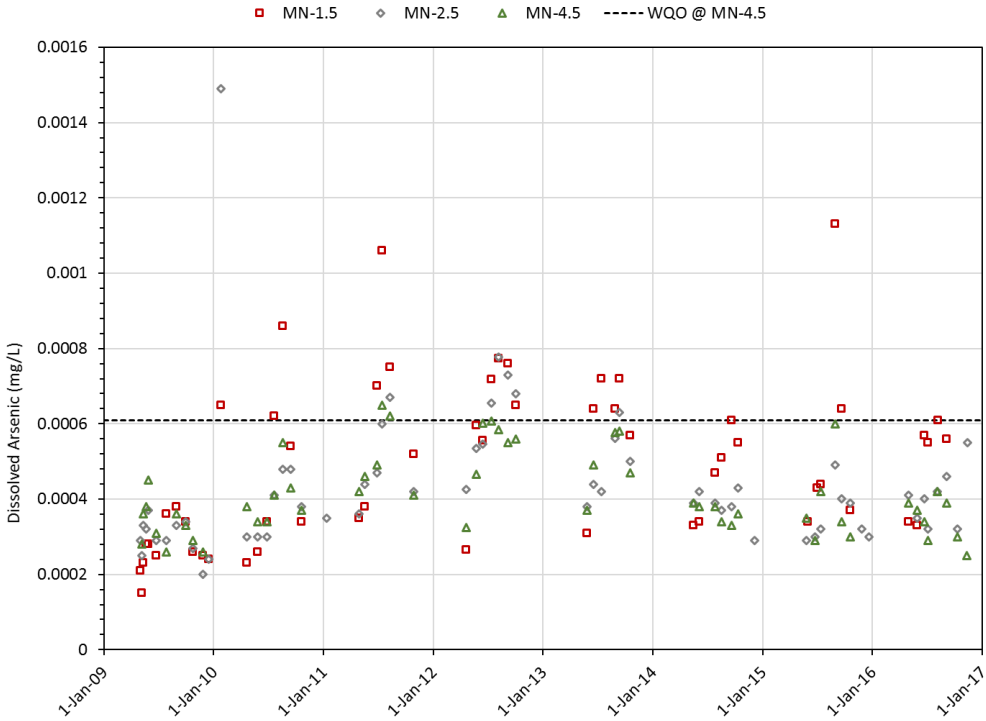

Figure 3-112: Concentrations of Dissolved Arsenic at East Arm of McGinty Creek Monitoring Locations.

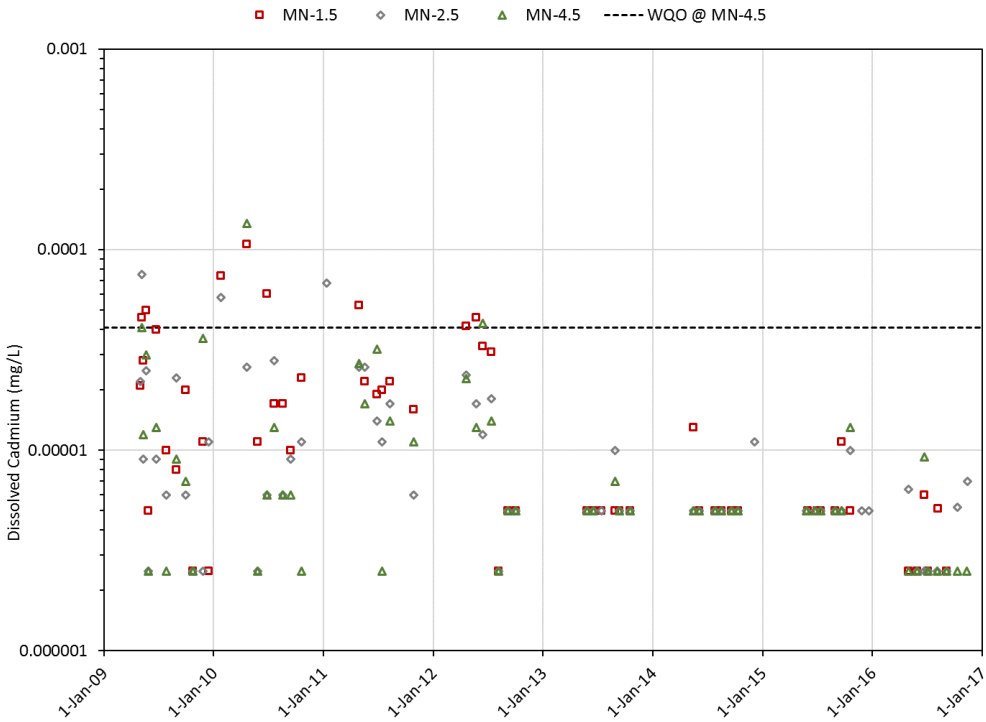

Figure 3-113: Concentrations of Dissolved Cadmium at East Arm of McGinty Creek Monitoring Locations. Note Log Scale.

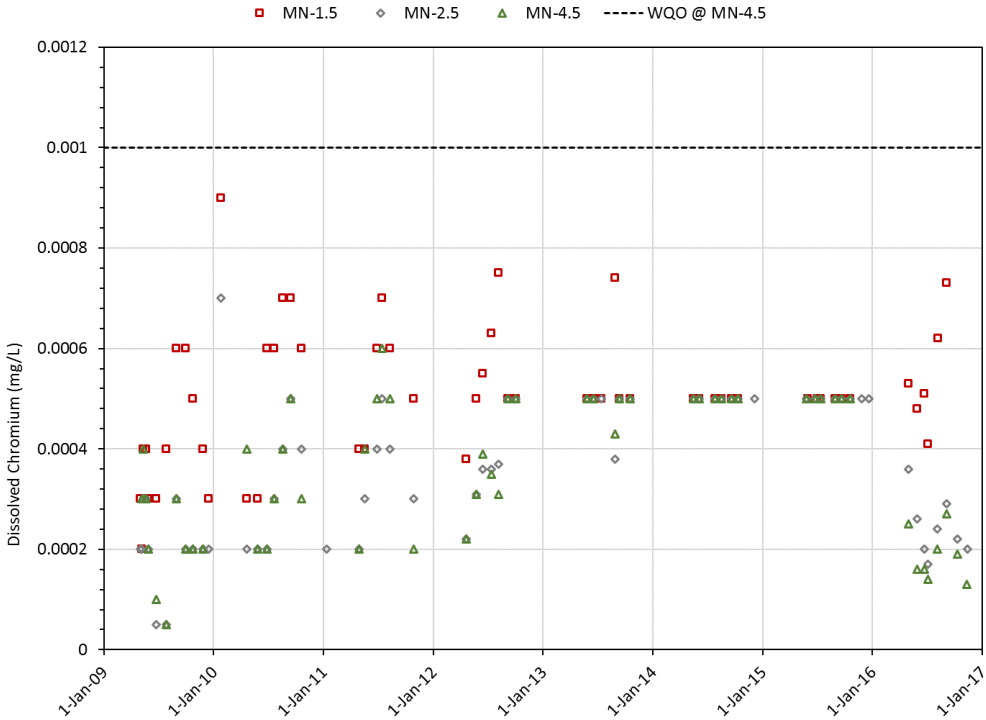

Figure 3-114: Concentrations of Dissolved Chromium at East Arm of McGinty Creek Monitoring Locations.

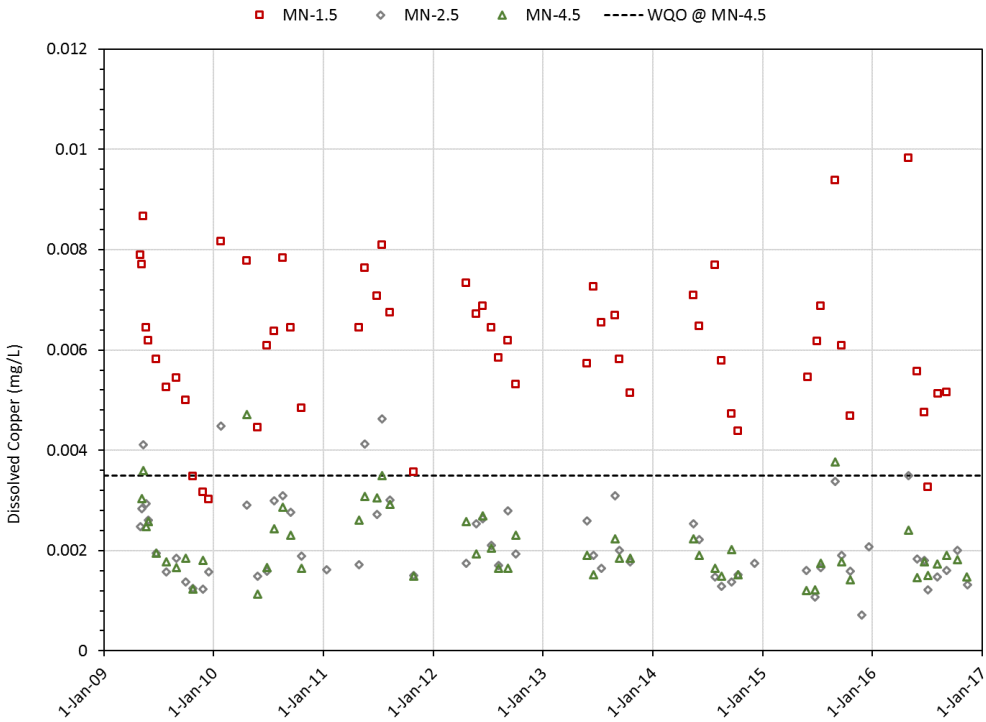

Figure 3-115: Concentrations of Dissolved Copper at East Arm of McGinty Creek Monitoring Locations.

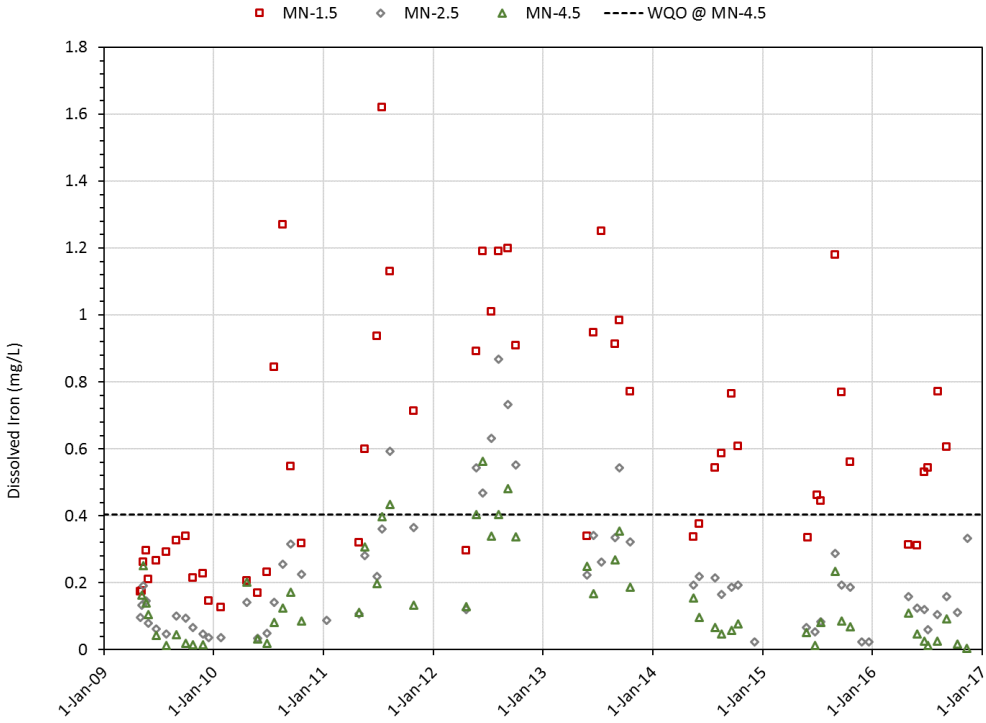

Figure 3-116: Concentrations of Dissolved Iron at East Arm of McGinty Creek Monitoring Locations.

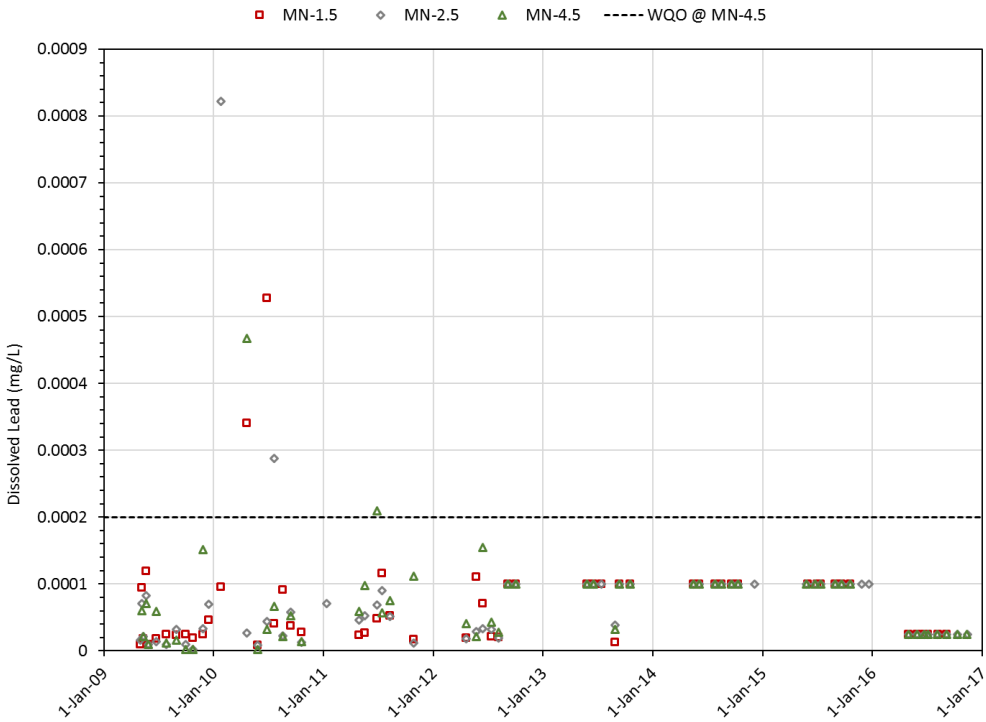

Figure 3-117: Concentrations of Dissolved Lead at East Arm of McGinty Creek Monitoring Locations.

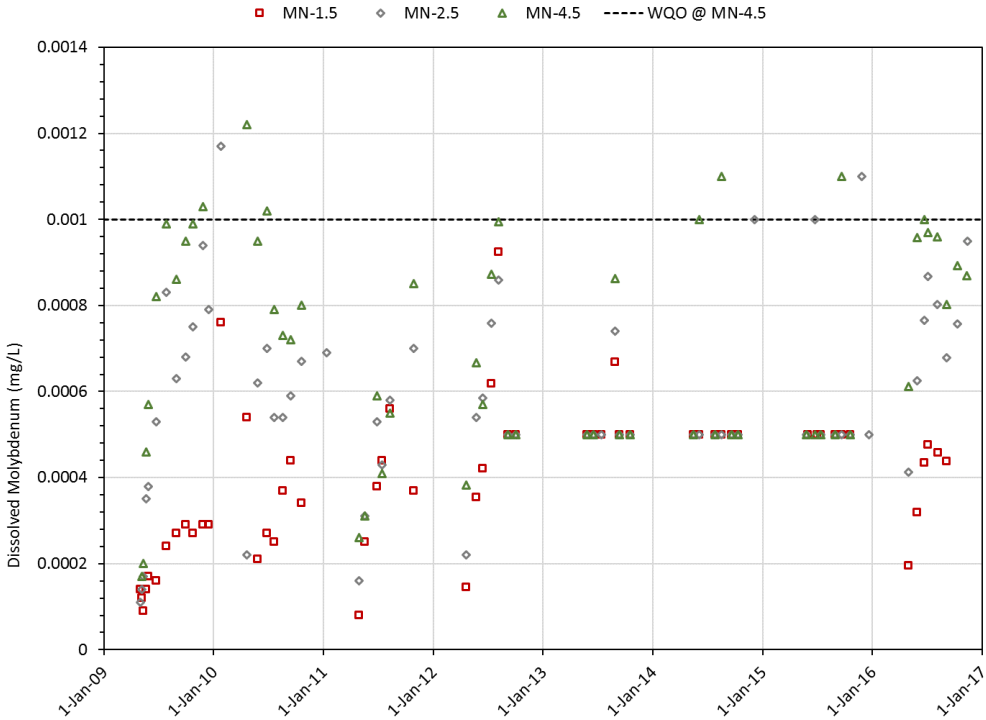

Figure 3-118: Concentrations of Dissolved Molybdenum at East Arm of McGinty Creek Monitoring Locations.

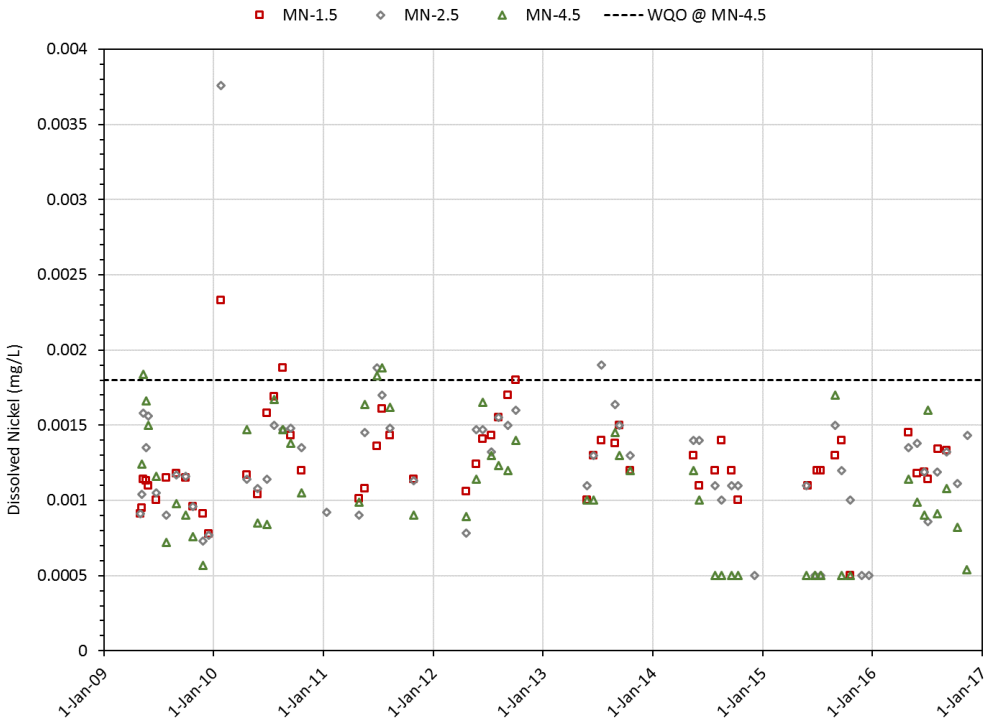

Figure 3-119: Concentrations of Dissolved Nickel at East Arm of McGinty Creek Monitoring Locations.

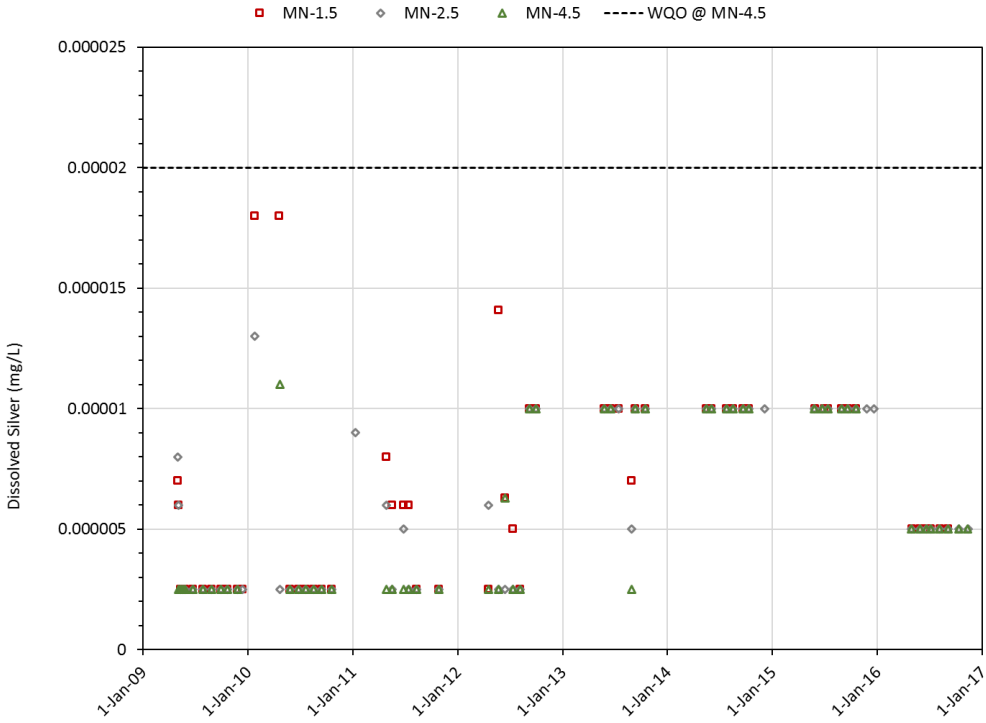

Figure 3-120: Concentrations of Dissolved Silver at East Arm of McGinty Creek Monitoring Locations.

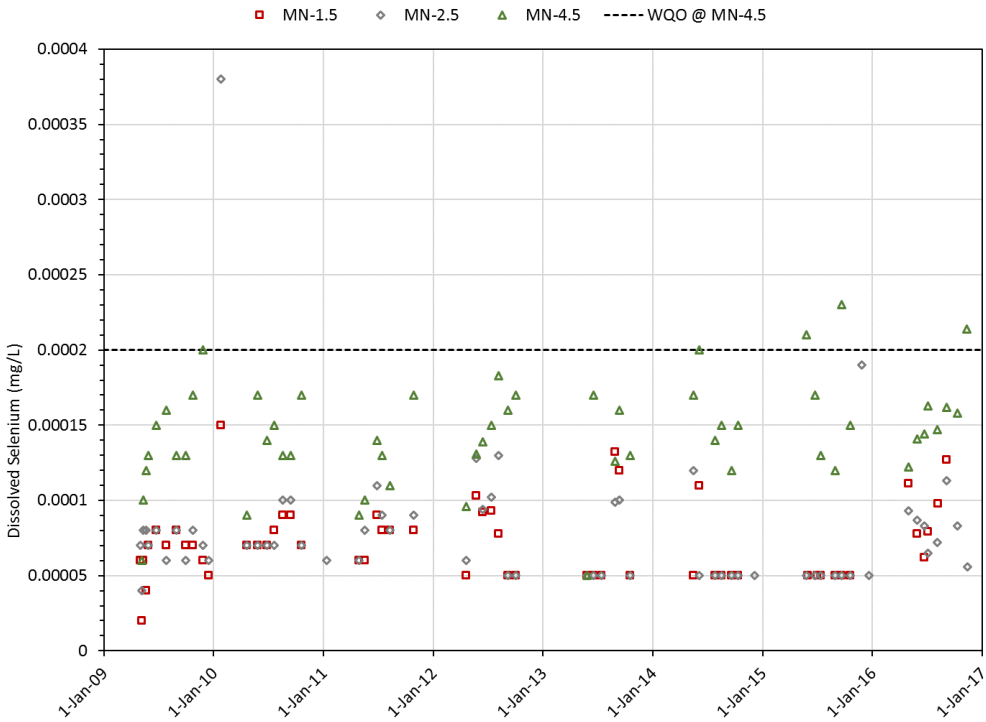

Figure 3-121: Concentrations of Dissolved Selenium at East Arm of McGinty Creek Monitoring Locations.

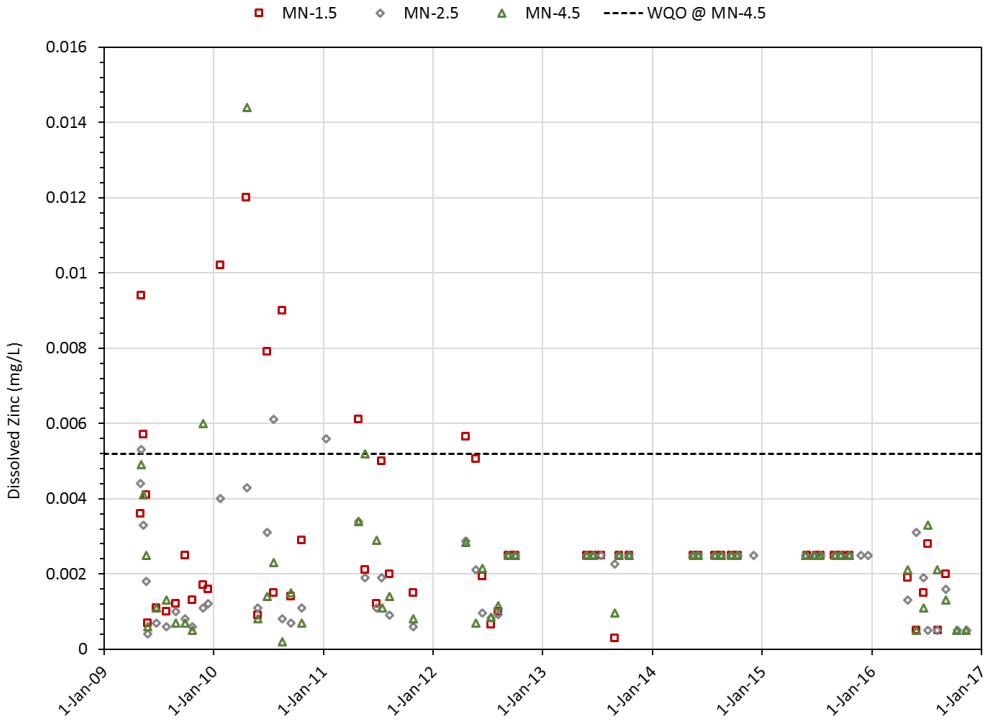

Figure 3-122: Concentrations of Dissolved Zinc at East Arm of McGinty Creek Monitoring Locations.

3.4.2 McGinty Creek West Arm Reference

Water quality results for the McGinty Creek west arm stations (MN-0.2 and MN-0.5) are presented and discussed for physical parameters, anions and nutrients in Section 3.4.2.1 and for dissolved metals of interest in Section 3.4.2.2.

3.4.2.1 Physical Parameters, Anions and Nutrients

Statistical summaries of physical parameters and anion and nutrient concentrations in MN-0.2 and MN-0.5 are presented in Table 3-45 and Table 3-46, respectively. TSS, field pH and nitrogen species in the McGinty Creek west arm stations over time are presented graphically in Figure 3-123 to Figure 3-127.

The pH in the west arm of McGinty Creek has generally been circumneutral and increases moving downstream from MN-0.2 (median pH 7.2) to MN-0.5 (median pH 7.8). Temperature varied seasonally from -1.4 to 7.9 ^{o}C. Field conductivity was consistently higher in the downstream station of MN-0.5 (median 109 µS/cm) than MN-0.2 (median 48 µS/cm) with no obvious seasonal trend. TSS concentrations were generally higher at site MN-0.5 (median 13 mg/L) than farther upstream at site MN-0.2 (median 3 mg/L), and typically peaked during summer sampling events for both sites.

Nitrate-N concentrations were higher at the downstream MN-0.5 station than at MN-0.2 where nitrate-N was most often below detection levels. Generally, nitrate-N concentrations at MN-0.5 were highest in winter when uptake by primary producers was lowest. Nitrite-N concentrations were typically below detection at both MN-0.2 and MN-0.5. Ammonia-N concentrations were similar at MN-0.2 and MN-0.5 with median concentrations of 0.019 and 0.014 mg/L, respectively.

DOC concentrations decreased slightly moving downstream from MN-0.2 (17.1 mg/L) to MN-0.5 (12.1 mg/L). Concentrations typically varied seasonally with the highest concentrations observed in April/May when spring runoff likely flushed surface soils and leached organic carbon that had accumulated over the previous year.

Table 3-45: Summary Statistics for Physical Parameters, Anions and Nutrients at MN-0.2, West Arm of McGinty Creek

	MN-0.2														
	TSS	Field pH	Field Conductivity	Temperature	Dissolved Oxygen		ORP	Chloride	Fluoride	Dissolved Sulphate	Total Cyanide	Ammonia-N	Nitrite-N	Nitrate-N	DOC
Units	mg/L		uS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit	1	NA [a]	10	NA [a]	0.1	1	NA [a]	0.2	0.01	0.5	0.0005	0.001	0.001	0.002	0.5
Average	20.3	7.2	52	3.0	9.9	76	77	0.9	0.11	1.5	0.00092	0.024	0.0012	0.0078	18
Count	42	29	25	28	26	25	24	41	35	42	20	42	37	42	40
Minimum	<1	6.2	26	-1.3	4.7	34.7	-66	<0.5	0.057	<0.5	<0.0005	<0.005	<0.001	<0.002	9.36
Maximum	300	8.6	92	7.9	13.76	99	289	2.0	0.15	6.0	0.0016	0.11	0.0070	0.23	38
% <DL	19	0	0	0	0	0	0	26.8	0	74	30	9.5	97	95.2	0.0
Standard Deviation	53.1	0.50	18	2.9	2.2	16.4	82	0.40	0.020	2.0	0.00037	0.021	NA	0.048	6.8
1st Quartile	1.6	6.9	35	0	8.3	66.2	13	<0.5	0.10	<0.5	<0.0005	0.0081	<0.005	0.0056	13.4
Median	2.9	7.2	48	2.8	9.7	76.1	82	0.79	0.11	<0.5	0.0010	0.019	<0.005	0.0056	17.1
3rd Quartile	10.4	7.4	65	5.5	11.7	89.4	135	1.1	0.12	0.50	0.0013	0.032	<0.005	0.0056	20.9

[a] Not applicable

Table 3-46: Summary Statistics for Physical Parameters, Anions and Nutrients at MN-0.5, West Arm of McGinty Creek

	MN-0.5														
	TSS	Field pH	Field Conductivity	Temperature	Dissolved Oxygen		ORP	Chloride	Fluoride	Dissolved Sulphate	Total Cyanide	Ammonia-N	Nitrite-N	Nitrate-N	DOC
Units	mg/L		uS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit	1	NA [a]	10	NA [a]	0.1	1	NA [a]	0.2	0.01	0.5	0.0005	0.001	0.001	0.002	0.5
Average	68.1	7.6	115	1.6	12.2	89	144	1.1	0.29	8.1	0.0010	0.031	0.0017	0.077	14.6
Count	61	48	43	48	41	41	41	60	51	61	34	61	55	60	58
Minimum	<1	5.4	37.3	-1.4	1.6	11.6	-17	<0.5	0.060	<0.5	<0.0005	<0.005	<0.001	<0.005	4.5
Maximum	732	8.7	220	6.6	16.61	115	338	2.2	0.89	32	0.0022	0.33	0.014	1.69	48.7
% <DL	16	0	0	0	0	0	0	21.7	0	25	21	29.5	90.9	36.7	0.0
Standard Deviation	156	0.62	41	2.5	2.6	18.2	75	0.47	0.137	6.6	0.00039	0.053	0.0022	0.22	8.6
1st Quartile	4.0	7.5	89	-0.1	11.5	90.0	105	0.60	0.21	2.2	0.00060	<0.005	0.0020	0.020	9.2
Median	13.0	7.8	109	0.2	12.7	94.6	138	1.0	0.29	8.1	0.00094	0.014	0.0020	0.048	12.1
3rd Quartile	46.0	7.9	143	3.9	13.8	97.7	163	1.3	0.34	11	0.0012	0.034	0.0020	0.077	17.3

[a] Not applicable

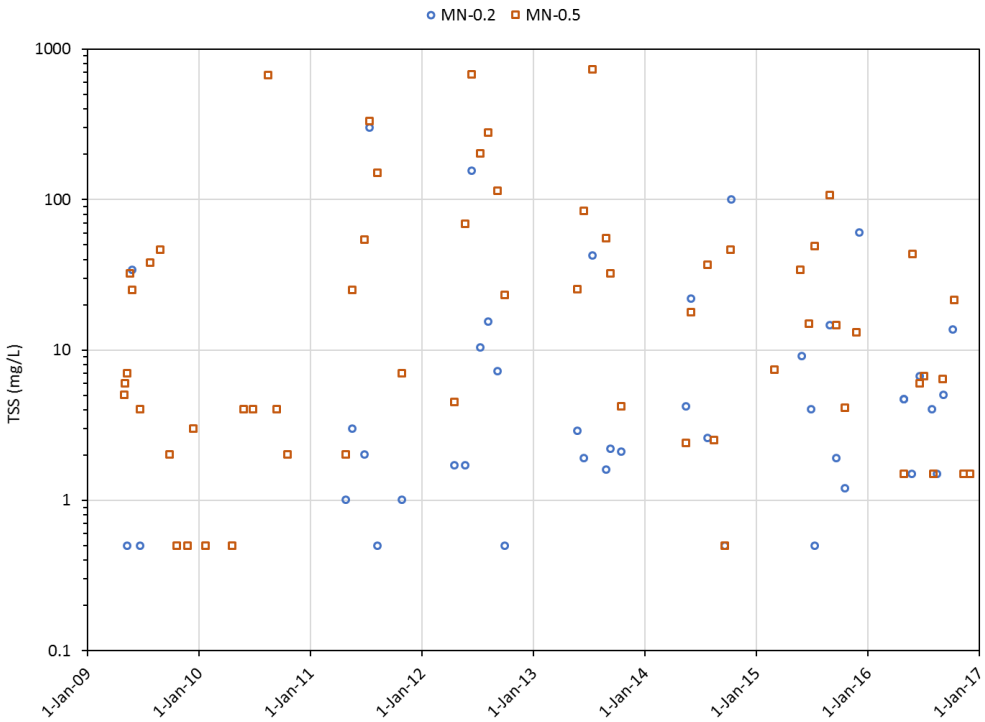

Figure 3-123: TSS at West Arm of McGinty Creek Monitoring Locations. Note Log Scale.

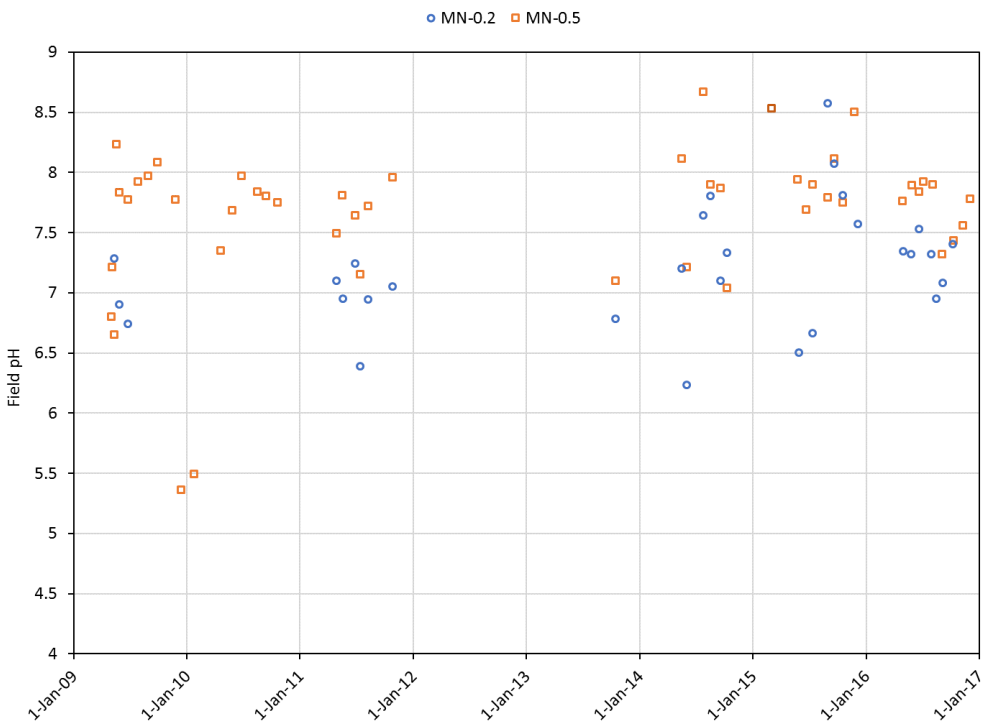

Figure 3-124: Field pH at West Arm of McGinty Creek Monitoring Locations.

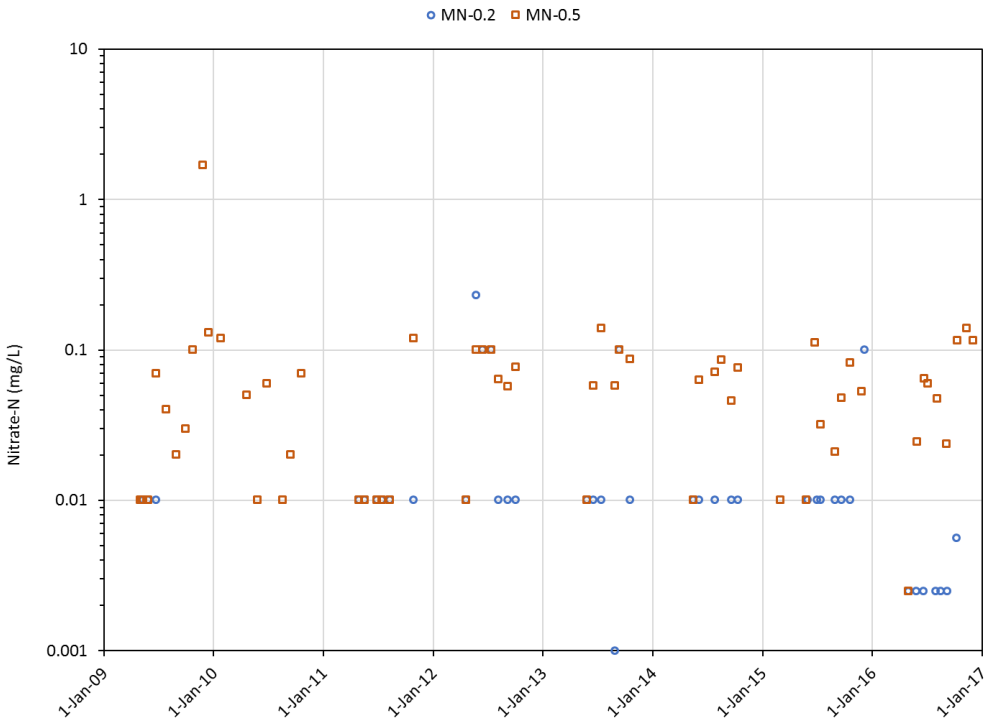

Figure 3-125: Nitrate (N) at West Arm of McGinty Creek Monitoring Locations. Note Log Scale.

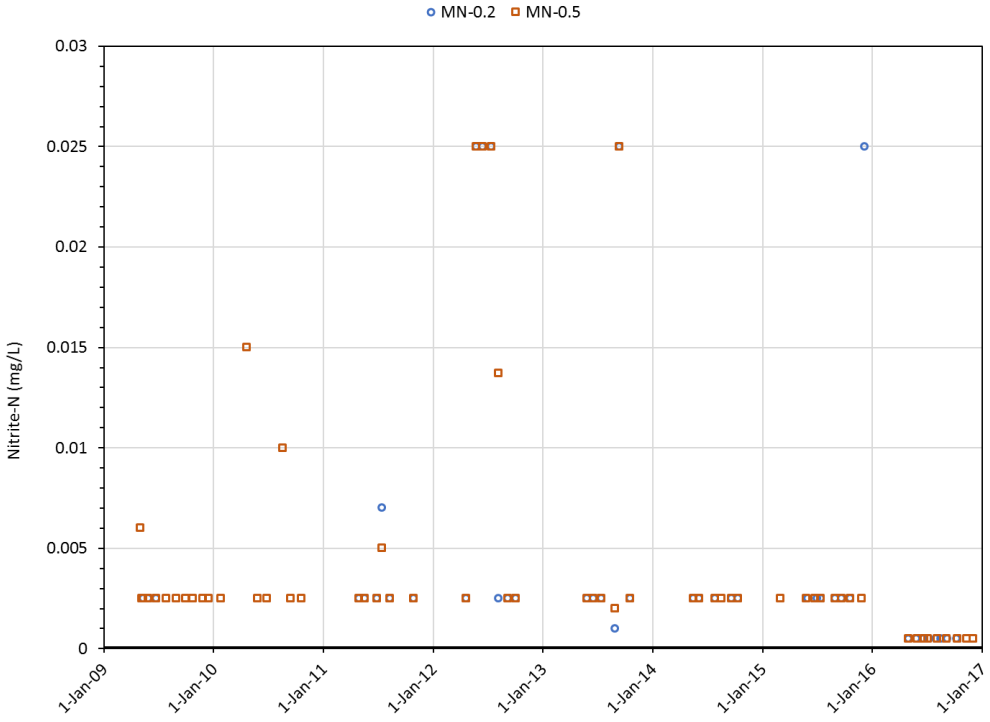

Figure 3-126: Nitrite (N) at West Arm of McGinty Creek Monitoring Locations.

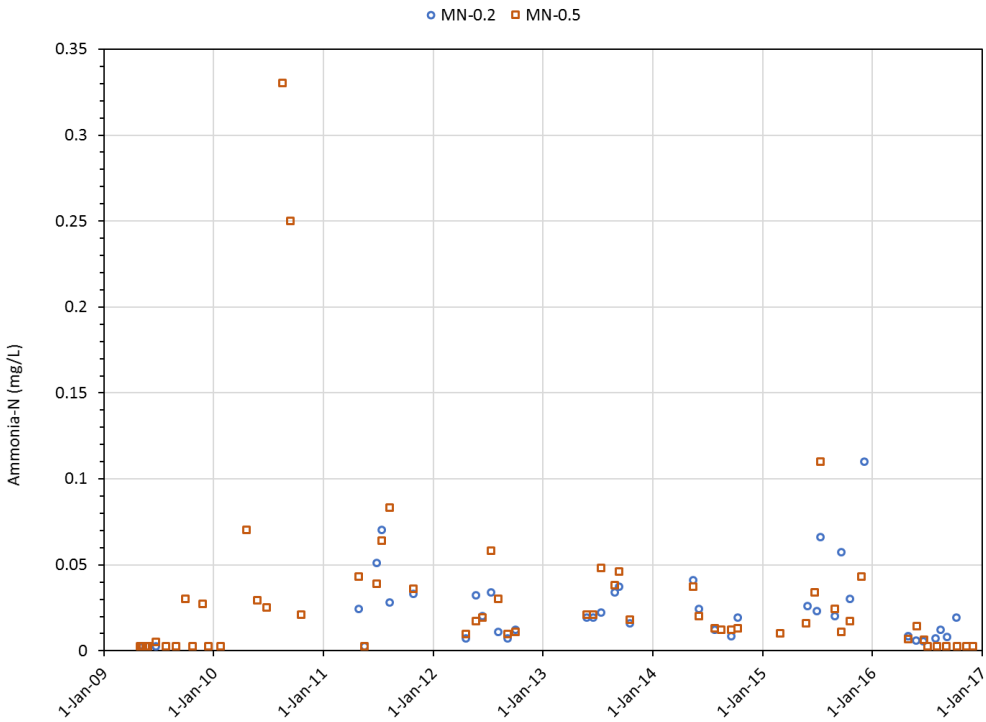

Figure 3-127: Ammonia (N) at West Arm of McGinty Creek Monitoring Locations.

3.4.2.2 Metals

Statistical summaries of dissolved metals concentrations in MN-0.2 and MN-0.5 are presented in Table 3-47 and Table 3-48, respectively. Dissolved metals of interest in the McGinty Creek west arm stations over time are presented graphically in Figure 3-128 through Figure 3-139.

Dissolved hardness in the west arm of McGinty Creek typically followed a seasonal trend with lower concentrations in April/May due to dilution from meltwater and increasing concentrations through the rest of the year, likely related to an increasing proportion of baseflow in the creek. Hardness levels increased moving downstream from MN-0.2 to MN-0.5 with median concentrations of 30 and 89 mg/L, respectively.

Dissolved aluminium, copper and nickel concentrations were generally higher upstream at MN-0.2 (median 0.065 mg/L aluminium, 0.0025 mg/L and 0.0016 mg/L nickel) than downstream at MN-0.5 (0.019 mg/L aluminium, 0.0017 mg/L copper and 0.001 mg/L). No trends were apparent for aluminium and nickel concentrations, but copper appeared to vary seasonally with higher concentrations in April/May, likely due to mobilization by the elevated DOC levels observed at this time of year, followed by decreasing concentrations through the remainder of the year.

Dissolved arsenic concentrations were similar at MN-0.2 and MN-0.5 except for in 2016 when concentrations were greater at MN-0.2. Similarly, dissolved iron concentrations were greater at MN-0.2 than MN-0.5 in 2015 and 2016 after being fairly similar to the downstream station from 2009 to 2014. Concentrations of dissolved

arsenic and iron were fairly erratic, but higher concentrations were often found in late summer (August) and lower concentrations in April, although this was not observed in every year.

A wide range of dissolved cadmium, lead and zinc concentrations were observed at MN-0.2 and MN-0.5 with no apparent seasonal trends from 2009 through 2013. Since 2013, concentrations appear to have decreased and were often close to or below their respective detection levels. Similarly, dissolved chromium concentrations varied pre-2013 and were close to or below a relatively higher detection level through 2015. In 2016, dissolved chromium concentrations at MN-0.2 appeared to be greater than earlier data however concentrations were still fairly close to previous detection levels. Dissolved silver was often below detection level at both stations on the west arm of McGinty Creek.

Dissolved molybdenum and selenium were higher at the downstream station MN-0.5 (median 0.00093 mg/L molybdenum and 0.00018 mg/L selenium) than upstream at MN-0.2 (median 0.00016 mg/L molybdenum and 0.000069 mg/L selenium). Generally, concentrations varied seasonally with lower concentrations in April with dilution from spring meltwater and increasing concentrations throughout the year as baseflow contributes a greater proportion of flow in McGinty Creek.

Table 3-47: Summary Statistics for Dissolved Metals of Interest at MN-0.2, West Arm of McGinty Creek

	MN-0.2												
	Hardness (dissolved)	Aluminum (dissolved)	Arsenic (dissolved)	Cadmium (dissolved)	Chromium (dissolved)	Copper (dissolved)	Iron (dissolved)	Lead (dissolved)	Molybdenum (dissolved)	Nickel (dissolved)	Silver (dissolved)	Selenium (dissolved)	Zinc (dissolved)
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit		0.001	0.0001	0.000005	0.0001	0.001	0.005	0.00005	0.0001	0.0005	0.000005	0.0001	0.0001
Average	32	0.074	0.00056	0.000012	0.00047	0.0027	0.63	0.000035	0.00020	0.0016	0.0000058	0.000070	0.0019
Count	42	42	42	42	42	42	42	42	23	42	23	42	42
Minimum	20	0.034	0.00025	<0.000005	0.00020	0.0014	0.084	0.0000090	<0.00005	0.0010	<0.000005	<0.00004	<0.00010
Maximum	50	0.20	0.0039	0.000053	0.0011	0.0053	10	0.00027	0.00066	0.0027	0.000011	0.00012	0.013
% <DL	0	0	0	59.5	42.9	0	0	64.3	4	0	78.3	43	55
Standard Deviation	8	0.040	0.00055	0.000012	0.00025	0.00088	1.6	0.000059	0.00014	0.00033	0.0000020	0.000025	0.0026
1st Quartile	25	0.042	0.00035	0.0000051	0.00030	0.0022	0.19	0.000016	0.00011	0.0014	<0.000005	0.000050	0.00090
Median	30	0.065	0.00045	0.0000051	0.00043	0.0025	0.33	0.000020	0.00016	0.0016	0.0000050	0.000069	0.0012
3rd Quartile	38	0.090	0.00062	0.000017	0.00055	0.0029	0.52	0.000031	0.00024	0.0018	0.0000050	0.000082	0.0018

Table 3-48: Summary Statistics for Dissolved Metals of Interest at MN-0.5, West Arm of McGinty Creek

	MN-0.5												
	Hardness (dissolved)	Aluminum (dissolved)	Arsenic (dissolved)	Cadmium (dissolved)	Chromium (dissolved)	Copper (dissolved)	Iron (dissolved)	Lead (dissolved)	Molybdenum (dissolved)	Nickel (dissolved)	Silver (dissolved)	Selenium (dissolved)	Zinc (dissolved)
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lowest Detection Limit		0.001	0.0001	0.000005	0.0001	0.001	0.005	0.00005	0.0001	0.0005	0.000005	0.0001	0.0001
Average	87	0.034	0.00044	0.000012	0.00029	0.0019	0.16	0.000044	0.00084	0.0011	0.0000052	0.00019	0.0017
Count	61	61	61	61	40	61	61	40	61	61	31	61	61
Minimum	26	<0.003	0.00026	<0.000005	<0.0001	0.00071	0.0062	0.0000060	0.00011	0.00048	<0.000005	0.000050	0.00016
Maximum	184	0.19	0.00071	0.000076	0.00060	0.0044	0.72	0.00020	0.0014	0.0020	0.0000070	0.00063	0.0071
% <DL	0	1.6	0	57.4	7.5	0	0	22.5	18	18	83.9	3	39
Standard Deviation	32	0.042	0.00011	0.000014	0.00015	0.00087	0.15	0.000044	0.00039	0.00043	0.00000027	0.000081	0.0017
1st Quartile	64	0.011	0.00037	0.0000050	0.00018	0.0013	0.049	0.000015	0.00053	0.00090	<0.000005	0.00015	0.00070
Median	89	0.019	0.00041	0.0000050	0.00028	0.0017	0.12	0.000029	0.00093	0.0010	<0.000005	0.00018	0.0013
3rd Quartile	102	0.037	0.00049	0.000014	0.00040	0.0025	0.22	0.000051	0.0011	0.0013	<0.000005	0.00021	0.0022

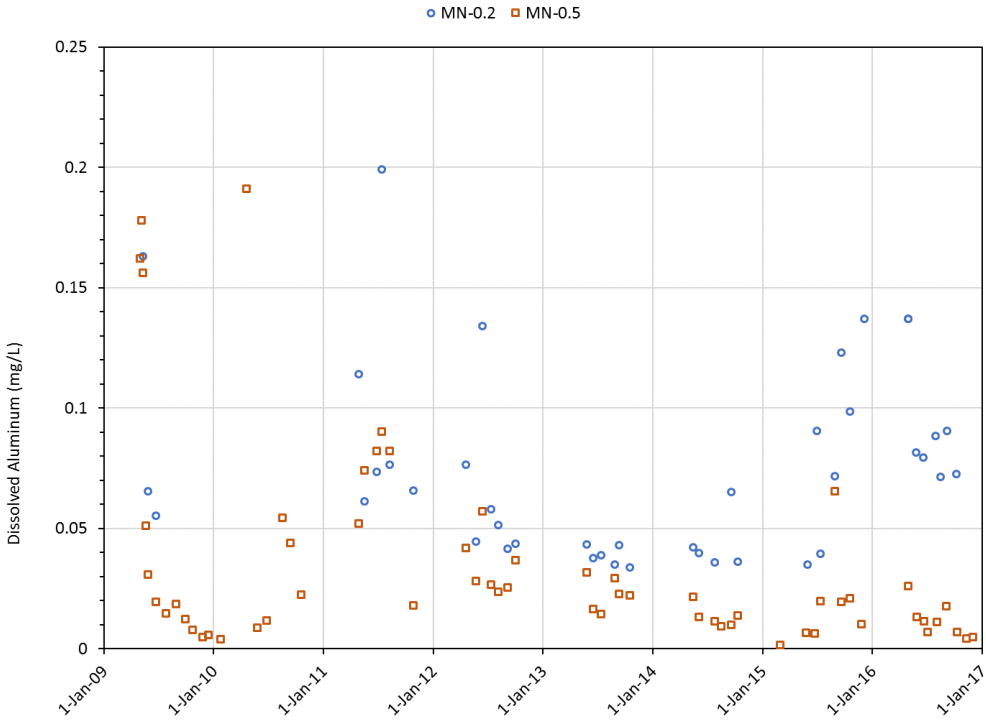

Figure 3-128: Dissolved Aluminum at West Arm of McGinty Creek Monitoring Locations.

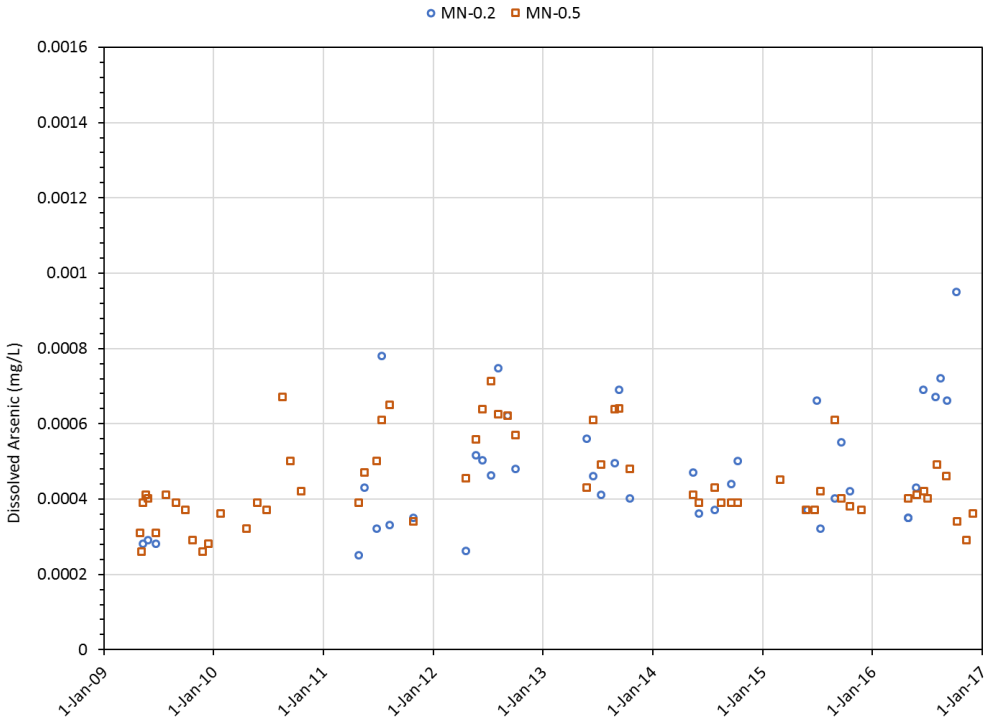

Figure 3-129: Dissolved Arsenic at West Arm of McGinty Creek Monitoring Locations.

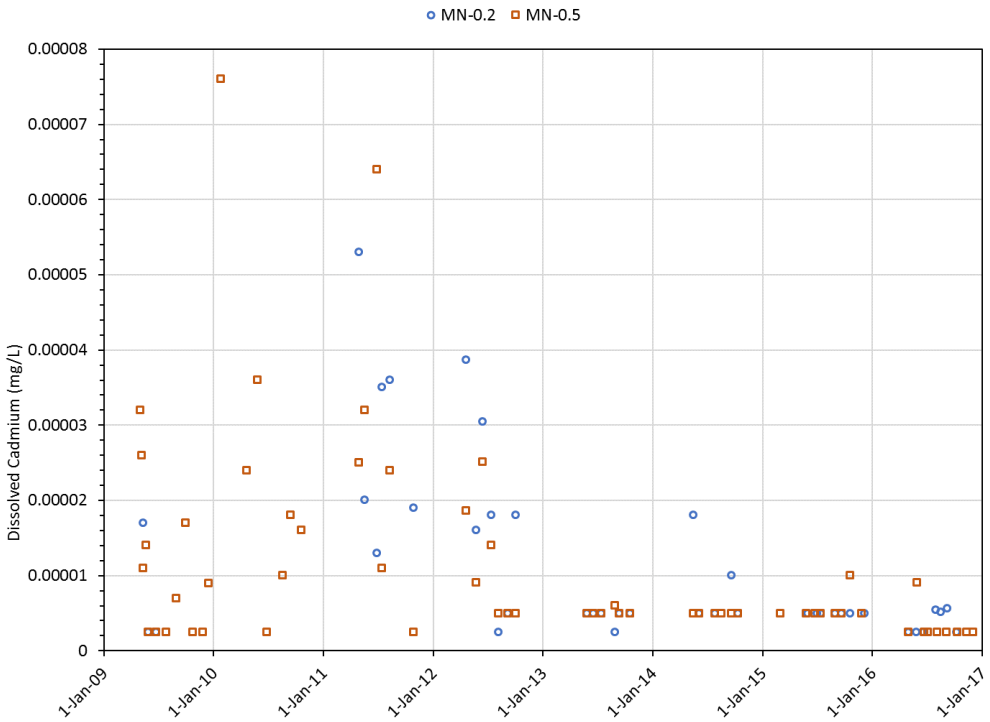

Figure 3-130: Dissolved Cadmium at West Arm of McGinty Creek Monitoring Locations.

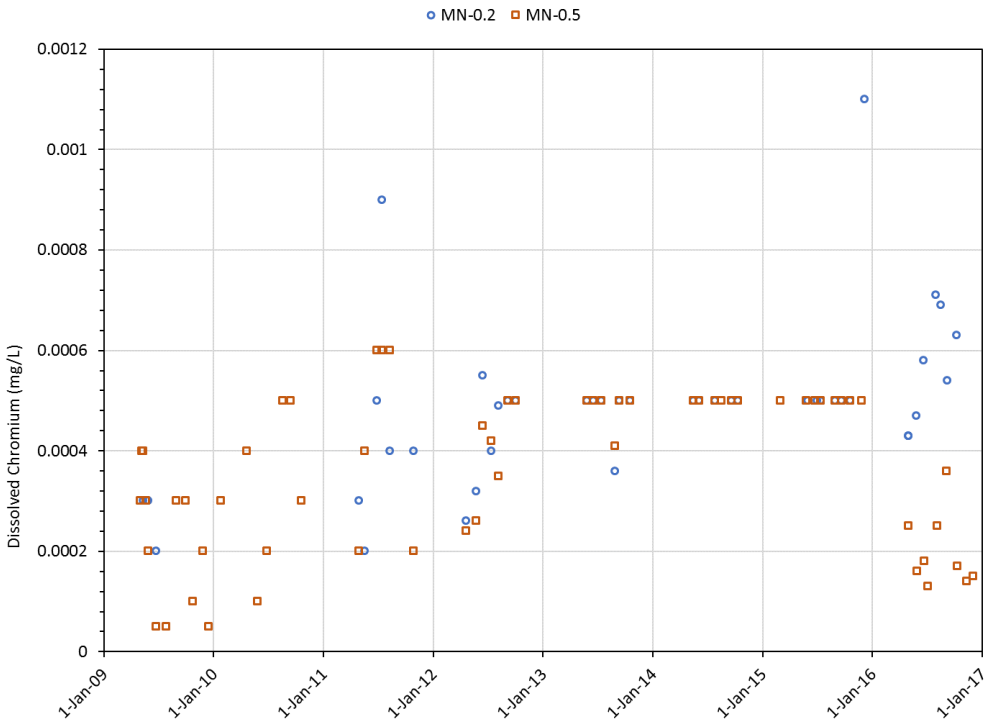

Figure 3-131: Dissolved Chromium at West Arm of McGinty Creek Monitoring Locations.

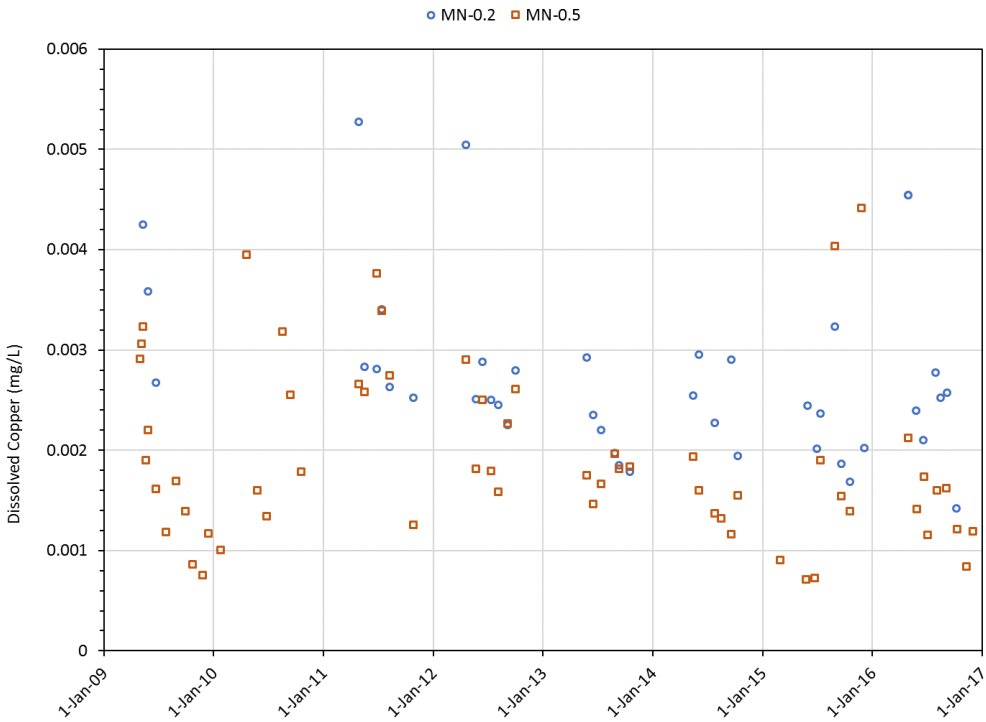

Figure 3-132: Dissolved Copper at West Arm of McGinty Creek Monitoring Locations.

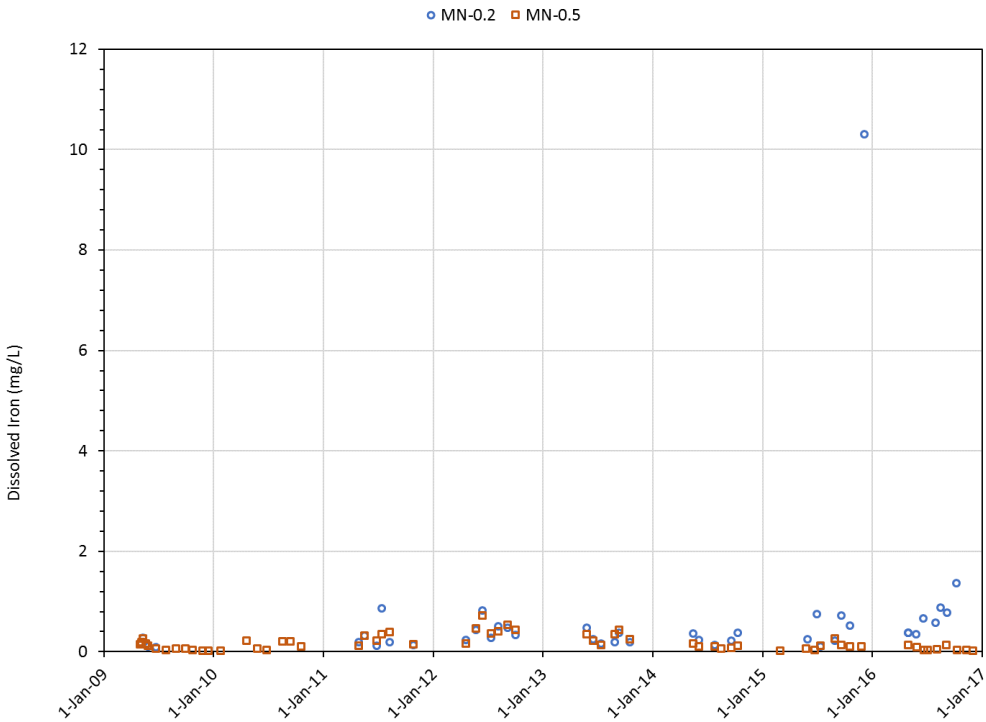

Figure 3-133: Dissolved Iron at West Arm of McGinty Creek Monitoring Locations.

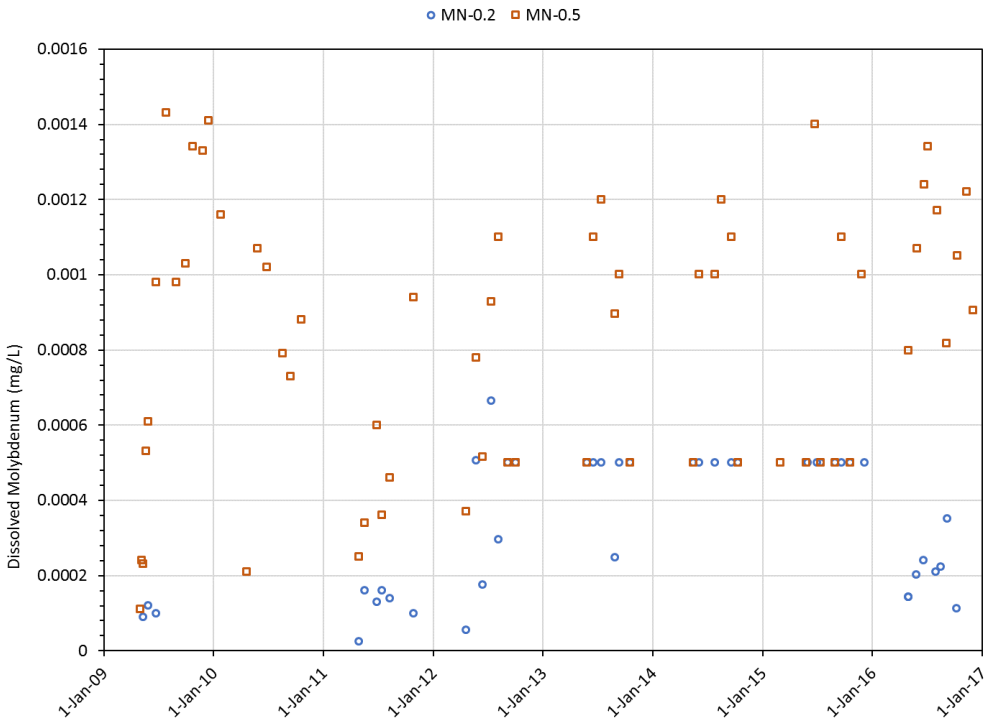

Figure 3-134: Dissolved Molybdenum at West Arm of McGinty Creek Monitoring Locations.

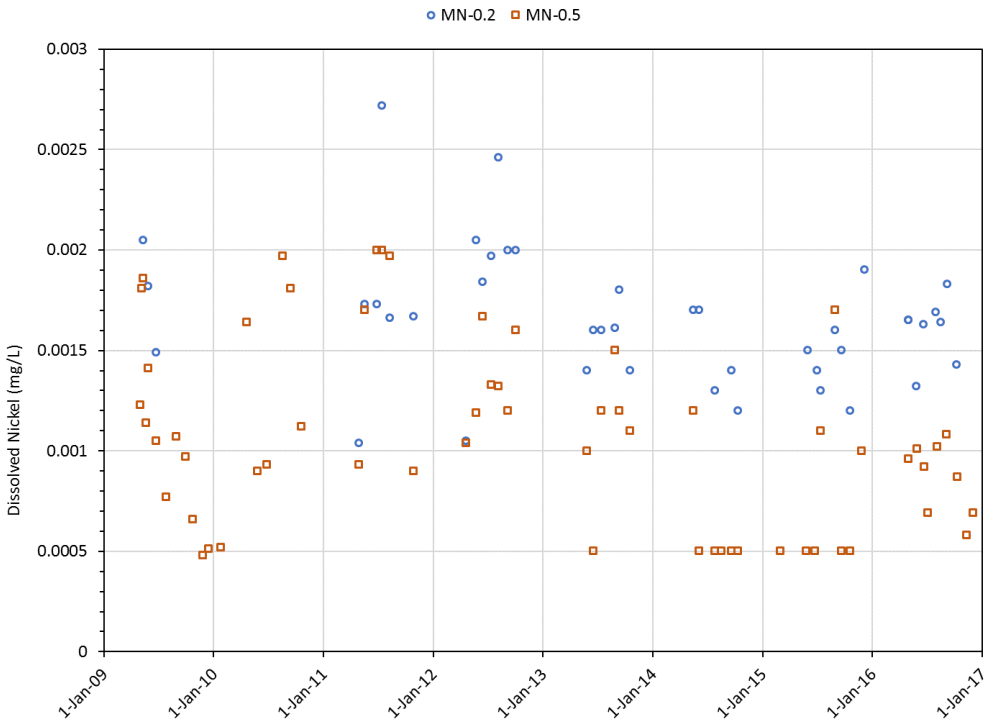

Figure 3-135: Dissolved Nickel at West Arm of McGinty Creek Monitoring Locations.

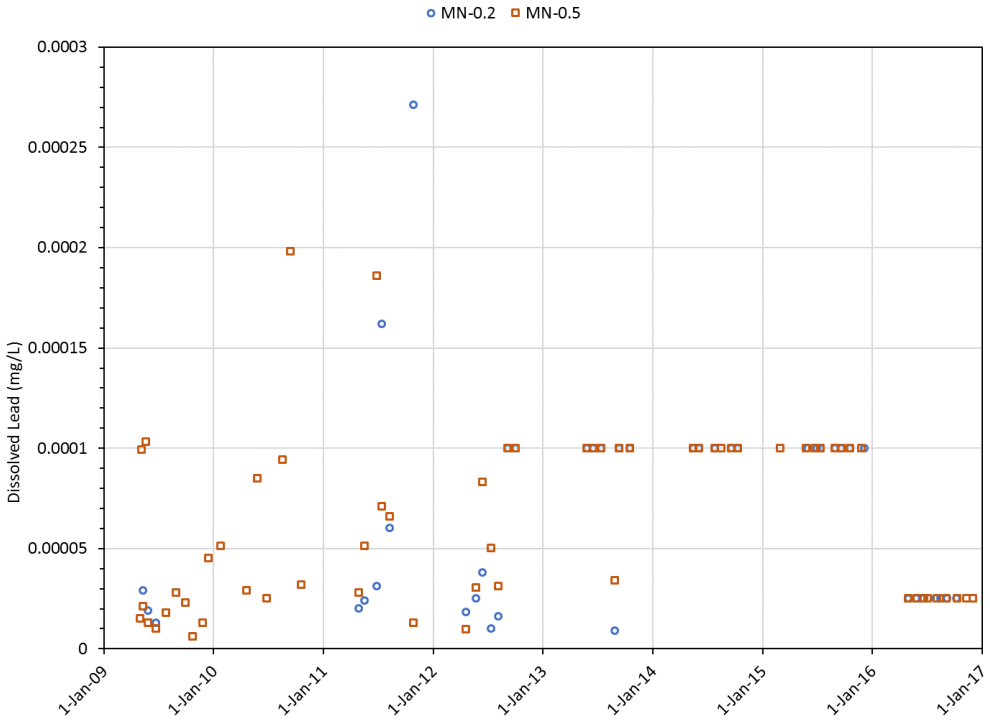

Figure 3-136: Dissolved Lead at West Arm of McGinty Creek Monitoring Locations.

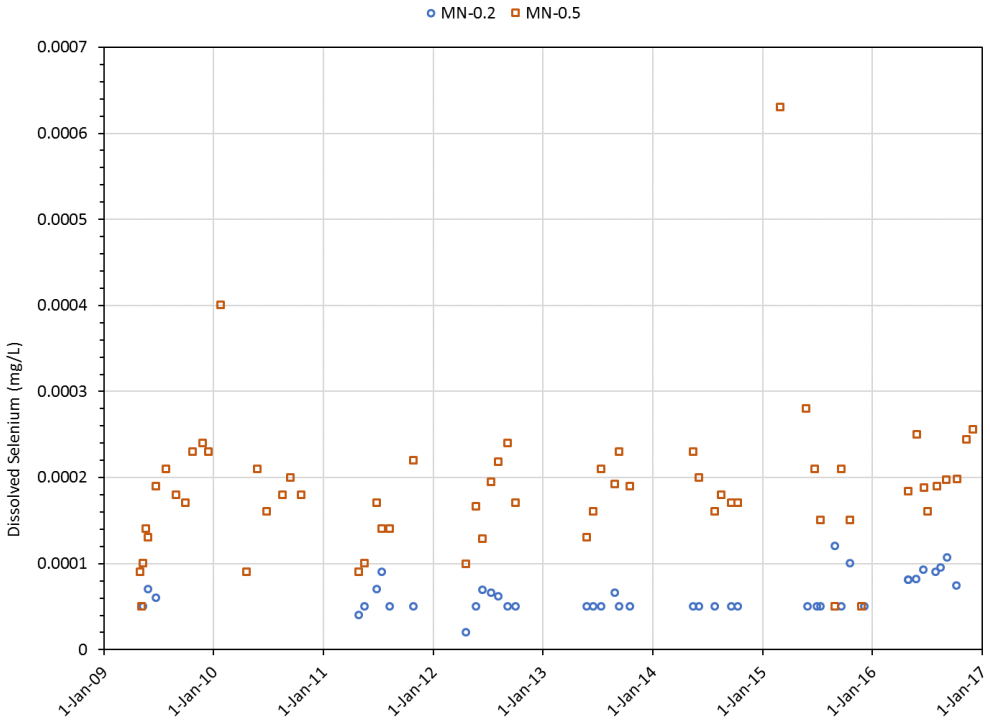

Figure 3-137: Dissolved Selenium at West Arm of McGinty Creek Monitoring Locations.

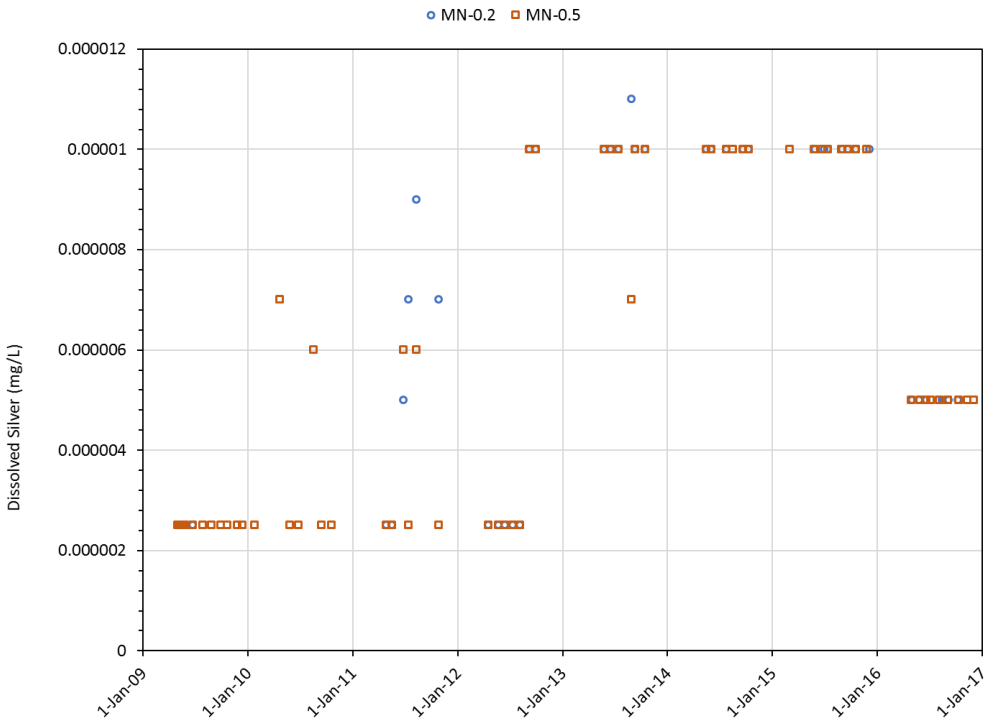

Figure 3-138: Dissolved Silver at West Arm of McGinty Creek Monitoring Locations.

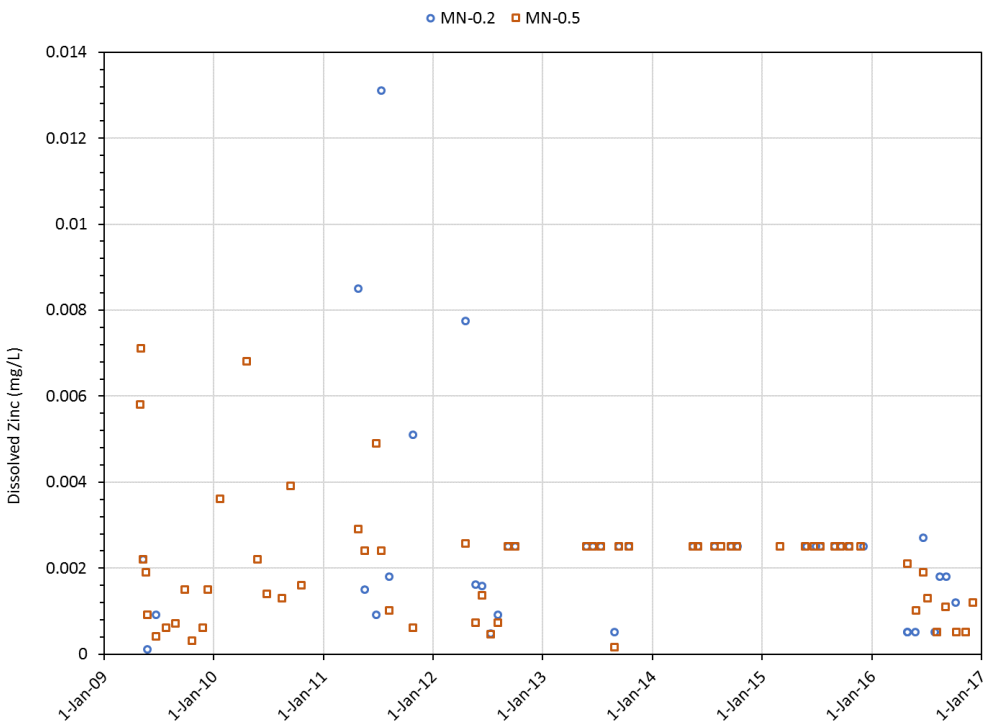

Figure 3-139: Dissolved Zinc at West Arm of McGinty Creek Monitoring Locations.

4 SUMMARY

The characteristics, trends and patterns associated with the geochemistry of surface waters at the Minto Mine Site, Minto North Pit, Minto Creek, and McGinty Creek is summarized in this section.

4.1 MINTO MINE SITE

- The pH of the waters was predominantly circumneutral to slightly alkaline;
- Although typically well oxygenated, lower levels of dissolved oxygen were often observed during winter, particularly for the pit lake locations, where ice cover limited the the oxygenation of underlying waters;
- Nitrogen species concentrations were generally highest in the pit lake and DSTSF drainage sites, reflecting leaching of nitrogen residue from blasting activity. Nitrate-N levels showed marked seasonality at both the Minto Creek mine site location (W15) and the DSTSF drainage (W8 and W8A), but with different patterns. In Minto Creek, nitrate-N levels were highest in winter and lowest over summer, responding to nitrogen uptake demand by primary producers, whereas the opposite trend was noted in the DSTSF drainage;
- DOC concentrations were highest during spring snowmelt, likely due to snowmelt flushing the surrounding soils of labile organic matter that had accumulated through the previous summer and fall;
- Dissolved hardness concentrations were typically lowest in spring at the flowing water sites due to snowmelt dilution, and increased through the year, peaking in winter, suggestive of a marked groundwater component to hardness levels;
- Concentrations of dissolved iron, and to a lesser extent dissolved aluminum, often appeared higher than may be expected from equilibrium with their oxyhydroxide minerals under the prevalent oxidizing, circumneutral pH conditions. Complexation with dissolved organic matter likely maintains these elevated dissolved iron and aluminum levels;
- Dissolved copper concentrations were highest in the DSTSF drainage and tended to peak with freshet, suggestive of some association with DOC; and
- Dissolved concentrations of both selenium and molybdenum increased approximately four-fold in the pit lake sites over the past two to three years, alongside sulphate. Dissolved selenium exhibited strong seasonal cycling in both Minto Creek (W15) and the DSTSF drainage (W8A), but with offset patterns. In Minto Creek, selenium concentrations were lowest at freshet, then rose through the year, peaking in winter, suggestive of a strong groundwater contribution. The opposite pattern was observed at site W8A, where selenium levels oscillated on an annual basis between summer peaks and winter troughs.

4.2 MINTO NORTH PIT

- Minto North Pit waters were circumneutral to mildly alkaline and well oxygenated over the one year of data collected to date;
- Field-measured conductivity and hardness were relatively high and showed no seasonal trends;
- Nitrogen species were very high in the Minto North Pit, likely due to nitrogen residue from blasting activities;
- Minto North Pit waters generally contained elevated dissolved copper, molybdenum, and selenium concentrations;
- The majority of dissolved silver and zinc measurements were below detection; and
- Dissolved aluminum, arsenic, cadmium, nickel, and iron concentrations were unremarkable although some sporadic spikes in iron levels were an order of magnitude higher than the median dissolved iron concentration.

4.3 MINTO CREEK

- The Minto Creek waters were typically circumneutral to slightly alkaline pH and well-oxygenated;
- Nitrogen species concentrations were generally higher during and following periods of mine discharge, likely due to blasting activity within the mine site. Aside from discharge periods, seasonal trends were observed, particularly for nitrate-N, with lower nitrate-N concentrations typically observed in summer months when primary producers that uptake nitrogen species would be most active;
- Concentrations of DOC at W3 were typically higher during April/May likely due to high flows caused by spring meltwater mobilizing organic carbon that had accumulated over the previous year. DOC concentrations also appeared to be higher during mine discharge periods, but as many of these periods occurred in early spring it is difficult to discern the effects of mine discharge on DOC. At downstream stations MC1 and W2, DOC concentrations were higher in mid to late summer and were generally lower in spring and winter;
- Hardness was often lowest in April and May and increased through the summer and fall suggesting dilution in spring, followed by a higher proportional contribution of groundwater to Minto Creek flow through summer, fall, and winter. This trend was more marked at W50 and downstream stations MC1 and W2, whereas W3 returned higher hardness concentrations with less seasonality;
- Dissolved aluminum concentrations were higher in the spring and decreased through the year, likely due to mobilization by high flows from spring meltwater and possibly complexation by DOC, which also peaked in spring;

- Dissolved arsenic and iron concentrations were typically higher at downstream stations MC1 and W2 than upstream stations and were highest in mid to late summer. A reasonable correlation with DOC concentrations suggests DOC likely enhances iron solubility at MC1 and W2;

- Since 2010, dissolved chromium, lead, silver and zinc has generally been closer to or below detection levels with and without mine discharge;

- Dissolved copper, molybdenum and selenium concentrations were higher during and following periods of mine discharge. Dissolved copper concentrations also appeared to vary seasonally with higher concentrations observed in the spring with higher flows from meltwater and were correlated with DOC concentrations. Dissolved molybdenum concentrations were consistently higher at W3 than W2 in pre-operations and during non-discharge periods.

4.4 MCGINTY CREEK

- Field pH was generally circumneutral to slightly alkaline and increased farther downstream in both arms of McGinty Creek;

- The waters were fairly well-oxygenated with occasional troughs of dissolved oxygen measured in winter months when ice cover likely inhibited ingress of oxygen to McGinty Creek;

- Nitrate-N concentrations were typically lower in April/May due likely to dilution from meltwater and higher values were typically observed in the winter when uptake by primary producers would have been lowest. Nitrite-N was predominantly below detection level in McGinty Creek;

- Concentrations of DOC were typically higher during April/May likely due to mobilization by high flows caused by spring meltwater. Higher concentrations were also commonly observed in mid to late summer;

- Dissolved hardness concentrations increased farther downstream and varied seasonally with lowest concentrations in the spring and increasing concentrations through to the winter, suggesting a significant proportion of hardness from baseflow that is diluted by spring meltwater;

- Dissolved aluminum concentrations were higher in the upstream stations of the east and west arms of McGinty Creek and were erratic, perhaps varying with precipitation events as concentrations were typically higher in April and May when higher flows caused by spring meltwater could mobilize aluminum. Complexation by DOC, which was highest during spring, may also have maintained elevated dissolved aluminum concentrations at this time;

- Dissolved arsenic and iron concentrations were higher in upstream stations of the east and west arm of McGinty Creek and often peaked in August or September. A negative correlation between iron and ORP suggests the presence of a groundwater seep with reducing conditions that could have provided elevated concentrations of iron to McGinty Creek. DOC could also be a factor in maintaining higher iron concentrations in solution;

- Dissolved cadmium and zinc concentrations appeared to decrease from 2010 to 2013 and have been fairly low throughout all McGinty Creek stations post-2013;

- Dissolved chromium concentrations were higher in upstream stations of the east and west arms of McGinty Creek;

- The upstream-most stations – MN-1.5 (east arm) and MN-0.2 (west arm reference tributary) – consistently returned higher dissolved copper concentrations in McGinty Creek. Generally, concentrations were higher in April/May likely due to mobilization by the elevated DOC levels observed at this time of the year;

- Dissolved molybdenum concentrations typically increased moving downstream in McGinty Creek and varied seasonally such that lower concentrations were observed in the spring and higher concentrations were observed in the winter, suggestive of dilution of baseflow providing the bulk of molybdenum to McGinty Creek in the spring;

- Dissolved lead and silver concentrations have generally been close to or below their respective detection levels in McGinty Creek;

- Dissolved selenium concentrations in McGinty Creek were generally highest in the west arm (reference tributary) at MN-0.5, suggesting a significant proportion of loading occurs from the west arm to McGinty Creek downstream of MN-2.5 and upstream of MN-4.5.

5 LIMITATIONS OF REPORT

Alexco Environmental Group (AEG) of Whitehorse, Yukon has prepared this Water Quality Characterization for Minto Creek for the Minto Project for the exclusive use of Minto Explorations Ltd., and is based on data and information managed by Minto Mine. AEG has followed standard professional procedures in conducting the investigations and in preparing the contents of this report. The material in this report reflects AEG's best judgment in light of the information available at the time of the preparation of this report. Any use that a third party makes of this report, or any reliance on decisions to be made based on it, is the responsibility of the third parties. AEG accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report. AEG believes that the contents of this report are substantively correct.

The information and data contained in this report, including without limitation, the results of any sampling and analyses conducted by AEG, are based solely on the conditions observed at the time of the field assessment and have been developed or obtained through the exercise of AEG's professional judgment and are set to the best of AEG's knowledge, information, and belief. Although every effort has been made to confirm that all such information and data is factual, complete and accurate, AEG offers no guarantees or warranties, either expressed or implied, with respect to such information or data.

AEG shall not by the act of issuing this report be deemed to have represented that any sampling and analyses conducted by it have been exhaustive or will identify all pertinent conditions at the site, and persons relying on the results thereof do so at their own risk.

6 REFERENCES

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Minnow Environmental Inc. 2017. Methods for Computing Summary Statistics for Censored Data. Technical Memorandum Prepared for Alexco Environmental Group. December 22. 2017

Minto Explorations Ltd. 2017. Minto Mine Operational Adaptive Management Plan. Revision 2017-02.

APPENDIX A

BACKGROUND WATER QUALITY OF LOWER MINTO CREEK FOR APPLICATION IN THE DERIVATION OF POST-CLOSURE WATER QUALITY OBJECTIVES

Background Water Quality of Lower Minto Creek for Application in the Derivation of Post-Closure Water Quality Objectives

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July 2016

Background Water Quality of Lower Minto Creek for Application in the Derivation of Post-Closure Water Quality Objectives

Prepared for:

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Prepared by:

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1.0 INTRODUCTION

1.1 Site Description

The Minto Mine is a high-grade copper mine located within Selkirk First Nation (SFN) Category A Settlement Land Parcel R-6A approximately 240 km northwest of Whitehorse, Yukon Territory (62°37'N latitude and 137°15'W longitude; Figure 1.1). It is owned and operated by Minto Explorations Ltd., a wholly owned subsidiary of Capstone Mining Corporation. Development of the mine was initiated in 1997, commercial operations started in October 2007 and the currently anticipated operating life is to 2018. The facility is permitted to conduct open pit and underground mining, and includes a mill with a capacity of 4,200 tonnes of ore per day. The Minto Mine produced 16,500 kilo-tonnes of copper in 2015 (average copper grade 1.38%). Mineral reserves as of January 1st 2016 were approximately 5,500 kilo-tonnes at an average copper grade of 1.87%.

In addition to open pit mines, underground mines and the mill, the Minto Mine site includes a number of waste rock dumps, a concentrate storage shed, tailings storage facilities, a water retention dam with a water storage pond, a water treatment plant, administrative offices, an airstrip and a camp (Figure 1.2). Mill tailings are stored in dry stack tailings storage facilities and in mined-out open pits. Mine-impacted seepage from the tailings storage facilities and under the Mill Valley Fill Extension (MVFE) is collected at the Mill Valley Fill Extension Stage 2 Collection Sump and is pumped to the main pit (Figure 1.2). Non-impacted water and treated mine-impacted water are collected in a Water Storage Pond (WSP; Figure 1.2). Effluent from the WSP is periodically discharged to Minto Creek under conditions specified in the Minto Mine's Water Use Licence (WUL) QZ14-031 (August 2015; YWB 2015). Minto Creek, in turn, discharges to the Yukon River approximately 7.7 km south-east of the WSP (Figure 1.2).

The Minto Mine is actively planning for closure, which could potentially occur as soon as late 2018. Conceptually, closure will include three stages: 1) an active closure period; 2) post-closure 1; and 3) post-closure 2. All major reclamation work will be completed during the active closure period. This will include re-contouring, cover placement, re-vegetation, construction of closure water conveyance channels, construction of wetland water treatment systems, and building demolition. Water will be actively managed during the active closure period. Post-closure 1 follows the completion of all major reclamation work and represents the period when the closure measures completed during the active closure period become fully established (e.g., vegetation is established, cover material self-armors, constructed wetlands are established, water flow through closure conveyances is established). Water treatment during post-closure 1 will be both active and passive. Post-closure 2 follows post-closure 1 and final

N
W E
S

160 0 160
Kilometers

MAP INFORMATION
Datum: NAD 83 Map Projection: UTM Zone 8V
Data Source: Department of Natural Resources Canada
All rights reserved.
Creation Date: June 2016
Project No. 167202.0062

Map of Canada

Figure 1.1: Location of the Minto Mine

minnow environmental inc.
A Tetra Tech Company

Features

- Final Effluent Discharge Point
- Waterbody
- Minto Creek Detention Structure
- Building
- Watercourse
- Mine Road
- Water Flow Direction

N
W E
S

0 175 350 700
Meters

MAP INFORMATION
Datum: NAD 83 Map Projection: UTM Zone 8V
Data Source: National Topographic Data Base (NTDB) compiled by Department of Natural Resources Canada at a scale of 1:50,000. All rights reserved.

Mine infrastructure data provided by Access Mining Consultants Inc.
Mine site contours derived from 2012 aerial imagery obtained from Challenger Geomatics.

Creation Date: June 2016
Project No. 167202.0062

Figure 1.2: Minto Mine Site Layout and Receiving Environment

minnow environmental inc.
A Trinity Consultants Company

decommissioning (e.g., of the water treatment plant and potentially the camp). It represents the period when all closure measures are fully established, including final water conveyances. Water treatment during post-closure 2 will be by passive treatment only.

1.2 Background

The Minto Mine's WUL includes Water Quality Objectives (WQOs) for lower Minto Creek at water quality monitoring station W2 (Figure 1.3). These WQOs apply during the operational period and are anticipated to also apply during the active closure period and in post-closure 1. A separate set of WQOs will be developed for the post-closure 2 period. The Minto Mine's WUL requires a Reclamation and Closure Plan (RCP) that includes WQOs for post-closure that meet the criteria for non-degradation of background concentrations. Two approaches have been provided in the WUL as guidance to developing closure WQOs (YWB 2015; Clause 112):

1) Establish closure WQOs that meet the criteria for non-degradation of background concentrations in Minto and McGinty creeks; and

2) If non-degradation of water quality is not achievable, the closure WQOs shall be set at no more than 50% of the assimilative capacity of Minto Creek using the following formula:

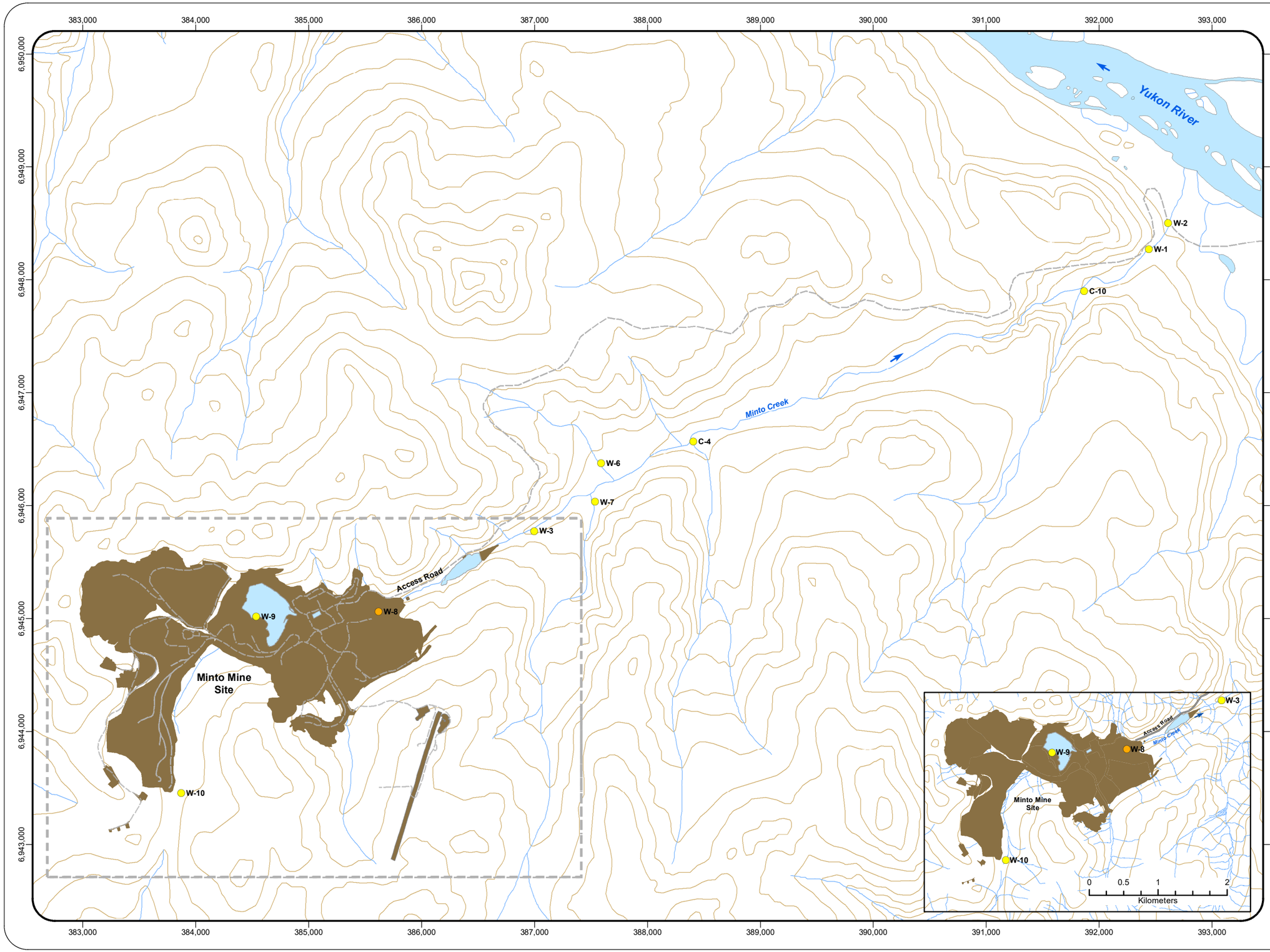
$$Closure\ WQO = BKGD + (0.5*[WQO_{Operations} - BKGD])$$

where: BKGD = background concentration.

Both approaches for the development of closure WQOs require a clearly-defined background water quality condition.

1.3 Objective

The objective of this report is to define the background water quality data set to be used to develop background water quality for lower Minto Creek and to determine background summary statistics for key analytes to be used in calculating the post-closure WQOs. This document outlines the approach used in considering what data points should be included to define background water quality. This document incorporates the outcomes of discussions among the Minto Mine, SFN, and technical consultants (Appendix A). These discussions covered a number of factors critical to the definition of background water quality, including representative sampling stations, contaminants of potential concern (COPCs), dealing with less than method detection limit (MDL) results, dealing with replicate results, identifying outliers, evaluation of possible data groupings, and designation of summary statistics. The



Features

- Excluded Water Quality Sampling Station
- Water Quality Sampling Station
- Waterbody
- Mine Footprint (2013)
- Watercourse
- Mine Road
- Contour
- Water Flow Direction

N
W E
S

0 435 870 1,740
Meters

MAP INFORMATION
Datum: NAD 83 Map Projection: UTM Zone 8V
Data Source: National Topographic Data Base (NTDB) compiled by Department of Natural Resources Canada at a scale of 1:50,000. All rights reserved.

Mine infrastructure data provided by Access Mining Consultants Inc.
Mine site contours derived from 2012 aerial imagery obtained from Challenger Geomatics.

Creation Date: June 2016
Project No. 167202.0062

Figure 1.3: Water Quality Sampling Stations, 2005 - 2013, used to Develop Background Concentrations

minnow environmental inc.
A Trinity Consultants Company

background water quality data set is then used to calculate summary statistics for the COPCs for application as WQOs for the post-closure 2 period.

1.4 Report Organization

Section 2.0 provides a detailed overview of data organization and step-wise work-through the process of defining background water quality for the development of post-closure WQOs. Section 3.0 provides the proposed background water quality statistics. All references cited in the report are provided in Section 4.0.

2.0 DATA ORGANIZATION

Raw data from the Minto Mine's water quality database were received on May 31st, 2016. The database contained concentrations of water quality analytes measured throughout the open water season from 2005 to 2013. The database was sorted and organized as described below, to obtain a final water quality data set to be used to calculate the background concentrations of COPCs. For a few sampling dates, it was noted that water quality analyses were incomplete (e.g., incomplete dissolved metals in a multi-element scan). Minto Mine and Access Consulting Group were contacted to inquire about any missing data but older data sets were unavailable as they were collected by The North Air Group (Vancouver, BC).

2.1 Sampling Stations

The database included six sampling stations (W1, W2, W3, W8, W9 and W10) that were sampled during baseline studies in 2005 and were subsequently influenced by the mine (Figure 1.3; Appendix B). The database also included four reference sampling stations, W6 (2005 – 2013), W7 (2005 – 2013), C4 (2012, 2013) and C10 (2012, 2013; Figure 1.3; Appendix B).

Data collected at sampling station W8 were removed from the final background data set because water quality at station W8 was determined to poorly represent water quality at station W2 (lower Minto Creek; the point of WQO application). Data collected at W6 from 2009 to 2011 were not included, as these water quality samples were accidently collected at the Minto Creek main stem and not at the W6 tributary. These data would not represent background concentrations because the mine was operational from 2009 to 2011.

2.2 Contaminants of Potential Concern

The COPCs considered herein are those identified in the Water Use Licence (WUL; QZ14-031; YWB 2015). These COPCs are ammonia, pH (laboratory and field), nitrite, nitrate and the following dissolved metals; aluminum, arsenic, cadmium, chromium, copper, iron, lead, molybdenum, nickel, selenium, silver and zinc. In addition to the COPCs, several additional analytes are considered herein due to their importance as supporting parameters (e.g., parameters that may affect other WQOs). These include dissolved organic carbon (DOC), total and dissolved hardness, total suspended solids (TSS) and total dissolved solids (TDS).

2.3 Method Detection Limits

Concentrations that were reported as less than MDL and where the associated MDL exceeded the maximum detected concentration were removed from the data set. Such cases (and consequent removals) were observed for dissolved chromium (11% of samples) and dissolved

silver (24% of samples; Table 2.1). The remaining analytes reported as less than method detection limits (MDL) were substituted with half the MDL for calculations of summary statistics.

2.4 Replicate Samples

Some water samples were collected multiple times in one day at a given sampling station. To account for this, the average concentration of the analyte at a given station on the same day was used to represent the concentration for that day. The relative percent difference (RPD) of the minimum and maximum daily concentrations were calculated prior to calculating a daily mean concentration (Table 2.2). If the RPD was greater than 25% they were investigated further (Table 2.2).

Many analytes that had RPD greater than 25% were dissolved metals or TSS. Although there were instances where the RPD was greater than 25%, this is expected in multi-element scans. The investigation indicated no systemic problems (e.g., instances where all analytes had RPD greater than 25%), therefore all data were retained in the estimate of the daily mean. Regardless of RPDs between the minimum and maximum concentrations, the mean of concentrations measured on the same day were considered to best represent the concentration on that day.

2.5 Outliers

Outliers were evaluated based on data distributions for each analyte. The term “outlier” in the context of this report is used to refer to an observation that is unusually small or large relative to the distribution of observations. Outliers were investigated further to determine whether the value was naturally possible or whether the value could have resulted from an analytical error. The background data distributions for all analytes were non-normally distributed. Outliers were therefore identified using a non-parametric rule (the lower outer fence and upper outer fence) that is frequently used to identify outliers on boxplots (Dawson 2011).

Lower outer fence = Q1 – 3 (IQR)
Upper outer fence = Q3 + 3 (IQR)
where: Q1 = 1st Quartile
Q3 = 3rd Quartile
IQR = Interquartile Range (Q3 – Q1)

Observations less than the lower outer fence or greater than the upper outer fence were considered outliers. Although the rule is non-parametric, the calculation of the IQR is influenced by data transformations. The outlier evaluation was therefore conducted using untransformed and $\log_{10}$-transformed concentrations because many distributions of water

Table 2.1: Samples with high Method Detection Limits (MDL) that were removed from the background dataset.

Analyte	Max Value (All Stations)	MDL greater than Max Value	Station	Total Sample Size	Number of samples that exceeded Max Value
Dissolved Chromium	0.0017	0.0020	W7	110	20
Dissolved Silver	0.000060	0.00010	W6	23	1
			W7	110	43

Table 2.2: Relative Percent Difference (RPD) of maximum and minimum values for samples collected at the same sampling stations and date. Highlighted cells had RPD > 25%.

Station	Date	DOC (mg/L)	Dissolved Hardness (mg/L)	Total Hardness (mg/L)	TSS (mg/L)	TDS (mg/L)	Ammonia (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Lab pH (pH Units)	Field pH (pH Units)	Dissolved Aluminum (mg/L)	Dissolved Arsenic (mg/L)	Dissolved Cadmium (mg/L)	Dissolved Chromium (mg/L)	Dissolved Copper (mg/L)	Dissolved Iron (mg/L)	Dissolved Lead (mg/L)	Dissolved Molybdenum (mg/L)	Dissolved Nickle (mg/L)	Dissolved Selenium (mg/L)	Dissolved Silver (mg/L)	Dissolved Zinc (mg/L)
W2	5/27/2005			100	21	138	0.026	0.0015	0.057	8.06		0.016	0.00025	0.000025	0.00050	0.0033	0.16	0.00025	0.00050	0.0015	0.00050	0.000010	
				72	79	80	0.010	0.00050	0.034	8.03		0.011											0.0025
	RPD			**32%**	**118%**	**53%**	**89%**	**100%**	**50%**	**0%**		**41%**											
W10	5/27/2005			46	1.5	115	0.027	0.00050	0.0094	7.47		0.14	0.00025	0.000025	0.00050	0.018	0.11	0.00025	0.00050	0.0016	0.00050	0.000010	0.0085
							0.010	0.00050					0.00025	0.000025	0.00050	0.00050	0.015	0.00025	0.00050	0.00050	0.00050	0.000010	0.0025
	RPD						**92%**	**0%**					**0%**	**0%**	**0%**	**189%**	**150%**	**0%**	**0%**	**105%**	**0%**	**0%**	**109%**
W7	6/15/2006						0.027																
			100		53	114			0.18	7.86		0.013	0.00040	0.0000050	0.00025	0.0010	0.090	0.000050	0.0010	0.0010	0.00020		0.00050
	RPD																						
W7	7/26/2006						0.016																
			128		9.0				0.18	7.87		0.0080	0.00040	0.0000050	0.00025	0.0020	0.10	0.000050	0.00050	0.00210	0.00010		0.00050
	RPD																						
W7	8/25/2006						0.027																
			129			180			0.12	7.92		0.012	0.00040	0.0000050	0.00060	0.0010	0.080	0.000050	0.0010	0.00090	0.00010		0.0030
	RPD																						
W7	6/5/2007			108	76	162	0.025	0.025	0.050	7.98													
				120	76	158	0.025	0.050	0.050	7.97													
				111	73	166	0.025	0.025	0.050	7.97													
	RPD			**11%**	**4%**	**5%**	**0%**	**67%**	**0%**	**0%**													
W7	7/18/2007	14.3	128	126	4.0	170	0.025	0.025	0.30	7.72		0.011	0.00050	0.0000050	0.0010	0.0020	0.040	0.000050	0.0010	0.00070	0.00010		0.0060
				125	7.0	182	0.025	0.025	0.30	7.80													
				125	6.0	184	0.025	0.025	0.30	7.83													
	RPD			**1%**	**55%**	**8%**	**0%**	**0%**	**0%**	**1%**													
W7	8/24/2007						0.025																
							0.025																
							0.025																
				122	4.0	198		0.025	0.20	8.04													
				123	4.0	192		0.025	0.20	8.05													
				128	6.0	186		0.025	0.20	8.04													
	RPD			**5%**	**0%**	**6%**		**0%**	**0%**	**0%**													
W7	10/30/2007			130	3.0	176	0.025	0.14	0.010	7.74													
				128	10	182	0.025	0.14	0.010	7.74													
				130	7.0	166	0.025	0.13	0.010	7.74													
					6.0	172		0.13	0.010	7.68													
	RPD			**2%**	**108%**	**9%**	**0%**	**7%**	**0%**	**1%**													
W7	4/22/2008		186		1.0	264	0.025	0.070	0.010	8.40		0.010	0.00010	0.000040	0.0012	0.00050	0.010	0.000050	0.0016	0.00050	0.00030		0.0010
			193		1.0	274	0.025	0.040	0.010	8.41		0.010	0.00040	0.000040	0.0014	0.0020	0.070	0.00010	0.0017	0.0020	0.00030		0.0030
			182		1.0	270	0.025	0.070	0.010	8.40		0.010	0.00030	0.000040	0.00030	0.0010	0.010	0.000050	0.0017	0.00050	0.00030		0.0010
					1.0	262		0.040	0.010	8.40													
	RPD		**6%**		**0%**	**4%**	**0%**	**55%**	**0%**	**0%**		**0%**	**120%**	**0%**	**129%**	**120%**	**150%**	**67%**	**5%**	**120%**	**0%**		**100%**
W7	6/3/2008			97	1.0	134	0.025	0.040	0.030	8.01													
				96	19	132	0.025	0.040	0.040	8.01													
				101	26	146	0.025	0.040	0.040	8.03													
			92									0.005	0.00010	0.000040	0.0013	0.00050	0.050	0.000050	0.0012	0.0010	0.00030	0.0000050	0.0020
	RPD			**5%**	**185%**	**10%**	**0%**	**0%**	**29%**	**0%**													

Table 2.2: Relative Percent Difference (RPD) of maximum and minimum values for samples collected at the same sampling stations and date. Highlighted cells had RPD > 25%.

Station	Date	DOC (mg/L)	Dissolved Hardness (mg/L)	Total Hardness (mg/L)	TSS (mg/L)	TDS (mg/L)	Ammonia (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Lab pH (pH Units)	Field pH (pH Units)	Dissolved Aluminum (mg/L)	Dissolved Arsenic (mg/L)	Dissolved Cadmium (mg/L)	Dissolved Chromium (mg/L)	Dissolved Copper (mg/L)	Dissolved Iron (mg/L)	Dissolved Lead (mg/L)	Dissolved Molybdenum (mg/L)	Dissolved Nickle (mg/L)	Dissolved Selenium (mg/L)	Dissolved Silver (mg/L)	Dissolved Zinc (mg/L)
W7	8/6/2008			123	92	162	0.025	0.0050	0.14	7.9													
				123	139	168	0.025	0.0050	0.14	7.9													
				125	85	170		0.0050	0.15	8.0													
		9.0	123				0.025					0.014	0.00040	0.0000050	0.00060	0.0020	0.070	0.000050	0.0010	0.0010	0.00010	0.000060	0.0060
	RPD			**2%**	**48%**	**5%**	**0%**	**0%**	**7%**	**1%**													
W7	10/28/2008				4.0	192	0.025			7.84													
					6.0	188	0.025			7.83													
					7.0	168	0.025			7.85													
		11	123									0.0090	0.00050	0.0000050	0.00050	0.0010	0.078	0.000050	0.0011	0.0010	0.00030	0.0000050	0.0010
	RPD				**55%**	**13%**	**0%**			**0%**													
W7	10/7/2009																						
		6.9	123		7.0	180			0.12	7.87	8.24												
	RPD																						
W7	10/25/2009	8.7	126	141	2.0	130	0.010	0.0025	0.15	8.10	8.23	0.0070	0.00030	0.000040	0.00050	0.0012	0.046	0.00010	0.0010	0.00050	0.00020	0.000010	0.0025
					2.0	110				8.00													
	RPD				**0%**	**17%**				**1%**													
W7	9/12/2010			105																			
		17	107	102	11	210	0.039	0.0025	0.030	7.98	8.02	0.016	0.00050	0.000050		0.0010	0.23	0.00010	0.0010	0.0020	0.00040		0.0050
	RPD			**3%**																			
W7	5/6/2012	17	46	45	2.4	80	0.010	0.0025	0.010	6.05		0.030	0.00043	0.000013	0.00050	0.0030	0.43	0.00010	0.00050	0.0011	0.000050	0.000010	0.0025
		17	46	45	4.2	88	0.011	0.0025	0.010	5.74	7.10	0.044	0.00044	0.000016	0.00050	0.0027	0.46	0.00010	0.00050	0.0012	0.000050	0.000010	0.0025
	RPD	**2%**	**1%**	**0%**	**55%**	**10%**	**10%**	**0%**	**0%**	**5%**		**39%**	**2%**	**21%**	**0%**	**10%**	**8%**	**0%**	**0%**	**9%**	**0%**	**0%**	**0%**
W7	6/19/2013	11	113	114	11	152	0.052	0.0025	0.14	8.08		0.013	0.00052	0.0000050	0.00050	0.0012	0.29	0.00010	0.0015	0.0013	0.00011	0.000010	0.0025
		11	114	115	10	164	0.040	0.0025	0.14	8.07	8.60	0.013	0.00051	0.0000050	0.00050	0.0012	0.29	0.00010	0.0016	0.0012	0.00019	0.000010	0.0025
	RPD	**7%**	**1%**	**1%**	**10%**	**8%**	**26%**	**0%**	**1%**	**0%**		**7%**	**2%**	**0%**	**0%**	**7%**	**2%**	**0%**	**6%**	**8%**	**53%**	**0%**	**0%**
C4	10/18/2013	13	129	142	16	214	0.091	0.0025	0.069	8.18		0.022	0.001060	0.000005	0.00050	0.0011	1.2	0.00010	0.00050	0.0023	0.000050	0.000010	0.0025
		13	129	139	16	220	0.080	0.0025	0.065	8.24	7.16	0.025	0.001070	0.000005	0.00050	0.0012	1.2	0.00010	0.0012	0.0025	0.000050	0.000010	0.0025
	RPD	**2%**	**0%**	**2%**	**0%**	**3%**	**13%**	**0%**	**6%**	**1%**		**12%**	**1%**	**0%**	**0%**	**5%**	**1%**	**0%**	**82%**	**8%**	**0%**	**0%**	**0%**
C10	9/8/2013	16	150	163	25	186	0.046	0.0076	0.18	7.94		0.025	0.001660	0.0000050	0.00050	0.0013	1.3	0.00010	0.00050	0.0025	0.000050	0.000010	0.0025
		16	150	162	22	206	0.055	0.0070	0.19	8.13	8.16	0.024	0.001580	0.000010	0.0017	0.0013	1.3	0.00010	0.00050	0.0025	0.000050	0.000010	0.0025
	RPD	**1%**	**0%**	**1%**	**16%**	**10%**	**18%**	**8%**	**9%**	**2%**		**5%**	**5%**	**67%**	**109%**	**6%**	**2%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**

quality analytes are approximately log-normal. Since pH is reported on the logarithmic scale, the outlier rule was applied to the pH data that were untransformed and anti-logged. Any observations that were identified as potential outliers based on both the untransformed and log_{10}-transformed scale (Appendix C) were investigated further. When Q3 could not be estimated because it was below the MDL, the upper outer fence was estimated using the following formula:

$$MDL_{Q3} + 3 * MDL_{Q3}$$

where: MDL_{Q3} *= the MDL corresponding to the observation at the third quartile*

One observation - dissolved arsenic at station C4 on November 17th 2013 (0.0056 mg/L) - was identified as an outlier based on the above rules (Table 2.3). Further investigation of this potential outlier included consideration of potential elevations of other analytes and consideration of analyte ratios (i.e., chemical signature). Hardness, dissolved iron and dissolved manganese were also elevated in this sample. Because the potential outlying value appeared to be naturally possible, was consistent with observations of elevation of other analytes, and there was no unequivocal evidence of unusual ratios of arsenic relative to other analytes (Appendix Table D.1), the concentration of dissolved arsenic at station C4 was retained in the background data set.

2.6 Baseline Investigation

Water samples collected in 2005 before mine operations were considered baseline data. Concentrations of COPCs were plotted using an individual value plot for all sampling stations to determine if concentrations for each station were similar to station W2 and could be used as baseline data to represent station W2 (Figure 2.1). The median and 95th percentile of the background data sets for each analyte were calculated separately for W2 and all sampling stations (including W2) in 2005 (Table 2.4). There appears to be close agreement between the median and 95th percentiles for the two data sets (i.e., W2 and all sampling stations in 2005; Table 2.4). Total hardness differed most among data sets (was greater at station W2), but summary statistics for many analytes did not differ between W2 and all sampling stations (Table 2.4). In general, the distribution of concentrations of COPCs at station W2 was similar to the distribution of concentrations of COPCs from the other sampling stations in 2005, supporting the use of the designated reference water quality data set as representative of station W2.

Table 2.3: Outliers identified and rationale for removing or keeping the data point.

Station	Date	Identified Outlier			
		Analyte	Value	Decision	Rationale
C4	11/17/2013	Dissolved Arsenic (mg/L)	0.0056	Retained	High Hardness, dissolved iron and dissolved manganese in sample.

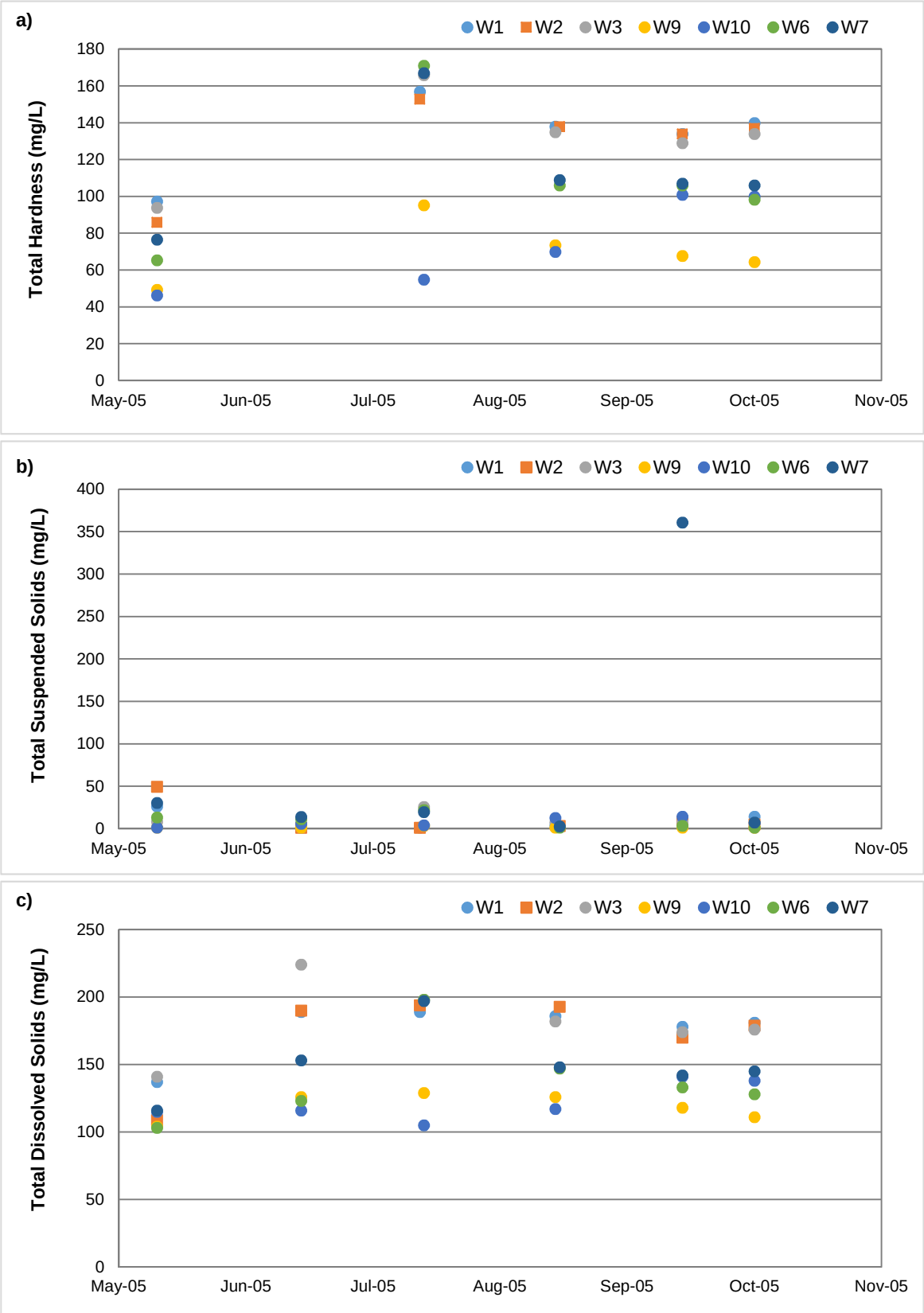


Figure 2.1: Baseline concentrations of contaminants of potential concern, Minto Mine, 2005. Values less than method detection limits were substituted with half of the MDL value.

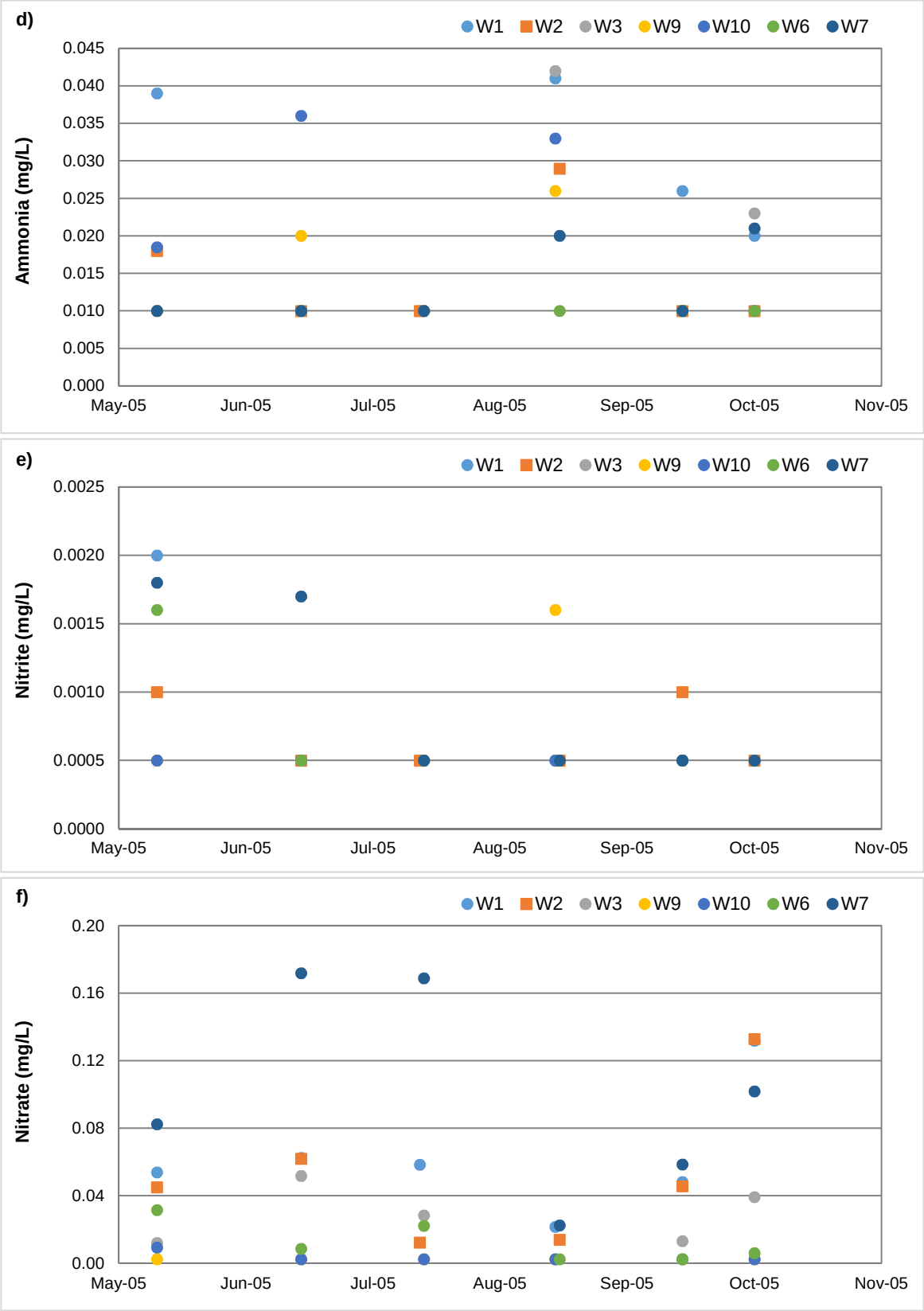
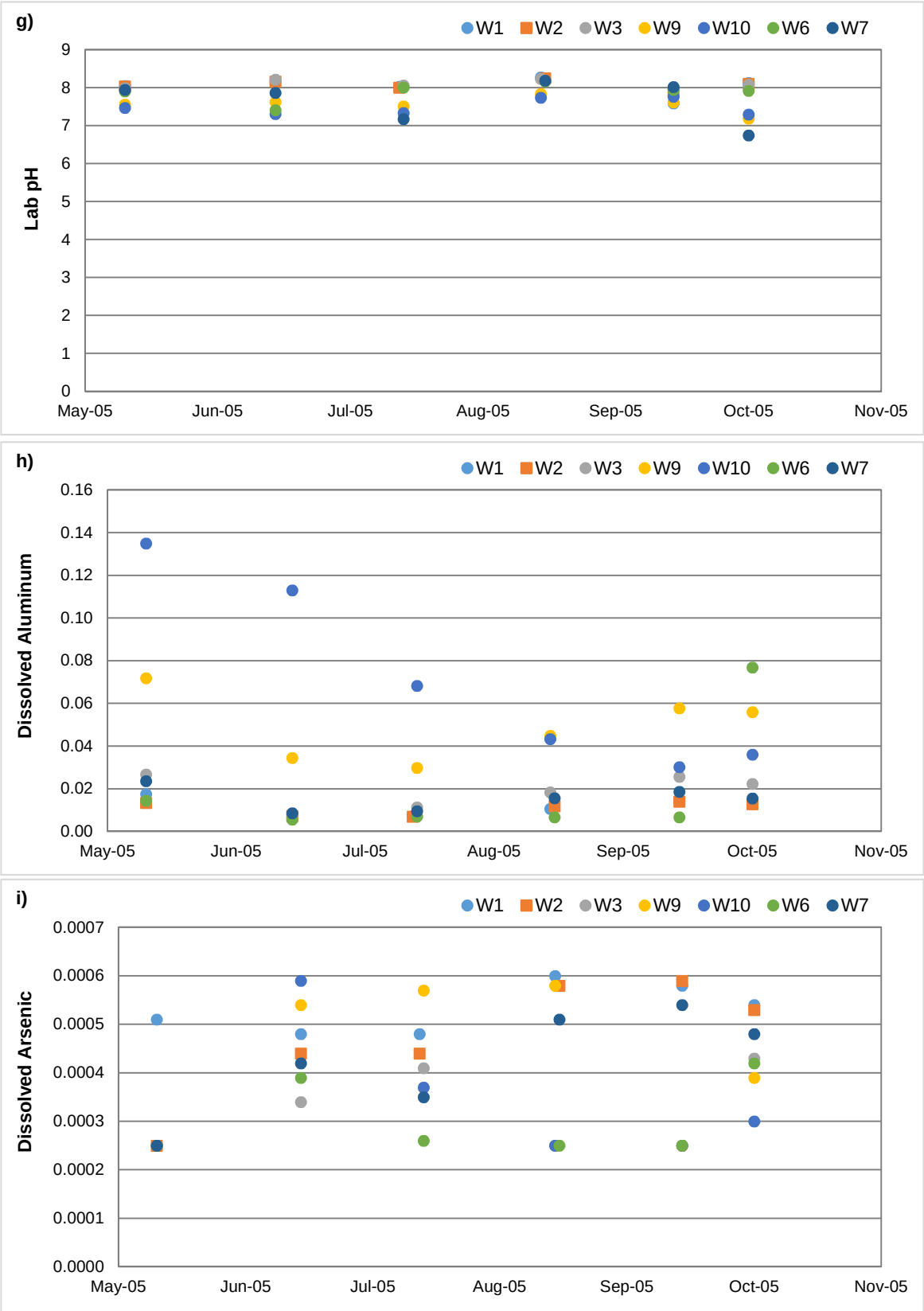


Figure 2.1: Baseline concentrations of contaminants of potential concern, Minto Mine, 2005. Values less than method detection limits were substituted with half of the MDL value.



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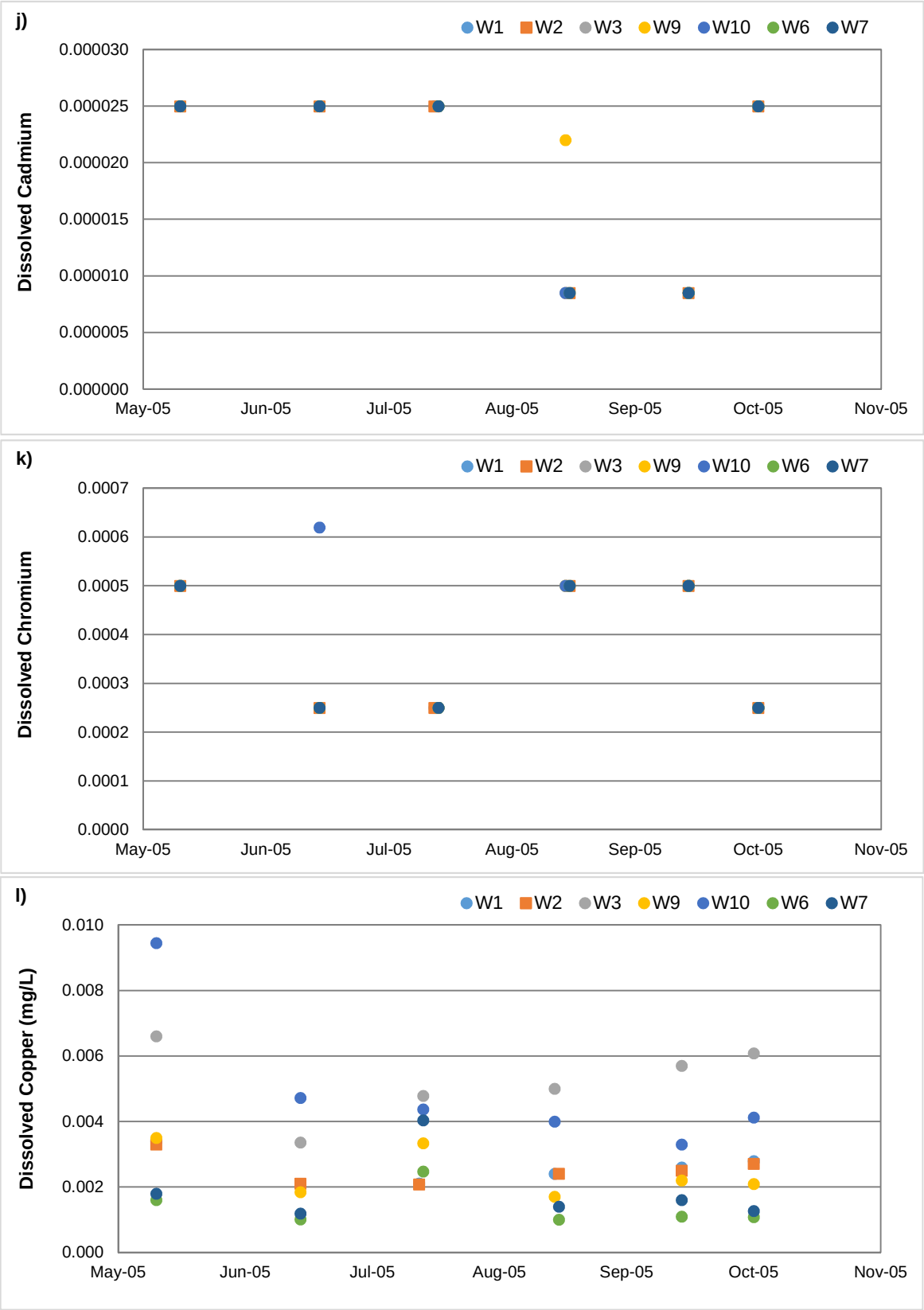

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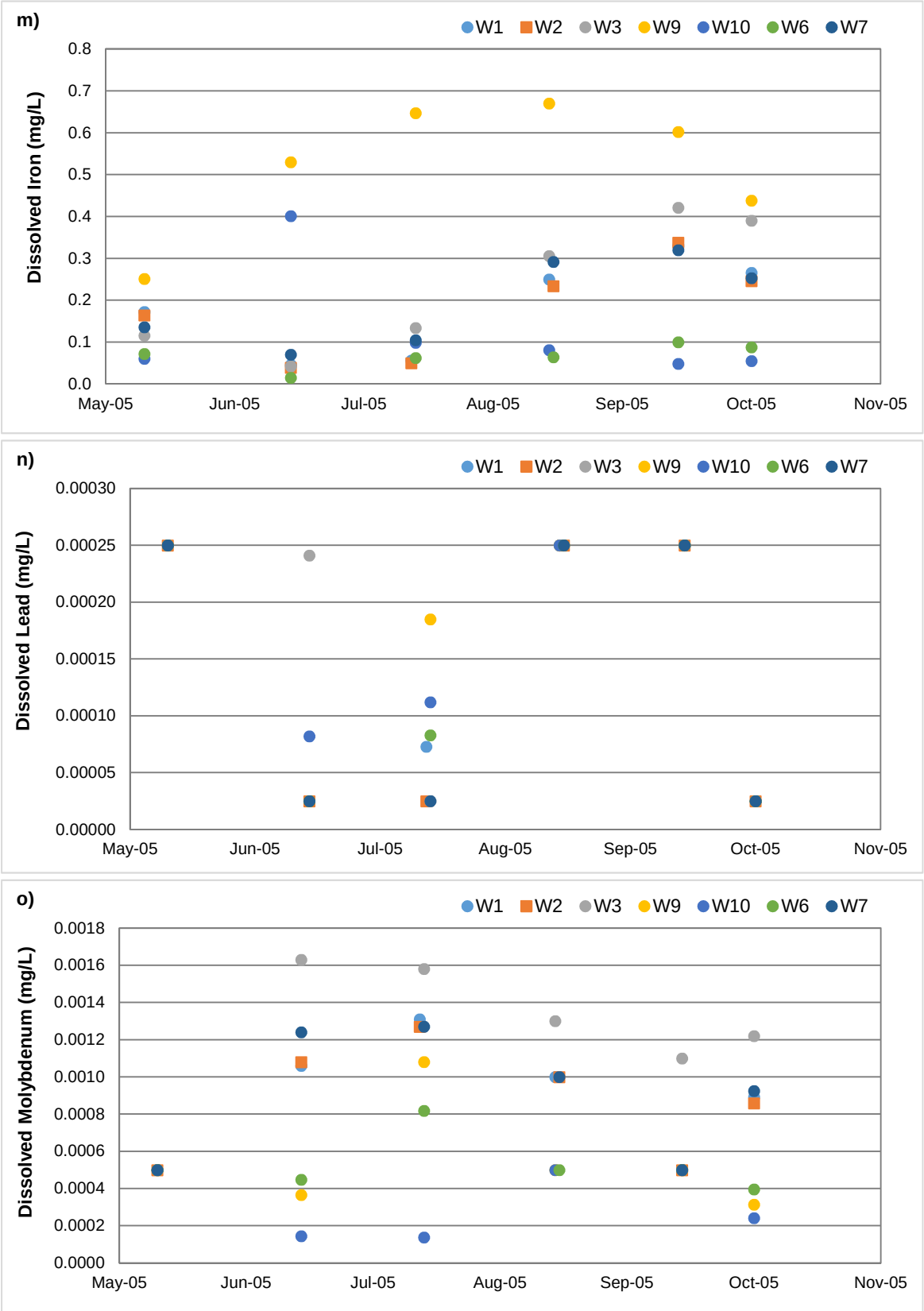

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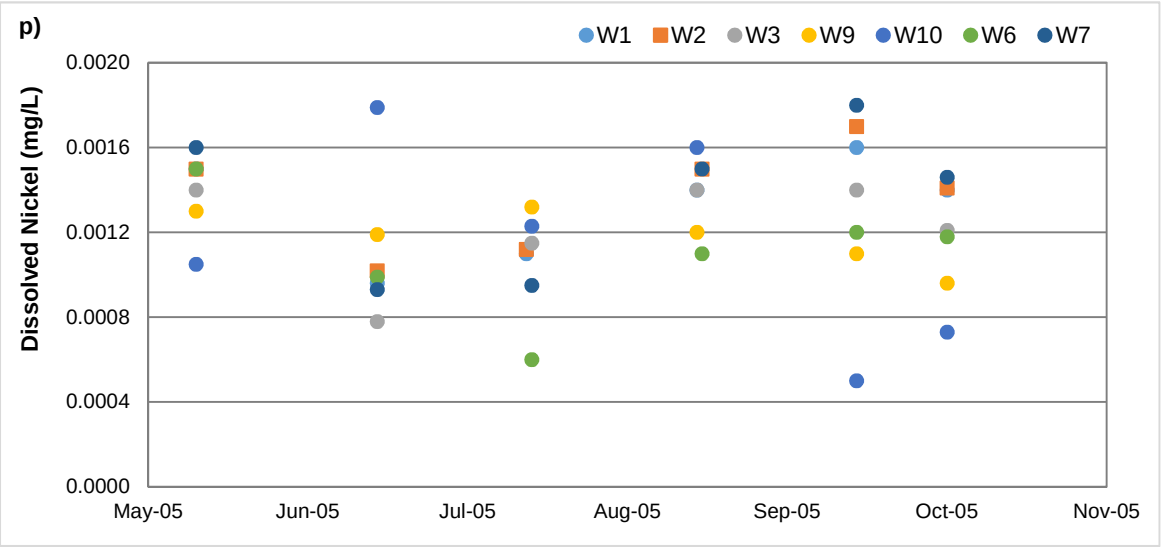

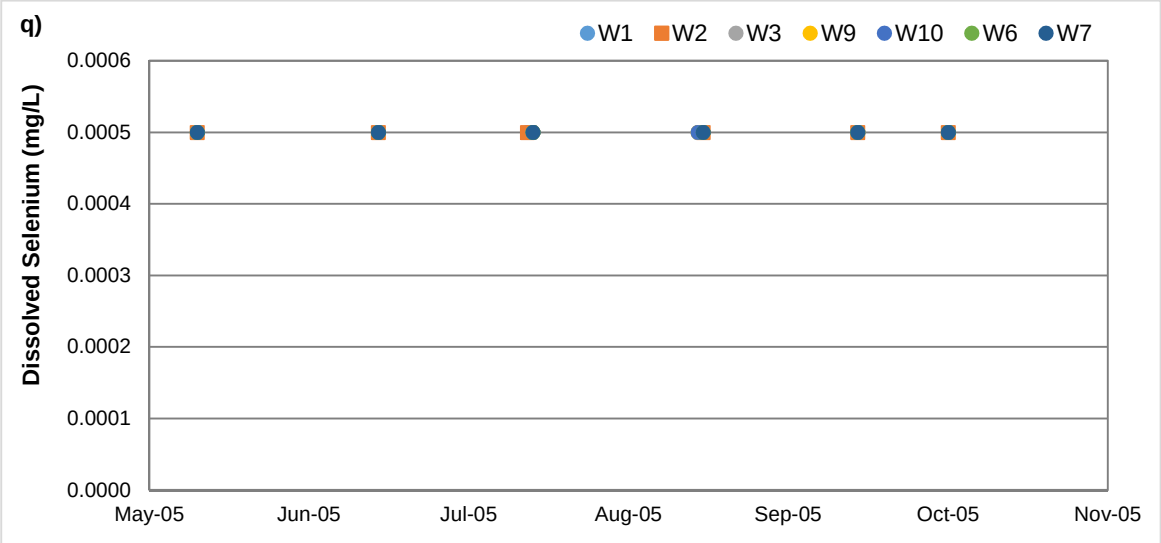

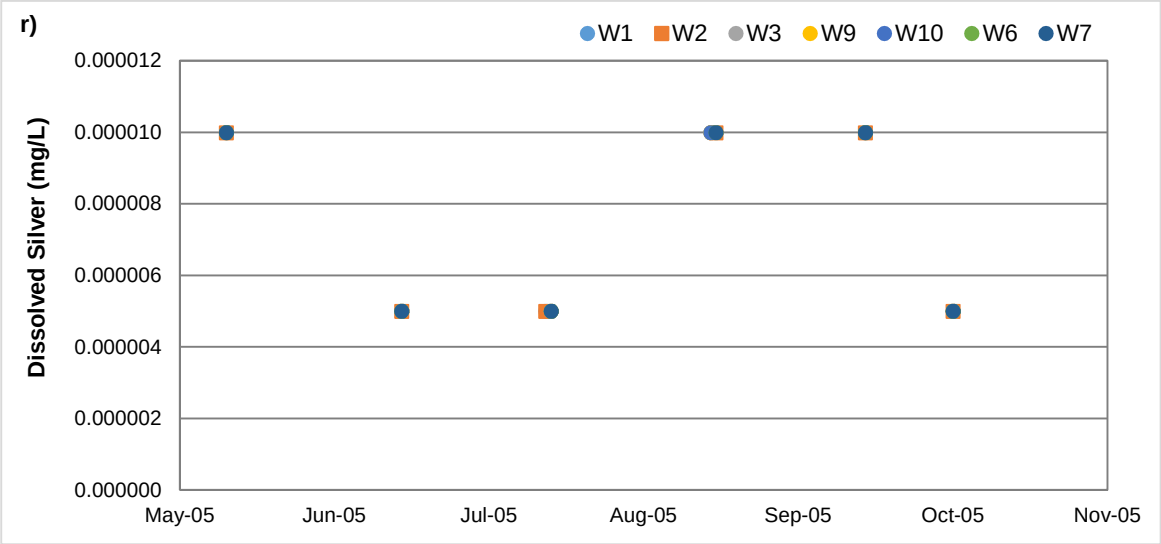

Figure 2.1: Baseline concentrations of contaminants of potential concern, Minto Mine, 2005. Values less than method detection limits were substituted with half of the MDL value.

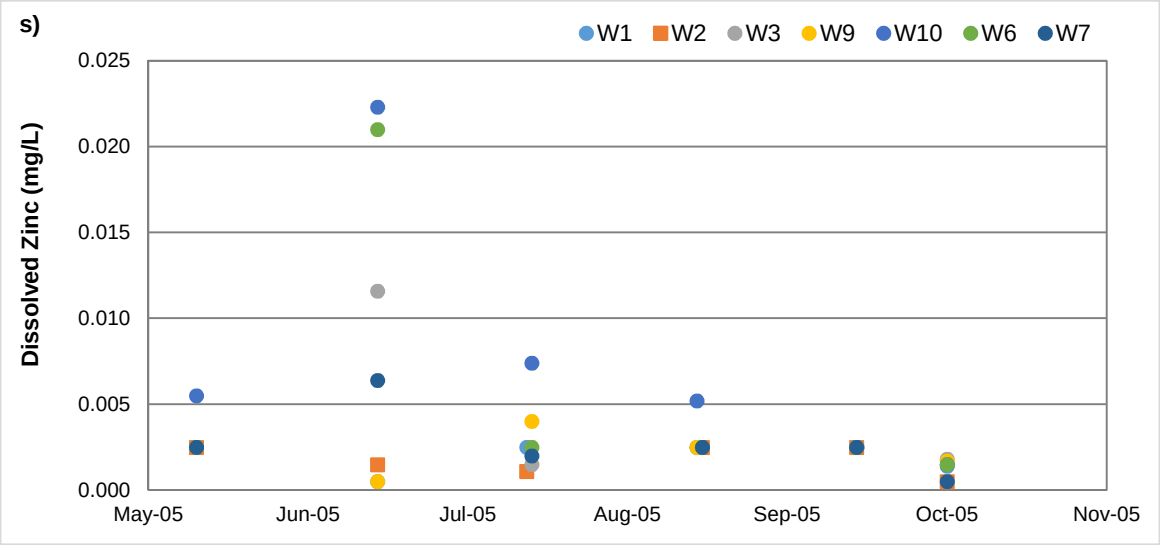

Figure 2.1: Baseline concentrations of contaminants of potential concern, Minto Mine, 2005. Values less than method detection limits were substituted with half of the MDL value.

Table 2.4: Median and 95th Percentile for W2 and All sampling stations (including W2) in 2005.

Analyte	W2			All Sampling Stations		
	Sample Size	Median	95th Percentile	Sample Size	Median	95th Percentile
Total Hardness (mg/L)	5	137	150	35	106	166
TSS (mg/L)	6	4.5	40	42	5.8	30
TDS (mg/L)	6	185	194	42	144	198
Ammonia (mg/L)	6	0.010	0.026	42	0.010	0.039
Nitrite (mg/L)	6	0.00050	0.0010	42	0.00050	0.0017
Nitrate (mg/L)	6	0.046	0.12	42	0.018	0.13
Lab pH (pH Units)	6	8.08	8.24	42	7.95	8.24
Dissolved Aluminum (mg/L)	6	0.012	0.014	42	0.016	0.077
Dissolved Arsenic (mg/L)	6	0.00049	0.00059	42	0.00042	0.00059
Dissolved Cadmium (mg/L)	6	0.000025	0.000025	42	0.000025	0.000025
Dissolved Chromium (mg/L)	6	0.00038	0.00050	42	0.00050	0.00050
Dissolved Copper (mg/L)	6	0.0025	0.0032	42	0.0025	0.0061
Dissolved Iron (mg/L)	6	0.20	0.32	42	0.15	0.60
Dissolved Lead (mg/L)	6	0.00014	0.00025	42	0.00025	0.00025
Dissolved Molybdenum (mg/L)	6	0.0009295	0.0012	42	0.00050	0.0013
Dissolved Nickel (mg/L)	6	0.0015	0.0017	42	0.0012	0.0017
Dissolved Selenium (mg/L)	6	0.00050	0.00050	42	0.00050	0.00050
Dissolved Silver (mg/L)	6	0.0000075	0.000010	42	0.0000075	0.000010
Dissolved Zinc (mg/L)	6	0.0020	0.0025	42	0.0025	0.011

2.7 Data Grouping

Water quality sampling was typically conducted in batches or “sampling campaigns” such that water quality samples were collected from multiple sampling stations on the same day or within a one week period. Samples collected on the same day may not be fully independent of each other, and therefore different methods of grouping the data were explored. Three options were evaluated: Option 1 did not involve any grouping (i.e., all data were used), Option 2 grouped samples by week, and Option 3 grouped samples by month (Table 2.5; Figure 2.2; Appendix Table D.1). Data were combined for Option 2 by calculating the mean from all sampling stations that were collected within a one week period (Table D.2). Data were combined for Option 3 in two steps: 1) by calculating the mean for each individual sampling station by month; and 2) then calculating the mean of the monthly sampling station means (Table D.3).

2.8 Summary Statistics

The designated reference water quality data set, developed as outlined above, was used to calculate summary statistics for each of the three options. For each analyte, the sample size, mean, median and 95th percentile were calculated for all stations combined over time for all three Options (Table 2.6). In addition, annual medians were calculated for each of the three options, and the 95th percentile of those annual medians was calculated (Table 2.7).

Table 2.5: Data grouping decisions for Option 2 and Option 3.

Year	Month	Day	Sampling Station									Option 2	Option 3
			W1	W2	W3	W9	W10	W6	W7	C4	C10		
2005	May	27	X	X	X	X	X	X	X	-	-	• Average of all sampling stations	-
	June	30	X	X	X	X	X	X	X	-	-	• Average of all sampling stations	-
	July	28	X	X	-	-	-	-	-	-	-	• Average of all sampling stations from both days	-
		29	-	-	X	X	X	X	X	-	-		
	August	29	X	-	X	X	X	-	-	-	-	• Average of all sampling stations from both days	-
		30	-	X	-	-	-	X	X	-	-		
	September	28	X	X	X	X	X	X	X	-	-	• Average of all sampling stations	-
	October	15	X	X	X	X	X	X	X	-	-	• Average of all sampling stations	-
2006	June	2	-	-	-	-	-	X	X	-	-	• Average of all sampling stations	• Average of W7 sampling stations • Take average of W7 (averaged value) and W6
		8	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	
		15	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	
		23	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	
		28	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	
	July	7	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	• Average of W7 sampling stations
		12	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	
		20	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	
		26	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	
	August	2	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	• Average of W7 sampling stations • Take average of W7 (averaged value) and W6
		10	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	
		25	-	-	-	-	-	X	X	-	-	• Average of all sampling stations	
		30	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	
	September	6	-	-	-	-	-	X	X	-	-	• Average of all sampling stations	• Average of W7 sampling stations • Take average of W7 (averaged value) and W6
		13	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	
		20	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	
		28	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	
	October	4	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	• Average of W7 sampling stations
		12	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	
2007	June	5	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	• Average of W7 sampling stations • Take average of W7 (averaged value) and W6
		20	-	-	-	-	-	X	X	-	-	• Average of all sampling stations	
	July	18	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	-
	August	24	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	-
	September	18	-	-	-	-	-	X	X	-	-	• Average of all sampling stations	-
	October	30	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	-
2008	April	22	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	-
	June	3	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	• Average of W7 sampling stations • Take average of W7 (averaged value) and W6
		17	-	-	-	-	-	X	X	-	-	• Average of all sampling stations	
	August	6	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	-
	September	18	-	-	-	-	-	X	X	-	-	• Average of all sampling stations	-
	October	28	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	-
2009	April	30	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	-
	June	8	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	-
	July	28	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	-
	August	6	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	• Average of W7 sampling stations
		25	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	
		31	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	
	October	7	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	• Average of W7 sampling stations
		25	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	

Table 2.5: Data grouping decisions for Option 2 and Option 3.

Year	Month	Day	Sampling Station									Option 2	Option 3
			W1	W2	W3	W9	W10	W6	W7	C4	C10		
2010	April	19	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	• Average of W7 sampling stations
		27	-	-	-	-	-	-	X	-	-	• Average of W7 sampling stations on both days	
		29	-	-	-	-	-	-	X	-	-		
	May	1	-	-	-	-	-	-	X	-	-	• Average of W7 sampling stations on all four days	• Average of W7 sampling stations
		3	-	-	-	-	-	-	X	-	-		
		5	-	-	-	-	-	-	X	-	-		
		7	-	-	-	-	-	-	X	-	-		
		9	-	-	-	-	-	-	X	-	-	• Average of W7 sampling stations on all four days	
		10	-	-	-	-	-	-	X	-	-		
		12	-	-	-	-	-	-	X	-	-		
		14	-	-	-	-	-	-	X	-	-		
		16	-	-	-	-	-	-	X	-	-	• Average of W7 sampling stations on all four days	
		17	-	-	-	-	-	-	X	-	-		
		19	-	-	-	-	-	-	X	-	-		
		21	-	-	-	-	-	-	X	-	-		
		23	-	-	-	-	-	-	X	-	-	• Average of W7 sampling stations on all four days	
		25	-	-	-	-	-	-	X	-	-		
		27	-	-	-	-	-	-	X	-	-		
		29	-	-	-	-	-	-	X	-	-		
		31	-	-	-	-	-	-	X	-	-	• Average of W7 sampling stations on all four days	
	June	2	-	-	-	-	-	-	X	-	-		• Average of W7 sampling stations
		4	-	-	-	-	-	-	X	-	-		
		6	-	-	-	-	-	-	X	-	-		
		14	-	-	-	-	-	-	X	-	-	• Average of W7 sampling stations on all four days	
		16	-	-	-	-	-	-	X	-	-		
		18	-	-	-	-	-	-	X	-	-		
		20	-	-	-	-	-	-	X	-	-		
		22	-	-	-	-	-	-	X	-	-	• Average of W7 sampling stations on all four days	
		24	-	-	-	-	-	-	X	-	-		
		26	-	-	-	-	-	-	X	-	-		
		28	-	-	-	-	-	-	X	-	-		
	July	5	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	-
	August	5	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	-
	September	12	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	-
	October	8	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	-
2011	April	27	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	-
	May	2	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	-
	June	1	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	• Average of W7 sampling stations
		16	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	
	July	1	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	-
	August	2	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	• Average of W7 sampling stations
		16	-	-	-	-	-	-	X	-	-	• Average of W7 sampling stations	
		19	-	-	-	-	-	-	X	-	-		
	September	12	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	-
	October	6	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	-
	November	22	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	-

Table 2.5: Data grouping decisions for Option 2 and Option 3.

Year	Month	Day	Sampling Station									Option 2	Option 3
			W1	W2	W3	W9	W10	W6	W7	C4	C10		
2012	January	24	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	-
	February	25	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	-
	March	5	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	-
	April	24	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	-
	May	6	-	-	-	-	-	-	X	X	-	• Average of all sampling stations from both days	-
		12	-	-	-	-	-	-	-	-	X		
	June	19	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	-
	July	17	-	-	-	-	-	X	X	-	-	• Average of all sampling stations	• Average sampling stations separately • Using station averages take average for all days
		30	-	-	-	-	-	X	X	-	X	• Average of all sampling stations	
	August	1	-	-	-	-	-	-	-	X	-	• Use C4 sampling station	• Average sampling stations separately • Using station averages take average for all days
		8	-	-	-	-	-	-	X	X	-	• Average of all sampling stations from all days	
		9	-	-	-	-	-	X	-	-	-		
		10	-	-	-	-	-	-	-	-	X		
		23	-	-	-	-	-	-	X	-	-	• Average of all sampling stations from all days	
		25	-	-	-	-	-	X	-	X	-		
		27	-	-	-	-	-	-	-	-	X		
	September	13	-	-	-	-	-	X	X	-	-	• Average of all sampling stations	-
	October	13	-	-	-	-	-	X	-	-	-	• Average of all sampling stations from both days	-
		16	-	-	-	-	-	-	X	-	-		
	November	2	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	• Average of all sampling stations from both days
		12	-	-	-	-	-	X	-	-	-	• Use W6 sampling station	
	December	29	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	-
2013	April	30	-	-	-	-	-	-	X	-	-	• Use W7 sampling station	-
	May	14	-	-	-	-	-	X	X	-	-	• Average of all sampling stations	-
	June	19	-	-	-	-	-	-	X	-	-	• Average of all sampling stations from both days	-
		22	-	-	-	-	-	X	-	X	X		
	July	12	-	-	-	-	-	X	-	-	-	• Average of all sampling stations from both days	• Average of all sampling stations
		13	-	-	-	-	-	-	X	-	-		
		19	-	-	-	-	-	-	-	X	-	• Average of all sampling stations from both days	
		23	-	-	-	-	-	-	-	-	X		
	August	21	-	-	-	-	-	-	X	-	-	• Average of all sampling stations from both days	-
		22	-	-	-	-	-	X	-	X	X		
	September	6	-	-	-	-	-	X	X	X	-	• Average of all sampling stations from both days	-
		8	-	-	-	-	-	-	-	-	X		
	October	7	-	-	-	-	-	X	-	-	-	• Use W6 sampling station	• Average of all sampling stations
		18	-	-	-	-	-	-	-	X	X	• Average of all sampling stations from both days	
		21	-	-	-	-	-	-	X	-	-		
	November	16	-	-	-	-	-	X	X	-	-	• Average of all sampling stations from both days	-
		17	-	-	-	-	-	-	-	X	-		
	December	7	-	-	-	-	-	X	X	-	-	• Average of all sampling stations	-

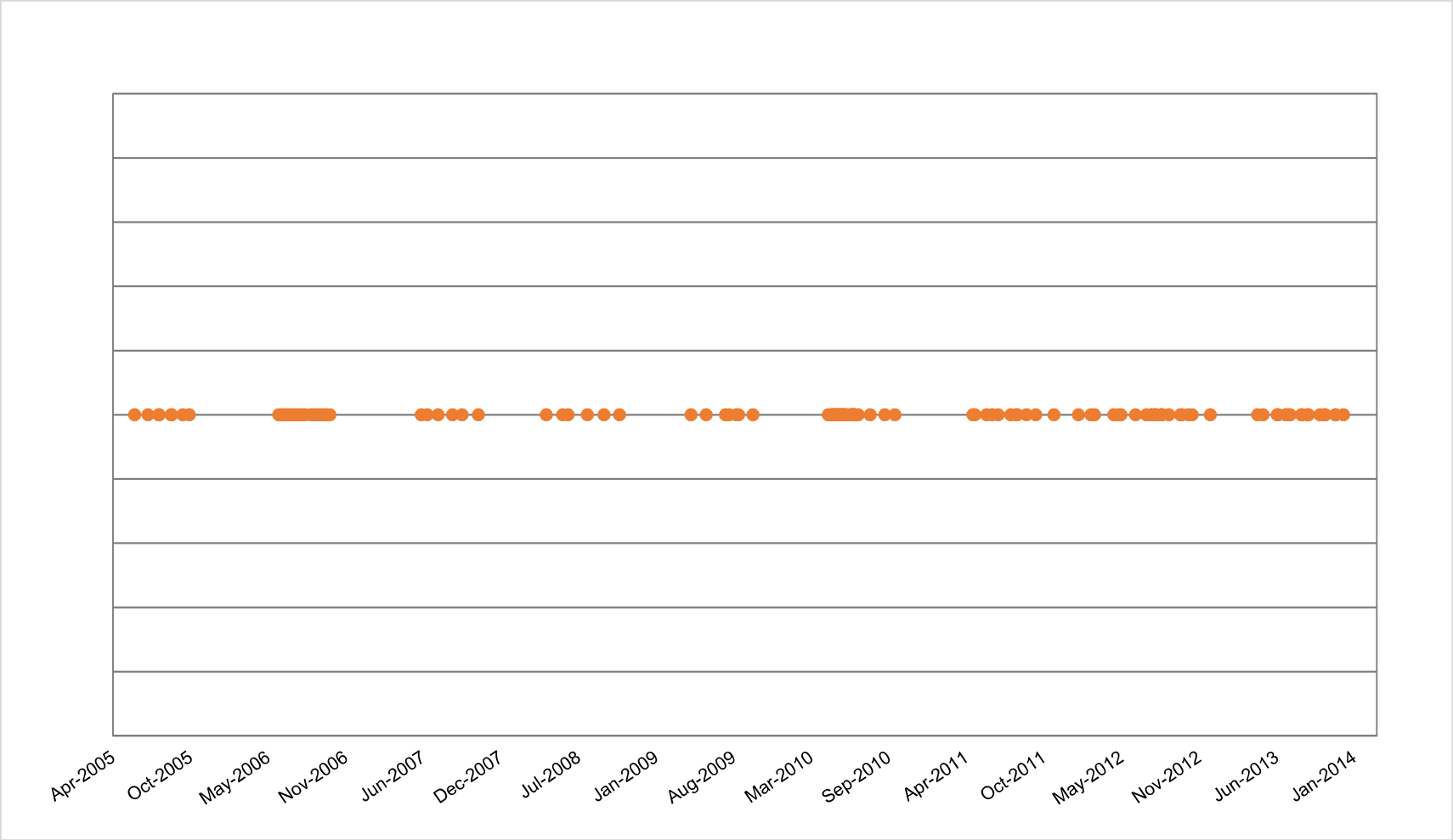

Figure 2.2: Distribution of water quality sampling events from 2005 to 2013.

Table 2.6: Summary statistics for Options 1, 2 and 3.

Analytes	Option 1 (No Grouping)				Option 2 (Grouped by Week)				Option 3 (Grouped by Month)			
	Sample Size	Mean	Median	95th Percentile	Sample Size	Mean	Median	95th Percentile	Sample Size	Mean	Median	95th Percentile
DOC (mg/L)	108	12	11	22	59	12	12	21	46	13	12	21
Dissolved Hardness (mg/L)	134	113	117	162	80	115	120	169	53	113	118	181
Total Hardness (mg/L)	149	120	121	200	66	120	121	185	49	120	124	185
TSS (mg/L)	184	114	11	772	89	89	11	485	61	77	11	278
TDS (mg/L)	178	153	150	217	83	156	158	216	62	158	160	226
Ammonia (mg/L)	175	0.040	0.021	0.15	83	0.036	0.025	0.12	56	0.037	0.025	0.12
Nitrite (mg/L)	161	0.0071	0.0025	0.025	67	0.010	0.0025	0.038	52	0.010	0.0025	0.040
Nitrate (mg/L)	181	0.085	0.067	0.21	85	0.10	0.090	0.22	57	0.091	0.075	0.22
Lab pH (pH Units)	187	7.93	8.00	8.26	91	7.92	7.97	8.20	61	7.90	7.96	8.18
Field pH (pH Units)	93	7.73	7.76	8.30	46	7.72	7.77	8.24	33	7.71	7.80	8.13
Dissolved Aluminum (mg/L)	179	0.026	0.016	0.071	88	0.025	0.014	0.056	59	0.023	0.019	0.053
Dissolved Arsenic (mg/L)	179	0.00057	0.00044	0.0015	88	0.00053	0.00041	0.0013	59	0.00053	0.00041	0.0011
Dissolved Cadmium (mg/L)	179	0.000019	0.0000085	0.000050	88	0.000020	0.0000053	0.000050	59	0.000019	0.000010	0.000050
Dissolved Chromium (mg/L)	159	0.00054	0.00050	0.0011	81	0.00060	0.00050	0.0013	55	0.00057	0.00050	0.0011
Dissolved Copper (mg/L)	179	0.0021	0.0016	0.0050	88	0.0021	0.0015	0.0051	59	0.0024	0.0017	0.0054
Dissolved Iron (mg/L)	179	0.38	0.11	1.2	88	0.31	0.11	0.95	59	0.34	0.15	0.91
Dissolved Lead (mg/L)	179	0.00012	0.00010	0.00025	88	0.00012	0.00010	0.00028	59	0.00012	0.00010	0.00025
Dissolved Molybdenum (mg/L)	179	0.00096	0.0010	0.0020	88	0.00097	0.0010	0.0017	59	0.00094	0.0010	0.0015
Dissolved Nickel (mg/L)	179	0.0013	0.0011	0.0027	88	0.0013	0.0011	0.0024	59	0.0012	0.0011	0.0020
Dissolved Selenium (mg/L)	179	0.00027	0.00020	0.00050	88	0.00023	0.00011	0.00050	59	0.00025	0.00015	0.00050
Dissolved Silver (mg/L)	137	0.0000092	0.000010	0.000010	60	0.0000098	0.000010	0.000010	47	0.000010	0.000010	0.000010
Dissolved Zinc (mg/L)	179	0.0032	0.0025	0.0060	88	0.0029	0.0025	0.0060	59	0.0033	0.0025	0.0084

Table 2.7: Annual Medians and the 95th percentile of annual medians for Option 1, 2 and 3.

Option	Year	Annual Medians																					
		DOC (mg/L)	Dissolved Hardness (mg/L)	Total Hardness (mg/L)	TSS (mg/L)	TDS (mg/L)	Ammonia (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Lab pH (pH Units)	Field pH (pH Units)	Dissolved Aluminum (mg/L)	Dissolved Arsenic (mg/L)	Dissolved Cadmium (mg/L)	Dissolved Chromium (mg/L)	Dissolved Copper (mg/L)	Dissolved Iron (mg/L)	Dissolved Lead (mg/L)	Dissolved Molybdenum (mg/L)	Dissolved Nickel (mg/L)	Dissolved Selenium (mg/L)	Dissolved Silver (mg/L)	Dissolved Zinc (mg/L)
Option 1 (No Group)	2005	-	-	106	5.8	144	0.010	0.00050	0.018	7.95	-	0.016	0.00042	0.000025	0.00050	0.0025	0.15	0.00025	0.00050	0.0012	0.00050	0.0000075	0.0025
	2006	-	128	-	4.0	164	0.015	0.0010	0.11	7.85	-	0.0080	0.00042	0.0000050	0.00070	0.0010	0.090	0.000050	0.0010	0.00090	0.00010	0.0000050	0.0010
	2007	11	110	119	7.3	173	0.025	0.025	0.08	7.90	-	0.011	0.00040	0.0000050	0.0010	0.0020	0.050	0.000050	0.0010	0.00070	0.00010	-	0.0040
	2008	14	123	98	13	161	0.025	0.040	0.030	7.91	-	0.012	0.00030	0.000005	0.0013	0.0012	0.070	0.000050	0.0011	0.0010	0.00030	0.0000050	0.0020
	2009	8.7	121	141	2.8	148	0.010	0.0025	0.15	8.02	7.89	0.010	0.00030	0.000040	0.00050	0.0020	0.050	0.00010	0.0010	0.00050	0.00030	0.0000050	0.0025
	2010	9.2	99	106	18	140	0.022	0.0025	0.070	8.10	7.72	0.017	0.00040	0.000050	0.00050	0.0017	0.07	0.00010	0.0010	0.0010	0.00040	0.000010	0.0050
	2011	18	93	94	22	130	0.015	0.0025	0.055	7.96	7.79	0.033	0.00060	0.000010	0.00050	0.0019	0.35	0.00010	0.00050	0.0020	0.00010	0.000010	0.0025
	2012	12	129	145	45	166	0.025	0.0025	0.078	8.11	7.84	0.019	0.00078	0.0000050	0.00050	0.0016	0.58	0.00010	0.0011	0.0015	0.00012	0.000010	0.0025
	2013	11	129	153	23	176	0.049	0.0025	0.10	8.09	7.75	0.014	0.00059	0.0000050	0.00050	0.0012	0.36	0.00010	0.0011	0.0013	0.000050	0.000010	0.0025
	95th Percentile of Annual Medians	**17**	**129**	**150**	**36**	**175**	**0.040**	**0.034**	**0.13**	**8.11**	**7.88**	**0.027**	**0.00071**	**0.000046**	**0.0012**	**0.0023**	**0.49**	**0.00019**	**0.0011**	**0.0018**	**0.00046**	**0.000010**	**0.0046**
Option 2 (Grouped by Week)	2005	-	-	111	8.4	154	0.015	0.00061	0.040	7.83	-	0.025	0.00042	0.000025	0.00040	0.0028	0.21	0.00016	0.00076	0.0013	0.00050	0.0000075	0.0027
	2006	-	126	-	4.0	170	0.014	0.0010	0.12	7.85	-	0.0080	0.00040	0.0000050	0.00070	0.0010	0.090	0.000050	0.0010	0.00085	0.00010	0.0000050	0.0010
	2007	11	110	119	8.8	176	0.025	0.025	0.13	7.89	-	0.011	0.00040	0.0000050	0.0010	0.0020	0.050	0.000050	0.0010	0.00070	0.00010	-	0.0040
	2008	11	123	98	14	163	0.025	0.040	0.037	7.90	-	0.012	0.00031	0.000023	0.0011	0.0011	0.070	0.000050	0.0012	0.0010	0.00030	0.0000050	0.0020
	2009	8.7	121	141	2.8	148	0.010	0.0025	0.15	8.02	7.89	0.010	0.00030	0.000040	0.00050	0.0020	0.050	0.00010	0.0010	0.00050	0.00030	0.0000050	0.0025
	2010	12	106	106	13	145	0.027	0.0036	0.070	8.06	7.69	0.017	0.00033	0.000050	0.00050	0.0020	0.10	0.00010	0.0010	0.0010	0.00040	0.000010	0.0050
	2011	16	94	95	23	125	0.015	0.0025	0.050	7.98	7.79	0.029	0.00050	0.000010	0.00050	0.0019	0.28	0.00010	0.00050	0.0016	0.00010	0.000010	0.0025
	2012	11	129	154	30	164	0.025	0.0025	0.083	8.08	7.80	0.021	0.00060	0.0000050	0.00050	0.0016	0.50	0.00010	0.0011	0.0014	0.00012	0.000010	0.0025
	2013	12	129	151	34	179	0.078	0.0025	0.10	8.09	7.80	0.015	0.00088	0.0000050	0.00050	0.0012	0.59	0.00010	0.0010	0.0018	0.000093	0.000010	0.0025
	95th Percentile of Annual Medians	**15**	**129**	**153**	**33**	**178**	**0.058**	**0.034**	**0.14**	**8.09**	**7.87**	**0.027**	**0.00077**	**0.000046**	**0.0011**	**0.0025**	**0.55**	**0.00014**	**0.0011**	**0.0017**	**0.00046**	**0.000010**	**0.0046**
Option 3 (Grouped by Month)	2005	-	-	111	8.4	154	0.015	0.00061	0.038	7.83	-	0.025	0.00042	0.000025	0.00040	0.0028	0.21	0.00016	0.00076	0.0013	0.00050	0.0000075	0.0029
	2006	-	120	-	3.8	175	0.017	0.0010	0.083	7.78	-	0.0079	0.00046	0.0000050	0.00059	0.0011	0.10	0.000050	0.00088	0.00083	0.00013	0.0000050	0.0017
	2007	11	110	124	6.5	177	0.025	0.025	0.14	7.84	-	0.011	0.00040	0.0000050	0.0010	0.0020	0.050	0.000050	0.0010	0.00070	0.00010	-	0.0040
	2008	11	123	108	15	167	0.025	0.030	0.033	7.90	-	0.013	0.00035	0.0000050	0.0010	0.0012	0.070	0.000050	0.0011	0.0010	0.00030	0.0000050	0.0020
	2009	10	96	141	4.0	149	0.010	0.0025	0.16	7.90	7.73	0.019	0.00028	0.000035	0.00055	0.0028	0.060	0.00010	0.00092	0.00067	0.00030	0.0000050	0.0033
	2010	13	107	106	32	150	0.037	0.0031	0.070	8.04	7.85	0.016	0.00038	0.000050	0.00050	0.0020	0.13	0.00010	0.0010	0.0010	0.00040	0.000010	0.0050
	2011	19	79	89	17	125	0.016	0.0025	0.050	7.81	7.79	0.036	0.00050	0.000016	0.00050	0.0029	0.26	0.00010	0.00050	0.0012	0.00010	0.000010	0.000010
	2012	11	128	156	19	167	0.024	0.0025	0.092	8.10	7.59	0.021	0.00056	0.0000056	0.00050	0.0018	0.45	0.00010	0.0011	0.0014	0.00014	0.000010	0.0025
	2013	12	130	151	40	185	0.080	0.0037	0.11	8.09	7.90	0.019	0.0011	0.0000056	0.00050	0.0012	0.65	0.00010	0.0011	0.0018	0.000093	0.000010	0.0025
	95th Percentile of Annual Medians	**17**	**129**	**154**	**37**	**182**	**0.063**	**0.028**	**0.15**	**8.10**	**7.89**	**0.032**	**0.00086**	**0.000044**	**0.00099**	**0.0029**	**0.57**	**0.00014**	**0.0011**	**0.0016**	**0.00046**	**0.000010**	**0.0046**

3.0 BACKGROUND WATER QUALITY SUMMARY STATISTICS

Based primarily on consideration of potential water quality monitoring frequencies at the post-closure 2 stage (proposed spring, summer, fall), Option 3 is put forward as the proposed basis for defining background water quality. Two key sets of background water quality statistics are appropriate for defining background water quality:

1. the 95th percentile of the background data; and
2. the 95th percentile of the annual medians of the background data.

The intended use of the former (Table 3.1; Appendix Table D.4) is as an “individual data point evaluator” and the intended use of the latter (Table 3.1; Appendix Tables D.5 and D.6) is as a “central tendency evaluator”.

Although application of the WQOs in defining attainment is the subject of ongoing discussion between the Minto Mine and Selkirk First Nation, a fundamental guiding principle is that, because the summary statistics are 95th percentiles, they will be exceeded at an average rate of 5% in the absence of any mine influence on water quality. Thus, definition of attainment must consider natural exceedance rate, and initial response to any observed exceedance must be focussed on distinguishing a mine related influence from natural variability.

Table 3.1: Background water quality summary statistics representing lower Minto Creek (Minnow 2016) [1]

Analytes	**Background Concentration Summary Statistics**	
	Individual Data Point Evaluator (95th percentile)	Central Tendency Evaluator (95th percentile of annual medians)
Ammonia (mg/L)	0.12	0.063
Nitrite (mg/L)	0.040	0.028
Nitrate (mg/L)	0.22	0.15
Dissolved Aluminum (mg/L)	0.053	0.032
Dissolved Arsenic (mg/L)	0.0011	0.00086
Dissolved Cadmium (mg/L)	0.000050	0.000044
Dissolved Chromium (mg/L)	0.0011	0.0010
Dissolved Copper (mg/L)	0.0054	0.0029
Dissolved Iron (mg/L)	0.91	0.57
Dissolved Lead (mg/L)	0.00025	0.00014
Dissolved Molybdenum (mg/L)	0.0015	0.0011
Dissolved Nickel (mg/L)	0.0020	0.0016
Dissolved Selenium (mg/L)	0.00050	0.00046
Dissolved Silver (mg/L)	0.000010	0.000010
Dissolved Zinc (mg/L)	0.0084	0.0046

[1] for contaminants of potential concern (COPCs)

4.0 REFERENCES

Dawson, R. 2011. How significant is a boxplot outlier? Journal of Statistics Education 19: 2.

YWB (Yukon Water Board). 2015. Minto Mine Type A Water Use Licence Number QZ14-031. Issued to Minto Explorations Ltd. August 2015.

APPENDIX A

JUNE 2ND, 2016 MEETING MINUTES

Minto Mine Bilateral Technical Working Group Meeting
Characterizing Background Water Quality for Use as Water Quality Objectives
SRK Consulting – Vancouver, June 2, 2016
Meeting Notes

Attendees: Bill Slater, Don MacDonald, Jesse Sinclair, Ryan Herbert, Pierre Stecko, Dylan MacGregor

Agenda (developed jointly)

- Background Dataset
- Dealing with Duplicates
- Multiple locations per sampling date
- Dealing with Outliers
- Method Detection Limits
- Conditions / Binning
- Summary Statistics
- Attainment
- Confirmation of COPC list
- Water Quality Predictions Use

Key

Black text = items discussed
Blue text = agreed path forward
Red text = action item

1. Background Dataset

- Rationalize stations
- Test differences? Necessary?
- NOTE → W6 samples were taken at the wrong location in 2009-2011 (see extreme copper concentration from April 09) … exclude W6 for this timeframe
- Exclude W8
- "Background Dataset" was agreed upon … see PHOTOGRAPH of whiteboard matrix
- As with Access 2014, removed W6 data from 2009 to 2011 due to uncertainty about sampling location (may have been sampled in Minto Creek mainstem at some times)
- Prepare the dataset per spreadsheet
- Check against Access 2014. The only difference should be the exclusion of W8

2. Dealing with Duplicates

- There are duplicates in the database, some instances of greater replication
- Approach to consolidate to one data point per site per sampling

- Average discussed. Simple decision when they agree well. What if they do not?
- Average by site and date
- Identify the replicates and compare
- If good agreement, use average

3. **Multiple locations per sampling date**
   - This was an MESL addition to the agenda
   - Objective is to best represent water quality at Station W2
   - Is there pseudo-replication by including numerous reference sites to represent W2 on a given date when an alternative (better?) approach might be to use the reference dataset to identify an surrogate W2 value for that date (or campaign if within a few days)
   - Option 1 → use all data as independent
   - Option 2 → consolidate by sampling date (or campaign) to get one estimate of "W2 background" for that date and then use those data for summary statistics
   - Jesse Sinclair ran scenarios on the spot (using R?)
     - D Copper Option 1 → N 184 95th 6.52 median 1.70
     - D Copper Option 2 → N 124 95th 4.94 median 1.46
     - Not much difference for TDS or NO3
   - Tim Barrett to apply this approach and indicate implications overall (e.g., lower BG for copper [but perhaps better representative of W2])
   - Alternative from Don MacDonald = only consider W2 in 2005?
   - Group … no, now that we have agreed on background dataset, stick with it
   - Check → in baseline ONLY (2005), how would Option 1 versus Option 2 compare to actual W2 (admittedly small dataset!)

4. **Dealing with Outliers**
   - Box plot approach suggested by Tim is appropriate.
   - MESL agrees with boxplot approach, indicates that there is more than one way, but that the 3IQR method is appropriate
   - Go ahead and complete the identification of potential outliers
   - Evaluate concurrent conditions
   - Provide list of outliers to Ryan Herbert at Minto Mine
   - Ryan can help decide what is feasible to investigate. If we can't investigate may have to make a (or practical to just toss)
   - Prepare a final list of proposed outliers to be eliminated
   - Provide list to SFN / MESL

5. **Method Detection Limits**
   - Significant issue for a number of COPCs
   - Pierre Stecko → issue could potentially be avoided by using non-parametric statistics
   - How does ½ substitution affect results if MDLs decrease in the future?
   - Pierre → acknowledge ABOVE in the document and propose a defensible way to deal with them. Part of our responsibility is to make sure that this set up in a way that can be easily

picked up in future reviews. Implications of method changes need to be identified and, to the extent possible, guidance provided on how they should be dealt with (e.g., Tim suggests the Kaplan-Meier method).

6. **Conditions / Binning**
   - Desirable not to bin
   - Evidence of seasonal patterns that indicate a need to "bin"
   - Investigated "under ice" versus "ice free"
   - Ice April to October = ice free; "under ice" = Nov 1 to Apr 1
   - Is under ice necessary? Frozen solid, no source?
   - AGREE … no need to apply under ice (background characterization of "under ice" period is not required
   - Ascending versus descending hydrograph (divisions from MESL 2013)
   - Box plots appear comparable for the analytes that we looked at (copper, nitrate, TDS)
   - Compare these two "bins" for each of the COPCs
   - Statistical contrast of the two groups
   - Discuss with SFN / MESL and make final decisions
   - It is possible that some analytes require binning whereas others do not

7. **Summary Statistics**
   - Two types – "Individual" (applies to grab sample) and "Central Tendency" (applies to average over a specified time frame [year?])
   - Individual
     - 95th percentiles are appropriate
     - See attainment
     - Calculate following agreement on final dataset and approach (all previous items) with SFN / MESL

   - Central Tendency
     - Fairly brief discussion on this
     - PS indicated preference for non-parametric if feasible and defensible (e.g., 95th percentile of medians), but key questions is whether data supports this in a defensible way
     - Calculate the 95th percentile on medians; is this defensible with the given data
     - Calculate other measures of central tendency (UCL of the mean)
     - Compare the methods
     - Select more appropriate

8. **Attainment**
   - Individual (95th percentiles)
     - Exceedances on 2 consecutive samples. If independent, 5% * 5% probability = 0.25%
     - Sufficient time between sample to have reasonable assurance
     - This approach allows a more rapid response than waiting to evaluate exceedance rates

    - Incorporate the final concept(s) into background report
- Central Tendency
    - Evaluate compliance annually. Does the annual median or mean fall within the range of background medians or means.
    - As above, must still recognize small chance of exceedance in the absence of any change.
    - Functionally, this could be an annual review item. Presumably, if the "central tendency" WQO has been exceeded, some "individual" exceedance has also occurred. The annual review should include investigation.
        - One analyte or many?
        - Frequency of exceedance of the "individual WQO"
        - Trending
        - Other?
    - Incorporate the final concept(s) into background report
- Bill Slater → these concepts work well when we are just considering future water quality relative to background, but become more complicated when considering a WQO that is a composite of background and the operation WQO.
- Don MacDonald – SFN would like to see WQO set somewhere between background and 50% of current operational WQO (WUL definition of assimilative capacity).

COPC List

- Don MacDonald – Would like to include TDS as a COPC with reasoning around making it easier to apply it is a communication piece with SFN. Don discussed having TDS as a major ion to follow and show the community that there are no problems with the WQ in Minto Creek.
- The group generally agrees that TDS is not expected to be an issue in closure as it relates to effects on aquatic life.
- No agreement on the inclusion of TDS in the COPC list was confirmed.
- Minto's team to discuss internally the merits of including TDS as a COPC.
- Don MacDonald – asked if we need to develop a framework to evaluating COPC's.
- Dylan MacGregor – Given the time remaining (until August 5th) it was probably not the best use of resources. The group as whole generally agreed.

Water Quality Prediction Appropriate Use

- Dylan MacGregor –Will have updated water quality predictions including CWTS performance expectations near end of month. Dylan has concerns regarding how water quality predictions will be used.
- Don MacDonald – we have to use predictions to determine where WQO should be set.
- Dylan MacGregor – we could use the current predictions as we have said we expect to have the CWTS performance to range from 0 to some upper percentage of removal therefore CWTS performance may not have an impact.
- Further discussions need to be had to agree on how best to use WQ predictions.

TIMING

- Items 1 to 6 by week of June 13th …
- Discuss week of June 20th ??

APPENDIX B

RAW WATER QUALITY DATA

Table B.1: Raw water quality data from Minto Mine, 2005 - 2013.

Station Name	Sample Date	Total Coliforms	Fecal Coliforms	E.Coli	COD (mg/L)	Specific Conductivity in Field (µS/cm)	Radium - 226 (Bq/L)	CBOD (mg/L)	LC50 (%)	LT50 (h)	BOD5 (mg/L)	DO (mg/L)	Cond-F (µS/cm)	DO (%)	ORP (mV)
W1	5/27/2005														
W1	6/30/2005						<0.0050								
W1	7/28/2005						<0.0050								
W1	8/29/2005						<0.0050								
W1	9/28/2005						<0.0050								
W1	10/15/2005						<0.0050								
W2	5/27/2005														
W2	5/27/2005														
W2	6/30/2005						<0.0050								
W2	7/28/2005						<0.0050								
W2	8/30/2005						<0.0050								
W2	9/28/2005						0.007								
W2	10/15/2005						<0.0050								
W3	5/27/2005														
W3	6/30/2005						<0.0050								
W3	7/29/2005						<0.0050								
W3	8/29/2005						<0.0050								
W3	9/28/2005						<0.0050								
W3	10/15/2005						<0.0050								
W8	5/27/2005														
W8	6/30/2005														
W8	7/29/2005														
W8	8/30/2005														
W8	9/28/2005														
W8	10/15/2005														
W9	5/27/2005														
W9	6/30/2005						<0.0050								
W9	7/29/2005						0.007								
W9	8/29/2005						<0.0050								
W9	9/28/2005						<0.0050								
W9	10/15/2005						<0.0050								
W10	5/27/2005														
W10	5/27/2005														
W10	6/30/2005						<0.0050								
W10	7/29/2005						<0.0050								
W10	8/29/2005						<0.0050								
W10	9/28/2005						<0.0050								
W10	10/15/2005						0.007								
W6	5/27/2005														
W6	6/30/2005														
W6	7/29/2005														
W6	8/30/2005														
W6	9/28/2005														
W6	10/15/2005														
W6	6/2/2006														
W6	8/25/2006														
W6	9/6/2006														
W6	6/20/2007														
W6	9/18/2007														
W6	6/17/2008														
W6	9/18/2008														
W6	4/14/2009														
W6	4/30/2009												0.17	170	
W6	7/28/2009														
W6	8/6/2009														
W6	8/6/2009												4.25		
W6	8/18/2009														
W6	8/25/2009												415		
W6	10/7/2009														
W6	10/7/2009												485	108.5	
W6	10/25/2009												502	99.4	
W6	4/19/2010												283		
W6	5/16/2010												192.4		
W6	5/17/2010												124.4		
W6	5/19/2010												196.2		
W6	5/21/2010												164.3		
W6	5/23/2010												216		
W6	5/25/2010												177		
W6	5/29/2010												152.3		
W6	6/2/2010												448		
W6	6/4/2010												182.2		
W6	6/6/2010												191		
W6	6/14/2010												197		
W6	6/16/2010												287		
W6	6/18/2010												279		
W6	6/20/2010												279		
W6	6/22/2010												186	102	
W6	6/24/2010												187	101.2	
W6	6/26/2010														
W6	6/26/2010												189	99.4	
W6	6/28/2010												178	101.7	
W6	7/5/2010												164	101.4	
W6	8/5/2010												205	76.7	
W6	9/9/2010												205	79.6	
W6	10/8/2010												209	94.2	
W6	8/19/2011														
W6	7/17/2012					193.9						117	118.9	92.3	74.9
W6	7/30/2012					174.4						12.56	108.3	98.8	22.5
W6	8/9/2012					217.6						12.03	140.2	97.9	-22.9
W6	8/25/2012					196						11.94	120.1	92.8	134.6
W6	9/13/2012					171.5						13.7	95.8	94.3	64.9
W6	10/13/2012					194.5						13.83	101.6	94.7	27.8
W6	11/12/2012					365.5							190		249.6
W6	5/14/2013					53.6						13.22	28.1	92.1	137.8
W6	6/22/2013					172.6						12.33		88.6	79.4
W6	7/12/2013					180.5						11.38	109	87.7	93.3
W6	8/22/2013					204.1						11.81	127.8	102.4	22.8
W6	9/6/2013					201.8						11.85	122.7	98.7	20.4
W6	10/7/2013					191						14.61	104.1	102.3	36.2
W6	11/16/2013					196.2						8.31	102.6	68.3	98.6
W6	12/7/2013												231		
W7	5/27/2005														
W7	6/30/2005														
W7	7/29/2005														
W7	8/30/2005														
W7	9/28/2005														
W7	10/15/2005														
W7	6/2/2006														
W7	6/8/2006														

Table B.1: Raw water quality data from Minto Mine, 2005 - 2013.

Station Name	Sample Date	Total Coliforms	Fecal Coliforms	E.Coli	COD (mg/L)	Specific Conductivity in Field (µS/cm)	Radium - 226 (Bq/L)	CBOD (mg/L)	LC50 (%)	LT50 (h)	BOD5 (mg/L)	DO (mg/L)	Cond-F (µS/cm)	DO (%)	ORP (mV)
W7	6/15/2006														
W7	6/15/2006														
W7	6/23/2006														
W7	6/28/2006														
W7	7/7/2006														
W7	7/12/2006														
W7	7/20/2006														
W7	7/26/2006														
W7	7/26/2006														
W7	8/2/2006														
W7	8/10/2006														
W7	8/25/2006														
W7	8/25/2006														
W7	8/30/2006														
W7	9/6/2006														
W7	9/13/2006														
W7	9/20/2006														
W7	9/28/2006														
W7	10/4/2006														
W7	10/12/2006														
W7	6/5/2007														
W7	6/5/2007														
W7	6/5/2007														
W7	6/20/2007														
W7	7/18/2007														
W7	7/18/2007														
W7	7/18/2007														
W7	8/24/2007														
W7	8/24/2007														
W7	8/24/2007														
W7	8/24/2007														
W7	8/24/2007														
W7	8/24/2007														
W7	8/24/2007														
W7	9/18/2007														
W7	10/30/2007														
W7	10/30/2007														
W7	10/30/2007														
W7	10/30/2007														
W7	4/22/2008														
W7	4/22/2008														
W7	4/22/2008														
W7	4/22/2008														
W7	6/3/2008														
W7	6/3/2008														
W7	6/3/2008														
W7	6/3/2008														
W7	6/17/2008														
W7	8/6/2008														
W7	8/6/2008														
W7	8/6/2008														
W7	8/6/2008														
W7	9/18/2008														
W7	10/28/2008														
W7	10/28/2008														
W7	10/28/2008														
W7	10/28/2008														
W7	4/30/2009						<0.006						37.6	183	
W7	6/8/2009												211		
W7	7/28/2009														
W7	8/6/2009												289		
W7	8/24/2009						0.01								
W7	8/25/2009												253		
W7	8/31/2009														
W7	10/7/2009														
W7	10/7/2009						<0.005						258	109	
W7	10/25/2009						<0.005						269	88	
W7	10/25/2009														
W7	4/19/2010												437		
W7	4/27/2010												67	59.2	
W7	4/29/2010												35	8.8	
W7	5/1/2010												82	102.2	
W7	5/3/2010												89	90.2	
W7	5/5/2010														
W7	5/7/2010												118	83.3	
W7	5/9/2010												171	129.2	
W7	5/10/2010												175	133.9	
W7	5/12/2010														
W7	5/12/2010														
W7	5/14/2010												145		
W7	5/16/2010												167.4		
W7	5/17/2010												161.6		
W7	5/19/2010												199.4		
W7	5/21/2010												191		
W7	5/23/2010												216		
W7	5/25/2010												224		
W7	5/27/2010												234		
W7	5/29/2010												243		
W7	5/31/2010												249		
W7	6/2/2010												254		
W7	6/4/2010												667		
W7	6/6/2010												262		
W7	6/14/2010												297		
W7	6/16/2010												364		
W7	6/18/2010												360		
W7	6/20/2010												342		
W7	6/22/2010												205	107.1	
W7	6/24/2010												211	105.6	
W7	6/26/2010												229	107.3	
W7	6/28/2010												245	105.1	
W7	7/5/2010												194	104.5	
W7	8/5/2010												240	78.1	
W7	9/12/2010														
W7	9/12/2010						<0.005						210	84.5	
W7	10/8/2010												235	100.3	
W7	4/27/2011														
W7	5/2/2011														
W7	6/1/2011														
W7	6/16/2011														
W7	7/1/2011														

Table B.1: Raw water quality data from Minto Mine, 2005 - 2013.

Station Name	Sample Date	Total Coliforms	Fecal Coliforms	E.Coli	COD (mg/L)	Specific Conductivity in Field (µS/cm)	Radium - 226 (Bq/L)	CBOD (mg/L)	LC50 (%)	LT50 (h)	BOD5 (mg/L)	DO (mg/L)	Cond-F (µS/cm)	DO (%)	ORP (mV)
W7	8/2/2011														
W7	8/16/2011														
W7	8/19/2011														
W7	9/12/2011											18.55	204.1	133.5	
W7	10/6/2011											12.13	250.8	83.1	
W7	11/22/2011														
W7	1/24/2012														
W7	2/25/2012					296.9						10.92	155.2	74.6	
W7	3/5/2012					272.6						11.47	142.3	78.9	
W7	4/24/2012					75.6						15.55	39.5	106.3	
W7	5/6/2012														
W7	5/6/2012					88.8						8.53	46.4	58.4	116.8
W7	6/19/2012					202.6						12.45	121.6	95.1	44.5
W7	7/17/2012					244.2						12.31	152.9	97.4	45.6
W7	7/30/2012					235.1						12.64	142.6	97.6	16
W7	8/8/2012					268.5						12.65	164.5	98.5	-6.2
W7	8/23/2012					264.6						10.94	161.3	84.8	-2.4
W7	9/13/2012					224						13.04	126.2	94.1	76.7
W7	10/16/2012					258.9						17.1	137.8	118.3	18
W7	11/2/2012														
W7	12/29/2012					2107						9.38	1090	72.5	289.9
W7	4/30/2013					365.3							190.6	101.8	-50
W7	5/14/2013					59.7						13.46	31.1	92.4	109.7
W7	6/19/2013														
W7	6/19/2013												249		
W7	7/13/2013					250.7						11.92	148	90	108.7
W7	8/21/2013					280.6						12.06	168	101	32.7
W7	9/6/2013					277.3						11.37	166.3	93.5	38.1
W7	10/21/2013					286.3						11.57	149.3	77.7	16.6
W7	11/16/2013					197.6						7.17	104.3	61.8	94.7
W7	12/7/2013												198		
C4	5/6/2012					100.1						10.69	52.4	73.1	63.9
C4	8/1/2012					196.8						10.45	138.1	91.3	-38.1
C4	8/8/2012					246.3						11.52	165.3	97.1	-54.1
C4	8/25/2012					230.8						11.18	148.8	91	-21.8
C4	6/22/2013					223.8						10.58		87.9	93.7
C4	7/19/2013												260		
C4	8/22/2013					246.6						11.35	166.1	103.6	11.6
C4	9/6/2013					246.2						11.56	153.8	98.7	-28.8
C4	10/18/2013														
C4	10/18/2013					257.1						13.73	134.1	92.3	-20.1
C4	11/17/2013					274.1						4.27	142.7	28.4	101.5
C10	5/12/2012					144						13.64	82	99.9	45.3
C10	7/30/2012														
C10	7/30/2012					216.7						9.03	159.3	3	44.8
C10	8/10/2012					269						12.15	179	101.3	-28.1
C10	8/27/2012					257.4						11.33	170.7	94.1	27
C10	6/22/2013					242.7						9.91		91.1	85.9
C10	7/23/2013					227.6						11.31	153	95.3	97.7
C10	8/22/2013					304.4						11.25	206.6	101.4	143.1
C10	9/8/2013														
C10	9/8/2013					213.8						10.32	146.2	96.1	103.3
C10	10/18/2013					262.4						14.43	137.1	96.2	84.9

Table B.1: Raw water quality data from Minto Mine, 2005 - 2013.

Station Name	Sample Date	Field pH (pH units)	Field Turbidity (NTU)	Field Temp (° C)	Sulphide (mg/L)	Dissolved SO4 (mg/L)	Total SO4 (mg/L)	TT CN (mg/L)	Chloride (mg/L)	Bromine (mg/L)	Fluoride (mg/L)	Chromium 6 (mg/L)	Chromium III (mg/L)	Cu-D-IH (mg/L)	Al-D-IH (mg/L)
W1	5/27/2005					19.7	12.8		<0.50						
W1	6/30/2005					22.4	22.4	0.011	1.2						
W1	7/28/2005						19.1	0.0054	0.64						
W1	8/29/2005					12.4	12.4	0.0065	0.52						
W1	9/28/2005					11.8	11.8	0.0118	0.73						
W1	10/15/2005						13.9	0.125	0.91						
W2	5/27/2005						12.8		<0.50						
W2	5/27/2005					9.64			<0.5						
W2	6/30/2005					22.1	22.1	<0.0050	1.23						
W2	7/28/2005						19	<0.0050	0.66						
W2	8/30/2005					12.6	12.6	0.0053	0.53						
W2	9/28/2005					11.6	11.6	0.0106	0.72						
W2	10/15/2005						14	0.0101	0.88						
W3	5/27/2005					2.4	19.7		<0.50						
W3	6/30/2005					45.5	45.5	<0.0050	0.86						
W3	7/29/2005						29.6	<0.0050	<0.50						
W3	8/29/2005					25.5	25.5	0.0091	<0.50						
W3	9/28/2005					23.9	23.9	0.013	<0.50						
W3	10/15/2005						24.7	0.014	<0.50						
W8	5/27/2005					166	7.62		<0.50						
W8	6/30/2005					<1	<1.0		0.86						
W8	7/29/2005						7.08		<0.50						
W8	8/30/2005					5.1	5.1		<0.50						
W8	9/28/2005					7.72	7.72		<0.50						
W8	10/15/2005						24.8		<0.50						
W9	5/27/2005					35.3	11.8		<0.50						
W9	6/30/2005					18.4	18.4	<0.0050	<5.0						
W9	7/29/2005						16.5	<0.0050	<0.50						
W9	8/29/2005					17.9	17.9	0.0124	<0.50						
W9	9/28/2005					16.7	16.7	0.0128	<0.50						
W9	10/15/2005						17.4	0.0164	<0.50						
W10	5/27/2005						<0.50		<0.50						
W10	5/27/2005								<0.5						
W10	6/30/2005					<10	<10	<0.0050	<5.0						
W10	7/29/2005						1.56	<0.0050	<0.50						
W10	8/29/2005					1.82	1.82	0.0226	<0.50						
W10	9/28/2005					4.13	4.13	0.0136	<0.50						
W10	10/15/2005						4.19	0.018	<0.50						
W6	5/27/2005					11.8	2.4		<0.50						
W6	6/30/2005					<1	<1.0		0.73						
W6	7/29/2005						29.2		<0.50						
W6	8/30/2005					2.62	2.62		<0.50						
W6	9/28/2005					4.04	4.04		0.5						
W6	10/15/2005						4.69		0.52						
W6	6/2/2006					1.88			<0.5	<0.05	0.176				
W6	8/25/2006					2.4									
W6	9/6/2006					2.3									
W6	6/20/2007					2.1			0.4						
W6	9/18/2007					2.51			0.59						
W6	6/17/2008					1.64			0.29						
W6	9/18/2008					3.29			0.41						
W6	4/14/2009					6.28			6.32						
W6	4/30/2009	8.2		5.6		7.44			0.76						
W6	7/28/2009					42.9			6.17						
W6	8/6/2009														
W6	8/6/2009	7.25		9.6		48.4			9.84						
W6	8/18/2009														
W6	8/25/2009	7.82		10.8											
W6	10/7/2009					62.2			27.8						
W6	10/7/2009	8.14		4.22		63.3			33.3						
W6	10/25/2009	8.12		2.36											
W6	4/19/2010	6.6		1		30.3			<0.02						
W6	5/16/2010	7.52		1.1		6.2			1	<0.4	0.56				
W6	5/17/2010	7.7		1.1		8.1			0.8	<0.4	0.22				
W6	5/19/2010	7.87		1.1		13			1	<0.4	0.27				
W6	5/21/2010	8.01		2.6		7.2			0.9	<0.4	0.26				
W6	5/23/2010	7.34		1		16			2.1	<0.4	0.31				
W6	5/25/2010	7.48		1		17			1.4	<0.4	0.29				
W6	5/29/2010	7.79		1.4		3.5			0.8	<0.4	0.24				
W6	6/2/2010	7.38		1.5		49			6.4	<0.4	0.43				
W6	6/4/2010	7.87		2.6		<0.5			<0.5	<0.4	0.2				
W6	6/6/2010			1.6		<0.5			<0.5	<0.4	0.21				
W6	6/14/2010	6.65		3.8		1.4			<0.5	<0.4	0.23				
W6	6/16/2010	6.8		2.5		<0.5			<0.5	<0.4	0.22				
W6	6/18/2010	7.03		2.9		<0.5			<0.5	<0.4	0.23				
W6	6/20/2010	6.38		3.1		0.7			<0.5	<0.4	0.23				
W6	6/22/2010	7.8	-0.2	1.92		<0.5			<0.5	<0.4	0.23				
W6	6/24/2010	7.91	-1.2	2.38		<0.5			<0.5	<0.4	0.25				
W6	6/26/2010					<0.5			<0.5	<0.4	0.24				
W6	6/26/2010	7.78	-1	2.45											
W6	6/28/2010	7.99	5.2	2.79		<0.5			<0.5	<0.4	0.22				
W6	7/5/2010	7.99	23.1	3.71		<0.5			<0.5	<0.4	0.2				
W6	8/5/2010	7.96	-0.4	6.72		<0.5			0.5	<0.4	0.23				
W6	9/9/2010	7.99	9.5	5.1		<0.5			0.7	<0.4	0.26				
W6	10/8/2010	7.75	-1.3	-0.18		2.1			<0.5	<0.4	0.21				
W6	8/19/2011														
W6	7/17/2012	7.92		4.8		1.82			1		0.25				
W6	7/30/2012	7.89		5.2		<0.50			0.58		0.3				
W6	8/9/2012	8.09		6.4		0.64			1.1		0.28				
W6	8/25/2012	7.76		4.7		<0.50			0.92		0.28				
W6	9/13/2012	7.95		1.9		0.62			1.1		0.22				
W6	10/13/2012	8.3		0		1.52			0.87		0.23				
W6	11/12/2012	6.69		-0.1		5.81			1.1		0.23				
W6	5/14/2013	7.6		0.1		<0.50			1.5		0.083				
W6	6/22/2013	7.61		1.6		1.88			1.1		0.22				
W6	7/12/2013	7.69		4.4		1.27			1		0.23				
W6	8/22/2013	7.81		5.4		0.53			0.84		0.23				
W6	9/6/2013	7.60		4.5		0.62			1.2		0.26				
W6	10/7/2013	7.66		1.2		1.89			0.8		0.25				
W6	11/16/2013	7.96		-0.1		1.48			0.78		0.24				
W6	12/7/2013	7.50		0		5.36			1.4		0.28				
W7	5/27/2005					<0.5	6.18		<0.50						
W7	6/30/2005					10.2	10.2		0.92						
W7	7/29/2005						29.9		<0.50						
W7	8/30/2005					6.02	6.02		<0.50						
W7	9/28/2005					5.62	5.62		<0.50						
W7	10/15/2005						7.47		<0.50						
W7	6/2/2006					2.98			<0.5	<0.05	0.155				
W7	6/8/2006														

Table B.1: Raw water quality data from Minto Mine, 2005 - 2013.

Station Name	Sample Date	Field pH (pH units)	Field Turbidity (NTU)	Field Temp (° C)	Sulphide (mg/L)	Dissolved SO4 (mg/L)	Total SO4 (mg/L)	TT CN (mg/L)	Chloride (mg/L)	Bromine (mg/L)	Fluoride (mg/L)	Chromium 6 (mg/L)	Chromium III (mg/L)	Cu-D-IH (mg/L)	Al-D-IH (mg/L)
W7	6/15/2006														
W7	6/15/2006					10.5									
W7	6/23/2006					15.1									
W7	6/28/2006														
W7	7/7/2006					10.8									
W7	7/12/2006					10.4									
W7	7/20/2006					10.5									
W7	7/26/2006														
W7	7/26/2006					11.6									
W7	8/2/2006					10									
W7	8/10/2006					10									
W7	8/25/2006														
W7	8/25/2006					11									
W7	8/30/2006					10.5									
W7	9/6/2006					10.3									
W7	9/13/2006					10									
W7	9/20/2006					11									
W7	9/28/2006					11									
W7	10/4/2006					10.9									
W7	10/12/2006					11.3									
W7	6/5/2007					11			0.7						
W7	6/5/2007					11			0.7						
W7	6/5/2007					11			0.7						
W7	6/20/2007					12.2			0.6						
W7	7/18/2007					11.9			0.6						
W7	7/18/2007					11.9			0.6						
W7	7/18/2007					11.9			0.6						
W7	8/24/2007														
W7	8/24/2007														
W7	8/24/2007														
W7	8/24/2007					10.3			0.3						
W7	8/24/2007					10.2			0.3						
W7	8/24/2007					10.3			0.3						
W7	9/18/2007					8.21			0.46						
W7	10/30/2007					13			0.96						
W7	10/30/2007					13.6			1.32						
W7	10/30/2007					13			0.88						
W7	10/30/2007					13			0.91						
W7	4/22/2008					27.6			0.8						
W7	4/22/2008					27.8			0.62						
W7	4/22/2008					27.8			0.78						
W7	4/22/2008					27.8			0.62						
W7	6/3/2008					10.4			0.38						
W7	6/3/2008					10.4			0.37						
W7	6/3/2008					10.4			0.38						
W7	6/3/2008														
W7	6/17/2008					12.9			0.42						
W7	8/6/2008					9.89			0.29						
W7	8/6/2008					9.98			0.29						
W7	8/6/2008					9.98			0.3						
W7	8/6/2008														
W7	9/18/2008					5.44			0.57						
W7	10/28/2008					9.43			0.34						
W7	10/28/2008					9.36			0.31						
W7	10/28/2008					9.44			0.31						
W7	10/28/2008														
W7	4/30/2009	7.6		0.4		0.65			0.38						
W7	6/8/2009	7.74		3.27		8.6			4.1						
W7	7/28/2009					13			0.82						
W7	8/6/2009	7.5		4.4		13			0.39						
W7	8/24/2009														
W7	8/25/2009	8.04		3.02											
W7	8/31/2009														
W7	10/7/2009														
W7	10/7/2009	8.24		-0.8		9.9			0.61						
W7	10/25/2009	8.23		0.2											
W7	10/25/2009														
W7	4/19/2010	7.31		1		8.2			0.91						
W7	4/27/2010	7.65	0	-0.07		7			1.4	<0.4	0.08				
W7	4/29/2010	7.72	-0.4	-0.07		<5			0.9	<0.4	0.09				
W7	5/1/2010	7.15	6.9	-0.06		<5			1.2	<0.4	0.11				
W7	5/3/2010	7.74	6.3	0.04		<0.5			0.8	<0.4	0.11				
W7	5/5/2010					<0.5			0.9	<0.4	0.13				
W7	5/7/2010	7.95	5.6	0.03		<0.5			0.8	<0.4	0.13				
W7	5/9/2010	8.03	-0.8	0.8		9.1			1.2	<0.4	0.22				
W7	5/10/2010	8.06	-0.9	0.07		3.9			0.6	<0.4	0.2				
W7	5/12/2010														
W7	5/12/2010					5.4			<0.5	<0.4	0.11				
W7	5/14/2010	7.26		1.1		5.2			<0.5	<0.4	0.18				
W7	5/16/2010	7.32		1.10		7.6			0.6	<0.4	0.2				
W7	5/17/2010	7.52		1		5.6			<0.5	<0.4	0.19				
W7	5/19/2010	7.62		1		9.7			<0.5	<0.4	0.25				
W7	5/21/2010	8.02		1.2		9.3			0.8	<0.4	0.26				
W7	5/23/2010	7.61		1		9.9			1	<0.4	0.28				
W7	5/25/2010	7.24		1.2		11			0.8	<0.4	0.28				
W7	5/27/2010	7.53		3		12			<0.5	<0.4	0.3				
W7	5/29/2010	7.73		1		12			0.7	<0.4	0.32				
W7	5/31/2010	7.83		1.2		12			0.7	<0.4	0.32				
W7	6/2/2010	7.26		1.4		12			<0.5	<0.4	0.31				
W7	6/4/2010	7.48		3.1		13			0.8	<0.4	0.31				
W7	6/6/2010			1.9		12			<0.5	<0.4	0.32				
W7	6/14/2010			3.8		13			<0.5	<0.4	0.35				
W7	6/16/2010	6.78		2.6		14			<0.5	<0.4	0.35				
W7	6/18/2010	7.03		3		12			<0.5	<0.4	0.34				
W7	6/20/2010	7.1		3.4		10			0.5	<0.4	0.31				
W7	6/22/2010	7.92	135	3.25		8.2			<0.5	<0.4	0.25				
W7	6/24/2010	7.95	30	3.55		6.4			<0.5	<0.4	0.28				
W7	6/26/2010	8.03	9.7	3.12		7.8			<0.5	<0.4	0.3				
W7	6/28/2010	7.89	2.3	2.94		9.7			<0.5	<0.4	0.29				
W7	7/5/2010	8.02	35.4	4.48		2.5			<0.5	<0.4	0.22				
W7	8/5/2010	7.91	3.1	5.57											
W7	9/12/2010														
W7	9/12/2010	8.02	0.8	4.06		6.4			0.7	<0.4	0.22				
W7	10/8/2010	7.85	-2.7	-0.18		8.8			<0.5	<0.4	0.23				
W7	4/27/2011					<5			1.9		0.1				
W7	5/2/2011					<5			1.7		0.08				
W7	6/1/2011					6.1			0.5		0.24				
W7	6/16/2011														
W7	7/1/2011					<0.5									

Table B.1: Raw water quality data from Minto Mine, 2005 - 2013.

Station Name	Sample Date	Field pH (pH units)	Field Turbidity (NTU)	Field Temp (° C)	Sulphide (mg/L)	Dissolved SO4 (mg/L)	Total SO4 (mg/L)	TT CN (mg/L)	Chloride (mg/L)	Bromine (mg/L)	Fluoride (mg/L)	Chromium 6 (mg/L)	Chromium III (mg/L)	Cu-D-IH (mg/L)	Al-D-IH (mg/L)
W7	8/2/2011								1.8		0.14				
W7	8/16/2011														
W7	8/19/2011														
W7	9/12/2011	7.92		1.9					1.3						
W7	10/6/2011	7.65		0		8.9			1						
W7	11/22/2011								0.8						
W7	1/24/2012					18			0.8		0.43				
W7	2/25/2012	7.16		0.00		17.8			0.9		0.42				
W7	3/5/2012	6.72		0		19			0.5		0.42				
W7	4/24/2012	7.43		0		<0.50			1.4		0.1				
W7	5/6/2012					<0.50			0.58		0.12				
W7	5/6/2012	7.1		0		<0.50			<0.50		0.12				
W7	6/19/2012	7.59		4.1		<0.50			1.1		0.17				
W7	7/17/2012	7.76		5.4		4.63			0.96		0.23				
W7	7/30/2012	7.86		4.4		5.31			0.58		0.28				
W7	8/8/2012	8.44		4.7		5.43			1.2		0.29				
W7	8/23/2012	7.79		4.6		5.23			1.2		0.27				
W7	9/13/2012	7.98		1.9		3.85			1.2		0.18				
W7	10/16/2012	7.89		0.4		7.47			1.2		0.19				
W7	11/2/2012					14.4			0.82		0.29				
W7	12/29/2012	7.97		-0.3		29.1			1.9		0.43				
W7	4/30/2013	8.18		0		24.1			1.4		0.53				
W7	5/14/2013	8.2		0		<0.50			1.5		0.064				
W7	6/19/2013					8.07			1.2		0.25				
W7	6/19/2013	8.6		4.6		7.87			1.1		0.25				
W7	7/13/2013	7.74		3.6		9.73			0.99		0.26				
W7	8/21/2013	7.81		4.2		8.32			0.93		0.27				
W7	9/6/2013	7.75		4		5.66			1.3		0.24				
W7	10/21/2013	7.58		0		10.3			1.3		0.25				
W7	11/16/2013	7.69		-0.1		15.1			1		0.35				
W7	12/7/2013	6.30		0		16.7			1.2		0.31				
C4	5/6/2012	7.51		0		<0.50			0.54		0.14				
C4	8/1/2012	7.75		9.3		3.37			0.89		0.2				
C4	8/8/2012	7.81		7.8		<5.0			<5.0		0.22				
C4	8/25/2012	7.81		6.3		2.19			1.4		0.22				
C4	6/22/2013	7.68		7.3		10.6			1.4		0.27				
C4	7/19/2013	8.20		9.6		7.45			1.5		0.27				
C4	8/22/2013	7.88		7.7		4.75			1.5		0.21				
C4	9/6/2013	7.69		5.3		4.27			1.3		0.19				
C4	10/18/2013					11.1			1.2		0.19				
C4	10/18/2013	7.16		-0.1		38.1			2.4		0.2				
C4	11/17/2013	7.17		-0.1		6.33			2.4		0.29				
C10	5/12/2012	7.89		2.4		<0.50			1.1		0.2				
C10	7/30/2012					<0.50			1.2		0.29				
C10	7/30/2012	8.16		11.2											
C10	8/10/2012	8.71		7.4		<0.50			0.75		4				
C10	8/27/2012	8.3		7.4		<0.50			2		0.24				
C10	6/22/2013	8.29		11.7		0.97			1.3		0.21				
C10	7/23/2013	8.31		7.8		<0.50			1.3		0.21				
C10	8/22/2013	8.18		8.2		<0.50			1.6		0.21				
C10	9/8/2013					<0.50			1.6		0.2				
C10	9/8/2013	8.16		9		<0.50			1.3		0.2				
C10	10/18/2013	7.78		0		3.24			1.5		0.17				

Table B.1: Raw water quality data from Minto Mine, 2005 - 2013.

Station Name	Sample Date	Cd-D-IH (mg/L)	Se-D-IH (mg/L)	Ag-D (mg/L)	Dissolved Al (mg/L)	Dissolved As (mg/L)	Dissolved Ba (mg/L)	Dissolved B (mg/L)	Dissolved Be (mg/L)	Dissolved Bi (mg/L)	Dissolved Ca (mg/L)	Dissolved Cd (mg/L)	Dissolved Co (mg/L)	Dissolved Cr (mg/L)	Dissolved Cu (mg/L)
W1	5/27/2005			<0.000020	0.0176	0.00051	0.049	<0.10	<0.0010		25	<0.000050	<0.00030	<0.0010	0.0034
W1	6/30/2005			<0.000010	0.0065	0.00048	0.0554	<0.010	<0.00050	<0.00050	37.5	<0.000050	<0.00010	<0.00050	0.00204
W1	7/28/2005			<0.000010	0.0072	0.00048	0.0575	<0.010	<0.00050	<0.00050	40.4	<0.000050	<0.00010	<0.00050	0.00211
W1	8/29/2005			<0.000020	0.0106	0.0006	0.058	<0.10	<0.0010		35.9	<0.000017	<0.00030	<0.0010	0.0024
W1	9/28/2005			<0.000020	0.0143	0.00058	0.055	<0.10	<0.0010		35.3	<0.000017	<0.00030	<0.0010	0.0026
W1	10/15/2005			<0.000010	0.0137	0.00054	0.0492	<0.010	<0.00050	<0.00050	36.8	<0.000050	<0.00010	<0.00050	0.00279
W2	5/27/2005			<0.000020	0.0163	<0.00050	0.05	<0.10	<0.0010		25.6	<0.000050	<0.00030	<0.0010	0.0033
W2	5/27/2005				0.0108		0.032				20.3				
W2	6/30/2005			<0.000010	0.0073	0.00044	0.0574	<0.010	<0.00050	<0.00050	36.9	<0.000050	<0.00010	<0.00050	0.0021
W2	7/28/2005			<0.000010	0.0071	0.00044	0.0604	<0.010	<0.00050	<0.00050	39.6	<0.000050	<0.00010	<0.00050	0.00208
W2	8/30/2005			<0.000020	0.0119	0.00058	0.059	<0.10	<0.0010		35.7	<0.000017	<0.00030	<0.0010	0.0024
W2	9/28/2005			<0.000020	0.0141	0.00059	0.055	<0.10	<0.0010		35.2	<0.000017	<0.00030	<0.0010	0.0025
W2	10/15/2005			<0.000010	0.0129	0.00053	0.0492	<0.010	<0.00050	<0.00050	35.9	<0.000050	<0.00010	<0.00050	0.00271
W3	5/27/2005			<0.000020	0.0267	<0.00050	0.041	<0.10	<0.0010		22	<0.000050	<0.00030	<0.0010	0.0066
W3	6/30/2005			<0.000010	0.008	0.00034	0.0507	<0.010	<0.00050	<0.00050	38.5	<0.000050	<0.00010	<0.00050	0.00336
W3	7/29/2005			<0.000010	0.0113	0.00041	0.0553	<0.010	<0.00050	<0.00050	38	<0.000050	0.0001	<0.00050	0.00478
W3	8/29/2005			<0.000020	0.0184	<0.00050	0.057	<0.10	<0.0010		31.8	<0.000017	<0.00030	<0.0010	0.005
W3	9/28/2005			<0.000020	0.0257	<0.00050	0.055	<0.10	<0.0010		30.4	<0.000017	<0.00030	<0.0010	0.0057
W3	10/15/2005			<0.000010	0.0223	0.00043	0.0475	<0.010	<0.00050	<0.00050	31.6	<0.000050	0.00016	<0.00050	0.00608
W8	5/27/2005			<0.000020	0.0427	<0.00050	0.039	<0.10	<0.0010		16.6	<0.000050	<0.00030	<0.0010	0.0141
W8	6/30/2005			<0.000010	0.0193	0.00043	0.0466	<0.010	<0.00050	<0.00050	24.8	<0.000050	<0.00010	0.00061	0.00942
W8	7/29/2005			<0.000010	0.0201	0.00045	0.0538	<0.010	<0.00050	<0.00050	30.9	<0.000050	0.00014	0.00052	0.00863
W8	8/30/2005			<0.000020	0.0259	<0.00050	0.054	<0.10	<0.0010		26.3	<0.000017	<0.00030	<0.0010	0.0081
W8	9/28/2005			<0.000020	0.0305	<0.00050	0.049	<0.10	<0.0010		25.3	<0.000017	<0.00030	<0.0010	0.0081
W8	10/15/2005			0.000031	0.0258	0.0005	0.0479	<0.010	<0.00050	<0.00050	26.8	<0.000050	0.00028	<0.00050	0.00561
W9	5/27/2005			<0.000020	0.0718	<0.00050	0.042	<0.10	<0.0010		12.9	<0.000050	<0.00030	<0.0010	0.0035
W9	6/30/2005			<0.000010	0.0345	0.00054	0.0525	<0.010	<0.00050	<0.00050	18.9	<0.000050	0.00018	<0.00050	0.00184
W9	7/29/2005			<0.000010	0.0298	0.00057	0.056	<0.010	<0.00050	<0.00050	25.9	<0.000050	0.00018	<0.00050	0.00334
W9	8/29/2005			<0.000020	0.0449	0.00058	0.055	<0.10	<0.0010		19.1	0.000022	<0.00030	<0.0010	0.0017
W9	9/28/2005			<0.000020	0.0578	<0.00050	0.049	<0.10	<0.0010		17.7	<0.000017	<0.00030	<0.0010	0.0022
W9	10/15/2005			<0.000010	0.056	0.00039	0.0421	<0.010	<0.00050	<0.00050	16.6	<0.000050	0.00016	<0.00050	0.00209
W10	5/27/2005			<0.000020	0.135	<0.00050	0.052	<0.10	<0.0010		13.1	<0.000050	<0.00030	<0.0010	0.0184
W10	5/27/2005			<0.00002		<0.0005		<0.1	<0.001			<0.00005	<0.0003	<0.001	<0.001
W10	6/30/2005			<0.000010	0.113	0.00059	0.0396	<0.010	<0.00050	<0.00050	13.1	<0.000050	0.00046	0.00062	0.00472
W10	7/29/2005			<0.000010	0.0683	0.00037	0.0369	<0.010	<0.00050	<0.00050	14.7	<0.000050	0.00011	<0.00050	0.00437
W10	8/29/2005			<0.000020	0.0433	<0.00050	0.044	<0.10	<0.0010		18.2	<0.000017	<0.00030	<0.0010	0.004
W10	9/28/2005			<0.000020	0.0302	<0.00050	0.057	<0.10	<0.0010		25.8	<0.000017	<0.00030	<0.0010	0.0033
W10	10/15/2005			<0.000010	0.0361	0.0003	0.0487	<0.010	<0.00050	<0.00050	25.4	<0.000050	<0.00010	<0.00050	0.00412
W6	5/27/2005			<0.000020	0.0144	<0.00050	0.035	<0.10	<0.0010		17.9	<0.000050	<0.00030	<0.0010	0.0016
W6	6/30/2005			<0.000010	0.0056	0.00039	0.0429	<0.010	<0.00050	<0.00050	25.2	<0.000050	<0.00010	<0.00050	0.00101
W6	7/29/2005			<0.000010	0.007	0.00026	0.0668	<0.010	<0.00050	<0.00050	46.9	<0.000050	<0.00010	<0.00050	0.00247
W6	8/30/2005			<0.000020	0.0067	<0.00050	0.053	<0.10	<0.0010		29	<0.000017	<0.00030	<0.0010	0.001
W6	9/28/2005			<0.000020	0.0067	<0.00050	0.048	<0.10	<0.0010		28.8	<0.000017	<0.00030	<0.0010	0.0011
W6	10/15/2005			<0.000010	0.0769	0.00042	0.0419	<0.010	<0.00050	<0.00050	26.7	<0.000050	<0.00010	<0.00050	0.00108
W6	6/2/2006			<0.00001	0.0252	0.00044	0.0315	<0.01	<0.0005	<0.0005	17.8	<0.00005	<0.0001	<0.0005	0.00175
W6	8/25/2006										31.7				
W6	9/6/2006			<0.0001	0.008	0.0005	0.051	<0.002	<0.0001	<0.0005	30	<0.00001	0.0001	0.0006	0.001
W6	6/20/2007														
W6	9/18/2007														
W6	6/17/2008														
W6	9/18/2008			<0.00001	0.012	0.0004	0.039	<0.004	<0.00004		23.7	<0.00001	0.00022	0.0013	0.002
W6	4/14/2009			<0.00001	0.038	0.0004	0.046	0.017	<0.00004	<0.0001	23.6	0.00002	0.00033	0.0004	0.043
W6	4/30/2009			<0.00001	0.097	0.0003	0.026	0.007	<0.00004	<0.0001	14.5	0.00023	0.00014	0.0007	0.008
W6	7/28/2009														
W6	8/6/2009														
W6	8/6/2009														
W6	8/18/2009			<0.00001	0.03	0.0004	0.101	0.023	<0.00004	<0.001	46.1	<0.00001	0.00014	0.001	0.004
W6	8/25/2009														
W6	10/7/2009														
W6	10/7/2009														
W6	10/25/2009			<0.00002	0.023	0.0003	0.118	<0.05	<0.0001	<0.001	57.9	0.00001	<0.0005	<0.001	0.0021
W6	4/19/2010			<0.00001	0.024	0.0002	0.048	0.009	<0.00004	<0.001	32.3	0.00003	0.00016	<0.0004	0.019
W6	5/16/2010			<0.00002	<0.003	0.0004	0.025	<0.05	<0.0001	<0.001	25.4	<0.00001	<0.0005	<0.001	0.0015
W6	5/17/2010			<0.00002	0.009	0.0003	0.033	<0.05	<0.0001	<0.001	20.8	<0.00001	<0.0005	<0.001	0.0022
W6	5/19/2010			<0.00002	0.004	0.0003	0.039	<0.05	<0.0001	<0.001	26	<0.00001	<0.0005	<0.001	0.0027
W6	5/21/2010			<0.0001	<0.01	<0.0004	0.04	<0.1	<0.0002	<0.001	25	<0.0001	<0.0005	<0.002	0.003
W6	5/23/2010			<0.0001	<0.01	<0.0004	0.046	<0.1	<0.0002	<0.001	28	<0.0001	<0.0005	<0.002	0.003
W6	5/25/2010			<0.0001	<0.01	<0.001	0.045	<0.1	<0.0005	<0.001	29	<0.0001	<0.0005	<0.002	0.006
W6	5/29/2010			<0.0001	<0.01	<0.0004	0.037	<0.1	<0.0002	<0.001	21	<0.0001	<0.0005	<0.002	0.003
W6	6/2/2010			<0.0001	<0.01	<0.0004	0.074	<0.1	<0.0002	<0.001	56	<0.0001	<0.0005	<0.002	0.001
W6	6/4/2010			<0.0001	<0.01	<0.0004	0.043	<0.1	<0.0002	<0.001	23	<0.0001	<0.0005	<0.002	<0.001
W6	6/6/2010			<0.0001	<0.01	0.0004	0.046	<0.1	<0.0002	<0.001	27	<0.0001	<0.0005	<0.002	0.001
W6	6/14/2010			<0.0001	<0.01	<0.0004	0.038	<0.1	<0.0002	<0.001	25	<0.0001	<0.0005	<0.002	0.001
W6	6/16/2010			<0.0001	<0.01	0.0005	0.044	<0.1	<0.0002	<0.001	25	<0.0001	<0.0005	<0.002	0.006
W6	6/18/2010			<0.0001	<0.01	<0.0004	0.044	<0.1	<0.0002	<0.001	26	<0.0001	<0.0005	<0.002	0.001
W6	6/20/2010			<0.0001	<0.01	<0.0004	0.043	<0.1	<0.0002	<0.001	25	<0.0001	<0.0005	<0.002	<0.001
W6	6/22/2010			<0.0001	<0.01	<0.0004	0.044	<0.1	<0.0002	<0.001	25	<0.0001	<0.0005	<0.002	<0.001
W6	6/24/2010			<0.0001	<0.01	<0.0004	0.043	<0.1	<0.0002	<0.001	26	<0.0001	<0.0005	<0.002	<0.001
W6	6/26/2010			<0.0001	<0.01	<0.0004	0.045	<0.1	<0.0002	<0.001	25	<0.0001	<0.0005	<0.002	<0.001
W6	6/26/2010														
W6	6/28/2010			<0.0001	<0.01	<0.0004	0.044	<0.1	<0.0002	<0.001	25	<0.0001	<0.0005	<0.002	<0.001
W6	7/5/2010			<0.0001	0.015	0.0004	0.047	<0.1	<0.0002	<0.001	22	<0.0001	<0.0005	<0.002	0.001
W6	8/5/2010			<0.0001	0.012	0.0005	0.056	<0.1	<0.0002	<0.001	31	<0.0001	<0.0005	<0.002	0.002
W6	9/9/2010			<0.0001	0.011	0.0004	0.053	<0.1	<0.0002	<0.001	30	<0.0001	<0.0005	<0.002	<0.001
W6	10/8/2010			<0.00002	0.008	0.0004	0.05	<0.05	<0.0001	<0.001	28.8	<0.00001	<0.0005	<0.001	0.0008
W6	8/19/2011			<0.00002	0.01	0.0003	0.077	<0.05	<0.0001	<0.001	53.6	<0.00001	<0.0005	<0.001	0.0025
W6	7/17/2012			<0.000020	0.0161	0.00053	0.0597	<0.05	<0.00010	<0.0010	29.7	<0.000010	<0.00050	<0.0010	0.00105
W6	7/30/2012			<0.000020	0.0186	0.00059	0.0601	<0.05	<0.00010	<0.0010	28.9	<0.000010	<0.00050	<0.0010	0.00089
W6	8/9/2012			<0.000020	0.0173	0.00081	0.0681	<0.05	<0.00010	<0.0010	31.9	<0.000010	<0.00050	<0.0010	0.00083
W6	8/25/2012			<0.000020	0.0138	0.00081	0.063	<0.05	<0.00010	<0.0010	28.9	<0.000010	<0.00050	<0.0010	0.00103
W6	9/13/2012			<0.000020	0.0169	0.00047	0.0451	<0.05	<0.00010	<0.0010	24.1	<0.000010	<0.00050	<0.0010	0.00145
W6	10/13/2012														
W6	11/12/2012			<0.000020	0.0062	0.00039	0.0697	<0.05	<0.00010	<0.0010	41.6	<0.000010	<0.00050	<0.0010	0.00143
W6	5/14/2013			<0.000020	0.0591	0.00037	0.0195	<0.05	<0.00010	<0.0010	8.75	0.000012	<0.00050	<0.0010	0.0035
W6	6/22/2013			<0.000020	0.0095	0.00053	0.0493	<0.05	<0.00010	<0.0010	26.4	<0.000010	<0.00050	<0.0010	0.00096
W6	7/12/2013			<0.000020	0.0066	0.00046	0.0438	<0.05	<0.00010	<0.0010	24.1	<0.000010	<0.00050	<0.0010	0.00095
W6	8/22/2013			<0.000020	0.0084	0.00052	0.0495	<0.05	<0.00010	<0.0010	28.3	<0.000010	<0.00050	<0.0010	0.00119
W6	9/6/2013			<0.000020	0.0083	0.00056	0.0499	<0.05	<0.00010	<0.0010	28.4	<0.000010	<0.00050	<0.0010	0.00089
W6	10/7/2013			<0.000020	0.0132	0.00051	0.0518	<0.05	<0.00010	<0.0010	30.7	<0.000010	<0.00050	<0.0010	0.00097
W6	11/16/2013			<0.000020	0.0057	0.00048	0.0582	<0.05	<0.00010	<0.0010	33.2	<0.000010	<0.00050	<0.0010	0.00084
W6	12/7/2013			<0.000020	0.0041	0.00061	0.0725	<0.05	<0.00010	<0.0010	44.6	0.000011	<0.00050	<0.0010	0.00156
W7	5/27/2005			<0.000020	0.0236	<0.00050	0.045	<0.10	<0.0010		19.5	<0.000050	<0.00030	<0.0010	0.0018
W7	6/30/2005			<0.000010	0.0086	0.00042	0.0609	<0.010	<0.00050	<0.00050	30	<0.000050	<0.00010	<0.00050	0.00119
W7	7/29/2005			<0.000010	0.0096	0.00035	0.061	<0.010	<0.00050	<0.00050	41.3	<0.000050	<0.00010	<0.00050	0.00404
W7	8/30/2005			<0.000020	0.0156	0.00051	0.062	<0.10	<0.0010		27.8	<0.000017	<0.00030	<0.0010	0.0014
W7	9/28/2005			<0.000020	0.0186	0.00054	0.055	<0.10	<0.0010		27.4	<0.000017	<0.00030	<0.0010	0.0016
W7	10/15/2005			<0.000010	0.0155	0.00048	0.0502	<0.010	<0.00050	<0.00050	27.1	<0.000050	0.00011	<0.00050	0.00127
W7	6/2/2006			<0.00001	0.0714	0.00062	0.0341	<0.01	<0.0005	<0.0005	14.4	<0.00005	0.00033	0.00055	0.00212
W7	6/8/2006														

Table B.1: Raw water quality data from Minto Mine, 2005 - 2013.

Station Name	Sample Date	Cd-D-IH (mg/L)	Se-D-IH (mg/L)	Ag-D (mg/L)	Dissolved Al (mg/L)	Dissolved As (mg/L)	Dissolved Ba (mg/L)	Dissolved B (mg/L)	Dissolved Be (mg/L)	Dissolved Bi (mg/L)	Dissolved Ca (mg/L)	Dissolved Cd (mg/L)	Dissolved Co (mg/L)	Dissolved Cr (mg/L)	Dissolved Cu (mg/L)
W7	6/15/2006														
W7	6/15/2006			<0.0001	0.013	0.0004	0.063	0.003	<0.0001	<0.0005	26.9	<0.00001	0.0001	<0.0005	0.001
W7	6/23/2006			<0.0001	0.011	0.0005	0.067	0.002	<0.0001	<0.0005	31.8	<0.00001	0.0001	0.0007	<0.001
W7	6/28/2006			<0.0001	0.407	0.0008	0.079	0.002	<0.0001	<0.0005	22.8	0.00003	0.0009	0.0015	0.003
W7	7/7/2006			<0.0001	<0.005	0.0006	0.067	0.005	<0.0001	0.0007	26.5	<0.00001	<0.0001	0.0011	0.001
W7	7/12/2006			<0.0001	0.006	0.0005	0.064	0.005	<0.0001	0.0007	26.9	<0.00001	<0.0001	0.001	0.001
W7	7/20/2006			<0.0001	0.006	0.0004	0.068	0.004	<0.0001	<0.0005	33	<0.00001	<0.0001	0.0007	<0.001
W7	7/26/2006														
W7	7/26/2006			<0.0001	0.008	0.0004	0.072	<0.002	<0.0001	<0.0005	33.4	<0.00001	<0.0001	<0.0005	0.002
W7	8/2/2006			<0.0001	0.008	<0.0002	0.07	0.004	<0.0001	<0.0005	33.3	<0.00001	<0.0001	<0.0005	0.001
W7	8/10/2006			<0.0001	0.009	0.0005	0.073	0.005	<0.0001	<0.0005	32.9	<0.00001	<0.0001	0.0007	0.001
W7	8/25/2006														
W7	8/25/2006			<0.0001	0.012	0.0004	0.071	0.005	<0.0001	<0.0005	32.4	<0.00001	0.0002	0.0006	0.001
W7	8/30/2006			<0.0001	0.013	0.0004	0.067	0.004	<0.0001	<0.0005	33.6	<0.00001	0.0001	0.0008	0.002
W7	9/6/2006			<0.0001	0.005	0.0005	0.068	0.005	<0.0001	<0.0005	33.5	<0.00001	<0.0001	0.0008	0.002
W7	9/13/2006			<0.0001	0.008	0.0003	0.064	0.005	<0.0001	<0.0005	32.3	<0.00001	<0.0001	0.0009	0.001
W7	9/20/2006			<0.0001	0.007	0.0005	0.069	0.005	<0.0001	<0.0005	33.5	0.00028	<0.0001	0.0007	0.001
W7	9/28/2006			<0.0001	0.011	0.0004	0.071	0.003	<0.0001	<0.0005	33.3	<0.00001	<0.0001	0.0008	0.001
W7	10/4/2006			<0.0001	<0.005	0.0003	0.068	0.004	<0.0001	<0.0005	32.6	<0.00001	<0.0001	<0.0005	<0.001
W7	10/12/2006			<0.0001	0.007	0.0004	0.067	0.005	<0.0001	<0.0005	34	<0.00001	<0.0001	<0.0005	0.001
W7	6/5/2007														
W7	6/5/2007														
W7	6/5/2007														
W7	6/20/2007			<0.0001	0.014	0.0004	0.06	0.005	<0.0001	<0.0005	29.6	<0.00001	<0.0001	0.0006	0.002
W7	7/18/2007			<0.0001	0.011	0.0005	0.066	0.005	<0.0001	<0.0005	32	<0.00001	<0.0001	0.001	0.002
W7	7/18/2007														
W7	7/18/2007														
W7	8/24/2007														
W7	8/24/2007														
W7	8/24/2007														
W7	8/24/2007														
W7	8/24/2007														
W7	8/24/2007														
W7	8/24/2007														
W7	9/18/2007			<0.0001	0.007	0.0004	0.059	0.004	<0.0001	<0.0005	26.9	<0.00001	<0.0001	0.0016	0.001
W7	10/30/2007														
W7	10/30/2007														
W7	10/30/2007														
W7	10/30/2007														
W7	4/22/2008			<0.0010	<0.02	<0.0002	0.075	<0.005	<0.00004		40.9	<0.00008	0.00008	0.0012	<0.001
W7	4/22/2008			<0.0010	<0.02	0.0004	0.08	<0.005	<0.00004		42.2	<0.00008	0.00012	0.0014	0.002
W7	4/22/2008			<0.0010	<0.02	0.0003	0.073	<0.005	<0.00004		39.9	<0.00008	0.00023	<0.0006	0.001
W7	4/22/2008														
W7	6/3/2008														
W7	6/3/2008														
W7	6/3/2008														
W7	6/3/2008			<0.00001	<0.01	<0.0002	0.05	<0.004	<0.00004		23.2	<0.00008	0.00011	0.0013	<0.001
W7	6/17/2008			<0.00001	0.02	<0.0002	0.056	0.006	<0.00004			<0.00008	0.00014	0.0013	0.001
W7	8/6/2008														
W7	8/6/2008														
W7	8/6/2008														
W7	8/6/2008			0.00006	0.014	0.0004	0.068	0.004	<0.0001	<0.0005	31.8	<0.00001	0.0001	0.0006	0.002
W7	9/18/2008			<0.00001	0.07	0.0003	0.043	<0.004	<0.00004		20	<0.00001	0.00025	0.0016	0.004
W7	10/28/2008														
W7	10/28/2008														
W7	10/28/2008														
W7	10/28/2008			<0.00001	0.009	0.0005	0.061	0.006	<0.00004		30.5	<0.00001	0.0001	0.0005	0.001
W7	4/30/2009			<0.00001	0.053	<0.0002	0.01	<0.004	<0.00004	<0.0001	5.23	0.00008	0.0001	0.0006	0.005
W7	6/8/2009			<0.00001	0.013	0.0003	0.052	<0.004	<0.00004	<0.0001	23.8	<0.00001	0.00013	<0.0004	0.002
W7	7/28/2009														
W7	8/6/2009														
W7	8/24/2009														
W7	8/25/2009														
W7	8/31/2009			<0.00001	0.01	0.0004	0.056	<0.004	<0.00004	<0.001	29.1	<0.00001	0.0001	0.0012	0.004
W7	10/7/2009														
W7	10/7/2009														
W7	10/25/2009			<0.00002	0.007	0.0003	0.067	<0.05	<0.0001	<0.001	32.6	0.00004	<0.0005	<0.001	0.0012
W7	10/25/2009														
W7	4/19/2010			<0.00001	0.019	0.0003	0.039	<0.004	<0.00004	<0.001	19.9	0.00002	0.00017	0.0004	0.006
W7	4/27/2010			<0.00002	0.075	0.0003	0.022	<0.05	<0.0001	<0.001	9.79	<0.00001	<0.0005	<0.001	0.0041
W7	4/29/2010			<0.00002	0.065	0.0003	0.023	<0.05	<0.0001	<0.001	9.79	<0.00001	<0.0005	<0.001	0.0034
W7	5/1/2010			<0.00002	0.053	0.0004	0.025	<0.05	<0.0001	<0.001	11	0.00002	<0.0005	<0.001	0.0032
W7	5/3/2010			<0.00002	0.047	0.0004	0.027	<0.05	<0.0001	<0.001	12	<0.00001	<0.0005	<0.001	0.0027
W7	5/5/2010			<0.00002	0.038	0.0005	0.03	<0.05	<0.0001	<0.001	12.9	<0.00001	<0.0005	<0.001	0.0025
W7	5/7/2010			<0.00002	0.028	0.0004	0.034	<0.05	<0.0001	<0.001	14.7	0.00001	<0.0005	<0.001	0.0026
W7	5/9/2010			<0.00002	0.023	0.0004	0.044	<0.05	<0.0001	<0.001	20.5	<0.00001	<0.0005	<0.001	0.0018
W7	5/10/2010			<0.00002	0.021	0.0004	0.046	<0.05	<0.0001	<0.001	20.7	0.00002	<0.0005	<0.001	0.0022
W7	5/12/2010														
W7	5/12/2010			<0.00002	0.017	0.0004	0.046	<0.05	<0.0001	<0.001	21.1	<0.00001	<0.0005	<0.001	0.0016
W7	5/14/2010			<0.00002	0.096	0.0004	0.044	<0.05	<0.0001	<0.001	18.7	0.00001	<0.0005	<0.001	0.0031
W7	5/16/2010			<0.00002	0.012	0.0003	0.045	<0.05	<0.0001	<0.001	22.3	<0.00001	<0.0005	<0.001	0.0013
W7	5/17/2010			<0.00002	0.018	0.0004	0.043	<0.05	<0.0001	<0.001	20.9	<0.00001	<0.0005	<0.001	0.0012
W7	5/19/2010			<0.00002	0.016	0.0003	0.049	<0.05	<0.0001	<0.001	24.4	<0.00001	<0.0005	<0.001	0.0017
W7	5/21/2010			<0.0001	0.013	<0.0004	0.05	<0.1	<0.0002	<0.001	24	<0.0001	<0.0005	<0.002	0.001
W7	5/23/2010			<0.0001	0.017	<0.0004	0.053	<0.1	<0.0002	<0.001	25	<0.0001	<0.0005	<0.002	0.001
W7	5/25/2010			<0.0001	0.024	<0.001	0.065	<0.1	<0.0005	<0.001	30	<0.0001	<0.0005	<0.002	0.003
W7	5/27/2010			<0.0001	0.028	<0.001	0.055	<0.1	<0.0005	<0.001	27	<0.0001	<0.0005	<0.002	0.003
W7	5/29/2010			<0.0001	0.017	0.0005	0.056	<0.1	<0.0002	<0.001	29	<0.0001	<0.0005	<0.002	0.002
W7	5/31/2010			<0.0001	0.02	<0.0004	0.058	<0.1	<0.0002	<0.001	27	<0.0001	<0.0005	<0.002	0.002
W7	6/2/2010			<0.0001	0.012	0.0004	0.058	<0.1	<0.0002	<0.001	29	<0.0001	<0.0005	<0.002	0.001
W7	6/4/2010			<0.0001	0.013	0.0004	0.058	<0.1	<0.0002	<0.001	29	<0.0001	<0.0005	<0.002	0.001
W7	6/6/2010			<0.0001	<0.01	<0.0004	0.062	<0.1	<0.0002	<0.001	33	<0.0001	<0.0005	<0.002	0.001
W7	6/14/2010			<0.0001	0.011	<0.0004	0.064	<0.1	<0.0002	<0.001	31	<0.0001	<0.0005	<0.002	<0.001
W7	6/16/2010			<0.0001	<0.01	<0.0004	0.064	<0.1	<0.0002	<0.001	30	<0.0001	<0.0005	<0.002	<0.001
W7	6/18/2010			<0.0001	<0.01	<0.0004	0.064	<0.1	<0.0002	<0.001	30	<0.0001	<0.0005	<0.002	<0.001
W7	6/20/2010			<0.0001	0.014	<0.0004	0.06	<0.1	<0.0002	<0.001	28	<0.0001	<0.0005	<0.002	0.001
W7	6/22/2010			<0.0001	0.033	0.0005	0.055	<0.1	<0.0002	<0.001	25	<0.0001	<0.0005	<0.002	0.002
W7	6/24/2010			<0.0001	0.018	<0.0004	0.052	<0.1	<0.0002	<0.001	25	<0.0001	<0.0005	<0.002	0.001
W7	6/26/2010			<0.0001	0.012	0.0004	0.06	<0.1	<0.0002	<0.001	26	<0.0001	<0.0005	<0.002	0.001
W7	6/28/2010			<0.0001	<0.01	<0.0004	0.061	<0.1	<0.0002	<0.001	29	<0.0001	<0.0005	<0.002	0.001
W7	7/5/2010			<0.0001	0.019	<0.0004	0.054	<0.1	<0.0002	<0.001	23	<0.0001	<0.0005	<0.002	0.002
W7	8/5/2010			<0.0001	0.011	0.0004	0.065	<0.1	<0.0002	<0.001	30	<0.0001	<0.0005	<0.002	0.002
W7	9/12/2010														
W7	9/12/2010			<0.0001	0.016	0.0005	0.055	<0.1	<0.0002	<0.001	28	<0.0001	<0.0005	<0.002	0.001
W7	10/8/2010			<0.00002	0.011	0.0004	0.06	<0.05	<0.0001	<0.001	29.2	<0.00001	<0.0005	<0.001	0.0012
W7	4/27/2011			<0.00002	0.057	0.0003	0.024	<0.05	<0.0001	<0.001	11.2	0.00003	<0.0005	<0.001	0.0077
W7	5/2/2011			<0.00002	0.076	0.0002	0.02	<0.05	<0.0001	<0.001	8.48	0.00004	<0.0005	<0.001	0.007
W7	6/1/2011			<0.00002	0.013	0.0003	0.056	<0.05	<0.0001	<0.001	23.5	<0.00001	<0.0005	<0.001	0.0016
W7	6/16/2011			<0.00002	0.022	0.0004	0.053	<0.05	<0.0001	<0.001	24.9	<0.00001	<0.0005	<0.001	0.0019
W7	7/1/2011			<0.00002	0.034	0.0007	0.053	<0.05	<0.0001	<0.001	20.6	0.00001	<0.0005	<0.001	0.0031

Table B.1: Raw water quality data from Minto Mine, 2005 - 2013.

Station Name	Sample Date	Cd-D-IH (mg/L)	Se-D-IH (mg/L)	Ag-D (mg/L)	Dissolved Al (mg/L)	Dissolved As (mg/L)	Dissolved Ba (mg/L)	Dissolved B (mg/L)	Dissolved Be (mg/L)	Dissolved Bi (mg/L)	Dissolved Ca (mg/L)	Dissolved Cd (mg/L)	Dissolved Co (mg/L)	Dissolved Cr (mg/L)	Dissolved Cu (mg/L)
W7	8/2/2011			<0.00002	0.051	0.0007	0.048	<0.05	<0.0001	<0.001	15.6	0.00002	<0.0005	<0.001	0.0041
W7	8/16/2011			<0.00002	0.036	0.0007	0.057	<0.05	<0.0001	<0.001	26	<0.00001	<0.0005	<0.001	0.0019
W7	8/19/2011			<0.00002	0.033	0.0008	0.053	<0.05	<0.0001	<0.001	24.2	0.00001	<0.0005	<0.001	0.002
W7	9/12/2011			<0.00002	0.024	0.0007	0.061	<0.05	<0.0001	<0.001	30.8	0.00001	<0.0005	<0.001	0.0016
W7	10/6/2011			<0.00002	0.013	0.0006	0.057	<0.05	<0.0001	<0.001	27.9	0.00003	<0.0005	<0.001	0.0012
W7	11/22/2011			<0.000020	0.0076	0.0004	0.075	<0.05	<0.00010	<0.0010	38.3	<0.000010	<0.00050	<0.0010	0.00109
W7	1/24/2012			<0.000020	0.0053	0.00041	0.0882	<0.05	<0.00010	<0.0010	43	0.000035	<0.00050	<0.0010	0.00114
W7	2/25/2012			<0.000020	0.0211	0.00033	0.0796	<0.05	<0.00010	<0.0010	41.2	0.000064	<0.00050	<0.0010	0.0154
W7	3/5/2012			<0.000020	0.0031	0.00039	0.0803	<0.05	<0.00010	<0.0010	41.2	<0.000010	<0.00050	<0.0010	0.00122
W7	4/24/2012			<0.000020	0.0499	0.00048	0.0319	<0.05	<0.00010	<0.0010	10.2	0.000023	<0.00050	<0.0010	0.00523
W7	5/6/2012			<0.000020	0.0298	0.00043	0.0319	<0.05	<0.00010	<0.0010	12	0.000013	<0.00050	<0.0010	0.00303
W7	5/6/2012			<0.000020	0.0442	0.00044	0.0324	<0.05	<0.00010	<0.0010	11.9	0.000016	<0.00050	<0.0010	0.00273
W7	6/19/2012			<0.000020	0.0265	0.0007	0.0543	<0.05	<0.00010	<0.0010	23.5	<0.000010	<0.00050	<0.0010	0.00163
W7	7/17/2012			<0.000020	0.0197	0.00086	0.0706	<0.05	<0.00010	<0.0010	33	0.000012	<0.00050	<0.0010	0.00127
W7	7/30/2012			<0.000020	0.0171	0.00095	0.0727	<0.05	<0.00010	<0.0010	33.9	<0.000010	<0.00050	<0.0010	0.00123
W7	8/8/2012			<0.000020	0.0184	0.001	0.0769	<0.05	<0.00010	<0.0010	35.9	<0.000010	<0.00050	<0.0010	0.00112
W7	8/23/2012			<0.000020	0.0178	0.00088	0.0756	<0.05	<0.00010	<0.0010	35.7	<0.000010	<0.00050	<0.0010	0.0017
W7	9/13/2012			<0.000020	0.0239	0.00074	0.0599	<0.05	<0.00010	<0.0010	30.1	<0.000010	<0.00050	<0.0010	0.00244
W7	10/16/2012			<0.000020	0.0114	0.0006	0.0633	<0.05	<0.00010	<0.0010	33.2	<0.000010	<0.00050	<0.0010	0.00094
W7	11/2/2012			<0.000020	0.0095	0.00053	0.0862	<0.05	<0.00010	<0.0010	39.3	0.000031	<0.00050	<0.0010	0.00236
W7	12/29/2012			<0.000020	0.0061	0.00051	0.119	<0.05	<0.00010	<0.0010	56.1	<0.000010	<0.00050	<0.0010	0.00232
W7	4/30/2013			<0.000020	0.0031	0.00025	0.101	<0.05	<0.00010	<0.0010	46.8	<0.000010	<0.00050	<0.0010	0.00108
W7	5/14/2013			<0.000020	0.0436	0.00029	0.023	<0.05	<0.00010	<0.0010	8.81	0.00001	<0.00050	<0.0010	0.00365
W7	6/19/2013			<0.000020	0.0125	0.00052	0.0665	<0.05	<0.00010	<0.0010	29.9	<0.000010	<0.00050	<0.0010	0.00116
W7	6/19/2013			<0.000020	0.0134	0.00051	0.0664	<0.05	<0.00010	<0.0010	30	<0.000010	<0.00050	<0.0010	0.00124
W7	7/13/2013			<0.000020	0.0138	0.00053	0.072	<0.05	<0.00010	<0.0010	34.9	<0.000010	<0.00050	<0.0010	0.00121
W7	8/21/2013			<0.000020	0.0122	0.00056	0.0737	<0.05	<0.00010	<0.0010	35.2	<0.000010	<0.00050	<0.0010	0.00101
W7	9/6/2013			<0.000020	0.016	0.00081	0.0718	<0.05	<0.00010	<0.0010	34.9	<0.000010	<0.00050	<0.0010	0.00113
W7	10/21/2013			<0.000020	0.0093	0.00067	0.0715	<0.05	<0.00010	<0.0010	38	<0.000010	<0.00050	<0.0010	0.00111
W7	11/16/2013			<0.000020	0.0053	0.00048	0.08	<0.05	<0.00010	<0.0010	39.4	<0.000010	<0.00050	<0.0010	0.0008
W7	12/7/2013			<0.000020	0.0035	0.00053	0.0919	<0.05	<0.00010	<0.0010	43.3	<0.000010	<0.00050	<0.0010	0.00078
C4	5/6/2012			<0.000020	0.0622	0.00104	0.0488	<0.05	<0.00010	<0.0010	12	0.000029	0.00071	<0.0010	0.00314
C4	8/1/2012			<0.000020	0.059	0.00184	0.0984	<0.05	<0.00010	<0.0010	31.9	<0.000010	0.00111	<0.0010	0.00181
C4	8/8/2012			<0.000020	0.0425	0.00203	0.0987	<0.05	<0.00010	<0.0010	33.7	<0.000010	0.00108	<0.0010	0.00132
C4	8/25/2012			<0.000020	0.04	0.00197	0.098	<0.05	<0.00010	<0.0010	35	<0.000010	0.00113	<0.0010	0.00176
C4	6/22/2013			<0.000020	0.0342	0.00225	0.075	<0.05	<0.00010	<0.0010	35	<0.000010	0.00063	<0.0010	0.0017
C4	7/19/2013			<0.000020	0.0317	0.00207	0.0699	<0.05	<0.00010	<0.0010	36	<0.000010	0.00062	<0.0010	0.00137
C4	8/22/2013			<0.000020	0.0455	0.00179	0.0794	<0.05	<0.00010	<0.0010	33.1	<0.000010	0.00073	<0.0010	0.00143
C4	9/6/2013			<0.000020	0.0405	0.00196	0.0798	<0.05	<0.00010	<0.0010	34.2	<0.000010	0.00092	<0.0010	0.00161
C4	10/18/2013			<0.000020	0.0221	0.00106	0.0735	<0.05	<0.00010	<0.0010	34.2	<0.000010	0.00079	<0.0010	0.00112
C4	10/18/2013			<0.000020	0.0249	0.00107	0.0732	<0.05	<0.00010	<0.0010	34.5	<0.000010	0.00074	<0.0010	0.00118
C4	11/17/2013			<0.000020	0.033	0.00559	0.169	<0.05	<0.00010	<0.0010	72.1	0.000022	0.00611	0.0013	0.00095
C10	5/12/2012			<0.000020	0.0583	0.0012	0.0501	<0.05	<0.00010	<0.0010	19.9	0.000018	0.00054	<0.0010	0.00212
C10	7/30/2012			<0.000020	0.0571	0.00142	0.0795	<0.05	<0.00010	<0.0010	38.8	<0.000010	<0.00050	<0.0010	0.00198
C10	7/30/2012														
C10	8/10/2012			<0.000020	0.0505	0.00134	0.0786	<0.05	<0.00010	<0.0010	39.8	<0.000010	<0.00050	<0.0010	0.00189
C10	8/27/2012			<0.000020	0.0262	0.00149	0.0804	<0.05	<0.00010	<0.0010	41.8	<0.000010	<0.00050	<0.0010	0.00148
C10	6/22/2013			<0.000020	0.0785	0.00123	0.0721	<0.05	<0.00010	<0.0010	45.1	0.000019	<0.00050	<0.0010	0.00313
C10	7/23/2013			<0.000020	0.0252	0.00116	0.0668	<0.05	<0.00010	<0.0010	37.4	<0.000010	<0.00050	<0.0010	0.00135
C10	8/22/2013			<0.000020	0.0197	0.00141	0.0724	<0.05	<0.00010	<0.0010	48	<0.000010	<0.00050	<0.0010	0.00134
C10	9/8/2013			<0.000020	0.0254	0.00166	0.0764	<0.05	<0.00010	<0.0010	45	<0.000010	0.00058	<0.0010	0.00125
C10	9/8/2013			<0.000020	0.0241	0.00158	0.0763	<0.05	<0.00010	<0.0010	44.8	0.00001	0.0006	0.0017	0.00133
C10	10/18/2013			<0.000020	0.0108	0.00089	0.0599	<0.05	<0.00010	<0.0010	40.1	<0.000010	<0.00050	<0.0010	0.00091

Table B.1: Raw water quality data from Minto Mine, 2005 - 2013.

Station Name	Sample Date	Dissolved Fe (mg/L)	Dissolved Hg (mg/L)	Dissolved K (mg/L)	Dissolved Li (mg/L)	Dissolved Mg (mg/L)	Dissolved Mn (mg/L)	Dissolved Mo (mg/L)	Dissolved Na (mg/L)	Dissolved Ni (mg/L)	Dissolved Pb (mg/L)	Dissolved P (mg/L)	Dissolved Sb (mg/L)	Dissolved S (mg/L)	Dissolved Se (mg/L)
W1	5/27/2005	0.172	<0.000020	<2.0	<0.0050	8.46	0.00579	<0.0010	4.9	0.0015	<0.00050		<0.00050		<0.0010
W1	6/30/2005	0.046		<2.0	<0.0050	12.6	0.00391	0.00106	8.8	0.00096	<0.000050	<0.30	<0.00010		<0.0010
W1	7/28/2005	0.056		<2.0	<0.0050	13.6	0.0119	0.00131	9.2	0.0011	0.000073	<0.30	<0.00010		<0.0010
W1	8/29/2005	0.25	<0.000020	<2.0	<0.0050	11.7	0.0157	0.001	6.9	0.0014	<0.00050		<0.00050		<0.0010
W1	9/28/2005	0.331	<0.000020	<2.0	<0.0050	11.2	0.0355	<0.0010	6.2	0.0016	<0.00050		<0.00050		<0.0010
W1	10/15/2005	0.266		<2.0	<0.0050	11.7	0.0228	0.000892	6.4	0.0014	<0.000050	<0.30	<0.00010		<0.0010
W2	5/27/2005	0.164	<0.000020	<2.0	<0.0050	8.72	0.00507	<0.0010	5	0.0015	<0.00050		<0.00050		<0.0010
W2	5/27/2005					5.19	0.00345								
W2	6/30/2005	0.039		<2.0	<0.0050	12.3	0.00684	0.00108	8.6	0.00102	<0.000050	<0.30	<0.00010		<0.0010
W2	7/28/2005	0.05		<2.0	<0.0050	13.2	0.014	0.00127	8.7	0.00112	<0.000050	<0.30	<0.00010		<0.0010
W2	8/30/2005	0.234	<0.000020	<2.0	<0.0050	11.7	0.0152	0.001	7	0.0015	<0.00050		<0.00050		<0.0010
W2	9/28/2005	0.338	<0.000020	<2.0	<0.0050	11.2	0.0341	<0.0010	6.2	0.0017	<0.00050		<0.00050		<0.0010
W2	10/15/2005	0.246		<2.0	<0.0050	11.5	0.0208	0.000859	6.3	0.00141	<0.000050	<0.30	<0.00010		<0.0010
W3	5/27/2005	0.116	<0.000020	<2.0	<0.0050	9.48	0.0094	<0.0010	5.2	0.0014	<0.00050		<0.00050		<0.0010
W3	6/30/2005	0.042		<2.0	<0.0050	17.4	0.0052	0.00163	11.7	0.00078	0.000241	<0.30	<0.00010		<0.0010
W3	7/29/2005	0.134		<2.0	<0.0050	17.3	0.0311	0.00158	9.7	0.00115	<0.000050	<0.30	<0.00010		<0.0010
W3	8/29/2005	0.306	<0.000020	<2.0	<0.0050	13.6	0.0657	0.0013	8	0.0014	<0.00050		<0.00050		<0.0010
W3	9/28/2005	0.421	<0.000020	<2.0	<0.0050	12.8	0.102	0.0011	7.7	0.0014	<0.00050		<0.00050		<0.0010
W3	10/15/2005	0.39		<2.0	<0.0050	13.4	0.112	0.00122	7.5	0.00121	<0.000050	<0.30	<0.00010		<0.0010
W8	5/27/2005	0.194	<0.000020	<2.0	<0.0050	5.05	0.00284	<0.0010	2.6	0.0018	<0.00050		<0.00050		<0.0010
W8	6/30/2005	0.249		<2.0	<0.0050	7.68	0.0142	0.000547	4.5	0.00144	<0.000050	<0.30	<0.00010		<0.0010
W8	7/29/2005	0.352		<2.0	<0.0050	9.39	0.0206	0.000589	3.9	0.00157	<0.000050	<0.30	<0.00010		<0.0010
W8	8/30/2005	0.544	<0.000020	<2.0	<0.0050	8.28	0.0296	<0.0010	3.9	0.0016	<0.00050		<0.00050		<0.0010
W8	9/28/2005	0.556	<0.000020	<2.0	<0.0050	7.73	0.0387	<0.0010	3.9	0.0015	<0.00050		<0.00050		<0.0010
W8	10/15/2005	0.711		<2.0	<0.0050	7.92	0.223	0.00169	4.8	0.00096	<0.000050	<0.30	<0.00010		<0.0010
W9	5/27/2005	0.251	0.000038	<2.0	<0.0050	4.18	0.00696	<0.0010	2.3	0.0013	<0.00050		<0.00050		<0.0010
W9	6/30/2005	0.53		<2.0	<0.0050	6.05	0.0378	0.000365	4.1	0.00119	<0.000050	<0.30	<0.00010		<0.0010
W9	7/29/2005	0.647		<2.0	<0.0050	7.46	0.057	0.00108	4	0.00132	0.000185	<0.30	<0.00010		<0.0010
W9	8/29/2005	0.67	<0.000020	<2.0	<0.0050	6.3	0.0606	<0.0010	3.6	0.0012	<0.00050		<0.00050		<0.0010
W9	9/28/2005	0.602	<0.000020	<2.0	<0.0050	5.69	0.0451	<0.0010	3.2	0.0011	<0.00050		<0.00050		<0.0010
W9	10/15/2005	0.438		<2.0	<0.0050	5.55	0.0335	0.000313	3.1	0.00096	<0.000050	<0.30	<0.00010		<0.0010
W10	5/27/2005	0.106	<0.000020	<2.0	<0.0050	3.31	0.00042	<0.0010	<2.0	0.0016	<0.00050		<0.00050		<0.0010
W10	5/27/2005	<0.03	<0.00002	<2.0	<0.005		0.00271	<0.001	<2	<0.001	<0.0005		<0.0005		<0.001
W10	6/30/2005	0.401		<2.0	<0.0050	3.68	0.0299	0.000144	3.5	0.00179	0.000082	<0.30	<0.00010		<0.0010
W10	7/29/2005	0.099		<2.0	<0.0050	4.39	0.00483	0.000137	4.7	0.00123	0.000112	<0.30	<0.00010		<0.0010
W10	8/29/2005	0.081	<0.000020	<2.0	<0.0050	5.95	0.00447	<0.0010	5.4	0.0016	<0.00050		<0.00050		<0.0010
W10	9/28/2005	0.048	<0.000020	<2.0	<0.0050	8.93	0.00069	<0.0010	5.4	<0.0010	<0.00050		<0.00050		<0.0010
W10	10/15/2005	0.055		<2.0	<0.0050	8.98	0.000385	0.000241	4.7	0.00073	<0.000050	<0.30	<0.00010		<0.0010
W6	5/27/2005	0.072	<0.000020	<2.0	<0.0050	5.01	0.00543	<0.0010	2.8	0.0015	<0.00050		<0.00050		<0.0010
W6	6/30/2005	<0.030		<2.0	<0.0050	6.72	0.00324	0.000448	4.8	0.00099	<0.000050	<0.30	<0.00010		<0.0010
W6	7/29/2005	0.062		<2.0	<0.0050	13.2	0.0145	0.000818	7.3	0.0006	0.000083	<0.30	<0.00010		<0.0010
W6	8/30/2005	0.064	<0.000020	<2.0	<0.0050	8.1	0.0211	<0.0010	4.6	0.0011	<0.00050		<0.00050		<0.0010
W6	9/28/2005	0.1	<0.000020	<2.0	<0.0050	8.25	0.0245	<0.0010	4.4	0.0012	<0.00050		<0.00050		<0.0010
W6	10/15/2005	0.088		<2.0	<0.0050	7.66	0.0162	0.000395	4.5	0.00118	<0.000050	<0.30	<0.00010		<0.0010
W6	6/2/2006	0.096		<2	<0.005	4.95	0.00673	0.000305	3.3	0.00182	<0.00005	<0.3	<0.0001		<0.001
W6	8/25/2006					8.7									
W6	9/6/2006	0.11		0.6	0.001	7.7	0.046	<0.001	4.8	0.0006	<0.0001		<0.0002	0.9	<0.0002
W6	6/20/2007														
W6	9/18/2007														
W6	6/17/2008														
W6	9/18/2008	0.09	<0.00001	0.4	<0.001	6.33	0.0099	0.00027	4.27	0.002	<0.0001	0.02	0.0008		0.0012
W6	4/14/2009	0.06	<0.00001	7.4	0.004	45.8	0.0307	0.00312	35.1	<0.001	0.0002	0.13	0.003	34.5	0.0011
W6	4/30/2009	0.12	0.00001	1.9	<0.001	4.9	0.0147	0.00042	3	0.001	0.0003	0.05	0.0006	2.5	<0.0006
W6	7/28/2009														
W6	8/6/2009														
W6	8/6/2009														
W6	8/18/2009	0.02	<0.00001	3.5	0.002	14.2	0.0808	0.0098	14.9	0.001	0.0005	0.01	0.0013	16.6	0.0012
W6	8/25/2009														
W6	10/7/2009														
W6	10/7/2009														
W6	10/25/2009	0.01	<0.00002	3.34	<0.005	15.2	0.215	0.015	17.3	<0.001	<0.0002		0.0006	24	0.002
W6	4/19/2010	0.06	<0.00001	2.3	0.002	13.2	0.0461	0.0017	8.6	<0.001	0.0002	0.02	0.0011	10.1	<0.0006
W6	5/16/2010	0.01	<0.0002	1.39	<0.005	8.38	<0.001	<0.001	4.49	<0.001	<0.0002	<0.01	<0.0005	<3	0.0002
W6	5/17/2010	0.016	<0.0002	1	<0.005	5.28	<0.001	<0.001	3.32	<0.001	<0.0002	0.016	<0.0005	<3	<0.0001
W6	5/19/2010	0.021	<0.00002	1.19	<0.005	7.41	<0.001	<0.001	5.01	<0.001	<0.0002	0.013	<0.0005	5	0.0001
W6	5/21/2010	<0.02	<0.0002	<1	<0.01	5	<0.001	<0.001	3	<0.001	<0.0002		<0.0005	<60	<0.0008
W6	5/23/2010	0.029	<0.0002	1	<0.01	8	<0.001	<0.001	6	<0.001	<0.0002		<0.0005	<60	<0.0008
W6	5/25/2010	0.024	<0.00002	1	<0.01	9	<0.001	<0.001	8	<0.003	<0.0002		<0.0005	<60	<0.001
W6	5/29/2010	0.03	<0.00002	<1	<0.01	4	<0.001	<0.001	2	<0.001	<0.0002		<0.0005	<60	<0.0008
W6	6/2/2010	<0.02	<0.0002	2	<0.01	20	0.01	0.003	13	<0.001	<0.0002		<0.0005	<60	<0.0008
W6	6/4/2010	0.027	<0.0002	<1	<0.01	6	<0.001	<0.001	3	<0.001	<0.0002		<0.0005	<60	<0.0008
W6	6/6/2010	0.027		<1	<0.01	7	<0.001	<0.001	4	0.001	<0.0002		<0.0005	<60	<0.0008
W6	6/14/2010	0.021	<0.0002	<1	<0.01	7	<0.001	<0.001	5	0.001	<0.0002		<0.0005	<60	<0.0008
W6	6/16/2010	0.021	<0.0002	<1	<0.01	7	<0.001	<0.001	4	<0.001	<0.0002		<0.0005	<60	<0.0008
W6	6/18/2010	0.021	<0.0002	<1	<0.01	7	<0.001	<0.001	4	<0.001	<0.0002		<0.0005	<60	<0.0008
W6	6/20/2010	0.027	<0.0002	<1	<0.01	7	<0.001	<0.001	4	0.001	<0.0002		<0.0005	<60	<0.0008
W6	6/22/2010	0.025	<0.0002	<1	<0.01	7	<0.001	<0.001	4	0.001	<0.0002		<0.0005	<60	<0.0008
W6	6/24/2010	0.025	<0.0002	<1	<0.01	7	<0.001	<0.001	4	<0.001	<0.0002		<0.0005	<60	<0.0008
W6	6/26/2010	0.025	<0.0002	<1	<0.01	7	0.001	<0.001	4	0.001	<0.0002		<0.0005	<60	<0.0008
W6	6/26/2010														
W6	6/28/2010	0.025	<0.0002	<1	<0.01	7	<0.001	<0.001	4	0.001	<0.0002		<0.0005	<60	<0.0008
W6	7/5/2010	0.092	<0.0002	<1	<0.01	6	0.005	<0.001	4	0.001	<0.0002		<0.0005	<60	<0.0008
W6	8/5/2010	0.069	<0.0002	<1	<0.01	8	0.018	<0.001	4	0.001	<0.0002		<0.0005	<60	<0.0008
W6	9/9/2010	0.061	<0.0002	<1	<0.01	8	0.02	<0.001	4	0.001	<0.0002		<0.0005	<60	<0.0008
W6	10/8/2010	0.054	<0.00002	0.42	<0.005	7.52	0.019	<0.001	3.79	0.001	<0.0002		<0.0005	<3	<0.0001
W6	8/19/2011	0.025	<0.00002	1.66	<0.005	22.2	0.019	0.003	15.2	<0.001	<0.0002	<0.01	<0.0005	18	0.0004
W6	7/17/2012	0.0679	<0.000010	0.52	<0.0050	7.16	0.0542	<0.0010	4.31	0.001	<0.00020	<0.01	<0.00050	<3.0	0.00012
W6	7/30/2012	0.0814	<0.000010	0.542	<0.0050	7.02	0.102	<0.0010	4.2	<0.0010	<0.00020	<0.01	<0.00050	<3.0	<0.00010
W6	8/9/2012	0.0845	<0.000010	0.578	<0.0050	7.95	0.134	<0.0010	4.56	0.001	<0.00020	0.011	<0.00050	<3.0	0.0001
W6	8/25/2012	0.0799	<0.000010	0.648	<0.0050	7.34	0.134	<0.0010	4.21	0.001	<0.00020	0.012	<0.00050	<3.0	<0.00010
W6	9/13/2012	0.108	<0.000010	0.411	<0.0050	6.66	0.0408	<0.0010	3.89	0.0014	<0.00020	<0.01	<0.00050	<3.0	<0.00010
W6	10/13/2012		<0.000010												
W6	11/12/2012	0.0235	<0.000010	0.562	<0.0050	11.8	0.0013	<0.0010	6.34	0.0014	<0.00020	<0.01	<0.00050	<3.0	0.0001
W6	5/14/2013	0.183	<0.000010	1.73	<0.0050	2.31	0.0433	<0.0010	0.999	0.0013	<0.00020	0.044	<0.00050	<3.0	<0.00010
W6	6/22/2013	0.0718	<0.000010	0.724	<0.0050	7.04	0.0293	<0.0010	3.95	0.0012	<0.00020	<0.01	<0.00050	<3.0	<0.00010
W6	7/12/2013	0.105	<0.000010	0.482	<0.0050	6.83	0.022	<0.0010	4.07	0.0011	<0.00020	<0.01	<0.00050	<3.0	<0.00010
W6	8/22/2013	0.103	<0.000010	0.489	<0.0050	7.54	0.0286	<0.0010	4.33	0.0011	<0.00020	<0.01	<0.00050	<3.0	<0.00010
W6	9/6/2013	0.111	<0.000010	0.554	<0.0050	7.18	0.0323	<0.0010	4.02	0.0011	<0.00020	0.013	<0.00050	<3.0	<0.00010
W6	10/7/2013	0.145	<0.000010	0.581	<0.0050	7.36	0.048	<0.0010	4.6	0.0013	<0.00020	0.011	<0.00050	<3.0	<0.00010
W6	11/16/2013	0.124	<0.000010	0.589	<0.0050	8.66	0.0399	<0.0010	4.77	0.001	<0.00020	0.015	<0.00050	<3.0	<0.00010
W6	12/7/2013	0.0144	<0.000010	0.562	<0.0050	11.7	0.0017	<0.0010	6.36	0.0011	<0.00020	0.015	<0.00050	<3.0	<0.00010
W7	5/27/2005	0.136	<0.000020	<2.0	<0.0050	6.77	0.0193	<0.0010	3.9	0.0016	<0.00050		<0.00050		<0.0010
W7	6/30/2005	0.07		<2.0	<0.0050	10.2	0.0415	0.00124	6.9	0.00093	<0.000050	<0.30	<0.00010		<0.0010
W7	7/29/2005	0.105		<2.0	<0.0050	15.6	0.0244	0.00127	8.8	0.00095	<0.000050	<0.30	<0.00010		<0.0010
W7	8/30/2005	0.292	<0.000020	<2.0	<0.0050	9.7	0.0315	0.001	5.9	0.0015	<0.00050		<0.00050		<0.0010
W7	9/28/2005	0.32	<0.000020	<2.0	<0.0050	9.32	0.0414	<0.0010	5.3	0.0018	<0.00050		<0.00050		<0.0010
W7	10/15/2005	0.253		<2.0	<0.0050	9.35	0.0383	0.000925	5.5	0.00146	<0.000050	<0.30	<0.00010		<0.0010
W7	6/2/2006	0.546		<2	<0.005	4.85	0.0882	0.000697	3.8	0.0022	0.000054	<0.3	<0.0001		<0.001
W7	6/8/2006														

Table B.1: Raw water quality data from Minto Mine, 2005 - 2013.

Station Name	Sample Date	Dissolved Fe (mg/L)	Dissolved Hg (mg/L)	Dissolved K (mg/L)	Dissolved Li (mg/L)	Dissolved Mg (mg/L)	Dissolved Mn (mg/L)	Dissolved Mo (mg/L)	Dissolved Na (mg/L)	Dissolved Ni (mg/L)	Dissolved Pb (mg/L)	Dissolved P (mg/L)	Dissolved Sb (mg/L)	Dissolved S (mg/L)	Dissolved Se (mg/L)
W7	6/15/2006														
W7	6/15/2006	0.09		<0.4	<0.001	8.9	0.044	0.001	5.9	0.001	<0.0001		<0.0002	3.5	0.0002
W7	6/23/2006	0.09		1.1	<0.001	10.4	0.043	0.001	5.9	0.0013	<0.0001		<0.0002	4.3	0.0003
W7	6/28/2006	0.06		0.8	<0.001	9.2	0.011	<0.001	6.2	0.0036	0.0005		<0.0002	3.4	<0.0002
W7	7/7/2006	0.06		0.8	0.001	10.7	0.023	0.002	6.7	0.0015	<0.0001		<0.0002	4	<0.0002
W7	7/12/2006	0.06		0.9	0.001	10.5	0.022	0.001	6.6	0.0007	<0.0001		<0.0002	4	0.0002
W7	7/20/2006	0.11		1	0.001	11.7	0.042	0.001	6.7	0.0006	0.0002		<0.0002	4.1	<0.0002
W7	7/26/2006														
W7	7/26/2006	0.1		1	<0.001	10.9	0.044	<0.001	7	0.0021	<0.0001		<0.0002	4.2	<0.0002
W7	8/2/2006	0.07		1.1	<0.001	11	0.033	<0.001	7.2	0.0006	<0.0001		<0.0002	4	<0.0002
W7	8/10/2006	0.08		1	0.001	10.8	0.039	0.001	7.2	0.0006	<0.0001		<0.0002	4	<0.0002
W7	8/25/2006														
W7	8/25/2006	0.08		0.9	0.001	11.7	0.037	0.001	6.7	0.0009	<0.0001		<0.0002	3.8	<0.0002
W7	8/30/2006	0.1		1.2	0.002	11.7	0.038	0.001	7.7	0.0012	<0.0001		<0.0002	3.7	<0.0002
W7	9/6/2006	0.1		0.8	0.002	11.2	0.036	0.001	7.5	0.001	<0.0001		<0.0002	3.7	<0.0002
W7	9/13/2006	0.11		0.9	0.002	11.4	0.03	0.001	7.4	0.0009	<0.0001		<0.0002	3.5	<0.0002
W7	9/20/2006	0.09		1	0.002	11.6	0.04	0.001	6.6	<0.0005	<0.0001		<0.0002	3.9	0.0002
W7	9/28/2006	0.08		1.1	0.001	11.1	0.035	0.001	7.4	0.0008	<0.0001		<0.0002	3.7	<0.0002
W7	10/4/2006	0.11		1.1	0.001	10.9	0.035	0.001	7.3	0.0007	<0.0001		<0.0002	3.7	<0.0002
W7	10/12/2006	0.09		1.1	0.001	11.4	0.043	0.001	7.4	0.0006	<0.0001		<0.0002	3.9	0.0003
W7	6/5/2007														
W7	6/5/2007														
W7	6/5/2007														
W7	6/20/2007	0.05	<0.0001	1	0.001	9.8	0.031	0.001	7.4	<0.0005	<0.0001		<0.0002	4.2	<0.0002
W7	7/18/2007	0.04	<0.0001	0.9	0.001	11.6	0.019	0.001	7.6	0.0007	<0.0001		<0.0002	3.9	<0.0002
W7	7/18/2007														
W7	7/18/2007														
W7	8/24/2007														
W7	8/24/2007														
W7	8/24/2007														
W7	8/24/2007														
W7	8/24/2007														
W7	8/24/2007														
W7	8/24/2007														
W7	9/18/2007	0.08	<0.0001	0.9	0.001	9.8	0.018	0.002	7.2	0.0008	<0.0001		<0.0002	2.9	<0.0002
W7	10/30/2007														
W7	10/30/2007														
W7	10/30/2007														
W7	10/30/2007														
W7	4/22/2008	<0.02	<0.00001	2.68	0.002	20.4	0.025	0.00161	12.6	<0.001	<0.0001	<0.01	0.006		<0.0006
W7	4/22/2008	0.07	<0.00001	2.78	0.002	21.2	0.027	0.0017	12.7	0.002	0.0001	0.02	0.0084		<0.0006
W7	4/22/2008	<0.02	<0.00001	2.63	0.002	19.9	0.0242	0.00166	12.4	<0.001	<0.0001	<0.01	0.0016		<0.0006
W7	4/22/2008														
W7	6/3/2008														
W7	6/3/2008														
W7	6/3/2008														
W7	6/3/2008	0.05	<0.00001	0.84	<0.001	8.39	0.0418	0.00124	6.82	0.001	<0.0001		0.0006		<0.0006
W7	6/17/2008	0.07			<0.001		0.0682	0.00149		0.001	<0.0001		0.001		0.0022
W7	8/6/2008														
W7	8/6/2008														
W7	8/6/2008														
W7	8/6/2008	0.07	<0.0001	1	0.001	10.6	0.02	0.001	7.4	0.001	<0.0001	<0.05	0.0014	3.5	<0.0002
W7	9/18/2008	0.2	<0.00001	0.53	<0.001	6.63	0.0198	0.00072	4.92	0.001	0.0017	0.02	0.0008		<0.0006
W7	10/28/2008														
W7	10/28/2008														
W7	10/28/2008														
W7	10/28/2008	0.078	<0.00001	0.8	<0.001	11.4	0.0338	0.00108	6.4	0.001	<0.0001	<0.01	0.0009		<0.0006
W7	4/30/2009	0.07	0.00001	1.5	<0.001	1.68	0.0114	0.00013	1.2	<0.001	0.0001	0.06	0.0007	0.4	<0.0006
W7	6/8/2009	0.05	<0.00001	0.7	<0.001	8.18	0.0129	0.00127	5.3	0.001	<0.0001	0.01	0.0011	2.8	<0.0006
W7	7/28/2009														
W7	8/6/2009														
W7	8/24/2009														
W7	8/25/2009														
W7	8/31/2009	0.1	<0.00001	0.9	<0.001	9.9	0.0128	0.0011	6.8	0.001	0.0004	0.03	0.0009	3	<0.0006
W7	10/7/2009														
W7	10/7/2009														
W7	10/25/2009	0.046	<0.00002	0.95	<0.005	10.8	0.024	0.001	6.68	<0.001	<0.0002		<0.0005	4	0.0002
W7	10/25/2009														
W7	4/19/2010	0.09	<0.00001	2.1	<0.001	7.3	0.0188	0.0008	5	<0.001	0.0003	0.02	0.001	2.7	<0.0006
W7	4/27/2010	0.15	<0.00002	1.04	<0.005	2.87	<0.001	<0.001	1.86	0.001	<0.0002		<0.0005	<3	<0.0001
W7	4/29/2010	0.18	<0.00002	0.9	<0.005	2.86	<0.001	<0.001	1.92	0.001	<0.0002		<0.0005	<3	<0.0001
W7	5/1/2010	0.26	<0.00002	0.71	<0.005	3.26	<0.001	<0.001	2.22	0.001	<0.0002	0.023	<0.0005	<3	<0.0001
W7	5/3/2010	0.378	<0.00002	0.64	<0.005	3.67	<0.001	<0.001	2.6	0.001	<0.0002		<0.0005	<3	<0.0001
W7	5/5/2010	0.574	<0.00002	0.57	<0.005	4.09	<0.001	<0.001	2.85	0.001	<0.0002	0.021	<0.0005	<3	<0.0001
W7	5/7/2010	0.359	<0.00002	0.68	<0.005	4.9	<0.001	<0.001	3.35	0.002	<0.0002	0.017	<0.0005	<3	<0.0001
W7	5/9/2010	0.297	<0.00002	0.78	<0.005	6.97	<0.001	<0.001	4.54	0.001	<0.0002	0.014	<0.0005	<3	0.0001
W7	5/10/2010	0.276	<0.00002	0.8	<0.005	7.08	<0.001	<0.001	4.69	0.001	<0.0002	0.013	<0.0005	3	0.0001
W7	5/12/2010														
W7	5/12/2010	0.173	0.00002	0.77	<0.005	7.06	<0.001	0.001	4.6	0.001	<0.0002	<0.01	<0.0005	<3	0.0001
W7	5/14/2010	0.339	<0.00002	0.71	<0.005	6.27	0.039	<0.001	4.05	0.002	<0.0002		<0.0005	<3	0.0001
W7	5/16/2010	0.08	<0.0002	0.8	<0.005	7.28	<0.001	0.001	4.75	<0.001	<0.0002	<0.01	<0.0005	<3	0.0001
W7	5/17/2010	0.068	<0.0002	0.78	<0.005	6.82	<0.001	0.001	4.36	<0.001	<0.0002	<0.01	<0.0005	<3	0.0001
W7	5/19/2010	0.069	<0.00002	0.85	<0.005	9.16	<0.001	0.001	6.6	<0.001	<0.0002	<0.01	<0.0005	3	0.0003
W7	5/21/2010	0.057	<0.0002	<1	<0.01	8	<0.001	0.001	6	0.001	<0.0002		<0.0005	<60	<0.0008
W7	5/23/2010	0.069	<0.0002	<1	<0.01	9	<0.001	0.001	6	0.001	<0.0002		<0.0005	<60	<0.0008
W7	5/25/2010	0.062	<0.00002	1	<0.01	12	0.001	0.002	8	<0.003	<0.0002		<0.0005	<60	<0.001
W7	5/27/2010	0.069	<0.00002	1	<0.01	11	0.014	0.002	8	<0.003	<0.0002		<0.0005	<60	<0.001
W7	5/29/2010	0.051	<0.00002	1	<0.01	10	0.015	0.002	6	0.001	<0.0002		<0.0005	<60	<0.0008
W7	5/31/2010	0.05	<0.00002	<1	<0.01	10	0.012	0.002	7	<0.001	<0.0002		<0.0005	<60	<0.0008
W7	6/2/2010	0.03	<0.0002	<1	<0.01	10	<0.001	0.002	6	<0.001	<0.0002		<0.0005	<60	<0.0008
W7	6/4/2010	0.03	<0.0002	<1	<0.01	10	0.001	0.002	6	<0.001	<0.0002		<0.0005	<60	<0.0008
W7	6/6/2010	0.024		1	<0.01	11	0.004	0.002	7	<0.001	<0.0002		<0.0005	<60	<0.0008
W7	6/14/2010	0.025	<0.0002	1	<0.01	11	0.002	0.002	8	<0.001	<0.0002		<0.0005	<60	<0.0008
W7	6/16/2010	0.026	<0.0002	1	<0.01	11	0.004	0.002	7	<0.001	<0.0002		<0.0005	<60	<0.0008
W7	6/18/2010	0.023	<0.0002	1	<0.01	11	<0.001	0.002	7	<0.001	<0.0002		<0.0005	<60	<0.0008
W7	6/20/2010	0.028	<0.0002	<1	<0.01	10	0.003	0.002	7	<0.001	<0.0002		<0.0005	<60	<0.0008
W7	6/22/2010	0.082	<0.0002	<1	<0.01	9	0.001	0.001	6	0.001	<0.0002		<0.0005	<60	<0.0008
W7	6/24/2010	0.056	<0.0002	<1	<0.01	9	0.001	0.001	6	0.001	<0.0002		<0.0005	<60	<0.0008
W7	6/26/2010	0.038	<0.0002	<1	<0.01	10	0.003	0.001	7	0.004	<0.0002		<0.0005	<60	<0.0008
W7	6/28/2010	0.028	<0.0002	<1	<0.01	10	0.002	0.001	7	<0.001	<0.0002		<0.0005	<60	<0.0008
W7	7/5/2010	0.104	<0.0002	<1	<0.01	8	0.003	0.001	6	0.001	<0.0002		<0.0005	<60	<0.0008
W7	8/5/2010	0.112	<0.0002	<1	<0.01	10	0.023	0.001	6	0.001	<0.0002		<0.0005	<60	<0.0008
W7	9/12/2010														
W7	9/12/2010	0.231	<0.0002	<1	<0.01	9	0.017	0.001	5	0.002	<0.0002		<0.0005	<60	<0.0008
W7	10/8/2010	0.127	<0.00002	0.71	<0.005	9.34	0.027	0.001	5.34	0.001	<0.0002		<0.0005	3	0.0001
W7	4/27/2011	0.148	<0.00002	1.75	<0.005	3.57	0.027	<0.001	2.12	0.001	<0.0002	0.048	<0.0005	<3	<0.0001
W7	5/2/2011	0.169	<0.00002	1.39	<0.005	2.57	0.021	<0.001	1.43	0.001	<0.0002		<0.0005	<3	<0.0001
W7	6/1/2011	0.099	<0.00002	0.85	<0.005	8.19	0.011	0.001	5.09	0.001	<0.0002	0.011	<0.0005	4	0.0001
W7	6/16/2011	0.207	<0.00002	0.67	<0.005	8.56	0.011	0.001	5.67	0.002	<0.0002	0.014	<0.0005	<3	0.0001
W7	7/1/2011	0.441	0.00005	0.39	<0.005	6.25	0.037	<0.001	4.4	0.002	<0.0002	0.017	<0.0005	<3	0.0001

Table B.1: Raw water quality data from Minto Mine, 2005 - 2013.

Station Name	Sample Date	Dissolved Fe (mg/L)	Dissolved Hg (mg/L)	Dissolved K (mg/L)	Dissolved Li (mg/L)	Dissolved Mg (mg/L)	Dissolved Mn (mg/L)	Dissolved Mo (mg/L)	Dissolved Na (mg/L)	Dissolved Ni (mg/L)	Dissolved Pb (mg/L)	Dissolved P (mg/L)	Dissolved Sb (mg/L)	Dissolved S (mg/L)	Dissolved Se (mg/L)
W7	8/2/2011	0.614	<0.00002	0.29	<0.005	4.85	0.064	<0.001	3.69	0.003	<0.0002	0.02	<0.0005	<3	0.0001
W7	8/16/2011	0.593	<0.00002	0.46	<0.005	7.96	0.054	<0.001	4.81	0.002	<0.0002	0.023	<0.0005	<3	0.0001
W7	8/19/2011	0.556	<0.00002	0.41	<0.005	7.89	0.06	<0.001	4.58	0.002	<0.0002	0.032	<0.0005	<3	0.0001
W7	9/12/2011	0.616	<0.00002	0.62	<0.005	10.1	0.079	<0.001	5.73	0.002	<0.0002	0.023	<0.0005	<3	0.0001
W7	10/6/2011	0.346	<0.00002	0.62	<0.005	9.89	0.07	0.001	5.68	0.001	<0.0002	0.015	<0.0005	<3	0.0001
W7	11/22/2011	0.167	<0.000020	0.864	<0.0050	12.8	0.0626	0.0013	6.99	0.0012	<0.00020	0.014	<0.00050	4.6	0.00016
W7	1/24/2012	0.0944	<0.000010	1.6	<0.0050	14.9	0.0614	0.0015	8.72	<0.0010	<0.00020	0.012	<0.00050	7.3	0.00043
W7	2/25/2012	0.0488	<0.000010	1.63	<0.0050	15.1	0.007	0.0014	8.86	<0.0010	0.00024	0.031	<0.00050	7.3	0.00034
W7	3/5/2012	0.0124	<0.000010	1.5	<0.0050	14.2	0.0015	0.0011	8.03	<0.0010	<0.00020	<0.01	<0.00050	6.1	0.00031
W7	4/24/2012	0.475	<0.000010	1.18	<0.0050	3.2	0.0486	<0.0010	1.9	0.0012	<0.00020	0.027	<0.00050	<3.0	<0.00010
W7	5/6/2012	0.427	<0.000010	0.932	<0.0050	3.95	0.0108	<0.0010	2.4	0.0011	<0.00020	0.021	<0.00050	<3.0	<0.00010
W7	5/6/2012	0.462	<0.000010	0.948	<0.0050	4.04	0.0113	<0.0010	2.44	0.0012	<0.00020	0.021	<0.00050	<3.0	<0.00010
W7	6/19/2012	0.56	<0.000010	0.583	<0.0050	8.07	0.0433	0.0013	5.29	0.002	<0.00020	0.02	<0.00050	<3.0	0.00015
W7	7/17/2012	0.965	<0.000010	0.791	<0.0050	11	0.0366	0.0015	6.55	0.0016	<0.00020	0.035	<0.00050	<3.0	0.00013
W7	7/30/2012	0.964	<0.000010	0.833	<0.0050	12.1	0.0534	0.0015	6.98	0.0015	<0.00020	0.032	<0.00050	<3.0	0.00016
W7	8/8/2012	1.06	<0.000010	0.882	<0.0050	12.6	0.0554	0.0016	7.09	0.0017	<0.00020	0.033	<0.00050	<3.0	0.00014
W7	8/23/2012	0.978	<0.000010	0.942	<0.0050	13	0.057	0.0016	7.35	0.0016	<0.00020	0.031	<0.00050	3.1	0.00015
W7	9/13/2012	0.734	<0.000010	0.567	<0.0050	9.91	0.0956	<0.0010	5.77	0.0036	<0.00020	0.023	<0.00050	<3.0	0.00014
W7	10/16/2012	0.603	<0.000010	0.675	<0.0050	11.2	0.073	0.0011	6.34	0.0015	<0.00020	0.021	<0.00050	3.4	0.00014
W7	11/2/2012	0.183	<0.000010	1.34	<0.0050	14.6	0.101	0.0013	8.07	0.0012	0.00021	0.031	<0.00050	5.2	0.00018
W7	12/29/2012	0.0301	<0.000010	2.54	<0.0050	20.2	0.0374	0.0012	12.2	0.0011	<0.00020	<0.01	<0.00050	10.9	0.00045
W7	4/30/2013	0.0143	<0.000010	1.92	<0.0050	18.3	0.0528	0.0013	10.1	<0.0010	<0.00020	<0.01	<0.00050	8	0.00043
W7	5/14/2013	0.306	<0.000010	1.03	<0.0050	2.75	0.103	<0.0010	1.52	0.001	<0.00020	0.027	<0.00050	<3.0	<0.00010
W7	6/19/2013	0.285	<0.000010	0.94	<0.0050	9.4	0.0317	0.0015	5.9	0.0013	<0.00020	0.019	<0.00050	3.2	0.00011
W7	6/19/2013	0.291	<0.000010	0.955	<0.0050	9.47	0.0339	0.0016	5.88	0.0012	<0.00020	0.019	<0.00050	3.5	0.00019
W7	7/13/2013	0.416	<0.000010	0.91	<0.0050	11	0.026	0.0015	6.52	0.0013	<0.00020	0.016	<0.00050	3.2	0.00015
W7	8/21/2013	0.3	<0.000010	0.934	<0.0050	12.7	0.0355	0.0015	7.34	0.0012	<0.00020	0.017	<0.00050	3.2	0.00015
W7	9/6/2013	0.663	<0.000010	0.887	<0.0050	12.3	0.081	0.0013	7.31	0.0016	<0.00020	0.026	<0.00050	<3.0	0.00017
W7	10/21/2013	0.549	<0.000010	0.878	<0.0050	12.6	0.1	0.0012	7.03	0.0012	<0.00020	0.025	<0.00050	4.2	0.00017
W7	11/16/2013	0.169	<0.000010	1.15	<0.0050	13.3	0.0809	0.0016	7.71	<0.0010	<0.00020	0.017	<0.00050	5.4	0.00024
W7	12/7/2013	0.109	<0.000010	1.38	<0.0050	14.5	0.143	0.0011	8.17	<0.0010	<0.00020	<0.01	<0.00050	5.3	0.00024
C4	5/6/2012	1.11	<0.000010	0.895	<0.0050	3.4	0.243	<0.0010	2.4	0.0023	<0.00020	0.037	<0.00050	<3.0	<0.00010
C4	8/1/2012	1.5	<0.000010	0.754	<0.0050	9.12	0.622	0.0011	4.95	0.0031	<0.00020	0.049	<0.00050	3	0.00011
C4	8/8/2012	1.6	<0.000010	0.759	<0.0050	9.81	0.683	0.0011	5.16	0.0027	<0.00020	0.047	<0.00050	<3.0	0.00011
C4	8/25/2012	1.68	<0.000010	0.989	<0.0050	10.3	0.682	0.0012	5.21	0.0029	<0.00020	0.06	<0.00050	<3.0	<0.00010
C4	6/22/2013	1.2	<0.000010	0.983	<0.0050	9.29	0.405	0.0018	5.62	0.0027	<0.00020	0.041	<0.00050	3.2	0.00013
C4	7/19/2013	1.56	<0.000010	0.845	<0.0050	9.31	0.385	0.0017	5.66	0.0025	<0.00020	0.04	<0.00050	<3.0	0.00012
C4	8/22/2013	1.44	<0.000010	0.776	<0.0050	9.87	0.448	0.0013	5.49	0.0027	<0.00020	0.043	<0.00050	<3.0	0.00012
C4	9/6/2013	1.78	<0.000010	0.777	<0.0050	9.52	0.495	0.001	5.28	0.0028	<0.00020	0.048	<0.00050	3.1	<0.00010
C4	10/18/2013	1.15	<0.000010	0.754	<0.0050	10.5	0.417	<0.0010	5.46	0.0023	<0.00020	0.033	<0.00050	4.5	<0.00010
C4	10/18/2013	1.16	<0.000010	0.762	<0.0050	10.4	0.408	0.0012	5.38	0.0025	<0.00020	0.036	<0.00050	4.4	<0.00010
C4	11/17/2013	14.2	<0.000010	0.985	<0.0050	18.8	3.09	0.0011	8.06	0.0061	<0.00020	0.117	<0.00050	4.5	0.00024
C10	5/12/2012	1.55	<0.000010	1.08	<0.0050	4.24	0.305	<0.0010	2.95	0.0019	0.00025	0.035	<0.00050	<3.0	0.0001
C10	7/30/2012	1.15	<0.000010	0.921	<0.0050	8.1	0.189	0.0014	5.64	0.0023	0.00067	0.039	<0.00050	<3.0	0.00014
C10	7/30/2012														
C10	8/10/2012	0.883	<0.000010	0.824	<0.0050	8.59	0.252	0.0019	5.34	0.0022	<0.00020	0.034	<0.00050	<3.0	0.0001
C10	8/27/2012	1	<0.000010	1.02	<0.0050	8.82	0.27	0.0011	5.26	0.0023	<0.00020	0.038	<0.00050	<3.0	0.00012
C10	6/22/2013	0.802	<0.000010	1.45	<0.0050	8.63	0.0628	0.0012	6.07	0.0025	<0.00020	0.053	<0.00050	<3.0	0.00011
C10	7/23/2013	0.54	<0.000010	0.848	<0.0050	7.65	0.154	0.001	5.75	0.0022	<0.00020	0.025	<0.00050	<3.0	<0.00010
C10	8/22/2013	0.992	<0.000010	0.979	<0.0050	9.84	0.063	0.0015	6.05	0.0023	<0.00020	0.032	<0.00050	<3.0	<0.00010
C10	9/8/2013	1.26	<0.000010	1.03	<0.0050	9.12	0.137	<0.0010	5.65	0.0025	<0.00020	0.04	<0.00050	<3.0	<0.00010
C10	9/8/2013	1.28	<0.000010	1.03	<0.0050	9.37	0.139	<0.0010	5.79	0.0025	<0.00020	0.043	<0.00050	<3.0	<0.00010
C10	10/18/2013	0.761	<0.000010	0.844	<0.0050	8.73	0.187	<0.0010	5.44	0.0019	<0.00020	0.027	<0.00050	<3.0	<0.00010

Table B.1: Raw water quality data from Minto Mine, 2005 - 2013.

Station Name	Sample Date	Dissolved Si (mg/L)	Dissolved Sn (mg/L)	Dissolved Sr (mg/L)	Dissolved Te (mg/L)	Dissolved Th (mg/L)	Dissolved Ti (mg/L)	Dissolved Tl (mg/L)	Dissolved U (mg/L)	Dissolved V (mg/L)	Dissolved Zn (mg/L)	Dissolved Zr (mg/L)	P-E (mg/L)	TT Ag (mg/L)	TT Al (mg/L)
W1	5/27/2005		<0.00050				<0.010	<0.00020	0.00049	<0.030	<0.0050			0.000036	0.613
W1	6/30/2005	5.53	<0.00010	0.3			<0.010	<0.00010	0.00113	<0.0010	<0.0010			<0.000010	0.0218
W1	7/28/2005	5.55	<0.00010	0.331			<0.010	<0.00010	0.00133	<0.0010	0.0025			<0.000010	0.0174
W1	8/29/2005		<0.00050				<0.010	<0.00020	0.00077	<0.030	<0.0050			<0.000020	0.0524
W1	9/28/2005		<0.00050				<0.010	<0.00020	0.00055	<0.030	<0.0050			<0.000020	0.127
W1	10/15/2005	6.25	<0.00010	0.257			<0.010	<0.00010	0.000727	<0.0010	0.0014			<0.000010	0.15
W2	5/27/2005		<0.00050				<0.010	<0.00020						<0.000020	0.362
W2	5/27/2005						<0.01		0.00081	<0.03	<0.005				1.14
W2	6/30/2005	5.4	<0.00010	0.307			<0.010	<0.00010	0.0011	<0.0010	0.0015			<0.000010	0.0111
W2	7/28/2005	5.31	<0.00010	0.341			<0.010	<0.00010	0.00127	<0.0010	0.0011			<0.000010	0.0127
W2	8/30/2005		<0.00050				<0.010	<0.00020	0.00077	<0.030	<0.0050			<0.000020	0.0475
W2	9/28/2005		<0.00050				<0.010	<0.00020	0.00055	<0.030	<0.0050			<0.000020	0.133
W2	10/15/2005	6.19	<0.00010	0.256			<0.010	<0.00010	0.000713	<0.0010	<0.0010			<0.000010	0.0972
W3	5/27/2005		<0.00050				<0.010	<0.00020	0.00031	<0.030	<0.0050			<0.000020	0.152
W3	6/30/2005	5.89	<0.00010	0.297			<0.010	<0.00010	0.000903	<0.0010	0.0116			<0.000010	0.0313
W3	7/29/2005	5.56	<0.00010	0.279			<0.010	<0.00010	0.000717	<0.0010	0.0015			<0.000030	0.732
W3	8/29/2005		<0.00050				<0.010	<0.00020	0.00045	<0.030	<0.0050			0.000027	0.267
W3	9/28/2005		<0.00050				<0.010	<0.00020	0.00034	<0.030	<0.0050			0.000029	0.236
W3	10/15/2005	6.16	<0.00010	0.225			<0.010	<0.00010	0.00042	<0.0010	0.0018			<0.000010	0.09
W8	5/27/2005		<0.00050				<0.010	<0.00020	<0.00020	<0.030	<0.0050			<0.000020	0.0506
W8	6/30/2005	5.25	<0.00010	0.113			<0.010	<0.00010	0.000059	<0.0010	0.0012			<0.000010	0.0807
W8	7/29/2005	4.95	<0.00010	0.132			<0.010	<0.00010	0.000074	<0.0010	0.0019			<0.000010	0.033
W8	8/30/2005		<0.00050				<0.010	<0.00020	<0.00020	<0.030	<0.0050			<0.000020	0.0688
W8	9/28/2005		<0.00050				<0.010	<0.00020	<0.00020	<0.030	<0.0050			<0.000020	0.0509
W8	10/15/2005	6.54	<0.00010	0.171			<0.010	<0.00010	0.000093	<0.0010	<0.0010			<0.000010	0.116
W9	5/27/2005		<0.00050				<0.010	<0.00020	<0.00020	<0.030	<0.0050			<0.000020	0.0732
W9	6/30/2005	5.35	<0.00010	0.0957			<0.010	<0.00010	0.000024	<0.0010	<0.0010			<0.000010	0.0401
W9	7/29/2005	5.69	<0.00010	0.14			<0.010	<0.00010	0.00005	<0.0010	0.004			<0.000010	0.0478
W9	8/29/2005		<0.00050				<0.010	<0.00020	<0.00020	<0.030	<0.0050			<0.000020	0.0564
W9	9/28/2005		<0.00050				<0.010	<0.00020	<0.00020	<0.030	<0.0050			<0.000020	0.0642
W9	10/15/2005	6.13	<0.00010	0.0806			<0.010	<0.00010	0.000023	<0.0010	0.0017			<0.000010	0.0622
W10	5/27/2005		<0.00050				<0.010	<0.00020	<0.00020	<0.030	0.0085			<0.000020	0.151
W10	5/27/2005		<0.0005				<0.01	<0.0002	0.00079	<0.03	<0.005			<0.00002	
W10	6/30/2005	5.43	<0.00010	0.0772			<0.010	<0.00010	0.000028	<0.0010	0.0223			<0.000010	0.142
W10	7/29/2005	5.64	<0.00010	0.0921			<0.010	<0.00010	<0.000010	<0.0010	0.0074			<0.000030	2.59
W10	8/29/2005		<0.00050				<0.010	<0.00020	<0.00020	<0.030	0.0052			<0.000020	0.587
W10	9/28/2005		<0.00050				<0.010	<0.00020	<0.00020	<0.030	<0.0050			<0.000020	0.0818
W10	10/15/2005	5.82	<0.00010	0.147			<0.010	<0.00010	0.000013	<0.0010	0.0015			<0.000010	0.089
W6	5/27/2005		<0.00050				<0.010	<0.00020	<0.00020	<0.030	<0.0050			<0.000020	0.229
W6	6/30/2005	7.18	<0.00010	0.102			<0.010	<0.00010	0.000134	<0.0010	0.021			<0.000010	0.17
W6	7/29/2005	5.51	<0.00010	0.274			<0.010	<0.00010	0.0014	<0.0010	0.0025			<0.000020	0.598
W6	8/30/2005		<0.00050				<0.010	<0.00020	<0.00020	<0.030	<0.0050			<0.000020	0.0181
W6	9/28/2005		<0.00050				<0.010	<0.00020	<0.00020	<0.030	<0.0050			<0.000020	0.0321
W6	10/15/2005	6.93	<0.00010	0.108			<0.010	<0.00010	0.000122	<0.0010	0.0015			<0.000010	0.0251
W6	6/2/2006	4.84	<0.0001	0.0682			<0.01	<0.0001	0.000081	<0.001	0.003			0.000021	1.95
W6	8/25/2006													<0.0002	0.024
W6	9/6/2006	7.54	<0.001	0.136			0.0005	<0.00005	<0.0005	0.0016	0.002			<0.0001	0.035
W6	6/20/2007													<0.0001	0.042
W6	9/18/2007													<0.0001	0.023
W6	6/17/2008													<0.00001	0.14
W6	9/18/2008	6.29	<0.0001	0.098	<0.0001	<0.0001	0.001	<0.00001	<0.0004	0.00073	0.003	0.0002		0.00008	0.022
W6	4/14/2009	3.63	<0.0001	0.419	<0.0001	<0.0001	0.0032	<0.00001	0.004	0.00029	0.049	<0.0001		0.00021	1.3
W6	4/30/2009	2.3	<0.0001	0.099	<0.0001	<0.0001	0.0044	<0.00001	<0.0004	0.00047	0.006	0.0004		<0.00001	5.31
W6	7/28/2009														
W6	8/6/2009													<0.00001	0.085
W6	8/6/2009													<0.00001	0.07
W6	8/18/2009	4.06	<0.0001	0.584	<0.0001	<0.0004	0.0004	<0.00001	0.0008	0.0006	0.002	<0.0001			
W6	8/25/2009														
W6	10/7/2009														
W6	10/7/2009													<0.00001	0.171
W6	10/25/2009	4.2	<0.005	0.817			<0.005	<0.00005	0.0009	<0.005	<0.005	<0.0005		<0.00002	0.065
W6	4/19/2010	3.81	<0.0001	0.372	<0.0001	<0.0004	<0.01	<0.00001	0.0013	0.0006	0.005	<0.0001		0.00002	1.25
W6	5/16/2010	5.52	<0.005	0.199			<0.005	<0.00005	<0.0001	<0.005	<0.005	<0.0005		0.00002	0.041
W6	5/17/2010	2.22	<0.005	0.219			<0.005	<0.00005	0.0005	<0.005	<0.005	<0.0005		<0.00002	0.025
W6	5/19/2010	2.79	<0.005	0.245			<0.005	<0.00005	0.0005	<0.005	<0.005	<0.0005		<0.00002	0.03
W6	5/21/2010	2.14	<0.005	0.243			<0.01	<0.00005	0.0006	<0.005	<0.01	<0.002		<0.0001	0.162
W6	5/23/2010	2.58	<0.005	0.285			<0.01	<0.00005	0.0006	<0.005	<0.01	<0.002		<0.0001	0.027
W6	5/25/2010	2.6	<0.005	0.306			<0.01	<0.00005	0.0005	<0.005	<0.01	<0.002		<0.0001	0.061
W6	5/29/2010	<2	<0.005	0.221			<0.01	<0.00005	0.0005	<0.005	<0.01	<0.002		<0.0001	0.09
W6	6/2/2010	5.16	<0.005	0.623			<0.01	<0.00005	0.0028	<0.005	<0.01	<0.002		<0.0001	0.036
W6	6/4/2010	5.66	<0.005	0.099			<0.01	<0.00005	0.0003	<0.005	<0.01	<0.002		<0.0001	0.049
W6	6/6/2010	6.95	<0.005	0.115			<0.01	<0.00005	0.0004	<0.005	<0.01	<0.002		<0.0001	0.142
W6	6/14/2010	7.21	<0.005	0.099			<0.01	<0.00005	0.0003	<0.005	<0.01	<0.002		<0.0001	0.274
W6	6/16/2010	6.57	<0.005	0.117			<0.01	<0.00005	0.0003	<0.005	<0.01	<0.002		<0.0001	0.274
W6	6/18/2010	7.25	<0.005	0.111			<0.01	<0.00005	0.0003	<0.005	<0.01	<0.002		<0.0001	0.154
W6	6/20/2010	6.72	<0.005	0.109			<0.01	<0.00005	0.0003	<0.005	<0.01	<0.002		<0.0001	0.138
W6	6/22/2010	6.78	<0.005	0.109			<0.01	<0.00005	0.0003	<0.005	<0.01	<0.002		<0.0001	0.208
W6	6/24/2010	6.84	<0.005	0.109			<0.01	<0.00005	0.0003	<0.005	<0.01	<0.002		<0.0001	0.118
W6	6/26/2010	6.94	<0.005	0.118			<0.01	<0.00005	0.0003	<0.005	<0.01	<0.002		<0.0001	0.143
W6	6/26/2010														
W6	6/28/2010	7.64	<0.005	0.115			<0.01	<0.00005	0.0002	<0.005	<0.01	<0.002		<0.0001	0.612
W6	7/5/2010	6.24	<0.005	0.112			<0.01	<0.00005	0.0002	<0.005	<0.01	<0.002		<0.0001	1.41
W6	8/5/2010	7.84	<0.005	0.13			<0.01	<0.00005	0.0002	<0.005	<0.01	<0.002		<0.0001	0.157
W6	9/9/2010	7.77	<0.005	0.13			<0.01	<0.00005	0.0002	<0.005	<0.01	<0.002		<0.0001	0.655
W6	10/8/2010	6.98	<0.005	0.125			<0.005	<0.00005	0.0002	<0.005	<0.005	<0.0005		<0.00002	0.429
W6	8/19/2011	5.54	<0.005	0.617			<0.005	<0.00005	0.0025	<0.005	<0.005	<0.0005		<0.00002	0.033
W6	7/17/2012	7.25	<0.0050	0.131			<0.0050	<0.000050	0.00034	<0.0050	<0.0050	<0.00050		0.000172	20.8
W6	7/30/2012	6.95	<0.0050	0.135			<0.0050	<0.000050	0.00039	<0.0050	<0.0050	<0.00050		0.000122	15.1
W6	8/9/2012	8.13	<0.0050	0.151			<0.0050	<0.000050	0.00038	<0.0050	<0.0050	<0.00050		0.000054	8.03
W6	8/25/2012	6.56	<0.0050	0.143			<0.0050	<0.000050	0.0004	<0.0050	<0.0050	<0.00050		0.000021	5.23
W6	9/13/2012	6.42	<0.0050	0.11			<0.0050	<0.000050	0.00013	<0.0050	<0.0050	<0.00050		<0.000020	0.271
W6	10/13/2012													<0.000020	0.241
W6	11/12/2012	8.72	<0.0050	0.189			<0.0050	<0.000050	0.00032	<0.0050	<0.0050	<0.00050		<0.000020	0.0243
W6	5/14/2013	2.67	<0.0050	0.0363			<0.0050	<0.000050	<0.00010	<0.0050	<0.0050	<0.00050		<0.000020	0.65
W6	6/22/2013	6.57	<0.0050	0.115			<0.0050	<0.000050	0.00028	<0.0050	<0.0050	<0.00050		<0.000020	4.63
W6	7/12/2013	7.05	<0.0050	0.112			<0.0050	<0.000050	0.00017	<0.0050	<0.0050	<0.00050		<0.000020	0.506
W6	8/22/2013	7.24	<0.0050	0.132			<0.0050	<0.000050	0.00017	<0.0050	<0.0050	<0.00050		<0.000020	0.0846
W6	9/6/2013	7.48	<0.0050	0.132			<0.0050	<0.000050	0.00016	<0.0050	<0.0050	<0.00050		<0.000020	0.165
W6	10/7/2013	7.39	<0.0050	0.126			<0.0050	<0.000050	0.00018	<0.0050	<0.0050	<0.00050		0.000045	2.18
W6	11/16/2013	8.28	<0.0050	0.144			<0.0050	<0.000050	0.00019	<0.0050	<0.0050	<0.00050		<0.000020	0.283
W6	12/7/2013	9.38	<0.0050	0.2			<0.0050	<0.000050	0.00039	<0.0050	<0.0050	<0.00050		0.000049	0.0734
W7	5/27/2005		<0.00050				<0.010	<0.00020	0.00036	<0.030	<0.0050			<0.000020	0.489
W7	6/30/2005	5.72	<0.00010	0.284			<0.010	<0.00010	0.000759	<0.0010	0.0064			<0.000010	0.153
W7	7/29/2005	5.47	<0.00010	0.277			<0.010	<0.00010	0.000994	<0.0010	0.002			<0.000020	0.506
W7	8/30/2005		<0.00050				<0.010	<0.00020	0.00055	<0.030	<0.0050			<0.000020	0.0436
W7	9/28/2005		<0.00050				<0.010	<0.00020	0.00038	<0.030	<0.0050			<0.000020	1.65
W7	10/15/2005	6.44	<0.00010	0.23			<0.010	<0.00010	0.000515	<0.0010	<0.0010			<0.000010	0.0738
W7	6/2/2006	4.19	<0.0001	0.11			<0.01	<0.0001	0.000216	0.0017	<0.001			0.000069	11.4
W7	6/8/2006													<0.00001	0.648

Table B.1: Raw water quality data from Minto Mine, 2005 - 2013.

Station Name	Sample Date	Dissolved Si (mg/L)	Dissolved Sn (mg/L)	Dissolved Sr (mg/L)	Dissolved Te (mg/L)	Dissolved Th (mg/L)	Dissolved Ti (mg/L)	Dissolved Tl (mg/L)	Dissolved U (mg/L)	Dissolved V (mg/L)	Dissolved Zn (mg/L)	Dissolved Zr (mg/L)	P-E (mg/L)	TT Ag (mg/L)	TT Al (mg/L)
W7	6/15/2006														
W7	6/15/2006	5.35	<0.001	0.236			0.0007	<0.00005	0.0007	0.0011	<0.001			<0.0001	1.48
W7	6/23/2006	5.5	<0.001	0.321			0.0006	<0.00005	0.001	0.001	0.002			0.0003	5.09
W7	6/28/2006	6.48	<0.001	0.284			0.0117	<0.00005	0.0009	0.0029	0.005			<0.0001	1.69
W7	7/7/2006	6.8	<0.001	0.322			0.0007	<0.00005	0.0005	0.0013	0.001			<0.0001	0.096
W7	7/12/2006	5.36	<0.001	0.322			0.0005	<0.00005	0.0007	0.0018	<0.001			<0.0001	0.078
W7	7/20/2006	6.34	<0.001	0.284			<0.0005	<0.00005	0.001	0.0016	<0.001			<0.0001	0.058
W7	7/26/2006														
W7	7/26/2006	5.35	<0.001	0.274			<0.0005	<0.00005	0.001	0.0007	<0.001			<0.0001	0.099
W7	8/2/2006	5.87	<0.001	0.247			0.0005	<0.00005	0.001	0.0013	<0.001			0.0002	0.06
W7	8/10/2006	5.9	<0.001	0.343			0.0006	<0.00005	0.001	0.0015	0.001			<0.0001	0.034
W7	8/25/2006														
W7	8/25/2006	6.32	<0.001	0.344			0.0005	<0.00005	0.0011	0.0017	0.003			<0.0002	0.048
W7	8/30/2006	5.84	<0.001	0.333			0.0008	<0.00005	0.001	0.0008	0.005			<0.0001	0.054
W7	9/6/2006	6.02	<0.001	0.355			0.0005	<0.00005	0.001	0.0018	0.002			<0.0001	0.049
W7	9/13/2006	5.56	<0.001	0.321			0.0006	<0.00005	0.001	0.0014	0.001			<0.0001	0.025
W7	9/20/2006	5.74	<0.001	0.319			<0.0005	<0.00005	0.001	0.0015	<0.001			<0.0001	0.074
W7	9/28/2006	5.97	<0.001	0.34			<0.0005	<0.00005	0.001	0.0015	0.002			<0.0002	0.042
W7	10/4/2006	5.93	<0.001	0.326			0.0007	<0.00005	0.001	0.0011	0.001			<0.0002	0.082
W7	10/12/2006	6.08	<0.001	0.344			0.0006	<0.00005	0.0011	0.0009	0.002			<0.0001	0.264
W7	6/5/2007													<0.0001	1.56
W7	6/5/2007													<0.0002	1.77
W7	6/5/2007													<0.0001	1.85
W7	6/20/2007	5.02	<0.001	0.307			0.0009	<0.00005	0.0012	0.0016	0.004			<0.0001	0.172
W7	7/18/2007	6.1	<0.001	0.34			0.0006	<0.00005	0.0012	0.0024	0.006			<0.0001	0.231
W7	7/18/2007													<0.0001	0.216
W7	7/18/2007													<0.0001	0.211
W7	8/24/2007														
W7	8/24/2007														
W7	8/24/2007														
W7	8/24/2007													<0.0001	0.205
W7	8/24/2007													<0.0001	0.098
W7	8/24/2007													<0.0001	0.092
W7	9/18/2007	6.17	<0.001	0.31			0.0006	<0.00005	0.0006	0.0044	0.002			<0.0001	0.33
W7	10/30/2007													<0.0001	0.121
W7	10/30/2007													<0.0001	0.071
W7	10/30/2007													<0.0001	0.076
W7	10/30/2007														
W7	4/22/2008	3.97	<0.004	0.497	<0.0001	<0.0001	0.0011	<0.00001	0.0021	0.00059	0.001	<0.0001		<0.0001	<0.02
W7	4/22/2008	4.03	<0.004	0.51	<0.0001	<0.0001	0.0009	<0.00001	0.0024	0.00077	0.003	0.0001		<0.0001	0.02
W7	4/22/2008	3.95	<0.004	0.491	<0.0001	<0.0001	0.0014	<0.00001	0.0022	0.0003	0.001	<0.0001		<0.0001	0.02
W7	4/22/2008														
W7	6/3/2008													<0.0001	0.4
W7	6/3/2008													<0.0001	0.38
W7	6/3/2008													<0.0001	0.42
W7	6/3/2008	2.27	<0.0001	0.226	<0.0001	<0.0001	0.0005	<0.00001	0.001	0.00062	0.002	0.0004			
W7	6/17/2008		<0.0001	0.289	0.0002	<0.0001	0.0015	<0.00001	0.0014	0.00091	0.002	0.0003		<0.00001	0.21
W7	8/6/2008													0.00001	0.817
W7	8/6/2008													0.00001	1.27
W7	8/6/2008													0.00001	1.36
W7	8/6/2008	5.81	<0.001	0.336			<0.0005	<0.00005	0.0011	0.001	0.006				
W7	9/18/2008	5.8	<0.0001	0.173	<0.0001	<0.0001	0.0055	<0.00001	<0.0004	0.00094	0.003	0.0004		0.00006	0.469
W7	10/28/2008													<0.00001	0.084
W7	10/28/2008													<0.00001	0.038
W7	10/28/2008													<0.00001	0.031
W7	10/28/2008	6.6	<0.0001	0.276	<0.0001	<0.0001	0.0011	<0.00001	0.0007	0.00067	0.001	0.0002			
W7	4/30/2009	1.48	<0.0001	0.029	<0.0001	<0.0001	0.0015	<0.00001	<0.0004	0.00024	0.009	0.0002		<0.00001	0.138
W7	6/8/2009	4.13	<0.0001	0.24	<0.0001	<0.0001	0.0011	<0.00001	0.0008	0.0008	0.002	0.0003		0.00002	0.595
W7	7/28/2009														
W7	8/6/2009													0.00002	0.071
W7	8/24/2009														
W7	8/25/2009														
W7	8/31/2009	6.04	<0.0001	0.256	<0.0001	<0.0004	0.0004	<0.00001	0.0007	0.0007	0.001	0.0002			
W7	10/7/2009														
W7	10/7/2009													<0.00001	0.189
W7	10/25/2009	6.3	<0.005	0.334			<0.005	<0.00005	0.0012	<0.005	<0.005	<0.0005		<0.00002	0.052
W7	10/25/2009														
W7	4/19/2010	4.15	<0.0001	0.212	<0.0001	<0.0004	<0.01	<0.00001	0.0005	0.0005	0.005	<0.0001		<0.00001	0.033
W7	4/27/2010	2.94	<0.005	0.071			<0.005	<0.00005	0.0001	<0.005	<0.005	<0.0005		<0.00002	0.113
W7	4/29/2010	2.89	<0.005	0.076			<0.005	<0.00005	0.0001	<0.005	<0.005	<0.0005		<0.00002	0.11
W7	5/1/2010	3.27	<0.005	0.088			<0.005	<0.00005	0.0002	<0.005	<0.005	<0.0005		<0.00002	0.502
W7	5/3/2010	3.63	<0.005	0.097			<0.005	<0.00005	0.0002	<0.005	<0.005	<0.0005		0.00003	0.406
W7	5/5/2010	3.84	<0.005	0.116			<0.005	<0.00005	0.0003	<0.005	<0.005	<0.0005		<0.00002	0.394
W7	5/7/2010	3.77	<0.005	0.129			<0.005	<0.00005	0.0003	<0.005	<0.005	<0.0005		<0.00002	0.407
W7	5/9/2010	4.61	<0.005	0.192			<0.005	<0.00005	0.0006	<0.005	<0.005	<0.0005		<0.00002	0.183
W7	5/10/2010	4.62	<0.005	0.195			<0.005	<0.00005	0.0006	<0.005	<0.005	<0.0005		<0.00002	0.125
W7	5/12/2010														
W7	5/12/2010	5	<0.005	0.201			<0.005	<0.00005	0.0006	<0.005	<0.005	<0.0005		<0.00002	0.123
W7	5/14/2010	4.35	<0.005	0.178			<0.005	<0.00005	0.0005	<0.005	<0.005	<0.0005		<0.00002	0.286
W7	5/16/2010	4.68	<0.005	0.207			<0.005	<0.00005	0.0007	<0.005	<0.005	<0.0005		<0.00002	0.207
W7	5/17/2010	4.22	<0.005	0.191			<0.005	<0.00005	0.0006	<0.005	<0.005	<0.0005		<0.00002	0.219
W7	5/19/2010	5.24	<0.005	0.21			<0.005	<0.00005	0.0008	<0.005	<0.005	<0.0005		<0.00002	0.105
W7	5/21/2010	4.98	<0.005	0.22			<0.01	<0.00005	0.0008	<0.005	<0.01	<0.002		<0.0001	0.457
W7	5/23/2010	5.24	<0.005	0.235			<0.01	<0.00005	0.0009	<0.005	<0.01	<0.002		<0.0001	2.14
W7	5/25/2010	6.05	<0.005	0.306			<0.01	<0.00005	0.0011	<0.005	<0.01	<0.002		<0.0001	4.2
W7	5/27/2010	5.4	<0.005	0.277			<0.01	<0.00005	0.0011	<0.005	<0.01	<0.002		<0.0001	10.3
W7	5/29/2010	5.26	<0.005	0.289			<0.01	<0.00005	0.0014	<0.005	<0.01	<0.002		<0.0001	3.93
W7	5/31/2010		<0.005	0.286			<0.01	<0.00005	0.0014	<0.005	<0.01	<0.002		<0.0001	4.54
W7	6/2/2010	5.16	<0.005	0.293			<0.01	<0.00005	0.0015	<0.005	<0.01	<0.002		<0.0001	2.91
W7	6/4/2010	4.96	<0.005	0.275			<0.01	<0.00005	0.0014	<0.005	<0.01	<0.002		<0.0001	1.64
W7	6/6/2010	5.46	<0.005	0.313			<0.01	<0.00005	0.0015	<0.005	<0.01	<0.002		<0.0001	2.05
W7	6/14/2010	5.87	<0.005	0.314			<0.01	<0.00005	0.0015	<0.005	<0.01	<0.002		<0.0001	1.1
W7	6/16/2010	5.32	<0.005	0.338			<0.01	<0.00005	0.0015	<0.005	<0.01	<0.002		<0.0001	0.43
W7	6/18/2010	5.82	<0.005	0.318			<0.01	<0.00005	0.0015	<0.005	<0.01	<0.002		<0.0001	0.504
W7	6/20/2010	5.69	<0.005	0.3			<0.01	<0.00005	0.0012	<0.005	<0.01	<0.002		<0.0001	1.17
W7	6/22/2010	5.86	<0.005	0.249			<0.01	<0.00005	0.0008	<0.005	<0.01	<0.002		<0.0001	5.52
W7	6/24/2010	5.79	<0.005	0.259			<0.01	<0.00005	0.0008	<0.005	<0.01	<0.002		<0.0001	1.21
W7	6/26/2010	6.05	<0.005	0.305			<0.01	<0.00005	0.001	<0.005	<0.01	<0.002		<0.0001	0.503
W7	6/28/2010	6.64	<0.005	0.314			<0.01	<0.00005	0.001	<0.005	<0.01	<0.002		<0.0001	0.298
W7	7/5/2010	6.08	<0.005	0.255			<0.01	<0.00005	0.0006	<0.005	<0.01	<0.002		<0.0001	1.59
W7	8/5/2010	6.47	<0.005	0.303			<0.01	<0.00005	0.0007	<0.005	<0.01	<0.002		<0.0001	0.22
W7	9/12/2010													<0.0001	0.256
W7	9/12/2010	7.17	<0.005	0.253			<0.01	<0.00005	0.0005	<0.005	<0.01	<0.002		<0.0001	0.273
W7	10/8/2010	6.54	<0.005	0.277			<0.005	<0.00005	0.0007	<0.005	<0.005	<0.0005		<0.00002	0.064
W7	4/27/2011	3.09	<0.005	0.084			<0.005	<0.00005	0.0001	<0.005	0.005	<0.0005		<0.00002	0.101
W7	5/2/2011	2.52	<0.005	0.062			<0.005	<0.00005	<0.0001	<0.005	0.01	<0.0005		<0.00002	0.25
W7	6/1/2011	5.26	<0.005	0.25			<0.005	<0.00005	0.0007	<0.005	<0.005	<0.0005		<0.00002	0.454
W7	6/16/2011	6.52	<0.005	0.213			<0.005	<0.00005	0.0005	<0.005	<0.005	<0.0005		<0.00002	2.48
W7	7/1/2011	6.61	<0.005	0.154			<0.005	<0.00005	0.0003	<0.005	<0.005	<0.0005		0.00004	3.4

Table B.1: Raw water quality data from Minto Mine, 2005 - 2013.

Station Name	Sample Date	Dissolved Si (mg/L)	Dissolved Sn (mg/L)	Dissolved Sr (mg/L)	Dissolved Te (mg/L)	Dissolved Th (mg/L)	Dissolved Ti (mg/L)	Dissolved Tl (mg/L)	Dissolved U (mg/L)	Dissolved V (mg/L)	Dissolved Zn (mg/L)	Dissolved Zr (mg/L)	P-E (mg/L)	TT Ag (mg/L)	TT Al (mg/L)
W7	8/2/2011	5.78	<0.005	0.12			<0.005	<0.00005	0.0002	<0.005	<0.005	<0.0005		0.00008	9.23
W7	8/16/2011	6.96	<0.005	0.21			<0.005	<0.00005	0.0004	<0.005	<0.005	<0.0005		<0.00002	0.403
W7	8/19/2011	6.9	<0.005	0.197			<0.005	<0.00005	0.0003	<0.005	<0.005	<0.0005		<0.00002	0.444
W7	9/12/2011	7.71	<0.005	0.266			<0.005	<0.00005	0.0005	<0.005	<0.005	<0.0005		<0.00002	0.08
W7	10/6/2011	6.17	<0.005	0.266			<0.005	<0.00005	0.0006	<0.005	<0.005	<0.0005		<0.00002	0.065
W7	11/22/2011	8.07	<0.0050	0.366			<0.0050	<0.000050	0.00106	<0.0050	<0.0050	<0.00050		<0.00002	0.407
W7	1/24/2012	7.24	<0.0050	0.456			<0.0050	<0.000050	0.00163	<0.0050	<0.0050	<0.00050		<0.00002	0.01
W7	2/25/2012	6.43	<0.0050	0.448			<0.0050	<0.000050	0.0015	<0.0050	0.0083	<0.00050		<0.00002	0.018
W7	3/5/2012	5.99	<0.0050	0.468			<0.0050	<0.000050	0.00145	<0.0050	<0.0050	<0.00050		<0.00002	0.043
W7	4/24/2012	2.94	<0.0050	0.0774			<0.0050	<0.000050	0.00014	<0.0050	<0.0050	<0.00050		<0.000020	0.766
W7	5/6/2012	3.66	<0.0050	0.106			<0.0050	<0.000050	<0.00010	<0.0050	<0.0050	<0.00050		<0.000020	0.11
W7	5/6/2012	3.7	<0.0050	0.105			<0.0050	<0.000050	<0.00010	<0.0050	<0.0050	<0.00050		<0.000020	0.131
W7	6/19/2012	6.21	<0.0050	0.191			<0.0050	<0.000050	0.00043	<0.0050	<0.0050	<0.00050		0.00003	5.38
W7	7/17/2012	6.79	<0.0050	0.306			<0.0050	<0.000050	0.00074	<0.0050	<0.0050	<0.00050		<0.000020	0.93
W7	7/30/2012	6.86	<0.0050	0.329			<0.0050	<0.000050	0.00091	<0.0050	<0.0050	<0.00050		<0.000020	0.2
W7	8/8/2012	7	<0.0050	0.357			<0.0050	<0.000050	0.00096	<0.0050	<0.0050	<0.00050		<0.000020	0.0828
W7	8/23/2012	7.06	<0.0050	0.35			<0.0050	<0.000050	0.00097	<0.0050	<0.0050	<0.00050		<0.000020	0.0342
W7	9/13/2012	6.7	<0.0050	0.247			<0.0050	<0.000050	0.00052	<0.0050	<0.0050	<0.00050		<0.000020	0.139
W7	10/16/2012	6.8	<0.0050	0.303			<0.0050	<0.000050	0.00077	<0.0050	<0.0050	<0.00050		<0.000020	0.127
W7	11/2/2012	6.94	<0.0050	0.407			<0.0050	<0.000050	0.00135	<0.0050	<0.0050	<0.00050		<0.000020	0.0576
W7	12/29/2012	9.63	<0.0050	0.535			<0.0050	<0.000050	0.00133	<0.0050	<0.0050	<0.00050		<0.000020	0.0127
W7	4/30/2013	6.83	<0.0050	0.607			<0.0050	<0.000050	0.00213	<0.0050	<0.0050	<0.00050		<0.000020	0.0111
W7	5/14/2013	2.15	<0.0050	0.063			<0.0050	<0.000050	<0.00010	<0.0050	<0.0050	<0.00050		<0.000020	1.34
W7	6/19/2013	5.93	<0.0050	0.276			<0.0050	<0.000050	0.00097	<0.0050	<0.0050	<0.00050		<0.000020	0.256
W7	6/19/2013	5.92	<0.0050	0.277			<0.0050	<0.000050	0.00098	<0.0050	<0.0050	<0.00050		<0.000020	0.213
W7	7/13/2013	7.01	<0.0050	0.327			<0.0050	<0.000050	0.00105	<0.0050	<0.0050	<0.00050		0.000024	0.127
W7	8/21/2013	6.79	<0.0050	0.364			<0.0050	<0.000050	0.00107	<0.0050	<0.0050	<0.00050		<0.000020	0.137
W7	9/6/2013	7.12	<0.0050	0.339			<0.0050	<0.000050	0.00088	<0.0050	<0.0050	<0.00050		<0.000020	0.37
W7	10/21/2013	7.18	<0.0050	0.353			<0.0050	<0.000050	0.00093	<0.0050	<0.0050	<0.00050		<0.000020	0.0931
W7	11/16/2013	6.47	<0.0050	0.418			<0.0050	<0.000050	0.0015	<0.0050	<0.0050	<0.00050		<0.000020	0.0389
W7	12/7/2013	7.02	<0.0050	0.439			<0.0050	<0.000050	0.00126	<0.0050	<0.0050	<0.00050		0.000046	0.0098
C4	5/6/2012	4.02	<0.0050	0.0653			<0.0050	<0.000050	0.00015	<0.0050	<0.0050	0.00054		0.00021	29.7
C4	8/1/2012	8.03	<0.0050	0.206			<0.0050	<0.000050	0.00065	<0.0050	<0.0050	0.00061		0.000056	7.06
C4	8/8/2012	7.91	<0.0050	0.225			<0.0050	<0.000050	0.00075	<0.0050	<0.0050	0.00053		0.000051	7.01
C4	8/25/2012	7.53	<0.0050	0.231			<0.0050	<0.000050	0.00076	<0.0050	<0.0050	0.00058		0.00002	4.45
C4	6/22/2013	6.82	<0.0050	0.184			<0.0050	<0.000050	0.00115	<0.0050	<0.0050	0.00052		0.000074	20.4
C4	7/19/2013	7.14	<0.0050	0.193			<0.0050	<0.000050	0.001	<0.0050	<0.0050	<0.00050		0.000087	13.5
C4	8/22/2013	7.18	<0.0050	0.209			<0.0050	<0.000050	0.00095	<0.0050	<0.0050	0.00058		0.000063	13.8
C4	9/6/2013	7.73	<0.0050	0.214			<0.0050	<0.000050	0.00075	<0.0050	<0.0050	0.00055		0.000021	5.43
C4	10/18/2013	7.06	<0.0050	0.217			<0.0050	<0.000050	0.00068	<0.0050	<0.0050	<0.00050		0.000052	0.349
C4	10/18/2013	7.12	<0.0050	0.218			<0.0050	<0.000050	0.0007	<0.0050	<0.0050	<0.00050		0.000124	0.358
C4	11/17/2013	8.74	<0.0050	0.405			<0.0050	<0.000050	0.00063	<0.0050	<0.0050	0.00111		<0.000020	0.0856
C10	5/12/2012	3.83	<0.0050	0.0919			<0.0050	<0.000050	0.00057	<0.0050	<0.0050	<0.00050		0.000337	39.6
C10	7/30/2012	6.28	<0.0050	0.189			<0.0050	<0.000050	0.00243	<0.0050	<0.0050	<0.00050		0.0002	21.3
C10	7/30/2012														
C10	8/10/2012	6.7	<0.0050	0.2			<0.0050	<0.000050	0.00182	<0.0050	<0.0050	<0.00050		0.000187	21.1
C10	8/27/2012	6.39	<0.0050	0.214			<0.0050	<0.000050	0.00149	<0.0050	<0.0050	<0.00050		0.000217	24.8
C10	6/22/2013	6.15	<0.0050	0.195			<0.0050	<0.000050	0.0011	<0.0050	0.0104	<0.00050		<0.000020	1.31
C10	7/23/2013	6.42	<0.0050	0.177			<0.0050	<0.000050	0.00075	<0.0050	<0.0050	<0.00050		0.000021	4.86
C10	8/22/2013	7.14	<0.0050	0.242			<0.0050	<0.000050	0.00117	<0.0050	<0.0050	<0.00050		<0.000020	0.947
C10	9/8/2013	7.12	<0.0050	0.255			<0.0050	<0.000050	0.00094	<0.0050	<0.0050	<0.00050		<0.000020	0.509
C10	9/8/2013	7.01	<0.0050	0.254			<0.0050	<0.000050	0.0009	<0.0050	<0.0050	<0.00050		<0.000020	0.483
C10	10/18/2013	5.99	<0.0050	0.201			<0.0050	<0.000050	0.0007	<0.0050	<0.0050	<0.00050		0.000068	1.14

Table B.1: Raw water quality data from Minto Mine, 2005 - 2013.

Station Name	Sample Date	TT As (mg/L)	Ba (mg/L)	Total Be (mg/L)	Total Bi (mg/L)	Total B (mg/L)	Total Ca (mg/L)	Total Cd (mg/L)	Total Co (mg/L)	Total Cr (mg/L)	Total Cu (mg/L)	Total Fe (mg/L)	Total Hg (mg/L)	Total K (mg/L)	Total La (mg/L)
W1	5/27/2005	0.0009	0.062	<0.0010		<0.10	25.9	<0.000050	0.00058	0.002	0.0059	1.05	<0.000020	<2.0	
W1	6/30/2005	0.00047	0.0545	<0.00050	<0.00050	<0.010	36.7	<0.000050	<0.00010	<0.00050	0.00204	0.088		<2.0	
W1	7/28/2005	0.00045	0.0597	<0.00050	<0.00050	<0.010	38.5	<0.000050	<0.00010	<0.00050	0.00229	0.079		<2.0	
W1	8/29/2005	0.00062	0.059	<0.0010		<0.10	35	<0.000017	<0.00030	<0.0010	0.0026	0.387	<0.000020	<2.0	
W1	9/28/2005	0.00068	0.059	<0.0010		<0.10	35.5	<0.000017	<0.00030	<0.0010	0.0039	0.691	<0.000020	<2.0	
W1	10/15/2005	0.00062	0.054	<0.00050	<0.00050	<0.010	34.2	<0.000050	0.00026	0.00068	0.00458	0.526		<2.0	
W2	5/27/2005	0.00075	0.058	<0.0010		<0.10	24.8	<0.000050	0.00043	0.0012	0.0049	0.778	<0.000020	<2.0	
W2	5/27/2005	0.00104	0.053	<0.001		<0.1	19.9	<0.00005	0.00087	0.0027	0.0037	1.49			
W2	6/30/2005	0.00045	0.0569	<0.00050	<0.00050	<0.010	37.5	<0.000050	<0.00010	<0.00050	0.00207	0.052		<2.0	
W2	7/28/2005	0.00046	0.0576	<0.00050	<0.00050	<0.010	39.1	<0.000050	<0.00010	<0.00050	0.00245	0.079		<2.0	
W2	8/30/2005	0.00063	0.06	<0.0010		<0.10	35.4	<0.000017	<0.00030	<0.0010	0.0026	0.373	<0.000020	<2.0	
W2	9/28/2005	0.00069	0.057	<0.0010		<0.10	34.3	<0.000017	<0.00030	<0.0010	0.0039	0.674	<0.000020	<2.0	
W2	10/15/2005	0.00061	0.0528	<0.00050	<0.00050	<0.010	34.1	<0.000050	0.00018	0.00059	0.00404	0.436		<2.0	
W3	5/27/2005	<0.00050	0.042	<0.0010		<0.10	20.9	<0.000050	<0.00030	<0.0010	0.0078	0.32	<0.000020	<2.0	
W3	6/30/2005	0.00037	0.0518	<0.00050	<0.00050	<0.010	39.1	<0.000050	<0.00010	0.0005	0.00374	0.081		<2.0	
W3	7/29/2005	0.00081	0.0667	<0.00050	<0.00050	<0.010	37.3	<0.000050	0.00062	0.002	0.0149	1.32		<2.0	
W3	8/29/2005	0.00054	0.06	<0.0010		<0.10	30.8	<0.000017	<0.00030	<0.0010	0.0086	0.698	<0.000020	<2.0	
W3	9/28/2005	0.00055	0.055	<0.0010		<0.10	28.7	<0.000017	0.0003	<0.0010	0.01	0.794	<0.000020	<2.0	
W3	10/15/2005	0.00045	0.0489	<0.00050	<0.00050	<0.010	29.4	<0.000050	0.00023	<0.00050	0.00855	0.497		<2.0	
W8	5/27/2005	<0.00050	0.04	<0.0010		<0.10	16.9	<0.000050	<0.00030	<0.0010	0.0143	0.23	<0.000020	<2.0	
W8	6/30/2005	0.00048	0.0503	<0.00050	<0.00050	<0.010	24.3	<0.000050	0.00021	0.00073	0.0103	0.503		<2.0	
W8	7/29/2005	0.00047	0.0546	<0.00050	<0.00050	<0.010	30.9	<0.000050	0.00017	0.00056	0.00891	0.435		<2.0	
W8	8/30/2005	0.00052	0.055	<0.0010		<0.10	25.6	<0.000017	<0.00030	<0.0010	0.0094	0.722	<0.000020	<2.0	
W8	9/28/2005	<0.00050	0.049	<0.0010		<0.10	24.7	<0.000017	<0.00030	<0.0010	0.0088	0.706	<0.000020	<2.0	
W8	10/15/2005	0.00054	0.0504	<0.00050	<0.00050	<0.010	25.1	<0.000050	0.00037	<0.00050	0.0104	0.887		<2.0	
W9	5/27/2005	<0.00050	0.042	<0.0010		<0.10	12.9	<0.000050	<0.00030	<0.0010	0.0035	0.277	0.000023	<2.0	
W9	6/30/2005	0.00058	0.0532	<0.00050	<0.00050	<0.010	18.9	<0.000050	0.00019	<0.00050	0.0021	0.799		<2.0	
W9	7/29/2005	0.00061	0.058	<0.00050	<0.00050	<0.010	25.1	<0.000050	0.0002	0.0006	0.00345	0.894		<2.0	
W9	8/29/2005	0.00064	0.054	<0.0010		<0.10	18.3	<0.000017	0.00031	<0.0010	0.002	1.01	<0.000020	<2.0	
W9	9/28/2005	0.00051	0.048	<0.0010		<0.10	17.2	<0.000017	<0.00030	<0.0010	0.0024	0.783	<0.000020	<2.0	
W9	10/15/2005	0.00042	0.0424	<0.00050	<0.00050	<0.010	15.6	<0.000050	0.00016	0.00051	0.00214	0.543		<2.0	
W10	5/27/2005	<0.00050	0.053	<0.0010		<0.10	12.9	<0.000050	<0.00030	<0.0010	0.02	0.113	<0.000020	<2.0	
W10	5/27/2005	<0.0005		<0.001		<0.1			0.00088	<0.001			<0.00002	<2.0	
W10	6/30/2005	0.00076	0.0459	<0.00050	<0.00050	<0.010	13.1	<0.000050	0.00063	0.00069	0.00534	1.01		<2.0	
W10	7/29/2005	0.00095	0.0868	<0.00050	<0.00050	<0.010	15.5	0.000097	0.00241	0.00499	0.0138	2.84		<2.0	
W10	8/29/2005	<0.00050	0.059	<0.0010		<0.10	18.5	0.000038	0.00053	0.0012	0.0056	0.681	<0.000020	<2.0	
W10	9/28/2005	<0.00050	0.057	<0.0010		<0.10	25.4	<0.000017	<0.00030	<0.0010	0.0035	0.097	<0.000020	<2.0	
W10	10/15/2005	0.0003	0.051	<0.00050	<0.00050	<0.010	24	<0.000050	0.00011	<0.00050	0.0045	0.121		<2.0	
W6	5/27/2005	0.00052	0.038	<0.0010		<0.10	17.4	<0.000050	<0.00030	<0.0010	0.0021	0.363	<0.000020	<2.0	
W6	6/30/2005	0.00045	0.0462	<0.00050	<0.00050	<0.010	24.7	<0.000050	0.00017	0.00057	0.00148	0.266		<2.0	
W6	7/29/2005	0.00063	0.0683	<0.00050	<0.00050	<0.010	41.1	<0.000050	0.00049	0.00145	0.0118	1.08		<2.0	
W6	8/30/2005	<0.00050	0.053	<0.0010		<0.10	28.6	<0.000017	<0.00030	<0.0010	0.0012	0.088	<0.000020	<2.0	
W6	9/28/2005	<0.00050	0.048	<0.0010		<0.10	28.2	<0.000017	<0.00030	<0.0010	0.0012	0.148	<0.000020	<2.0	
W6	10/15/2005	0.00043	0.0424	<0.00050	<0.00050	<0.010	25.1	<0.000050	0.00011	<0.00050	0.00107	0.116		<2.0	
W6	6/2/2006	0.00131	0.0679	<0.0005	<0.0005	<0.01	18.9	<0.00005	0.00127	0.00384	0.00531	2.74		<2	
W6	8/25/2006	0.0006	0.056	<0.0002	<0.001	0.004	31.5	<0.00002	<0.0002	<0.001	<0.002	<0.2		<0.8	
W6	9/6/2006	0.0005	0.052	<0.0001	<0.0005	0.003	29	<0.00001	0.0001	0.0005	0.001	0.1		0.5	
W6	6/20/2007	0.0004	0.042	<0.0001	<0.0005	0.004	23.2	<0.00001	0.0001	<0.0005	0.002	0.1	<0.0001	0.4	
W6	9/18/2007	0.0004	0.046	<0.0001	<0.0005	0.002	25.8	<0.00001	0.0001	<0.0005	0.001	<0.1	<0.0001	0.4	
W6	6/17/2008	0.0004	0.042	<0.00004		<0.005	23.8	<0.00008	0.00018	0.0011	0.001	0.35		0.46	
W6	9/18/2008	<0.0002	0.039	<0.00004	<0.0001	<0.005	24.6	<0.00001	0.00008	0.001	0.001	0.09	<0.00001	0.4	
W6	4/14/2009	0.0006	0.08	0.00006	<0.0001	0.017	36	0.00024	0.00079	0.0029	0.454	2.19	0.00002	9.2	
W6	4/30/2009	0.0023	0.111	0.00014	<0.0001	0.006	18.6	0.00008	0.00275	0.0096	0.068	8	0.00002	2.6	
W6	7/28/2009														
W6	8/6/2009	0.0008	0.098	<0.00004	<0.001	0.025	49.4	0.00002	0.00016	0.0008	0.011	0.053		3.4	
W6	8/6/2009	0.0008	0.09	<0.00004	<0.001	0.018	49.7	0.00003	0.00015	0.0008	0.011	0.055		3.4	
W6	8/18/2009														
W6	8/25/2009														
W6	10/7/2009														
W6	10/7/2009	0.0002	0.132	<0.00004	<0.001	0.039	58	<0.00001	0.00025	0.001	0.004	0.059	<0.00001	3.2	
W6	10/25/2009	0.0003	0.129	<0.0001	<0.001	<0.05	59.9	0.00002	<0.0005	<0.001	0.0066	0.076	<0.00002	3.41	
W6	4/19/2010	0.0006	0.068	<0.00004	<0.001	0.013	35.2	0.00003	0.00075	0.0012	0.051	1.73	<0.00001	2.7	
W6	5/16/2010	0.0004	0.024	<0.0001	<0.001	<0.05	25.1	<0.00001	<0.0005	<0.001	0.0051	0.08	<0.0002	1.34	
W6	5/17/2010	0.0002	0.028	<0.0001	<0.001	<0.05	19.6	0.00002	<0.0005	<0.001	0.0064	0.073	<0.0002	0.89	
W6	5/19/2010	<0.001	0.045	<0.0005	<0.001	<0.05	27.2	0.00003	<0.0005	0.001	0.007	0.069	<0.00002	1.32	
W6	5/21/2010	<0.0004	0.046	<0.0002	<0.001	<0.1	25	<0.0001	<0.0005	<0.002	0.033	0.263	<0.0002	1	
W6	5/23/2010	<0.0004	0.047	<0.0002	<0.001	<0.1	27	<0.0001	<0.0005	<0.002	0.007	0.083	<0.0002	1	
W6	5/25/2010	<0.001	0.049	<0.0005	<0.001	<0.1	32	<0.0001	<0.0005	<0.002	0.028	0.133	<0.00002	1	
W6	5/29/2010	<0.0004	0.04	<0.0002	<0.001	<0.1	21	<0.0001	<0.0005	<0.002	0.022	0.21	<0.00002	<1	
W6	6/2/2010	<0.0004	0.077	<0.0002	<0.001	<0.1	61	<0.0001	<0.0005	<0.002	0.002	0.081	<0.0002	2	
W6	6/4/2010	0.0004	0.047	<0.0002	<0.001	<0.1	26	<0.0001	<0.0005	<0.002	0.002	0.12	<0.0002	<1	
W6	6/6/2010	0.0005	0.053	<0.0002	<0.001	<0.1	27	<0.0001	<0.0005	<0.002	0.001	0.218		<1	
W6	6/14/2010	0.0005	0.054	<0.0002	<0.001	<0.1	26	<0.0001	<0.0005	<0.002	0.004	0.378	<0.0002	<1	
W6	6/16/2010	0.0005	0.05	<0.0002	<0.001	<0.1	25	<0.0001	<0.0005	<0.002	0.005	0.364	<0.0002	<1	
W6	6/18/2010	0.0005	0.048	<0.0002	<0.001	<0.1	24	<0.0001	<0.0005	<0.002	0.003	0.226	<0.0002	<1	
W6	6/20/2010	0.0004	0.049	<0.0002	<0.001	<0.1	25	<0.0001	<0.0005	<0.002	0.002	0.208	<0.0002	<1	
W6	6/22/2010	0.0006	0.051	<0.0002	<0.001	<0.1	27	<0.0001	<0.0005	<0.002	0.002	0.326	<0.0002	<1	
W6	6/24/2010	0.0004	0.04	<0.0002	<0.001	<0.1	21	<0.0001	<0.0005	<0.002	0.001	0.164	<0.0002	<1	
W6	6/26/2010	<0.0004	0.047	<0.0002	<0.001	<0.1	25	<0.0001	<0.0005	<0.002	0.002	0.215	<0.0002	<1	
W6	6/26/2010														
W6	6/28/2010	0.0006	0.056	<0.0002	<0.001	<0.1	26	<0.0001	<0.0005	<0.002	0.003	0.8	<0.0002	<1	
W6	7/5/2010	0.001	0.072	<0.0002	<0.001	<0.1	24	<0.0001	0.0009	0.003	0.005	1.93	<0.0002	<1	
W6	8/5/2010	0.0005	0.056	<0.0002	<0.001	<0.1	28	<0.0001	<0.0005	<0.002	0.003	0.294	<0.0002	<1	
W6	9/9/2010	0.0005	0.07	<0.0002	<0.001	<0.1	29	<0.0001	<0.0005	<0.002	0.002	0.949	<0.0002	<1	
W6	10/8/2010	0.0003	0.065	<0.0001	<0.001	<0.05	25.5	0.00002	<0.0005	0.001	0.0021	0.615	<0.00002	0.5	
W6	8/19/2011	0.0003	0.077	<0.0001	<0.001	<0.05	51.2	0.00001	<0.0005	<0.001	0.003	0.059	<0.00002	2.02	
W6	7/17/2012	0.00898	0.471	0.00066	<0.0010	<0.05	41.2	0.000468	0.014	0.0388	0.0402	29.8	<0.000010	2.03	
W6	7/30/2012	0.0066	0.348	0.00043	<0.0010	<0.05	38.1	0.000195	0.00922	0.0276	0.0286	21.6	0.000033	1.62	
W6	8/9/2012	0.00362	0.223	0.00031	<0.0010	<0.05	36.7	0.000109	0.00511	0.0137	0.0147	11.2	<0.000010	1.2	
W6	8/25/2012	0.00395	0.372	0.00044	<0.0010	<0.05	45	0.000219	0.00749	0.0085	0.0247	9.68	<0.000010	0.849	
W6	9/13/2012	0.00051	0.0533	<0.00010	<0.0010	<0.05	25.9	0.000011	<0.00050	<0.0010	0.00225	0.591	<0.000010	0.42	
W6	10/13/2012	0.00066	0.0631	<0.00010	<0.0010	<0.05	30.8	<0.000010	<0.00050	<0.0010	0.00189	0.517	<0.000010	0.594	
W6	11/12/2012	0.00042	0.0656	<0.00010	<0.0010	<0.05	43.3	<0.000010	<0.00050	<0.0010	0.00345	0.0646	<0.000010	0.507	
W6	5/14/2013	0.00068	0.0286	<0.00010	<0.0010	<0.05	9.4	0.000029	0.0006	0.0014	0.00697	1.06	<0.000010	1.86	
W6	6/22/2013	0.00264	0.127	0.00017	<0.0010	<0.05	30.4	0.000048	0.00283	0.0094	0.00985	6.84	<0.000010	1.45	
W6	7/12/2013	0.00066	0.0579	<0.00010	<0.0010	<0.05	26.7	<0.000010	<0.00050	0.0011	0.00171	0.812	<0.000010	0.55	
W6	8/22/2013	0.00064	0.0507	<0.00010	<0.0010	<0.05	29.6	<0.000010	<0.00050	<0.0010	0.00123	0.283	<0.000010	0.52	
W6	9/6/2013	0.00067	0.0563	<0.00010	<0.0010	<0.05	31.7	<0.000010	<0.00050	<0.0010	0.00119	0.404	<0.000010	0.605	
W6	10/7/2013	0.00138	0.0866	<0.00010	<0.0010	<0.05	29.2	0.000023	0.00119	0.0043	0.0071	3.02	<0.000010	0.789	
W6	11/16/2013	0.00063	0.0637	<0.00010	<0.0010	<0.05	33.4	<0.000010	<0.00050	<0.0010	0.00186	0.523	<0.000010	0.652	
W6	12/7/2013	0.00074	0.0801	<0.00010	<0.0010	<0.05	49.1	0.00002	<0.00050	<0.0010	0.00602	0.12	<0.000010	0.661	
W7	5/27/2005	0.00063	0.054	<0.0010		<0.10	19.3	<0.000050	0.00049	0.0016	0.0031	0.776	<0.000020	<2.0	
W7	6/30/2005	0.00049	0.0641	<0.00050	<0.00050	<0.010	29.7	<0.000050	0.00024	0.00065	0.00162	0.358		<2.0	
W7	7/29/2005	0.00055	0.07	<0.00050	<0.00050	<0.010	42.4	<0.000050	0.00042	0.00127	0.0101	0.894		<2.0	
W7	8/30/2005	0.00053	0.064	<0.0010		<0.10	27.8	<0.000017	<0.00030	<0.0010	0.0015	0.363	<0.000020	<2.0	
W7	9/28/2005	0.00149	0.113	<0.0010		<0.10	27.8	0.000061	0.00233	0.0037	0.0061	3.42	<0.000020	<2.0	
W7	10/15/2005	0.00052	0.053	<0.00050	<0.00050	<0.010	25.5	<0.000050	0.00018	0.00062	0.00147	0.37		<2.0	
W7	6/2/2006	0.00496	0.264	<0.0005	<0.0005	<0.01	23.9	0.000237	0.00916	0.0234	0.0225	17.2		<2	
W7	6/8/2006	0.00078	0.0586	<0.0005	<0.0005	<0.01	20.4	<0.00005	0.00078	0.0016	0.00403	1.09		<2	

Table B.1: Raw water quality data from Minto Mine, 2005 - 2013.

Station Name	Sample Date	TT As (mg/L)	Ba (mg/L)	Total Be (mg/L)	Total Bi (mg/L)	Total B (mg/L)	Total Ca (mg/L)	Total Cd (mg/L)	Total Co (mg/L)	Total Cr (mg/L)	Total Cu (mg/L)	Total Fe (mg/L)	Total Hg (mg/L)	Total K (mg/L)	Total La (mg/L)
W7	6/15/2006														
W7	6/15/2006	0.0008	0.082	<0.0001	<0.0005	0.006	25.4	0.00002	0.0011	0.0032	0.004	1.7		1.1	
W7	6/23/2006	0.0022	0.167	0.0002	<0.0005	0.005	34.5	0.00008	0.0037	0.0091	0.01	7.2		1.6	
W7	6/28/2006	0.001	0.09	<0.0001	<0.0005	0.006	27.4	0.00003	0.001	0.0031	0.004	2.5		1.1	
W7	7/7/2006	0.0004	0.07	<0.0001	<0.0005	0.005	31.2	<0.00001	<0.0001	<0.0005	0.001	0.2		1	
W7	7/12/2006	0.0004	0.067	<0.0001	<0.0005	0.005	31	<0.00001	<0.0001	<0.0005	0.001	0.2		1	
W7	7/20/2006	0.0005	0.065	<0.0001	<0.0005	0.029	31.8	<0.00001	<0.0001	<0.0005	0.001	0.2		0.9	
W7	7/26/2006														
W7	7/26/2006	0.0005	0.072	<0.0001	<0.0005	0.004	33.9	<0.00001	0.0001	<0.0005	0.001	0.3		1.1	
W7	8/2/2006	0.0006	0.07	<0.0001	<0.0005	0.006	32.9	<0.00001	<0.0001	<0.0005	0.001	0.1		1	
W7	8/10/2006	0.0005	0.072	<0.0001	<0.0005	0.005	34.6	<0.00001	0.0004	<0.0005	<0.001	0.1		1.1	
W7	8/25/2006														
W7	8/25/2006	0.0004	0.069	<0.0002	<0.001	0.007	31.8	<0.00002	<0.0002	<0.001	<0.002	<0.2		1.2	
W7	8/30/2006	0.0005	0.07	<0.0001	<0.0005	0.005	30.8	<0.00001	<0.0001	0.0008	<0.001	0.1		1	
W7	9/6/2006	0.0004	0.07	<0.0001	<0.0005	0.006	31.1	<0.00001	0.0001	0.0008	0.001	0.1		1	
W7	9/13/2006	<0.0002	0.037	<0.0001	<0.0005	0.004	32.2	<0.00001	<0.0001	<0.0005	<0.001	<0.2		0.9	
W7	9/20/2006	0.0005	0.07	<0.0001	<0.0005	0.006	32.4	<0.00001	0.0001	<0.0005	0.001	0.2		0.9	
W7	9/28/2006	<0.0004	0.073	<0.0002	<0.001	0.007	32.5	<0.00002	<0.0002	<0.001	<0.002	<0.2		1.1	
W7	10/4/2006	0.0004	0.074	<0.0002	<0.001	0.005	31.6	<0.00002	<0.0002	<0.001	<0.002	<0.2		0.9	
W7	10/12/2006	0.0004	0.076	<0.0001	<0.0005	0.006	33.5	<0.00001	0.0002	0.0007	0.002	0.5		1	
W7	6/5/2007	0.0008	0.084	<0.0001	<0.0005	0.009	26.4	0.00003	0.0012	0.0031	0.003	2	<0.0001	1.1	
W7	6/5/2007	0.0007	0.095	<0.0002	<0.001	0.01	28.1	0.00003	0.001	0.0037	0.003	2.3	<0.0001	1	
W7	6/5/2007	0.001	0.09	<0.0001	<0.0005	0.008	27.2	0.00003	0.0013	0.0036	0.004	2.5	<0.0001	1.3	
W7	6/20/2007	0.0004	0.066	<0.0001	<0.0005	0.007	30.2	<0.00001	0.0002	0.0005	0.002	0.2	<0.0001	1	
W7	7/18/2007	0.0005	0.071	<0.0001	<0.0005	0.006	32.2	0.00002	0.0002	0.0008	0.002	0.3	<0.0001	1	
W7	7/18/2007	0.0003	0.073	<0.0001	<0.0005	0.006	31.9	0.00001	0.0002	0.0007	0.001	0.3	<0.0001	0.9	
W7	7/18/2007	<0.0002	0.072	<0.0001	<0.0005	0.006	31.8	<0.00001	0.0001	0.0007	0.001	0.3	<0.0001	0.9	
W7	8/24/2007														
W7	8/24/2007														
W7	8/24/2007														
W7	8/24/2007	0.0003	0.075	<0.0001	<0.0005	0.006	31.2	<0.00001	0.0002	0.0008	0.002	0.2	<0.0001	1	
W7	8/24/2007	0.0004	0.074	<0.0001	<0.0005	0.006	31.5	<0.00001	0.0001	0.0005	0.001	0.2	<0.0001	1	
W7	8/24/2007	0.0004	0.077	<0.0001	<0.0005	0.006	32.9	<0.00001	0.0001	0.0005	0.001	0.2	<0.0001	1.1	
W7	9/18/2007	0.0005	0.067	<0.0001	<0.0005	0.005	27	<0.00001	0.0003	0.0011	0.003	0.5	<0.0001	0.9	
W7	10/30/2007	0.0004	0.076	<0.0001	<0.0005	0.007	33.5	0.00004	0.0003	0.0007	0.012	0.3	<0.0001	1.6	
W7	10/30/2007	0.0002	0.075	<0.0001	<0.0005	0.006	33	0.00002	0.0001	0.0008	0.005	0.2	<0.0001	1.1	
W7	10/30/2007	<0.0002	0.074	<0.0001	<0.0005	0.006	33.6	0.00002	0.0001	0.0007	0.003	0.2	<0.0001	1.1	
W7	10/30/2007														
W7	4/22/2008	0.0005	0.073	<0.00004		0.006	40.2	<0.00007	0.00007	<0.0005	0.004	0.05	<0.00001	2.56	
W7	4/22/2008	0.0012	0.077	<0.00004		0.006	43.2	<0.00007	0.00009	<0.0005	0.004	0.05	<0.00001	2.77	
W7	4/22/2008	0.0006	0.078	<0.00004		0.006	42.4	<0.00007	0.0001	<0.0005	0.004	0.06	<0.00001	2.7	
W7	4/22/2008														
W7	6/3/2008	0.0007	0.061	<0.00004		<0.005	24.4	<0.00007	0.0004	0.0028	0.002	0.78	<0.00001	0.94	
W7	6/3/2008	0.0013	0.06	<0.00004		<0.005	24.2	<0.00007	0.00041	0.0028	0.001	0.71	<0.00001	0.93	
W7	6/3/2008	0.0008	0.062	0.00004		<0.005	25.2	<0.00007	0.00042	0.003	0.002	0.79	<0.00001	0.94	
W7	6/3/2008														
W7	6/17/2008	0.0006	0.064	<0.00004		<0.005	29.2	<0.00008	0.00028	0.0012	0.001	0.4		1.01	
W7	8/6/2008	0.0006	0.083	<0.0001	<0.0005	0.008	31.5	0.00002	0.0006	0.002	0.002	1.02	<0.0001	1	
W7	8/6/2008	0.0007	0.088	<0.0001	<0.0005	0.007	31.4	0.00002	0.0007	0.0026	0.003	1.36	<0.0001	1.1	
W7	8/6/2008	0.0008	0.093	<0.0001	<0.0005	0.008	31.8	0.00002	0.0008	0.0025	0.003	1.46	<0.0001	1.1	
W7	8/6/2008														
W7	9/18/2008	0.0005	0.06	<0.00004	<0.0001	<0.005	23	0.00002	0.00046	0.0022	0.003	0.91	<0.00001	0.68	
W7	10/28/2008	0.0004	0.057	<0.00004	<0.0001	<0.005	32.4	<0.00001	0.00015	0.0013	0.004	0.34	<0.00001	0.9	
W7	10/28/2008	0.0005	0.06	<0.00004	<0.0001	<0.005	32.3	0.00002	0.00011	0.0008	0.004	0.24	<0.00001	0.9	
W7	10/28/2008	0.0004	0.057	<0.00004	<0.0001	<0.005	32.4	<0.00001	0.0001	0.0005	0.003	0.17	<0.00001	0.8	
W7	10/28/2008														
W7	4/30/2009	<0.0002	0.012	<0.00004	<0.0001	<0.005	5.54	0.00008	0.0001	0.0012	0.013	0.19	0.00002	1.5	
W7	6/8/2009	0.0005	0.069	0.00004	<0.0001	0.005	27	0.00001	0.00052	0.0014	0.003	0.92	<0.00001	0.9	
W7	7/28/2009														
W7	8/6/2009	0.0007	0.081	<0.00004	<0.001	<0.005	35.1	<0.00001	0.00013	0.0009	0.001	0.126		1.1	
W7	8/24/2009														
W7	8/25/2009														
W7	8/31/2009														
W7	10/7/2009														
W7	10/7/2009	0.0004	0.067	<0.00004	<0.001	0.008	34.2	0.00091	0.00022	0.0014	0.006	0.357	<0.00001	0.7	
W7	10/25/2009	0.0004	0.077	<0.0001	<0.001	<0.05	35.7	0.00001	<0.0005	<0.001	0.0021	0.141	<0.00002	1.02	
W7	10/25/2009														
W7	4/19/2010	0.0004	0.04	<0.00004	<0.001	0.006	20.5	0.00001	0.0001	0.0004	0.006	0.104	<0.00001	2.1	
W7	4/27/2010	0.0003	0.023	<0.0001	<0.001	<0.05	9.35	0.00003	<0.0005	<0.001	0.0055	0.211	<0.00002	1.01	
W7	4/29/2010	0.0004	0.025	<0.0001	<0.001	<0.05	9.54	0.00002	<0.0005	<0.001	0.0037	0.259	<0.00002	0.9	
W7	5/1/2010	0.0006	0.035	<0.0001	<0.001	<0.05	11.5	0.00002	<0.0005	0.002	0.0074	0.902	<0.00002	0.81	
W7	5/3/2010	0.0007	0.035	<0.0001	<0.001	<0.05	12.3	0.00003	<0.0005	0.001	0.0045	0.983	<0.00002	0.72	
W7	5/5/2010	0.0007	0.039	<0.0001	<0.001	<0.05	14.3	0.00004	<0.0005	0.001	0.0058	1.14	<0.00002	0.72	
W7	5/7/2010	0.0005	0.041	<0.0001	<0.001	<0.05	14.7	0.00003	<0.0005	<0.001	0.0045	0.92	<0.00002	0.68	
W7	5/9/2010	0.0004	0.043	<0.0001	<0.001	<0.05	18.2	0.00005	<0.0005	0.001	0.0147	0.468	<0.00002	0.74	
W7	5/10/2010	0.0005	0.055	<0.0001	<0.001	<0.05	23.3	0.00011	<0.0005	<0.001	0.0059	0.452	<0.00002	0.91	
W7	5/12/2010										<.03	0.19			
W7	5/12/2010	0.0004	0.048	<0.0001	<0.001	<0.05	22.1	0.00009	<0.0005	<0.001	0.0075	0.378	<0.00002	0.98	
W7	5/14/2010	0.0004	0.046	<0.0001	<0.001	<0.05	18.2	0.00005	<0.0005	<0.001	0.0055	0.556	<0.00002	0.71	
W7	5/16/2010	0.0004	0.044	<0.0001	<0.001	<0.05	19.8	0.00005	<0.0005	0.001	0.0031	0.369	<0.0002	0.72	
W7	5/17/2010	0.0005	0.046	<0.0001	<0.001	<0.05	19.6	0.00001	<0.0005	<0.001	0.0035	0.405	<0.0002	0.77	
W7	5/19/2010	<0.001	0.057	<0.0005	<0.001	<0.05	25.6	0.00001	<0.0005	0.001	0.0049	0.248	<0.00002	0.96	
W7	5/21/2010	0.0005	0.06	<0.0002	<0.001	<0.1	24	<0.0001	<0.0005	<0.002	0.003	0.628	<0.0002	<1	
W7	5/23/2010	0.0014	0.102	<0.0002	<0.001	<0.1	25	<0.0001	0.0019	0.004	0.008	3.49	<0.0002	1	
W7	5/25/2010	0.002	0.121	<0.0005	<0.001	<0.1	28	<0.0001	0.0028	0.01	0.013	5.54	<0.00002	2	
W7	5/27/2010	0.006	0.196	<0.0005	<0.001	<0.1	31	0.0002	0.0077	0.025	0.027	15.6	<0.00002	3	
W7	5/29/2010	0.0025	0.131	0.0002	<0.001	<0.1	31	<0.0001	0.0038	0.01	0.013	6.13	<0.00002	2	
W7	5/31/2010	0.0027	0.149	0.0002	<0.001	<0.1	31	0.0001	0.004	0.011	0.013	6.96	<0.00002	2	
W7	6/2/2010	0.0016	0.098	<0.0002	<0.001	<0.1	33	<0.0001	0.0024	0.008	0.008	4.39	<0.0002	2	
W7	6/4/2010	0.0012	0.09	<0.0002	<0.001	<0.1	31	<0.0001	0.0013	0.004	0.009	2.42	<0.0002	1	
W7	6/6/2010	0.0013	0.109	<0.0002	<0.001	<0.1	33	<0.0001	0.0015	0.006	0.006	3.12		2	
W7	6/14/2010	0.0009	0.099	<0.0002	<0.001	<0.1	31	<0.0001	0.001	0.002	0.004	1.62	<0.0002	1	
W7	6/16/2010	0.0005	0.078	<0.0002	<0.001	<0.1	31	<0.0001	<0.0005	<0.002	0.002	0.573	<0.0002	1	
W7	6/18/2010	0.0006	0.078	<0.0002	<0.001	<0.1	30	<0.0001	<0.0005	<0.002	0.002	0.768	<0.0002	1	
W7	6/20/2010	0.0009	0.085	<0.0002	<0.001	<0.1	29	<0.0001	0.0009	0.003	0.006	1.74	<0.0002	1	
W7	6/22/2010	0.0029	0.164	0.0003	<0.001	<0.1	28	0.0001	0.0048	0.012	0.014	8.61	<0.0002	2	
W7	6/24/2010	0.0013	0.078	<0.0002	<0.001	<0.1	27	<0.0001	0.0014	0.003	0.005	2.05	<0.0002	1	
W7	6/26/2010	0.0005	0.066	<0.0002	<0.001	<0.1	26	<0.0001	<0.0005	<0.002	0.002	0.761	<0.0002	<1	
W7	6/28/2010	0.0005	0.064	<0.0002	<0.001	<0.1	28	<0.0001	<0.0005	<0.002	0.002	0.491	<0.0002	<1	
W7	7/5/2010	0.0011	0.086	<0.0002	<0.001	<0.1	27	<0.0001	0.0012	0.003	0.01	2.4	<0.0002	<1	
W7	8/5/2010	0.0005	0.07	<0.0002	<0.001	<0.1	29	<0.0001	<0.0005	<0.002	0.003	0.428	<0.0002	<1	
W7	9/12/2010	0.0005	0.061	<0.0002	<0.001	<0.1	27	<0.0001	<0.0005	<0.002	0.002	0.682	<0.0002	<1	
W7	9/12/2010	0.0005	0.061	<0.0002	<0.001	<0.1	27	<0.0001	<0.0005	<0.002	0.003	0.594	<0.0002	<1	
W7	10/8/2010	0.0002	0.068	<0.0001	<0.001	<0.05	32.2	0.00003	<0.0005	<0.001	0.0017	0.26	<0.00002	0.77	
W7	4/27/2011	0.0003	0.024	<0.0001	<0.001	<0.05	10.9	0.00005	<0.0005	<0.001	0.0119	0.187	<0.00002	1.88	
W7	5/2/2011	0.0003	0.024	<0.0001	<0.001	<0.05	8.66	0.00005	<0.0005	<0.001	0.0285	0.452	<0.00002	1.46	
W7	6/1/2011	0.0005	0.061	<0.0001	<0.001	<0.05	22.9	0.00002	<0.0005	0.001	0.0027	0.775	<0.00002	0.86	
W7	6/16/2011	0.0014	0.096	<0.0001	<0.001	<0.05	26.4	0.00008	0.0021	0.005	0.0075	4.02	<0.00002	1.04	
W7	7/1/2011	0.0025	0.135	0.0002	<0.001	<0.05	22.2	0.00022	0.0035	0.009	0.0127	6.28	<0.00002	0.76	

Table B.1: Raw water quality data from Minto Mine, 2005 - 2013.

Station Name	Sample Date	TT As (mg/L)	Ba (mg/L)	Total Be (mg/L)	Total Bi (mg/L)	Total B (mg/L)	Total Ca (mg/L)	Total Cd (mg/L)	Total Co (mg/L)	Total Cr (mg/L)	Total Cu (mg/L)	Total Fe (mg/L)	Total Hg (mg/L)	Total K (mg/L)	Total La (mg/L)
W7	8/2/2011	0.0037	0.211	0.0003	<0.001	<0.05	20.7	0.00017	0.0064	0.021	0.0197	13.8	<0.00002	1.11	
W7	8/16/2011	0.001	0.069	<0.0001	<0.001	<0.05	25.4	0.00004	0.0006	0.001	0.0143	1.25	<0.00002	0.53	
W7	8/19/2011	0.0009	0.061	<0.0001	<0.001	<0.05	24.1	0.00002	0.0006	0.001	0.0028	1.21	<0.00002	0.47	
W7	9/12/2011	0.0008	0.061	<0.0001	<0.001	<0.05	30.1	0.00005	<0.0005	<0.001	0.0024	0.738	<0.00002	0.6	
W7	10/6/2011	0.0005	0.058	<0.0001	<0.001	<0.05	28.4	0.00001	<0.0005	<0.001	0.0012	0.49	<0.00002	0.62	
W7	11/22/2011	0.0006	0.085	<0.0001	<0.001	<0.05	36.4	0.00025	<0.0005	0.001	0.0108	0.865	<0.000020	1.09	
W7	1/24/2012	0.0004	0.087	<0.0001	<0.001	<0.05	39.5	0.00001	<0.0005	<0.001	0.0013	0.113	<0.000010	1.57	
W7	2/25/2012	0.0003	0.082	<0.0001	<0.001	<0.05	41	0.00003	<0.0005	<0.001	0.0055	0.043	<0.000010	1.51	
W7	3/5/2012	0.0004	0.083	<0.0001	<0.001	<0.05	39.7	0.00001	<0.0005	<0.001	0.0068	0.108	<0.000010	1.46	
W7	4/24/2012	0.00074	0.0404	<0.00010	<0.0010	<0.05	9.61	0.000029	0.00056	0.0015	0.00635	1.32	<0.000010	1.2	
W7	5/6/2012	0.00045	0.0317	<0.00010	<0.0010	<0.05	11.2	0.000015	<0.00050	<0.0010	0.00299	0.551	<0.000010	0.881	
W7	5/6/2012	0.00049	0.0316	<0.00010	<0.0010	<0.05	11.1	0.000016	<0.00050	<0.0010	0.00373	0.572	<0.000010	0.912	
W7	6/19/2012	0.00232	0.154	0.00016	<0.0010	<0.05	26.4	0.000119	0.00326	0.0112	0.0102	7.88	<0.000010	1.09	
W7	7/17/2012	0.00118	0.0843	<0.00010	<0.0010	<0.05	31.7	0.000034	0.00075	0.0024	0.0035	2.28	<0.000010	0.824	
W7	7/30/2012	0.00095	0.0737	<0.00010	<0.0010	<0.05	32.1	0.000014	<0.00050	<0.0010	0.0045	1.32	<0.000010	1.14	
W7	8/8/2012	0.00085	0.0731	<0.00010	<0.0010	<0.05	35.7	<0.000010	<0.00050	<0.0010	0.00108	1.13	<0.000010	0.894	
W7	8/23/2012	0.00093	0.0778	<0.00010	<0.0010	<0.05	39.1	<0.000010	<0.00050	<0.0010	0.00134	1.12	<0.000010	0.929	
W7	9/13/2012	0.0007	0.0629	<0.00010	<0.0010	<0.05	31.2	<0.000010	<0.00050	<0.0010	0.00208	1.15	<0.000010	0.589	
W7	10/16/2012	0.00065	0.0693	<0.00010	<0.0010	<0.05	36	<0.000010	<0.00050	<0.0010	0.00144	0.995	<0.000010	0.748	
W7	11/2/2012	0.00058	0.0848	<0.00010	<0.0010	<0.05	37.3	0.000015	<0.00050	<0.0010	0.00231	0.289	<0.000010	1.16	
W7	12/29/2012	0.00042	0.104	<0.00010	<0.0010	<0.05	49.6	0.000015	<0.00050	<0.0010	0.0028	0.0724	<0.000010	2.29	
W7	4/30/2013	0.00019	0.0996	<0.00010	<0.0010	<0.05	47.8	<0.000010	<0.00050	<0.0010	0.0021	0.0288	<0.000010	1.95	
W7	5/14/2013	0.00072	0.0462	<0.00010	<0.0010	<0.05	9.61	0.000025	0.00107	0.0027	0.0084	2.2	<0.000010	1.18	
W7	6/19/2013	0.00064	0.0691	<0.00010	<0.0010	<0.05	29.1	0.000011	<0.00050	<0.0010	0.00222	0.702	<0.000010	0.847	
W7	6/19/2013	0.00058	0.0683	<0.00010	<0.0010	<0.05	29.7	<0.000010	<0.00050	<0.0010	0.00191	0.657	<0.000010	0.872	
W7	7/13/2013	0.00063	0.0712	<0.00010	<0.0010	<0.05	35.1	<0.000010	<0.00050	<0.0010	0.00143	0.631	<0.000010	0.856	
W7	8/21/2013	0.0007	0.0755	<0.00010	<0.0010	<0.05	35.8	<0.000010	<0.00050	<0.0010	0.00138	0.619	<0.000010	0.951	
W7	9/6/2013	0.00099	0.0815	<0.00010	<0.0010	<0.05	38.7	<0.000010	<0.00050	0.0014	0.0017	1.48	<0.000010	0.968	
W7	10/21/2013	0.00061	0.0642	<0.00010	<0.0010	<0.05	31.8	<0.000010	<0.00050	<0.0010	0.00119	0.683	<0.000010	0.754	
W7	11/16/2013	0.00052	0.0832	<0.00010	<0.0010	<0.05	39.8	<0.000010	<0.00050	<0.0010	0.00124	0.296	<0.000010	1.14	
W7	12/7/2013	0.00059	0.0967	<0.00010	<0.0010	<0.05	46.7	0.000013	<0.00050	<0.0010	0.00141	0.227	<0.000010	1.52	
C4	5/6/2012	0.0125	0.56	0.00088	<0.0010	<0.05	23.9	0.000416	0.0178	0.06	0.0585	45.8	<0.000010	3.02	
C4	8/1/2012	0.00497	0.24	0.00031	<0.0010	<0.05	34.3	0.000114	0.00591	0.0135	0.0167	13.9	<0.000010	1.34	
C4	8/8/2012	0.00635	0.261	0.00033	<0.0010	<0.05	36.5	0.000107	0.00701	0.0148	0.015	16.1	<0.000010	1.45	
C4	8/25/2012	0.00759	0.373	0.00042	<0.0010	<0.05	45.6	0.000202	0.00894	0.0079	0.0218	18.2	<0.000010	1.19	
C4	6/22/2013	0.0123	0.539	0.00075	<0.0010	<0.05	55.7	0.000317	0.0172	0.0426	0.0479	36.2	0.000018	2.77	
C4	7/19/2013	0.00864	0.373	0.00048	<0.0010	<0.05	54	0.000209	0.0113	0.0287	0.0323	24.4	0.000015	2.21	
C4	8/22/2013	0.00939	0.438	0.00055	<0.0010	<0.05	51	0.000308	0.0133	0.0268	0.0347	26.2	0.000033	2.02	
C4	9/6/2013	0.00462	0.189	0.00019	<0.0010	<0.05	43.1	0.000066	0.00447	0.0107	0.0103	11	<0.000010	1.5	
C4	10/18/2013	0.00153	0.0845	<0.00010	<0.0010	<0.05	37.3	0.000017	0.00102	0.0012	0.0019	2.12	<0.000010	0.858	
C4	10/18/2013	0.00151	0.0837	<0.00010	<0.0010	<0.05	36.9	0.000012	0.00101	0.0013	0.00263	2.1	<0.000010	0.833	
C4	11/17/2013	0.00545	0.17	<0.00010	<0.0010	<0.05	70.5	0.000022	0.00621	0.0015	0.00357	14.7	<0.000010	1.05	
C10	5/12/2012	0.0208	0.942	0.00176	<0.0010	<0.05	51.2	0.000982	0.0315	0.0779	0.1	73.2	<0.000010	4.64	
C10	7/30/2012	0.0123	0.549	0.0008	<0.0010	<0.05	56.3	0.000365	0.0151	0.0385	0.0527	37.5	0.000062	3.36	
C10	7/30/2012														
C10	8/10/2012	0.0124	0.666	0.00102	<0.0010	<0.05	67.1	0.000486	0.0185	0.0378	0.0597	38.9	<0.000010	3.11	
C10	8/27/2012	0.0156	0.754	0.00117	<0.0010	<0.05	72.2	0.000526	0.0213	0.0455	0.0624	45.6	<0.000010	3.37	
C10	6/22/2013	0.00203	0.0981	<0.00010	<0.0010	<0.05	44.4	0.000019	0.00109	0.0022	0.00492	3.18	<0.000010	1.46	
C10	7/23/2013	0.00386	0.174	0.00022	<0.0010	<0.05	45.1	0.000071	0.00371	0.0095	0.0114	9.35	<0.000010	1.71	
C10	8/22/2013	0.00213	0.1	<0.00010	<0.0010	<0.05	49.5	0.000016	0.00099	0.0019	0.00344	2.95	<0.000010	1.18	
C10	9/8/2013	0.00188	0.0869	<0.00010	<0.0010	<0.05	48.6	0.000019	0.00094	0.0013	0.00241	2.71	<0.000010	1.17	
C10	9/8/2013	0.00194	0.0852	<0.00010	<0.0010	<0.05	48	0.000093	0.00086	0.0012	0.00237	2.64	<0.000010	1.17	
C10	10/18/2013	0.00177	0.091	<0.00010	<0.0010	<0.05	46.8	0.00002	0.00139	0.0024	0.00355	3.33	<0.000010	1.1	

Table B.1: Raw water quality data from Minto Mine, 2005 - 2013.

Station Name	Sample Date	Total Li (mg/L)	Total Mg (mg/L)	Total Mn (mg/L)	Total Mo (mg/L)	Total Na (mg/L)	Total Ni (mg/L)	Total Pb (mg/L)	Total P (mg/L)	Total Sb (mg/L)	Total Se (mg/L)	Total Si (mg/L)	Total Sn (mg/L)	Total Sr (mg/L)	Total S (mg/L)
W1	5/27/2005	<0.0050	8.65	0.0612	0.0011	4.9	0.0032	<0.00050		<0.00050	<0.0010		<0.00050		
W1	6/30/2005	<0.0050	12.3	0.00663	0.00107	8.6	0.00101	<0.000050	<0.30	<0.00010	<0.0010	5.43	<0.00010	0.293	
W1	7/28/2005	<0.0050	12.7	0.0164	0.00153	8.5	0.00113	<0.000050	<0.30	<0.00010	<0.0010	5.21	<0.00010	0.333	
W1	8/29/2005	<0.0050	11.5	0.0258	0.001	6.8	0.0016	<0.00050		<0.00050	<0.0010		<0.00050		
W1	9/28/2005	<0.0050	11.3	0.0559	<0.0010	6.3	0.0019	<0.00050		<0.00050	<0.0010		<0.00050		
W1	10/15/2005	<0.0050	10.9	0.0483	0.000867	5.9	0.0024	0.00012	<0.30	<0.00010	<0.0010	5.99	<0.00010	0.269	
W2	5/27/2005	<0.0050	8.37	0.0505	<0.0010	4.8	0.0026	<0.00050		<0.00050	<0.0010		<0.00050		
W2	5/27/2005	<0.005	5.78	0.0536			0.0033	0.00066		<0.0005					
W2	6/30/2005	<0.0050	12.5	0.00785	0.00103	8.7	0.00105	<0.000050	<0.30	<0.00010	<0.0010	5.48	<0.00010	0.304	
W2	7/28/2005	<0.0050	13.1	0.014	0.00134	8.7	0.00107	<0.000050	<0.30	<0.00010	<0.0010	5.32	<0.00010	0.338	
W2	8/30/2005	<0.0050	11.6	0.025	0.0011	6.9	0.0016	<0.00050		<0.00050	<0.0010		<0.00050		
W2	9/28/2005	<0.0050	11	0.0543	<0.0010	6	0.002	<0.00050		<0.00050	<0.0010		<0.00050		
W2	10/15/2005	<0.0050	10.8	0.0368	0.000916	6	0.00164	0.000078	<0.30	<0.00010	<0.0010	5.95	<0.00010	0.267	
W3	5/27/2005	<0.0050	9.03	0.023	0.0011	4.9	0.0017	<0.00050		<0.00050	<0.0010		<0.00050		
W3	6/30/2005	<0.0050	17.6	0.0084	0.00163	12.1	0.00087	0.000292	<0.30	<0.00010	<0.0010	6.04	<0.00010	0.299	
W3	7/29/2005	<0.0050	17.2	0.0641	0.0019	9.4	0.00257	0.000359	<0.30	0.0001	<0.0010	7.03	0.00011	0.295	
W3	8/29/2005	<0.0050	13.2	0.0806	0.0014	7.8	0.0017	<0.00050		<0.00050	<0.0010		<0.00050		
W3	9/28/2005	<0.0050	12	0.12	0.0012	7.1	0.0018	<0.00050		<0.00050	<0.0010		<0.00050		
W3	10/15/2005	<0.0050	12.5	0.124	0.00126	7	0.00136	<0.000050	<0.30	<0.00010	<0.0010	5.86	<0.00010	0.233	
W8	5/27/2005	<0.0050	5.03	0.00512	<0.0010	2.6	0.0018	<0.00050		<0.00050	<0.0010		<0.00050		
W8	6/30/2005	<0.0050	7.57	0.0445	0.000512	4.5	0.00172	0.000066	<0.30	<0.00010	<0.0010	5.21	<0.00010	0.112	
W8	7/29/2005	<0.0050	9.43	0.0268	0.000565	3.9	0.00146	0.000059	<0.30	<0.00010	<0.0010	5.04	<0.00010	0.133	
W8	8/30/2005	<0.0050	8.04	0.0447	<0.0010	3.8	0.0018	<0.00050		<0.00050	<0.0010		<0.00050		
W8	9/28/2005	<0.0050	7.45	0.0487	<0.0010	3.7	0.0017	<0.00050		<0.00050	<0.0010		<0.00050		
W8	10/15/2005	<0.0050	7.41	0.24	0.00171	4.5	0.00109	0.000064	<0.30	<0.00010	<0.0010	6.29	<0.00010	0.176	
W9	5/27/2005	<0.0050	4.1	0.00703	<0.0010	2.3	0.0013	<0.00050		<0.00050	<0.0010		<0.00050		
W9	6/30/2005	<0.0050	6.04	0.0432	0.000356	4.2	0.00125	<0.000050	<0.30	<0.00010	<0.0010	5.32	<0.00010	0.0956	
W9	7/29/2005	<0.0050	7.18	0.0638	0.00112	3.8	0.00152	0.000099	<0.30	<0.00010	<0.0010	5.5	<0.00010	0.146	
W9	8/29/2005	<0.0050	6	0.0669	<0.0010	3.5	0.0013	<0.00050		<0.00050	<0.0010		<0.00050		
W9	9/28/2005	<0.0050	5.52	0.0485	<0.0010	3.1	0.0012	<0.00050		<0.00050	<0.0010		<0.00050		
W9	10/15/2005	<0.0050	5.17	0.0363	0.000349	2.9	0.00105	<0.000050	<0.30	<0.00010	<0.0010	5.67	<0.00010	0.0837	
W10	5/27/2005	<0.0050	3.25	0.00326	<0.0010	<2.0	0.0018	<0.00050		<0.00050	<0.0010		<0.00050		
W10	5/27/2005	<0.005			<0.001	<2	0.0033	<0.0005			<0.001		<0.0005		
W10	6/30/2005	<0.0050	3.71	0.0457	0.000177	3.6	0.00191	0.000388	<0.30	<0.00010	<0.0010	5.43	<0.00010	0.0778	
W10	7/29/2005	<0.0050	5	0.174	0.000273	4.7	0.00411	0.00178	<0.30	0.00015	<0.0010	9.73	0.00026	0.108	
W10	8/29/2005	<0.0050	6.02	0.0422	<0.0010	5.3	0.0016	<0.00050		<0.00050	<0.0010		<0.00050		
W10	9/28/2005	<0.0050	8.84	0.00236	<0.0010	5.4	<0.0010	<0.00050		<0.00050	<0.0010		<0.00050		
W10	10/15/2005	<0.0050	8.41	0.00586	0.000277	4.4	0.00086	<0.000050	<0.30	<0.00010	<0.0010	5.52	<0.00010	0.153	
W6	5/27/2005	<0.0050	4.88	0.0169	<0.0010	2.7	0.0021	<0.00050		<0.00050	<0.0010		<0.00050		
W6	6/30/2005	<0.0050	6.65	0.0113	0.000448	4.6	0.00135	0.000134	<0.30	<0.00010	<0.0010	7.27	<0.00010	0.1	
W6	7/29/2005	<0.0050	15.4	0.0536	0.00133	8.4	0.00204	0.00035	<0.30	<0.00010	<0.0010	6.69	0.00013	0.286	
W6	8/30/2005	<0.0050	7.97	0.0224	<0.0010	4.5	0.0011	<0.00050		<0.00050	<0.0010		<0.00050		
W6	9/28/2005	<0.0050	8.02	0.0267	<0.0010	4.2	0.0013	<0.00050		<0.00050	<0.0010		<0.00050		
W6	10/15/2005	<0.0050	7.18	0.0188	0.000392	4	0.00131	<0.000050	<0.30	<0.00010	<0.0010	6.54	<0.00010	0.112	
W6	6/2/2006	<0.005	5.63	0.0835	0.000411	3.4	0.00535	0.000851	<0.3	0.00017	<0.001	7.95	0.0001	0.0816	
W6	8/25/2006	<0.002	7.8	0.04	<0.002	4.8	0.001	<0.0002		<0.0004	<0.0004	7.39	<0.002	0.14	0.9
W6	9/6/2006	0.001	7.3	0.042	<0.001	4.6	0.0015	0.0001		<0.0002	0.0003	7.42	<0.001	0.135	1
W6	6/20/2007	<0.001	5.6	0.011	<0.001	4.3	0.0017	<0.0001	0.18	<0.0002	0.0002	6.4	<0.001	0.104	0.9
W6	9/18/2007	0.001	6.9	0.023	<0.001	5	0.0012	<0.0001	<0.05	<0.0002	<0.0002	7.2	<0.001	0.125	1
W6	6/17/2008	<0.001	6.44	0.0215	0.00045	4.8	0.001	<0.0001	0.11	<0.0002	<0.0006	5.34	<0.0001	0.103	
W6	9/18/2008	<0.001	6.61	0.0098	0.00031	4.1	0.001	<0.0001	0.02	<0.0002	<0.0006	6.22	<0.0001	0.104	
W6	4/14/2009	0.005	50	0.083	0.00334	33.3	0.001	0.0011	0.34	0.0003	0.0017	6.62	<0.0001	0.524	42.4
W6	4/30/2009	0.004	7.92	0.167	0.00043	3.38	0.009	0.0024	0.25	<0.0002	<0.0006	11.5	<0.0001	0.142	2.7
W6	7/28/2009														
W6	8/6/2009	0.002	16.7	0.1	0.0092	15.5	0.002	0.0003	0.017	0.0002	<0.0006	4.67	<0.0001	0.666	14.7
W6	8/6/2009	0.002	16.7	0.0874	0.0088	15.8	0.001	0.0006	0.015	0.0003	0.0007	4.68	<0.0001	0.566	15
W6	8/18/2009														
W6	8/25/2009														
W6	10/7/2009														
W6	10/7/2009	0.002	15.4	0.28	0.016	19.4	0.002	0.0007	<0.05	0.0006	0.0018	3.6	<0.0001	0.842	22.4
W6	10/25/2009	<0.005	16.9	0.229	0.015	18.4	0.001	<0.0002		0.0006	0.0019	4.48	<0.005	0.844	27
W6	4/19/2010	0.002	14.7	0.119	0.0017	9.35	0.002	0.0006	0.08	<0.0002	<0.0006	6.58	<0.0001	0.392	10.9
W6	5/16/2010	<0.005	8.41	0.027	<0.001	4.4	<0.001	<0.0002	0.021	<0.0005	0.0002	5.35	<0.005	0.197	<3
W6	5/17/2010	<0.005	4.84	0.05	<0.001	2.96	<0.001	<0.0002	0.027	<0.0005	<0.0001	2.02	<0.005	0.19	<3
W6	5/19/2010	<0.005	8.01	0.026	<0.001	5.29	<0.003	<0.0002	0.037	<0.0005	0.0002	2.87	<0.005	0.304	4
W6	5/21/2010	<0.01	6	0.092	<0.001	4	<0.001	<0.0002		<0.0005	<0.0008	2.38	<0.005	0.279	<60
W6	5/23/2010	<0.01	7	0.024	<0.001	5	<0.001	<0.0002		<0.0005	<0.0008	2.36	<0.005	0.284	<60
W6	5/25/2010	<0.01	10	0.03	<0.001	8	<0.003	0.0004		<0.0005	<0.001	2.95	<0.005	0.328	<60
W6	5/29/2010	<0.01	4	0.039	<0.001	2	<0.001	<0.0002		<0.0005	<0.0008	<2	<0.005	0.225	<60
W6	6/2/2010	<0.01	22	0.044	0.003	15	<0.001	<0.0002		<0.0005	<0.0008	5.61	<0.005	0.704	<60
W6	6/4/2010	<0.01	7	0.008	<0.001	4	0.001	<0.0002		<0.0005	<0.0008	7.13	<0.005	0.116	<60
W6	6/6/2010	<0.01	8	0.012	<0.001	4	0.001	0.0005		<0.0005	<0.0008	6.82	<0.005	0.121	<60
W6	6/14/2010	<0.01	7	0.014	<0.001	4	0.002	0.0002		<0.0005	<0.0008	7.45	<0.005	0.123	<60
W6	6/16/2010	<0.01	7	0.013	<0.001	4	0.001	<0.0002		<0.0005	<0.0008	7.12	<0.005	0.114	<60
W6	6/18/2010	<0.01	7	0.01	<0.001	4	0.001	<0.0002		<0.0005	<0.0008	6.99	<0.005	0.111	<60
W6	6/20/2010	<0.01	7	0.009	<0.001	4	0.001	<0.0002		<0.0005	<0.0008	7.28	<0.005	0.116	<60
W6	6/22/2010	<0.01	7	0.011	<0.001	4	0.002	<0.0002		<0.0005	<0.0008	8.49	<0.005	0.119	<60
W6	6/24/2010	<0.01	6	0.006	<0.001	3	<0.001	0.0003		<0.0005	<0.0008	5.99	<0.005	0.095	<60
W6	6/26/2010	<0.01	7	0.009	<0.001	4	0.001	<0.0002		<0.0005	<0.0008	6.95	<0.005	0.114	<60
W6	6/26/2010														
W6	6/28/2010	<0.01	6	0.023	<0.001	4	0.002	0.0003		<0.0005	<0.0008	9.39	<0.005	0.117	<60
W6	7/5/2010	<0.01	7	0.053	<0.001	3	0.004	0.0006		<0.0005	<0.0008	8.82	<0.005	0.112	<60
W6	8/5/2010	<0.01	8	0.023	<0.001	4	0.002	<0.0002		<0.0005	<0.0008	7.78	<0.005	0.121	<60
W6	9/9/2010	<0.01	8	0.045	<0.001	4	0.003	0.0004		<0.0005	<0.0008	8.17	<0.005	0.142	<60
W6	10/8/2010	<0.005	8.87	0.043	<0.001	4.58	0.002	0.0002		<0.0005	<0.0001	6.6	<0.005	0.141	<3
W6	8/19/2011	<0.005	20.9	0.02	0.003	14.6	0.001	<0.0002	<0.01	<0.0005	0.0004	4.9	<0.005	0.614	18
W6	7/17/2012	0.0136	14.6	0.771	0.0012	4.89	0.0348	0.00971	0.99	0.00072	0.00068	42.3	<0.0050	0.23	<3.0
W6	7/30/2012	0.0088	12.1	0.513	<0.0010	4.72	0.0236	0.00627	0.642	0.00051	0.00061	33.1	<0.0050	0.202	<3.0
W6	8/9/2012	0.0061	10.7	0.376	<0.0010	4.85	0.0126	0.00343	0.373	<0.00050	0.00041	21.7	<0.0050	0.174	<3.0
W6	8/25/2012	<0.0050	11.7	0.619	<0.0010	4.59	0.0192	0.00505	0.647	<0.00050	0.00016	13.4	<0.0050	0.227	<3.0
W6	9/13/2012	<0.0050	6.92	0.0619	<0.0010	4.05	0.005	0.00025	0.04	<0.00050	<0.00010	6.82	<0.0050	0.12	<3.0
W6	10/13/2012	<0.0050	9.61	0.0661	<0.0010	5.31	0.0016	0.00023	0.048	<0.00050	0.00014	8.91	<0.0050	0.154	3.2
W6	11/12/2012	<0.0050	11.3	0.0021	<0.0010	6.12	0.0013	<0.00020	0.015	<0.00050	0.00011	9.52	<0.0050	0.185	<3.0
W6	5/14/2013	<0.0050	2.5	0.0637	<0.0010	1.07	0.0023	0.00024	0.086	<0.00050	<0.00010	3.97	<0.0050	0.0391	<3.0
W6	6/22/2013	<0.0050	9.52	0.161	<0.0010	4.63	0.0102	0.00184	0.184	<0.00050	0.00022	15.9	<0.0050	0.15	<3.0
W6	7/12/2013	<0.0050	6.98	0.0413	<0.0010	4.18	0.0021	0.00021	0.032	<0.00050	0.00012	7.44	<0.0050	0.129	<3.0
W6	8/22/2013	<0.0050	7.74	0.0358	<0.0010	4.67	0.0013	<0.00020	0.018	<0.00050	<0.00010	8	<0.0050	0.134	<3.0
W6	9/6/2013	<0.0050	8.38	0.0387	<0.0010	4.75	0.0014	<0.00020	0.016	<0.00050	0.00013	8.12	<0.0050	0.142	<3.0
W6	10/7/2013	<0.0050	8	0.0965	<0.0010	4.45	0.0039	0.00081	0.098	<0.00050	0.00015	11.3	<0.0050	0.136	<3.0
W6	11/16/2013	<0.0050	9.65	0.0488	<0.0010	5.26	0.0014	<0.00020	0.022	<0.00050	<0.00010	8.78	<0.0050	0.163	<3.0
W6	12/7/2013	<0.0050	14.5	0.0036	<0.0010	7.78	0.0013	<0.00020	0.031	<0.00050	0.00018	9.08	<0.0050	0.225	<3.0
W7	5/27/2005	<0.0050	6.82	0.0519	0.001	3.9	0.003	<0.00050		<0.00050	<0.0010		<0.00050		
W7	6/30/2005	<0.0050	10.1	0.0514	0.00119	6.8	0.00141	0.000134	<0.30	<0.00010	<0.0010	5.85	<0.00010	0.279	
W7	7/29/2005	<0.0050	14.2	0.0468	0.00121	7.7	0.00174	0.000332	<0.30	<0.00010	<0.0010	6.39	<0.00010	0.287	
W7	8/30/2005	<0.0050	9.67	0.0368	0.0011	5.9	0.0016	<0.00050		<0.00050	<0.0010		<0.00050		
W7	9/28/2005	<0.0050	9.57	0.314	<0.0010	4.9	0.0068	0.0011		<0.00050	<0.0010		<0.00050		
W7	10/15/2005	<0.0050	8.77	0.0473	0.000959	5.1	0.00176	0.000061	<0.30	<0.00010	<0.0010	6.09	<0.00010	0.24	
W7	6/2/2006	0.0079	10.7	0.589	0.000988	4.5	0.0275	0.00547	0.77	0.00037	<0.001	22.4	0.00036	0.204	
W7	6/8/2006	<0.005	7.12	0.0645	0.000843	4.4	0.00402	0.00045	<0.3	<0.0001	<0.001	5.27	<0.0001	0.174	

Table B.1: Raw water quality data from Minto Mine, 2005 - 2013.

Station Name	Sample Date	Total Li (mg/L)	Total Mg (mg/L)	Total Mn (mg/L)	Total Mo (mg/L)	Total Na (mg/L)	Total Ni (mg/L)	Total Pb (mg/L)	Total P (mg/L)	Total Sb (mg/L)	Total Se (mg/L)	Total Si (mg/L)	Total Sn (mg/L)	Total Sr (mg/L)	Total S (mg/L)
W7	6/15/2006														
W7	6/15/2006	0.002	8.8	0.079	0.001	5.8	0.0052	0.0006		<0.0002	0.0002	7.24	<0.001	0.276	3.2
W7	6/23/2006	0.005	12.5	0.226	0.001	7	0.0117	0.002		<0.0002	0.0004	12.3	<0.001	0.367	4.2
W7	6/28/2006	0.002	9.3	0.086	0.001	6	0.0042	0.0007		<0.0002	<0.0002	8.36	<0.001	0.267	3.1
W7	7/7/2006	0.001	10.1	0.035	0.001	7.4	0.0019	<0.0001		<0.0002	0.0002	5.57	<0.001	0.329	3.7
W7	7/12/2006	0.001	9.5	0.035	0.001	6.5	0.0014	<0.0001		<0.0002	0.0002	5.73	<0.001	0.323	3.8
W7	7/20/2006	0.001	11.2	0.042	0.001	6.4	0.0011	<0.0001		<0.0002	<0.0002	5.72	<0.001	0.334	3.9
W7	7/26/2006														
W7	7/26/2006	0.001	11.7	0.051	0.001	6.5	0.0009	0.0001		<0.0002	<0.0002	6.21	<0.001	0.362	4.1
W7	8/2/2006	0.001	10.8	0.033	0.001	6.9	0.001	<0.0001		<0.0002	0.0005	5.94	<0.001	0.342	3.6
W7	8/10/2006	0.001	11.3	0.04	0.001	7.2	0.0009	<0.0001		<0.0002	<0.0002	5.82	<0.001	0.362	4
W7	8/25/2006														
W7	8/25/2006	<0.002	10	0.039	<0.002	6.7	0.001	<0.0002		<0.0004	<0.0004	5.49	<0.002	0.335	3.3
W7	8/30/2006	0.001	10.3	0.035	0.001	6.7	0.0013	<0.0001		<0.0002	<0.0002	5.49	<0.001	0.309	3.5
W7	9/6/2006	0.001	10.3	0.035	0.001	6.8	0.0013	0.0002		<0.0002	0.0004	5.74	<0.001	0.332	3.7
W7	9/13/2006	<0.001	11	0.033	<0.001	7.1	0.0007	<0.0001		<0.0002	0.0002	6.36	<0.001	0.187	3.6
W7	9/20/2006	0.001	11.7	0.042	0.001	6.6	0.0014	0.0001		<0.0002	0.0004	5.89	<0.001	0.347	3.7
W7	9/28/2006	<0.002	11	0.037	<0.002	6.9	0.002	<0.0002		<0.0004	0.0004	5.35	<0.002	0.328	3.6
W7	10/4/2006	<0.002	11	0.038	<0.002	7	0.002	<0.0002		<0.0004	0.0006	5.75	<0.002	0.347	3.5
W7	10/12/2006	0.001	11.8	0.063	0.001	6.6	0.0015	0.0002		<0.0002	<0.0002	6.51	<0.001	0.35	4
W7	6/5/2007	0.002	10.2	0.126	0.001	5.8	0.0033	0.0006	0.14	<0.0002	<0.0002	7.47	<0.001	0.275	3.4
W7	6/5/2007	<0.002	11	0.14	<0.002	6.1	0.0039	0.0007	0.11	<0.0004	<0.0004	8.37	<0.002	0.302	3.5
W7	6/5/2007	0.002	10.6	0.135	0.001	6	0.0041	0.0007	0.14	<0.0002	<0.0002	8.3	<0.001	0.276	3.5
W7	6/20/2007	0.001	9.8	0.044	0.002	7.2	0.0016	0.0001	<0.05	<0.0002	0.0003	5.45	<0.001	0.304	4.2
W7	7/18/2007	0.001	11	0.03	0.001	7.7	<0.0005	0.0004		<0.0002	0.0004	5.78	<0.001	0.38	4
W7	7/18/2007	0.001	11	0.035	0.001	7.6	0.0009	0.0001		<0.0002	0.0007	5.77	<0.001	0.379	3.9
W7	7/18/2007	0.001	11	0.026	0.001	7.6	0.0005	<0.0001		<0.0002	0.0005	5.73	<0.001	0.37	3.9
W7	8/24/2007														
W7	8/24/2007														
W7	8/24/2007														
W7	8/24/2007	0.001	10.7	0.033	0.001	7.9	0.0014	0.0001	<0.05	<0.0002	<0.0002	5.8	<0.001	0.34	3.3
W7	8/24/2007	0.001	10.8	0.03	0.001	7.6	0.0013	<0.0001	<0.05	<0.0002	<0.0002	5.92	<0.001	0.34	3.3
W7	8/24/2007	0.001	11.2	0.031	0.002	8	0.0014	<0.0001	<0.05	<0.0002	<0.0002	6.3	<0.001	0.376	3.5
W7	9/18/2007	0.002	9.5	0.034	0.001	7.3	0.0015	0.0002	<0.05	<0.0002	<0.0002	6.34	<0.001	0.309	2.8
W7	10/30/2007	0.001	11.2	0.054	0.002	8.1	0.0008	0.0023		<0.0002	0.0007	5.94	<0.001	0.395	4.6
W7	10/30/2007	0.001	11	0.046	0.001	7.7	0.001	0.0005		<0.0002	0.0003	5.09	<0.001	0.388	4.3
W7	10/30/2007	0.001	11.3	0.047	0.001	7.6	0.0009	0.0003		<0.0002	<0.0002	5.97	<0.001	0.385	4.2
W7	10/30/2007														
W7	4/22/2008	0.002	19	0.0257	0.00165	11.8	<0.001	<0.0001	0.02	<0.0002	<0.0006	3.8	<0.004	0.487	
W7	4/22/2008	0.002	20.6	0.0268	0.00185	12.4	<0.001	<0.0001	0.02	<0.0002	<0.0006	4.15	<0.004	0.518	
W7	4/22/2008	0.002	20.2	0.0268	0.00174	12	0.001	<0.0001	0.02	<0.0002	<0.0006	4.03	<0.004	0.514	
W7	4/22/2008														
W7	6/3/2008	0.001	8.68	0.0693	0.00131	6.6	0.002	0.0002	0.05	<0.0002	<0.0006	2.66	<0.0001	0.234	
W7	6/3/2008	0.001	8.71	0.0616	0.00129	6.8	0.002	0.0001	0.05	<0.0002	<0.0006	2.68	<0.0001	0.232	
W7	6/3/2008	0.001	9.15	0.065	0.00129	7	0.002	0.0002	0.05	<0.0002	0.0009	2.77	<0.0001	0.24	
W7	6/3/2008														
W7	6/17/2008	<0.001	10.1	0.0833	0.00148	7.5	0.001	0.0001	0.06	<0.0002	0.0008	4.43	<0.0001	0.294	
W7	8/6/2008	0.002	10.8	0.064	0.001	7	0.003	0.0003		<0.0002	<0.0002	6.15	<0.001	0.363	3.5
W7	8/6/2008	0.002	10.8	0.059	0.001	7.4	0.0034	0.0003		<0.0002	<0.0002	6.45	<0.001	0.361	3.5
W7	8/6/2008	0.002	11	0.071	0.001	7.4	0.0036	0.0004		<0.0002	<0.0002	7.39	<0.001	0.36	3.5
W7	8/6/2008														
W7	9/18/2008	<0.001	7.62	0.0347	0.00082	5.1	0.002	0.0003	0.04	<0.0002	0.0008	7.09	<0.0001	0.201	
W7	10/28/2008	<0.001	11.6	0.0347	0.00107	6.52	0.001	0.0001	0.016	<0.0002	<0.0006	7.13	<0.0001	0.263	
W7	10/28/2008	<0.001	11.5	0.0396	0.00114	6.24	0.003	0.0026	0.031	<0.0002	<0.0006	7.08	<0.0001	0.271	
W7	10/28/2008	<0.001	11.5	0.0337	0.00111	6.26	0.004	<0.0001	0.013	<0.0002	<0.0006	7.04	<0.0001	0.274	
W7	10/28/2008														
W7	4/30/2009	<0.001	1.97	0.0153	0.00016	1.29	<0.001	0.0002	0.09	<0.0002	<0.0006	1.67	<0.0001	0.036	0.5
W7	6/8/2009	0.001	9.53	0.0449	0.00141	6.08	0.002	0.0003	<0.05	<0.0002	<0.0006	5.67	<0.0001	0.281	3.2
W7	7/28/2009														
W7	8/6/2009	0.001	12.2	0.0278	0.0015	7.17	0.001	0.0004	0.011	<0.0002	<0.0006	5.7	<0.0001	0.38	4.3
W7	8/24/2009														
W7	8/25/2009														
W7	8/31/2009														
W7	10/7/2009								0.017						
W7	10/7/2009	0.001	11.9	0.0346	0.0013	7.38	0.002	0.0015	<0.05	<0.0002	<0.0006	6.46	<0.0001	0.312	4
W7	10/25/2009	<0.005	12.6	0.029	0.002	7.41	0.001	<0.0002		<0.0005	0.0001	7.24	<0.005	0.361	<3
W7	10/25/2009														
W7	4/19/2010	<0.001	7.53	0.0207	0.0008	5.17	0.001	0.0001	0.1	<0.0002	<0.0006	4.44	<0.0001	0.218	2.8
W7	4/27/2010	<0.005	2.83	0.007	<0.001	1.89	0.001	<0.0002		<0.0005	<0.0001	3.14	<0.005	0.073	<3
W7	4/29/2010	<0.005	3.01	0.01	<0.001	1.91	0.001	<0.0002		<0.0005	<0.0001	3.2	<0.005	0.077	<3
W7	5/1/2010	<0.005	3.62	0.03	<0.001	2.25	0.002	0.0003	0.052	<0.0005	<0.0001	4.34	<0.005	0.095	<3
W7	5/3/2010	<0.005	3.78	0.033	<0.001	2.55	0.002	0.0003		<0.0005	<0.0001	4.17	<0.005	0.108	<3
W7	5/5/2010	<0.005	4.7	0.03	<0.001	3.03	0.002	0.002	0.058	<0.0005	<0.0001	4.7	<0.005	0.12	<3
W7	5/7/2010	<0.005	4.7	0.039	<0.001	3.01	0.003	0.0003	0.049	<0.0005	<0.0001	4.5	<0.005	0.13	<3
W7	5/9/2010	<0.005	6.2	0.016	<0.001	3.97	0.002	0.0003	0.027	<0.0005	0.0001	4.24	<0.005	0.17	<3
W7	5/10/2010	<0.005	7.83	0.018	0.001	5.1	0.002	0.0003	0.03	<0.0005	0.0002	5.37	<0.005	0.22	<3
W7	5/12/2010			<.01											
W7	5/12/2010	<0.005	7.14	0.021	0.001	4.83	0.001	0.0002	0.022	<0.0005	0.0001	5.23	<0.005	0.206	<3
W7	5/14/2010	<0.005	6.29	0.042	<0.001	4.05	0.003	0.0002		<0.0005	0.0001	4.69	<0.005	0.177	<3
W7	5/16/2010	<0.005	6.52	0.037	<0.001	4.02	0.001	<0.0002	0.041	<0.0005	0.0001	4.45	<0.005	0.188	<3
W7	5/17/2010	<0.005	6.47	0.045	0.001	3.92	0.001	0.0002	0.031	<0.0005	0.0002	4.32	<0.005	0.193	<3
W7	5/19/2010	<0.005	9.58	0.019	0.001	6.7	<0.003	<0.0002	0.024	<0.0005	0.0002	5.4	<0.005	0.261	<3
W7	5/21/2010	<0.01	8	0.035	0.001	5	0.002	0.0002		<0.0005	<0.0008	5.41	<0.005	0.246	<60
W7	5/23/2010	<0.01	10	0.13	0.001	5	0.007	0.0013		<0.0005	<0.0008	8.91	<0.005	0.261	<60
W7	5/25/2010	<0.01	13	0.158	0.002	8	0.008	0.0018		<0.0005	<0.001	13.2	<0.005	0.279	<60
W7	5/27/2010	<0.01	17	0.391	0.002	8	0.03	0.0052		0.0007	<0.001	24.4	<0.005	0.316	<60
W7	5/29/2010	<0.01	13	0.248	0.002	6	0.013	0.0025		<0.0005	<0.0008	12.9	<0.005	0.314	<60
W7	5/31/2010	<0.01	13	0.226	0.002	7	0.015	0.0028		<0.0005	<0.0008	14.2	<0.005	0.307	<60
W7	6/2/2010	<0.01	13	0.148	0.002	8	0.009	0.0014		<0.0005	<0.0008	10.2	<0.005	0.337	<60
W7	6/4/2010	<0.01	11	0.081	0.002	7	0.006	0.001		<0.0005	<0.0008	8.48	<0.005	0.311	<60
W7	6/6/2010	<0.01	12	0.091	0.002	7	0.006	0.0012		<0.0005	<0.0008	9.38	<0.005	0.337	<60
W7	6/14/2010	<0.01	12	0.073	0.002	7	0.004	0.0006		<0.0005	<0.0008	7.65	<0.005	0.356	<60
W7	6/16/2010	<0.01	12	0.036	0.002	7	0.002	<0.0002		<0.0005	<0.0008	6.5	<0.005	0.342	<60
W7	6/18/2010	<0.01	11	0.042	0.002	7	0.002	0.0003		<0.0005	<0.0008	6.69	<0.005	0.323	<60
W7	6/20/2010	<0.01	11	0.059	0.002	7	0.004	0.0007		<0.0005	<0.0008	8.16	<0.005	0.308	<60
W7	6/22/2010	<0.01	11	0.26	0.001	6	0.016	0.0031		<0.0005	<0.0008	18.4	<0.005	0.298	<60
W7	6/24/2010	<0.01	12	0.067	0.001	8	0.006	0.0006		<0.0005	<0.0008	8.82	<0.005	0.285	<60
W7	6/26/2010	<0.01	10	0.032	0.001	6	0.002	0.0003		<0.0005	<0.0008	6.6	<0.005	0.277	<60
W7	6/28/2010	<0.01	9	0.021	0.001	6	0.002	0.0003		<0.0005	<0.0008	7.12	<0.005	0.312	<60
W7	7/5/2010	<0.01	9	0.078	0.001	6	0.005	0.0008		<0.0005	<0.0008	9.55	<0.005	0.263	<60
W7	8/5/2010	<0.01	10	0.029	0.001	6	0.003	<0.0002		<0.0005	<0.0008	6.81	<0.005	0.306	<60
W7	9/12/2010	<0.01	9	0.052	<0.001	5	0.002	<0.0002		<0.0005	<0.0008	7.25	<0.005	0.253	<60
W7	9/12/2010	<0.01	9	0.026	<0.001	5	0.002	<0.0002		<0.0005	<0.0008	7.18	<0.005	0.248	<60
W7	10/8/2010	<0.005	11.1	0.036	0.001	6.52	0.002	<0.0002		<0.0005	<0.0001	7.13	<0.005	0.316	<3
W7	4/27/2011	<0.005	3.72	0.03	<0.001	2.16	<0.001	<0.0002	0.067	<0.0005	<0.0001	2.96	<0.005	0.089	<3
W7	5/2/2011	<0.005	2.78	0.039	<0.001	1.51	0.001	<0.0002		<0.0005	<0.0001	2.73	<0.005	0.069	<3
W7	6/1/2011	<0.005	8.93	0.035	0.001	5.45	0.002	0.0002	0.043	<0.0005	0.0001	5.82	<0.005	0.25	<3
W7	6/16/2011	<0.005	10.2	0.097	0.001	5.94	0.008	0.0012	0.226	<0.0005	0.0002	10.3	<0.005	0.24	<3
W7	7/1/2011	<0.005	7.82	0.162	0.001	5.16	0.012	0.0021	0.267	<0.0005	0.0003	11.9	<0.005	0.179	<3

Table B.1: Raw water quality data from Minto Mine, 2005 - 2013.

Station Name	Sample Date	Total Li (mg/L)	Total Mg (mg/L)	Total Mn (mg/L)	Total Mo (mg/L)	Total Na (mg/L)	Total Ni (mg/L)	Total Pb (mg/L)	Total P (mg/L)	Total Sb (mg/L)	Total Se (mg/L)	Total Si (mg/L)	Total Sn (mg/L)	Total Sr (mg/L)	Total S (mg/L)
W7	8/2/2011	0.005	8.29	0.304	<0.001	4.04	0.019	0.0035	0.412	<0.0005	0.0003	22.3	<0.005	0.161	<3
W7	8/16/2011	<0.005	8.1	0.081	<0.001	4.64	0.003	0.0004	0.058	<0.0005	0.0001	7	<0.005	0.209	<3
W7	8/19/2011	<0.005	8.05	0.078	<0.001	4.62	0.003	0.0002	0.043	<0.0005	0.0001	7	<0.005	0.201	<3
W7	9/12/2011	<0.005	10.6	0.083	0.001	6.09	0.002	<0.0002	0.033	<0.0005	0.0002	7.49	<0.005	0.247	<3
W7	10/6/2011	<0.005	10.2	0.073	0.001	5.59	0.001	<0.0002	0.023	<0.0005	0.0001	6.27	<0.005	0.264	<3
W7	11/22/2011	<0.005	12.8	0.093	0.001	6.69	0.002	0.0008	0.077	<0.0005	0.0002	7.33	<0.005	0.358	6.5
W7	1/24/2012	<0.005	14.5	0.06	0.001	8.39	<0.001	<0.0002	0.014	<0.0005	0.0003	6.36	<0.005	0.449	5.9
W7	2/25/2012	<0.005	13.9	0.004	0.001	8.08	<0.001	<0.0002	0.012	<0.0005	0.0003	6.3	<0.005	0.468	6
W7	3/5/2012	<0.005	14.6	0.005	0.001	8.36	<0.001	<0.0002	0.016	<0.0005	0.0004	6.35	<0.005	0.485	5.6
W7	4/24/2012	<0.0050	3.17	0.0582	<0.0010	1.84	0.0019	0.00029	0.048	<0.00050	<0.00010	4.08	<0.0050	0.0798	<3.0
W7	5/6/2012	<0.0050	4.06	0.0133	<0.0010	2.47	0.0013	<0.00020	0.031	<0.00050	0.00014	3.65	<0.0050	0.105	<3.0
W7	5/6/2012	<0.0050	4.12	0.0145	<0.0010	2.53	0.0014	<0.00020	0.034	<0.00050	0.00011	3.57	<0.0050	0.103	<3.0
W7	6/19/2012	<0.0050	9.46	0.199	0.0012	5.45	0.0107	0.00178	0.222	<0.00050	0.0002	16.3	<0.0050	0.236	<3.0
W7	7/17/2012	<0.0050	11	0.0937	0.0015	6.4	0.0032	0.00026	0.074	<0.00050	0.00019	8.31	<0.0050	0.305	<3.0
W7	7/30/2012	<0.0050	11.6	0.0683	0.0014	6.83	0.0025	<0.00020	0.044	<0.00050	0.00022	6.59	<0.0050	0.318	3.3
W7	8/8/2012	<0.0050	12.7	0.0626	0.0014	7.25	0.0016	<0.00020	0.036	<0.00050	0.00028	7.38	<0.0050	0.334	<3.0
W7	8/23/2012	<0.0050	13	0.0627	0.0016	7.39	0.0016	<0.00020	0.035	<0.00050	0.00017	7.8	<0.0050	0.374	<3.0
W7	9/13/2012	<0.0050	10.5	0.126	<0.0010	6	0.0022	<0.00020	0.034	<0.00050	0.00021	6.83	<0.0050	0.269	<3.0
W7	10/16/2012	<0.0050	13	0.101	0.0012	7.25	0.0023	<0.00020	0.046	<0.00050	0.0002	7.29	<0.0050	0.327	<3.0
W7	11/2/2012	<0.0050	14.4	0.103	0.0013	7.87	0.0014	<0.00020	0.023	<0.00050	0.00023	6.3	<0.0050	0.411	5.1
W7	12/29/2012	<0.0050	19.9	0.0405	0.0012	11.7	0.0016	<0.00020	0.022	<0.00050	0.00032	7.67	<0.0050	0.488	7.9
W7	4/30/2013	<0.0050	19	0.053	0.0013	10.1	<0.0010	<0.00020	<0.01	<0.00050	0.00042	7.29	<0.0050	0.603	8.1
W7	5/14/2013	<0.0050	3	0.164	<0.0010	1.5	0.0029	0.00046	0.116	<0.00050	0.00011	4.78	<0.0050	0.0703	<3.0
W7	6/19/2013	<0.0050	9.98	0.0448	0.0013	6.12	0.0018	<0.00020	0.036	<0.00050	0.00018	6.43	<0.0050	0.275	<3.0
W7	6/19/2013	<0.0050	9.92	0.042	0.0014	6.28	0.0019	<0.00020	0.028	<0.00050	0.00012	6.47	<0.0050	0.275	<3.0
W7	7/13/2013	<0.0050	12.1	0.0336	0.0016	7.03	0.0017	<0.00020	0.027	<0.00050	0.0002	6.88	<0.0050	0.341	<3.0
W7	8/21/2013	<0.0050	13.3	0.0492	0.0016	7.75	0.0014	<0.00020	0.028	<0.00050	0.00014	6.97	<0.0050	0.364	<3.0
W7	9/6/2013	<0.0050	13.9	0.102	0.0013	8.11	0.0019	<0.00020	0.044	<0.00050	0.00017	7.96	<0.0050	0.364	<3.0
W7	10/21/2013	<0.0050	11.3	0.0934	0.0011	6.34	0.0016	<0.00020	0.027	<0.00050	0.00021	6.38	<0.0050	0.303	<3.0
W7	11/16/2013	<0.0050	15.6	0.0906	0.0017	8.83	<0.0010	<0.00020	0.026	<0.00050	0.00017	6.95	<0.0050	0.436	<3.0
W7	12/7/2013	<0.0050	17.5	0.162	0.0013	10.1	0.001	<0.00020	0.021	<0.00050	0.00019	6.56	<0.0050	0.476	5.8
C4	5/6/2012	0.0188	14.4	0.936	0.0015	3.45	0.0498	0.0126	1.11	0.00084	0.00069	57.5	<0.0050	0.168	<3.0
C4	8/1/2012	<0.0050	11.5	0.868	<0.0010	5.22	0.0139	0.00303	0.41	<0.00050	0.00019	18.8	<0.0050	0.237	<3.0
C4	8/8/2012	0.0057	12.3	1	0.001	5.55	0.0151	0.00371	0.478	<0.00050	0.00021	18	<0.0050	0.26	<3.0
C4	8/25/2012	<0.0050	14.3	1.32	<0.0010	5.64	0.0179	0.00439	0.657	<0.00050	0.00016	13	<0.0050	0.321	<3.0
C4	6/22/2013	0.0152	20.2	1.24	0.0023	7.08	0.0483	0.00977	1.28	0.00084	0.00059	40.7	<0.0050	0.337	3.6
C4	7/19/2013	0.0106	15.8	0.913	0.002	6.66	0.0314	0.00631	0.591	0.00064	0.00071	32	<0.0050	0.323	<3.0
C4	8/22/2013	0.0094	17.3	1.25	0.0014	6.83	0.0352	0.00784	1.01	0.00058	0.00053	31	<0.0050	0.346	<3.0
C4	9/6/2013	<0.0050	14.2	0.732	0.0014	6.74	0.0124	0.00208	0.342	<0.00050	0.00016	18.3	<0.0050	0.276	<3.0
C4	10/18/2013	<0.0050	11.8	0.427	<0.0010	6.15	0.0031	<0.00020	0.06	<0.00050	<0.00010	8.27	<0.0050	0.237	4.6
C4	10/18/2013	<0.0050	11.3	0.425	<0.0010	6.01	0.0029	<0.00020	0.065	<0.00050	0.00011	8.14	<0.0050	0.236	3.6
C4	11/17/2013	<0.0050	21.5	3.19	0.0011	8.09	0.0077	<0.00020	0.158	<0.00050	0.00027	9.05	<0.0050	0.409	8.2
C10	5/12/2012	0.0292	21.1	2.09	0.0021	4.3	0.074	0.0214	2.08	0.00117	0.00116	66.7	<0.0050	0.307	<3.0
C10	7/30/2012	0.015	16.2	0.947	0.0021	6.41	0.041	0.00995	0.967	0.00096	0.00073	42.7	<0.0050	0.315	<3.0
C10	7/30/2012														
C10	8/10/2012	0.0172	18.8	1.31	0.0017	6.4	0.0467	0.0125	1.15	0.00087	0.00057	44.2	<0.0050	0.363	<3.0
C10	8/27/2012	0.0198	20.2	1.7	0.0023	6.34	0.0524	0.013	1.39	0.00115	0.00086	44	<0.0050	0.404	<3.0
C10	6/22/2013	<0.0050	9.68	0.0986	0.0012	6.32	0.0044	0.0006	0.083	<0.00050	0.0001	8.47	<0.0050	0.223	<3.0
C10	7/23/2013	<0.0050	10.6	0.407	0.0012	6.52	0.0099	0.00212	0.239	<0.00050	0.00024	15.9	<0.0050	0.226	<3.0
C10	8/22/2013	<0.0050	10.7	0.11	<0.0010	6.49	0.0038	0.00044	0.073	<0.00050	0.00013	8.98	<0.0050	0.259	<3.0
C10	9/8/2013	<0.0050	10.2	0.172	0.0014	6.24	0.0033	0.00025	0.063	<0.00050	0.00017	7.06	<0.0050	0.256	<3.0
C10	9/8/2013	<0.0050	10.3	0.174	<0.0010	6.4	0.0032	0.00025	0.067	<0.00050	0.00014	7.27	<0.0050	0.255	<3.0
C10	10/18/2013	<0.0050	10.4	0.321	<0.0010	6.3	0.0038	0.00054	0.105	<0.00050	0.00015	8.99	<0.0050	0.231	<3.0

Table B.1: Raw water quality data from Minto Mine, 2005 - 2013.

Station Name	Sample Date	Total Te (mg/L)	Total Th (mg/L)	Total Ti (mg/L)	Total Tl (mg/L)	Total U (mg/L)	Total V (mg/L)	Total W (mg/L)	Total Zn (mg/L)	Total Zr (mg/L)	Total N (mg/L)	Ammonia (mg/L)	Ammonium (mg/L)	Ammonium (mg/L)	NO2+NO3 (mg/L)
W1	5/27/2005			0.022	<0.00020	0.0006	<0.030		0.0096			0.039			
W1	6/30/2005			<0.010	<0.00010	0.00113	<0.0010		<0.0010			<0.020			
W1	7/28/2005			<0.010	<0.00010	0.00122	<0.0010		<0.0010			<0.020			
W1	8/29/2005			<0.010	<0.00020	0.00077	<0.030		<0.0050			0.041			
W1	9/28/2005			<0.010	<0.00020	0.00058	<0.030		<0.0050			0.026			
W1	10/15/2005			<0.010	<0.00010	0.000786	0.0013		0.001			0.02			
W2	5/27/2005			0.016	<0.00020	0.00054	<0.030		<0.0050			0.026			
W2	5/27/2005			0.057		0.00096			0.006			<0.02			
W2	6/30/2005			<0.010	<0.00010	0.00108	<0.0010		<0.0010			<0.020			
W2	7/28/2005			<0.010	<0.00010	0.00136	<0.0010		<0.0010			<0.020			
W2	8/30/2005			<0.010	<0.00020	0.00082	<0.030		<0.0050			0.029			
W2	9/28/2005			<0.010	<0.00020	0.00059	<0.030		<0.0050			<0.020			
W2	10/15/2005			<0.010	<0.00010	0.000756	0.001		0.0011			<0.020			
W3	5/27/2005			<0.010	<0.00020	0.00035	<0.030		<0.0050			<0.020			
W3	6/30/2005			<0.010	<0.00010	0.0009	<0.0010		<0.0020			<0.020			
W3	7/29/2005			0.045	<0.00010	0.000778	0.0032		<0.0070			<0.020			
W3	8/29/2005			<0.010	<0.00020	0.00051	<0.030		<0.0050			0.042			
W3	9/28/2005			<0.010	<0.00020	0.00039	<0.030		<0.0050			<0.020			
W3	10/15/2005			<0.010	<0.00010	0.00044	<0.0010		<0.0010			0.023			
W8	5/27/2005			<0.010	<0.00020	<0.00020	<0.030		<0.0050			<0.020			
W8	6/30/2005			<0.010	<0.00010	0.000063	<0.0010		<0.0020			0.041			
W8	7/29/2005			<0.010	<0.00010	0.000083	<0.0010		0.0011			<0.020			
W8	8/30/2005			<0.010	<0.00020	<0.00020	<0.030		<0.0050			0.023			
W8	9/28/2005			<0.010	<0.00020	<0.00020	<0.030		<0.0050			<0.020			
W8	10/15/2005			<0.010	<0.00010	0.0001	<0.0010		0.0011			0.026			
W9	5/27/2005			<0.010	<0.00020	<0.00020	<0.030		<0.0050			<0.020			
W9	6/30/2005			<0.010	<0.00010	0.000027	<0.0010		<0.0050			0.02			
W9	7/29/2005			<0.010	<0.00010	0.000052	<0.0010		<0.0040			<0.020			
W9	8/29/2005			<0.010	<0.00020	<0.00020	<0.030		<0.0050			0.026			
W9	9/28/2005			<0.010	<0.00020	<0.00020	<0.030		<0.0050			<0.020			
W9	10/15/2005			<0.010	<0.00010	0.000025	<0.0010		<0.0010			<0.020			
W10	5/27/2005			<0.010	<0.00020	<0.00020	<0.030		<0.0050			0.027			
W10	5/27/2005			<0.01	<0.0002	0.00092	<0.03		<0.005			<0.02			
W10	6/30/2005			<0.010	<0.00010	0.000034	0.0015		0.0289			0.036			
W10	7/29/2005			0.09	<0.00010	0.000097	0.0067		0.017			<0.020			
W10	8/29/2005			0.018	<0.00020	<0.00020	<0.030		0.0071			0.033			
W10	9/28/2005			<0.010	<0.00020	<0.00020	<0.030		<0.0050			<0.020			
W10	10/15/2005			<0.010	<0.00010	0.000017	<0.0010		0.0014			<0.020			
W6	5/27/2005			<0.010	<0.00020	<0.00020	<0.030		<0.0050			<0.020			
W6	6/30/2005			<0.010	<0.00010	0.000151	0.0012		<0.0030			<0.020			
W6	7/29/2005			0.033	<0.00010	0.00106	0.0027		<0.0060			<0.020			
W6	8/30/2005			<0.010	<0.00020	<0.00020	<0.030		<0.0050			<0.020			
W6	9/28/2005			<0.010	<0.00020	<0.00020	<0.030		<0.0050			<0.020			
W6	10/15/2005			<0.010	<0.00010	0.000129	<0.0010		<0.0010			<0.020			
W6	6/2/2006			0.077	<0.0001	0.000215	0.0066		0.0085			0.021			
W6	8/25/2006			<0.0010	<0.0001	<0.001	0.0008		0.005	<0.002					
W6	9/6/2006			0.0014	<0.00005	<0.0005	0.0008		<0.001	<0.001					
W6	6/20/2007			<0.0005	<0.00005	<0.0005	0.0011		0.004	<0.001		<0.05			<0.1
W6	9/18/2007			0.0015	<0.00005	<0.0005	0.0007		0.008	<0.001		<0.05			<0.1
W6	6/17/2008	<0.0001	<0.0001	0.0059	<0.00001	<0.0004	0.00094		0.007	0.0004		<0.05			0.01
W6	9/18/2008	<0.0001	<0.0001	0.0015	<0.00001	<0.0004	0.00065		0.004	0.0003		<0.05			<0.01
W6	4/14/2009	0.0001	0.0001	0.064	<0.00001	0.0041	0.00381		0.276	0.0038			0.12	0.12	0.59
W6	4/30/2009	<0.0001	<0.0001	0.222	0.00003	0.0004	0.0142		0.023	0.0013			<0.05	<0.05	0.04
W6	7/28/2009														
W6	8/6/2009	<0.0001	<0.0004	0.0024	<0.00001	0.0015	0.0008		0.003	<0.0001					
W6	8/6/2009	<0.0001	<0.0004	0.0019	<0.00001	0.0015	0.0007		0.006	0.0001			0.06	0.06	2.93
W6	8/18/2009														
W6	8/25/2009														
W6	10/7/2009														
W6	10/7/2009	<0.0001	<0.0004	0.0022	<0.00001	0.0005	0.0006		0.005	<0.0001			0.1	0.1	8.18
W6	10/25/2009			<0.005	<0.00005	0.0009	<0.005		<0.005	<0.0005		0.134			7.9
W6	4/19/2010	<0.0001	<0.0004		<0.00001	0.0014	0.0043		0.014	0.0003			<0.05	<0.05	0.54
W6	5/16/2010			<0.005	<0.00005	0.0001	<0.005	<0.001	<0.005	<0.0005		0.046			<0.02
W6	5/17/2010			<0.005	<0.00005	0.0004	<0.005	<0.001	<0.005	<0.0005		<0.005			<0.02
W6	5/19/2010			<0.005	<0.00005	0.0005	<0.005	<0.001	<0.005	<0.0005		0.08			<0.02
W6	5/21/2010			<0.01	<0.00005	0.0006	<0.005		<0.01	<0.002		0.006			<0.02
W6	5/23/2010			<0.01	<0.00005	0.0006	<0.005		<0.01	<0.002		0.031			<0.02
W6	5/25/2010			<0.01	<0.00005	0.0006	<0.005		<0.01	<0.002		0.17			<0.02
W6	5/29/2010			<0.01	<0.00005	0.0005	<0.005		<0.01	<0.002		0.08			<0.02
W6	6/2/2010			<0.01	<0.00005	0.003	<0.005		<0.01	<0.002		0.031			0.97
W6	6/4/2010			<0.01	<0.00005	0.0003	<0.005		<0.01	<0.002		0.034			<0.02
W6	6/6/2010			<0.01	<0.00005	0.0004	<0.005		<0.01	<0.002		0.06			<0.02
W6	6/14/2010			0.011	<0.00005	0.0003	<0.005		<0.01	<0.002		0.016			<0.02
W6	6/16/2010			0.012	<0.00005	0.0003	<0.005		<0.01	<0.002		0.013			0.03
W6	6/18/2010			<0.01	<0.00005	0.0003	<0.005		<0.01	<0.002		<0.5			<0.02
W6	6/20/2010			<0.01	<0.00005	0.0003	<0.005		<0.01	<0.002		<0.5			0.02
W6	6/22/2010			<0.01	<0.00005	0.0003	<0.005		<0.01	<0.002		0.01			<0.02
W6	6/24/2010			<0.01	<0.00005	0.0002	<0.005		<0.01	<0.002		0.012			<0.02
W6	6/26/2010			<0.01	<0.00005	0.0003	<0.005		<0.01	<0.002		0.034			<0.02
W6	6/26/2010														
W6	6/28/2010			0.019	<0.00005	0.0003	<0.005		<0.01	<0.002		0.031			<0.02
W6	7/5/2010			0.051	<0.00005	0.0004	<0.005		<0.01	<0.002		0.15			<0.02
W6	8/5/2010			<0.01	<0.00005	0.0002	<0.005		<0.01	<0.002		0.014			<0.02
W6	9/9/2010			0.018	<0.00005	0.0003	<0.005		0.015	<0.002		<0.005			<0.02
W6	10/8/2010			0.016	<0.00005	0.0003	<0.005		<0.005	<0.0005		0.053			<0.02
W6	8/19/2011			<0.005	<0.00005	0.0025	<0.005		0.008	<0.0005		0.006			1.05
W6	7/17/2012			0.747	0.000147	0.0022	0.0672		0.073	0.00302		0.14			0.026
W6	7/30/2012			0.529	0.000108	0.0017	0.0475		0.0504	0.00202		0.07			0.059
W6	8/9/2012			0.299	0.000068	0.00102	0.0252		0.027	0.00116		0.025			0.029
W6	8/25/2012			0.063	<0.000050	0.00167	0.0348		0.0392	0.00101		0.023			0.045
W6	9/13/2012			0.0071	<0.000050	0.00018	<0.0050		<0.0050	<0.00050		0.011			0.034
W6	10/13/2012			0.0098	<0.000050	0.00027	<0.0050		<0.0050	<0.00050		0.016			0.042
W6	11/12/2012			<0.0050	<0.000050	0.00034	<0.0050		<0.0050	<0.00050		0.025			<0.020
W6	5/14/2013			0.024	<0.000050	<0.00010	<0.0050		0.0057	<0.00050		0.13			<0.020
W6	6/22/2013			0.2	0.000066	0.0005	0.014		0.0169	0.0016		0.024			0.042
W6	7/12/2013			0.0218	<0.000050	0.00022	<0.0050		<0.0050	<0.00050		0.012			<0.020
W6	8/22/2013			<0.0050	<0.000050	0.00017	<0.0050		<0.0050	<0.00050		0.014			<0.020
W6	9/6/2013			0.007	<0.000050	0.0002	<0.0050		<0.0050	<0.00050		0.0061			0.03
W6	10/7/2013			0.0916	<0.000050	0.0003	0.0074		0.0079	0.0006		0.044			0.042
W6	11/16/2013			0.0133	<0.000050	0.00022	<0.0050		<0.0050	<0.00050		0.015			<0.020
W6	12/7/2013			<0.0050	<0.000050	0.00046	<0.0050		<0.0050	<0.00050		0.0076			<0.020
W7	5/27/2005			0.022	<0.00020	0.00047	<0.030		<0.0050			<0.020			
W7	6/30/2005			<0.010	<0.00010	0.000769	0.0013		<0.0020			<0.020			
W7	7/29/2005			0.027	<0.00010	0.0012	0.0024		<0.0050			<0.020			
W7	8/30/2005			<0.010	<0.00020	0.00058	<0.030		<0.0050			0.02			
W7	9/28/2005			0.06	<0.00020	0.00079	<0.030		0.0101			<0.020			
W7	10/15/2005			<0.010	<0.00010	0.000547	<0.0010		0.0017			0.021			
W7	6/2/2006			0.378	<0.0001	0.00201	0.0379		0.0484			0.062			
W7	6/8/2006			0.015	<0.0001	0.000529	0.0035		0.0048						

Table B.1: Raw water quality data from Minto Mine, 2005 - 2013.

Station Name	Sample Date	Total Te (mg/L)	Total Th (mg/L)	Total Ti (mg/L)	Total Tl (mg/L)	Total U (mg/L)	Total V (mg/L)	Total W (mg/L)	Total Zn (mg/L)	Total Zr (mg/L)	Total N (mg/L)	Ammonia (mg/L)	Ammonium (mg/L)	Ammonium (mg/L)	NO2+NO3 (mg/L)
W7	6/15/2006											0.027			
W7	6/15/2006			0.0685	<0.00005	0.0008	0.0062		0.006	0.001					
W7	6/23/2006			0.257	<0.00005	0.0014	0.0173		0.022	0.002		0.028			
W7	6/28/2006			0.0822	<0.00005	0.0011	0.0064		0.006	0.001		0.01			
W7	7/7/2006			0.0044	<0.00005	0.0011	0.001		<0.001	<0.001					
W7	7/12/2006			0.0036	<0.00005	0.001	0.0009		0.015	<0.001		0.014			
W7	7/20/2006			0.0026	<0.00005	0.0012	0.0008		0.002	<0.001		0.012			
W7	7/26/2006											0.016			
W7	7/26/2006			0.006	<0.00005	0.0012	0.0011		0.002	<0.001					
W7	8/2/2006			0.004	<0.00005	0.001	0.001		0.001	<0.001		0.015			
W7	8/10/2006			0.0018	<0.00005	0.0009	0.0009		0.002	<0.001		0.014			
W7	8/25/2006											0.027			
W7	8/25/2006			<0.0010	<0.0001	0.001	0.0009		0.004	<0.002					
W7	8/30/2006			0.003	<0.00005	0.0011	0.0008		0.003	<0.001		0.012			
W7	9/6/2006			0.0026	<0.00005	0.0011	0.0009		0.001	<0.001		0.011	0.011	0.011	
W7	9/13/2006			0.0014	<0.00005	0.0006	0.0005		<0.001	<0.001		0.011			
W7	9/20/2006			0.0037	<0.00005	0.0011	0.0009		0.005	<0.001		0.008			
W7	9/28/2006			0.002	<0.0001	0.001	0.0009		0.008	<0.002		0.011			
W7	10/4/2006			0.0042	<0.0001	0.001	0.001		<0.002	<0.002		0.079			
W7	10/12/2006			0.0124	<0.00005	0.0011	0.0014		0.006	<0.001		0.024			
W7	6/5/2007			0.0776	<0.00005	0.0014	0.0054		0.009	0.001		<0.05			<0.1
W7	6/5/2007			0.0898	<0.0001	0.001	0.0059		0.01	<0.002		<0.05			0.28
W7	6/5/2007			0.0915	<0.00005	0.0015	0.006		0.012	0.001		<0.05			<0.1
W7	6/20/2007			0.0055	<0.00005	0.0014	0.0016		0.004	<0.001		<0.05			0.18
W7	7/18/2007			0.0096	<0.00005	0.0012	0.0014		0.005	<0.001		<0.05			0.22
W7	7/18/2007			0.0103	<0.00005	0.0013	0.0014		0.006	<0.001		<0.05			0.2
W7	7/18/2007			0.0096	<0.00005	0.0012	0.0013		0.003	<0.001		<0.05			0.2
W7	8/24/2007											<0.05			
W7	8/24/2007											<0.05			
W7	8/24/2007											<0.05			
W7	8/24/2007			<0.0005	<0.00005	0.0012	0.0013		0.01	<0.001					0.14
W7	8/24/2007			<0.0005	<0.00005	0.0012	0.0011		0.009	<0.001					0.14
W7	8/24/2007			<0.0005	<0.00005	0.0013	0.0012		0.006	<0.001					0.16
W7	9/18/2007			0.016	<0.00005	0.0008	0.002		0.008	<0.001		<0.05			0.06
W7	10/30/2007			0.0066	<0.00005	0.0009	0.0011		0.013	<0.001		<0.05			0.2
W7	10/30/2007			0.0043	<0.00005	0.0009	0.0008		0.011	<0.001		<0.05			0.24
W7	10/30/2007			0.0041	<0.00005	0.0009	0.0008		0.01	<0.001		<0.05			0.19
W7	10/30/2007														
W7	4/22/2008	<0.0001	<0.0001	0.0004	<0.00001	0.0021	0.00032		0.004	<0.0001		<0.05			<0.01
W7	4/22/2008	0.0001	0.0002	0.0017	0.00002	0.0021	0.0003		0.005	0.0001		<0.05			<0.01
W7	4/22/2008	<0.0001	0.0002	0.0003	0.00001	0.0023	0.0003		0.007	0.0002		<0.05			<0.01
W7	4/22/2008														
W7	6/3/2008	<0.0001	<0.0001	0.0128	<0.00001	0.0011	0.00207		0.004	0.0004		<0.05			0.03
W7	6/3/2008	<0.0001	<0.0001	0.0122	<0.00001	0.0011	0.002		0.005	0.0005		<0.05			0.04
W7	6/3/2008	<0.0001	<0.0001	0.0134	<0.00001	0.0011	0.00224		0.007	0.0005		<0.05			0.04
W7	6/3/2008														
W7	6/17/2008	<0.0001	<0.0001	0.0081	<0.00001	0.0014	0.0014		0.007	0.0004		<0.05			0.14
W7	8/6/2008			0.0357	<0.00005	0.0012	0.0031		0.01	<0.001		<0.05			0.16
W7	8/6/2008			0.0618	<0.00005	0.0011	0.004		0.011	<0.001		<0.05			0.16
W7	8/6/2008			0.0628	<0.00005	0.0012	0.0042		0.01	<0.001					
W7	8/6/2008											<0.05			0.14
W7	9/18/2008	<0.0001	<0.0001	0.0194	<0.00001	0.0004	0.00224		0.009	0.0006		<0.05			0.04
W7	10/28/2008	<0.0001	<0.0001	0.0045	<0.00001	0.0007	0.00086		0.008	0.0003		<0.05			0.13
W7	10/28/2008	<0.0001	<0.0001	0.0026	<0.00001	0.0007	0.00073		0.121	0.0003		<0.05			0.12
W7	10/28/2008	<0.0001	<0.0001	0.002	<0.00001	0.0007	0.00072		0.049	0.0003		<0.05			0.13
W7	10/28/2008														
W7	4/30/2009	<0.0001	<0.0001	0.0046	<0.00001	<0.0004	0.00037		0.008	0.0002			<0.05	<0.05	<0.01
W7	6/8/2009	<0.0001	<0.0001	0.0256	<0.00001	0.001	0.00265		0.002	0.0005			<0.05	<0.05	0.15
W7	7/28/2009														
W7	8/6/2009	<0.0001	<0.0004	0.0034	<0.00001	0.0014	0.0009		0.003	0.0002			<0.05	<0.05	0.18
W7	8/24/2009														
W7	8/25/2009														
W7	8/31/2009														
W7	10/7/2009												<0.01	<0.01	
W7	10/7/2009	<0.0001	<0.0004	0.0068	<0.00001	0.0009	0.001		0.008	0.0002			<0.05	<0.05	0.12
W7	10/25/2009			<0.005	<0.00005	0.0013	<0.005		<0.005	<0.0005		0.01			0.15
W7	10/25/2009														
W7	4/19/2010	<0.0001	<0.0004		<0.00001	0.0005	0.0005		0.008	0.0002			0.16	0.16	0.01
W7	4/27/2010			<0.005	<0.00005	0.0001	<0.005		<0.005	<0.0005		0.015			<0.02
W7	4/29/2010			<0.005	<0.00005	0.0001	<0.005		<0.005	<0.0005		0.016			<0.04
W7	5/1/2010			0.015	<0.00005	0.0002	<0.005	<0.001	<0.005	<0.0005		0.031			0.08
W7	5/3/2010			0.014	<0.00005	0.0002	<0.005		<0.005	<0.0005		0.016			<0.02
W7	5/5/2010			0.016	<0.00005	0.0002	<0.005	<0.001	0.007	<0.0005		<0.01			<0.02
W7	5/7/2010			0.016	<0.00005	0.0003	<0.005	<0.001	<0.005	<0.0005		0.051			0.11
W7	5/9/2010			<0.005	<0.00005	0.0005	<0.005	<0.001	<0.005	<0.0005		<0.005			0.07
W7	5/10/2010			<0.005	<0.00005	0.0007	<0.005	<0.001	0.005	<0.0005		0.015			0.14
W7	5/12/2010														
W7	5/12/2010			<0.005	<0.00005	0.0006	<0.005	<0.001	0.007	<0.0005		<0.05			0.03
W7	5/14/2010			0.008	<0.00005	0.0005	<0.005		<0.005	<0.0005		0.034			<0.02
W7	5/16/2010			0.008	<0.00005	0.0007	<0.005	<0.001	<0.005	<0.0005		0.068			0.03
W7	5/17/2010			0.01	<0.00005	0.0007	<0.005	<0.001	<0.005	<0.0005		0.037			<0.02
W7	5/19/2010			0.007	<0.00005	0.0008	<0.005	<0.001	<0.005	<0.0005		0.02			0.06
W7	5/21/2010			0.016	<0.00005	0.0009	<0.005		<0.01	<0.002		0.017			0.05
W7	5/23/2010			0.086	<0.00005	0.0012	0.007		0.012	<0.002		0.013			0.07
W7	5/25/2010			0.143	0.00005	0.0011	0.01		0.017	<0.002		0.07			0.1
W7	5/27/2010			0.285	0.00017	0.0016	0.024		0.049	<0.002		0.052			0.13
W7	5/29/2010			0.117	0.00006	0.0017	0.012		0.021	<0.002		0.1			0.23
W7	5/31/2010			0.14	0.00007	0.002	0.013		0.023	<0.002		<0.05			0.14
W7	6/2/2010			0.105	<0.00005	0.0018	0.01		0.011	<0.002		<0.01			0.17
W7	6/4/2010			0.057	<0.00005	0.0015	0.005		<0.01	<0.002		0.34			0.18
W7	6/6/2010			0.082	<0.00005	0.0018	0.006		0.011	<0.002		0.1			0.18
W7	6/14/2010			0.051	<0.00005	0.0018	<0.005		<0.01	<0.002		0.016			0.16
W7	6/16/2010			0.016	<0.00005	0.0016	<0.005		<0.01	<0.002		0.016			0.17
W7	6/18/2010			0.02	<0.00005	0.0015	<0.005		<0.01	<0.002			0.052		0.15
W7	6/20/2010			0.043	<0.00005	0.0014	<0.005		<0.01	<0.002					0.13
W7	6/22/2010			0.174	0.00007	0.0012	0.017		0.027	<0.002		0.014			0.12
W7	6/24/2010			0.049	<0.00005	0.0009	0.005		<0.01	<0.002		0.012			0.08
W7	6/26/2010			0.019	<0.00005	0.0009	<0.005		<0.01	<0.002		0.009			0.1
W7	6/28/2010			0.01	<0.00005	0.001	<0.005		<0.01	<0.002		0.022			0.13
W7	7/5/2010			0.061	<0.00005	0.0007	<0.005		<0.01	<0.002		0.027			0.07
W7	8/5/2010			<0.01	<0.00005	0.0008	<0.005		<0.01	<0.002					
W7	9/12/2010			0.014	<0.00005	0.0005	<0.005		<0.01	<0.002					
W7	9/12/2010			0.012	<0.00005	0.0005	<0.005		<0.01	<0.002		0.039			0.03
W7	10/8/2010			<0.005	<0.00005	0.0008	<0.005		<0.005	<0.0005		0.069			0.07
W7	4/27/2011			<0.005	<0.00005	0.0002	<0.005		<0.005	<0.0005		0.01			<0.02
W7	5/2/2011			0.009	<0.00005	0.0001	<0.005		0.019	<0.0005					<0.02
W7	6/1/2011			0.022	<0.00005	0.0007	<0.005		<0.005	<0.0005		0.012			
W7	6/16/2011			0.114	<0.00005	0.0007	0.008		0.013	0.0007		0.013			0.1
W7	7/1/2011			0.126	<0.00005	0.0009	0.015		0.016	0.0012		0.016			0.05

Table B.1: Raw water quality data from Minto Mine, 2005 - 2013.

Station Name	Sample Date	Total Te (mg/L)	Total Th (mg/L)	Total Ti (mg/L)	Total Tl (mg/L)	Total U (mg/L)	Total V (mg/L)	Total W (mg/L)	Total Zn (mg/L)	Total Zr (mg/L)	Total N (mg/L)	Ammonia (mg/L)	Ammonium (mg/L)	Ammonium (mg/L)	NO2+NO3 (mg/L)
W7	8/2/2011			0.354	0.00008	0.0009	0.031		0.029	0.002					0.06
W7	8/16/2011			0.016	<0.00005	0.0005	<0.005		0.017	0.0005		0.015			0.06
W7	8/19/2011			0.02	<0.00005	0.0004	<0.005		<0.005	<0.0005		0.006			0.04
W7	9/12/2011			<0.005	<0.00005	0.0005	<0.005		<0.005	<0.0005		0.025			0.05
W7	10/6/2011			<0.005	<0.00005	0.0006	<0.005		<0.005	<0.0005		0.019			0.11
W7	11/22/2011			0.02	<0.00005	0.001	<0.005		0.009	<0.0005		0.0214			0.136
W7	1/24/2012			<0.005	<0.00005	0.0019	<0.005		<0.005	<0.0005		0.005			0.324
W7	2/25/2012			<0.005	<0.00005	0.0015	<0.005		<0.005	<0.0005		0.006			0.289
W7	3/5/2012			<0.005	<0.00005	0.0015	<0.005		<0.005	<0.0005		0.0067			0.195
W7	4/24/2012			0.0264	<0.000050	0.00018	<0.0050		<0.0050	<0.00050		<0.0050			0.02
W7	5/6/2012			0.0055	<0.000050	<0.00010	<0.0050		<0.0050	<0.00050		0.01			<0.020
W7	5/6/2012			0.0062	<0.000050	<0.00010	<0.0050		<0.0050	<0.00050		0.011			<0.020
W7	6/19/2012			0.182	0.00005	0.00072	0.0164		0.015	0.00125		0.18			0.098
W7	7/17/2012			0.0379	<0.000050	0.00076	<0.0050		<0.0050	<0.00050		0.065			0.089
W7	7/30/2012			0.0092	<0.000050	0.00088	<0.0050		0.0063	<0.00050		0.13			0.124
W7	8/8/2012			<0.0050	<0.000050	0.00087	<0.0050		<0.0050	<0.00050		0.014			0.13
W7	8/23/2012			<0.0050	<0.000050	0.00097	<0.0050		<0.0050	<0.00050		0.049			0.21
W7	9/13/2012			<0.0050	<0.000050	0.00054	<0.0050		0.0055	<0.00050		0.0087			0.078
W7	10/16/2012			0.0061	<0.000050	0.00084	<0.0050		<0.0050	<0.00050		0.028			0.125
W7	11/2/2012			<0.0050	<0.000050	0.00137	<0.0050		0.0062	<0.00050		0.026			0.219
W7	12/29/2012			<0.0050	<0.000050	0.00121	<0.0050		<0.0050	<0.00050		0.025			0.063
W7	4/30/2013			<0.0050	<0.000050	0.00209	<0.0050		<0.0050	<0.00050		0.0082			0.132
W7	5/14/2013			0.0551	<0.000050	0.00016	<0.0050		0.0059	<0.00050		0.066			<0.020
W7	6/19/2013			0.0122	<0.000050	0.001	<0.0050		<0.0050	<0.00050		0.052			0.143
W7	6/19/2013			0.0094	<0.000050	0.00097	<0.0050		<0.0050	<0.00050		0.04			0.141
W7	7/13/2013			0.0073	<0.000050	0.001	<0.0050		<0.0050	<0.00050		0.023			0.17
W7	8/21/2013			0.0086	<0.000050	0.00114	<0.0050		<0.0050	<0.00050		0.051			0.157
W7	9/6/2013			0.0127	<0.000050	0.00095	<0.0050		<0.0050	<0.00050		0.017			0.128
W7	10/21/2013			<0.0050	<0.000050	0.00083	<0.0050		<0.0050	<0.00050		0.048			0.168
W7	11/16/2013			<0.0050	<0.000050	0.00148	<0.0050		<0.0050	<0.00050		0.027			0.257
W7	12/7/2013			<0.0050	<0.000050	0.00139	<0.0050		<0.0050	<0.00050		0.025			0.206
C4	5/6/2012			1.21	0.000244	0.00209	0.0946		0.0961	0.00346		0.088			0.029
C4	8/1/2012			0.248	0.000063	0.00116	0.0276		0.0272	0.0016		0.089			0.091
C4	8/8/2012			0.254	0.000066	0.00144	0.0292		0.0279	0.00138		0.09			0.107
C4	8/25/2012			0.08	<0.000050	0.00159	0.0377		0.0325	0.00202		0.005			<0.020
C4	6/22/2013			0.8	<0.000050	0.00305	0.0731		0.0872	0.00409		0.36			0.377
C4	7/19/2013			0.466	0.000122	0.00277	0.0477		0.0502	0.00309		0.26			0.089
C4	8/22/2013			0.497	0.000103	0.00228	0.055		0.0597	0.003		0.2			0.095
C4	9/6/2013			0.237	0.000053	0.00119	0.0188		0.0172	0.00149		0.12			0.07
C4	10/18/2013			0.0165	<0.000050	0.00083	<0.0050		<0.0050	<0.00050		0.091			0.069
C4	10/18/2013			0.017	<0.000050	0.00079	<0.0050		<0.0050	<0.00050		0.08			0.065
C4	11/17/2013			0.006	<0.000050	0.00063	<0.0050		<0.0050	0.001		0.28			<0.20
C10	5/12/2012			1.17	0.000369	0.00532	0.142		0.186	0.00514		0.18			0.058
C10	7/30/2012			0.571	0.000202	0.00449	0.0653		0.0956	0.0033		0.2			0.207
C10	7/30/2012														
C10	8/10/2012			0.554	0.000202	0.00407	0.0718		0.105	0.00332		0.12			0.196
C10	8/27/2012			0.805	0.000241	0.00375	0.0836		0.119	0.00453		<0.0050			0.103
C10	6/22/2013			0.0562	<0.000050	0.00114	0.0053		0.0055	0.00094		0.19			0.172
C10	7/23/2013			0.179	0.000067	0.00113	0.0156		0.0198	0.0017		0.14			<0.20
C10	8/22/2013			0.0342	<0.000050	0.00119	<0.0050		<0.0050	0.00065		0.056			0.143
C10	9/8/2013			0.017	<0.000050	0.00099	<0.0050		<0.0050	<0.00050		0.046			0.183
C10	9/8/2013			0.0166	<0.000050	0.00099	<0.0050		<0.0050	<0.00050		0.055			0.199
C10	10/18/2013			0.0427	<0.000050	0.00091	<0.0050		0.0054	0.00051		0.1			0.167

Table B.1: Raw water quality data from Minto Mine, 2005 - 2013.

Station Name	Sample Date	N-NO2 (mg/L)	N-NO3 (mg/L)	N-TKN (mg/L)	P-PO4-T (mg/L)	P-TDP (mg/L)	P-TRP (Ortho) (mg/L)	C-TIC (mg/L)	C-TOC (mg/L)	C-DOC (mg/L)	Cation Sum (meq/L)	Anion Sum (meq/L)	Hardness (CaCO3) (mg/L)	Acidity (pH 4.5) (mg/L)	Acidity pH 8.3 (mg/L)
W1	5/27/2005	0.002	0.0539												
W1	6/30/2005	<0.0010	0.0626												
W1	7/28/2005	<0.0010	0.0584												
W1	8/29/2005	<0.0010	0.0217												
W1	9/28/2005	<0.0010	0.0482												
W1	10/15/2005	<0.0010	0.132												
W2	5/27/2005	0.0015	0.0565												
W2	5/27/2005	<0.001	0.0339												
W2	6/30/2005	<0.0010	0.0621												
W2	7/28/2005	<0.0010	0.0124												
W2	8/30/2005	<0.0010	0.0141												
W2	9/28/2005	0.001	0.0458												
W2	10/15/2005	<0.0010	0.133												
W3	5/27/2005	<0.0010	0.0121												
W3	6/30/2005	<0.0010	0.0519												
W3	7/29/2005	<0.0010	0.0284												
W3	8/29/2005	<0.0010	<0.0050												
W3	9/28/2005	<0.0010	0.0132												
W3	10/15/2005	<0.0010	0.0393												
W8	5/27/2005	<0.0010	0.0225												
W8	6/30/2005	<0.0010	<0.0050												
W8	7/29/2005	<0.0010	<0.0050												
W8	8/30/2005	0.0011	<0.0050												
W8	9/28/2005	<0.0010	<0.0050												
W8	10/15/2005	<0.0010	0.0374												
W9	5/27/2005	<0.0010	<0.0050												
W9	6/30/2005	<0.0010	<0.0050												
W9	7/29/2005	<0.0010	<0.0050												
W9	8/29/2005	0.0016	<0.0050												
W9	9/28/2005	<0.0010	<0.0050												
W9	10/15/2005	<0.0010	<0.0050												
W10	5/27/2005	<0.0010	0.0094												
W10	5/27/2005	<0.001													
W10	6/30/2005	<0.0010	<0.0050												
W10	7/29/2005	<0.0010	<0.0050												
W10	8/29/2005	<0.0010	<0.0050												
W10	9/28/2005	<0.0010	<0.0050												
W10	10/15/2005	<0.0010	<0.0050												
W6	5/27/2005	0.0016	0.0316												
W6	6/30/2005	<0.0010	0.0086												
W6	7/29/2005	<0.0010	0.0223												
W6	8/30/2005	<0.0010	<0.0050												
W6	9/28/2005	<0.0010	<0.0050												
W6	10/15/2005	<0.0010	0.0061												
W6	6/2/2006	<0.001	0.0241												
W6	8/25/2006		<0.03												
W6	9/6/2006		<0.03												
W6	6/20/2007	<0.05	0.1	0.6	0.14	<0.02									
W6	9/18/2007	<0.02	<0.02	0.3	0.04	<0.02									
W6	6/17/2008	0.07	0.01	0.44	0.07										
W6	9/18/2008	<0.01	<0.01	0.47	<0.05		0.1		17.3	17.7					
W6	4/14/2009			5.73	0.06										
W6	4/30/2009			1.22	0.05										
W6	7/28/2009														
W6	8/6/2009														
W6	8/6/2009		2.92	0.5	0.02		<0.05								
W6	8/18/2009														
W6	8/25/2009								9.2	7.9					
W6	10/7/2009														
W6	10/7/2009		8.09	0.54	0.05				6.4	6.3					
W6	10/25/2009	0.061	7.8				<0.005								
W6	4/19/2010			0.53	0.05										
W6	5/16/2010	<0.005	<0.02				<0.005			5.3					
W6	5/17/2010	<0.005	<0.02				<0.005			2.9					
W6	5/19/2010	<0.005	<0.02				<0.005			3.4					
W6	5/21/2010	<0.005	<0.02				<0.005			1.6					
W6	5/23/2010	<0.005	<0.02				<0.005			5.2					
W6	5/25/2010	<0.005	<0.02				<0.005			5.7					
W6	5/29/2010	<0.005	<0.02				<0.005			1.4					
W6	6/2/2010	<0.005	0.97				<0.005			3.7					
W6	6/4/2010	<0.005	<0.02				<0.005			6.7					
W6	6/6/2010	<0.005	<0.02				<0.005								
W6	6/14/2010	<0.005	<0.02				<0.005			7.2					
W6	6/16/2010	<0.005	0.03				<0.005			7.9					
W6	6/18/2010	<0.005	<0.02				<0.005			7.7					
W6	6/20/2010	<0.005	0.02				<0.005			7.8					
W6	6/22/2010	<0.005	<0.02				<0.005		8.6	7.8					
W6	6/24/2010	<0.005	<0.02				<0.005		8.2	7.9					
W6	6/26/2010	<0.005	<0.02				<0.005		7.8	7.7					
W6	6/26/2010														
W6	6/28/2010	<0.005	<0.02				<0.005			7.8					
W6	7/5/2010	<0.005	<0.02				<0.005			15					
W6	8/5/2010	<0.005	<0.02				<0.005			13					
W6	9/9/2010	<0.005	<0.02				<0.005			12.9					
W6	10/8/2010	<0.005	<0.02				<0.005			13.2					
W6	8/19/2011	<0.005	1.05							8.4					
W6	7/17/2012	<0.0050	0.026		1.01					7.98					
W6	7/30/2012	0.0072	0.052		0.599					8.08					
W6	8/9/2012	0.0066	0.022												
W6	8/25/2012	<0.0050	0.045							7.68					
W6	9/13/2012	<0.0050	0.034						13.1	14.4					
W6	10/13/2012	<0.0050	0.042							9.91					
W6	11/12/2012	<0.0050	<0.020							8.74					
W6	5/14/2013	<0.0050	<0.020							22.2					
W6	6/22/2013	0.0132	0.028							7.79					
W6	7/12/2013	<0.0050	<0.020							8.29					
W6	8/22/2013	<0.0050	<0.020							7.4					
W6	9/6/2013	<0.0050	0.03							6.36					
W6	10/7/2013	<0.0050	0.042							8.17					
W6	11/16/2013	<0.0050	<0.020							8.79					
W6	12/7/2013	<0.0050	<0.020							8.77					
W7	5/27/2005	0.0018	0.0824												
W7	6/30/2005	0.0017	0.172												
W7	7/29/2005	<0.0010	0.169												
W7	8/30/2005	<0.0010	0.0226												
W7	9/28/2005	<0.0010	0.0586												
W7	10/15/2005	<0.0010	0.102												
W7	6/2/2006	0.0015	0.0449												
W7	6/8/2006														

Table B.1: Raw water quality data from Minto Mine, 2005 - 2013.

Station Name	Sample Date	N-NO2 (mg/L)	N-NO3 (mg/L)	N-TKN (mg/L)	P-PO4-T (mg/L)	P-TDP (mg/L)	P-TRP (Ortho) (mg/L)	C-TIC (mg/L)	C-TOC (mg/L)	C-DOC (mg/L)	Cation Sum (meq/L)	Anion Sum (meq/L)	Hardness (CaCO3) (mg/L)	Acidity (pH 4.5) (mg/L)	Acidity pH 8.3 (mg/L)
W7	6/15/2006														
W7	6/15/2006		0.18												
W7	6/23/2006		0.23												
W7	6/28/2006		0.112												
W7	7/7/2006		0.205												
W7	7/12/2006		0.18												
W7	7/20/2006		0.19												
W7	7/26/2006														
W7	7/26/2006		0.18												
W7	8/2/2006		0.15												
W7	8/10/2006		0.16												
W7	8/25/2006														
W7	8/25/2006		0.12												
W7	8/30/2006		0.11												
W7	9/6/2006		0.08												
W7	9/13/2006		0.094												
W7	9/20/2006		0.11												
W7	9/28/2006		0.08												
W7	10/4/2006		0.1												
W7	10/12/2006		0.12												
W7	6/5/2007	<0.05	<0.1	0.5	0.15	<0.02									
W7	6/5/2007	0.05	<0.1	0.11	0.12	<0.02									
W7	6/5/2007	<0.05	<0.1	0.4	0.13	<0.02									
W7	6/20/2007	<0.05	0.3	0.3	0.05	<0.02				8.2					
W7	7/18/2007	<0.05	0.3	0.31	<0.05	<0.02	0.05			14.3					
W7	7/18/2007	<0.05	0.3	0.36	0.05	<0.02	0.05								
W7	7/18/2007	<0.05	0.3	0.33	0.06	<0.02	0.05								
W7	8/24/2007														
W7	8/24/2007														
W7	8/24/2007														
W7	8/24/2007	<0.05	0.2	0.3	0.04	<0.02									
W7	8/24/2007	<0.05	0.2	0.26	0.04	<0.02									
W7	8/24/2007	<0.05	0.2	0.24	0.04	<0.02									
W7	9/18/2007	<0.02	0.05	0.38	0.07	<0.02				11					
W7	10/30/2007	0.14	<0.02	0.51	<0.02	<0.02	<0.01								
W7	10/30/2007	0.14	<0.02	0.46	0.02	<0.02	<0.01								
W7	10/30/2007	0.13	<0.02	0.54	0.02	<0.02	<0.01								
W7	10/30/2007	0.13	<0.02		0.02	<0.02	<0.01								
W7	4/22/2008	0.07	<0.02	2.02	<0.05		0.09								
W7	4/22/2008	0.04	<0.02	0.34	<0.05		0.09								
W7	4/22/2008	0.07	<0.02	0.24	<0.05		0.09								
W7	4/22/2008	0.04	<0.02												
W7	6/3/2008	0.04	0.03	0.38	<0.05		0.04								
W7	6/3/2008	0.04	0.04	0.45	<0.05		0.04								
W7	6/3/2008	0.04	0.04	0.4	<0.05		0.04								
W7	6/3/2008					<0.01									
W7	6/17/2008	0.05	0.14	0.34	0.06				6.8						
W7	8/6/2008	<0.01	0.14	0.38	<0.05		0.06								
W7	8/6/2008	<0.01	0.14	0.32	0.08		0.06								
W7	8/6/2008	<0.01	0.15		<0.05										
W7	8/6/2008			0.32	0.05		0.06		9.3	9					
W7	9/18/2008	<0.01	0.03	0.51	<0.05		0.09		17.6	17.4					
W7	10/28/2008			0.33	<0.05		0.08								
W7	10/28/2008			0.37	<0.05		0.08								
W7	10/28/2008			0.32	<0.05		0.08								
W7	10/28/2008								10.7	11					
W7	4/30/2009			0.76	0.06				17.6	17.6					
W7	6/8/2009			0.49	0.03				9.4	9.2					
W7	7/28/2009														
W7	8/6/2009		0.18	0.24	0.02		<0.05								
W7	8/24/2009														
W7	8/25/2009								9.4	8.2					
W7	8/31/2009														
W7	10/7/2009														
W7	10/7/2009		0.12	0.35	0.07				8.1	6.9					
W7	10/25/2009	<0.005	0.15				<0.005		7.5	8.7					
W7	10/25/2009														
W7	4/19/2010			0.82	0.06										
W7	4/27/2010	<0.005	<0.02				0.008			22.7					
W7	4/29/2010	<0.01	<0.04				<0.005			19.3					
W7	5/1/2010	0.008	0.07				<0.005			19					
W7	5/3/2010	<0.005	<0.02				<0.005			22.2					
W7	5/5/2010	<0.005	<0.02				<0.005			14.5					
W7	5/7/2010	0.007	0.1				<0.005			12.8					
W7	5/9/2010	<0.005	0.07				<0.005			13.2					
W7	5/10/2010	0.006	0.13				<0.005			11.7					
W7	5/12/2010														
W7	5/12/2010	<0.005	0.03				<0.005			10.4					
W7	5/14/2010	<0.005	<0.02				<0.005			9.2					
W7	5/16/2010	<0.005	0.03				<0.005			8.8					
W7	5/17/2010	<0.005	<0.02				<0.005			7.2					
W7	5/19/2010	<0.005	0.06				<0.005			7.5					
W7	5/21/2010	<0.005	0.05				<0.005			8.7					
W7	5/23/2010	0.006	0.06				<0.005			8.2					
W7	5/25/2010	0.025	0.08				<0.005			8.1					
W7	5/27/2010	<0.005	0.13				<0.005			8.1					
W7	5/29/2010	0.011	0.22				<0.005			6.3					
W7	5/31/2010	0.023	0.12				<0.005			7.2					
W7	6/2/2010	0.023	0.14				<0.005			4.9					
W7	6/4/2010	0.014	0.16				<0.005			6.4					
W7	6/6/2010	0.013	0.16				<0.005								
W7	6/14/2010	<0.005	0.16				<0.005			5.9					
W7	6/16/2010	<0.005	0.17				<0.005			6.1					
W7	6/18/2010	<0.005	0.15				<0.005			6.2					
W7	6/20/2010	0.008	0.13				<0.005			7.6					
W7	6/22/2010	<0.005	0.12				<0.005		10.5	10.4					
W7	6/24/2010	0.007	0.07				<0.005		10.5	10.2					
W7	6/26/2010	<0.005	0.1				<0.005		9.2	9.3					
W7	6/28/2010	<0.005	0.13				<0.005			8.7					
W7	7/5/2010	<0.005	0.07				<0.005			16.1					
W7	8/5/2010									13.2					
W7	9/12/2010														
W7	9/12/2010	<0.005	0.03				<0.005		17.4	16.7					
W7	10/8/2010	<0.005	0.07				<0.005			12.7					
W7	4/27/2011	<0.005	<0.02						22	23					
W7	5/2/2011	<0.005	<0.02							22					
W7	6/1/2011									10.7					
W7	6/16/2011	<0.005	0.1							12.6					
W7	7/1/2011	0.007	0.05							21.1					

Table B.1: Raw water quality data from Minto Mine, 2005 - 2013.

Station Name	Sample Date	N-NO2 (mg/L)	N-NO3 (mg/L)	N-TKN (mg/L)	P-PO4-T (mg/L)	P-TDP (mg/L)	P-TRP (Ortho) (mg/L)	C-TIC (mg/L)	C-TOC (mg/L)	C-DOC (mg/L)	Cation Sum (meq/L)	Anion Sum (meq/L)	Hardness (CaCO3) (mg/L)	Acidity (pH 4.5) (mg/L)	Acidity pH 8.3 (mg/L)
W7	8/2/2011	<0.005	0.06							24.2					
W7	8/16/2011	<0.005	0.06							18.3					
W7	8/19/2011	<0.005	0.04							18.8					
W7	9/12/2011	<0.005	0.05						14	13.2					
W7	10/6/2011	<0.005	0.11						11.5	11.7					
W7	11/22/2011	<0.005	0.136						7.69	7.73					
W7	1/24/2012	<0.005	0.324							5.33					
W7	2/25/2012	<0.005	0.289				<0.0050			6.08					
W7	3/5/2012	<0.005	0.195							5.17					
W7	4/24/2012	0.0101	<0.020		0.0566				13.3	13.6					
W7	5/6/2012	<0.0050	<0.020		0.0297					17.4					
W7	5/6/2012	<0.0050	<0.020		0.0303					17					
W7	6/19/2012	0.0148	0.083		0.176				19.2	16.2					
W7	7/17/2012	<0.0050	0.089		0.078					13.3					
W7	7/30/2012	<0.0050	0.124		0.0432					12.7					
W7	8/8/2012	<0.0050	0.13							12.6					
W7	8/23/2012	<0.050	0.21		0.0322				11.3	10.3					
W7	9/13/2012	<0.0050	0.078						16.3	16.3					
W7	10/16/2012	<0.0050	0.125						12.1	12.6					
W7	11/2/2012	<0.0050	0.219		0.0227					8.19					
W7	12/29/2012	<0.0050	0.063							10.2					
W7	4/30/2013	<0.0050	0.132						4.71	4.64					
W7	5/14/2013	<0.0050	<0.020							15.3					
W7	6/19/2013	<0.0050	0.143							11.3					
W7	6/19/2013	<0.0050	0.141							10.5					
W7	7/13/2013	<0.0050	0.17							9.88					
W7	8/21/2013	<0.0050	0.157							9.84					
W7	9/6/2013	<0.0050	0.128							11					
W7	10/21/2013	<0.0050	0.168							11.9					
W7	11/16/2013	<0.0050	0.257							7.47					
W7	12/7/2013	<0.0050	0.206							7.3					
C4	5/6/2012	<0.0050	0.029		1.21					10.5					
C4	8/1/2012	0.0177	0.074		0.386					16.2					
C4	8/8/2012	0.012	0.095												
C4	8/25/2012	<0.0050	<0.020							<0.50					
C4	6/22/2013	0.0066	0.371							17.4					
C4	7/19/2013	0.0069	0.082												
C4	8/22/2013	0.0084	0.086							18.9					
C4	9/6/2013	<0.0050	0.07							15.1					
C4	10/18/2013	<0.0050	0.069							12.7					
C4	10/18/2013	<0.0050	0.065							12.5					
C4	11/17/2013	<0.050	<0.20							31.6					
C10	5/12/2012	0.0114	0.047		2.25					13.3					
C10	7/30/2012	0.0229	0.184		0.903					17.8					
C10	7/30/2012														
C10	8/10/2012	0.0111	0.184												
C10	8/27/2012	0.0086	0.095							17.8					
C10	6/22/2013	0.0198	0.152							15.3					
C10	7/23/2013	<0.050	<0.20												
C10	8/22/2013	0.0072	0.135							17.2					
C10	9/8/2013	0.0076	0.175							16					
C10	9/8/2013	0.007	0.192							16.2					
C10	10/18/2013	<0.0050	0.167							14.3					

Table B.1: Raw water quality data from Minto Mine, 2005 - 2013.

Station Name	Sample Date	Lab pH (pH units)	Lab Conductance (µS/cm)	Dissolved Hardness (mg/L)	Total Hardness (mg/L)	Hardness-E (mg/L)	Turbidity (NTU)	Temp-obs-pH (°C)	IB (%)	TDS (mg/L)	TSS (mg/L)	Total Alkalinity (mg/L)	Alkalinity-P (mg/L)	Alkalinity-OH (mg/L)	Alkalinity-Carb (mg/L)	Alkalinity-Bicrb (mg/L)
W1	5/27/2005	8.05	195		97.3					137	26.5	78.7			89.2	
W1	6/30/2005	8.17	290							189	<3.0	141			141	
W1	7/28/2005	8.03	312		157					189	<3.0				151	
W1	8/29/2005	8.28	266		138					186	4	138			138	
W1	9/28/2005	7.59	244		134					178	9.5	117			117	
W1	10/15/2005	8.13	253		140					181	14.5				121	
W2	5/27/2005	8.06	198		99.8					138	20.5				89.3	
W2	5/27/2005	8.03	148		72.2					80	79	67.1				
W2	6/30/2005	8.17	287							190	<3.0	140			140	
W2	7/28/2005	8.01	305		153					194	<3.0				146	
W2	8/30/2005	8.26	268		138					193	3.5	143			143	
W2	9/28/2005	7.9	243		134					170	9	115			115	
W2	10/15/2005	8.11	249		137					179	5.5				120	
W3	5/27/2005	7.99	188		93.9					141	8.5	61.2			78.7	
W3	6/30/2005	8.22	341							224	<3.0	153			153	
W3	7/29/2005	8.06	322		166					198	25.7				143	
W3	8/29/2005	8.24	267		135					182	7.5	122			122	
W3	9/28/2005	7.99	238		129					174	8	101			101	
W3	10/15/2005	8.08	245		134					176	<3.0				106	
W8	5/27/2005	7.78	113		62.3					111	<3.0	174			49.1	
W8	6/30/2005	7.83	176							144	<3.0	89			89	
W8	7/29/2005	7.45	203		116					141	24.7				104	
W8	8/30/2005	8.12	179		99.8					147	<3.0	99.2			99.2	
W8	9/28/2005	7.96	165		95					135	<3.0	74.7			74.7	
W8	10/15/2005	7.06	190		99.4					140	5.5				87.1	
W9	5/27/2005	7.56	93.2		49.4					104	<3.0	142			32	
W9	6/30/2005	7.63	145							126	<3.0	56.1			56.1	
W9	7/29/2005	7.51	176		95.3					129	3.7				74.2	
W9	8/29/2005	7.84	146		73.6					126	<3.0	57.7			57.7	
W9	9/28/2005	7.62	125		67.8					118	<3.0	44			44	
W9	10/15/2005	7.19	121		64.4					111	<3.0				51.8	
W10	5/27/2005	7.47	75.4		46.3					115	<3.0				36.7	
W10	5/27/2005															
W10	6/30/2005	7.31	84.2							116	6	41.5			41.5	
W10	7/29/2005	7.34	111		54.9					105	4.2				58.2	
W10	8/29/2005	7.74	145		70					117	13	79.1			79.1	
W10	9/28/2005	7.77	181		101					141	14.5	92.3			92.3	
W10	10/15/2005	7.3	175		100					138	6.5				96.4	
W6	5/27/2005	7.91	127		65.4					103	13.5	32			61.2	
W6	6/30/2005	7.41	174							123	11.5	99.1			99.1	
W6	7/29/2005	8.01	319		171					198	22.2				147	
W6	8/30/2005	8.17	200		106					147	<3.0	109			109	
W6	9/28/2005	7.95	192		106					133	3.5	93			93	
W6	10/15/2005	7.92	180		98.3					128	<3.0				99.3	
W6	6/2/2006	7.64	112							96	115	76.6				
W6	8/25/2006	8.01	223	120						160		120		<5	<6	146
W6	9/6/2006	7.86	212	110							4	112		<5	<6	137
W6	6/20/2007	7.77	151		81		0.6			130	16	83		<5	<6	100
W6	9/18/2007	7.95	194		93		0.2			172	8	112		<5	<6	137
W6	6/17/2008	7.82	175		86		0.9			120	17	93		<5	<6	100
W6	9/18/2008	7.8	174				<0.1			150	4	87		<5	<6	100
W6	4/14/2009	7.92	624	248			24			464	138	201		<5	<6	240
W6	4/30/2009	7.34	104	56			39			112	190	41		<5	<6	50
W6	7/28/2009	7.86	338	148			27			228	38	92		<5	<6	100
W6	8/6/2009															
W6	8/6/2009	8.05	413	177			0.3			296	<2	155		<5	<6	190
W6	8/18/2009			173												
W6	8/25/2009															
W6	10/7/2009	7.86	478	195			0.5			314	<2	95		<5	<6	100
W6	10/7/2009	7.83	475	195			0.6			352	<3	96		<5	<6	100
W6	10/25/2009	8.1	501	207	219		1.8			270	<4	120	<0.5	<0.5	<0.5	150
W6	4/19/2010	7.93	292		135		38			196	29	117		<5	<6	140
W6	5/16/2010	8.1	200	98	97.2		0.7			130	<4	100	<0.5	<0.5	<0.5	120
W6	5/17/2010	7.8	152	73.7	68.8		1.6			120	<4	71	<0.5	<0.5	<0.5	87
W6	5/19/2010	8.1	192	95.5	101		1.2			120	3	90	<0.5	<0.5	<0.5	110
W6	5/21/2010	8	160	82.6	88.1		2.9			84	10	80	<0.5	<0.5	<0.5	97
W6	5/23/2010	8.1	219	102	96.4		2			150	9	100	<0.5	<0.5	<0.5	120
W6	5/25/2010	7.9	221	108	120		1.6			120	4	100	<0.5	<0.5	<0.5	120
W6	5/29/2010	8	141	69.2	70.1		2.8			84	10	74	<0.5	<0.5	<0.5	90
W6	6/2/2010	8.4	466	221	243		0.7			280	2	200	5.2	<0.5	6.3	230
W6	6/4/2010	8.1	189	81	92.6		1.7			96	1	100	<0.5	<0.5	<0.5	120
W6	6/6/2010	8	187	98.3	98.8		3.1			120	5	100	<0.5	<0.5	<0.5	130
W6	6/14/2010	8.2	184	92.4	94.5		3.6			130	13	100	<0.5	<0.5	<0.5	120
W6	6/16/2010	8.2	188	92	90.8		2.7			120	5	100	<0.5	<0.5	<0.5	130
W6	6/18/2010	8.2	191	93.9	89.2		1.7			120	6	100	<0.5	<0.5	<0.5	130
W6	6/20/2010	8.2	182	88.8	92.7		2.7			110	5	100	<0.5	<0.5	<0.5	120
W6	6/22/2010	8.17	190	92.6	94.3		3.4			120	8	100	<0.5	<0.5	<0.5	120
W6	6/24/2010	8.11	189	92.6	74.4		2.1			96	4	100	<0.5	<0.5	<0.5	120
W6	6/26/2010	8.11	189	90.3	90.7		3			92	5	100	<0.5	<0.5	<0.5	120
W6	6/26/2010															
W6	6/28/2010	7.87	189	89.5	91.4		6.8			130	19	99	<0.5	<0.5	<0.5	120
W6	7/5/2010	7.95	170	79.5	86.9		23			130	60	87	<0.5	<0.5	<0.5	110
W6	8/5/2010	8.06	207	108	101		2.2			130	8	110	<0.5	<0.5	<0.5	130
W6	9/9/2010	8.07	210	108	107		10.2			160	31	110	<0.5	<0.5	<0.5	130
W6	10/8/2010	8.07	209	103	100		6.7			140	46	110	<0.5	<0.5	<0.5	130
W6	8/19/2011	8.3	485	225	214					280	2	190	<0.5	<0.5	<0.5	240
W6	7/17/2012	7.98	201	104	163					122	1130	103	<0.50	<0.50	<0.50	126
W6	7/30/2012	8.09	202	101	145					124	614	103	<0.50	<0.50	<0.50	126
W6	8/9/2012	8.17	220	112	136					144	566	116	<0.50	<0.50	<0.50	141
W6	8/25/2012	8	212	103	161					138	1160	109	<0.50	<0.50	<0.50	133
W6	9/13/2012	8.04	174	87.7	93.1					118	50.3	87.1	<0.50	<0.50	<0.50	106
W6	10/13/2012	7.92	193		117					150	44.7	99.1	<0.50	<0.50	<0.50	121
W6	11/12/2012	7.93	275	153	155					162	2.2	138	<0.50	<0.50	<0.50	168
W6	5/14/2013	7.48	55.1	31.4	33.8					84	13.1	25.5	<0.50	<0.50	<0.50	31.1
W6	6/22/2013	8.07	195	94.9	115					118	172	97.8	<0.50	<0.50	<0.50	119
W6	7/12/2013	7.9	180	88.2	95.3					136	25.2	93.8	<0.50	<0.50	<0.50	115
W6	8/22/2013	8.04	205	102	106					144	19.7	107	<0.50	<0.50	<0.50	130
W6	9/6/2013	7.95	204	101	114					130	5.2	105	<0.50	<0.50	<0.50	129
W6	10/7/2013	8.08	191	107	106					176	74.4	98.1	<0.50	<0.50	<0.50	120
W6	11/16/2013	8.11	245	119	123					120	33.4	121	<0.50	<0.50	<0.50	147
W6	12/7/2013	8.21	326	159	182					194	3.6	164	<0.50	<0.50	<0.50	200
W7	5/27/2005	7.95	152		76.6					116	30.5	36.7			68.4	
W7	6/30/2005	7.87	233							153	14	117			117	
W7	7/29/2005	7.18	323		167					197	19.7				146	
W7	8/30/2005	8.19	211		109					148	3	113			113	
W7	9/28/2005	8.02	190		107					142	361	95.9			95.9	
W7	10/15/2005	6.75	194		106					145	7.5				107	
W7	6/2/2006	7.61	98.8							104	705	49.4				
W7	6/8/2006															

Table B.1: Raw water quality data from Minto Mine, 2005 - 2013.

Station Name	Sample Date	Lab pH (pH units)	Lab Conductance (µS/cm)	Dissolved Hardness (mg/L)	Total Hardness (mg/L)	Hardness-E (mg/L)	Turbidity (NTU)	Temp-obs-pH (°C)	IB (%)	TDS (mg/L)	TSS (mg/L)	Total Alkalinity (mg/L)	Alkalinity-P (mg/L)	Alkalinity-OH (mg/L)	Alkalinity-Carb (mg/L)	Alkalinity-Bicrb (mg/L)
W7	6/15/2006															
W7	6/15/2006	7.86	193	100						114	53	95		<5	<6	116
W7	6/23/2006	7.78	246	122						176	328	130		<5	<6	159
W7	6/28/2006	7.9	213	107						120	103	106		<5	<6	129
W7	7/7/2006	7.91	205	110						184	3	120		<5	<6	146
W7	7/12/2006	7.77	238	110							<2	120		<5	<6	146
W7	7/20/2006	7.88	233	130							2	122		<5	<6	149
W7	7/26/2006															
W7	7/26/2006	7.87	259	128							9	121		<5	<6	147
W7	8/2/2006	7.79	256	128							4	125		<5	<6	152
W7	8/10/2006	7.8	259	126							<2	125		<5	<6	152
W7	8/25/2006															
W7	8/25/2006	7.92	261	129						180		131		<5	<6	160
W7	8/30/2006	7.79	258	132						200	<2	129		<5	<6	157
W7	9/6/2006	7.88	258	130							4	129		<5	<6	157
W7	9/13/2006	7.84	254	130							5	128		<5	<6	157
W7	9/20/2006	7.85	263	132							3	127		<5	<6	154
W7	9/28/2006	7.26	266	129						182		128		<5	<6	156
W7	10/4/2006	7.94	258	126							2	122		<5	<6	149
W7	10/12/2006	7.39	266	132						164	4	130		<5	<6	158
W7	6/5/2007	7.98	208		108		2.4			162	76	118		<5	<6	144
W7	6/5/2007	7.97	207		120		3.1			158	76	121		<5	<6	147
W7	6/5/2007	7.97	207		111		2.2			166	73	105		<5	<6	128
W7	6/20/2007	7.84	230	110			0.5			164	6	116		<5	<6	142
W7	7/18/2007	7.72	250	128	126		0.6			170	4	128		<5	<6	156
W7	7/18/2007	7.8	249		125		1			182	7	128		<5	<6	156
W7	7/18/2007	7.83	249		125		1.4			184	6	128		<5	<6	157
W7	8/24/2007															
W7	8/24/2007															
W7	8/24/2007															
W7	8/24/2007	8.04	246		122		<0.1			198	4	139		<5	<6	170
W7	8/24/2007	8.05	245		123		<0.1			192	4	136		<5	<6	166
W7	8/24/2007	8.04	244		128		<0.1			186	6	136		<5	<6	165
W7	9/18/2007	8	224	110			0.2			182	20	124		<5	<6	151
W7	10/30/2007	7.74	268		130		0.9			176	3	128		<5	<6	157
W7	10/30/2007	7.74	274		128		1.9			182	10	131		<5	<6	160
W7	10/30/2007	7.74	269		130		1.9			166	7	128		<5	<6	157
W7	10/30/2007	7.68	272				1.2			172	6	128		<5	<6	157
W7	4/22/2008	8.4	364	186			0.3			264	<2	187		<5	<6	218
W7	4/22/2008	8.41	362	193			0.3			274	<2	185		<5	<6	215
W7	4/22/2008	8.4	366	182			0.4			270	<2	186		<5	<6	216
W7	4/22/2008	8.4	367				0.5			262	<2	188		<5	<6	218
W7	6/3/2008	8.01	201		97		1.3			134	<2	94		<5	<6	100
W7	6/3/2008	8.01	203		96		1.3			132	19	95		<5	<6	100
W7	6/3/2008	8.03	205		101		1.1			146	26	95		<5	<6	100
W7	6/3/2008			92												
W7	6/17/2008	7.95	237				1			156	10	115		<5	<6	140
W7	8/6/2008	7.9	234		123		1.4			162	92	128		<5	<6	160
W7	8/6/2008	7.91	235		123		1.4			168	139	127		<5	<6	150
W7	8/6/2008	7.96	233		125		1.2			170	85	127		<5	<6	160
W7	8/6/2008			123												
W7	9/18/2008	7.89	170				1.8			170	28	82		<5	<6	100
W7	10/28/2008	7.84	217				0.6			192	4	108		<5	<6	130
W7	10/28/2008	7.83	217				0.7			188	6	108		<5	<6	130
W7	10/28/2008	7.85	218				0.8			168	7	108		<5	<6	130
W7	10/28/2008			123												
W7	4/30/2009	6.84	36	20			1.6			52	<2	12		<5	<6	20
W7	6/8/2009	7.9	208	93			1.4			156	32	95		<5	<6	100
W7	7/28/2009	8.07	270	137			0.2			184	4	128		<5	<6	160
W7	8/6/2009	8.35	260	121			0.2			202	2	159		<5	<6	190
W7	8/24/2009															
W7	8/25/2009															
W7	8/31/2009			110												
W7	10/7/2009															
W7	10/7/2009	7.87	249	123			0.2			180	7	116		<5	<6	140
W7	10/25/2009	8.1	266	126	141		0.7			130	<4	130	<0.5	<0.5	<0.5	160
W7	10/25/2009	8	264				0.3			110	<4					
W7	4/19/2010	7.81	167		80		1.2			142	<7	82		<5	<6	100
W7	4/27/2010	7.6	64	36.3	35		1.2			62	<4	32	<0.5	<0.5	<0.5	39
W7	4/29/2010	7.5	66	36.2	36.2		1.8			62	<4	31	<0.5	<0.5	<0.5	38
W7	5/1/2010	7.7	78	40.8	43.6		8.6			74	15	40	<0.5	<0.5	<0.5	49
W7	5/3/2010	7.7	85	44.9	46.2		7.9			80	12	42	<0.5	<0.5	<0.5	51
W7	5/5/2010	7.8	102	49.1	55.1		8.7			76	12	53	<0.5	<0.5	<0.5	64
W7	5/7/2010	7.8	113	56.9	56		4.1			62	18	58	<0.5	<0.5	<0.5	70
W7	5/9/2010	8	180	79.9	71		2.2			130	<4	86	<0.5	<0.5	<0.5	110
W7	5/10/2010	8.1	163	80.9	90.3		1			130	<4	83	<0.5	<0.5	<0.5	100
W7	5/12/2010															
W7	5/12/2010	8	166	81.6	84.6		1.2			100	<4	83	<0.5	<0.5	<0.5	100
W7	5/14/2010	8.1	149	72.6	71.4		7.7			130	15	73	<0.5	<0.5	<0.5	89
W7	5/16/2010	8.3	590	85.6	76.3		3.8			120	12	260	<0.5	<0.5	<0.5	320
W7	5/17/2010	8.2	160	80.4	75.6		4			130	11	80	<0.5	<0.5	<0.5	98
W7	5/19/2010	8.2	195	98.6	103		1.5			120	4	98	<0.5	<0.5	<0.5	120
W7	5/21/2010	8.1	191	91.5	95.6		6.5			120	22	96	<0.5	<0.5	<0.5	120
W7	5/23/2010	8.1	204	98.1	103		29.3			150	33	100	<0.5	<0.5	<0.5	130
W7	5/25/2010	7.9	211	125	124		85.5			140	140	100	<0.5	<0.5	<0.5	130
W7	5/27/2010	8	231	113	148		307			140	350	110	<0.5	<0.5	<0.5	140
W7	5/29/2010	8.2	232	111	129		170			160	200	110	<0.5	<0.5	<0.5	140
W7	5/31/2010	8.2	236	109	130		155			160	290	120	<0.5	<0.5	<0.5	140
W7	6/2/2010	8.2	243	113	135		68.2			140	81	120	<0.5	<0.5	<0.5	150
W7	6/4/2010	8.2	240	111	125		51.6			140	60	120	<0.5	<0.5	<0.5	150
W7	6/6/2010	8.2	250	128	133		45.2			170	39	130	<0.5	<0.5	<0.5	150
W7	6/14/2010	8.29	250	122	128		17			150	43	130	<0.5	<0.5	<0.5	160
W7	6/16/2010	8.3	259	120	128		6.4			150	17	130	<0.5	<0.5	<0.5	160
W7	6/18/2010	8.17	256	122	123		7.8			140	28	130	<0.5	<0.5	<0.5	160
W7	6/20/2010	8.2	240	112	118		18.9			140	33	120	<0.5	<0.5	<0.5	150
W7	6/22/2010	8.03	208	97.6	115		134			140	300	110	<0.5	<0.5	<0.5	130
W7	6/24/2010	8.03	214	99.7	116		24.5			130	64	110	<0.5	<0.5	<0.5	130
W7	6/26/2010	8.26	230	106	106		8.2			120	21	120	<0.5	<0.5	<0.5	140
W7	6/28/2010	8.03	248	114	107		3			150	9	120	<0.5	<0.5	<0.5	150
W7	7/5/2010	8.06	202	92.5	106		19			150	53	100	<0.5	<0.5	<0.5	120
W7	8/5/2010			118	116					170						
W7	9/12/2010				105											
W7	9/12/2010	7.98	212	107	102		3.4			210	11	100	<0.5	<0.5	<0.5	130
W7	10/8/2010	8.1	233	111	126		1.6			150	3	120	<0.5	<0.5	<0.5	140
W7	4/27/2011	7.41	79	42.6	42.6					72	<1	34	<0.5	<0.5	<0.5	41
W7	5/2/2011	7.11	57	31.8	33.1					40	7	27	<0.5	<0.5	<0.5	33
W7	6/1/2011	8.09	196	92.3	94					120	23	96	<0.5	<0.5	<0.5	120
W7	6/16/2011	8	195	97.4	108					130	85	92	<0.5	<0.5	<0.5	110
W7	7/1/2011	7.76	146	77.1	87.5					120	150	73	<0.5	<0.5	<0.5	89

Table B.1: Raw water quality data from Minto Mine, 2005 - 2013.

Station Name	Sample Date	Lab pH (pH units)	Lab Conductance (µS/cm)	Dissolved Hardness (mg/L)	Total Hardness (mg/L)	Hardness-E (mg/L)	Turbidity (NTU)	Temp-obs-pH (°C)	IB (%)	TDS (mg/L)	TSS (mg/L)	Total Alkalinity (mg/L)	Alkalinity-P (mg/L)	Alkalinity-OH (mg/L)	Alkalinity-Carb (mg/L)	Alkalinity-Bicrb (mg/L)
W7	8/2/2011	7.67	113	58.9	85.8					110	400	54	<0.5	<0.5	<0.5	66
W7	8/16/2011	7.9	191	97.6	96.8					150	22	94	<0.5	<0.5	<0.5	110
W7	8/19/2011	8.12	185	93	93.4					140	22	92	<0.5	<0.5	<0.5	110
W7	9/12/2011	8.03	217	118	119					170	1	110	<0.5	<0.5	<0.5	130
W7	10/6/2011	8.07	233	110	113					150	<4	120	<0.5	<0.5	<0.5	140
W7	11/22/2011	7.96	280	148	144					156	26.7	134	<0.50	<0.50	<0.50	163
W7	1/24/2012	8.13	349	169	158					226	<4.0	165	<0.50	<0.50	<0.50	201
W7	2/25/2012	7.99	339	165	160					216	<4.0	155	<0.50	<0.50	<0.50	189
W7	3/5/2012	8.17	343	161	159					176	3.2	154	<0.50	<0.50	<0.50	188
W7	4/24/2012	7.63	75	38.7	37					100	11.2	36.2	<0.50	<0.50	<0.50	44.1
W7	5/6/2012	6.05	93.2	46.1	44.8					80	2.4	27.3	<0.50	<0.50	<0.50	33.3
W7	5/6/2012	5.74	92.3	46.4	44.7					88	4.2	8.45	<0.50	<0.50	<0.50	10.3
W7	6/19/2012	8.12	178	91.8	105					128	165	87.4	<0.50	<0.50	<0.50	107
W7	7/17/2012	8.15	254	128	124					164	34.1	128	<0.50	<0.50	<0.50	156
W7	7/30/2012	8.2	272	135	128					180	9.2	138	<0.50	<0.50	<0.50	168
W7	8/8/2012	8.26	278	141	141					192	3.3	143	<0.50	<0.50	<0.50	175
W7	8/23/2012	8.25	285	142	151					200	1.5	147	<0.50	<0.50	<0.50	179
W7	9/13/2012	8.13	230	116	121					154	15.3	115	<0.50	<0.50	<0.50	140
W7	10/16/2012	8.17	261	129	143					166	9.9	132	<0.50	<0.50	<0.50	161
W7	11/2/2012	7.93	319	158	153					214	2.2	150	<0.50	<0.50	<0.50	183
W7	12/29/2012	8.13	444	223	206					262	<1.0	207	<0.50	<0.50	<0.50	253
W7	4/30/2013	8.27	387	192	198					246	5.8	187	<0.50	<0.50	<0.50	228
W7	5/14/2013	7.58	61.3	33.3	36.4					70	55.3	29.4	<0.50	<0.50	<0.50	35.9
W7	6/19/2013	8.08	238	113	114					152	11.2	113	<0.50	<0.50	<0.50	138
W7	6/19/2013	8.07	237	114	115					164	10.1	113	<0.50	<0.50	<0.50	138
W7	7/13/2013	8.1	263	132	137					156	5	127	<0.50	<0.50	<0.50	155
W7	8/21/2013	8.23	286	140	144					172	3.8	143	<0.50	<0.50	<0.50	175
W7	9/6/2013	8.02	280	138	154					280	11.8	140	<0.50	<0.50	<0.50	170
W7	10/21/2013	8.16	288	147	126					168	7.4	138	<0.50	<0.50	<0.50	168
W7	11/16/2013	8.24	324	153	164					164	1.5	153	<0.50	<0.50	<0.50	187
W7	12/7/2013	8.14	354	168	189					220	<1.0	166	<0.50	<0.50	<0.50	203
C4	5/6/2012	7.59	88.8	43.9	119					84	1260	40.1	<0.50	<0.50	<0.50	48.9
C4	8/1/2012	8.04	228	117	133					166	246	115	<0.50	<0.50	<0.50	140
C4	8/8/2012	8.14	248	125	142					170	253	126	<0.50	<0.50	<0.50	153
C4	8/25/2012	7.94	254	130	173					192	855	128	<0.50	<0.50	<0.50	156
C4	6/22/2013	7.97	253	126	222					204	886	120	<0.50	<0.50	<0.50	147
C4	7/19/2013	8.12	253	128	200					184	487	125	<0.50	<0.50	<0.50	152
C4	8/22/2013	7.98	245	123	199					182	784	118	<0.50	<0.50	<0.50	144
C4	9/6/2013	7.93	248	125	166					176	172	120	<0.50	<0.50	<0.50	146
C4	10/18/2013	8.18	260	129	142					214	16.3	126	<0.50	<0.50	<0.50	154
C4	10/18/2013	8.24	260	129	139					220	16.3	126	<0.50	<0.50	<0.50	154
C4	11/17/2013	7.9	477	258	264					272	22.4	244	<0.50	<0.50	<0.50	298
C10	5/12/2012	7.73	136	67.2	215					132	2210	65.1	<0.50	<0.50	<0.50	79.4
C10	7/30/2012	8.23	254	130	207					180	995	132	<0.50	<0.50	<0.50	161
C10	7/30/2012															
C10	8/10/2012	8.11	273	135	245					216	1320	146	<0.50	<0.50	<0.50	178
C10	8/27/2012	8.37	284	141	264					184	1650	154	2.03	<0.50	2.44	183
C10	6/22/2013	8.26	276	148	151					192	43.4	143	<0.50	<0.50	<0.50	175
C10	7/23/2013	8.19	251	125	156					174	199	133	<0.50	<0.50	<0.50	162
C10	8/22/2013	8.23	309	160	168					218	65.5	159	<0.50	<0.50	<0.50	194
C10	9/8/2013	7.94	287	150	163					186	25.4	147	<0.50	<0.50	<0.50	180
C10	9/8/2013	8.13	289	150	162					206	21.7	151	<0.50	<0.50	<0.50	184
C10	10/18/2013	8.25	263	136	160					212	61.2	136	<0.50	<0.50	<0.50	166

APPENDIX C

BOXPLOT OUTLIER EXAMINATION

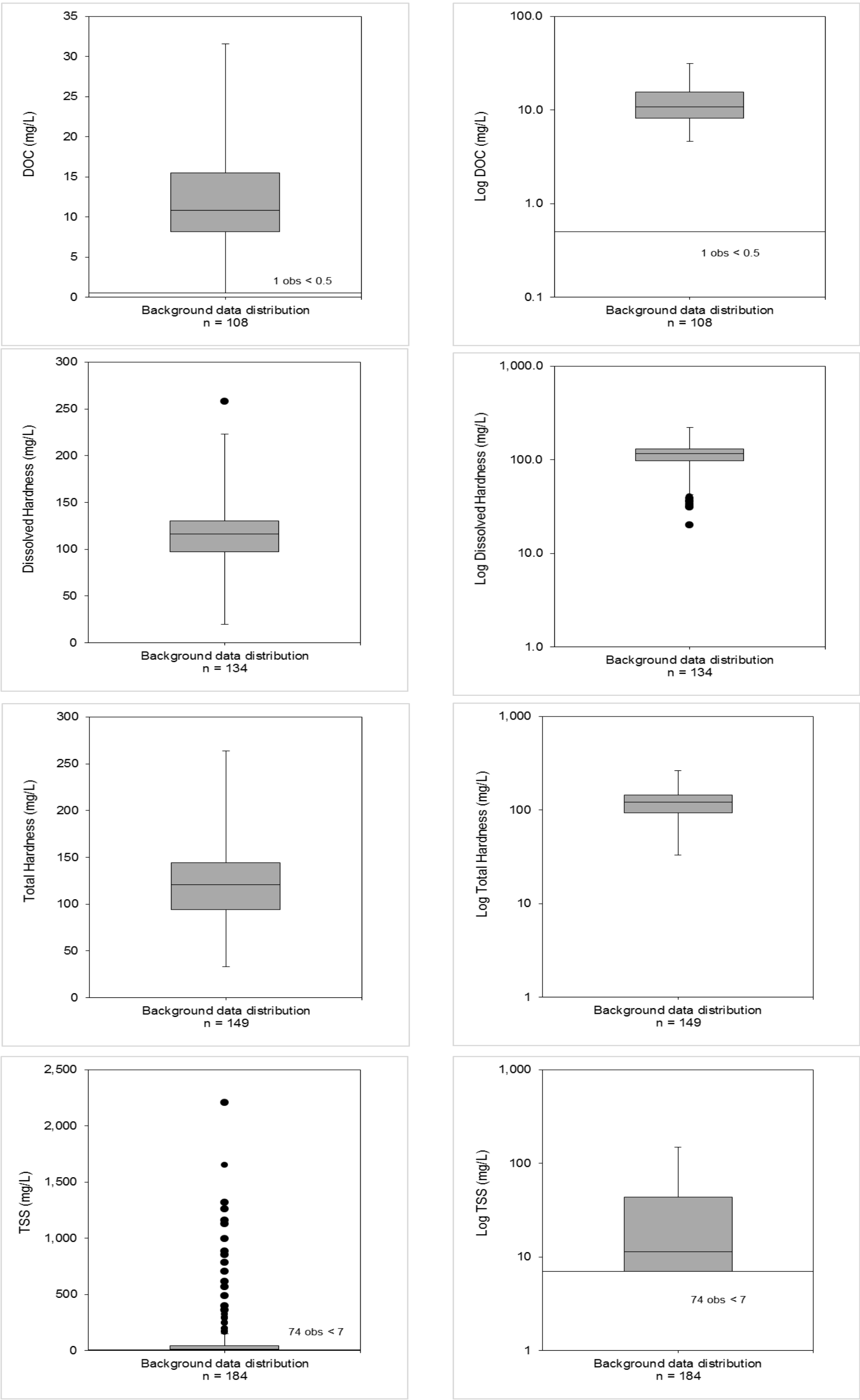

Figure C.1: Boxplots of analytes on non-transformed and log transformed scales. Black dots represent possible outliers. Line represents highest < MDL and any < MDL below this are represented as number of observations below this line.

NOTE: Possible outliers were only considered if they were detected on both non-transformed and log transformed scales

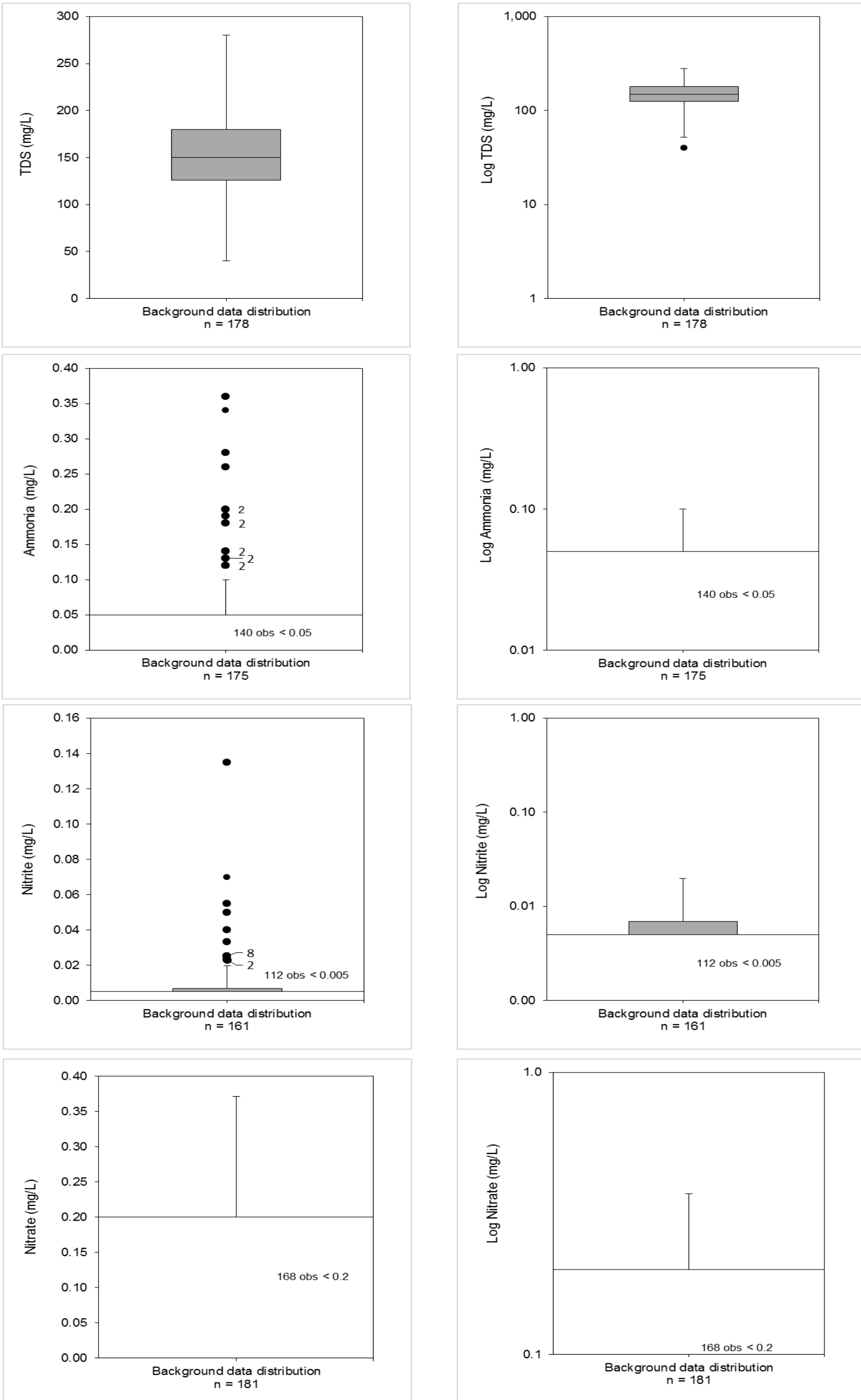

Figure C.1: Boxplots of analytes on non-transformed and log transformed scales. Black dots represent possible outliers. Line represents highest < MDL and any < MDL below this are represented as number of observations below this line.

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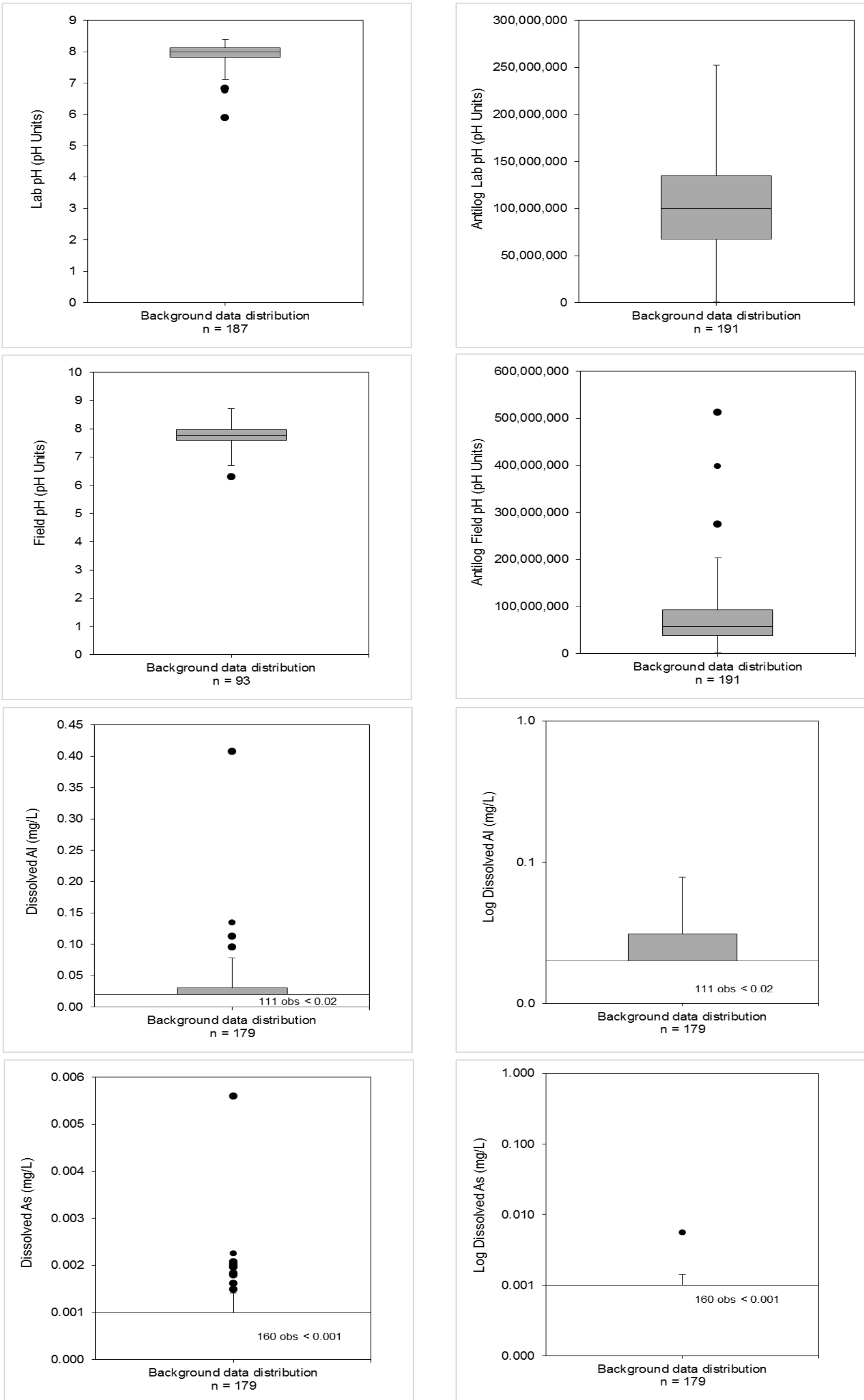


Figure C.1: Boxplots of analytes on non-transformed and log transformed scales. Black dots represent possible outliers. Line represents highest < MDL and any < MDL below this are represented as number of observations below this line.

NOTE: Possible outliers were only considered if they were detected on both non-transformed and log transformed scales

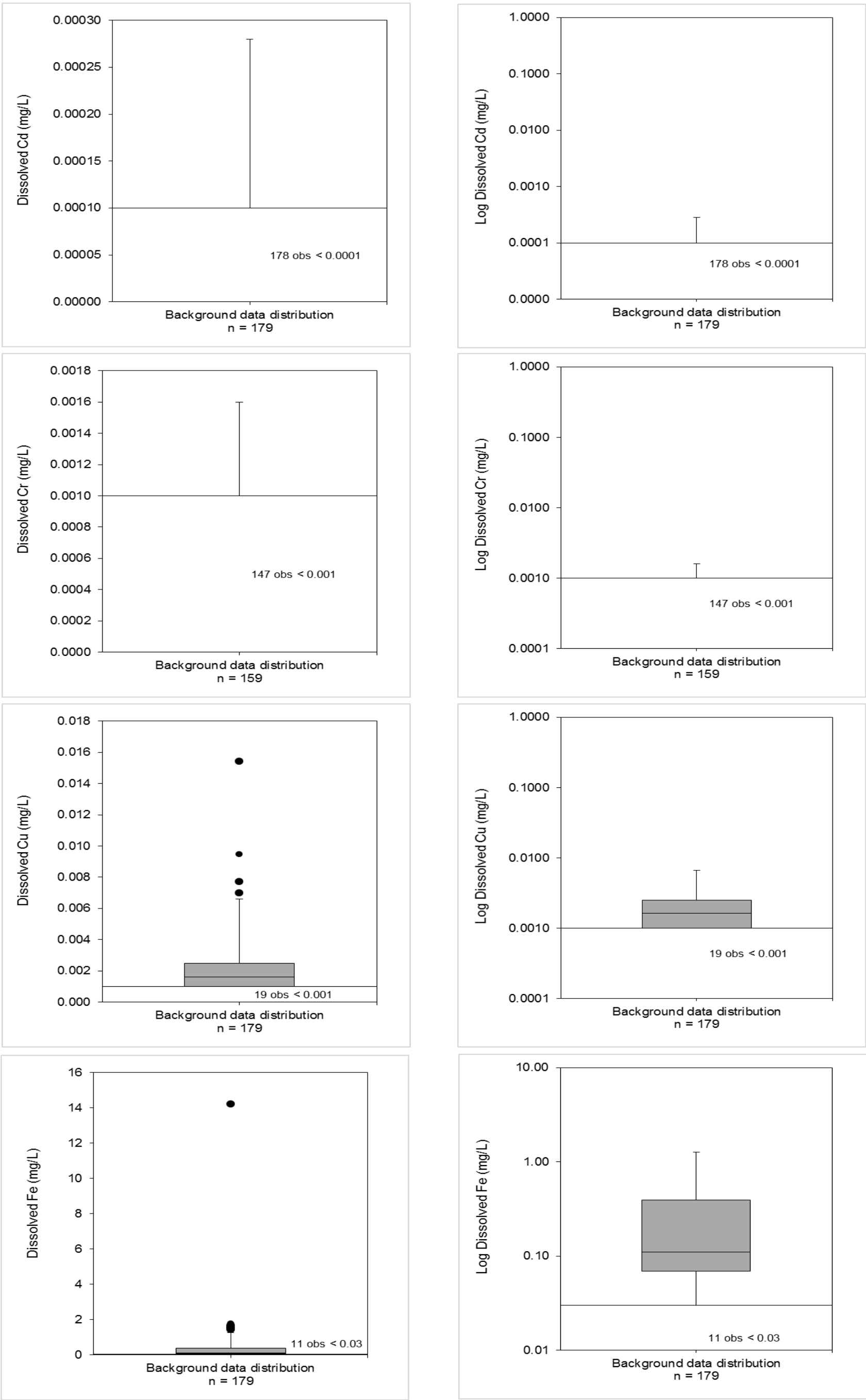


Figure C.1: Boxplots of analytes on non-transformed and log transformed scales. Black dots represent possible outliers. Line represents highest < MDL and any < MDL below this are represented as number of observations below this line.

NOTE: Possible outliers were only considered if they were detected on both non-transformed and log transformed scales

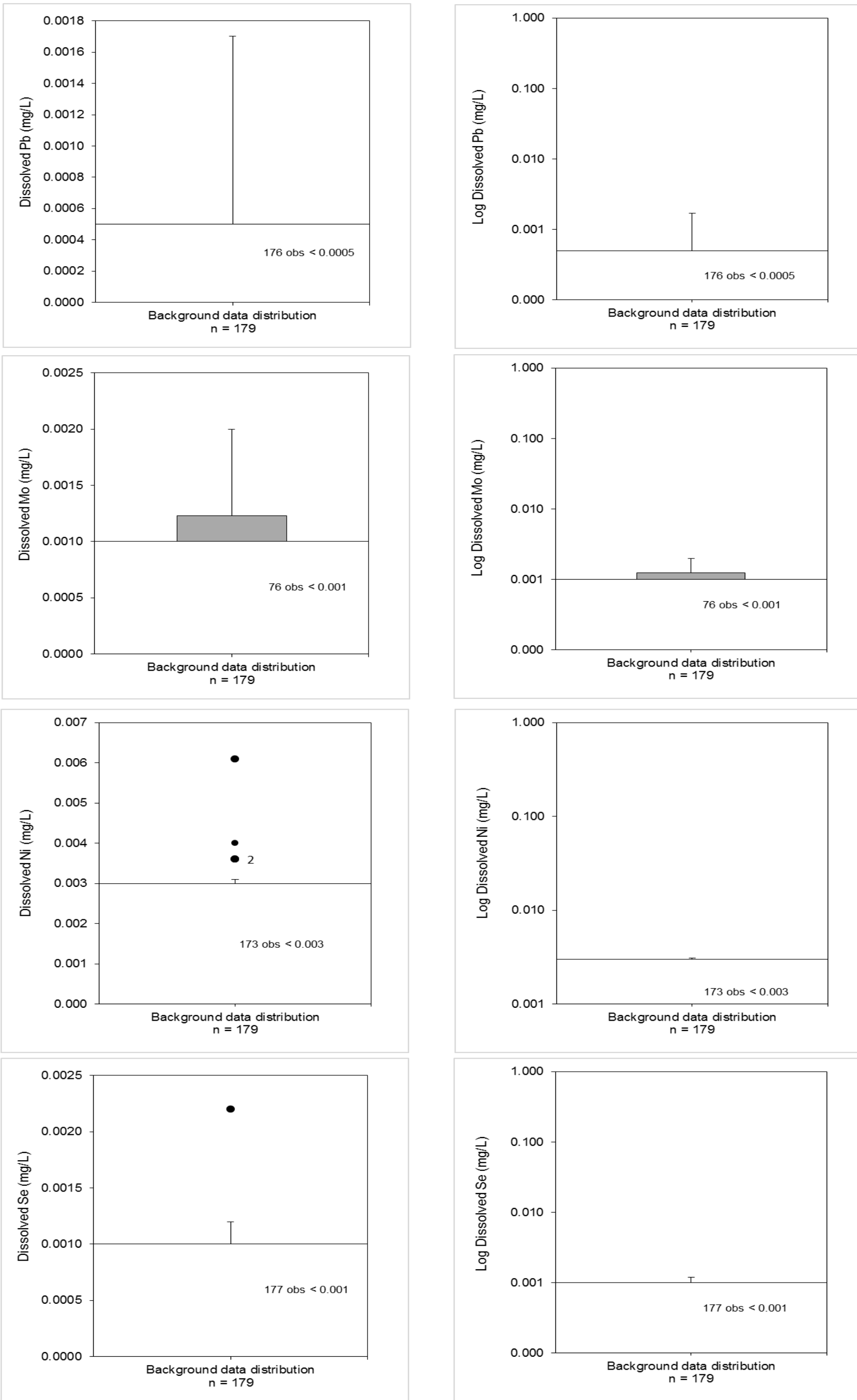
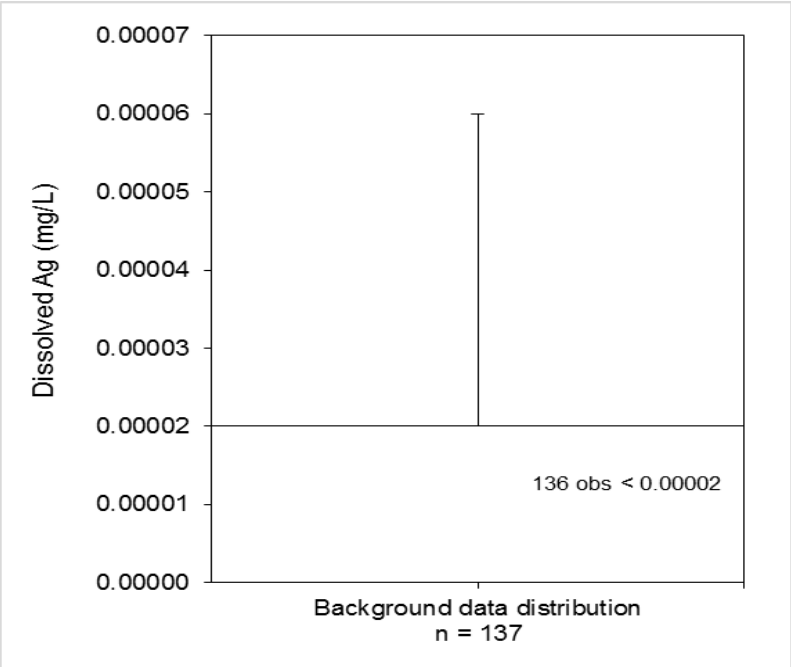
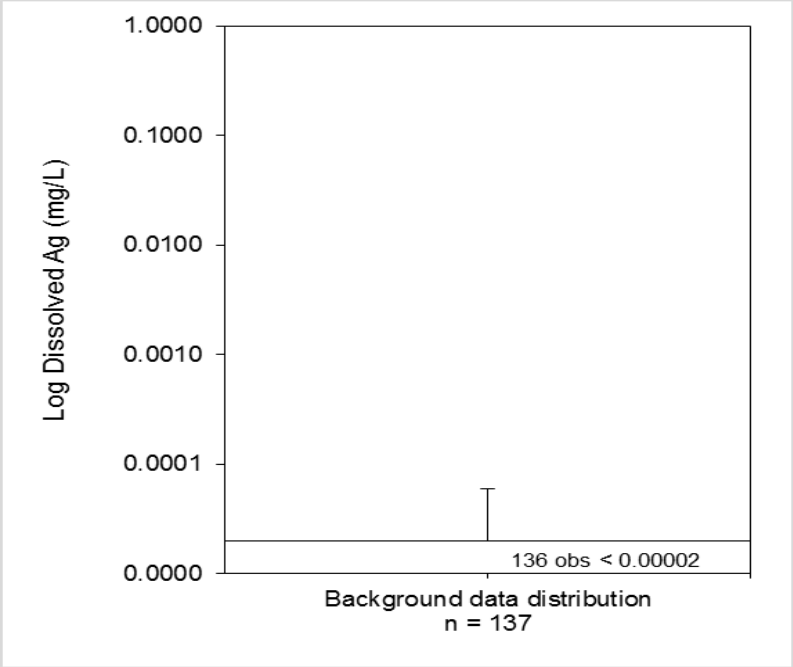
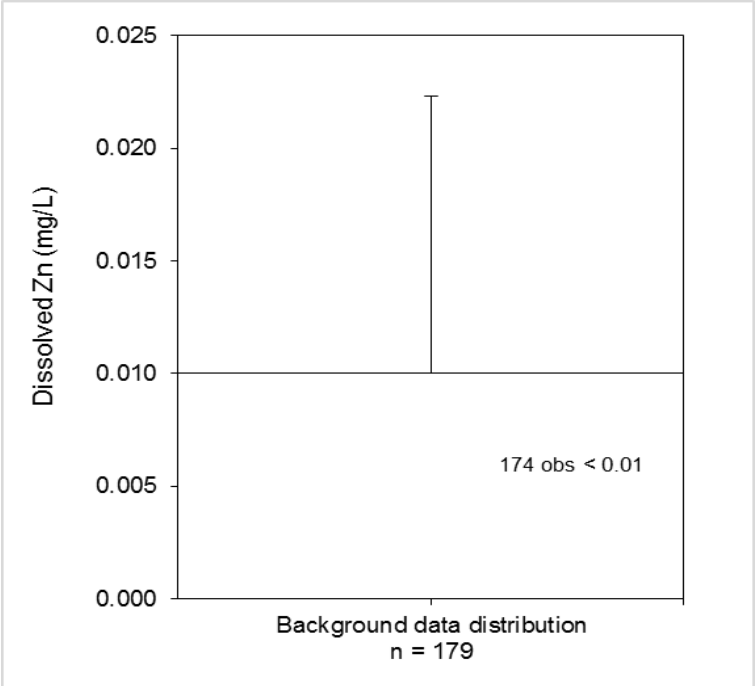


Figure C.1: Boxplots of analytes on non-transformed and log transformed scales. Black dots represent possible outliers. Line represents highest < MDL and any < MDL below this are represented as number of observations below this line.

NOTE: Possible outliers were only considered if they were detected on both non-transformed and log transformed scales







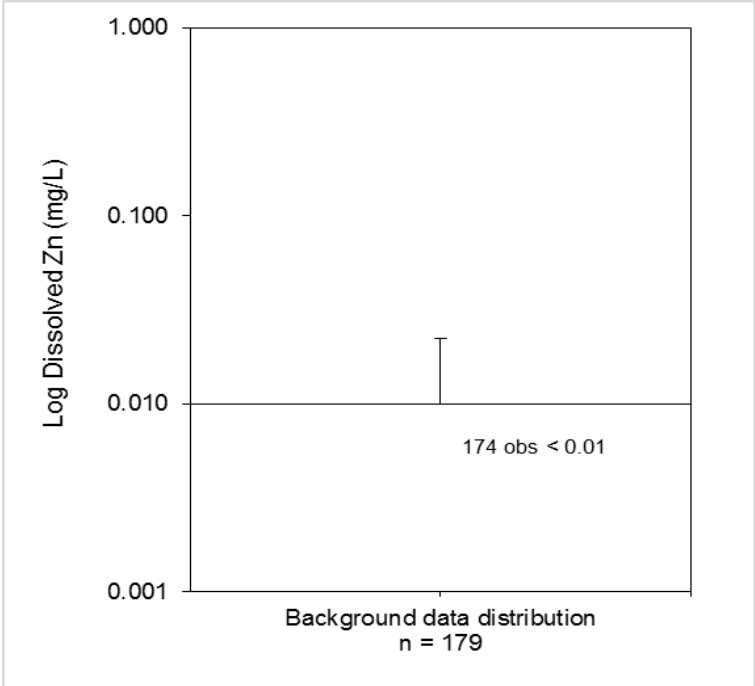


Figure C.1: Boxplots of analytes on non-transformed and log transformed scales. Black dots represent possible outliers. Line represents highest < MDL and any < MDL below this are represented as number of observations below this line.

NOTE: Possible outliers were only considered if they were detected on both non-transformed and log transformed scales

APPENDIX D

WATER QUALITY DATA SUMMARY CALCULATIONS

Table D.1: Comparisons of dissolved arsenic ratios, relative to other analytes. Highlighted cells represent the sample with the potential arsenic concentration outlier

Station	Date	Arsenic Relative to:																					
		DOC (mg/L)	Dissolved Hardness (mg/L)	Total Hardness (mg/L)	TSS (mg/L)	TDS (mg/L)	Ammonia (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Lab pH (pH Units)	Field pH (pH Units)	Dissolved Aluminum (mg/L)	Dissolved Cadmium (mg/L)	Dissolved Chromium (mg/L)	Dissolved Copper (mg/L)	Dissolved Iron (mg/L)	Dissolved Lead (mg/L)	Dissolved Molybdenum (mg/L)	Dissolved Nickel (mg/L)	Dissolved Selenium (mg/L)	Dissolved Silver (mg/L)	Dissolved Zinc (mg/L)
C4	11/17/2013	0.00018	0.000022	0.000021	0.00025	0.000021	0.020	0.22	0.056	0.00071	0.00078	0.17	254	4.3	5.9	0.00039	56	5.1	0.92	23	559	2.2
Summary Statistics	Average	0.00013	0.0000059	0.0000051	0.00010	0.0000038	0.034	0.32	0.026	0.000072	0.000093	0.038	76	1.2	0.40	0.0044	7.0	0.75	0.45	5.0	73	0.27
	Minimum	0.0000057	0.00000078	0.0000010	0.00000047	0.00000064	0.0012	0.0020	0.00067	0.000012	0.000013	0.0019	1.3	0.077	0.020	0.00039	0.18	0.067	0.10	0.045	6.7	0.011
	Maximum	0.0079	0.000024	0.000021	0.0011	0.000021	0.60	1.2	0.24	0.00071	0.00078	0.24	450	4.5	5.9	0.042	56	5.1	2.0	39	559	2.2
	Median	0.000047	0.0000046	0.0000044	0.000036	0.0000031	0.022	0.20	0.0083	0.000058	0.000064	0.033	60	1.0	0.25	0.0029	5.0	0.50	0.40	2.5	58	0.19
	95th Percentile	0.00010	0.000016	0.000010	0.00037	0.000010	0.081	1.1	0.10	0.00018	0.00025	0.084	282	3.0	1.0	0.013	19	1.7	0.83	18	180	0.84
	Standard Deviation	0.00076	0.0000043	0.0000030	0.00016	0.0000026	0.058	0.32	0.044	0.000068	0.000096	0.032	89	0.87	0.51	0.0052	6.6	0.66	0.24	6.7	60	0.29

Table D.2: Background data for Option 1 with median and 95th Percentile values.

Station	Date	DOC (mg/L)	Dissolved Hardness (mg/L)	Total Hardness (mg/L)	TSS (mg/L)	TDS (mg/L)	Ammonia (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Lab pH (pH Units)	Field pH (pH Units)	Dissolved Aluminum (mg/L)	Dissolved Arsenic (mg/L)	Dissolved Cadmium (mg/L)	Dissolved Chromium (mg/L)	Dissolved Copper (mg/L)	Dissolved Iron (mg/L)	Dissolved Lead (mg/L)	Dissolved Molybdenum (mg/L)	Dissolved Nickel (mg/L)	Dissolved Selenium (mg/L)	Dissolved Silver (mg/L)	Dissolved Zinc (mg/L)
W1	5/27/2005			97	27	137	0.039	0.0020	0.054	8.05		0.018	0.00051	0.000025	0.00050	0.0034	0.17	0.00025	0.00050	0.0015	0.00050	0.000010	0.0025
W1	6/30/2005				1.5	189	0.010	0.00050	0.063	8.17		0.0065	0.00048	0.000025	0.00025	0.0020	0.046	0.000025	0.0011	0.00096	0.00050	0.0000050	0.0005
W1	7/28/2005			157	1.5	189	0.010	0.00050	0.058	8.03		0.0072	0.00048	0.000025	0.00025	0.0021	0.056	0.000073	0.0013	0.0011	0.00050	0.0000050	0.0025
W1	8/29/2005			138	4.0	186	0.041	0.00050	0.022	8.28		0.011	0.00060	0.0000085	0.00050	0.0024	0.25	0.00025	0.0010	0.0014	0.00050	0.000010	0.0025
W1	9/28/2005			134	10	178	0.026	0.00050	0.048	7.59		0.014	0.00058	0.0000085	0.00050	0.0026	0.33	0.00025	0.00050	0.0016	0.00050	0.000010	0.0025
W1	10/15/2005			140	15	181	0.020	0.00050	0.13	8.13		0.014	0.00054	0.000025	0.00025	0.0028	0.27	0.000025	0.00089	0.0014	0.00050	0.0000050	0.0014
W2	5/27/2005			86	50	109	0.018	0.0010	0.045	8.05		0.014	0.00025	0.000025	0.00050	0.0033	0.16	0.00025	0.00050	0.0015	0.00050	0.000010	0.0025
W2	6/30/2005				1.5	190	0.010	0.00050	0.062	8.17		0.0073	0.00044	0.000025	0.00025	0.0021	0.039	0.000025	0.0011	0.0010	0.00050	0.0000050	0.0015
W2	7/28/2005			153	1.5	194	0.010	0.00050	0.012	8.01		0.0071	0.00044	0.000025	0.00025	0.0021	0.05	0.000025	0.0013	0.0011	0.00050	0.0000050	0.0011
W2	8/30/2005			138	3.5	193	0.029	0.00050	0.014	8.26		0.012	0.00058	0.0000085	0.00050	0.0024	0.23	0.00025	0.0010	0.0015	0.00050	0.000010	0.0025
W2	9/28/2005			134	9.0	170	0.010	0.0010	0.046	7.90		0.014	0.00059	0.0000085	0.00050	0.0025	0.34	0.00025	0.00050	0.0017	0.00050	0.000010	0.0025
W2	10/15/2005			137	5.5	179	0.010	0.00050	0.13	8.11		0.013	0.00053	0.000025	0.00025	0.0027	0.25	0.000025	0.00086	0.0014	0.00050	0.0000050	0.00050
W3	5/27/2005			94	8.5	141	0.010	0.00050	0.012	7.99		0.027	0.00025	0.000025	0.00050	0.0066	0.12	0.00025	0.00050	0.0014	0.00050	0.000010	0.0025
W3	6/30/2005				1.5	224	0.010	0.00050	0.052	8.22		0.0080	0.00034	0.000025	0.00025	0.0034	0.042	0.00024	0.0016	0.00078	0.00050	0.0000050	0.012
W3	7/29/2005			166	26	198	0.010	0.00050	0.028	8.06		0.011	0.00041	0.000025	0.00025	0.0048	0.13	0.000025	0.0016	0.0012	0.00050	0.0000050	0.0015
W3	8/29/2005			135	7.5	182	0.042	0.00050	0.0025	8.24		0.018	0.00025	0.0000085	0.00050	0.0050	0.31	0.00025	0.0013	0.0014	0.00050	0.000010	0.0025
W3	9/28/2005			129	8.0	174	0.010	0.00050	0.013	7.99		0.026	0.00025	0.0000085	0.00050	0.0057	0.42	0.00025	0.0011	0.0014	0.00050	0.000010	0.0025
W3	10/15/2005			134	1.5	176	0.023	0.00050	0.039	8.08		0.022	0.00043	0.000025	0.00025	0.0061	0.39	0.000025	0.0012	0.0012	0.00050	0.0000050	0.0018
W9	5/27/2005			49	1.5	104	0.010	0.00050	0.0025	7.56		0.072	0.00025	0.000025	0.00050	0.0035	0.25	0.00025	0.00050	0.0013	0.00050	0.000010	0.0025
W9	6/30/2005				1.5	126	0.020	0.00050	0.0025	7.63		0.035	0.00054	0.000025	0.00025	0.0018	0.53	0.000025	0.00037	0.0012	0.00050	0.0000050	0.00050
W9	7/29/2005			95	3.7	129	0.010	0.00050	0.0025	7.51		0.030	0.00057	0.000025	0.00025	0.0033	0.65	0.00019	0.0011	0.0013	0.00050	0.0000050	0.0040
W9	8/29/2005			74	1.5	126	0.026	0.0016	0.0025	7.84		0.045	0.00058	0.000022	0.00050	0.0017	0.67	0.00025	0.00050	0.0012	0.00050	0.000010	0.0025
W9	9/28/2005			68	1.5	118	0.010	0.00050	0.0025	7.62		0.058	0.00025	0.0000085	0.00050	0.0022	0.60	0.00025	0.00050	0.0011	0.00050	0.000010	0.0025
W9	10/15/2005			64	1.5	111	0.010	0.00050	0.0025	7.19		0.056	0.00039	0.000025	0.00025	0.0021	0.44	0.000025	0.00031	0.00096	0.00050	0.0000050	0.0017
W10	5/27/2005			46	1.5	115	0.019	0.00050	0.0094	7.47		0.14	0.00025	0.000025	0.00050	0.0095	0.061	0.00025	0.00050	0.0011	0.00050	0.000010	0.0055
W10	6/30/2005				6.0	116	0.036	0.00050	0.0025	7.31		0.11	0.00059	0.000025	0.00062	0.0047	0.40	0.000082	0.00014	0.0018	0.00050	0.0000050	0.022
W10	7/29/2005			55	4.2	105	0.010	0.00050	0.0025	7.34		0.068	0.00037	0.000025	0.00025	0.0044	0.099	0.00011	0.00014	0.0012	0.00050	0.0000050	0.0074
W10	8/29/2005			70	13	117	0.033	0.00050	0.0025	7.74		0.043	0.00025	0.0000085	0.00050	0.0040	0.081	0.00025	0.00050	0.0016	0.00050	0.000010	0.0052
W10	9/28/2005			101	15	141	0.010	0.00050	0.0025	7.77		0.030	0.00025	0.0000085	0.00050	0.0033	0.048	0.00025	0.00050	0.00050	0.00050	0.000010	0.0025
W10	10/15/2005			100	6.5	138	0.010	0.00050	0.0025	7.30		0.036	0.00030	0.000025	0.00025	0.0041	0.055	0.00003	0.00024	0.00073	0.00050	0.0000050	0.0015
W6	5/27/2005			65	14	103	0.010	0.0016	0.032	7.91		0.014	0.00025	0.000025	0.00050	0.0016	0.072	0.00025	0.00050	0.0015	0.00050	0.000010	0.0025
W6	6/30/2005				12	123	0.010	0.00050	0.0086	7.41		0.0056	0.00039	0.000025	0.00025	0.0010	0.015	0.000025	0.00045	0.00099	0.00050	0.0000050	0.021
W6	7/29/2005			171	22	198	0.010	0.00050	0.022	8.01		0.0070	0.00026	0.000025	0.00025	0.0025	0.062	0.000083	0.00082	0.00060	0.00050	0.0000050	0.0025
W6	8/30/2005			106	1.5	147	0.010	0.00050	0.0025	8.17		0.0067	0.00025	0.0000085	0.00050	0.0010	0.064	0.00025	0.00050	0.0011	0.00050	0.000010	0.0025
W6	9/28/2005			106	3.5	133	0.010	0.00050	0.0025	7.95		0.0067	0.00025	0.0000085	0.00050	0.0011	0.10	0.00025	0.00050	0.0012	0.00050	0.000010	0.0025
W6	10/15/2005			98	1.5	128	0.010	0.00050	0.0061	7.92		0.077	0.00042	0.000025	0.00025	0.0011	0.088	0.000025	0.00040	0.00118	0.00050	0.0000050	0.0015
W6	6/2/2006				115	96	0.021	0.00050	0.024	7.64		0.025	0.00044	0.000025	0.00025	0.0018	0.096	0.000025	0.00031	0.00182	0.00050	0.0000050	0.0030
W6	8/25/2006		120			160			0.015	8.01													
W6	9/6/2006		110		4.0				0.015	7.86		0.0080	0.00050	0.0000050	0.00060	0.0010	0.11	0.000050	0.00050	0.00060	0.00010		0.0020
W6	6/20/2007			81	16	130	0.025	0.025	0.10	7.77													
W6	9/18/2007			93	8.0	172	0.025	0.010	0.010	7.95													
W6	6/17/2008			86	17	120	0.025	0.070	0.010	7.82													
W6	9/18/2008	18			4.0	150	0.025	0.0050	0.0050	7.80		0.012	0.00040	0.0000050	0.0013	0.0020	0.090	0.000050	0.00027	0.0020	0.0012	0.0000050	0.0030
W6	7/17/2012	8.0	104	163	1130	122	0.14	0.0025	0.026	7.98	7.92	0.016	0.00053	0.0000050	0.00050	0.0011	0.068	0.00010	0.00050	0.0010	0.00012	0.000010	0.0025
W6	7/30/2012	8.1	101	145	614	124	0.070	0.0072	0.052	8.09	7.89	0.019	0.00059	0.0000050	0.00050	0.00089	0.081	0.00010	0.00050	0.00050	0.000050	0.000010	0.0025
W6	8/9/2012		112	136	566	144	0.025	0.0066	0.022	8.17	8.09	0.017	0.00081	0.0000050	0.00050	0.00083	0.085	0.00010	0.00050	0.0010	0.00010	0.000010	0.0025
W6	8/25/2012	7.7	103	161	1160	138	0.023	0.0025	0.045	8.00	7.76	0.014	0.00081	0.0000050	0.00050	0.0010	0.080	0.00010	0.00050	0.0010	0.000050	0.000010	0.0025
W6	9/13/2012	14	88	93	50	118	0.011	0.0025	0.034	8.04	7.95	0.017	0.00047	0.0000050	0.00050	0.0015	0.11	0.00010	0.00050	0.0014	0.000050	0.000010	0.0025
W6	10/13/2012	10		117	45	150	0.016	0.0025	0.042	7.92	8.30												

Table D.2: Background data for Option 1 with median and 95th Percentile values.

Station	Date	DOC (mg/L)	Dissolved Hardness (mg/L)	Total Hardness (mg/L)	TSS (mg/L)	TDS (mg/L)	Ammonia (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Lab pH (pH Units)	Field pH (pH Units)	Dissolved Aluminum (mg/L)	Dissolved Arsenic (mg/L)	Dissolved Cadmium (mg/L)	Dissolved Chromium (mg/L)	Dissolved Copper (mg/L)	Dissolved Iron (mg/L)	Dissolved Lead (mg/L)	Dissolved Molybdenum (mg/L)	Dissolved Nickel (mg/L)	Dissolved Selenium (mg/L)	Dissolved Silver (mg/L)	Dissolved Zinc (mg/L)
W6	11/12/2012	8.7	153	155	2.2	162	0.025	0.0025	0.010	7.93	6.69	0.0062	0.00039	0.0000050	0.00050	0.0014	0.024	0.00010	0.00050	0.0014	0.00010	0.000010	0.0025
W6	5/14/2013	22	31	34	13	84	0.13	0.0025	0.010	7.48	7.60	0.059	0.00037	0.000012	0.00050	0.0035	0.18	0.00010	0.00050	0.0013	0.000050	0.000010	0.0025
W6	6/22/2013	7.8	95	115	172	118	0.024	0.013	0.028	8.07	7.61	0.0095	0.00053	0.0000050	0.00050	0.00096	0.072	0.00010	0.00050	0.0012	0.000050	0.000010	0.0025
W6	7/12/2013	8.3	88	95	25	136	0.012	0.0025	0.010	7.90	7.69	0.0066	0.00046	0.0000050	0.00050	0.00095	0.11	0.00010	0.00050	0.0011	0.000050	0.000010	0.0025
W6	8/22/2013	7.4	102	106	20	144	0.014	0.0025	0.010	8.04	7.81	0.0084	0.00052	0.0000050	0.00050	0.0012	0.10	0.00010	0.00050	0.0011	0.000050	0.000010	0.0025
W6	9/6/2013	6.4	101	114	5.2	130	0.0061	0.0025	0.030	7.95	7.60	0.0083	0.00056	0.0000050	0.00050	0.00089	0.11	0.00010	0.00050	0.0011	0.000050	0.000010	0.0025
W6	10/7/2013	8.2	107	106	74	176	0.044	0.0025	0.042	8.08	7.66	0.013	0.00051	0.0000050	0.00050	0.00097	0.15	0.00010	0.00050	0.0013	0.000050	0.000010	0.0025
W6	11/16/2013	8.8	119	123	33	120	0.015	0.0025	0.010	8.11	7.96	0.0057	0.00048	0.0000050	0.00050	0.00084	0.12	0.00010	0.00050	0.0010	0.000050	0.000010	0.0025
W6	12/7/2013	8.8	159	182	3.6	194	0.0076	0.0025	0.010	8.21	7.50	0.0041	0.00061	0.000011	0.00050	0.0016	0.014	0.00010	0.00050	0.0011	0.000050	0.000010	0.0025
W7	5/27/2005			77	31	116	0.010	0.0018	0.082	7.95		0.024	0.00025	0.000025	0.00050	0.0018	0.14	0.00025	0.00050	0.0016	0.00050	0.000010	0.0025
W7	6/30/2005				14	153	0.010	0.0017	0.17	7.87		0.0086	0.00042	0.000025	0.00025	0.0012	0.070	0.000025	0.0012	0.00093	0.00050	0.0000050	0.0064
W7	7/29/2005			167	20	197	0.010	0.00050	0.17	7.18		0.0096	0.00035	0.000025	0.00025	0.0040	0.11	0.000025	0.0013	0.00095	0.00050	0.0000050	0.0020
W7	8/30/2005			109	3.0	148	0.020	0.00050	0.023	8.19		0.016	0.00051	0.0000085	0.00050	0.0014	0.29	0.00025	0.0010	0.0015	0.00050	0.000010	0.0025
W7	9/28/2005			107	361	142	0.010	0.00050	0.059	8.02		0.019	0.00054	0.0000085	0.00050	0.0016	0.32	0.00025	0.00050	0.0018	0.00050	0.000010	0.0025
W7	10/15/2005			106	7.5	145	0.021	0.00050	0.10	6.75		0.016	0.00048	0.000025	0.00025	0.0013	0.25	0.000025	0.00093	0.0015	0.00050	0.0000050	0.00050
W7	6/2/2006				705	104	0.062	0.0015	0.045	7.61		0.071	0.00062	0.000025	0.00055	0.0021	0.55	0.000054	0.00070	0.0022	0.00050	0.0000050	0.00050
W7	6/8/2006																						
W7	6/15/2006		100		53	114	0.027		0.18	7.86		0.013	0.00040	0.0000050	0.00025	0.0010	0.090	0.000050	0.0010	0.0010	0.00020		0.00050
W7	6/23/2006		122		328	176	0.028		0.23	7.78		0.011	0.00050	0.0000050	0.00070	0.00050	0.090	0.000050	0.0010	0.0013	0.00030		0.0020
W7	6/28/2006		107		103	120	0.010		0.11	7.90		0.41	0.00080	0.000030	0.0015	0.0030	0.060	0.00050	0.00050	0.0036	0.00010		0.0050
W7	7/7/2006		110		3.0	184			0.21	7.91		0.0025	0.00060	0.0000050	0.0011	0.0010	0.060	0.000050	0.0020	0.0015	0.00010		0.0010
W7	7/12/2006		110		1.0		0.014		0.18	7.77		0.0060	0.00050	0.0000050	0.0010	0.0010	0.060	0.000050	0.0010	0.00070	0.00020		0.00050
W7	7/20/2006		130		2.0		0.012		0.19	7.88		0.0060	0.00040	0.0000050	0.00070	0.00050	0.11	0.00020	0.0010	0.00060	0.00010		0.00050
W7	7/26/2006		128		9.0		0.016		0.18	7.87		0.0080	0.00040	0.0000050	0.00025	0.0020	0.10	0.000050	0.00050	0.0021	0.00010		0.00050
W7	8/2/2006		128		4.0		0.015		0.15	7.79		0.0080	0.00010	0.0000050	0.00025	0.0010	0.070	0.000050	0.00050	0.00060	0.00010		0.00050
W7	8/10/2006		126		1.0		0.014		0.16	7.80		0.0090	0.00050	0.0000050	0.00070	0.0010	0.080	0.000050	0.0010	0.00060	0.00010		0.0010
W7	8/25/2006		129			180	0.027		0.12	7.92		0.012	0.00040	0.0000050	0.00060	0.0010	0.080	0.000050	0.0010	0.00090	0.00010		0.0030
W7	8/30/2006		132		1.0	200	0.012		0.11	7.79		0.013	0.00040	0.0000050	0.00080	0.0020	0.10	0.000050	0.0010	0.0012	0.00010		0.0050
W7	9/6/2006		130		4.0		0.011		0.080	7.88		0.0050	0.00050	0.0000050	0.00080	0.0020	0.10	0.000050	0.0010	0.0010	0.00010		0.0020
W7	9/13/2006		130		5.0		0.011		0.094	7.84		0.0080	0.00030	0.0000050	0.00090	0.0010	0.11	0.000050	0.0010	0.00090	0.00010		0.0010
W7	9/20/2006		132		3.0		0.0080		0.11	7.85		0.0070	0.00050	0.00028	0.00070	0.0010	0.090	0.000050	0.0010	0.00025	0.00020		0.00050
W7	9/28/2006		129			182	0.011		0.080	7.26		0.011	0.00040	0.0000050	0.00080	0.0010	0.080	0.000050	0.0010	0.00080	0.00010		0.0020
W7	10/4/2006		126		2.0		0.079		0.10	7.94		0.0025	0.00030	0.0000050	0.00025	0.00050	0.11	0.000050	0.0010	0.00070	0.00010		0.0010
W7	10/12/2006		132		4.0	164	0.024		0.12	7.39		0.0070	0.00040	0.0000050	0.00025	0.0010	0.090	0.000050	0.0010	0.00060	0.00030		0.0020
W7	6/5/2007			113	75	162	0.025	0.033	0.050	7.97													
W7	6/20/2007	8.2	110		6.0	164	0.025	0.025	0.30	7.84		0.014	0.00040	0.0000050	0.00060	0.0020	0.050	0.000050	0.0010	0.00025	0.00010		0.0040
W7	7/18/2007	14	128	125	5.7	179	0.025	0.025	0.30	7.78		0.011	0.00050	0.0000050	0.0010	0.0020	0.040	0.000050	0.0010	0.00070	0.00010		0.0060
W7	8/24/2007			124	4.7	192	0.025	0.025	0.20	8.04													
W7	9/18/2007	11	110		20	182	0.025	0.010	0.050	8.00		0.0070	0.00040	0.0000050	0.0016	0.0010	0.080	0.000050	0.0020	0.00080	0.00010		0.0020
W7	10/30/2007			129	6.5	174	0.025	0.14	0.010	7.73													
W7	4/22/2008		187		1.0	268	0.025	0.055	0.010	8.40		0.010	0.00027	0.000040	0.00097	0.0012	0.030	0.000067	0.0017	0.0010	0.00030		0.0017
W7	6/3/2008		92	98	15	137	0.025	0.040	0.037	8.02		0.0050	0.00010	0.000040	0.0013	0.00050	0.050	0.000050	0.0012	0.0010	0.00030	0.0000050	0.0020
W7	6/17/2008				10	156	0.025	0.050	0.14	7.95		0.020	0.00010	0.000040	0.0013	0.0010	0.070	0.000050	0.0015	0.0010	0.00220	0.0000050	0.0020
W7	8/6/2008	9.0	123	124	105	167	0.025	0.0050	0.14	7.92		0.014	0.00040	0.0000050	0.00060	0.0020	0.070	0.000050	0.0010	0.0010	0.00010	0.000060	0.0060
W7	9/18/2008	17			28	170	0.025	0.0050	0.030	7.89		0.070	0.00030	0.0000050	0.0016	0.0040	0.20	0.0017	0.00072	0.0010	0.00030	0.0000050	0.0030
W7	10/28/2008	11	123		5.7	183	0.025			7.84		0.0090	0.00050	0.0000050	0.00050	0.0010	0.078	0.000050	0.0011	0.0010	0.00030	0.0000050	0.0010
W7	4/30/2009	18	20		1.0	52				6.84	7.60	0.053	0.00010	0.000080	0.00060	0.0050	0.070	0.00010	0.00013	0.00050	0.00030	0.0000050	0.0090
W7	6/8/2009	9.2	93		32	156				7.90	7.74	0.013	0.00030	0.0000050	0.00020	0.0020	0.050	0.000050	0.0013	0.0010	0.00030	0.0000050	0.0020
W7	7/28/2009		137		4.0	184				8.07													

Table D.2: Background data for Option 1 with median and 95th Percentile values.

Station	Date	DOC (mg/L)	Dissolved Hardness (mg/L)	Total Hardness (mg/L)	TSS (mg/L)	TDS (mg/L)	Ammonia (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Lab pH (pH Units)	Field pH (pH Units)	Dissolved Aluminum (mg/L)	Dissolved Arsenic (mg/L)	Dissolved Cadmium (mg/L)	Dissolved Chromium (mg/L)	Dissolved Copper (mg/L)	Dissolved Iron (mg/L)	Dissolved Lead (mg/L)	Dissolved Molybdenum (mg/L)	Dissolved Nickel (mg/L)	Dissolved Selenium (mg/L)	Dissolved Silver (mg/L)	Dissolved Zinc (mg/L)
W7	8/6/2009		121		2.0	202			0.18	8.35	7.50												
W7	8/25/2009	8.2									8.04												
W7	8/31/2009		110									0.010	0.00040	0.0000050	0.0012	0.0040	0.10	0.00040	0.0011	0.0010	0.00030	0.0000050	0.0010
W7	10/7/2009	7.8	125	141	3.7	140	0.010	0.0025	0.14	7.99	8.24	0.0070	0.00030	0.000040	0.00050	0.0012	0.046	0.00010	0.0010	0.00050	0.00020	0.000010	0.0025
W7	10/25/2009	8.7	126	141	2.0	120	0.010	0.0025	0.15	8.05	8.23	0.0070	0.00030	0.000040	0.00050	0.0012	0.046	0.00010	0.0010	0.00050	0.00020	0.000010	0.0025
W7	4/19/2010			80	3.5	142				7.81	7.31	0.019	0.00030	0.000020	0.00040	0.0060	0.090	0.00030	0.00080	0.00050	0.00030	0.0000050	0.0050
W7	4/27/2010	23	36	35	2.0	62	0.015	0.0025	0.010	7.60	7.65	0.075	0.00030	0.0000050	0.00050	0.0041	0.15	0.00010	0.00050	0.0010	0.000050	0.000010	0.0025
W7	4/29/2010	19	36	36	2.0	62	0.016	0.0050	0.020	7.50	7.72	0.065	0.00030	0.0000050	0.00050	0.0034	0.18	0.00010	0.00050	0.0010	0.000050	0.000010	0.0025
W7	5/1/2010	19	41	44	15	74	0.031	0.0080	0.070	7.70	7.15	0.053	0.00040	0.000020	0.00050	0.0032	0.26	0.00010	0.00050	0.0010	0.000050	0.000010	0.0025
W7	5/3/2010	22	45	46	12	80	0.016	0.0025	0.010	7.70	7.74	0.047	0.00040	0.0000050	0.00050	0.0027	0.38	0.00010	0.00050	0.0010	0.000050	0.000010	0.0025
W7	5/5/2010	15	49	55	12	76	0.0050	0.0025	0.010	7.80		0.038	0.00050	0.0000050	0.00050	0.0025	0.57	0.00010	0.00050	0.0010	0.000050	0.000010	0.0025
W7	5/7/2010	13	57	56	18	62	0.051	0.0070	0.10	7.80	7.95	0.028	0.00040	0.000010	0.00050	0.0026	0.36	0.00010	0.00050	0.0020	0.000050	0.000010	0.0025
W7	5/9/2010	13	80	71	2.0	130	0.0025	0.0025	0.070	8.00	8.03	0.023	0.00040	0.0000050	0.00050	0.0018	0.30	0.00010	0.00050	0.0010	0.00010	0.000010	0.0025
W7	5/10/2010	12	81	90	2.0	130	0.015	0.0060	0.13	8.10	8.06	0.021	0.00040	0.000020	0.00050	0.0022	0.28	0.00010	0.00050	0.0010	0.00010	0.000010	0.0025
W7	5/12/2010	10	82	85	2.0	100	0.025	0.0025	0.030	8.00		0.017	0.00040	0.0000050	0.00050	0.0016	0.17	0.00010	0.0010	0.0010	0.00010	0.000010	0.0025
W7	5/14/2010	9.2	73	71	15	130	0.034	0.0025	0.010	8.10	7.26	0.096	0.00040	0.000010	0.00050	0.0031	0.34	0.00010	0.00050	0.0020	0.00010	0.000010	0.0025
W7	5/16/2010	8.8	86	76	12	120	0.068	0.0025	0.030	8.30	7.32	0.012	0.00030	0.0000050	0.00050	0.0013	0.080	0.00010	0.0010	0.00050	0.00010	0.000010	0.0025
W7	5/17/2010	7.2	80	76	11	130	0.037	0.0025	0.010	8.20	7.52	0.018	0.00040	0.0000050	0.00050	0.0012	0.068	0.00010	0.0010	0.00050	0.00010	0.000010	0.0025
W7	5/19/2010	7.5	99	103	4.0	120	0.020	0.0025	0.060	8.20	7.62	0.016	0.00030	0.0000050	0.00050	0.0017	0.069	0.00010	0.0010	0.00050	0.00030	0.000010	0.0025
W7	5/21/2010	8.7	92	96	22	120	0.017	0.0025	0.050	8.10	8.02	0.013	0.00020	0.000050		0.0010	0.057	0.00010	0.0010	0.0010	0.00040		0.0050
W7	5/23/2010	8.2	98	103	33	150	0.013	0.0060	0.060	8.10	7.61	0.017	0.00020	0.000050		0.0010	0.069	0.00010	0.0010	0.0010	0.00040		0.0050
W7	5/25/2010	8.1	125	124	140	140	0.070	0.025	0.080	7.90	7.24	0.024	0.00050	0.000050		0.0030	0.062	0.00010	0.0020	0.0015	0.00050		0.0050
W7	5/27/2010	8.1	113	148	350	140	0.052	0.0025	0.13	8.00	7.53	0.028	0.00050	0.000050		0.0030	0.069	0.00010	0.0020	0.0015	0.00050		0.0050
W7	5/29/2010	6.3	111	129	200	160	0.10	0.011	0.22	8.20	7.73	0.017	0.00050	0.000050		0.0020	0.051	0.00010	0.0020	0.0010	0.00040		0.0050
W7	5/31/2010	7.2	109	130	290	160	0.025	0.023	0.12	8.20	7.83	0.020	0.00020	0.000050		0.0020	0.050	0.00010	0.0020	0.00050	0.00040		0.0050
W7	6/2/2010	4.9	113	135	81	140	0.0050	0.023	0.14	8.20	7.26	0.012	0.00040	0.000050		0.0010	0.030	0.00010	0.0020	0.00050	0.00040		0.0050
W7	6/4/2010	6.4	111	125	60	140	0.34	0.014	0.16	8.20	7.48	0.013	0.00040	0.000050		0.0010	0.030	0.00010	0.0020	0.00050	0.00040		0.0050
W7	6/6/2010		128	133	39	170	0.10	0.013	0.16	8.20		0.0050	0.00020	0.000050		0.0010	0.024	0.00010	0.0020	0.00050	0.00040		0.0050
W7	6/14/2010	5.9	122	128	43	150	0.016	0.0025	0.16	8.29		0.011	0.00020	0.000050		0.00050	0.025	0.00010	0.0020	0.00050	0.00040		0.0050
W7	6/16/2010	6.1	120	128	17	150	0.016	0.0025	0.17	8.30	6.78	0.0050	0.00020	0.000050		0.00050	0.026	0.00010	0.0020	0.00050	0.00040		0.0050
W7	6/18/2010	6.2	122	123	28	140		0.0025	0.15	8.17	7.03	0.0050	0.00020	0.000050		0.00050	0.023	0.00010	0.0020	0.00050	0.00040		0.0050
W7	6/20/2010	7.6	112	118	33	140		0.0080	0.13	8.20	7.10	0.014	0.00020	0.000050		0.0010	0.028	0.00010	0.0020	0.00050	0.00040		0.0050
W7	6/22/2010	10	98	115	300	140	0.014	0.0025	0.12	8.03	7.92	0.033	0.00050	0.000050		0.0020	0.082	0.00010	0.0010	0.0010	0.00040		0.0050
W7	6/24/2010	10	100	116	64	130	0.012	0.0070	0.070	8.03	7.95	0.018	0.00020	0.000050		0.0010	0.056	0.00010	0.0010	0.0010	0.00040		0.0050
W7	6/26/2010	9.3	106	106	21	120	0.0090	0.0025	0.10	8.26	8.03	0.012	0.00040	0.000050		0.0010	0.038	0.00010	0.0010	0.0040	0.00040		0.0050
W7	6/28/2010	8.7	114	107	9.0	150	0.022	0.0025	0.13	8.03	7.89	0.0050	0.00020	0.000050		0.0010	0.028	0.00010	0.0010	0.00050	0.00040		0.0050
W7	7/5/2010	16	93	106	53	150	0.027	0.0025	0.070	8.06	8.02	0.019	0.00020	0.000050		0.0020	0.10	0.00010	0.0010	0.0010	0.00040		0.0050
W7	8/5/2010	13	118	116		170					7.91	0.011	0.00040	0.000050		0.0020	0.11	0.00010	0.0010	0.0010	0.00040		0.0050
W7	9/12/2010	17	107	104	11	210	0.039	0.0025	0.030	7.98	8.02	0.016	0.00050	0.000050		0.0010	0.23	0.00010	0.0010	0.0020	0.00040		0.0050
W7	10/8/2010	13	111	126	3.0	150	0.069	0.0025	0.070	8.10	7.85	0.011	0.00040	0.0000050	0.00050	0.0012	0.13	0.00010	0.0010	0.0010	0.00010	0.000010	0.0025
W7	4/27/2011	23	43	43	0.5	72	0.010	0.0025	0.010	7.41		0.057	0.00030	0.000030	0.00050	0.0077	0.15	0.00010	0.00050	0.0010	0.000050	0.000010	0.0050
W7	5/2/2011	22	32	33	7.0	40		0.0025	0.010	7.11		0.076	0.00020	0.000040	0.00050	0.0070	0.17	0.00010	0.00050	0.0010	0.000050	0.000010	0.010
W7	6/1/2011	11	92	94	23	120	0.012			8.09		0.013	0.00030	0.0000050	0.00050	0.0016	0.099	0.00010	0.0010	0.0010	0.00010	0.000010	0.0025
W7	6/16/2011	13	97	108	85	130	0.013	0.0025	0.10	8.00		0.022	0.00040	0.0000050	0.00050	0.0019	0.21	0.00010	0.0010	0.0020	0.00010	0.000010	0.0025
W7	7/1/2011	21	77	88	150	120	0.016	0.0070	0.050	7.76		0.034	0.00070	0.000010	0.00050	0.0031	0.44	0.00010	0.00050	0.0020	0.00010	0.000010	0.0025
W7	8/2/2011	24	59	86	400	110		0.0025	0.060	7.67		0.051	0.00070	0.000020	0.00050	0.0041	0.61	0.00010	0.00050	0.0030	0.00010	0.000010	0.0025
W7	8/16/2011	18	98	97	22	150	0.015	0.0025	0.060	7.90		0.036	0.00070	0.0000050	0.00050	0.0019	0.59	0.00010	0.00050	0.0020	0.00010	0.000010	0.0025
W7	8/19/2011	19	93	93	22	140	0.0060	0.0025	0.040	8.12		0.033	0.00080	0.000010	0.00050	0.0020	0.56	0.00010	0.00050	0.0020	0.00010	0.000010	0.0025
W7	9/12/2011	13	118	119	1.0	170	0.025	0.0025	0.050	8.03	7.92	0.024	0.00070	0.000010	0.00050	0.0016	0.62	0.00010	0.00050	0.0020	0.00010	0.000010	0.0025

Table D.2: Background data for Option 1 with median and 95th Percentile values.

Station	Date	DOC (mg/L)	Dissolved Hardness (mg/L)	Total Hardness (mg/L)	TSS (mg/L)	TDS (mg/L)	Ammonia (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Lab pH (pH Units)	Field pH (pH Units)	Dissolved Aluminum (mg/L)	Dissolved Arsenic (mg/L)	Dissolved Cadmium (mg/L)	Dissolved Chromium (mg/L)	Dissolved Copper (mg/L)	Dissolved Iron (mg/L)	Dissolved Lead (mg/L)	Dissolved Molybdenum (mg/L)	Dissolved Nickel (mg/L)	Dissolved Selenium (mg/L)	Dissolved Silver (mg/L)	Dissolved Zinc (mg/L)
W7	10/6/2011	12	110	113	2.0	150	0.019	0.0025	0.11	8.07	7.65	0.013	0.00060	0.000030	0.00050	0.0012	0.35	0.00010	0.0010	0.0010	0.00010	0.000010	0.0025
W7	11/22/2011	7.7	148	144	27	156	0.021	0.0025	0.14	7.96		0.0076	0.00040	0.0000050	0.00050	0.0011	0.17	0.00010	0.0013	0.0012	0.00016	0.000010	0.0025
W7	1/24/2012	5.3	169	158	2.0	226	0.0050	0.0025	0.32	8.13		0.0053	0.00041	0.000035	0.00050	0.0011	0.094	0.00010	0.0015	0.00050	0.00043	0.000010	0.0025
W7	2/25/2012	6.1	165	160	2.0	216	0.0060	0.0025	0.29	7.99	7.16	0.021	0.00033	0.000064	0.00050	0.015	0.049	0.00024	0.0014	0.00050	0.00034	0.000010	0.0083
W7	3/5/2012	5.2	161	159	3.2	176	0.0067	0.0025	0.20	8.17	6.72	0.0031	0.00039	0.0000050	0.00050	0.0012	0.012	0.00010	0.0011	0.00050	0.00031	0.000010	0.0025
W7	4/24/2012	14	39	37	11	100	0.0025	0.010	0.010	7.63	7.43	0.050	0.00048	0.000023	0.00050	0.0052	0.48	0.00010	0.00050	0.0012	0.000050	0.000010	0.0025
W7	5/6/2012	17	46	45	3.3	84	0.011	0.0025	0.010	5.90	7.10	0.037	0.00044	0.000015	0.00050	0.0029	0.44	0.00010	0.00050	0.0012	0.000050	0.000010	0.0025
W7	6/19/2012	16	92	105	165	128	0.18	0.015	0.083	8.12	7.59	0.027	0.00070	0.0000050	0.00050	0.0016	0.56	0.00010	0.0013	0.0020	0.00015	0.000010	0.0025
W7	7/17/2012	13	128	124	34	164	0.065	0.0025	0.089	8.15	7.76	0.020	0.00086	0.000012	0.00050	0.0013	0.97	0.00010	0.0015	0.0016	0.00013	0.000010	0.0025
W7	7/30/2012	13	135	128	9.2	180	0.13	0.0025	0.12	8.20	7.86	0.017	0.00095	0.0000050	0.00050	0.0012	0.96	0.00010	0.0015	0.0015	0.00016	0.000010	0.0025
W7	8/8/2012	13	141	141	3.3	192	0.014	0.0025	0.13	8.26	8.44	0.018	0.0010	0.0000050	0.00050	0.0011	1.1	0.00010	0.0016	0.0017	0.00014	0.000010	0.0025
W7	8/23/2012	10	142	151	1.5	200	0.049	0.025	0.21	8.25	7.79	0.018	0.00088	0.0000050	0.00050	0.0017	0.98	0.00010	0.0016	0.0016	0.00015	0.000010	0.0025
W7	9/13/2012	16	116	121	15	154	0.0087	0.0025	0.078	8.13	7.98	0.024	0.00074	0.0000050	0.00050	0.0024	0.73	0.00010	0.00050	0.0036	0.00014	0.000010	0.0025
W7	10/16/2012	13	129	143	10	166	0.028	0.0025	0.13	8.17	7.89	0.011	0.00060	0.0000050	0.00050	0.00094	0.60	0.00010	0.0011	0.0015	0.00014	0.000010	0.0025
W7	11/2/2012	8.2	158	153	2.2	214	0.026	0.0025	0.22	7.93		0.0095	0.00053	0.000031	0.00050	0.0024	0.18	0.00021	0.0013	0.0012	0.00018	0.000010	0.0025
W7	12/29/2012	10	223	206	0.50	262	0.025	0.0025	0.063	8.13	7.97	0.0061	0.00051	0.0000050	0.00050	0.0023	0.030	0.00010	0.0012	0.0011	0.00045	0.000010	0.0025
W7	4/30/2013	4.6	192	198	5.8	246	0.0082	0.0025	0.13	8.27	8.18	0.0031	0.00025	0.0000050	0.00050	0.0011	0.014	0.00010	0.0013	0.00050	0.00043	0.000010	0.0025
W7	5/14/2013	15	33	36	55	70	0.066	0.0025	0.010	7.58	8.20	0.044	0.00029	0.000010	0.00050	0.0037	0.31	0.00010	0.00050	0.0010	0.000050	0.000010	0.0025
W7	6/19/2013	11	114	115	11	158	0.046	0.0025	0.14	8.08	8.60	0.013	0.00052	0.0000050	0.00050	0.0012	0.29	0.00010	0.0016	0.0013	0.00015	0.000010	0.0025
W7	7/13/2013	10	132	137	5.0	156	0.023	0.0025	0.17	8.10	7.74	0.014	0.00053	0.0000050	0.00050	0.0012	0.42	0.00010	0.0015	0.0013	0.00015	0.000010	0.0025
W7	8/21/2013	10	140	144	3.8	172	0.051	0.0025	0.16	8.23	7.81	0.012	0.00056	0.0000050	0.00050	0.0010	0.30	0.00010	0.0015	0.0012	0.00015	0.000010	0.0025
W7	9/6/2013	11	138	154	12	280	0.017	0.0025	0.13	8.02	7.75	0.016	0.00081	0.0000050	0.00050	0.0011	0.66	0.00010	0.0013	0.0016	0.00017	0.000010	0.0025
W7	10/21/2013	12	147	126	7.4	168	0.048	0.0025	0.17	8.16	7.58	0.0093	0.00067	0.0000050	0.00050	0.0011	0.55	0.00010	0.0012	0.0012	0.00017	0.000010	0.0025
W7	11/16/2013	7.5	153	164	1.5	164	0.027	0.0025	0.26	8.24	7.69	0.0053	0.00048	0.0000050	0.00050	0.00080	0.17	0.00010	0.0016	0.00050	0.00024	0.000010	0.0025
W7	12/7/2013	7.3	168	189	0.50	220	0.025	0.0025	0.21	8.14	6.30	0.0035	0.00053	0.0000050	0.00050	0.00078	0.11	0.00010	0.0011	0.00050	0.00024	0.000010	0.0025
C4	5/6/2012	11	44	119	1,260	84	0.088	0.0025	0.029	7.59	7.51	0.062	0.00104	0.000029	0.00050	0.0031	1.1	0.00010	0.00050	0.0023	0.000050	0.000010	0.0025
C4	8/1/2012	16	117	133	246	166	0.089	0.018	0.074	8.04	7.75	0.059	0.00184	0.0000050	0.00050	0.0018	1.5	0.00010	0.0011	0.0031	0.00011	0.000010	0.0025
C4	8/8/2012		125	142	253	170	0.090	0.012	0.095	8.14	7.81	0.043	0.00203	0.0000050	0.00050	0.0013	1.6	0.00010	0.0011	0.0027	0.00011	0.000010	0.0025
C4	8/25/2012	0.25	130	173	855	192	0.0050	0.0025	0.010	7.94	7.81	0.040	0.0020	0.0000050	0.00050	0.0018	1.7	0.00010	0.0012	0.0029	0.000050	0.000010	0.0025
C4	6/22/2013	17	126	222	886	204	0.36	0.0066	0.37	7.97	7.68	0.034	0.0023	0.0000050	0.00050	0.0017	1.2	0.00010	0.0018	0.0027	0.00013	0.000010	0.0025
C4	7/19/2013		128	200	487	184	0.26	0.0069	0.082	8.12	8.20	0.032	0.0021	0.0000050	0.00050	0.0014	1.6	0.00010	0.0017	0.0025	0.00012	0.000010	0.0025
C4	8/22/2013	19	123	199	784	182	0.20	0.0084	0.086	7.98	7.88	0.046	0.0018	0.0000050	0.00050	0.0014	1.4	0.00010	0.0013	0.0027	0.00012	0.000010	0.0025
C4	9/6/2013	15	125	166	172	176	0.12	0.0025	0.070	7.93	7.69	0.041	0.0020	0.0000050	0.00050	0.0016	1.8	0.00010	0.0010	0.0028	0.000050	0.000010	0.0025
C4	10/18/2013	13	129	141	16	217	0.086	0.0025	0.067	8.21	7.16	0.024	0.0011	0.0000050	0.00050	0.0012	1.2	0.00010	0.00085	0.0024	0.000050	0.000010	0.0025
C4	11/17/2013	32	258	264	22	272	0.28	0.025	0.10	7.90	7.17	0.033	0.0056	0.000022	0.0013	0.00095	14	0.00010	0.0011	0.0061	0.00024	0.000010	0.0025
C10	5/12/2012	13	67	215	2,210	132	0.18	0.011	0.047	7.73	7.89	0.058	0.0012	0.000018	0.00050	0.0021	1.6	0.00025	0.00050	0.0019	0.00010	0.000010	0.0025
C10	7/30/2012	18	130	207	995	180	0.20	0.023	0.18	8.23		0.057	0.0014	0.0000050	0.00050	0.0020	1.2	0.00067	0.0014	0.0023	0.00014	0.000010	0.0025
C10	8/10/2012		135	245	1,320	216	0.12	0.011	0.18	8.11	8.71	0.051	0.0013	0.0000050	0.00050	0.0019	0.88	0.00010	0.0019	0.0022	0.00010	0.000010	0.0025
C10	8/27/2012	18	141	264	1,650	184	0.0025	0.0086	0.095	8.37	8.30	0.026	0.0015	0.0000050	0.00050	0.0015	1.0	0.00010	0.0011	0.0023	0.00012	0.000010	0.0025
C10	6/22/2013	15	148	151	43	192	0.19	0.020	0.15	8.26	8.29	0.079	0.0012	0.000019	0.00050	0.0031	0.80	0.00010	0.0012	0.0025	0.00011	0.000010	0.010
C10	7/23/2013		125	156	199	174	0.14	0.025	0.10	8.19	8.31	0.025	0.0012	0.0000050	0.00050	0.0014	0.54	0.00010	0.0010	0.0022	0.000050	0.000010	0.0025
C10	8/22/2013	17	160	168	66	218	0.056	0.0072	0.14	8.23	8.18	0.020	0.0014	0.0000050	0.00050	0.0013	0.99	0.00010	0.0015	0.0023	0.000050	0.000010	0.0025
C10	9/8/2013	16	150	163	24	196	0.051	0.0073	0.18	8.04	8.16	0.025	0.0016	0.0000075	0.0011	0.0013	1.3	0.00010	0.00050	0.0025	0.000050	0.000010	0.0025
C10	10/18/2013	14	136	160	61	212	0.10	0.0025	0.17	8.25	7.78	0.011	0.00089	0.0000050	0.00050	0.00091	0.76	0.00010	0.00050	0.0019	0.000050	0.000010	0.0025
	Median:	**11**	**117**	**121**	**11**	**150**	**0.021**	**0.0025**	**0.067**	**8.00**	**7.76**	**0.016**	**0.00044**	**0.0000085**	**0.00050**	**0.0016**	**0.11**	**0.00010**	**0.0010**	**0.0011**	**0.00020**	**0.000010**	**0.0025**
	95th Percentile:	**22**	**162**	**200**	**772**	**217**	**0.15**	**0.025**	**0.21**	**8.26**	**8.30**	**0.071**	**0.0015**	**0.000050**	**0.0011**	**0.0050**	**1.2**	**0.00025**	**0.0020**	**0.0027**	**0.00050**	**0.000010**	**0.0060**

Table D.3: Background data for Option 2 with median and 95th Percentile values.

Year	Month	Day	DOC (mg/L)	Dissolved Hardness (mg/L)	Total Hardness (mg/L)	TSS (mg/L)	TDS (mg/L)	Ammonia (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Lab pH (pH Units)	Field pH (pH Units)	Dissolved Aluminum (mg/L)	Dissolved Arsenic (mg/L)	Dissolved Cadmium (mg/L)	Dissolved Chromium (mg/L)	Dissolved Copper (mg/L)	Dissolved Iron (mg/L)	Dissolved Lead (mg/L)	Dissolved Molybdenum (mg/L)	Dissolved Nickel (mg/L)	Dissolved Selenium (mg/L)	Dissolved Silver (mg/L)	Dissolved Zinc (mg/L)
2005	May	27			78	22	118	0.016	0.0012	0.038	7.92		0.028	0.00029	0.000025	0.00050	0.0034	0.15	0.00025	0.00050	0.0015	0.00050	0.000010	0.0025
	June	30				5.4	160	0.015	0.00067	0.052	7.83		0.026	0.00046	0.000025	0.00030	0.0023	0.16	0.000064	0.00085	0.0011	0.00050	0.0000050	0.0091
	July	28/29			138	11	173	0.010	0.00050	0.042	7.73		0.020	0.00041	0.000025	0.00025	0.0033	0.16	0.000075	0.0011	0.0011	0.00050	0.0000050	0.0030
	August	29/30			110	4.9	157	0.029	0.00066	0.010	8.10		0.022	0.00043	0.000010	0.00050	0.0026	0.27	0.00025	0.00083	0.0014	0.00050	0.000010	0.0029
	September	28			111	58	151	0.012	0.00057	0.025	7.83		0.024	0.00039	0.0000085	0.00050	0.0027	0.31	0.00025	0.00059	0.0013	0.00050	0.000010	0.0025
	October	15			111	5.5	151	0.015	0.00050	0.060	7.64		0.033	0.00044	0.000025	0.00025	0.0029	0.25	0.000025	0.00069	0.0012	0.00050	0.0000050	0.0013
2006	June	2				410	100	0.042	0.0010	0.035	7.63		0.048	0.00053	0.000025	0.00040	0.0019	0.32	0.000040	0.00050	0.0020	0.00050	0.0000050	0.0018
		8																						
		15		100		53	114	0.027		0.18	7.86		0.013	0.00040	0.0000050	0.00025	0.0010	0.090	0.000050	0.0010	0.0010	0.00020		0.00050
		23		122		328	176	0.028		0.23	7.78		0.011	0.00050	0.0000050	0.00070	0.00050	0.090	0.000050	0.0010	0.0013	0.00030		0.0020
		28		107		103	120	0.010		0.11	7.90		0.41	0.00080	0.000030	0.0015	0.0030	0.060	0.00050	0.00050	0.0036	0.00010		0.0050
	July	7		110		3.0	184			0.21	7.91		0.0025	0.00060	0.0000050	0.0011	0.0010	0.060	0.000050	0.0020	0.0015	0.00010		0.0010
		12		110		1.0		0.014		0.18	7.77		0.0060	0.00050	0.0000050	0.0010	0.0010	0.060	0.000050	0.0010	0.00070	0.00020		0.00050
		20		130		2.0		0.012		0.19	7.88		0.0060	0.00040	0.0000050	0.00070	0.00050	0.11	0.00020	0.0010	0.00060	0.00010		0.00050
		26		128		9.0		0.016		0.18	7.87		0.0080	0.00040	0.0000050	0.00025	0.0020	0.10	0.000050	0.00050	0.0021	0.00010		0.00050
	August	2		128		4.0		0.015		0.15	7.79		0.0080	0.00010	0.0000050	0.00025	0.0010	0.070	0.000050	0.00050	0.00060	0.00010		0.00050
		10		126		1.0		0.014		0.16	7.80		0.0090	0.00050	0.0000050	0.00070	0.0010	0.080	0.000050	0.0010	0.00060	0.00010		0.0010
		25		125			170	0.027		0.068	7.97		0.012	0.00040	0.0000050	0.00060	0.0010	0.080	0.000050	0.0010	0.00090	0.00010		0.0030
		30		132		1.0	200	0.012		0.11	7.79		0.013	0.00040	0.0000050	0.00080	0.0020	0.10	0.000050	0.0010	0.0012	0.00010		0.0050
	September	6		120		4.0		0.011		0.048	7.87		0.0065	0.00050	0.0000050	0.00070	0.0015	0.11	0.000050	0.00075	0.00080	0.00010		0.0020
		13		130		5.0		0.011		0.094	7.84		0.0080	0.00030	0.0000050	0.00090	0.0010	0.11	0.000050	0.0010	0.00090	0.00010		0.0010
		20		132		3.0		0.008		0.11	7.85		0.0070	0.00050	0.00028	0.00070	0.0010	0.090	0.000050	0.0010	0.00025	0.00020		0.00050
		28		129			182	0.011		0.080	7.26		0.011	0.00040	0.0000050	0.00080	0.0010	0.080	0.000050	0.0010	0.00080	0.00010		0.0020
	October	4		126		2.0		0.079		0.10	7.94		0.0025	0.00030	0.0000050	0.00025	0.00050	0.11	0.000050	0.0010	0.00070	0.00010		0.0010
		12		132		4.0	164	0.024		0.12	7.39		0.0070	0.00040	0.0000050	0.00025	0.0010	0.090	0.000050	0.0010	0.00060	0.00030		0.0020
2007	June	5			113	75	162	0.025	0.033	0.050	7.97													
		20	8.2	110	81	11	147	0.025	0.025	0.20	7.81		0.014	0.00040	0.0000050	0.00060	0.0020	0.050	0.000050	0.0010	0.00025	0.00010		0.0040
	July	18	14	128	125	5.7	179	0.025	0.025	0.30	7.78		0.011	0.00050	0.0000050	0.0010	0.0020	0.040	0.000050	0.0010	0.00070	0.00010		0.0060
	August	24			124	4.7	192	0.025	0.025	0.20	8.04													
	September	18	11	110	93	14	177	0.025	0.010	0.030	7.98		0.0070	0.00040	0.0000050	0.0016	0.0010	0.080	0.000050	0.0020	0.00080	0.00010		0.0020
	October	30			129	6.5	174	0.025	0.14	0.010	7.73													
2008	April	22		187		1.0	268	0.025	0.055	0.010	8.40		0.010	0.00027	0.000040	0.00097	0.0012	0.030	0.000067	0.0017	0.0010	0.00030		0.0017
	June	3		92	98	15	137	0.025	0.040	0.037	8.02		0.0050	0.00010	0.000040	0.0013	0.00050	0.050	0.000050	0.0012	0.0010	0.00030	0.0000050	0.0020
		17			86	14	138	0.025	0.060	0.075	7.89		0.020	0.00010	0.000040	0.0013	0.0010	0.070	0.000050	0.0015	0.0010	0.0022	0.0000050	0.0020
	August	6	9.0	123	124	105	167	0.025	0.0050	0.14	7.92		0.014	0.00040	0.0000050	0.00060	0.0020	0.070	0.000050	0.0010	0.0010	0.00010	0.000060	0.0060
	September	18	18			16	160	0.025	0.0050	0.018	7.85		0.041	0.00035	0.0000050	0.0015	0.0030	0.15	0.00088	0.00050	0.0015	0.00075	0.0000050	0.0030
	October	28	11	123		5.7	183	0.025			7.84		0.0090	0.00050	0.0000050	0.00050	0.0010	0.078	0.000050	0.0011	0.0010	0.00030	0.0000050	0.0010
2009	April	30	18	20		1.0	52				6.84	7.60	0.053	0.00010	0.000080	0.00060	0.0050	0.070	0.00010	0.00013	0.00050	0.00030	0.0000050	0.0090
	June	8	9.2	93		32	156				7.90	7.74	0.013	0.00030	0.0000050	0.00020	0.0020	0.050	0.000050	0.0013	0.0010	0.00030	0.0000050	0.0020
	July	27		137		4.0	184				8.07													
	August	6		121		2.0	202			0.18	8.35	7.50												
		25	8.2									8.04												
		31		110									0.010	0.00040	0.0000050	0.0012	0.0040	0.10	0.00040	0.0011	0.0010	0.00030	0.0000050	0.0010
	October	7	7.8	125	141	3.7	140	0.010	0.0025	0.14	7.99	8.24	0.0070	0.00030	0.000040	0.00050	0.0012	0.046	0.00010	0.0010	0.00050	0.00020	0.000010	0.0025
		25	8.7	126	141	2.0	120	0.010	0.0025	0.15	8.05	8.23	0.0070	0.00030	0.000040	0.00050	0.0012	0.046	0.00010	0.0010	0.00050	0.00020	0.000010	0.0025

Table D.3: Background data for Option 2 with median and 95th Percentile values.

Year	Month	Day	DOC (mg/L)	Dissolved Hardness (mg/L)	Total Hardness (mg/L)	TSS (mg/L)	TDS (mg/L)	Ammonia (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Lab pH (pH Units)	Field pH (pH Units)	Dissolved Aluminum (mg/L)	Dissolved Arsenic (mg/L)	Dissolved Cadmium (mg/L)	Dissolved Chromium (mg/L)	Dissolved Copper (mg/L)	Dissolved Iron (mg/L)	Dissolved Lead (mg/L)	Dissolved Molybdenum (mg/L)	Dissolved Nickel (mg/L)	Dissolved Selenium (mg/L)	Dissolved Silver (mg/L)	Dissolved Zinc (mg/L)
2010	April	19			80	3.5	142				7.81	7.31	0.019	0.00030	0.000020	0.00040	0.0060	0.090	0.00030	0.00080	0.00050	0.00030	0.0000050	0.0050
		27/29	21	36	36	2.0	62	0.016	0.0038	0.015	7.55	7.69	0.070	0.00030	0.0000050	0.00050	0.0038	0.17	0.00010	0.00050	0.0010	0.000050	0.000010	0.0025
	May	1-7	17	48	50	14	73	0.026	0.0050	0.048	7.75	7.61	0.042	0.00043	0.000010	0.00050	0.0028	0.39	0.00010	0.00050	0.0013	0.000050	0.000010	0.0025
		9-14	11	79	79	5.3	123	0.019	0.0034	0.060	8.05	7.78	0.039	0.00040	0.000010	0.00050	0.0022	0.27	0.00010	0.00063	0.0013	0.00010	0.000010	0.0025
		16-21	8.1	89	88	12	123	0.036	0.0025	0.038	8.20	7.62	0.015	0.00030	0.000016	0.00050	0.0013	0.069	0.00010	0.0010	0.00063	0.00023	0.000010	0.0031
		23-29	7.7	112	126	181	148	0.059	0.011	0.12	8.05	7.53	0.022	0.00043	0.000050		0.0023	0.063	0.00010	0.0018	0.0013	0.00045		0.0050
	May/June	31-6	6.2	115	131	118	153	0.12	0.018	0.15	8.20	7.52	0.013	0.00030	0.000050		0.0013	0.034	0.00010	0.0020	0.00050	0.00040		0.0050
	June	14-20	6.5	119	124	30	145	0.016	0.0039	0.15	8.24	6.97	0.0088	0.00020	0.000050		0.00063	0.026	0.00010	0.0020	0.00050	0.00040		0.0050
		22-28	10	104	111	99	135	0.014	0.0036	0.11	8.09	7.95	0.017	0.00033	0.000050		0.0013	0.051	0.00010	0.0010	0.0016	0.00040		0.0050
	July	5	16	93	106	53	150	0.027	0.0025	0.070	8.06	8.02	0.019	0.00020	0.000050		0.0020	0.10	0.00010	0.0010	0.0010	0.00040		0.0050
	August	5	13	118	116		170					7.91	0.011	0.00040	0.000050		0.0020	0.11	0.00010	0.0010	0.0010	0.00040		0.0050
	September	12	17	107	104	11	210	0.039	0.0025	0.030	7.98	8.02	0.016	0.00050	0.000050		0.0010	0.23	0.00010	0.0010	0.0020	0.00040		0.0050
	October	8	13	111	126	3.0	150	0.069	0.0025	0.070	8.10	7.85	0.011	0.00040	0.0000050	0.00050	0.0012	0.13	0.00010	0.0010	0.0010	0.00010	0.000010	0.0025
2011	April	27	23	43	43	0.50	72	0.010	0.0025	0.010	7.41		0.057	0.00030	0.000030	0.00050	0.0077	0.15	0.00010	0.00050	0.0010	0.000050	0.000010	0.0050
	May	2	22	32	33	7.0	40		0.0025	0.010	7.11		0.076	0.00020	0.000040	0.00050	0.0070	0.17	0.00010	0.00050	0.0010	0.000050	0.000010	0.010
	June	1	11	92	94	23	120	0.012			8.09		0.013	0.00030	0.0000050	0.00050	0.0016	0.10	0.00010	0.0010	0.0010	0.00010	0.000010	0.0025
		16	13	97	108	85	130	0.013	0.0025	0.10	8.00		0.022	0.00040	0.0000050	0.00050	0.0019	0.21	0.00010	0.0010	0.0020	0.00010	0.000010	0.0025
	July	1	21	77	88	150	120	0.016	0.0070	0.050	7.76		0.034	0.00070	0.000010	0.00050	0.0031	0.44	0.00010	0.00050	0.0020	0.00010	0.000010	0.0025
	August	2	24	59	86	400	110		0.0025	0.060	7.67		0.051	0.00070	0.000020	0.00050	0.0041	0.61	0.00010	0.00050	0.0030	0.00010	0.000010	0.0025
		16/19	19	95	95	22	145	0.011	0.0025	0.050	8.01		0.035	0.00075	0.0000075	0.00050	0.0020	0.57	0.00010	0.00050	0.0020	0.00010	0.000010	0.0025
	September	12	13	118	119	1.0	170	0.025	0.0025	0.050	8.03	7.92	0.024	0.00070	0.000010	0.00050	0.0016	0.62	0.00010	0.00050	0.0020	0.00010	0.000010	0.0025
	October	6	12	110	113	2.0	150	0.019	0.0025	0.11	8.07	7.65	0.013	0.00060	0.000030	0.00050	0.0012	0.35	0.00010	0.0010	0.0010	0.00010	0.000010	0.0025
	November	22	7.7	148	144	27	156	0.021	0.0025	0.14	7.96		0.0076	0.00040	0.0000050	0.00050	0.0011	0.17	0.00010	0.0013	0.0012	0.00016	0.000010	0.0025
2012	January	24	5.3	169	158	2.0	226	0.0050	0.0025	0.32	8.13		0.0053	0.00041	0.000035	0.00050	0.0011	0.094	0.00010	0.0015	0.00050	0.00043	0.000010	0.0025
	February	25	6.1	165	160	2.0	216	0.0060	0.0025	0.29	7.99	7.16	0.021	0.00033	0.000064	0.00050	0.015	0.049	0.00024	0.0014	0.00050	0.00034	0.000010	0.0083
	March	5	5.2	161	159	3.2	176	0.0067	0.0025	0.20	8.17	6.72	0.0031	0.00039	0.0000050	0.00050	0.0012	0.012	0.00010	0.0011	0.00050	0.00031	0.000010	0.0025
	April	24	14	39	37	11	100	0.0025	0.010	0.010	7.63	7.43	0.050	0.00048	0.000023	0.00050	0.0052	0.48	0.00010	0.00050	0.0012	0.000050	0.000010	0.0025
	May	6/12	14	52	126	1158	100	0.093	0.0055	0.029	7.07	7.50	0.053	0.00089	0.000021	0.00050	0.0027	1.0	0.00015	0.00050	0.0018	0.000067	0.000010	0.0025
	June	19	16	92	105	165	128	0.18	0.015	0.083	8.12	7.59	0.027	0.00070	0.0000050	0.00050	0.0016	0.56	0.00010	0.0013	0.00200	0.00015	0.000010	0.0025
	July	17	11	116	144	582	143	0.10	0.0025	0.058	8.07	7.84	0.018	0.00070	0.0000085	0.00050	0.0012	0.52	0.00010	0.0010	0.0013	0.00013	0.000010	0.0025
		30	13	122	160	539	161	0.13	0.011	0.12	8.17	7.88	0.031	0.00099	0.0000050	0.00050	0.0014	0.73	0.00029	0.0011	0.0014	0.00012	0.000010	0.0025
	August	1	16	117	133	246	166	0.089	0.018	0.074	8.04	7.75	0.059	0.0018	0.0000050	0.00050	0.0018	1.5	0.00010	0.0011	0.0031	0.00011	0.000010	0.0025
		8-10	13	128	166	536	181	0.062	0.0081	0.11	8.17	8.26	0.032	0.0013	0.0000050	0.00050	0.0013	0.91	0.00010	0.0013	0.0019	0.00011	0.000010	0.0025
		23-27	9.0	129	187	917	179	0.020	0.010	0.090	8.14	7.92	0.024	0.0013	0.0000050	0.00050	0.0015	0.93	0.00010	0.0011	0.0020	0.000093	0.000010	0.0025
	September	13	15	102	107	33	136	0.010	0.0025	0.056	8.09	7.97	0.020	0.00061	0.0000050	0.00050	0.0019	0.42	0.00010	0.00050	0.0025	0.000095	0.000010	0.0025
	October	13/16	11	129	130	27	158	0.022	0.0025	0.084	8.05	8.10	0.011	0.00060	0.0000050	0.00050	0.00094	0.60	0.00010	0.0011	0.0015	0.00014	0.000010	0.0025
	November	2	8.2	158	153	2.2	214	0.026	0.0025	0.22	7.93		0.0095	0.00053	0.000031	0.00050	0.0024	0.18	0.00021	0.0013	0.0012	0.00018	0.000010	0.0025
		12	8.7	153	155	2.2	162	0.025	0.0025	0.010	7.93	6.69	0.0062	0.00039	0.0000050	0.00050	0.0014	0.024	0.00010	0.00050	0.0014	0.00010	0.000010	0.0025
	December	29	10	223	206	0.50	262	0.025	0.0025	0.063	8.13	7.97	0.0061	0.00051	0.0000050	0.00050	0.0023	0.030	0.00010	0.0012	0.0011	0.00045	0.000010	0.0025
2013	April	30	4.6	192	198	5.8	246	0.0082	0.0025	0.13	8.27	8.18	0.0031	0.00025	0.0000050	0.00050	0.0011	0.014	0.00010	0.0013	0.00050	0.00043	0.000010	0.0025
	May	14	19	32	35	34	77	0.10	0.0025	0.010	7.53	7.90	0.051	0.00033	0.000011	0.00050	0.0036	0.245	0.00010	0.00050	0.0012	0.000050	0.000010	0.0025
	June	19/22	13	121	151	278	168	0.16	0.011	0.17	8.09	8.05	0.034	0.0011	0.0000085	0.00050	0.0017	0.590	0.00010	0.0013	0.0019	0.00011	0.000010	0.0045
	July	12/13	9.1	110	116	15	146	0.018	0.0025	0.090	8.00	7.72	0.010	0.00050	0.0000050	0.00050	0.0011	0.26	0.00010	0.0010	0.0012	0.00010	0.000010	0.0025
		19/23		127	178	343	179	0.20	0.016	0.091	8.16	8.26	0.028	0.0016	0.0000050	0.00050	0.0014	1.1	0.00010	0.0014	0.0024	0.000085	0.000010	0.0025
	August	21/22	13	131	154	218	179	0.080	0.0052	0.10	8.12	7.92	0.021	0.0011	0.0000050	0.00050	0.0012	0.71	0.00010	0.0012	0.0018	0.000093	0.000010	0.0025
	September	6/8	12	129	149	53	196	0.048	0.0037	0.10	7.98	7.80	0.022	0.0012	0.0000056	0.00065	0.0012	0.96	0.00010	0.00083	0.0020	0.000080	0.000010	0.0025
	October	7	8.2	107	106	74	176	0.044	0.0025	0.042	8.08	7.66	0.013	0.00051	0.0000050	0.00050	0.00097	0.15	0.00010	0.00050	0.0013	0.000050	0.000010	0.0025
		18/21	13	137	142	28	199	0.078	0.0025	0.13	8.21	7.51	0.015	0.00088	0.0000050	0.00050	0.0011	0.82	0.00010	0.00085	0.0018	0.000090	0.000010	0.0025
	November	16/17	16	177	184	19	185	0.11	0.010	0.12	8.08	7.61	0.015	0.0022	0.000011	0.00077	0.00086	4.8	0.00010	0.0011	0.0025	0.00018	0.000010	0.0025
	December	7	8.0	164	186	2.1	207	0.016	0.0025	0.11	8.18	6.90	0.0038	0.00057	0.0000080	0.00050	0.0012	0.06	0.00010	0.00080	0.00080	0.00015	0.000010	0.0025
		Median:	**12**	**120**	**121**	**11**	**158**	**0.025**	**0.0025**	**0.090**	**7.97**	**7.77**	**0.014**	**0.00041**	**0.0000053**	**0.00050**	**0.0015**	**0.11**	**0.00010**	**0.0010**	**0.0011**	**0.00011**	**0.000010**	**0.0025**
		95th Percentile:	**21**	**169**	**185**	**485**	**216**	**0.12**	**0.038**	**0.22**	**8.20**	**8.24**	**0.056**	**0.0013**	**0.000050**	**0.0013**	**0.0051**	**0.95**	**0.00028**	**0.0017**	**0.0024**	**0.00050**	**0.000010**	**0.0060**

Table D.4: Background data for Option 3 with median and 95th Percentile values.

Year	Month	DOC (mg/L)	Dissolved Hardness (mg/L)	Total Hardness (mg/L)	TSS (mg/L)	TDS (mg/L)	Ammonia (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Lab pH (pH Units)	Field pH (pH Units)	Dissolved Aluminum (mg/L)
2005	May			74	19	118	0.017	0.0011	0.034	7.85		0.043
	June				5.4	160	0.015	0.00067	0.052	7.83		0.026
	July			138	11	173	0.010	0.00050	0.042	7.73		0.020
	August			110	4.9	157	0.029	0.00066	0.010	8.10		0.022
	September			111	58	151	0.012	0.00057	0.025	7.83		0.024
	October			111	5.5	151	0.015	0.00050	0.060	7.64		0.033
2006	June		110		206	112	0.026	0.0010	0.083	7.71		0.075
	July		120		3.8	184	0.014		0.19	7.86		0.0056
	August		124		2.0	175	0.017		0.075	7.92		0.011
	September		120		4.0	182	0.010		0.053	7.78		0.0079
	October		129		3.0	164	0.052		0.11	7.67		0.0048
2007	June	8.2	110	97	28	147	0.025	0.027	0.14	7.84		0.014
	July	14	128	125	5.7	179	0.025	0.025	0.30	7.78		0.011
	August			124	4.7	192	0.025	0.025	0.20	8.04		
	September	11	110	93	14	177	0.025	0.010	0.030	7.98		0.0070
	October			129	6.5	174	0.025	0.14	0.010	7.73		
2008	April		187		1.0	268	0.025	0.055	0.010	8.40		0.010
	June		92	92	15	133	0.025	0.058	0.049	7.90		0.013
	August	9.0	123	124	105	167	0.025	0.005	0.143	7.92		0.014
	September	18			16	160	0.025	0.005	0.018	7.85		0.041
	October	11	123		5.7	183	0.025			7.84		0.0090
2009	April	18	20		1.0	52				6.84	7.60	0.053
	June	9.2	93		32	156				7.90	7.74	0.013
	July		137		4.0	184				8.07		
	August	12	96		9.8	149			0.18	7.79	7.72	0.025
	October	8.3	125	141	2.8	130	0.010	0.0025	0.14	8.02	8.24	0.007
2010	April	21	36	50	2.5	89	0.016	0.0038	0.015	7.64	7.56	0.053
	May	11	83	88	67	119	0.034	0.0065	0.070	8.02	7.64	0.029
	June	7.6	113	121	63	143	0.059	0.0073	0.14	8.17	7.49	0.012
	July	16	93	106	53	150	0.027	0.0025	0.070	8.06	8.02	0.019
	August	13	118	116		170					7.91	0.011
	September	17	107	104	11	210	0.039	0.0025	0.030	7.98	8.02	0.016
	October	13	111	126	3.0	150	0.069	0.0025	0.070	8.10	7.85	0.011
2011	April	23	43	43	0.50	72	0.010	0.0025	0.010	7.41		0.057
	May	22	32	33	7.0	40		0.0025	0.010	7.11		0.076
	June	17	66	69	29	91	0.012	0.0025	0.040	7.65		0.042
	July	21	77	88	150	120	0.016	0.0070	0.050	7.76		0.034
	August	21	82	91	149	130	0.012	0.0036	0.053	7.86		0.039
	September	13	118	119	1.0	170	0.025	0.0025	0.050	8.03	7.92	0.024
	October	12	110	113	2.0	150	0.019	0.0025	0.11	8.07	7.65	0.013
	November	7.7	148	144	27	156	0.021	0.0025	0.14	7.96		0.0076
2012	January	5.3	169	158	2.0	226	0.0050	0.0025	0.32	8.13		0.0053
	February	6.1	165	160	2.0	216	0.0060	0.0025	0.29	7.99	7.16	0.021
	March	5.2	161	159	3.2	176	0.0067	0.0025	0.20	8.17	6.72	0.0031
	April	14	39	37	11.2	100	0.0025	0.010	0.010	7.63	7.43	0.050
	May	14	52	126	1158	100	0.093	0.0055	0.029	7.07	7.50	0.053
	June	16	92	105	165	128	0.18	0.015	0.083	8.12	7.59	0.027
	July	13	121	162	630	158	0.134	0.010	0.11	8.15	7.86	0.031
	August	11	128	175	700	178	0.045	0.0097	0.10	8.16	8.08	0.030
	September	15	102	107	33	136	0.0099	0.0025	0.056	8.09	7.97	0.020
	October	11	129	130	27	158	0.022	0.0025	0.084	8.05	8.10	0.011
	November	8.5	156	154	2.2	188	0.026	0.0025	0.11	7.93	6.69	0.0079
	December	10	223	206	0.50	262	0.025	0.0025	0.063	8.13	7.97	0.0061
2013	April	4.6	192	198	5.8	246	0.0082	0.0025	0.13	8.27	8.18	0.0031
	May	19	32	35	34	77	0.098	0.0025	0.010	7.53	7.90	0.051
	June	13	121	151	278	168	0.16	0.011	0.17	8.09	8.05	0.034
	July	9.1	118	147	179	163	0.11	0.0092	0.091	8.08	7.99	0.019
	August	13	131	154	218	179	0.080	0.0052	0.097	8.12	7.92	0.021
	September	12	129	149	53	196	0.048	0.0037	0.10	7.98	7.80	0.022
	October	12	130	133	40	193	0.069	0.0025	0.11	8.18	7.55	0.014
	November	16	177	184	19	185	0.11	0.010	0.12	8.08	7.61	0.015
	December	8.0	164	186	2.1	207	0.016	0.0025	0.11	8.18	6.90	0.0038
	Median:	**12**	**118**	**124**	**11**	**160**	**0.025**	**0.0025**	**0.075**	**7.96**	**7.80**	**0.019**
	95th Percentile:	**21**	**181**	**185**	**278**	**226**	**0.12**	**0.040**	**0.22**	**8.18**	**8.13**	**0.053**

Table D.4: Background data for Option 3 with median and 95th Percentile values.

Year	Month	Dissolved Arsenic (mg/L)	Dissolved Cadmium (mg/L)	Dissolved Chromium (mg/L)	Dissolved Copper (mg/L)	Dissolved Iron (mg/L)	Dissolved Lead (mg/L)	Dissolved Molybdenum (mg/L)	Dissolved Nickel (mg/L)	Dissolved Selenium (mg/L)	Dissolved Silver (mg/L)	Dissolved Zinc (mg/L)
2005	May	0.00029	0.000025	0.00050	0.0042	0.14	0.00025	0.00050	0.0014	0.00050	0.000010	0.0029
	June	0.00046	0.000025	0.00030	0.0023	0.16	0.000064	0.00085	0.0011	0.00050	0.0000050	0.0091
	July	0.00041	0.000025	0.00025	0.0033	0.16	0.000075	0.0011	0.0011	0.00050	0.0000050	0.0030
	August	0.00043	0.000010	0.00050	0.0026	0.27	0.00025	0.00083	0.0014	0.00050	0.000010	0.0029
	September	0.00039	0.0000085	0.00050	0.0027	0.31	0.00025	0.00059	0.0013	0.00050	0.000010	0.0025
	October	0.00044	0.000025	0.00025	0.0029	0.25	0.000025	0.00069	0.0012	0.00050	0.0000050	0.0013
2006	June	0.00051	0.000021	0.00050	0.0017	0.15	0.000094	0.00055	0.0019	0.00039	0.0000050	0.0025
	July	0.00048	0.0000050	0.00076	0.0011	0.083	0.000088	0.0011	0.0012	0.00013		0.00063
	August	0.00035	0.0000050	0.00059	0.0013	0.083	0.000050	0.00088	0.00083	0.00010		0.0024
	September	0.00046	0.000039	0.00070	0.0011	0.10	0.000050	0.00075	0.00067	0.00011		0.0017
	October	0.00035	0.0000050	0.00025	0.00075	0.10	0.000050	0.0010	0.00065	0.00020		0.0015
2007	June	0.00040	0.0000050	0.00060	0.0020	0.050	0.000050	0.0010	0.00025	0.00010		0.0040
	July	0.00050	0.0000050	0.0010	0.0020	0.040	0.000050	0.0010	0.00070	0.00010		0.0060
	August											
	September	0.00040	0.0000050	0.0016	0.0010	0.080	0.000050	0.0020	0.00080	0.00010		0.0020
	October											
2008	April	0.00027	0.000040	0.00097	0.0012	0.030	0.000067	0.0017	0.0010	0.00030		0.0017
	June	0.00010	0.000040	0.0013	0.00075	0.060	0.000050	0.0014	0.0010	0.0013	0.0000050	0.0020
	August	0.00040	0.0000050	0.00060	0.0020	0.070	0.000050	0.0010	0.0010	0.00010	0.000060	0.0060
	September	0.00035	0.0000050	0.0015	0.0030	0.15	0.00088	0.00050	0.0015	0.00075	0.0000050	0.0030
	October	0.00050	0.0000050	0.00050	0.0010	0.078	0.000050	0.00108	0.0010	0.00030	0.0000050	0.0010
2009	April	0.00010	0.000080	0.00060	0.0050	0.070	0.00010	0.00013	0.00050	0.00030	0.0000050	0.0090
	June	0.00030	0.000005	0.00020	0.0020	0.050	0.000050	0.00127	0.0010	0.00030	0.0000050	0.0020
	July											
	August	0.00027	0.000030	0.00067	0.0037	0.073	0.00018	0.00083	0.00083	0.00030	0.0000050	0.0040
	October	0.00030	0.000040	0.00050	0.0012	0.046	0.00010	0.0010	0.00050	0.00020	0.000010	0.0025
2010	April	0.00030	0.000010	0.00047	0.0045	0.14	0.00017	0.00060	0.00083	0.00013	0.0000083	0.0033
	May	0.00038	0.000023	0.00050	0.0021	0.19	0.00010	0.0010	0.0011	0.00022	0.000010	0.0034
	June	0.00028	0.000050		0.00095	0.035	0.00010	0.0016	0.00091	0.00040		0.0050
	July	0.00020	0.000050		0.0020	0.10	0.00010	0.0010	0.0010	0.00040		0.0050
	August	0.00040	0.000050		0.0020	0.11	0.00010	0.0010	0.0010	0.00040		0.0050
	September	0.00050	0.000050		0.0010	0.23	0.00010	0.0010	0.0020	0.00040		0.0050
	October	0.00040	0.0000050	0.00050	0.0012	0.13	0.00010	0.0010	0.0010	0.00010	0.000010	0.0025
2011	April	0.00030	0.000030	0.00050	0.0077	0.15	0.00010	0.00050	0.0010	0.00005	0.000010	0.0050
	May	0.00020	0.000040	0.00050	0.0070	0.17	0.00010	0.00050	0.0010	0.00005	0.000010	0.010
	June	0.00030	0.000020	0.00050	0.0046	0.16	0.00010	0.00075	0.0013	0.000075	0.000010	0.005
	July	0.00070	0.000010	0.00050	0.0031	0.44	0.00010	0.00050	0.0020	0.00010	0.000010	0.0025
	August	0.00073	0.000011	0.00050	0.0028	0.55	0.00010	0.00050	0.0023	0.00010	0.000010	0.0025
	September	0.00070	0.000010	0.00050	0.0016	0.62	0.00010	0.00050	0.0020	0.00010	0.000010	0.0025
	October	0.00060	0.000030	0.00050	0.0012	0.35	0.00010	0.0010	0.0010	0.00010	0.000010	0.0025
	November	0.00040	0.0000050	0.00050	0.0011	0.17	0.00010	0.0013	0.0012	0.00016	0.000010	0.0025
2012	January	0.00041	0.000035	0.00050	0.0011	0.094	0.00010	0.0015	0.00050	0.00043	0.000010	0.0025
	February	0.00033	0.000064	0.00050	0.0154	0.049	0.00024	0.0014	0.00050	0.00034	0.000010	0.0083
	March	0.00039	0.0000050	0.00050	0.0012	0.012	0.00010	0.0011	0.00050	0.00031	0.000010	0.0025
	April	0.00048	0.000023	0.00050	0.0052	0.48	0.00010	0.00050	0.0012	0.000050	0.000010	0.0025
	May	0.00089	0.000021	0.00050	0.0027	1.0	0.00015	0.00050	0.0018	0.000067	0.000010	0.0025
	June	0.00070	0.0000050	0.00050	0.0016	0.56	0.00010	0.0013	0.002	0.00015	0.000010	0.0025
	July	0.00096	0.0000062	0.00050	0.0014	0.73	0.00029	0.0011	0.0015	0.00012	0.000010	0.0025
	August	0.00128	0.0000050	0.00050	0.0014	0.91	0.00010	0.0012	0.0020	0.00011	0.000010	0.0025
	September	0.00061	0.0000050	0.00050	0.0019	0.42	0.00010	0.00050	0.0025	0.000095	0.000010	0.0025
	October	0.00060	0.0000050	0.00050	0.00094	0.60	0.00010	0.0011	0.0015	0.00014	0.000010	0.0025
	November	0.00046	0.000018	0.00050	0.0019	0.10	0.00016	0.00090	0.0013	0.00014	0.000010	0.0025
	December	0.00051	0.0000050	0.00050	0.0023	0.030	0.00010	0.0012	0.0011	0.00045	0.000010	0.0025
2013	April	0.00025	0.0000050	0.00050	0.0011	0.014	0.00010	0.0013	0.00050	0.00043	0.000010	0.0025
	May	0.00033	0.000011	0.00050	0.0036	0.24	0.00010	0.00050	0.0012	0.00005	0.000010	0.0025
	June	0.0011	0.0000085	0.00050	0.0017	0.59	0.00010	0.0013	0.0019	0.00011	0.000010	0.0045
	July	0.0011	0.0000050	0.00050	0.0012	0.66	0.00010	0.0012	0.0018	0.000093	0.000010	0.0025
	August	0.0011	0.0000050	0.00050	0.0012	0.71	0.00010	0.0012	0.0018	0.000093	0.000010	0.0025
	September	0.0012	0.0000056	0.00065	0.0012	0.96	0.00010	0.00083	0.0020	0.000080	0.000010	0.0025
	October	0.00078	0.0000050	0.00050	0.0010	0.65	0.00010	0.00076	0.0017	0.000080	0.000010	0.0025
	November	0.0022	0.000011	0.00077	0.00086	4.8	0.00010	0.0011	0.0025	0.00018	0.000010	0.0025
	December	0.00057	0.0000080	0.00050	0.0012	0.062	0.00010	0.00080	0.00080	0.00015	0.000010	0.0025
	Median:	**0.00041**	**0.000010**	**0.00050**	**0.0017**	**0.15**	**0.00010**	**0.0010**	**0.0011**	**0.00015**	**0.000010**	**0.0025**
	95th Percentile:	**0.0011**	**0.000050**	**0.0011**	**0.0054**	**0.91**	**0.00025**	**0.0015**	**0.0020**	**0.00050**	**0.000010**	**0.0084**

Table D.5: Annual Medians for Option 3.

Year	Month	DOC (mg/L)	Dissolved Hardness (mg/L)	Total Hardness (mg/L)	TSS (mg/L)	TDS (mg/L)	Ammonia (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Lab pH (pH Units)	Field pH (pH Units)	Dissolved Aluminum (mg/L)
2005	May			74	19	118	0.017	0.0011	0.034	7.85		0.043
	June				5.4	160	0.015	0.00067	0.052	7.83		0.026
	July			138	11	173	0.010	0.00050	0.042	7.73		0.020
	August			110	4.9	157	0.029	0.00066	0.010	8.10		0.022
	September			111	58	151	0.012	0.00057	0.025	7.83		0.024
	October			111	5.5	151	0.015	0.00050	0.060	7.64		0.033
	Annual Median			**111**	**8.4**	**154**	**0.015**	**0.00061**	**0.038**	**7.83**		**0.025**
2006	June		110		206	112	0.026	0.0010	0.083	7.71		0.075
	July		120		3.8	184	0.014		0.19	7.86		0.0056
	August		124		2.0	175	0.017		0.075	7.92		0.011
	September		120		4.0	182	0.010		0.053	7.78		0.0079
	October		129		3.0	164	0.052		0.11	7.67		0.0048
	Annual Median		**120**		**3.8**	**175**	**0.017**	**0.0010**	**0.083**	**7.78**		**0.0079**
2007	June	8.2	110	97	28	147	0.025	0.027	0.14	7.84		0.014
	July	14	128	125	5.7	179	0.025	0.025	0.30	7.78		0.011
	August			124	4.7	192	0.025	0.025	0.20	8.04		
	September	11	110	93	14	177	0.025	0.010	0.030	7.98		0.0070
	October			129	6.5	174	0.025	0.14	0.010	7.73		
	Annual Median	**11**	**110**	**124**	**6.5**	**177**	**0.025**	**0.025**	**0.14**	**7.84**		**0.011**
2008	April		187		1.0	268	0.025	0.055	0.010	8.40		0.010
	June		92	92	15	133	0.025	0.058	0.049	7.90		0.013
	August	9.0	123	124	105	167	0.025	0.005	0.143	7.92		0.014
	September	18			16	160	0.025	0.005	0.018	7.85		0.041
	October	11	123		5.7	183	0.025			7.84		0.0090
	Annual Median	**11**	**123**	**108**	**15**	**167**	**0.025**	**0.030**	**0.033**	**7.90**		**0.013**
2009	April	18	20		1.0	52				6.84	7.60	0.053
	June	9.2	93		32	156				7.90	7.74	0.013
	July		137		4.0	184				8.07		
	August	12	96		9.8	149			0.18	7.79	7.72	0.025
	October	8.3	125	141	2.8	130	0.010	0.0025	0.14	8.02	8.24	0.007
	Annual Median	**10**	**96**	**141**	**4.0**	**149**	**0.010**	**0.0025**	**0.16**	**7.90**	**7.73**	**0.019**
2010	April	21	36	50	2.5	89	0.016	0.0038	0.015	7.64	7.56	0.053
	May	11	83	88	67	119	0.034	0.0065	0.070	8.02	7.64	0.029
	June	7.6	113	121	63	143	0.059	0.0073	0.14	8.17	7.49	0.012
	July	16	93	106	53	150	0.027	0.0025	0.070	8.06	8.02	0.019
	August	13	118	116		170					7.91	0.011
	September	17	107	104	11	210	0.039	0.0025	0.030	7.98	8.02	0.016
	October	13	111	126	3.0	150	0.069	0.0025	0.070	8.10	7.85	0.011
	Annual Median	**13**	**107**	**106**	**32**	**150**	**0.037**	**0.0031**	**0.070**	**8.04**	**7.85**	**0.016**
2011	April	23	43	43	0.50	72	0.010	0.0025	0.010	7.41		0.057
	May	22	32	33	7.0	40		0.0025	0.010	7.11		0.076
	June	17	66	69	29	91	0.012	0.0025	0.040	7.65		0.042
	July	21	77	88	150	120	0.016	0.0070	0.050	7.76		0.034
	August	21	82	91	149	130	0.012	0.0036	0.053	7.86		0.039
	September	13	118	119	1.0	170	0.025	0.0025	0.050	8.03	7.92	0.024
	October	12	110	113	2.0	150	0.019	0.0025	0.11	8.07	7.65	0.013
	November	7.7	148	144	27	156	0.021	0.0025	0.14	7.96		0.0076
	Annual Median	**19**	**79**	**89**	**17**	**125**	**0.016**	**0.0025**	**0.050**	**7.81**	**7.79**	**0.036**
2012	January	5.3	169	158	2.0	226	0.0050	0.0025	0.32	8.13		0.0053
	February	6.1	165	160	2.0	216	0.0060	0.0025	0.29	7.99	7.16	0.021
	March	5.2	161	159	3.2	176	0.0067	0.0025	0.20	8.17	6.72	0.0031
	April	14	39	37	11.2	100	0.0025	0.010	0.010	7.63	7.43	0.050
	May	14	52	126	1158	100	0.093	0.0055	0.029	7.07	7.50	0.053
	June	16	92	105	165	128	0.18	0.015	0.083	8.12	7.59	0.027
	July	13	121	162	630	158	0.134	0.010	0.11	8.15	7.86	0.031
	August	11	128	175	700	178	0.045	0.0097	0.10	8.16	8.08	0.030
	September	15	102	107	33	136	0.0099	0.0025	0.056	8.09	7.97	0.020
	October	11	129	130	27	158	0.022	0.0025	0.084	8.05	8.10	0.011
	November	8.5	156	154	2.2	188	0.026	0.0025	0.11	7.93	6.69	0.0079
	December	10	223	206	0.50	262	0.025	0.0025	0.063	8.13	7.97	0.0061
	Annual Median	**11**	**128**	**156**	**19**	**167**	**0.024**	**0.0025**	**0.092**	**8.10**	**7.59**	**0.021**
2013	April	4.6	192	198	5.8	246	0.0082	0.0025	0.13	8.27	8.18	0.0031
	May	19	32	35	34	77	0.098	0.0025	0.010	7.53	7.90	0.051
	June	13	121	151	278	168	0.16	0.011	0.17	8.09	8.05	0.034
	July	9.1	118	147	179	163	0.11	0.0092	0.091	8.08	7.99	0.019
	August	13	131	154	218	179	0.080	0.0052	0.097	8.12	7.92	0.021
	September	12	129	149	53	196	0.048	0.0037	0.10	7.98	7.80	0.022
	October	12	130	133	40	193	0.069	0.0025	0.11	8.18	7.55	0.014
	November	16	177	184	19	185	0.11	0.010	0.12	8.08	7.61	0.015
	December	8.0	164	186	2.1	207	0.016	0.0025	0.11	8.18	6.90	0.0038
	Annual Median	**12**	**130**	**151**	**40**	**185**	**0.080**	**0.0037**	**0.11**	**8.09**	**7.90**	**0.019**

Table D.5: Annual Medians for Option 3.

Year	Month	Dissolved Arsenic (mg/L)	Dissolved Cadmium (mg/L)	Dissolved Chromium (mg/L)	Dissolved Copper (mg/L)	Dissolved Iron (mg/L)	Dissolved Lead (mg/L)	Dissolved Molybdenum (mg/L)	Dissolved Nickel (mg/L)	Dissolved Selenium (mg/L)	Dissolved Silver (mg/L)	Dissolved Zinc (mg/L)
2005	May	0.00029	0.000025	0.00050	0.0042	0.14	0.00025	0.00050	0.0014	0.00050	0.000010	0.0029
	June	0.00046	0.000025	0.00030	0.0023	0.16	0.000064	0.00085	0.0011	0.00050	0.0000050	0.0091
	July	0.00041	0.000025	0.00025	0.0033	0.16	0.000075	0.0011	0.0011	0.00050	0.0000050	0.0030
	August	0.00043	0.000010	0.00050	0.0026	0.27	0.00025	0.00083	0.0014	0.00050	0.000010	0.0029
	September	0.00039	0.0000085	0.00050	0.0027	0.31	0.00025	0.00059	0.0013	0.00050	0.000010	0.0025
	October	0.00044	0.000025	0.00025	0.0029	0.25	0.000025	0.00069	0.0012	0.00050	0.0000050	0.0013
	Annual Median	**0.00042**	**0.000025**	**0.00040**	**0.0028**	**0.21**	**0.00016**	**0.00076**	**0.0013**	**0.00050**	**0.0000075**	**0.0029**
2006	June	0.00051	0.000021	0.00050	0.0017	0.15	0.000094	0.00055	0.0019	0.00039	0.0000050	0.0025
	July	0.00048	0.0000050	0.00076	0.0011	0.083	0.000088	0.0011	0.0012	0.00013		0.00063
	August	0.00035	0.0000050	0.00059	0.0013	0.083	0.000050	0.00088	0.00083	0.00010		0.0024
	September	0.00046	0.000039	0.00070	0.0011	0.10	0.000050	0.00075	0.00067	0.00011		0.0017
	October	0.00035	0.0000050	0.00025	0.00075	0.10	0.000050	0.0010	0.00065	0.00020		0.0015
	Annual Median	**0.00046**	**0.0000050**	**0.00059**	**0.0011**	**0.10**	**0.000050**	**0.00088**	**0.00083**	**0.00013**	**0.0000050**	**0.0017**
2007	June	0.00040	0.0000050	0.00060	0.0020	0.050	0.000050	0.0010	0.00025	0.00010		0.0040
	July	0.00050	0.0000050	0.0010	0.0020	0.040	0.000050	0.0010	0.00070	0.00010		0.0060
	August											
	September	0.00040	0.0000050	0.0016	0.0010	0.080	0.000050	0.0020	0.00080	0.00010		0.0020
	October											
	Annual Median	**0.00040**	**0.0000050**	**0.0010**	**0.0020**	**0.050**	**0.000050**	**0.0010**	**0.00070**	**0.00010**		**0.0040**
2008	April	0.00027	0.000040	0.00097	0.0012	0.030	0.000067	0.0017	0.0010	0.00030		0.0017
	June	0.00010	0.000040	0.0013	0.00075	0.060	0.000050	0.0014	0.0010	0.0013	0.0000050	0.0020
	August	0.00040	0.0000050	0.00060	0.0020	0.070	0.000050	0.0010	0.0010	0.00010	0.000060	0.0060
	September	0.00035	0.0000050	0.0015	0.0030	0.15	0.00088	0.00050	0.0015	0.00075	0.0000050	0.0030
	October	0.00050	0.0000050	0.00050	0.0010	0.078	0.000050	0.00108	0.0010	0.00030	0.0000050	0.0010
	Annual Median	**0.00035**	**0.0000050**	**0.0010**	**0.0012**	**0.070**	**0.000050**	**0.0011**	**0.0010**	**0.00030**	**0.0000050**	**0.0020**
2009	April	0.00010	0.000080	0.00060	0.0050	0.070	0.00010	0.00013	0.00050	0.00030	0.0000050	0.0090
	June	0.00030	0.000005	0.00020	0.0020	0.050	0.000050	0.00127	0.0010	0.00030	0.0000050	0.0020
	July											
	August	0.00027	0.000030	0.00067	0.0037	0.073	0.00018	0.00083	0.00083	0.00030	0.0000050	0.0040
	October	0.00030	0.000040	0.00050	0.0012	0.046	0.00010	0.0010	0.00050	0.00020	0.000010	0.0025
	Annual Median	**0.00028**	**0.000035**	**0.00055**	**0.0028**	**0.060**	**0.00010**	**0.00092**	**0.00067**	**0.00030**	**0.0000050**	**0.0033**
2010	April	0.00030	0.000010	0.00047	0.0045	0.14	0.00017	0.00060	0.00083	0.00013	0.0000083	0.0033
	May	0.00038	0.000023	0.00050	0.0021	0.19	0.00010	0.0010	0.0011	0.00022	0.000010	0.0034
	June	0.00028	0.000050		0.00095	0.035	0.00010	0.0016	0.00091	0.00040		0.0050
	July	0.00020	0.000050		0.0020	0.10	0.00010	0.0010	0.0010	0.00040		0.0050
	August	0.00040	0.000050		0.0020	0.11	0.00010	0.0010	0.0010	0.00040		0.0050
	September	0.00050	0.000050		0.0010	0.23	0.00010	0.0010	0.0020	0.00040		0.0050
	October	0.00040	0.0000050	0.00050	0.0012	0.13	0.00010	0.0010	0.0010	0.00010	0.000010	0.0025
	Annual Median	**0.00038**	**0.000050**	**0.00050**	**0.0020**	**0.13**	**0.00010**	**0.0010**	**0.0010**	**0.00040**	**0.000010**	**0.0050**
2011	April	0.00030	0.000030	0.00050	0.0077	0.15	0.00010	0.00050	0.0010	0.00005	0.000010	0.0050
	May	0.00020	0.000040	0.00050	0.0070	0.17	0.00010	0.00050	0.0010	0.00005	0.000010	0.010
	June	0.00030	0.000020	0.00050	0.0046	0.16	0.00010	0.00075	0.0013	0.000075	0.000010	0.005
	July	0.00070	0.000010	0.00050	0.0031	0.44	0.00010	0.00050	0.0020	0.00010	0.000010	0.0025
	August	0.00073	0.000011	0.00050	0.0028	0.55	0.00010	0.00050	0.0023	0.00010	0.000010	0.0025
	September	0.00070	0.000010	0.00050	0.0016	0.62	0.00010	0.00050	0.0020	0.00010	0.000010	0.0025
	October	0.00060	0.000030	0.00050	0.0012	0.35	0.00010	0.0010	0.0010	0.00010	0.000010	0.0025
	November	0.00040	0.0000050	0.00050	0.0011	0.17	0.00010	0.0013	0.0012	0.00016	0.000010	0.0025
	Annual Median	**0.00050**	**0.000016**	**0.00050**	**0.0029**	**0.26**	**0.00010**	**0.00050**	**0.0012**	**0.00010**	**0.000010**	**0.000010**
2012	January	0.00041	0.000035	0.00050	0.0011	0.094	0.00010	0.0015	0.00050	0.00043	0.000010	0.0025
	February	0.00033	0.000064	0.00050	0.0154	0.049	0.00024	0.0014	0.00050	0.00034	0.000010	0.0083
	March	0.00039	0.0000050	0.00050	0.0012	0.012	0.00010	0.0011	0.00050	0.00031	0.000010	0.0025
	April	0.00048	0.000023	0.00050	0.0052	0.48	0.00010	0.00050	0.0012	0.000050	0.000010	0.0025
	May	0.00089	0.000021	0.00050	0.0027	1.0	0.00015	0.00050	0.0018	0.000067	0.000010	0.0025
	June	0.00070	0.0000050	0.00050	0.0016	0.56	0.00010	0.0013	0.002	0.00015	0.000010	0.0025
	July	0.00096	0.0000062	0.00050	0.0014	0.73	0.00029	0.0011	0.0015	0.00012	0.000010	0.0025
	August	0.00128	0.0000050	0.00050	0.0014	0.91	0.00010	0.0012	0.0020	0.00011	0.000010	0.0025
	September	0.00061	0.0000050	0.00050	0.0019	0.42	0.00010	0.00050	0.0025	0.000095	0.000010	0.0025
	October	0.00060	0.0000050	0.00050	0.00094	0.60	0.00010	0.0011	0.0015	0.00014	0.000010	0.0025
	November	0.00046	0.000018	0.00050	0.0019	0.10	0.00016	0.00090	0.0013	0.00014	0.000010	0.0025
	December	0.00051	0.0000050	0.00050	0.0023	0.030	0.00010	0.0012	0.0011	0.00045	0.000010	0.0025
	Annual Median	**0.00056**	**0.0000056**	**0.00050**	**0.0018**	**0.45**	**0.00010**	**0.0011**	**0.0014**	**0.00014**	**0.000010**	**0.0025**
2013	April	0.00025	0.0000050	0.00050	0.0011	0.014	0.00010	0.0013	0.00050	0.00043	0.000010	0.0025
	May	0.00033	0.000011	0.00050	0.0036	0.24	0.00010	0.00050	0.0012	0.00005	0.000010	0.0025
	June	0.0011	0.0000085	0.00050	0.0017	0.59	0.00010	0.0013	0.0019	0.00011	0.000010	0.0045
	July	0.0011	0.0000050	0.00050	0.0012	0.66	0.00010	0.0012	0.0018	0.000093	0.000010	0.0025
	August	0.0011	0.0000050	0.00050	0.0012	0.71	0.00010	0.0012	0.0018	0.000093	0.000010	0.0025
	September	0.0012	0.0000056	0.00065	0.0012	0.96	0.00010	0.00083	0.0020	0.000080	0.000010	0.0025
	October	0.00078	0.0000050	0.00050	0.0010	0.65	0.00010	0.00076	0.0017	0.000080	0.000010	0.0025
	November	0.0022	0.000011	0.00077	0.00086	4.8	0.00010	0.0011	0.0025	0.00018	0.000010	0.0025
	December	0.00057	0.0000080	0.00050	0.0012	0.062	0.00010	0.00080	0.00080	0.00015	0.000010	0.0025
	Annual Median	**0.0011**	**0.0000056**	**0.00050**	**0.0012**	**0.65**	**0.00010**	**0.0011**	**0.0018**	**0.000093**	**0.000010**	**0.0025**

Table D.6: Background water quality summary statistics for Option 2 (Grouped by Week) representing lower Minto Creek (Minnow 2016) [1]

Analytes	Background Concentrations	
	Individual Data Point Evaluator (95th percentile)	Central Tendency Evaluator (95th percentile of annual medians)
Ammonia (mg/L)	0.12	0.058
Nitrite (mg/L)	0.038	0.034
Nitrate (mg/L)	0.22	0.14
Dissolved Aluminum (mg/L)	0.056	0.027
Dissolved Arsenic (mg/L)	0.0013	0.00077
Dissolved Cadmium (mg/L)	0.000050	0.000046
Dissolved Chromium (mg/L)	0.00130	0.00108
Dissolved Copper (mg/L)	0.0051	0.0025
Dissolved Iron (mg/L)	0.95	0.55
Dissolved Lead (mg/L)	0.000276	0.000138
Dissolved Molybdenum (mg/L)	0.00172	0.00114
Dissolved Nickel (mg/L)	0.0024	0.0017
Dissolved Selenium (mg/L)	0.00050	0.00046
Dissolved Silver (mg/L)	0.000010	0.000010
Dissolved Zinc (mg/L)	0.0060	0.0046

[1] For contaminants of potential concern (COPCs)

APPENDIX B

METHODS FOR COMPUTING SUMMARY STATISTICS FOR CENSORED DATA

Technical Memorandum

Date: December 22, 2017

To: Scott Keesey, Access Consulting, and Andrew Gault, Alexco Environmental Group

From: Tim Barrett, David Semeniuk, and Pierre Stecko, Minnow Environmental Inc.

Cc: Matt Corriveau and Nichole Speiss, Access Consulting

RE: Methods for Computing Summary Statistics for Censored Data

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Introduction

This technical memorandum describes the statistical methods that Minnow Environmental Inc. (Minnow) has used to calculate summary statistics for water quality data sets for the Minto Mine. These data sets were sent to Minnow in Microsoft Excel spreadsheets via email for analysis in October and November, 2017. The summary statistics were computed for individual samples by sampling station or for monthly means by sampling station. The objective of computing summary statistics for the monthly means is to remove the bias of inconsistent sampling frequencies among months or years. For example, if four samples were collected in January of one year and 15 samples were collected in June of one year, summary statistics on monthly means would be computed with equal weight on the values observed in January and those observed in June.

Commonly employed substitution methods (e.g., substituting censored data with the full or half detection limit) for censored data introduces bias in summary statistics (Helsel 2012), and so more robust methods that do not rely on substitution were employed. In general, the methods follow those described in Helsel (2012), and those used in the R package NADA: Nondetects and Data Analysis for Environmental Data (Lee 2017). All calculations were conducted using R software (R Core Team 2016) using custom scripts written by Minnow. The NADA package was not used in the Minnow R scripts due to an error that Minnow identified in June, 2017 in the cenfit() function in NADA that is used to estimate the mean and standard deviation. Helsel and Lee have been informed of the error and will be updating the NADA package to correct the error (Helsel, personal communication: June 15, 2017 and November 30, 2017) but this has not been completed as of December 2017. Specific details of the statistical methods are described below.

Treatment of Data

Prior to calculating summary statistics, poor detection limits (DLs) were removed from the data set. A poor DL was defined as a value below a DL that exceeds the maximum detected value for that parameter at the given station. Poor DLs were removed from the data set when they consisted of fewer than 80% of the data values. For example, if 49 values were <1 and a single value was detected as 0.7, then the 49 values were not removed as they provide useful information (we would not want to assume that the 0.7 is representative of all 49 values below 1). The removal of the poor DLs does not influence the estimation of the mean or standard deviation, but does influence the overall sample size.

Calculation of Monthly Means

Monthly means were calculated using the Kaplan-Meier (K-M) method. This method involves transforming the left censored (i.e., < value) dataset to a right censored (i.e., > value) dataset, and then using the K-M estimator (used to estimate the mean survival time in survival analysis) to estimate the mean. The calculation was conducted using the survfit() function in the *survival* package (Therneau 2017) in R and involves calculating the area under the K-M survival curve.

The K-M method is non-parametric and can accommodate multiple DLs. The method of estimating the mean is equivalent to using the distribution of detectable values below the DL to represent values that are < DL. For example, the mean of the data set {1, 2, <4, 5} is estimated as the mean of 1, 2, [½×1 + ½×2], and 5 which is 2.375. The value <4 is replaced by the distribution of values below 4 (i.e. 1 and 2 with equal weight of ½). Similarly, the mean of the data set {1, 1.6, 2, 2.1, <4, 5} is estimated as the mean of 1, 1.6, 2, 2.1, [¼×1 + ¼×1.6 + ¼×2 + ¼×2.1], and 5 which is 2.229. Again, the value <4 is replaced by the distribution of values below 4 (i.e. 1, 1.6, 2, and 2.1 with equal weight of ¼). If the minimum value in the data set is below the DL then it is replaced with the DL. Therefore, if there is only one DL and no detected values below the DL, then the K-M estimate of the mean is equivalent to replacing the value below the DL with the DL (i.e., the best estimate for the values < DL is the DL).

Calculation of Summary Statistics

Sample size

The reported sample size is the number of samples (or number of monthly means when the statistics were calculated on monthly means) after the removal of poor DLs.

Maximum DL and % censored values

The maximum detection limit and the percentage of censored values is reported after the removal of the poor DLs

Measures of Position

The measures of position (i.e. percentiles), were estimated using two different methods. First, estimates were calculated using K-M estimator (based on survival analyses as described above for the estimate of monthly means). The percentiles were calculated using the quantile() function for a survival model generated in the *survival* package in R. Estimates of percentiles cannot be generated for highly censored data using the K-M method, and so a second method was used to provide practical estimates of the percentiles. For example, for the data set {<2, <2, <2, <2, 5}, the K-M method will not produce an estimate of the median. However, it is clear that we can state that the median value of this data set is <2. The second method of estimating percentiles was used whenever the K-M method could not generate an estimate. This method involved calculating the percentile after substitution with the DL, then identifying the value in the dataset equal to this value (or the next detected value in the dataset that is below this value). The two methods of estimating percentiles can result in different values (e.g. values for the same statistic can be different, and it is possible to obtain an estimate of the 25th percentile using the second method that is greater than the median using the K-M method). Therefore, a final check was conducted for each dataset to ensure that the estimated percentiles were logical. If an estimated value of a percentile exceeded the value for a higher order percentile (e.g., 25th percentile > median), then the lower percentile was replaced with the estimate of the higher order percentile, under the assumption that the K-M method provides a better estimate of the percentile than the second method.

Mean and standard deviation

The mean and standard deviation were calculated using the K-M method as described above using the using the survfit() function in the *survival* package. When a standard deviation could not be estimated, it was reported as NA (not available). This can occur with a sample with a high proportion of censored values.

References

Helsel, D.R., 2012. Statistics for censored environmental data using Minitab and R, 2nd edition. John Wiley and Sons, New York. 344 p.

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APPENDIX C

MINTO CREEK, MCGINTY CREEK AND MINTO MINE WATER QUALITY DATA (JANUARY 2005 – DECEMBER 2016)

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T	B-T
			mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W12	19/05/2007	P	66	1100		7.67		1430					622	622	201	1.3		18	10.8	6.38	100		0.301	<0.0004	0.0006	0.09	<0.0002	<0.001	0.215
W12	20/06/2007	P	34	1050		7.52		1320					621		238	1.9		262	8.17	8.78	66		1.02	<0.0002	0.0032	0.06	<0.0001	<0.0005	0.451
W12	27/06/2007	P																					4.92	0.0002	0.0196	0.167	0.0002	<0.0005	0.374
W12	01/08/2007	P											489										0.546	<0.0002	0.0012	0.06	<0.0001	<0.0005	0.32
W12	12/08/2007	P		718		7.8		979					442			1.6				3.87	41		13.8	<0.0004	0.0051	0.3	0.0004	<0.001	0.255
W12	23/10/2007	P	<2	636		7.96		947					366		132	1.62		244	9.91	0.97	35.1		0.108	<0.0002	0.001	0.052	<0.0001	<0.0005	0.182
W12	30/10/2007	P	<2	556		8.03		813					330		126	0.96		221	8.66	0.48	20.4		0.016	<0.0002	0.0008	0.042	<0.0001	<0.0005	0.112
W12	27/11/2007	P	<2	530	7.44	8.02	837	721	0.1				302		142	1.63		196	5.47	0.34	19.3		0.049	<0.0002	0.0014	0.032	<0.0001	<0.0005	0.166
W12	18/12/2007	P	<2	572	8.17	8.08	839	659	1				335			0.95			3.64	0.14	9.8		0.098	0.0002	0.0008	0.036	<0.0001	<0.0005	0.062
W12	18/12/2007	P	<2	572		8.08		659					335		140	0.95		239		0.14	9.8		0.098	0.0002	0.0008	0.036	<0.0001	<0.0005	0.062
W12	15/01/2008	P	6	602		8.21		788					312		116	0.84		290	3.43	0.18	9.95		0.463	<0.0002	0.0005	0.047	<0.0001	<0.0005	0.059
W12	16/01/2008	P	6	602	8.25	8.21	865	788	3.4							0.84			3.43	0.18	9.95		0.463	<0.0002	0.0005	0.047	<0.0001	<0.0005	0.059
W12	13/02/2008	P	2	1090	7.6	7.82	1131	1490	0.7				600		214	1.87		282	16.3	3	68		0.106	<0.0002	0.0009	0.052	<0.0001	<0.0005	0.582
W12	22/04/2008	P	19	294		8.18		398							111	1.71		79.5	2.16	0.5	5.77		0.29	<0.0002	<0.0002	0.036	<0.00004		0.035
W12	07/05/2008	P											112										3.5	0.0004	0.0025	0.146	0.00011		0.047
W12	13/05/2008	P											82	82									4.42	0.0004	0.0035	0.146	0.00024		0.051
W12	20/05/2008	P	14	286	7.9	7.88	329	320	7.9				116	116	70	1.18		52.2	2.02	0.73	5.75		3.61	0.0004	0.0021	0.145	0.00025		0.043
W12	27/05/2008	P											126	126									1.46	0.0003	0.0019	0.081	0.0001		0.051
W12	18/06/2008	P	19	300	7.85	7.93	398	389	13.8						83	1.24		74.2	1.73	0.4	7.28		1.24	0.0004	0.0015	0.074	0.00006		0.058
W12	27/06/2008	P																		0.35	7.88		0.92	<0.0002	0.0009	0.072	0.00006		0.056
W12	22/07/2008	P	15	458	8.1	8.03	566	544	14.2				242		80	1.39		141	1.68	0.19	10.6		0.798	0.0002	0.0008	0.093	<0.0001	<0.0005	0.094
W12	18/09/2008	P	44	352		7.92		401					152		91	1.63		84.7	1.11	0.06	6.68		1.7	0.0004	0.0016	0.103	0.00006	<0.0001	0.032
W12	18/11/2008	P	27	626	8.5	8.12	316	796	0.3						184	2.01		221	0.71				0.611	0.0004	0.001	0.107	<0.0001	<0.0005	0.063
W12	02/02/2009	P	16	776	6.88	8.02	900	1030	2.1					535	158	0.96		298					0.354	0.0002	0.0004	0.137	<0.00004	<0.0001	0.073
W12	21/04/2009	P	40	458	8.1	7.8	731	710	2.8						131	4.84		98.2					1.94	<0.0002	0.0008	0.072	0.00008	<0.0001	0.091
W12	02/05/2009	P	251	140		7.28		146						68	39	1.05		14.8					5.08	<0.0002	0.0025	0.139	0.00029	<0.0001	0.011
W12	03/05/2009	P	25	252		10.6		335						156	136	1.6				0.132	2.9		1.5	0.0003	0.0015	0.057	<0.0001	<0.0005	0.015
W12	05/05/2009	P	157	136		7.27		184						86	45	1.1		20.8					4.54	0.0004	0.0025	0.128	0.00024	<0.0001	0.016
W12	03/06/2009	P			7.85		255		20.5																				
W12	13/07/2009	P											129	120									0.196	0.0009	0.0009	0.136	<0.0001	<0.001	<0.05
W12	19/07/2009 9:30	P	<4	190		7.9		326					120	124	66	16	0.3	43	1.09	0.057	6.4		0.214	0.001	0.0009	0.138	<0.0001	<0.001	<0.05
W12	21/09/2009	P	<2	304		7.58		449						177	80	32.4		63.3			8.04		0.266	0.0008	0.0006	0.142	<0.00004	<0.001	0.03
W12	05/11/2009	P			6.97		1041		1.9																				
W12	06/11/2009	P	24	722		7.79		938						398	193	1.57		121			48.1		0.288	0.0003	0.0008	0.124	<0.00004	<0.001	0.15
W12	02/12/2009	P	68	1860	7.96	7.68		2490	1.1					1180	342	4.49		452			141		3.58	0.001	0.0017	0.188	0.00012	<0.001	0.469
W12	01/02/2010	P	<5	1130		7.77		1560					671		200	2.42		335			66.4		0.02	0.0002	0.0006	0.074	<0.00004	<0.001	0.311
W12	02/02/2010	P			7.05		1888		0.9																				
W12	02/03/2010	P	38	1220	7.87	7.9	1793	1630	1.1				749		217	3.48		394			71.4		2.47	0.0002	0.0023	0.156	0.00016	<0.001	0.344
W12	07/04/2010	P	13	260	6.99	8.06	430	427	1				170		102	1.54		46.4					1.11	0.0006	0.0007	0.089	0.00009	<0.001	0.031
W12	19/04/2010	F	45	324	7.69	8.05	563	452	1.4				178		114	1.88		48.7			<0.01		1.86	<0.0002	0.0007	0.053	0.00006	<0.001	0.046
W12	26/04/2010	F	21	240	7.26	7.6	356	298	1.73		134.5		130	135	65	2.5	0.34	46	1	0.292	6.5	24.9	0.934	<0.0005	0.0009	0.044	<0.0001	<0.001	<0.05
W12	03/05/2010	F	66	320	8.05	8	433	411	2.98		15.1		183	188	88	3.6	0.53	74	2.2	0.351	11.5	15	2.31	<0.0005	0.0017	0.081	0.0001	<0.001	<0.05
W12	11/05/2010	F	41	280		7.9		415					192	198	88	2.4	0.44	69	2.2	0.355	11.6	17.3	1.36	<0.0005	0.0014	0.072	<0.0001	<0.001	0.053
W12	18/05/2010	F	54	310	7.92	8.1	422	428	17.8				191	175	93	2.9	0.68	76	1.8	0.353	12.3	16.1	2.05	<0.0005	<0.001	0.084	<0.0005	<0.001	<0.05
W12	26/05/2010	F	18	300	8.02	8.1	430	442	19.5				192	186	95	2.9	0.69	73	1.6	0.318	13.3	16.6	0.73	<0.0005	0.0014	0.07	<0.0002	<0.001	<0.1
W12	01/06/2010	P	19	330	7.87	8.1	443	454	17.8				229	203	99	2.9	0.71	76	2.1	0.242	13.9	15.3	0.837	<0.0005	0.0012	0.064	<0.0002	<0.001	<0.1
W12	06/12/2010	P			7.87	7.9	1919		0.31		101.3		692	674	150	4.8		320	24	2.36	119	5.2	0.886	<0.0005	0.0007	0.113	<0.0001	<0.001	0.351
W12	16/03/2011	P	1	930		7.91		1360					682	659	230	5.3	1.2	390	4.4	0.133	27	4.3	0.018	<0.0005	0.0009	0.079	<0.0001	<0.001	0.137
W12	03/05/2011	P	15	210		7.59		280					123	113	82	4.3	0.23	34	0.089	0.126	5.1	24.2	0.604	<0.0005	0.0005	0.064	<0.0001	<0.001	<0.05
W12	25/05/2011	P	27	190		8.05		245					144	120	97	2.8	0.14	22	0.202	0.046	1.85	26.6	2.02	<0.0005	0.0018	0.109	<0.0001	<0.001	<0.05
W12	02/06/2011	P	35	340		8.15		483					205	195	120	4.6	0.48	76	0.997	0.025	5.9	16.1	1.68	0.0007	0.0017	0.184	<0.0001	<0.001	<0.05
W12	30/06/2011	P	15	320		8.11		488					198	205	130			75	0.65	0.147	11.6		0.173	0.0011	0.0015	0.27	<0.0001	<0.001	<0.05
W12	07/08/2011	P	11	340		7.99		531					212	216	130			74	0.74	0.6	13.3	13.4	0.365	0.0012	0.0015	0.205	<0.0001	<0.001	<0.05
W12	01/10/2011	P	<4	330	7.56	7.92	584.7	567	7.6	2.61	21.9		232	244	130	4.3		82	0.01	0.074	18	11.9	0.068	0.0009	0.001	0.169	<0.0001	<0.001	<0.05
W12	30/10/2011	P	5	360	7.73	7.93	608.9	582	3	3.86	29.4		211	241	130	4.1			<0.005	0.007	18.8	10.8	0.093	0.0009	0.0009	0.171	<0.0001	<0.001	<0.05
W12	03/11/2011	P	6	330	7.12	8.11	458	587	1.9	5.77	41.7		239	249	140	4.6			<0.005	0.01	19.5		0.14	0.001	0.0009	0.181	<0.0001	<0.001	<0.05
W12	23/11/2011	P	5	370		7.85		621					258	262	141	4.9			0.16	0.036	17.9	10.9	0.132	0.0011	0.0009	0.161	<0.0001	<0.001	<0.05
W12	13/02/2012	P	<4.0	368		8.14		605					226	256	142	4.5			<0.0050	0.019	18.6		0.039	0.0008	0.0009	0.146	<0.0001	<0.001	<0.05
W12	28/03/2012 14:00	P	1.7	380		8.13		595					251	250	137	4	0.64	92	0.0154	0.023	19.4		0.024	0.001	0.0009	0.175	<0.0001	<0.001	<0.05
W12	07/04/2012 13:30	P	19.6	404	7.44	8.06	297.1	590	0.5	3.75	26		201	243	134	3.9	0.63	90.6	0.217	0.107	19.7	9.04	0.813	<0.0005	0.0008	0.091	<0.0001	<0.001	<0.05
W12	22/04/2012 13:30	P	13	346	7.35	7.91	324.4	528	3.6	6.49	49.1		211	223	121	4.7	0.54	74.7	0.22	0.108	17.1	11.9	0.505	0.00067	0.00093	0.119	<0.00010	<0.0010	<0.05
W12	03/05/2012 17:00	P	22.2	298	7.08	8.14	305.6	454	7	7.5	62.8		175	188	109	4.8	0.45	61.1	0.099	0.046	12.8	12.9	0.427	0.0005	0.00072	0.0985	<0.00010	<0.0010	<0.05
W12	03/06/2012	P	3.6	380	8.26	8.24	423	574	11.3	8.62	79.2	61.5	231	243	134	13	0.48	74.9	0.073	0.0623	15.5	10.3	0.166	0.0006	0.00062	0.115	<0.00010	<0.0010	<0.05
W12	03/07/2012 10:45	P	2.2	424	8.38	8.62	516	663	15.5	8.11	81.5	26.5	267	286	164	19	0.52	93.3	0.18	0.0863	33.1	28.2	0.147	0.0006	0.00048	0.11	<0.00010	<0.0010	<0.05
W12	18/07/2012 9:25	P	1.8	442	8.52	8.48	467.9	651	14.9	6.18	61.2		268	275	162	16	0.51	87.9	0.11	0.0804	8.88	12.2	0.175	0.00055	0.00063	0.11	<0.00010	<0.0010	<0.05

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W12	19/05/2007	0.00002	187	<0.001	0.0024	0.205	0.6	0.0003	0.006	44	0.486	0.0002	0.02	<0.001	0.44	6.7	0.0046	7.89	0.0003	19	3.05	37	<0.0001	<0.002	<0.0010	0.0032
W12	20/06/2007	0.00065	187	<0.0005	0.0031	0.469	1.6	0.001	0.011	37.3	0.822	<0.0001	0.015	0.0013	0.11	9	0.0065	7.95	0.0003	34.5	3.86	81.5	<0.00005	<0.001	0.0079	0.0146
W12	27/06/2007	0.00055	146	0.0012	0.0045	1.884	9.1	0.0032	0.018	30.8	0.865	<0.0001	0.029	0.0017		17.5	0.0102	11.5	0.0006	39.6	3.09		0.00012	<0.001	0.401	0.0181
W12	01/08/2007	0.00057	142	<0.0005	0.0011	0.172	0.9	0.0003	0.009	32.4	0.309	<0.0001	0.022	<0.0005		9.2	0.0066	5.81	0.0001	22.4	3.05	47.6	<0.00005	<0.001	0.061	0.008
W12	12/08/2007	0.00109	131	0.0037	0.0083	3.59	23.3	0.0056	0.02	33.8	1.15	<0.0001	0.028	<0.001		16	0.0065	22.5	0.002	25.8	2.8		0.00025	<0.002	1.02	0.0054
W12	23/10/2007	0.00008	99.9	<0.0005	0.0002	0.027	0.1	<0.0001	0.007	28.2	0.137	<0.0001	0.042	<0.0005	0.05	4.9	0.013	3.05	<0.0001	26.9	3.77	69.4	<0.00005	<0.001	0.0069	0.004
W12	30/10/2007	0.00006	90.2	<0.0005	0.0001	0.015	<0.1	<0.0001	0.005	25.5	0.133	<0.0001	0.044	<0.0005		4.4	0.0093	3.36	<0.0001	21.3	2.56	65.7	<0.00005	<0.001	0.0044	0.0035
W12	27/11/2007	0.00005	84.3	0.0006	0.0002	0.016	<0.1	0.0002	0.007	22.1	0.067	<0.0001	0.023	<0.0005	<0.05	4.2	0.0096	3.03	<0.0001	27.8	3.08	57.9	<0.00005	<0.001	0.0064	0.0038
W12	18/12/2007	0.00011	91.2	<0.0005	0.0001	0.053	0.1	0.0001	0.004	26.1	0.079	<0.0001	0.038	<0.0005		3.4	0.0032	4.56	<0.0001	19.6	3.1		<0.00005	<0.001	0.0074	0.0038
W12	18/12/2007	0.00011	91.2	<0.0005	0.0001	0.053	0.1	0.0001	0.004	26.1	0.079	<0.0001	0.038	<0.0005	<0.05	3.4	0.0032	4.56	<0.0001	19.6	3.1	72.8	<0.00005	<0.001	0.0074	0.0038
W12	15/01/2008	0.00003	80.4	0.0007	0.0005	0.051	0.6	0.0002	0.004	27	0.051	<0.0001	0.042	0.003	<0.05	3.3	0.004	6.23	<0.0001	50.3	2.45	92.4	<0.00005	<0.001	0.0173	0.0043
W12	16/01/2008	0.00003	80.4	0.0007	0.0005	0.051	0.6	0.0002	0.004	27	0.051	<0.0001	0.042	0.003		3.3	0.004	6.23	<0.0001	50.3	2.45		<0.00005	<0.001	0.0173	0.0043
W12	13/02/2008	0.00019	166	<0.0005	0.0014	0.288	0.5	0.0001	0.011	45.1	0.13	<0.0001	0.039	0.0014	<0.05	8.3	0.0185	4.99	0.00006	41	4.99	107	<0.00005	<0.001	0.0106	0.0048
W12	22/04/2008	0.00009	50.2	<0.0005	0.00032	0.129	0.61	0.0002	0.002	11.9	0.0364	<0.00001	0.024	0.005	0.02	2.98	0.0016	2.43	<0.0001	9.8	1.18		<0.00001	<0.0001	0.0121	0.0016
W12	07/05/2008	0.00026	31.4	0.0045	0.00216	0.569	4.99	0.0042	0.003	8.26	0.187	0.0005	0.0232	0.042	0.13	3.47	0.0044	5.42	0.0004	8.6	0.629		0.00003	<0.0001	0.128	0.0018
W12	13/05/2008	0.00026	33.5	0.0056	0.00243	0.675	6.61	0.004	0.003	9.28	0.231	0.0005	0.0202	0.051	0.17	3.41	0.0034	5.99	0.0003	10.1	0.763		0.00003	<0.0001	0.0317	0.002
W12	20/05/2008	0.00026	37.3	0.0054	0.0019	0.519	4.51	0.004	0.004	9.79	0.172	0.0004	0.0234	0.035	0.11	3.78	0.003	5.36	0.0004	11.3	0.846		0.00005	<0.0001	0.0376	0.0026
W12	27/05/2008	0.00019	35.8	0.002	0.00089	0.458	1.88	0.0018	0.003	8.7	0.125	0.0003	0.0208	0.003	0.06	3.09	0.0042	2.63	0.0001	10.1	0.809		<0.00001	<0.0001	0.0776	0.0021
W12	18/06/2008	0.00024	46.2	0.0021	0.00081	0.465	1.71	0.0015	0.003	11.2	0.123	0.0002	0.0245	0.002	0.06	3.55	0.004	4.69	0.00015	14.4	1.16		<0.00001	<0.0001	0.0412	0.0022
W12	27/06/2008	0.00026	47	0.0022	0.00076	0.539	1.42	0.0013	0.003	11	0.121	0.00002	0.024	0.002	0.05	3.31	0.0038	3.89	0.00006	14.2	1.1		<0.00001	<0.0001	0.0297	0.0023
W12	22/07/2008	0.00024	69.7	0.0006	0.0006	0.318	0.91	0.0006	0.004	16.5	0.129	<0.0001	0.036	<0.0005		3.9	0.007	4.8	0.00008	20.2	1.78	48.1	<0.00005	<0.001	0.0286	0.0031
W12	18/09/2008	0.00016	48	0.0032	0.00129	0.393	3.38	0.0018	0.004	13.1	0.165	0.0001	0.0213	0.002	0.1	4.39	0.0078	7.42	0.00016	16.1	0.984		0.00002	0.0001	0.0549	0.0023
W12	18/11/2008	0.00047	102	0.0013	0.0008	0.48	0.99	0.0003	0.007	25.3	0.295	<0.0001	0.042	0.0017		6	0.0067	4.73	0.00016	28.6	2.47	66.2	<0.00005	<0.001	0.0367	0.0035
W12	02/02/2009	0.00029		0.0009	0.00077	0.171		0.0003	0.006		0.413	<0.00001	0.0425	0.001	0.08		0.0029		<0.00001		4.7		<0.00001	<0.0001	0.0134	0.0048
W12	21/04/2009	0.00039	80	0.0011	0.00134	0.511	2.6	0.0012	0.007	20.1	0.196	0.00002	0.0263	0.001	<0.05	5	0.005	5.87	0.00003	23.4	2.64	32.8	0.00002	<0.0001	0.0945	0.0028
W12	02/05/2009	0.00016	22.2	0.0076	0.0032	0.372	8.17	0.004	0.004	7.19	0.271	0.00003	0.0036	0.007	0.23	3.8	0.0009	11.4	0.00006	4.88	0.325	5.3	0.00004	<0.0001	0.145	0.0007
W12	03/05/2009	0.00029	66	0.0035	0.0008	0.256	1.87	0.001	0.002	1.3	0.062	<0.0001	0.006	0.0006	0.06	5	0.002	6.18	0.00006	4.5	0.468	5.7	<0.00005	<0.001	0.0514	<0.0005
W12	05/05/2009	0.00135	27.2	0.0065	0.00298	0.348	6.7	0.0034	0.004	8	0.266	0.00002	0.00568	0.008	0.171	3.3	0.001	9.45	0.00009	6.81	0.441	7.6	0.00005	<0.0001	0.157	0.001
W12	03/06/2009																									
W12	13/07/2009	0.00006	36.5	<0.001	<0.0005	0.0467	0.298	0.0008	<0.005	9.25	0.118	<0.00002	0.016	0.001		3.2	0.0022	3.24	<0.00002	11.2	0.636	15	<0.00005	<0.005	0.01	0.0011
W12	19/07/2009 9:30	0.00008	34.1	<0.001	<0.0005	0.0335	0.245	0.0005	<0.005	8.36	0.118	<0.00002	0.016	0.001		2.97	0.002	2.89	0.00002	11	0.616	15	<0.00005	<0.005	0.011	0.0009
W12	21/09/2009	0.00003	52.1	0.0009	0.00029	0.01	0.054	0.0007	0.002	13.2	0.324	<0.00001	0.017	0.001	<0.05	3.6	0.0018	3.1	<0.00001	19.5	0.837	21.5	0.00014	<0.0001	0.0019	0.0004
W12	05/11/2009																									
W12	06/11/2009	0.00018	127	<0.0004	0.00075	0.186	0.269	0.0002	0.006	29.9	0.419	<0.00001	0.0391	0.003	<0.05	5.1	0.0062	3.42	<0.00001	47.2	5.08	43.7	<0.00001	<0.0001		0.004
W12	02/12/2009	0.00126	364	0.0022	0.00371	6.21	8.79	0.003	0.017	88	0.532	0.00003	0.0514	0.005	0.3	14.2	0.0142	13	0.00251	53	8.45	197	0.00003	<0.0001		0.0121
W12	01/02/2010	0.00034	212	<0.0004	0.00064	0.123	0.052	<0.0001	0.009	44.1	0.0961	<0.00001	0.0488	0.003	0.06	5.7	0.0178	3.76	<0.00001	48.6	7.18	110	<0.00001	<0.0001		0.0102
W12	02/02/2010																									
W12	02/03/2010	0.00056	261	0.0024	0.00203	3.21	6.02	0.0037	0.013	56.9	0.355	0.00002	0.0598	0.002	0.18	7.1	0.0167	7.51	0.00059	51	7.58	149	0.00002	<0.0001		0.0103
W12	07/04/2010	0.00032	53.2	0.0008	0.00109	1.07	2.91	0.0027	0.008	12.8	0.132	0.00001	0.0394	<0.001	0.27	2.8	0.0076	5.75	0.00029	10.2	1.53	16.2	<0.00001	<0.0001		0.002
W12	19/04/2010	0.00007	54.4	0.0008	0.00122	0.158	2.51	0.001	0.003	13.8	0.105	0.00001	0.0269	0.001	0.1	3.1	0.0041	6.02	0.00011	13.2	1.86	16.9	<0.00001	<0.0001		0.0025
W12	26/04/2010	0.00005	38.2	<0.001	0.0007	0.183	1.37	0.0008	<0.005	8.35	0.143	<0.00002	0.009	0.002		2.62	0.0019	4.65	0.00006	8.71	0.996	15	<0.00005	<0.005	0.026	0.0013
W12	03/05/2010	0.00013	54.2	0.003	0.0015	0.225	3.17	0.0017	<0.005	11.7	0.184	<0.00002	0.015	0.004	0.092	3.19	0.0031	7.87	0.00006	13.1	1.49	22	<0.00005	<0.005	0.068	0.0024
W12	11/05/2010	0.00013	57.8	0.002	0.001	0.168	2.1	0.0011	<0.005	11.6	0.158	<0.00002	0.017	0.002	0.061	3.68	0.0034	6.54	<0.00002	16.3	1.65	23	<0.00005	<0.005	0.041	0.0026
W12	18/05/2010	0.0001	52.6	0.003	0.0015	0.447	3.22	0.0011	<0.005	14.5	0.196	<0.00002	0.018	<0.003	0.147	4	0.0039	7.78	0.00016	20.3	1.87	23	<0.00005	<0.005	0.078	0.0026
W12	26/05/2010	<0.0001	57	<0.002	0.0008	0.173	1.22	0.0008	<0.01	12	0.133	<0.00002	0.019	0.002		3	0.004	5.24	<0.0001	17	1.76	<60	<0.00005	<0.005	0.026	0.0031
W12	01/06/2010	<0.0001	69	<0.002	0.0008	0.189	1.18	0.0006	<0.01	14	0.138	<0.0002	0.023	0.002		4	0.004	5.18	<0.0001	21	2.09	<60	<0.00005	<0.005	0.036	0.0034
W12	06/12/2010	0.00039	198	<0.001	0.0017	1.18	2.39	0.0005	0.014	48.1	0.172	0.00002	0.034	<0.001		7.52	0.0092	4.71	0.00052	99.1	10.2	123	<0.00005	<0.005	0.064	0.0073
W12	16/03/2011	0.00026	190	<0.001	0.0006	0.159	0.024	0.0002	0.008	50.6	0.225	<0.00002	0.044	<0.001		6.97	0.0099	5.61	<0.00002	51	7.44	160	<0.00005	<0.005	<0.005	0.0073
W12	03/05/2011	0.00004	33.4	<0.001	0.0006	0.0825	1.14	0.0003	<0.005	9.59	0.301	<0.00002	0.005	0.002	0.07	3.68	0.0015	4.48	0.00002	9.61	0.429	12	<0.00005	<0.005	0.025	0.0007
W12	25/05/2011	0.00006	40	0.002	0.0013	0.212	3.44	0.0008	<0.005	10.8	0.254	<0.00002	0.003	0.003	0.103	3.1	0.0011	9.05	0.00009	6.34	0.259	8	<0.00005	<0.005	0.107	0.0006
W12	02/06/2011	0.00009	54.6	0.002	0.0011	0.182	2.24	0.0011	<0.005	16.7	0.213	<0.00002	0.015	0.003	0.101	4.47	0.0051	7.83	0.00008	18.6	1.54	29	<0.00005	<0.005	0.1	0.0026
W12	30/06/2011	0.00004	53.1	<0.001	<0.0005	0.0596	0.292	<0.0002	<0.005	16	0.068	<0.00002	0.016	0.001	0.02	3.54	0.0046	4.02	<0.00002	16.5	1.15	27	<0.00005	<0.005	0.009	0.0026
W12	07/08/2011	0.00004	51.3	<0.001	<0.0005	0.0662	0.437	0.0004	<0.005	20.5	0.112	<0.00002	0.021	0.001	0.029	4.41	0.005	4.26	0.00002	20.7	1.26	30	<0.00005	<0.005	0.013	0.0032
W12	01/10/2011	0.00008	61.5	<0.001	<0.0005	0.0703	0.113	<0.0002	<0.005	19.1	0.13	<0.00002	0.018	<0.001	0.012	3.74	0.0052	4.51	<0.00002	18.4	1.35	25	<0.00005	<0.005	<0.005	0.0031
W12	30/10/2011	0.00004	52.9	<0.001	<0.0005	0.0801	0.136	<0.0002	<0.005	19.1	0.145	<0.00002	0.019	<0.001	0.018	4.2	0.0048	3.58	<0.00002	20	1.56	29	<0.00005	<0.005	0.006	0.0032
W12	03/11/2011	0.00007	65.3	<0.001	<0.0005	0.077	0.272	<0.0002	<0.005	18.3	0.15	<0.00002	0.02	<0.001	0.011	4.12	0.0058	4.22	<0.00002	19.3	1.59	27	<0.00005	<0.005	0.006	0.0031
W12	23/11/2011	0.00005	67	<0.001	<0.0005	0.0879	0.207	<0.0002	<0.005	22.1	0.143	<0.000020	0.022	0.001	0.014	4.63	0.0062	4.8	<0.00002	22.4	1.64	31.7	<0.00005	<0.005	0.005	0.0038
W12	13/02/2012	0.00004	59.7	<0.001	<0.0005	0.075	0.088	<0.0002	<0.005	18.7	0.128	<0.000010	0.019	<0.001	0.01	3.84	0.0057	4.1	<0.00002	19.4	1.47	28.1	<0.00005	<0.005	<0.005	0.0032
W12	28/03/2012 14:00	0.00008	65.9	<0.001	<0.0005	0.08	0.051	<0.0002	<0.005	20.9	0.134	<0.000010	0.022	<0.001	<0.01	4.3	0.0065	4.67	<0.00002	21.6	1.7	31.2	<0.00005	<0.005	<0.005	0.0036
W12	07/04/2012 13:30	0.00004	49.6	<0.001	0.0006	0.0803	1.24	0.0004	<0.005	18.7	0.109	<0.000010	0.024	<0.001	0.036	4.38	0.0042	4.34	0.00003	14.8	1.09	20.5	<0.00005	<0.005	0.041	0.0023
W12	22/04/2012 13:30	0.000043	54.8	<0.0010	<0.00050	0.103	0.661	0.00031	<0.0050	18.1	0.126	<0.000010	0.0166	0.0011	0.025	3.88	0.00459	4.93	<0.000020	17.3	1.29	24.3	<0.000050	<0.0050	0.0244	0.00322
W12	03/05/2012 17:00	0.000042	46.9	<0.0010	<0.00050	0.105	0.568	0.00026	<0.0050	14.1	0.112	<0.000010	0.0136	0.001	0.03	3.27	0.00393	4.4	0.000022	13.7	1.03	18.1	<0.000050	<0.0050	0.0168	0.00219
W12	03/06/2012	0.000033	61.3	<0.0010	<0.00050	0.0849	0.177	0.00034	<0.0050	19	0.138	<0.000010	0.0163	<0.0010	0.089	4.34	0.00535	4.45	<0.000020	19.6	1.29	26.7	<0.000050	<0.0050	<0.0050	0.00229
W12	03/07/2012 10:45	0.000024	70.4	<0.0010	<0.00050	0.0638	0.0559	<0.00020	<0.0050	22.1	0.0461	<0.000010	0.0183	<0.0010	0.081	5.31	0.00564	0.122	<0.000020	23.4	1.45	28.5	<0.000050	<0.0050	<0.0050	0.0023
W12	18/07/2012 9:25	0.000024	70.6	<0.0010	<0.00050	0.0777	0.186	<0.00020	<0.0050	22.4	0.0264	<0.000010	0.0176	<0.0010	0.063	5.21	0.00691	0.441	<0.000020	22.3	1.5	28.2	<0.000050	<0.0050	<0.0050	0.00245

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W12	19/05/2007	0.001	0.01	<0.002	<0.005	0.0005	0.0005	0.087	<0.0001	<0.0005	0.216	0.00005	178	0.0011	0.0019	0.099	<0.01	<0.0001	0.03	43.4	0.36	0.0001	0.016	0.0008		10.4
W12	20/06/2007	0.0049	0.027	<0.001																						
W12	27/06/2007	0.026	0.073																							
W12	01/08/2007	0.0028	0.016	<0.001																						
W12	12/08/2007	0.0616	0.17		0.013	<0.0002	0.001	0.074	<0.0001	<0.0005	0.233	0.00049	129	<0.0005	0.0015	0.141	0.02	0.0002	0.009	29	0.538	<0.0001	0.024	<0.0005	<0.02	10.1
W12	23/10/2007	0.001	0.007	<0.001																						
W12	30/10/2007	0.0006	0.004	<0.001																						
W12	27/11/2007	0.0007	0.013	<0.001																						
W12	18/12/2007	0.0011	0.012																							
W12	18/12/2007	0.0011	0.012	<0.001																						
W12	15/01/2008	0.0042	0.011	<0.001																						
W12	16/01/2008	0.0042	0.011																							
W12	13/02/2008	0.0008	0.015	<0.001																						
W12	22/04/2008	0.00137	0.009	0.0001																						
W12	07/05/2008	0.0118	0.023	0.0018																						
W12	13/05/2008	0.0128	0.038	0.002	0.05	0.0011	0.0016	0.054	<0.00004		0.03	0.00008	23.4	<0.0006	0.00019	0.15	0.12	0.0004	0.001	5.8	0.0505	0.0002	0.0174	0.001	0.01	1.46
W12	20/05/2008	0.013	0.018	0.0019	0.04	0.002	0.003	0.048	<0.00004		0.04	0.00009	33.5	0.0011	0.00036	0.217	0.15	0.0005	0.002	7.8	0.0672	0.0001	0.0226	0.001	0.01	2.75
W12	27/05/2008	0.00569	0.01	0.003	0.0016	0.64	0.0021	0.049	<0.00004		0.075	0.00012	36.6	0.0013	0.00027	0.318	0.14	0.0004	0.002	8.52	0.0763	0.0001	0.0217	<0.001	0.02	3
W12	18/06/2008	0.00554	0.016	0.004	0.04	0.0012	0.0015	0.05	<0.00004		0.051	0.00017	46.8	0.001	0.00024	0.318	0.09	0.0004	0.003	0.0798	0.0798	<0.0001	0.0262	<0.001	<0.01	4.42
W12	27/06/2008	0.00394	0.013	0.0011	0.03	0.0011	0.0014	0.053	0.00005		0.062	0.00019	50.6	0.0025	0.00027	0.396	0.09	0.0002	0.003	11.8	0.093	<0.00001	0.026	<0.001	0.01	3.36
W12	22/07/2008	0.0036	0.01	<0.001																						
W12	18/09/2008	0.00695	0.016	0.0008	0.051	0.0012	0.0011	0.072	<0.00004		0.038	0.00009	42.4	0.0007	0.0004	0.217	0.1	0.0003	0.003	11.3	0.107	<0.0001	0.0211	0.001	<0.01	3.56
W12	18/11/2008	0.0033	0.04	0.001																						
W12	02/02/2009	0.00171	0.014	0.0003	<0.005	0.0015	0.0004	0.13	<0.00004	<0.0001	0.071	0.00025	152	0.0004	0.00061	0.126	<0.01	0.0001	0.005	37.9	0.382	<0.00001	0.0407	0.001	<0.01	5.2
W12	21/04/2009	0.00611	0.023	0.0005																						
W12	02/05/2009	0.0146	0.047	0.001	0.032	0.0006	0.0007	0.045	<0.00004	<0.0001	0.012	0.00005	19.5	<0.0004	0.00025	0.077	0.12	0.0002	0.001	4.61	0.0841	<0.00001	0.00492	<0.001	0.03	2.9
W12	03/05/2009	0.0086	0.01	0.001	<0.005	0.0002	0.001	0.036	<0.0001	<0.0005	0.014	<0.00001	62.6	<0.0005	0.0001	0.117	0.02	<0.0001	0.001	<0.2	<0.005	<0.0001	0.006	<0.0005		4.6
W12	05/05/2009	0.0135	0.036	0.0016	0.034	0.0006	0.001	0.05	0.00004	<0.0001	0.019	0.00004	24.9	<0.0004	0.00026	0.081	0.15	0.0002	0.002	5.82	0.0951	<0.00001	0.0074	0.001	<0.01	2.6
W12	03/06/2009																									
W12	13/07/2009	<0.005	0.007	<0.0005	0.075	0.0013	0.0009	0.121	<0.0001	<0.001	<0.05	0.00003	34.2	<0.001	<0.0005	0.0276	0.101	0.0003	<0.005	8.3	0.098	0.00002	0.016	<0.001		3.06
W12	19/07/2009 9:30	<0.005	0.017	<0.0005	0.07	0.0009	0.0008	0.127	<0.0001	<0.001	<0.05	0.00003	35.6	<0.001	<0.0005	0.0191	0.07	0.0002	<0.005	8.59	0.11	<0.00002	0.017	<0.001		3.1
W12	21/09/2009	0.0007	0.011	0.0001	0.021	0.001	0.0003	0.143	<0.00004	<0.001	0.032	0.00001	50.1	<0.0004	0.00027	0.001	<0.01	<0.0001	0.002	12.7	0.336	<0.00001	0.017	0.002	<0.01	3.5
W12	05/11/2009																									
W12	06/11/2009	0.0017	0.004	0.0003																						
W12	02/12/2009	0.0144	0.075	0.0006																						
W12	01/02/2010	0.0011	0.004	0.0005																						
W12	02/02/2010																									
W12	02/03/2010	0.0112	0.03	0.0004																						
W12	07/04/2010	0.0058	0.022	0.0002																						
W12	19/04/2010	0.006	0.025	0.0001	<0.005	0.0009	0.0004	0.031	<0.00004	<0.001	0.04	0.00003	50.8	<0.0004	0.00047	0.018	0.03	0.0002	0.002	12.5	0.036	<0.00001	0.0264	<0.001	<0.01	2.7
W12	26/04/2010	<0.005	0.012	<0.0005	0.057	<0.0005	0.0007	0.034	<0.0001	<0.001	<0.05	0.00005	40.4	<0.001	<0.0005	0.109	0.173	<0.0002	<0.005	8.3	0.119	<0.00002	0.009	<0.001		2.68
W12	03/05/2010	0.007	0.015	0.001	0.025	<0.0005	0.0008	0.047	<0.0001	<0.001	<0.05	0.0001	57.3	<0.001	<0.0005	0.113	0.103	<0.0002	<0.005	10.9	0.108	<0.00002	0.016	<0.001	0.017	2.97
W12	11/05/2010	<0.005	0.011	0.0008	0.023	<0.0005	0.0008	0.048	<0.0001	<0.001	<0.05	0.00028	60.6	<0.001	<0.0005	0.107	0.094	<0.0002	<0.005	11.3	0.094	0.00003	0.017	<0.001	0.016	3.41
W12	18/05/2010	0.007	0.016	0.0008	0.019	<0.0005	0.0005	0.047	<0.0001	<0.001	0.05	0.00006	49	<0.001	<0.0005	0.108	0.081	<0.0002	<0.005	12.7	0.085	<0.00002	0.018	<0.001	0.014	3.41
W12	26/05/2010	<0.005	<0.01	<0.002	0.019	<0.0005	<0.001	0.053	<0.0005	<0.001	<0.1	<0.0001	53	High DL removed	<0.0005	0.122	0.064	<0.0002	<0.01	13	0.088	<0.00002	0.021	High DL removed		4
W12	01/06/2010	<0.005	<0.01	<0.002	0.023	<0.0005	0.0009	0.05	<0.0002	<0.001	<0.1	<0.0001	61	High DL removed	<0.0005	0.131	0.069	<0.0002	<0.01	12	0.088	<0.0002	0.021	<0.001		3
W12	06/12/2010	<0.005	0.013	<0.0005	0.079	<0.0005	0.0007	0.095	<0.0001	<0.001	0.388	0.00015	190	<0.001	0.0009	0.476	0.386	<0.0002	0.016	48.6	0.132	<0.00002	0.029	<0.001		7.21
W12	16/03/2011	<0.005	0.007	<0.0005	0.003	<0.0005	0.0007	0.076	<0.0001	<0.001	0.122	0.00014	185	<0.001	0.0005	0.148	<0.005	<0.0002	0.007	48	0.213	<0.00002	0.037	<0.001		6.62
W12	03/05/2011	<0.005	0.009	<0.0005	0.089	<0.0005	0.0003	0.059	<0.0001	<0.001	<0.05	0.00004	31.2	<0.001	<0.0005	0.0431	0.204	<0.0002	<0.005	8.56	0.277	<0.00002	0.004	0.001	0.028	3.32
W12	25/05/2011	0.007	0.047	0.0013	0.032	<0.0005	0.0008	0.073	<0.0001	<0.001	<0.05	0.00003	34.3	<0.001	<0.0005	0.0724	0.225	<0.0002	<0.005	8.41	0.161	<0.00002	0.003	0.002	0.023	2.36
W12	02/06/2011	0.007	0.01	0.0035	0.02	0.0007	0.0012	0.162	<0.0001	<0.001	<0.05	0.00005	53.6	<0.001	<0.0005	0.0742	0.07	<0.0002	<0.005	14.8	0.131	<0.00002	0.014	0.001	0.014	4.05
W12	30/06/2011	<0.005	<0.005	<0.0005	0.007	0.0012	0.0017	0.283	<0.0001	<0.001	<0.05	0.00004	55.8	<0.001	<0.0005	0.0414	0.032	<0.0002	<0.005	16	0.058	<0.00002	0.013	0.001	0.011	3.57
W12	07/08/2011	<0.005	<0.005	<0.0005	0.013	0.0014	0.0015	0.199	<0.0001	<0.001	<0.05	0.00003	56.5	<0.001	<0.0005	0.0501	0.024	<0.0002	<0.005	18.1	0.098	<0.00002	0.02	0.002	0.011	4.21
W12	01/10/2011	<0.005	<0.005	<0.0005	0.014	0.001	0.0009	0.188	<0.0001	<0.001	0.05	0.00006	64.7	<0.001	<0.0005	0.0692	0.039	<0.0002	<0.005	20.1	0.135	<0.00002	0.018	0.001	<0.01	4.04
W12	30/10/2011	<0.005	<0.005	<0.0005	0.012	0.001	0.001	0.177	<0.0001	<0.001	<0.05	0.00006	63.9	<0.001	<0.0005	0.0719	0.016	<0.0002	<0.005	19.8	0.139	<0.00002	0.02	0.001	<0.01	4.15
W12	03/11/2011	<0.005	<0.005	<0.0005	0.01	0.001	0.001	0.189	<0.0001	<0.001	<0.05	0.00005	66.3	<0.001	<0.0005	0.0715	0.021	<0.0002	<0.005	20.3	0.141	<0.00002	0.021	<0.001	<0.01	4.33
W12	23/11/2011	<0.005	<0.005	<0.0005	0.0048	0.00107	0.001	0.152	<0.00010	<0.0010	<0.05	0.000052	68.9	<0.0010	<0.00050	0.0791	0.0246	<0.00020	<0.0050	21.9	0.143	<0.000020	0.0218	0.0016	<0.01	4.33
W12	13/02/2012	<0.005	<0.005	<0.0005	0.0042	0.00103	0.00102	0.163	<0.00010	<0.0010	<0.05	0.000079	65.9	<0.0010	<0.00050	0.0742	0.012	<0.00020	<0.0050	22.1	0.134	<0.000010	0.0214	<0.0010	<0.01	4.55
W12	28/03/2012 14:00	<0.005	<0.005	<0.0005	0.004	0.001	0.00091	0.153	<0.00010	<0.0010	<0.05	0.000089	67	<0.0010	<0.00050	0.0755	0.0124	<0.00020	<0.0050	20.1	0.13	<0.000010	0.0211	<0.0010	<0.01	4.13
W12	07/04/2012 13:30	<0.005	<0.005	<0.0005	0.0038	0.00079	0.00086	0.137	<0.00010	<0.0010	<0.05	0.000042	62.6	<0.0010	<0.00050	0.0674	0.0113	<0.00020	<0.0050	20.3	0.118	<0.000010	0.0223	<0.0010	<0.01	4.19
W12	22/04/2012 13:30	<0.0050	<0.0050	<0.00050	0.0178	0.00073	0.0008	0.116	<0.00010	<0.0010	<0.05	0.000034	58	<0.0010	<0.00050	0.0398	0.0604	<0.00020	<0.0050	19	0.112	<0.000010	0.0167	<0.0010	0.011	3.9
W12	03/05/2012 17:00	<0.0050	0.0057	<0.00050	0.0384	0.0006	0.00063	0.103	<0.00010	<0.0010	<0.05	0.000016	50.7	<0.0010	<0.00050	0.0237	0.0456	<0.00020	<0.0050	14.9	0.104	<0.000010	0.0137	<0.0010	0.015	3.84
W12	03/06/2012	<0.0050	0.0061	<0.00050	0.0764	0.00065	0.00069	0.119	<0.00010	<0.0010	<0.05	0.000046	65.1	<0.0010	<0.00050	0.0772	0.0537	<0.00020	<0.0050	19.5	0.131	<0.000010	0.0171	<0.0010	0.082	4.65
W12	03/07/2012 10:45	<0.0050	<0.0050	<0.00050	0.124	0.00061	0.00061	0.119	<0.00010	<0.0010	<0.05	0.000024	76.5	<0.0010	<0.00050	0.0586	0.0121	<0.00020	<0.0050	23.1	0.0095	<0.000010	0.0195	<0.0010	0.078	6.07
W12	18/07/2012 9:25	<0.0050	<0.0050	<0.00050	0.0846	0.00059	0.00063	0.112	<0.00010	<0.0010	<0.05	0.000022	73.1	<0.0010	<0.00050	0.0655	0.0117	<0.00020	<0.0050	22.4	0.0196	<0.000010	0.0188	<0.0010	0.058	5.34

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	BOD5	Br	Cation	COD	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-T	N-TKN	P-PO4T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L
W12	19/05/2007	0.0048	7.5	0.0002	20.1	3.38	34.9	<0.00005	<0.001	<0.0005	0.003	0.0017	0.015		245	201	<5							10							32.8	0.44
W12	20/06/2007														291	238	<5							8							11	0.11
W12	27/06/2007																															
W12	01/08/2007																															
W12	12/08/2007	0.0071	5.52	<0.0001	32.9	2.84		<0.00005	<0.001	0.0052	0.006	0.0008	0.016			209																
W12	23/10/2007														161	132	<5							5							17.6	0.05
W12	30/10/2007														153	126	<5							<5							7.89	0.06
W12	27/11/2007														174	142	<5							<5							4.35	<0.05
W12	18/12/2007															140																<0.05
W12	18/12/2007														171	<6	<5							<5							2.02	0.05
W12	15/01/2008														141	<6	<5							<5							3.67	0.06
W12	16/01/2008															116																<0.05
W12	13/02/2008														261	214	<5							7							30.3	<0.05
W12	22/04/2008														136	<6	<5							<5							2.08	<0.05
W12	07/05/2008																															
W12	13/05/2008	<0.0006	1.07	High DL removed	7.01	0.563		<0.00001	<0.004	0.0111	0.0018	0.00138	0.002	0.0006																		
W12	20/05/2008	0.0036	1.18	High DL removed	9.99	0.813		<0.00001	<0.004	0.012	0.0019	0.00166	0.003	0.0009	80	70	<5							120							2.44	0.11
W12	27/05/2008	0.0055	1.3	High DL removed	11	0.818		<0.00001	<0.004	0.0104	0.0019	0.00161	0.005	0.0016																		
W12	18/06/2008	0.006	2.74	0.00002	13.8	1.09		0.00001	<0.0001	0.0107	0.0023	0.00161	0.006	0.0012	100	83	<5							340							2.5	<0.05
W12	27/06/2008	0.009	2.77	<0.00001	15.1	1.2		<0.00001	<0.0001	0.0068	0.0024	0.00173	0.004	0.0014																		
W12	22/07/2008														100	80	<5							22							11.2	0.08
W12	18/09/2008	0.009	3.87	<0.00001	14.5	0.89		<0.00001	<0.0001	0.0074	0.0019	0.00156	0.005	0.0005	100	91	<5							70							1.83	0.11
W12	18/11/2008														220	184	<5							16							0.23	<0.05
W12	02/02/2009	0.0029	3.69	<0.00001	30.3	4.46	92.3	<0.00001	<0.0001	0.0009	0.0046	0.00062	0.007	<0.0001	190	<6	<5							<5							7.1	0.04
W12	21/04/2009														160	<6	<5							6							11.8	0.02
W12	02/05/2009	0.0009	1.88	<0.00001	4.5	0.27	5.2	<0.00001	<0.0001	0.002	0.0004	0.00142	0.004	0.0003	50	<6	<5							150							1.91	0.06
W12	03/05/2009	0.0018	2.09	<0.00001	4.3	0.417	5.3	<0.00005	<0.001	0.001	<0.0005	0.0042	0.001		<5	71	6							70							1.67	0.01
W12	05/05/2009	0.0014	2	<0.00001	5.8	0.396	7.2	<0.00001	<0.0001	0.0032	0.0006	0.00139	0.004	0.0005	50	<6	<5							300								
W12	03/06/2009																															
W12	13/07/2009	0.0023	2.63	<0.00002	10.3	0.594	15	<0.00005	<0.005	0.007	0.001	<0.005	<0.005	0.0006																		
W12	19/07/2009 9:30	0.0023	2.77	<0.00002	11.4	0.6	16	<0.00005	<0.005	0.005	0.0009	<0.005	<0.005	<0.0005	81	<0.5	<0.5	<0.5			<0.4											
W12	21/09/2009	0.0023	2.86	<0.00001	18.1	0.804	21.1	<0.00001	<0.0001	<0.0004	<0.0004	0.0006	0.004	<0.0001	100	<6	<5														1.29	0.02
W12	05/11/2009																															
W12	06/11/2009														240	<6	<5														12	0.04
W12	02/12/2009														420	<6	<5														43.8	0.09
W12	01/02/2010														240	<6	<5														22.4	0.04
W12	02/02/2010																															
W12	02/03/2010														260	<6	<5														17.2	0.06
W12	07/04/2010														120	<6	<5														2.97	0.07
W12	19/04/2010	0.0039	3.06	<0.00001	12.4	1.7	16.2	<0.00001	<0.0001	<0.01	0.0024	0.001	0.003	<0.0001	140	<6	<5														22.3	0.03
W12	26/04/2010	0.0021	3.17	<0.00002	9.21	1.08	15	<0.00005	<0.005	<0.005	0.0013	<0.005	<0.005	<0.0005	79	<0.5	<0.5	<0.5			<0.4											
W12	03/05/2010	0.0033	3.37	<0.00002	13.7	1.5	23	<0.00005	<0.005	<0.005	0.0023	<0.005	<0.005	<0.0005	110	<0.5	<0.5	<0.5			<0.4											
W12	11/05/2010	0.0038	3.68	<0.00002	16.2	1.72	23	<0.00005	<0.005	<0.005	0.0027	<0.005	<0.005	<0.0005	110	<0.5	<0.5	<0.5			<0.4											
W12	18/05/2010	0.0038	3.6	<0.00002	19.5	1.54	26	<0.00005	<0.005	<0.005	0.0026	<0.005	<0.005	<0.0005	110	<0.5	<0.5	<0.5			<0.4											
W12	26/05/2010	0.005	3.66	<0.0001	21	1.95	<60	<0.00005	<0.005	<0.01	0.0026	<0.005	<0.01	<0.002	120	<0.5	<0.5	<0.5			<0.4											
W12	01/06/2010	0.0044	3.71	<0.0001	19	1.82	<60	<0.00005	<0.005	<0.01	0.0031	<0.005	<0.01	<0.002	120	<0.5	<0.5	<0.5			<0.4											
W12	06/12/2010	0.0098	3.21	0.0001	92.4	9.8	129	<0.00005	<0.005	<0.005	0.0074	<0.005	<0.005	<0.0005	180	<0.5	<0.5	<0.5			<0.5											
W12	16/03/2011	0.0095	5.54	<0.00002	48.2	6.97	158	<0.00005	<0.005	<0.005	0.0066	<0.005	<0.005	<0.0005	280	<0.5	<0.5	<0.5			<0.4											
W12	03/05/2011	0.0014	3.32	<0.00002	8.62	0.417	11	<0.00005	<0.005	<0.005	0.0006	<0.005	0.008	<0.0005	100	<0.5	<0.5	<0.5														
W12	25/05/2011	0.0009	4.24	<0.00002	5.42	0.228	7	<0.00005	<0.005	<0.005	0.0005	<0.005	0.031	<0.0005	120	<0.5	<0.5	<0.5														
W12	02/06/2011	0.0047	3.6	<0.00002	17	1.61	31	<0.00005	<0.005	<0.005	0.0026	<0.005	<0.005	<0.0005	140	<0.5	<0.5	<0.5														
W12	30/06/2011	0.0055	4.12	<0.00002	17.2	1.17	32	<0.00005	<0.005	<0.005	0.0025	<0.005	<0.005	<0.0005	160	<0.5	<0.5	<0.5														
W12	07/08/2011	0.0058	4.82	<0.00002	17.8	1.33	28	<0.00005	<0.005	<0.005	0.0035	<0.005	0.009	<0.0005	160	<0.5	<0.5	<0.5														
W12	01/10/2011	0.0061	4.61	<0.00002	20	1.45	29	<0.00005	<0.005	<0.005	0.003	<0.005	<0.005	<0.0005	160	<0.5	<0.5	<0.5														
W12	30/10/2011	0.006	4.88	<0.00002	20.4	1.59	30	<0.00005	<0.005	<0.005	0.0034	<0.005	<0.005	<0.0005	160	<0.5	<0.5	<0.5														
W12	03/11/2011	0.0062	4.66	<0.00002	21.1	1.73	32	<0.00005	<0.005	<0.005	0.0035	<0.005	<0.005	<0.0005	170	<0.5	<0.5	<0.5														
W12	23/11/2011	0.00684	4.9	<0.000020	22.3	1.58	35.2	<0.000050	<0.0050	<0.0050	0.00346	<0.0050	<0.0050	<0.00050	172	<0.50	<0.50	<0.50														
W12	13/02/2012	0.00701	4.9	<0.000020	23.2	1.61	34.3	<0.000050	<0.0050	<0.0050	0.00332	<0.0050	<0.0050	<0.00050	173	<0.50	<0.50	<0.50														
W12	28/03/2012 14:00	0.00685	5.1	<0.000020	21.1	1.56	34	<0.000050	<0.0050	<0.0050	0.0033	<0.0050	<0.0050	<0.00050	168	<0.50	<0.50	<0.50														
W12	07/04/2012 13:30	0.00586	4.48	<0.000020	20.2	1.51	30.3	<0.000050	<0.0050	<0.0050	0.00322	<0.0050	<0.0050	<0.00050	164	<0.50	<0.50	<0.50														0.0208
W12	22/04/2012 13:30	0.00554	4.33	<0.000020	17.7	1.35	27.3	<0.000050	<0.0050	<0.0050	0.00288	<0.0050	<0.0050	<0.00050	148	<0.50	<0.50	<0.50														0.0295
W12	03/05/2012 17:00	0.00438	4.07	<0.000020	15.1	1.1	22.8	<0.000050	<0.0050	<0.0050	0.00219	<0.0050	0.0219	<0.00050	133	<0.50	<0.50	<0.50														0.0295
W12	03/06/2012	0.00593	4.65	<0.000020	20.2	1.41	28.3	<0.000050	<0.0050	<0.0050	0.00224	<0.0050	0.0079	<0.00050	163	<0.50	<0.50	<0.50														0.0877
W12	03/07/2012 10:45	0.00704	<0.1	<0.000020	24.2	1.58	33.6	<0.000050	<0.0050	<0.0050	0.00234	<0.0050	<0.0050	<0.00050	182	8.63	<0.50	7.19														0.0789
W12	18/07/2012 9:25	0.00639	0.308	<0.000020	23.1	1.55	31.2	<0.000050	<0.0050	<0.0050	0.00234	<0.0050	<0.0050	<0.00050	188	4.8	<0.50	4														0.0577

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	P-TDP	P-TRP	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		mg/L	mg/L	Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W12	19/05/2007	<0.02	0.07		18			1	
W12	20/06/2007	<0.02	0.1		262			4.6	
W12	27/06/2007								
W12	01/08/2007								
W12	12/08/2007		0.084		167			300	
W12	23/10/2007		0.03		244			2.8	
W12	30/10/2007	<0.02	0.02		221			0.6	
W12	27/11/2007	<0.02	0.04		196			0.2	
W12	18/12/2007	<0.02	0.05		239			0.8	
W12	18/12/2007	<0.02						0.8	
W12	15/01/2008	<0.02						3.7	
W12	16/01/2008	<0.02	0.06		290			3.7	
W12	13/02/2008	<0.02	0.05		282			2.5	
W12	22/04/2008		0.05					14	
W12	07/05/2008								
W12	13/05/2008								
W12	20/05/2008	0.01	0.04		52.2			82	
W12	27/05/2008								
W12	18/06/2008		0.03		74.2			49	
W12	27/06/2008								
W12	22/07/2008		0.03		141			23	
W12	18/09/2008		0.06		84.7			26	
W12	18/11/2008		0.08		221			15	
W12	02/02/2009							12	
W12	21/04/2009							56	
W12	02/05/2009							240	
W12	03/05/2009							67.4	
W12	05/05/2009							200	
W12	03/06/2009								
W12	13/07/2009								
W12	19/07/2009 9:30		<0.005					6.4	
W12	21/09/2009							2.4	
W12	05/11/2009								
W12	06/11/2009							4.9	
W12	02/12/2009							8.3	
W12	01/02/2010							0.4	
W12	02/02/2010								
W12	02/03/2010							6.9	
W12	07/04/2010							12	
W12	19/04/2010							51	
W12	26/04/2010		0.008					28.8	32.9
W12	03/05/2010		<0.005					94.3	89.9
W12	11/05/2010		<0.005					58	
W12	18/05/2010		<0.005					35.9	
W12	26/05/2010		<0.005					30.3	
W12	01/06/2010		<0.005					29.7	
W12	06/12/2010		<0.005					1.5	-1.9
W12	16/03/2011		0.012					0.3	
W12	03/05/2011								
W12	25/05/2011								
W12	02/06/2011								
W12	30/06/2011								
W12	07/08/2011								
W12	01/10/2011								
W12	30/10/2011								
W12	03/11/2011								
W12	23/11/2011								
W12	13/02/2012								
W12	28/03/2012 14:00								
W12	07/04/2012 13:30					558.9			
W12	22/04/2012 13:30					549.2			
W12	03/05/2012 17:00					457.2			
W12	03/06/2012					572.1			
W12	03/07/2012 10:45					631			
W12	18/07/2012 9:25					580.1			

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T	B-T
			mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W12	12/08/2012 17:10	P	<1.0	446	7.7	8.39	531	641	16.7	7.15	74.1	6.4	283	258	167	15	0.56	87.3	0.026	0.0748	15		0.0762	<0.00050	0.0007	0.108	<0.00010	<0.0010	<0.05
W12	12/09/2012 16:00	P	6.3	386	7.96	8.11	390.2	580	8.4	7.11	60.6	78.7	256	243	151	9.7	0.25	81.3	0.053	0.075	15	10.8	0.189	<0.00050	0.00046	0.102	<0.00010	<0.0010	<0.05
W12	14/10/2012 8:30	P	2.2	422	8.29	7.97	328.4	595	4.2	9.51	72.3	72.8	283		152	8.6	0.53	86.5	0.089	0.07	15.4	11.3	0.0892	0.0006	0.0007	0.122	<0.00010	<0.0010	<0.05
W12	11/11/2012 10:30	P	17.9	428	7.95	8.07	40.2	676	1.4			47.7	268	273	157	7.5	0.57	114	0.092	0.12	19		0.452	<0.00050	0.0007	0.0895	<0.00010	<0.0010	<0.05
W12	16/12/2012 16:00	P	32.1	440	8.09	8.14	347.5	715	1.2	2.23	15.7	93	279	275	165	7.8	0.67	126	0.1	0.255	17.9		0.551	<0.00050	0.00052	0.089	<0.00010	<0.0010	<0.05
W12	04/01/2013	P	5.6	1290	7.91	8.03	12.2	1780	-0.2	12.67	47	149.3	714	755	373	6.3	3.2	565	4.3	0.941	23	12.5	0.125	0.00074	0.00194	0.0998	<0.00010	<0.0010	0.382
W12	13/02/2013	P	7.3	846		8.11		1230					427	475	276	15	1.3	228	1.3	0.43	32.2		0.167	0.00053	0.0007	0.107	<0.00010	<0.0010	0.161
W12	04/03/2013 15:30	P	5.2	560	8.01	8.22	421	847	0.3	0.7	4.9	-396.5	290	303	210	8.3	0.98	133	0.42	0.0397	17.5	9.7	0.0867	<0.00050	0.00051	0.0868	<0.00010	<0.0010	0.078
W12	18/04/2013 9:30	P	15.4	418	7.96	8.14	0.336	677	0.5			-412.4	236	202	163	8.7	0.93	131	0.57	0.148	13.2		0.526	<0.00050	0.00045	0.0985	<0.00010	<0.0010	0.066
W12	04/05/2013 16:45	P	10.4	460	8.34	8.09	373.3	709	3.8		61.8	22.3	257	237	173	10	1	134	0.64	0.173	13.4		0.364	<0.00050	0.00036	0.0871	<0.00010	<0.0010	0.08
W12	07/07/2013 14:55	P	10.4	432	7.87	8.26		702	12.9	2.22	21.4	148.8	223	223	167	11	0.97	124	0.45	0.211	10.6		0.37	<0.00050	0.00056	0.0888	<0.00010	<0.0010	0.07
W12	02/08/2013 11:00	P	20.8	456	7.67	8.1	572	687	14.9	3.54	35.3	213.0	240	221	160	11	1.1	129	0.38	0.213	12.4		0.444	<0.00050	0.00052	0.093	<0.00010	<0.0010	0.077
W12	04/09/2013 8:00	P	11.2	468	7.97	8.17	562	726	13.6	3.34	35.4	86.1	260	227	166	11	1.2	135	0.48	0.242	13.6		0.432	<0.00050	0.00046	0.0922	<0.00010	<0.0010	0.075
W12	04/10/2013 12:00	P	8.7	478	7.00	8.21		745	11				277	240	166	10	1.3	148	0.7	0.278	15.2		0.572	<0.00050	0.00064	0.0889	<0.00010	<0.0010	0.079
W12	18/10/2013 15:30	P	14.7	510	7.73	8.16	507	753	8.45	7.42	63.5	239.2	279	251	165	11	1.3	151	0.78	0.249	14.9		0.389	<0.00050	0.0004	0.0943	<0.00010	<0.0010	0.09
W12	09/11/2013 10:30	P	8.2	498	8.00	8.2	435	791	4.1	7.51	57.1	119.8	277	257	165	11	1.3	157	1.2	0.221	15.8		0.141	<0.00050	0.00032	0.0861	<0.00010	<0.0010	0.085
W12	10/12/2013 10:30	P	6	560	7.98	8.23	422.6	821	2.1	7.32	53.1	-3.2	265	271	168	12	1.3	169	1.5	0.262	17.2		0.37	<0.00050	0.00042	0.0939	<0.00010	<0.0010	0.098
W12	05/01/2014 17:10	P	2.7	514	8.09	8.19	468.2	833	2	5.02	36.2	69.6	269	273	183	13	1.4	174	1.6	0.242	16.8		0.086	<0.00050	0.0004	0.082	<0.00010	<0.0010	0.127
W12	04/02/2014 17:00	P	11.6	554	8.16	8.17	499.4	844	4.1	10.82	83.4	44.9	272	275	172	14	1.5	179	1.5	0.284	16.7		0.148	<0.00050	0.00042	0.0888	<0.00010	<0.0010	0.109
W12	24/03/2014 11:30	P	9.3	548	8.4	8.25	1019	866	7.4				265	259	178	14	1.4	185	1.2	0.0429	14.4		0.113	<0.00050	0.00051	0.0943	<0.00010	<0.0010	0.118
W12	19/04/2014 10:10	P			8		526		3.5	4.6	35.4	60.2																	
W12	19/04/2014 10:10	P	8	544		8.32		894					272	276	187	14	1.4	187	1.2	0.0351	12		0.228	<0.00050	0.00049	0.0956	<0.00010	<0.0010	0.12
W12	06/05/2014 15:30	P	3.2	562	8.11	8.24	499.3	878	6.3	0.38	3	46.1	266	265	193	15	1.4	185	1.3	0.131	10.4		0.174	<0.00050	0.00051	0.0874	<0.00010	<0.0010	0.109
W12	14/06/2014 10:45	P	1.1	560	8.2	8.18	730	897	12	4.6	43.3	207.7	277	271	195	17	1.4	190	1.5	0.191	10.1		0.078	<0.00050	0.00046	0.0943	<0.00010	<0.0010	0.139
W12	03/07/2014 11:10	P	6.1	614	8.32	8.24	734	921	14.5	8.33	82.6	153.5	300	267	188	17	1.5	215	1.3	0.216	11.6		0.133	<0.00050	0.00049	0.102	<0.00010	<0.0010	0.136
W12	23/07/2014 8:30	M			8.66		702		14.5	4.89	48.1	134.8																	
W12	07/08/2014 16:20	M											277										0.163	<0.00050	0.00037	0.0914	<0.00010	<0.0010	0.134
W12	09/08/2014 10:02	M			8.08		819		14	7.19	70.7	105.7																	
W12	09/08/2014 10:02	P	20.8	876	8.08	8.31	819	970	14	7.19	70.7	105.7	287	286	191	18	1.5	237	1.6	0.217	12.3		0.172	<0.00050	0.00044	0.0974	<0.00010	<0.0010	0.135
W12	15/08/2014 15:50	M			8.03		707		14.6	4.88	48.3	135.3																	
W12	19/08/2014 11:30	M			8.12		739		13.3	6.95	68	134.1																	
W12	26/08/2014 11:45	M			8.11		712		13	6.87	65.5	154.1																	
W12	07/09/2014 10:00	M			8.03		684		11.3	6.15	56.6	167.6																	
W12	07/09/2014 10:00	P	10.1	618	8.03	8.16	684	978	11.3	6.15	56.6	167.6	311	330	184	20	1.5	174	1.6	0.202	13.2		0.248	<0.00050	0.00059	0.1	<0.00010	<0.0010	0.141
W12	12/09/2014 13:20	M			8.06		674		11.5	6.26	57.4	153.8																	
W12	12/09/2014 13:20	P	3.7	792	8.06	8.26	674	978	11.5	6.26	57.4	153.8	286	300	185	19	1.5	179	1.4	0.197	13.6		0.089	<0.00050	0.00068	0.0942	<0.00010	<0.0010	0.123
W12	15/09/2014 16:10	M			6.01		676		11.6	4.33	39.9	133.3																	
W12	15/09/2014 16:10	P	5.6	767	6.01	8.27	676	992	11.6	4.33	39.9	133.3	331	299	186	19	1.6	186	1.7	0.197	13.7		0.149	<0.00050	0.00056	0.101	<0.00010	<0.0010	0.129
W12	25/09/2014 11:45	M			8.00		638		8.7	5.47	47.2	156.8																	
W12	03/10/2014 11:45	M			8.40		1005		12																				
W12	08/10/2014 16:05	P			8.18		649		8.4	9.16	78.3	170.0																	
W12	08/10/2014 16:05	M																											
W12	09/10/2014 13:45	P	19.9	652	8.16	8.18	615	1010	7.4	8.39	70.3	183.6	291	305	175	20	1.5	235	1	0.194	14.1		0.29	<0.00050	0.00054	0.11	<0.00010	<0.0010	0.147
W12	13/10/2014 16:05	M			7.90		616		7.3	5.81	56.6	154.4																	
W12	02/11/2014 14:10	P	7.5	642	7.99	8.17	619	1020	5.2	6.50	51.6	174.5	301	306	181	20	1.6	211	1.2	0.174	15.6		0.124	<0.00050	0.00055	0.102	<0.00010	<0.0010	0.16
W12	23/11/2014 17:40	P	24.7	686	7.89	8.16	656	1050	3.7	11.28	87.6	157.1	344	308	182	22	0.17	198	0.96	0.198	16.1		4.13	<0.00050	0.00164	0.196	0.00012	<0.0010	0.167
W12	11/12/2014 15:50	P	6.6	684	7.84	8.09	584	1060	2.7	1.80	13.6	33.9	327	311	184	22	1.5	255	1.4	0.457	14.9		0.11	<0.00050	0.00053	0.0992	<0.00010	<0.0010	0.156
W12	05/01/2015 9:45	P		686	7.76	7.7	616	1160	2.1	4.17	30.4	-37.7	300	310	163	30	1.4	265	1.4	1.87	16.4		0.143	<0.00050	0.00051	0.108	<0.00010	<0.0010	0.145
W12	17/01/2015 10:40	P	15.2	698		8.01		1060					303	298	186	24	1.3	243	1.4	1.49	13.6		0.381	0.00077	0.00047	0.117	<0.00010	<0.0010	0.159
W12	18/01/2015 13:45	F			8.26		607		0.6	0.89	6.2	8.8																	
W12	20/02/2015 13:30	P	69.4	702	7.89	8.16	73.1	1100	7.2	9.96	84.1	185.9	301	295	209	30	1.5	281	1.7	0.0569	7.73		2.22	<0.00050	0.001	0.167	<0.00010	<0.0010	0.176
W12	08/03/2015 16:20	P	14.8	722	8.09	8.27	656	1140	3.2	531	40.1	153.6	295	298	215	29	1.4	264	2.2	0.749	8.31		0.168	<0.00050	0.00051	0.104	<0.00010	<0.0010	0.18
W12	02/04/2015 10:20	P	6.9	732	8.19	8.2	652	1140	2.7	5.39	40.2	136	296	293	213	29	1.3	277	2.8	1.85	9.11	6.82	0.0862	<0.00050	0.00046	0.103	<0.00010	<0.0010	0.176
W12	11/05/2015 16:40	P	15.5	638	7.92	8.23	780	1060	12.1	8.94	84.5	179.5	336	287	195	26	1.3	223	2.7	1.66	8.2		1.29	<0.00050	0.00079	0.128	<0.00010	<0.0010	0.151
W12	11/06/2015 17:15	P	5.6	676	8.14	8.23	837	1090	13.4	6.84	66.1	127.6	307	327	196	25	1.3	236	2.9	1.79	11.8		0.109	<0.00050	0.00046	0.0822	<0.00010	<0.0010	0.176
W12	03/07/2015 16:40	P	38.3	788	8.19	8.2	977	1230	14.8	6.57	65.8	67.2	294	305	193	28	1.4	286	3.9	2.83	13.6		0.242	<0.00050	0.0003	0.0878	<0.00010	<0.0010	0.2
W12	20/08/2015 9:45	P	4.6	850	8.28	8.17	1001	1250	13.3	7.55	71.4	175.3	294	291	176	28	1.5	312	4.3	1.98	19.6		0.697	<0.00050	0.00066	0.108	<0.00010	<0.0010	0.229
W12	16/09/2015 15:00	P	3.4	812	8.22	8.31	898	1250	10.1	8.58	76.6	191.8	335	320	169	27	1.3	313	3.5	1.1	21.2		0.059	<0.00050	0.00039	0.086	<0.00010	<0.0010	0.227
W12	16/10/2015 15:55	P	2	782	7.9	8.3	782	1280	4.5	9.42	73.8	146.5	337	324	174	27	1.4	329	3.2	0.693	23.8		0.0484	<0.00050	0.00036	0.08	<0.00010	<0.0010	0.192
W12	07/11/2015 11:40	P	46.9	878	8.26	8.23	780	1290	3.9	11.33	86.4	64.5	326	336	172	27	1.4	309	3	0.529	24		0.0431	<0.00050	0.00029	0.088	<0.00010	<0.0010	0.213
W12	11/12/2015 17:15	P	5	866	8.2	8.15	833	1330	4.4	11.47	92.2	-226.5	332	355	171	30	1.3	333	3.1	0.552	26		0.0553	<0.00050	0.00038	0.0898	<0.00010	<0.0010	0.187
W12	03/01/2016 15:35	P	67.2	884	7.91	8.12	814	1350	2.8	9.64	73	68.6	355	334	169	31	1.4	332	2.8	0.641	27		0.123	<0.00050	0.00039	0.0938	<0.00010	<0.0010	0.209
W12	01/02/2016 16:50	P	2.2	870	7.97	8.34	807	1350	3.3	11.95	91.4	29	308	349	171	32	1.4	324	2.5	0.709	29.4		0.0433	<0.00050	0.00033	0.0811	<0.00010	<0.0010	0.155
W12	05/03/2016 17:10	P	5.9	862	7.79	8.14	854	1340	5.1	4.68	37	88	365	360	173	31	1.3	333	2.6	0.653	27.3		0.0677	<0.00050	0.00032	0.0906	<0.00010	<0.0010	0.187
W12	19/04/2016 16:25	P	41.3	840	9	8.15	1370	1290	7.2					354	179	34.0		322	2.65	0.836	26.4		0.579	0.00031	0.00061	0.118	0.000028	<0.000050	0.155

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W12	12/08/2012 17:10	0.000028	74.9	<0.0010	<0.00050	0.0696	0.041	<0.00020	<0.0050	23.4	0.0298	<0.000010	0.017	<0.0010	0.043	5.57	0.00663	0.853	<0.000020	22.6	1.49	28.7	<0.000050	<0.0050	<0.0050	0.00257
W12	12/09/2012 16:00	0.000032	67.2	<0.0010	<0.00050	0.105	0.337	<0.00020	<0.0050	21.3	0.0818	<0.000010	0.0169	<0.0010	0.041	4.75	0.00588	2.54	0.000038	20.3	1.48	25.5	<0.000050	<0.0050	0.013	0.00264
W12	14/10/2012 8:30	0.000078	72	0.0016	<0.00050	0.0923	0.127	0.00031	<0.0050	25.1	0.11	<0.000010	0.0205	0.002	0.032	5.07	0.00646	4.11	<0.000020	24.1	1.71	34.7	<0.000050	<0.0050	<0.0050	0.00342
W12	11/11/2012 10:30	0.00005	71.9	<0.0010	0.00061	0.0638	0.42	<0.00020	<0.0050	21.5	0.166	<0.000010	0.0204	0.0017	0.021	5.87	0.0052	4.48	<0.000020	20.6	1.93	33.6	<0.000050	<0.0050	0.0155	0.00352
W12	16/12/2012 16:00	0.000044	73.4	<0.0010	0.0006	0.0855	0.742	0.00024	0.0064	23.3	0.342	<0.000010	0.027	0.0038	0.03	10.8	0.00631	4.55	0.000041	24.9	2.65	38.1	<0.000050	<0.0050	0.0195	0.00226
W12	04/01/2013	0.000026	174	<0.0010	<0.00050	0.0356	0.242	<0.00020	0.0142	67.9	0.141	<0.000010	0.0462	0.0016	0.024	11.8	0.00386	7.87	<0.000020	95.3	21.5	176	<0.000050	<0.0050	<0.0050	0.0246
W12	13/02/2013	0.000021	102	<0.0010	<0.00050	0.0461	0.226	<0.00020	0.0145	41.6	0.178	<0.000010	0.042	0.0031	0.024	22.3	0.00163	4.69	<0.000020	52.3	6.05	69	<0.000050	<0.0050	<0.0050	0.0025
W12	04/03/2013 15:30	0.000011	69.3	<0.0010	<0.00050	0.0457	0.159	<0.00020	0.0114	28.4	0.126	<0.000010	0.0315	0.0016	0.032	20.5	0.0007	3.06	<0.000020	39.9	4.78	49.4	<0.000050	<0.0050	<0.0050	0.00048
W12	18/04/2013 9:30	0.000026	56.1	<0.0010	<0.00050	0.06	0.743	0.00021	0.01	23.2	0.104	<0.000010	0.0291	0.0015	0.033	18.9	0.00064	3.4	<0.000020	36.6	4.46	38.4	<0.000050	<0.0050	0.0239	0.00054
W12	04/05/2013 16:45	0.000027	60.8	<0.0010	<0.00050	0.0174	0.351	<0.00020	0.0127	25.7	0.12	<0.000010	0.0355	0.0035	0.016	22.7	0.00096	3	<0.000020	43.6	5	47.2	<0.000050	<0.0050	0.0117	0.00042
W12	07/07/2013 14:55	0.000022	50.6	<0.0010	<0.00050	0.038	0.49	<0.00020	0.0114	23.4	0.104	<0.000010	0.0391	0.0015	0.016	20.7	0.00363	2.9	<0.000020	41.1	3.48	42.1	<0.000050	<0.0050	0.0175	0.00118
W12	02/08/2013 11:00	0.000012	56	<0.0010	<0.00050	0.0278	0.502	<0.00020	0.0139	24.4	0.079	<0.000010	0.042	0.0015	0.016	20.3	0.00431	3.64	<0.000020	45.4	3.53	40.6	<0.000050	<0.0050	0.0142	0.00099
W12	04/09/2013 8:00	0.000017	61.2	<0.0010	<0.00050	0.0226	0.421	<0.00020	0.0122	25.9	0.0748	<0.000010	0.047	0.0019	0.021	22	0.00554	4.17	<0.000020	47.8	3.48	43.9	<0.000050	<0.0050	0.0118	0.00094
W12	04/10/2013 12:00	0.000015	65.1	<0.0010	<0.00050	0.0543	0.982	0.00029	0.0129	27.7	0.0785	<0.000010	0.05	0.0019	0.076	23.2	0.00593	4.77	<0.000020	50.3	4.32	56.6	<0.000050	<0.0050	0.0322	0.00134
W12	18/10/2013 15:30	0.000071	64.5	<0.0010	<0.00050	0.11	0.646	0.00023	0.0129	28.5	0.0681	0.000027	0.0528	0.0021	0.022	23.7	0.0059	4.19	0.000029	50.8	4.77	53.6	<0.000050	<0.0050	0.0298	0.00167
W12	09/11/2013 10:30	0.000027	64.7	<0.0010	<0.00050	0.0363	0.342	<0.00020	0.012	27.9	0.0593	<0.000010	0.051	0.0025	0.012	22.5	0.00597	3.2	<0.000020	51.6	5.04	51.3	<0.000050	<0.0050	0.0064	0.00159
W12	10/12/2013 10:30	0.000017	67.2	<0.0010	<0.00050	0.0491	0.702	<0.00020	0.013	23.5	0.0765	<0.000010	0.0486	0.0033	0.041	23.6	0.00516	3.88	0.000038	43.9	5.04	49.6	<0.000050	<0.0050	0.0241	0.00156
W12	05/01/2014 17:10	0.000015	65.6	<0.0010	<0.00050	0.00641	0.0847	<0.00020	0.0126	25.5	0.0784	<0.000010	0.0509	0.0034	0.017	26.7	0.00521	3.29	<0.000020	50.7	5.36	56.9	<0.000050	<0.0050	<0.0050	0.00144
W12	04/02/2014 17:00	0.000026	68.9	<0.0010	<0.00050	0.00749	0.193	<0.00020	0.0118	24.3	0.116	<0.000010	0.05	0.0032	<0.01	28.5	0.00464	3.31	<0.000020	48.7	5.28	67.3	<0.000050	<0.0050	0.0054	0.00132
W12	24/03/2014 11:30	0.000015	67.1	<0.0010	<0.00050	0.00393	0.291	<0.00020	0.0132	23.5	0.17	<0.000010	0.0509	0.0013	0.033	31	0.00453	2.86	<0.000020	52.4	5.72	60.1	<0.000050	<0.0050	<0.0050	0.00026
W12	19/04/2014 10:10																									
W12	19/04/2014 10:10	0.000026	69.6	<0.0010	<0.00050	0.0343	0.376	<0.00020	0.0127	23.9	0.154	<0.000010	0.0526	0.0012	0.039	32.2	0.00444	3.09	<0.000020	55.1	6.15	61.4	<0.000050	<0.0050	0.0094	0.00051
W12	06/05/2014 15:30	0.000023	68.4	<0.0010	<0.00050	0.0172	0.388	<0.00020	0.0109	23.2	0.145	<0.000050	0.0499	0.0017	0.031	30.7	0.00447	2.87	<0.000020	54.8	6.01	59.9	<0.000050	<0.0050	0.0081	0.00062
W12	14/06/2014 10:45	0.000026	70.7	<0.0010	<0.00050	0.00948	0.13	<0.00020	0.0121	24.4	0.133	<0.000010	0.0551	0.0034	<0.01	32.9	0.00484	2.93	<0.000020	59.6	6.42	69.5	<0.000050	<0.0050	<0.0050	0.00121
W12	03/07/2014 11:10	<0.000010	77.9	<0.0010	<0.00050	0.0169	0.215	<0.00020	0.0109	25.5	0.119	<0.000010	0.0564	0.0034	0.016	36	0.00523	3.46	<0.000020	62.1	6.52	74.8	<0.000050	<0.0050	<0.0050	0.00122
W12	23/07/2014 8:30																									
W12	07/08/2014 16:20	0.000024	70.4	<0.0010	<0.00050	0.00156	<0.01	<0.00020	0.011	24.6	0.0869	<0.000010	0.0597	0.0025	0.339	31.9	0.00533	2.59	<0.000020	62.6	6.07	71.6	<0.000050	<0.0050	<0.0050	0.001
W12	09/08/2014 10:02																									
W12	09/08/2014 10:02	0.000016	72.1	<0.0010	<0.00050	0.0122	0.233	<0.00020	0.0113	26.1	0.11	<0.000010	0.0597	0.0027	0.015	33.3	0.00558	3	<0.000020	63.2	6.36	77.7	<0.000050	<0.0050	<0.0050	0.00129
W12	15/08/2014 15:50																									
W12	19/08/2014 11:30																									
W12	26/08/2014 11:45																									
W12	07/09/2014 10:00																									
W12	07/09/2014 10:00	0.000016	79.2	<0.0010	<0.00050	0.0146	0.336	<0.00020	0.0112	27.4	0.0994	<0.000010	0.0639	0.0024	0.013	37.2	0.00603	3.52	<0.000020	66.2	7.39	77.1	<0.000050	<0.0050	0.0105	0.00105
W12	12/09/2014 13:20																									
W12	12/09/2014 13:20	0.000017	74.7	<0.0010	<0.00050	0.0136	0.102	<0.00020	0.0121	24.2	0.0949	<0.000010	0.06	0.0022	0.013	34.6	0.00644	3.47	<0.000020	63.8	6.72	74.4	<0.000050	<0.0050	<0.0050	0.00098
W12	15/09/2014 16:10																									
W12	15/09/2014 16:10	0.000019	86.6	<0.0010	<0.00050	0.00875	0.166	<0.00020	0.0117	27.8	0.108	<0.000010	0.0643	0.0022	0.017	38.3	0.00585	3.81	<0.000020	69.9	7.11	88.6	<0.000050	<0.0050	<0.0050	0.00116
W12	25/09/2014 11:45																									
W12	03/10/2014 11:45																									
W12	08/10/2014 16:05																									
W12	08/10/2014 16:05																									
W12	09/10/2014 13:45	0.000021	72.6	<0.0010	<0.00050	0.0665	0.434	<0.00020	0.0126	26.8	0.16	<0.000010	0.0659	0.0023	<0.01	36.2	0.00674	2.82	<0.000020	69.6	7.19	82.1	<0.000050	<0.0050	0.0135	0.00105
W12	13/10/2014 16:05																									
W12	02/11/2014 14:10	0.000033	79.5	<0.0010	<0.00050	0.0266	0.161	<0.00020	0.0131	24.8	0.153	<0.000010	0.0701	0.0017	0.01	37.2	0.00698	3.37	<0.000020	68.6	7.45	90	<0.000050	<0.0050	0.0063	0.00184
W12	23/11/2014 17:40	0.00046	90.8	0.006	0.00376	4.53	13.7	0.00435	0.0161	28.4	0.418	<0.000010	0.0758	0.0053	0.374	38.3	0.0102	11.5	0.0017	74.7	7.7	91.2	0.000062	<0.0050	0.26	0.00229
W12	11/12/2014 15:50	0.000054	84.4	<0.0010	0.00065	0.0205	0.273	<0.00020	0.013	28.3	0.227	<0.000010	0.0745	0.0037	0.016	37.9	0.00795	3.32	0.000037	79.8	7.37	89.3	<0.000050	<0.0050	<0.0050	0.00181
W12	05/01/2015 9:45	0.000073	76	<0.0010	0.00073	0.0257	0.462	<0.00020	0.015	26.8	0.329	<0.000010	0.0752	0.0027	0.025	39	0.00864	2.6	0.000021	79.1	7.4	88.7	<0.000050	<0.0050	0.0057	0.00139
W12	17/01/2015 10:40	0.00008	78.2	<0.0010	0.00144	0.0999	0.694	0.00021	0.015	26.3	0.459	<0.000010	0.0801	0.0025	0.044	36	0.00927	3.25	0.000039	81	6.91	89.1	<0.000050	<0.0050	0.0256	0.0014
W12	18/01/2015 13:45																									
W12	20/02/2015 13:30	0.000295	74.8	0.0031	0.00249	2.55	5.75	0.00178	0.018	27.8	0.669	<0.000010	0.0926	0.0048	0.113	39.4	0.0111	6.46	0.000727	92.9	6.4	89.9	<0.000050	<0.0050	0.0988	0.00197
W12	08/03/2015 16:20	0.000053	74	<0.0010	0.00102	0.0919	0.277	<0.00020	0.0165	26.8	0.725	<0.000010	0.0896	0.0022	0.042	41.3	0.01	2.9	<0.000020	94.7	5.99	96.6	<0.000050	<0.0050	0.007	0.00219
W12	02/04/2015 10:20	0.00006	73.1	<0.0010	0.00074	0.0659	0.177	<0.00020	0.0162	27.6	0.648	<0.000010	0.0924	0.0019	0.043	39.7	0.0106	2.81	<0.000020	102	5.69	99.4	<0.000050	<0.0050	<0.0050	0.0022
W12	11/05/2015 16:40	0.000144	84.4	0.0036	0.00181	1.34	3.82	0.00123	0.0159	30.5	0.743	<0.000010	0.0779	0.0049	0.361	38.2	0.0119	5.64	0.000154	97.8	5.76	93.6	<0.000050	<0.0050	0.0945	0.00266
W12	11/06/2015 17:15	0.000047	77.1	<0.0010	<0.00050	0.0665	0.259	<0.00020	0.013	27.7	0.365	<0.000010	0.0742	0.0018	0.022	33.3	0.00964	3.36	<0.000020	82.9	5.19	92.4	<0.000050	<0.0050	<0.0050	0.00247
W12	03/07/2015 16:40	0.000035	72.8	<0.0010	<0.00050	0.0638	0.47	<0.00020	0.0138	27.3	0.276	<0.000010	0.0859	0.0018	0.022	41.1	0.0147	3.32	<0.000020	106	4.33	110	<0.000050	<0.0050	0.0064	0.00175
W12	20/08/2015 9:45	0.000138	74	<0.0010	0.00067	0.104	1.25	0.00039	0.0142	26.6	0.188	<0.000010	0.101	0.0021	0.067	44.5	0.0183	4.29	0.000051	121	4.74	124	<0.000050	<0.0050	0.041	0.00229
W12	16/09/2015 15:00	0.000053	82.8	<0.0010	<0.00050	0.0322	0.083	<0.00020	0.0121	31.2	0.132	<0.000010	0.0846	0.0011	<0.01	39.3	0.0161	3.76	<0.000020	115	4.15	115	<0.000050	<0.0050	<0.0050	0.00225
W12	16/10/2015 15:55	0.000052	84.6	<0.0010	<0.00050	0.0411	0.071	<0.00020	0.0114	30.6	0.119	<0.000010	0.0803	<0.0010	<0.01	41.9	0.0162	3.9	<0.000020	121	4.13	126	<0.000050	<0.0050	<0.0050	0.00241
W12	07/11/2015 11:40	0.000048	83.4	<0.0010	<0.00050	0.0249	0.048	<0.00020	0.0127	28.7	0.129	<0.000010	0.0848	<0.0010	0.017	39.6	0.0171	3.98	<0.000020	111	4.24	121	<0.000050	<0.0050	<0.0050	0.00235
W12	11/12/2015 17:15	0.000061	87.8	<0.0010	<0.00050	0.0425	0.122	<0.00020	0.0145	27.3	0.145	<0.000010	0.0885	0.001	0.014	41.3	0.0175	3.69	<0.000020	118	4.04	120	<0.000050	<0.0050	<0.0050	0.00254
W12	03/01/2016 15:35	0.000075	91.3	<0.0010	<0.00050	0.225	0.492	0.00045	0.0135	31	0.171	<0.000010	0.089	0.0023	0.036	43.1	0.0198	3.61	<0.000020	145	4.24	140	<0.000050	<0.0050	<0.0050	0.00252
W12	01/02/2016 16:50	0.000043	83.4	<0.0010	<0.00050	0.0242	0.079	<0.00020	0.0119	24.4	0.15	<0.000010	0.0792	0.0011	0.013	33.7	0.0152	3.09	<0.000020	108	3.81	109	<0.000050	<0.0050	<0.0050	0.00228
W12	05/03/2016 17:10	0.000047	98.7	<0.0010	<0.00050	0.0663	0.243	<0.00020	0.0125	28.9	0.181	<0.000010	0.0849	0.0012	0.035	36.6	0.0152	3.93	<0.000020	119	4.16	129	<0.000050	<0.0050	<0.0050	0.00256
W12	19/04/2016 16:25	0.0000847	110	0.00089	0.00053	0.217	0.939	0.000371	0.0122	30.3	0.243	<0.0000050	0.0898	0.00207	0.111	43.3	0.0174	4.39	0.000046	118	4.44	126	<0.000010	<0.00010	0.0171	0.00257

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W12	12/08/2012 17:10	<0.0050	<0.0050	<0.00050	0.0753	0.00054	0.00062	0.106	<0.00010	<0.0010	<0.05	0.000028	67.3	<0.0010	<0.00050	0.0664	0.0133	<0.00020	<0.0050	21.8	0.0263	<0.000010	0.0179	<0.0010	0.047	5.23
W12	12/09/2012 16:00	<0.0050	0.0055	<0.00050	0.0301	0.00052	0.0006	0.104	<0.00010	<0.0010	<0.05	0.000031	64.2	<0.0010	<0.00050	0.0696	0.028	<0.00020	<0.0050	20.1	0.07	<0.000010	0.0176	<0.0010	0.023	4.73
W12	14/10/2012 8:30	<0.0050	0.0124	<0.00050																		<0.000010				
W12	11/11/2012 10:30	<0.0050	0.0056	<0.00050	0.0109	0.00058	0.00051	0.0877	<0.00010	<0.0010	<0.05	0.000049	72.3	<0.0010	<0.00050	0.0341	0.0074	<0.00020	<0.0050	22.4	0.168	<0.000010	0.0215	<0.0010	<0.01	6.16
W12	16/12/2012 16:00	<0.0050	0.0057	<0.00050	0.0084	0.0005	0.00046	0.0763	<0.00010	<0.0010	0.052	0.000035	70.3	<0.0010	<0.00050	0.00983	0.0108	<0.00020	0.0067	24.1	0.296	<0.000010	0.0286	0.003	<0.01	10.7
W12	04/01/2013	<0.0050	<0.0050	<0.00050	0.0066	0.00087	0.00213	0.101	<0.00010	<0.0010	0.434	0.000025	184	<0.0010	<0.00050	0.0263	0.0298	<0.00020	0.0141	71.5	0.146	<0.000010	0.0484	0.0019	0.017	12.1
W12	13/02/2013	<0.0050	<0.0050	<0.00050	0.0095	0.00063	0.00082	0.115	<0.00010	<0.0010	0.17	0.000016	113	<0.0010	<0.00050	0.0354	0.0069	<0.00020	0.0163	46.6	0.194	<0.000010	0.0476	0.0028	0.01	24.8
W12	04/03/2013 15:30	<0.0050	<0.0050	<0.00050	0.0122	<0.00050	0.00053	0.0938	<0.00010	<0.0010	0.081	0.000019	72.5	<0.0010	<0.00050	0.0082	0.0061	<0.00020	0.0126	29.7	0.124	<0.000010	0.0343	0.0015	<0.01	20.4
W12	18/04/2013 9:30	<0.0050	<0.0050	<0.00050	0.0069	<0.00050	0.0004	0.0799	<0.00010	<0.0010	0.056	0.000013	48.1	<0.0010	<0.00050	0.00974	<0.0050	<0.00020	0.0085	19.9	0.076	<0.000010	0.0255	0.0012	<0.01	16.1
W12	04/05/2013 16:45	<0.0050	<0.0050	<0.00050	0.0159	<0.00050	0.00036	0.0773	<0.00010	<0.0010	0.07	0.000017	57.1	<0.0010	<0.00050	0.00244	0.0128	<0.00020	0.0109	23	0.104	<0.000010	0.032	0.0032	<0.01	20
W12	07/07/2013 14:55	<0.0050	<0.0050	<0.00050	0.0266	<0.00050	0.00051	0.0784	<0.00010	<0.0010	0.061	0.000023	51.9	<0.0010	<0.00050	0.00615	0.0117	<0.00020	0.0108	22.7	0.0906	<0.000010	0.0367	0.0014	<0.01	20.8
W12	02/08/2013 11:00	<0.0050	<0.0050	<0.00050	0.0269	<0.00050	0.00048	0.0864	<0.00010	<0.0010	0.074	0.00002	50.9	<0.0010	<0.00050	0.00666	0.0093	<0.00020	0.0115	22.9	0.0604	<0.000010	0.043	0.0013	<0.01	20.3
W12	04/09/2013 8:00	<0.0050	<0.0050	<0.00050	0.0288	<0.00050	0.00043	0.0803	<0.00010	<0.0010	0.081	0.000023	53	<0.0010	<0.00050	0.00647	<0.0050	<0.00020	0.0125	23	0.0604	<0.000010	0.0435	0.0016	<0.01	20.6
W12	04/10/2013 12:00	<0.0050	<0.0050	<0.00050	0.0246	<0.00050	0.00046	0.0753	<0.00010	<0.0010	0.089	<0.000010	57.2	<0.0010	<0.00050	0.00289	<0.0050	<0.00020	0.0125	23.5	0.0495	<0.000010	0.0484	0.0017	<0.01	20.2
W12	18/10/2013 15:30	<0.0050	<0.0050	<0.00050	0.0249	<0.00050	0.0004	0.079	<0.00010	<0.0010	0.091	0.000012	59.7	<0.0010	<0.00050	0.0112	0.0228	<0.00020	0.0117	24.8	0.0473	<0.000010	0.0475	0.0018	<0.01	21.2
W12	09/11/2013 10:30	<0.0050	0.0052	<0.00050	0.0118	<0.00050	0.00027	0.0818	<0.00010	<0.0010	0.09	0.000026	62.5	<0.0010	<0.00050	0.0197	<0.0050	<0.00020	0.0121	24.5	0.0458	<0.000010	0.0491	0.002	<0.01	21.5
W12	10/12/2013 10:30	<0.0050	<0.0050	<0.00050	0.0159	<0.00050	0.00039	0.084	<0.00010	<0.0010	0.096	0.000016	66	<0.0010	<0.00050	0.00656	<0.0050	<0.00020	0.0133	25.8	0.0635	<0.000010	0.0525	0.003	<0.01	24.3
W12	05/01/2014 17:10	<0.0050	<0.0050	<0.00050	0.0122	<0.00050	0.0004	0.086	<0.00010	<0.0010	0.112	0.00001	68.1	<0.0010	<0.00050	0.00226	<0.0050	<0.00020	0.0125	25.1	0.077	<0.000010	0.0496	0.0033	<0.01	24.3
W12	04/02/2014 17:00	<0.0050	0.0102	<0.00050	0.0162	<0.00050	0.00034	0.0944	0.00011	<0.0010	0.105	0.000012	70	<0.0010	<0.00050	0.0066	0.0052	<0.00020	0.0133	24.3	0.115	<0.000010	0.0508	0.0034	<0.01	29
W12	24/03/2014 11:30	<0.0050	<0.0050	<0.00050	0.0154	<0.00050	0.00043	0.0987	<0.00010	<0.0010	0.119	<0.000010	65.2	<0.0010	<0.00050	0.00046	0.0435	<0.00020	0.014	23.3	0.161	<0.000010	0.0561	0.001	<0.01	29.9
W12	19/04/2014 10:10																									
W12	19/04/2014 10:10	<0.0050	0.0065	<0.00050	0.0184	<0.00050	0.00041	0.0912	<0.00010	<0.0010	0.121	0.000013	69.9	<0.0010	<0.00050	0.00121	0.0359	<0.00020	0.0118	24.7	0.142	<0.000010	0.0537	0.001	<0.01	33
W12	06/05/2014 15:30	<0.0050	<0.0050	<0.00050	0.0185	<0.00050	0.00038	0.0895	<0.00010	<0.0010	0.124	0.000021	67.2	<0.0010	<0.00050	0.00302	0.0706	<0.00020	0.0107	23.5	0.141	<0.000050	0.0511	0.0014	<0.01	30.6
W12	14/06/2014 10:45	<0.0050	<0.0050	<0.00050	0.0184	<0.00050	0.00045	0.0922	<0.00010	<0.0010	0.124	0.000015	68.7	<0.0010	<0.00050	0.00805	0.0228	<0.00020	0.0107	24.1	0.134	<0.000010	0.0527	0.0036	<0.01	34
W12	03/07/2014 11:10	<0.0050	<0.0050	<0.00050	0.0332	<0.00050	0.00049	0.0976	<0.00010	<0.0010	0.139	0.000023	68.7	<0.0010	<0.00050	0.00432	0.0069	<0.00020	0.0117	23.3	0.1	<0.000010	0.0576	0.0026	<0.01	34
W12	23/07/2014 8:30																									
W12	07/08/2014 16:20	<0.0050	<0.0050	<0.00050																						
W12	09/08/2014 10:02													<0.0010												
W12	09/08/2014 10:02	<0.0050	<0.0050	<0.00050	0.0221	<0.00050	0.00037	0.0874	<0.00010	<0.0010	0.126	<0.000010	73.1	<0.0010	<0.00050	0.00335	0.0112	<0.00020	0.0101	25.1	0.0937	<0.000010	0.0502	0.0029	0.011	30.3
W12	15/08/2014 15:50													<0.0010												
W12	19/08/2014 11:30													<0.0010												
W12	26/08/2014 11:45													<0.0010												
W12	07/09/2014 10:00													<0.0010												
W12	07/09/2014 10:00	<0.0050	0.0117	<0.00050	0.0299	<0.00050	0.00059	0.108	<0.00010	<0.0010	0.159	0.000011	86.6	<0.0010	<0.00050	0.00324	0.0064	<0.00020	0.0118	27.7	0.0992	<0.000010	0.0635	0.0026	<0.01	37.7
W12	12/09/2014 13:20													<0.0010												
W12	12/09/2014 13:20	<0.0050	<0.0050	<0.00050	0.0274	<0.00050	0.00052	0.0947	<0.00010	<0.0010	0.132	0.00002	79.4	<0.0010	<0.00050	0.0062	0.0172	<0.00020	0.0115	24.8	0.0967	<0.000010	0.0638	0.0023	<0.01	35.9
W12	15/09/2014 16:10													<0.0010												
W12	15/09/2014 16:10	<0.0050	<0.0050	<0.00050	0.0284	<0.00050	0.00062	0.0958	<0.00010	<0.0010	0.135	0.000018	77.1	<0.0010	<0.00050	0.00699	0.005	<0.00020	0.0108	25.8	0.104	<0.000010	0.0645	0.0023	0.012	35.9
W12	25/09/2014 11:45													<0.0010												
W12	03/10/2014 11:45													<0.0010												
W12	08/10/2014 16:05																									
W12	08/10/2014 16:05													<0.0010												
W12	09/10/2014 13:45	<0.0050	<0.0050	<0.00050	0.0215	<0.00050	0.00054	0.1	<0.00010	<0.0010	0.166	0.000022	79.9	<0.0010	<0.00050	0.00809	0.0157	<0.00020	0.0132	25.5	0.145	<0.000010	0.0725	0.0021	<0.01	36.5
W12	13/10/2014 16:05													<0.0010												
W12	02/11/2014 14:10	<0.0050	<0.0050	<0.00050	0.0201	<0.00050	0.00057	0.0958	<0.00010	<0.0010	0.156	0.000025	83.1	<0.0010	<0.00050	0.0123	0.0098	<0.00020	0.0125	23.9	0.151	<0.000010	0.0655	0.0017	<0.01	35
W12	23/11/2014 17:40	0.0159	0.0379	<0.00050	0.0198	<0.00050	0.00054	0.0977	<0.00010	<0.0010	0.183	0.000027	80.7	<0.0010	<0.00050	0.00686	0.013	<0.00020	0.0144	25.8	0.157	<0.000010	0.0729	0.002	<0.01	36.7
W12	11/12/2014 15:50	<0.0050	0.0084	<0.00050	0.0126	<0.00050	0.00048	0.0936	<0.00010	<0.0010	0.162	0.000019	81.6	<0.0010	0.00055	0.00302	0.107	<0.00020	0.0136	26	0.212	<0.000010	0.0732	0.0029	<0.01	35.9
W12	05/01/2015 9:45	<0.0050	0.0062	<0.00050	0.0152	<0.00050	0.00046	0.1	<0.00010	<0.0010	0.174	<0.000010	83	<0.0010	0.00064	0.00098	0.231	<0.00020	0.0146	25	0.321	<0.000010	0.0782	0.0022	<0.01	39.1
W12	17/01/2015 10:40	<0.0050	0.0107	<0.00050	0.0107	0.00052	0.00049	0.106	<0.00010	<0.0010	0.149	0.00002	74.4	<0.0010	0.00123	0.00247	0.0484	<0.00020	0.0146	27.2	0.438	<0.000010	0.0758	0.0021	<0.01	37.3
W12	18/01/2015 13:45																									
W12	20/02/2015 13:30	0.0078	0.0183	<0.00050	0.0149	<0.00050	0.00044	0.1	<0.00010	<0.0010	0.16	0.000023	75.5	<0.0010	0.00087	0.0102	0.0115	<0.00020	0.0169	25.7	0.576	<0.000010	0.0834	0.002	<0.01	38.5
W12	08/03/2015 16:20	<0.0050	<0.0050	<0.00050	0.0141	<0.00050	0.00044	0.1	<0.00010	<0.0010	0.182	<0.000010	73	<0.0010	0.00094	0.0117	0.0063	<0.00020	0.0159	28.1	0.687	<0.000010	0.088	0.0019	<0.01	40.7
W12	02/04/2015 10:20	<0.0050	0.0095	<0.00050	0.0132	<0.00050	0.00044	0.101	<0.00010	<0.0010	0.179	0.000018	73.5	<0.0010	0.00066	0.0163	0.0054	<0.00020	0.0159	26.7	0.63	<0.000010	0.0941	0.0015	<0.01	39.4
W12	11/05/2015 16:40	0.0072	0.0176	<0.00050	0.0095	<0.00050	0.00045	0.0882	<0.00010	<0.0010	0.148	0.000044	72.2	<0.0010	0.00055	0.03	0.0095	<0.00020	0.0153	25.8	0.548	<0.000010	0.0796	0.0015	<0.01	32.9
W12	11/06/2015 17:15	<0.0050	0.0835	<0.00050	0.0084	<0.00050	0.00043	0.0842	<0.00010	<0.0010	0.173	0.000055	80.7	<0.0010	<0.00050	0.0373	0.0096	<0.00020	0.0132	30.4	0.329	<0.000010	0.0747	0.0015	<0.01	32.3
W12	03/07/2015 16:40	<0.0050	<0.0050	<0.00050	0.0277	<0.00050	0.00037	0.089	<0.00010	<0.0010	0.214	0.000045	74.8	<0.0010	<0.00050	0.0049	<0.0050	<0.00020	0.0143	28.6	0.264	<0.000010	0.0945	0.0018	0.011	39.9
W12	20/08/2015 9:45	<0.0050	0.014	<0.00050	0.0235	<0.00050	0.00055	0.095	<0.00010	<0.0010	0.233	0.000042	69.7	<0.0010	<0.00050	0.0117	<0.0050	<0.00020	0.0138	28.4	0.124	<0.000010	0.0972	0.0011	<0.01	42.7
W12	16/09/2015 15:00	<0.0050	<0.0050	<0.00050	0.0203	<0.00050	0.00047	0.0856	<0.00010	<0.0010	0.2	0.00004	81.1	<0.0010	<0.00050	0.0211	<0.0050	<0.00020	0.0117	28.4	0.12	<0.000010	0.0873	<0.0010	0.012	39.6
W12	16/10/2015 15:55	<0.0050	<0.0050	<0.00050	0.0129	<0.00050	0.00035	0.0841	<0.00010	<0.0010	0.227	0.000052	82.1	<0.0010	<0.00050	0.029	<0.0050	<0.00020	0.0112	28.9	0.117	<0.000010	0.0825	<0.0010	<0.01	37.9
W12	07/11/2015 11:40	<0.0050	0.0054	<0.00050	0.027	<0.00050	0.00047	0.0861	<0.00010	<0.0010	0.208	0.000054	83.3	<0.0010	<0.00050	0.0253	0.0085	<0.00020	0.0125	31.1	0.133	<0.000010	0.0829	<0.0010	<0.01	39.8
W12	11/12/2015 17:15	<0.0050	<0.0050	<0.00050	0.0191	<0.00050	0.00041	0.092	<0.00010	<0.0010	0.206	0.000025	91.9	<0.0010	<0.00050	0.0194	0.0124	<0.00020	0.0122	30.4	0.143	<0.000010	0.0882	0.0038	<0.01	39.9
W12	03/01/2016 15:35	<0.0050	0.0059	<0.00050	0.0156	<0.00050	0.00032	0.0949	<0.00010	<0.0010	0.2	0.000016	91.1	<0.0010	<0.00050	0.0191	0.0097	<0.00020	0.0143	25.8	0.152	<0.000010	0.083	0.0014	<0.01	36.5
W12	01/02/2016 16:50	<0.0050	<0.0050	<0.00050	0.0176	<0.00050	0.00043	0.0902	<0.00010	<0.0010	0.17	<0.000010	93.2	<0.0010	<0.00050	0.0241	0.0164	<0.00020	0.0129	28.2	0.163	<0.000010	0.0863	0.0015	<0.01	36.7
W12	05/03/2016 17:10	<0.0050	0.0064	<0.00050	0.0158	<0.00050	0.0004	0.0906	<0.00010	<0.0010	0.202	0.000025	97	<0.0010	<0.00050	0.0265	0.0176	<0.00020	0.0136	28.7	0.182	<0.000010	0.0856	0.0014	0.014	37.1
W12	19/04/2016 16:25	0.00194	0.0070	<0.00030	0.0076	0.00022	0.00042	0.0931	<0.000020	<0.000050	0.136	0.0000342	93.7	<0.00010	0.00031	0.0526	0.022	<0.000050	0.0102	29.1	0.235	<0.0000050	0.0690	0.00153	<0.050	32.1

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	BOD5	Br	Cation	COD	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-T	N-TKN	P-PO4T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L
W12	12/08/2012 17:10	0.00665	0.851	<0.000020	22	1.48	31.8	<0.000050	<0.0050	<0.0050	0.00249	<0.0050	<0.0050	<0.00050	197	3.1	<0.50	2.58														
W12	12/09/2012 16:00	0.00629	2.47	<0.000020	20.2	1.44	26.2	<0.000050	<0.0050	<0.0050	0.00263	<0.0050	<0.0050	<0.00050	184	<0.50	<0.50	<0.50										11.2				
W12	14/10/2012 8:30														185	<0.50	<0.50	<0.50														
W12	11/11/2012 10:30	0.00667	3.77	<0.000020	22	2.05	40	<0.000050	<0.0050	<0.0050	0.00394	<0.0050	<0.0050	<0.00050	192	<0.50	<0.50	<0.50														
W12	16/12/2012 16:00	0.00675	3.47	<0.000020	26.4	2.72	39.5	<0.000050	<0.0050	<0.0050	0.00232	<0.0050	<0.0050	<0.00050	201	<0.50	<0.50	<0.50														
W12	04/01/2013	0.00387	8.47	<0.000020	103	21.2	189	<0.000050	<0.0050	<0.0050	0.0234	<0.0050	<0.0050	<0.00050	455	<0.50	<0.50	<0.50														
W12	13/02/2013	0.00185	4.94	<0.000020	58.5	6.66	82	<0.000050	<0.0050	<0.0050	0.00278	<0.0050	<0.0050	<0.00050	337	<0.50	<0.50	<0.50														
W12	04/03/2013 15:30	0.00077	3.25	<0.000020	43	5.18	50.6	<0.000050	<0.0050	<0.0050	0.00051	<0.0050	<0.0050	<0.00050	256	<0.50	<0.50	<0.50														0.0267
W12	18/04/2013 9:30	0.00062	2.07	<0.000020	32.7	3.96	35.2	<0.000050	<0.0050	<0.0050	0.00047	<0.0050	<0.0050	<0.00050	199	<0.50	<0.50	<0.50														
W12	04/05/2013 16:45	0.00103	2.27	<0.000020	40.3	4.76	43.3	<0.000050	<0.0050	<0.0050	0.00036	<0.0050	<0.0050	<0.00050	211	<0.50	<0.50	<0.50														
W12	07/07/2013 14:55	0.00437	2.56	<0.000020	38.6	3.49	40.1	<0.000050	<0.0050	<0.0050	0.00111	<0.0050	<0.0050	<0.00050	204	<0.50	<0.50	<0.50														
W12	02/08/2013 11:00	0.00467	2.81	<0.000020	40.9	3.29	43	<0.000050	<0.0050	<0.0050	0.00103	<0.0050	<0.0050	<0.00050	196	<0.50	<0.50	<0.50														
W12	04/09/2013 8:00	0.00537	3.18	<0.000020	43	3.23	45.9	<0.000050	<0.0050	<0.0050	0.0009	<0.0050	<0.0050	<0.00050	202	<0.50	<0.50	<0.50														
W12	04/10/2013 12:00	0.00548	3.24	<0.000020	44.4	4.15	52.5	<0.000050	<0.0050	<0.0050	0.00116	<0.0050	<0.0050	<0.00050	202	<0.50	<0.50	<0.50														
W12	18/10/2013 15:30	0.00586	3.2	<0.000020	46.1	4.33	51.9	<0.000050	<0.0050	<0.0050	0.00151	<0.0050	<0.0050	<0.00050	202	<0.50	<0.50	<0.50														
W12	09/11/2013 10:30	0.00553	3.24	<0.000020	44.7	4.78	55.5	<0.000050	<0.0050	<0.0050	0.00148	<0.0050	<0.0050	<0.00050	201	<0.50	<0.50	<0.50														
W12	10/12/2013 10:30	0.00562	2.99	<0.000020	49.1	5.29	58.3	<0.000050	<0.0050	<0.0050	0.00151	<0.0050	<0.0050	<0.00050	205	<0.50	<0.50	<0.50														
W12	05/01/2014 17:10	0.00521	3.22	<0.000020	50.3	5.08	58.9	<0.000050	<0.0050	<0.0050	0.00146	<0.0050	<0.0050	<0.00050	223	<0.50	<0.50	<0.50														
W12	04/02/2014 17:00	0.00465	3.17	<0.000020	47.6	5.54	65.6	<0.000050	<0.0050	<0.0050	0.0012	<0.0050	0.0074	<0.00050	210	<0.50	<0.50	<0.50														
W12	24/03/2014 11:30	0.00494	2.65	<0.000020	52.5	6.14	61.9	<0.000050	<0.0050	<0.0050	0.00027	<0.0050	<0.0050	<0.00050	217	<0.50	<0.50	<0.50														
W12	19/04/2014 10:10																															
W12	19/04/2014 10:10	0.00487	2.76	<0.000020	57.7	6.24	70	<0.000050	<0.0050	<0.0050	0.00046	<0.0050	<0.0050	<0.00050	225	1.37	<0.50	1.14														
W12	06/05/2014 15:30	0.00472	2.6	<0.000020	56.4	6.13	66	<0.000050	<0.0050	<0.0050	0.00062	<0.0050	<0.0050	<0.00050	236	<0.50	<0.50	<0.50														
W12	14/06/2014 10:45	0.00512	2.63	<0.000020	58.8	6.22	63	<0.000050	<0.0050	<0.0050	0.00108	<0.0050	<0.0050	<0.00050	238	<0.50	<0.50	<0.50														
W12	03/07/2014 11:10	0.00495	2.88	<0.000020	62.5	6.34	72.5	<0.000050	<0.0050	<0.0050	0.00117	<0.0050	<0.0050	<0.00050	230	<0.50	<0.50	<0.50														
W12	23/07/2014 8:30																															
W12	07/08/2014 16:20																															
W12	09/08/2014 10:02																								<0.0010	<0.0010						
W12	09/08/2014 10:02	0.0063	3.24	<0.000020	58.4	5.84	84.3	<0.000050	<0.0050	<0.0050	0.00106	<0.0050	<0.0050	<0.00050	229	1.9	<0.50	1.58														
W12	15/08/2014 15:50																								<0.0010	<0.0010						
W12	19/08/2014 11:30																								<0.0010	<0.0010						
W12	26/08/2014 11:45																								<0.0010	<0.0010						
W12	07/09/2014 10:00																								<0.0010	<0.0010						
W12	07/09/2014 10:00	0.00763	3.65	<0.000020	72.1	7.1	84.4	<0.000050	<0.0050	<0.0050	0.00101	<0.0050	<0.0050	<0.00050	225	<0.50	<0.50	<0.50														
W12	12/09/2014 13:20																								<0.0010	<0.0010						
W12	12/09/2014 13:20	0.0069	3.09	<0.000020	65.2	7.05	85	<0.000050	<0.0050	<0.0050	0.00102	<0.0050	<0.0050	<0.00050	226	<0.50	<0.50	<0.50														
W12	15/09/2014 16:10																								<0.0010	<0.0010						
W12	15/09/2014 16:10	0.00617	3.23	<0.000020	68.1	7.06	77.5	<0.000050	<0.0050	<0.0050	0.00107	<0.0050	<0.0050	<0.00050	227	<0.50	<0.50	<0.50														
W12	25/09/2014 11:45																								<0.0010	<0.0010						
W12	03/10/2014 11:45																								<0.0010	<0.0010						
W12	08/10/2014 16:05																															
W12	08/10/2014 16:05																								<0.0010	<0.0010						
W12	09/10/2014 13:45	0.00641	3.15	<0.000020	67.2	7.17	82.5	<0.000050	<0.0050	<0.0050	0.00102	<0.0050	<0.0050	<0.00050	214	<0.50	<0.50	<0.50														
W12	13/10/2014 16:05																								<0.0010	<0.0010						
W12	02/11/2014 14:10	0.00704	3.17	<0.000020	66.5	7.44	77.8	<0.000050	<0.0050	<0.0050	0.00183	<0.0050	<0.0050	<0.00050	221	<0.50	<0.50	<0.50														
W12	23/11/2014 17:40	0.00725	3.21	<0.000020	75.2	7.32	91.6	<0.000050	<0.0050	<0.0050	0.00185	<0.0050	<0.0050	<0.00050	223	<0.50	<0.50	<0.50														
W12	11/12/2014 15:50	0.00749	3.02	<0.000020	76.1	7.34	94.7	<0.000050	<0.0050	<0.0050	0.00167	<0.0050	<0.0050	<0.00050	225	<0.50	<0.50	<0.50														
W12	05/01/2015 9:45	0.00819	2.86	<0.000020	83.3	7.19	97.6	<0.000050	<0.0050	<0.0050	0.00142	<0.0050	<0.0050	<0.00050	199	<0.50	<0.50	<0.50														
W12	17/01/2015 10:40	0.00877	2.58	<0.000020	84	6.99	93.1	<0.000050	<0.0050	<0.0050	0.00128	<0.0050	0.0062	<0.00050	227	<0.50	<0.50	<0.50														
W12	18/01/2015 13:45																															
W12	20/02/2015 13:30	0.00893	2.52	<0.000020	84.3	6.07	97.7	<0.000050	<0.0050	<0.0050	0.00168	<0.0050	<0.0050	<0.00050	255	<0.50	<0.50	<0.50														
W12	08/03/2015 16:20	0.00952	2.51	<0.000020	103	5.74	104	<0.000050	<0.0050	<0.0050	0.00214	<0.0050	<0.0050	<0.00050	262	<0.50	<0.50	<0.50														
W12	02/04/2015 10:20	0.0105	2.63	<0.000020	99	6.02	105	<0.000050	<0.0050	<0.0050	0.00211	<0.0050	<0.0050	<0.00050	259	<0.50	<0.50	<0.50														
W12	11/05/2015 16:40	0.00975	2.69	<0.000020	87.5	5.74	96.3	<0.000050	<0.0050	<0.0050	0.0024	<0.0050	<0.0050	<0.00050	238	<0.50	<0.50	<0.50														
W12	11/06/2015 17:15	0.00969	3.33	<0.000020	90.4	5.15	89.6	<0.000050	<0.0050	<0.0050	0.00246	<0.0050	<0.0050	<0.00050	239	<0.50	<0.50	<0.50														
W12	03/07/2015 16:40	0.0151	3.26	<0.000020	116	4.81	112	<0.000050	<0.0050	<0.0050	0.00181	<0.0050	<0.0050	<0.00050	236	<0.50	<0.50	<0.50														
W12	20/08/2015 9:45	0.0207	2.81	<0.000020	129	4.78	113	<0.000050	<0.0050	<0.0050	0.00208	<0.0050	<0.0050	<0.00050	215	<0.50	<0.50	<0.50														
W12	16/09/2015 15:00	0.0165	3.66	<0.000020	112	4.31	113	<0.000050	<0.0050	<0.0050	0.00234	<0.0050	<0.0050	<0.00050	204	1.07	<0.50	0.89														
W12	16/10/2015 15:55	0.0157	3.41	<0.000020	115	4.18	116	<0.000050	<0.0050	<0.0050	0.0027	<0.0050	<0.0050	<0.00050	213	<0.50	<0.50	<0.50														
W12	07/11/2015 11:40	0.0163	3.57	<0.000020	130	4.24	119	<0.000050	<0.0050	<0.0050	0.00257	<0.0050	0.0062	<0.00050	210	<0.50	<0.50	<0.50														
W12	11/12/2015 17:15	0.0174	3.64	<0.000020	120	4.05	121	<0.000050	<0.0050	<0.0050	0.0025	<0.0050	<0.0050	<0.00050	208	<0.50	<0.50	<0.50														
W12	03/01/2016 15:35	0.0168	2.95	<0.000020	116	3.86	116	<0.000050	<0.0050	<0.0050	0.00252	<0.0050	<0.0050	<0.00050	206	<0.50	<0.50	<0.50														
W12	01/02/2016 16:50	0.0164	3.37	<0.000020	119	4.35	113	<0.000050	<0.0050	<0.0050	0.00254	<0.0050	0.0061	<0.00050	203	2.34	<0.50	1.95														
W12	05/03/2016 17:10	0.0171	3.51	<0.000020	116	4.19	130	<0.000050	<0.0050	<0.0050	0.00274	<0.0050	0.0056	<0.00050	212	<0.50	<0.50	<0.50														
W12	19/04/2016 16:25	0.0143	3.45	<0.000010	97.9	3.79	104	<0.000010	<0.00010	<0.00030	0.00287	<0.00050	0.0036	<0.00030	179	<1.0	<1.0		13.2			12.3							-3.3			

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	P-TDP	P-TRP	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		mg/L	mg/L	Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W12	12/08/2012 17:10					631			
W12	12/09/2012 16:00					571.4			
W12	14/10/2012 8:30					546.6			
W12	11/11/2012 10:30					73.3			
W12	16/12/2012 16:00					636.2			
W12	04/01/2013					2332			
W12	13/02/2013								
W12	04/03/2013 15:30					797.3			
W12	18/04/2013 9:30					628.8			
W12	04/05/2013 16:45					623.1			
W12	07/07/2013 14:55					668			
W12	02/08/2013 11:00					711			
W12	04/09/2013 8:00					723			
W12	04/10/2013 12:00					829			
W12	18/10/2013 15:30					742			
W12	09/11/2013 10:30					724.7			
W12	10/12/2013 10:30					751.7			
W12	05/01/2014 17:10					833.8			
W12	04/02/2014 17:00					830.3			
W12	24/03/2014 11:30								
W12	19/04/2014 10:10					886			
W12	19/04/2014 10:10								
W12	06/05/2014 15:30					776.8			
W12	14/06/2014 10:45					976			
W12	03/07/2014 11:10					916			
W12	23/07/2014 8:30					878			
W12	07/08/2014 16:20								
W12	09/08/2014 10:02					1036			
W12	09/08/2014 10:02					1036			
W12	15/08/2014 15:50					882			
W12	19/08/2014 11:30					953			
W12	26/08/2014 11:45					917			
W12	07/09/2014 10:00					925			
W12	07/09/2014 10:00					925			
W12	12/09/2014 13:20					908			
W12	12/09/2014 13:20					908			
W12	15/09/2014 16:10					912			
W12	15/09/2014 16:10					912			
W12	25/09/2014 11:45					926			
W12	03/10/2014 11:45								
W12	08/10/2014 16:05					950			
W12	08/10/2014 16:05								
W12	09/10/2014 13:45					927			
W12	13/10/2014 16:05					929			
W12	02/11/2014 14:10					995			
W12	23/11/2014 17:40					1100			
W12	11/12/2014 15:50					1015			
W12	05/01/2015 9:45					1095			
W12	17/01/2015 10:40								
W12	18/01/2015 13:45					1136			
W12	20/02/2015 13:30					1109			
W12	08/03/2015 16:20					1120			
W12	02/04/2015 10:20					1137			
W12	11/05/2015 16:40					1033			
W12	11/06/2015 17:15					1075			
W12	03/07/2015 16:40					1211			
W12	20/08/2015 9:45					1291			
W12	16/09/2015 15:00					1257			
W12	16/10/2015 15:55					1285			
W12	07/11/2015 11:40					1312			
W12	11/12/2015 17:15					1369			
W12	03/01/2016 15:35					1413			
W12	01/02/2016 16:50					1363			
W12	05/03/2016 17:10					1378			
W12	19/04/2016 16:25								

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T	B-T
			mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W12	19/05/2016 16:10	P	3.3	822	7.85	7.90	932	1180	12.3	8.25	77.4	167.7		358	157	30.8		321	2.32	1.06	25.3		0.0878	0.00021	0.00052	0.110	<0.000020	<0.000050	0.138
W12	27/06/2016 16:15	P	7.3	952	7.79	8.02	1198	1330	17.6	4.76	50.1	54.2		404	145	36.0		398	2.83	1.23	29.1		0.0533	0.00027	0.00052	0.117	<0.000020	<0.000050	0.181
W12	25/07/2016 14:40	P	6.0	994	7.69	7.94	1178	1420	15.7	6.79	69	110.2		418	149	36.4		419	3.11	1.84	28.1		0.0922	0.00033	0.00055	0.114	<0.000020	<0.000050	0.168
W12	22/08/2016 14:50	P	3.3	967	8.07	8.00	1170	1400	14.5	7.76	76.5	77.5		439	164	<1.0		425	3.20	2.70	25.3		0.129	0.00024	0.00054	0.109	<0.000020	<0.000050	0.204
W12	17/09/2016 16:40	P	5.3	1030	7.91	8.00	1072	1450	11.3	8.08	74.3	97.4		468	166	33.8		457	4.72	3.97	23.6		0.123	0.00027	0.00050	0.120	<0.000020	<0.000050	0.176
W12	15/10/2016 11:15	P	3.2	1150	7.74	8.16	987	1490	4.8	9.37	73.3	57.5		534	170	34.8		530	4.07	4.33	24.6		0.0700	0.00032	0.00061	0.112	<0.000020	<0.000050	0.201
W12	04/11/2016 13:40	P	9.6	1210	7.89	8.12	1121	1590	4.2	4.37	34.5	67.3		567	171	36.4		567	4.26	4.12	25.0		0.0547	0.00029	0.00053	0.107	<0.000020	<0.000050	0.192
W12	01/12/2016 16:10	P	4.2	1320	7.84	8.00	1049	1770	3.6	8.19	62	30.0		629	169	36.2		653	4.31	3.58	25.7		0.0908	0.00028	0.00048	0.100	<0.000020	<0.000050	0.214
W15	19/05/2007	P	<2	150		7.43		160						89	72	0.5		8.1	<0.05	<0.05	<0.1		0.1	<0.0004	0.0005	0.058	<0.0002	<0.001	0.005
W15	20/06/2007	P	2	140		7.26		151					83		76	0.5		6.7	<0.05	<0.05	0.1		0.093	<0.0002	0.0006	0.064	<0.0001	<0.0005	0.007
W15	18/07/2007	P	<2	234		7.41		267					143		130	1.1		18.6	<0.05	<0.05	0.2		0.052	<0.0002	0.0005	0.087	<0.0001	<0.0005	0.002
W15	14/08/2007	P	<2	268		7.67		305					152		99	2.5		52	<0.05	0.09	3.2		0.047	<0.0002	0.0004	0.092	<0.0001	<0.0005	<0.002
W15	17/09/2007	P	20	182		7.66		231					98		68	1.96		35.2	<0.05	<0.02	3.75		0.036	<0.0002	0.0004	0.063	<0.0001	<0.0005	0.002
W15	17/10/2007	P	<2	266		7.3		315					139		64	3.01			<0.05	<0.02	8.1		0.033	<0.0002	0.0003	0.086	<0.0001	<0.0005	<0.002
W15	20/11/2007	P	<5	494		7.64		611					250		118	9.94			<0.05	<0.02	4.69		0.127	<0.0002	0.0006	0.11	<0.0001	<0.0005	<0.002
W15	22/04/2008	P	14	190		7.57		203							54	1.87		44.5	<0.05	0.15	1.24		0.7	0.0002	0.001	0.072	0.00008		<0.005
W15	07/05/2008	P											42										0.23	<0.0002	0.0005	0.054	<0.00004		<0.005
W15	20/05/2008	P	<2	160		7.43		123							37	0.76		19.1	<0.05	0.02	0.19		0.17	<0.0002	0.0007	0.048	<0.00004		<0.005
W15	18/06/2008	P	<2	176		7.22		241					106		49	1.3		59.7	<0.05	0.01	0.14		0.04	<0.0002	0.0008	0.067	<0.00004		<0.005
W15	22/07/2008	P	<2	146		7.4		116					62		29	0.27		17.5	<0.05	0.02	0.02		0.135	<0.0002	0.0004	0.046	<0.0001	<0.0005	<0.002
W15	26/08/2008	P	<2	162		7.14		87							34	0.24		8.8	<0.05	<0.01	<0.01	45.7	0.308	<0.0002	0.0006	0.043	<0.00004		<0.005
W15	18/09/2008	P	4	198		7.42		153							50	0.49		21.1	<0.05	<0.01	0.4		0.203	<0.0002	0.0002	0.05	<0.00004	<0.0001	<0.005
W15	27/10/2008	P	134	186		7.31		228							75	0.97		36.1	<0.05				3.09	<0.0002	0.0011	0.096	0.00012	<0.0001	<0.005
W15	18/11/2008	P	2	322	7.6	7.47	477	424	0.3						236	2.1		1.27	<0.05				0.398	<0.0002	0.0004	0.121	<0.0001	<0.0005	<0.002
W15	30/04/2009	P	8	94		6.39		35						22	8	0.35		1.77					0.504	<0.0002	0.0003	0.025	<0.00004	<0.0001	<0.005
W15	18/05/2009	P	3	138	6.16	7.12	127.7	128	7.9						33	0.46		20.2					0.153	<0.0002	0.0004	0.053	<0.00004	<0.0001	<0.005
W15	04/06/2009	P	5	166	6.9	7.43	213	208	7.9					96	59	4.1		34.5					0.101	<0.0002	0.0004	0.071	<0.00004	<0.0001	<0.005
W15	16/06/2009	P			7.63		254		10.3																				
W15	07/07/2009	P	6	364	7.71	7.84	486	510	13.8					299	274	0.82		10					0.099	<0.0002	0.0018	0.223	<0.00004	<0.0001	<0.005
W15	13/07/2009	P	18	452		7.9	320	623	8.5					362	345	0.97		6.7					0.346	<0.0002	0.0025	0.256	<0.00004	<0.0001	<0.005
W15	11/08/2009	P	6	424	8.18	7.84	587	567	8.8					319	290	1.09		13					0.046	<0.0002	0.0019	0.229	<0.00004	<0.001	0.008
W15	25/08/2009	P	23	548	7.47	7.85	441	757	4.19					388	306	1.37		13			26.3		1.25	<0.0002	0.0024	0.331	0.00005	<0.001	0.005
W15	02/09/2009	P			7.88		636		4.1																				
W15	03/09/2009	P	9	510		7.83		656						330	261	1.06		21			18		0.137	<0.0002	0.002	0.236	<0.00004	<0.001	<0.005
W15	18/09/2009	P	<3	298	7.02	7.63	383	362	8.3					186	130	3.26		49.5			1.2		0.054	<0.0002	0.0009	0.091	<0.00004	<0.001	<0.005
W15	12/10/2009	P	8	318	7.51	7.9	460	422	1.4						178	2.53					4.67		0.166	<0.0002	0.001	0.148	<0.00004	<0.001	<0.005
W15	19/04/2010	F	38	292	7.73	7.55	437	333	6.2				166		121	5		37.6			3		1.13	<0.0002	0.0009	0.084	<0.00004	<0.001	0.006
W15	20/04/2010	F	48	306	7.18	7.61	368	343	5.7				164		112	5.4		34.7			6.36		1.74	<0.0002	0.001	0.091	0.00008	<0.001	0.005
W15	21/04/2010	F	31	218		7.18	213	222	6.4				99		57	1.53		21			6.65		2.8	<0.0002	0.0009	0.071	0.00008	<0.001	0.008
W15	22/04/2010	F	77	186	7.06	6.88	279	148	2.78		102.2		72		42	1.03		12			3.12		1.24	<0.0002	0.0006	0.058	0.00005	<0.001	0.007
W15	23/04/2010	F	370	264	6.95	7.08	140.8	287	0.37				130		99	2.93		25					9.42	<0.0002	0.0019	0.142	0.00024	<0.001	0.005
W15	24/04/2010	F	24	192	6.97	7.31	205	178	1.49		217.8		90		54	1.4		12				41.1	0.638	<0.0002	0.0005	0.058	0.00004	<0.001	<0.005
W15	25/04/2010	P	12	230		7.7		294					143	132	95	2.8	0.17	37	0.093	0.24	4.3	20	0.566	<0.0005	0.0005	0.067	<0.0001	<0.001	<0.05
W15	25/04/2010	F	48	180	7.12	7.25	129	150	0.87		83.6		79		49	1.18		10				44.8	1.03	<0.0002	0.0007	0.057	<0.00004	<0.001	<0.005
W15	26/04/2010	F	7	150	7.05	7.6	180	157	1.34		122.3		78	79.6	51	2.3	0.1	<0.5	0.056	0.221	2.81	32.5	0.451	<0.0005	0.0005	0.053	<0.0001	<0.001	<0.05
W15	27/04/2010	F	190	130	7.38	7.6	139	212	0.11		73.2		129	128	78	1.7	0.23	25	0.016	0.05	1.8	22	5.2	<0.0005	0.0022	0.164	0.0003	<0.001	<0.05
W15	28/04/2010	F	5	72	7.71	7.5	125	107	0.46		10.6		58.3	55.1	39	2.2	0.08	9	0.036	0.115	1.58	29.7	0.276	<0.0005	0.0004	0.047	<0.0001	<0.001	<0.05
W15	29/04/2010	F	9	64	7.95	7.3	126	108	1.05		9.5		60.9	57.5	40	2.2	0.07	<5	0.06	0.11	1.51	4.3	1.04	<0.0005	0.0006	0.058	<0.0001	<0.001	<0.05
W15	30/04/2010	F	4	100	8.01	7.4	129	123	0.37		57.2		67.5	58.9	46	2.1	0.07	5	0.082	0.13	2.2	34.8	0.432	<0.0005	0.0007	0.062	<0.0001	<0.001	<0.05
W15	01/05/2010	F	27	120	7.4	7.7	152	126	0.27		125		277	61.2	47	1.9	0.08	<5	0.081	0.163	2.02	30.3	0.309	<0.0005	0.0005	0.137	<0.0001	<0.001	<0.05
W15	02/05/2010	F	<4	94	7.18	7.7	178	143	0.17		80.6		77.2	74.7	55	2.1	0.08	8	0.055	0.215	2.45	40.2	0.411	<0.0005	0.0008	0.064	<0.0001	<0.001	<0.05
W15	03/05/2010	F	16	96	7.28	7.8	165	127	1.16		17.3		76.8	72.5	58	4.6	0.09	6	0.079	0.24	3.3	30.7	0.313	<0.0005	0.0006	0.063	<0.0001	<0.001	<0.05
W15	04/05/2010	F	62	100	7.88	7.6	178	165	0.55		100.1		78.5	83.4	66	2.3	0.1	<0.5	0.089	0.26	2.9	8.2	0.184	<0.0005	0.0006	0.063	<0.0001	<0.001	<0.05
W15	05/05/2010	F	67	170	7.6	7.8	186	181	1.8		65.3		88.8	94.3	72	2.1	0.1	<0.5	0.07	0.276	2.66	26.4	0.422	<0.0005	0.0006	0.069	<0.0001	<0.001	<0.05
W15	06/05/2010	F	24	150	7.55	7.8	188	183	2.11		21.2		91.4	89.8	71	2.4	0.09	2.1	0.45	0.265	2.65	23.6	0.569	<0.0005	0.0007	0.069	<0.0001	<0.001	<0.05
W15	07/05/2010	F	4	170	7.98	7.6	199	179	1.95		51.4		93.4	90.7	71	2.2	0.09	2.4	0.04	0.289	1.07	25.8	0.255	<0.0005	0.0006	0.073	<0.0001	<0.001	<0.05
W15	08/05/2010	F	11	170	7.65	7.9	212	212	3.23		103.6		107	104	84	2	0.1	14	0.15	0.304	2.53	26.6	0.306	<0.0005	0.0007	0.075	<0.0001	<0.001	<0.05
W15	09/05/2010	F	4	210	7.8	8	236	254	2.54		119.2		139	125	110	2.4	0.11	13	0.03	0.275	2.14	20	0.79	<0.0005	0.001	0.097	<0.0001	<0.001	<0.05
W15	10/05/2010	F	27	240		8.1		289					143	141	120	2.3	0.13	18	0.14	0.328	2.51	20.6	0.946	<0.0005	0.0011	0.098	<0.0001	<0.001	<0.05
W15	13/05/2010	F	16	190		8		291					143	150	120	2.3	0.12	24	0.19	0.367	2.25	21.7	0.513	<0.0005	0.0009	0.096	<0.0001	<0.001	<0.05
W15	17/05/2010	F	8	260	7.85	8	612	314	2.2				160	161	130	2.4	0.11	23	0.19	0.402	2.06	22.9	0.286	<0.0005	0.0009	0.096	<0.0001	<0.001	<0.05
W15	20/05/2010	F	23	250		8.2		318					176	178	140	2.4	0.13	28	0.15	0.353	1.72	18.8	1.01	<0.0005	0.001	0.118	<0.0005	<0.001	<0.05
W15	24/05/2010	F	15	230	7.13	7.7	329	330	11.8				154	161	140	2.6	0.14	23	0.18	0.207	1.1	22.6	0.433	<0.0005	0.0011	0.111	<0.0002	<0.001	<0.1
W15	27/05/2010	F	10	240	6.86	7.7	349	359	12.2				193	188	160	3.2	0.13	28	0.18	0.138	0.77	22.2	0.388	<0.0005	0.001	0.114	<0.0005	<0.001	<0.1
W15	31/05/2010	F	52	360	7.31	7.9	497	499	13.3				276	246	240	3.6	0.16	36	<0.05	0.059	0.7	23.5	1.37	<0.0005	0.0023	0.17	<0.0002	<0.001	<0.1

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W12	19/05/2016 16:10	0.0000605	100	0.00380	0.00029	0.0758	0.147	0.000164	0.0106	24.5	0.208	<0.0000050	0.0694	0.00392	<0.050	30.1	0.0134	3.25	<0.000010	101	3.82	105	<0.000010	<0.00010	0.00286	0.00245
W12	27/06/2016 16:15	0.0000429	120	0.00020	0.00018	0.0398	0.073	0.000154	0.0132	22.4	0.178	<0.0000050	0.0916	0.00229	<0.050	39.1	0.0152	2.84	<0.000010	109	4.75	136	<0.000010	<0.00010	0.00130	0.00194
W12	25/07/2016 14:40	0.0000491	124	0.00012	0.00019	0.0524	0.189	0.000150	0.0114	23.5	0.196	<0.0000050	0.0870	0.00204	<0.050	40.3	0.0150	2.86	<0.000010	130	4.60	148	<0.000010	<0.00010	0.00307	0.00184
W12	22/08/2016 14:50	0.0000583	135	0.00011	0.00023	0.0520	0.209	0.000148	0.0125	26.1	0.235	<0.0000050	0.0835	0.00188	<0.050	39.2	0.0131	3.43	<0.000010	125	4.66	146	<0.000010	<0.00010	0.00459	0.00252
W12	17/09/2016 16:40	0.0000763	149	0.00013	0.00025	0.0691	0.330	0.000164	0.0120	25.5	0.235	<0.0000050	0.0838	0.00190	<0.050	36.5	0.0138	3.55	0.000015	110	4.63	157	<0.000010	<0.00010	0.00500	0.00277
W12	15/10/2016 11:15	0.0000893	172	0.00015	0.00024	0.0705	0.195	0.000379	0.0114	28.2	0.229	<0.0000050	0.0813	0.00245	<0.050	39.6	0.0135	3.57	0.000018	122	4.66	205	<0.000010	<0.00010	0.00175	0.00289
W12	04/11/2016 13:40	0.000103	175	<0.00010	0.00022	0.0537	0.118	0.000355	0.0109	29.3	0.220	<0.0000050	0.0848	0.00275	<0.050	40.5	0.0139	3.45	0.000015	124	4.86	207	0.000013	<0.00010	0.00220	0.00296
W12	01/12/2016 16:10	0.0000921	218	0.00017	0.00051	0.0734	0.265	0.000487	0.0116	27.8	0.285	<0.0000050	0.0890	0.00285	<0.050	40.2	0.0146	3.54	<0.000010	117	5.49	240	<0.000010	<0.00010	0.00299	0.00319
W15	19/05/2007	0.00003	24.5	<0.001	0.0003	0.027	0.8	0.0004	<0.002	7.5	0.078	<0.0001	<0.002	0.002	0.07	0.9	<0.0004	4.66	High DL removed	3.1	0.12	3.3	<0.0001	<0.002	0.001	<0.001
W15	20/06/2007	<0.00001	22.8	0.0006	0.0005	0.008	0.7	<0.0001	<0.001	6.4	0.15	<0.0001	<0.001	0.0022	<0.05	<0.4	<0.0002	5.46	High DL removed	4.3	0.124	2.5	<0.00005	<0.001	<0.0005	<0.0005
W15	18/07/2007	0.00002	38.5	0.0007	0.0005	0.049	0.8	<0.0001	0.001	11.3	0.254	<0.0001	<0.001	0.0009		2.2	0.0004	6.56	High DL removed	6	0.31	6	<0.00005	<0.001	0.0027	<0.0005
W15	14/08/2007	<0.00001	41.1	<0.0005	0.0002	0.013	0.1	<0.0001	0.002	11.9	0.047	<0.0001	<0.001	0.0011	<0.05	2.2	0.0011	4.75	High DL removed	8.6	0.241	17.8	<0.00005	<0.001	0.0025	<0.0005
W15	17/09/2007	<0.00001	26	0.0005	0.0001	0.003	0.2	<0.0001	<0.001	8.1	0.009	<0.0001	<0.001	<0.0005	<0.05	1.5	0.0003	5.12	High DL removed	6.3	0.161	12.3	<0.00005	<0.001	0.0017	<0.0005
W15	17/10/2007	0.00001	37	<0.0005	0.0002	0.002	0.4	<0.0001	<0.001	11.4	0.025	<0.0001	<0.001	0.0007		1.6	0.0012	5.54	High DL removed	7.5	0.223	17.8	<0.00005	<0.001	0.0019	<0.0005
W15	20/11/2007	0.00003	59.5	0.0009	0.0005	0.017	0.4	0.0002	0.002	24.6	0.299	<0.0001	<0.001	<0.0005		5.1	0.0011	11	High DL removed	17	0.348	50.6	<0.00005	<0.001	0.0081	<0.0005
W15	22/04/2008	High DL removed	23.3	0.0007	0.00069	0.066	1.01	0.0006	0.003	7.16	0.379	0.00001	0.00225	0.009	0.11	3.63	0.0013	2.18	High DL removed	5.1	0.143		<0.00001	<0.0001	0.0471	<0.0005
W15	07/05/2008	High DL removed	11.4	<0.0005	0.00074	0.018	0.55	0.0006	<0.001	3.42	0.37	0.00001	0.00027	0.005	0.06	1.89	<0.0006	1.28	High DL removed	2.5	0.061		<0.00001	0.0001	0.009	<0.0005
W15	20/05/2008	High DL removed	15.4	0.0014	0.0003	0.009	0.51	<0.0001	<0.001	5.02	0.101	<0.00001	0.00034	0.005	0.05	2.04	<0.0006	1.71	High DL removed	4.1	0.079		<0.00001	<0.0001	0.0056	<0.0005
W15	18/06/2008	High DL removed	27.4	0.0014	0.00016	0.003	0.35	<0.0001	<0.001	9.11	0.0661		0.00046	<0.001	<0.05	1.26	<0.0006	2.3	<0.00001	6.9	0.146		<0.00001	<0.0001	0.0011	<0.0004
W15	22/07/2008	<0.00001	16.4	0.0006	0.0002	0.009	0.32	0.0001	<0.001	5.1	0.01	<0.0001	<0.001	0.0015		<0.4	<0.0002	4.37	<0.00001	4.6	0.089	6.6	<0.00005	<0.001	0.0028	<0.0005
W15	26/08/2008	<0.00001	14.2	0.0024	0.0002	0.02	0.62	<0.0001	<0.001	4.16	0.0097	0.00001	0.0004	0.003	0.05	0.65	<0.0006	4.64	<0.00001	3.3	0.074		<0.00001	<0.0001	0.0101	<0.0004
W15	18/09/2008	0.00002	21.2	0.0014	0.00024	0.011	0.87	0.0002	<0.001	6.2	0.0422	<0.00001	0.00051	<0.001	0.04	0.83	<0.0006	5.3	0.00006	3.6	0.111		<0.00001	<0.0001	0.0097	<0.0004
W15	27/10/2008	0.00008	38.5	0.0022	0.002	0.275	6.1	0.0013	0.002	13.9	0.248	<0.00001	0.00051	0.002	0.245	2	<0.0006	13.4	0.00009	5.44	0.174		<0.00001	<0.0001	0.127	<0.0004
W15	18/11/2008	0.00003	59.3	0.0008	0.0002	0.073	0.54	<0.0001	0.001	18.9	0.087	<0.0001	<0.001	0.0013		1	<0.0002	8.63	0.00007	8.8	0.292	0.9	<0.00005	<0.001	0.0182	<0.0005
W15	30/04/2009	0.00004	5.72	0.0015	0.00056	0.049	0.73	0.0002	<0.001	1.95	0.109	0.00002	0.00016	0.001	0.07	1.9	<0.0006	1.79	<0.00001	1.11	0.031	0.9	<0.00001	<0.0001	0.016	<0.0004
W15	18/05/2009	0.00001	19.3	0.0021	0.00025	0.015	0.28	0.0001	<0.001	5.66	0.0129	<0.00001	0.00075	0.002	<0.05	1.7	<0.0006	3.07	<0.00001	3.16	0.107	7.2	<0.00001	<0.0001	0.0044	<0.0004
W15	04/06/2009	<0.00001	27.2	0.0004	0.00025	0.011	0.4	<0.0001	<0.001	8.59	0.0492	<0.00001	0.00049	0.002	<0.05	1.2	<0.0006	3.92	<0.00001	4.61	0.164	11.7	<0.00001	<0.0001	0.0039	<0.0004
W15	16/06/2009																									
W15	07/07/2009	0.00008	83.7	0.001	0.0067	0.028	4.02	0.0001	0.001	22.2	4.57	<0.00001	0.0029	0.004	0.045	2.2	<0.0006	7.84	0.00012	7.06	0.602	3.5	<0.00001	<0.0001	0.0055	0.0017
W15	13/07/2009	<0.00001	100	0.0018	0.00693	0.026	6.91	0.0002	<0.001	27.7	7.73	0.00001	0.00293	0.005	0.084	2.6	0.0009	8.52	0.00051	7.8	0.799	2.9	<0.00001	<0.0001	0.0203	0.0023
W15	11/08/2009	0.00003	88.5	0.0015	0.00502	0.024	3.67	0.0004	0.001	24.3	3.8		0.0027	0.004	0.056	2	<0.0006	7.39	0.00001	8.88	0.868	3.7	<0.00001	<0.0001	0.0026	0.0015
W15	25/08/2009	0.00024	114	0.0026	0.00691	0.09	6.93	0.0011	0.002	30		0.00002	0.003	0.005	0.099	2.8	0.0016	10.2	<0.00001	10.4	2.36	4.4	<0.00001	<0.0001	0.065	0.0017
W15	02/09/2009																									
W15	03/09/2009	0.00002	95.7	0.0014	0.00528	0.024	3.67	0.0004	0.002	24.4	4.67	<0.00001	0.0036	0.003	0.051	2.9	0.0011	7.43	<0.00001	9.31	1.86	6.7	<0.00001	<0.0001	0.007	0.0014
W15	18/09/2009	0.00014	54.7	0.0012	0.00032	0.034	0.634	0.0004	<0.001	16.7	0.147	<0.00001	0.0012	0.002	0.04	2.6	<0.0006	6.11	<0.00001	7.88	0.334	14.1	<0.00001	<0.0001	0.0026	<0.0004
W15	12/10/2009	0.00003	64.5	0.0006	0.00231	0.038	1.31	<0.0001	0.001	17.2	1.82	<0.00001	0.0024	0.004	<0.05	3.1	<0.0006	7.03	<0.00001	6.8	0.645	7.3	<0.00001	<0.0001		0.0007
W15	19/04/2010	0.00005	44.5	0.0012	0.0016	0.089	2.38	0.0006	0.002	14.8	0.985	0.00002	0.0032	0.002	0.19	4.6	<0.0006	5.54	0.00003	7.29	0.474	12.7	<0.00001	<0.0001		0.0006
W15	20/04/2010	0.00009	45.1	0.0016	0.0017	0.158	2.62	0.0008	0.002	14.6	0.941	0.00001	0.0038	0.002	0.15	4.6	0.0011	6.07	0.00004	7.5	0.495	11.9	<0.00001	<0.0001		0.0006
W15	21/04/2010	0.00008	30.1	0.0015	0.00156	0.145	2.29	0.001	0.003	9.12	0.55	0.00002	0.0028	0.002	0.14	3.1	0.0015	5.47	<0.00001	4.64	0.404	7.8	<0.00001	<0.0001		0.0004
W15	22/04/2010	0.00013	28.5	0.0008	0.00095	0.093	1.03	0.0004	0.002	8.62	0.495	0.00002	0.0023	0.002	0.12	3.2	0.001	3.75	<0.00001	4.26	0.308	6	<0.00001	<0.0001		<0.0004
W15	23/04/2010	0.00016	42.9	0.0046	0.00522	0.31	10.7	0.0045	0.004	15.4	1.2	0.00002	0.0017	0.005	2.5	4.8	0.0006	17	0.00009	5.96	0.354	10.2	0.00003	<0.0001		0.0005
W15	24/04/2010	0.00009	25.9	0.0008	0.00102	0.062	0.981	0.0003	0.001	7.89	0.493	0.00001	0.0017	0.002	0.12	2.7	<0.0006	3.66	0.0001	3.69	0.225	4.5	<0.00001	0.0002		<0.0004
W15	25/04/2010	0.00007	38.4	<0.001	0.0007	0.0673	1.02	0.0003	<0.005	11.5	0.562	<0.00002	0.005	0.001	0.073	3.64	0.0016	3.97	0.00003	6.27	0.494	14	<0.00005	<0.005	0.02	0.0007
W15	25/04/2010	0.00006	23.3	0.0009	0.00124	0.08	1.21	0.0006	0.001	7.13	0.488	0.00001	0.0016	0.002	0.16	2.6	0.0007	3.87	<0.00001	3.44	0.196	4	<0.00001	<0.0001		<0.0004
W15	26/04/2010	0.00003	21.1	<0.001	0.0008	0.0502	0.823	0.0003	<0.005	6.14	0.377	<0.00002	0.001	0.002		2.02	0.0005	3.62	<0.00002	2.74	0.181	<3	<0.00005	<0.005	0.015	0.0002
W15	27/04/2010	0.00025	37	0.006	0.0037	0.469	6.71	0.0033	<0.005	8.83	0.594	<0.00002	0.005	0.009		2.8	0.0016	12.6	0.00005	4.37	0.437	10	<0.00005	<0.005	0.141	0.0013
W15	28/04/2010	0.00006	15.5	<0.001	0.0015	0.0382	0.649	0.0002	<0.005	4.74	0.415	0.00004	0.001	0.001		1.78	0.0002	3.17	<0.00002	2.12	0.104	<3	<0.00005	<0.005	<0.005	0.0001
W15	29/04/2010	0.00009	16.5	0.001	0.0023	0.064	1.85	0.001	<0.005	4.81	0.572	0.00003	<0.001	0.002		1.82	0.0002	4.72	<0.00002	1.97	0.106	<3	<0.00005	<0.005	0.033	0.0001
W15	30/04/2010	0.00001	18.3	0.001	0.0018	0.0383	1.11	0.0002	<0.005	5.3	0.629	0.00004	0.001	0.003		1.88	0.0002	3.56	<0.00002	2.37	0.126	<3	<0.00005	<0.005	0.012	0.0001
W15	01/05/2010	0.0001	73.5	<0.001	0.0005	0.0231	0.467	<0.0002	<0.005	22.8	2.23	<0.00002	0.007	0.003	0.024	4.14	0.0008	6.34	<0.00002	20.6	0.67	28	<0.00005	<0.005	0.013	0.0034
W15	02/05/2010	0.00003	20.9	<0.001	0.0016	0.0406	1.23	0.0003	<0.005	6.08	0.609	<0.00002	0.001	0.002		2.01	0.0003	4.01	<0.00002	2.75	0.138	<3	<0.00005	<0.005	0.012	0.0002
W15	03/05/2010	<0.00001	20.6	0.001	0.0012	0.0393	1.04	0.0004	<0.005	6.15	0.591	0.00009	0.001	0.002		1.98	0.0003	3.78	0.00003	2.89	0.139	<3	<0.00005	<0.005	0.009	0.0001
W15	04/05/2010	<0.00001	20.9	<0.001	0.0011	0.0307	0.843	0.0003	<0.005	6.38	0.545	0.00006	0.001	0.002		1.94	0.0003	3.69	0.00004	2.88	0.143	<3	<0.00005	<0.005	0.006	0.0002
W15	05/05/2010	0.0001	23.5	<0.001	0.0012	0.0431	1.22	0.0018	<0.005	7.3	0.61	<0.00002	0.001	0.002	0.096	2.22	0.0001	4.5	<0.00002	3.1	0.148	4	<0.00005	<0.005	0.012	0.0002
W15	06/05/2010	0.00002	24.4	<0.001	0.0011	0.051	1.3	0.0004	<0.005	7.41	0.544	0.00003	0.002	0.002	0.086	2.22	0.0002	4.92	0.00002	3.75	0.169	<3	<0.00005	<0.005	0.016	0.0002
W15	07/05/2010	0.00003	24.7	<0.001	0.0012	0.0334	0.976	0.0012	<0.005	7.72	0.605	0.00003	0.001	0.002	0.07	2.3	0.0002	4.41	0.00004	3.71	0.16	<3	<0.00005	<0.005	0.007	0.0002
W15	08/05/2010	0.00004	28.6	<0.001	0.0012	0.038	1.04	<0.0002	<0.005	8.75	0.548	<0.00002	0.002	0.002	0.068	2.49	0.0003	4.69	<0.00002	4.08	0.191	<3	<0.00005	<0.005	0.009	0.0002
W15	09/05/2010	0.00038	37.2	<0.001	0.001	0.0608	1.42	0.0006	<0.005	11.2	0.323	<0.00002	0.002	0.003	0.095	2.75	0.0002	6.44	0.00004	5.64	0.257	3	<0.00005	<0.005	0.028	0.0003
W15	10/05/2010	0.00013	39.5	0.001	0.0015	0.0912	2.41	0.0007	<0.005	10.8	0.832	<0.00002	0.003	0.002	0.095	2.7	0.0004	6.29	0.00004	4.8	0.361	6	<0.00005	<0.005	0.036	0.0005
W15	13/05/2010	0.00005	39.8	<0.001	0.0014	0.0576	1.68	0.0004	<0.005	10.7	0.842	<0.00002	0.002	0.002	0.071	2.59	0.0003	5.57	<0.00002	4.47	0.355	8	<0.00005	<0.005	0.019	0.0005
W15	17/05/2010	0.00005	44.9	<0.001	0.0014	0.0535	1.54	0.0002	<0.005	11.6	1.01	<0.0002	0.002	0.002	0.052	2.61	0.0004	5.43	<0.00002	4.91	0.387	8	<0.00005	<0.005	0.01	0.0005
W15	20/05/2010	0.00006	46.2	0.002	0.0016	0.0636	2.42	0.0005	<0.005	14.6	0.993	<0.00002	0.002	High DL removed	0.083	2.97	<0.001	7.18	0.00004	6.62	0.407	8	<0.00005	<0.005	0.045	0.0005
W15	24/05/2010	High DL removed	42	High DL removed	0.0014	0.04	2.34	0.0004	<0.01	12	0.927	<0.0002	0.002	0.002		3	<0.0008	5.5	High DL removed	5	0.333	<60	<0.00005	<0.005	0.015	0.0005
W15	27/05/2010	0.0002	51	High DL removed	0.0016	0.047	2.65	0.0003	<0.01	16	1.03	<0.00002	0.003	High DL removed		3	<0.001	6	High DL removed	8	0.388	<60	<0.00005	<0.005	0.015	0.0005
W15	31/05/2010	High DL removed	77	High DL removed	0.0032	0.085	6.06	0.0008	<0.01	20	2.24	<0.00002	0.004	0.003		4	<0.0008	9.15	High DL removed	7	0.64	<60	<0.00005	<0.005	0.05	0.001

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W12	19/05/2016 16:10	0.00084	0.0044	<0.00030	0.0073	0.00023	0.00045	0.110	<0.000020	<0.000050	0.139	0.0000311	103	<0.00010	0.00024	0.0486	<0.010	<0.000050	0.0110	24.8	0.199	0.0000063	0.0690	0.00179	<0.050	30.5
W12	27/06/2016 16:15	<0.00050	0.0039	<0.00030	0.0119	0.00025	0.00049	0.118	<0.000020	<0.000050	0.171	0.0000292	124	<0.00010	0.00015	0.0205	<0.010	0.000052	0.0130	23.0	0.171	<0.0000050	0.0866	0.00219	<0.050	40.7
W12	25/07/2016 14:40	0.00054	0.0042	<0.00030	0.0137	0.00023	0.00045	0.108	<0.000020	<0.000050	0.165	0.0000160	127	<0.00010	0.00011	0.0196	<0.010	<0.000050	0.0118	24.4	0.183	<0.0000050	0.0820	0.00172	<0.050	44.1
W12	22/08/2016 14:50	0.00082	0.0047	<0.00030	0.0137	0.00023	0.00047	0.106	<0.000020	<0.000050	0.190	0.0000179	134	<0.00010	0.00015	0.0252	<0.010	<0.000050	0.0124	25.4	0.222	<0.0000050	0.0773	0.00170	<0.050	38.7
W12	17/09/2016 16:40	0.00071	0.0036	<0.00030	0.0090	0.00024	0.00046	0.118	<0.000020	<0.000050	0.166	0.0000145	147	<0.00010	0.00017	0.0305	<0.010	<0.000050	0.0121	24.5	0.228	<0.0000050	0.0831	0.00169	<0.050	36.5
W12	15/10/2016 11:15	0.00070	0.0053	<0.00030	0.0094	0.00028	0.00050	0.110	<0.000020	<0.000050	0.189	0.0000063	168	<0.00010	0.00017	0.0271	0.014	<0.000050	0.0115	27.6	0.219	<0.0000050	0.0758	0.00202	<0.050	38.6
W12	04/11/2016 13:40	<0.00050	0.0051	<0.00030	0.0058	0.00028	0.00049	0.111	<0.000020	<0.000050	0.210	<0.0000050	180	<0.00010	0.00016	0.0213	<0.010	<0.000050	0.0104	28.7	0.212	<0.0000050	0.0807	0.00222	<0.050	41.2
W12	01/12/2016 16:10	0.00065	0.0051	<0.00030	0.0074	0.00023	0.00042	0.103	<0.000020	<0.000050	0.191	<0.0000050	204	<0.00010	0.00040	0.0174	0.011	<0.000050	0.0115	28.9	0.286	<0.0000050	0.0775	0.00253	<0.050	40.9
W15	19/05/2007	0.0006	0.01	<0.002	0.072	<0.0002	0.0005	0.056	<0.0001	<0.0005	<0.002	<0.00001	23.4	0.0008	0.0002	0.009	0.39	<0.0001	<0.001	7.4	0.07	<0.0001	<0.001	0.0009		0.9
W15	20/06/2007	0.0008	0.005	<0.001																						
W15	18/07/2007	0.0006	0.003	<0.001																						
W15	14/08/2007	0.0004	0.003	<0.001																						
W15	17/09/2007	0.0004	0.007	<0.001																						
W15	17/10/2007	0.0006	0.006	<0.001																						
W15	20/11/2007	0.0007	0.016	<0.001																						
W15	22/04/2008	0.00225	0.017	0.0004																						
W15	07/05/2008	0.00067	0.01	0.0004																						
W15	20/05/2008	0.00069	0.002	0.0004																						
W15	18/06/2008	0.00036	0.005	0.0005																						
W15	22/07/2008	0.0007	0.006	<0.001																						
W15	26/08/2008	0.00126	0.005	0.0008	0.226	0.0012	0.0004	0.041	<0.00004		<0.004	<0.00001	14	0.0017	0.00023	0.016	0.57	0.0001	<0.001	4.17	0.0076	<0.00001	0.00044	0.003	0.03	0.65
W15	18/09/2008	0.0011	0.006	0.0006																						
W15	27/10/2008	0.00843	0.044	0.0004																						
W15	18/11/2008	0.0014	0.013	<0.001																						
W15	30/04/2009	0.0015	0.014	0.0004	0.2	0.0008	<0.0002	0.018	<0.00004	<0.0001	<0.004	0.00003	5.59	0.0009	0.00049	0.018	0.24	0.0002	<0.001	1.86	0.0898	0.00002	0.0001	<0.001	0.04	1.7
W15	18/05/2009	0.0006	0.005	0.0005																						
W15	04/06/2009	0.00064	0.006	0.0006	0.049	0.001	0.0004	0.067	<0.00004	<0.0001	<0.004	<0.00001	25.6	0.0004	0.00023	0.009	0.28	<0.0001	<0.001	7.96	0.0427	<0.00001	0.00043	0.001	<0.01	1.2
W15	16/06/2009																									
W15	07/07/2009	0.00249	0.01	0.0006	0.025	0.0008	0.0017	0.209	<0.00004	<0.0001	<0.004	0.00002	83.1	0.0008	0.0047	0.017	2.68	<0.0001	<0.001	22.2	<2	<0.00001	0.00273	0.004	0.03	2.1
W15	13/07/2009	0.00399	0.005	0.0009	0.055	0.0011	0.002	0.229	<0.00004	<0.0001	0.004	<0.00001	100	0.0008	0.00681	0.015	2.91	0.0001	<0.001	27	7.34	<0.00001	0.00303	0.004	0.02	2.1
W15	11/08/2009	0.0019	0.007	0.0007																						
W15	25/08/2009	0.0064	0.014	0.0009	0.109	0.0011	0.0015	0.273	<0.00004	<0.001	0.007	0.00038	109	0.0018	0.00681	0.014	1.32	0.001	0.002	28.3	5.54	<0.00001	0.0036	0.005	0.01	2.6
W15	02/09/2009																									
W15	03/09/2009	0.0021	0.009	0.0006																						
W15	18/09/2009	0.0007	0.007	0.0004																						
W15	12/10/2009	0.0013	0.006	0.0004																						
W15	19/04/2010	0.0035	0.026	0.0003	0.04	0.0018	0.0005	0.066	<0.00004	<0.001	<0.004	0.00004	43.1	0.0005	0.00123	0.046	0.7	0.0003	0.001	14.2	0.9	<0.00001	0.003	0.001	0.04	4.3
W15	20/04/2010	0.0047	0.03	0.0003	0.208	0.0017	0.0006	0.07	0.00006	<0.001	<0.004	0.00023	43.3	0.0005	0.00117	0.063	0.74	0.0004	0.002	13.6	0.855	<0.00001	0.0037	0.002	0.05	4.3
W15	21/04/2010	0.0046	0.015	0.0004	0.174	0.0003	0.0005	0.046	<0.00004	<0.001	0.004	0.00004	26.9	0.0004	0.00073	0.071	0.26	<0.0001	0.002	7.8	0.404	0.00001	0.0029	0.002	0.01	2.6
W15	22/04/2010	0.0019	0.012	0.0003	0.367	0.0003	0.0005	0.054	<0.00004	<0.001	<0.004	0.00008	19.4	0.0007	0.00144	0.054	0.39	<0.0001	0.001	5.6	0.375	0.00001	0.0014	0.003	0.03	2.1
W15	23/04/2010	0.0184	0.048	0.0008	0.12	0.0003	0.0006	0.039	0.00005	<0.001	0.004	0.00003	34.5	0.0005	0.00098	0.059	0.33	0.0002	0.001	10.7	0.582	<0.00001	0.0026	0.005	0.05	3.2
W15	24/04/2010	0.0015	0.013	0.0003	0.159	0.0003	0.0004	0.049	<0.00004	<0.001	<0.004	0.00004	24	<0.0004	0.00077	0.038	0.43	<0.0001	0.001	7.2	0.434	<0.00001	0.0015	0.001	0.04	2.4
W15	25/04/2010	<0.005	0.007	0.0007	0.065	<0.0005	0.0003	0.055	<0.0001	<0.001	<0.05	0.00005	36.3	<0.001	<0.0005	0.034	0.366	<0.0002	<0.005	10.1	0.501	<0.00002	0.004	<0.001	0.021	3.26
W15	25/04/2010	0.0021	0.014	0.0005	0.21	0.0003	0.0004	0.045	<0.00004	<0.001	<0.004	0.00004	21	0.0004	0.00077	0.039	0.44	<0.0001	<0.001	6.4	0.376	0.00001	0.0014	0.001	0.03	2.2
W15	26/04/2010	<0.005	0.011	<0.0005	0.17	<0.0005	0.0004	0.049	<0.0001	<0.001	<0.05	0.00005	21.8	<0.001	0.0008	0.04	0.437	<0.0002	<0.005	6.08	0.363	<0.00002	0.001	0.001		2.08
W15	27/04/2010	0.014	0.05	0.0009	2.65	<0.0005	0.0016	0.148	0.0003	<0.001	<0.05	0.00234	38.7	0.003	0.0029	0.415	2.91	0.0027	<0.005	7.57	0.569	<0.00002	0.003	0.008		2.37
W15	28/04/2010	<0.005	0.009	<0.0005	0.169	<0.0005	0.0004	0.042	<0.0001	<0.001	<0.05	0.00004	14.6	<0.001	0.0014	0.027	0.449	<0.0002	<0.005	4.51	0.369	<0.00002	<0.001	0.001		1.69
W15	29/04/2010	<0.005	0.014	<0.0005	0.171	<0.0005	0.0004	0.043	<0.0001	<0.001	<0.05	0.00005	15.7	<0.001	0.0016	0.0289	0.522	<0.0002	<0.005	4.48	0.466	<0.00002	<0.001	0.001		1.73
W15	30/04/2010	<0.005	0.009	0.0005	0.136	<0.0005	0.0005	0.046	<0.0001	<0.001	<0.05	0.00004	15.9	<0.001	0.0011	0.027	0.564	<0.0002	<0.005	4.67	0.359	<0.00002	0.001	0.001		1.67
W15	01/05/2010	<0.005	<0.005	<0.0005	0.154	<0.0005	0.0005	0.049	<0.0001	<0.001	<0.05	0.00003	16.4	<0.001	0.001	0.0265	0.568	<0.0002	<0.005	4.91	0.316	<0.00002	<0.001	0.002	0.027	1.65
W15	02/05/2010	<0.005	0.011	<0.0005	0.125	<0.0005	0.0006	0.054	<0.0001	<0.001	<0.05	0.00003	20	<0.001	0.0012	0.0257	0.684	<0.0002	<0.005	5.99	0.506	<0.00002	0.001	0.001		1.94
W15	03/05/2010	<0.005	0.008	<0.0005	0.102	<0.0005	0.0005	0.054	<0.0001	<0.001	<0.05	0.00003	19.5	<0.001	0.0011	0.0245	0.634	<0.0002	<0.005	5.8	0.501	<0.00002	0.001	0.001		1.86
W15	04/05/2010	<0.005	0.005	<0.0005	0.091	<0.0005	0.0005	0.056	<0.0001	<0.001	<0.05	<0.00001	22.3	<0.001	0.0011	0.0244	0.588	<0.0002	<0.005	6.73	0.524	<0.00002	0.001	0.002		2.04
W15	05/05/2010	<0.005	0.005	<0.0005	0.074	<0.0005	0.0006	0.058	<0.0001	<0.001	<0.05	0.00003	25.4	<0.001	0.0007	0.0248	0.563	<0.0002	<0.005	7.47	0.449	<0.00002	0.002	0.001	0.032	2.34
W15	06/05/2010	<0.005	0.007	<0.0005	0.076	<0.0005	0.0006	0.058	<0.0001	<0.001	<0.05	0.00002	24.4	<0.001	0.0008	0.0259	0.487	<0.0002	<0.005	7.01	0.418	<0.00002	0.002	0.001	0.028	2.08
W15	07/05/2010	<0.005	0.005	<0.0005	0.083	<0.0005	0.0006	0.06	<0.0001	<0.001	<0.05	0.00003	24.1	<0.001	0.0006	0.023	0.536	<0.0002	<0.005	7.44	0.352	<0.00002	0.001	0.001	0.028	2.21
W15	08/05/2010	<0.005	<0.005	<0.0005	0.088	<0.0005	0.0006	0.067	<0.0001	<0.001	<0.05	0.00003	27.8	<0.001	0.0009	0.0279	0.555	<0.0002	<0.005	8.48	0.455	<0.00002	0.002	0.001	0.027	2.39
W15	09/05/2010	<0.005	0.009	<0.0005	0.034	<0.0005	0.0006	0.069	<0.0001	<0.001	<0.05	0.00012	33.5	<0.001	<0.0005	0.022	0.307	<0.0002	<0.005	10	0.14	<0.00002	0.001	0.001	0.028	2.39
W15	10/05/2010	<0.005	0.009	0.0005	0.042	<0.0005	0.0007	0.079	<0.0001	<0.001	<0.05	0.00005	38.9	<0.001	0.0012	0.0498	0.971	<0.0002	<0.005	10.7	0.742	<0.00002	0.003	0.002	0.028	2.56
W15	13/05/2010	<0.005	0.005	<0.0005	0.038	<0.0005	0.0007	0.089	<0.0001	<0.001	<0.05	0.00004	41.7	<0.001	0.001	0.0405	0.792	<0.0002	<0.005	11.2	0.791	<0.00002	0.003	0.001	0.026	2.66
W15	17/05/2010	<0.005	<0.005	<0.0005	0.039	<0.0005	0.0007	0.091	<0.0001	<0.001	<0.05	0.00004	45.2	<0.001	0.0012	0.0355	0.807	<0.0002	<0.005	11.6	0.968	<0.0002	0.002	0.002	0.023	2.78
W15	20/05/2010	<0.005	0.009	<0.0005	0.03	<0.0005	High DL removed	0.111	<0.0005	<0.001	<0.05	0.00003	48.3	<0.001	0.001	0.0351	0.835	<0.0002	<0.005	13.8	0.974	<0.00002	0.003	High DL removed	0.026	2.91
W15	24/05/2010	<0.005	<0.01	<0.002	0.029	<0.0005	0.001	0.101	<0.0002	<0.001	<0.1	High DL removed	45	High DL removed	0.0011	0.025	1.22	<0.0002	<0.01	12	0.841	<0.0002	0.002	0.002		3
W15	27/05/2010	<0.005	<0.01	<0.002	0.031	<0.0005	0.001	0.111	<0.0005	<0.001	<0.1	High DL removed	50	High DL removed	0.0013	0.03	1.41	<0.0002	<0.01	15	0.935	<0.00002	0.003	High DL removed		3
W15	31/05/2010	0.006	<0.01	<0.002	0.014	<0.0005	0.0012	0.125	<0.0002	<0.001	<0.1	High DL removed	67	High DL removed	0.0018	0.03	1.08	<0.0002	<0.01	19	1.72	<0.00002	0.004	0.002		3

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	BOD5	Br	Cation	COD	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-T	N-TKN	P-PO4T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L
W12	19/05/2016 16:10	0.0134	3.12	<0.000010	99.4	3.99	105	<0.000010	<0.00010	<0.00030	0.00243	<0.00050	0.0037	<0.00030	157	<1.0	<1.0		12.6			12.4							-0.5			
W12	27/06/2016 16:15	0.0154	2.79	<0.000010	107	4.59	132	<0.000010	<0.00010	<0.00030	0.00185	<0.00050	0.0036	<0.00030	145	<1.0	<1.0		14.4			14.0							-1.3			
W12	25/07/2016 14:40	0.0149	2.78	<0.000010	120	4.64	145	<0.000010	<0.00010	<0.00030	0.00177	<0.00050	0.0024	<0.00030	149	<1.0	<1.0		14.9			14.9							0.2			
W12	22/08/2016 14:50	0.0129	3.15	<0.000010	121	4.59	143	<0.000010	<0.00010	<0.00030	0.00235	<0.00050	0.0022	<0.00030	164	<1.0	<1.0		14.1			15.3							4.0			
W12	17/09/2016 16:40	0.0135	3.14	<0.000010	106	4.56	147	<0.000010	<0.00010	<0.00030	0.00267	<0.00050	0.0024	<0.00030	166	<1.0	<1.0		15.8			15.2							-1.6			
W12	15/10/2016 11:15	0.0138	3.32	<0.000010	119	4.52	194	<0.000010	<0.00010	<0.00030	0.00278	<0.00050	0.0041	<0.00030	170	<1.0	<1.0		17.6			17.1							-1.3			
W12	04/11/2016 13:40	0.0152	3.45	0.000010	122	4.87	198	<0.000010	<0.00010	<0.00030	0.00283	<0.00050	0.0032	<0.00030	171	<1.0	<1.0		18.3			18.0							-0.9			
W12	01/12/2016 16:10	0.0139	3.47	<0.000010	123	4.81	228	<0.000010	<0.00010	<0.00030	0.00288	<0.00050	0.0038	<0.00030	169	<1.0	<1.0		20.1			19.3							-2.0			
W15	19/05/2007	<0.0002	4.94	High DL removed	3.2	0.116	2.8	<0.00005	<0.001	<0.0005	<0.0005	0.001	0.004		88	<6	<5							180							0.76	0.03
W15	20/06/2007														93	<6	<5							70							0.6	0.03
W15	18/07/2007														159	<6	<5							80							1	0.11
W15	14/08/2007														120	<6	<5							49							0.28	0.02
W15	17/09/2007														82	<6	<5							70							0.28	0.03
W15	17/10/2007														78	<6	<5							20							0.25	<0.05
W15	20/11/2007														144	<6	<5							60								0.13
W15	22/04/2008														65	<6	<5							60							0.69	0.13
W15	07/05/2008																															
W15	20/05/2008														40	<6	<5							170							0.78	<0.05
W15	18/06/2008														60	<6	<5							70							0.49	0.03
W15	22/07/2008														40	<6	<5							160							0.8	0.05
W15	26/08/2008	<0.0006	4.83	<0.00001	3.29	0.072		<0.00001	<0.0001	0.0062	<0.0004	0.00081	0.003	0.0008	40	<6	<5							330				46.2			1.13	0.05
W15	18/09/2008														60	<6	<5							130							0.7	<0.05
W15	27/10/2008														90	<6	<5							60							0.62	0.27
W15	18/11/2008														290	<6	<5							39							0.51	<0.05
W15	30/04/2009	<0.0006	1.35	<0.00001	1.1	0.026	0.8	<0.00001	<0.0001	0.0052	<0.0004	0.00057	0.007	0.0003	<5	9	<5							220							1.1	0.02
W15	18/05/2009														40	<6	<5							170							0.69	0.02
W15	04/06/2009	<0.0006	3.58	<0.00001	4.2	0.151	10.7	<0.00001	<0.0001	0.0017	<0.0004	0.00049	0.002	0.0004	70	<6	<5							91							0.62	0.02
W15	16/06/2009																															
W15	07/07/2009	<0.0006	7.68	<0.00001	6.9	0.623	3.4	<0.00001	<0.0001	0.0017	0.0015	0.00177	0.003	0.0007	330	<6	<5							190							1.04	0.05
W15	13/07/2009	<0.0006	7.32	0.00018	7.5	0.813	2.2	<0.00001	<0.0001	0.0014	0.0024	0.00205	0.004	0.0008	420	<6	<5							110							1.14	0.05
W15	11/08/2009														350	<6	<5							86							0.81	0.03
W15	25/08/2009	0.0009	7.22	<0.00001	10.5	2.92	4.5	<0.00001	0.0001	0.0081	0.0014	0.0018	0.014	0.0011	370	<6	<5														2.11	0.03
W15	02/09/2009																															
W15	03/09/2009														320	<6	<5														0.56	0.07
W15	18/09/2009														160	<6	<5														1.06	0.06
W15	12/10/2009														220	<6	<5														1.09	0.05
W15	19/04/2010	<0.0006	3.58	<0.00001	7	0.452	12.5	<0.00001	<0.0001	<0.01	0.0006	0.0007	0.006	0.0002	150	<6	<5														1.07	0.04
W15	20/04/2010	0.001	3.72	<0.00001	7.2	0.454	11.6	<0.00001	<0.0001	<0.01	0.0006	0.0009	0.009	0.0002	140	<6	<5														1.34	0.05
W15	21/04/2010	0.0015	2.72	<0.00001	4.2	0.323	7.1	<0.00001	<0.0001	<0.01	<0.0004	0.0007	0.003	0.0006	70	<6	<5														0.28	0.04
W15	22/04/2010	<0.0006	2.95	<0.00001	3.2	0.174	4.1	<0.00001	<0.0001	<0.01	<0.0004	0.0008	0.004	0.001	50	<6	<5														1.07	0.03
W15	23/04/2010	<0.0006	3.44	<0.00001	5	0.286	8.3	<0.00001	<0.0001	<0.01	<0.0004	0.0008	<0.001	0.0006	100	<6	<5														1.21	0.06
W15	24/04/2010	<0.0006	2.77	<0.00001	3.4	0.215	4	<0.00001	<0.0001	<0.01	<0.0004	0.0006	0.004	0.0004	60	<6	<5														0.69	0.03
W15	25/04/2010	0.0015	2.95	<0.00002	5.39	0.442	13	<0.00005	<0.005	<0.005	0.0006	<0.005	<0.005	<0.0005	120	<0.5	<0.5	<0.5														
W15	25/04/2010	<0.0006	2.72	<0.00001	3.1	0.178	3.4	<0.00001	<0.0001	<0.01	<0.0004	0.0006	0.004	0.0005	60	<6	<5														0.96	0.03
W15	26/04/2010	0.0006	3.19	<0.00002	2.9	0.182	4	<0.00005	<0.005	<0.005	0.0002	<0.005	0.006	<0.0005	62	<0.5	<0.5	<0.5			<0.4											
W15	27/04/2010	0.0015	6.45	<0.00002	4.28	0.449	7	<0.00005	<0.005	0.026	0.0013	0.008	0.041	0.0009	95	<0.5	<0.5	<0.5			<0.4											
W15	28/04/2010	0.0002	2.8	<0.00002	2.11	0.098	<3	<0.00005	<0.005	<0.005	0.0001	<0.005	<0.005	<0.0005	48	<0.5	<0.5	<0.5			<0.4											
W15	29/04/2010	0.0002	2.8	<0.00002	2.12	0.105	<3	<0.00005	<0.005	<0.005	0.0001	<0.005	0.006	<0.0005	48	<0.5	<0.5	<0.5			<0.4											
W15	30/04/2010	0.0002	2.52	<0.00002	2.16	0.113	<3	<0.00005	<0.005	<0.005	0.0001	<0.005	<0.005	<0.0005	56	<0.5	<0.5	<0.5			<0.4											
W15	01/05/2010	0.0002	2.92	<0.00002	2.34	0.104	<3	<0.00005	<0.005	<0.005	0.0001	<0.005	<0.005	0.0005	58	<0.5	<0.5	<0.5			<0.4											
W15	02/05/2010	0.0003	3.39	<0.00002	2.79	0.129	<3	<0.00005	<0.005	<0.005	0.0001	<0.005	<0.005	<0.0005	67	<0.5	<0.5	<0.5			<0.4											
W15	03/05/2010	0.0002	3.21	<0.00002	2.79	0.131	<3	<0.00005	<0.005	<0.005	0.0001	<0.005	<0.005	<0.0005	70	<0.5	<0.5	<0.5			<0.4											
W15	04/05/2010	0.0002	3.49	<0.00002	3.2	0.147	3	<0.00005	<0.005	<0.005	0.0002	<0.005	<0.005	<0.0005	80	<0.5	<0.5	<0.5			<0.4											
W15	05/05/2010	0.0002	4	<0.00002	3.53	0.152	3	<0.00005	<0.005	<0.005	0.0002	<0.005	<0.005	<0.0005	87	<0.5	<0.5	<0.5			<0.4											
W15	06/05/2010	0.0002	3.83	<0.00002	3.32	0.164	4	<0.00005	<0.005	<0.005	0.0002	<0.005	<0.005	<0.0005	87	<0.5	<0.5	<0.5			<0.4											
W15	07/05/2010	0.0002	4.03	<0.00002	3.61	0.151	3	<0.00005	<0.005	<0.005	0.0002	<0.005	<0.005	<0.0005	87	<0.5	<0.5	<0.5			<0.4											
W15	08/05/2010	0.0002	4.05	<0.00002	4	0.185	6	<0.00005	<0.005	<0.005	0.0002	<0.005	<0.005	<0.0005	100	<0.5	<0.5	<0.5			<0.4											
W15	09/05/2010	0.0002	4.72	<0.00002	5.15	0.224	5	<0.00005	<0.005	<0.005	0.0002	<0.005	<0.005	<0.0005	130	<0.5	<0.5	<0.5			<0.4											
W15	10/05/2010	0.0004	4.45	<0.00002	4.91	0.352	8	<0.00005	<0.005	<0.005	0.0005	<0.005	<0.005	<0.0005	150	<0.5	<0.5	<0.5			<0.4											
W15	13/05/2010	0.0003	5.29	<0.00002	5.09	0.378	7	<0.00005	<0.005	<0.005	0.0005	<0.005	<0.005	<0.0005	150	<0.5	<0.5	<0.5			<0.4											
W15	17/05/2010	0.0003	5.32	<0.00002	5.25	0.372	9	<0.00005	<0.005	<0.005	0.0005	<0.005	<0.005	<0.0005	160	<0.5	<0.5	<0.5			<0.4											
W15	20/05/2010	<0.001	5.43	<0.00002	6.66	0.438	9	<0.00005	<0.005	<0.005	0.0005	<0.005	<0.005	<0.0005	170	<0.5	<0.5	<0.5			<0.4											
W15	24/05/2010	<0.0008	5.12	High DL removed	5	0.327	<60	<0.00005	<0.005	<0.01	0.0005	<0.005	High DL removed	<0.002	170	<0.5	<0.5	<0.5			<0.4											
W15	27/05/2010	<0.001	5.51	High DL removed	8	0.382	<60	<0.00005	<0.005	<0.01	0.0005	<0.005	High DL removed	<0.002	190	<0.5	<0.5	<0.5			<0.4											
W15	31/05/2010	<0.0008		High DL removed	7	0.594	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	290	<0.5	<0.5	<0.5			<0.4											

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Stn.Code	Smpl Date	P-TDP	P-TRP	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		mg/L	mg/L	Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W12	19/05/2016 16:10					1232			
W12	27/06/2016 16:15					1394			
W12	25/07/2016 14:40					1431			
W12	22/08/2016 14:50					1460			
W12	17/09/2016 16:40					1454			
W12	15/10/2016 11:15					1607			
W12	04/11/2016 13:40					1856			
W12	01/12/2016 16:10					1781			
W15	19/05/2007	<0.02						1	
W15	20/06/2007	<0.02						1.5	
W15	18/07/2007	<0.02	0.06					13	
W15	14/08/2007	<0.02						0.3	
W15	17/09/2007	<0.02						1.8	
W15	17/10/2007	<0.02	0.03		53.9			2	
W15	20/11/2007	0.05	0.11		182			1.3	
W15	22/04/2008		0.04					40	
W15	07/05/2008								
W15	20/05/2008		0.04					1.4	
W15	18/06/2008							1.6	
W15	22/07/2008		0.04					0.8	
W15	26/08/2008		0.06					3.5	
W15	18/09/2008		0.08					0.6	
W15	27/10/2008		0.08					11	
W15	18/11/2008		0.12					1.3	
W15	30/04/2009							6.1	
W15	18/05/2009							0.6	
W15	04/06/2009							0.9	
W15	16/06/2009								
W15	07/07/2009		0.08					9	
W15	13/07/2009		0.08					17	
W15	11/08/2009		0.05					11	
W15	25/08/2009		<0.05					19	
W15	02/09/2009								
W15	03/09/2009		<0.05					12	
W15	18/09/2009		<0.05					1.1	
W15	12/10/2009							5	
W15	19/04/2010							31	
W15	20/04/2010							55	
W15	21/04/2010							40	
W15	22/04/2010							48	31.5
W15	23/04/2010							141	79.9
W15	24/04/2010							8.9	11.6
W15	25/04/2010								
W15	25/04/2010							21	13.3
W15	26/04/2010		0.008					6	
W15	27/04/2010		0.008					170	1.8
W15	28/04/2010		0.009					3.9	3.3
W15	29/04/2010		<0.005					4.5	8.5
W15	30/04/2010		0.023					5.2	2.7
W15	01/05/2010		<0.005					5.5	0.8
W15	02/05/2010		<0.005					2.5	3.1
W15	03/05/2010		0.027					3.2	1.6
W15	04/05/2010		0.027					41	4.2
W15	05/05/2010		<0.005					10.7	2.5
W15	06/05/2010		<0.005					6	1.9
W15	07/05/2010		<0.005					3.5	1.9
W15	08/05/2010		<0.005					3.9	6.6
W15	09/05/2010		<0.005					6.9	1.1
W15	10/05/2010		0.012					13.1	
W15	13/05/2010		<0.005					9.6	
W15	17/05/2010		<0.005					9.2	
W15	20/05/2010		<0.005					21.9	
W15	24/05/2010		<0.005					15.5	
W15	27/05/2010		<0.005					9.9	
W15	31/05/2010		<0.005					25.8	

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Stn.Code	Smpl Date	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T	B-T
			mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W15	03/06/2010	P	10	350	7.56	8.4	476	482	10.3				255	258	230	3.5	0.14	34	0.08	0.066	0.74	22.1	0.234	<0.0005	0.0015	0.128	<0.0002	<0.001	<0.1
W15	14/06/2010	P	20	350		8.4	508	470	15.4				242	241	210	5.2	0.15	43	0.14	0.04	0.41	22.1	1.02	<0.0005	0.0015	0.161	<0.0002	<0.001	<0.1
W15	17/06/2010	P	6	310	7.01	8.1	543	462	14.5				236	231	220	4	0.14	33	<0.01	0.028	0.31	23	0.361	<0.0005	0.001	0.138	<0.0002	<0.001	<0.1
W15	21/06/2010	P	11	300	7.19	8.2	512	420	15.5				221	207	200	3.4	0.14	29	High DL removed	0.025	0.25	21.2	0.244	<0.0005	0.0011	0.131	<0.0002	<0.001	<0.1
W15	25/06/2010	P	7	250	7.7	8.15	409	413	14.22		110.9		221	206	190	3	0.14	29	0.08	0.025	0.15	23.5	0.592	<0.0005	0.0009	0.14	<0.0002	<0.001	<0.1
W15	04/07/2010	P	15	220	6.76	7.74	365	268	12.66		62.5		132	119	93	1.9	0.11	22	0.11	0.233	5.1	27.8	0.751	<0.0005	0.0013	0.093	<0.0002	<0.001	<0.1
W15	11/07/2010	P	23	310	7.95	8.12	436	412	9.29		95.3		206	191	150	2.4	0.11	31	0.24	0.176	8.5	21	0.909	<0.0005	0.0011	0.129	<0.0002	<0.001	<0.1
W15	18/07/2010	P	19	260	7.79	7.86	341	373	12.45		95.6		166	160	130	2	0.12	28		0.101	8.4	20.7	0.382	<0.0005	0.0007	0.096	<0.0002	<0.001	<0.1
W15	25/07/2010	P	5	290	7.54	7.64	357	359	8.25		59.5		180	166	120	2.1	0.11	30	0.43	0.163	9.2	21.6	0.285	<0.0005	0.0009	0.104	<0.0002	<0.001	<0.1
W15	02/08/2010	P	9	350	7.79	8.06	503	513	13.08		71.9		237	250	160	2.9	0.13	37	0.1	<0.005	16.5	20.2	0.155	<0.0005	0.0006	0.135	<0.0002	<0.001	<0.1
W15	08/08/2010	P	4	410	7.54	8.05	578	581	8.11		62.8		267	279	180	3.3	0.12	49	0.15	0.107	18.9	20.1	0.077	<0.0005	0.0006	0.138	<0.0002	<0.001	<0.1
W15	15/08/2010	P	2	350	7.8	8.09	519	526	11.09		80.2		243	251	170	2.5	0.13	48	0.007	0.266	14.7	18.3	0.052	<0.0005	0.0005	0.125	<0.0002	<0.001	<0.1
W15	22/08/2010	P	7	350	8.29	8.19	433		7.12		86.8		187	209	120	2.9	0.14	44	<0.05	0.124	15	18.7	0.234	<0.0005	0.0006	0.11	<0.0002	<0.001	<0.1
W15	29/08/2010	P	2	430	7.85	7.83	553	567	7.24		71.5		243	220	140	3	0.11	64	0.049	0.104	20.8	17.9	0.104	<0.0005	0.0004	0.131	<0.0002	<0.001	<0.1
W15	06/09/2010	P	5	430	8.02	8	593	584	8.27		77.7		275	276	160	2.8	0.16	58	0.19	0.24	21.1	17.2	0.223	<0.0005	<0.0004	0.142	<0.0002	<0.001	<0.1
W15	10/09/2010	P	11	440	7.87	7.96	576	570	8.13		86.9		263	256	160	3.3		54	0.073	0.071	18.4	19.2	0.302	<0.0005	0.0006	0.142	<0.0002	<0.001	<0.1
W15	19/09/2010	P	4	400	7.97	7.83	567	587	3.09		95.4		263	283	160	2.7	0.19	62	<0.005	0.038	20.8	16.8	0.03	<0.0005	<0.0004	0.126	<0.0002	<0.001	<0.1
W15	29/03/2011	P	64	120		7.9		238					107	94.6	58	7.2	0.15	27	0.12	0.089	5.2	3.2	2.66	<0.0005	0.0011	0.074	<0.0001	<0.001	<0.05
W15	12/04/2011	P	68	350		8.11		581					275	250	170	13	0.17	70	0.1	0.232	11.3	8.3	1.36	<0.0005	0.0008	0.1	<0.0001	<0.001	<0.05
W15	16/04/2011	P	40	340		8.01		494					244	232	160	6.2	0.17	71	0.056	0.383	4.8	20	1.84	<0.0005	0.001	0.097	<0.0001	<0.001	<0.05
W15	25/04/2011	P	12	230		7.7		294					143	132	95	2.8	0.17	37	0.093	0.24	4.3	20	0.566	<0.0005	0.0005	0.067	<0.0001	<0.001	<0.05
W15	02/05/2011	P	17	200		7.39		208					102	92	55	3	0.12	12		0.2	5.2	36.1	0.395	<0.0005	0.0005	0.056	0.0001	<0.001	<0.05
W15	05/05/2011	P	18	150		7.32		176					83.5	74	47	2.5	0.09	12	0.088	0.121	4		0.833	<0.0005	0.0005	0.054	<0.0001	<0.001	<0.05
W15	08/05/2011	P	16	140		7.32		149					73.9	68.8	41	1.8	0.08	1	0.055	0.082	3.3		0.324	<0.0005	0.0004	0.046	<0.0001	<0.001	<0.05
W15	15/05/2011	P	47	180		7.8							111	105	72	2	0.12	24	0.096	0.12	4.9	23.5	0.85	<0.0005	0.0007	0.074	<0.0001	<0.001	<0.05
W15	22/05/2011	P	15	370		8.34		626					269	293	230	7.6	0.43	83	0.081	0.076	6.4	10.3	0.617	<0.0005	0.0007	0.103	<0.0001	<0.001	<0.05
W15	29/05/2011	P	14	260		7.91		395					169	188	130	2.5	0.13	39	0.075	0.033	6.4	17.5	0.126	<0.0005	0.0004	0.1	<0.0001	<0.001	<0.05
W15	06/06/2011	P	4	200		7.81		326					138	150	110		0.12	38	0.026	0.01	4	17.3	0.093	<0.0005	0.0004	0.075	<0.0001	<0.001	<0.05
W15	14/06/2011	P	<1	230		8		354					154	169	130					0.008	4.3	14.7	0.037	<0.0005	0.0005	0.082	<0.0001	<0.001	<0.05
W15	18/06/2011	P	3	270		7.81		437					215	204	160					0.018	6.7	16.1	0.085	<0.0005	0.0006	0.104	<0.0001	<0.001	<0.05
W15	27/06/2011	P	5	310		7.99		440					192	215	160			39	0.072	0.023	6.1	17.6	0.082	<0.0005	0.0005	0.095	<0.0001	<0.001	<0.05
W15	03/07/2011	P	<1	150		7.98		284					131	142	110			28	0.013	0.007	3.2		0.107	<0.0005	0.0004	0.067	<0.0001	<0.001	<0.05
W15	16/07/2011	P	1	200		7.66		235					118	119	87	2	0.11	21	<0.005	0.005	2.69	26	0.095	<0.0005	0.0004	0.062	<0.0001	<0.001	<0.05
W15	23/07/2011	P	4	280		7.76		370					179	177	120			32	0.018	0.01	7.2	33.4	0.082	<0.0005	0.0005	0.099	<0.0001	<0.001	<0.05
W15	31/07/2011	P	5	490		8.12		645					323	330	170			64	0.118	0.157	20.6		0.121	<0.0005	0.0005	0.132	<0.0001	<0.001	<0.05
W15	07/08/2011	P	1	190		7.77		271					134	131	87			27	0.037	0.006	5	28.4	0.202	<0.0005	0.0006	0.075	<0.0001	<0.001	<0.05
W15	18/08/2011	P	1	360		8.12		484					213	228	140				0.013	0.012	13.6	17.5	0.093	<0.0005	0.0004	0.115	<0.0001	<0.001	<0.05
W15	27/08/2011	P	1	310		7.89		430					218	215	130			43	0.013	0.008	12.1	18.7	0.056	<0.0005	0.0005	0.108	<0.0001	<0.001	<0.05
W15	30/08/2011	P	2	350		8.07		522					225	258	160				0.032	0.006	12.8	15.8	0.062	<0.0005	0.0004	0.108	<0.0001	<0.001	<0.05
W15	05/09/2011	P	4	440	7.76	8.22	509.2	569	4.2	9.15	70.5		255	272	160	4			0.038	0.01	16.9	15.7	0.029	<0.0005	0.0004	0.118	<0.0001	<0.001	<0.05
W15	10/09/2011	P	<1	380	7.6	8.06	521.6	555	2.2	13.74	97.8		255	290	170	4.1			0.054	0.006	15.7	13.8	0.032	<0.0005	0.0003	0.115	<0.0001	<0.001	<0.05
W15	17/09/2011	P	15	350	7.38	8.02	682.5	579	5.4	11.82	94.6		292	283	180	3.7		55	0.025	<0.005	17.1	13.2	0.107	<0.0005	0.0004	0.122	<0.0001	<0.001	<0.05
W15	24/09/2011	P	<4	400	7.94	8.03	538.2	559	3.6	10.62	80.9		258	280	170	4.2		57	0.701	0.007	13.4	13.6	0.073	<0.0005	0.0003	0.111	<0.0001	<0.001	<0.05
W15	14/10/2011	P	2	480	7.28	7.97	713.2	684	0	8.52	58.2		339	326	220	5.1			0.018	0.011	16.9	12.6	0.027	<0.0005	0.0002	0.146	<0.0001	<0.001	<0.05
W15	13/11/2011	P	59.4	1840	8	7.99	136.9	2180	0.1	12.4	85.1		1280	1230	603	28			0.253	0.314	56.1	53.9	0.64	0.0005	0.0016	0.548	<0.0001	<0.001	<0.05
W15	23/11/2011	P	6.3	678		7.61		1070					514	545	342	22			0.158	0.338	29.6	12.5	0.006	<0.0005	0.0004	0.205	<0.0001	<0.001	<0.05
W15	10/04/2012 10:00	P	11.6	456	7.74	8.13	318	651	0	11.27	77.3		299	313	230	8.2	0.15	91.7	0.0689	0.182	5.49	26.3	0.416	<0.0005	0.0006	0.117	<0.0001	<0.001	<0.05
W15	22/04/2012 17:30	P	6.9	162	7.93	7.78	110.1	194	0.8	11.98	83.9		92.9	96.2	68.6	1.6	0.078	11.3	0.028	0.0535	2.28	31.6	0.28	<0.00050	0.00038	0.051	<0.00010	<0.0010	<0.05
W15	29/04/2012	P	3	172	7.31	7.78	116.9	207	2	10.62	77	123.4	92.4	101	65.4	1.8	0.089	14.1	0.059	0.0588	2.89	26.4	0.172	<0.00050	0.00053	0.0605	<0.00010	<0.0010	<0.05
W15	01/05/2012 16:35	P	4.3	184	7.23	7.87	107.3	208	2.4	8.6	62.9	85.4	97.8	102	74	1.9	0.094	17.2	0.061	0.0682	2.33	27	0.208	<0.00050	0.00051	0.0608	<0.00010	<0.0010	<0.05
W15	02/05/2012	P	3.1	148	7.47	7.91	104.4	185	2.3	10.21	74.4	81.9	89.8	90.9	66.6	1.8	0.093	9.21	0.019	0.0462	1.9	30	0.174	<0.00050	0.00042	0.0517	<0.00010	<0.0010	<0.05
W15	03/05/2012 12:45	P	5.3	168	7.09	7.81	121.2	212	3.1	7.97	59.5	79.5	100	104	73	2.2	0.099	23.1	0.058	0.0777	2.43	27.5	0.24	<0.00050	0.00054	0.0649	<0.00010	<0.0010	<0.05
W15	04/05/2012 17:15	P	11.1	164	7.27	7.86	124.5	221	1.9	10.27	73.9	85.4	100	107	79.4	1.8	0.092	17.6	0.05	0.0551	2.18	26.5	0.332	<0.00050	0.00072	0.0607	<0.00010	<0.0010	<0.05
W15	05/05/2012 11:15	P	11.8	236	6.88	6.55	196.1	301	0.4	7.01	48.5	15.7	133	141	90	2.7	0.1	31.3	0.2	0.111	2.6	29.9	0.418	<0.00050	0.00093	0.0898	<0.00010	<0.0010	<0.05
W15	06/05/2012 15:40	P	10.7	188	7.32	7.85	157	249	1.2	8.25	58.4	109.2	120	121	93.7	2.1	0.11	19.9	0.032	0.051	2.57	22	0.337	<0.00050	0.00074	0.0741	<0.00010	<0.0010	<0.05
W15	07/05/2012	P	6.6	192	7.31	7.63	144.3	261	3.8	6.21	47.2	53.3	115	127	88.7	2.1	0.098	28.5	0.11	0.115	2.05	20.1	0.239	<0.00050	0.00069	0.0778	<0.00010	<0.0010	<0.05
W15	08/05/2012 5:50	P	9.3	176	7.22	7.86	159.5	258	0	7.92	54.3	137.1	115	127	93.1	1.9	0.1	24.6	0.18	0.0681	2.21	16.7	0.33	<0.00050	0.00072	0.0739	<0.00010	<0.0010	<0.05
W15	09/05/2012 15:40	P	18.1	188	7.97	7.83	133.4	228	1.6	13.11	94.5	92.6	110	109	83.2	1.9	0.11	19.1	0.038	0.0444	2.22	22.3	0.495	<0.00050	0.00071	0.0804	<0.00010	<0.0010	<0.05
W15	11/05/2012 16:40	P	18	186	7.71	8.05	170.4	259	4.9	11.45	89.6	83.7	118	130	96.7	2.4	0.11	27.1	0.1	0.0487	2.93	20.2	0.687	<0.00050	0.00084	0.0807	<0.00010	<0.0010	<0.05
W15	13/05/2012 16:15	P	3.2	214	7.45	8.1	186.5	309	1.9	11.32	81.5	110.4	149	147	112	2.4	0.11	29.4	0.16	0.0452	3.74	17.7	0.117	<0.00050	0.00068	0.0897	<0.00010	<0.0010	<0.05
W15	16/05/2012 9:40	P	2.9	242	9.95	8.02	201.8	338	2.3	13.14	95.6	46.8	153	157	121	2.2	0.11	36.1	0.049	0.0372	3.98	17	0.102	<0.00050	0.00062	0.0941	<0.00010	<0.0010	<0.05
W15	24/05/2012	P	3.3	244	7.18	8	244.2	367	5.4	12.72	102.3	33.7	180	175	134	2.8	0.12	36	0.21	0.0443	3.99	15.3	0.121	<0.00050	0.00055	0.0997	<0.00010	<0.0010	<0.05
W15	03/06/2012	P	4.3	294	7.29	7.89	306	468	7.3	10.14	84.4		208	217	159	4.1	0.12	56.1	0.22	0.0375	4.85	13	0.0723	<0.00050	0.00053	0.107	<0.00010	<0.0010	<0.05
W15	08/06/2012	P	5.4	278	7.31	8.17	309.8	423	10.8	9.62	87.2	6	155	201	151	3.2	0.12	52.9	0.5	0.0261	3.58	14.3	0.116	<0.00050	0.00042	0.0811	<0.00010	<0.0010	<0.05
W15	15/06/2012 15:07	P	19.8	280	7.51	7.98	271.5	355	7.2	9.4	78	53.3	171	167	117	2.7	0.13	36.1	0.16	0.0164	5.63		0.802	<0.00050	0.00081	0.109	<0.00010	<0.0010	<0.05

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W15	03/06/2010	High DL removed	72	High DL removed	0.0015	0.049	3.16	0.0003	<0.01	18	1.46	<0.0002	0.003	0.002		3	<0.0008	7.13	High DL removed	7	0.604	<60	<0.00005	<0.005	<0.01	0.0008
W15	14/06/2010	High DL removed	65	High DL removed	0.0016	0.064	2.71	0.0006	<0.01	19	0.987	<0.0002	0.003	0.003		3	<0.0008	7.82	High DL removed	8	0.529	<60	<0.00005	<0.005	0.042	0.0009
W15	17/06/2010	High DL removed	63	High DL removed	0.001	0.032	1.45	0.0003	<0.01	19	0.776	<0.0002	0.002	0.002		3	<0.0008	6.54	High DL removed	8	0.481	<60	<0.00005	<0.005	0.011	0.0009
W15	21/06/2010	High DL removed	59	High DL removed	0.0009	0.027	1.21	<0.0002	<0.01	18	0.582	<0.0002	0.002	0.002		3	<0.0008	6.17	High DL removed	8	0.437	<60	<0.00005	<0.005	0.01	0.0007
W15	25/06/2010	High DL removed	61	High DL removed	0.0009	0.04	1.71	0.0003	<0.01	17	0.477	<0.0002	0.002	0.002		3	<0.0008	7.75	High DL removed	8	0.445	<60	<0.00005	<0.005	0.017	0.0006
W15	04/07/2010	High DL removed	35	High DL removed	0.0012	0.049	1.74	0.0004	<0.01	11	0.423	<0.0002	0.002	0.006		2	0.0013	6.49	High DL removed	6	0.263	<60	<0.00005	<0.005	0.026	0.0002
W15	11/07/2010	High DL removed	56	High DL removed	0.0014	0.061	2.91	0.0005	<0.01	16	0.663	<0.0002	0.002	0.003		3	0.0017	7.3	High DL removed	8	0.397	<60	<0.00005	<0.005	0.033	0.0005
W15	18/07/2010	0.0003	45	High DL removed	0.0008	0.038	1.29	<0.0002	<0.01	13	0.299	<0.0002	0.002	0.002		2	0.0016	6.4	High DL removed	6	0.323	<60	<0.00005	<0.005	0.017	0.0003
W15	25/07/2010	High DL removed	47	High DL removed	0.0006	0.03	0.637	<0.0002	<0.01	15	0.192	<0.0002	0.002	0.007		2	0.0019	6.41	High DL removed	7	0.32	<60	<0.00005	<0.005	<0.01	0.0003
W15	02/08/2010	High DL removed	66	High DL removed	0.0006	0.024	1.13	<0.0002	<0.01	17	0.332	<0.0002	0.002	0.004		3	0.0024	5.75	High DL removed	8	0.463	<60	<0.00005	<0.005	<0.01	0.0005
W15	08/08/2010	High DL removed	73	High DL removed	0.0006	0.02	1.02	<0.0002	<0.01	20	0.302	<0.0002	0.002	0.002		3	0.0026	5.23	High DL removed	9	0.513	<60	<0.00005	<0.005	<0.01	0.0007
W15	15/08/2010	High DL removed	68	High DL removed	<0.0005	0.03	0.401	<0.0002	<0.01	18	0.242	<0.0002	0.002	0.001		3	0.0019	5.38	High DL removed	9	0.532	<60	<0.00005	<0.005	<0.01	0.0006
W15	22/08/2010	High DL removed	52	High DL removed	<0.0005	0.029	0.904	<0.0002	<0.01	14	0.187	<0.0002	0.002	0.002		2	0.0025	5.39	High DL removed	7	0.423	<60	<0.00005	<0.005	<0.01	0.0003
W15	29/08/2010	High DL removed	67	High DL removed	<0.0005	0.019	0.335	<0.0002	<0.01	18	0.1	<0.0002	0.002	<0.001		3	0.0036	5.48	High DL removed	8	0.524	<60	<0.00005	<0.005	<0.01	0.0005
W15	06/09/2010	High DL removed	76	High DL removed	<0.0005	0.028	0.552	<0.0002	<0.01	21	0.176	<0.0002	0.002	0.002		3	0.0031	5.97	High DL removed	9	0.622	<60	<0.00005	<0.005	<0.01	0.0007
W15	10/09/2010	High DL removed	72	High DL removed	0.0007	0.026	1.15	<0.0002	<0.01	20	0.287	<0.0002	0.002	0.001		3	0.0031	5.95	High DL removed	9	0.584	<60	<0.00005	<0.005	<0.01	0.0007
W15	19/09/2010	High DL removed	74	High DL removed	<0.0005	0.018	0.25	<0.0002	<0.01	19	0.053	<0.0002	0.002	0.002		3	0.0034	5.71	High DL removed	9	0.581	<60	<0.00005	<0.005	<0.01	0.0007
W15	29/03/2011	0.00015	27.4	0.002	0.0017	0.416	4.3	0.0015	<0.005	9.45	0.249	<0.00002	0.005	0.003	0.096	2.56	0.0018	6.39	0.00021	7.16	0.367	9	<0.00005	<0.005	0.104	0.0008
W15	12/04/2011	0.0001	75.2	0.001	0.0011	0.211	1.86	0.0007	<0.005	21.2	0.576	<0.00002	0.008	0.002	0.065	4.03	0.002	7.23	0.00008	12.6	1.1	25	<0.00005	<0.005	0.057	0.002
W15	16/04/2011	0.00006	63.1	0.001	0.0014	0.159	2.76	0.0009	<0.005	20.9	0.692	<0.00002	0.008	0.002	0.072	5.23	0.0016	8.14	0.00007	11	0.75	24	<0.00005	<0.005	0.083	0.0013
W15	25/04/2011	0.00007	38.4	<0.001	0.0007	0.0673	1.02	0.0003	<0.005	11.5	0.562	<0.00002	0.005	0.001	0.073	3.64	0.0016	3.97	0.00003	6.27	0.494	14	<0.00005	<0.005	0.02	0.0007
W15	02/05/2011	0.00021	28.5	<0.001	0.0009	0.0534	0.624	0.0003	<0.005	7.43	0.523	<0.00002	0.003	0.002		2.75	0.0014	3.26	0.00002	4.43	0.289	7	<0.00005	<0.005	0.01	0.0006
W15	05/05/2011	0.00006	23.6	0.001	0.001	0.102	1.45	0.0004	<0.005	5.94	0.444	<0.00002	0.002	0.002	0.094	2.08	0.0013	3.77	0.00005	3.12	0.22	6	<0.00005	<0.005	0.032	0.0004
W15	08/05/2011	0.00004	20.7	<0.001	0.0009	0.0437	0.676	<0.0002	<0.005	5.41	0.441	<0.00002	0.001	0.001	0.064	1.9	0.0008	2.73	<0.00002	2.72	0.185	5	<0.00005	<0.005	0.009	0.0003
W15	15/05/2011	0.00004	31.6	<0.001	0.0012	0.0867	1.66	0.0004	<0.005	7.79	0.669	<0.00002	0.002	0.002	0.09	2.38	0.0014	4.8	0.00004	4	0.261	7	<0.00005	<0.005	0.033	0.0005
W15	22/05/2011	0.00008	67.1	<0.001	0.0006	0.0787	1.12	0.0003	<0.005	24.7	0.375	<0.00002	0.008	0.002	0.042	5.37	0.0021	6.94	0.00004	21	0.864	22	<0.00005	<0.005	0.026	0.0018
W15	29/05/2011	0.00001	46.3	<0.001	<0.0005	0.0168	0.639	<0.0002	<0.005	13	0.189	<0.00002	0.002	0.002	0.029	2.71	0.0015	4.42	<0.00002	6.68	0.368	12	<0.00005	<0.005	0.006	0.0008
W15	06/06/2011	0.00002	37.3	<0.001	<0.0005	0.0175	0.405	<0.0002	<0.005	10.8	0.082	<0.00002	0.002	0.001	0.021	2.04	0.0009	3.86	<0.00002	6.25	0.299	13	<0.00005	<0.005	<0.005	0.0004
W15	14/06/2011	<0.00001	40.2	<0.001	<0.0005	0.0123	0.534	<0.0002	<0.005	13	0.101	<0.00002	0.002	0.001	0.021	2.09	0.0008	4.25	<0.00002	7.03	0.312	12	<0.00005	<0.005	<0.005	0.0004
W15	18/06/2011	0.00001	59.9	<0.001	<0.0005	0.016	0.706	<0.0002	<0.005	15.9	0.15	<0.00002	0.002	<0.001	0.019	2.31	0.0012	5.6	<0.00002	8.25	0.44	14	<0.00005	<0.005	<0.005	0.0006
W15	27/06/2011	0.00001	53.9	<0.001	<0.0005	0.0228	0.862	<0.0002	<0.005	13.9	0.237	<0.00002	0.002	<0.001	0.022	2.14	0.0008	5.06	<0.00002	7.23	0.433	12	<0.00005	<0.005	<0.005	0.0005
W15	03/07/2011	0.00002	35.7	<0.001	<0.0005	0.0187	0.424	<0.0002	<0.005	10.2	0.058	<0.00002	0.001	0.001	0.021	1.39	0.0005	5.01	<0.00002	5.39	0.248	9	<0.00005	<0.005	<0.005	0.0003
W15	16/07/2011	0.00001	32.1	<0.001	<0.0005	0.0145	0.402	<0.0002	<0.005	9.08	0.034	<0.00002	0.002	0.001	0.019	1.22	0.0004	5.21	<0.00002	5.15	0.221	8	<0.00005	<0.005	<0.005	0.0002
W15	23/07/2011	<0.00001	48.6	<0.001	<0.0005	0.014	0.48	<0.0002	<0.005	14.1	0.062	<0.00002	0.002	0.001	0.025	1.6	0.001	5.7	<0.00002	7.33	0.345	11	<0.00005	<0.005	<0.005	0.0004
W15	31/07/2011	0.00009	96	<0.001	0.0007	0.072	0.546	0.0004	<0.005	20.1	0.776	<0.00002	0.003	0.001	0.025	3.67	0.0042	6.37	<0.00002	11.8	1.04	23	<0.00005	<0.005	0.009	0.0011
W15	07/08/2011	0.00002	34.3	<0.001	<0.0005	0.0181	0.63	<0.0002	<0.005	11.7	0.078	<0.00002	0.002	0.002	0.034	1.42	0.001	5.19	<0.00002	6.7	0.269	12	<0.00005	<0.005	0.007	0.0002
W15	18/08/2011	0.00001	56.3	<0.001	<0.0005	0.012	0.376	<0.0002	<0.005	17.7	0.065	<0.00002	0.002	0.001	0.022	2.1	0.002	5.13	<0.00002	9.42	0.477	16	<0.00005	<0.005	<0.005	0.0006
W15	27/08/2011	<0.00001	59.9	<0.001	<0.0005	0.0087	0.355	<0.0002	<0.005	16.6	0.054	<0.00002	0.002	0.001		1.99	0.0018	5.95	<0.00002	8.18	0.446	16	<0.00005	<0.005	<0.005	0.0006
W15	30/08/2011	0.00001	62.5	<0.001	<0.0005	0.0068	0.541	<0.0002	<0.005	16.7	0.085	<0.00002	0.002	<0.001	0.017	2.23	0.0023	5.44	<0.00002	8.11	0.495	19	<0.00005	<0.005	<0.005	0.0008
W15	05/09/2011	0.00001	70.7	0.001	<0.0005	0.0087	0.257	<0.0002	<0.005	19	0.041	<0.00002	0.002	0.001	0.013	2.42	0.003	5.72	<0.00002	9.44	0.573	21	<0.00005	<0.005	<0.005	0.0009
W15	10/09/2011	0.00001	69.7	<0.001	<0.0005	0.0067	0.247	<0.0002	<0.005	19.7	0.051	<0.00002	0.002	<0.001	0.013	2.41	0.0024	5.39	<0.00002	9.71	0.559	20	<0.00005	<0.005	<0.005	0.0011
W15	17/09/2011	0.00001	81.8	<0.001	<0.0005	0.0125	0.575	<0.0002	<0.005	21.3	0.095	<0.00002	0.002	0.001	0.018	2.59	0.0025	5.4	<0.00002	10.3	0.586	19	<0.00005	<0.005	<0.005	0.0013
W15	24/09/2011	<0.00001	70.8	<0.001	<0.0005	0.0107	0.194	<0.0002	<0.005	19.7	0.02	<0.00002	0.002	<0.001	0.016	2.69	0.0023	5.29	<0.00002	10	0.559	19	<0.00005	<0.005	<0.005	0.0011
W15	14/10/2011	<0.00001	94.5	<0.001	<0.0005	0.0072	0.242	<0.0002	<0.005	25	0.063	<0.00002	0.001	<0.001	<0.01	2.88	0.003	6.97	<0.00002	11.8	0.699	26	<0.00005	<0.005	<0.005	0.0014
W15	13/11/2011	0.00023	311	0.002	0.0019	0.158	1.19	0.0005	0.005	121	0.743	<0.000020	0.006	0.005	0.082	18	0.0113	27.1	0.00011	61.4	2.79	160	<0.00005	<0.005	0.035	0.0052
W15	23/11/2011	0.00003	145	<0.001	0.0007	0.0346	0.255	<0.0002	<0.005	36.9	0.961	<0.000020	0.003	<0.001	<0.01	5.8	0.0044	8.71	<0.00002	17.2	1.55	32.8	<0.00005	<0.005	<0.005	0.0021
W15	10/04/2012 10:00	0.00005	71.5	<0.001	0.0008	0.0773	1.06	<0.0002	<0.005	29.3	0.366	<0.000010	0.002	0.001	0.095	6.67	0.0013	8.67	0.00005	15.5	0.685	26.1	<0.00005	<0.005	0.031	0.0014
W15	22/04/2012 17:30	0.000029	25.8	<0.0010	0.00057	0.0328	0.705	<0.00020	<0.0050	6.93	0.26	<0.000010	0.0011	<0.0010	0.062	2.21	0.00058	3.08	<0.000020	3.46	0.206	6.3	<0.000050	<0.0050	0.0124	0.0003
W15	29/04/2012	0.000013	24.6	<0.0010	0.00069	0.0241	0.836	<0.00020	<0.0050	7.5	0.288	<0.000010	<0.0010	<0.0010	0.035	2.1	0.00048	3.03	<0.000020	3.59	0.186	6.1	<0.000050	<0.0050	0.0062	0.00019
W15	01/05/2012 16:35	0.000027	26.3	<0.0010	0.00069	0.0238	1.1	<0.00020	<0.0050	7.82	0.357	<0.000010	<0.0010	0.0011	0.046	1.99	0.00048	3.36	<0.000020	3.81	0.2	6.3	<0.000050	<0.0050	0.0085	0.00025
W15	02/05/2012	0.000022	24.9	<0.0010	0.00058	0.0229	0.646	<0.00020	<0.0050	6.69	0.26	<0.000010	0.0011	0.001	0.042	1.78	0.00045	3.18	<0.000020	3.22	0.194	5.8	<0.000050	<0.0050	<0.0050	0.00025
W15	03/05/2012 12:45	0.000026	27.3	<0.0010	0.00071	0.0294	1.06	<0.00020	<0.0050	7.8	0.324	<0.000010	0.001	0.0021	0.045	2.07	0.00042	3.49	<0.000020	4.17	0.201	6.9	<0.000050	<0.0050	0.0083	0.00021
W15	04/05/2012 17:15	0.00006	27.7	<0.0010	0.00076	0.0311	1.05	<0.00020	<0.0050	7.52	0.353	<0.000010	0.0011	0.0012	0.076	3.05	0.0005	3.44	<0.000020	3.6	0.214	6.2	<0.000050	<0.0050	0.0139	0.00031
W15	05/05/2012 11:15	0.000128	35.4	<0.0010	0.00133	0.0299	2.82	0.00022	<0.0050	10.8	0.71	<0.000010	0.0012	0.0014	0.103	2.7	0.0006	4.49	<0.000020	5.47	0.266	9.5	<0.000050	<0.0050	0.0159	0.00032
W15	06/05/2012 15:40	0.000027	33.9	<0.0010	0.00083	0.016	1.31	<0.00020	<0.0050	8.73	0.362	<0.000010	0.0014	0.0013	0.052	2.09	0.00058	4.16	<0.000020	4.14	0.249	7.2	<0.000050	<0.0050	0.0156	0.00039
W15	07/05/2012	0.000027	30.7	<0.0010	0.00081	0.0152	1.39	<0.00020	<0.0050	9.29	0.447	<0.000010	0.0012	0.0012	0.047	2.17	0.00044	3.57	<0.000020	4.89	0.229	8.6	<0.000050	<0.0050	0.0092	0.00035
W15	08/05/2012 5:50	0.000027	32.2	<0.0010	0.00079	0.0194	1.24	<0.00020	<0.0050	8.45	0.407	<0.000010	0.0014	0.001	0.042	1.96	0.00053	3.85	<0.000020	4.23	0.237	7	<0.000050	<0.0050	0.0134	0.0004
W15	09/05/2012 15:40	0.000024	29.6	0.001	0.00099	0.0199	1.48	0.00021	<0.0050	8.68	0.391	<0.000010	0.0014	0.0014	0.052	1.92	0.00057	3.86	<0.000020	4.17	0.238	6.2	<0.000050	<0.0050	0.0218	0.00039
W15	11/05/2012 16:40	0.000032	32.2	<0.0010	0.00097	0.0386	1.69	0.00027	<0.0050	9.16	0.467	<0.000010	0.0016	0.0019	0.056	1.99	0.00043	4.85	0.000022	4.34	0.273	6.8	<0.000050	<0.0050	0.0255	0.00049
W15	13/05/2012 16:15	0.00002	41	<0.0010	0.00079	0.0124	0.964	<0.00020	<0.0050	11.2	0.534	<0.000010	0.0018	0.0014	0.041	2.2	0.00066	4.39	<0.000020	5.46	0.316	9.2	<0.000050	<0.0050	0.0057	0.00063
W15	16/05/2012 9:40	0.000014	41.1	<0.0010	0.00076	0.015	0.781	<0.00020	<0.0050	12.3	0.418	<0.000010	0.002	0.0011	0.037	2.37	0.00086	3.72	<0.000020	6.1	0.35	12.2	<0.000050	<0.0050	<0.0050	0.00064
W15	24/05/2012	0.000033	48.2	<0.0010	0.00065	0.0147	1.03	<0.00020	<0.0050	14.5	0.407	<0.000010	0.0021	0.0011	0.043	2.72	0.00067	4.39	<0.000020	7.53	0.361	13.3	<0.000050	<0.0050	<0.0050	0.00067
W15	03/06/2012	<0.000010	55.2	<0.0010	<0.00050	0.0105	1.45	0.00029	<0.0050	17	0.361	<0.000010	0.0021	<0.0010	0.035	2.69	0.0009	4.1	<0.000020	9.42	0.409	19.4	<0.000050	<0.0050	<0.0050	0.00077
W15	08/06/2012	<0.000010	41.2	<0.0010	<0.00050	0.00939	0.841	<0.00020	<0.0050	12.8	0.163	<0.000010	0.0018	<0.0010	0.018	1.96	0.00064	3.2	<0.000020	7.32	0.305	12.9	<0.000050	<0.0050	0.0095	0.00057
W15	15/06/2012 15:07	0.000064	47.4	0.0012	0.0008	0.0283	1.73	0.00035	<0.0050	12.7	0.162	<0.000010	0.002	0.0023	0.04	2.29	0.00107	5.86	<0.000020	7.31	0.406	11.9	<0.000050	<0.0050	0.0289	0.00055

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W15	03/06/2010	<0.005	<0.01	<0.002	0.016	<0.0005	0.001	0.109	<0.0002	<0.001	<0.1	High DL removed	74	High DL removed	0.0012	0.031	0.887	<0.0002	<0.01	18	1.41	<0.0002	0.003	0.002		3
W15	14/06/2010	<0.005	<0.01	<0.002	0.013	<0.0005	0.0008	0.124	<0.0002	<0.001	<0.1	High DL removed	65	High DL removed	0.0007	0.022	0.356	<0.0002	<0.01	19	0.671	<0.0002	0.003	0.002		3
W15	17/06/2010	<0.005	<0.01	<0.002	0.017	<0.0005	0.0008	0.117	<0.0002	<0.001	<0.1	High DL removed	62	High DL removed	0.0007	0.021	0.395	<0.0002	<0.01	18	0.672	<0.0002	0.002	0.002		3
W15	21/06/2010	<0.005	<0.01	<0.002	0.017	<0.0005	0.0007	0.116	<0.0002	<0.001	<0.1	High DL removed	57	High DL removed	<0.0005	0.018	0.264	<0.0002	<0.01	16	0.414	<0.0002	0.002	0.002		3
W15	25/06/2010	<0.005	<0.01	<0.002	0.022	<0.0005	0.0009	0.124	<0.0002	<0.001	<0.1	High DL removed	56	High DL removed	0.0006	0.017	0.344	<0.0002	<0.01	16	0.405	<0.0002	0.002	0.002		3
W15	04/07/2010	<0.005	<0.01	<0.002	0.081	<0.0005	0.0007	0.081	<0.0002	<0.001	<0.1	High DL removed	32	High DL removed	0.0008	0.026	0.762	<0.0002	<0.01	10	0.332	<0.0002	0.002	0.002		1
W15	11/07/2010	<0.005	0.018	<0.002	0.023	<0.0005	0.0009	0.11	<0.0002	<0.001	<0.1	High DL removed	52	High DL removed	0.0009	0.021	1.02	<0.0002	<0.01	15	0.551	<0.0002	0.002	0.002		2
W15	18/07/2010	<0.005	<0.01	<0.002	0.037	<0.0005	0.0006	0.089	<0.0002	<0.001	<0.1	0.0004	44	High DL removed	<0.0005	0.022	0.577	<0.0002	<0.01	12	0.268	<0.0002	0.002	0.001		2
W15	25/07/2010	<0.005	<0.01	<0.002	0.047	<0.0005	0.0005	0.092	<0.0002	<0.001	<0.1	High DL removed	45	High DL removed	<0.0005	0.017	0.272	<0.0002	<0.01	13	0.156	<0.0002	0.002	0.001		2
W15	02/08/2010	<0.005	<0.01	<0.002	0.025	<0.0005	0.0006	0.138	<0.0002	<0.001	<0.1	High DL removed	69	High DL removed	0.0006	0.017	0.782	<0.0002	<0.01	19	0.323	<0.0002	0.002	0.001		3
W15	08/08/2010	<0.005	<0.01	<0.002	0.019	<0.0005	0.0007	0.147	<0.0002	<0.001	<0.1	0.0001	76	High DL removed	0.0006	0.013	0.657	<0.0002	<0.01	22	0.327	<0.0002	0.002	0.001		3
W15	15/08/2010	<0.005	<0.01	<0.002	0.02	<0.0005	0.0005	0.121	<0.0002	<0.001	<0.1	High DL removed	70	High DL removed	<0.0005	0.023	0.258	<0.0002	<0.01	18	0.254	<0.0002	0.002	0.001		3
W15	22/08/2010	<0.005	<0.01	<0.002	0.045	<0.0005	0.0005	0.104	<0.0002	<0.001	<0.1	0.0005	56	High DL removed	<0.0005	0.018	0.537	<0.0002	<0.01	16	0.187	<0.0002	0.002	0.001		2
W15	29/08/2010	<0.005	<0.01	<0.002	0.014	<0.0005	0.0006	0.102	<0.0002	<0.001	<0.1	High DL removed	61	High DL removed	<0.0005	0.037	0.03	<0.0002	<0.01	17	0.001	<0.0002	0.019	0.001		8
W15	06/09/2010	<0.005	<0.01	<0.002	0.018	0.0008	0.0005	0.133	<0.0002	<0.001	<0.1	High DL removed	78	High DL removed	<0.0005	0.017	0.225	<0.0002	<0.01	20	0.164	<0.0002	0.002	<0.001		3
W15	10/09/2010	<0.005	<0.01	<0.002	0.022	<0.0005	0.0005	0.134	<0.0002	<0.001	<0.1	High DL removed	70	High DL removed	0.0005	0.014	0.72	<0.0002	<0.01	20	0.286	<0.0002	0.003	0.002		3
W15	19/09/2010	<0.005	<0.01	<0.002	0.024	<0.0005	<0.0004	0.126	<0.0002	<0.001	<0.1	0.0001	78	High DL removed	<0.0005	0.009	0.196	<0.0002	<0.01	21	0.056	<0.0002	0.002	<0.001		3
W15	29/03/2011	0.009	0.018	0.0006	0.018	<0.0005	0.0003	0.036	<0.0001	<0.001	<0.05	0.00007	25.1	<0.001	<0.0005	0.0214	0.03	<0.0002	<0.005	7.72	0.114	<0.00002	0.004	<0.001	0.017	1.82
W15	12/04/2011	<0.005	0.01	<0.0005	0.004	<0.0005	0.0004	0.071	<0.0001	<0.001	<0.05	0.00005	67.8	<0.001	<0.0005	0.0462	0.007	<0.0002	<0.005	19.5	0.462	<0.00002	0.007	<0.001	0.01	3.6
W15	16/04/2011	0.006	0.01	0.0005	0.014	<0.0005	0.0004	0.075	<0.0001	<0.001	<0.05	0.00004	61.6	<0.001	0.0006	0.0475	0.122	<0.0002	<0.005	19.1	0.626	<0.00002	0.007	<0.001	0.022	4.75
W15	25/04/2011	<0.005	0.007	0.0007	0.065	<0.0005	0.0003	0.055	<0.0001	<0.001	<0.05	0.00005	36.3	<0.001	<0.0005	0.034	0.366	<0.0002	<0.005	10.1	0.501	<0.00002	0.004	<0.001	0.021	3.26
W15	02/05/2011	<0.005	0.009	<0.0005	0.179	<0.0005	0.0004	0.049	<0.0001	<0.001	<0.05	0.00005	26.1	<0.001	0.0007	0.0329	0.322	<0.0002	<0.005	6.52	0.467	<0.00002	0.003	0.001		2.47
W15	05/05/2011	<0.005	0.01	<0.0005	0.142	<0.0005	0.0003	0.042	<0.0001	<0.001	<0.05	0.00004	21	<0.001	0.0005	0.0255	0.253	<0.0002	<0.005	5.24	0.381	<0.00002	0.002	<0.001	0.03	1.89
W15	08/05/2011	<0.005	0.006	<0.0005	0.145	<0.0005	0.0003	0.045	<0.0001	<0.001	<0.05	0.00003	19.2	<0.001	0.0008	0.0249	0.331	<0.0002	<0.005	5.09	0.429	<0.00002	0.001	<0.001	0.029	1.84
W15	15/05/2011	<0.005	0.007	<0.0005	0.087	<0.0005	0.0005	0.065	<0.0001	<0.001	<0.05	0.00001	30.1	<0.001	0.0008	0.0195	0.479	<0.0002	<0.005	7.37	0.631	<0.00002	0.002	0.001	0.023	2.19
W15	22/05/2011	<0.005	<0.005	<0.0005	0.006	<0.0005	0.0005	0.094	<0.0001	<0.001	<0.05	0.00006	73.6	<0.001	<0.0005	0.05	0.045	<0.0002	<0.005	26.4	0.382	<0.00002	0.009	0.001	0.013	5.87
W15	29/05/2011	<0.005	<0.005	<0.0005	0.028	<0.0005	0.0005	0.103	<0.0001	<0.001	<0.05	0.00001	52.2	<0.001	<0.0005	0.0166	0.368	0.0005	<0.005	14	0.192	<0.00002	0.002	0.001	0.019	3
W15	06/06/2011	<0.005	<0.005	<0.0005	0.026	<0.0005	0.0005	0.074	<0.0001	<0.001	<0.05	0.00001	40.4	<0.001	<0.0005	0.0129	0.272	<0.0002	<0.005	12	0.081	<0.00002	0.002	0.002	0.013	2.23
W15	14/06/2011	<0.005	<0.005	<0.0005	0.021	<0.0005	0.0004	0.083	<0.0001	<0.001	<0.05	<0.00001	46	<0.001	<0.0005	0.0073	0.488	<0.0002	<0.005	13.2	0.087	<0.00002	0.002	<0.001	0.01	2.09
W15	18/06/2011	<0.005	<0.005	<0.0005	0.017	<0.0005	0.0004	0.102	<0.0001	<0.001	<0.05	0.00001	55.3	<0.001	<0.0005	0.0115	0.322	<0.0002	<0.005	15.9	0.137	<0.00002	0.002	<0.001	0.011	2.37
W15	27/06/2011	<0.005	<0.005	<0.0005	0.025	<0.0005	0.0006	0.106	<0.0001	<0.001	<0.05	0.00002	60.2	<0.001	<0.0005	0.0186	0.605	<0.0002	<0.005	15.6	0.268	<0.00002	0.002	0.001	0.016	2.4
W15	03/07/2011	<0.005	<0.005	<0.0005	0.049	<0.0005	0.0004	0.073	<0.0001	<0.001	<0.05	0.00001	38	<0.001	<0.0005	0.0143	0.301	<0.0002	<0.005	11.4	0.059	<0.00002	0.001	0.001	0.014	1.55
W15	16/07/2011	<0.005	<0.005	0.0005	0.075	<0.0005	0.0004	0.064	<0.0001	<0.001	<0.05	0.00001	32.6	<0.001	<0.0005	0.0137	0.382	<0.0002	<0.005	9.18	0.036	<0.00002	0.001	0.001	0.017	1.18
W15	23/07/2011	<0.005	<0.005	<0.0005	0.043	<0.0005	0.0004	0.096	<0.0001	<0.001	<0.05	0.00001	48.9	<0.001	<0.0005	0.0154	0.323	<0.0002	<0.005	13.4	0.058	<0.00002	0.001	0.001	0.013	1.56
W15	31/07/2011	<0.005	0.007	<0.0005	0.02	<0.0005	0.0005	0.139	<0.0001	<0.001	<0.05	0.00006	96.2	<0.001	0.0006	0.0597	0.253	<0.0002	<0.005	21.9	0.819	<0.00002	0.004	0.001	0.017	4.07
W15	07/08/2011	<0.005	<0.005	0.0007	0.099	<0.0005	0.0005	0.072	<0.0001	<0.001	<0.05	0.00002	34.6	<0.001	<0.0005	0.0134	0.447	<0.0002	<0.005	10.9	0.072	<0.00002	0.002	0.002	0.018	1.25
W15	18/08/2011	<0.005	0.01	<0.0005	0.045	<0.0005	0.0004	0.116	<0.0001	<0.001	<0.05	0.00003	65.1	<0.001	<0.0005	0.0107	0.285	<0.0002	<0.005	15.8	0.065	<0.00002	0.002	0.002	0.013	1.93
W15	27/08/2011	<0.005	<0.005	<0.0005	0.04	<0.0005	0.0003	0.105	<0.0001	<0.001	<0.05	<0.00001	59.8	<0.001	<0.0005	0.0075	0.237	<0.0002	<0.005	15.9	0.05	<0.00002	0.001	0.001		2
W15	30/08/2011	<0.005	<0.005	<0.0005	0.051	<0.0005	0.0004	0.117	<0.0001	<0.001	<0.05	0.00001	72	<0.001	<0.0005	0.0082	0.571	<0.0002	<0.005	19.1	0.09	<0.00002	0.002	0.002	0.016	2.41
W15	05/09/2011	<0.005	<0.005	<0.0005	0.024	<0.0005	0.0003	0.12	<0.0001	<0.001	<0.05	<0.00001	77.1	<0.001	<0.0005	0.008	0.19	<0.0002	<0.005	19.4	0.047	<0.00002	0.002	<0.001	0.01	2.59
W15	10/09/2011	<0.005	<0.005	<0.0005	0.022	<0.0005	0.0004	0.128	<0.0001	<0.001	<0.05	<0.00001	80.6	<0.001	<0.0005	0.0057	0.217	<0.0002	<0.005	21.6	0.053	<0.00002	<0.001	<0.001	<0.01	2.69
W15	17/09/2011	<0.005	<0.005	<0.0005	0.02	<0.0005	0.0004	0.117	<0.0001	<0.001	<0.05	<0.00001	79.4	<0.001	<0.0005	0.0063	0.307	<0.0002	<0.005	20.6	0.095	<0.00002	0.002	<0.001	<0.01	2.6
W15	24/09/2011	<0.005	<0.005	<0.0005	0.031	<0.0005	0.0003	0.117	<0.0001	<0.001	<0.05	0.00004	79.3	<0.001	<0.0005	0.0102	0.106	<0.0002	<0.005	20	0.019	<0.00002	0.002	0.001	0.013	2.94
W15	14/10/2011	<0.005	<0.005	<0.0005	0.012	<0.0005	0.0002	0.151	<0.0001	<0.001	<0.05	0.00001	90.5	<0.001	<0.0005	0.0059	0.208	<0.0002	<0.005	24.2	0.062	<0.00002	0.002	<0.001	<0.01	2.91
W15	13/11/2011	<0.005	0.013	0.0009	0.0189	<0.00050	0.00158	0.431	<0.00010	<0.0010	<0.05	0.000078	286	<0.0010	0.00168	0.0427	0.0591	<0.00020	0.0054	126	0.715	<0.000020	0.0051	0.0038	0.039	19.7
W15	23/11/2011	<0.005	<0.005	<0.0005	0.0069	<0.00050	0.00054	0.196	<0.00010	<0.0010	<0.05	0.000048	158	<0.0010	0.00074	0.0357	0.214	<0.00020	<0.0050	36.9	1.07	<0.000020	0.0035	0.0011	<0.01	5.77
W15	10/04/2012 10:00	<0.005	<0.005	<0.0005	0.02	<0.00050	0.00051	0.117	<0.00010	<0.0010	<0.05	0.000041	75.7	<0.0010	0.00061	0.0259	0.244	<0.00020	<0.0050	30.2	0.371	<0.000010	0.0021	0.0012	0.029	6.76
W15	22/04/2012 17:30	<0.0050	0.0051	<0.00050	0.0888	<0.00050	0.0003	0.0489	<0.00010	<0.0010	<0.05	0.000035	26.7	<0.0010	0.00051	0.0159	0.388	<0.00020	<0.0050	7.18	0.258	<0.000010	0.0011	<0.0010	0.026	2.14
W15	29/04/2012	<0.0050	<0.0050	<0.00050	0.112	<0.00050	0.00042	0.0609	<0.00010	<0.0010	<0.05	0.000028	27.2	<0.0010	0.00065	0.0214	0.662	<0.00020	<0.0050	7.96	0.31	<0.000010	<0.0010	<0.0010	0.028	2.25
W15	01/05/2012 16:35	<0.0050	<0.0050	<0.00050	0.0881	<0.00050	0.00048	0.0623	<0.00010	<0.0010	<0.05	0.000026	27.8	<0.0010	0.00068	0.0195	0.888	<0.00020	<0.0050	7.85	0.393	<0.000010	0.0011	<0.0010	0.029	2.02
W15	02/05/2012	<0.0050	<0.0050	<0.00050	0.0897	<0.00050	0.00039	0.0498	<0.00010	<0.0010	<0.05	0.000024	25.4	<0.0010	0.00058	0.0181	0.495	<0.00020	<0.0050	6.67	0.273	<0.000010	0.0017	<0.0010	0.024	1.8
W15	03/05/2012 12:45	<0.0050	<0.0050	<0.00050	0.0964	<0.00050	0.00052	0.0657	<0.00010	<0.0010	<0.05	0.000028	28.1	<0.0010	0.00072	0.0203	0.723	<0.00020	<0.0050	8.25	0.358	<0.000010	0.0011	0.0011	0.026	2.17
W15	04/05/2012 17:15	<0.0050	0.0062	<0.00050	0.072	<0.00050	0.00051	0.0619	<0.00010	<0.0010	<0.05	0.00002	30.5	<0.0010	0.00061	0.014	0.63	<0.00020	<0.0050	7.48	0.363	<0.000010	0.0012	<0.0010	0.033	1.97
W15	05/05/2012 11:15	<0.0050	0.0054	<0.00050	0.0789	<0.00050	0.00081	0.092	<0.00010	<0.0010	<0.05	0.000026	38.3	<0.0010	0.00103	0.0145	1.95	<0.00020	<0.0050	11	0.719	<0.000010	0.0013	0.0011	0.04	2.61
W15	06/05/2012 15:40	<0.0050	<0.0050	<0.00050	0.0581	<0.00050	0.00058	0.0724	<0.00010	<0.0010	<0.05	0.000015	34.1	<0.0010	0.0007	0.0121	0.829	<0.00020	<0.0050	8.69	0.36	<0.000010	0.0015	<0.0010	0.026	1.98
W15	07/05/2012	<0.0050	<0.0050	<0.00050	0.0544	<0.00050	0.00064	0.0814	<0.00010	<0.0010	<0.05	0.000018	34.6	<0.0010	0.00076	0.0124	1.07	<0.00020	<0.0050	9.88	0.486	<0.000010	0.0013	<0.0010	0.03	2.37
W15	08/05/2012 5:50	<0.0050	<0.0050	<0.00050	0.0456	<0.00050	0.00063	0.0765	<0.00010	<0.0010	<0.05	0.000023	35.8	<0.0010	0.00068	0.0113	0.872	<0.00020	<0.0050	9.14	0.461	<0.000010	0.0015	<0.0010	0.026	2.2
W15	09/05/2012 15:40	<0.0050	<0.0050	<0.00050	0.0644	<0.00050	0.00066	0.078	<0.00010	<0.0010	<0.05	0.000014	30.3	<0.0010	0.00077	0.0116	0.814	<0.00020	<0.0050	8.14	0.423	<0.000010	0.0015	<0.0010	0.027	1.96
W15	11/05/2012 16:40	<0.0050	<0.0050	<0.00050	0.0955	<0.00050	0.00064	0.0807	<0.00010	<0.0010	<0.05	0.000027	36.5	<0.0010	0.00074	0.025	0.813	<0.00020	<0.0050	9.3	0.502	<0.000010	0.0016	<0.0010	0.038	2.07
W15	13/05/2012 16:15	<0.0050	<0.0050	<0.00050	0.0391	<0.00050	0.00062	0.0911	<0.00010	<0.0010	<0.05	0.000014	41.2	<0.0010	0.00076	0.0101	0.678	<0.00020	<0.0050	10.8	0.543	<0.000010	0.0019	<0.0010	0.025	2.19
W15	16/05/2012 9:40	<0.0050	<0.0050	<0.00050	0.0401	<0.00050	0.00055	0.0919	<0.00010	<0.0010	<0.05	0.000016	43.9	<0.0010	0.00073	0.0109	0.547	<0.00020	<0.0050	11.6	0.43	<0.000010	0.002	0.001	0.023	2.27
W15	24/05/2012	<0.0050	<0.0050	<0.00050	0.0292	<0.00050	0.00053	0.1	<0.00010	<0.0010	<0.05	0.000025	47.4	<0.0010	0.00061	0.0119	0.674	<0.00020	<0.0050	13.8	0.441	<0.000010	0.0021	0.0032	0.024	3.03
W15	03/06/2012	<0.0050	<0.0050	<0.00050	0.0162	<0.00050	0.00059	0.11	<0.00010	<0.0010	<0.05	0.000014	57.8	<0.0010	<0.00050	0.00656	0.924	<0.00020	<0.0050	17.6	0.33	<0.000010	0.0022	0.0011	0.022	2.88
W15	08/06/2012	<0.0050	<0.0050	<0.00050	0.02	<0.00050	0.00052	0.103	<0.00010	<0.0010	<0.05	0.000014	53.2	<0.0010	<0.00050	0.00858	0.556	<0.00020	<0.0050	16.6	0.218	<0.000010	0.0022	0.0011	0.019	2.79
W15	15/06/2012 15:07	<0.0050	0.0095	<0.00050	0.0402	<0.00050	0.00063	0.0971	<0.00010	<0.0010	<0.05	0.000018	46.6	<0.0010	<0.00050	0.0124	0.565	<0.00020	<0.0050	12.4	0.145	<0.000010	0.0021	0.0011	0.017	2.22

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	BOD5	Br	Cation	COD	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-T	N-TKN	P-PO4T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L
W15	03/06/2010	<0.0008	6.22	High DL removed	7	0.585	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	270	6.2	<0.5	5.2			<0.4											
W15	14/06/2010	<0.0008	5.99	High DL removed	9	0.5	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	250	3.6	<0.5	3			<0.4											
W15	17/06/2010	<0.0008	5.59	High DL removed	8	0.478	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	260	<0.5	<0.5	<0.5			<0.4											
W15	21/06/2010	<0.0008	5.48	High DL removed	7	0.414	<60	<0.00005	<0.005	<0.01	0.0006	<0.005	High DL removed	<0.002	250	<0.5	<0.5	<0.5			<0.4							21.1				
W15	25/06/2010	<0.0008	6.03	High DL removed	8	0.422	<60	<0.00005	<0.005	<0.01	0.0006	<0.005	High DL removed	<0.002	240	<0.5	<0.5	<0.5			<0.4							23.1				
W15	04/07/2010	0.0012	5.18	High DL removed	5	0.254	<60	<0.00005	<0.005	<0.01	0.0002	<0.005	High DL removed	<0.002	110	<0.5	<0.5	<0.5			<0.4											
W15	11/07/2010	0.0017	5.06	High DL removed	7	0.388	<60	<0.00005	<0.005	<0.01	0.0005	<0.005	High DL removed	<0.002	190	<0.5	<0.5	<0.5			<0.4											
W15	18/07/2010	0.0016	5.52	High DL removed	6	0.34	<60	<0.00005	<0.005	<0.01	0.0003	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5			<0.4											
W15	25/07/2010	0.0019	5.43	High DL removed	6	0.294	<60	<0.00005	<0.005	<0.01	0.0002	<0.005	High DL removed	<0.002	140	<0.5	<0.5	<0.5			<0.4											
W15	02/08/2010	0.0025	6.03	High DL removed	10	0.481	<60	<0.00005	<0.005	<0.01	0.0005	<0.005	High DL removed	<0.002	190	<0.5	<0.5	<0.5			<0.4											
W15	08/08/2010	0.0029	5.31	High DL removed	10	0.555	<60	<0.00005	<0.005	<0.01	0.0007	<0.005	High DL removed	<0.002	220	<0.5	<0.5	<0.5			<0.4											
W15	15/08/2010	0.002	5.53	High DL removed	9	0.544	<60	<0.00005	<0.005	<0.01	0.0006	<0.005	High DL removed	<0.002	200	<0.5	<0.5	<0.5			<0.4											
W15	22/08/2010	0.0029	5.88	High DL removed	8	0.419	<60	<0.00005	<0.005	<0.01	0.0004	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5			<0.4											
W15	29/08/2010	0.0052	4.6	High DL removed	24	1.04	<60	<0.00005	<0.005	<0.01	0.0016	<0.005	High DL removed	<0.002	170	<0.5	<0.5	<0.5			<0.4											
W15	06/09/2010	0.0032	5.83	High DL removed	9	0.662	<60	<0.00005	<0.005	<0.01	0.0007	<0.005	High DL removed	<0.002	190	<0.5	<0.5	<0.5			<0.4											
W15	10/09/2010	0.0037	5.28	High DL removed	10	0.58	<60	<0.00005	<0.005	<0.01	0.0007	<0.005	High DL removed	<0.002	190	<0.5	<0.5	<0.5			<0.4											
W15	19/09/2010	0.0036	6.02	High DL removed	10	0.611	<60	<0.00005	<0.005	<0.01	0.0007	<0.005	High DL removed	<0.002	190	<0.5	<0.5	<0.5			<0.4											
W15	29/03/2011	0.0016	1.26	<0.00002	6.5	0.327	9	<0.00005	<0.005	<0.005	0.0006	<0.005	<0.005	<0.0005	71	<0.5	<0.5	<0.5			<0.4											
W15	12/04/2011	0.002	4.5	<0.00002	11.8	1.03	26	<0.00005	<0.005	<0.005	0.0018	<0.005	<0.005	<0.0005	200	<0.5	<0.5	<0.5			<0.4											
W15	16/04/2011	0.0016	4.68	<0.00002	10.3	0.719	25	<0.00005	<0.005	<0.005	0.0012	<0.005	<0.005	<0.0005	200	<0.5	<0.5	<0.5			<0.4											
W15	25/04/2011	0.0015	2.95	<0.00002	5.39	0.442	13	<0.00005	<0.005	<0.005	0.0006	<0.005	<0.005	<0.0005	120	<0.5	<0.5	<0.5														
W15	02/05/2011	0.0014	2.86	<0.00002	3.88	0.259	7	<0.00005	<0.005	<0.005	0.0004	<0.005	0.006	<0.0005	67	<0.5	<0.5	<0.5														
W15	05/05/2011	0.0011	2.31	<0.00002	2.76	0.198	6	<0.00005	<0.005	<0.005	0.0003	<0.005	0.013	<0.0005	58	<0.5	<0.5	<0.5														
W15	08/05/2011	0.0008	2.24	<0.00002	2.71	0.178	5	<0.00005	<0.005	<0.005	0.0003	<0.005	<0.005	<0.0005	49	<0.5	<0.5	<0.5														
W15	15/05/2011	0.0014	3.34	<0.00002	3.94	0.25	7	<0.00005	<0.005	<0.005	0.0004	<0.005	<0.005	<0.0005	87	<0.5	<0.5	<0.5														
W15	22/05/2011	0.002	6.23	<0.00002	22.2	0.907	28	<0.00005	<0.005	<0.005	0.0019	<0.005	<0.005	<0.0005	280	2.9	<0.5	2.4														
W15	29/05/2011	0.0015	4.92	<0.00002	7.2	0.403	14	<0.00005	<0.005	<0.005	0.0008	<0.005	0.005	<0.0005	160	<0.5	<0.5	<0.5														
W15	06/06/2011	0.001	4.37	<0.00002	6.83	0.307	13	<0.00005	<0.005	<0.005	0.0004	<0.005	<0.005	<0.0005	130	<0.5	<0.5	<0.5														
W15	14/06/2011	0.001	4.42	<0.00002	7.02	0.335	13	<0.00005	<0.005	<0.005	0.0004	<0.005	<0.005	<0.0005	150	<0.5	<0.5	<0.5														
W15	18/06/2011	0.0012	4.66	<0.00002	8.36	0.455	15	<0.00005	<0.005	<0.005	0.0006	<0.005	<0.005	<0.0005	190	<0.5	<0.5	<0.5														
W15	27/06/2011	0.0011	5.47	<0.00002	8.12	0.522	14	<0.00005	<0.005	<0.005	0.0007	<0.005	<0.005	<0.0005	200	<0.5	<0.5	<0.5														
W15	03/07/2011	0.0007	5.66	<0.00002	6.2	0.273	10	<0.00005	<0.005	<0.005	0.0002	<0.005	<0.005	<0.0005	130	<0.5	<0.5	<0.5														
W15	16/07/2011	0.0005	5.26	<0.00002	5.15	0.225	8	<0.00005	<0.005	<0.005	0.0001	<0.005	<0.005	0.0006	110	<0.5	<0.5	<0.5														
W15	23/07/2011	0.0012	5.53	<0.00002	6.84	0.372	14	<0.00005	<0.005	<0.005	0.0004	<0.005	<0.005	<0.0005	150	<0.5	<0.5	<0.5														
W15	31/07/2011	0.0039	6.87	<0.00002	13.2	1.08	26	<0.00005	<0.005	<0.005	0.0011	<0.005	<0.005	<0.0005	210	<0.5	<0.5	<0.5														
W15	07/08/2011	0.0011	5.23	<0.00002	5.98	0.273	10	<0.00005	<0.005	<0.005	0.0002	<0.005	0.007	0.0006	110	<0.5	<0.5	<0.5														
W15	18/08/2011	0.0025	5.85	<0.00002	8.1	0.494	18	<0.00005	<0.005	<0.005	0.0006	<0.005	0.01	<0.0005	170	<0.5	<0.5	<0.5														
W15	27/08/2011	0.0021	6.01	<0.00002	8.04	0.446	16	<0.00005	<0.005	<0.005	0.0005	<0.005	<0.005	<0.0005	160	<0.5	<0.5	<0.5														
W15	30/08/2011	0.0027	6	<0.00002	9.58	0.532	20	<0.00005	<0.005	<0.005	0.0009	<0.005	<0.005	<0.0005	190	<0.5	<0.5	<0.5														
W15	05/09/2011	0.0029	6.06	<0.00002	9.92	0.591	22	<0.00005	<0.005	<0.005	0.0009	<0.005	<0.005	<0.0005	200	<0.5	<0.5	<0.5														
W15	10/09/2011	0.003	6.71	<0.00002	10.7	0.617	24	<0.00005	<0.005	<0.005	0.0008	<0.005	<0.005	<0.0005	210	<0.5	<0.5	<0.5														
W15	17/09/2011	0.0026	5.79	<0.00002	10.5	0.56	19	<0.00005	<0.005	<0.005	0.0014	<0.005	<0.005	<0.0005	220	<0.5	<0.5	<0.5														
W15	24/09/2011	0.0024	5.92	<0.00002	10.1	0.603	22	<0.00005	<0.005	<0.005	0.0012	<0.005	<0.005	<0.0005	210	<0.5	<0.5	<0.5														
W15	14/10/2011	0.0024	6.23	<0.00002	11.6	0.724	24	<0.00005	<0.005	<0.005	0.0016	<0.005	<0.005	<0.0005	270	<0.5	<0.5	<0.5														
W15	13/11/2011	0.0124	18.9	<0.000020	64.3	2.61	150	<0.000050	<0.0050	<0.0050	0.00565	<0.0050	0.0094	0.00056	736	<0.50	<0.50	<0.50														
W15	23/11/2011	0.00465	8.43	<0.000020	17.2	1.58	34.3	<0.000050	<0.0050	<0.0050	0.0021	<0.0050	<0.0050	<0.00050	417	<0.50	<0.50	<0.50														
W15	10/04/2012 10:00	0.00135	8.63	<0.000020	16	0.723	30.3	<0.000050	<0.0050	<0.0050	0.0014	<0.0050	<0.0050	<0.00050	281	<0.50	<0.50	<0.50														0.0832
W15	22/04/2012 17:30	0.00064	2.97	<0.000020	3.49	0.194	6.3	<0.000050	<0.0050	<0.0050	0.00025	<0.0050	<0.0050	<0.00050	83.7	<0.50	<0.50	<0.50														0.0395
W15	29/04/2012	0.0004	3.39	<0.000020	3.81	0.195	6.8	<0.000050	<0.0050	<0.0050	0.00021	<0.0050	<0.0050	<0.00050	79.8	<0.50	<0.50	<0.50														0.0402
W15	01/05/2012 16:35	0.00048	3.15	<0.000020	3.8	0.207	6.7	<0.000050	<0.0050	<0.0050	0.00024	<0.0050	<0.0050	<0.00050	90.2	<0.50	<0.50	<0.50														0.0429
W15	02/05/2012	0.00056	3	<0.000020	3.13	0.191	5.3	<0.000050	<0.0050	<0.0050	0.00024	<0.0050	<0.0050	<0.00050	81.3	<0.50	<0.50	<0.50														0.0482
W15	03/05/2012 12:45	0.00053	3.34	<0.000020	4.05	0.208	7.6	<0.000050	<0.0050	<0.0050	0.00021	<0.0050	<0.0050	<0.00050	89.1	<0.50	<0.50	<0.50														0.0465
W15	04/05/2012 17:15	0.00057	3.31	<0.000020	3.45	0.226	7.2	<0.000050	<0.0050	<0.0050	0.00031	<0.0050	<0.0050	<0.00050	96.9	<0.50	<0.50	<0.50														0.0781
W15	05/05/2012 11:15	0.00053	4.24	<0.000020	5.56	0.281	11.7	<0.000050	<0.0050	<0.0050	0.00031	<0.0050	<0.0050	<0.00050	110	<0.50	<0.50	<0.50														0.0786
W15	06/05/2012 15:40	0.00065	3.84	<0.000020	4	0.248	7.4	<0.000050	<0.0050	<0.0050	0.0004	<0.0050	<0.0050	<0.00050	114	<0.50	<0.50	<0.50														0.0381
W15	07/05/2012	0.00062	3.58	<0.000020	5.07	0.248	10.4	<0.000050	<0.0050	<0.0050	0.00034	<0.0050	<0.0050	<0.00050	108	<0.50	<0.50	<0.50														0.0466
W15	08/05/2012 5:50	0.0006	3.55	<0.000020	4.48	0.257	9.3	<0.000050	<0.0050	<0.0050	0.00037	<0.0050	<0.0050	<0.00050	114	<0.50	<0.50	<0.50														0.0494
W15	09/05/2012 15:40	0.00063	3.47	<0.000020	4.01	0.242	7	<0.000050	<0.0050	<0.0050	0.00039	<0.0050	<0.0050	<0.00050	101	<0.50	<0.50	<0.50														0.0801
W15	11/05/2012 16:40	0.00062	4	<0.000020	4.47	0.286	8.9	<0.000050	<0.0050	<0.0050	0.0005	<0.0050	<0.0050	<0.00050	118	<0.50	<0.50	<0.50														0.0641
W15	13/05/2012 16:15	0.00086	4.3	<0.000020	5.29	0.311	10.5	<0.000050	<0.0050	<0.0050	0.00061	<0.0050	<0.0050	<0.00050	137	<0.50	<0.50	<0.50														0.0391
W15	16/05/2012 9:40	0.00099	4.46	<0.000020	5.89	0.35	12.9	<0.000050	<0.0050	<0.0050	0.00065	<0.0050	<0.0050	<0.00050	148	<0.50	<0.50	<0.50														0.0418
W15	24/05/2012	0.00075	4.04	<0.000020	7.32	0.371	15.1	<0.000050	<0.0050	<0.0050	0.00077	<0.0050	0.0074	<0.00050	163	<0.50	<0.50	<0.50														0.0374
W15	03/06/2012	0.00103	4.49	<0.000020	9.76	0.432	21.4	<0.000050	<0.0050	<0.0050	0.00077	<0.0050	<0.0050	<0.00050	194	<0.50	<0.50	<0.50														0.0634
W15	08/06/2012	0.00079	4.37	<0.000020	9.52	0.391	19	<0.000050	<0.0050	<0.0050	0.00082	<0.0050	<0.0050	<0.00050	184	<0.50	<0.50	<0.50														0.0294
W15	15/06/2012 15:07	0.00112	4.88	<0.000020	7.33	0.391	14	<0.000050	<0.0050	<0.0050	0.00053	<0.0050	<0.0050	<0.00050	143	<0.50	<0.50	<0.50														0.0403

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	P-TDP	P-TRP	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		mg/L	mg/L	Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W15	03/06/2010		<0.005					13.3	
W15	14/06/2010		<0.005					10.6	
W15	17/06/2010		<0.005					5.7	
W15	21/06/2010		<0.005					7	
W15	25/06/2010		<0.005					6.7	2.5
W15	04/07/2010		<0.005					11.8	119.7
W15	11/07/2010		<0.005					8.5	21.5
W15	18/07/2010		<0.005						12
W15	25/07/2010		<0.005					5.4	1.4
W15	02/08/2010		<0.005					3.3	14
W15	08/08/2010		<0.005					3.4	-1.1
W15	15/08/2010		<0.005					1.6	-2.6
W15	22/08/2010		<0.005					5.1	3.7
W15	29/08/2010		<0.005					2.4	7.3
W15	06/09/2010		<0.005					1.8	-2.4
W15	10/09/2010		<0.005					8.6	4.9
W15	19/09/2010		<0.005					0.9	-3.2
W15	29/03/2011		0.006					77	
W15	12/04/2011		<0.005					29.3	
W15	16/04/2011		<0.005					37.2	
W15	25/04/2011								
W15	02/05/2011								
W15	05/05/2011								
W15	08/05/2011								
W15	15/05/2011								
W15	22/05/2011								
W15	29/05/2011								
W15	06/06/2011								
W15	14/06/2011								
W15	18/06/2011								
W15	27/06/2011								
W15	03/07/2011								
W15	16/07/2011								
W15	23/07/2011								
W15	31/07/2011								
W15	07/08/2011								
W15	18/08/2011								
W15	27/08/2011								
W15	30/08/2011								
W15	05/09/2011								
W15	10/09/2011								
W15	17/09/2011								
W15	24/09/2011								
W15	14/10/2011								
W15	13/11/2011								
W15	23/11/2011								
W15	10/04/2012 10:00					608.2			
W15	22/04/2012 17:30					204.7			
W15	29/04/2012					206			
W15	01/05/2012 16:35					188.9			
W15	02/05/2012					184.4			
W15	03/05/2012 12:45					208.4			
W15	04/05/2012 17:15					222.9			
W15	05/05/2012 11:15					369.1			
W15	06/05/2012 15:40					288.2			
W15	07/05/2012					241.4			
W15	08/05/2012 5:50					306.2			
W15	09/05/2012 15:40					242			
W15	11/05/2012 16:40					277			
W15	13/05/2012 16:15					333.8			
W15	16/05/2012 9:40					356.6			
W15	24/05/2012					388			
W15	03/06/2012					462.8			
W15	08/06/2012					425			
W15	15/06/2012 15:07					411.8			

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T	B-T
			mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W15	24/06/2012 16:50	P	11.9	304	7.73	7.92	304.4	394	14	8.53	82.3		188	189	146	2.6	0.14	44.5	0.05	0.0127	2.63	18.4	0.222	<0.00050	0.00088	0.12	<0.00010	<0.0010	<0.05
W15	28/06/2012 11:55	P	4.6	288	7.52	7.99	314.9	448	10.1	9.47	84.3	8.8	194	221	169	2.6	0.13	48.8	0.076	0.012	3.08	17.4	0.119	<0.00050	0.00057	0.114	<0.00010	<0.0010	<0.05
W15	03/07/2012 11:45	P	19.8	280	7.81	8.23	280.9	417	8.3	7.38	62.9	81	200	203	151	3	0.14	48.6	0.063	0.0147	4.1	18.2	0.789	<0.00050	0.00094	0.13	<0.00010	<0.0010	<0.05
W15	09/07/2012 13:50	P	2.8	326	7.37	8.27	353	484	11.7	12.12	110	2.2	224	224	172	2.8	0.14	52.9	0.042	0.012	5.46		0.117	<0.00050	0.00064	0.119	<0.00010	<0.0010	<0.05
W15	18/07/2012 8:45	P	8.6	346	7.54	8.17	295.9	490	8.6	7.39	62.7		236	233	180	2.7	0.14	58.7	0.091	0.0127	3.44	17.7	0.272	<0.00050	0.00056	0.127	<0.00010	<0.0010	<0.05
W15	24/07/2012 15:46	P	11.6	368	7.65	8.12	344.9	511	11.3	10.5	91.5	23.1	243	255	192	2.9	0.15	57.9	0.18	0.0116	3.2	14.9	0.268	<0.00050	0.00066	0.135	<0.00010	<0.0010	<0.05
W15	05/08/2012 16:30	P	26.3	400	8.42	8.06		549	6.3	11.41	92.5		273	260	180	22	0.19	20.3	0.067	<0.050	10	13.3	0.969	<0.00050	0.00081	0.132	<0.00010	<0.0010	<0.05
W15	07/08/2012 16:10	P	6	390	7.61	8.24	401.4	568	9.2	11.55	100.8	4.8	283	282	207	3.6	0.17	65.7	0.05	0.0164	6.13	16.2	0.165	<0.00050	0.00061	0.139	<0.00010	<0.0010	<0.05
W15	16/08/2012 11:15	P	5	456	7.56	8.3	425.7	608	11.1	8.75	92.82	54.4	298	296	218	3.8	0.17	72.2	0.029	0.0184	8.74	14.5	0.195	<0.00050	0.0005	0.139	<0.00010	<0.0010	<0.05
W15	24/08/2012 14:30	P	7.3	436	7.17	8.04	467.7	633	12.8	11.17	107.4	-30.9	323	304	230	4.3	0.17	76.1	0.12	0.0197	6.82	16.3	0.139	<0.00050	0.00089	0.16	<0.00010	<0.0010	<0.05
W15	30/08/2012 16:30	P	31.3	404	7.84	8.19	395.4	587	9.4	10.43	91.6	-16.7	276	283	205	4.2	0.18	63.9	0.069	0.0116	9.17	14.7	0.336	<0.00050	0.00047	0.13	<0.00010	<0.0010	<0.05
W15	03/09/2012 10:10	P	3.1	438	7.78	8.28	334.6	618	4.4	8.66	66.9	62.6	315	308	215	4.6	0.17	73.6	0.09	0.0129	10.8	15	0.0655	<0.00050	0.00051	0.136	<0.00010	<0.0010	<0.05
W15	10/09/2012	P	4.2	266		8.03		372					170	175	124	2.8	0.14	41.1	0.1	0.0078	4.46	19.3	0.11	<0.00050	0.00043	0.0742	<0.00010	<0.0010	<0.05
W15	17/09/2012 14:11	P	17	350	7.56	8.04	268.9	443	5.3	9.56	75.5	71.8	162	215	147	2.5	0.14	49.3	0.07	0.0071	7.47	19.4	0.209	<0.00050	0.00047	0.086	<0.00010	<0.0010	<0.05
W15	24/09/2012 10:45	P	4	424	8.03	8.23	414.6	617	3.2	9.83	74	89.7	288	272	188	3.9	0.16	75	0.048	0.01	13.8		0.0678	<0.00050	0.00046	0.124	<0.00010	<0.0010	<0.05
W15	06/10/2012 16:30	P	4.3	420	8.43	7.75	317.9	577	1.7	12.56	91	-22.4	303		203	3.2	0.13	72.7	0.23	0.0138	9.49	15.8	0.0413	<0.00050	0.00058	0.138	<0.00010	<0.0010	<0.05
W15	12/10/2012 11:45	P	15.6	364	7.47	7.79	263.3	501	0	10.86	74.4	125	282		171	3	0.14	62.2	0.066	0.0062	7.74		0.228	<0.00050	0.00058	0.125	<0.00010	<0.0010	<0.05
W15	19/10/2012 13:50	P	2.6	370	8.2	7.91	296.7	564	0.3	12.34	86.7	79.5	291	263	183	3.1	0.13	73.8	0.072	0.0075	8.78		0.266	<0.00050	0.00059	0.134	<0.00010	<0.0010	<0.05
W15	25/10/2012 14:45	P	<1.0	492	7.9	7.94		684	0.3				347	327	218	4.1	0.14	88.1	0.014	0.0161	13.4		0.0312	<0.00050	0.00052	0.138	<0.00010	<0.0010	<0.05
W15	05/11/2012	P	6.1	814		8.35		1180					600	580	342	8.7	0.25	145	0.0058	0.07	42.5	21.2	0.0906	<0.00050	0.00072	0.221	<0.00010	<0.0010	<0.05
W15	09/11/2012 15:20	P	2.5	534	7.66	8.24	351.2	816	-0.1			175.5	397	400	248	6	0.18	104	0.016	0.0368	18.9	14.9	0.0337	0.000139	0.000449	0.168	<0.000010	<0.0000050	<0.05
W15	18/11/2012 10:40	P	13.2	656	8.13	7.74	214.7	945	0			100.6	482	455	272	8.3	0.18	135	0.0072	0.0722	17.8		0.127	0.00214	0.00046	0.208	<0.00010	<0.0010	<0.05
W15	26/11/2012	P	3.5	640	7.66	8	393.5	891	-0.1	1.49	10.6	116.3	447	510	263	6.9	0.16	114	0.03	0.118	24.4	15.2	0.0866	<0.00050	0.00041	0.191	<0.00010	<0.0010	<0.05
W15	04/12/2012 11:30	P	1.7	670	7.67	8.2	470.8	989	-0.1	1.47	10.3	101.5	524	491	309	8.1	0.18	125	0.18	0.171	28.6	12.8	0.0279	<0.00050	0.00041	0.219	<0.00010	<0.0010	<0.05
W15	12/12/2012 8:00	P	2	676	7.05	8	494.5	1050	-0.1	0.89	6.1	9.95	542	537	331	8.5	0.19	129	0.12	0.269	26.9		0.0304	<0.00050	0.00045	0.24	<0.00010	<0.0010	<0.05
W15	02/05/2013 14:10	P	136	400	8.68	8.14	269.3	550	0.2		89.6	-56.4	307	261	126	3.5	0.16	117	0.085	0.111	10.3		2.59	<0.00050	0.00068	0.134	<0.00010	<0.0010	<0.05
W15	05/05/2013 10:25	P			7.67		198.5		0.5		105	-11.6																	
W15	06/05/2013 8:10	P			7.64		110.1		0.1		104.5	41.3																	
W15	07/05/2013 8:30	P			7.79		129.8		0.1	11.44	78.7	19.8																	
W15	08/05/2013 8:00	P			7.57		110.1		0	11.49	79	8.5																	
W15	09/05/2013 9:25	P	22.7	96	7.71	7.44	47.8	85.1	0.6	13.02	88.4	14.2	39.7	39.5	29.6	3.8	0.087	<0.50	0.12	0.0538	1.01		1.35	<0.00050	0.00052	0.0454	<0.00010	<0.0010	<0.05
W15	10/05/2013 10:30	P			7.66		33.9		0.3	13.45	93.6	100.6																	
W15	13/05/2013 9:30	P			7.9		66.9		0	11.91	80.8	-168.4																	
W15	14/05/2013 9:23	M			6.92		102.2		0.7	11.42	82.8	41.8																	
W15	14/05/2013 9:45	P			7.11		79.9		-0.1	12.26	83.8	19.6																	
W15	15/05/2013 9:48	M			7.11		79.9		-0.1	12.26	83.8	19.6																	
W15	16/05/2013 11:35	P			8.37		105.1		3.1		75.5	59.8																	
W15	17/05/2013 8:55	M			7.8		102.8		0.3		80	38																	
W15	17/05/2013 16:10	P	182	196	8.1	7.71	125.5	241	0.3	11.42	79.4	116.1	160	115	75.8	1.9	0.17	32.6	0.22	0.119	4.02		14.7	<0.0010	0.00614	0.373	0.00043	<0.0020	<0.1
W15	18/05/2013 10:05	M			7.6		111.5		0.9	12.12	74.2	75.2																	
W15	19/05/2013	P	40.7	198		7.97		257					133		84.6				0.17	0.102	4.21		1.79	<0.00050	0.00163	0.121	<0.00010	<0.0010	<0.05
W15	20/05/2013 9:25	P			8.1				0.8																				
W15	21/05/2013 8:30	P			8.2				2.3																				
W15	22/05/2013 10:00	P			7.9				3																				
W15	24/05/2013 8:20	P			8.42		178.2		1.4	4.33	31.1	11.1																	
W15	25/05/2013 13:40	P			9.63		190.8		2	10.88	78.9	-35.5																	
W15	26/05/2013 8:30	P			8				3.9																				
W15	27/05/2013 7:35	P			7.9				2.6																				
W15	28/05/2013 11:00	P	17.1	256	7.96	8.09	259.1	367	4.4	8.81	66.3	55.3	161	171	125	2.8	0.14	41.3	0.19	0.219	5.11		0.377	<0.00050	0.00058	0.09	<0.00010	<0.0010	<0.05
W15	29/05/2013 15:30	P			8.25		241.3		5.8	7.46	59.3	-44.5																	
W15	30/05/2013 8:10	P			7.95		223.1		4.5	12.15	93.6	32.5																	
W15	31/05/2013 10:15	P			7.6		393		10.8																				
W15	08/06/2013 8:00	P	14	288	7.28	7.96	258.3	373	9.4	7.44	65.2	132.3	190	178	130	3.6	0.14	38.8	0.17	0.0609	5.76		0.612	<0.00050	0.00099	0.128	<0.00010	<0.0010	<0.05
W15	14/06/2013 17:15	P	10.2	316	7.61	8.1	368.9	445	18.2	7.08	75.5	96.6	211	208	157	2.7	0.16	52.5	0.13	0.0364	6.14		0.469	<0.00050	0.00081	0.123	<0.00010	<0.0010	<0.05
W15	18/06/2013 16:45	P	53	352	8.3	8.25	459	458	19				253	217	164	2.9	0.11	58.7	0.052	0.0377	5.89		1.07	<0.00050	0.00106	0.146	<0.00010	<0.0010	<0.05
W15	24/06/2013 11:45	P	9.4	396	8.4	8.25	470	500	18.7				280	236	177	3.1	0.15	61.5	0.028	0.0406	6.57		0.266	<0.00050	0.00079	0.139	<0.00010	<0.0010	<0.05
W15	02/07/2013 14:45	P	4.8	358	7.78	8.42		530	14.5	8.97	88.4	81.4	268	257	189	3.5	0.15	66.4	0.062	0.0507	6.07		0.127	<0.00050	0.00076	0.136	<0.00010	<0.0010	<0.05
W15	11/07/2013 14:00	P	3.6	372	8.40	8.16	486	473	14.6				254	244	173	3.6	0.14	67.9	0.031	0.0373	4.28	13.6	0.187	<0.00050	0.00079	0.126	<0.00010	<0.0010	<0.05
W15	19/07/2013 13:45	P	1.7	354	7.97	8.28	433.8	523	17.9	5.70	60.3	112.9	270	255	197	3.3	0.14	68.3	0.13	0.0468	3.8		0.201	<0.00050	0.00089	0.149	<0.00010	<0.0010	<0.05
W15	23/07/2013 11:30	P	5.9	320	8.30	8.21	469	493	15				255	224	173	5.8	0.17	70.3	0.074	<0.050	3.97		0.726	<0.00050	0.00105	0.13	<0.00010	<0.0010	<0.05
W15	31/07/2013 15:20	P	10.8	320	7.82	8.05	266.5	297	19.4	6.60	72.1	42.2	163	144	105	2.1	0.16	31.1	0.093	0.0158	1.78		0.817	<0.00050	0.00127	0.124	<0.00010	<0.0010	<0.05
W15	08/08/2013 11:30	P	100	386	7.42	8.04	368.3	516	10.3	8.28	75.1	126.5	292	250	190	3.7	0.17	61	0.23	<0.050	5.2		2.65	<0.00050	0.00183	0.199	<0.00010	<0.0010	<0.05
W15	15/08/2013 10:20	P	9.8	448	8.30	8.26	558	551	15.5				281	273	190	2.9	0.17	79.7	1.2	0.0282	7.19		0.154	<0.00050	0.00086	0.15	<0.00010	<0.0010	<0.05
W15	19/08/2013 17:20	P	5.7	368	8.18	8.14	465.8	579	14.6	8.86	97.8	136.7	298	285	193	2.9	0.16	89	0.044	0.0341	8.42		0.388	<0.00050	0.00079	0.162	<0.00010	<0.0010	<0.05
W15	26/08/2013 11:30	P	10.2	416	7.66	8.21	360.5	521	8	8.12	76.2	168.4	285	254	172	3.2	0.15	70.8	0.13	0.0206	6.54		0.569	<0.00050	0.00086	0.159	<0.00010	<0.0010	<0.05

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W15	24/06/2012 16:50	0.000015	51	<0.0010	<0.00050	0.00743	0.912	<0.00020	<0.0050	14.7	0.117	<0.000010	0.0024	0.0014	0.027	2.22	0.00061	5.55	<0.000020	8.25	0.358	12.4	<0.000050	<0.0050	0.0089	0.00071
W15	28/06/2012 11:55	0.000022	52.5	<0.0010	<0.00050	0.00644	0.562	<0.00020	<0.0050	15.3	0.102	<0.000010	0.0023	0.0013	0.024	1.87	0.00052	4.7	<0.000020	8.3	0.385	15.8	<0.000050	<0.0050	<0.0050	0.00089
W15	03/07/2012 11:45	0.000037	53.8	0.0014	0.0009	0.0147	1.56	0.00035	<0.0050	15.9	0.14	<0.000010	0.0027	0.0021	0.04	1.9	0.00069	6.09	<0.000020	9.05	0.415	15.3	<0.000050	<0.0050	0.0276	0.00081
W15	09/07/2012 13:50	0.000024	60.8	<0.0010	<0.00050	0.0108	0.731	<0.00020	<0.0050	17.5	0.131	<0.000010	0.0024	0.0013	0.018	1.98	0.00118	4.88	<0.000020	9.27	0.5	15.5	<0.000050	<0.0050	0.0057	0.00088
W15	18/07/2012 8:45	0.000013	64.7	<0.0010	<0.00050	0.0111	0.704	<0.00020	<0.0050	18.2	0.0877	<0.000010	0.0024	0.0015	0.028	2	0.00086	5.83	<0.000020	9.84	0.471	19.1	<0.000050	<0.0050	0.0119	0.00096
W15	24/07/2012 15:46	0.000018	65.9	<0.0010	<0.00050	0.00677	0.83	<0.00020	<0.0050	19.1	0.113	<0.000010	0.0027	0.0017	0.033	2.9	0.00083	5.72	<0.000020	10.2	0.494	18.6	<0.000050	<0.0050	0.0119	0.00111
W15	05/08/2012 16:30	0.000032	77.7	<0.0010	0.00083	0.107	1.93	0.00044	<0.0050	19.2	0.317	<0.000010	0.003	0.0018	0.055	3.42	0.00218	8.26	0.000035	11	0.832	21.9	<0.000050	<0.0050	0.0376	0.00116
W15	07/08/2012 16:10	0.000016	76.9	<0.0010	<0.00050	0.0255	1.06	<0.00020	<0.0050	22.2	0.23	<0.000010	0.0024	0.0013	0.038	2.62	0.00125	6.11	<0.000020	11.9	0.647	22.6	<0.000050	<0.0050	0.0064	0.00123
W15	16/08/2012 11:15	0.00002	82.9	<0.0010	<0.00050	0.0295	0.925	<0.00020	<0.0050	22	0.194	<0.000010	0.0026	0.0011	0.034	2.77	0.00156	5.77	<0.000020	11.5	0.721	24.5	<0.000050	<0.0050	0.0093	0.00137
W15	24/08/2012 14:30	0.000014	89.7	<0.0010	0.00054	0.0234	2.3	<0.00020	<0.0050	24.1	0.354	<0.000010	0.0024	0.0013	0.068	2.88	0.00144	5.81	<0.000020	12.3	0.752	26.1	<0.000050	<0.0050	0.0089	0.00144
W15	30/08/2012 16:30	0.000018	76.7	<0.0010	0.00059	0.0704	1.43	0.00035	<0.0050	20.5	0.32	<0.000010	0.0022	0.0012	0.043	2.71	0.00141	6.17	<0.000020	11.2	0.681	21.2	<0.000050	<0.0050	0.0104	0.00125
W15	03/09/2012 10:10	0.00001	88.3	<0.0010	<0.00050	0.0281	0.916	<0.00020	<0.0050	22.9	0.197	<0.000010	0.0026	0.0011	0.023	3.01	0.00209	6.09	<0.000020	12.1	0.788	24.3	<0.000050	<0.0050	<0.0050	0.00137
W15	10/09/2012	<0.000010	45.6	<0.0010	<0.00050	0.0137	0.375	<0.00020	<0.0050	13.7	0.0478	<0.000010	0.0016	<0.0010	0.022	1.84	0.00086	5.11	<0.000020	7.68	0.348	13.3	<0.000050	<0.0050	0.0059	0.00052
W15	17/09/2012 14:11	<0.000010	40.5	<0.0010	<0.00050	0.0172	0.335	<0.00020	<0.0050	14.7	0.066	<0.000010	0.0017	0.0012	0.031	1.84	0.00088	4.04	<0.000020	7.96	0.399	15.5	<0.000050	<0.0050	0.0123	0.0006
W15	24/09/2012 10:45	0.00008	81.1	<0.0010	<0.00050	0.0214	0.784	<0.00020	<0.0050	20.8	0.182	<0.000010	0.0023	0.0012	0.027	2.75	0.00266	6.36	<0.000020	11.3	0.702	23.5	<0.000050	<0.0050	<0.0050	0.00109
W15	06/10/2012 16:30	<0.000010	81.1	<0.0010	<0.00050	0.00673	1.93	<0.00020	<0.0050	24.3	0.334	<0.000010	0.002	0.002	0.044	2.5	0.00236	6.54	<0.000020	12.4	0.697	27.2	<0.000050	<0.0050	<0.0050	0.00123
W15	12/10/2012 11:45	0.000026	73.9	<0.0010	<0.00050	0.0315	1.2	0.00044	<0.0050	23.7	0.188	<0.000010	0.002	0.0019	0.051	2.85	0.00206	7.78	<0.000020	12.4	0.63	27	<0.000050	<0.0050	0.0083	0.00107
W15	19/10/2012 13:50	<0.000010	79.6	<0.0010	<0.00050	0.0353	0.596	0.00026	<0.0050	22.4	0.0726	<0.000010	0.0022	0.0015	0.042	2.76	0.00189	7.27	<0.000020	11.5	0.651	26.3	<0.000050	<0.0050	0.0124	0.00117
W15	25/10/2012 14:45	<0.000010	96.5	<0.0010	<0.00050	0.0186	0.233	<0.00020	<0.0050	25.8	0.064	<0.000010	0.0022	0.0014	0.013	3.44	0.00263	7.56	<0.000020	13.2	0.758	29	<0.000050	<0.0050	<0.0050	0.00143
W15	05/11/2012	0.000053	174	0.0123	<0.00050	0.0462	0.371	<0.00020	<0.0050	40.3	0.348	<0.000010	0.0047	0.0057	0.043	7.39	0.00659	10.5	0.00002	20.2	1.75	47.6	<0.000050	<0.0050	0.0072	0.00246
W15	09/11/2012 15:20	0.000024	114	0.00027	0.000201	0.0261	0.204	0.000063	0.00166	27.2	0.151		0.0026	0.00101		4.27	0.00429	7.6	<0.0000050	13.7	1.05	36.2	0.000002	<0.00020	0.00191	0.00176
W15	18/11/2012 10:40	0.000063	134	<0.0010	<0.00050	0.0397	0.348	<0.00020	<0.0050	35.6	0.184	<0.000010	0.0033	0.0013	0.034	5.54	0.00554	8.61	<0.000020	17.5	1.39	43.6	<0.000050	<0.0050	0.0067	0.00228
W15	26/11/2012	0.000126	127	<0.0010	<0.00050	0.035	0.296	0.0002	<0.0050	31.6	0.245	<0.000010	0.0027	0.0023	0.024	4.82	0.00428	7.93	<0.000020	15.7	1.21	38.3	<0.000050	<0.0050	<0.0050	0.00191
W15	04/12/2012 11:30	0.000033	149	<0.0010	<0.00050	0.0309	0.18	<0.00020	<0.0050	36.8	0.383	<0.000010	0.0029	0.0024	0.024	5.48	0.00538	9.05	<0.000020	18.1	1.43	44.1	<0.000050	<0.0050	<0.0050	0.00226
W15	12/12/2012 8:00	0.00008	151	<0.0010	<0.00050	0.0343	0.284	<0.00020	<0.0050	39.8	0.685	<0.000010	0.0033	0.0017	0.023	5.81	0.00482	9.49	<0.000020	19.6	1.44	47	<0.000050	<0.0050	<0.0050	0.00245
W15	02/05/2013 14:10	0.0001	81.2	0.0013	0.00164	0.493	4.73	0.00114	<0.0050	25.4	0.234	<0.000010	0.0043	0.0014	0.176	5.71	0.00308	8.7	0.000139	11.2	0.987	40.4	<0.000050	<0.0050	0.128	0.00185
W15	05/05/2013 10:25																									
W15	06/05/2013 8:10																									
W15	07/05/2013 8:30																									
W15	08/05/2013 8:00																									
W15	09/05/2013 9:25	0.000015	11.4	0.0012	0.00055	0.0629	1.65	0.00046	<0.0050	2.74	0.0523	<0.000010	0.001	0.0013	0.074	2.36	0.00013	4.83	<0.000020	2.27	0.0844	<3.0	<0.000050	<0.0050	0.0587	0.00013
W15	10/05/2013 10:30																									
W15	13/05/2013 9:30																									
W15	14/05/2013 9:23																									
W15	14/05/2013 9:45																									
W15	15/05/2013 9:48																									
W15	16/05/2013 11:35																									
W15	17/05/2013 8:55																									
W15	17/05/2013 16:10	0.000153	40.9	0.0226	0.0086	0.173	24.5	0.0061	<0.01	14.1	0.671	0.000034	0.0029	0.0187	0.416	3.65	0.00142	33.8	0.000053	4.81	0.326	9.8	0.00012	<0.01	0.789	0.00136
W15	18/05/2013 10:05																									
W15	19/05/2013	0.000021	35.8	0.0029	0.0018	0.0347	3.85	0.00076	<0.0050	10.5	0.469	<0.000010	0.0022	0.0036	0.082	2.42	0.00136	7.26	0.00004	5.09	0.292	9.4	<0.000050	<0.0050	0.0921	0.00061
W15	20/05/2013 9:25																									
W15	21/05/2013 8:30																									
W15	22/05/2013 10:00																									
W15	24/05/2013 8:20																									
W15	25/05/2013 13:40																									
W15	26/05/2013 8:30																									
W15	27/05/2013 7:35																									
W15	28/05/2013 11:00	0.000015	42.9	<0.0010	0.00071	0.0324	1.11	<0.00020	<0.0050	13.1	0.563	<0.000010	0.0022	0.0011	0.046	2.95	0.00111	3.78	<0.000020	6.44	0.417	12.7	<0.000050	<0.0050	0.0153	0.001
W15	29/05/2013 15:30																									
W15	30/05/2013 8:10																									
W15	31/05/2013 10:15																									
W15	08/06/2013 8:00	0.000013	51.2	<0.0010	0.00078	0.0303	1.67	0.00032	<0.0050	15.1	0.342	<0.000010	0.0033	0.0017	0.066	2.7	0.00129	6.11	<0.000020	8.49	0.453	14.1	<0.000050	<0.0050	0.0316	0.00109
W15	14/06/2013 17:15	0.00001	56.5	<0.0010	0.0007	0.0282	1.22	0.00027	<0.0050	16.9	0.315	<0.000010	0.0029	0.0021	0.05	2.64	0.00144	5.62	0.000043	9.22	0.467	18	<0.000050	<0.0050	0.02	0.00134
W15	18/06/2013 16:45	0.000015	68.8	0.0012	0.00092	0.0709	2.18	0.00052	<0.0050	19.7	0.191	<0.000010	0.0034	0.0021	0.067	3.24	0.00136	6.97	<0.000020	10.8	0.533	19.8	<0.000050	<0.0050	0.0544	0.00163
W15	24/06/2013 11:45	<0.000010	75.5	<0.0010	<0.00050	0.0228	0.708	<0.00020	<0.0050	22.1	0.115	<0.000010	0.0033	0.0014	0.03	3.17	0.0016	5.39	<0.000020	12.2	0.57	25.3	<0.000050	<0.0050	0.0122	0.00179
W15	02/07/2013 14:45	<0.000010	72.1	<0.0010	<0.00050	0.0124	0.447	<0.00020	<0.0050	21.3	0.117	<0.000010	0.0035	0.0014	0.027	2.98	0.00123	3.84	<0.000020	11.7	0.556	20.1	<0.000050	<0.0050	<0.0050	0.00167
W15	11/07/2013 14:00	0.00001	68.2	<0.0010	<0.00050	0.0155	0.495	<0.00020	<0.0050	20.3	0.0994	<0.000010	0.0032	0.0015	0.031	2.52	0.00111	3.67	<0.000020	11.7	0.519	20	<0.000050	<0.0050	0.0088	0.00138
W15	19/07/2013 13:45	0.000014	73.7	<0.0010	<0.00050	0.0235	0.733	<0.00020	<0.0050	20.9	0.181	<0.000010	0.0035	0.0017	0.037	2.94	0.00109	3.88	0.000052	12.3	0.595	20.9	<0.000050	<0.0050	0.0094	0.00167
W15	23/07/2013 11:30	0.000017	67.2	<0.0010	0.00055	0.0543	1.02	0.00031	<0.0050	21.2	0.148	<0.000010	0.0053	0.0016	0.033	2.86	0.00102	5.4	<0.000020	13.8	0.595	23.1	<0.000050	<0.0050	0.0462	0.00159
W15	31/07/2013 15:20	0.000022	45	0.0013	0.00088	0.045	1.95	0.00044	<0.0050	12.3	0.125	<0.000010	0.0022	0.0024	0.067	1.72	0.00067	7.41	<0.000020	7.49	0.336	13.2	<0.000050	<0.0050	0.0475	0.00057
W15	08/08/2013 11:30	0.000047	78.4	0.0026	0.00222	0.102	6.23	0.00101	<0.0050	23.4	0.7	<0.000010	0.0033	0.0035	0.118	2.82	0.00213	11.2	0.000028	11.7	0.635	19.7	<0.000050	<0.0050	0.107	0.00127
W15	15/08/2013 10:20	0.00001	76	<0.0010	0.00069	0.0153	0.892	<0.00020	<0.0050	22.2	0.275	<0.000010	0.0028	0.0017	0.025	2.55	0.00243	5.18	<0.000020	12.3	0.634	28.8	<0.000050	<0.0050	0.0069	0.0014
W15	19/08/2013 17:20	0.000011	79.4	<0.0010	0.00082	0.0272	1.01	<0.00020	<0.0050	24.2	0.226	<0.000010	0.0034	0.0016	0.044	2.65	0.00275	5.66	<0.000020	13.3	0.7	27	<0.000050	<0.0050	0.0215	0.0016
W15	26/08/2013 11:30	0.00002	77	<0.0010	0.001	0.0276	1.79	0.00022	<0.0050	22.5	0.388	<0.000010	0.0029	0.0017	0.046	2.57	0.0019	7.36	<0.000020	12.2	0.632	26.3	<0.000050	<0.0050	0.0235	0.00121

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W15	24/06/2012 16:50	<0.0050	<0.0050	<0.00050	0.0348	<0.00050	0.00068	0.122	<0.00010	<0.0010	<0.05	0.000014	50.5	<0.0010	<0.00050	0.00598	0.601	<0.00020	<0.0050	15.2	0.135	<0.000010	0.0026	0.0013	0.018	2.28
W15	28/06/2012 11:55	<0.0050	<0.0050	<0.00050	0.0306	<0.00050	0.00052	0.122	<0.00010	<0.0010	<0.05	0.000013	59.7	<0.0010	<0.00050	0.00604	0.346	0.00031	<0.0050	17.5	0.113	<0.000010	0.0024	0.0013	0.013	2.2
W15	03/07/2012 11:45	<0.0050	<0.0050	<0.00050	0.035	<0.00050	0.0006	0.122	<0.00010	<0.0010	<0.05	0.000016	55.5	<0.0010	0.00053	0.00789	0.486	<0.00020	<0.0050	15.5	0.134	<0.000010	0.0026	0.0012	0.012	2.05
W15	09/07/2012 13:50	<0.0050	<0.0050	<0.00050	0.0286	<0.00050	0.00055	0.118	<0.00010	<0.0010	<0.05	0.000013	62.1	<0.0010	<0.00050	0.00792	0.42	<0.00020	<0.0050	16.7	0.124	<0.000010	0.0029	0.0011	0.014	2.15
W15	18/07/2012 8:45	<0.0050	<0.0050	<0.00050	0.0272	<0.00050	0.00048	0.126	<0.00010	<0.0010	<0.05	0.00001	64.2	<0.0010	<0.00050	0.00602	0.274	<0.00020	<0.0050	17.6	0.0877	<0.000010	0.0024	0.0012	0.012	1.95
W15	24/07/2012 15:46	<0.0050	<0.0050	<0.00050	0.0382	<0.00050	0.0006	0.139	<0.00010	<0.0010	<0.05	0.000016	69.6	<0.0010	<0.00050	0.00574	0.412	<0.00020	<0.0050	19.7	0.114	<0.000010	0.0027	0.0014	0.017	2.26
W15	05/08/2012 16:30	<0.0050	0.0086	0.0006	0.0132	<0.00050	0.00052	0.116	<0.00010	<0.0010	<0.05	0.000023	75.8	<0.0010	<0.00050	0.0488	0.231	<0.00020	<0.0050	17.2	0.267	<0.000010	0.0028	<0.0010	0.016	3.14
W15	07/08/2012 16:10	<0.0050	<0.0050	<0.00050	0.0205	<0.00050	0.00054	0.133	<0.00010	<0.0010	<0.05	<0.000010	79.4	<0.0010	<0.00050	0.0184	0.374	<0.00020	<0.0050	20.2	0.22	<0.000010	0.0027	0.0013	0.016	2.57
W15	16/08/2012 11:15	<0.0050	<0.0050	<0.00050	0.0145	<0.00050	0.00049	0.137	<0.00010	<0.0010	<0.05	<0.000010	82.5	<0.0010	<0.00050	0.0178	0.309	<0.00020	<0.0050	21.9	0.173	<0.000010	0.0027	<0.0010	0.014	2.73
W15	24/08/2012 14:30	<0.0050	<0.0050	<0.00050	0.029	<0.00050	0.00163	0.166	<0.00010	<0.0010	<0.05	<0.000010	81.3	<0.0010	0.00099	0.00713	6.48	<0.00020	<0.0050	24.6	0.996	<0.000010	0.0022	0.0015	0.121	2.87
W15	30/08/2012 16:30	<0.0050	<0.0050	<0.00050	0.0195	<0.00050	0.00055	0.126	<0.00010	<0.0010	<0.05	<0.000010	78.3	<0.0010	<0.00050	0.0198	0.508	<0.00020	<0.0050	21.1	0.317	<0.000010	0.0027	0.0011	0.018	2.88
W15	03/09/2012 10:10	<0.0050	<0.0050	<0.00050	0.0129	<0.00050	0.00042	0.133	<0.00010	<0.0010	<0.05	<0.000010	85.2	<0.0010	<0.00050	0.0213	0.374	<0.00020	<0.0050	23.2	0.193	<0.000010	0.0025	<0.0010	0.013	3.08
W15	10/09/2012	<0.0050	<0.0050	<0.00050	0.039	<0.00050	0.00037	0.0774	<0.00010	<0.0010	<0.05	<0.000010	47.3	<0.0010	<0.00050	0.0117	0.21	<0.00020	<0.0050	13.7	0.0467	<0.000010	0.0018	<0.0010	0.012	1.97
W15	17/09/2012 14:11	<0.0050	<0.0050	<0.00050	0.046	<0.00050	0.00043	0.0973	<0.00010	<0.0010	<0.05	<0.000010	59.1	<0.0010	<0.00050	0.0105	0.283	<0.00020	<0.0050	16.5	0.0616	<0.000010	0.0019	0.0011	0.017	2.01
W15	24/09/2012 10:45	<0.0050	<0.0050	<0.00050	0.025	<0.00050	0.00051	0.123	<0.00010	<0.0010	<0.05	0.00001	76.1	<0.0010	<0.00050	0.00821	0.818	0.00034	<0.0050	19.8	0.217	<0.000010	0.0022	0.0013	0.024	2.67
W15	06/10/2012 16:30	<0.0050	<0.0050	<0.00050																		<0.000010				
W15	12/10/2012 11:45	<0.0050	0.0058	<0.00050																		<0.000010				
W15	19/10/2012 13:50	<0.0050	0.0169	<0.00050	0.0181	<0.00050	0.00034	0.112	<0.00010	<0.0010	<0.05	<0.000010	71.9	<0.0010	<0.00050	0.00865	0.156	<0.00020	<0.0050	20.2	0.0478	<0.000010	0.0019	<0.0010	<0.01	2.43
W15	25/10/2012 14:45	<0.0050	<0.0050	<0.00050	0.0192	<0.00050	0.00037	0.138	<0.00010	<0.0010	<0.05	0.000012	88.7	<0.0010	<0.00050	0.0122	0.125	<0.00020	<0.0050	25.5	0.0615	<0.000010	0.0022	0.0011	<0.01	3.19
W15	05/11/2012	<0.0050	0.0086	<0.00050	0.0153	<0.00050	0.00057	0.227	<0.00010	<0.0010	<0.05	0.000034	168	<0.0010	<0.00050	0.0396	0.151	<0.00020	<0.0050	39.2	0.359	<0.000010	0.0038	0.0017	0.013	7.46
W15	09/11/2012 15:20	0.00042	0.00371	0.00022	0.0115	0.00009	0.000405	0.161	<0.000010	<0.0000050	<0.05	0.000022	113	0.00022	0.000217	0.0245	0.0994	0.000031	0.00164	28.6	0.15		0.00267	0.000956		4.23
W15	18/11/2012 10:40	<0.0050	0.0074	<0.00050	0.0092	<0.00050	0.00046	0.18	<0.00010	<0.0010	<0.05	0.000031	126	<0.0010	<0.00050	0.0246	0.0685	<0.00020	<0.0050	34.2	0.154	<0.000010	0.0044	<0.0010	0.016	5.32
W15	26/11/2012	<0.0050	0.0242	<0.00050	0.0092	<0.00050	0.00054	0.207	<0.00010	<0.0010	<0.05	0.000052	144	<0.0010	<0.00050	0.0258	0.107	<0.00020	<0.0050	36.6	0.253	<0.000010	0.003	0.0012	0.012	5.23
W15	04/12/2012 11:30	<0.0050	0.0083	<0.00050	0.0107	<0.00050	0.0004	0.209	<0.00010	<0.0010	<0.05	0.000039	138	<0.0010	<0.00050	0.0289	0.0889	<0.00020	<0.0050	35.4	0.349	<0.000010	0.0029	0.0023	0.023	5.22
W15	12/12/2012 8:00	<0.0050	0.0111	<0.00050	0.015	<0.00050	0.00052	0.224	<0.00010	<0.0010	<0.05	0.00006	150	<0.0010	<0.00050	0.028	0.154	<0.00020	<0.0050	39.3	0.644	<0.000010	0.0031	0.0018	<0.01	5.69
W15	02/05/2013 14:10	0.0094	0.0309	<0.00050	0.0052	<0.00050	0.00036	0.0657	<0.00010	<0.0010	<0.05	<0.000010	67	<0.0010	<0.00050	0.037	0.0085	<0.00020	<0.0050	22.7	0.0709	<0.000010	0.0039	<0.0010	0.014	4.81
W15	05/05/2013 10:25																									
W15	06/05/2013 8:10																									
W15	07/05/2013 8:30																									
W15	08/05/2013 8:00																									
W15	09/05/2013 9:25	<0.0050	0.0073	0.00056	0.118	<0.00050	0.00031	0.0281	<0.00010	<0.0010	<0.05	<0.000010	11.3	<0.0010	<0.00050	0.0345	0.134	<0.00020	<0.0050	2.72	0.0212	<0.000010	<0.0010	<0.0010	0.032	2.28
W15	10/05/2013 10:30																									
W15	13/05/2013 9:30																									
W15	14/05/2013 9:23																									
W15	14/05/2013 9:45																									
W15	15/05/2013 9:48																									
W15	16/05/2013 11:35																									
W15	17/05/2013 8:55																									
W15	17/05/2013 16:10	0.048	0.063	0.0021	0.0478	<0.00050	0.00086	0.0898	<0.00010	<0.0010	<0.05	<0.000010	31.7	<0.0010	0.00069	0.0114	1	<0.00020	<0.0050	8.8	0.372	<0.000010	0.0022	0.0012	0.027	2.08
W15	18/05/2013 10:05																									
W15	19/05/2013	0.0071	0.008	0.00071																						
W15	20/05/2013 9:25																									
W15	21/05/2013 8:30																									
W15	22/05/2013 10:00																									
W15	24/05/2013 8:20																									
W15	25/05/2013 13:40																									
W15	26/05/2013 8:30																									
W15	27/05/2013 7:35																									
W15	28/05/2013 11:00	<0.0050	<0.0050	<0.00050	0.0158	<0.00050	0.00051	0.0941	<0.00010	<0.0010	<0.05	<0.000010	47.6	<0.0010	0.00056	0.0147	0.464	<0.00020	<0.0050	12.7	0.658	<0.000010	0.0024	0.0019	0.02	3.35
W15	29/05/2013 15:30																									
W15	30/05/2013 8:10																									
W15	31/05/2013 10:15																									
W15	08/06/2013 8:00	<0.0050	<0.0050	<0.00050	0.0339	<0.00050	0.00076	0.108	<0.00010	<0.0010	<0.05	<0.000010	48.7	<0.0010	0.0005	0.014	0.601	<0.00020	<0.0050	13.8	0.309	<0.000010	0.0028	0.0012	0.02	2.57
W15	14/06/2013 17:15	<0.0050	0.0076	0.00084	0.0221	<0.00050	0.00052	0.113	<0.00010	<0.0010	<0.05	<0.000010	56.9	<0.0010	<0.00050	0.0102	0.239	<0.00020	<0.0050	15.9	0.297	<0.000010	0.003	0.0013	0.013	2.58
W15	18/06/2013 16:45	0.0058	0.0066	0.00052	0.0208	<0.00050	0.00058	0.113	<0.00010	<0.0010	<0.05	<0.000010	59	<0.0010	<0.00050	0.0106	0.121	<0.00020	<0.0050	16.9	0.122	<0.000010	0.0029	0.0011	0.016	2.64
W15	24/06/2013 11:45	<0.0050	<0.0050	<0.00050	0.0185	<0.00050	0.0006	0.116	<0.00010	<0.0010	<0.05	<0.000010	63.8	<0.0010	<0.00050	0.0101	0.0545	<0.00020	<0.0050	18.6	0.0367	<0.000010	0.0032	0.001	0.012	2.82
W15	02/07/2013 14:45	<0.0050	<0.0050	<0.00050	0.0239	<0.00050	0.00071	0.13	<0.00010	<0.0010	<0.05	<0.000010	70.6	<0.0010	<0.00050	0.00963	0.0919	<0.00020	<0.0050	19.7	0.0556	<0.000010	0.0032	0.0011	0.011	2.85
W15	11/07/2013 14:00	<0.0050	<0.0050	<0.00050	0.0168	<0.00050	0.00071	0.117	<0.00010	<0.0010	<0.05	0.000014	65.7	<0.0010	<0.00050	0.0107	0.0885	<0.00020	<0.0050	19.4	0.0716	<0.000010	0.0034	0.0011	0.011	2.47
W15	19/07/2013 13:45	<0.0050	<0.0050	<0.00050	0.0179	<0.00050	0.0007	0.135	<0.00010	<0.0010	<0.05	<0.000010	69.3	<0.0010	<0.00050	0.0124	0.219	<0.00020	<0.0050	19.9	0.154	<0.000010	0.0031	0.0012	0.012	2.65
W15	23/07/2013 11:30	<0.0050	<0.0050	<0.00050	0.0158	<0.00050	0.00069	0.111	<0.00010	<0.0010	<0.05	0.000012	60.8	<0.0010	<0.00050	0.0266	0.108	<0.00020	<0.0050	17.6	0.115	<0.000010	0.0045	0.0011	0.018	2.44
W15	31/07/2013 15:20	<0.0050	<0.0050	0.00077	0.0523	<0.00050	0.00087	0.0992	<0.00010	<0.0010	<0.05	<0.000010	39.6	<0.0010	<0.00050	0.0168	0.536	<0.00020	<0.0050	11	0.088	<0.000010	0.0023	0.0016	0.021	1.67
W15	08/08/2013 11:30	0.009	0.0134	0.00075	0.0359	<0.00050	0.00088	0.148	<0.00010	<0.0010	<0.05	0.000013	68.8	<0.0010	0.00096	0.0124	1.4	<0.00020	<0.0050	18.9	0.616	<0.000010	0.0032	0.0015	0.03	2.18
W15	15/08/2013 10:20	<0.0050	<0.0050	<0.00050	0.0287	<0.00050	0.00058	0.148	<0.00010	<0.0010	<0.05	<0.000010	74.1	<0.0010	0.00059	0.00934	0.272	<0.00020	<0.0050	21.4	0.246	<0.000010	0.003	0.0014	0.014	2.4
W15	19/08/2013 17:20	<0.0050	<0.0050	<0.00050	0.0937	<0.00050	0.0007	0.16	<0.00010	<0.0010	<0.05	<0.000010	77.7	<0.0010	0.00059	0.0139	0.512	<0.00020	<0.0050	22.2	0.198	<0.000010	0.0032	0.0015	0.02	2.57
W15	26/08/2013 11:30	<0.0050	0.0066	<0.00050	0.028	<0.00050	0.00057	0.143	<0.00010	<0.0010	<0.05	<0.000010	69.8	<0.0010	0.00065	0.00758	0.542	<0.00020	<0.0050	19.4	0.32	<0.000010	0.0028	0.0012	0.016	2.25

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	BOD5	Br	Cation	COD	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-T	N-TKN	P-PO4T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L
W15	24/06/2012 16:50	0.00045	4.9	<0.000020	8.73	0.39	15.8	<0.000050	<0.0050	<0.0050	0.00072	<0.0050	<0.0050	<0.00050	178	<0.50	<0.50	<0.50														0.0315
W15	28/06/2012 11:55	0.00063	5.17	<0.000020	9.58	0.432	18.4	<0.000050	<0.0050	<0.0050	0.00092	<0.0050	<0.0050	<0.00050	206	<0.50	<0.50	<0.50														0.0247
W15	03/07/2012 11:45	0.00077	5.45	<0.000020	8.81	0.418	18.8	<0.000050	<0.0050	<0.0050	0.00077	<0.0050	<0.0050	<0.00050	184	<0.50	<0.50	<0.50														0.0424
W15	09/07/2012 13:50	0.00112	5.58	<0.000020	9.31	0.498	19	<0.000050	<0.0050	<0.0050	0.00084	<0.0050	<0.0050	<0.00050	210	<0.50	<0.50	<0.50														0.0215
W15	18/07/2012 8:45	0.00077	5.47	<0.000020	9.68	0.475	20.4	<0.000050	<0.0050	<0.0050	0.00093	<0.0050	<0.0050	<0.00050	220	<0.50	<0.50	<0.50														0.026
W15	24/07/2012 15:46	0.00077	5.9	<0.000020	10.6	0.54	23.3	<0.000050	<0.0050	<0.0050	0.00116	<0.0050	<0.0050	<0.00050	234	<0.50	<0.50	<0.50														0.0293
W15	05/08/2012 16:30	0.00195	6.41	<0.000020	10.2	0.785	22.2	<0.000050	<0.0050	<0.0050	0.00106	<0.0050	<0.0050	<0.00050	219	<0.50	<0.50	<0.50														0.0583
W15	07/08/2012 16:10	0.00132	5.94	<0.000020	11	0.665	24.5	<0.000050	<0.0050	<0.0050	0.00125	<0.0050	<0.0050	<0.00050	253	<0.50	<0.50	<0.50														
W15	16/08/2012 11:15	0.00166	5.64	<0.000020	11.3	0.761	26.9	<0.000050	<0.0050	<0.0050	0.00133	<0.0050	<0.0050	<0.00050	266	<0.50	<0.50	<0.50														
W15	24/08/2012 14:30	0.00109	5.97	<0.000020	13	0.671	23.8	<0.000050	<0.0050	<0.0050	0.00123	<0.0050	<0.0050	0.00058	280	<0.50	<0.50	<0.50														
W15	30/08/2012 16:30	0.0017	5.93	<0.000020	11.4	0.711	23.6	<0.000050	<0.0050	<0.0050	0.00126	<0.0050	<0.0050	<0.00050	250	<0.50	<0.50	<0.50										15.3				
W15	03/09/2012 10:10	0.00193	5.85	<0.000020	12.2	0.779	26.3	<0.000050	<0.0050	<0.0050	0.00134	<0.0050	<0.0050	<0.00050	262	<0.50	<0.50	<0.50														
W15	10/09/2012	0.00106	5.31	<0.000020	7.78	0.372	15.4	<0.000050	<0.0050	<0.0050	0.00057	<0.0050	<0.0050	<0.00050	151	<0.50	<0.50	<0.50														
W15	17/09/2012 14:11	0.00141	6.09	<0.000020	8.95	0.473	18.2	<0.000050	<0.0050	<0.0050	0.00066	<0.0050	<0.0050	<0.00050	179	<0.50	<0.50	<0.50														
W15	24/09/2012 10:45	0.0022	6.37	<0.000020	10.7	0.634	24.9	<0.000050	<0.0050	<0.0050	0.00094	<0.0050	0.0062	<0.00050	230	<0.50	<0.50	<0.50														
W15	06/10/2012 16:30														248	<0.50	<0.50	<0.50														
W15	12/10/2012 11:45														209	<0.50	<0.50	<0.50														
W15	19/10/2012 13:50	0.00208	6.43	<0.000020	10.4	0.608	24.6	<0.000050	<0.0050	<0.0050	0.00098	<0.0050	<0.0050	<0.00050	224	<0.50	<0.50	<0.50														
W15	25/10/2012 14:45	0.00287	7.72	<0.000020	12.8	0.763	31.3	<0.000050	<0.0050	<0.0050	0.00139	<0.0050	<0.0050	<0.00050	267	<0.50	<0.50	<0.50														
W15	05/11/2012	0.00715	8.29	0.000023	19.9	1.78	47.6	<0.000050	<0.0050	<0.0050	0.00254	<0.0050	0.0066	<0.00050	406	5.35	<0.50	4.46														
W15	09/11/2012 15:20	0.00419	7.64	<0.0000050	14.8	1.04	38.3	<0.0000020	<0.00020	0.0006	0.00175	0.00031	0.00295	0.00022	303	<0.50	<0.50	<0.50														
W15	18/11/2012 10:40	0.0055	8.37	<0.000020	17.3	1.21	46.2	<0.000050	<0.0050	<0.0050	0.00237	<0.0050	0.0068	<0.00050	331	<0.50	<0.50	<0.50														
W15	26/11/2012	0.00513	8.75	<0.000020	18	1.32	44.4	<0.000050	<0.0050	<0.0050	0.00219	<0.0050	<0.0050	<0.00050	321	<0.50	<0.50	<0.50														
W15	04/12/2012 11:30	0.00472	8.05	0.000029	17.2	1.31	44.1	<0.000050	<0.0050	<0.0050	0.00214	<0.0050	0.0083	<0.00050	377	<0.50	<0.50	<0.50														
W15	12/12/2012 8:00	0.00521	10.1	<0.000020	19.2	1.35	47.2	<0.000050	<0.0050	<0.0050	0.00228	<0.0050	0.0052	<0.00050	404	<0.50	<0.50	<0.50														
W15	02/05/2013 14:10	0.00299	4.38	<0.000020	10.4	0.866	39.3	<0.000050	<0.0050	<0.0050	0.00159	<0.0050	<0.0050	<0.00050	154	<0.50	<0.50	<0.50														
W15	05/05/2013 10:25																															
W15	06/05/2013 8:10																															
W15	07/05/2013 8:30																															
W15	08/05/2013 8:00																															
W15	09/05/2013 9:25	0.00015	2.36	<0.000020	2.47	0.0869	<3.0	<0.000050	<0.0050	<0.0050	0.00011	<0.0050	<0.0050	<0.00050	36.2	<0.50	<0.50	<0.50														
W15	10/05/2013 10:30																															
W15	13/05/2013 9:30																															
W15	14/05/2013 9:23																															
W15	14/05/2013 9:45																															
W15	15/05/2013 9:48																															
W15	16/05/2013 11:35																															
W15	17/05/2013 8:55																															
W15	17/05/2013 16:10	0.00118	2.92	<0.000020	4.78	0.261	9.3	<0.000050	<0.0050	<0.0050	0.00067	<0.0050	<0.0050	<0.00050	92.4	<0.50	<0.50	<0.50														
W15	18/05/2013 10:05																															
W15	19/05/2013														103	<0.50	<0.50	<0.50														
W15	20/05/2013 9:25																															
W15	21/05/2013 8:30																															
W15	22/05/2013 10:00																															
W15	24/05/2013 8:20																															
W15	25/05/2013 13:40																															
W15	26/05/2013 8:30																															
W15	27/05/2013 7:35																															
W15	28/05/2013 11:00	0.0012	3.37	<0.000020	6.48	0.457	13.7	<0.000050	<0.0050	<0.0050	0.001	<0.0050	0.014	<0.00050	152	<0.50	<0.50	<0.50														
W15	29/05/2013 15:30																															
W15	30/05/2013 8:10																															
W15	31/05/2013 10:15																															
W15	08/06/2013 8:00	0.00126	4.48	<0.000020	7.95	0.406	13.1	<0.000050	<0.0050	<0.0050	0.00099	<0.0050	<0.0050	<0.00050	159	<0.50	<0.50	<0.50														
W15	14/06/2013 17:15	0.00144	4.85	<0.000020	8.83	0.466	16.4	<0.000050	<0.0050	<0.0050	0.00135	<0.0050	<0.0050	<0.00050	192	<0.50	<0.50	<0.50														
W15	18/06/2013 16:45	0.00138	4.74	<0.000020	9.37	0.471	20.9	<0.000050	<0.0050	<0.0050	0.00142	<0.0050	<0.0050	<0.00050	200	<0.50	<0.50	<0.50														
W15	24/06/2013 11:45	0.00154	4.03	<0.000020	10.3	0.505	23.5	<0.000050	<0.0050	<0.0050	0.00165	<0.0050	<0.0050	<0.00050	216	<0.50	<0.50	<0.50														
W15	02/07/2013 14:45	0.00136	3.69	<0.000020	11.9	0.536	24.6	<0.000050	<0.0050	<0.0050	0.00157	<0.0050	0.006	<0.00050	221	4.56	<0.50	3.8														
W15	11/07/2013 14:00	0.0008	2.6	<0.000020	11.3	0.478	20.7	<0.000050	<0.0050	<0.0050	0.00125	<0.0050	<0.0050	<0.00050	212	<0.50	<0.50	<0.50														
W15	19/07/2013 13:45	0.00101	3.33	<0.000020	11.1	0.522	22.3	<0.000050	<0.0050	<0.0050	0.00144	<0.0050	<0.0050	<0.00050	241	<0.50	<0.50	<0.50														
W15	23/07/2013 11:30	0.00112	3.81	<0.000020	11.2	0.558	22.2	<0.000050	<0.0050	<0.0050	0.0013	<0.0050	<0.0050	<0.00050	211	<0.50	<0.50	<0.50														
W15	31/07/2013 15:20	0.00057	5.25	<0.000020	6.79	0.291	13	<0.000050	<0.0050	<0.0050	0.00057	<0.0050	<0.0050	0.00051	128	<0.50	<0.50	<0.50														
W15	08/08/2013 11:30	0.00186	6.16	<0.000020	10.3	0.575	21	<0.000050	<0.0050	<0.0050	0.00115	<0.0050	0.0068	<0.00050	232	<0.50	<0.50	<0.50														
W15	15/08/2013 10:20	0.00259	5.17	<0.000020	12	0.623	25.7	<0.000050	<0.0050	<0.0050	0.00129	<0.0050	<0.0050	<0.00050	232	<0.50	<0.50	<0.50														
W15	19/08/2013 17:20	0.00284	4.85	<0.000020	12.3	0.684	28.9	<0.000050	<0.0050	0.0069	0.00155	<0.0050	<0.0050	<0.00050	236	<0.50	<0.50	<0.50														
W15	26/08/2013 11:30	0.00165	6.33	<0.000020	10.3	0.565	24.9	<0.000050	<0.0050	<0.0050	0.00111	<0.0050	<0.0050	<0.00050	210	<0.50	<0.50	<0.50														

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	P-TDP	P-TRP	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		mg/L	mg/L	Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W15	24/06/2012 16:50					385.1			
W15	28/06/2012 11:55					440.3			
W15	03/07/2012 11:45					412.5			
W15	09/07/2012 13:50					473.3			
W15	18/07/2012 8:45					431.4			
W15	24/07/2012 15:46					468.2			
W15	05/08/2012 16:30								
W15	07/08/2012 16:10					574.1			
W15	16/08/2012 11:15					578.8			
W15	24/08/2012 14:30					610.2			
W15	30/08/2012 16:30					562			
W15	03/09/2012 10:10					551.3			
W15	10/09/2012								
W15	17/09/2012 14:11					429.7			
W15	24/09/2012 10:45					708.4			
W15	06/10/2012 16:30					573.4			
W15	12/10/2012 11:45					504			
W15	19/10/2012 13:50					560.4			
W15	25/10/2012 14:45					662			
W15	05/11/2012								
W15	09/11/2012 15:20					674.7			
W15	18/11/2012 10:40					409.8			
W15	26/11/2012					756			
W15	04/12/2012 11:30					903.3			
W15	12/12/2012 8:00					948.1			
W15	02/05/2013 14:10					511.9			
W15	05/05/2013 10:25					372.8			
W15	06/05/2013 8:10					189.1			
W15	07/05/2013 8:30					247.7			
W15	08/05/2013 8:00					210.9			
W15	09/05/2013 9:25					89			
W15	10/05/2013 10:30					63.8			
W15	13/05/2013 9:30					128.1			
W15	14/05/2013 9:23					190.8			
W15	14/05/2013 9:45					153.2			
W15	15/05/2013 9:48					153.2			
W15	16/05/2013 11:35					181			
W15	17/05/2013 8:55					194.3			
W15	17/05/2013 16:10					240.6			
W15	18/05/2013 10:05					207.9			
W15	19/05/2013								
W15	20/05/2013 9:25								
W15	21/05/2013 8:30								
W15	22/05/2013 10:00								
W15	24/05/2013 8:20					325.3			
W15	25/05/2013 13:40					340.5			
W15	26/05/2013 8:30								
W15	27/05/2013 7:35								
W15	28/05/2013 11:00					381.3			
W15	29/05/2013 15:30					383.5			
W15	30/05/2013 8:10					377			
W15	31/05/2013 10:15								
W15	08/06/2013 8:00					368.5			
W15	14/06/2013 17:15					423.6			
W15	18/06/2013 16:45								
W15	24/06/2013 11:45								
W15	02/07/2013 14:45					499.7			
W15	11/07/2013 14:00								
W15	19/07/2013 13:45					502.1			
W15	23/07/2013 11:30								
W15	31/07/2013 15:20					298.3			
W15	08/08/2013 11:30					511			
W15	15/08/2013 10:20								
W15	19/08/2013 17:20					580.9			
W15	26/08/2013 11:30					533.4			

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T	B-T
			mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W15	02/09/2013 17:15	P	13.7	388	7.72	7.93	200.9	523	10.9	10.89	109	130.9	284	241	167	3.2	0.16	70	0.098	0.0218	7.37		0.656	<0.00050	0.00087	0.141	<0.00010	<0.0010	<0.05
W15	17/09/2013 15:00	P	14.5	412	7.71	8.08	425.1	693	4	12.00	93.4	163.9	376	329	206	4.4	0.23	104	0.039	0.0325	16.9		0.786	<0.00050	0.0007	0.142	<0.00010	<0.0010	<0.05
W15	28/09/2013 13:45	P	14.3	358	7.46	8.13	249.7	428	1.8	11.60	86.2	131.1	219	221	139	2.9	0.14	60	0.061	0.0135	7.58		0.914	<0.00050	0.00071	0.125	<0.00010	<0.0010	<0.05
W15	04/10/2013 11:45	P	8.6	380	7.52	8.14	299.3	538	1	12.85	92.6	123.1	283	260	171	3.2	0.16	71.5	0.08	<0.050	10.2		0.161	<0.00050	0.00057	0.119	<0.00010	<0.0010	<0.05
W15	08/10/2013 16:50	P	5.1	378	7.67	8.15	302.7	595	0	14.81	102.2	151.8	293	297	193	3.1	0.14	78	0.09	<0.050	11.3		0.1	<0.00050	0.00048	0.132	<0.00010	<0.0010	<0.05
W15	17/10/2013 14:00	P	3.9	486	7.80	8.34	351.1	663	1.5	11.21	79.8	129.0	342	327	210	3.2	0.16	98.9	0.063	0.0141	12.6		0.223	<0.00050	0.00051	0.149	<0.00010	<0.0010	<0.05
W15	22/10/2013 14:00	P	9.6	532	7.45	8.03	428.8	822	0.4	12.67	86.8	102.8	427	430	261	4	0.18	118	0.17	<0.050	17.7		0.358	<0.00050	0.00062	0.177	<0.00010	<0.0010	<0.05
W15	07/11/2013 15:00	P	2.3	638	7.64	8.21	457.8	959	0	8.84	61	118.5	499	481	278	5.7	0.22	137	0.032	0.0193	26.7		0.0477	<0.00050	0.00043	0.176	<0.00010	<0.0010	<0.05
W15	15/11/2013 10:00	P	4.6	632	7.48	8.31	442.6	981	-0.1	10.28	71.2	27.6	535	507	278	5.9	0.22	136	0.024	0.0254	29.4		0.121	<0.00050	0.00037	0.172	<0.00010	<0.0010	<0.05
W15	19/11/2013 11:10	P	<4.0	674	7.77	8.31	486.9	998	0	10.61	72.7	-107.0	532	503	292	6.4	0.21	155	0.038	0.0343	29.1		0.0659	<0.00050	0.00038	0.179	<0.00010	<0.0010	<0.05
W15	29/11/2013 13:45	P	2.1	578	6.84	7.91	514	1040	0	9.35	64.3	256.3	579	547		6.7	0.17	149	0.096	0.0368	34		0.0436	<0.00050	0.00028	0.206	<0.00010	<0.0010	<0.05
W15	06/12/2013 16:25	P	3.1	712	72.00	7.84	460.9	1060	0	2.50	17.2	70.0	521	533	299	7.1	0.17	155	0.075	0.0488	36		0.0551	<0.00050	0.00038	0.191	<0.00010	<0.0010	<0.05
W15	10/12/2013 11:00	P	2.2	728	7.52	8.15	413.3	1080	0	5.18	35.6	82.2	532	550	292	7.4	0.19	163	0.15	0.0503	32.9		0.0554	<0.00050	0.00038	0.204	<0.00010	<0.0010	<0.05
W15	22/12/2013 13:35	P	2.3	667	7.11	7.99	538	1010	0	7.69	52.9	135.2	506	518	287	7.7	0.22	153	0.1	0.0266	30.4		0.0161	<0.00050	0.00035	0.188	<0.00010	<0.0010	<0.05
W15	24/12/2013 8:25	P	7	682	7.25	8.04	519	1040	0	7.40	55.6	67.2	547	535	291	8.3	0.22	156	0.13	0.0323	31.4		0.0359	<0.00050	0.00042	0.212	<0.00010	<0.0010	<0.05
W15	25/04/2014 9:15	P	128	226		7.86		221					119	114	67.7	2.5	0.12	27.3	0.07	0.0706	3.61		1.9	<0.00050	0.00089	0.0954	<0.00010	<0.0010	<0.05
W15	26/04/2014 7:45	P			8.18		141		0.1	13.74	93.8	120.1																	
W15	27/04/2014 8:00	P			8.31		138.3		0.2	12.21	83.6	209.4																	
W15	28/04/2014 9:20	P	35.3	190	8.2	7.87	134.3	240	0	12.45	85.4	69.7	126	114	72.3	2.2	0.13	25.5	0.04	0.121	4.13		1.77	<0.00050	0.00074	0.0828	<0.00010	<0.0010	<0.05
W15	29/04/2014 9:30	P			8.25		159.9		0.1	11.42	78.3	150.4																	
W15	30/04/2014 8:45	P			8.28		125.6		0.2	12.92	89.3	203.1																	
W15	01/05/2014 8:45	P			8.43		141.3		0.4	11.54	80.3	150.7																	
W15	02/05/2014 9:00	P			8.3		122.7		0.2	12.35	85.2	223																	
W15	03/05/2014 9:00	P			8.05		207.1		0.9	12.38	89	55.2																	
W15	04/05/2014 8:50	P			7.85		160.9		-0.1	12.49	85.3	14.7																	
W15	05/05/2014 9:30	P			8.01		163.7		1.3	12.11	87.3	21.3																	
W15	06/05/2014 8:00	P	17.9	226	8.09	7.95	127.4	302	0	12.39	84.7	164	155	145	97	2.4	0.14	37.2	0.12	0.172	4.45		0.735	<0.00050	0.00072	0.0827	<0.00010	<0.0010	<0.05
W15	07/05/2014 8:30	P			8.22		141.5		0.2	11.98	82.1	115.5																	
W15	08/05/2014 9:00	P			8.16		152.6		0.1	11.74	81	118.7																	
W15	09/05/2014 10:10	P			8.2		155.7		1.3	11.07	78.6	122.1																	
W15	10/05/2014 9:55	P			8.19		189.5		1	11.68	82.3	174.7																	
W15	11/05/2014 10:00	P			8.46		177.4		1.2	11.01	78.2	132.2																	
W15	12/05/2014 10:10	P			8.24		210.1		1.1	12.71	89.3	3.93																	
W15	13/05/2014 10:45	P	14.8		8.08	7.99	215.7		2.4	8.78	64.3	155.9	93.3						0.101	0.249	3.8		0.511	<0.00050	0.0003	0.0512	<0.00010	<0.0010	<0.05
W15	14/05/2014 11:05	P			8.22		154.7		1.7	9.04	64.9	168.3																	
W15	15/05/2014 10:20	M			8.31		219.1		1.1	10.1	71.5	128.2																	
W15	15/05/2014 10:20	P	8.8	190	8.14	7.77	240.4	250	4.2	7.93	60.9	124.6	135	141	80.5	1.3	0.13	29.5	0.13	0.125	3.57		0.823	<0.00050	0.00044	0.0731	<0.00010	<0.0010	<0.05
W15	16/05/2014 10:55	P			6.4		265		4.1																				
W15	17/05/2014 10:10	P			7.21		258.6		1.8	10.02	72.2	143.7																	
W15	18/05/2014 10:35	P			7.48		252.2		2.3	9.34	68.3	154.1																	
W15	19/05/2014 10:50	P			7.42		281.6		2.3	9.37	68.3	124.9																	
W15	20/05/2014 9:30	P			7.31		231.8		2.2	11.15	80.9	145.5																	
W15	21/05/2014 8:50	P			7.57		135.8		1.1	11.12	78.6	117.9																	
W15	22/05/2014 9:25	P			7.32		133.8		1.8	10.58	76.2	139.4																	
W15	23/05/2014 8:30	P			7.43		169		1.8	12.36	89.3	126																	
W15	24/05/2014 8:30	P	12.7	268	7.4	8.14	202.6	328	3	11.17	83.3	156.8	156	154	109	2.1	0.16	35.6	0.093	0.049	5.17		0.477	<0.00050	0.00064	0.0893	<0.00010	<0.0010	<0.05
W15	25/05/2014 8:45	P			7.39		242.2		4.3	11.25	87	149.4																	
W15	26/05/2014 10:40	P			7.39		278.6		4.7	12.04	93.9	140.6																	
W15	27/05/2014 9:45	P			7.31		301.9		7.3	11.33	94.2	85																	
W15	28/05/2014 16:20	P	8.2	324	8.23	8.26	359.9	478	9.6	8.5	74.7	160.2	228	224	162	2.7	0.17	52.5	0.14	0.0645	8.45		0.244	<0.00050	0.00054	0.114	<0.00010	<0.0010	<0.05
W15	29/05/2014 8:55	P			8.15		315.4		5.7	11.54	92.3	130																	
W15	30/05/2014 8:50	P			8.17		308.2		6.7	9.77	80	144																	
W15	31/05/2014 9:15	P			8.18		327.4		8.7	9.49	83.7	134.2																	
W15	05/06/2014 16:10	P	5.1	1640	8.05	8.34	423.8	569	12	9.41	87.9	146.3	269	271	189	3	0.17	64.7	0.081	0.0307	10.8		0.135	<0.00050	0.00053	0.108	<0.00010	<0.0010	<0.05
W15	14/06/2014 11:15	P	9.6	410	7.83	8.25	455.4	621	9.8	10.25	91.5	189.2	328	298	214	3.7	0.17	73.7	0.073	0.0342	13		0.242	<0.00050	0.00066	0.121	<0.00010	<0.0010	<0.05
W15	19/06/2014 9:00	P	6.2	438	7.99	8.25	432.6	624	9.6			221	314	303	199	3.5	0.16	82.6	0.059	0.0279	10.8		0.132	<0.00050	0.00051	0.107	<0.00010	<0.0010	<0.05
W15	26/06/2014 8:30	P	5	402	8.08	8.28	624	640	10.9	9.57	87	225.7	310	293	205	3.3	0.16	88.4	0.032	0.026	9.75		0.106	<0.00050	0.00056	0.11	<0.00010	<0.0010	<0.05
W15	30/06/2014 11:40	P	4.1	456	8.38	8.31	528	645	15.3	9.32	93.4	251.7	338	324	212	3.8	0.16	102	0.045	0.0285	10.1		0.0763	<0.00050	0.00053	0.122	<0.00010	<0.0010	<0.05
W15	13/07/2014 14:50	P	2.5	414	8.31	8.48	691	654	14.3	10.08	99.6	125.3	333	311	217	4.3	0.17	103	0.046	0.0409	8.05		0.0674	<0.00050	0.00056	0.121	<0.00010	<0.0010	<0.05
W15	16/07/2014 15:10	P	2.6	408	8.08	8.27	502	659	15.5	8.98	90.4	138.6	324	326	227	3.6	0.17	100	0.05	0.0475	7.56		0.0894	<0.00050	0.00045	0.116	<0.00010	<0.0010	<0.05
W15	21/07/2014 11:45	P	6.6	420	7.83	8.28	423.6	592	11.9	7.92	72	149	283	285	198	3.7	0.2	90.1	0.068	0.0313	6.09		0.242	<0.00050	0.00059	0.112	<0.00010	<0.0010	<0.05
W15	29/07/2014 10:40	P	72	422	7.46	8.19	617	598	12.4	7.08	65.5	143.4	309	277	208	4.4	0.23	82	0.092	0.0623	5.64		2.81	<0.00050	0.00128	0.148	0.00014	<0.0010	<0.05
W15	07/08/2014 14:45	P	1.1	452	8.15	8.2	447.9	574	13.1	9.17	87.5	184.3	280	283	199	3	0.18	80.2	0.017	0.0274	4.4		0.0483	<0.00050	0.00053	0.115	<0.00010	<0.0010	<0.05
W15	14/08/2014 11:30	P	1.6	414	8.1	8.27	439.9	626	12.1	8.11	75.5	143.1	351	294	230	3.4	0.18	88.6	0.04	0.0274	4.89		0.108	<0.00050	0.00056	0.139	<0.00010	<0.0010	<0.05
W15	18/08/2014 11:35	P	2	442	8.11	8.37	488.7	654	11.6	9.25	85.2	145.6	342	311	242	3.6	0.17	91.7	0.051	0.0264	5.06		0.164	<0.00050	0.00054	0.132	<0.00010	<0.0010	<0.05

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W15	02/09/2013 17:15	<0.000010	76.5	<0.0010	0.00088	0.0347	1.39	0.00024	<0.0050	22.6	0.281	<0.000010	0.0038	0.0018	0.04	2.91	0.00224	7.12	<0.000020	13.1	0.747	26.1	<0.000050	<0.0050	0.0374	0.00121
W15	17/09/2013 15:00	<0.000010	104	<0.0010	0.00063	0.0508	1.1	0.00024	<0.0050	28.4	0.176	<0.000010	0.0046	0.0011	0.024	4.89	0.00442	6.81	<0.000020	16.5	1.36	35.4	<0.000050	<0.0050	0.0305	0.00212
W15	28/09/2013 13:45	0.000032	59.6	0.0011	0.00092	0.0615	2.02	0.00053	<0.0050	17.1	0.165	<0.000010	0.002	0.002	0.071	2.1	0.00208	7.7	0.000038	9.76	0.499	20.5	<0.000050	<0.0050	0.0412	0.00096
W15	04/10/2013 11:45	<0.000010	76.1	<0.0010	<0.00050	0.012	0.695	<0.00020	<0.0050	22.6	0.122	<0.000010	0.0025	0.0012	0.033	2.49	0.00255	6.32	<0.000020	12.2	0.627	26.5	<0.000050	<0.0050	0.0077	0.00138
W15	08/10/2013 16:50	<0.000010	77.1	<0.0010	<0.00050	0.0142	0.723	<0.00020	<0.0050	24.4	0.211	<0.000010	0.0026	0.0013	0.042	2.78	0.00289	5.95	<0.000020	13.7	0.742	28.8	<0.000050	<0.0050	<0.0050	0.00153
W15	17/10/2013 14:00	0.00001	90.8	<0.0010	<0.00050	0.0259	0.726	<0.00020	<0.0050	28	0.171	<0.000010	0.0024	0.0012	0.035	2.96	0.00334	7.25	0.000047	15.3	0.818	37.3	<0.000050	<0.0050	0.0162	0.00171
W15	22/10/2013 14:00	0.000021	118	<0.0010	0.00067	0.034	1.65	<0.00020	<0.0050	32.2	0.388	<0.000010	0.0027	0.0015	0.049	3.82	0.00439	8.14	<0.000020	17	1.13	40.4	<0.000050	<0.0050	0.0186	0.00226
W15	07/11/2013 15:00	0.000033	146	<0.0010	<0.00050	0.0463	0.258	<0.00020	<0.0050	33	0.189	<0.000010	0.0037	0.0011	0.023	5.31	0.00625	7.8	0.000033	16.2	1.51	53.2	<0.000050	<0.0050	<0.0050	0.00294
W15	15/11/2013 10:00	0.000037	156	<0.0010	<0.00050	0.0637	0.383	<0.00020	<0.0050	35.4	0.207	<0.000010	0.004	<0.0010	0.024	5.32	0.00689	7.11	<0.000020	17.8	1.52	45.2	<0.000050	<0.0050	0.0052	0.00323
W15	19/11/2013 11:10	0.000034	153	<0.0010	<0.00050	0.0582	0.261	<0.00020	<0.0050	36.5	0.198	<0.000010	0.0037	<0.0010	0.017	5.41	0.00631	7.12	<0.000020	17.9	1.55	51.8	<0.000050	<0.0050	<0.0050	0.00302
W15	29/11/2013 13:45	0.000035	168	<0.0010	<0.00050	0.0483	0.47	<0.00020	<0.0050	38.9	0.415	<0.000010	0.0029	0.0014		5.58	0.00731	7.8	0.000029	18.5	1.53	56.4	<0.000050	<0.0050	<0.0050	0.00257
W15	06/12/2013 16:25	0.000028	150	<0.0010	<0.00050	0.0433	0.337	<0.00020	<0.0050	35.4	0.27	<0.000010	0.0031	0.0013	0.023	5.46	0.00642	7.88	<0.000020	16.3	1.46	50	<0.000050	<0.0050	<0.0050	0.00291
W15	10/12/2013 11:00	0.00003	153	<0.0010	<0.00050	0.0334	0.422	<0.00020	<0.0050	36.7	0.408	<0.000010	0.0034	<0.0010	0.039	5.55	0.00678	7.59	0.000023	16.6	1.47	52	<0.000050	<0.0050	<0.0050	0.00279
W15	22/12/2013 13:35	0.00002	147	<0.0010	<0.00050	0.0164	0.61	0.00025	<0.0050	33.8	0.477	<0.000010	0.0038	<0.0010	0.022	5.55	0.00598	6.85	<0.000020	15.6	1.45	51.5	<0.000050	<0.0050	<0.0050	0.00362
W15	24/12/2013 8:25	0.000029	158	<0.0010	0.00051	0.0284	0.766	<0.00020	<0.0050	37	0.636	<0.000010	0.004	0.0011	0.028	5.93	0.0069	7.71	<0.000020	17	1.57	55.1	<0.000050	<0.0050	<0.0050	0.00341
W15	25/04/2014 9:15	0.000053	31.9	0.0016	0.00154	0.197	3.49	0.00111	<0.0050	9.65	0.269	<0.000010	0.0017	0.0023	0.192	3.08	0.00146	6.22	0.000026	4.49	0.339	8.5	<0.000050	<0.0050	0.11	0.00066
W15	26/04/2014 7:45																									
W15	27/04/2014 8:00																									
W15	28/04/2014 9:20	0.000051	34.3	0.0012	0.00138	0.203	3.25	0.00101	<0.0050	9.84	0.203	<0.000010	0.0017	0.0019	0.192	2.88	0.00147	6.14	0.00004	4.44	0.36	9.6	<0.000050	<0.0050	0.0962	0.00069
W15	29/04/2014 9:30																									
W15	30/04/2014 8:45																									
W15	01/05/2014 8:45																									
W15	02/05/2014 9:00																									
W15	03/05/2014 9:00																									
W15	04/05/2014 8:50																									
W15	05/05/2014 9:30																									
W15	06/05/2014 8:00	0.000031	42.8	<0.0010	0.00095	0.0587	1.4	0.00265	<0.0050	11.8	0.36	<0.000010	0.002	0.0016	0.103	2.58	0.00139	4.99	0.000025	5.96	0.444	13.4	<0.000050	<0.0050	0.0399	0.00086
W15	07/05/2014 8:30																									
W15	08/05/2014 9:00																									
W15	09/05/2014 10:10																									
W15	10/05/2014 9:55																									
W15	11/05/2014 10:00																									
W15	12/05/2014 10:10																									
W15	13/05/2014 10:45	0.000018	26.6	<0.0010	<0.00050	0.0561	0.638	0.00025	<0.0050	6.51	0.245	<0.000010	0.0011	<0.0010	0.026	1.92	0.00092	2.39	<0.000020	3.06	0.325	9.2	<0.000050	<0.0050	0.02	0.00082
W15	14/05/2014 11:05																									
W15	15/05/2014 10:20																									
W15	15/05/2014 10:20	0.000022	38	<0.0010	0.0006	0.0501	1.21	0.00028	<0.0050	9.74	0.301	<0.000010	0.0018	<0.0010	0.047	2	0.0008	4.39	0.000025	5.04	0.336	9.4	<0.000050	<0.0050	0.0478	0.00092
W15	16/05/2014 10:55																									
W15	17/05/2014 10:10																									
W15	18/05/2014 10:35																									
W15	19/05/2014 10:50																									
W15	20/05/2014 9:30																									
W15	21/05/2014 8:50																									
W15	22/05/2014 9:25																									
W15	23/05/2014 8:30																									
W15	24/05/2014 8:30	0.000016	43.4	<0.0010	0.00067	0.0282	1.18	0.00027	<0.0050	11.6	0.302	<0.000010	0.0024	0.002	0.04	2.13	0.00129	5.09	<0.000020	6.39	0.382	12.1	<0.000050	<0.0050	0.0226	0.00089
W15	25/05/2014 8:45																									
W15	26/05/2014 10:40																									
W15	27/05/2014 9:45																									
W15	28/05/2014 16:20	0.000012	61	<0.0010	0.00065	0.0234	1	0.00024	<0.0050	18.4	0.355	<0.000010	0.003	0.0015	0.039	2.83	0.00167	4.56	<0.000020	9.74	0.565	13.4	<0.000050	<0.0050	0.0139	0.00178
W15	29/05/2014 8:55																									
W15	30/05/2014 8:50																									
W15	31/05/2014 9:15																									
W15	05/06/2014 16:10	<0.000010	72	<0.0010	0.00052	0.0157	0.833	<0.00020	<0.0050	21.6	0.27	<0.000010	0.0034	0.0013	0.03	2.99	0.00225	4.4	<0.000020	12.1	0.631	22.7	<0.000050	<0.0050	0.0072	0.00213
W15	14/06/2014 11:15	0.000018	87	<0.0010	0.00051	0.0196	1.04	<0.00020	<0.0050	27	0.236	<0.000010	0.004	0.0022	0.029	3.71	0.00246	4.99	0.000035	15	0.833	28	<0.000050	<0.0050	0.0125	0.00283
W15	19/06/2014 9:00	<0.000010	83.3	<0.0010	<0.00050	0.0179	0.888	<0.00020	<0.0050	25.7	0.184	<0.000010	0.0031	0.0018	0.024	3.19	0.00193	3.97	0.000021	12.7	0.687	27.9	<0.000050	<0.0050	0.007	0.00234
W15	26/06/2014 8:30	0.000028	84.5	<0.0010	<0.00050	0.0145	0.771	<0.00020	<0.0050	24.1	0.145	<0.000010	0.0028	0.001	0.014	2.96	0.0018	3.96	<0.000020	13.5	0.69	33	<0.000050	<0.0050	<0.0050	0.00229
W15	30/06/2014 11:40	<0.000010	89.8	<0.0010	<0.00050	0.0127	0.787	<0.00020	<0.0050	27.8	0.144	<0.000010	0.0031	0.0015	0.045	3.45	0.00155	3.89	<0.000020	15.8	0.749	31.6	<0.000050	<0.0050	<0.0050	0.00229
W15	13/07/2014 14:50	<0.000010	88.1	<0.0010	<0.00050	0.0144	0.398	<0.00020	<0.0050	27.5	0.0922	<0.000010	0.0031	0.0012	0.017	3.27	0.00139	3.53	<0.000020	16.4	0.746	33.3	<0.000050	<0.0050	<0.0050	0.00214
W15	16/07/2014 15:10	<0.000010	84.4	<0.0010	<0.00050	0.0172	0.379	<0.00020	<0.0050	27.6	0.0648	<0.000010	0.003	0.001	0.021	3.13	0.0014	3.5	<0.000020	15	0.696	36.4	<0.000050	<0.0050	0.0065	0.00203
W15	21/07/2014 11:45	0.000011	74.8	<0.0010	<0.00050	0.0233	0.71	<0.00020	<0.0050	23.2	0.17	<0.000010	0.0036	0.0016	0.024	2.86	0.0013	5.05	<0.000020	14.9	0.749	34.9	<0.000050	<0.0050	0.0126	0.00175
W15	29/07/2014 10:40	0.000035	85.1	<0.0010	0.00155	0.176	4.75	0.001	<0.0050	23.4	0.306	<0.000010	0.0046	0.0016	0.058	4.22	0.00141	9.91	0.00003	14.6	1.07	27.2	<0.000050	<0.0050	0.119	0.00176
W15	07/08/2014 14:45	<0.000010	76.1	<0.0010	<0.00050	0.0142	0.162	<0.00020	<0.0050	21.8	0.0463	<0.000010	0.0034	0.0011	0.012	2.68	0.00099	4.04	<0.000020	13.6	0.669	27.4	<0.000050	<0.0050	<0.0050	0.00162
W15	14/08/2014 11:30	<0.000010	95.6	<0.0010	<0.00050	0.0225	0.322	<0.00020	<0.0050	27.3	0.109	<0.000010	0.0038	0.0012	0.017	3.41	0.0011	4.71	<0.000020	15.6	0.807	30.6	<0.000050	<0.0050	0.0065	0.00222
W15	18/08/2014 11:35	<0.000010	91.1	<0.0010	<0.00050	0.029	0.59	<0.00020	<0.0050	27.8	0.145	<0.000010	0.0037	0.0013	0.02	3.51	0.00106	4.28	<0.000020	15.3	0.781	34.9	<0.000050	<0.0050	0.0107	0.00223

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W15	02/09/2013 17:15	<0.0050	<0.0050	<0.00050	0.0283	<0.00050	0.0005	0.123	<0.00010	<0.0010	<0.05	0.00001	64.9	<0.0010	0.00054	0.014	0.26	<0.00020	<0.0050	19.1	0.221	<0.000010	0.0031	0.0012	0.011	2.48
W15	17/09/2013 15:00	<0.0050	<0.0050	<0.00050	0.0218	<0.00050	0.00042	0.119	<0.00010	<0.0010	<0.05	0.000013	91.8	<0.0010	<0.00050	0.025	0.0926	<0.00020	<0.0050	24.1	0.144	<0.000010	0.0041	<0.0010	<0.01	4.17
W15	28/09/2013 13:45	<0.0050	0.0069	<0.00050	0.0468	<0.00050	0.00043	0.101	<0.00010	<0.0010	<0.05	<0.000010	60.9	<0.0010	<0.00050	0.00814	0.421	<0.00020	<0.0050	16.8	0.114	<0.000010	0.0019	0.0011	0.015	1.83
W15	04/10/2013 11:45	<0.0050	<0.0050	<0.00050	0.0269	<0.00050	0.00048	0.113	<0.00010	<0.0010	<0.05	<0.000010	69.8	<0.0010	<0.00050	0.0075	0.356	<0.00020	<0.0050	20.7	0.11	<0.000010	0.0022	0.0011	0.014	2.41
W15	08/10/2013 16:50	<0.0050	<0.0050	<0.00050	0.158	<0.00050	0.00056	0.128	<0.00010	<0.0010	<0.05	0.00001	79.9	<0.0010	0.0005	0.0231	1.09	<0.00020	<0.0050	23.7	0.228	<0.000010	0.0021	0.0013	0.039	2.8
W15	17/10/2013 14:00	<0.0050	<0.0050	<0.00050	0.0174	<0.00050	0.00039	0.132	<0.00010	<0.0010	<0.05	<0.000010	90	<0.0010	<0.00050	0.00635	0.225	<0.00020	<0.0050	24.9	0.126	<0.000010	0.0024	0.0011	0.012	2.77
W15	22/10/2013 14:00	<0.0050	<0.0050	<0.00050	0.0114	<0.00050	0.00045	0.165	<0.00010	<0.0010	<0.05	0.000012	120	<0.0010	<0.00050	0.0145	0.386	<0.00020	<0.0050	31.4	0.362	<0.000010	0.0028	0.0012	0.014	3.82
W15	07/11/2013 15:00	<0.0050	<0.0050	<0.00050	0.0066	<0.00050	0.00029	0.167	<0.00010	<0.0010	<0.05	0.000028	139	<0.0010	<0.00050	0.0419	0.102	<0.00020	<0.0050	32.7	0.182	<0.000010	0.0034	<0.0010	0.013	4.73
W15	15/11/2013 10:00	<0.0050	<0.0050	<0.00050	0.0058	<0.00050	0.0005	0.164	<0.00010	<0.0010	<0.05	0.000033	145	<0.0010	<0.00050	0.0529	0.0866	<0.00020	<0.0050	35.2	0.194	<0.000010	0.0038	<0.0010	0.019	5.33
W15	19/11/2013 11:10	<0.0050	<0.0050	<0.00050	0.0057	<0.00050	0.00035	0.176	<0.00010	<0.0010	<0.05	0.000042	143	<0.0010	<0.00050	0.047	0.0751	<0.00020	<0.0050	35.3	0.192	<0.000010	0.0041	0.001	0.017	5
W15	29/11/2013 13:45	<0.0050	<0.0050	<0.00050	0.0081	<0.00050	0.00037	0.184	<0.00010	<0.0010	<0.05	0.000026	156	<0.0010	<0.00050	0.0286	0.135	<0.00020	<0.0050	37.9	0.417	<0.000010	0.0028	0.001		5.45
W15	06/12/2013 16:25	<0.0050	<0.0050	<0.00050	0.0043	<0.00050	0.0003	0.202	<0.00010	<0.0010	<0.05	0.000028	155	<0.0010	<0.00050	0.0311	0.0847	<0.00020	<0.0050	35.2	0.275	<0.000010	0.0031	<0.0010	<0.01	5.44
W15	10/12/2013 11:00	<0.0050	<0.0050	<0.00050	0.005	<0.00050	0.00034	0.2	<0.00010	<0.0010	<0.05	0.000029	156	<0.0010	<0.00050	0.0241	0.105	<0.00020	<0.0050	39.1	0.403	<0.000010	0.0033	<0.0010	<0.01	5.53
W15	22/12/2013 13:35	<0.0050	<0.0050	<0.00050	0.0048	<0.00050	0.00031	0.207	<0.00010	<0.0010	<0.05	0.00002	149	<0.0010	0.00053	0.0144	0.129	<0.00020	<0.0050	35.4	0.568	<0.000010	0.004	<0.0010	0.01	5.7
W15	24/12/2013 8:25	<0.0050	<0.0050	<0.00050	0.0042	<0.00050	0.00032	0.214	<0.00010	<0.0010	<0.05	0.000023	154	<0.0010	0.00055	0.0175	0.118	<0.00020	<0.0050	36.6	0.684	<0.000010	0.0041	<0.0010	<0.01	5.79
W15	25/04/2014 9:15	0.0072	0.0188	<0.00050	0.161	<0.00050	0.00046	0.0586	<0.00010	<0.0010	<0.05	0.00003	31.1	<0.0010	<0.00050	0.0423	0.853	<0.00020	<0.0050	8.83	0.19	<0.000010	0.0021	0.0011	0.036	2.71
W15	26/04/2014 7:45																									
W15	27/04/2014 8:00																									
W15	28/04/2014 9:20	0.0062	0.018	0.00054	0.152	<0.00050	0.00037	0.0544	<0.00010	<0.0010	<0.05	0.000022	31.9	<0.0010	<0.00050	0.0313	0.335	<0.00020	<0.0050	8.32	0.11	<0.000010	0.0018	0.0011	0.032	2.57
W15	29/04/2014 9:30																									
W15	30/04/2014 8:45																									
W15	01/05/2014 8:45																									
W15	02/05/2014 9:00																									
W15	03/05/2014 9:00																									
W15	04/05/2014 8:50																									
W15	05/05/2014 9:30																									
W15	06/05/2014 8:00	<0.0050	0.0162	<0.00050	0.0618	<0.00050	0.00047	0.0696	<0.00010	<0.0010	<0.05	0.000016	40.3	<0.0010	0.00052	0.0206	0.407	0.00057	<0.0050	10.7	0.311	<0.000010	0.0019	<0.0010	0.03	2.48
W15	07/05/2014 8:30																									
W15	08/05/2014 9:00																									
W15	09/05/2014 10:10																									
W15	10/05/2014 9:55																									
W15	11/05/2014 10:00																									
W15	12/05/2014 10:10																									
W15	13/05/2014 10:45	<0.0050	0.0058	<0.00050																						
W15	14/05/2014 11:05																									
W15	15/05/2014 10:20																									
W15	15/05/2014 10:20	<0.0050	0.0059	<0.00050	0.0182	<0.00050	0.00035	0.0665	<0.00010	<0.0010	<0.05	0.000012	39.8	<0.0010	<0.00050	0.0149	0.169	<0.00020	<0.0050	10.1	0.304	<0.000010	0.0018	<0.0010	0.014	1.99
W15	16/05/2014 10:55																									
W15	17/05/2014 10:10																									
W15	18/05/2014 10:35																									
W15	19/05/2014 10:50																									
W15	20/05/2014 9:30																									
W15	21/05/2014 8:50																									
W15	22/05/2014 9:25																									
W15	23/05/2014 8:30																									
W15	24/05/2014 8:30	<0.0050	0.0065	<0.00050	0.0642	<0.00050	0.00052	0.0837	<0.00010	<0.0010	<0.05	<0.000010	42.3	<0.0010	<0.00050	0.0172	0.457	<0.00020	<0.0050	11.9	0.28	<0.000010	0.0023	0.0012	0.021	2.03
W15	25/05/2014 8:45																									
W15	26/05/2014 10:40																									
W15	27/05/2014 9:45																									
W15	28/05/2014 16:20	<0.0050	0.0052	<0.00050	0.0362	<0.00050	0.00047	0.107	<0.00010	<0.0010	<0.05	0.000011	61.9	<0.0010	0.00052	0.0119	0.493	<0.00020	<0.0050	17.7	0.336	<0.000010	0.0031	0.0012	0.019	2.84
W15	29/05/2014 8:55																									
W15	30/05/2014 8:50																									
W15	31/05/2014 9:15																									
W15	05/06/2014 16:10	<0.0050	0.0052	<0.00050	0.0246	<0.00050	0.00046	0.106	<0.00010	<0.0010	<0.05	0.000011	74.7	<0.0010	<0.00050	0.0104	0.343	<0.00020	<0.0050	20.5	0.252	<0.000010	0.0034	0.0011	0.015	2.99
W15	14/06/2014 11:15	<0.0050	0.0075	<0.00050	0.0169	<0.00050	0.00045	0.113	<0.00010	<0.0010	<0.05	<0.000010	80.3	<0.0010	<0.00050	0.00901	0.163	<0.00020	<0.0050	23.6	0.212	<0.000010	0.0032	0.001	<0.01	3.2
W15	19/06/2014 9:00	<0.0050	0.0054	<0.00050	0.0141	<0.00050	0.00042	0.11	<0.00010	<0.0010	<0.05	<0.000010	80.7	<0.0010	<0.00050	0.00929	0.11	<0.00020	<0.0050	24.6	0.151	<0.000010	0.0034	0.001	<0.01	3.22
W15	26/06/2014 8:30	<0.0050	0.0065	<0.00050	0.0124	<0.00050	0.0004	0.104	<0.00010	<0.0010	<0.05	<0.000010	78.9	<0.0010	<0.00050	0.00812	0.092	<0.00020	<0.0050	23.3	0.108	<0.000010	0.0028	<0.0010	0.01	3.1
W15	30/06/2014 11:40	<0.0050	0.0065	<0.00050	0.0111	<0.00050	0.00044	0.105	<0.00010	<0.0010	<0.05	<0.000010	87	<0.0010	<0.00050	0.00847	0.0778	<0.00020	<0.0050	25.9	0.0786	<0.000010	0.003	0.0011	<0.01	3.16
W15	13/07/2014 14:50	<0.0050	<0.0050	<0.00050	0.015	<0.00050	0.00046	0.121	<0.00010	<0.0010	<0.05	<0.000010	81.9	<0.0010	<0.00050	0.0101	0.112	<0.00020	<0.0050	25.9	0.0642	<0.000010	0.003	0.001	0.01	3.21
W15	16/07/2014 15:10	<0.0050	<0.0050	<0.00050	0.0123	<0.00050	0.0005	0.118	<0.00010	<0.0010	<0.05	<0.000010	86.4	<0.0010	<0.00050	0.0128	0.109	<0.00020	<0.0050	26.7	0.0527	<0.000010	0.0032	0.0012	<0.01	3
W15	21/07/2014 11:45	<0.0050	<0.0050	<0.00050	0.0189	<0.00050	0.00038	0.107	<0.00010	<0.0010	<0.05	<0.000010	78.5	<0.0010	<0.00050	0.0121	0.138	<0.00020	<0.0050	21.6	0.155	<0.000010	0.0036	0.001	<0.01	2.83
W15	29/07/2014 10:40	0.0109	0.0175	<0.00050	0.0181	<0.00050	0.00047	0.0988	<0.00010	<0.0010	<0.05	0.000011	73.9	<0.0010	<0.00050	0.0308	0.115	<0.00020	<0.0050	22.5	0.151	<0.000010	0.0042	<0.0010	0.011	3.62
W15	07/08/2014 14:45	<0.0050	<0.0050	<0.00050	0.0256	<0.00050	0.00045	0.113	<0.00010	<0.0010	<0.05	<0.000010	78	<0.0010	<0.00050	0.0135	0.0938	<0.00020	<0.0050	21.3	0.0413	<0.000010	0.0034	0.0011	<0.01	2.69
W15	14/08/2014 11:30	<0.0050	<0.0050	<0.00050	0.0146	<0.00050	0.0005	0.12	<0.00010	<0.0010	<0.05	<0.000010	79	<0.0010	<0.00050	0.0152	0.124	<0.00020	<0.0050	23.5	0.0885	<0.000010	0.0035	0.0012	0.011	2.64
W15	18/08/2014 11:35	<0.0050	0.013	<0.00050	0.0146	<0.00050	0.00063	0.129	<0.00010	<0.0010	<0.05	<0.000010	82.4	<0.0010	<0.00050	0.0162	0.212	<0.00020	<0.0050	25.6	0.123	<0.000010	0.0034	<0.0010	0.011	3.01

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	BOD5	Br	Cation	COD	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-T	N-TKN	P-PO4T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L
W15	02/09/2013 17:15	0.002	5.47	<0.000020	11.3	0.685	24.1	<0.000050	<0.0050	<0.0050	0.00115	<0.0050	<0.0050	<0.00050	204	<0.50	<0.50	<0.50														
W15	17/09/2013 15:00	0.0041	5.28	<0.000020	14	1.17	33.6	<0.000050	<0.0050	<0.0050	0.00187	<0.0050	<0.0050	<0.00050	252	<0.50	<0.50	<0.50														
W15	28/09/2013 13:45	0.00192	6.18	<0.000020	9.28	0.467	19.8	<0.000050	<0.0050	<0.0050	0.00085	<0.0050	<0.0050	<0.00050	170	<0.50	<0.50	<0.50														
W15	04/10/2013 11:45	0.00256	5.77	<0.000020	12.3	0.602	25	<0.000050	<0.0050	<0.0050	0.00124	<0.0050	<0.0050	<0.00050	209	<0.50	<0.50	<0.50														
W15	08/10/2013 16:50	0.00286	5.66	<0.000020	13.1	0.665	28.9	<0.000050	<0.0050	0.0098	0.00133	<0.0050	<0.0050	<0.00050	236	<0.50	<0.50	<0.50														
W15	17/10/2013 14:00	0.00339	6.22	<0.000020	13.9	0.737	33.1	<0.000050	<0.0050	<0.0050	0.00163	<0.0050	<0.0050	<0.00050	251	3.04	<0.50	2.53														
W15	22/10/2013 14:00	0.00446	6.85	<0.000020	16.8	1.07	40.7	<0.000050	<0.0050	<0.0050	0.00217	<0.0050	<0.0050	<0.00050	318	<0.50	<0.50	<0.50														
W15	07/11/2013 15:00	0.00609	7.01	<0.000020	15.9	1.4	50.7	<0.000050	<0.0050	<0.0050	0.00283	<0.0050	0.0092	<0.00050	339	<0.50	<0.50	<0.50														
W15	15/11/2013 10:00	0.0068	6.66	<0.000020	17.4	1.48	52.1	<0.000050	<0.0050	<0.0050	0.0034	<0.0050	<0.0050	<0.00050	333	2.8	<0.50	2.33														
W15	19/11/2013 11:10	0.00652	7.71	<0.000020	17.1	1.49	48.5	<0.000050	<0.0050	<0.0050	0.00314	<0.0050	<0.0050	<0.00050	351	2.46	<0.50	2.05														
W15	29/11/2013 13:45	0.00638	7.54	<0.000020	17.9	1.4	54.1	<0.000050	<0.0050	<0.0050	0.00232	<0.0050	0.0069	<0.00050																		
W15	06/12/2013 16:25	0.00665	8.04	<0.000020	17.4	1.5	53.4	<0.000050	<0.0050	<0.0050	0.00293	<0.0050	0.0094	<0.00050	365	<0.50	<0.50	<0.50														
W15	10/12/2013 11:00	0.00668	7	<0.000020	18.3	1.48	56.1	<0.000050	<0.0050	<0.0050	0.00287	<0.0050	<0.0050	<0.00050	357	<0.50	<0.50	<0.50														
W15	22/12/2013 13:35	0.00651	7.41	<0.000020	17	1.58	54.3	<0.000050	<0.0050	<0.0050	0.00342	<0.0050	<0.0050	<0.00050	351	<0.50	<0.50	<0.50														
W15	24/12/2013 8:25	0.00683	7.69	<0.000020	17.1	1.6	53.5	<0.000050	<0.0050	<0.0050	0.00343	<0.0050	<0.0050	<0.00050	355	<0.50	<0.50	<0.50														
W15	25/04/2014 9:15	0.0017	4.92	<0.000020	4.62	0.37	9.4	<0.000050	<0.0050	<0.0050	0.00067	<0.0050	<0.0050	<0.00050	82.6	<0.50	<0.50	<0.50														
W15	26/04/2014 7:45																															
W15	27/04/2014 8:00																															
W15	28/04/2014 9:20	0.00127	3.34	<0.000020	4.09	0.362	10.2	<0.000050	<0.0050	<0.0050	0.00068	<0.0050	<0.0050	<0.00050	88.3	<0.50	<0.50	<0.50														
W15	29/04/2014 9:30																															
W15	30/04/2014 8:45																															
W15	01/05/2014 8:45																															
W15	02/05/2014 9:00																															
W15	03/05/2014 9:00																															
W15	04/05/2014 8:50																															
W15	05/05/2014 9:30																															
W15	06/05/2014 8:00	0.00133	3.19	<0.000020	5.68	0.423	15.3	<0.000050	<0.0050	<0.0050	0.00082	<0.0050	<0.0050	<0.00050	118	<0.50	<0.50	<0.50														
W15	07/05/2014 8:30																															
W15	08/05/2014 9:00																															
W15	09/05/2014 10:10																															
W15	10/05/2014 9:55																															
W15	11/05/2014 10:00																															
W15	12/05/2014 10:10																															
W15	13/05/2014 10:45																															
W15	14/05/2014 11:05																															
W15	15/05/2014 10:20																															
W15	15/05/2014 10:20	0.001	2.96	<0.000020	5.21	0.367	10.5	<0.000050	<0.0050	<0.0050	0.00095	<0.0050	<0.0050	<0.00050	98.2	<0.50	<0.50	<0.50														
W15	16/05/2014 10:55																															
W15	17/05/2014 10:10																															
W15	18/05/2014 10:35																															
W15	19/05/2014 10:50																															
W15	20/05/2014 9:30																															
W15	21/05/2014 8:50																															
W15	22/05/2014 9:25																															
W15	23/05/2014 8:30																															
W15	24/05/2014 8:30	0.00128	4.21	<0.000020	6.37	0.39	11.9	<0.000050	<0.0050	<0.0050	0.0008	<0.0050	<0.0050	<0.00050	133	<0.50	<0.50	<0.50														
W15	25/05/2014 8:45																															
W15	26/05/2014 10:40																															
W15	27/05/2014 9:45																															
W15	28/05/2014 16:20	0.00177	4.38	<0.000020	9.74	0.563	17.2	<0.000050	<0.0050	<0.0050	0.00173	<0.0050	<0.0050	<0.00050	198	<0.50	<0.50	<0.50														
W15	29/05/2014 8:55																															
W15	30/05/2014 8:50																															
W15	31/05/2014 9:15																															
W15	05/06/2014 16:10	0.002	4.63	<0.000020	11.5	0.6	22.2	<0.000050	<0.0050	<0.0050	0.0021	<0.0050	<0.0050	<0.00050	226	1.88	<0.50	1.57														
W15	14/06/2014 11:15	0.00227	4.11	<0.000020	12.9	0.698	25.5	<0.000050	<0.0050	<0.0050	0.00246	<0.0050	<0.0050	<0.00050	261	<0.50	<0.50	<0.50														
W15	19/06/2014 9:00	0.00184	3.62	<0.000020	13.3	0.692	29.8	<0.000050	<0.0050	<0.0050	0.00226	<0.0050	<0.0050	<0.00050	243	<0.50	<0.50	<0.50														
W15	26/06/2014 8:30	0.0017	3.45	<0.000020	13.4	0.676	33.1	<0.000050	<0.0050	<0.0050	0.00208	<0.0050	<0.0050	<0.00050	250	<0.50	<0.50	<0.50														
W15	30/06/2014 11:40	0.00151	3.7	<0.000020	14.8	0.746	37	<0.000050	<0.0050	<0.0050	0.00213	<0.0050	<0.0050	<0.00050	255	1.9	<0.50	1.58														
W15	13/07/2014 14:50	0.00138	3.2	<0.000020	14.8	0.726	35.9	<0.000050	<0.0050	<0.0050	0.00197	<0.0050	<0.0050	<0.00050	253	5.86	<0.50	4.88														
W15	16/07/2014 15:10	0.00148	3.49	<0.000020	16.2	0.712	34.8	<0.000050	<0.0050	<0.0050	0.00215	<0.0050	<0.0050	<0.00050	276	<0.50	<0.50	<0.50														
W15	21/07/2014 11:45	0.00125	4.63	<0.000020	13.7	0.709	27.3	<0.000050	<0.0050	<0.0050	0.00162	<0.0050	<0.0050	<0.00050	242	<0.50	<0.50	<0.50														
W15	29/07/2014 10:40	0.00114	3.95	<0.000020	14.3	0.99	29.8	<0.000050	<0.0050	<0.0050	0.00168	<0.0050	<0.0050	<0.00050	254	<0.50	<0.50	<0.50														
W15	07/08/2014 14:45	0.00098	4.14	<0.000020	12.2	0.707	25.5	<0.000050	<0.0050	<0.0050	0.00159	<0.0050	<0.0050	<0.00050	243	<0.50	<0.50	<0.50														
W15	14/08/2014 11:30	0.00092	3.79	<0.000020	13.5	0.754	30.9	<0.000050	<0.0050	<0.0050	0.0017	<0.0050	<0.0050	<0.00050	281	<0.50	<0.50	<0.50														
W15	18/08/2014 11:35	0.00092	3.43	<0.000020	15.2	0.77	31.8	<0.000050	<0.0050	<0.0050	0.00199	<0.0050	<0.0050	<0.00050	286	4.21	<0.50	3.51														

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	P-TDP	P-TRP	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		mg/L	mg/L	Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W15	02/09/2013 17:15					229.1			
W15	17/09/2013 15:00					709.7			
W15	28/09/2013 13:45					448.9			
W15	04/10/2013 11:45					552.7			
W15	08/10/2013 16:50					578.7			
W15	17/10/2013 14:00					642.5			
W15	22/10/2013 14:00					819.5			
W15	07/11/2013 15:00					877.8			
W15	15/11/2013 10:00					849.7			
W15	19/11/2013 11:10					932.7			
W15	29/11/2013 13:45					990			
W15	06/12/2013 16:25					879.8			
W15	10/12/2013 11:00					791.9			
W15	22/12/2013 13:35					1027			
W15	24/12/2013 8:25					993			
W15	25/04/2014 9:15								
W15	26/04/2014 7:45					270.1			
W15	27/04/2014 8:00					261.7			
W15	28/04/2014 9:20					257			
W15	29/04/2014 9:30					305.5			
W15	30/04/2014 8:45					239			
W15	01/05/2014 8:45					266.7			
W15	02/05/2014 9:00					233.1			
W15	03/05/2014 9:00					383.7			
W15	04/05/2014 8:50					308.9			
W15	05/05/2014 9:30					299.1			
W15	06/05/2014 8:00					243.9			
W15	07/05/2014 8:30					269.8			
W15	08/05/2014 9:00					290.2			
W15	09/05/2014 10:10					284.2			
W15	10/05/2014 9:55					349.7			
W15	11/05/2014 10:00					325			
W15	12/05/2014 10:10					387.5			
W15	13/05/2014 10:45					380.2			
W15	14/05/2014 11:05					279.8			
W15	15/05/2014 10:20					403.1			
W15	15/05/2014 10:20					399.1			
W15	16/05/2014 10:55								
W15	17/05/2014 10:10					464.1			
W15	18/05/2014 10:35					446.4			
W15	19/05/2014 10:50					498.4			
W15	20/05/2014 9:30					504.7			
W15	21/05/2014 8:50					249.4			
W15	22/05/2014 9:25					240.5			
W15	23/05/2014 8:30					303.5			
W15	24/05/2014 8:30					349.4			
W15	25/05/2014 8:45					400.5			
W15	26/05/2014 10:40					454.5			
W15	27/05/2014 9:45					456.4			
W15	28/05/2014 16:20					510.4			
W15	29/05/2014 8:55					497.9			
W15	30/05/2014 8:50					474.4			
W15	31/05/2014 9:15					475.2			
W15	05/06/2014 16:10					562.8			
W15	14/06/2014 11:15					640.7			
W15	19/06/2014 9:00					612.2			
W15	26/06/2014 8:30					854			
W15	30/06/2014 11:40					623			
W15	13/07/2014 14:50					864			
W15	16/07/2014 15:10					614			
W15	21/07/2014 11:45					564.4			
W15	29/07/2014 10:40					812			
W15	07/08/2014 14:45					579.2			
W15	14/08/2014 11:30					583.4			
W15	18/08/2014 11:35					657.2			

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T	B-T
			mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W15	26/08/2014 14:30	P	90.7	518	7.72	8.1	483.6	692	10.7	8.58	77.9	150.7	359	345	245	4	0.18	99.7	0.14	0.0294	5.87		1.68	<0.00050	0.00092	0.163	<0.00010	<0.0010	<0.05
W15	01/09/2014 11:05	P	8.2	524	7.98	8.32	416	701	6.1	9.33	75.2	139.5	323	339	252	4.1	0.18	97.2	0.11	0.0306	6.71		0.288	<0.00050	0.00047	0.118	<0.00010	<0.0010	<0.05
W15	12/09/2014 14:10	P	13	526	7.48	8.08	414.8	697	5.9	7.60	61.1	172.7	339	349	266	3.9	0.16	83.5	0.3	0.0177	6.12		0.379	<0.00050	0.00116	0.147	<0.00010	<0.0010	<0.05
W15	15/09/2014 15:50	P	10.4	530	7.74	8.19	438.5	672	9.6	8.57	75.2	146.2	372	327	248	3.9	0.18	87.7	0.16	0.0219	6.89		0.284	<0.00050	0.00068	0.126	<0.00010	<0.0010	<0.05
W15	24/09/2014 16:35	P	4.3	408	7.66	8.29	375.9	608	4.1	10.37	80	205.1	326	293	216	3.8	0.16	87.2	0.05	0.0111	6.4		0.202	<0.00050	0.00058	0.111	<0.00010	<0.0010	<0.05
W15	30/09/2014 10:30	P	3.4	402	7.73	8.11	345.6	534	-0.1	14.89	99.6	189.7	264	251	180	4.1	0.16	72.6	0.051	0.008	5.87		0.177	<0.00050	0.00046	0.0956	<0.00010	<0.0010	<0.05
W15	20/12/2014 16:30	P	5.7	904	7.43	7.96	337.2	1370	-2	12.46	82.1	242.2	756	735	408	11	0.26	197	0.025	0.0468	42.4		0.0236	<0.00050	0.00037	0.259	<0.00010	<0.0010	<0.05
W15	22/12/2014 13:05	P	2	746	7.32	7.71	622	1100	0.8	2.38	16.7	101.2	566	579	337	8.9	0.2	164	0.07	0.08	30.4		0.0108	<0.00050	0.00039	0.205	<0.00010	<0.0010	<0.05
W15	29/12/2014 13:45	P	3	802	7.03	7.81	660	1200	-1.7	2.52	16.8	249.2	652	592	357	10	0.23	189	0.098	0.0842	29.2		0.0483	<0.00050	0.00035	0.223	<0.00010	<0.0010	<0.05
W15	07/01/2015 10:40	P	1.1	816	7.54	7.57	585	1230	-2.1	3.85	26.2	158.5	781	635	373	11	0.25	187	0.15	0.092	25.3	10.6	0.0163	<0.00050	0.00047	0.275	<0.00010	<0.0010	<0.05
W15	13/01/2015 10:00	P	25	1080	8.06	8.14	736	1450	-2.1	13.67	88.7	215.9	799	786	316	13	0.3	277	0.02	0.0553	50.7	12.9	0.359	<0.00050	0.00058	0.176	<0.00010	<0.0010	<0.05
W15	20/01/2015 10:30	P	2	862	7.06	8.09	772	1270	0.4	2.15	15.1	168.8	796	657	373	11	0.24	193	0.16	0.0816	35.2		0.0146	<0.00050	0.00043	0.224	<0.00010	<0.0010	<0.05
W15	27/01/2015 15:35	P	1.7	842	7.27	8.12	598	1230	-2.3	10.09	64.8	246.6	654	644	341	9.8	0.28	191	0.056	0.0535	37.2		0.0102	<0.00050	0.00039	0.188	<0.00010	<0.0010	<0.05
W15	03/02/2015 12:30	P	6.1	910	7.26	8.14	668	1300	-2.5	5.8	37.2	179.3	673	686	384	11	0.25	193	0.19	0.069	35.6		0.0544	<0.00050	0.00051	0.265	<0.00010	<0.0010	<0.05
W15	10/02/2015 14:05	P	3.6	954	7.2	7.73	728	1380	0	4.21	28.8	203.3	724	700	400	12	0.26	194	0.23	0.079	36.8		0.0123	<0.00050	0.00056	0.252	<0.00010	<0.0010	<0.05
W15	20/02/2015 10:25	P	1.9	1670	7.77	7.95	1220	2150	1.3	12.79	91.3	232.1	1240	1170	565	13	0.83	413	0.028	0.132	76		0.0262	<0.00050	0.00073	0.17	<0.00010	<0.0010	<0.05
W15	26/02/2015 13:30	P	1.7	2480	7.56	7.63	1873	3020	0.1	21.31	145.7	159.2	1760	1450	737	20	0.94	617	0.055	0.218	122		0.0165	<0.00050	0.00117	0.187	<0.00010	<0.0010	0.069
W15	03/03/2015 11:20	P	18.1	3960	7.4	7.35	766	5150	-0.2	18.63	127.3	165.4	3940	3120	1170	44	1.4	1220	0.11	0.51	265		0.0376	<0.0010	0.00281	0.372	<0.00020	<0.0020	0.189
W15	12/03/2015 10:00	P			7.25		983		-0.1	1.48	10.2	204.1																	
W15	14/03/2015 10:00	P	10.8	1600		7.93		2100					1150	1140	567	18	0.49	372	0.41	0.138	73.7		0.0513	0.00104	0.00075	0.315	<0.00010	<0.0010	<0.05
W15	25/03/2015 17:45	P	105	790	8.2	8.05	551	1130	0.1	13.12	88.8	197.3	513	467	189	21	0.9	221	0.19	0.245	38.9		7.14	0.00087	0.0025	0.215	0.00023	<0.0010	0.071
W15	30/03/2015 11:30	P	26.7	860	8.21	8.33	1045	1210	0.5	12.52	87.9	197	555	599	201	12	0.34	253	0.12	0.199	45	17.4	1.44	<0.00050	0.0008	0.0872	<0.00010	<0.0010	<0.05
W15	31/03/2015 8:40	P			8.21		797		-0.1	13.25	90.1	202.2																	
W15	01/04/2015 9:20	P			8.58		192		0	12.16	83.2	213.5																	
W15	02/04/2015 8:40	P			8.26		1249		-0.1	12.03	81.9	215.1																	
W15	03/04/2015 8:00	P			8.13		1402		-0.1	13.62	94	159.4																	
W15	04/04/2015 7:45	P			8.11		1494		-0.1	15.17	90.9	180.3																	
W15	05/04/2015 7:50	P			8.12		1418		-0.1	16.47	112.7	149.9																	
W15	06/04/2015 8:10	P	18.8	580	8.18	8.12	922	867	-0.1	12.47	85.1	152.8	431	384	153	12	0.27	174	0.081	0.262	26.9		0.533	<0.00050	0.00064	0.0852	<0.00010	<0.0010	<0.05
W15	19/04/2015 16:40	P	36.2	478	7.66	8.1	362.6	697	0.2	11.35	78.1	158.8	375	350	199	4.4	0.24	108	0.095	0.41	15.3		1.23	<0.00050	0.00054	0.109	<0.00010	<0.0010	<0.05
W15	20/04/2015 17:30	P	4.9	326	7.64	8.16	231.3	508	0.8	11.89	83.1	117.5	206	250	147	2.8	0.15	66.7	0.077	0.354	8.31		0.162	<0.00050	0.00039	0.0559	<0.00010	<0.0010	<0.05
W15	22/04/2015 7:25	P			7.85		308.6		0	12.68	87.9	184.3	288										0.32	<0.00050	0.00047	0.0894	<0.00010	<0.0010	<0.05
W15	23/04/2015 7:50	P			8.01		317.9		0.1	12.04	82.8	204.1																	
W15	24/04/2015 8:05	P			8.09		308.9		0	13	89.2	203.7																	
W15	25/04/2015 8:10	P			7.39		280.5		0	10.81	74.4	66.2																	
W15	26/04/2015 8:00	P			7.86		213.1		0.1	12.55	86.3	169																	
W15	27/04/2015 8:30	P	13.9	262	8.06	8.11	222.4	390	1.3	11.12	79.3	143.5	198	178	123	3.1	0.15	48.8	0.075	0.297	5.8		0.547	<0.00050	0.00039	0.0655	<0.00010	<0.0010	<0.05
W15	28/04/2015 7:50	P			7.99		195.1		0.2	10.74	74.4	154.2																	
W15	29/04/2015 7:50	P			8.11		234.1		0	12.34	84.6	169.2																	
W15	30/04/2015 7:45	P			8		176.6		0	12.31	84.8	189.8																	
W15	01/05/2015 7:50	P			7.87		197.1		2.4	11.17	82.1	181.7																	
W15	02/05/2015 7:30	P			6.73		202.7		0.9	13.81	97.1	-166.2																	
W15	03/05/2015 8:20	P			7.33		158.9		0.4	13.66	94.7	-102.9																	
W15	04/05/2015 8:10	P			7.46		199.1		0	12.83	87.9	212.6																	
W15	05/05/2015 7:50	P			7.81		165.9		0.2	12.9	89.4	245																	
W15	06/05/2015 6:45	P	88	252	7.44	7.95	171.5	307	0.6	11.45	79.9	194.3	169	162	104	2.5	0.14	32.5	0.27	0.113	3.63		1.73	<0.00050	0.0008	0.0863	<0.00010	<0.0010	<0.05
W15	07/05/2015 7:55	P			7.1		232.2		0.2	10.46	72.2	95.7																	
W15	09/05/2015 8:30	P			7.15		182.5		0.9	11.25	79.2	147.3																	
W15	10/05/2015 8:25	P			7.61		140.2		0.5	12.43	86.6	169.6																	
W15	11/05/2015 8:20	P			7.52		139.4		0.6	8.3	55.1	150.4																	
W15	12/05/2015 8:20	P			7.33		230.4		0.1	10.85	74.6	134.8																	
W15	13/05/2015 8:30	P			7.62		225.8		0.8	12.13	85.2	118.6																	
W15	14/05/2015 8:30	P	4.1	232	7.56	8.08	174.4	336	0.4	10.45	72.5	148.4	149	158	117	2.5	0.16	36.8	0.15	0.165	3.22		0.224	<0.00050	0.00054	0.0638	<0.00010	<0.0010	<0.05
W15	15/05/2015 8:10	P			7.79		190.1		1.7	10.74	78.5	156.2																	
W15	16/05/2015 8:10	P			7.51		186.6		0.9	10.54	74.6	165.1																	
W15	17/05/2015 8:05	P			7.63		210.2		1.6	10.19	70.3	163.8																	
W15	18/05/2015 8:05	P			7.56		199		1.9	9.55	89.2	134.5																	
W15	19/05/2015 9:15	P			7.66		243.9		5.8	9.28	74.7	136.5																	
W15	20/05/2015 8:15	P	8.3	276	7.76	8.04	262.9	368	8.3	7.59	64.8	105.9	180	180	134	2.2	0.15	38.8	0.092	0.106	3.28		0.288	<0.00050	0.00056	0.0808	<0.00010	<0.0010	<0.05
W15	21/05/2015 8:00	P			7.76		273.2		10.2	8.05	71.8	106.5																	
W15	22/05/2015 7:30	P			7.89		298.4		11.6	7.6	70	177.3																	
W15	23/05/2015 7:40	P			7.8		347.5		9.9	8.71	77.5	135.6																	
W15	24/05/2015 7:40	P			7.77		366		10.2	9.63	86.3	131																	
W15	25/05/2015 7:40	P			7.64		402.6		6.4	8.58	69.8	149.5																	
W15	26/05/2015 7:30	P			7.9		418.5		10.5	9.44	84.9	140.1																	

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W15	26/08/2014 14:30	0.000025	95.7	<0.0010	0.00112	0.0997	3.34	0.00052	<0.0050	29.1	0.325	<0.000010	0.0036	0.0019	0.091	4.1	0.00106	7.82	<0.000020	16	0.89	30.1	<0.000050	<0.0050	0.0832	0.00219
W15	01/09/2014 11:05	<0.000010	85.7	<0.0010	<0.00050	0.0367	0.806	<0.00020	<0.0050	26.5	0.223	<0.000010	0.0033	0.0013	0.019	3.11	0.00109	4.3	<0.000020	16.3	0.837	31.4	<0.000050	<0.0050	0.019	0.00204
W15	12/09/2014 14:10	0.000018	92.5	<0.0010	0.00088	0.0348	3.15	<0.00020	<0.0050	26.2	0.656	<0.000010	0.003	0.0016	0.063	3.21	0.0011	6.35	<0.000020	15.2	0.81	27	<0.000050	<0.0050	0.0284	0.00203
W15	15/09/2014 15:50	<0.000010	102	<0.0010	<0.00050	0.0242	1.69	<0.00020	<0.0050	28.7	0.357	<0.000010	0.0027	0.0012	0.038	3.22	0.00114	6.42	<0.000020	15.4	0.749	32.8	<0.000050	<0.0050	0.0233	0.00195
W15	24/09/2014 16:35	<0.000010	88	<0.0010	<0.00050	0.023	1.21	<0.00020	<0.0050	25.8	0.189	<0.000010	0.0028	0.0018	0.016	3	0.00115	4.98	<0.000020	14.5	0.726	25.3	<0.000050	<0.0050	0.0133	0.00181
W15	30/09/2014 10:30	<0.000010	69.6	<0.0010	<0.00050	0.0147	0.756	<0.00020	<0.0050	21.8	0.146	<0.000010	0.0024	<0.0010	0.035	2.41	0.00105	4.95	<0.000020	12	0.572	24.9	<0.000050	<0.0050	0.007	0.00144
W15	20/12/2014 16:30	0.000055	224	<0.0010	<0.00050	0.0819	0.126	<0.00020	<0.0050	47.5	0.297	<0.000010	0.0051	<0.0010	<0.01	8.12	0.00884	11.9	<0.000020	20.7	2.31	67.4	<0.000050	<0.0050	<0.0050	0.00537
W15	22/12/2014 13:05	0.000032	160	<0.0010	<0.00050	0.031	0.096	<0.00020	<0.0050	40.3	0.575	<0.000010	0.0035	<0.0010	<0.01	6.28	0.0054	8.48	<0.000020	18.1	1.64	53.3	<0.000050	<0.0050	<0.0050	0.00359
W15	29/12/2014 13:45	0.000039	190	<0.0010	<0.00050	0.0409	0.135	<0.00020	<0.0050	42.9	0.616	<0.000010	0.0041	<0.0010	0.027	6.67	0.00584	9.63	<0.000020	19.3	1.83	57.1	<0.000050	<0.0050	<0.0050	0.00392
W15	07/01/2015 10:40	0.000043	226	<0.0010	<0.00050	0.0422	0.118	<0.00020	<0.0050	52.7	0.978	<0.000010	0.0044	0.0011	0.021	8.34	0.0063	10.7	<0.000020	24	2.16	115	<0.000050	<0.0050	<0.0050	0.00462
W15	13/01/2015 10:00	0.000038	223	<0.0010	<0.00050	0.133	0.681	<0.00020	<0.0050	58.8	0.0497	<0.000010	0.0051	<0.0010	0.067	10.8	0.0102	11.7	0.000044	29.9	2.53	91.8	<0.000050	<0.0050	0.0238	0.00502
W15	20/01/2015 10:30	0.000021	241	<0.0010	<0.00050	0.03	0.169	<0.00020	<0.0050	47.3	0.7	<0.000010	0.0038	<0.0010	0.018	6.71	0.00724	11.3	0.000023	20.3	1.93	63.3	<0.000050	<0.0050	<0.0050	0.00396
W15	27/01/2015 15:35	0.000035	194	<0.0010	<0.00050	0.0308	0.098	<0.00020	<0.0050	40.9	0.209	<0.000010	0.0039	<0.0010	0.013	6.94	0.00675	9.21	<0.000020	18.6	2.08	67.2	<0.000050	<0.0050	<0.0050	0.00382
W15	03/02/2015 12:30	0.000054	195	<0.0010	0.00077	0.0421	0.957	<0.00020	<0.0050	45	0.99	<0.000010	0.0045	0.0012	0.029	7.18	0.00692	9.75	<0.000020	19.5	2.2	64.9	<0.000050	<0.0050	<0.0050	0.00452
W15	10/02/2015 14:05	0.000045	207	<0.0010	0.00058	0.0345	0.486	<0.00020	<0.0050	50.3	1.12	<0.000010	0.004	0.0044	0.021	7.66	0.00592	10.6	<0.000020	20.9	2.02	76.4	<0.000050	<0.0050	<0.0050	0.00417
W15	20/02/2015 10:25	<0.000010	304	<0.0010	<0.00050	0.0445	0.067	<0.00020	0.0079	115	0.0267	<0.000010	0.0269	0.0019	0.048	17	0.0185	18.6	<0.000020	58	5.83	140	<0.000050	<0.0050	<0.0050	0.0121
W15	26/02/2015 13:30	<0.000010	430	<0.0010	<0.00050	0.0587	0.039	<0.00020	0.0108	166	0.0286	<0.000010	0.0374	0.0012	0.043	25.2	0.0256	28.1	0.000035	85.6	7.59	233	<0.000050	<0.0050	<0.0050	0.0159
W15	03/03/2015 11:20	0.000023	903	High DL removed	<0.0010	0.132	0.052	<0.00040	0.028	409	0.0519	<0.000010	0.0891	0.0024	0.089	60.9	0.0681	59.6	<0.000040	217	18	517	<0.00010	<0.01	<0.01	0.0365
W15	12/03/2015 10:00																									
W15	14/03/2015 10:00	0.000052	311	<0.0010	0.00079	0.0696	0.313	<0.00020	0.0056	89.8	1.58	<0.000010	0.0137	0.0016	0.041	14.1	0.0131	15.5	0.000095	45.7	4.01	135	<0.000050	<0.0050	<0.0050	0.00804
W15	25/03/2015 17:45	0.000111	111	0.0051	0.00225	0.342	6.03	0.00246	0.0129	57.4	0.195	<0.000010	0.0491	0.0047	0.199	15.7	0.00973	20.9	0.000096	52	2.58	83.1	0.00005	<0.0050	0.323	0.0051
W15	30/03/2015 11:30	0.000038	127	<0.0010	0.00073	0.129	1.87	0.00089	0.0058	57.9	0.0923	<0.000010	0.0207	0.0013	0.073	9.21	0.0102	9.09	0.000039	33.2	2.44	95.4	<0.000050	<0.0050	0.0649	0.00521
W15	31/03/2015 8:40																									
W15	01/04/2015 9:20																									
W15	02/04/2015 8:40																									
W15	03/04/2015 8:00																									
W15	04/04/2015 7:45																									
W15	05/04/2015 7:50																									
W15	06/04/2015 8:10	0.000034	98.6	0.0024	<0.00050	0.0984	0.837	0.00047	<0.0050	44.9	0.0877	<0.000010	0.0155	0.0019	0.042	7.46	0.00784	6.58	<0.000020	26.2	1.66	64.4	<0.000050	<0.0050	0.0202	0.00354
W15	19/04/2015 16:40	0.000033	95.4	<0.0010	0.00101	0.12	2.44	0.00056	<0.0050	33.3	0.414	<0.000010	0.0062	<0.0010	0.062	5.83	0.00434	7.84	<0.000020	15.8	1.16	35.3	<0.000050	<0.0050	0.0756	0.00286
W15	20/04/2015 17:30	0.000023	54.4	<0.0010	<0.00050	0.0268	0.601	<0.00020	<0.0050	16.9	0.209	<0.000010	0.0025	<0.0010	0.045	3.2	0.00191	4.13	<0.000020	8.52	0.625	19.6	<0.000050	<0.0050	0.0087	0.00147
W15	22/04/2015 7:25	0.000024	76.9	<0.0010	0.00056	0.0576	1.08	<0.00020	<0.0050	23.3	0.41	<0.000010	0.0034	<0.0010	0.053	4.69	0.00231	6.68	<0.000020	10.8	0.849	28.1	<0.000050	<0.0050	0.0157	0.00184
W15	23/04/2015 7:50																									
W15	24/04/2015 8:05																									
W15	25/04/2015 8:10																									
W15	26/04/2015 8:00																									
W15	27/04/2015 8:30	0.00002	54.2	<0.0010	<0.00050	0.0531	1.08	0.00025	<0.0050	15.3	0.225	<0.000010	0.0021	<0.0010	0.052	3.38	0.00156	5.09	<0.000020	7.28	0.599	17.7	<0.000050	<0.0050	0.0499	0.0013
W15	28/04/2015 7:50																									
W15	29/04/2015 7:50																									
W15	30/04/2015 7:45																									
W15	01/05/2015 7:50																									
W15	02/05/2015 7:30																									
W15	03/05/2015 8:20																									
W15	04/05/2015 8:10																									
W15	05/05/2015 7:50																									
W15	06/05/2015 6:45	0.000031	46.9	<0.0010	0.00116	0.121	3.11	0.00067	<0.0050	12.6	0.218	<0.000010	0.0019	0.0014	0.133	2.96	0.00105	8.03	0.000036	5.4	0.474	9	<0.000050	<0.0050	0.138	0.00092
W15	07/05/2015 7:55																									
W15	09/05/2015 8:30																									
W15	10/05/2015 8:25																									
W15	11/05/2015 8:20																									
W15	12/05/2015 8:20																									
W15	13/05/2015 8:30																									
W15	14/05/2015 8:30	0.000057	40.8	<0.0010	0.00051	0.0367	0.55	<0.00020	<0.0050	11.3	0.331	<0.000010	0.002	0.0011	0.062	2.74	0.00094	4.09	<0.000020	6.09	0.38	14.4	<0.000050	<0.0050	0.0209	0.00086
W15	15/05/2015 8:10																									
W15	16/05/2015 8:10																									
W15	17/05/2015 8:05																									
W15	18/05/2015 8:05																									
W15	19/05/2015 9:15																									
W15	20/05/2015 8:15	0.000016	49	<0.0010	0.00053	0.0358	0.684	<0.00020	<0.0050	14	0.333	<0.000010	0.0027	0.0011	0.051	2.9	0.00095	4.05	0.000022	7.36	0.46	14.3	<0.000050	<0.0050	0.017	0.00123
W15	21/05/2015 8:00																									
W15	22/05/2015 7:30																									
W15	23/05/2015 7:40																									
W15	24/05/2015 7:40																									
W15	25/05/2015 7:40																									
W15	26/05/2015 7:30																									

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W15	26/08/2014 14:30	0.0061	0.0111	<0.00050	0.0113	<0.00050	0.00062	0.131	<0.00010	<0.0010	<0.05	<0.000010	93.6	<0.0010	<0.00050	0.0214	0.332	<0.00020	<0.0050	27	0.278	<0.000010	0.0036	0.0012	0.019	3.19
W15	01/09/2014 11:05	<0.0050	<0.0050	<0.00050	0.0147	<0.00050	0.00047	0.123	<0.00010	<0.0010	<0.05	<0.000010	91.4	<0.0010	<0.00050	0.017	0.14	<0.00020	<0.0050	26.9	0.219	<0.000010	0.0038	0.001	0.013	3.42
W15	12/09/2014 14:10	<0.0050	<0.0050	<0.00050	0.079	<0.00050	0.00063	0.127	<0.00010	<0.0010	<0.05	0.000017	95.8	<0.0010	0.0008	0.0356	0.774	<0.00020	<0.0050	26.7	0.689	<0.000010	0.0029	0.0014	0.058	3.23
W15	15/09/2014 15:50	<0.0050	<0.0050	<0.00050	0.0128	<0.00050	0.0006	0.124	<0.00010	<0.0010	<0.05	<0.000010	88.8	<0.0010	<0.00050	0.011	0.328	<0.00020	<0.0050	25.5	0.33	<0.000010	0.0027	0.0012	0.011	2.87
W15	24/09/2014 16:35	<0.0050	<0.0050	<0.00050	0.0111	<0.00050	0.00039	0.106	<0.00010	<0.0010	<0.05	<0.000010	79.1	<0.0010	<0.00050	0.00868	0.331	<0.00020	<0.0050	23.1	0.174	<0.000010	0.0027	<0.0010	<0.01	2.68
W15	30/09/2014 10:30	<0.0050	<0.0050	<0.00050	0.0143	<0.00050	0.00037	0.0909	<0.00010	<0.0010	<0.05	<0.000010	68.1	<0.0010	<0.00050	0.00668	0.235	<0.00020	<0.0050	19.6	0.133	<0.000010	0.0025	0.0011	0.013	2.27
W15	20/12/2014 16:30	<0.0050	<0.0050	<0.00050	0.0051	<0.00050	0.00039	0.26	<0.00010	<0.0010	<0.05	0.000057	214	<0.0010	<0.00050	0.0746	0.0152	<0.00020	<0.0050	48.7	0.293	<0.000010	0.0052	<0.0010	0.014	8.55
W15	22/12/2014 13:05	<0.0050	<0.0050	<0.00050	0.0035	<0.00050	0.00028	0.212	<0.00010	<0.0010	<0.05	0.000012	167	<0.0010	<0.00050	0.0295	0.0196	<0.00020	<0.0050	39.4	0.519	<0.000010	0.0034	<0.0010	<0.01	6.34
W15	29/12/2014 13:45	<0.0050	<0.0050	<0.00050	0.0038	<0.00050	0.00036	0.222	<0.00010	<0.0010	<0.05	0.000032	166	<0.0010	<0.00050	0.0324	0.0175	<0.00020	<0.0050	42.9	0.577	<0.000010	0.0037	<0.0010	<0.01	6.57
W15	07/01/2015 10:40	<0.0050	<0.0050	<0.00050	0.0045	<0.00050	0.00044	0.222	<0.00010	<0.0010	<0.05	0.000032	177	<0.0010	<0.00050	0.031	0.024	<0.00020	<0.0050	46.7	0.743	<0.000010	0.0035	0.001	0.02	6.85
W15	13/01/2015 10:00	<0.0050	0.0396	<0.00050	0.007	<0.00050	0.00049	0.175	<0.00010	<0.0010	<0.05	0.00002	221	<0.0010	<0.00050	0.031	0.0178	<0.00020	<0.0050	56.7	0.0286	<0.000010	0.0055	<0.0010	0.027	10.6
W15	20/01/2015 10:30	<0.0050	0.0064	<0.00050	0.0102	<0.00050	0.0004	0.209	<0.00010	<0.0010	<0.05	0.000038	192	<0.0010	<0.00050	0.0238	0.0344	<0.00020	<0.0050	43	0.637	<0.000010	0.0036	0.001	<0.01	7.26
W15	27/01/2015 15:35	<0.0050	0.0083	<0.00050	0.0035	<0.00050	0.00035	0.19	<0.00010	<0.0010	<0.05	0.000032	190	<0.0010	<0.00050	0.0273	0.0295	<0.00020	<0.0050	41.1	0.206	<0.000010	0.0043	<0.0010	<0.01	6.8
W15	03/02/2015 12:30	<0.0050	0.0061	<0.00050	0.0053	<0.00050	0.00045	0.225	<0.00010	<0.0010	<0.05	0.00006	200	<0.0010	0.0008	0.0332	0.0817	<0.00020	<0.0050	45.4	1	<0.000010	0.0039	0.0028	<0.01	6.78
W15	10/02/2015 14:05	<0.0050	0.0122	<0.00050	0.005	<0.00050	0.00054	0.242	<0.00010	<0.0010	<0.05	0.000041	197	<0.0010	0.00061	0.0281	0.0422	<0.00020	<0.0050	50.7	1.07	<0.000010	0.0041	0.0015	<0.01	7.3
W15	20/02/2015 10:25	<0.0050	<0.0050	<0.00050	0.0073	<0.00050	0.0008	0.145	<0.00010	<0.0010	<0.05	<0.000010	299	<0.0010	<0.00050	0.0338	0.0152	<0.00020	0.0074	102	0.0216	<0.000010	0.0226	0.0019	0.025	14.9
W15	26/02/2015 13:30	<0.0050	0.007	<0.00050	0.0112	<0.00050	0.00138	0.187	<0.00010	<0.0010	0.063	<0.000010	348	<0.0010	<0.00050	0.044	0.0144	<0.00020	0.0097	140	0.024	<0.000010	0.0364	0.0027	0.028	20.3
W15	03/03/2015 11:20	<0.01	<0.01	<0.0010	0.0078	<0.00050	0.0022	0.3	<0.00010	<0.0010	0.125	0.000021	733	<0.0010	0.00068	0.101	0.0126	<0.00020	0.0216	314	0.0378	<0.000010	0.0725	0.0011	0.052	49.2
W15	12/03/2015 10:00																									
W15	14/03/2015 10:00	<0.0050	0.0076	<0.00050	0.0046	<0.00050	0.0007	0.306	<0.00010	<0.0010	<0.05	0.000041	309	<0.0010	0.00071	0.0468	0.0278	<0.00020	0.006	90.5	1.58	<0.000010	0.0134	0.0014	0.018	14.1
W15	25/03/2015 17:45	0.0178	0.0291	0.00276	0.0072	0.00058	0.00119	0.144	<0.00010	<0.0010	0.056	0.00003	99	<0.0010	<0.00050	0.0541	<0.0050	<0.00020	0.0099	53.4	0.0732	<0.000010	0.0525	<0.0010	0.096	13.5
W15	30/03/2015 11:30	0.0051	0.0115	<0.00050	0.0107	<0.00050	0.00046	0.0768	<0.00010	<0.0010	<0.05	0.000023	136	<0.0010	<0.00050	0.0348	0.007	<0.00020	<0.0050	63.1	0.0467	<0.000010	0.0223	<0.0010	0.034	9.43
W15	31/03/2015 8:40																									
W15	01/04/2015 9:20																									
W15	02/04/2015 8:40																									
W15	03/04/2015 8:00																									
W15	04/04/2015 7:45																									
W15	05/04/2015 7:50																									
W15	06/04/2015 8:10	<0.0050	0.0064	<0.00050	0.0032	<0.00050	0.0004	0.0695	<0.00010	<0.0010	<0.05	0.000015	92.6	<0.0010	<0.00050	0.0368	<0.0050	<0.00020	<0.0050	37.1	0.063	<0.000010	0.0142	<0.0010	0.016	6.61
W15	19/04/2015 16:40	0.0053	0.0106	<0.00050	0.0069	<0.00050	0.00029	0.0804	<0.00010	<0.0010	<0.05	0.000015	93.6	<0.0010	<0.00050	0.0253	0.135	<0.00020	<0.0050	28.3	0.313	<0.000010	0.006	<0.0010	0.013	5.31
W15	20/04/2015 17:30	<0.0050	0.0367	<0.00050	0.0131	<0.00050	0.00035	0.0654	<0.00010	<0.0010	<0.05	0.000014	66.1	<0.0010	<0.00050	0.0228	0.409	<0.00020	<0.0050	20.6	0.244	<0.000010	0.0029	<0.0010	0.018	3.91
W15	22/04/2015 7:25	<0.0050	<0.0050	<0.00050																						
W15	23/04/2015 7:50																									
W15	24/04/2015 8:05																									
W15	25/04/2015 8:10																									
W15	26/04/2015 8:00																									
W15	27/04/2015 8:30	<0.0050	0.0056	<0.00050	0.0148	<0.00050	0.00028	0.0557	<0.00010	<0.0010	<0.05	0.000012	48.5	<0.0010	<0.00050	0.0204	0.141	<0.00020	<0.0050	13.8	0.183	<0.000010	0.0019	<0.0010	0.019	3.05
W15	28/04/2015 7:50																									
W15	29/04/2015 7:50																									
W15	30/04/2015 7:45																									
W15	01/05/2015 7:50																									
W15	02/05/2015 7:30																									
W15	03/05/2015 8:20																									
W15	04/05/2015 8:10																									
W15	05/05/2015 7:50																									
W15	06/05/2015 6:45	0.007	0.0125	0.00053	0.0833	<0.00050	0.00045	0.0589	<0.00010	<0.0010	<0.05	0.000013	46.1	<0.0010	<0.00050	0.0304	0.45	<0.00020	<0.0050	11.4	0.139	<0.000010	0.0016	0.001	0.028	2.48
W15	07/05/2015 7:55																									
W15	09/05/2015 8:30																									
W15	10/05/2015 8:25																									
W15	11/05/2015 8:20																									
W15	12/05/2015 8:20																									
W15	13/05/2015 8:30																									
W15	14/05/2015 8:30	<0.0050	<0.0050	<0.00050	0.0776	<0.00050	0.00042	0.0653	<0.00010	<0.0010	<0.05	0.00001	43.5	0.0053	<0.00050	0.0258	0.303	<0.00020	<0.0050	11.9	0.317	<0.000010	0.0022	0.0027	0.038	2.85
W15	15/05/2015 8:10																									
W15	16/05/2015 8:10																									
W15	17/05/2015 8:05																									
W15	18/05/2015 8:05																									
W15	19/05/2015 9:15																									
W15	20/05/2015 8:15	<0.0050	<0.0050	<0.00050	0.0172	<0.00050	0.00046	0.0755	<0.00010	<0.0010	<0.05	0.000011	49.6	<0.0010	<0.00050	0.0198	0.192	<0.00020	<0.0050	13.7	0.301	<0.000010	0.0025	<0.0010	0.017	2.89
W15	21/05/2015 8:00																									
W15	22/05/2015 7:30																									
W15	23/05/2015 7:40																									
W15	24/05/2015 7:40																									
W15	25/05/2015 7:40																									
W15	26/05/2015 7:30																									

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	BOD5	Br	Cation	COD	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-T	N-TKN	P-PO4T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L
W15	26/08/2014 14:30	0.00097	4.31	<0.000020	15.1	0.919	34.8	<0.000050	<0.0050	<0.0050	0.00221	<0.0050	<0.0050	<0.00050	299	<0.50	<0.50	<0.50														
W15	01/09/2014 11:05	0.0011	4.56	<0.000020	15	0.933	36.6	<0.000050	<0.0050	<0.0050	0.0021	<0.0050	<0.0050	<0.00050	302	2.69	<0.50	2.24														
W15	12/09/2014 14:10	0.00101	5.38	<0.000020	15.2	0.807	32.6	<0.000050	<0.0050	<0.0050	0.00191	<0.0050	0.0054	<0.00050	325	<0.50	<0.50	<0.50														
W15	15/09/2014 15:50	0.00134	5.23	<0.000020	14.8	0.742	30	<0.000050	<0.0050	<0.0050	0.00177	<0.0050	<0.0050	<0.00050	302	<0.50	<0.50	<0.50														
W15	24/09/2014 16:35	0.00113	4.88	<0.000020	12.6	0.693	29.3	<0.000050	<0.0050	<0.0050	0.00175	<0.0050	<0.0050	<0.00050	264	<0.50	<0.50	<0.50														
W15	30/09/2014 10:30	0.00106	4.62	<0.000020	11.5	0.567	26.3	<0.000050	<0.0050	<0.0050	0.00142	<0.0050	<0.0050	<0.00050	220	<0.50	<0.50	<0.50														
W15	20/12/2014 16:30	0.00875	11.5	<0.000020	21.1	2.37	81.5	<0.000050	<0.0050	<0.0050	0.00557	<0.0050	<0.0050	<0.00050	498	<0.50	<0.50	<0.50														
W15	22/12/2014 13:05	0.00529	8.45	<0.000020	17.7	1.69	62.5	<0.000050	<0.0050	<0.0050	0.00345	<0.0050	<0.0050	<0.00050	411	<0.50	<0.50	<0.50														
W15	29/12/2014 13:45	0.00558	8.47	<0.000020	19	1.75	59.7	<0.000050	<0.0050	<0.0050	0.00374	<0.0050	<0.0050	<0.00050	435	<0.50	<0.50	<0.50														
W15	07/01/2015 10:40	0.00467	8.83	<0.000020	21.3	1.78	67.3	<0.000050	<0.0050	<0.0050	0.00347	<0.0050	<0.0050	<0.00050	456	<0.50	<0.50	<0.50														
W15	13/01/2015 10:00	0.0103	11.6	<0.000020	26.3	2.75	91.5	<0.000050	<0.0050	<0.0050	0.00529	<0.0050	<0.0050	<0.00050	385	<0.50	<0.50	<0.50														
W15	20/01/2015 10:30	0.00561	9.13	<0.000020	20	1.88	78	<0.000050	<0.0050	<0.0050	0.00345	<0.0050	0.0068	<0.00050	455	<0.50	<0.50	<0.50														
W15	27/01/2015 15:35	0.00691	8.63	<0.000020	19.1	2.24	58.3	<0.000050	<0.0050	<0.0050	0.00401	<0.0050	<0.0050	<0.00050	416	<0.50	<0.50	<0.50														
W15	03/02/2015 12:30	0.00612	9.28	<0.000020	20.7	2.08	69.6	<0.000050	<0.0050	<0.0050	0.00376	<0.0050	0.0065	<0.00050	468	<0.50	<0.50	<0.50														
W15	10/02/2015 14:05	0.00579	9.83	<0.000020	22.1	2.03	75.2	<0.000050	<0.0050	<0.0050	0.00401	<0.0050	0.009	<0.00050	488	<0.50	<0.50	<0.50														
W15	20/02/2015 10:25	0.016	17.5	<0.000020	51.2	5.17	135	<0.000050	<0.0050	<0.0050	0.0104	<0.0050	<0.0050	<0.00050	690	<0.50	<0.50	<0.50														
W15	26/02/2015 13:30	0.023	20.5	<0.000020	73.7	7.8	168	<0.000050	<0.0050	<0.0050	0.016	<0.0050	<0.0050	<0.00050	899	<0.50	<0.50	<0.50														
W15	03/03/2015 11:20	0.0504	46.9	0.000027	169	14.2	405	<0.000050	<0.0050	<0.0050	0.0289	<0.0050	<0.0050	<0.00050	1430	<0.50	<0.50	<0.50														
W15	12/03/2015 10:00																															
W15	14/03/2015 10:00	0.013	14.7	<0.000020	44.5	4.01	135	<0.000050	<0.0050	<0.0050	0.00791	<0.0050	0.0122	<0.00050	692	<0.50	<0.50	<0.50														
W15	25/03/2015 17:45	0.00946	4.86	<0.000020	50.3	2.42	81.1	<0.000050	<0.0050	<0.0050	0.00479	<0.0050	<0.0050	<0.00050	230	<0.50	<0.50	<0.50														
W15	30/03/2015 11:30	0.0113	7.15	<0.000020	34.5	2.64	103	<0.000050	<0.0050	<0.0050	0.00537	<0.0050	<0.0050	<0.00050	238	3.08	<0.50	2.57														
W15	31/03/2015 8:40																															
W15	01/04/2015 9:20																															
W15	02/04/2015 8:40																															
W15	03/04/2015 8:00																															
W15	04/04/2015 7:45																															
W15	05/04/2015 7:50																															
W15	06/04/2015 8:10	0.00666	5.53	<0.000020	23.1	1.45	60.1	<0.000050	<0.0050	<0.0050	0.00297	<0.0050	<0.0050	<0.00050	187	<0.50	<0.50	<0.50														
W15	19/04/2015 16:40	0.0041	5.91	<0.000020	14	1.16	38	<0.000050	<0.0050	<0.0050	0.00266	<0.0050	<0.0050	<0.00050	242	<0.50	<0.50	<0.50														
W15	20/04/2015 17:30	0.00234	4.65	<0.000020	9.54	0.767	25.1	<0.000050	<0.0050	<0.0050	0.00172	<0.0050	<0.0050	<0.00050	180	<0.50	<0.50	<0.50														
W15	22/04/2015 7:25																															
W15	23/04/2015 7:50																															
W15	24/04/2015 8:05																															
W15	25/04/2015 8:10																															
W15	26/04/2015 8:00																															
W15	27/04/2015 8:30	0.00136	3.71	<0.000020	6.66	0.567	17.9	<0.000050	<0.0050	<0.0050	0.00121	<0.0050	<0.0050	<0.00050	150	<0.50	<0.50	<0.50														
W15	28/04/2015 7:50																															
W15	29/04/2015 7:50																															
W15	30/04/2015 7:45																															
W15	01/05/2015 7:50																															
W15	02/05/2015 7:30																															
W15	03/05/2015 8:20																															
W15	04/05/2015 8:10																															
W15	05/05/2015 7:50																															
W15	06/05/2015 6:45	0.00103	4.18	<0.000020	5.49	0.44	10.6	<0.000050	<0.0050	<0.0050	0.00092	<0.0050	<0.0050	<0.00050	127	<0.50	<0.50	<0.50														
W15	07/05/2015 7:55																															
W15	09/05/2015 8:30																															
W15	10/05/2015 8:25																															
W15	11/05/2015 8:20																															
W15	12/05/2015 8:20																															
W15	13/05/2015 8:30																															
W15	14/05/2015 8:30	0.00086	3.76	<0.000020	6.17	0.427	10.8	<0.000050	<0.0050	<0.0050	0.00093	<0.0050	<0.0050	<0.00050	142	<0.50	<0.50	<0.50														
W15	15/05/2015 8:10																															
W15	16/05/2015 8:10																															
W15	17/05/2015 8:05																															
W15	18/05/2015 8:05																															
W15	19/05/2015 9:15																															
W15	20/05/2015 8:15	0.0009	3.6	<0.000020	6.98	0.447	14.6	<0.000050	<0.0050	<0.0050	0.00114	<0.0050	<0.0050	<0.00050	163	<0.50	<0.50	<0.50														
W15	21/05/2015 8:00																															
W15	22/05/2015 7:30																															
W15	23/05/2015 7:40																															
W15	24/05/2015 7:40																															
W15	25/05/2015 7:40																															
W15	26/05/2015 7:30																															

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	P-TDP	P-TRP	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		mg/L	mg/L	Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W15	26/08/2014 14:30					664.5			
W15	01/09/2014 11:05					650.5			
W15	12/09/2014 14:10					652.8			
W15	15/09/2014 15:50					621.1			
W15	24/09/2014 16:35					624.5			
W15	30/09/2014 10:30					684.7			
W15	20/12/2014 16:30					695.7			
W15	22/12/2014 13:05					1161			
W15	29/12/2014 13:45					1344			
W15	07/01/2015 10:40					1216			
W15	13/01/2015 10:00					1533			
W15	20/01/2015 10:30					1459			
W15	27/01/2015 15:35					1249			
W15	03/02/2015 12:30					1403			
W15	10/02/2015 14:05					1395			
W15	20/02/2015 10:25					2223			
W15	26/02/2015 13:30					3284			
W15	03/03/2015 11:20					1477			
W15	12/03/2015 10:00					1888			
W15	14/03/2015 10:00								
W15	25/03/2015 17:45					1057			
W15	30/03/2015 11:30					1980			
W15	31/03/2015 8:40					1528			
W15	01/04/2015 9:20					368.3			
W15	02/04/2015 8:40					2399			
W15	03/04/2015 8:00					2696			
W15	04/04/2015 7:45					2858			
W15	05/04/2015 7:50					2723			
W15	06/04/2015 8:10					1709			
W15	19/04/2015 16:40					684.9			
W15	20/04/2015 17:30					434.7			
W15	22/04/2015 7:25					591.4			
W15	23/04/2015 7:50					606.1			
W15	24/04/2015 8:05					591.4			
W15	25/04/2015 8:10					537.7			
W15	26/04/2015 8:00					407.1			
W15	27/04/2015 8:30					403			
W15	28/04/2015 7:50					370.9			
W15	29/04/2015 7:50					447.6			
W15	30/04/2015 7:45					337.6			
W15	01/05/2015 7:50					347.4			
W15	02/05/2015 7:30					374.2			
W15	03/05/2015 8:20					301.6			
W15	04/05/2015 8:10					381.1			
W15	05/05/2015 7:50					315.4			
W15	06/05/2015 6:45					320.4			
W15	07/05/2015 7:55					424.6			
W15	09/05/2015 8:30					338.2			
W15	10/05/2015 8:25					263.2			
W15	11/05/2015 8:20					250.1			
W15	12/05/2015 8:20					439.1			
W15	13/05/2015 8:30					419.9			
W15	14/05/2015 8:30					329.2			
W15	15/05/2015 8:10					340.1			
W15	16/05/2015 8:10					343.7			
W15	17/05/2015 8:05					390.9			
W15	18/05/2015 8:05					351.2			
W15	19/05/2015 9:15					383.4			
W15	20/05/2015 8:15					301.8			
W15	21/05/2015 8:00					380.9			
W15	22/05/2015 7:30					401.2			
W15	23/05/2015 7:40					488.6			
W15	24/05/2015 7:40					510.1			
W15	25/05/2015 7:40					624			
W15	26/05/2015 7:30					577.9			

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T	B-T
			mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W15	27/05/2015 12:35	P			7.92		454.3		13.8	8.52	82.4	130																	
W15	28/05/2015 11:30	P	10.4	404	7.77	8.24	440	580	12.7	9.62	91	141.9	305	264	203	3.3	0.18	74.8	0.19	0.036	6.13		0.144	<0.00050	0.00056	0.121	<0.00010	<0.0010	<0.05
W15	29/05/2015 7:45	P			7.94		420.6		10.8	9.6	87.1	121.7																	
W15	30/05/2015 7:45	P			8.01		428		11.7	9.3	85.8	279.9																	
W15	31/05/2015 7:45	P			8.07		418.9		11.3	9.52	87.4	186																	
W15	04/06/2015 16:40	P	5.8	292	7.86	8.06	352	504	9.2	11.29	98.4	124.5	278	244	175	2.3	0.16	68.6	0.034	0.0169	2.73		0.125	<0.00050	0.00056	0.0845	<0.00010	<0.0010	<0.05
W15	08/06/2015 14:20	P	17.7	314	8.25	8.32	388.9	490	14	10.97	107.4	104	258	240	167	2.5	0.17	71.6	0.015	0.0173	4.25		0.0929	<0.00050	0.00054	0.0804	<0.00010	<0.0010	<0.05
W15	16/06/2015 16:40	P	3.6	360	8.28	8.24	475	537	18.6	9.8	102.6	117.1	258	268	184	2.8	0.17	75.3	0.026	0.0175	4.6		0.0566	<0.00050	0.00052	0.0825	<0.00010	<0.0010	<0.05
W15	25/06/2015 13:55	P	1.9	392	8.15	8.26	527	595	18.7	7.96	85.4	110.4	315	329	219	3.1	0.18	94.5	0.05	0.0298	3.53		0.0398	<0.00050	0.00055	0.105	<0.00010	<0.0010	<0.05
W15	29/06/2015 13:00	P	2.2	446	7.98	8.32	516	620	15.6	8.78	87.9	171.8	300	340	224	3.6	0.16	88.3	0.07	0.0217	4.32	17.3	0.0396	<0.00050	0.00049	0.101	<0.00010	<0.0010	<0.05
W15	06/07/2015 9:00	M			7.9		439.4		14.3	8.81	86.6	139.7																	
W15	06/07/2015 9:00	P	2.5	380		8.3		563					280	285	202	3.4	0.17	77.1	0.089	0.0156	3.57		0.0428	<0.00050	0.00049	0.0927	<0.00010	<0.0010	<0.05
W15	16/07/2015 15:00	P	1.8	365	8.14	8.22	477	573	13.8	9.07	87.9	133	307	275	221	3.3	0.17	76.6	0.068	0.0214	3		0.0498	<0.00050	0.00055	0.103	<0.00010	<0.0010	<0.05
W15	20/07/2015 10:45	P	2.3	402	8.02	8.23	487.4	602	15.2	7.99	80.2	155.9	296	315	231	3.1	0.18	80	0.083	0.0247	2.86		0.0704	<0.00050	0.00057	0.104	<0.00010	<0.0010	<0.05
W15	30/07/2015 7:50	P	2.5	526	8.14	8.31	513	649	13.9	7.59	74.1	173.7	372	332	250	3.4	0.19	92.2	0.11	0.0279	2.55		0.0408	<0.00050	0.00067	0.126	<0.00010	<0.0010	<0.05
W15	04/08/2015 11:10	P	19.9	916	8.1	8.17	473.2	1420	13.5	9.14	88.2	102.7	272	276	161	31	1.6	344	5.3	3.78	21		2.07	<0.00050	0.0008	0.146	<0.00010	<0.0010	0.278
W15	02/09/2015 16:10	P	1.1	360	7.91	8.12	289.5	465	5.3	11.05	87.7	142	235	219	136	2.2	0.16	75	0.038	0.0078	7.06	23	0.143	<0.00050	0.00046	0.0874	<0.00010	<0.0010	<0.05
W15	05/10/2015 15:40	P	7.5	512	7.48	8.13	452.1	764	3.2	9.73	73.5	204.6	391	375	208	4	0.15	126	0.038	0.0118	15.7	16	0.128	<0.00050	0.0004	0.11	<0.00010	<0.0010	<0.05
W15	09/12/2015 11:10	P	76.7	774	9.76	8.03	626	1160	0.2	9.8	67.8	76.9	575	619	306	12	0.23	180	0.042	0.0271	35	6.73	1.14	<0.00050	0.0005	0.204	<0.00010	<0.0010	<0.05
W15	11/01/2016 15:05	P	5	758	7.54	8.16	627	1170	0.3	10.4	72.1	170.5	669	550	311	15	0.23	175	0.062	0.0217	36.4	6.68	0.0529	<0.00050	0.00032	0.168	<0.00010	<0.0010	<0.05
W15	03/04/2016 8:50	P	<3.0	340	7.82	8.12	303.3	579	0.4	12.07	83.6	153.8		245	155	3.97		84.1	0.0051	0.0192	13.3	5.21	0.299	0.00010	0.00034	0.0790	0.000022	<0.000050	0.018
W15	04/04/2016 17:20	M			7.58		396.2		0.7	12.72	89.1	171.5																	
W15	05/04/2016 9:10	M			7.62		369.6		0	11.79	81	150.6																	
W15	06/04/2016 8:30	M			7.66		409.6		0	13.21	90.5	162.2																	
W15	07/04/2016 8:30	M			8.05		404.3		0.5	16.23	115.3	117																	
W15	08/04/2016 9:45	M			7.37		387.6		0.6	14.75	100.9	134.2																	
W15	09/04/2016 9:20	M			7.5		352.1		0.1	11.07	76.3	70																	
W15	10/04/2016 8:40	M			7.64		323.1		0.2	11.19	76.8	100.5																	
W15	11/04/2016 8:40	M			7.54		334.1		0	10.7	73.4	134.6																	
W15	12/04/2016 9:50	M			7.43		308.8		0	14.02	96	132.2																	
W15	13/04/2016 9:05	M			7.61		328.8		0	14.24	97.8	139.6																	
W15	14/04/2016 9:30	M			7.42		184.5		0.1	12.49	85.7	136.5																	
W15	15/04/2016 8:50	M			7.81		229.8		0.2	13.02	90.7	127.6																	
W15	16/04/2016 9:30	M			7.44		279.8		0.2	13.37	91.9	107.9																	
W15	17/04/2016 9:05	M			7.52		257.3		0.1	13.74	94.2	183.5																	
W15	19/04/2016 9:45	M			7.55		219.7		0.2	11.62	80.1	144.2																	
W15	20/04/2016 8:05	M			7.47		203.8		0.1	12.24	83.9	116.2																	
W15	21/04/2016 9:15	M			7.67		245.7		0.1	12.91	88.8	136.9																	
W15	22/04/2016 9:00	M			7.66		269.8		0.3	12.52	86.8	133.2																	
W15	23/04/2016 8:45	M			7.72		183.4		0.2	11.61	80.1	145.6																	
W15	24/04/2016 8:50	M			7.65		268.7		0.4	12.55	87.2	145.4																	
W15	25/04/2016 8:35	M			7.54		252.1		0.1	13.79	94.8	137.4																	
W15	26/04/2016 8:40	M			7.71		211.1		0.3	11.9	82.1	139.8																	
W15	27/04/2016 7:30	M			7.83		227.5		0.2	12.14	83.8	138.2																	
W15	28/04/2016 9:00	M			7.81		169.8		0.1	13.11	89.9	151.4																	
W15	29/04/2016 9:00	M			7.61		289.3		0.2	12.41	85.7	137.6																	
W15	30/04/2016 8:50	M			7.66		306.7		0.2	11.76	81.2	106.3																	
W15	02/05/2016 9:10	M			7.75		227.6		1.1	11.58	81.9	118.5																	
W15	03/05/2016 8:15	P	9.3	179	9.10	8.12	281	316	0.6					130	78.5	1.12		51.1	0.0430	0.113	5.95	4.62	0.439	<0.00010	0.00024	0.0536	<0.000020	<0.000050	<0.010
W15	04/05/2016 7:55	M			7.67		284.5		0.6	11.71	81.6	123.5																	
W15	05/05/2016 8:40	M			7.64		310.6		0.4	12.04	84.2	146.9																	
W15	06/05/2016 9:15	M			7.64		325.2		0.5	10.32	71.8	146.1																	
W15	07/05/2016 9:30	M			7.84		180.2		0.8	10.4	73.3	132.5																	
W15	08/05/2016 9:10	M			7.72		332.7		0.6	10.69	74.6	155.9																	
W15	09/05/2016 8:50	M			7.7		315.9		0.9	11.33	79.6	157.8																	
W15	10/05/2016 9:05	M			7.71		289.7		0.7	11.15	78.2	150.2																	
W15	11/05/2016 8:55	M			8.4		467		0																				
W15	12/05/2016 9:25	M			8.5		399		0.3																				
W15	13/05/2016 8:50	M			7.63		271.3		1.3	9.55	67.9	129.5																	
W15	14/05/2016 8:10	M			7.6		284.7		1.6	9.14	65.5	131.3																	
W15	15/05/2016 9:00	M			7.52		310.7		2.2	8.51	62	140.1																	
W15	16/05/2016 8:30	M			7.92		312.5		4	0.09	0.7	186.6																	
W15	17/05/2016 8:50	M			7.48		362.9		4	9.21	70.4	176.4																	
W15	18/05/2016 7:10	M			7.35		315		4.1	9.91	76.4	188.4																	
W15	19/05/2016 8:45	M			7.83		262.6		3.4	9.74	72.8	83.8																	

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W15	27/05/2015 12:35																									
W15	28/05/2015 11:30	0.000011	83.1	<0.0010	<0.00050	0.0229	0.794	<0.00020	<0.0050	23.7	0.255	<0.000010	0.0032	0.0014	0.033	3.87	0.00146	4.84	<0.000020	12.8	0.731	27.9	<0.000050	<0.0050	0.0083	0.00229
W15	29/05/2015 7:45																									
W15	30/05/2015 7:45																									
W15	31/05/2015 7:45																									
W15	04/06/2015 16:40	<0.000010	77.7	<0.0010	<0.00050	0.0207	0.71	<0.00020	<0.0050	20.3	0.119	<0.000010	0.0029	0.0012	0.034	2.72	0.00088	4.92	<0.000020	11.7	0.582	24.1	<0.000050	<0.0050	0.0054	0.00167
W15	08/06/2015 14:20	<0.000010	69.9	<0.0010	<0.00050	0.0227	0.467	<0.00020	<0.0050	20.3	0.0578	<0.000010	0.0028	0.0013	0.026	2.76	0.00074	4.07	<0.000020	12.1	0.587	24.9	<0.000050	<0.0050	0.0067	0.0016
W15	16/06/2015 16:40	0.000011	69.7	<0.0010	<0.00050	0.0218	0.263	<0.00020	<0.0050	20.4	0.027	<0.000010	0.0027	0.0011	0.029	2.48	0.00078	2.94	0.000021	12.3	0.614	22.6	<0.000050	<0.0050	<0.0050	0.00174
W15	25/06/2015 13:55	<0.000010	84.4	<0.0010	<0.00050	0.0204	0.3	<0.00020	<0.0050	25.4	0.0301	<0.000010	0.0027	0.0014	<0.01	3.36	0.00074	2.23	<0.000020	13.4	0.711	27.7	<0.000050	<0.0050	<0.0050	0.00198
W15	29/06/2015 13:00	<0.000010	77.8	<0.0010	<0.00050	0.0197	0.383	<0.00020	<0.0050	25.7	0.0884	<0.000010	0.0028	0.0013	0.021	2.77	0.00069	2.9	<0.000020	14.5	0.674	32.5	<0.000050	<0.0050	<0.0050	0.0023
W15	06/07/2015 9:00																									
W15	06/07/2015 9:00	<0.000010	77.1	<0.0010	<0.00050	0.0165	0.44	<0.00020	<0.0050	21.3	0.105	<0.000010	0.0026	0.001	0.023	2.7	0.00063	3.93	<0.000020	12	0.627	27.1	<0.000050	<0.0050	<0.0050	0.00195
W15	16/07/2015 15:00	<0.000010	83.5	<0.0010	<0.00050	0.0216	0.545	<0.00020	<0.0050	23.8	0.11	<0.000010	0.0029	0.0012	0.017	2.48	0.00044	4.3	<0.000020	12.9	0.657	29.3	<0.000050	<0.0050	<0.0050	0.00174
W15	20/07/2015 10:45	<0.000010	79.2	<0.0010	<0.00050	0.0241	0.56	<0.00020	<0.0050	23.8	0.0952	<0.000010	0.0028	<0.0010	0.03	2.97	0.00053	3.87	<0.000020	13.2	0.656	25.6	<0.000050	<0.0050	<0.0050	0.00205
W15	30/07/2015 7:50	<0.000010	99	<0.0010	<0.00050	0.0283	0.509	<0.00020	<0.0050	30.2	0.0945	<0.000010	0.0034	0.0014	0.022	2.67	0.00037	3.49	<0.000020	16.6	0.814	31.8	<0.000050	<0.0050	<0.0050	0.00229
W15	04/08/2015 11:10	0.000133	68.4	0.0017	0.00174	1.18	9.44	0.0122	0.0155	24.6	0.327	0.000033	0.127	0.0035	0.117	50.2	0.0209	6.82	0.000305	145	4.47	126	<0.000050	<0.0050	0.11	0.00189
W15	02/09/2015 16:10	0.000013	63.8	<0.0010	<0.00050	0.0133	0.476	<0.00020	<0.0050	18.5	0.0667	<0.000010	0.0021	<0.0010	0.027	1.92	0.00259	5.47	<0.000020	10.2	0.603	27.2	<0.000050	<0.0050	<0.0050	0.00098
W15	05/10/2015 15:40	0.000012	106	<0.0010	<0.00050	0.0205	0.326	<0.00020	<0.0050	30.6	0.0492	<0.000010	0.0023	<0.0010	0.022	3	0.00468	6.12	<0.000020	14.6	0.839	42.7	<0.000050	<0.0050	0.008	0.00166
W15	09/12/2015 11:10	0.000056	165	<0.0010	0.00091	0.126	2.36	0.00053	<0.0050	39.5	0.195	<0.000010	0.0038	0.001	0.104	6.04	0.008	9.74	0.000036	17.7	1.84	54.5	<0.000050	<0.0050	0.0778	0.00392
W15	11/01/2016 15:05	0.000126	201	<0.0010	<0.00050	0.116	0.196	<0.00020	<0.0050	40.8	0.0942	<0.000010	0.0038	0.002	0.029	6.19	0.00887	9.2	<0.000020	17.7	1.95	69.6	<0.000050	<0.0050	<0.0050	0.00369
W15	03/04/2016 8:50	0.0000495	78.2	0.00033	0.00021	0.0783	0.418	0.000191	0.0026	18.5	0.0499	<0.0000050	0.00635	0.00060	<0.050	3.86	0.00549	4.83	0.000013	10.4	1.25	28.7	<0.000010	<0.00010	0.0151	0.00230
W15	04/04/2016 17:20																									
W15	05/04/2016 9:10																									
W15	06/04/2016 8:30																									
W15	07/04/2016 8:30																									
W15	08/04/2016 9:45																									
W15	09/04/2016 9:20																									
W15	10/04/2016 8:40																									
W15	11/04/2016 8:40																									
W15	12/04/2016 9:50																									
W15	13/04/2016 9:05																									
W15	14/04/2016 9:30																									
W15	15/04/2016 8:50																									
W15	16/04/2016 9:30																									
W15	17/04/2016 9:05																									
W15	19/04/2016 9:45																									
W15	20/04/2016 8:05																									
W15	21/04/2016 9:15																									
W15	22/04/2016 9:00																									
W15	23/04/2016 8:45																									
W15	24/04/2016 8:50																									
W15	25/04/2016 8:35																									
W15	26/04/2016 8:40																									
W15	27/04/2016 7:30																									
W15	28/04/2016 9:00																									
W15	29/04/2016 9:00																									
W15	30/04/2016 8:50																									
W15	02/05/2016 9:10																									
W15	03/05/2016 8:15	0.0000135	41.6	0.00019	0.00029	0.0372	0.669	0.000145	<0.0010	7.23	0.154	<0.0000050	0.00123	<0.00050	<0.050	1.60	0.00182	3.99	0.000017	3.46	0.434	14.6	<0.000010	<0.00010	0.0222	0.000936
W15	04/05/2016 7:55																									
W15	05/05/2016 8:40																									
W15	06/05/2016 9:15																									
W15	07/05/2016 9:30																									
W15	08/05/2016 9:10																									
W15	09/05/2016 8:50																									
W15	10/05/2016 9:05																									
W15	11/05/2016 8:55																									
W15	12/05/2016 9:25																									
W15	13/05/2016 8:50																									
W15	14/05/2016 8:10																									
W15	15/05/2016 9:00																									
W15	16/05/2016 8:30																									
W15	17/05/2016 8:50																									
W15	18/05/2016 7:10																									
W15	19/05/2016 8:45																									

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W15	27/05/2015 12:35																									
W15	28/05/2015 11:30	<0.0050	0.0101	<0.00050	0.0596	<0.00050	0.00047	0.1	<0.00010	<0.0010	<0.05	<0.000010	71.6	<0.0010	<0.00050	0.0141	0.203	<0.00020	<0.0050	20.6	0.213	<0.000010	0.0032	0.0012	0.015	3.25
W15	29/05/2015 7:45																									
W15	30/05/2015 7:45																									
W15	31/05/2015 7:45																									
W15	04/06/2015 16:40	<0.0050	<0.0050	<0.00050	0.0354	<0.00050	0.00045	0.0827	<0.00010	<0.0010	<0.05	<0.000010	67.4	<0.0010	<0.00050	0.0137	0.236	0.00024	<0.0050	18.4	0.0963	<0.000010	0.0029	0.0011	0.019	2.85
W15	08/06/2015 14:20	<0.0050	<0.0050	<0.00050	0.0146	<0.00050	0.00045	0.0767	<0.00010	<0.0010	<0.05	<0.000010	65	<0.0010	<0.00050	0.0158	0.11	<0.00020	<0.0050	18.9	0.0152	<0.000010	0.0026	0.0011	0.015	2.51
W15	16/06/2015 16:40	<0.0050	<0.0050	<0.00050	0.0134	<0.00050	0.0005	0.0868	<0.00010	<0.0010	<0.05	<0.000010	70.8	<0.0010	<0.00050	0.0168	0.074	<0.00020	<0.0050	22.2	0.008	<0.000010	0.003	0.001	0.013	2.84
W15	25/06/2015 13:55	<0.0050	<0.0050	<0.00050	0.0202	<0.00050	0.00054	0.104	<0.00010	<0.0010	<0.05	<0.000010	88.7	<0.0010	<0.00050	0.0196	0.19	<0.00020	<0.0050	26	0.0264	<0.000010	0.0028	0.0011	0.014	3.37
W15	29/06/2015 13:00	<0.0050	<0.0050	<0.00050	0.0239	<0.00050	0.00051	0.109	<0.00010	<0.0010	<0.05	<0.000010	90.3	<0.0010	<0.00050	0.0172	0.238	<0.00020	<0.0050	27.9	0.0876	<0.000010	0.003	0.0011	0.02	3.22
W15	06/07/2015 9:00																									
W15	06/07/2015 9:00	<0.0050	<0.0050	<0.00050	0.018	<0.00050	0.00046	0.0969	<0.00010	<0.0010	<0.05	<0.000010	74.6	<0.0010	<0.00050	0.0168	0.236	<0.00020	<0.0050	24.1	0.105	<0.000010	0.0028	0.0011	0.01	2.54
W15	16/07/2015 15:00	<0.0050	<0.0050	<0.00050	0.0209	<0.00050	0.00045	0.0955	<0.00010	<0.0010	<0.05	<0.000010	72.4	<0.0010	<0.00050	0.0187	0.319	<0.00020	<0.0050	22.8	0.105	<0.000010	0.0026	0.001	0.012	2.27
W15	20/07/2015 10:45	<0.0050	<0.0050	<0.00050	0.0157	<0.00050	0.00056	0.108	<0.00010	<0.0010	<0.05	<0.000010	83.1	<0.0010	<0.00050	0.0192	0.313	<0.00020	<0.0050	26.2	0.0923	<0.000010	0.003	0.0011	<0.01	2.6
W15	30/07/2015 7:50	<0.0050	<0.0050	<0.00050	0.0153	<0.00050	0.0006	0.108	<0.00010	<0.0010	<0.05	<0.000010	90.1	<0.0010	<0.00050	0.0214	0.242	<0.00020	<0.0050	26	0.079	<0.000010	0.0027	0.0011	0.016	2.43
W15	04/08/2015 11:10	0.0069	0.0241	<0.00050	0.0335	<0.00050	0.00036	0.103	<0.00010	<0.0010	0.262	0.000035	68.2	<0.0010	<0.00050	0.0038	0.0173	<0.00020	0.0147	25.7	0.222	<0.000010	0.113	0.0012	<0.01	51.8
W15	02/09/2015 16:10	<0.0050	<0.0050	<0.00050	0.0398	<0.00050	0.00039	0.0794	<0.00010	<0.0010	<0.05	<0.000010	60.8	<0.0010	<0.00050	0.0126	0.449	<0.00020	<0.0050	16.4	0.0662	<0.000010	0.0016	0.0011	0.022	1.79
W15	05/10/2015 15:40	<0.0050	<0.0050	<0.00050	0.0178	<0.00050	0.00038	0.112	<0.00010	<0.0010	<0.05	0.000022	104	<0.0010	<0.00050	0.00891	0.0931	0.0002	<0.0050	27.9	0.0483	<0.000010	0.0022	<0.0010	<0.01	3.19
W15	09/12/2015 11:10	<0.0050	0.0172	<0.00050	0.0076	<0.00050	0.00033	0.188	<0.00010	<0.0010	<0.05	0.000038	180	<0.0010	<0.00050	0.0362	0.0226	<0.00020	<0.0050	41.1	0.122	<0.000010	0.0039	<0.0010	<0.01	5.31
W15	11/01/2016 15:05	<0.0050	0.0078	<0.00050	0.01	<0.00050	0.00033	0.16	<0.00010	<0.0010	<0.05	0.000108	164	<0.0010	<0.00050	0.0853	0.0252	<0.00020	<0.0050	34	0.0772	<0.000010	0.0036	<0.0010	0.01	5.29
W15	03/04/2016 8:50	0.00118	<0.0030	<0.00030	0.0025	<0.00010	0.00018	0.0655	<0.000020	<0.000050	0.014	0.0000369	71.3	<0.00010	<0.00010	0.0455	<0.010	<0.000050	0.0021	16.2	0.0356	<0.0000050	0.00500	<0.00050	<0.050	3.30
W15	04/04/2016 17:20																									
W15	05/04/2016 9:10																									
W15	06/04/2016 8:30																									
W15	07/04/2016 8:30																									
W15	08/04/2016 9:45																									
W15	09/04/2016 9:20																									
W15	10/04/2016 8:40																									
W15	11/04/2016 8:40																									
W15	12/04/2016 9:50																									
W15	13/04/2016 9:05																									
W15	14/04/2016 9:30																									
W15	15/04/2016 8:50																									
W15	16/04/2016 9:30																									
W15	17/04/2016 9:05																									
W15	19/04/2016 9:45																									
W15	20/04/2016 8:05																									
W15	21/04/2016 9:15																									
W15	22/04/2016 9:00																									
W15	23/04/2016 8:45																									
W15	24/04/2016 8:50																									
W15	25/04/2016 8:35																									
W15	26/04/2016 8:40																									
W15	27/04/2016 7:30																									
W15	28/04/2016 9:00																									
W15	29/04/2016 9:00																									
W15	30/04/2016 8:50																									
W15	02/05/2016 9:10																									
W15	03/05/2016 8:15	0.00158	0.0034	<0.00030	0.0042	<0.00010	0.00015	0.0463	<0.000020	<0.000050	<0.010	<0.0000050	41.1	<0.00010	0.00011	0.0136	0.022	<0.000050	<0.0010	6.78	0.126	<0.0000050	0.00104	<0.00050	<0.050	1.40
W15	04/05/2016 7:55																									
W15	05/05/2016 8:40																									
W15	06/05/2016 9:15																									
W15	07/05/2016 9:30																									
W15	08/05/2016 9:10																									
W15	09/05/2016 8:50																									
W15	10/05/2016 9:05																									
W15	11/05/2016 8:55																									
W15	12/05/2016 9:25																									
W15	13/05/2016 8:50																									
W15	14/05/2016 8:10																									
W15	15/05/2016 9:00																									
W15	16/05/2016 8:30																									
W15	17/05/2016 8:50																									
W15	18/05/2016 7:10																									
W15	19/05/2016 8:45																									

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	BOD5	Br	Cation	COD	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-T	N-TKN	P-PO4T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L
W15	27/05/2015 12:35																															
W15	28/05/2015 11:30	0.00124	3.61	<0.000020	11.3	0.655	24.4	<0.000050	<0.0050	<0.0050	0.00209	<0.0050	0.0149	<0.00050	247	<0.50	<0.50	<0.50														
W15	29/05/2015 7:45																															
W15	30/05/2015 7:45																															
W15	31/05/2015 7:45																															
W15	04/06/2015 16:40	0.00086	4.55	<0.000020	10.6	0.592	25.2	<0.000050	<0.0050	<0.0050	0.00158	<0.0050	0.0079	<0.00050	214	<0.50	<0.50	<0.50														
W15	08/06/2015 14:20	0.00079	3.95	<0.000020	11.5	0.569	25.5	<0.000050	<0.0050	<0.0050	0.00154	<0.0050	<0.0050	<0.00050	200	1.66	<0.50	1.38														
W15	16/06/2015 16:40	0.00079	3.21	<0.000020	12.4	0.648	26.3	<0.000050	<0.0050	<0.0050	0.0019	<0.0050	<0.0050	<0.00050	225	<0.50	<0.50	<0.50														
W15	25/06/2015 13:55	0.00078	2.2	<0.000020	13.7	0.751	30.3	<0.000050	<0.0050	<0.0050	0.00207	<0.0050	<0.0050	<0.00050	267	<0.50	<0.50	<0.50														
W15	29/06/2015 13:00	0.00065	3.21	<0.000020	14.6	0.762	35	<0.000050	<0.0050	<0.0050	0.00211	<0.0050	<0.0050	<0.00050	270	1.88	<0.50	1.57														
W15	06/07/2015 9:00																															
W15	06/07/2015 9:00	0.00055	3.51	<0.000020	13	0.625	25.7	<0.000050	<0.0050	<0.0050	0.00178	<0.0050	<0.0050	<0.00050	244	0.94	<0.50	0.78														
W15	16/07/2015 15:00	0.00043	3.42	<0.000020	12.4	0.61	26.7	<0.000050	<0.0050	<0.0050	0.0016	<0.0050	<0.0050	<0.00050	269	<0.50	<0.50	<0.50														
W15	20/07/2015 10:45	0.00037	3.63	<0.000020	14.2	0.752	26.5	<0.000050	<0.0050	<0.0050	0.00184	<0.0050	<0.0050	<0.00050	282	<0.50	<0.50	<0.50														
W15	30/07/2015 7:50	0.00045	3.23	<0.000020	13.8	0.707	29.8	<0.000050	<0.0050	<0.0050	0.00203	<0.0050	<0.0050	<0.00050	301	1.6	<0.50	1.33														
W15	04/08/2015 11:10	0.0206	2.85	<0.000020	153	4.37	125	<0.000050	<0.0050	<0.0050	0.00181	<0.0050	<0.0050	<0.00050	196	<0.50	<0.50	<0.50														
W15	02/09/2015 16:10	0.00252	5.6	<0.000020	9.35	0.509	25.2	<0.000050	<0.0050	<0.0050	0.00072	<0.0050	<0.0050	<0.00050	166	<0.50	<0.50	<0.50														
W15	05/10/2015 15:40	0.00424	6.66	<0.000020	13.8	0.821	46.7	<0.000050	<0.0050	<0.0050	0.00179	<0.0050	<0.0050	<0.00050	254	<0.50	<0.50	<0.50														
W15	09/12/2015 11:10	0.00856	8.47	<0.000020	18	1.95	65.5	<0.000050	<0.0050	<0.0050	0.00383	<0.0050	0.0072	<0.00050	373	<0.50	<0.50	<0.50														
W15	11/01/2016 15:05	0.00686	7.93	<0.000020	14.4	1.62	51.9	<0.000050	<0.0050	<0.0050	0.0033	<0.0050	0.0055	<0.00050	380	<0.50	<0.50	<0.50														
W15	03/04/2016 8:50	0.00464	3.78	<0.000010	8.62	1.08	24.4	<0.000010	<0.00010	<0.00030	0.00192	<0.00050	0.0012	<0.00030	155	<1.0	<1.0		5.92			5.35							-5.1			
W15	04/04/2016 17:20																															
W15	05/04/2016 9:10																															
W15	06/04/2016 8:30																															
W15	07/04/2016 8:30																															
W15	08/04/2016 9:45																															
W15	09/04/2016 9:20																															
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W15	14/04/2016 9:30																															
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W15	16/04/2016 9:30																															
W15	17/04/2016 9:05																															
W15	19/04/2016 9:45																															
W15	20/04/2016 8:05																															
W15	21/04/2016 9:15																															
W15	22/04/2016 9:00																															
W15	23/04/2016 8:45																															
W15	24/04/2016 8:50																															
W15	25/04/2016 8:35																															
W15	26/04/2016 8:40																															
W15	27/04/2016 7:30																															
W15	28/04/2016 9:00																															
W15	29/04/2016 9:00																															
W15	30/04/2016 8:50																															
W15	02/05/2016 9:10																															
W15	03/05/2016 8:15	0.00168	2.67	<0.000010	3.24	0.409	14.2	<0.000010	<0.00010	<0.00030	0.000825	<0.00050	0.0024	<0.00030	78.5	<1.0	<1.0		3.10			2.79							-5.1			
W15	04/05/2016 7:55																															
W15	05/05/2016 8:40																															
W15	06/05/2016 9:15																															
W15	07/05/2016 9:30																															
W15	08/05/2016 9:10																															
W15	09/05/2016 8:50																															
W15	10/05/2016 9:05																															
W15	11/05/2016 8:55																															
W15	12/05/2016 9:25																															
W15	13/05/2016 8:50																															
W15	14/05/2016 8:10																															
W15	15/05/2016 9:00																															
W15	16/05/2016 8:30																															
W15	17/05/2016 8:50																															
W15	18/05/2016 7:10																															
W15	19/05/2016 8:45																															

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	P-TDP	P-TRP	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		mg/L	mg/L	Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W15	27/05/2015 12:35					580.2			
W15	28/05/2015 11:30					575.8			
W15	29/05/2015 7:45					577			
W15	30/05/2015 7:45					574.5			
W15	31/05/2015 7:45					568.5			
W15	04/06/2015 16:40					503.9			
W15	08/06/2015 14:20					491.9			
W15	16/06/2015 16:40					541.5			
W15	25/06/2015 13:55					598			
W15	29/06/2015 13:00					630			
W15	06/07/2015 9:00					552.5			
W15	06/07/2015 9:00								
W15	16/07/2015 15:00					606.2			
W15	20/07/2015 10:45					601.9			
W15	30/07/2015 7:50					651			
W15	04/08/2015 11:10					606.9			
W15	02/09/2015 16:10					464.5			
W15	05/10/2015 15:40					774.3			
W15	09/12/2015 11:10					1188			
W15	11/01/2016 15:05					1182			
W15	03/04/2016 8:50					573			
W15	04/04/2016 17:20					739.8			
W15	05/04/2016 9:10					706.1			
W15	06/04/2016 8:30					782.5			
W15	07/04/2016 8:30					761.4			
W15	08/04/2016 9:45					727.4			
W15	09/04/2016 9:20					673.2			
W15	10/04/2016 8:40					612.7			
W15	11/04/2016 8:40					638.5			
W15	12/04/2016 9:50					590.4			
W15	13/04/2016 9:05					628.3			
W15	14/04/2016 9:30					349.1			
W15	15/04/2016 8:50					437.5			
W15	16/04/2016 9:30					523.3			
W15	17/04/2016 9:05					491.6			
W15	19/04/2016 9:45					417.4			
W15	20/04/2016 8:05					388.7			
W15	21/04/2016 9:15					468.2			
W15	22/04/2016 9:00					510.2			
W15	23/04/2016 8:45					348.1			
W15	24/04/2016 8:50					507.3			
W15	25/04/2016 8:35					480.7			
W15	26/04/2016 8:40					400.8			
W15	27/04/2016 7:30					432.3			
W15	28/04/2016 9:00					318.2			
W15	29/04/2016 9:00					548.4			
W15	30/04/2016 8:50					582.1			
W15	02/05/2016 9:10					419.2			
W15	03/05/2016 8:15								
W15	04/05/2016 7:55					533.1			
W15	05/05/2016 8:40					584.6			
W15	06/05/2016 9:15					609.1			
W15	07/05/2016 9:30					336.6			
W15	08/05/2016 9:10					622.1			
W15	09/05/2016 8:50					584.9			
W15	10/05/2016 9:05					540.1			
W15	11/05/2016 8:55								
W15	12/05/2016 9:25								
W15	13/05/2016 8:50					495.6			
W15	14/05/2016 8:10					614.8			
W15	15/05/2016 9:00					550.1			
W15	16/05/2016 8:30					522.3			
W15	17/05/2016 8:50					605.4			
W15	18/05/2016 7:10					523.4			
W15	19/05/2016 8:45					429			

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T	B-T
			mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W15	19/05/2016 15:30	P	7.3	263	7.71	7.75	284.7	416	7.2	8.64	72.4	176.1		218	128	1.43		65.3	0.0411	0.0408	7.28	24.5	0.191	<0.00010	0.00058	0.0708	<0.000020	<0.000050	<0.010
W15	20/05/2016 8:45	M			7.55		265.8		5.1	9.35	73.5	98.3																	
W15	21/05/2016 8:40	M			7.59		294.7		5.7	8.28	66.1	114.5																	
W15	22/05/2016 8:30	M			7.67		365.8		9.2	7.89	68.9	127.8																	
W15	23/05/2016 8:25	M			7.7		357.8		6	7.92	63.8	1235.2																	
W15	24/05/2016 9:30	M			7.78		379		8.4	8.75	74.8	144.3																	
W15	25/05/2016 7:55	M			7.62		392.8		8	9.18	77.2	142																	
W15	26/05/2016 8:25	M			7.64		406		6.9	9.26	76.2	150.8																	
W15	27/05/2016 8:45	M			7.57		415.6		7.1	9.21	76.3	104.6																	
W15	28/05/2016 8:25	M			7.67		426.4		7.4	9.62	80.4	115.2																	
W15	29/05/2016 8:10	M			8.8		692		8.1																				
W15	30/05/2016 8:25	M			8.6		744		8.8																				
W15	31/05/2016 10:30	M			7.91		488.6		9.2	11.02	91.86	148.4																	
W15	01/06/2016 8:25	M			8.8		764		10.4																				
W15	02/06/2016 8:20	M			7.98		522		9.5	9.4	83.6	153.6																	
W15	03/06/2016 8:55	M			7.98		580		10.6	9.1	82.1	162.8																	
W15	04/06/2016 8:35	M			7.83		556		8.8	10.87	93.9	142.8																	
W15	05/06/2016 8:55	M			7.77		558		8.2	12.15	103.3	141.2																	
W15	06/06/2016 8:45	M			7.79		559		8.2	10.12	86.1	145																	
W15	07/06/2016 8:20	M			8.02		546		8.8	9.84	85.3	142.3																	
W15	08/06/2016 8:25	M			7.76		540		8.3	8.93	84.8	206.2																	
W15	09/06/2016 8:29	M			7.91		562		10.4	9.55	85.9	111.8																	
W15	10/06/2016 8:38	M			7.78		573		10.6	10.28	93	119.3																	
W15	11/06/2016 8:32	M			7.73		604		12.1	11.16	104.5	151.5																	
W15	12/06/2016 8:10	M			7.77		602		11.6	10.01	90.5	136.8																	
W15	13/06/2016 9:00	M			7.95		595		11.3	9.48	86.7	125.2																	
W15	14/06/2016 8:50	M			7.81		608		10.3	11.54	103.7	140.7																	
W15	15/06/2016 8:20	M			7.92		613		11.5	10.19	93.6	147.7																	
W15	16/06/2016 8:50	M			8.06		628		12.9	8.96	85.4	130.4																	
W15	17/06/2016 8:55	M			8.02		635		13.4	8.94	84.8	132.7																	
W15	18/06/2016 9:00	M			7.94		665		14.4	8.02	78.8	138.2																	
W15	19/06/2016 8:40	M			7.92		666		14.5	8.07	79.4	113.9																	
W15	20/06/2016 9:10	M			7.95		675		14.8	8.22	81.5	122.1																	
W15	21/06/2016 8:40	M			7.83		666		13.9	7.69	74.6	124.3																	
W15	22/06/2016 8:10	M			7.78		663		13.1	8.23	78.4	133																	
W15	23/06/2016 8:55	M			7.9		851		13.6																				
W15	24/06/2016 8:45	P	<3.0	571	7.88	8.05	667	854	13.7	8.31	80.3	113.2		458	245	4.8		153	0.0343	0.0350	19.1	11.8	0.0184	<0.00010	0.00042	0.125	<0.000020	<0.000050	0.012
W15	25/06/2016 8:25	M			7.9		690		14.4	7.94	77.7	123.2																	
W15	26/06/2016 8:35	M			7.81		680		13.2	8.97	86.1	114.8																	
W15	27/06/2016 8:40	M			7.87		667		13	8.29	78	115																	
W15	28/06/2016 8:45	M			7.8		702		14.3	8.13	79.8	95.9																	
W15	29/06/2016 7:40	M			7.9		703		14.4	8	78.5	97.3																	
W15	01/07/2016 14:20	P	<3.0	592	7.81	8.09	744	900	15.6	7.49	75.7	82.6		492	262	5.22		154	0.0566	0.0366	18.5		0.0216	<0.00010	0.00039	0.122	<0.000020	<0.000050	0.013
W15	08/07/2016 8:45	M			7.87		703		13.6	6.16	59.4	123.5																	
W15	09/07/2016 8:20	M			7.61		682		13.2	6.98	67.1	112.1																	
W15	10/07/2016 8:50	M			7.61		664		13.1	8.4	80.1	112.5																	
W15	11/07/2016 8:25	M			7.71		656		13.3	5.9	56.5	128.7																	
W15	12/07/2016 8:50	P	<3.0	552	7.81	8.01	680	843	14	6.65	68.3	141.8		456	254	5.65		144	0.0375	0.0375	15.4	12.7	0.0177	0.00010	0.00041	0.121	<0.000020	<0.000050	0.016
W15	13/07/2016 8:54	M			7.86		703		16.5	6.33	64.9	130.9																	
W15	14/07/2016 9:25	M			7.84		695		15.3	6.95	69.7	122																	
W15	15/07/2016 8:15	M			7.82		697		15.6	6.23	62.9	119.5																	
W15	16/07/2016 8:30	M			7.83		696		15.8	6.69	67.9	97.1																	
W15	17/07/2016 8:40	M			7.84		709		15.7	6.89	69.7	101.8																	
W15	18/07/2016 8:15	M			7.89		724		15.4	7.33	74.3	116.4																	
W15	19/07/2016 7:49	M			7.95		689		13.8	6.6	63.9	129.2																	
W15	20/07/2016 8:45	M			7.9		696		13.6	8.55	82.3	101.5																	
W15	21/07/2016 8:45	M			7.8		685		12.8	8.09	77.2	95.2																	
W15	22/07/2016 8:45	M			7.79		677		12.3	9.32	87.3	96.7																	
W15	23/07/2016 8:30	M			7.67		679		11.8	7.95	73.6	111.5																	
W15	24/07/2016 8:40	M			7.75		671		11.8	8.8	81.8	109.2																	
W15	25/07/2016 8:45	M			7.66		568		10.3	7.93	71	118.5																	
W15	26/07/2016 16:15	M			7.61		385.8		10.2	9.05	80.6	83.4																	
W15	27/07/2016 8:45	P			7.64		357.8		9.4	9.8	86.3	104.4																	
W15	28/07/2016 9:15	P			7.61		381.2		10.7	7.32	66.3	96.3																	
W15	29/07/2016 8:08	M			7.69		393.9		11.2	8.27	75.4	96.6																	

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W15	19/05/2016 15:30	0.0000069	57.5	0.00049	0.00040	0.0218	0.527	0.000093	<0.0010	15.0	0.150	0.0000098	0.00197	0.00125	<0.050	2.35	0.00221	4.36	<0.000010	7.62	0.464	20.5	<0.000010	<0.00010	0.00801	0.00119
W15	20/05/2016 8:45																									
W15	21/05/2016 8:40																									
W15	22/05/2016 8:30																									
W15	23/05/2016 8:25																									
W15	24/05/2016 9:30																									
W15	25/05/2016 7:55																									
W15	26/05/2016 8:25																									
W15	27/05/2016 8:45																									
W15	28/05/2016 8:25																									
W15	29/05/2016 8:10																									
W15	30/05/2016 8:25																									
W15	31/05/2016 10:30																									
W15	01/06/2016 8:25																									
W15	02/06/2016 8:20																									
W15	03/06/2016 8:55																									
W15	04/06/2016 8:35																									
W15	05/06/2016 8:55																									
W15	06/06/2016 8:45																									
W15	07/06/2016 8:20																									
W15	08/06/2016 8:25																									
W15	09/06/2016 8:29																									
W15	10/06/2016 8:38																									
W15	11/06/2016 8:32																									
W15	12/06/2016 8:10																									
W15	13/06/2016 9:00																									
W15	14/06/2016 8:50																									
W15	15/06/2016 8:20																									
W15	16/06/2016 8:50																									
W15	17/06/2016 8:55																									
W15	18/06/2016 9:00																									
W15	19/06/2016 8:40																									
W15	20/06/2016 9:10																									
W15	21/06/2016 8:40																									
W15	22/06/2016 8:10																									
W15	23/06/2016 8:55																									
W15	24/06/2016 8:45	<0.0000050	125	0.00024	<0.00010	0.0155	0.063	<0.000050	0.0018	33.3	0.0196	<0.0000050	0.00434	0.00087	<0.050	4.63	0.00484	3.57	<0.000010	15.7	1.34	50.0	<0.000010	<0.00010	0.00092	0.00374
W15	25/06/2016 8:25																									
W15	26/06/2016 8:35																									
W15	27/06/2016 8:40																									
W15	28/06/2016 8:45																									
W15	29/06/2016 7:40																									
W15	01/07/2016 14:20	0.0000079	137	0.00016	<0.00010	0.0165	0.076	<0.000050	0.0018	35.0	0.0306	<0.0000050	0.00411	0.00072	<0.050	4.23	0.00442	3.94	<0.000010	16.0	1.34	53.5	<0.000010	<0.00010	0.00109	0.00372
W15	08/07/2016 8:45																									
W15	09/07/2016 8:20																									
W15	10/07/2016 8:50																									
W15	11/07/2016 8:25																									
W15	12/07/2016 8:50	0.0000059	128	0.00045	0.00011	0.0154	0.075	0.000074	0.0018	32.2	0.0324	<0.0000050	0.00401	0.00091	<0.050	4.06	0.00347	4.61	<0.000010	16.5	1.28	52.8	<0.000010	<0.00010	0.00061	0.00304
W15	13/07/2016 8:54																									
W15	14/07/2016 9:25																									
W15	15/07/2016 8:15																									
W15	16/07/2016 8:30																									
W15	17/07/2016 8:40																									
W15	18/07/2016 8:15																									
W15	19/07/2016 7:49																									
W15	20/07/2016 8:45																									
W15	21/07/2016 8:45																									
W15	22/07/2016 8:45																									
W15	23/07/2016 8:30																									
W15	24/07/2016 8:40																									
W15	25/07/2016 8:45																									
W15	26/07/2016 16:15																									
W15	27/07/2016 8:45																									
W15	28/07/2016 9:15																									
W15	29/07/2016 8:08																									

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W15	19/05/2016 15:30	0.00192	0.0052	<0.00030	0.0383	<0.00010	0.00047	0.0681	<0.000020	<0.000050	<0.010	<0.0000050	61.2	0.00029	0.00033	0.0173	0.238	<0.000050	<0.0010	15.9	0.141	0.0000083	0.00188	0.00110	<0.050	2.44
W15	20/05/2016 8:45																									
W15	21/05/2016 8:40																									
W15	22/05/2016 8:30																									
W15	23/05/2016 8:25																									
W15	24/05/2016 9:30																									
W15	25/05/2016 7:55																									
W15	26/05/2016 8:25																									
W15	27/05/2016 8:45																									
W15	28/05/2016 8:25																									
W15	29/05/2016 8:10																									
W15	30/05/2016 8:25																									
W15	31/05/2016 10:30																									
W15	01/06/2016 8:25																									
W15	02/06/2016 8:20																									
W15	03/06/2016 8:55																									
W15	04/06/2016 8:35																									
W15	05/06/2016 8:55																									
W15	06/06/2016 8:45																									
W15	07/06/2016 8:20																									
W15	08/06/2016 8:25																									
W15	09/06/2016 8:29																									
W15	10/06/2016 8:38																									
W15	11/06/2016 8:32																									
W15	12/06/2016 8:10																									
W15	13/06/2016 9:00																									
W15	14/06/2016 8:50																									
W15	15/06/2016 8:20																									
W15	16/06/2016 8:50																									
W15	17/06/2016 8:55																									
W15	18/06/2016 9:00																									
W15	19/06/2016 8:40																									
W15	20/06/2016 9:10																									
W15	21/06/2016 8:40																									
W15	22/06/2016 8:10																									
W15	23/06/2016 8:55																									
W15	24/06/2016 8:45	0.00068	<0.0030	<0.00030	0.0049	<0.00010	0.00041	0.124	<0.000020	<0.000050	0.012	<0.0000050	128	0.00014	<0.00010	0.0143	0.029	<0.000050	0.0017	33.5	0.0149	<0.0000050	0.00407	0.00082	<0.050	4.52
W15	25/06/2016 8:25																									
W15	26/06/2016 8:35																									
W15	27/06/2016 8:40																									
W15	28/06/2016 8:45																									
W15	29/06/2016 7:40																									
W15	01/07/2016 14:20	0.00067	<0.0030	<0.00030	0.0048	<0.00010	0.00040	0.126	<0.000020	<0.000050	0.011	<0.0000050	138	0.00017	<0.00010	0.0153	0.040	<0.000050	0.0016	35.6	0.0261	<0.0000050	0.00395	0.00076	<0.050	4.24
W15	08/07/2016 8:45																									
W15	09/07/2016 8:20																									
W15	10/07/2016 8:50																									
W15	11/07/2016 8:25																									
W15	12/07/2016 8:50	0.00081	<0.0030	<0.00030	0.0099	<0.00010	0.00038	0.121	<0.000020	<0.000050	0.011	0.0000061	128	0.00015	0.00011	0.0147	0.054	<0.000050	0.0014	33.3	0.0314	<0.0000050	0.00383	0.00089	<0.050	3.97
W15	13/07/2016 8:54																									
W15	14/07/2016 9:25																									
W15	15/07/2016 8:15																									
W15	16/07/2016 8:30																									
W15	17/07/2016 8:40																									
W15	18/07/2016 8:15																									
W15	19/07/2016 7:49																									
W15	20/07/2016 8:45																									
W15	21/07/2016 8:45																									
W15	22/07/2016 8:45																									
W15	23/07/2016 8:30																									
W15	24/07/2016 8:40																									
W15	25/07/2016 8:45																									
W15	26/07/2016 16:15																									
W15	27/07/2016 8:45																									
W15	28/07/2016 9:15																									
W15	29/07/2016 8:08																									

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	BOD5	Br	Cation	COD	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-T	N-TKN	P-PO4T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L
W15	19/05/2016 15:30	0.00238	4.31	<0.000010	7.70	0.475	21.7	<0.000010	<0.00010	0.00128	0.00114	0.00104	0.0053	0.00040	128	<1.0	<1.0		4.47			4.79							3.4			
W15	20/05/2016 8:45																															
W15	21/05/2016 8:40																															
W15	22/05/2016 8:30																															
W15	23/05/2016 8:25																															
W15	24/05/2016 9:30																															
W15	25/05/2016 7:55																															
W15	26/05/2016 8:25																															
W15	27/05/2016 8:45																															
W15	28/05/2016 8:25																															
W15	29/05/2016 8:10																															
W15	30/05/2016 8:25																															
W15	31/05/2016 10:30																															
W15	01/06/2016 8:25																															
W15	02/06/2016 8:20																															
W15	03/06/2016 8:55																															
W15	04/06/2016 8:35																															
W15	05/06/2016 8:55																															
W15	06/06/2016 8:45																															
W15	07/06/2016 8:20																															
W15	08/06/2016 8:25																															
W15	09/06/2016 8:29																															
W15	10/06/2016 8:38																															
W15	11/06/2016 8:32																															
W15	12/06/2016 8:10																															
W15	13/06/2016 9:00																															
W15	14/06/2016 8:50																															
W15	15/06/2016 8:20																															
W15	16/06/2016 8:50																															
W15	17/06/2016 8:55																															
W15	18/06/2016 9:00																															
W15	19/06/2016 8:40																															
W15	20/06/2016 9:10																															
W15	21/06/2016 8:40																															
W15	22/06/2016 8:10																															
W15	23/06/2016 8:55																															
W15	24/06/2016 8:45	0.00481	3.54	<0.000010	15.5	1.30	49.3	<0.000010	<0.00010	0.00035	0.00354	0.00052	0.0014	<0.00030	245	<1.0	<1.0		9.59			9.94							1.8			
W15	25/06/2016 8:25																															
W15	26/06/2016 8:35																															
W15	27/06/2016 8:40																															
W15	28/06/2016 8:45																															
W15	29/06/2016 7:40																															
W15	01/07/2016 14:20	0.00458	3.96	<0.000010	15.6	1.36	53.7	<0.000010	<0.00010	0.00031	0.00361	<0.00050	<0.0010	<0.00030	262	<1.0	<1.0		9.91			10.6							3.5			
W15	08/07/2016 8:45																															
W15	09/07/2016 8:20																															
W15	10/07/2016 8:50																															
W15	11/07/2016 8:25																															
W15	12/07/2016 8:50	0.00347	4.61	<0.000010	16.2	1.26	50.8	<0.000010	<0.00010	0.00052	0.00295	0.00067	<0.0010	<0.00030	254	<1.0	<1.0		9.34			9.92							3.0			
W15	13/07/2016 8:54																															
W15	14/07/2016 9:25																															
W15	15/07/2016 8:15																															
W15	16/07/2016 8:30																															
W15	17/07/2016 8:40																															
W15	18/07/2016 8:15																															
W15	19/07/2016 7:49																															
W15	20/07/2016 8:45																															
W15	21/07/2016 8:45																															
W15	22/07/2016 8:45																															
W15	23/07/2016 8:30																															
W15	24/07/2016 8:40																															
W15	25/07/2016 8:45																															
W15	26/07/2016 16:15																															
W15	27/07/2016 8:45																															
W15	28/07/2016 9:15																															
W15	29/07/2016 8:08																															

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	P-TDP	P-TRP	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		mg/L	mg/L	Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W15	19/05/2016 15:30					430.6			
W15	20/05/2016 8:45					428.9			
W15	21/05/2016 8:40					467.4			
W15	22/05/2016 8:30					523.6			
W15	23/05/2016 8:25					561.4			
W15	24/05/2016 9:30					554.1			
W15	25/05/2016 7:55					582			
W15	26/05/2016 8:25					622.3			
W15	27/05/2016 8:45					631.9			
W15	28/05/2016 8:25					642.4			
W15	29/05/2016 8:10								
W15	30/05/2016 8:25								
W15	31/05/2016 10:30					705.2			
W15	01/06/2016 8:25								
W15	02/06/2016 8:20					741			
W15	03/06/2016 8:55					758			
W15	04/06/2016 8:35					806			
W15	05/06/2016 8:55					822			
W15	06/06/2016 8:45					824			
W15	07/06/2016 8:20					790			
W15	08/06/2016 8:25					793			
W15	09/06/2016 8:29					780			
W15	10/06/2016 8:38					790			
W15	11/06/2016 8:32					801			
W15	12/06/2016 8:10					812			
W15	13/06/2016 9:00					806			
W15	14/06/2016 8:50					847			
W15	15/06/2016 8:20					826			
W15	16/06/2016 8:50					817			
W15	17/06/2016 8:55					817			
W15	18/06/2016 9:00					834			
W15	19/06/2016 8:40					833			
W15	20/06/2016 9:10					830			
W15	21/06/2016 8:40					845			
W15	22/06/2016 8:10					845			
W15	23/06/2016 8:55								
W15	24/06/2016 8:45					851			
W15	25/06/2016 8:25					864			
W15	26/06/2016 8:35					878			
W15	27/06/2016 8:40					866			
W15	28/06/2016 8:45					882			
W15	29/06/2016 7:40					882			
W15	01/07/2016 14:20					906			
W15	08/07/2016 8:45					900			
W15	09/07/2016 8:20					881			
W15	10/07/2016 8:50					862			
W15	11/07/2016 8:25					846			
W15	12/07/2016 8:50					867			
W15	13/07/2016 8:54					839			
W15	14/07/2016 9:25					852			
W15	15/07/2016 8:15					851			
W15	16/07/2016 8:30					845			
W15	17/07/2016 8:40					862			
W15	18/07/2016 8:15					886			
W15	19/07/2016 7:49					875			
W15	20/07/2016 8:45					890			
W15	21/07/2016 8:45					892			
W15	22/07/2016 8:45					894			
W15	23/07/2016 8:30					908			
W15	24/07/2016 8:40					896			
W15	25/07/2016 8:45					790			
W15	26/07/2016 16:15					538.2			
W15	27/07/2016 8:45					461.7			
W15	28/07/2016 9:15					525.1			
W15	29/07/2016 8:08					535.2			

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T	B-T
			mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W15	30/07/2016 9:08	M			7.75		414.8		11.5	8.05	74.4	81																	
W15	31/07/2016 8:55	M			7.65		439.5		10.8	7.73	70	94.2																	
W15	01/08/2016 8:38	P	<3.0		7.66	7.94	477.9	621	10.8	7.74	70	78		331	200	3.51	0.232	96.9	0.0218	0.0188	8.81	18.8	0.0253	0.00012	0.00039	0.0887	<0.000020	<0.000050	<0.010
W15	02/08/2016 8:10	M			7.54		509		11.5	7.65	70.5	108.7																	
W15	03/08/2016 8:45	M			7.59		539		10.7	9.04	81.9	117																	
W15	04/08/2016 9:00	M			7.6		562		10.4	8.84	79.6	111.3																	
W15	05/08/2016 8:40	M			7.8		584		11.4	7.42	68.2	145																	
W15	06/08/2016 8:40	M			7.81		594		11	8.46	77.2	147.1																	
W15	07/08/2016 8:40	P	<3.0	522	7.8	8.21	591	778	10.9	6.58	59.7	136.5		431	249	5.62		132	0.0220	0.0277	14.2	14.2	0.117	0.00011	0.00048	0.129	<0.000020	<0.000050	0.012
W15	08/08/2016 8:40	M			7.55		644		13.6	8.01	77.9	127.6																	
W15	09/08/2016 8:20	M			7.73		627		12.9	7.64	72.5	165.6																	
W15	10/08/2016 8:42	P	<3.0	498	7.7	8.23	577	756	10.4	8.12	72.7	176.2		411	246	4.96		124	0.0265	0.0269	13.3	14.8	0.0223	<0.00010	0.00040	0.121	<0.000020	<0.000050	0.011
W15	11/08/2016 9:30	M			7.65		554		10.2	7.62	68.1	137.8																	
W15	12/08/2016 9:25	M			7.68		559		10.4	10.21	91.5	117.6																	
W15	13/08/2016 9:35	M			7.68		569		10.4	8.85	79.3	125.2																	
W15	14/08/2016 9:40	M			7.69		581		10.3	9.06	81.1	119.8																	
W15	15/08/2016 10:10	M			7.69		583		10.3	8.57	76.8	122.9																	
W15	16/08/2016 9:55	M			7.71		585		10.3	9.27	83.3	116.9																	
W15	17/08/2016 9:55	M			7.56		596		10.3	9.04	81.2	105.5																	
W15	18/08/2016 9:45	M			7.68		605		10	9.01	80	124.5																	
W15	19/08/2016 9:40	M			7.72		585		9	10.26	89	116.2																	
W15	20/08/2016 9:55	M			7.64		594		9	9.05	78.5	124.3																	
W15	21/08/2016 9:50	M			7.69		604		9.2	10.54	92	121																	
W15	22/08/2016 9:00	M			7.85		619		9.8	8.32	73.9	133.7																	
W15	23/08/2016 10:05	M			7.65		625		10	9.74	86.5	132.8																	
W15	24/08/2016 8:19	M			7.66		614		9.1	8.41	73.2	151.3																	
W15	25/08/2016 9:20	M			7.55		634		9.2	11.4	100.4	140.3																	
W15	26/08/2016 9:15	M			7.57		605		9.3	9.35	82.1	140.5																	
W15	27/08/2016 8:40	M			7.61		587		8.5	11.88	102.1	139.2																	
W15	28/08/2016 8:00	M			7.67		569		9.7	9.37	82.6	142.7																	
W15	29/08/2016 8:55	M			7.5		532		8.6	11.75	100.9	164.8																	
W15	30/08/2016 9:00	M			7.51		519		7.6	9.89	83.2	143.3																	
W15	31/08/2016 8:25	M			7.39		533		8	10.96	93.1	159.8																	
W15	01/09/2016 8:45	M			7.7		535		8.3	9.59	81.9	146																	
W15	02/09/2016 8:45	M			7.57		524		8	11.49	97.1	153.5																	
W15	03/09/2016 8:20	M			7.56		516		7.5	9.12	76.3	134.1																	
W15	04/09/2016 9:05	M			7.64		508		6.9	9.61	79.3	144.9																	
W15	05/09/2016 8:25	M			7.66		571		7.1	9.84	81.5	134.4																	
W15	06/09/2016 8:20	M			7.3		621		6.3	10.46	82.6	168.5																	
W15	07/09/2016 7:58	M			7.56		512		7.1	9.89	81.9	132.5																	
W15	08/09/2016 7:52	M			7.76		480.9		6.7	9.38	77	137.4																	
W15	09/09/2016 8:30	P	<3.0	494	7.81	8.13	467.6	742	6.1	9.85	79.5	166.9		396	223	4.06		138	0.0082	0.0093	13.8	15.0	0.0198	<0.00010	0.00034	0.101	<0.000020	<0.000050	<0.010
W15	10/09/2016 8:43	M			7.67		440.9		4.6	8.08	62.7	156.9																	
W15	11/09/2016 8:59	M			7.67		455.9		4.4	10.21	79	164.5																	
W15	12/09/2016 8:51	M			7.77		469.9		5.8	9.89	79.2	149.9																	
W15	13/09/2016 8:45	M			7.79		472.5		5.9	9.9	79.6	125.6																	
W15	14/09/2016 8:39	M			7.73		463.2		4.9	11.47	89.7	146.5																	
W15	15/09/2016 8:50	M			7.6		481.3		4.9	10.48	82.2	205.2																	
W15	16/09/2016 10:00	M			7.72		498.8		6.3	10.06	82	141.3																	
W15	17/09/2016 8:35	M			7.76		486.5		6	9.82	79.2	143.5																	
W15	18/09/2016 8:30	M			7.49		503		6.4	10.86	88.6	166.5																	
W15	19/09/2016 8:40	M			7.44		487.8		5.5	8.91	70.8	151.8																	
W15	20/09/2016 9:00	M			7.73		464.9		5	10.45	82.3	149.3																	
W15	21/09/2016 8:00	M			7.67		435.9		3.5	11.98	91	139.4																	
W15	22/09/2016 8:30	M			7.38		499.4		4.1	10.07	77.8	187																	
W15	23/09/2016 9:30	M			7.55		500		4.4	9.68	74.8	182.5																	
W15	24/09/2016 8:55	M			7.55		491.9		4.3	10.02	77.4	158.7																	
W15	25/09/2016 8:35	M			7.45		486.1		4.1	10.55	82.1	175.4																	
W15	26/09/2016 9:10	M			7.57		501		4.4	10.95	84.8	145.5																	
W15	27/09/2016 8:55	M			7.52		490.2		3.9	11.01	84.1	170.8																	
W15	28/09/2016 8:30	M			7.56		538		3.9	10.32	78.9	143.4																	
W15	29/09/2016 8:40	M			7.49		505		4.1	11.43	87.9	165.8																	
W15	30/09/2016 8:35	M			7.52		555		2.6	12.12	89.8	164.3																	
W15	01/10/2016 8:55	M			7.51		518		3	11.88	88.5	167.7																	
W15	02/10/2016 8:50	M			7.53		559		3.9	11.78	89.8	145.8																	

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W15	30/07/2016 9:08																									
W15	31/07/2016 8:55																									
W15	01/08/2016 8:38	0.0000089	92.6	0.00026	0.00011	0.0177	0.135	<0.000050	0.0010	22.5	0.0276		0.00295	0.00104	<0.050	2.69	0.00212	4.91	<0.000010	11.0	0.860	33.4	<0.000010	<0.00010	0.00107	0.00187
W15	02/08/2016 8:10																									
W15	03/08/2016 8:45																									
W15	04/08/2016 9:00																									
W15	05/08/2016 8:40																									
W15	06/08/2016 8:40																									
W15	07/08/2016 8:40	0.0000156	126	0.00024	0.00015	0.0248	0.224	0.000067	0.0017	30.2	0.0295	<0.0000050	0.00436	0.00095	<0.050	3.97	0.00420	5.51	<0.000010	15.9	1.18	45.2	<0.000010	<0.00010	0.00534	0.00269
W15	08/08/2016 8:40																									
W15	09/08/2016 8:20																									
W15	10/08/2016 8:42	0.0000104	116	0.00021	0.00011	0.0182	0.095	0.000051	0.0015	29.5	0.0289	<0.0000050	0.00330	0.00088	<0.050	3.51	0.00379	4.91	<0.000010	14.9	1.07	42.8	<0.000010	<0.00010	0.00107	0.00243
W15	11/08/2016 9:30																									
W15	12/08/2016 9:25																									
W15	13/08/2016 9:35																									
W15	14/08/2016 9:40																									
W15	15/08/2016 10:10																									
W15	16/08/2016 9:55																									
W15	17/08/2016 9:55																									
W15	18/08/2016 9:45																									
W15	19/08/2016 9:40																									
W15	20/08/2016 9:55																									
W15	21/08/2016 9:50																									
W15	22/08/2016 9:00																									
W15	23/08/2016 10:05																									
W15	24/08/2016 8:19																									
W15	25/08/2016 9:20																									
W15	26/08/2016 9:15																									
W15	27/08/2016 8:40																									
W15	28/08/2016 8:00																									
W15	29/08/2016 8:55																									
W15	30/08/2016 9:00																									
W15	31/08/2016 8:25																									
W15	01/09/2016 8:45																									
W15	02/09/2016 8:45																									
W15	03/09/2016 8:20																									
W15	04/09/2016 9:05																									
W15	05/09/2016 8:25																									
W15	06/09/2016 8:20																									
W15	07/09/2016 7:58																									
W15	08/09/2016 7:52																									
W15	09/09/2016 8:30	<0.0000050	111	0.00022	0.00012	0.00891	0.108	<0.000050	<0.0010	28.9	0.0276	<0.0000050	0.00262	0.00094	<0.050	3.54	0.00378	5.12	<0.000010	14.1	0.950	48.4	<0.000010	<0.00010	0.00102	0.00229
W15	10/09/2016 8:43																									
W15	11/09/2016 8:59																									
W15	12/09/2016 8:51																									
W15	13/09/2016 8:45																									
W15	14/09/2016 8:39																									
W15	15/09/2016 8:50																									
W15	16/09/2016 10:00																									
W15	17/09/2016 8:35																									
W15	18/09/2016 8:30																									
W15	19/09/2016 8:40																									
W15	20/09/2016 9:00																									
W15	21/09/2016 8:00																									
W15	22/09/2016 8:30																									
W15	23/09/2016 9:30																									
W15	24/09/2016 8:55																									
W15	25/09/2016 8:35																									
W15	26/09/2016 9:10																									
W15	27/09/2016 8:55																									
W15	28/09/2016 8:30																									
W15	29/09/2016 8:40																									
W15	30/09/2016 8:35																									
W15	01/10/2016 8:55																									
W15	02/10/2016 8:50																									

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W15	30/07/2016 9:08																									
W15	31/07/2016 8:55																									
W15	01/08/2016 8:38	0.00068	<0.0030	<0.00030	0.0157	0.00010	0.00039	0.0960	<0.000020	<0.000050	<0.010	0.0000108	94.5	0.00020	0.00012	0.0170	0.105	<0.000050	0.0013	23.0	0.0287		0.00306	0.00096	<0.050	2.74
W15	02/08/2016 8:10																									
W15	03/08/2016 8:45																									
W15	04/08/2016 9:00																									
W15	05/08/2016 8:40																									
W15	06/08/2016 8:40																									
W15	07/08/2016 8:40	0.00109	<0.0030	<0.00030	0.0081	<0.00010	0.00040	0.128	<0.000020	<0.000050	0.012	0.0000135	122	0.00016	<0.00010	0.0179	0.052	<0.000050	0.0015	30.7	0.0238	<0.0000050	0.00408	0.00083	<0.050	3.79
W15	08/08/2016 8:40																									
W15	09/08/2016 8:20																									
W15	10/08/2016 8:42	0.00075	0.0030	<0.00030	0.0089	<0.00010	0.00038	0.117	<0.000020	<0.000050	<0.010	0.0000111	115	0.00017	<0.00010	0.0179	0.062	<0.000050	0.0014	29.9	0.0276	<0.0000050	0.00315	0.00077	<0.050	3.57
W15	11/08/2016 9:30																									
W15	12/08/2016 9:25																									
W15	13/08/2016 9:35																									
W15	14/08/2016 9:40																									
W15	15/08/2016 10:10																									
W15	16/08/2016 9:55																									
W15	17/08/2016 9:55																									
W15	18/08/2016 9:45																									
W15	19/08/2016 9:40																									
W15	20/08/2016 9:55																									
W15	21/08/2016 9:50																									
W15	22/08/2016 9:00																									
W15	23/08/2016 10:05																									
W15	24/08/2016 8:19																									
W15	25/08/2016 9:20																									
W15	26/08/2016 9:15																									
W15	27/08/2016 8:40																									
W15	28/08/2016 8:00																									
W15	29/08/2016 8:55																									
W15	30/08/2016 9:00																									
W15	31/08/2016 8:25																									
W15	01/09/2016 8:45																									
W15	02/09/2016 8:45																									
W15	03/09/2016 8:20																									
W15	04/09/2016 9:05																									
W15	05/09/2016 8:25																									
W15	06/09/2016 8:20																									
W15	07/09/2016 7:58																									
W15	08/09/2016 7:52																									
W15	09/09/2016 8:30	0.00052	0.0034	<0.00030	0.0091	<0.00010	0.00034	0.0966	<0.000020	<0.000050	<0.010	<0.0000050	110	0.00017	0.00011	0.00779	0.069	<0.000050	<0.0010	29.4	0.0254	<0.0000050	0.00248	0.00085	<0.050	3.70
W15	10/09/2016 8:43																									
W15	11/09/2016 8:59																									
W15	12/09/2016 8:51																									
W15	13/09/2016 8:45																									
W15	14/09/2016 8:39																									
W15	15/09/2016 8:50																									
W15	16/09/2016 10:00																									
W15	17/09/2016 8:35																									
W15	18/09/2016 8:30																									
W15	19/09/2016 8:40																									
W15	20/09/2016 9:00																									
W15	21/09/2016 8:00																									
W15	22/09/2016 8:30																									
W15	23/09/2016 9:30																									
W15	24/09/2016 8:55																									
W15	25/09/2016 8:35																									
W15	26/09/2016 9:10																									
W15	27/09/2016 8:55																									
W15	28/09/2016 8:30																									
W15	29/09/2016 8:40																									
W15	30/09/2016 8:35																									
W15	01/10/2016 8:55																									
W15	02/10/2016 8:50																									

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	BOD5	Br	Cation	COD	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-T	N-TKN	P-PO4T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L
W15	30/07/2016 9:08																															
W15	31/07/2016 8:55																															
W15	01/08/2016 8:38	0.00229	4.98	<0.000010	12.0	0.857	33.1	<0.000010	<0.00010	0.00059	0.00180	0.00057	<0.0010	<0.00030	200	<1.0	<1.0		6.75	<2.0		7.21	53					19.2	3.3	9.93	1.10	
W15	02/08/2016 8:10																															
W15	03/08/2016 8:45																															
W15	04/08/2016 9:00																															
W15	05/08/2016 8:40																															
W15	06/08/2016 8:40																															
W15	07/08/2016 8:40	0.00413	5.03	<0.000010	15.7	1.19	46.0	<0.000010	<0.00010	0.00048	0.00257	0.00056	0.0022	<0.00030	249	<1.0	<1.0		8.89			9.39							2.7			
W15	08/08/2016 8:40																															
W15	09/08/2016 8:20																															
W15	10/08/2016 8:42	0.00375	4.82	<0.000010	14.0	1.11	42.8	<0.000010	<0.00010	0.00053	0.00241	0.00053	0.0014	<0.00030	246	<1.0	<1.0		8.58			8.92							1.9			
W15	11/08/2016 9:30																															
W15	12/08/2016 9:25																															
W15	13/08/2016 9:35																															
W15	14/08/2016 9:40																															
W15	15/08/2016 10:10																															
W15	16/08/2016 9:55																															
W15	17/08/2016 9:55																															
W15	18/08/2016 9:45																															
W15	19/08/2016 9:40																															
W15	20/08/2016 9:55																															
W15	21/08/2016 9:50																															
W15	22/08/2016 9:00																															
W15	23/08/2016 10:05																															
W15	24/08/2016 8:19																															
W15	25/08/2016 9:20																															
W15	26/08/2016 9:15																															
W15	27/08/2016 8:40																															
W15	28/08/2016 8:00																															
W15	29/08/2016 8:55																															
W15	30/08/2016 9:00																															
W15	31/08/2016 8:25																															
W15	01/09/2016 8:45																															
W15	02/09/2016 8:45																															
W15	03/09/2016 8:20																															
W15	04/09/2016 9:05																															
W15	05/09/2016 8:25																															
W15	06/09/2016 8:20																															
W15	07/09/2016 7:58																															
W15	08/09/2016 7:52																															
W15	09/09/2016 8:30	0.00380	5.04	<0.000010	13.8	0.912	47.1	<0.000010	<0.00010	0.00048	0.00211	<0.00050	0.0010	<0.00030	223	<1.0	<1.0		8.44			8.61							1.0			
W15	10/09/2016 8:43																															
W15	11/09/2016 8:59																															
W15	12/09/2016 8:51																															
W15	13/09/2016 8:45																															
W15	14/09/2016 8:39																															
W15	15/09/2016 8:50																															
W15	16/09/2016 10:00																															
W15	17/09/2016 8:35																															
W15	18/09/2016 8:30																															
W15	19/09/2016 8:40																															
W15	20/09/2016 9:00																															
W15	21/09/2016 8:00																															
W15	22/09/2016 8:30																															
W15	23/09/2016 9:30																															
W15	24/09/2016 8:55																															
W15	25/09/2016 8:35																															
W15	26/09/2016 9:10																															
W15	27/09/2016 8:55																															
W15	28/09/2016 8:30																															
W15	29/09/2016 8:40																															
W15	30/09/2016 8:35																															
W15	01/10/2016 8:55																															
W15	02/10/2016 8:50																															

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	P-TDP	P-TRP	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		mg/L	mg/L	Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W15	30/07/2016 9:08					558.3			
W15	31/07/2016 8:55					603.4			
W15	01/08/2016 8:38					656.1			
W15	02/08/2016 8:10					686			
W15	03/08/2016 8:45					743			
W15	04/08/2016 9:00					780			
W15	05/08/2016 8:40					789			
W15	06/08/2016 8:40					798			
W15	07/08/2016 8:40					808			
W15	08/08/2016 8:40					824			
W15	09/08/2016 8:20					808			
W15	10/08/2016 8:42					801			
W15	11/08/2016 9:30					772			
W15	12/08/2016 9:25					775			
W15	13/08/2016 9:35					789			
W15	14/08/2016 9:40					809			
W15	15/08/2016 10:10					811			
W15	16/08/2016 9:55					813			
W15	17/08/2016 9:55					827			
W15	18/08/2016 9:45					849			
W15	19/08/2016 9:40					846			
W15	20/08/2016 9:55					855			
W15	21/08/2016 9:50					854			
W15	22/08/2016 9:00					872			
W15	23/08/2016 10:05					877			
W15	24/08/2016 8:19					883			
W15	25/08/2016 9:20					905			
W15	26/08/2016 9:15					866			
W15	27/08/2016 8:40					857			
W15	28/08/2016 8:00					804			
W15	29/08/2016 8:55					774			
W15	30/08/2016 9:00					779			
W15	31/08/2016 8:25					789			
W15	01/09/2016 8:45					758			
W15	02/09/2016 8:45					777			
W15	03/09/2016 8:20					775			
W15	04/09/2016 9:05					777			
W15	05/09/2016 8:25					868			
W15	06/09/2016 8:20					961			
W15	07/09/2016 7:58					777			
W15	08/09/2016 7:52					738.5			
W15	09/09/2016 8:30					731.8			
W15	10/09/2016 8:43					723.1			
W15	11/09/2016 8:59					751.1			
W15	12/09/2016 8:51					742.1			
W15	13/09/2016 8:45					743.2			
W15	14/09/2016 8:39					752.6			
W15	15/09/2016 8:50					780.6			
W15	16/09/2016 10:00					775.4			
W15	17/09/2016 8:35					763.8			
W15	18/09/2016 8:30					778			
W15	19/09/2016 8:40					778.4			
W15	20/09/2016 9:00					752			
W15	21/09/2016 8:00					707.1			
W15	22/09/2016 8:30					829.1			
W15	23/09/2016 9:30					825			
W15	24/09/2016 8:55					813.6			
W15	25/09/2016 8:35					807.5			
W15	26/09/2016 9:10					826			
W15	27/09/2016 8:55					821			
W15	28/09/2016 8:30					901			
W15	29/09/2016 8:40					841			
W15	30/09/2016 8:35					968			
W15	01/10/2016 8:55					894			
W15	02/10/2016 8:50					934			

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T	B-T
			mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W15	29/10/2016 16:28	P	86.6	795	7.86	8.28	733	1140	5.8	6.05	48.5	96.3		586	310	11.2		197	0.0350	0.0318	37.9	8.48	0.621	0.00018	0.00042	0.147	0.000024	<0.000050	0.016
W15	18/11/2016 9:00	P	4.6	834	7.63	7.96	650	1200	0	7.31	50.1	108.7		611	311	11.2		218	0.117	0.0764	39.1	8.62	0.0159	<0.00010	0.00030	0.177	<0.000020	<0.000050	0.015
W15	07/12/2016 15:20	P	12.7	845	7.09	8.11	622	1240	-0.1	3.50	24	145.3		611	325	14.8		215	0.174	0.0335	39.3	9.36	0.101	0.00019	0.00052	0.218	<0.000020	<0.000050	0.016
W35	01/05/2009	P			7		44.6		0.4																				
W35	02/05/2009	M	25	80	7	6.77	44.6	36	0.4						11	0.38		0.88					1.21	<0.0002	0.0006	0.039	0.00005	<0.0001	<0.005
W35	17/10/2012 14:35	P	<1.0	174	7.72	7.89	123.4	233	0.2	12.31	84.2	56.4	126	128	120	1.4	0.1	3.6	0.018	0.0212	<0.020		0.0308	<0.00050	0.00041	0.0614	<0.00010	<0.0010	<0.05
W35	23/04/2013 17:15	P			8.4		124.3		1			-337.9																	
W35	26/04/2013 15:00	F																											
W35	02/05/2013 16:30	P	222	102	8.16	8.02	77	138	2.6		85.3	-13.7	89.4	56.7	54.7	1.7	0.17	5.52	0.13	0.109	2.12		10.3	<0.00050	0.0021	0.226	0.00036	<0.0010	<0.05
W35	05/05/2013 10:05	P			7.43		34.8		0		100.1	-37																	
W35	06/05/2013 8:00	P			7.34		61.4		0		104.6	34.7																	
W35	08/05/2013 8:30	P			7.53		49.5		0	12.96	86.7	15.2																	
W35	09/05/2013 9:15	P			7.53		45.2		0.2	13.29	91.2	13.9																	
W35	10/05/2013 9:05	F			7.53		19.8		0.1	13.46	92.5	-20.3																	
W35	14/05/2013 9:45	P			7.87		39.1		0.6	12.08	84.7	40.4																	
W35	15/05/2013 10:10	P			7.9		47.2		0.1	12.07	82.8																		
W35	16/05/2013 10:15	P			7.83		56.1		2.2		77.8	48.5																	
W35	17/05/2013 9:15	P			8.22		51.7		1.2		75.4	50.2																	
W35	18/05/2013 10:30	P			7.78		58.6		4.1	9.79	75.8	60.6																	
W35	19/05/2013 9:05	P			7.9																								
W35	20/05/2013 9:45	P			8.2				1.1																				
W35	21/05/2013 8:45	P			8.4				1.6																				
W35	22/05/2013 10:25	P			8.2				2																				
W35	25/05/2013 11:00	P	3.7	112	8.6	7.8	83.7	139	5.7	10.93	88.2	-26.6	71.9	67.7	64.5	1.5	0.094	<0.50	0.061	0.132	0.513		0.0983	<0.00050	0.00033	0.0523	<0.00010	<0.0010	<0.05
W35	26/05/2013 8:45	P			8.1				7.1																				
W35	27/05/2013 7:45	P			8.2				6.3																				
W35	28/05/2013 11:30	P	<1.0	154		8.03		191					93.7	93.2	83.1	2.1	0.12	1.03	0.077	0.335	1.64		0.05	<0.00050	0.00038	0.063	<0.00010	<0.0010	<0.05
W35	30/05/2013 8:20	P			7.34		107.3		4.9	9.11	71.2	18.4																	
W35	31/05/2013 10:00	P			7.7		143		6.2																				
W35	16/06/2013 15:00	P	1.4	168	8.8	8.07	188	199	19				104	101	101	1.5	0.11	0.66	0.024	0.0239	0.836		0.279	<0.00050	0.0005	0.0726	<0.00010	<0.0010	<0.05
W35	18/06/2013 17:15	P	7.1	194	8.3	8.03	235	229	22.9				127	113	101	1.4	0.11	4.7	0.026	0.0503	2.27		0.117	<0.00050	0.00054	0.0778	<0.00010	<0.0010	<0.05
W35	01/07/2013 15:45	P	<1.0	144	7.90	8.05		195	15.3	9.27	92.6	67.5	111	106	96.9	1.4	0.11	<0.50	0.05	0.0054	0.206		0.0418	<0.00050	0.00048	0.0622	<0.00010	<0.0010	<0.05
W35	06/08/2013 11:20	P	<1.0	180	7.32	8	178.4	250	10.2	7.97	71	98.3	130	119	117	1.7	0.1	<0.50	0.019	<0.050	2.6		0.0526	<0.00050	0.00047	0.0781	<0.00010	<0.0010	<0.05
W35	07/08/2013 17:40	F			8.68		229		17.9	9.92	105.3	74.6																	
W35	06/09/2013 14:30	P	11.1	204	9.90	7.83	289	265	9.6				158	136	128	1.9	0.11	<0.50	0.022	<0.0050	1.07		0.0292	<0.00050	0.00055	0.0794	<0.00010	<0.0010	<0.05
W35	19/10/2013 9:00	P	3.7	192	7.75	8.13	161.3	311	0	10.95	76	142.7	157	155	142	1.8	0.087	7.42	0.016	<0.0050	2.64		0.036	<0.00050	0.00035	0.0961	<0.00010	<0.0010	<0.05
W35	17/04/2014 17:10	P	465	118	8.1	7.57	60.9	119	0.2	13.13	90.1	157	90.8	51.4	35.9	1.5	0.1	<0.50	0.16	0.153	3.95		11.6	<0.00050	0.00226	0.277	0.00041	<0.0010	<0.05
W35	19/04/2014 9:10	P			7.7		50.3		0	13.51	92.4	136.8																	
W35	20/04/2014 9:30	P			7.84		47.7		0	12.91	88.4	144.3																	
W35	21/04/2014 8:50	M			7.77		45.2		0	13.29	91	144.4																	
W35	21/04/2014 8:50	P			8.27		62.5		0.1	13.94	95.7	242.6																	
W35	22/04/2014 8:30	P			7.54		42.3		0	13.03	89.2	206.7																	
W35	22/04/2014 8:30	P	5.7	102		7.58		83.5					42.9	42	33.3	2.2	0.084	<0.50	0.069	0.015	1.15		0.69	<0.00050	0.0005	0.0373	<0.00010	<0.0010	<0.05
W35	23/04/2014 10:10	P			7.96		42.2		0.2	12.89	88.6	150.5																	
W35	24/04/2014 8:00	P			8.01		92.5		0	13.4	91.5	106.3																	
W35	25/04/2014 9:30	P			7.55		83.5		0	13.37	91.5	110.5																	
W35	26/04/2014 8:00	P			7.8		68.9		-0.1	13.24	90.5	127.2																	
W35	27/04/2014 8:15	P			7.8		61.2		-0.1	13.18	90	142.7																	
W35	28/04/2014 9:30	P			7.98		50		0	12.84	87.8	101.5																	
W35	29/04/2014 9:15	P			8.14		79		0	11.83	80.9	146.1																	
W35	30/04/2014 9:00	P			8.12		60.6		0	12.78	87.4	192.1																	
W35	01/05/2014 9:15	P			8.45		65		0	13.19	90.3	177.2																	
W35	02/05/2014 9:15	P			8.13		58.8		0	13.14	89.9	207.1																	
W35	03/05/2014 9:40	P	1.6	124	7.97	7.61	67.8	95.2	0.2	12.95	89.2	113.4	48.5	50.6	42.5	1.8	0.062	<0.50	0.022	<0.0050	0.201	25.7	0.101	<0.00050	0.00029	0.0362	<0.00010	<0.0010	<0.05
W35	04/05/2014 9:00	P			8.06		63.8		0.1	13.28	91	65.7																	
W35	05/05/2014 9:45	P			8.19		64.9		1.7	12.85	92.2	91.3																	
W35	06/05/2014 7:45	P	<1.0	104	8.03	7.68	66	104	0.1	12.47	85.3	113.3	60.1	55.4	46.9	1.2	0.081	<0.50	0.018	0.006	0.445		0.086	<0.00050	0.00042	0.0382	<0.00010	<0.0010	<0.05
W35	07/05/2014 8:45	P			8.53		71.1		0.9	12.22	85.9	113.4																	
W35	08/05/2014 9:15	P			8.29		90.9		1.4	11.46	81.7	108.9																	
W35	09/05/2014 9:50	P	<1.0		8.48	7.97	92.8		3.4	11.38	86.9	99.5	66.6						0.0208	0.007	0.974		0.17	<0.00050	0.00047	0.0458	<0.00010	<0.0010	<0.05
W35	10/05/2014 9:35	P			8.51		112.9		3.1	14.72	109.5	153.2																	
W35	11/05/2014 10:15	P			8.4		104.8		3.9	12.09	96.7	122.3																	
W35	12/05/2014 9:45	P			8.37		155.6		2.5	14.22	104.4	122.2																	
W35	13/05/2014 10:30	P			8.39		122.7		5.9	12.62	101	130																	
W35	14/05/2014 10:50	P			8.49		121.4		3.5	13.11	98.8	148.9																	

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W15	29/10/2016 16:28	0.0000222	172	0.00040	0.00043	0.0501	1.12	0.000237	0.0029	40.9	0.142	<0.0000050	0.00393	0.00071	<0.050	5.86	0.00924	8.25	0.000018	18.8	2.11	69.9	<0.000010	<0.00010	0.0336	0.00385
W15	18/11/2016 9:00	0.0000155	174	0.00012	0.00054	0.0121	0.559	<0.000050	0.0023	42.1	0.827	<0.0000050	0.00357	0.00072	<0.050	5.92	0.00887	7.27	<0.000010	20.4	2.02	77.6	<0.000010	<0.00010	0.00072	0.00347
W15	07/12/2016 15:20	0.0000528	181	0.00018	0.00067	0.0498	0.667	0.000064	0.0030	40.6	0.914	<0.0000050	0.00363	0.00074	<0.050	6.04	0.00554	5.55	0.000014	21.2	1.93	48.7	<0.000010	<0.00010	0.00540	0.00384
W35	01/05/2009																									
W35	02/05/2009	0.00004	6.72	0.0018	0.00077	0.119	1.86	0.0005	<0.001	2.07	0.0909	0.00002	0.00025	<0.001	0.13	2.1	<0.0006	3.17	<0.00001	1.15	0.031	0.5	<0.00001	<0.0001	0.0542	<0.0004
W35	17/10/2012 14:35	<0.000010	34.3	<0.0010	<0.00050	0.0186	0.265	<0.00020	<0.0050	9.73	0.055	<0.000010	<0.0010	0.0015	0.011	0.467	0.00013	6.3	0.000029	5.14	0.18	<3.0	<0.000050	<0.0050	<0.0050	0.00011
W35	23/04/2013 17:15																									
W35	26/04/2013 15:00																									
W35	02/05/2013 16:30	0.000145	22.4	0.0047	0.00518	0.701	16.6	0.00363	0.005	8.11	0.596	<0.000010	0.0048	0.0037	0.215	4.62	0.00074	18.6	0.000211	3.68	0.333	<3.0	0.000083	<0.0050	0.541	0.0009
W35	05/05/2013 10:05																									
W35	06/05/2013 8:00																									
W35	08/05/2013 8:30																									
W35	09/05/2013 9:15																									
W35	10/05/2013 9:05																									
W35	14/05/2013 9:45																									
W35	15/05/2013 10:10																									
W35	16/05/2013 10:15																									
W35	17/05/2013 9:15																									
W35	18/05/2013 10:30																									
W35	19/05/2013 9:05																									
W35	20/05/2013 9:45																									
W35	21/05/2013 8:45																									
W35	22/05/2013 10:25																									
W35	25/05/2013 11:00	<0.000010	20.2	<0.0010	<0.00050	0.0416	0.263	<0.00020	<0.0050	5.21	0.0137	<0.000010	0.0012	0.0014	0.024	1.17	0.00035	3.7	<0.000020	3.12	0.133	<3.0	<0.000050	<0.0050	0.0063	0.00014
W35	26/05/2013 8:45																									
W35	27/05/2013 7:45																									
W35	28/05/2013 11:30	<0.000010	25.9	<0.0010	<0.00050	0.0362	0.145	<0.00020	<0.0050	7.03	0.0237	<0.000010	0.0016	0.0013	0.019	1.48	0.00045	3.61	<0.000020	4.09	0.193	<3.0	<0.000050	<0.0050	<0.0050	0.00027
W35	30/05/2013 8:20																									
W35	31/05/2013 10:00																									
W35	16/06/2013 15:00	<0.000010	29.4	<0.0010	<0.00050	0.0672	0.566	<0.00020	<0.0050	7.34	0.0304	<0.000010	0.0015	0.0018	0.035	1.18	0.00011	4.93	<0.000020	4.63	0.178	<3.0	<0.000050	<0.0050	0.0141	0.00016
W35	18/06/2013 17:15	<0.000010	36.3	<0.0010	<0.00050	0.0612	0.299	<0.00020	<0.0050	8.81	0.0237	<0.000010	0.002	0.0014	0.023	1.6	0.00044	5.33	<0.000020	5.51	0.221	<3.0	<0.000050	<0.0050	0.0075	0.00023
W35	01/07/2013 15:45	<0.000010	32	<0.0010	<0.00050	0.0346	0.213	<0.00020	<0.0050	7.46	0.024	<0.000010	0.0011	0.0022	0.016	0.62	0.00017	5.54	<0.000020	4.47	0.185	<3.0	<0.000050	<0.0050	<0.0050	<0.00010
W35	06/08/2013 11:20	<0.000010	34.9	<0.0010	<0.00050	0.0225	0.43	<0.00020	<0.0050	10.4	0.0662	<0.000010	0.0011	0.0017	0.022	0.597	0.00019	5.55	<0.000020	6.29	0.217	<3.0	<0.000050	<0.0050	<0.0050	0.00011
W35	07/08/2013 17:40																									
W35	06/09/2013 14:30	<0.000010	43.8	<0.0010	<0.00050	0.0251	0.463	<0.00020	<0.0050	11.7	0.0613	<0.000010	0.0013	0.0019	0.015	0.895	0.00012	6.08	<0.000020	6.24	0.228	<3.0	<0.000050	<0.0050	<0.0050	0.00017
W35	19/10/2013 9:00	<0.000010	43.1	<0.0010	<0.00050	0.0225	0.276	<0.00020	<0.0050	12	0.027	<0.000010	<0.0010	0.0013	0.024	1.07	0.00012	6.16	<0.000020	6.05	0.231	<3.0	<0.000050	<0.0050	<0.0050	0.00025
W35	17/04/2014 17:10	0.000189	20.7	0.0053	0.00677	1.07	18.6	0.00492	0.0062	9.49	0.665	<0.000010	0.0015	0.0043	0.534	6.54	0.00044	20.1	0.000237	2.68	0.216	<3.0	0.000151	<0.0050	0.577	0.00058
W35	19/04/2014 9:10																									
W35	20/04/2014 9:30																									
W35	21/04/2014 8:50																									
W35	21/04/2014 8:50																									
W35	22/04/2014 8:30																									
W35	22/04/2014 8:30	0.000032	12.2	<0.0010	<0.00050	0.0704	0.885	0.00039	<0.0050	3.04	0.0351	<0.000010	<0.0010	0.0013	0.112	2.39	0.00017	3.62	0.00002	1.64	0.0805	<3.0	<0.000050	<0.0050	0.0294	<0.00010
W35	23/04/2014 10:10																									
W35	24/04/2014 8:00																									
W35	25/04/2014 9:30																									
W35	26/04/2014 8:00																									
W35	27/04/2014 8:15																									
W35	28/04/2014 9:30																									
W35	29/04/2014 9:15																									
W35	30/04/2014 9:00																									
W35	01/05/2014 9:15																									
W35	02/05/2014 9:15																									
W35	03/05/2014 9:40	0.000016	14.1	<0.0010	<0.00050	0.0284	0.27	<0.00020	<0.0050	3.23	0.0198	<0.000010	<0.0010	0.0015	0.036	1.21	<0.00010	2.77	<0.000020	1.75	0.0707	<3.0	<0.000050	<0.0050	0.0068	<0.00010
W35	04/05/2014 9:00																									
W35	05/05/2014 9:45																									
W35	06/05/2014 7:45	0.000018	17.3	<0.0010	<0.00050	0.0279	0.286	<0.00020	<0.0050	4.1	0.016	<0.000010	<0.0010	0.0018	0.04	1.12	0.00012	3.3	0.000021	2.35	0.0877	<3.0	<0.000050	<0.0050	<0.0050	<0.00010
W35	07/05/2014 8:45																									
W35	08/05/2014 9:15																									
W35	09/05/2014 9:50	<0.000010	18.3	<0.0010	<0.00050	0.044	0.301	<0.00020	<0.0050	5.09	0.0181	<0.000010	<0.0010	0.0023	0.042	1.08	0.00015	3.19	<0.000020	2.93	0.109	<3.0	<0.000050	<0.0050	0.0137	<0.00010
W35	10/05/2014 9:35																									
W35	11/05/2014 10:15																									
W35	12/05/2014 9:45																									
W35	13/05/2014 10:30																									
W35	14/05/2014 10:50																									

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W15	29/10/2016 16:28	0.00233	0.0068	<0.00030	0.0022	<0.00010	0.00024	0.135	<0.000020	<0.000050	0.014	0.0000158	169	<0.00010	0.00012	0.0121	0.016	<0.000050	0.0023	40.1	0.111	<0.0000050	0.00372	<0.00050	<0.050	5.63
W15	18/11/2016 9:00	<0.00050	<0.0030	<0.00030	0.0026	<0.00010	0.00026	0.182	<0.000020	<0.000050	0.014	0.0000165	175	<0.00010	0.00053	0.00930	0.022	<0.000050	0.0022	42.5	0.832	<0.0000050	0.00341	0.00069	<0.050	6.02
W15	07/12/2016 15:20	0.00086	<0.0030	<0.00030	0.0019	<0.00010	0.00032	0.216	<0.000020	<0.000050	0.015	0.0000444	178	<0.00010	0.00062	0.0313	0.015	<0.000050	0.0029	40.6	0.891	<0.0000050	0.00332	0.00064	<0.050	6.07
W35	01/05/2009																									
W35	02/05/2009	0.00402	0.015	0.0003																						
W35	17/10/2012 14:35	<0.0050	<0.0050	<0.00050	0.03	<0.00050	0.00037	0.0636	<0.00010	<0.0010	<0.05	<0.000010	35.2	<0.0010	<0.00050	0.017	0.214	<0.00020	<0.0050	9.86	0.0527	<0.000010	<0.0010	0.0016	0.01	0.49
W35	23/04/2013 17:15																									
W35	26/04/2013 15:00																									
W35	02/05/2013 16:30	0.0329	0.0556	0.00089	0.0244	<0.00050	0.00031	0.0532	<0.00010	<0.0010	<0.05	0.000024	17	<0.0010	<0.00050	0.0191	0.0276	<0.00020	<0.0050	3.48	0.194	<0.000010	0.0044	<0.0010	<0.01	1.88
W35	05/05/2013 10:05																									
W35	06/05/2013 8:00																									
W35	08/05/2013 8:30																									
W35	09/05/2013 9:15																									
W35	10/05/2013 9:05																									
W35	14/05/2013 9:45																									
W35	15/05/2013 10:10																									
W35	16/05/2013 10:15																									
W35	17/05/2013 9:15																									
W35	18/05/2013 10:30																									
W35	19/05/2013 9:05																									
W35	20/05/2013 9:45																									
W35	21/05/2013 8:45																									
W35	22/05/2013 10:25																									
W35	25/05/2013 11:00	<0.0050	<0.0050	<0.00050	0.0229	<0.00050	0.00031	0.0508	<0.00010	<0.0010	<0.05	<0.000010	18.6	<0.0010	<0.00050	0.0322	0.0759	<0.00020	<0.0050	5.15	0.0088	<0.000010	0.0011	0.0012	0.012	1.13
W35	26/05/2013 8:45																									
W35	27/05/2013 7:45																									
W35	28/05/2013 11:30	<0.0050	<0.0050	<0.00050	0.0201	<0.00050	0.00034	0.0664	<0.00010	<0.0010	<0.05	<0.000010	26.6	<0.0010	<0.00050	0.0328	0.0775	<0.00020	<0.0050	6.48	0.0231	<0.000010	0.0015	0.0012	0.01	1.43
W35	30/05/2013 8:20																									
W35	31/05/2013 10:00																									
W35	16/06/2013 15:00	<0.0050	<0.0050	<0.00050	0.0217	<0.00050	0.00042	0.0682	<0.00010	<0.0010	<0.05	<0.000010	28.9	<0.0010	<0.00050	0.0413	0.1	<0.00020	<0.0050	6.91	0.0167	<0.000010	0.0014	0.0013	0.01	1.12
W35	18/06/2013 17:15	<0.0050	<0.0050	<0.00050	0.0182	<0.00050	0.00045	0.0683	<0.00010	<0.0010	<0.05	<0.000010	32.1	<0.0010	<0.00050	0.0454	0.0941	<0.00020	<0.0050	7.93	0.0156	<0.000010	0.0016	0.0012	0.012	1.38
W35	01/07/2013 15:45	<0.0050	<0.0050	<0.00050	0.0272	<0.00050	0.00045	0.0631	<0.00010	<0.0010	<0.05	<0.000010	29.9	<0.0010	<0.00050	0.0307	0.152	<0.00020	<0.0050	7.48	0.021	<0.000010	0.0011	0.0016	<0.01	0.595
W35	06/08/2013 11:20	<0.0050	<0.0050	<0.00050	0.0257	<0.00050	0.00048	0.0736	<0.00010	<0.0010	<0.05	<0.000010	33.6	<0.0010	<0.00050	0.0282	0.247	<0.00020	<0.0050	8.54	0.0485	<0.000010	0.0012	0.0015	0.012	0.71
W35	07/08/2013 17:40																									
W35	06/09/2013 14:30	<0.0050	<0.0050	<0.00050	0.019	<0.00050	0.00047	0.0721	<0.00010	<0.0010	<0.05	<0.000010	37.5	<0.0010	<0.00050	0.021	0.323	<0.00020	<0.0050	10.2	0.0508	<0.000010	0.0012	0.0015	0.012	0.819
W35	19/10/2013 9:00	<0.0050	<0.0050	<0.00050	0.0134	<0.00050	0.00031	0.102	<0.00010	<0.0010	<0.05	<0.000010	42.5	<0.0010	<0.00050	0.0213	0.166	<0.00020	<0.0050	11.8	0.0264	<0.000010	<0.0010	0.0011	<0.01	1.11
W35	17/04/2014 17:10	0.0419	0.0827	0.00105	0.0712	<0.00050	0.0003	0.0346	<0.00010	<0.0010	<0.05	0.000024	14.1	<0.0010	<0.00050	0.0533	0.127	<0.00020	<0.0050	3.92	0.0383	<0.000010	0.0012	<0.0010	0.041	2.76
W35	19/04/2014 9:10																									
W35	20/04/2014 9:30																									
W35	21/04/2014 8:50																									
W35	21/04/2014 8:50																									
W35	22/04/2014 8:30																									
W35	22/04/2014 8:30	<0.0050	0.0164	<0.00050	0.0603	<0.00050	0.00028	0.0305	<0.00010	<0.0010	<0.05	0.000014	12	<0.0010	<0.00050	0.0416	0.112	<0.00020	<0.0050	2.93	0.0193	<0.000010	<0.0010	<0.0010	0.035	2.34
W35	23/04/2014 10:10																									
W35	24/04/2014 8:00																									
W35	25/04/2014 9:30																									
W35	26/04/2014 8:00																									
W35	27/04/2014 8:15																									
W35	28/04/2014 9:30																									
W35	29/04/2014 9:15																									
W35	30/04/2014 9:00																									
W35	01/05/2014 9:15																									
W35	02/05/2014 9:15																									
W35	03/05/2014 9:40	<0.0050	<0.0050	<0.00050	0.0458	<0.00050	0.0003	0.0335	<0.00010	<0.0010	<0.05	<0.000010	14.7	<0.0010	<0.00050	0.0261	0.184	<0.00020	<0.0050	3.37	0.0147	<0.000010	<0.0010	0.0014	0.028	1.24
W35	04/05/2014 9:00																									
W35	05/05/2014 9:45																									
W35	06/05/2014 7:45	<0.0050	0.0052	<0.00050	0.0428	<0.00050	0.00032	0.0336	<0.00010	<0.0010	<0.05	0.000046	15.8	<0.0010	<0.00050	0.0214	0.18	<0.00020	<0.0050	3.9	0.0087	<0.000010	<0.0010	0.0015	0.029	1.07
W35	07/05/2014 8:45																									
W35	08/05/2014 9:15																									
W35	09/05/2014 9:50	<0.0050	0.011	<0.00050																						
W35	10/05/2014 9:35																									
W35	11/05/2014 10:15																									
W35	12/05/2014 9:45																									
W35	13/05/2014 10:30																									
W35	14/05/2014 10:50																									

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	BOD5	Br	Cation	COD	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-T	N-TKN	P-PO4T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L
W15	29/10/2016 16:28	0.00963	6.89	<0.000010	18.3	2.06	66.9	<0.000010	<0.00010	<0.00030	0.00374	<0.00050	0.0016	<0.00030	310	<1.0	<1.0		13.3			12.7							-2.5			
W15	18/11/2016 9:00	0.00916	7.28	<0.000010	20.9	2.04	76.5	<0.000010	<0.00010	<0.00030	0.00330	<0.00050	0.0012	<0.00030	311	<1.0	<1.0		13.9			13.3							-2.0			
W15	07/12/2016 15:20	0.00651	5.38	<0.000010	21.3	1.88	48.5	<0.000010	<0.00010	<0.00030	0.00355	<0.00050	0.0019	<0.00030	325	<1.0	<1.0		14.2			13.3							-3.2			
W35	01/05/2009																															
W35	02/05/2009														10	<6	<5							140								
W35	17/10/2012 14:35	<0.00010	6.84	<0.000020	5.12	0.176	<3.0	<0.000050	<0.0050	<0.0050	0.00011	<0.0050	<0.0050	<0.00050	147	<0.50	<0.50	<0.50														
W35	23/04/2013 17:15																															
W35	26/04/2013 15:00																															
W35	02/05/2013 16:30	0.00029	1.06	<0.000020	2.77	0.268	<3.0	<0.000050	<0.0050	<0.0050	0.00056	<0.0050	<0.0050	<0.00050	66.7	<0.50	<0.50	<0.50														
W35	05/05/2013 10:05																															
W35	06/05/2013 8:00																															
W35	08/05/2013 8:30																															
W35	09/05/2013 9:15																															
W35	10/05/2013 9:05																															
W35	14/05/2013 9:45																															
W35	15/05/2013 10:10																															
W35	16/05/2013 10:15																															
W35	17/05/2013 9:15																															
W35	18/05/2013 10:30																															
W35	19/05/2013 9:05																															
W35	20/05/2013 9:45																															
W35	21/05/2013 8:45																															
W35	22/05/2013 10:25																															
W35	25/05/2013 11:00	0.00026	3.28	<0.000020	3.06	0.13	<3.0	<0.000050	<0.0050	<0.0050	0.00013	<0.0050	<0.0050	<0.00050	78.7	<0.50	<0.50	<0.50														
W35	26/05/2013 8:45																															
W35	27/05/2013 7:45																															
W35	28/05/2013 11:30	0.00046	3.76	<0.000020	3.86	0.193	<3.0	<0.000050	<0.0050	<0.0050	0.00026	<0.0050	<0.0050	<0.00050	101	<0.50	<0.50	<0.50														
W35	30/05/2013 8:20																															
W35	31/05/2013 10:00																															
W35	16/06/2013 15:00	0.00032	4.58	<0.000020	4.27	0.171	<3.0	<0.000050	<0.0050	<0.0050	0.00016	<0.0050	<0.0050	<0.00050	123	<0.50	<0.50	<0.50														
W35	18/06/2013 17:15	0.00048	4.91	<0.000020	4.86	0.192	3.6	<0.000050	<0.0050	<0.0050	0.00021	<0.0050	<0.0050	<0.00050	123	<0.50	<0.50	<0.50														
W35	01/07/2013 15:45	0.00017	5.63	<0.000020	4.4	0.164	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	118	<0.50	<0.50	<0.50														
W35	06/08/2013 11:20	0.00021	5.56	<0.000020	4.62	0.193	<3.0	<0.000050	<0.0050	<0.0050	0.00013	<0.0050	<0.0050	<0.00050	143	<0.50	<0.50	<0.50														
W35	07/08/2013 17:40																															
W35	06/09/2013 14:30	0.00015	5.68	<0.000020	5.5	0.212	<3.0	<0.000050	<0.0050	<0.0050	0.00016	<0.0050	<0.0050	<0.00050	156	<0.50	<0.50	<0.50														
W35	19/10/2013 9:00	0.00013	5.91	<0.000020	6.15	0.226	<3.0	<0.000050	<0.0050	<0.0050	0.0002	<0.0050	<0.0050	<0.00050	173	<0.50	<0.50	<0.50														
W35	17/04/2014 17:10	0.00029	1.83	<0.000020	2.32	0.158	<3.0	<0.000050	<0.0050	0.0071	0.00024	<0.0050	<0.0050	<0.00050	43.8	<0.50	<0.50	<0.50														
W35	19/04/2014 9:10																															
W35	20/04/2014 9:30																															
W35	21/04/2014 8:50																															
W35	21/04/2014 8:50																															
W35	22/04/2014 8:30																															
W35	22/04/2014 8:30	0.00011	2.52	<0.000020	1.52	0.0794	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	40.7	<0.50	<0.50	<0.50														
W35	23/04/2014 10:10																															
W35	24/04/2014 8:00																															
W35	25/04/2014 9:30																															
W35	26/04/2014 8:00																															
W35	27/04/2014 8:15																															
W35	28/04/2014 9:30																															
W35	29/04/2014 9:15																															
W35	30/04/2014 9:00																															
W35	01/05/2014 9:15																															
W35	02/05/2014 9:15																															
W35	03/05/2014 9:40	<0.00010	2.65	<0.000020	1.85	0.0717	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	51.8	<0.50	<0.50	<0.50														
W35	04/05/2014 9:00																															
W35	05/05/2014 9:45																															
W35	06/05/2014 7:45	<0.00010	2.77	<0.000020	2.25	0.0753	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	57.3	<0.50	<0.50	<0.50														
W35	07/05/2014 8:45																															
W35	08/05/2014 9:15																															
W35	09/05/2014 9:50																															
W35	10/05/2014 9:35																															
W35	11/05/2014 10:15																															
W35	12/05/2014 9:45																															
W35	13/05/2014 10:30																															
W35	14/05/2014 10:50																															

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	P-TDP	P-TRP	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		mg/L	mg/L	Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W15	29/10/2016 16:28					1157			
W15	18/11/2016 9:00					1245			
W15	07/12/2016 15:20					1194			
W35	01/05/2009								
W35	02/05/2009							13	
W35	17/10/2012 14:35					234			
W35	23/04/2013 17:15					229.7			
W35	26/04/2013 15:00								
W35	02/05/2013 16:30					134.3			
W35	05/05/2013 10:05					66.4			
W35	06/05/2013 8:00					98.6			
W35	08/05/2013 8:30					94.9			
W35	09/05/2013 9:15					89			
W35	10/05/2013 9:05					40.5			
W35	14/05/2013 9:45					73.4			
W35	15/05/2013 10:10					89.7			
W35	16/05/2013 10:15					96.1			
W35	17/05/2013 9:15					94.6			
W35	18/05/2013 10:30					96.8			
W35	19/05/2013 9:05								
W35	20/05/2013 9:45								
W35	21/05/2013 8:45								
W35	22/05/2013 10:25								
W35	25/05/2013 11:00					132.2			
W35	26/05/2013 8:45								
W35	27/05/2013 7:45								
W35	28/05/2013 11:30								
W35	30/05/2013 8:20					174.5			
W35	31/05/2013 10:00								
W35	16/06/2013 15:00								
W35	18/06/2013 17:15								
W35	01/07/2013 15:45					191			
W35	06/08/2013 11:20					248.7			
W35	07/08/2013 17:40					264.2			
W35	06/09/2013 14:30								
W35	19/10/2013 9:00					308.7			
W35	17/04/2014 17:10					116.5			
W35	19/04/2014 9:10					96.2			
W35	20/04/2014 9:30					91.2			
W35	21/04/2014 8:50					86.5			
W35	21/04/2014 8:50					119.1			
W35	22/04/2014 8:30					80.8			
W35	22/04/2014 8:30								
W35	23/04/2014 10:10					80.1			
W35	24/04/2014 8:00					178.1			
W35	25/04/2014 9:30					160.9			
W35	26/04/2014 8:00					122.8			
W35	27/04/2014 8:15					117.4			
W35	28/04/2014 9:30					95.8			
W35	29/04/2014 9:15					151.3			
W35	30/04/2014 9:00					116.1			
W35	01/05/2014 9:15					124.2			
W35	02/05/2014 9:15					112.7			
W35	03/05/2014 9:40					128.8			
W35	04/05/2014 9:00					121.8			
W35	05/05/2014 9:45					116.8			
W35	06/05/2014 7:45					126.7			
W35	07/05/2014 8:45					131.8			
W35	08/05/2014 9:15					165			
W35	09/05/2014 9:50					155.4			
W35	10/05/2014 9:35					194.8			
W35	11/05/2014 10:15					175.2			
W35	12/05/2014 9:45					272.3			
W35	13/05/2014 10:30					193.1			
W35	14/05/2014 10:50					205.6			

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T	B-T
			mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W35	15/05/2014 9:50	P			8.23		105.5		2.8	12.45	92.1	140.4																	
W35	16/05/2014 10:40	P			7.3		185		6.6																				
W35	17/05/2014 9:45	P			7.41		136.1		5.5	11.74	93.5	117.1																	
W35	18/05/2014 10:00	P			7.56		146.1		6.4	11.23	90.9	1320																	
W35	19/05/2014 10:30	P			7.52		117.6		2.8	12.5	92.3	106.5																	
W35	20/05/2014 10:00	P			7.42		122.1		1.6	13.61	97.3	121.7																	
W35	21/05/2014 8:15	P	1.1	168	7.17	7.99	99.1	196	1.2	12.9	91.3	125.4	102		66	1.8	0.12	1.35	0.082	0.0188	4.16		0.163	<0.00050	0.00041	0.0556	<0.00010	<0.0010	<0.05
W35	22/05/2014 9:10	P			7.43		100.6		2.1	12.36	89.9	121.4																	
W35	23/05/2014 8:55	P			7.57		121.6		1.9	12.17	87.8	131.7																	
W35	24/05/2014 8:50	P	1.4	150	7.47	7.94	113.9	163	3	12.67	94.3	151.5	79.1	80.6	65.1	1.2	0.1	<0.50	0.02	0.0091	2.33		0.0459	<0.00050	0.00037	0.0493	<0.00010	<0.0010	<0.05
W35	25/05/2014 8:55	P			7.51		108.8		3.1	12.74	94.8	138.3																	
W35	26/05/2014 11:00	P			7.84		148.6		5.5	11.65	92.4	139.8																	
W35	27/05/2014 10:10	P			7.36		238.6		5.2	11.89	97.5	145																	
W35	28/05/2014 17:10	P			8.96		174.1		12.1	10.32	95.8	132.4																	
W35	29/05/2014 9:10	P			8.49		133.2		5.6	11.18	88.8	137																	
W35	30/05/2014 8:30	P	1	155	8.28	8.11	127.9	190	6.1	9.74	78.5	126.3	100	92.3	83.2	1.3	0.1	<0.50	0.019	0.0057	1.85		0.136	<0.00050	0.00041	0.0718	<0.00010	<0.0010	<0.05
W35	31/05/2014 9:35	P			8.55		163.3		8	10.18	86.2	134.1																	
W35	06/06/2014 10:30	P	<1.0	189	8.09	8.16	133.6	252	10.1	10.1	89.7	142.1	119	120	99.4	1.6	0.1	5.02	0.018	0.0103	5.17		0.0469	<0.00050	0.00029	0.0973	<0.00010	<0.0010	<0.05
W35	10/10/2014 16:00	P	29.8	202	8.40	8.01	318	286					135	138	120	2	0.085	12.6	0.022	<0.0050	3.43		0.13	<0.00050	0.00035	0.0992	<0.00010	<0.0010	<0.05
W35	26/03/2015 14:30	P	72.8	84	8.4	7.67	83.4	161	0	11.98	82	176.6	70.2	57.1	48.6	8.3		16.4	0.15	0.0509	0.51		2.67	<0.00050	0.00086	0.119	0.00016	<0.0010	<0.05
W35	30/03/2015 14:00	P			8.41		73.2		0.1	12.17	87.9	167.1																	
W35	31/03/2015 10:00	P			8.41		96.6		0	11.62	79.6	176.2																	
W35	01/04/2015 9:05	P			8.16		78.6		0	10.45	71.7	210.5																	
W35	02/04/2015 9:00	P	15.7	102	8.7	7.79	82.3	153	0	10.65	73.1	176.3	63.7	59.2	46.7	11	0.16	9.97	0.084	0.0263	0.45	2.78	0.445	<0.00050	0.00027	0.0674	<0.00010	<0.0010	<0.05
W35	03/04/2015 8:20	P			6.56		71.9		0.1	11.52	78.3	140.4																	
W35	04/04/2015 8:00	P			8.52		78.2		0	10.19	69.9	103.2																	
W35	05/04/2015 8:00	P			8.22		66.7		0	17.55	120	126.5																	
W35	06/04/2015 8:20	P			8.14		71.8		0	12.97	88.7	132.9																	
W35	07/04/2015 7:45	P			7.9		71.1		0	12.07	82.7	156.3																	
W35	08/04/2015 7:40	P			8.1		70.3		0	13.06	89.4	158.4																	
W35	09/04/2015 8:15	P			8.01		94.7		0	12.02	82.4	172.7																	
W35	10/04/2015 8:20	P			7.99		125.9		0	12.72	87.8	170.7																	
W35	11/04/2015 8:20	P			8.02		125.3		0	12.05	82.7	139.6																	
W35	13/04/2015 8:30	P			7.8		120.3		0	11.91	81.4	151.4																	
W35	14/04/2015 8:30	P			7.78		116.9		0	10.85	75.1	177.2																	
W35	15/04/2015 8:20	P			7.76		110.5		0	10.61	72.6	206.2																	
W35	16/04/2015 7:40	P			7.79		94.9		0	12.41	84.8	179	88.6										0.284	<0.00050	0.00051	0.0724	<0.00010	<0.0010	<0.05
W35	17/04/2015 7:50	P			7.87		73.7		0	16.25	110.9	167.1	65.1										0.417	<0.00050	0.00044	0.0549	<0.00010	<0.0010	<0.05
W35	18/04/2015 8:10	P			7.8		71.5		0	12.58	86.7	168.4	65.4										0.187	<0.00050	0.0004	0.0543	<0.00010	<0.0010	<0.05
W35	19/04/2015 8:15	P			7.92		61.2		0	14.83	101.4	175.3	56.1										0.174	<0.00050	0.00038	0.041	<0.00010	<0.0010	<0.05
W35	20/04/2015 8:50	P			7.77		101.2		0	13.03	89.2	185.6	89.9										0.911	<0.00050	0.00076	0.0627	<0.00010	<0.0010	<0.05
W35	21/04/2015 8:25	P			7.7		84		0	13.44	91.9	200	75										0.694	<0.00050	0.00072	0.0606	<0.00010	<0.0010	<0.05
W35	22/04/2015 7:35	P			7.64		98.2		0	14.02	95.9	174.4	80.3										0.633	<0.00050	0.00057	0.0632	<0.00010	<0.0010	<0.05
W35	23/04/2015 8:00	P			7.56		85.8		0	13.55	92.7	191.9																	
W35	24/04/2015 8:15	P			7.73		81.8		0	13.44	92.1	190.6																	
W35	25/04/2015 8:00	P			7.73		81		0	13.01	89.1	133.4																	
W35	26/04/2015 8:15	P			7.78		80.7		0	12.87	88.2	151.9																	
W35	27/04/2015 8:40	P			7.77		77.3		0	13.25	91.1	154.2																	
W35	28/04/2015 8:00	P			7.68		72		0	11.43	78.2	177.8																	
W35	29/04/2015 8:00	P			7.98		62.6		0.1	13.43	92.3	81.2																	
W35	30/04/2015 7:55	P			7.74		57.1		0	10.1	89.8	179.7																	
W35	01/05/2015 8:00	P			7.72		55.6		0	13.18	90.3	185.8																	
W35	02/05/2015 8:00	P			7.58		64.1		0.2	13.78	94.7	-143.2																	
W35	03/05/2015 8:10	P			7.13		57.9		0	14.06	96.3	-73.2																	
W35	04/05/2015 8:20	P			7.59		62.9		0.1	13.56	92.8	253.1																	
W35	05/05/2015 8:00	P			7.65		62.7		0.2	13.92	95.7	270																	
W35	06/05/2015 6:55	P	3.6	96	7.35	7.71	59.5	118	0.5	13.46	93.2	239	64.7	59.3	47.1	1.8	0.091	<0.50	0.19	<0.050	0.54		0.183	<0.00050	0.00039	0.0434	<0.00010	<0.0010	<0.05
W35	07/05/2015 8:05	P			7.24		65.1		0.2	13.09	88.9	147.9																	
W35	08/05/2015 8:20	P			7.33		64.1		0.3	13.8	95.4	167.2																	
W35	09/05/2015 8:20	P			7.76		64.2		1.6	14.65	104.8	115.6																	
W35	10/05/2015 8:35	P			7.77		76.2		1.2	14.06	106.7	127.1																	
W35	11/05/2015 8:10	P			7.27		74.2		0.8	14.53	101.6	143.1																	
W35	12/05/2015 8:10	P			7.52		74.1		0.5	13.55	94.9	126.3																	
W35	13/05/2015 8:40	P			7.83		82.5		2.5	13.47	98.9	137.8																	
W35	14/05/2015 8:15	P			7.56		86.1		2.5	12.75	93.4	142.1																	

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W35	15/05/2014 9:50																									
W35	16/05/2014 10:40																									
W35	17/05/2014 9:45																									
W35	18/05/2014 10:00																									
W35	19/05/2014 10:30																									
W35	20/05/2014 10:00																									
W35	21/05/2014 8:15	0.000018	28.7	<0.0010	<0.00050	0.0297	0.344	<0.00020	<0.0050	7.33	0.0161	<0.000010	0.0015	0.0015	0.026	1.3	0.00073	4.51	0.000109	4.6	0.199	3.1	<0.000050	<0.0050	0.0102	0.00042
W35	22/05/2014 9:10																									
W35	23/05/2014 8:55																									
W35	24/05/2014 8:50	<0.000010	22	<0.0010	<0.00050	0.0278	0.172	<0.00020	<0.0050	5.88	0.0088	<0.000010	<0.0010	0.0016	0.015	0.804	0.00027	3.94	<0.000020	3.68	0.13	3.8	<0.000050	<0.0050	<0.0050	<0.00010
W35	25/05/2014 8:55																									
W35	26/05/2014 11:00																									
W35	27/05/2014 10:10																									
W35	28/05/2014 17:10																									
W35	29/05/2014 9:10																									
W35	30/05/2014 8:30	<0.000010	27.8	<0.0010	<0.00050	0.0486	0.331	<0.00020	<0.0050	7.43	0.0179	<0.000010	0.0011	0.0014	0.023	1.11	0.00016	3.97	<0.000020	4.27	0.155	4	<0.000050	<0.0050	0.0107	0.00013
W35	31/05/2014 9:35																									
W35	06/06/2014 10:30	<0.000010	32.7	<0.0010	<0.00050	0.0438	0.12	<0.00020	<0.0050	9	0.0091	<0.000010	0.0011	0.0011	0.014	1.45	0.00033	2.94	<0.000020	5.24	0.186	<3.0	<0.000050	<0.0050	<0.0050	0.00021
W35	10/10/2014 16:00	<0.000010	35.2	<0.0010	<0.00050	0.032	0.249	<0.00020	<0.0050	11.4	0.0079	<0.000010	<0.0010	0.001	0.013	1.18	0.0003	3.9	<0.000020	6.18	0.208	4.3	<0.000050	<0.0050	0.0058	0.00027
W35	26/03/2015 14:30	0.000082	21.5	0.0018	0.00134	0.331	3.56	0.0014	0.0055	4.01	0.182	<0.000010	0.0045	0.0011	0.095	4.41	0.0007	5.42	0.000065	5.9	0.393	6.4	<0.000050	<0.0050	0.134	0.00058
W35	30/03/2015 14:00																									
W35	31/03/2015 10:00																									
W35	01/04/2015 9:05																									
W35	02/04/2015 9:00	0.000045	20.7	<0.0010	<0.00050	0.095	0.702	0.00067	<0.0050	2.93	0.088	<0.000010	0.0037	<0.0010	0.028	3.28	0.00039	1.82	<0.000020	4.48	0.301	3.1	<0.000050	<0.0050	0.0209	0.00042
W35	03/04/2015 8:20																									
W35	04/04/2015 8:00																									
W35	05/04/2015 8:00																									
W35	06/04/2015 8:20																									
W35	07/04/2015 7:45																									
W35	08/04/2015 7:40																									
W35	09/04/2015 8:15																									
W35	10/04/2015 8:20																									
W35	11/04/2015 8:20																									
W35	13/04/2015 8:30																									
W35	14/04/2015 8:30																									
W35	15/04/2015 8:20																									
W35	16/04/2015 7:40	0.000013	24	<0.0010	<0.00050	0.0939	0.433	<0.00020	<0.0050	6.92	0.056	<0.000010	0.0014	0.0015	0.118	3.69	0.00018	4.52	0.000031	4.81	0.229	4.5	<0.000050	<0.0050	0.0137	0.00023
W35	17/04/2015 7:50	<0.000010	18.1	<0.0010	<0.00050	0.0661	0.438	<0.00020	<0.0050	4.87	0.0465	<0.000010	<0.0010	0.0011	0.045	3.53	0.0001	3.94	0.000025	3.38	0.157	<3.0	<0.000050	<0.0050	0.017	0.00012
W35	18/04/2015 8:10	<0.000010	18.2	<0.0010	<0.00050	0.0659	0.309	<0.00020	<0.0050	4.86	0.0357	<0.000010	<0.0010	0.0011	0.034	3.12	0.00013	4.06	<0.000020	3.19	0.156	<3.0	<0.000050	<0.0050	0.0116	0.00012
W35	19/04/2015 8:15	<0.000010	15.8	<0.0010	<0.00050	0.0536	0.29	<0.00020	<0.0050	4.02	0.0288	<0.000010	<0.0010	<0.0010	0.033	2.89	0.00014	3.58	<0.000020	2.46	0.119	<3.0	<0.000050	<0.0050	0.0118	<0.00010
W35	20/04/2015 8:50	0.000013	23.2	0.0011	<0.00050	0.0894	1.28	0.0006	<0.0050	7.77	0.0747	<0.000010	<0.0010	0.0012	0.092	3.52	0.00023	4.4	0.000021	3.19	0.328	<3.0	<0.000050	<0.0050	0.0551	0.00028
W35	21/04/2015 8:25	0.00002	20.4	<0.0010	<0.00050	0.0999	0.974	0.00032	<0.0050	5.82	0.0452	<0.000010	0.0014	<0.0010	0.069	3.1	0.00033	4.3	<0.000020	3.3	0.224	<3.0	<0.000050	<0.0050	0.039	0.0002
W35	22/04/2015 7:35	0.000023	22.2	<0.0010	<0.00050	0.109	1.1	0.00033	<0.0050	6.01	0.058	<0.000010	0.0011	0.0011	0.095	3	0.00023	4.73	0.000023	3.5	0.197	<3.0	<0.000050	<0.0050	0.0363	0.0002
W35	23/04/2015 8:00																									
W35	24/04/2015 8:15																									
W35	25/04/2015 8:00																									
W35	26/04/2015 8:15																									
W35	27/04/2015 8:40																									
W35	28/04/2015 8:00																									
W35	29/04/2015 8:00																									
W35	30/04/2015 7:55																									
W35	01/05/2015 8:00																									
W35	02/05/2015 8:00																									
W35	03/05/2015 8:10																									
W35	04/05/2015 8:20																									
W35	05/05/2015 8:00																									
W35	06/05/2015 6:55	0.000012	18.2	<0.0010	<0.00050	0.0499	0.375	<0.00020	<0.0050	4.63	0.0133	<0.000010	<0.0010	0.0016	0.044	1.3	0.00013	3.83	<0.000020	2.61	0.111	<3.0	<0.000050	<0.0050	0.0137	<0.00010
W35	07/05/2015 8:05																									
W35	08/05/2015 8:20																									
W35	09/05/2015 8:20																									
W35	10/05/2015 8:35																									
W35	11/05/2015 8:10																									
W35	12/05/2015 8:10																									
W35	13/05/2015 8:40																									
W35	14/05/2015 8:15																									

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W35	15/05/2014 9:50																									
W35	16/05/2014 10:40																									
W35	17/05/2014 9:45																									
W35	18/05/2014 10:00																									
W35	19/05/2014 10:30																									
W35	20/05/2014 10:00																									
W35	21/05/2014 8:15	<0.0050	0.0052	<0.00050																						
W35	22/05/2014 9:10																									
W35	23/05/2014 8:55																									
W35	24/05/2014 8:50	<0.0050	<0.0050	<0.00050	0.0326	<0.00050	0.00035	0.0474	<0.00010	<0.0010	<0.05	<0.000010	22.9	<0.0010	<0.00050	0.0239	0.124	<0.00020	<0.0050	5.71	0.0077	<0.000010	<0.0010	0.0014	0.011	0.757
W35	25/05/2014 8:55																									
W35	26/05/2014 11:00																									
W35	27/05/2014 10:10																									
W35	28/05/2014 17:10																									
W35	29/05/2014 9:10																									
W35	30/05/2014 8:30	<0.0050	<0.0050	<0.00050	0.0462	<0.00050	0.00032	0.0665	<0.00010	<0.0010	<0.05	0.00001	25.5	<0.0010	<0.00050	0.0387	0.129	<0.00020	<0.0050	6.97	0.0119	<0.000010	<0.0010	0.0013	0.014	1.03
W35	31/05/2014 9:35																									
W35	06/06/2014 10:30	<0.0050	<0.0050	<0.00050	0.0153	<0.00050	0.00029	0.0962	<0.00010	<0.0010	<0.05	<0.000010	34	<0.0010	<0.00050	0.0381	0.0544	<0.00020	<0.0050	8.58	0.0066	<0.000010	0.0011	<0.0010	<0.01	1.32
W35	10/10/2014 16:00	<0.0050	<0.0050	<0.00050	0.0178	<0.00050	0.00026	0.0886	<0.00010	<0.0010	<0.05	<0.000010	37.2	<0.0010	<0.00050	0.0249	0.0714	<0.00020	<0.0050	11	0.0033	<0.000010	<0.0010	<0.0010	0.013	1.11
W35	26/03/2015 14:30	0.0085	0.019	<0.00050	0.104	<0.00050	0.00024	0.0516	<0.00010	<0.0010	<0.05	0.000019	17.9	<0.0010	<0.00050	0.0327	0.0144	<0.00020	<0.0050	2.98	0.0534	<0.000010	0.0055	<0.0010	0.015	3.56
W35	30/03/2015 14:00																									
W35	31/03/2015 10:00																									
W35	01/04/2015 9:05																									
W35	02/04/2015 9:00	<0.0050	<0.0050	<0.00050	0.0111	<0.00050	0.00023	0.0546	<0.00010	<0.0010	<0.05	0.000024	19.4	<0.0010	<0.00050	0.0287	0.0145	<0.00020	<0.0050	2.62	0.0606	<0.000010	0.0039	<0.0010	<0.01	2.89
W35	03/04/2015 8:20																									
W35	04/04/2015 8:00																									
W35	05/04/2015 8:00																									
W35	06/04/2015 8:20																									
W35	07/04/2015 7:45																									
W35	08/04/2015 7:40																									
W35	09/04/2015 8:15																									
W35	10/04/2015 8:20																									
W35	11/04/2015 8:20																									
W35	13/04/2015 8:30																									
W35	14/04/2015 8:30																									
W35	15/04/2015 8:20																									
W35	16/04/2015 7:40	<0.0050	0.0067	<0.00050																						
W35	17/04/2015 7:50	<0.0050	<0.0050	<0.00050																						
W35	18/04/2015 8:10	<0.0050	<0.0050	<0.00050																						
W35	19/04/2015 8:15	<0.0050	<0.0050	<0.00050																						
W35	20/04/2015 8:50	<0.0050	0.0073	<0.00050																						
W35	21/04/2015 8:25	<0.0050	<0.0050	<0.00050																						
W35	22/04/2015 7:35	<0.0050	0.0051	<0.00050																						
W35	23/04/2015 8:00																									
W35	24/04/2015 8:15																									
W35	25/04/2015 8:00																									
W35	26/04/2015 8:15																									
W35	27/04/2015 8:40																									
W35	28/04/2015 8:00																									
W35	29/04/2015 8:00																									
W35	30/04/2015 7:55																									
W35	01/05/2015 8:00																									
W35	02/05/2015 8:00																									
W35	03/05/2015 8:10																									
W35	04/05/2015 8:20																									
W35	05/05/2015 8:00																									
W35	06/05/2015 6:55	<0.0050	<0.0050	<0.00050	0.0382	<0.00050	0.00032	0.04	<0.00010	<0.0010	<0.05	<0.000010	16.5	<0.0010	<0.00050	0.0397	0.126	<0.00020	<0.0050	4.4	0.0056	<0.000010	<0.0010	0.0015	0.025	1.2
W35	07/05/2015 8:05																									
W35	08/05/2015 8:20																									
W35	09/05/2015 8:20																									
W35	10/05/2015 8:35																									
W35	11/05/2015 8:10																									
W35	12/05/2015 8:10																									
W35	13/05/2015 8:40																									
W35	14/05/2015 8:15																									

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	BOD5	Br	Cation	COD	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-T	N-TKN	P-PO4T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L
W35	15/05/2014 9:50																															
W35	16/05/2014 10:40																															
W35	17/05/2014 9:45																															
W35	18/05/2014 10:00																															
W35	19/05/2014 10:30																															
W35	20/05/2014 10:00																															
W35	21/05/2014 8:15														80.5	<0.50	<0.50	<0.50														
W35	22/05/2014 9:10																															
W35	23/05/2014 8:55																															
W35	24/05/2014 8:50	0.00021	4	<0.000020	3.67	0.121	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	79.5	<0.50	<0.50	<0.50														
W35	25/05/2014 8:55																															
W35	26/05/2014 11:00																															
W35	27/05/2014 10:10																															
W35	28/05/2014 17:10																															
W35	29/05/2014 9:10																															
W35	30/05/2014 8:30	0.00017	3.33	<0.000020	4.19	0.143	<3.0	<0.000050	<0.0050	<0.0050	0.00013	<0.0050	<0.0050	<0.00050	102	<0.50	<0.50	<0.50														
W35	31/05/2014 9:35																															
W35	06/06/2014 10:30	0.00021	3.29	<0.000020	4.8	0.182	3	<0.000050	<0.0050	<0.0050	0.0002	<0.0050	<0.0050	<0.00050	121	<0.50	<0.50	<0.50														
W35	10/10/2014 16:00	0.00015	4.46	<0.000020	5.89	0.202	4.6	<0.000050	<0.0050	<0.0050	0.00025	<0.0050	<0.0050	<0.00050	147	<0.50	<0.50	<0.50														
W35	26/03/2015 14:30	0.00046	0.858	<0.000020	5.53	0.338	5.5	<0.000050	<0.0050	<0.0050	0.00045	<0.0050	<0.0050	<0.00050	59.3	<0.50	<0.50	<0.50														
W35	30/03/2015 14:00																															
W35	31/03/2015 10:00																															
W35	01/04/2015 9:05																															
W35	02/04/2015 9:00	0.00041	1.02	<0.000020	4.03	0.305	<3.0	<0.000050	<0.0050	<0.0050	0.00038	<0.0050	<0.0050	<0.00050	57	<0.50	<0.50	<0.50														
W35	03/04/2015 8:20																															
W35	04/04/2015 8:00																															
W35	05/04/2015 8:00																															
W35	06/04/2015 8:20																															
W35	07/04/2015 7:45																															
W35	08/04/2015 7:40																															
W35	09/04/2015 8:15																															
W35	10/04/2015 8:20																															
W35	11/04/2015 8:20																															
W35	13/04/2015 8:30																															
W35	14/04/2015 8:30																															
W35	15/04/2015 8:20																															
W35	16/04/2015 7:40																															
W35	17/04/2015 7:50																															
W35	18/04/2015 8:10																															
W35	19/04/2015 8:15																															
W35	20/04/2015 8:50																															
W35	21/04/2015 8:25																															
W35	22/04/2015 7:35																															
W35	23/04/2015 8:00																															
W35	24/04/2015 8:15																															
W35	25/04/2015 8:00																															
W35	26/04/2015 8:15																															
W35	27/04/2015 8:40																															
W35	28/04/2015 8:00																															
W35	29/04/2015 8:00																															
W35	30/04/2015 7:55																															
W35	01/05/2015 8:00																															
W35	02/05/2015 8:00																															
W35	03/05/2015 8:10																															
W35	04/05/2015 8:20																															
W35	05/05/2015 8:00																															
W35	06/05/2015 6:55	0.00012	3.45	<0.000020	2.62	0.106	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	57.5	<0.50	<0.50	<0.50														
W35	07/05/2015 8:05																															
W35	08/05/2015 8:20																															
W35	09/05/2015 8:20																															
W35	10/05/2015 8:35																															
W35	11/05/2015 8:10																															
W35	12/05/2015 8:10																															
W35	13/05/2015 8:40																															
W35	14/05/2015 8:15																															

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Stn.Code	Smpl Date	P-TDP	P-TRP	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		mg/L	mg/L	Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W35	15/05/2014 9:50					183			
W35	16/05/2014 10:40								
W35	17/05/2014 9:45					216.9			
W35	18/05/2014 10:00					226.5			
W35	19/05/2014 10:30					204.2			
W35	20/05/2014 10:00					220.9			
W35	21/05/2014 8:15					181.7			
W35	22/05/2014 9:10					178.9			
W35	23/05/2014 8:55					217.8			
W35	24/05/2014 8:50					195.7			
W35	25/05/2014 8:55					187.1			
W35	26/05/2014 11:00					237.2			
W35	27/05/2014 10:10					356.3			
W35	28/05/2014 17:10					230.6			
W35	29/05/2014 9:10					212.3			
W35	30/05/2014 8:30					200.3			
W35	31/05/2014 9:35					241.5			
W35	06/06/2014 10:30					187.9			
W35	10/10/2014 16:00								
W35	26/03/2015 14:30					159.9			
W35	30/03/2015 14:00					146.1			
W35	31/03/2015 10:00					1848			
W35	01/04/2015 9:05					150.5			
W35	02/04/2015 9:00					158.1			
W35	03/04/2015 8:20					137.1			
W35	04/04/2015 8:00					149.7			
W35	05/04/2015 8:00					127.9			
W35	06/04/2015 8:20					137.4			
W35	07/04/2015 7:45					138.6			
W35	08/04/2015 7:40					134.5			
W35	09/04/2015 8:15					181.6			
W35	10/04/2015 8:20					241.2			
W35	11/04/2015 8:20					240.1			
W35	13/04/2015 8:30					231.2			
W35	14/04/2015 8:30					224.1			
W35	15/04/2015 8:20					212.4			
W35	16/04/2015 7:40					181.6			
W35	17/04/2015 7:50					141.5			
W35	18/04/2015 8:10					136.7			
W35	19/04/2015 8:15					114.9			
W35	20/04/2015 8:50					193.8			
W35	21/04/2015 8:25					161			
W35	22/04/2015 7:35					168.7			
W35	23/04/2015 8:00					164.1			
W35	24/04/2015 8:15					156.7			
W35	25/04/2015 8:00					155			
W35	26/04/2015 8:15					154.6			
W35	27/04/2015 8:40					147.8			
W35	28/04/2015 8:00					137.8			
W35	29/04/2015 8:00					119.6			
W35	30/04/2015 7:55					109.2			
W35	01/05/2015 8:00					106			
W35	02/05/2015 8:00					102.9			
W35	03/05/2015 8:10					110.3			
W35	04/05/2015 8:20					120.1			
W35	05/05/2015 8:00					119.3			
W35	06/05/2015 6:55					112.1			
W35	07/05/2015 8:05					123.8			
W35	08/05/2015 8:20					121.2			
W35	09/05/2015 8:20					116.3			
W35	10/05/2015 8:35					140			
W35	11/05/2015 8:10					138.1			
W35	12/05/2015 8:10					139.4			
W35	13/05/2015 8:40					144.6			
W35	14/05/2015 8:15					154.7			

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T	B-T
			mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W35	15/05/2015 8:20	P			7.81		96.8		3.1	12.54	93.1	131																	
W35	16/05/2015 8:06	P			7.91		134.9		3.1	13.02	97.9	183.9																	
W35	17/05/2015 7:55	P			7.79		166.4		4.1	11.66	89.3	149.3																	
W35	18/05/2015 7:55	P			7.86		114.2		4.8	11.42	88.9	115.1																	
W35	19/05/2015 9:05	P			7.45		131.3		7.2	11.12	92.3	120.7																	
W35	20/05/2015 8:30	P			7.7		132		5.8	10.82	86.6	114.7																	
W35	21/05/2015 8:00	P			7.68		148.3		6.3	10.19	82.4	104.8																	
W35	22/05/2015 7:40	P			7.77		167		7.8	9.45	78.8	187.2																	
W35	23/05/2015 7:50	P			7.78		192		10.1	8.21	72.9	143.2																	
W35	24/05/2015 7:50	P			7.81		194.4		10.4	8.11	72.7	138.6																	
W35	25/05/2015 7:50	P			7.75		211.7		9.9	7.08	62.8	145.1																	
W35	26/05/2015 7:40	P			7.775		227.2		11.3	5.97	54.8	144.5																	
W35	27/05/2015 13:05	P			8.12		252.4		15.4	9.54	92.38	140.4																	
W35	28/05/2015 11:45	P			8.21		239.9		15.7	9.8	98.8	117.1																	
W35	29/05/2015 7:55	P			7.84		230.8		12.2	7.06	65.8	131.7																	
W35	30/05/2015 7:55	P			7.85		220.1		11.7	7.21	66	270.9																	
W35	31/05/2015 7:55	P			7.94		200.8		10	8.1	71.9	206.7																	
W35	05/06/2015 8:55	P	13.7	148	7.63	8.05	164.1	251	6.8	10.31	84.6	142.1	117	125	101	0.97	0.1	7.16	0.011	0.0142	3.96		0.0531	<0.00050	0.00029	0.0843	<0.00010	<0.0010	<0.05
W35	11/06/2015 16:55	M			8.26		244.7		13.7	9.47	91.5	117.5																	
W35	15/06/2015 17:00	F			8.4		346.1		19.6	7.57	84.3	119.6																	
W35	05/07/2015 9:10	P	9.1	278	7.72	8.06	355.8	458	14.3	6.74	66.4	161.6	222	216	137	1.5	0.12	24.6	0.028	0.0123	17.5		0.143	<0.00050	0.00033	0.182	<0.00010	<0.0010	<0.05
W35	10/07/2015 13:00	P	8.8	302	8.53	8.26	260	407	19.6	9.53	97.2	150.7	207	207	137	1.2	0.12	18.1	0.034	0.0237	14.1		0.203	<0.00050	0.0004	0.112	<0.00010	<0.0010	<0.05
W35	20/08/2015 11:25	F			7.75		467		9.9	8.59	76.2	156.8																	
W35	25/08/2015 8:45	P	<1.0	362	7.63	8.12	308.6	467	7	958	78.8	264	212	233	130	1.2	0.092	19.6	0.026	<0.0050	21.6	16	0.0131	<0.00050	0.00032	0.145	<0.00010	<0.0010	<0.05
W35	02/09/2015 16:20	P	1	238	8.04	8.13	160.5	272	7.5	10.89	90.9	131.4	125	127	94.6	1.7	0.1	11.4	0.03	<0.0050	7.22	23	0.0574	<0.00050	0.00028	0.0721	<0.00010	<0.0010	<0.05
W35	06/10/2015 16:00	P	10.5	264	7.69	8.17	193.8	360	1.2	12.05	85.3	174.5	181	175	133	1.9	0.087	16.8	0.034	<0.0050	8.37	20	0.244	<0.00050	0.00034	0.12	<0.00010	<0.0010	<0.05
W35	03/04/2016 8:00	P	4.7	105	7.67	7.60	121.7	181	0	13.34	91.5	-119.9		81.1	50.9	1.74		13.9	0.303	0.0294	4.95	10.5	0.294	<0.00010	0.00056	0.0440	<0.000020	<0.000050	0.015
W35	04/04/2016 17:05	M			7.98		84.4		0.3	12.69	87.5	151.9																	
W35	05/04/2016 9:00	M			7.74		73.7		0	12.79	87.6	143.8																	
W35	06/04/2016 8:20	M			7.43		77.4		0	13.23	90.6	146.9																	
W35	07/04/2016 8:45	M			7.72		83		0	13	88.9	131.1																	
W35	08/04/2016 9:35	M			7.51		72.2		0.1	13.65	93.5	147.1																	
W35	09/04/2016 9:00	M			7.77		65.6		0	11.68	80	115.9																	
W35	10/04/2016 9:00	M			7.87		61.2		0.1	11.28	77.4	109.9																	
W35	11/04/2016 9:00	M			7.58		55.3		0.4	11.41	78.9	130.6																	
W35	12/04/2016 9:35	M			7.68		54.1		0.1	14.49	99.5	109.1																	
W35	13/04/2016 9:20	M			7.47		52.7		0	14.75	101.1	136.5																	
W35	14/04/2016 9:20	M			7.79		51.3		0	13.51	92.7	116.5																	
W35	15/04/2016 9:15	M			7.79		55.8		0	13.26	90.8	132.7																	
W35	16/04/2016 9:10	M			7.49		54.8		0	13.53	92.6	126																	
W35	17/04/2016 8:45	M			7.76		55.6		0	14.01	95.1	129.5																	
W35	18/04/2016 9:20	M			7.51		59.4		0.1	13.82	94.8	133.1																	
W35	19/04/2016 9:25	M			7.47		61.9		0.1	14.01	96.2	122.7																	
W35	20/04/2016 7:45	M			7.37		62.1		0	13.74	93.8	111.7																	
W35	21/04/2016 9:00	M			7.77		62.9		0	14.87	101.8	132.9																	
W35	22/04/2016 8:45	M			7.81		59.6		0.8	13.7	96	120																	
W35	23/04/2016 8:25	M			7.71		62.2		0.1	13.48	92.5	115.1																	
W35	24/04/2016 8:30	M			7.65		73.9		1.2	13.44	95.2	128																	
W35	25/04/2016 8:20	M			7.71		77.5		0.9	13.8	96.9	119.8																	
W35	26/04/2016 8:30	M			7.78		75.7		0.1	13.57	94.7	128.6																	
W35	27/04/2016 7:10	M			7.8		77		0.2	12.88	88.6	124.5																	
W35	28/04/2016 8:40	M			7.83		82.1		0.3	14.57	100.4	139.7																	
W35	29/04/2016 8:50	M			7.66		83.1		0.3	13.48	93.1	136.2																	
W35	30/04/2016 8:30	M			7.78		83.1		0.4	12.98	81.8	84.8																	
W35	02/05/2016 9:00	M			7.86		98.3		3.7	12.11	91.6	104.4																	
W35	03/05/2016 7:45	P	<3.0	110	8.6	8.00	217	196	2.4					102	77.6	0.55		6.84	0.0059	0.0077	3.32	25.5	0.0355	<0.00010	0.00032	0.0593	<0.000020	<0.000050	<0.010
W35	04/05/2016 7:45	M			7.71		100		1.1	12.56	88.7	112.4																	
W35	05/05/2016 8:20	M			7.68		98.6		1.1	12.35	87.2	138.3																	
W35	06/05/2016 9:00	M			7.81		110		2.5	10.99	80.6	131.5																	
W35	07/05/2016 9:05	M			7.82		125.5		4.3	10.23	78.7	125																	
W35	08/05/2016 8:35	M			7.79		107.8		2.5	12.42	91.2	136.9																	
W35	09/05/2016 8:30	M			7.91		106.9		3.8	12.85	97.6	136.5																	
W35	10/05/2016 8:50	M			7.97		107.9		4.3	12.71	97.5	126.8																	
W35	11/05/2016 8:40	M			8.2		187		1.9																				
W35	12/05/2016 9:15	M			8.2		181		3.3																				

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W35	15/05/2015 8:20																									
W35	16/05/2015 8:06																									
W35	17/05/2015 7:55																									
W35	18/05/2015 7:55																									
W35	19/05/2015 9:05																									
W35	20/05/2015 8:30																									
W35	21/05/2015 8:00																									
W35	22/05/2015 7:40																									
W35	23/05/2015 7:50																									
W35	24/05/2015 7:50																									
W35	25/05/2015 7:50																									
W35	26/05/2015 7:40																									
W35	27/05/2015 13:05																									
W35	28/05/2015 11:45																									
W35	29/05/2015 7:55																									
W35	30/05/2015 7:55																									
W35	31/05/2015 7:55																									
W35	05/06/2015 8:55	<0.000010	32.1	<0.0010	<0.00050	0.0423	0.142	<0.00020	<0.0050	9.1	0.0058	<0.000010	<0.0010	0.0013	0.018	1.2	0.00013	3.03	<0.000020	5.48	0.212	5.2	<0.000050	<0.0050	<0.0050	0.00018
W35	11/06/2015 16:55																									
W35	15/06/2015 17:00																									
W35	05/07/2015 9:10	<0.000010	61.2	<0.0010	<0.00050	0.0456	0.249	<0.00020	<0.0050	16.8	0.0091	<0.000010	0.0014	<0.0010	0.025	2.38	0.00024	4.38	<0.000020	8.96	0.356	7.7	<0.000050	<0.0050	0.01	0.00034
W35	10/07/2015 13:00	0.000011	56.3	<0.0010	<0.00050	0.0687	0.411	<0.00020	<0.0050	16.1	0.0272	<0.000010	0.0014	<0.0010	0.024	2.04	0.00029	4.52	<0.000020	8.63	0.302	5.4	<0.000050	<0.0050	0.0148	0.00041
W35	20/08/2015 11:25																									
W35	25/08/2015 8:45	<0.000010	56.8	<0.0010	<0.00050	0.0271	0.025	<0.00020	<0.0050	17	0.0015	<0.000010	<0.0010	<0.0010	<0.01	1.58	0.00015	4.87	<0.000020	8.72	0.318	6.6	<0.000050	<0.0050	<0.0050	0.00022
W35	02/09/2015 16:20	<0.000010	33.6	<0.0010	<0.00050	0.0238	0.072	<0.00020	<0.0050	9.95	0.0035	<0.000010	<0.0010	0.001	0.013	0.929	0.00021	4.61	<0.000020	5.81	0.203	4.6	<0.000050	<0.0050	<0.0050	0.00016
W35	06/10/2015 16:00	0.000011	47.5	<0.0010	<0.00050	0.0511	0.435	<0.00020	<0.0050	15.1	0.0122	<0.000010	0.0012	0.0011	0.019	1.35	0.00022	5.41	<0.000020	7.56	0.278	4.9	<0.000050	<0.0050	0.0142	0.00031
W35	03/04/2016 8:00	0.0000221	20.0	0.00046	0.00019	0.0542	0.423	0.000136	<0.0010	6.24	0.0363	0.0000107	0.00171	0.00083	0.108	4.07	0.000349	3.61	0.000029	3.93	0.266	4.98	<0.000010	<0.00010	0.0140	0.000264
W35	04/04/2016 17:05																									
W35	05/04/2016 9:00																									
W35	06/04/2016 8:20																									
W35	07/04/2016 8:45																									
W35	08/04/2016 9:35																									
W35	09/04/2016 9:00																									
W35	10/04/2016 9:00																									
W35	11/04/2016 9:00																									
W35	12/04/2016 9:35																									
W35	13/04/2016 9:20																									
W35	14/04/2016 9:20																									
W35	15/04/2016 9:15																									
W35	16/04/2016 9:10																									
W35	17/04/2016 8:45																									
W35	18/04/2016 9:20																									
W35	19/04/2016 9:25																									
W35	20/04/2016 7:45																									
W35	21/04/2016 9:00																									
W35	22/04/2016 8:45																									
W35	23/04/2016 8:25																									
W35	24/04/2016 8:30																									
W35	25/04/2016 8:20																									
W35	26/04/2016 8:30																									
W35	27/04/2016 7:10																									
W35	28/04/2016 8:40																									
W35	29/04/2016 8:50																									
W35	30/04/2016 8:30																									
W35	02/05/2016 9:00																									
W35	03/05/2016 7:45	0.0000055	26.1	0.00035	<0.00010	0.0436	0.092	<0.000050	<0.0010	7.34	0.00412	0.0000105	0.000848	0.00133	<0.050	1.10	0.000195	3.11	<0.000010	3.73	0.149	2.47	<0.000010	<0.00010	0.00166	0.000119
W35	04/05/2016 7:45																									
W35	05/05/2016 8:20																									
W35	06/05/2016 9:00																									
W35	07/05/2016 9:05																									
W35	08/05/2016 8:35																									
W35	09/05/2016 8:30																									
W35	10/05/2016 8:50																									
W35	11/05/2016 8:40																									
W35	12/05/2016 9:15																									

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W35	15/05/2015 8:20																									
W35	16/05/2015 8:06																									
W35	17/05/2015 7:55																									
W35	18/05/2015 7:55																									
W35	19/05/2015 9:05																									
W35	20/05/2015 8:30																									
W35	21/05/2015 8:00																									
W35	22/05/2015 7:40																									
W35	23/05/2015 7:50																									
W35	24/05/2015 7:50																									
W35	25/05/2015 7:50																									
W35	26/05/2015 7:40																									
W35	27/05/2015 13:05																									
W35	28/05/2015 11:45																									
W35	29/05/2015 7:55																									
W35	30/05/2015 7:55																									
W35	31/05/2015 7:55																									
W35	05/06/2015 8:55	<0.0050	<0.0050	<0.00050	0.0137	<0.00050	0.00033	0.0862	<0.00010	<0.0010	<0.05	<0.000010	34.6	<0.0010	<0.00050	0.0346	0.0489	<0.00020	<0.0050	9.37	0.0027	<0.000010	0.0011	0.0013	0.011	1.2
W35	11/06/2015 16:55																									
W35	15/06/2015 17:00																									
W35	05/07/2015 9:10	<0.0050	<0.0050	<0.00050	0.0091	<0.00050	0.00035	0.174	<0.00010	<0.0010	<0.05	<0.000010	59	<0.0010	<0.00050	0.0369	0.0265	<0.00020	<0.0050	16.8	0.0014	<0.000010	0.0014	<0.0010	<0.01	2.28
W35	10/07/2015 13:00	<0.0050	<0.0050	<0.00050	0.0097	<0.00050	0.00033	0.111	<0.00010	<0.0010	<0.05	<0.000010	57.7	<0.0010	<0.00050	0.0487	0.0302	<0.00020	<0.0050	15.4	0.0057	<0.000010	0.0013	<0.0010	0.013	2.24
W35	20/08/2015 11:25																									
W35	25/08/2015 8:45	<0.0050	<0.0050	<0.00050	0.0139	<0.00050	0.0003	0.153	<0.00010	<0.0010	<0.05	<0.000010	62	<0.0010	<0.00050	0.0308	0.0253	<0.00020	<0.0050	18.9	0.0016	<0.000010	<0.0010	0.0013	<0.01	1.79
W35	02/09/2015 16:20	<0.0050	<0.0050	<0.00050	0.0232	<0.00050	0.00029	0.0723	<0.00010	<0.0010	<0.05	<0.000010	33.4	<0.0010	<0.00050	0.027	0.0417	<0.00020	<0.0050	10.6	0.0026	<0.000010	<0.0010	0.001	0.017	1.01
W35	06/10/2015 16:00	<0.0050	<0.0050	<0.00050	0.0451	<0.00050	0.00031	0.112	<0.00010	<0.0010	<0.05	0.00002	46.8	<0.0010	<0.00050	0.032	0.026	<0.00020	<0.0050	14.2	0.0021	<0.000010	0.001	<0.0010	<0.01	1.32
W35	03/04/2016 8:00	0.00134	0.0032	<0.00030	0.0333	<0.00010	0.00042	0.0428	<0.000020	<0.000050	0.016	0.0000078	21.6	0.00021	<0.00010	0.0366	0.081	<0.000050	<0.0010	6.60	0.0298	0.0000113	0.00173	0.00064	<0.050	4.17
W35	04/04/2016 17:05																									
W35	05/04/2016 9:00																									
W35	06/04/2016 8:20																									
W35	07/04/2016 8:45																									
W35	08/04/2016 9:35																									
W35	09/04/2016 9:00																									
W35	10/04/2016 9:00																									
W35	11/04/2016 9:00																									
W35	12/04/2016 9:35																									
W35	13/04/2016 9:20																									
W35	14/04/2016 9:20																									
W35	15/04/2016 9:15																									
W35	16/04/2016 9:10																									
W35	17/04/2016 8:45																									
W35	18/04/2016 9:20																									
W35	19/04/2016 9:25																									
W35	20/04/2016 7:45																									
W35	21/04/2016 9:00																									
W35	22/04/2016 8:45																									
W35	23/04/2016 8:25																									
W35	24/04/2016 8:30																									
W35	25/04/2016 8:20																									
W35	26/04/2016 8:30																									
W35	27/04/2016 7:10																									
W35	28/04/2016 8:40																									
W35	29/04/2016 8:50																									
W35	30/04/2016 8:30																									
W35	02/05/2016 9:00																									
W35	03/05/2016 7:45	<0.00050	<0.0030	0.00030	0.0192	<0.00010	0.00035	0.0624	<0.000020	<0.000050	<0.010	<0.0000050	28.4	0.00033	<0.00010	0.0424	0.065	<0.000050	<0.0010	7.50	0.00209	<0.0000050	0.000783	0.00139	<0.050	1.11
W35	04/05/2016 7:45																									
W35	05/05/2016 8:20																									
W35	06/05/2016 9:00																									
W35	07/05/2016 9:05																									
W35	08/05/2016 8:35																									
W35	09/05/2016 8:30																									
W35	10/05/2016 8:50																									
W35	11/05/2016 8:40																									
W35	12/05/2016 9:15																									

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	BOD5	Br	Cation	COD	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-T	N-TKN	P-PO4T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L
W35	15/05/2015 8:20																															
W35	16/05/2015 8:06																															
W35	17/05/2015 7:55																															
W35	18/05/2015 7:55																															
W35	19/05/2015 9:05																															
W35	20/05/2015 8:30																															
W35	21/05/2015 8:00																															
W35	22/05/2015 7:40																															
W35	23/05/2015 7:50																															
W35	24/05/2015 7:50																															
W35	25/05/2015 7:50																															
W35	26/05/2015 7:40																															
W35	27/05/2015 13:05																															
W35	28/05/2015 11:45																															
W35	29/05/2015 7:55																															
W35	30/05/2015 7:55																															
W35	31/05/2015 7:55																															
W35	05/06/2015 8:55	0.00018	3.43	<0.000020	5.18	0.216	3.6	<0.000050	<0.0050	<0.0050	0.00019	<0.0050	<0.0050	<0.00050	123	<0.50	<0.50	<0.50														
W35	11/06/2015 16:55																															
W35	15/06/2015 17:00																															
W35	05/07/2015 9:10	0.00027	4.18	<0.000020	8.76	0.363	9	<0.000050	<0.0050	<0.0050	0.00034	<0.0050	<0.0050	<0.00050	168	<0.50	<0.50	<0.50														
W35	10/07/2015 13:00	0.00018	4.09	<0.000020	8.37	0.316	7.2	<0.000050	<0.0050	<0.0050	0.0004	<0.0050	<0.0050	<0.00050	167	<0.50	<0.50	<0.50														
W35	20/08/2015 11:25																															
W35	25/08/2015 8:45	0.00014	5.1	<0.000020	10.3	0.342	7	<0.000050	<0.0050	<0.0050	0.00026	<0.0050	<0.0050	<0.00050	158	<0.50	<0.50	<0.50														
W35	02/09/2015 16:20	0.00032	4.7	<0.000020	6.05	0.192	<3.0	<0.000050	<0.0050	<0.0050	0.00013	<0.0050	<0.0050	<0.00050	115	<0.50	<0.50	<0.50														
W35	06/10/2015 16:00	0.0002	5.13	<0.000020	7.16	0.255	8	<0.000050	<0.0050	<0.0050	0.00034	<0.0050	<0.0050	<0.00050	162	<0.50	<0.50	<0.50														
W35	03/04/2016 8:00	0.000398	3.28	0.000012	3.97	0.288	5.52	<0.000010	<0.00010	0.00213	0.000267	<0.00050	0.0021	<0.00030	50.9	<1.0	<1.0		1.71			1.93							6.1			
W35	04/04/2016 17:05																															
W35	05/04/2016 9:00																															
W35	06/04/2016 8:20																															
W35	07/04/2016 8:45																															
W35	08/04/2016 9:35																															
W35	09/04/2016 9:00																															
W35	10/04/2016 9:00																															
W35	11/04/2016 9:00																															
W35	12/04/2016 9:35																															
W35	13/04/2016 9:20																															
W35	14/04/2016 9:20																															
W35	15/04/2016 9:15																															
W35	16/04/2016 9:10																															
W35	17/04/2016 8:45																															
W35	18/04/2016 9:20																															
W35	19/04/2016 9:25																															
W35	20/04/2016 7:45																															
W35	21/04/2016 9:00																															
W35	22/04/2016 8:45																															
W35	23/04/2016 8:25																															
W35	24/04/2016 8:30																															
W35	25/04/2016 8:20																															
W35	26/04/2016 8:30																															
W35	27/04/2016 7:10																															
W35	28/04/2016 8:40																															
W35	29/04/2016 8:50																															
W35	30/04/2016 8:30																															
W35	02/05/2016 9:00																															
W35	03/05/2016 7:45	0.000205	3.15	<0.000010	3.80	0.149	2.50	<0.000010	<0.00010	0.00041	0.000113	<0.00050	0.0021	0.00033	77.6	<1.0	<1.0		1.95			2.23							6.9			
W35	04/05/2016 7:45																															
W35	05/05/2016 8:20																															
W35	06/05/2016 9:00																															
W35	07/05/2016 9:05																															
W35	08/05/2016 8:35																															
W35	09/05/2016 8:30																															
W35	10/05/2016 8:50																															
W35	11/05/2016 8:40																															
W35	12/05/2016 9:15																															

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	P-TDP	P-TRP	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		mg/L	mg/L	Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W35	15/05/2015 8:20					167.3			
W35	16/05/2015 8:06					178.7			
W35	17/05/2015 7:55					177.1			
W35	18/05/2015 7:55					186.1			
W35	19/05/2015 9:05					198.9			
W35	20/05/2015 8:30					207.9			
W35	21/05/2015 8:00					231			
W35	22/05/2015 7:40					249			
W35	23/05/2015 7:50					268.6			
W35	24/05/2015 7:50					269.6			
W35	25/05/2015 7:50					297.7			
W35	26/05/2015 7:40					307.9			
W35	27/05/2015 13:05					308.6			
W35	28/05/2015 11:45					291.7			
W35	29/05/2015 7:55					305.6			
W35	30/05/2015 7:55					285.4			
W35	31/05/2015 7:55					281.7			
W35	05/06/2015 8:55					251.8			
W35	11/06/2015 16:55					311.4			
W35	15/06/2015 17:00					385.5			
W35	05/07/2015 9:10					448.1			
W35	10/07/2015 13:00					401.5			
W35	20/08/2015 11:25					656.4			
W35	25/08/2015 8:45					470.1			
W35	02/09/2015 16:20					241			
W35	06/10/2015 16:00					355.7			
W35	03/04/2016 8:00					235			
W35	04/04/2016 17:05					159.5			
W35	05/04/2016 9:00					141			
W35	06/04/2016 8:20					148.7			
W35	07/04/2016 8:45					158.7			
W35	08/04/2016 9:35					139.6			
W35	09/04/2016 9:00					125.7			
W35	10/04/2016 9:00					116.9			
W35	11/04/2016 9:00					104.5			
W35	12/04/2016 9:35					103.3			
W35	13/04/2016 9:20					101.8			
W35	14/04/2016 9:20					98.1			
W35	15/04/2016 9:15					106.6			
W35	16/04/2016 9:10					104.6			
W35	17/04/2016 8:45					105			
W35	18/04/2016 9:20					113.3			
W35	19/04/2016 9:25					117.5			
W35	20/04/2016 7:45					118.5			
W35	21/04/2016 9:00					120.2			
W35	22/04/2016 8:45					110.7			
W35	23/04/2016 8:25					118.6			
W35	24/04/2016 8:30					135.5			
W35	25/04/2016 8:20					143.4			
W35	26/04/2016 8:30					144.1			
W35	27/04/2016 7:10					146.2			
W35	28/04/2016 8:40					155.6			
W35	29/04/2016 8:50					157.6			
W35	30/04/2016 8:30					156.7			
W35	02/05/2016 9:00					165.8			
W35	03/05/2016 7:45								
W35	04/05/2016 7:45					183.8			
W35	05/05/2016 8:20					181.4			
W35	06/05/2016 9:00					192.6			
W35	07/05/2016 9:05					207.5			
W35	08/05/2016 8:35					188.9			
W35	09/05/2016 8:30					179.6			
W35	10/05/2016 8:50					178.7			
W35	11/05/2016 8:40								
W35	12/05/2016 9:15								

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T	B-T
			mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W35	13/05/2016 8:25	M			7.78		101.8		3	12.3	91.3	100.3																	
W35	14/05/2016 7:50	M			7.91		109.1		4	11.13	85.1	196.3																	
W35	15/05/2016 8:45	M			7.79		119.7		5.5	11.76	93.4	119.4																	
W35	16/05/2016 8:15	M			7.99		129.6		5.5	0.08	0.6	186																	
W35	17/05/2016 8:40	M			7.75		108.4		3.3	13.16	98.6	157																	
W35	18/05/2016 7:05	M			7.38		91.7		2.8	12.5	93.6	182.9																	
W35	19/05/2016 8:05	M			8.08		87.3		2.6	12.55	92.4	66.9																	
W35	20/05/2016 8:35	M			7.8		84.7		3.6	12.43	93.9	80																	
W35	21/05/2016 8:30	M			7.64		85.2		3	11.96	89	102.6																	
W35	22/05/2016 8:20	M			7.82		106.3		7.1	10.69	88.3	116.9																	
W35	23/05/2016 8:15	M			7.75		98.6		4	11.64	88.9	127.2																	
W35	24/05/2016 9:20	M			7.95		114.4		6.8	11.65	95.6	134.3																	
W35	25/05/2016 7:45	M			7.78		116.2		5.6	10.53	83.8	135.1																	
W35	26/05/2016 8:15	M			7.66		62		4.4	11.88	91.5	145.8																	
W35	27/05/2016 8:35	M			7.56		100.2		3.3	12.05	90.3	91.8																	
W35	28/05/2016 8:15	M			7.76		107.9		5	11.89	92.9	92.7																	
W35	29/05/2016 7:55	M			9		211		3.9																				
W35	30/05/2016 8:10	M			8.6		226		6.7																				
W35	31/05/2016 10:10	M			7.89		133.1		7.1	11.61	96.5	140																	
W35	01/06/2016 8:15	M			8.8		251		8.1																				
W35	02/06/2016 8:10	M			7.7		162.5		7.2	7.89	65.3	150																	
W35	03/06/2016 8:40	M			7.72		176.1		8.8	8.64	74.5	157.6																	
W35	04/06/2016 8:25	M			7.73		185.3		9.3	7.5	65.5	131.5																	
W35	05/06/2016 8:40	M			7.92		148.2		8.6	11.11	95.2	121.2																	
W35	06/06/2016 8:35	M			7.92		144.8		8	9.8	82.9	121																	
W35	07/06/2016 8:30	M			7.96		136.1		6.7	10.83	88.6	133.1																	
W35	08/06/2016 8:15	M			7.74		133.3		5.8	9.87	78.9	198.5																	
W35	09/06/2016 8:19	M			7.79		141.8		6.9	9.75	80.2	90.9																	
W35	10/06/2016 8:29	M			7.72		159.5		8.3	9.47	80.7	103.5																	
W35	11/06/2016 8:40	M			7.75		177.9		10.2	8.01	71.6	144																	
W35	12/06/2016 7:55	M			7.65		179.9		10.1	7.24	64.4	119.9																	
W35	13/06/2016 8:45	M			7.64		193.6		9.5	7.59	66.4	116.6																	
W35	14/06/2016 8:40	M			7.72		200.8		10.6	8.2	73.9	129.6																	
W35	15/06/2016 8:10	M			7.77		202.3		9.8	9.39	82.7	140.1																	
W35	16/06/2016 8:40	M			7.72		201.7		10	8.36	74.1	134.5																	
W35	17/06/2016 8:45	M			7.65		236.7		12.1	7.15	66.7	134.4																	
W35	18/06/2016 8:50	M			7.54		290		13	6.22	59	142																	
W35	19/06/2016 8:30	M			7.47		251.4		12.1	5.24	49.3	113.8																	
W35	20/06/2016 9:00	M			7.56		273.5		12.3	4.85	45.4	127.5																	
W35	21/06/2016 8:30	M			7.46		275.9		12.4	5.16	48.1	123.8																	
W35	22/06/2016 8:00	M			7.51		270.1		9.7	6.02	62.7	135.4																	
W35	23/06/2016 8:40	M			7.6		392		11.3																				
W35	24/06/2016 8:35	P	<3.0	228	7.49	7.73	292.2	391	11.5	5.39	49.5	123.5		210	168	0.93		26.0	0.0318	0.0784	3.51	20.5	0.0177	<0.00010	0.00038	0.202	<0.000020	<0.000050	<0.010
W35	25/06/2016 8:15	M			7.56		311.4		13	4.52	42.9	127.7																	
W35	26/06/2016 8:25	M			7.48		301.2		11.3	5.69	51.1	118.3																	
W35	27/06/2016 8:30	M			7.57		299.1		10.4	5.1	46.2	119.4																	
W35	15/07/2016 8:00	M			7.53		401.6		15.5	4.93	49.5	102.5																	
W35	23/07/2016 8:20	M			7.3		364.6		11.6	5.26	48.7	107																	
W35	24/07/2016 8:30	M			7.32		305		12.2	5.4	50.5	111.2																	
W35	25/07/2016 8:35	P	<3.0	350	7.56	7.93	380.4	540	8.6	9.47	81.2	110.6		269	142	1.1		30.3	0.0194	0.0836	28.7	21.4	0.172	<0.00010	0.00044	0.134	<0.000020	<0.000050	<0.010
W35	26/07/2016 7:05	M			8.1		478		8.2																				
W35	27/07/2016 8:35	M			7.6		297.7		8.1	11.73	99.4	97.3																	
W35	28/07/2016 8:55	M			7.65		314.1		10.1	9.08	80.8	84.1																	
W35	29/07/2016 8:00	M			7.62		319.3		10.6	8.5	76.4	87.5																	
W35	30/07/2016 8:57	M			7.76		324.5		10.9	9.44	85.5	69.6																	
W35	31/07/2016 8:40	M			7.6		319.7		9.7	8.91	78.4	85.2																	
W35	01/08/2016 8:27	P	4.0		7.6	7.92	330.5	449	10.4	8.05	72	57.1		221	145	0.80	0.125	24.4	0.0142	0.0109	16.1	21.4	0.0227	<0.00010	0.00034	0.144	<0.000020	<0.000050	<0.010
W35	02/08/2016 8:00	M			7.54		387.3		11.7	6.35	67	100.5																	
W35	03/08/2016 8:30	M			7.48		371.5		13.2	6.18	59	107.7																	
W35	04/08/2016 8:45	M			7.59		360		11.6	8.43	77.8	101.1																	
W35	05/08/2016 8:30	M			7.75		407.5		13.7	6.1	58.8	142.1																	
W35	06/08/2016 8:30	M			7.79		368.7		12.9	7.32	69.4	143.2																	
W35	07/08/2016 8:25	P	5.3	296	7.82	8.10	369.9	470	13.1	6.82	64.6	132.4		245	169	0.81		27.4	0.0154	0.0210	15.2	21.7	0.0399	<0.00010	0.00044	0.180	<0.000020	<0.000050	<0.010
W35	08/08/2016 8:30	M			7.47		380.8		14.1	6.21	60.6	121.8																	
W35	09/08/2016 8:10	M			7.67		276.7		13.1	6.43	61.2	163.4																	

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W35	13/05/2016 8:25																									
W35	14/05/2016 7:50																									
W35	15/05/2016 8:45																									
W35	16/05/2016 8:15																									
W35	17/05/2016 8:40																									
W35	18/05/2016 7:05																									
W35	19/05/2016 8:05																									
W35	20/05/2016 8:35																									
W35	21/05/2016 8:30																									
W35	22/05/2016 8:20																									
W35	23/05/2016 8:15																									
W35	24/05/2016 9:20																									
W35	25/05/2016 7:45																									
W35	26/05/2016 8:15																									
W35	27/05/2016 8:35																									
W35	28/05/2016 8:15																									
W35	29/05/2016 7:55																									
W35	30/05/2016 8:10																									
W35	31/05/2016 10:10																									
W35	01/06/2016 8:15																									
W35	02/06/2016 8:10																									
W35	03/06/2016 8:40																									
W35	04/06/2016 8:25																									
W35	05/06/2016 8:40																									
W35	06/06/2016 8:35																									
W35	07/06/2016 8:30																									
W35	08/06/2016 8:15																									
W35	09/06/2016 8:19																									
W35	10/06/2016 8:29																									
W35	11/06/2016 8:40																									
W35	12/06/2016 7:55																									
W35	13/06/2016 8:45																									
W35	14/06/2016 8:40																									
W35	15/06/2016 8:10																									
W35	16/06/2016 8:40																									
W35	17/06/2016 8:45																									
W35	18/06/2016 8:50																									
W35	19/06/2016 8:30																									
W35	20/06/2016 9:00																									
W35	21/06/2016 8:30																									
W35	22/06/2016 8:00																									
W35	23/06/2016 8:40																									
W35	24/06/2016 8:35	0.0000165	60.0	0.00026	<0.00010	0.0590	0.031	<0.000050	0.0011	15.8	0.0176	<0.0000050	0.00153	0.00090	<0.050	2.81	0.000271	4.45	0.000010	7.94	0.338	9.18	0.000010	<0.00010	0.00079	0.000462
W35	25/06/2016 8:15																									
W35	26/06/2016 8:25																									
W35	27/06/2016 8:30																									
W35	15/07/2016 8:00																									
W35	23/07/2016 8:20																									
W35	24/07/2016 8:30																									
W35	25/07/2016 8:35	0.0000088	65.6	0.00038	0.00014	0.0351	0.299	0.000116	<0.0010	21.8	0.0156	<0.0000050	0.00117	0.00106	<0.050	1.69	0.000386	5.42	0.000011	10.5	0.405	10.1	<0.000010	<0.00010	0.0107	0.000264
W35	26/07/2016 7:05																									
W35	27/07/2016 8:35																									
W35	28/07/2016 8:55																									
W35	29/07/2016 8:00																									
W35	30/07/2016 8:57																									
W35	31/07/2016 8:40																									
W35	01/08/2016 8:27	0.0000070	60.2	0.00035	<0.00010	0.0346	0.042	<0.000050	<0.0010	17.7	0.00274		0.00118	0.00115	<0.050	1.58	0.000276	4.68	<0.000010	9.20	0.375	8.56	<0.000010	<0.00010	0.00104	0.000320
W35	02/08/2016 8:00																									
W35	03/08/2016 8:30																									
W35	04/08/2016 8:45																									
W35	05/08/2016 8:30																									
W35	06/08/2016 8:30																									
W35	07/08/2016 8:25	0.0000115	66.6	0.00035	<0.00010	0.0381	0.064	<0.000050	<0.0010	19.5	0.00356	<0.0000050	0.00108	0.00100	<0.050	1.98	0.000257	4.77	<0.000010	11.1	0.353	9.81	<0.000010	<0.00010	0.00204	0.000371
W35	08/08/2016 8:30																									
W35	09/08/2016 8:10																									

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W35	13/05/2016 8:25																									
W35	14/05/2016 7:50																									
W35	15/05/2016 8:45																									
W35	16/05/2016 8:15																									
W35	17/05/2016 8:40																									
W35	18/05/2016 7:05																									
W35	19/05/2016 8:05																									
W35	20/05/2016 8:35																									
W35	21/05/2016 8:30																									
W35	22/05/2016 8:20																									
W35	23/05/2016 8:15																									
W35	24/05/2016 9:20																									
W35	25/05/2016 7:45																									
W35	26/05/2016 8:15																									
W35	27/05/2016 8:35																									
W35	28/05/2016 8:15																									
W35	29/05/2016 7:55																									
W35	30/05/2016 8:10																									
W35	31/05/2016 10:10																									
W35	01/06/2016 8:15																									
W35	02/06/2016 8:10																									
W35	03/06/2016 8:40																									
W35	04/06/2016 8:25																									
W35	05/06/2016 8:40																									
W35	06/06/2016 8:35																									
W35	07/06/2016 8:30																									
W35	08/06/2016 8:15																									
W35	09/06/2016 8:19																									
W35	10/06/2016 8:29																									
W35	11/06/2016 8:40																									
W35	12/06/2016 7:55																									
W35	13/06/2016 8:45																									
W35	14/06/2016 8:40																									
W35	15/06/2016 8:10																									
W35	16/06/2016 8:40																									
W35	17/06/2016 8:45																									
W35	18/06/2016 8:50																									
W35	19/06/2016 8:30																									
W35	20/06/2016 9:00																									
W35	21/06/2016 8:30																									
W35	22/06/2016 8:00																									
W35	23/06/2016 8:40																									
W35	24/06/2016 8:35	<0.00050	<0.0030	<0.00030	0.0061	<0.00010	0.00036	0.193	<0.000020	<0.000050	<0.010	0.0000171	58.8	0.00022	<0.00010	0.0551	0.016	<0.000050	0.0010	15.3	0.0162	<0.0000050	0.00136	0.00082	<0.050	2.63
W35	25/06/2016 8:15																									
W35	26/06/2016 8:25																									
W35	27/06/2016 8:30																									
W35	15/07/2016 8:00																									
W35	23/07/2016 8:20																									
W35	24/07/2016 8:30																									
W35	25/07/2016 8:35	0.00090	<0.0030	<0.00030	0.0169	<0.00010	0.00041	0.142	<0.000020	<0.000050	<0.010	0.0000063	69.9	0.00026	<0.00010	0.0290	0.057	<0.000050	0.0010	22.8	0.00902	<0.0000050	0.00108	0.00107	<0.050	1.71
W35	26/07/2016 7:05																									
W35	27/07/2016 8:35																									
W35	28/07/2016 8:55																									
W35	29/07/2016 8:00																									
W35	30/07/2016 8:57																									
W35	31/07/2016 8:40																									
W35	01/08/2016 8:27	<0.00050	<0.0030	<0.00030	0.0099	<0.00010	0.00039	0.139	<0.000020	<0.000050	<0.010	<0.0000050	58.8	0.00038	<0.00010	0.0345	<0.030	0.000057	<0.0010	18.0	0.00206		0.00105	0.00103	<0.15	1.58
W35	02/08/2016 8:00																									
W35	03/08/2016 8:30																									
W35	04/08/2016 8:45																									
W35	05/08/2016 8:30																									
W35	06/08/2016 8:30																									
W35	07/08/2016 8:25	0.00062	<0.0030	<0.00030	0.0100	<0.00010	0.00038	0.183	<0.000020	<0.000050	<0.010	0.0000100	66.1	0.00031	<0.00010	0.0370	0.021	<0.000050	<0.0010	19.3	0.00198	<0.0000050	0.000954	0.00103	<0.050	1.99
W35	08/08/2016 8:30																									
W35	09/08/2016 8:10																									

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	BOD5	Br	Cation	COD	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-T	N-TKN	P-PO4T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L
W35	13/05/2016 8:25																															
W35	14/05/2016 7:50																															
W35	15/05/2016 8:45																															
W35	16/05/2016 8:15																															
W35	17/05/2016 8:40																															
W35	18/05/2016 7:05																															
W35	19/05/2016 8:05																															
W35	20/05/2016 8:35																															
W35	21/05/2016 8:30																															
W35	22/05/2016 8:20																															
W35	23/05/2016 8:15																															
W35	24/05/2016 9:20																															
W35	25/05/2016 7:45																															
W35	26/05/2016 8:15																															
W35	27/05/2016 8:35																															
W35	28/05/2016 8:15																															
W35	29/05/2016 7:55																															
W35	30/05/2016 8:10																															
W35	31/05/2016 10:10																															
W35	01/06/2016 8:15																															
W35	02/06/2016 8:10																															
W35	03/06/2016 8:40																															
W35	04/06/2016 8:25																															
W35	05/06/2016 8:40																															
W35	06/06/2016 8:35																															
W35	07/06/2016 8:30																															
W35	08/06/2016 8:15																															
W35	09/06/2016 8:19																															
W35	10/06/2016 8:29																															
W35	11/06/2016 8:40																															
W35	12/06/2016 7:55																															
W35	13/06/2016 8:45																															
W35	14/06/2016 8:40																															
W35	15/06/2016 8:10																															
W35	16/06/2016 8:40																															
W35	17/06/2016 8:45																															
W35	18/06/2016 8:50																															
W35	19/06/2016 8:30																															
W35	20/06/2016 9:00																															
W35	21/06/2016 8:30																															
W35	22/06/2016 8:00																															
W35	23/06/2016 8:40																															
W35	24/06/2016 8:35	0.000198	4.31	<0.000010	7.62	0.314	8.90	<0.000010	<0.00010	0.00035	0.000415	<0.00050	<0.0010	<0.00030	168	<1.0	<1.0		4.18			4.60							4.8			
W35	25/06/2016 8:15																															
W35	26/06/2016 8:25																															
W35	27/06/2016 8:30																															
W35	15/07/2016 8:00																															
W35	23/07/2016 8:20																															
W35	24/07/2016 8:30																															
W35	25/07/2016 8:35	0.000475	5.44	<0.000010	11.0	0.423	10.5	<0.000010	<0.00010	0.00070	0.000248	<0.00050	0.0035	<0.00030	142	<1.0	<1.0		5.57			5.90							2.9			
W35	26/07/2016 7:05																															
W35	27/07/2016 8:35																															
W35	28/07/2016 8:55																															
W35	29/07/2016 8:00																															
W35	30/07/2016 8:57																															
W35	31/07/2016 8:40																															
W35	01/08/2016 8:27	0.000470	4.83	<0.000010	9.04	0.363	1880	<0.000010	<0.00010	0.00041	0.000306	<0.00050	0.0023	<0.00030	145	<1.0	<1.0		4.59	<2.0		4.85	55					21.8	2.8	17.4	1.32	
W35	02/08/2016 8:00																															
W35	03/08/2016 8:30																															
W35	04/08/2016 8:45																															
W35	05/08/2016 8:30																															
W35	06/08/2016 8:30																															
W35	07/08/2016 8:25	0.000253	4.62	<0.000010	11.2	0.335	9.77	<0.000010	<0.00010	0.00049	0.000337	<0.00050	0.0068	<0.00030	169	<1.0	<1.0		5.06			5.43							3.5			
W35	08/08/2016 8:30																															
W35	09/08/2016 8:10																															

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	P-TDP	P-TRP	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		mg/L	mg/L	Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W35	13/05/2016 8:25					175.6			
W35	14/05/2016 7:50					181.8			
W35	15/05/2016 8:45					190.4			
W35	16/05/2016 8:15					200.3			
W35	17/05/2016 8:40					185.1			
W35	18/05/2016 7:05					159.1			
W35	19/05/2016 8:05					152.5			
W35	20/05/2016 8:35					143.5			
W35	21/05/2016 8:30					146.8			
W35	22/05/2016 8:20					161.6			
W35	23/05/2016 8:15					164.4			
W35	24/05/2016 9:20					175.3			
W35	25/05/2016 7:45					184.5			
W35	26/05/2016 8:15					102.8			
W35	27/05/2016 8:35					171			
W35	28/05/2016 8:15					175.2			
W35	29/05/2016 7:55								
W35	30/05/2016 8:10								
W35	31/05/2016 10:10					202.2			
W35	01/06/2016 8:15								
W35	02/06/2016 8:10					246.2			
W35	03/06/2016 8:40					254.9			
W35	04/06/2016 8:25					264.7			
W35	05/06/2016 8:40					216			
W35	06/06/2016 8:35					214.2			
W35	07/06/2016 8:30					209.4			
W35	08/06/2016 8:15					210.6			
W35	09/06/2016 8:19					217			
W35	10/06/2016 8:29					233.9			
W35	11/06/2016 8:40					247.7			
W35	12/06/2016 7:55					251.9			
W35	13/06/2016 8:45					275.3			
W35	14/06/2016 8:40					276.9			
W35	15/06/2016 8:10					285.3			
W35	16/06/2016 8:40					282.7			
W35	17/06/2016 8:45					314.1			
W35	18/06/2016 8:50					376.5			
W35	19/06/2016 8:30					333.3			
W35	20/06/2016 9:00					361.3			
W35	21/06/2016 8:30					366			
W35	22/06/2016 8:00					383.7			
W35	23/06/2016 8:40								
W35	24/06/2016 8:35					393.8			
W35	25/06/2016 8:15					404			
W35	26/06/2016 8:25					407.8			
W35	27/06/2016 8:30					414.7			
W35	15/07/2016 8:00					493.3			
W35	23/07/2016 8:20					490			
W35	24/07/2016 8:30					403.5			
W35	25/07/2016 8:35					553.7			
W35	26/07/2016 7:05								
W35	27/07/2016 8:35					439.9			
W35	28/07/2016 8:55					439			
W35	29/07/2016 8:00					441			
W35	30/07/2016 8:57					444.4			
W35	31/07/2016 8:40					452.1			
W35	01/08/2016 8:27					458.1			
W35	02/08/2016 8:00					448.6			
W35	03/08/2016 8:30					479.8			
W35	04/08/2016 8:45					485.8			
W35	05/08/2016 8:30					520.3			
W35	06/08/2016 8:30					479			
W35	07/08/2016 8:25					478.6			
W35	08/08/2016 8:30					481.2			
W35	09/08/2016 8:10					309.1			

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T	B-T
			mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W35	10/08/2016 8:32	M			7.85		301.6		9.6	8.7	76.4	166.5																	
W35	11/08/2016 9:20	M			7.68		280.7		9.2	9.54	83	135.3																	
W35	12/08/2016 9:15	M			7.64		278.2		9.5	11.01	96.6	120.4																	
W35	13/08/2016 9:25	M			7.62		286.3		10.4	9.69	86.9	123.7																	
W35	14/08/2016 9:30	M			7.65		292		10.3	9.17	82	115.6																	
W35	15/08/2016 10:00	M			7.59		301.8		10.5	9.15	82	121.2																	
W35	16/08/2016 9:45	M			7.52		306.2		10.3	9.1	81.2	119																	
W35	17/08/2016 9:45	M			7.41		316.4		10.7	8.4	75.7	108																	
W35	18/08/2016 9:35	M			7.54		320.9		10.7	7.71	69.5	121.9																	
W35	19/08/2016 9:30	M			7.57		327.6		9.6	9.87	86.7	118.2																	
W35	20/08/2016 9:45	M			7.62		314.3		9.6	9.17	80.4	122.5																	
W35	21/08/2016 9:40	M			7.49		299.3		8.9	10	86.4	126.2																	
W35	22/08/2016 8:45	M			7.79		308.1		9.8	6.24	55.1	126.9																	
W35	23/08/2016 9:55	M			7.43		309		10.2	8.75	78	135.4																	
W35	24/08/2016 8:35	M			7.54		303.8		9.2	5.73	50	145.1																	
W35	25/08/2016 9:10	M			7.4		317.5		11.1	7.35	67	134.5																	
W35	26/08/2016 9:05	M			7.51		271.8		10.3	8.56	77.6	134.2																	
W35	27/08/2016 8:30	M			7.41		260.1		7.6	12.71	106.8	132.1																	
W35	28/08/2016 7:51	M			7.49		244.5		8.2	11.13	94.3	139.2																	
W35	29/08/2016 8:45	M			7.52		226.6		6.3	13.59	110	150.1																	
W35	30/08/2016 8:50	M			7.55		218.1		5.4	11.7	93.1	137.4																	
W35	31/08/2016 8:15	M			7.4		229.9		7	11.82	98.6	154.7																	
W35	01/09/2016 8:35	M			7.6		199.7		6.3	9.55	77.3	143.9																	
W35	02/09/2016 8:40	M			7.56		232.7		7.6	10.9	91.5	145.5																	
W35	03/09/2016 8:10	M			7.43		214.6		5.3	9.99	79	130.1																	
W35	04/09/2016 8:55	M			7.22		203.4		4	11.58	88.5	160.4																	
W35	05/09/2016 8:15	M			7.42		216.5		5.8	10.03	80.2	137.3																	
W35	06/09/2016 8:10	M			7.42		213.9		6.1	9.49	75.6	158.9																	
W35	07/09/2016 7:50	M			7.45		220.7		6.4	9.99	81.2	127.7																	
W35	08/09/2016 7:45	M			7.83		200.8		5.2	10.46	82.5	129.2																	
W35	09/09/2016 8:20	M			7.92		190.2		4.1	12.01	91.9	162.4																	
W35	10/09/2016 8:33	M			7.93		179		3	11.1	82.7	148.9																	
W35	11/09/2016 8:53	M			7.88		179.1		2.8	11.45	84.8	153																	
W35	12/09/2016 8:42	P	<3.0	184	7.85	8.20	194.8	309	5.4	10.16	80.5	140.4		158	147	0.70		11.2	0.0094	0.0025	4.70	21.3	0.0160	<0.00010	0.00034	0.0902	0.000023	<0.000050	<0.010
W35	13/09/2016 8:39	M			7.95		201.1		6.1	9.9	79.8	109.4																	
W35	14/09/2016 8:31	M			7.92		186.2		3.3	11.56	86.6	137.7																	
W35	15/09/2016 8:30	M			7.23		194.1		3.2	11.21	84.1	220.4																	
W35	16/09/2016 9:50	M			7.74		202.7		5.7	9.81	78.2	131.9																	
W35	17/09/2016 8:10	M			7.68		201.6		5.1	9.65	76	138.2																	
W35	18/09/2016 8:20	M			7.15		203.1		5.6	10.19	81.2	170.5																	
W35	19/09/2016 8:30	M			7.19		195.7		4	9.91	75.8	155.1																	
W35	20/09/2016 8:50	M			7.77		173.7		1.8	11.56	83.3	140.9																	
W35	21/09/2016 7:50	M			7.74		176.2		2.4	12.62	92.1	136.1																	
W35	22/09/2016 8:20	M			7.28		192.3		3.5	9.83	74.1	181.6																	
W35	23/09/2016 9:05	M			7.67		187.5		1.5	10.86	77.5	165.7																	
W35	24/09/2016 8:45	M			7.26		180.7		0.8	11.65	81.6	161.6																	
W35	25/09/2016 8:20	M			7.2		182.4		0.8	12.32	86.4	178.5																	
W35	26/09/2016 8:30	M			7.27		180.8		0.7	12.15	84.9	146.5																	
W35	27/09/2016 8:45	M			7.47		189.6		1.5	11.84	84.8	154																	
W35	28/09/2016 8:20	M			7.23		194.3		0.5	12.16	84.7	154.2																	
W35	29/09/2016 8:30	M			7.31		186.2		0.3	12.7	87.7	170.3																	
W35	30/09/2016 8:25	M			7.47		194.4		0.1	12.57	86.5	160																	
W35	01/10/2016 8:45	M			7.19		193.9		0.1	12.62	87	174.1																	
W35	02/10/2016 8:35	M			7.21		167.2		0.1	11.19	76.9	153.9																	
W35A	22/04/2009	M												51															
W35A	27/04/2009	M																					5.74	<0.001	0.001	0.076	0.0002	<0.0005	<0.02
W35A	10/05/2009	M	<2	82		7.3		66						36	31	1.2				<0.005	<0.01		0.11	<0.0002	0.0002	0.027	<0.0001	<0.0005	0.004
W35A	25/05/2009	M	3	128	7	7.59	142.2	148						72	60	0.28		12.4					0.032	<0.0002	0.0002	0.045	<0.00004	<0.0001	<0.005
W35A	16/06/2009	M			7.62		197.5		7.7																				
W35A	08/07/2009	M	<5	164	7.32	7.82	233	225	8.4					117	109	0.1		9					0.028	0.0003	0.0003	0.059	<0.00004	<0.0001	<0.005
W35A	27/07/2009	M	<2	192		8.01	258	254	10.1					139	129	1.9		5.7					0.022	<0.0002	0.001	0.072	<0.00004	<0.001	<0.005
W35A	11/08/2009	M	<2	192	7.88	7.75	241	240	11.1					120	124	2.04		7.1					0.024	<0.0002	0.0006	0.057	<0.00004	<0.001	<0.005
W35A	01/09/2009	M	<3	170	7.98	7.67	223	221	7.98					110	106	0.37		12			<0.01		0.027	<0.0002	0.0007	0.054	<0.00004	<0.001	<0.005
W35A	19/04/2010	F	8	116	7.32	7.1	124.6	82	1				32		26	1.92		8.4					0.51	<0.0002	0.0006	0.028	<0.00004	<0.001	0.008
W35A	20/04/2010	F	16	<5	7	7.02	77.6	68	1.1				36		23	1.38		8.7			0.07		0.434	<0.0002	0.0005	0.028	<0.00004	<0.001	<0.005

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W35	10/08/2016 8:32																									
W35	11/08/2016 9:20																									
W35	12/08/2016 9:15																									
W35	13/08/2016 9:25																									
W35	14/08/2016 9:30																									
W35	15/08/2016 10:00																									
W35	16/08/2016 9:45																									
W35	17/08/2016 9:45																									
W35	18/08/2016 9:35																									
W35	19/08/2016 9:30																									
W35	20/08/2016 9:45																									
W35	21/08/2016 9:40																									
W35	22/08/2016 8:45																									
W35	23/08/2016 9:55																									
W35	24/08/2016 8:35																									
W35	25/08/2016 9:10																									
W35	26/08/2016 9:05																									
W35	27/08/2016 8:30																									
W35	28/08/2016 7:51																									
W35	29/08/2016 8:45																									
W35	30/08/2016 8:50																									
W35	31/08/2016 8:15																									
W35	01/09/2016 8:35																									
W35	02/09/2016 8:40																									
W35	03/09/2016 8:10																									
W35	04/09/2016 8:55																									
W35	05/09/2016 8:15																									
W35	06/09/2016 8:10																									
W35	07/09/2016 7:50																									
W35	08/09/2016 7:45																									
W35	09/09/2016 8:20																									
W35	10/09/2016 8:33																									
W35	11/09/2016 8:53																									
W35	12/09/2016 8:42	0.0000063	45.8	0.00044	<0.00010	0.0245	0.037	<0.000050	<0.0010	13.0	0.00167	<0.0000050	0.00104	0.00125	<0.050	0.93	0.000164	4.92	<0.000010	6.88	0.276	4.04	<0.000010	<0.00010	0.00073	0.000244
W35	13/09/2016 8:39																									
W35	14/09/2016 8:31																									
W35	15/09/2016 8:30																									
W35	16/09/2016 9:50																									
W35	17/09/2016 8:10																									
W35	18/09/2016 8:20																									
W35	19/09/2016 8:30																									
W35	20/09/2016 8:50																									
W35	21/09/2016 7:50																									
W35	22/09/2016 8:20																									
W35	23/09/2016 9:05																									
W35	24/09/2016 8:45																									
W35	25/09/2016 8:20																									
W35	26/09/2016 8:30																									
W35	27/09/2016 8:45																									
W35	28/09/2016 8:20																									
W35	29/09/2016 8:30																									
W35	30/09/2016 8:25																									
W35	01/10/2016 8:45																									
W35	02/10/2016 8:35																									
W35A	22/04/2009																									
W35A	27/04/2009	0.00006	18.7	0.003	0.0017	0.39	6.84	0.002	<0.005	4.2	0.191	0.00002	0.0012	<0.005	0.22	4	<0.003	12.7	<0.00005	4	0.082	2	<0.00005	<0.0005	0.277	<0.002
W35A	10/05/2009	0.00001	10.2	0.0018	0.0001	0.021	0.21	<0.0001	<0.001	2.6	0.013	<0.0001	<0.001	0.0013	0.05	1	<0.0002	2.31	0.00002	1.8	0.057	1.6	<0.00005	<0.001	0.0032	<0.0005
W35A	25/05/2009	<0.00001	20.3	0.0013	0.00008	0.008	0.08	0.0001	<0.001	6.22	0.0047	<0.00001	0.00086	0.001	<0.05	1	<0.0006	3.61	<0.00001	3.75	0.113	4.1	<0.00001	<0.0001	0.0012	<0.0004
W35A	16/06/2009																									
W35A	08/07/2009	<0.00001	33.3	0.0006	0.0002	0.007	0.22	<0.0001	<0.001	10.8	0.0281	<0.00001	0.00096	0.001	<0.010	0.6	<0.0006	4.84	0.0027	5.47	0.166	4.3	<0.00001	<0.0001	0.0008	<0.0004
W35A	27/07/2009	<0.00001	37.5	0.0011	0.0002	0.006	0.269	0.0003	<0.001	12	0.0429	<0.00001	0.0011	0.001	<0.01	0.4	<0.0006	5.71	0.00002	5.02	0.187	2	<0.00001	<0.0001	0.0014	<0.0004
W35A	11/08/2009	0.00001	34.6	0.0011	0.00022	0.006	0.232	0.0004	<0.001	11	0.0489		0.001	0.001	<0.01	0.5	<0.0006	5.74	<0.00001	4.94	0.17	2.1	<0.00001	<0.0001	0.0011	<0.0004
W35A	01/09/2009	<0.00001	30.9	0.0011	0.00014	0.005	0.203	0.0004	<0.001	9.83	0.0374	<0.00001	0.0009	0.001	0.015	0.8	<0.0006	5.5	<0.00001	4.44	0.167	3.5	<0.00001	<0.0001	0.0008	<0.0004
W35A	19/04/2010	0.00005	9.05	0.0006	0.00034	0.061	0.704	0.0003	<0.001	3.15	0.044	0.00002	0.0007	0.001	0.21	5.3	<0.0006	2.72	0.00003	3.41	0.047	3	<0.00001	<0.0001		<0.0004
W35A	20/04/2010	0.00021	8.82	0.0006	0.00026	0.05	0.6	0.0002	<0.001	2.82	0.0258	0.00001	0.0005	0.001	0.14	3.7	<0.0006	2.79	0.00002	2.53	0.044	2.2	<0.00001	<0.0001		<0.0004

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W35	10/08/2016 8:32																									
W35	11/08/2016 9:20																									
W35	12/08/2016 9:15																									
W35	13/08/2016 9:25																									
W35	14/08/2016 9:30																									
W35	15/08/2016 10:00																									
W35	16/08/2016 9:45																									
W35	17/08/2016 9:45																									
W35	18/08/2016 9:35																									
W35	19/08/2016 9:30																									
W35	20/08/2016 9:45																									
W35	21/08/2016 9:40																									
W35	22/08/2016 8:45																									
W35	23/08/2016 9:55																									
W35	24/08/2016 8:35																									
W35	25/08/2016 9:10																									
W35	26/08/2016 9:05																									
W35	27/08/2016 8:30																									
W35	28/08/2016 7:51																									
W35	29/08/2016 8:45																									
W35	30/08/2016 8:50																									
W35	31/08/2016 8:15																									
W35	01/09/2016 8:35																									
W35	02/09/2016 8:40																									
W35	03/09/2016 8:10																									
W35	04/09/2016 8:55																									
W35	05/09/2016 8:15																									
W35	06/09/2016 8:10																									
W35	07/09/2016 7:50																									
W35	08/09/2016 7:45																									
W35	09/09/2016 8:20																									
W35	10/09/2016 8:33																									
W35	11/09/2016 8:53																									
W35	12/09/2016 8:42	<0.00050	<0.0030	0.00031	0.0104	<0.00010	0.00035	0.0901	<0.000020	<0.000050	<0.010	<0.0000050	43.1	0.00035	<0.00010	0.0237	0.028	<0.000050	<0.0010	12.2	0.00138	<0.0000050	0.000944	0.00119	<0.050	0.86
W35	13/09/2016 8:39																									
W35	14/09/2016 8:31																									
W35	15/09/2016 8:30																									
W35	16/09/2016 9:50																									
W35	17/09/2016 8:10																									
W35	18/09/2016 8:20																									
W35	19/09/2016 8:30																									
W35	20/09/2016 8:50																									
W35	21/09/2016 7:50																									
W35	22/09/2016 8:20																									
W35	23/09/2016 9:05																									
W35	24/09/2016 8:45																									
W35	25/09/2016 8:20																									
W35	26/09/2016 8:30																									
W35	27/09/2016 8:45																									
W35	28/09/2016 8:20																									
W35	29/09/2016 8:30																									
W35	30/09/2016 8:25																									
W35	01/10/2016 8:45																									
W35	02/10/2016 8:35																									
W35A	22/04/2009				0.073	0.0009	0.0004	0.028	<0.00004	<0.0001	<0.004	0.00061	16.3	0.0014	0.00016	0.098	0.13	0.0003	0.001	2.52	0.0397	<0.00001	0.00117	<0.001	0.04	3
W35A	27/04/2009	0.0156	0.03	0.001																						
W35A	10/05/2009	0.0007	0.004	<0.001	0.054	<0.0002	0.0002	0.027	<0.0001	<0.0005	0.003	<0.00001	10.1	<0.0005	<0.0001	0.02	0.13	<0.0001	<0.001	2.7	<0.005	<0.0001	<0.001	0.0014		1
W35A	25/05/2009	0.00044	0.005	0.0004	0.031	0.001	0.0002	0.044	<0.00004	<0.0001	<0.004	<0.00001	19.2	0.0007	0.00011	0.007	0.08	<0.0001	<0.001	5.8	0.0053	<0.00001	0.00077	0.001	<0.01	0.9
W35A	16/06/2009																									
W35A	08/07/2009	0.00028	0.007	0.0005	0.063	0.0014	0.0003	0.068	<0.00004	<0.001	<0.004	0.00002	33.4	0.0007	0.00028	0.013	0.34	0.0002	<0.001	10.5	0.0369	<0.00001	0.001	0.002	0.02	0.4
W35A	27/07/2009	0.0004	0.015	0.0003	0.012	0.0008	0.0004	0.067	<0.00004	<0.001	<0.004	<0.00001	36.6	0.0011	0.00023	0.005	0.22	0.0003	<0.001	11.7	0.0447	<0.00001	0.001	0.001	<0.01	0.5
W35A	11/08/2009	0.0003	0.006	0.0003	0.018	0.0009	0.0003	0.056	<0.00004	<0.001	<0.004	<0.00001	30.9	0.001	0.00026	0.005	0.17	0.0005	<0.001	9.6	0.044		0.0009	0.001	<0.01	0.5
W35A	01/09/2009	0.0003	0.006	0.0003	0.022	0.001	0.0003	0.055	<0.00004	<0.001	<0.004	<0.00001	29.8	0.0013	0.00016	0.004	0.16	0.0006	<0.001	9.2	0.0345	<0.00001	0.0009	0.001	0.04	0.9
W35A	19/04/2010	0.0016	0.01	0.0001	0.045	0.0013	0.0004	0.022	<0.00004	<0.001	<0.004	0.00009	8.3	<0.0004	0.00018	0.022	0.11	0.0002	<0.001	2.7	0.0225	<0.00001	0.0006	<0.001	0.12	4.8
W35A	20/04/2010	0.0014	0.016	0.0002	0.061	0.001	0.0003	0.024	<0.00004	<0.001	<0.004	0.00006	9.2	0.0004	0.00011	0.023	0.1	0.0009	<0.001	3.3	0.0109	0.00001	0.0008	0.001	0.06	3.8

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	BOD5	Br	Cation	COD	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-T	N-TKN	P-PO4T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L
W35	10/08/2016 8:32																															
W35	11/08/2016 9:20																															
W35	12/08/2016 9:15																															
W35	13/08/2016 9:25																															
W35	14/08/2016 9:30																															
W35	15/08/2016 10:00																															
W35	16/08/2016 9:45																															
W35	17/08/2016 9:45																															
W35	18/08/2016 9:35																															
W35	19/08/2016 9:30																															
W35	20/08/2016 9:45																															
W35	21/08/2016 9:40																															
W35	22/08/2016 8:45																															
W35	23/08/2016 9:55																															
W35	24/08/2016 8:35																															
W35	25/08/2016 9:10																															
W35	26/08/2016 9:05																															
W35	27/08/2016 8:30																															
W35	28/08/2016 7:51																															
W35	29/08/2016 8:45																															
W35	30/08/2016 8:50																															
W35	31/08/2016 8:15																															
W35	01/09/2016 8:35																															
W35	02/09/2016 8:40																															
W35	03/09/2016 8:10																															
W35	04/09/2016 8:55																															
W35	05/09/2016 8:15																															
W35	06/09/2016 8:10																															
W35	07/09/2016 7:50																															
W35	08/09/2016 7:45																															
W35	09/09/2016 8:20																															
W35	10/09/2016 8:33																															
W35	11/09/2016 8:53																															
W35	12/09/2016 8:42	0.000163	4.80	<0.000010	6.67	0.266	3.84	<0.000010	<0.00010	0.00050	0.000215	<0.00050	<0.0010	<0.00030	147	<1.0	<1.0		3.52			3.47							-0.8			
W35	13/09/2016 8:39																															
W35	14/09/2016 8:31																															
W35	15/09/2016 8:30																															
W35	16/09/2016 9:50																															
W35	17/09/2016 8:10																															
W35	18/09/2016 8:20																															
W35	19/09/2016 8:30																															
W35	20/09/2016 8:50																															
W35	21/09/2016 7:50																															
W35	22/09/2016 8:20																															
W35	23/09/2016 9:05																															
W35	24/09/2016 8:45																															
W35	25/09/2016 8:20																															
W35	26/09/2016 8:30																															
W35	27/09/2016 8:45																															
W35	28/09/2016 8:20																															
W35	29/09/2016 8:30																															
W35	30/09/2016 8:25																															
W35	01/10/2016 8:45																															
W35	02/10/2016 8:35																															
W35A	22/04/2009	<0.0006	2.18	<0.00001	3.8	0.063	2.5	<0.00001	<0.0001	0.0088	<0.0004	0.00065	0.006	0.0002																		
W35A	27/04/2009																															
W35A	10/05/2009	<0.0002	2.43	<0.00001	1.7	0.052	1.5	<0.00005	<0.001	0.0009	<0.0005	0.0005	0.002		38	<6	<5							150							0.82	0.02
W35A	25/05/2009	<0.0006	3.46	<0.00001	3.7	0.1	3.9	<0.00001	<0.0001	0.0013	<0.0004	0.00033	0.002	<0.0001	70	<6	<5							80							0.56	0.02
W35A	16/06/2009																															
W35A	08/07/2009	<0.0006	5.29	<0.00001	4.7	0.173	3.6	<0.00001	0.0002	0.0053	<0.0004	0.0006	0.004	0.0003	130	<6	<5							56							0.48	0.03
W35A	27/07/2009	<0.0006	5.6	<0.00001	4.9	0.202	1.9	<0.00001	<0.0001	0.0007	<0.0004	0.0004	0.001	0.0003	160	<6	<5							>60							0.36	0.02
W35A	11/08/2009	<0.0006	5.39	<0.00001	4.3	0.168	2.4	<0.00001	<0.0001	0.0006	<0.0004	0.0002	0.003	0.0003	150	<6	<5							88							0.43	0.03
W35A	01/09/2009	<0.0006	5.41	<0.00001	4.3	0.152	4.1	<0.00001	<0.0001	0.0006	<0.0004	0.0003	0.002	0.0003	130	<6	<5														0.58	0.05
W35A	19/04/2010	<0.0006	1.85	<0.00001	3.2	0.041	2.8	<0.00001	<0.0001	<0.01	<0.0004	0.0004	0.007	0.0001	30	<6	<5														1.23	0.1
W35A	20/04/2010	<0.0006	2.23	<0.00001	3.4	0.046	2.9	<0.00001	<0.0001	<0.01	<0.0004	0.0004	0.008	0.0002	30	<6	<5														1.3	0.06

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	P-TDP	P-TRP	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		mg/L	mg/L	Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W35	10/08/2016 8:32					427.2			
W35	11/08/2016 9:20					402			
W35	12/08/2016 9:15					394.7			
W35	13/08/2016 9:25					397.3			
W35	14/08/2016 9:30					406.1			
W35	15/08/2016 10:00					417.8			
W35	16/08/2016 9:45					426.3			
W35	17/08/2016 9:45					435			
W35	18/08/2016 9:35					441.8			
W35	19/08/2016 9:30					464			
W35	20/08/2016 9:45					445.3			
W35	21/08/2016 9:40					432.2			
W35	22/08/2016 8:45					434.3			
W35	23/08/2016 9:55					430.8			
W35	24/08/2016 8:35					434.9			
W35	25/08/2016 9:10					432.4			
W35	26/08/2016 9:05					377.8			
W35	27/08/2016 8:30					389.2			
W35	28/08/2016 7:51					360.6			
W35	29/08/2016 8:45					351.2			
W35	30/08/2016 8:50					348.6			
W35	31/08/2016 8:15					349.9			
W35	01/09/2016 8:35					311.8			
W35	02/09/2016 8:40					348.4			
W35	03/09/2016 8:10					343.4			
W35	04/09/2016 8:55					338.8			
W35	05/09/2016 8:15					342.5			
W35	06/09/2016 8:10					333.3			
W35	07/09/2016 7:50					342.3			
W35	08/09/2016 7:45					322.7			
W35	09/09/2016 8:20					316.8			
W35	10/09/2016 8:33					308.3			
W35	11/09/2016 8:53					310.6			
W35	12/09/2016 8:42					311.3			
W35	13/09/2016 8:39					314.7			
W35	14/09/2016 8:31					318.4			
W35	15/09/2016 8:30					332.1			
W35	16/09/2016 9:50					321.3			
W35	17/09/2016 8:10					324.9			
W35	18/09/2016 8:20					322.3			
W35	19/09/2016 8:30					325.4			
W35	20/09/2016 8:50					311.7			
W35	21/09/2016 7:50					309.8			
W35	22/09/2016 8:20					326			
W35	23/09/2016 9:05					340.2			
W35	24/09/2016 8:45					336.3			
W35	25/09/2016 8:20					339			
W35	26/09/2016 8:30					337.6			
W35	27/09/2016 8:45					343.6			
W35	28/09/2016 8:20					347			
W35	29/09/2016 8:30					352.7			
W35	30/09/2016 8:25					370.1			
W35	01/10/2016 8:45					359.6			
W35	02/10/2016 8:35					319			
W35A	22/04/2009								
W35A	27/04/2009								
W35A	10/05/2009							2	
W35A	25/05/2009							<0.1	
W35A	16/06/2009								
W35A	08/07/2009		<0.05					0.2	
W35A	27/07/2009		<0.05					0.3	
W35A	11/08/2009		<0.05					0.2	
W35A	01/09/2009		<0.05					0.2	
W35A	19/04/2010							3.5	
W35A	20/04/2010							12	

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T	B-T
			mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W35A	21/04/2010	F	<7	106	6.44	6.89	60	60	1				30		16	1.05		5.3			0.06		0.199	<0.0002	0.0004	0.024	<0.00004	<0.001	0.007
W35A	23/04/2010	F	6	128	7.02	6.96	70	62	0		139.6		36		23	0.81		5.2					0.383	<0.0002	0.0005	0.041	<0.00004	<0.001	<0.005
W35A	24/04/2010	F	22	106	7	7.31	82	82	0.07		125.4		44		32	1.12		4.6				40.6	1.04	<0.0002	0.0005	0.05	<0.00004	<0.001	<0.005
W35A	25/04/2010	F	8	120	7.5	7.38	91	86	3.3		96.5		45		32	1.18		5				35	0.405	<0.0002	0.0005	0.042	<0.00004	<0.001	<0.005
W35A	26/04/2010	F	15	60	7.03	7.3	67	63	0.51		18.59		33.6	31.2	25	2	0.11	11	0.031	0.011	0.08	32.5	1.04	<0.0005	0.0007	0.068	<0.0001	<0.001	<0.05
W35A	27/04/2010	F	6	58	7.66	7.2	66	62	0.59		27.5		33.3	34.1	23	1.6	0.11	24	<0.005	0.013	0.11	29.1	0.118	<0.0005	0.0002	0.03	<0.0001	<0.001	<0.05
W35A	28/04/2010	F	<4	62	7.14	7.4	67	64	0.5		9.3		36.5	36.5	27	1.7	0.1	7	0.031	<0.03	<0.1	30.7	0.27	<0.0005	0.0004	0.04	<0.0001	<0.001	<0.05
W35A	29/04/2010	F	<4	70	7.44	7.3	79	74	1.06		4.3		42.9	40	31	1.5	0.08	<0.5	0.18	0.02	0.3	28.3	0.181	<0.0005	0.0004	0.039	<0.0001	<0.001	<0.05
W35A	30/04/2010	F	<4	60	6.8	7.3	90	66	1.31		81.9		39.8	35.8	27	1.7	0.1	<5	0.028	<0.05	<0.2	38.6	0.189	<0.0005	0.0004	0.042	<0.0001	<0.001	<0.05
W35A	01/05/2010	F	<4	62	6.5	7.4	80	71	1.66		96.4		40.9	41.1	29	1.7	0.09	<5	0.05	<0.005	0.03	34.3	0.218	<0.0005	0.0004	0.044	<0.0001	<0.001	<0.05
W35A	02/05/2010	F	<4	80	6.77	7.3	87	88	0.34		108.5		42.3	43.9	30	1.8	0.09	<0.5	0.039	<0.05	<0.2	36.8	0.172	<0.0005	0.0004	0.044	<0.0001	<0.001	<0.05
W35A	03/05/2010	F	<4	82	7.54	7.4	84	75	0.6		86.4		41.6	44.8	32	1.6	0.08	<0.5	0.017	<0.005	<0.02	30	0.083	<0.0005	0.0005	0.032	<0.0001	<0.001	<0.05
W35A	04/05/2010	F	<4	68	7.41	7.5	81	74	1.68		122.3		46.6	40.6	36	1.3	0.09	5	0.01	<0.005	<0.02	27.3	0.112	<0.0005	0.0004	0.032	<0.0001	<0.001	<0.05
W35A	05/05/2010	F	<4	62	7.55	7.5	90	82	1.53		20.9		48.3	44.7	39	1.4	0.08	<0.5	0.04	<0.005	<0.02	25	0.161	<0.0005	0.0004	0.033	<0.0001	<0.001	<0.05
W35A	06/05/2010	F	<4	64	7.7	7.5	88	86	2.18		44.1		47	47.3	38	1.2	0.09	10	<0.01	<0.005	<0.02	25.6	0.093	<0.0005	0.0003	0.032	<0.0001	<0.001	<0.05
W35A	07/05/2010	F	<4	58	7.55	7.6	90	84	1.19		82.5		47.1	47.8	39	1.4	0.08	<0.5	0.04	0.005	<0.02	25.2	0.169	<0.0005	0.0003	0.032	<0.0001	<0.001	<0.05
W35A	08/05/2010	F	<4	78	8.1	7.8	108	101	1.29		127.2		55.9	54.4	48	1	0.09	<0.5	0.1	<0.005	0.04	25.8	0.129	<0.0005	0.0003	0.046	<0.0001	<0.001	<0.05
W35A	09/05/2010	F	<4	66	7.76	7.7	100	93	3.14		132.6		53.8	50.6	45	0.9	0.09	19	<0.01	<0.05	<0.2	22.1	0.082	<0.0005	0.0003	0.036	<0.0001	<0.001	<0.05
W35A	10/05/2010	F	<4	62	7.9	7.7	102	94	1.61		123.8		50.4	50.9	43	1	0.09	<0.5	0.01	0.009	0.08	23	0.098	<0.0005	0.0003	0.034	<0.0001	<0.001	<0.05
W35A	13/05/2010	F	<4	88		7.7		96					56.8	54.2	44	0.9	0.08	<0.5	0.04	<0.005	<0.02	22.9	0.062	<0.0005	0.0003	0.033	<0.0001	<0.001	<0.05
W35A	17/05/2010	F	18	84	7.94		116.3	111	3.3				61.5	60.8	52	0.8	0.08	<0.5	0.06	<0.005	<0.02	20.5	1.13	<0.0005	0.0005	0.046	<0.0001	<0.001	<0.05
W35A	20/05/2010	F	<1	110	7.18	8		116	2				67.3	66.4	56	0.6	0.1	5.4	0.05	<0.005	<0.02	19.7	0.054	<0.0005	<0.001	0.036	<0.0005	<0.001	<0.05
W35A	24/05/2010	F	<1	110	7.06	7.9	127.7	130	5.4				60.1	63	56	<0.5	0.11	10	0.05	<0.005	<0.02	18.7	0.054	<0.0005	<0.0004	0.039	<0.0002	<0.001	<0.1
W35A	27/05/2010	F	<1	100	7.59	7.9	147	138	12.8				70.3	76.5	60	<0.5	0.1	14	0.03	<0.005	<0.02	18.5	0.063	<0.0005	<0.0004	0.045	<0.0002	<0.001	<0.1
W35A	31/05/2010	F	<1	110	7.26	7.8	141.7	148	6.8				71	65.4	66	0.9	0.12	11				17.5	0.036	<0.0005	<0.0004	0.043	<0.0002	<0.001	<0.1
W35A	03/06/2010	P	<1	110		7.8		155					80.5	75.2	70	<0.5	0.09	11	<0.01	<0.005	<0.02	18.7	0.064	<0.0005	<0.0004	0.048	<0.0002	<0.001	<0.1
W35A	14/06/2010	P	<1	150	6.64	8	186.2	170	5.6				87.9	87	78	1.2	0.09	15	0.066	<0.005	<0.02	18	0.043	<0.0005	<0.0004	0.054	<0.0002	<0.001	<0.1
W35A	17/06/2010	P	<1	130	6.21	7.9	276	179	5.1				91.4	87.7	88	0.5	0.08	8.6	0.03	<0.005	<0.02	17.4	0.047	<0.0005	0.0005	0.056	<0.0002	<0.001	<0.1
W35A	21/06/2010	P	<1	120	6.56	7.9	189	154	7				81.1	76	73	<0.5	0.1	6.8	<0.5	<0.005	<0.02	16.9	0.055	<0.0005	<0.0004	0.046	<0.0002	<0.001	<0.1
W35A	25/06/2010	P	1	110	7.64	7.96	160	158	6.14		83.5		86.3	78.4	73	<0.5	0.11	7.3	0.011	<0.005	<0.02	18.6	0.062	<0.0005	0.0004	0.051	<0.0002	<0.001	<0.1
W35A	12/07/2010	P	21	690	8.15	8.12	938	959	13.58		94.0		415	414	270	14	0.24	170	1.3	3.09	15.1	36.6	0.875	<0.0005	0.0028	0.131	<0.0002	<0.001	<0.1
W35A	29/07/2010	P	3	100	7.57	7.81	148	146	7.91		65.5		76	73.9	72	0.9	0.11	<0.5	0.08	<0.005	<0.02	24.5	0.048	<0.0005	<0.0004	0.042	<0.0002	<0.001	<0.1
W35A	12/08/2010	P	<1	120	8.2	7.88	151	174	11.87		83		102	90.6	79	1.3	0.1	3.5	0.23	<0.005	<0.02	23.9	0.076	<0.0005	<0.0004	0.064	<0.0002	<0.001	<0.1
W35A	19/08/2010	P	16	130	8.3	7.99	131	152	6.94		85.3		81.3	72.4	65	1.6	0.12	<0.5	0.14	<0.005	<0.02	10.5	0.673	<0.0005	<0.0004	0.06	<0.0002	<0.001	<0.1
W35A	26/08/2010	P	<1	130	7.79	7.95	162	162	6.31		71.1		87.2	81.8	75	1.1	0.11	5.1	0.13	<0.005	<0.02	24.6	0.052	<0.0005	<0.0004	0.049	<0.0002	<0.001	<0.1
W35A	08/09/2010	P	<1	160	7.95		181	186	4.93		73.1		88.9	88.3	85	1	0.11	6.5	0.29	<0.005	<0.02	23.3	0.068	<0.0005	<0.0004	0.045	<0.0002	<0.001	<0.1
W35A	15/09/2010	P	<1	150	7.89	7.98	181	186	4.23		76.3		92.4	92.6	83	0.8	0.12	12	0.22	<0.005	<0.2	23.7	0.041	<0.0005	<0.0004	0.049	<0.0002	<0.001	<0.1
W35A	22/09/2010	P	<1	140	7.63	7.89	188	191	0.12		84.6		94	95.2	89	0.8	0.11	8.5	0.33	<0.005	<0.02	20.2	0.033	<0.0005	<0.0004	0.046	<0.0002	<0.001	<0.1
W35A	06/10/2010	P	<1	160	7.56	7.85	190	194	-0.14		90.9		92.7	88.1	87	<0.5	0.1	12	0.06	<0.005	<0.02	19.8	0.032	<0.0005	0.0002	0.043	<0.0001	<0.001	<0.05
W35A	11/10/2010	P	<1	170		7.72		223					101	103	100	0.9	0.11	12	0.064	<0.005	<0.02	17.7	0.028	<0.0005	0.0002	0.05	<0.0001	<0.001	<0.05
W35A	29/10/2010	P	6	160	7.35	7.86	302	248	-0.01		38.5		125	127	110	1.3	0.12	20	0.054	<0.005	0.15	20.1	0.107	<0.0005	0.0004	0.072	<0.0001	<0.001	<0.05
W35A	04/04/2011	P	12	490		7.67		769					222	200	72	61	0.22	140	0.17	0.181	16.9	25.4	0.304	<0.0005	0.0005	0.132	<0.0001	<0.001	<0.05
W35A	03/05/2011	P	6	60		7.18		63					35.8	33	28	2.2	0.07	<0.5	0.007	0.009	8.4	26.7	0.309	<0.0005	0.0004	0.032	<0.0001	<0.001	<0.05
W35A	02/06/2011	P	1	130		7.82		160					82.5	74.3	68	<0.5	0.1	12	0.017			22.5	0.082	<0.0005	0.0002	0.051	<0.0001	<0.001	<0.05
W35A	06/07/2011	P	1	140		7.54		164					83.9	84.2	76			<0.5	0.009	<0.005	0.04	22	0.178	<0.0005	0.0004	0.048	<0.0001	<0.001	<0.05
W35A	13/08/2011	P	2	180		7.66		179					91.6	91.4	85				0.011	<0.005	<0.02	21	0.081	<0.0005	0.0004	0.056	<0.0001	<0.001	<0.05
W35A	13/09/2011	P	2	170	7.55	8.1	219.5	234	4.8	9.7	75.5		113	119	110	1.5		5.8	0.022	<0.005	<0.02	15.5	0.04	<0.0005	0.0002	0.057	<0.0001	<0.001	<0.05
W35A	08/10/2011	P	10	180	7.15	7.91	285.4	273	0.4	8.87	61.4		137	150	140	1			0.008	<0.005	<0.02	16.1	0.043	<0.0005	0.0003	0.064	<0.0001	<0.001	<0.05
W35A	13/11/2011	P	5.3	196	7.06	8.03	250	321	0	2.34	15.7		166	144	165	2.6			0.0129	<0.005	<0.020	16.4	0.174	<0.0005	0.0007	0.106	<0.0001	<0.001	<0.05
W35A	10/04/2012 11:00	P		132	8.16	7.99		184	0	12.11	82.8				84.8	2.1	0.2	5.52	0.0064	0.078	0.281	3.25							
W35A	01/05/2012 15:45	P	1.8	72	7.51	7.57	37.3	70.1	0.9	10.75	75.3	78.1	39.8	40.2	31.8	1	0.071	<0.50	0.0098	<0.0050	<0.020	25.5	0.119	<0.00050	0.00028	0.0293	<0.00010	<0.0010	<0.05
W35A	02/05/2012	P	1.7	74	7.17	7.59	37	69.7	0.6	11.86	82.4	62.8	42.6	41.2	32.6	1.4	0.072	<0.50	0.0071	<0.0050	<0.020	22.9	0.821	<0.00050	0.00046	0.0472	<0.00010	<0.0010	<0.05
W35A	03/05/2012 12:00	P	1.2	68	7.14	7.6	39.4	72.4	0.6	12.21	85.1	87	40.9	41	32.9	1.2	0.073	<0.50	0.0095	<0.0050	<0.020	22.2	0.1	<0.00050	0.00029	0.0285	<0.00010	<0.0010	<0.05
W35A	04/05/2012 17:00	P	2.7	76	7	7.59	43.3	76.7	1.9	11.06	79.9	85.3	50.4	42.4	34	0.91	0.072	<0.50	0.01	<0.0050	<0.020	26.1	0.391	<0.00050	0.00082	0.0376	<0.00010	<0.0010	<0.05
W35A	05/05/2012 12:00	P	<1.0	86	7.13	5.72	52.6	84.3	0.2	9.77	67.1	100.7	45.9	46.4	10.5	0.86	0.071	<0.50	0.0086	<0.0050	<0.020	27.8	0.0575	<0.00050	0.00033	0.0284	<0.00010	<0.0010	<0.05
W35A	06/05/2012 15:10	P	20.5	60	7.29	7.58	48.7	79.2	0.8	9.56	66.9	115.8	44.3	43.6	37.7	0.81	0.08	<0.50	0.011	<0.0050	<0.020	26.7	0.0832	<0.00050	0.00034	0.0274	<0.00010	<0.0010	<0.05
W35A	07/05/2012	P	2.1	80	7.63	7.5	45.3	80.8	2.8	8.07	60.1	63.8	41.9	46.8	38.9	1.4	0.075	<0.50	0.0067	<0.0050	<0.020	21	0.195	<0.00050	0.00028	0.0297	<0.00010	<0.0010	<0.05
W35A	08/05/2012 6:20	P	<1.0	80	7.3	7.46	54.5	86.8	0.2	7.87	54.2	140.5	43.5	49	40.3	0.68	0.072	<0.50	<0.0050	<0.0050	<0.020	18.9	0.0362	<0.00050	0.00024	0.0251	<0.00010	<0.0010	<0.05
W35A	09/05/2012 17:30	P			7.79		48.1		1.7	13.28	95.4	71																	
W35A	10/05/2012 9:45	P	<1.0	88	8.72	7.56	48.8	86.3	0.7	12.46	87	108.8	43.8	46.7	40.2	1.2	0.087	<0.50	0.011	<0.0050	<0.020	23.5	0.0735	<0.00050	0.00028	0.0267	<0.00010	<0.0010	<0.05
W35A	18/05/2012 10:30	P	3.7	106	7.25	7.74	66.6	111	3.2	10.42	77.9	45.7	55.1	56.3	50.5	1.1	0.091	<0.50	0.024	<0.0050	<0.020	22.1	0.226	<0.00050	0.00051	0.0398	<0.00010	<0.0010	<0.05
W35A	05/06/2012	P	<1.0	128	7.21	7.76	143.8	178	12	8.44	78.9	48.3	89.1	89.3	85.4	1.3	0.11	2.03	0.033	<0.0050	<0.020	14.6	0.052	<0.00050	0.00032	0.0506	<0.00010	<0.0010	<0.05
W35A	27/06/2012 13:40	P	1.1	176	8.2	8.22	185.2	215	17.6	9.32	47.7	31.3	114	113	109	1.4	0.12	<0.50	0.036	<0.0050	<0.020	20.3	0.0499	<0.00050	0.00045	0.0647	<0.00010	<0.0010	<0.05
W35A	22/07/2012 11:15	P	<1.0	166	8.33	8.06	188.8	241	16.2	8	80.6	16.9	135	125	125	0.81	0.12	<0.50	0.027	<0.0050	<0.020		0.0294	<0.00050	0.00043	0.077	<0.00010	<0.0010	<0.05
W35A	11/08/2012 15:45	P	<1.0	196	8.14	8.28		276	19.2	7.69	83.2	-33.6	151	137	149	0.99	0.13	<0.50	0.0069	<0.0050	<0.020		0.0472	<0.00050	0.00054	0.0819	<0.00010	<0.0010	<0.05

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W35A	21/04/2010	0.00003	8.11	0.0004	0.00008	0.022	0.13	0.0002	<0.001	2.7	0.0069	0.00002	0.0004	0.001	0.13	2.9	<0.0006	2.1	<0.00001	1.93	0.041	1.9	<0.00001	<0.0001		<0.0004
W35A	23/04/2010	0.00003	9.63	0.0009	0.00036	0.068	0.454	0.0002	<0.001	3.51	0.0324	0.00002	0.0009	0.001	0.13	2.5	<0.0006	3.63	<0.00001	2.67	0.047	1.9	<0.00001	<0.0001		<0.0004
W35A	24/04/2010	0.00055	14.7	0.001	0.00061	0.147	1.22	0.0004	<0.001	3.87	0.0797	0.00002	0.0008	0.002	0.11	2.4	<0.0006	4.16	<0.00001	2.55	0.068	1.9	<0.00001	<0.0001		<0.0004
W35A	25/04/2010	0.00115	14.6	0.0007	0.00032	0.092	0.457	0.0004	<0.001	3.66	0.0646	0.00002	0.001	0.001	0.1	2.2	<0.0006	3.28	<0.00001	2.63	0.066	1.9	<0.00001	<0.0001		<0.0004
W35A	26/04/2010	0.00007	8.24	0.002	0.0008	0.119	1.19	0.0005	<0.005	3.17	0.077	0.00002	<0.001	0.004		1.98	0.0002	5.91	0.00002	2.04	0.042	<3	<0.00005	<0.005	0.037	<0.0001
W35A	27/04/2010	0.00004	9.24	<0.001	<0.0005	0.0126	0.317	<0.0002	<0.005	2.49	0.082	0.00002	<0.001	0.001		1.33	<0.0001	2.72	<0.00002	1.62	0.048	<3	<0.00005	<0.005	<0.005	<0.0001
W35A	28/04/2010	0.00035	9.92	<0.001	<0.0005	0.0506	0.361	<0.0002	<0.005	2.85	0.014	<0.00002	<0.001	0.002		1.51	0.0001	3.84	<0.00002	2.01	0.051	<3	<0.00005	<0.005	0.007	<0.0001
W35A	29/04/2010	0.00004	11.9	<0.001	<0.0005	0.0338	0.418	<0.0002	<0.005	3.24	0.037	<0.00002	<0.001	0.002		1.5	0.0001	3.14	<0.00002	2.25	0.06	<3	<0.00005	<0.005	<0.005	<0.0001
W35A	30/04/2010	<0.00001	10.6	0.001	<0.0005	0.0598	0.284	<0.0002	<0.005	3.23	0.02	0.00002	<0.001	0.002		1.54	0.0002	4.24	<0.00002	2.27	0.053	<3	<0.00005	<0.005	<0.005	<0.0001
W35A	01/05/2010	0.00003	10.8	0.001	<0.0005	0.0634	0.325	0.0004	<0.005	3.41	0.023	<0.00002	<0.001	0.002	0.05	1.19	0.0002	4.37	<0.00002	2.35	0.057	<3	<0.00005	<0.005	0.006	<0.0001
W35A	02/05/2010	<0.00001	10.9	0.001	<0.0005	0.0608	0.258	0.0003	<0.005	3.64	0.016	0.00005	<0.001	0.002		1.06	0.0002	4.32	<0.00002	2.59	0.058	<3	<0.00005	<0.005	<0.005	<0.0001
W35A	03/05/2010	0.00001	11.3	<0.001	<0.0005	0.0287	0.201	<0.0002	<0.005	3.22	0.006	<0.00002	<0.001	0.002		0.88	0.0001	3.24	<0.00002	2.18	0.059	<3	<0.00005	<0.005	<0.005	<0.0001
W35A	04/05/2010	0.00017	12.7	<0.001	<0.0005	0.0254	0.23	0.0011	<0.005	3.59	0.012	<0.00002	<0.001	0.003	0.037	0.93	<0.0001	3.49	<0.00002	2.13	0.063	<3	<0.00005	<0.005	<0.005	<0.0001
W35A	05/05/2010	0.00006	13.3	<0.001	<0.0005	0.034	0.301	0.0009	<0.005	3.67	0.021	<0.00002	<0.001	0.002	0.035	0.87	<0.0001	3.55	<0.00002	2.13	0.065	<3	<0.00005	<0.005	0.005	<0.0001
W35A	06/05/2010	0.00002	12.8	<0.001	<0.0005	0.0281	0.197	<0.0002	<0.005	3.64	0.011	0.00007	<0.001	0.002	0.023	0.78	0.0001	3.62	<0.00002	2.35	0.066	<3	<0.00005	<0.005	<0.005	<0.0001
W35A	07/05/2010	0.00004	12.9	<0.001	<0.0005	0.0171	0.26	<0.0002	<0.005	3.64	0.007	<0.00002	<0.001	0.002	0.032	0.74	0.0001	3.52	<0.00002	2.2	0.066	<3	<0.00005	<0.005	0.006	<0.0001
W35A	08/05/2010	0.0001	16	<0.001	<0.0005	0.0695	0.218	0.0003	<0.005	3.9	0.005	<0.00002	<0.001	0.002	0.032	1.25	0.0001	3.5	<0.00002	2.44	0.079	<3	<0.00005	<0.005	0.005	<0.0001
W35A	09/05/2010	0.00025	14.6	<0.001	<0.0005	0.0203	0.169	0.0003	<0.005	4.23	0.011	<0.00002	<0.001	0.002	0.025	0.76	0.0001	3.85	<0.00002	2.73	0.077	<3	<0.00005	<0.005	<0.005	<0.0001
W35A	10/05/2010	0.00007	13.5	<0.001	<0.0005	0.0166	0.183	0.0003	<0.005	4.06	0.009	<0.00002	<0.001	0.002	0.02	0.67	0.0001	3.7	<0.00002	2.53	0.07	<3	<0.00005	<0.005	<0.005	<0.0001
W35A	13/05/2010	<0.00001	15.5	<0.001	<0.0005	0.013	0.137	<0.0002	<0.005	4.38	0.004	<0.00002	<0.001	0.002	0.018	0.7	0.0001	4.03	<0.00002	2.81	0.076	<3	<0.00005	<0.005	<0.005	<0.0001
W35A	17/05/2010	0.00003	16.3	0.001	0.0007	0.13	1.85	0.0005	<0.005	5.06	0.063	<0.0002	<0.001	0.002	0.063	0.87	0.0002	6.08	0.00002	2.86	0.081	<3	<0.00005	<0.005	0.042	<0.0001
W35A	20/05/2010	0.00001	17.2	0.002	<0.0005	0.0117	0.107	<0.0002	<0.005	5.91	0.004	<0.00002	<0.001	<0.003	0.019	0.58	<0.001	4.31	<0.00002	3.79	0.085	<3	<0.00005	<0.005	<0.005	<0.0001
W35A	24/05/2010	<0.0001	16	<0.002	<0.0005	0.012	0.127	<0.0002	<0.01	5	0.008	<0.0002	<0.001	0.002		<1	<0.0008	4.2	<0.0001	3	0.091	<60	<0.00005	<0.005	<0.01	<0.0001
W35A	27/05/2010	<0.0001	18	<0.002	<0.0005	0.017	0.228	<0.0002	<0.01	6	0.029	<0.00002	<0.001	0.001		<1	<0.0008	4.88	<0.0001	3	0.103	<60	<0.00005	<0.005	<0.01	<0.0001
W35A	31/05/2010	<0.0001	19	<0.002	<0.0005	0.009	0.122	<0.0002	<0.01	6	0.009	<0.00002	<0.001	0.001		<1	<0.0008	4.57	<0.0001	3	0.1	<60	<0.00005	<0.005	<0.01	<0.0001
W35A	03/06/2010	<0.0001	22	<0.002	<0.0005	0.012	0.256	<0.0002	<0.01	6	0.02	<0.0002	<0.001	0.002		<1	<0.0008	4.94	<0.0001	4	0.119	<60	<0.00005	<0.005	<0.01	<0.0001
W35A	14/06/2010	<0.0001	23	<0.002	<0.0005	0.009	0.237	<0.0002	<0.01	8	0.019	<0.0002	<0.001	0.002		<1	<0.0008	5.18	<0.0001	4	0.129	<60	<0.00005	<0.005	<0.01	<0.0001
W35A	17/06/2010	<0.0001	23	<0.002	<0.0005	0.008	0.365	<0.0002	<0.01	8	0.034	<0.0002	<0.001	0.001		<1	<0.0008	5.22	<0.0001	4	0.131	<60	<0.00005	<0.005	<0.01	<0.0001
W35A	21/06/2010	<0.0001	21	<0.002	<0.0005	0.008	0.313	<0.0002	<0.01	7	0.026	<0.0002	<0.001	0.001		<1	<0.0008	5.43	<0.0001	4	0.11	<60	<0.00005	<0.005	<0.01	<0.0001
W35A	25/06/2010	<0.0001	23	<0.002	<0.0005	0.008	0.579	<0.0002	<0.01	7	0.042	<0.0002	<0.001	0.002		<1	<0.0008	5.96	<0.0001	4	0.121	<60	<0.00005	<0.005	<0.01	<0.0001
W35A	12/07/2010	0.0001	101	0.002	0.002	0.148	1.39	0.0004	<0.01	40	1.3	<0.0002	0.012	0.007		5	0.0106	8.25	<0.0001	30	0.829	<60	<0.00005	<0.005	0.041	0.0039
W35A	29/07/2010	<0.0001	21	<0.002	<0.0005	0.009	0.168	<0.0002	<0.01	6	0.009	<0.0002	<0.001	0.004		<1	<0.0008	5.4	<0.0001	3	0.103	<60	<0.00005	<0.005	<0.01	<0.0001
W35A	12/08/2010	<0.0001	28	<0.002	<0.0005	0.043	0.185	<0.0002	<0.01	8	0.011	<0.0002	<0.001	0.002		<1	<0.0008	5.83	<0.0001	5	0.147	<60	<0.00005	<0.005	<0.01	<0.0001
W35A	19/08/2010	<0.0001	22	<0.002	<0.0005	0.092	1.23	0.0003	<0.01	6	0.05	<0.00002	<0.001	0.002		<1	<0.0008	7.26	<0.0001	5	0.12	<60	<0.00005	<0.005	0.024	<0.0001
W35A	26/08/2010	<0.0001	23	<0.002	<0.0005	0.01	0.186	<0.0002	<0.01	7	0.011	<0.0002	<0.001	0.002		<1	<0.0008	5.96	<0.0001	4	0.126	<60	<0.00005	<0.005	<0.01	<0.0001
W35A	08/09/2010	<0.0001	24	<0.002	<0.0005	0.007	0.157	<0.0002	<0.01	7	0.011	<0.0002	<0.001	0.001		<1	<0.0008	5.74	<0.0001	4	0.125	<60	<0.00005	<0.005	<0.01	<0.0001
W35A	15/09/2010	<0.0001	25	<0.002	<0.0005	0.008	0.147	<0.0002	<0.01	8	0.01	<0.0002	<0.001	0.001		<1	<0.0008	5.85	<0.0001	5	0.129	<60	<0.00005	<0.005	<0.01	<0.0001
W35A	22/09/2010	<0.0001	25	<0.002	<0.0005	0.006	0.149	<0.0002	<0.01	8	0.011	<0.0002	<0.001	0.002		<1	<0.0008	5.71	<0.0001	4	0.129	<60	<0.00005	<0.005	<0.01	<0.0001
W35A	06/10/2010	<0.00001	24.8	<0.001	<0.0005	0.0064	0.138	<0.0002	<0.005	7.48	0.009	<0.00002	<0.001	0.001		0.37	0.0005	5.91	<0.00002	4.28	0.133	<3	<0.00005	<0.005	<0.005	<0.0001
W35A	11/10/2010	<0.00001	27.5	<0.001	<0.0005	0.0066	0.235	<0.0002	<0.005	7.83	0.039	<0.00002	<0.001	0.001		0.34	0.0002	5.92	<0.00002	4.66	0.144	4	<0.00005	<0.005	<0.005	<0.0001
W35A	29/10/2010	0.00008	32.6	<0.001	0.0006	0.0191	0.799	<0.0002	<0.005	10.6	0.215	<0.00002	<0.001	0.002		0.43	0.0004	6.69	<0.00002	5.91	0.176	4	<0.00005	<0.005	<0.005	<0.0001
W35A	04/04/2011	0.00006	68.1	<0.001	0.0006	0.113	0.397	<0.0002	<0.005	12.6	0.216	<0.00002	0.011	<0.001	0.042	8.99	0.0054	5.22	0.00003	58.7	0.45	45	<0.00005	<0.005	0.014	0.0005
W35A	03/05/2011	0.00002	10.1	<0.001	<0.0005	0.0478	0.593	<0.0002	<0.005	2.59	0.049	<0.00002	<0.001	0.001	0.062	1.9	<0.0001	2.97	<0.00002	1.69	0.057	<3	<0.00005	<0.005	0.011	<0.0001
W35A	02/06/2011	0.00004	21.9	<0.001	<0.0005	0.0205	0.199	<0.0002	<0.005	6.78	0.024	<0.00002	<0.001	0.002	0.015	0.79	<0.0001	4.72	<0.00002	4.66	0.129	5	<0.00005	<0.005	<0.005	<0.0001
W35A	06/07/2011	0.00002	22.5	<0.001	<0.0005	0.0185	0.323	<0.0002	<0.005	6.76	0.025	<0.00002	<0.001	0.002	0.016	0.38	0.0001	5.7	<0.00002	4.94	0.114	<3	<0.00005	<0.005	0.007	<0.0001
W35A	13/08/2011	<0.00001	26	<0.001	<0.0005	0.0149	0.271	<0.0002	<0.005	6.49	0.017	0.00008	<0.001	0.001	0.014	0.4	0.0002	5.44	<0.00002	3.86	0.142	<3	<0.00005	<0.005	<0.005	<0.0001
W35A	13/09/2011	0.0028	30.6	<0.001	<0.0005	0.0077	0.156	<0.0002	<0.005	8.84	0.019	<0.00002	0.001	0.001	0.01	0.62	0.0001	5.57	<0.00002	4.19	0.168	<3	<0.00005	<0.005	<0.005	<0.0001
W35A	08/10/2011	<0.00001	37.1	<0.001	<0.0005	0.0082	0.263	<0.0002	<0.005	10.9	0.045	<0.00002	<0.001	0.001	0.011	0.49	<0.0001	5.97	<0.00002	5.05	0.195	<3	<0.00005	<0.005	<0.005	0.0001
W35A	13/11/2011	0.00005	45.6	<0.001	0.0008	0.0266	2.17	<0.0002	<0.005	12.7	0.33	<0.000020	<0.001	0.001	0.044	0.527	0.0001	7.69	<0.00002	5.98	0.238	<3.0	<0.00005	<0.005	0.009	0.0001
W35A	10/04/2012 11:00																									
W35A	01/05/2012 15:45	0.000014	11.5	<0.0010	<0.00050	0.0153	0.327	<0.00020	<0.0050	2.7	0.0521	<0.000010	<0.0010	0.0011	0.033	1.46	<0.00010	2.92	<0.000020	1.59	0.0575	<3.0	<0.000050	<0.0050	<0.0050	<0.00010
W35A	02/05/2012	0.000042	12.2	<0.0010	0.00075	0.164	1.46	0.00039	<0.0050	2.96	0.1	<0.000010	<0.0010	0.0015	0.075	1.44	<0.00010	3.82	0.000022	1.45	0.06	<3.0	<0.000050	<0.0050	0.0345	<0.00010
W35A	03/05/2012 12:00	0.000061	11.7	<0.0010	<0.00050	0.0203	0.253	<0.00020	<0.0050	2.83	0.0129	<0.000010	<0.0010	0.0016	0.03	1.23	<0.00010	2.81	<0.000020	1.56	0.0588	<3.0	<0.000050	<0.0050	<0.0050	<0.00010
W35A	04/05/2012 17:00	0.000193	14.1	<0.0010	<0.00050	0.102	0.695	0.00034	<0.0050	3.69	0.0761	<0.000010	<0.0010	0.0024	0.1	7.41	<0.00010	3.42	<0.000020	2.55	0.0772	4.7	<0.000050	<0.0050	0.014	<0.00010
W35A	05/05/2012 12:00	0.000055	13	<0.0010	<0.00050	0.0137	0.193	<0.00020	<0.0050	3.27	0.0098	<0.000010	<0.0010	0.0013	0.029	1.15	0.00017	2.87	<0.000020	1.82	0.0625	<3.0	<0.000050	<0.0050	<0.0050	<0.00010
W35A	06/05/2012 15:10	0.000031	12.9	<0.0010	<0.00050	0.0166	0.242	<0.00020	<0.0050	2.92	0.0136	<0.000010	<0.0010	0.0013	0.036	1.11	<0.00010	2.98	<0.000020	1.7	0.0575	<3.0	<0.000050	<0.0050	<0.0050	<0.00010
W35A	07/05/2012	0.00002	11.9	<0.0010	<0.00050	0.0361	0.439	<0.00020	<0.0050	2.93	0.0245	<0.000010	<0.0010	0.0014	0.04	1.65	<0.00010	3	<0.000020	1.7	0.0589	<3.0	<0.000050	<0.0050	0.01	<0.00010
W35A	08/05/2012 6:20	0.000015	12.5	<0.0010	<0.00050	0.00708	0.161	<0.00020	<0.0050	2.97	0.0125	<0.000010	<0.0010	0.0011	0.024	0.887	<0.00010	2.77	<0.000020	1.74	0.058	<3.0	<0.000050	<0.0050	<0.0050	<0.00010
W35A	09/05/2012 17:30																									
W35A	10/05/2012 9:45	<0.000010	12.2	<0.0010	<0.00050	0.0174	0.245	<0.00020	<0.0050	3.25	0.0087	<0.000010	<0.0010	0.0013	0.025	0.923	0.0001	2.84	<0.000020	1.88	0.0647	<3.0	<0.000050	<0.0050	<0.0050	<0.00010
W35A	18/05/2012 10:30	0.000014	15.1	<0.0010	<0.00050	0.0349	0.567	<0.00020	<0.0050	4.22	0.0229	<0.000010	0.0011	0.0015	0.024	0.872	<0.00010	3.68	<0.000020	2.55	0.0815	<3.0	<0.000050	<0.0050	0.0088	<0.00010
W35A	05/06/2012	0.000016	25	<0.0010	<0.00050	0.0377	0.171	<0.00020	<0.0050	6.51	0.0208	0.00001	0.0013	0.0011	0.015	1.15	0.00012	4.82	<0.000020	3.72	0.13	<3.0	<0.000050	<0.0050	<0.0050	<0.00010
W35A	27/06/2012 13:40	0.00001	33.1	<0.0010	<0.00050	0.0555	0.17	<0.00020	<0.0050	7.72	0.0193	<0.000010	0.0015	0.0013	0.015	1.42	0.00019	5.69	<0.000020	4.38	0.161	<3.0	<0.000050	<0.0050	<0.0050	0.00015
W35A	22/07/2012 11:15	0.000017	38.1	<0.0010	<0.00050	0.0485	0.13	<0.00020	<0.0050	9.62	0.0148	<0.000010	0.0016	0.0016	0.011	1.37	0.00014	5.56	<0.000020	5.21	0.197	<3.0	<0.000050	<0.0050	<0.0050	0.00018
W35A	11/08/2012 15:45	<0.000010	42.2	<0.0010	<0.00050	0.0441	0.206	<0.00020	<0.0050	11.1	0.0245	<0.000010	0.0018	0.0014	0.014	1.36	0.00011	5.8	<0.000020	5.58	0.215	<3.0	<0.000050	<0.0050	<0.0050	0.0002

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W35A	21/04/2010	0.0006	0.008	0.0002	0.074	0.0009	0.0004	0.021	<0.00004	<0.001	<0.004	<0.00001	7.9	<0.0004	0.00009	0.067	0.12	0.0002	<0.001	2.6	0.0072	0.00002	0.0003	<0.001	0.05	2.7
W35A	23/04/2010	0.0009	0.01	0.0007	0.209	0.0005	0.0003	0.036	0.00004	<0.001	<0.004	<0.00001	9	0.0006	0.00017	0.062	0.25	<0.0001	<0.001	3.2	0.0086	0.00001	0.0008	0.001	0.05	2.4
W35A	24/04/2010	0.0025	0.009	0.0003	0.062	0.0002	0.0003	0.033	<0.00004	<0.001	<0.004	<0.00001	12.5	<0.0004	0.00011	0.07	0.1	<0.0001	<0.001	3.1	0.0196	0.00001	0.0007	<0.001	0.03	2
W35A	25/04/2010	0.0012	0.005	0.0007	0.059	0.0003	0.0004	0.033	<0.00004	<0.001	<0.004	0.00002	12.8	<0.0004	0.00014	0.064	0.11	<0.0001	<0.001	3.2	0.0324	0.00001	0.0009	<0.001	0.03	1.9
W35A	26/04/2010	<0.005	0.013	0.0012	0.271	<0.0005	0.0004	0.047	<0.0001	<0.001	<0.05	0.00002	7.92	<0.001	<0.0005	0.094	0.306	<0.0002	<0.005	2.79	<0.001	<0.00002	<0.001	0.002		1.86
W35A	27/04/2010	<0.005	0.008	<0.0005	0.182	<0.0005	0.0004	0.042	<0.0001	<0.001	<0.05	0.00002	9.05	<0.001	<0.0005	0.061	0.245	<0.0002	<0.005	2.8	<0.001	<0.00002	<0.001	0.002		1.61
W35A	28/04/2010	<0.005	0.006	0.0006	0.138	<0.0005	0.0004	0.036	<0.0001	<0.001	<0.05	0.00007	9.92	<0.001	<0.0005	0.0429	0.186	<0.0002	<0.005	2.86	0.002	<0.00002	<0.001	0.001		1.52
W35A	29/04/2010	<0.005	0.007	<0.0005	0.065	<0.0005	0.0004	0.032	<0.0001	<0.001	<0.05	<0.00001	11	<0.001	<0.0005	0.0214	0.222	<0.0002	<0.005	3.07	<0.001	<0.00002	<0.001	0.001		1.36
W35A	30/04/2010	<0.005	<0.005	0.0007	0.129	<0.0005	0.0004	0.039	<0.0001	<0.001	<0.05	0.00001	9.48	<0.001	<0.0005	0.0545	0.205	<0.0002	<0.005	2.95	0.001	<0.00002	<0.001	0.002		1.13
W35A	01/05/2010	<0.005	<0.005	0.0009	0.146	<0.0005	0.0004	0.04	<0.0001	<0.001	<0.05	0.00002	10.8	<0.001	<0.0005	0.0602	0.215	<0.0002	<0.005	3.44	0.002	<0.00002	<0.001	0.002	0.029	1.21
W35A	02/05/2010	<0.005	0.008	0.0008	0.118	<0.0005	0.0005	0.043	<0.0001	<0.001	<0.05	0.00002	11.4	<0.001	<0.0005	0.0605	0.216	<0.0002	<0.005	3.78	0.003	<0.00002	<0.001	0.002		1.12
W35A	03/05/2010	<0.005	<0.005	<0.0005	0.079	<0.0005	0.0004	0.033	<0.0001	<0.001	<0.05	<0.00001	12	<0.001	<0.0005	0.0277	0.162	<0.0002	<0.005	3.62	<0.001	<0.00002	<0.001	0.002		0.96
W35A	04/05/2010	<0.005	<0.005	<0.0005	0.053	<0.0005	0.0003	0.028	<0.0001	<0.001	<0.05	0.00007	11.1	<0.001	<0.0005	0.0188	0.131	<0.0002	<0.005	3.14	<0.001	<0.00002	<0.001	0.002	0.02	0.76
W35A	05/05/2010	<0.005	<0.005	<0.0005	0.052	<0.0005	0.0003	0.029	<0.0001	<0.001	<0.05	0.00002	12.3	<0.001	<0.0005	0.023	0.126	<0.0002	<0.005	3.38	<0.001	<0.00002	<0.001	0.002	0.018	0.78
W35A	06/05/2010	<0.005	<0.005	<0.0005	0.066	<0.0005	0.0003	0.03	<0.0001	<0.001	<0.05	0.00003	13.2	<0.001	<0.0005	0.0241	0.151	<0.0002	<0.005	3.5	0.012	<0.00002	<0.001	0.002	0.019	0.77
W35A	07/05/2010	<0.005	<0.005	<0.0005	0.053	<0.0005	0.0003	0.031	<0.0001	<0.001	<0.05	0.00002	12.8	<0.001	<0.0005	0.0123	0.108	<0.0002	<0.005	3.83	<0.001	<0.00002	<0.001	0.002	0.016	0.73
W35A	08/05/2010	<0.005	0.005	<0.0005	0.04	<0.0005	0.0003	0.043	<0.0001	<0.001	<0.05	0.00007	15.4	<0.001	<0.0005	0.0631	0.094	<0.0002	<0.005	3.87	<0.001	<0.00002	<0.001	0.002	0.014	1.14
W35A	09/05/2010	<0.005	0.005	<0.0005	0.05	<0.0005	0.0003	0.032	<0.0001	<0.001	<0.05	0.00012	13.6	<0.001	<0.0005	0.0171	0.11	<0.0002	<0.005	4.07	<0.001	<0.00002	<0.001	0.002	0.013	0.72
W35A	10/05/2010	<0.005	<0.005	<0.0005	0.05	<0.0005	0.0003	0.031	<0.0001	<0.001	<0.05	0.00007	13.5	<0.001	<0.0005	0.0142	0.111	<0.0002	<0.005	4.18	0.001	<0.00002	<0.001	0.002	0.015	0.67
W35A	13/05/2010	<0.005	<0.005	<0.0005	0.051	<0.0005	0.0003	0.032	<0.0001	<0.001	<0.05	0.00008	14.5	<0.001	<0.0005	0.0125	0.099	<0.0002	<0.005	4.38	<0.001	<0.00002	<0.001	0.002	0.011	0.77
W35A	17/05/2010	<0.005	0.01	<0.0005	0.039	<0.0005	0.0003	0.035	<0.0001	<0.001	<0.05	0.00002	16.3	<0.001	<0.0005	0.0179	0.093	<0.0002	<0.005	4.85	0.003	<0.0002	<0.001	0.002	0.01	0.86
W35A	20/05/2010	<0.005	<0.005	<0.0005	0.033	<0.0005	<0.001	0.036	<0.0005	<0.001	<0.05	0.00001	17.4	<0.001	<0.0005	0.0101	0.07	<0.0002	<0.005	5.6	0.001	<0.00002	<0.001	<0.003	<0.01	0.61
W35A	24/05/2010	<0.005	<0.01	<0.002	0.032	<0.0005	<0.0004	0.037	<0.0002	<0.001	<0.1	<0.0001	17	<0.002	<0.0005	0.009	0.065	<0.0002	<0.01	5	0.001	<0.0002	<0.001	0.001		<1
W35A	27/05/2010	<0.005	<0.01	<0.002	0.031	<0.0005	<0.001	0.043	<0.0005	<0.001	<0.1	<0.0001	20	<0.002	<0.0005	0.016	0.118	<0.0002	<0.01	7	0.018	<0.00002	<0.001	<0.003		<1
W35A	31/05/2010	<0.005	<0.01	<0.002	0.024	<0.0005	<0.0004	0.044	<0.0002	<0.001	<0.1	<0.0001	18	<0.002	<0.0005	0.008	0.077	<0.0002	<0.01	5	0.005	<0.00002	<0.001	0.001		<1
W35A	03/06/2010	<0.005	<0.01	<0.002	0.026	<0.0005	<0.0004	0.045	<0.0002	<0.001	<0.1	<0.0001	20	<0.002	<0.0005	0.009	0.098	<0.0002	<0.01	6	0.004	<0.0002	<0.001	0.001		<1
W35A	14/06/2010	<0.005	<0.01	<0.002	0.024	<0.0005	<0.0004	0.048	<0.0002	<0.001	<0.1	<0.0001	22	<0.002	<0.0005	0.007	0.125	<0.0002	<0.01	8	0.007	<0.0002	<0.001	0.001		<1
W35A	17/06/2010	<0.005	<0.01	<0.002	0.023	<0.0005	0.0005	0.052	<0.0002	<0.001	<0.1	<0.0001	23	<0.002	<0.0005	0.007	0.247	<0.0002	<0.01	7	0.023	<0.0002	<0.001	0.001		<1
W35A	21/06/2010	<0.005	<0.01	<0.002	0.026	<0.0005	<0.0004	0.043	<0.0002	<0.001	<0.1	<0.0001	20	<0.002	<0.0005	0.006	0.122	<0.0002	<0.01	6	0.004	<0.0002	<0.001	0.001		<1
W35A	25/06/2010	<0.005	<0.01	<0.002	0.027	<0.0005	<0.0004	0.045	<0.0002	<0.001	<0.1	<0.0001	21	<0.002	<0.0005	0.007	0.123	<0.0002	<0.01	7	0.005	<0.0002	<0.001	0.001		<1
W35A	12/07/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	0.0024	0.103	<0.0002	<0.001	<0.1	<0.0001	103	<0.002	0.0015	0.11	0.163	<0.0002	<0.01	38	1.24	<0.0002	0.012	0.005		5
W35A	29/07/2010	<0.005	<0.01	<0.002	0.041	<0.0005	<0.0004	0.042	<0.0002	<0.001	<0.1	<0.0001	20	<0.002	<0.0005	0.009	0.123	<0.0002	<0.01	6	0.003	<0.0002	<0.001	0.001		<1
W35A	12/08/2010	<0.005	<0.01	<0.002	0.041	<0.0005	<0.0004	0.056	<0.0002	<0.001	<0.1	<0.0001	25	<0.002	<0.0005	0.037	0.117	<0.0002	<0.01	7	0.008	<0.0002	<0.001	0.002		<1
W35A	19/08/2010	<0.005	<0.01	<0.002	0.044	<0.0005	<0.0004	0.046	<0.0002	<0.001	<0.1	<0.0001	20	<0.002	<0.0005	0.026	0.129	<0.0002	<0.01	5	0.022	<0.0002	<0.001	0.002		<1
W35A	26/08/2010	<0.005	<0.01	<0.002	0.038	<0.0005	<0.0004	0.045	<0.0002	<0.001	<0.1	<0.0001	22	<0.002	<0.0005	0.008	0.144	<0.0002	<0.01	6	0.009	<0.0002	<0.001	0.002		<1
W35A	08/09/2010	<0.005	0.011	<0.002	0.034	<0.0005	<0.0004	0.048	<0.0002	<0.001	<0.1	<0.0001	23	<0.002	<0.0005	0.008	0.15	<0.0002	<0.01	7	0.011	<0.0002	<0.001	0.001		<1
W35A	15/09/2010	<0.005	<0.01	<0.002	0.029	<0.0005	<0.0004	0.046	<0.0002	<0.001	<0.1	<0.0001	25	<0.002	<0.0005	0.008	0.133	<0.0002	<0.01	7	0.009	<0.0002	<0.001	0.001		<1
W35A	22/09/2010	<0.005	<0.01	<0.002	0.032	<0.0005	<0.0004	0.044	<0.0002	<0.001	<0.1	<0.0001	25	<0.002	<0.0005	0.007	0.133	<0.0002	<0.01	8	0.011	<0.0002	<0.001	0.001		<1
W35A	06/10/2010	<0.005	<0.005	<0.0005	0.026	<0.0005	0.0003	0.043	<0.0001	<0.001	<0.05	0.00003	23.3	<0.001	<0.0005	0.0063	0.105	<0.0002	<0.005	7.26	0.007	<0.00002	<0.001	0.001		0.4
W35A	11/10/2010	<0.005	<0.005	<0.0005	0.027	<0.0005	0.0003	0.057	<0.0001	<0.001	<0.05	0.00001	28.2	<0.001	<0.0005	0.0069	0.212	<0.0002	<0.005	7.9	0.041	<0.00002	<0.001	0.001		0.37
W35A	29/10/2010	<0.005	<0.005	<0.0005	0.048	<0.0005	0.0004	0.07	<0.0001	<0.001	<0.05	0.00006	33	<0.001	0.0006	0.0129	0.5	<0.0002	<0.005	10.8	0.231	<0.00002	<0.001	0.001		0.42
W35A	04/04/2011	<0.005	<0.005	<0.0005	0.012	<0.0005	0.0004	0.12	<0.0001	<0.001	<0.05	0.00006	60.5	<0.001	<0.0005	0.0785	0.022	<0.0002	<0.005	11.9	0.19	<0.00002	0.011	0.001	0.021	8.2
W35A	03/05/2011	<0.005	<0.005	<0.0005	0.072	<0.0005	0.0002	0.03	<0.0001	<0.001	<0.05	0.00004	9.58	<0.001	<0.0005	0.0254	0.14	<0.0002	<0.005	2.21	0.032	<0.00002	<0.001	0.002	0.036	1.78
W35A	02/06/2011	<0.005	<0.005	<0.0005	0.037	<0.0005	0.0002	0.052	<0.0001	<0.001	<0.05	0.00002	20.6	<0.001	<0.0005	0.0123	0.107	<0.0002	<0.005	5.56	0.011	<0.00002	<0.001	0.002	<0.01	0.73
W35A	06/07/2011	<0.005	<0.005	<0.0005	0.037	<0.0005	0.0003	0.053	<0.0001	<0.001	<0.05	0.00001	23.2	<0.001	<0.0005	0.0103	0.119	<0.0002	<0.005	6.38	0.016	<0.00002	<0.001	0.002	<0.01	0.36
W35A	13/08/2011	<0.005	<0.005	<0.0005	0.034	<0.0005	0.0003	0.052	<0.0001	<0.001	<0.05	<0.00001	25.6	<0.001	<0.0005	0.0086	0.146	<0.0002	<0.005	6.65	0.011	<0.00002	<0.001	0.001	<0.01	0.38
W35A	13/09/2011	<0.005	0.039	<0.0005	0.021	<0.0005	0.0003	0.058	<0.0001	<0.001	<0.05	0.00004	32.3	<0.001	<0.0005	0.006	0.115	<0.0002	<0.005	9.28	0.011	<0.00002	<0.001	0.001	<0.01	0.64
W35A	08/10/2011	<0.005	<0.005	<0.0005	0.02	<0.0005	0.0003	0.072	<0.0001	<0.001	<0.05	0.00001	41.4	<0.001	<0.0005	0.0059	0.232	<0.0002	<0.005	11.2	0.044	<0.00002	<0.001	0.001	<0.01	0.49
W35A	13/11/2011	<0.005	<0.005	<0.0005	0.0216	<0.00050	0.00061	0.0855	<0.00010	<0.0010	<0.05	0.00004	38.7	<0.0010	0.0008	0.00309	1.38	<0.00020	<0.0050	11.6	0.318	<0.000020	<0.0010	0.0014	0.027	0.522
W35A	10/04/2012 11:00																									
W35A	01/05/2012 15:45	<0.0050	<0.0050	<0.00050	0.0613	<0.00050	0.0003	0.0298	<0.00010	<0.0010	<0.05	0.000017	11.7	<0.0010	<0.00050	0.0185	0.225	<0.00020	<0.0050	2.65	0.0486	<0.000010	<0.0010	<0.0010	0.026	1.46
W35A	02/05/2012	<0.0050	0.0072	<0.00050	0.22	<0.00050	0.00031	0.0348	<0.00010	<0.0010	<0.05	0.00003	11.9	<0.0010	<0.00050	0.0653	0.431	<0.00020	<0.0050	2.77	0.0486	<0.000010	<0.0010	0.0012	0.048	1.43
W35A	03/05/2012 12:00	<0.0050	0.0075	<0.00050	0.0544	<0.00050	0.0003	0.0285	<0.00010	<0.0010	<0.05	0.000022	11.8	<0.0010	<0.00050	0.0149	0.272	<0.00020	<0.0050	2.79	0.0092	<0.000010	<0.0010	0.0012	0.024	1.34
W35A	04/05/2012 17:00	<0.0050	0.0181	<0.00050	0.0421	<0.00050	0.00029	0.0291	<0.00010	<0.0010	<0.05	0.000019	12.3	<0.0010	<0.00050	0.0132	0.18	<0.00020	<0.0050	2.86	0.0223	<0.000010	<0.0010	0.0012	0.022	1.24
W35A	05/05/2012 12:00	<0.0050	0.0357	<0.00050	0.044	<0.00050	0.00026	0.0298	<0.00010	<0.0010	<0.05	0.000018	13.3	<0.0010	<0.00050	0.0129	0.173	<0.00020	<0.0050	3.2	0.0072	<0.000010	<0.0010	0.0012	0.022	1.23
W35A	06/05/2012 15:10	<0.0050	<0.0050	<0.00050	0.0448	<0.00050	0.00032	0.0279	<0.00010	<0.0010	<0.05	0.000012	12.6	<0.0010	<0.00050	0.0134	0.17	<0.00020	<0.0050	2.93	0.0096	<0.000010	<0.0010	0.0014	0.027	1.12
W35A	07/05/2012	<0.0050	<0.0050	<0.00050	0.0532	<0.00050	0.00029	0.0302	<0.00010	<0.0010	<0.05	0.000038	13.5	0.0011	<0.00050	0.0142	0.188	<0.00020	<0.0050	3.2	0.0081	<0.000010	<0.0010	0.0016	0.027	1.19
W35A	08/05/2012 6:20	<0.0050	<0.0050	<0.00050	0.0436	<0.00050	0.00023	0.0283	<0.00010	<0.0010	<0.05	0.000018	14.2	<0.0010	<0.00050	0.00952	0.177	<0.00020	<0.0050	3.27	0.0091	<0.000010	<0.0010	0.0014	0.023	1.11
W35A	09/05/2012 17:30																									
W35A	10/05/2012 9:45	<0.0050	<0.0050	<0.00050	0.0425	<0.00050	0.00029	0.0289	<0.00010	<0.0010	<0.05	0.00001	13.1	<0.0010	<0.00050	0.0153	0.188	<0.00020	<0.0050	3.4	0.0056	<0.000010	<0.0010	0.0013	0.018	1
W35A	18/05/2012 10:30	<0.0050	<0.0050	<0.00050	0.0617	<0.00050	0.00049	0.0398	<0.00010	<0.0010	<0.05	0.000022	15.8	<0.0010	<0.00050	0.0301	0.286	<0.00020	<0.0050	4.07	0.0123	<0.000010	<0.0010	0.0015	0.019	0.839
W35A	05/06/2012	<0.0050	<0.0050	<0.00050	0.0264	<0.00050	0.00038	0.0523	<0.00010	<0.0010	<0.05	0.000016	24.9	<0.0010	<0.00050	0.0355	0.101	<0.00020	<0.0050	6.57	0.0178	<0.000010	0.0013	0.0016	0.012	1.24
W35A	27/06/2012 13:40	<0.0050	<0.0050	<0.00050	0.0173	<0.00050	0.00044	0.0659	<0.00010	<0.0010	<0.05	0.000022	32.4	<0.0010	<0.00050	0.0536	0.0748	<0.00020	<0.0050	7.71	0.0176	<0.000010	0.0016	0.0014	<0.01	1.45
W35A	22/07/2012 11:15	<0.0050	<0.0050	<0.00050	0.0142	<0.00050	0.00043	0.0739	<0.00010	<0.0010	<0.05	0.000015	35.5	<0.0010	<0.00050	0.0437	0.0969	<0.00020	<0.0050	8.77	0.0118	<0.000010	0.0016	0.0013	<0.01	1.29
W35A	11/08/2012 15:45	<0.0050	<0.0050	<0.00050	0.0182	<0.00050	0.00053	0.0809	<0.00010	<0.0010	<0.05	<0.000010	38.1	<0.0010	<0.00050	0.0405	0.0916	<0.00020	<0.0050	10.1	0.0209	<0.000010	0.0017	0.0014	<0.01	1.27

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	BOD5	Br	Cation	COD	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-T	N-TKN	P-PO4T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L
W35A	21/04/2010	<0.0006	1.97	<0.00001	1.9	0.036	1.8	<0.00001	<0.0001	<0.01	<0.0004	0.0003	0.007	0.0002	20	<6	<5														1.32	0.05
W35A	23/04/2010	<0.0006	3.11	0.00001	2.5	0.047	1.7	<0.00001	<0.0001	<0.01	<0.0004	0.0005	0.002	0.001	30	<6	<5														1.64	0.05
W35A	24/04/2010	<0.0006	2.59	<0.00001	2.2	0.061	1.5	<0.00001	<0.0001	<0.01	<0.0004	0.0004	<0.001	0.0003	40	<6	<5														1.79	0.05
W35A	25/04/2010	<0.0006	2.61	<0.00001	2.4	0.062	1.6	<0.00001	<0.0001	<0.01	<0.0004	0.0004	<0.001	0.0003	40	<6	<5														1.27	0.03
W35A	26/04/2010	0.0002	4.56	<0.00002	1.97	0.039	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	0.0013	31	<0.5	<0.5	<0.5			<0.4											
W35A	27/04/2010	0.0002	3.79	<0.00002	2.16	0.046	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	0.0009	28	<0.5	<0.5	<0.5			<0.4											
W35A	28/04/2010	0.0001	3.58	<0.00002	2.15	0.05	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	0.0007	33	<0.5	<0.5	<0.5			<0.4											
W35A	29/04/2010	0.0001	2.7	<0.00002	2.18	0.055	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	38	<0.5	<0.5	<0.5			<0.4											
W35A	30/04/2010	0.0002	3.52	<0.00002	2.19	0.051	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	0.0009	33	<0.5	<0.5	<0.5			<0.4											
W35A	01/05/2010	0.0002	4.15	<0.00002	2.51	0.053	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	0.0009	36	<0.5	<0.5	<0.5			<0.4											
W35A	02/05/2010	0.0002	4.09	<0.00002	2.76	0.057	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	0.001	36	<0.5	<0.5	<0.5			<0.4											
W35A	03/05/2010	0.0001	3.5	<0.00002	2.47	0.058	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	0.0006	39	<0.5	<0.5	<0.5			<0.4											
W35A	04/05/2010	<0.0001	2.99	<0.00002	1.98	0.057	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	44	<0.5	<0.5	<0.5			<0.4											
W35A	05/05/2010	0.0001	3.1	<0.00002	2.14	0.063	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	47	<0.5	<0.5	<0.5			<0.4											
W35A	06/05/2010	<0.0001	3.34	<0.00002	2.19	0.063	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	46	<0.5	<0.5	<0.5			<0.4											
W35A	07/05/2010	0.0001	3.12	<0.00002	2.47	0.064	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	47	<0.5	<0.5	<0.5			<0.4											
W35A	08/05/2010	0.0001	3.21	<0.00002	2.56	0.074	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	58	<0.5	<0.5	<0.5			<0.4											
W35A	09/05/2010	0.0001	3.35	<0.00002	2.63	0.068	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	54	<0.5	<0.5	<0.5			<0.4											
W35A	10/05/2010	0.0001	3.6	<0.00002	2.68	0.068	3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	52	<0.5	<0.5	<0.5			<0.4											
W35A	13/05/2010	0.0001	3.95	<0.00002	2.88	0.073	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	54	<0.5	<0.5	<0.5			<0.4											
W35A	17/05/2010	0.0001	4.19	<0.00002	3.18	0.08	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	64	<0.5	<0.5	<0.5			<0.4											
W35A	20/05/2010	<0.001	4.34	<0.00002	3.89	0.089	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	68	<0.5	<0.5	<0.5			<0.4											
W35A	24/05/2010	<0.0008	4.22	<0.0001	3	0.087	<60	<0.00005	<0.005	<0.01	<0.0001	<0.005	<0.01	<0.002	69	<0.5	<0.5	<0.5			<0.4											
W35A	27/05/2010	<0.001	4.74	<0.0001	4	0.103	<60	<0.00005	<0.005	<0.01	<0.0001	<0.005	<0.01	<0.002	74	<0.5	<0.5	<0.5			<0.4											
W35A	31/05/2010	<0.0008	4.25	<0.0001	3	0.096	<60	<0.00005	<0.005	<0.01	<0.0001	<0.005	<0.01	<0.002	80	<0.5	<0.5	<0.5			<0.4											
W35A	03/06/2010	<0.0008	5.03	<0.0001	4	0.108	<60	<0.00005	<0.005	<0.01	<0.0001	<0.005	<0.01	<0.002	85	<0.5	<0.5	<0.5			<0.4											
W35A	14/06/2010	<0.0008	5.27	<0.0001	4	0.12	<60	<0.00005	<0.005	<0.01	<0.0001	<0.005	<0.01	<0.002	95	<0.5	<0.5	<0.5			<0.4											
W35A	17/06/2010	<0.0008	4.97	<0.0001	4	0.131	<60	<0.00005	<0.005	<0.01	<0.0001	<0.005	<0.01	<0.002	110	<0.5	<0.5	<0.5			<0.4											
W35A	21/06/2010	<0.0008	5.15	<0.0001	4	0.109	<60	<0.00005	<0.005	<0.01	<0.0001	<0.005	<0.01	<0.002	89	<0.5	<0.5	<0.5			<0.4							17.8				
W35A	25/06/2010	<0.0008	5.4	<0.0001	4	0.119	<60	<0.00005	<0.005	<0.01	<0.0001	<0.005	<0.01	<0.002	89	<0.5	<0.5	<0.5			<0.4							18.4				
W35A	12/07/2010	0.0111	5.93	<0.0001	27	0.768	<60	<0.00005	<0.005	<0.01	0.0035	<0.005	<0.01	<0.002	330	<0.5	<0.5	<0.5			<0.4											
W35A	29/07/2010	<0.0008	5.42	<0.0001	4	0.105	<60	<0.00005	<0.005	<0.01	<0.0001	<0.005	<0.01	<0.002	88	<0.5	<0.5	<0.5			<0.4											
W35A	12/08/2010	<0.0008	5.21	<0.0001	4	0.129	<60	<0.00005	<0.005	<0.01	<0.0001	<0.005	<0.01	<0.002	96	<0.5	<0.5	<0.5			<0.4											
W35A	19/08/2010	<0.0008	5.17	<0.0001	4	0.109	<60	<0.00005	<0.005	<0.01	<0.0001	<0.005	<0.01	<0.002	80	<0.5	<0.5	<0.5			<0.4											
W35A	26/08/2010	<0.0008	5.7	<0.0001	4	0.114	<60	<0.00005	<0.005	<0.01	<0.0001	<0.005	<0.01	<0.002	92	<0.5	<0.5	<0.5			<0.4											
W35A	08/09/2010	<0.0008	5.18	<0.0001	5	0.136	<60	<0.00005	<0.005	<0.01	<0.0001	<0.005	<0.01	<0.002	100	<0.5	<0.5	<0.5			<0.4											
W35A	15/09/2010	<0.0008	5.91	<0.0001	5	0.129	<60	<0.00005	<0.005	<0.01	<0.0001	<0.005	<0.01	<0.002	100	<0.5	<0.5	<0.5			<0.4											
W35A	22/09/2010	<0.0008	5.74	<0.0001	4	0.132	<60	<0.00005	<0.005	<0.01	<0.0001	<0.005	<0.01	<0.002	110	<0.5	<0.5	<0.5			<0.4											
W35A	06/10/2010	0.0002	5.44	<0.00002	4.18	0.127	3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	110	<0.5	<0.5	<0.5			<0.4											
W35A	11/10/2010	0.0002	5.93	<0.00002	4.43	0.159	4	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	120	<0.5	<0.5	<0.5			<0.4											
W35A	29/10/2010	0.0004	6.97	<0.00002	6.44	0.168	6	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	130	<0.5	<0.5	<0.5			<0.4											
W35A	04/04/2011	0.0057	4.31	<0.00002	56.9	0.418	47	<0.00005	<0.005	<0.005	0.0004	<0.005	<0.005	<0.0005	88	<0.5	<0.5	<0.5			<0.4											
W35A	03/05/2011	0.0001	2.54	<0.00002	1.52	0.049	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	0.012	<0.0005	34	<0.5	<0.5	<0.5														
W35A	02/06/2011	<0.0001	4.41	<0.00002	3.85	0.123	5	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	83	<0.5	<0.5	<0.5														
W35A	06/07/2011	0.0001	5.38	<0.00002	4.09	0.126	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	93	<0.5	<0.5	<0.5														
W35A	13/08/2011	0.0001	5.61	<0.00002	4.03	0.135	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	100	<0.5	<0.5	<0.5														
W35A	13/09/2011	0.0001	5.81	<0.00002	4.58	0.179	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	140	<0.5	<0.5	<0.5														
W35A	08/10/2011	0.0001	6.85	<0.00002	5.04	0.216	<3	<0.00005	<0.005	<0.005	0.0001	<0.005	<0.005	<0.0005	170	<0.5	<0.5	<0.5														
W35A	13/11/2011	<0.00010	5.6	<0.000020	5.39	0.216	<3.0	<0.000050	<0.0050	<0.0050	0.00014	<0.0050	<0.0050	<0.00050	201	<0.50	<0.50	<0.50														
W35A	10/04/2012 11:00														103	<0.50	<0.50	<0.50														1.38
W35A	01/05/2012 15:45	<0.00010	2.86	<0.000020	1.44	0.0547	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	38.8	<0.50	<0.50	<0.50														0.0349
W35A	02/05/2012	<0.00010	2.94	<0.000020	1.47	0.0557	<3.0	<0.000050	<0.0050	0.0052	<0.00010	<0.0050	<0.0050	<0.00050	39.8	<0.50	<0.50	<0.50														0.0333
W35A	03/05/2012 12:00	<0.00010	2.96	<0.000020	1.54	0.0551	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	40.1	<0.50	<0.50	<0.50														0.054
W35A	04/05/2012 17:00	<0.00010	2.94	<0.000020	1.6	0.0587	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	41.5	<0.50	<0.50	<0.50														0.0355
W35A	05/05/2012 12:00	<0.00010	3.17	<0.000020	1.76	0.0636	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	12.8	<0.50	<0.50	<0.50														0.0321
W35A	06/05/2012 15:10	<0.00010	3.07	<0.000020	1.69	0.0595	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	46	<0.50	<0.50	<0.50														0.0277
W35A	07/05/2012	<0.00010	3.1	<0.000020	1.89	0.0631	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	0.019	<0.00050	47.5	<0.50	<0.50	<0.50														0.033
W35A	08/05/2012 6:20	<0.00010	2.96	<0.000020	2.11	0.0637	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	49.2	<0.50	<0.50	<0.50														0.0261
W35A	09/05/2012 17:30																															
W35A	10/05/2012 9:45	0.00013	2.9	<0.000020	1.94	0.0672	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	49	<0.50	<0.50	<0.50														0.0276
W35A	18/05/2012 10:30	<0.00010	3.96	<0.000020	2.47	0.0811	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	61.6	<0.50	<0.50	<0.50														0.0252
W35A	05/06/2012	0.00011	4.85	<0.000020	3.9	0.129	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	0.0053	<0.00050	104	<0.50	<0.50	<0.50														0.019
W35A	27/06/2012 13:40	0.00017	5.8	<0.000020	4.39	0.162	<3.0	<0.000050	<0.0050	<0.0050	0.00015	<0.0050	<0.0050	<0.00050	133	<0.50	<0.50	<0.50														0.0159
W35A	22/07/2012 11:15	0.00012	5.33	<0.000020	4.73	0.181	<3.0	<0.000050	<0.0050	<0.0050	0.00015	<0.0050	<0.0050	<0.00050	152	<0.50	<0.50	<0.50														0.0097
W35A	11/08/2012 15:45	0.00012	5.49	<0.000020	5.09	0.211	<3.0	<0.000050	<0.0050	<0.0050	0.00018	<0.0050	<0.0050	<0.00050	182	<0.50	<0.50	<0.50														

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	P-TDP	P-TRP	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		mg/L	mg/L	Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W35A	21/04/2010							2.3	
W35A	23/04/2010							4.7	0.2
W35A	24/04/2010							11	19.4
W35A	25/04/2010							6	5.7
W35A	26/04/2010		0.008					11.2	4.3
W35A	27/04/2010		0.009					4.6	2.5
W35A	28/04/2010		0.008					1.6	0
W35A	29/04/2010		<0.005					1.6	-1.1
W35A	30/04/2010		0.032					1	-0.6
W35A	01/05/2010		<0.005					1.3	-2.2
W35A	02/05/2010		<0.005					0.6	-1.9
W35A	03/05/2010		<0.005					0.5	-2.5
W35A	04/05/2010		<0.005					0.5	-2.4
W35A	05/05/2010		<0.005					1.1	1.6
W35A	06/05/2010		<0.005					1.4	-1.4
W35A	07/05/2010		<0.005					0.3	-2.6
W35A	08/05/2010		<0.005					0.4	-2.6
W35A	09/05/2010		<0.005					0.4	-2.7
W35A	10/05/2010		<0.005					0.3	-2.7
W35A	13/05/2010		<0.005					0.2	
W35A	17/05/2010		<0.005					4.5	
W35A	20/05/2010		<0.005					0.4	
W35A	24/05/2010		<0.005					0.6	
W35A	27/05/2010		<0.005					1.1	
W35A	31/05/2010							0.6	
W35A	03/06/2010		<0.005					1	
W35A	14/06/2010		<0.005					0.9	
W35A	17/06/2010		<0.005					1.3	
W35A	21/06/2010		<0.005					0.7	
W35A	25/06/2010		<0.005					2.1	-3.6
W35A	12/07/2010		<0.005					10.7	16.4
W35A	29/07/2010		<0.005					0.5	3.7
W35A	12/08/2010		<0.005					0.7	-3.7
W35A	19/08/2010		<0.005					18.9	-3.7
W35A	26/08/2010		<0.005					0.3	-1.5
W35A	08/09/2010		<0.005					0.5	-4
W35A	15/09/2010		<0.005					0.3	-4
W35A	22/09/2010		0.008					0.3	-3.8
W35A	06/10/2010		<0.005					0.4	-3.8
W35A	11/10/2010		0.005					0.5	
W35A	29/10/2010		<0.005						0.5
W35A	04/04/2011		<0.005					8.4	
W35A	03/05/2011								
W35A	02/06/2011								
W35A	06/07/2011								
W35A	13/08/2011								
W35A	13/09/2011								
W35A	08/10/2011								
W35A	13/11/2011								
W35A	10/04/2012 11:00					160.9			
W35A	01/05/2012 15:45					69.1			
W35A	02/05/2012					69.2			
W35A	03/05/2012 12:00					73.5			
W35A	04/05/2012 17:00					77.5			
W35A	05/05/2012 12:00					99.9			
W35A	06/05/2012 15:10					90.3			
W35A	07/05/2012					78.7			
W35A	08/05/2012 6:20					103.5			
W35A	09/05/2012 17:30					86.7			
W35A	10/05/2012 9:45					91.1			
W35A	18/05/2012 10:30					114			
W35A	05/06/2012					190.9			
W35A	27/06/2012 13:40					216.2			
W35A	22/07/2012 11:15					232.2			
W35A	11/08/2012 15:45								

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T	B-T
			mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W35A	11/09/2012 15:40	P	60.1	238	8.28	8	186.3	322	5.3	11.61	91.7	63	150	136	107	1.8	0.66	27.5	0.89	0.195	7.58	18.7	0.757	<0.00050	0.00066	0.0911	<0.00010	<0.0010	<0.05
W35A	11/09/2012 15:40	P			8.28		186.3		5.3	11.61	91.7	63																	
W35B	27/04/2009	M																					3.28	<0.001	<0.001	0.074	<0.0002	<0.0005	<0.02
W35B	10/05/2009	M	2	102		7.43		72						39	30	1.3				<0.005	0.03		0.182	<0.0002	0.0003	0.034	<0.0001	<0.0005	0.004
W35B	25/05/2009	M	4	144	8.14	7.85	160	171	16					82	71	0.35		12.9					0.064	<0.0002	0.0004	0.063	<0.00004	<0.0001	<0.005
W35B	16/06/2009	M			7.5		390		16.7																				
W35B	08/07/2009	M	29	1070	7.86	7.75		1360	11					836	429	33.5		261					0.519	0.0006	0.0073	0.184	<0.00004	<0.0001	0.013
W35B	11/08/2009	M	<3	196	8.11	8.1	251	255	10.3					120	130	0.35		8.3					0.018	<0.0002	0.0007	0.081	<0.00004	<0.001	<0.005
W35B	01/09/2009	M	7	334	8.62	7.99	410	458	14.8					225	185	7		49.4			0.14		0.132	<0.0002	0.0018	0.092	<0.00004	<0.001	<0.005
W35B	19/04/2010	F	103	136	8.01	7.34	153.6	115	3.7				47		40	2.67		11					3.08	<0.0002	0.0008	0.083	0.0001	<0.001	<0.005
W35B	20/04/2010	F	41	136	6.89	7.31	97.4	97	4.9				46		35	1.93		9.6			0.34		1.02	<0.0002	0.0006	0.052	<0.00004	<0.001	<0.005
W35B	21/04/2010	F	6	142	6.84	6.96	78.8	77	1				41		26	1.39		7.6			0.21		1.02	<0.0002	0.0004	0.044	<0.00004	<0.001	0.006
W35B	22/04/2010	F	8	106	6.52	7.2	77.4	77	1				40		28	1.11		4.7			0.14		0.755	<0.0002	0.0003	0.037	<0.00004	<0.001	<0.005
W35B	23/04/2010	F	13	108	7.27	7.22	73	69	0.31		179.7		37		28	0.96		4.2					0.503	<0.0002	0.0005	0.037	<0.00004	<0.001	0.005
W35B	24/04/2010	F	8	118	7.35	7.22	92	68	0.01		123.5		37		29	0.87		3.2				32.4	0.233	<0.0002	0.0004	0.028	<0.00004	<0.001	<0.005
W35B	25/04/2010	F	22	108	7.05	7.27	72	65	0.7		92.3		36		28	0.66		3				33.6	1.48	<0.0002	0.0005	0.042	<0.00004	<0.001	<0.005
W35B	26/04/2010	F	11	74	7.46	7.6	76	70	4.73		140.1		41	41	32	2	0.08	<0.5	<0.005	<0.03	<0.1	26.8	0.604	<0.0005	0.0005	0.042	<0.0001	<0.001	<0.05
W35B	27/04/2010	F	7	58	7.6	7.5	72	66	1.56		29.5		38.1	38.1	29	1.4	0.08	5	<0.005	<0.03	<0.1	25.7	0.339	<0.0005	0.0003	0.039	<0.0001	<0.001	<0.05
W35B	28/04/2010	F	10	64	7.55	7.3	68	66	1.02		18.3		37.1	37.9	27	1.6	0.07	7	0.009	0.01	0.1	29.7	0.482	<0.0005	0.0004	0.037	<0.0001	<0.001	<0.05
W35B	29/04/2010	F	<4	76	7.79	7.5	82	82	2.84		5.8		44	43.5	36	1.6	0.08	<0.5	0.15	0.01	0.13	31.4	0.143	<0.0005	0.0004	0.04	<0.0001	<0.001	<0.05
W35B	30/04/2010	F	<4	66	6.97	7.3	69	73	3.39		82.7		42.6	37	32	2	0.07	<5	0.017	<0.05	<0.2	35.3	0.187	<0.0005	0.0004	0.038	<0.0001	<0.001	<0.05
W35B	01/05/2010	F	<4	68	7	7.6	73	72	6.49		109.2		46.9	40.4	32	1.5	0.09	<5	0.047	<0.005	0.03	26	0.623	<0.0005	0.0004	0.046	<0.0001	<0.001	<0.05
W35B	02/05/2010	F	<4	78	7.49	7.6	84	80	3.3		125.8		47.1	45.1	36	1.6	0.07	<5	0.15	0.005	0.07	29.7	0.111	<0.0005	0.0003	0.04	<0.0001	<0.001	<0.05
W35B	03/05/2010	F	<4	88	7.75	7.7	90	86	2		92.7		46.9	48.4	41	1.4	0.08	<5	0.011	<0.05	<0.2	29.7	0.12	<0.0005	0.0004	0.039	<0.0001	<0.001	<0.05
W35B	04/05/2010	F	<4	66	8.18	7.7	96	91	3.36		111		42.4	47.6	44	1.7	0.08	<0.5	<0.01	<0.005	0.03	24.8	0.068	<0.0005	0.0003	0.034	<0.0001	<0.001	<0.05
W35B	05/05/2010	F	<4	72	7.88	7.8	95	90	4.07		24.7		50.5	47.5	42	1.2	0.09	6	<0.01	<0.005	0.03	24.1	0.103	<0.0005	0.0004	0.041	<0.0001	<0.001	<0.05
W35B	06/05/2010	F	21	70	8	7.7	102	96	7.72		50.2		57	52.1	46	1.4	0.09	8	<0.01	<0.005	0.02	26	1.69	<0.0005	0.0006	0.072	0.0001	<0.001	<0.05
W35B	07/05/2010	F	<4	64	7.87	7.7	105	100	6.45		123.9		58.6	55.6	45	1.1	0.09	<0.5	0.02	<0.005	<0.02	25.1	0.079	<0.0005	0.0004	0.046	<0.0001	<0.001	<0.05
W35B	08/05/2010	F	<4	60	7.81	7.8	99	92	0.2		120		53	51.5	44	0.7	0.08	<0.5	0.01	<0.005	<0.02	25.7	0.11	<0.0005	0.0003	0.034	<0.0001	<0.001	<0.05
W35B	09/05/2010	F	4	86	8.43	7.9	116	109	9.89		126.6		63.9	58.1	54	1	0.1	<0.5	0.02	<0.05	<0.2	21.9	0.073	<0.0005	0.0004	0.048	<0.0001	<0.001	<0.05
W35B	10/05/2010	F	<4	78	8.05	7.9	110	104	4.97		121.1		59.6	54.5	51	1.3	0.1	<0.5	0.03	0.006	<0.02	22.8	0.097	<0.0005	0.0004	0.054	<0.0001	<0.001	<0.05
W35B	13/05/2010	F	<4	94		7.9		118					65.2	63.4	55	0.9	0.08	<0.5	0.04	<0.005	<0.02	23	0.063	<0.0005	0.0003	0.047	<0.0001	<0.001	<0.05
W35B	17/05/2010	F	6	100	7.96		136	137	6.9				71.9	72.1	64	0.8	0.1	<0.5	0.05	<0.005	<0.02	22.5	0.701	<0.0005	0.0005	0.056	<0.0001	<0.001	<0.05
W35B	20/05/2010	F	3	130	7.81	8	154	156	6.9				84.1	85	75	0.9	0.11	3.7	0.02	<0.005	<0.02	21.3	0.081	<0.0005	<0.001	0.055	<0.0005	<0.001	<0.05
W35B	24/05/2010	F	730	620	7.53	8.1	778	763	13.8				338	343	170	16	0.25	98	0.91	0.54	30	31.7	0.572	<0.0005	0.0017	0.147	<0.0002	<0.001	<0.1
W35B	31/05/2010	F	23	850	8.07	8	982	1020	17.8				499	477	230	26	0.32	150				43.6	3.47	<0.0005	0.0042	0.234	<0.0002	<0.001	<0.1
W35B	03/06/2010	P	690	1100	8.07	8.2	1034	1100	15.4				631	543	290	27	0.31	170	1.1	2.9	30.5	49	32.1	0.0007	0.014	0.561	0.001	<0.001	<0.1
W35B	14/06/2010	P	81	1100	7.54	8.3	1095	1180	11.1				634	574	330	27	0.31	200	1.6	6	17.6	69	1.57	<0.0005	0.0046	0.187	<0.0002	<0.001	<0.1
W35B	17/06/2010	P	51	1000	7.06	8.3	1335	1190	11.4				617	552	350	26	0.29	200	1.4	4.55	17.3	48	0.716	<0.0005	0.0039	0.159	<0.0002	<0.001	<0.1
W35B	21/06/2010	P	3000	680	7.58	8.2	968	845	12.2				556	372	240	25	0.46	140	<0.5	0.493	12.3	43.2	30	0.0009	0.0148	0.634	0.0019	<0.001	<0.1
W35B	25/06/2010	P	150	790	8.13	8.27	1068	1070	12.92		99.6		563	524	330	24	0.29	200	0.65	4.32	10.2	47.3	4.97	0.0006	0.005	0.231	<0.0002	<0.001	<0.1
W35B	12/07/2010	P	<1	120	7.65	7.73	452	158	7.64		73.6		77.5	74.7	80	0.8	0.09	<0.5	0.017	<0.005	<0.02	23.4	0.044	<0.0005	<0.0004	0.048	<0.0002	<0.001	<0.1
W35B	29/07/2010	P	4	120	8.29	8.03	160	162	18.29		78.7		82.4	81.2	80	1	0.11	<0.5	0.07	<0.005	<0.02	23	0.147	<0.0005	<0.0004	0.051	<0.0002	<0.001	<0.1
W35B	12/08/2010	P	<1	120	8.02	7.8	164	170	7.13		78.3		99	85	75	1	0.11	<0.5	0.29	<0.005	<0.02	24.6	0.057	<0.0005	<0.0004	0.052	<0.0002	<0.001	<0.1
W35B	19/08/2010	P	<1	120	8.33	7.88	144	139	8.1		92.7		66.8	65.2	58	1.5	0.11	<0.5	<0.05	<0.005	<0.02	9.7	0.056	<0.0005	<0.0004	0.043	<0.0002	<0.001	<0.1
W35B	26/08/2010	P	<1	130	8.44	8.04	172	173	15.13		85.1		120	82.7	80	1.2	0.09	7.5	0.06	<0.005	<0.02	24.8	0.058	<0.0005	<0.0004	0.056	<0.0002	<0.001	<0.1
W35B	08/09/2010	P	<1	170	8.02		187	192	9.69		82.2		90.3	91.7	88	1.1	0.11	7.9	0.3	<0.005	<0.02	22.1	0.05	<0.0005	<0.0004	0.054	<0.0002	<0.001	<0.1
W35B	15/09/2010	P	<1	160	8.31	8.12	190	194	12.85		76.1		91	96.1	88	0.8	0.12	11	0.22	<0.005	<0.2	29.4	0.04	<0.0005	<0.0004	0.054	<0.0002	<0.001	<0.1
W35B	22/09/2010	P	3	190	8.21	8.17	294	301	2.92		98.2		141	150	140	1.2	0.15	18	0.34	<0.005	<0.02	17.4	0.089	<0.0005	0.0004	0.093	<0.0002	<0.001	<0.1
W35B	06/10/2010	P	<1	150	8.19	7.97	192	195	-0.15		100.8		97.2	91	87	0.6	0.1	13	0.08	<0.005	<0.02	18.5	0.032	<0.0005	0.0002	0.056	<0.0001	<0.001	<0.05
W35B	11/10/2010	P	<1	140		7.98		224					104	99.4	100	0.8	0.1	11	0.049	<0.005	<0.02	17.4	0.023	<0.0005	0.0002	0.065	<0.0001	<0.001	<0.05
W35B	04/04/2011	P	66	370		7.71		592					211	185	62	11	0.26	58	2	2.03	38	9.2	1.28	<0.0005	0.0008	0.139	<0.0001	<0.001	<0.05
W35B	03/05/2011	P	17	72		7.23		76					42.4	38.5	30	2.7	0.08	<0.5	0.018	0.018	0.12	27.6	0.677	<0.0005	0.0006	0.044	<0.0001	<0.001	<0.05
W35B	02/06/2011	P	<1	150		8.1		182					89.4	87.3	80	<0.5	0.12	14	0.015			19.8	0.069	<0.0005	0.0003	0.076	<0.0001	<0.001	<0.05
W35B	06/07/2011	P	23	170		7.82		187					99.7	101	89			1.5	0.059	0.008	0.09	25	0.889	<0.0005	0.0007	0.074	<0.0001	<0.001	<0.05
W35B	31/07/2011	P	2	150		7.98		199					103	105	97			<0.5	0.008	<0.005	<0.02		0.133	<0.0005	0.0005	0.069	<0.0001	<0.001	<0.05
W35B	13/08/2011	P	<1	160		7.96		190					91.9	98.7	89				0.025	0.006	0.07	<0.5	0.088	<0.0005	0.0004	0.061	<0.0001	<0.001	<0.05
W35B	13/09/2011	P	<1	170	7.87	8.13	225.6	241	10.2	9.58	85.3		130	124	120	1.5		6.3	0.007	<0.005	<0.02	15.8	0.044	<0.0005	0.0002	0.074	<0.0001	<0.001	<0.05
W35B	09/10/2011	P	2	180	7.62	8.06	286.7	272	0.3	13.14	90.6		136	148	140	2			0.012	<0.005	0.14	19	0.047	<0.0005	0.0003	0.077	<0.0001	<0.001	<0.05
W35B	01/05/2012 16:20	P	28.1	82	7.55	7.67	45.4	81.3	2.5	11.96	87.6	84.3	44.7	44.1	37.2	1.1	0.075	<0.50	0.013	<0.0050	0.239		0.522	<0.00050	0.00036	0.0411	<0.00010	<0.0010	<0.05
W35B	10/05/2012 15:49	P	4.1	98	7.88	7.68	62.6	105	4.3	12.46	96.3	68.4	48.8	52.7	48.1	1.5	0.098	<0.50	0.01	0.0055	0.445	23.3	0.192	<0.00050	0.00036	0.0315	<0.00010	<0.0010	<0.05
W35B	13/05/2012 14:00	P	10.2	92	7.49	7.79	67.6	102	6	11.95	96	61.1	48.9	51.2	47.7	1.4	0.094	<0.50	0.1	0.0055	0.146	19.2	0.198	<0.00050	0.00058	0.0343	<0.00010	<0.0010	<0.05
W35B	18/05/2012 11:35	P	36	736	7.83	8.1		1170	5.8	10.82	87	276.2	490	546	198	3.6	0.97	42.1	12	2.67	95.4	12.1	1.07	<0.00050	0.00159	0.215	<0.00010	<0.0010	0.447
W35B	05/06/2012	P	2.6	140	7.98	8.07	146.4	191	18.3	8.52	90.4	57.4	96	95.7	93.2	1.2	0.11	2.69	0.037	<0.0050	<0.020	17.2	0.0908	<0.00050	0.00032	0.0549	<0.00010	<0.0010	<0.05
W35B	27/06/2012 18:15	P	5.6	162	8.38	8.27	201.4	217	20.8		7.49		117	117	113	1.1	0.12	<0.50	0.2	<0.0050	<0.020	18.6	0.0819	<0.00050	0.00037	0.0671	<0.00010	<0.0010	<0.05

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W35A	11/09/2012 15:40	0.000028	37.3	<0.0010	0.00127	0.272	1.38	0.00066	<0.0050	13.8	0.138	<0.000010	0.0035	0.0017	0.058	1.94	0.00307	6.04	0.00004	8.06	0.997	8.6	<0.000050	<0.0050	0.0193	0.00125
W35A	11/09/2012 15:40																									
W35B	27/04/2009	0.00006	18	0.002	0.001	0.28	3.44	0.001	<0.005	4	0.141	0.00002	0.0019	<0.005	0.15	4	<0.003	8.16	<0.00005	5.4	0.094	4	<0.00005	<0.0005	0.171	<0.002
W35B	10/05/2009	0.00058	11.9	0.0016	0.0003	0.047	0.3	0.0002	<0.001	2.8	0.019	<0.0001	<0.001	0.0012	<0.05	1.2	<0.0002	2.52	0.00002	2	0.063	1.7	<0.00005	<0.001	0.0055	<0.0005
W35B	25/05/2009	<0.00001	25	0.0009	0.00016	0.079	0.11	<0.0001	<0.001	5.7	0.023	0.00001	0.00154	0.001	<0.05	2.1	<0.0006	3.76	<0.00001	4.14	0.13	4.3	<0.00001	<0.0001	0.004	<0.0004
W35B	16/06/2009																									
W35B	08/07/2009	0.00013	168	0.0041	0.00558	0.116	1.78	0.0005	0.005	146	2.66	0.00002	0.00759	0.018	0.307	8.1	0.0098	8.65	0.00133	67.6	0.837	112	<0.00001	<0.0001	0.0334	0.0067
W35B	11/08/2009	<0.00001	39.2	0.0008	0.00007	0.072	0.016	0.0003	<0.001	8.84	0.0019		0.0025	<0.001	0.024	2.9	<0.0006	4.3	0.00002	5.13	0.174	2.5	<0.00001	<0.0001	0.0008	0.0004
W35B	01/09/2009	0.00002	52.1	0.0013	0.00077	0.064	0.36	0.0004	0.002	22.4	0.469	<0.00001	0.0019	0.003	0.089	3.4	<0.0006	5.18	<0.00001	14.3	0.283	15.3	<0.00001	<0.0001	0.0063	0.0009
W35B	19/04/2010	0.00008	15.6	0.0017	0.00175	0.408	4.4	0.0012	0.002	4.46	0.235	0.00002	0.0012	0.002	0.27	4.6	<0.0006	6.73	0.00011	5.07	0.076	3.7	0.00002	<0.0001		<0.0004
W35B	20/04/2010	0.00002	14.3	0.0007	0.00062	0.189	1.4	0.0004	0.001	3.62	0.0722	0.00002	0.0011	0.001	0.17	3.8	<0.0006	3.91	0.00004	3.9	0.067	2.9	<0.00001	<0.0001		<0.0004
W35B	21/04/2010	0.00006	11.5	0.0008	0.00046	0.145	0.894	0.0004	0.001	3.15	0.0595	0.00002	0.0008	0.002	0.14	3.2	<0.0006	3.17	<0.00001	2.65	0.058	2	<0.00001	<0.0001		<0.0004
W35B	22/04/2010	0.00002	11.8	0.0006	0.00032	0.097	0.599	0.0002	<0.001	3.16	0.0484	0.00002	0.0006	0.001	0.1	2.7	<0.0006	3.07	<0.00001	2.21	0.053	1.8	<0.00001	<0.0001		<0.0004
W35B	23/04/2010	0.00002	11.7	0.0006	0.00035	0.084	0.643	0.0003	<0.001	3.1	0.0649	0.00001	0.0006	<0.001	0.12	2.3	<0.0006	3.21	<0.00001	2.32	0.052	1.6	<0.00001	<0.0001		<0.0004
W35B	24/04/2010	0.00001	11.3	0.0007	0.00014	0.042	0.286	0.0002	<0.001	2.99	0.0157	0.00001	0.0004	<0.001	0.09	2.1	<0.0006	2.91	<0.00001	1.93	0.05	1.3	<0.00001	<0.0001		<0.0004
W35B	25/04/2010	0.00003	12.8	0.0009	0.00072	0.174	1.77	0.0006	0.001	3.21	0.0966	0.00001	0.0006	0.001	0.09	1.9	<0.0006	4.54	0.00002	1.76	0.057	1.1	0.00001	<0.0001		<0.0004
W35B	26/04/2010	0.00004	11.5	0.001	<0.0005	0.133	1.04	0.0004	<0.005	2.96	0.07	<0.00002	<0.001	0.002		1.83	0.0002	3.98	<0.00002	2.05	0.055	<3	<0.00005	<0.005	0.029	<0.0001
W35B	27/04/2010	0.00005	10.6	<0.001	<0.0005	0.0735	0.617	<0.0002	<0.005	2.79	0.064	<0.00002	<0.001	0.002		1.62	0.0001	3.29	<0.00002	1.99	0.053	<3	<0.00005	<0.005	0.016	<0.0001
W35B	28/04/2010	0.00027	10.4	<0.001	<0.0005	0.0773	0.808	0.0003	<0.005	2.68	0.037	<0.00002	<0.001	0.001		1.37	0.0001	3.68	<0.00002	1.66	0.051	<3	<0.00005	<0.005	0.017	<0.0001
W35B	29/04/2010	<0.00001	12.6	<0.001	<0.0005	0.0462	0.357	<0.0002	<0.005	3.04	0.041	<0.00002	<0.001	0.001		1.48	0.0001	3.02	<0.00002	2.09	0.062	<3	<0.00005	<0.005	<0.005	<0.0001
W35B	30/04/2010	<0.00001	12.2	<0.001	<0.0005	0.0526	0.331	<0.0002	<0.005	2.98	0.019	0.00003	<0.001	0.002		1.28	0.0001	3.33	<0.00002	2.04	0.059	<3	<0.00005	<0.005	<0.005	<0.0001
W35B	01/05/2010	0.00001	13.2	<0.001	<0.0005	0.129	1.05	0.0003	<0.005	3.38	0.035	<0.00002	<0.001	0.004	0.077	1.4	0.0001	4.19	0.00002	2.08	0.065	<3	<0.00005	<0.005	0.031	<0.0001
W35B	02/05/2010	<0.00001	13.3	<0.001	<0.0005	0.0618	0.318	<0.0002	<0.005	3.36	0.01	0.00003	<0.001	0.003		1.17	0.0001	3.33	0.00002	2.26	0.068	<3	<0.00005	<0.005	<0.005	<0.0001
W35B	03/05/2010	0.00008	13.4	<0.001	<0.0005	0.0535	0.259	<0.0002	<0.005	3.28	0.008	<0.00002	<0.001	0.002		1.15	0.0001	3.21	<0.00002	2.13	0.068	<3	<0.00005	<0.005	<0.005	<0.0001
W35B	04/05/2010	0.00002	12.1	<0.001	<0.0005	0.0491	0.159	0.0009	<0.005	2.97	0.005	<0.00002	<0.001	0.001	0.032	0.96	<0.0001	3.01	<0.00002	1.8	0.057	<3	<0.00005	<0.005	<0.005	<0.0001
W35B	05/05/2010	0.00001	14.3	<0.001	<0.0005	0.0618	0.249	0.0054	<0.005	3.62	0.006	<0.00002	<0.001	0.003	0.036	1.16	<0.0001	3.4	<0.00002	2.22	0.068	<3	<0.00005	<0.005	<0.005	<0.0001
W35B	06/05/2010	0.00004	15.6	0.001	0.0011	0.306	2.75	0.0008	<0.005	4.35	0.092	0.00007	<0.001	0.002	0.181	1.68	0.0002	6.39	0.00005	2.52	0.076	<3	<0.00005	<0.005	0.088	<0.0001
W35B	07/05/2010	0.00002	16.7	<0.001	<0.0005	0.0778	0.144	<0.0002	<0.005	4.11	0.004	<0.00002	<0.001	0.002	0.028	1.35	0.0002	3.61	0.00003	2.71	0.079	<3	<0.00005	<0.005	<0.005	<0.0001
W35B	08/05/2010	0.00005	14.5	<0.001	<0.0005	0.025	0.222	<0.0002	<0.005	4.08	0.013	<0.00002	<0.001	0.002	0.033	0.79	0.0001	3.8	<0.00002	2.44	0.073	<3	<0.00005	<0.005	<0.005	<0.0001
W35B	09/05/2010	0.00003	18.4	<0.001	<0.0005	0.104	0.129	<0.0002	<0.005	4.36	0.003	<0.00002	0.001	0.002	0.023	1.56	0.0002	3.6	<0.00002	2.93	0.088	<3	<0.00005	<0.005	<0.005	<0.0001
W35B	10/05/2010	<0.00001	16.5	<0.001	<0.0005	0.0533	0.165	0.0002	<0.005	4.47	0.005	<0.00002	0.001	0.002	0.032	1.13	0.0002	3.84	0.00003	2.86	0.085	<3	<0.00005	<0.005	<0.005	<0.0001
W35B	13/05/2010	0.00004	19.1	<0.001	<0.0005	0.0913	0.12	<0.0002	<0.005	4.25	0.002	<0.00002	0.001	0.002	0.011	1.58	0.0002	3.5	<0.00002	2.89	0.088	<3	<0.00005	<0.005	<0.005	<0.0001
W35B	17/05/2010	0.00004	21	0.001	<0.0005	0.217	1.14	0.0004	<0.005	4.72	0.029	<0.0002	0.001	0.002	0.043	1.93	0.0002	4.44	0.00003	2.99	0.1	<3	<0.00005	<0.005	0.033	0.0001
W35B	20/05/2010	<0.00001	24.2	0.001	<0.0005	0.142	0.131	<0.0002	<0.005	5.73	0.005	<0.00002	0.002	<0.003	0.023	2.19	<0.001	3.74	0.00004	3.76	0.116	<3	<0.00005	<0.005	0.005	0.0001
W35B	24/05/2010	0.0001	89	<0.002	0.0013	0.174	0.839	0.0002	<0.01	28	0.703	<0.0002	0.006	0.004		5	0.0015	5.63	<0.0001	19	0.463	<60	<0.00005	<0.005	0.027	0.0018
W35B	31/05/2010	0.0002	125	0.004	0.0039	0.476	5.2	0.0017	<0.01	45	1.53	<0.00002	0.009	0.009		7	0.0021	11.4	<0.0001	34	0.663	<60	<0.00005	<0.005	0.162	0.0041
W35B	03/06/2010	0.0006	153	0.025	0.0187	2.43	52.2	0.0141	0.022	60	2.83	<0.0002	0.014	0.026		14	0.0037	68.1	0.0003	35	0.992	<60	0.00027	<0.005	1.41	0.0053
W35B	14/06/2010	0.0002	156	0.004	0.0038	0.257	2.81	0.0037	<0.01	59	1.76	<0.0002	0.01	0.014		7	0.0043	9.64	<0.0001	39	1.05	75	<0.00005	<0.005	0.071	0.0053
W35B	17/06/2010	0.0001	147	0.002	0.0025	0.214	1.28	0.0004	<0.01	61	1.78	<0.0002	0.01	0.01		6	0.0038	7.85	<0.0001	40	0.97	80	<0.00005	<0.005	0.037	0.0051
W35B	21/06/2010	0.0015	138	0.04	0.032	2.6	46.7	0.0274	0.022	51	2.77	<0.0002	0.006	0.065		9	0.0037	52.6	0.0003	33	0.82	<60	0.00021	<0.005	0.781	0.0062
W35B	25/06/2010	0.0002	134	0.007	0.0047	0.379	8.29	0.0023	<0.01	56	1.65	<0.0002	0.01	0.014		7	0.0036	17.1	<0.0001	37	0.822	72	<0.00005	<0.005	0.23	0.0054
W35B	12/07/2010	<0.0001	21	<0.002	<0.0005	0.008	0.205	<0.0002	<0.01	6	0.023	<0.0002	<0.001	0.003		<1	<0.0008	5.41	<0.0001	4	0.114	<60	<0.00005	<0.005	<0.01	<0.0001
W35B	29/07/2010	<0.0001	23	<0.002	<0.0005	0.055	0.268	<0.0002	<0.01	6	0.018	<0.0002	<0.001	0.004		<1	<0.0008	4.76	<0.0001	4	0.114	<60	<0.00005	<0.005	<0.01	<0.0001
W35B	12/08/2010	<0.0001	27	<0.002	<0.0005	0.012	0.188	<0.0002	<0.01	8	0.013	<0.0002	<0.001	0.002		<1	<0.0008	6.55	<0.0001	5	0.137	<60	<0.00005	<0.005	<0.01	<0.0001
W35B	19/08/2010	<0.0001	17	<0.002	<0.0005	0.011	0.149	<0.0002	<0.01	6	0.005	<0.00002	<0.001	0.002		<1	<0.0008	5.27	<0.0001	4	0.101	<60	<0.00005	<0.005	<0.01	<0.0001
W35B	26/08/2010	<0.0001	37	0.002	<0.0005	0.055	0.364	0.001	<0.01	7	0.012	<0.0002	0.001	0.004		<1	<0.0008	8.07	<0.0001	4	0.131	<60	<0.00005	<0.005	<0.01	<0.0001
W35B	08/09/2010	<0.0001	25	<0.002	<0.0005	0.038	0.121	<0.0002	<0.01	7	0.005	<0.0002	<0.001	0.001		<1	<0.0008	5.28	<0.0001	4	0.125	<60	<0.00005	<0.005	<0.01	<0.0001
W35B	15/09/2010	<0.0001	25	<0.002	<0.0005	0.029	0.108	<0.0002	<0.01	7	0.01	<0.0002	<0.001	0.001		<1	<0.0008	5.19	<0.0001	4	0.125	<60	<0.00005	<0.005	<0.01	<0.0001
W35B	22/09/2010	<0.0001	39	<0.002	<0.0005	0.047	0.216	<0.0002	<0.01	11	0.07	<0.0002	0.001	0.001		1	<0.0008	5.22	<0.0001	5	0.2	<60	<0.00005	<0.005	<0.01	0.0005
W35B	06/10/2010	0.00003	26.4	<0.001	<0.0005	0.0308	0.108	<0.0002	<0.005	7.61	0.009	<0.00002	<0.001	0.001		0.7	0.0006	5.86	<0.00002	4.56	0.14	3	<0.00005	<0.005	<0.005	<0.0001
W35B	11/10/2010	<0.00001	29.5	<0.001	<0.0005	0.0381	0.1	<0.0002	<0.005	7.38	0.006	<0.00002	<0.001	0.001		0.86	0.0002	5.81	<0.00002	4.5	0.148	4	<0.00005	<0.005	<0.005	<0.0001
W35B	04/04/2011	0.0001	63.7	<0.001	0.0012	0.218	2.07	0.0009	0.007	12.6	0.292	<0.00002	0.015	0.001	0.069	6.04	0.0044	4.07	0.0001	21.9	0.936	19	<0.00005	<0.005	0.048	0.0009
W35B	03/05/2011	0.00004	11.9	<0.001	0.0006	0.0819	1.17	0.0003	<0.005	3.06	0.069	<0.00002	<0.001	0.002	0.081	2.04	0.0002	3.84	0.00003	1.92	0.064	<3	<0.00005	<0.005	0.046	<0.0001
W35B	02/06/2011	0.0001	25.2	<0.001	<0.0005	0.0717	0.145	0.0002	<0.005	6.41	0.006	<0.00002	0.001	0.002	0.014	1.88	0.0001	4.26	<0.00002	4.49	0.133	5	<0.00005	<0.005	<0.005	0.0001
W35B	06/07/2011	0.00003	27.1	<0.001	0.0006	0.102	1.48	0.0003	<0.005	7.78	0.129	<0.00002	0.002	0.002	0.099	1.1	0.0003	6.69	0.00004	5.41	0.156	<3	<0.00005	<0.005	0.046	0.0002
W35B	31/07/2011	0.00003	28.2	<0.001	<0.0005	0.0412	0.26	0.0003	<0.005	7.86	0.021	<0.00002	0.001	0.002	0.021	0.82	0.0001	5.55	<0.00002	4.85	0.162	<3	<0.00005	<0.005	<0.005	<0.0001
W35B	13/08/2011	0.00002	26.4	<0.001	<0.0005	0.0336	0.248	<0.0002	<0.005	6.32	0.038	<0.00002	<0.001	0.002	0.014	0.61	0.0002	5.2	<0.00002	3.77	0.146	<3	<0.00005	<0.005	<0.005	<0.0001
W35B	13/09/2011	0.00026	35.8	<0.001	<0.0005	0.0188	0.122	<0.0002	<0.005	9.86	0.013	<0.00002	<0.001	0.001	<0.01	0.97	0.0001	6.19	<0.00002	5	0.19	3	<0.00005	<0.005	<0.005	<0.0001
W35B	09/10/2011	0.00001	37.6	<0.001	<0.0005	0.0384	0.217	<0.0002	<0.005	10.3	0.104	<0.00002	<0.001	0.001	0.012	1.06	0.0001	5.58	<0.00002	4.73	0.209	<3	<0.00005	<0.005	<0.005	0.0002
W35B	01/05/2012 16:20	0.000027	12.9	<0.0010	<0.00050	0.0615	1.17	<0.00020	<0.0050	3.03	0.0661	<0.000010	<0.0010	0.0012	0.066	1.59	0.00013	3.48	<0.000020	1.59	0.0677	<3.0	<0.000050	<0.0050	0.0352	<0.00010
W35B	10/05/2012 15:49	0.000012	13.6	<0.0010	<0.00050	0.0369	0.43	<0.00020	<0.0050	3.6	0.0189	<0.000010	<0.0010	0.0015	0.03	2.41	<0.00010	3.13	<0.000020	2.07	0.0744	<3.0	<0.000050	<0.0050	0.0084	<0.00010
W35B	13/05/2012 14:00	0.000025	13.7	<0.0010	<0.00050	0.0306	0.619	<0.00020	<0.0050	3.59	0.0188	<0.000010	0.0011	0.0018	0.032	0.886	0.00012	3.68	<0.000020	2.18	0.0677	<3.0	<0.000050	<0.0050	0.01	<0.00010
W35B	18/05/2012 11:35	0.000076	88.6	<0.0010	0.00166	0.429	2.19	0.00047	0.0114	65.4	0.134	<0.000010	0.0134	0.0013	0.06	6.17	0.00791	5.8	0.00016	23.4	5.65	15.9	<0.000050	<0.0050	0.0455	0.00409
W35B	05/06/2012	<0.000010	27.2	<0.0010	<0.00050	0.052	0.222	<0.00020	<0.0050	6.8	0.0185	0.000011	0.0015	0.0011	0.016	1.62	0.00014	4.87	<0.000020	4.04	0.14	<3.0	<0.000050	<0.0050	<0.0050	0.00014
W35B	27/06/2012 18:15	0.000016	33.4	<0.0010	<0.00050	0.0603	0.221	<0.00020	<0.0050	8.14	0.0176	<0.000010	0.0017	0.0014	0.019	1.58	0.00013	5.72	<0.000020	4.66	0.166	<3.0	<0.000050	<0.0050	<0.0050	0.00015

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W35A	11/09/2012 15:40	<0.0050	0.0083	<0.00050	0.0228	<0.00050	0.0005	0.0636	<0.00010	<0.0010	<0.05	<0.000010	34.5	<0.0010	<0.00050	0.0351	0.132	<0.00020	<0.0050	12	0.0395	<0.000010	0.0041	0.0014	0.011	1.65
W35A	11/09/2012 15:40																									
W35B	27/04/2009	0.00931	0.02	0.002																						
W35B	10/05/2009	0.001	0.005	<0.001	0.051	<0.0002	0.0003	0.031	<0.0001	<0.0005	0.003	0.00001	11.1	<0.0005	<0.0001	0.034	0.14	<0.0001	<0.001	2.8	<0.005	<0.0001	<0.001	0.0013		1.1
W35B	25/05/2009	0.00088	0.003	0.0004	0.035	0.0012	0.0003	0.063	<0.00004	<0.0001	<0.004	0.00002	23.9	0.0019	0.0003	0.077	0.06	0.0001	<0.001	5.5	0.0212	0.00001	0.00142	0.001	<0.01	2.1
W35B	16/06/2009																									
W35B	08/07/2009	0.00798	0.007	0.0038	0.074	0.0015	0.0069	0.159	<0.00004	<0.0001	0.017	0.00009	160	0.0026	0.00516	0.093	0.514	0.0005	0.005	106	2.86	0.00002	0.00718	0.016	0.23	6.7
W35B	11/08/2009	0.0007	0.004	0.0002	0.012	0.001	0.0004	0.087	<0.00004	<0.001	<0.004	0.00001	36.3	0.0012	0.00013	0.074	0.07	0.0007	<0.001	8	0.002		0.0026	<0.001	0.01	2.7
W35B	01/09/2009	0.0018	0.008	0.0007	0.024	0.0017	0.0012	0.092	<0.00004	<0.001	<0.004	0.00002	53.3	0.0016	0.00078	0.05	0.17	0.0007	0.002	22.4	0.473	<0.00001	0.0018	0.003	0.05	3
W35B	19/04/2010	0.0087	0.038	0.0002	0.025	0.0007	0.0004	0.038	<0.00004	<0.001	<0.004	0.00002	13.6	0.0007	0.00006	0.062	0.04	<0.0001	<0.001	3.1	0.0135	0.00001	0.0014	<0.001	0.05	3.8
W35B	20/04/2010	0.003	0.018	0.0002	0.087	0.001	0.0003	0.035	<0.00004	<0.001	<0.004	0.00004	13.5	0.0005	0.00028	0.081	0.17	0.0005	<0.001	3	0.0726	0.00001	0.0011	<0.001	0.06	3.2
W35B	21/04/2010	0.0022	0.012	0.0003	0.285	0.0015	0.0005	0.036	<0.00004	<0.001	<0.004	0.00002	11.6	<0.0004	0.00044	0.077	0.36	0.0004	<0.001	2.9	0.0657	0.00002	0.0006	0.001	0.08	2.9
W35B	22/04/2010	0.0014	0.008	0.0003	0.063	0.0002	0.0004	0.034	<0.00004	<0.001	<0.004	<0.00001	11.4	<0.0004	0.00002	0.071	0.1	<0.0001	<0.001	2.9	0.0053	0.00002	0.0005	0.001	0.04	2.5
W35B	23/04/2010	0.0014	0.018	0.0002	0.06	0.0003	0.0002	0.029	<0.00004	<0.001	<0.004	0.00001	10.5	<0.0004	0.00006	0.054	0.12	<0.0001	<0.001	2.7	0.0029	<0.00001	0.0006	<0.001	0.03	2
W35B	24/04/2010	0.0008	0.004	0.0002	0.056	0.0003	0.0003	0.024	<0.00004	<0.001	<0.004	0.00002	10.7	<0.0004	0.00006	0.047	0.09	<0.0001	<0.001	2.6	0.0037	0.00001	0.0003	<0.001	0.03	1.8
W35B	25/04/2010	0.0037	0.009	0.0003	0.054	<0.0002	0.0002	0.024	<0.00004	<0.001	<0.004	<0.00001	10.6	<0.0004	0.00009	0.061	0.09	<0.0001	<0.001	2.4	0.0115	<0.00001	0.0005	<0.001	0.02	1.5
W35B	26/04/2010	<0.005	0.012	<0.0005	0.073	<0.0005	0.0003	0.035	<0.0001	<0.001	<0.05	0.00001	12	<0.001	<0.0005	0.0728	0.152	<0.0002	<0.005	2.71	0.009	<0.00002	<0.001	0.001		1.8
W35B	27/04/2010	<0.005	0.006	<0.0005	0.065	<0.0005	0.0003	0.032	<0.0001	<0.001	<0.05	0.00001	10.9	<0.001	<0.0005	0.0411	0.16	<0.0002	<0.005	2.66	0.002	<0.00002	<0.001	0.001		1.57
W35B	28/04/2010	<0.005	0.008	<0.0005	0.074	<0.0005	0.0003	0.033	<0.0001	<0.001	<0.05	0.00003	10.8	<0.001	<0.0005	0.0453	0.135	<0.0002	<0.005	2.68	0.009	<0.00002	<0.001	0.001		1.4
W35B	29/04/2010	<0.005	<0.005	<0.0005	0.054	<0.0005	0.0003	0.035	<0.0001	<0.001	<0.05	<0.00001	12.3	<0.001	<0.0005	0.0388	0.207	<0.0002	<0.005	3.1	0.001	<0.00002	<0.001	0.001		1.46
W35B	30/04/2010	<0.005	0.007	<0.0005	0.065	<0.0005	0.0003	0.032	<0.0001	<0.001	<0.05	0.00001	10.6	<0.001	<0.0005	0.0377	0.157	<0.0002	<0.005	2.55	0.003	<0.00002	<0.001	0.002		1.08
W35B	01/05/2010	<0.005	0.009	<0.0005	0.106	<0.0005	0.0003	0.035	<0.0001	<0.001	<0.05	0.00002	11.5	<0.001	<0.0005	0.0524	0.214	<0.0002	<0.005	2.85	0.011	<0.00002	<0.001	0.002	0.038	1.15
W35B	02/05/2010	<0.005	<0.005	0.0008	0.057	<0.0005	0.0003	0.036	<0.0001	<0.001	<0.05	0.00002	12.8	<0.001	<0.0005	0.0437	0.15	<0.0002	<0.005	3.2	0.002	<0.00002	<0.001	0.002		1.17
W35B	03/05/2010	<0.005	0.005	<0.0005	0.058	<0.0005	0.0003	0.037	<0.0001	<0.001	<0.05	<0.00001	13.7	<0.001	<0.0005	0.0459	0.14	<0.0002	<0.005	3.48	0.001	<0.00002	<0.001	0.002		1.14
W35B	04/05/2010	<0.005	<0.005	<0.0005	0.045	<0.0005	0.0003	0.037	<0.0001	<0.001	<0.05	0.00001	13.5	<0.001	<0.0005	0.0568	0.116	<0.0002	<0.005	3.36	<0.001	<0.00002	<0.001	0.002	0.02	1.07
W35B	05/05/2010	<0.005	0.006	<0.0005	0.044	<0.0005	0.0003	0.038	<0.0001	<0.001	<0.05	<0.00001	13.5	<0.001	<0.0005	0.0515	0.112	<0.0002	<0.005	3.38	<0.001	<0.00002	<0.001	0.002	0.02	1.06
W35B	06/05/2010	0.006	0.015	<0.0005	0.04	<0.0005	0.0003	0.04	<0.0001	<0.001	<0.05	<0.00001	15.1	<0.001	<0.0005	0.0673	0.095	<0.0002	<0.005	3.5	<0.001	<0.00002	<0.001	0.002	0.021	1.22
W35B	07/05/2010	<0.005	<0.005	<0.0005	0.042	<0.0005	0.0004	0.043	<0.0001	<0.001	<0.05	0.00001	15.7	<0.001	<0.0005	0.0686	0.09	<0.0002	<0.005	3.95	<0.001	<0.00002	<0.001	0.002	0.017	1.31
W35B	08/05/2010	<0.005	<0.005	<0.0005	0.053	<0.0005	0.0003	0.032	<0.0001	<0.001	<0.05	0.00005	13.9	<0.001	<0.0005	0.0189	0.127	<0.0002	<0.005	4.07	<0.001	<0.00002	<0.001	0.002	0.018	0.76
W35B	09/05/2010	<0.005	<0.005	<0.0005	0.031	<0.0005	0.0003	0.043	<0.0001	<0.001	<0.05	0.00002	16.5	<0.001	<0.0005	0.0896	0.067	<0.0002	<0.005	4.11	<0.001	<0.00002	<0.001	0.001	0.013	1.44
W35B	10/05/2010	<0.005	<0.005	<0.0005	0.038	<0.0005	0.0003	0.047	<0.0001	<0.001	<0.05	0.00003	15	<0.001	<0.0005	0.0435	0.083	<0.0002	<0.005	4.18	0.001	<0.00002	<0.001	0.002	0.013	1.02
W35B	13/05/2010	<0.005	<0.005	<0.0005	0.027	<0.0005	0.0004	0.046	<0.0001	<0.001	<0.05	<0.00001	18.3	<0.001	<0.0005	0.0892	0.052	<0.0002	<0.005	4.28	<0.001	<0.00002	0.001	0.001	0.01	1.47
W35B	17/05/2010	<0.005	0.011	<0.0005	0.017	<0.0005	0.0004	0.049	<0.0001	<0.001	<0.05	0.00001	21.3	<0.001	<0.0005	0.116	0.03	<0.0002	<0.005	4.63	0.001	<0.0002	0.001	<0.001	<0.01	1.93
W35B	20/05/2010	<0.005	<0.005	<0.0005	0.013	<0.0005	<0.001	0.057	<0.0005	<0.001	<0.05	0.00002	24.8	<0.001	<0.0005	0.135	0.025	<0.0002	<0.005	5.62	0.001	<0.00002	0.002	<0.003	<0.01	2.2
W35B	24/05/2010	<0.005	<0.01	<0.002	0.012	<0.0005	0.0016	0.126	<0.0002	<0.001	<0.1	<0.0001	92	<0.002	0.001	0.12	0.072	<0.0002	<0.01	27	0.689	<0.0002	0.006	0.003		5
W35B	31/05/2010	0.013	0.018	<0.002	0.035	<0.0005	0.0029	0.169	<0.0002	<0.001	<0.1	<0.0001	125	<0.002	0.0018	0.149	0.082	<0.0002	<0.01	40	1.3	<0.00002	0.009	0.006		7
W35B	03/06/2010	0.107	0.193	0.005	0.096	<0.0005	0.0034	0.172	<0.0002	<0.001	<0.1	0.0001	142	<0.002	0.0016	0.2	0.175	<0.0002	<0.01	46	1.2	<0.0002	0.011	0.007		7
W35B	14/06/2010	0.009	0.012	0.003	0.011	<0.0005	0.0037	0.135	<0.0002	<0.001	<0.1	<0.0001	139	<0.002	0.0019	0.157	0.227	<0.0002	<0.01	55	1.42	<0.0002	0.011	0.008		7
W35B	17/06/2010	<0.005	<0.01	0.002	0.013	<0.0005	0.0037	0.138	<0.0002	<0.001	<0.1	0.0001	132	<0.002	0.0022	0.179	0.232	<0.0002	<0.01	54	1.69	<0.0002	0.01	0.009		6
W35B	21/06/2010	0.123	0.217	0.014	0.015	0.0007	0.0029	0.106	<0.0002	<0.001	<0.1	<0.0001	95	<0.002	0.001	0.127	0.04	<0.0002	<0.01	33	0.567	<0.0002	0.014	0.006		5
W35B	25/06/2010	0.018	0.028	0.003	0.016	<0.0005	0.003	0.139	<0.0002	<0.001	<0.1	<0.0001	124	<0.002	0.0016	0.154	0.111	<0.0002	<0.01	52	1.4	<0.0002	0.01	0.007		6
W35B	12/07/2010	<0.005	<0.01	<0.002	0.031	<0.0005	<0.0004	0.044	<0.0002	<0.001	<0.1	<0.0001	20	<0.002	<0.0005	0.007	0.151	<0.0002	<0.01	6	0.009	<0.0002	<0.001	0.001		<1
W35B	29/07/2010	<0.005	<0.01	<0.002	0.034	<0.0005	<0.0004	0.05	<0.0002	<0.001	<0.1	<0.0001	23	<0.002	<0.0005	0.045	0.087	<0.0002	<0.01	6	0.004	<0.0002	<0.001	0.001		<1
W35B	12/08/2010	<0.005	<0.01	<0.002	0.043	<0.0005	<0.0004	0.046	<0.0002	<0.001	<0.1	<0.0001	23	<0.002	<0.0005	0.009	0.128	<0.0002	<0.01	7	0.009	<0.0002	<0.001	0.002		<1
W35B	19/08/2010	<0.005	<0.01	<0.002	0.054	<0.0005	<0.0004	0.044	<0.0002	<0.001	<0.1	<0.0001	18	<0.002	<0.0005	0.011	0.125	<0.0002	<0.01	5	0.004	<0.0002	<0.001	0.002		<1
W35B	26/08/2010	<0.005	0.01	<0.002	0.031	<0.0005	<0.0004	0.053	<0.0002	<0.001	<0.1	<0.0001	23	<0.002	<0.0005	0.036	0.093	<0.0002	<0.01	6	0.009	<0.0002	<0.001	0.001		<1
W35B	08/09/2010	<0.005	<0.01	<0.002	0.026	<0.0005	0.0004	0.059	<0.0002	<0.001	<0.1	<0.0001	25	<0.002	<0.0005	0.038	0.094	<0.0002	<0.01	7	0.005	<0.0002	<0.001	0.001		<1
W35B	15/09/2010	<0.005	<0.01	<0.002	0.029	<0.0005	<0.0004	0.056	<0.0002	<0.001	<0.1	<0.0001	27	<0.002	<0.0005	0.03	0.098	<0.0002	<0.01	7	0.011	<0.0002	<0.001	0.001		<1
W35B	22/09/2010	<0.005	<0.01	<0.002	0.025	<0.0005	<0.0004	0.082	<0.0002	<0.001	<0.1	<0.0001	43	<0.002	<0.0005	0.041	0.098	<0.0002	<0.01	11	0.069	<0.0002	0.001	0.001		1
W35B	06/10/2010	<0.005	<0.005	<0.0005	0.02	<0.0005	0.0003	0.054	<0.0001	<0.001	<0.05	0.00002	25.3	<0.001	<0.0005	0.0256	0.075	<0.0002	<0.005	6.78	0.007	<0.00002	<0.001	<0.001		0.65
W35B	11/10/2010	<0.005	<0.005	<0.0005	0.025	<0.0005	0.0003	0.07	<0.0001	<0.001	<0.05	0.00002	27.2	<0.001	<0.0005	0.0388	0.082	<0.0002	<0.005	7.66	0.006	<0.00002	<0.001	0.001		0.9
W35B	04/04/2011	<0.005	0.011	<0.0005	0.01	<0.0005	0.0004	0.103	<0.0001	<0.001	<0.05	0.00007	55.9	<0.001	<0.0005	0.043	0.018	<0.0002	0.005	11	0.22	<0.00002	0.015	<0.001	0.013	5.83
W35B	03/05/2011	<0.005	0.01	<0.0005	0.068	<0.0005	0.0003	0.035	<0.0001	<0.001	<0.05	0.00004	11.1	<0.001	<0.0005	0.0462	0.14	<0.0002	<0.005	2.6	0.046	<0.00002	<0.001	0.003	0.033	1.92
W35B	02/06/2011	<0.005	<0.005	<0.0005	0.021	<0.0005	0.0003	0.079	<0.0001	<0.001	<0.05	0.00001	25.2	<0.001	<0.0005	0.0562	0.042	<0.0002	<0.005	5.92	0.005	<0.00002	0.001	0.001	<0.01	1.95
W35B	06/07/2011	<0.005	0.037	<0.0005	0.039	<0.0005	0.0005	0.068	<0.0001	<0.001	<0.05	0.00004	28.6	<0.001	<0.0005	0.0428	0.122	<0.0002	<0.005	7.12	0.099	<0.00002	0.001	0.002	0.015	0.96
W35B	31/07/2011	<0.005	<0.005	<0.0005	0.042	<0.0005	0.0004	0.068	<0.0001	<0.001	<0.05	0.00002	28.9	<0.001	<0.0005	0.0379	0.116	<0.0002	<0.005	7.9	0.015	<0.00002	<0.001	0.002	0.013	0.8
W35B	13/08/2011	<0.005	0.017	<0.0005	0.032	<0.0005	0.0004	0.059	<0.0001	<0.001	<0.05	0.00001	28.1	<0.001	<0.0005	0.0271	0.126	<0.0002	<0.005	6.93	0.037	<0.00002	<0.001	0.001	<0.01	0.67
W35B	13/09/2011	<0.005	<0.005	<0.0005	0.028	<0.0005	0.0003	0.068	<0.0001	<0.001	<0.05	0.00024	34.5	<0.001	<0.0005	0.0178	0.096	<0.0002	<0.005	9.14	0.011	<0.00002	<0.001	0.001	<0.01	0.89
W35B	09/10/2011	<0.005	0.033	<0.0005	0.021	<0.0005	0.0003	0.088	<0.0001	<0.001	<0.05	0.00003	40.8	<0.001	<0.0005	0.0354	0.157	<0.0002	<0.005	11.2	0.111	<0.00002	<0.001	0.001	0.011	1.16
W35B	01/05/2012 16:20	<0.0050	0.0063	<0.00050	0.0426	<0.00050	0.00028	0.0312	<0.00010	<0.0010	<0.05	0.000023	13	<0.0010	<0.00050	0.0284	0.181	<0.00020	<0.0050	2.81	0.031	<0.000010	<0.0010	<0.0010	0.024	1.54
W35B	10/05/2012 15:49	<0.0050	<0.0050	<0.00050	0.0438	<0.00050	0.0003	0.0311	<0.00010	<0.0010	<0.05	0.000012	15.3	<0.0010	<0.00050	0.0278	0.164	<0.00020	<0.0050	3.54	0.0107	<0.000010	<0.0010	0.0012	0.018	1.15
W35B	13/05/2012 14:00	<0.0050	<0.0050	<0.00050	0.0366	<0.00050	0.00056	0.033	<0.00010	<0.0010	<0.05	0.000015	14.5	<0.0010	<0.00050	0.0232	0.377	<0.00020	<0.0050	3.65	0.0115	<0.000010	<0.0010	0.0014	0.018	0.895
W35B	18/05/2012 11:35	<0.0050	0.0072	<0.00050	0.0197	<0.00050	0.00135	0.205	<0.00010	<0.0010	0.495	0.000082	100	<0.0010	0.00138	0.415	0.313	0.00053	0.0124	71.7	0.105	<0.000010	0.015	0.001	<0.01	6.3
W35B	05/06/2012	<0.0050	<0.0050	<0.00050	0.0193	<0.00050	0.00037	0.0551	<0.00010	<0.0010	<0.05	0.000012	26.7	<0.0010	<0.00050	0.0459	0.0714	<0.00020	<0.0050	7.06	0.0147	<0.000010	0.0015	0.001	<0.01	1.64
W35B	27/06/2012 18:15	<0.0050	<0.0050	<0.00050	0.0245	<0.00050	0.00044	0.0657	<0.00010	<0.0010	<0.05	0.000038	33.8	<0.0010	<0.00050	0.0555	0.0827	<0.00020	<0.0050	7.91	0.0155	<0.000010	0.0016	0.0013	0.012	1.59

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	BOD5	Br	Cation	COD	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-T	N-TKN	P-PO4T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L
W35A	11/09/2012 15:40	0.00293	5.37	<0.000020	7.39	0.84	7.5	<0.000050	<0.0050	<0.0050	0.001	<0.0050	<0.0050	<0.00050	130	<0.50	<0.50	<0.50										19.4				
W35A	11/09/2012 15:40																															
W35B	27/04/2009																															
W35B	10/05/2009	<0.0002	2.53	<0.00001	1.8	0.054	1.6	<0.00005	<0.001	0.0009	<0.0005	0.0005	0.002		36	<6	<5							150							0.85	0.02
W35B	25/05/2009	<0.0006	3.52	<0.00001	3.8	0.126	4.1	<0.00001	<0.0001	0.0025	<0.0004	0.00079	0.003	<0.0001	90	<6	<5							96							0.63	0.02
W35B	16/06/2009																															
W35B	08/07/2009	0.0058	6.97	0.00042	61.9	0.84	86.9	<0.00001	<0.0001	0.0096	0.0067	0.00596	0.011	0.0036	520	<6	<5							160							11	0.05
W35B	11/08/2009	<0.0006	4.13	<0.00001	4.7	0.189	2.8	<0.00001	<0.0001	0.0006	0.0004	0.0007	0.002	0.0002	160	<6	<5							64							0.4	0.02
W35B	01/09/2009	<0.0006	5.15	<0.00001	15	0.258	16.5	<0.00001	<0.0001	0.0018	0.0009	0.0014	0.002	0.0022	220	<6	<5														1.81	0.07
W35B	19/04/2010	<0.0006	2.2	<0.00001	5	0.067	3.6	<0.00001	<0.0001	<0.01	<0.0004	0.0006	0.002	0.0001	50	<6	<5														1.08	0.05
W35B	20/04/2010	<0.0006	2.41	<0.00001	3.7	0.059	3.2	<0.00001	<0.0001	<0.01	<0.0004	0.0006	0.01	0.0002	40	<6	<5														1.43	0.05
W35B	21/04/2010	<0.0006	2.73	<0.00001	2.7	0.049	2.6	<0.00001	<0.0001	0.011	<0.0004	0.0008	0.009	0.0003	30	<6	<5														1.47	0.05
W35B	22/04/2010	<0.0006	2.44	<0.00001	2.2	0.054	1.6	<0.00001	<0.0001	<0.01	<0.0004	0.0003	0.004	0.0004	30	<6	<5														1.47	0.04
W35B	23/04/2010	<0.0006	2.32	<0.00001	2.1	0.047	1.4	<0.00001	0.0003	<0.01	<0.0004	0.0004	0.001	0.0003	30	<6	<5														1.26	0.04
W35B	24/04/2010	<0.0006	2.5	<0.00001	1.7	0.049	1	<0.00001	<0.0001	<0.01	<0.0004	0.0004	0.001	0.0002	40	<6	<5														1.16	0.03
W35B	25/04/2010	<0.0006	2.44	<0.00001	1.6	0.049	1	<0.00001	<0.0001	<0.01	<0.0004	0.0004	<0.001	0.0002	30	<6	<5														1.16	0.03
W35B	26/04/2010	0.0001	3.06	<0.00002	2.15	0.055	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	39	<0.5	<0.5	<0.5			<0.4											
W35B	27/04/2010	0.0001	2.78	<0.00002	2	0.051	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	35	<0.5	<0.5	<0.5			<0.4											
W35B	28/04/2010	<0.0001	3.03	<0.00002	1.83	0.051	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	33	<0.5	<0.5	<0.5			<0.4											
W35B	29/04/2010	0.0001	2.7	<0.00002	2.25	0.059	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	44	<0.5	<0.5	<0.5			<0.4											
W35B	30/04/2010	<0.0001	2.54	<0.00002	1.79	0.053	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	39	<0.5	<0.5	<0.5			<0.4											
W35B	01/05/2010	0.0001	3.05	<0.00002	1.92	0.054	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	39	<0.5	<0.5	<0.5			<0.4											
W35B	02/05/2010	0.0001	3.03	<0.00002	2.13	0.061	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	44	<0.5	<0.5	<0.5			<0.4											
W35B	03/05/2010	0.0001	3.18	<0.00002	2.29	0.064	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	49	<0.5	<0.5	<0.5			<0.4											
W35B	04/05/2010	0.0001	2.91	<0.00002	2.15	0.066	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	53	<0.5	<0.5	<0.5			<0.4											
W35B	05/05/2010	0.0001	3.09	<0.00002	2.24	0.067	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	51	<0.5	<0.5	<0.5			<0.4											
W35B	06/05/2010	0.0001	3.42	<0.00002	2.33	0.069	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	56	<0.5	<0.5	<0.5			<0.4											
W35B	07/05/2010	0.0001	3.36	<0.00002	2.72	0.074	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	55	<0.5	<0.5	<0.5			<0.4											
W35B	08/05/2010	0.0001	3.42	<0.00002	2.53	0.068	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	54	<0.5	<0.5	<0.5			<0.4											
W35B	09/05/2010	0.0001	3.27	<0.00002	2.78	0.078	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	66	<0.5	<0.5	<0.5			<0.4											
W35B	10/05/2010	0.0001	3.35	<0.00002	2.7	0.074	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	62	<0.5	<0.5	<0.5			<0.4											
W35B	13/05/2010	0.0001	3.42	<0.00002	2.9	0.086	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	67	<0.5	<0.5	<0.5			<0.4											
W35B	17/05/2010	0.0002	3.52	<0.00002	3.13	0.099	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	79	<0.5	<0.5	<0.5			<0.4											
W35B	20/05/2010	<0.001	3.63	<0.00002	3.95	0.124	<3	<0.00005	<0.005	<0.005	0.0001	<0.005	<0.005	<0.0005	92	<0.5	<0.5	<0.5			<0.4											
W35B	24/05/2010	0.0015	5	<0.0001	19	0.459	<60	<0.00005	<0.005	<0.01	0.0017	<0.005	<0.01	<0.002	200	<0.5	<0.5	<0.5			<0.4											
W35B	31/05/2010	0.0021	5.64	<0.0001	31	0.663	<60	<0.00005	<0.005	<0.01	0.0038	<0.005	<0.01	<0.002	280	<0.5	<0.5	<0.5			0.6											
W35B	03/06/2010	0.0024	5.61	<0.0001	34	0.875	<60	<0.00005	<0.005	0.02	0.0044	<0.005	<0.01	<0.002	350	<0.5	<0.5	<0.5			0.5											
W35B	14/06/2010	0.0038	6.38	<0.0001	41	0.946	75	<0.00005	<0.005	<0.01	0.0051	<0.005	<0.01	<0.002	400	<0.5	<0.5	<0.5			0.7											
W35B	17/06/2010	0.0035	5.66	<0.0001	39	1	70	<0.00005	<0.005	<0.01	0.0051	<0.005	<0.01	0.002	420	2.7	<0.5	2.3			0.7											
W35B	21/06/2010	0.0036	5.16	<0.0001	33	0.602	<60	<0.00005	<0.005	<0.01	0.0043	<0.005	<0.01	<0.002	290	<0.5	<0.5	<0.5			0.5							43.7				
W35B	25/06/2010	0.0031	6.16	<0.0001	36	0.773	75	<0.00005	<0.005	<0.01	0.0044	<0.005	<0.01	<0.002	400	<0.5	<0.5	<0.5			0.7							46.6				
W35B	12/07/2010	<0.0008	4.95	<0.0001	3	0.113	<60	<0.00005	<0.005	<0.01	<0.0001	<0.005	<0.01	<0.002	98	<0.5	<0.5	<0.5			<0.4											
W35B	29/07/2010	<0.0008	4.72	<0.0001	4	0.114	<60	<0.00005	<0.005	<0.01	<0.0001	<0.005	<0.01	<0.002	97	<0.5	<0.5	<0.5			<0.4											
W35B	12/08/2010	<0.0008	5.55	<0.0001	4	0.121	<60	<0.00005	<0.005	<0.01	<0.0001	<0.005	<0.01	<0.002	92	<0.5	<0.5	<0.5			<0.4											
W35B	19/08/2010	<0.0008	5.01	<0.0001	4	0.109	<60	<0.00005	<0.005	<0.01	<0.0001	<0.005	<0.01	<0.002	71	<0.5	<0.5	<0.5			<0.4											
W35B	26/08/2010	<0.0008	4.96	<0.0001	4	0.122	<60	<0.00005	<0.005	<0.01	<0.0001	<0.005	<0.01	<0.002	97	<0.5	<0.5	<0.5			<0.4											
W35B	08/09/2010	<0.0008	4.82	<0.0001	5	0.141	<60	<0.00005	<0.005	<0.01	<0.0001	<0.005	<0.01	<0.002	110	<0.5	<0.5	<0.5			<0.4											
W35B	15/09/2010	<0.0008	5.48	<0.0001	5	0.136	<60	<0.00005	<0.005	<0.01	<0.0001	<0.005	<0.01	<0.002	110	<0.5	<0.5	<0.5			<0.4											
W35B	22/09/2010	<0.0008	5.59	<0.0001	5	0.2	<60	<0.00005	<0.005	<0.01	0.0004	<0.005	<0.01	<0.002	170	<0.5	<0.5	<0.5			<0.4											
W35B	06/10/2010	0.0003	5.45	<0.00002	4.02	0.131	4	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	110	<0.5	<0.5	<0.5			<0.4											
W35B	11/10/2010	0.0002	5.2	<0.00002	4.32	0.156	3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	120	<0.5	<0.5	<0.5			<0.4											
W35B	04/04/2011	0.0051	1.89	<0.00002	22.8	0.749	20	<0.00005	<0.005	<0.005	0.0007	<0.005	<0.005	<0.0005	76	<0.5	<0.5	<0.5			<0.4											
W35B	03/05/2011	0.0002	2.68	<0.00002	1.75	0.061	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	0.017	<0.0005	37	<0.5	<0.5	<0.5														
W35B	02/06/2011	0.0001	4.14	<0.00002	4.03	0.136	6	<0.00005	<0.005	<0.005	0.0001	<0.005	<0.005	<0.0005	98	<0.5	<0.5	<0.5														
W35B	06/07/2011	0.0003	5.49	<0.00002	4.66	0.166	<3	<0.00005	<0.005	<0.005	0.0002	<0.005	0.035	<0.0005	110	<0.5	<0.5	<0.5														
W35B	31/07/2011	0.0001	5.76	<0.00002	4.87	0.159	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	120	<0.5	<0.5	<0.5														
W35B	13/08/2011	0.0001	5.58	<0.00002	4.25	0.149	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	0.018	<0.0005	110	<0.5	<0.5	<0.5														
W35B	13/09/2011	0.0001	5.78	<0.00002	4.79	0.185	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	0.007	<0.0005	140	<0.5	<0.5	<0.5														
W35B	09/10/2011	0.0001	6.49	<0.00002	5.21	0.228	3	<0.00005	<0.005	<0.005	0.0002	<0.005	0.038	<0.0005	170	<0.5	<0.5	<0.5														
W35B	01/05/2012 16:20	0.00011	2.94	<0.000020	1.53	0.0634	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	45.3	<0.50	<0.50	<0.50														0.078
W35B	10/05/2012 15:49	0.00018	3.12	<0.000020	2.03	0.0788	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	58.6	<0.50	<0.50	<0.50														0.0308
W35B	13/05/2012 14:00	0.00012	3.48	<0.000020	2.2	0.0731	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	58.2	<0.50	<0.50	<0.50														0.0285
W35B	18/05/2012 11:35	0.00937	4.61	0.000122	25.9	6.27	17.8	<0.000050	<0.0050	<0.0050	0.00465	<0.0050	<0.0050	<0.00050	242	<0.50	<0.50	<0.50														0.0567
W35B	05/06/2012	0.00013	4.53	<0.000020	4.04	0.143	<3.0	<0.000050	<0.0050	<0.0050	0.00016	<0.0050	<0.0050	<0.00050	114	<0.50	<0.50	<0.50														0.0187
W35B	27/06/2012 18:15	0.00013	5.92	<0.000020	4.63	0.164	<3.0	<0.000050	<0.0050	<0.0050	0.00015	<0.0050	<0.0050	<0.00050	137	<0.50	<0.50	<0.50														0.0948

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	P-TDP	P-TRP	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		mg/L	mg/L	Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W35A	11/09/2012 15:40					299			
W35A	11/09/2012 15:40					299			
W35B	27/04/2009								
W35B	10/05/2009							2	
W35B	25/05/2009							<0.1	
W35B	16/06/2009								
W35B	08/07/2009		0.27					3.7	
W35B	11/08/2009		<0.05					0.2	
W35B	01/09/2009		0.06					3.1	
W35B	19/04/2010							76	
W35B	20/04/2010							37	
W35B	21/04/2010							3.8	
W35B	22/04/2010							6.7	
W35B	23/04/2010							11	9.2
W35B	24/04/2010							7.8	10
W35B	25/04/2010							18	29.7
W35B	26/04/2010		0.009					10.3	16.4
W35B	27/04/2010		0.009					4.8	4.1
W35B	28/04/2010		0.009					5.6	5.6
W35B	29/04/2010		<0.005					4.1	2
W35B	30/04/2010		0.025					1.1	-0.4
W35B	01/05/2010		<0.005					1.3	-1.3
W35B	02/05/2010		<0.005					1.3	-1.6
W35B	03/05/2010		<0.005					1	-1.6
W35B	04/05/2010		<0.005					0.8	-2.1
W35B	05/05/2010		<0.005					0.6	2
W35B	06/05/2010		<0.005					11.6	4.2
W35B	07/05/2010		<0.005					0.5	-2.3
W35B	08/05/2010		<0.005					0.5	7.81
W35B	09/05/2010		<0.005					0.8	-2
W35B	10/05/2010		<0.005					0.7	4.2
W35B	13/05/2010		<0.005					0.4	
W35B	17/05/2010		<0.005					2.5	
W35B	20/05/2010		<0.005					1.5	
W35B	24/05/2010		<0.005					46.1	
W35B	31/05/2010							124	
W35B	03/06/2010		<0.005					796	
W35B	14/06/2010		<0.005					36.2	
W35B	17/06/2010		<0.005					2.9	
W35B	21/06/2010		0.009					2130	
W35B	25/06/2010		<0.005					110	140.5
W35B	12/07/2010		<0.005					0.4	-4.2
W35B	29/07/2010		<0.005					0.5	-0.8
W35B	12/08/2010		<0.005					0.3	-4.2
W35B	19/08/2010		<0.005					0.4	14.8
W35B	26/08/2010		<0.005					0.4	-0.5
W35B	08/09/2010		<0.005					0.9	-3.5
W35B	15/09/2010		<0.005					0.5	-3.8
W35B	22/09/2010		<0.005					1.8	-1.6
W35B	06/10/2010		<0.005					0.7	-3.5
W35B	11/10/2010		0.006					0.3	
W35B	04/04/2011		<0.005					27.5	
W35B	03/05/2011								
W35B	02/06/2011								
W35B	06/07/2011								
W35B	31/07/2011								
W35B	13/08/2011								
W35B	13/09/2011								
W35B	09/10/2011								
W35B	01/05/2012 16:20					79.7			
W35B	10/05/2012 15:49					103.3			
W35B	13/05/2012 14:00					105.6			
W35B	18/05/2012 11:35					127			
W35B	05/06/2012					181			
W35B	27/06/2012 18:15					219			

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T	B-T
			mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W35B	22/07/2012 11:15	P																											
W35B	11/08/2012	P																											
W45	02/08/2012 7:00	P	7.2	636	7.5	8.18	667	958	6.7	5.52	45.3	22.4	350	367	204	1.9	2.2	178	6.8	1	28.3	1.06	0.166	<0.00050	0.00233	0.0889	<0.00010	<0.0010	0.465
W45	14/09/2012 7:00	P	4.6	640	7.72	8.15	579	948	4.5	8.23	60.8	99.4	411	404	154	1.4	0.22	146	3.7	0.621	53.7	1.18	0.0628	<0.00050	0.0013	0.0681	<0.00010	<0.0010	0.118
W45	17/10/2012 16:15	P	2	690	7.83	8.02	543	1000	1.3	7.78	55.3	-66.5	399	419	212	1.9	2.1	194	6.2	0.701	26.4		0.019	<0.00050	0.00119	0.0543	<0.00010	<0.0010	0.281
W45	21/12/2012 12:30	P	291	1130		7.94		1640					724	684	303	3.5	1.8	358	9.6	2.27	55.9	15.2	1.86	0.00107	0.00215	0.113	0.00013	<0.0010	0.799
W45	22/01/2013 11:30	P	1.1	988	7.47	8.1	667	1340	0	2.5	17.4	70.7	643	618	276	1.9	1.8	419	2.49	2.53	15.7		0.039	<0.00050	0.00128	0.0558	<0.00010	<0.0010	0.384
W45	13/02/2013	P	21	1010		7.94		1350					510	569	240	2.7	2	417	4.9	1.37	15.2		0.417	<0.00050	0.00133	0.0578	<0.00010	<0.0010	0.462
W45	14/03/2013 10:35	P	14.2	1220	7.77	7.98	96.7	1800	1.4	6.06	44.2	-424.3	545	562	288	4.4	1.9	384	37	2.07	77.2		0.478	0.00085	0.00143	0.0876	<0.00010	<0.0010	0.912
W45	18/04/2013 9:45	P	17.4	810	8.22	8.08	0.6	1130	1.7			-414.4	424	365	197	2.6	2.1	381	2.8	0.965	7.01		0.595	<0.00050	0.00266	0.0839	<0.00010	<0.0010	0.203
W45	18/09/2013 13:15	P	8.8	926	7.53	8.1	911	1300	9	10.14	89.2	258.9	551	568	216	2.4	1.8	419	2.7	1.73	17.7		0.221	<0.00050	0.00139	0.0884	<0.00010	<0.0010	0.222
W45	28/09/2013 14:20	P	4.7	1020	7.65	8.15	877	1310	7.3	10.56	89.9	242.9	607	591	217	2.8	1.8	466	2.7	1.8	17.7		0.166	<0.00050	0.00144	0.0904	<0.00010	<0.0010	0.274
W45	17/10/2013 17:15	P	3.5	1080	6.78	8.05	960	1380	4.1	12.40	95.2	229.2	695	645	200	0.96	1.7	484	3.9	1.49	16.7		0.102	0.0005	0.0015	0.0808	<0.00010	<0.0010	0.322
W45	10/12/2013 10:00	P	73.1	1470	7.75	7.97	1148	2070	2.7	13.48	99.4	-22.3	860	853	273	6.3	1.6	633	30	2.3	67.3		2.03	<0.00050	0.00192	0.122	<0.00010	<0.0010	1.2
W45	09/01/2014 14:45	P	13.4	1330	7.91	7.97	962	1810	4.5	10.06	78.8	8.5	861	836	282	4.1	1.7	692	13	1.68	17.3		0.39	<0.00050	0.0024	0.0669	<0.00010	<0.0010	0.875
W45	15/02/2014 14:45	P	6.3	1170	7.74	8.05	787	1510	1.4	13.03	93.1	77.7	736	720	242	2.3	1.9	592	1.3	0.209	2.57	25.9	0.33	<0.00050	0.00133	0.0359	<0.00010	<0.0010	0.218
W45	25/03/2014 14:40	P	22.6	1170	7.87	7.96	869	1500	1.6	19.32	137.6	127.9	731	759	215	3	1.9	593	4.7	0.711	8.25	24.9	0.0049	<0.00050	0.00142	0.0301	<0.00010	<0.0010	0.235
W45	04/04/2014 10:40	P	36.8	1080	7.86	7.9	748	1420	2.7	12.97	95.5	153.2	679	690	195	3.3	1.8	576	2.7	0.797	6.21		1.17	<0.00050	0.00156	0.0512	<0.00010	<0.0010	0.203
W45	18/05/2014 12:50	P	32.8	908	7.3	7.96	826	1220	7	10.62	87.7	150.7	586	582	167	4.2	1.9	438	2.5	0.562	5.97		1.16	<0.00050	0.00207	0.0493	<0.00010	<0.0010	0.164
W45	19/06/2014 15:30	P	38.7	974	7.72	7.93	868	1240	9.3			192	583	564	184	5.3	1.9	437	4.3	0.407	8.62		0.83	<0.00050	0.00162	0.0444	<0.00010	<0.0010	0.171
W45	03/07/2014 13:55	P	18.8	938	8.14	8	848	1210	10.4	11.57	103.7	198.9	586	550	186	5.6	2	431	3.2	0.332	7.45		0.42	<0.00050	0.00158	0.036	<0.00010	<0.0010	0.183
W45	21/08/2014 10:00	P	3.7	856	7.95	8.18	787	1170	8	8.07	68.2	190.3	542	520	189	8.5	2.2	376	1.7	0.358	3.86		0.462	<0.00050	0.00146	0.0314	<0.00010	<0.0010	0.156
W45	01/09/2014 11:25	P	37.8	970	7.83	7.97	762	1240	6.8	10.74	88.3	193.6	578	573	189	7.5	2	424	2.5	0.313	5.17		1.14	<0.00050	0.00142	0.0415	<0.00010	<0.0010	0.159
W45	13/10/2014 16:40	P	103	1090	7.46	7.86	788	1380	2.9	10.63	79.1	176.3	649	671	206	17	1.8	496	1.5	0.246	5.91		2.65	<0.00050	0.00129	0.0681	0.00012	<0.0010	0.213
W45	11/11/2014 9:30	P	<1.0	846	7.80	8.16	674	1190	-0.3	13.99	95	210.5	589	577	206	11	2.1	405	0.92	0.268	4.23		0.0196	<0.00050	0.00114	0.0248	<0.00010	<0.0010	0.157
W45	17/01/2015 11:50	P	3.3	1150	8.04	8.06	782	1520	-1.9	11.07	72.3	267.8	739	691	280	3.7	1.8	587	0.51	0.0776	1.65		0.0842	<0.00050	0.00087	0.0321	<0.00010	<0.0010	0.275
W45	14/02/2015 13:50	P	17.7	1130	7.71	7.93	906	1510	2.2	10.17	78.1	173.6	747	746	241	5.1	1.8	542	7.1	0.219	11.1		1.3	<0.00050	0.00138	0.0536	<0.00010	<0.0010	0.339
W45	08/03/2015 15:55	P	18.3	770	7.7	7.9	636	1120	1.8	10.6	76.5	191.1	547	539	176	15	2	371	2	0.456	5.32		0.782	<0.00050	0.00125	0.0377	<0.00010	<0.0010	0.157
W45	04/08/2015 11:25	P	1.6	464	8.27	8.27	1165	613	16.6	5.41	56.1	85.9	319	308	235	2.8	0.19	78.2	0.072	0.0223	3.14		0.0419	<0.00050	0.00057	0.108	<0.00010	<0.0010	<0.05
W45	10/09/2015 9:40	P	22.9	920	7.92	8.17	972	1430	7.9	1.12	9.5	85.8	245	253	150	31	1.7	364	4.4	0.88	22.9		0.116	<0.00050	0.00032	0.088	<0.00010	<0.0010	0.247
W45	05/10/2015 16:00	P	30	930	8.07	8.19	933	1430	7.5	4.88	41.3	124.9	272	257	137	29	1.6	364	3.1	0.476	28.8		0.559	<0.00050	0.00037	0.105	<0.00010	<0.0010	0.245
W45	17/11/2015 10:30	P	49.7	986	8.39	8.16	882	1460	3.4	4.12	36.2	4.0	260	291	131	29	1.4	384	4	0.636	33.9		0.428	<0.00050	0.0004	0.095	<0.00010	<0.0010	0.194
W45	28/12/2015 7:15	P	44.3	940	7.99	8.09	842	1390	4.3	4.03	31.2	-82.7	363	337	136	42	1.4	405	2.5	1.59	31.7		0.918	<0.00050	0.00051	0.126	<0.00010	<0.0010	0.211
W45	04/01/2016 10:45	P	41	928	7.63	8.09	857	1380	4.7	6.1	47.6	-43.8	380	356	134	44	1.4	347	2.4	1.75	29.8		0.707	<0.00050	0.00053	0.124	<0.00010	<0.0010	0.191
W45	19/04/2016 15:40	P	9.3	930	7.72	8.21	916	1390	7	4.22	38.9	-50.8		353	150	37.8		370	2.41	2.10	28.5		0.297	0.00031	0.00041	0.110	<0.000020	<0.000050	0.175
W45	12/05/2016 15:30	P	8.0	945	7.7	8.13	1041	1380	11.6	3.78	35.4	106.4		367	148	38.7		376	2.26	1.95	29.1		0.126	0.00031	0.00048	0.118	<0.000020	<0.000050	0.190
W45	19/05/2016 16:30	P	9.3	925	7.99	8.08	1051	1330	12.8	5.06	48.1	13.4		356	145	37.9		368	2.32	1.87	29.1		0.204	0.00025	0.00050	0.121	<0.000020	<0.000050	0.166
W45	23/06/2016 16:45	P	6.7	1090	7.65	7.87	1309	1510	17.4	2.35	24.7	17		425	134	40.6		467	3.55	1.64	32.9		0.144	0.00027	0.00055	0.125	<0.000020	<0.000050	0.210
W45	22/08/2016 14:35	P	6.0	1240	8.16	8.15	1521	1740	17.6	2.51	26.4	45.1		519	129	<2.5		594	4.13	2.52	32.2		0.213	0.00018	0.00044	0.110	<0.000020	<0.000050	0.209
W45	12/09/2016 17:17	P	20.1	1210	7.91	8.14	1315	1670	14.4	2.79	27.3	4.4		486	138	41.2		561	4.11	5.83	26.7	38.4	0.158	0.00022	0.00052	0.140	<0.000020	<0.000050	0.196
W45	15/10/2016 11:00	P	18.8	1210	8.05	8.14	1039	1590	4.7	5.51	43.2	28.1		510	146	38.3		572	3.85	7.60	23.1		0.233	0.00022	0.00058	0.119	<0.000020	<0.000050	0.181
W45	22/11/2016 14:20	P			7.56		1236		2.5	3.75	28.4	140.8																	
W45	22/11/2016 14:20	P	9.4	1870		8.11		2240						952	131	39		1030	5.06	5.90	29.3		0.0536	0.00025	0.00042	0.105	<0.000040	<0.00010	0.211
W45	01/12/2016 14:30	P	31.2	2090	8.15	8.07	1450	2430	3.1	8.26	62.3	-48.3		1040	127	42		1200	5.75	5.53	32.0		0.561	0.00022	0.00043	0.128	<0.000040	<0.00010	0.207
W8	27/05/2005	M	<3.0	111		7.78		113					62.3		174	<0.50		166	<0.020	<0.0010	0.0225		0.0506	<0.00050	<0.00050	0.04	<0.0010		<0.10
W8	30/06/2005	M	<3.0	144		7.83		176							89	0.86		<1	0.041	<0.0010	<0.0050		0.0807	<0.00010	0.00048	0.0503	<0.00050	<0.00050	<0.010
W8	29/07/2005	M	24.7	141		7.45		203					116			<0.50			<0.020	<0.0010	<0.0050		0.033	<0.00010	0.00047	0.0546	<0.00050	<0.00050	<0.010
W8	30/08/2005	M	<3.0	147		8.12		179					99.8		99.2	<0.50		5.1	0.023	0.0011	<0.0050		0.0688	<0.00050	0.00052	0.055	<0.0010		<0.10
W8	28/09/2005	M	<3.0	135		7.96		165					95		74.7	<0.50		7.72	<0.020	<0.0010	<0.0050		0.0509	<0.00050	<0.00050	0.049	<0.0010		<0.10
W8	15/10/2005	M	5.5	140		7.06		190					99.4			<0.50			0.026	<0.0010	0.0374		0.116	<0.00010	0.00054	0.0504	<0.00050	<0.00050	<0.010
W8	08/05/2006	M	9.4	116		7.34		47.8								<0.50	0.049		<0.020	<0.0010	<0.0050	29.3	0.176	<0.00010	0.00034	0.0293	<0.00050	<0.00050	<0.010
W8	14/05/2006 18:00	M	12.8	107		7.45		67.4							27.6	<0.5	0.133	1.92	0.037	<0.001	<0.005		0.137	<0.0001	0.00046	0.0395	<0.0005	<0.0005	<0.01
W8	17/05/2006 16:00	M	<3	105		7.51		71.5							32.3	<0.5	0.088	2.14		<0.001	<0.005		0.0681	<0.0001	0.00037	0.0332	<0.0005	<0.0005	<0.01
W8	20/05/2006 16:30	M	70.6	116		7.65		88.8							39	<0.5	0.096	4.22		<0.001	<0.005		0.0744	<0.0001	0.00035	0.0339	<0.0005	<0.0005	<0.01
W8	23/05/2006 15:30	M	<3	113		7.69		94.4							42.1	<0.5	0.098	4.97		<0.001	<0.005		0.0523	<0.0001	0.00038	0.0347	<0.0005	<0.0005	<0.01
W8	29/05/2006 14:00	M	<3	104		7.6		91.7							41.6	<0.5	0.098	4.88		<0.001	<0.005		0.0798	<0.0001	0.0004	0.0342	<0.0005	<0.0005	<0.01
W8	02/06/2006 11:30	M	5.4	110		7.58		100							48	<0.5	0.098	5.35	0.034	<0.001	<0.005		0.116	<0.0001	0.00045	0.0378	<0.0005	<0.0005	<0.01
W8	08/06/2006 13:32	M	<3	127		7.97		105							46.4	<0.5	0.091	5.07	0.042	<0.001	<0.005		0.0604	<0.0001	0.00042	0.0366	<0.0005	<0.0005	<0.01
W8	15/06/2006	M																	0.02										
W8	15/06/2006	M	8	150		7.82		229						120	89			32			<0.03		0.242	<0.0002	0.0004	0.066	<0.0001	<0.0005	0.006
W8	23/06/2006	M	<2	154		7.4		176						93	84			7.9	0.026		<0.03		0.039	<0.0002	0.0004	0.05	<0.0001	<0.0005	<0.002
W8	28/06/2006	M	18	138		7.84		236						113	92				0.003		<0.002		0.321	<0.0002	0.0006	0.072	<0.0001	<0.0005	0.004
W8	07/07/2006	M	<2	224		7.69		177						83	87			7.6			<0.002		0.045	<0.0002	0.0005	0.054	<0.0001	<0.0005	<0.002
W8	12/07/2006	M	<2			7.6		284						134	114			39	0.025		0.06		0.045	<0.0002	0.0004	0.072	<0.0001	<0.0005	0.008
W8	02/08/2006	M	4			7.56		219						120	108			6.5	0.009		<0.03		0.088	<0.0002	0.0006	0.061	<0.0001	<0.0005	0.002

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W35B	22/07/2012 11:15																									
W35B	11/08/2012																									
W45	02/08/2012 7:00	<0.000010	64.9	<0.0010	<0.00050	0.0983	0.304	<0.00020	0.0087	45.5	0.0209	0.000064	0.0127	<0.0010	<0.01	5.04	0.00332	5.28	0.000042	37.7	5.1	56.7	<0.000050	<0.0050	0.0099	0.00771
W45	14/09/2012 7:00	0.000032	75.2	<0.0010	<0.00050	0.0818	0.144	0.00055	0.0102	54.3	0.0388	<0.000010	0.0223	<0.0010	0.016	5.53	0.0298	3.85	0.000023	19.6	5.16	47.7	<0.000050	<0.0050	<0.0050	0.00841
W45	17/10/2012 16:15	<0.000010	95.5	<0.0010	<0.00050	0.0485	0.07	<0.00020	0.0083	38.9	0.0496	<0.000010	0.0437	0.001	<0.01	5.77	0.00617	4.49	<0.000020	40.7	9.28	73.4	<0.000050	<0.0050	<0.0050	0.0146
W45	21/12/2012 12:30	0.000012	182	<0.0010	0.00128	0.145	2.69	0.00075	0.0151	65.7	0.195	<0.000010	0.0375	0.0021	0.089	7.51	0.00333	10.6	0.000023	70.2	16.2	136	<0.000050	<0.0050	0.0461	0.0167
W45	22/01/2013 11:30	<0.000010	166	<0.0010	<0.00050	0.0225	0.157	<0.00020	0.0114	55.3	0.0762	<0.000010	0.0283	<0.0010	<0.01	5.58	0.00139	6.34	0.000026	49.8	14.7	163	<0.000050	<0.0050	<0.0050	0.0174
W45	13/02/2013	0.000046	140	<0.0010	<0.00050	0.0727	0.844	0.00021	0.0081	38.8	0.0745	<0.000010	0.0403	0.0012	0.09	5.37	0.00117	5.82	0.000024	61.1	17.4	127	<0.000050	<0.0050	0.0143	0.0183
W45	14/03/2013 10:35	0.000024	163	<0.0010	0.00076	0.205	0.928	0.0002	0.0123	33.4	0.111	<0.000010	0.0248	0.0011	0.039	10.1	0.00263	6.98	0.000028	85.9	33	114	<0.000050	<0.0050	0.0225	0.0119
W45	18/04/2013 9:45	0.000207	121	<0.0010	0.00059	0.236	1.13	0.00025	0.0066	30	0.14	<0.000010	0.0284	<0.0010	0.045	6.42	0.00164	6.79	0.0001	66.9	14.4	126	<0.000050	<0.0050	0.0519	0.00783
W45	18/09/2013 13:15	0.00017	150	<0.0010	0.00059	0.0582	0.391	<0.00020	0.0094	42.6	0.194	<0.000010	0.0254	0.0013	0.012	5.89	0.0053	5.67	<0.000020	56.2	13.7	139	<0.000050	<0.0050	0.0089	0.0142
W45	28/09/2013 14:20	0.000166	165	<0.0010	0.00061	0.0627	0.285	<0.00020	0.0094	47.2	0.206	<0.000010	0.0268	<0.0010	<0.01	6.6	0.00528	6.45	0.00003	59.9	15.1	160	<0.000050	<0.0050	0.0092	0.0151
W45	17/10/2013 17:15	0.000183	188	<0.0010	0.00064	0.0884	0.194	<0.00020	0.0098	54.8	0.217	<0.000010	0.0264	<0.0010	<0.01	7.75	0.00476	6.18	0.00002	66.5	19.4	185	<0.000050	<0.0050	<0.0050	0.0151
W45	10/12/2013 10:00	0.000579	263	<0.0010	0.00244	1.09	5.17	0.00146	0.0161	49.2	0.395	0.000017	0.0196	0.0018	0.102	14.5	0.00485	10.7	0.000812	78.1	27.8	224	<0.000050	<0.0050	0.259	0.0153
W45	09/01/2014 14:45	0.000248	274	<0.0010	0.0009	0.154	1.36	0.0003	0.0136	42.9	0.237	<0.000010	0.0185	<0.0010	0.018	8.74	0.0024	8.87	0.000248	73	21.3	232	<0.000050	<0.0050	0.0416	0.0163
W45	15/02/2014 14:45	0.000101	223	<0.0010	<0.00050	0.1	0.891	0.00023	0.0071	43.7	0.113	<0.000010	0.0197	<0.0010	0.032	5	0.00103	7.6	0.000056	51.7	12.7	213	<0.000050	<0.0050	0.0226	0.0141
W45	25/03/2014 14:40	0.000102	222	<0.0010	0.00075	0.0437	<0.01	<0.00020	0.0086	42.8	0.117	<0.000010	0.022	0.0019	<0.01	5.37	0.00129	7	<0.000020	52.5	12.3	202	<0.000050	<0.0050	<0.0050	0.0129
W45	04/04/2014 10:40	0.000134	205	<0.0010	0.00159	0.182	2.34	0.0007	0.0077	40.4	0.193	<0.000010	0.0214	0.003	0.038	5.59	0.00155	8.4	0.000058	51	10.6	203	<0.000050	<0.0050	0.0769	0.0107
W45	18/05/2014 12:50	0.000194	179	<0.0010	0.00139	0.383	2.4	0.00122	0.0063	33.7	0.197	<0.000010	0.0328	0.0023	0.036	5.43	0.00113	8.12	0.000204	37.6	7.77	163	<0.000050	<0.0050	0.0781	0.0145
W45	19/06/2014 15:30	0.000163	177	<0.0010	0.00136	0.349	2.17	0.00076	0.0063	34.3	0.167	<0.000010	0.0346	0.0036	0.028	5.63	0.00124	7.19	0.000125	40.7	8.44	149	<0.000050	<0.0050	0.0506	0.0184
W45	03/07/2014 13:55	0.000188	181	<0.0010	0.00109	0.172	1.01	0.00038	0.0055	32.8	0.12	<0.000010	0.0368	0.0033	0.02	5.82	0.00096	7.17	0.000043	40.6	7.99	160	<0.000050	<0.0050	0.0252	0.0191
W45	21/08/2014 10:00	0.000276	165	<0.0010	0.00072	0.449	1.06	0.00046	0.0056	31.3	0.147	<0.000010	0.039	<0.0010	0.027	4.54	0.00238	5.93	0.000071	37.4	7.2	143	<0.000050	<0.0050	0.0328	0.0168
W45	01/09/2014 11:25	0.000374	178	<0.0010	0.00135	0.778	3.53	0.00087	0.0078	32.7	0.198	<0.000010	0.0335	0.0014	0.026	5.04	0.00207	6.79	0.000256	43	8.2	136	<0.000050	<0.0050	0.0731	0.0166
W45	13/10/2014 16:40	0.00046	202	<0.0010	0.002	1.14	5.94	0.0023	0.0096	35.5	0.313	<0.000010	0.0245	0.0011	0.059	5.87	0.0033	11.4	0.000552	56.6	11.3	171	0.000051	<0.0050	0.173	0.0142
W45	11/11/2014 9:30	0.000371	177	<0.0010	0.00053	0.299	0.114	<0.00020	0.0071	35.6	0.105	<0.000010	0.0346	<0.0010	<0.01	4.46	0.00234	5.87	<0.000020	44.4	8.07	152	<0.000050	<0.0050	<0.0050	0.0187
W45	17/01/2015 11:50	0.000329	227	<0.0010	0.00058	0.303	0.157	<0.00020	0.0099	41.5	0.15	<0.000010	0.0188	<0.0010	<0.01	4.94	0.00113	7.15	<0.000020	62.3	12.1	207	<0.000050	<0.0050	<0.0050	0.0128
W45	14/02/2015 13:50	0.00038	234	<0.0010	0.00123	0.377	2.41	0.00073	0.009	39.6	0.241	<0.000010	0.0251	0.0016	0.059	5.69	0.001	9.35	0.000125	59.1	11.3	203	<0.000050	<0.0050	0.135	0.0148
W45	08/03/2015 15:55	0.000525	167	<0.0010	0.00086	0.243	1.41	0.00066	0.0059	31.8	0.137	<0.000010	0.0377	<0.0010	0.031	4.83	0.00142	6.63	0.00006	31	7.4	132	<0.000050	<0.0050	0.0524	0.0216
W45	04/08/2015 11:25	<0.000010	85.2	<0.0010	<0.00050	0.0191	0.518	<0.00020	<0.0050	25.8	0.102	<0.000010	0.0029	0.0012	0.018	2.24	0.00044	4.12	0.000067	13.2	0.669	29.8	<0.000050	<0.0050	<0.0050	0.00195
W45	10/09/2015 9:40	0.000023	60.2	<0.0010	<0.00050	0.0268	0.861	0.00023	0.0119	23.1	0.221	<0.000010	0.115	0.001	0.041	52.1	0.0217	3.28	<0.000020	156	4.06	124	<0.000050	<0.0050	0.0054	0.00197
W45	05/10/2015 16:00	0.000034	67.6	<0.0010	<0.00050	0.102	0.784	0.00042	0.0147	25.1	0.22	<0.000010	0.115	0.0012	0.045	56.9	0.0251	3.8	<0.000020	170	3.71	144	<0.000050	<0.0050	0.0188	0.00167
W45	17/11/2015 10:30	0.000015	68.6	<0.0010	0.00052	0.0398	0.572	0.00082	0.0158	21.6	0.175	<0.000010	0.108	0.0024	0.026	49.4	0.0226	3.22	<0.000020	157	3.31	145	<0.000050	<0.0050	0.0127	0.0025
W45	28/12/2015 7:15	0.000083	110	<0.0010	<0.00050	0.0157	0.945	<0.00020	0.0165	21.2	0.16	<0.000010	0.103	0.0019	0.064	38.7	0.0222	4.22	<0.000020	159	3.94	155	<0.000050	<0.0050	0.0416	0.00147
W45	04/01/2016 10:45	0.0001	119	<0.0010	<0.00050	0.0184	0.955	0.00066	0.0156	20.1	0.167	<0.000010	0.1	0.0023	0.062	39.3	0.0199	4.12	<0.000020	141	3.72	151	<0.000050	<0.0050	0.0369	0.00162
W45	19/04/2016 15:40	0.0000312	108	<0.00010	0.00013	0.00485	0.275	0.000070	0.0126	20.0	0.0926	<0.0000050	0.0971	0.00199	<0.050	36.6	0.0177	2.57	<0.000010	127	4.75	133	<0.000010	<0.00010	0.00563	0.00125
W45	12/05/2016 15:30	<0.000015	116	<0.00010	0.00014	0.00903	0.175	<0.000050	0.0139	19.3	0.0991	<0.0000050	0.101	0.00277	<0.050	39.4	0.0174	2.49	<0.000010	132	5.09	128	<0.000010	<0.00010	0.00373	0.00161
W45	19/05/2016 16:30	0.0000177	110	<0.00010	0.00021	0.00683	0.428	0.000061	0.0139	19.0	0.110	<0.0000050	0.0930	0.00382	<0.050	40.0	0.0167	2.54	<0.000010	127	4.54	123	<0.000010	<0.00010	0.00560	0.00157
W45	23/06/2016 16:45	0.0000388	137	<0.00010	0.00014	0.0271	0.300	0.000087	0.0146	21.3	0.178	<0.0000050	0.107	0.00400	<0.050	52.6	0.0188	2.72	<0.000010	137	5.23	157	<0.000010	<0.00010	0.00347	0.00102
W45	22/08/2016 14:35	0.0000739	161	0.00012	0.00012	0.0130	0.297	0.000085	0.0124	22.0	0.126	<0.0000050	0.0978	0.00284	<0.050	55.5	0.0182	2.67	<0.000010	162	4.53	196	<0.000010	<0.00010	0.00667	0.00126
W45	12/09/2016 17:17	0.000145	165	<0.00010	0.00017	0.0345	0.353	0.000100	0.0123	24.0	0.151	<0.0000050	0.102	0.00323	<0.050	57.1	0.0187	2.89	<0.000010	155	4.74	194	<0.000010	<0.00010	0.00570	0.00139
W45	15/10/2016 11:00	0.000129	166	0.00023	0.00038	0.0519	0.870	0.000250	0.0110	25.6	0.164	<0.0000050	0.0962	0.0124	<0.050	54.0	0.0191	2.95	0.000020	150	4.24	224	<0.000010	0.00045	0.00872	0.00153
W45	22/11/2016 14:20																									
W45	22/11/2016 14:20	0.000085	339	<0.00020	0.00167	0.0555	0.086	<0.00010	0.0136	30.4	0.613	<0.000010	0.101	0.0043	<0.10	60.5	0.0202	2.48	<0.000020	155	5.33	411	<0.000020	<0.00020	0.00191	0.00233
W45	01/12/2016 14:30	0.000178	376	0.00021	0.00181	0.111	0.901	0.00026	0.0125	29.7	0.649	<0.0000050	0.0939	0.0044	<0.10	58.4	0.0172	3.34	0.000027	136	5.83	413	<0.000020	<0.00020	0.0319	0.00277
W8	27/05/2005	<0.000050	16.9	<0.0010	<0.00030	0.0143	0.23	<0.00050	<0.0050	5.03	0.00512	<0.000020	<0.0010	0.0018		<2.0	<0.0010		<0.000020	2.6			<0.00020	<0.00050	<0.010	<0.00020
W8	30/06/2005	<0.000050	24.3	0.00073	0.00021	0.0103	0.503	0.000066	<0.0050	7.57	0.0445		0.000512	0.00172	<0.30	<2.0	<0.0010	5.21	<0.000010	4.5	0.112		<0.00010	<0.00010	<0.010	0.000063
W8	29/07/2005	<0.000050	30.9	0.00056	0.00017	0.00891	0.435	0.000059	<0.0050	9.43	0.0268		0.000565	0.00146	<0.30	<2.0	<0.0010	5.04	<0.000010	3.9	0.133		<0.00010	<0.00010	<0.010	0.000083
W8	30/08/2005	<0.000017	25.6	<0.0010	<0.00030	0.0094	0.722	<0.00050	<0.0050	8.04	0.0447	<0.000020	<0.0010	0.0018		<2.0	<0.0010		<0.000020	3.8			<0.00020	<0.00050	<0.010	<0.00020
W8	28/09/2005	<0.000017	24.7	<0.0010	<0.00030	0.0088	0.706	<0.00050	<0.0050	7.45	0.0487	<0.000020	<0.0010	0.0017		<2.0	<0.0010		<0.000020	3.7			<0.00020	<0.00050	<0.010	<0.00020
W8	15/10/2005	<0.000050	25.1	<0.00050	0.00037	0.0104	0.887	0.000064	<0.0050	7.41	0.24		0.00171	0.00109	<0.30	<2.0	<0.0010	6.29	<0.000010	4.5	0.176		<0.00010	<0.00010	<0.010	0.0001
W8	08/05/2006	<0.000050	8.15	<0.00050	0.00026	0.0168	0.442	0.000099	<0.0050	2.23	0.051		0.000212	0.00138	<0.30	<2.0	<0.0010	2.41	0.000014	<2.0	0.0348		<0.00010	<0.00010	<0.010	0.000033
W8	14/05/2006 18:00	<0.00005	11.6	0.00053	0.00038	0.019	0.5	0.000082	<0.005	3.22	0.0952		0.000367	0.00193	<0.3	<2	<0.001	3.05	<0.00001	<2	0.0539		<0.0001	<0.0001	<0.01	0.000049
W8	17/05/2006 16:00	<0.00005	12.3	<0.0005	<0.0001	0.0185	0.198	<0.00005	<0.005	3.59	0.0016		0.000408	0.00204	<0.3	<2	<0.001	3.14	<0.00001	2.3	0.0537		<0.0001	<0.0001	<0.01	0.000039
W8	20/05/2006 16:30	<0.00005	14.7	<0.0005	<0.0001	0.0176	0.181	<0.00005	<0.005	4.22	0.00117		0.000471	0.002	<0.3	<2	<0.001	3.56	<0.00001	2.3	0.0642		<0.0001	<0.0001	<0.01	0.000036
W8	23/05/2006 15:30	<0.00005	15.5	<0.0005	<0.0001	0.0168	0.195	<0.00005	<0.005	4.2	0.00374		0.000513	0.002	<0.3	<2	<0.001	3.65	<0.00001	2.2	0.0674		<0.0001	<0.0001	<0.01	0.000037
W8	29/05/2006 14:00	<0.00005	15.1	0.00052	<0.0001	0.0164	0.232	<0.00005	<0.005	4.44	0.00652		0.000496	0.00196	<0.3	<2	<0.001	3.86	<0.00001	3	0.065		<0.0001	<0.0001	<0.01	0.000032
W8	02/06/2006 11:30	<0.00005	16.2	0.00064	0.00014	0.0175	0.323	<0.00005	<0.005	4.81	0.0155		0.000471	0.00211	<0.3	<2	<0.001	4.04	<0.00001	3.2	0.0698		<0.0001	<0.0001	<0.01	0.000043
W8	08/06/2006 13:32	<0.00005	16.2	<0.0005	<0.0001	0.0175	0.269	<0.00005	<0.005	4.57	0.00631		0.00054	0.00194	<0.3	<2	<0.001	4.28	<0.00001	2.8	0.0704		<0.0001	<0.0001	<0.01	0.000037
W8	15/06/2006																									
W8	15/06/2006	<0.00001	29.1	0.0008	0.0003	0.034	0.6	0.0001	0.001	8.3	0.135		0.003	0.0019		1.2	<0.0002	5.7	<0.0001	5.5	0.249	9.1	<0.00005	<0.001	0.0125	<0.0005
W8	23/06/2006	<0.00001	24.1	0.0007	0.0001	0.013	0.2	<0.0001	<0.001	6.8	0.018		<0.001	0.0021		<0.4	<0.0002	5.07	0.0002	4.3	0.123	2.6	<0.00005	<0.001	0.0017	<0.0005
W8	28/06/2006	<0.00001	30.9	<0.0005	0.0004	0.043	1.1	0.0002	<0.001	8	0.154		0.002	0.0016		1.2	<0.0002	6.25	<0.0001	5.3	0.201	10	<0.00005	<0.001	0.0163	<0.0005
W8	07/07/2006	<0.00001	26.2	0.0006	<0.0001	0.012	0.4	<0.0001	<0.001	7.3	0.018		<0.001	0.0023		<0.4	<0.0002	5.48	<0.0001	4.7	0.129	2.8	<0.00005	<0.001	0.002	<0.0005
W8	12/07/2006	<0.00001	40.3	<0.0005	0.0002	0.01	0.4	<0.0001	<0.001	10.7	0.204		0.003	0.001		1.4	<0.0002	6.99	<0.0001	7.4	0.328	13.9	<0.00005	<0.001	0.0026	<0.0005
W8	02/08/2006	<0.00001	30.6	0.0008	<0.0001	0.01	0.4	<0.0001	<0.001	9	0.026		<0.001	0.0018		<0.4	0.0004	5.99	0.0003	5.1	0.156	2.5	<0.00005	<0.001	0.0046	<0.0005

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W35B	22/07/2012 11:15																									
W35B	11/08/2012																									
W45	02/08/2012 7:00	<0.0050	<0.0050	<0.00050	0.01	<0.00050	0.00228	0.0911	<0.00010	<0.0010	0.456	0.000011	70.8	<0.0010	<0.00050	0.0787	0.0383	<0.00020	0.0087	46.3	0.0137	<0.000010	0.0132	<0.0010	<0.01	5.27
W45	14/09/2012 7:00	<0.0050	<0.0050	<0.00050	0.0353	<0.00050	0.00122	0.0671	<0.00010	<0.0010	0.109	0.000019	73.5	<0.0010	<0.00050	0.0551	0.0898	0.00038	0.0104	53.6	0.0358	<0.000010	0.0214	<0.0010	<0.01	5.52
W45	17/10/2012 16:15	<0.0050	<0.0050	<0.00050	0.009	<0.00050	0.00123	0.0546	<0.00010	<0.0010	0.279	<0.000010	102	<0.0010	<0.00050	0.049	0.0238	<0.00020	0.0084	39.8	0.0511	<0.000010	0.0467	<0.0010	<0.01	6.39
W45	21/12/2012 12:30	0.0064	0.012	<0.00050	0.0042	0.00113	0.00175	0.0745	<0.00010	<0.0010	0.832	<0.000010	167	<0.0010	0.00067	0.137	0.139	<0.00020	0.0149	64.8	0.101	<0.000010	0.0388	0.002	0.013	7.11
W45	22/01/2013 11:30	<0.0050	<0.0050	<0.00050	0.0075	<0.00050	0.00137	0.0563	<0.00010	<0.0010	0.411	0.000016	158	<0.0010	<0.00050	0.0232	0.0673	<0.00020	0.0103	54.1	0.075	<0.000010	0.0275	<0.0010	<0.01	5.13
W45	13/02/2013	<0.0050	<0.0050	<0.00050	0.0036	<0.00050	0.00154	0.0556	<0.00010	<0.0010	0.483	0.000028	159	<0.0010	<0.00050	0.0374	0.0392	<0.00020	0.0082	41.7	0.0598	<0.000010	0.0419	<0.0010	0.072	5.62
W45	14/03/2013 10:35	<0.0050	0.0051	<0.00050	0.0034	<0.00050	0.00134	0.0755	<0.00010	<0.0010	0.902	0.000023	168	<0.0010	<0.00050	0.174	0.179	<0.00020	0.0124	35	0.0966	<0.000010	0.0211	0.001	<0.01	11
W45	18/04/2013 9:45	<0.0050	0.0067	<0.00050	0.0032	<0.00050	0.00234	0.0664	<0.00010	<0.0010	0.189	0.000182	101	<0.0010	<0.00050	0.0159	<0.0050	<0.00020	0.0058	27.2	0.105	<0.000010	0.0253	<0.0010	<0.01	5.61
W45	18/09/2013 13:15	<0.0050	0.0109	<0.00050	0.0549	0.00055	0.00157	0.0904	<0.00010	<0.0010	0.247	0.000147	154	<0.0010	0.00057	0.0518	0.0176	<0.00020	0.0076	44.5	0.193	<0.000010	0.0268	<0.0010	<0.01	6.56
W45	28/09/2013 14:20	<0.0050	0.0102	<0.00050	0.0047	<0.00050	0.00128	0.0842	<0.00010	<0.0010	0.253	0.000163	161	<0.0010	0.00056	0.0544	0.007	<0.00020	0.0081	46	0.184	<0.000010	0.0253	<0.0010	<0.01	6.17
W45	17/10/2013 17:15	<0.0050	0.0215	<0.00050	0.0037	<0.00050	0.00133	0.0715	<0.00010	<0.0010	0.314	0.00017	178	<0.0010	0.00053	0.0738	0.0237	<0.00020	0.0088	48.8	0.185	<0.000010	0.0241	<0.0010	<0.01	6.84
W45	10/12/2013 10:00	0.0075	0.0425	<0.00050	0.0032	<0.00050	0.00135	0.0776	<0.00010	<0.0010	1.07	0.000262	259	<0.0010	0.00095	0.223	0.254	<0.00020	0.0151	49.8	0.259	<0.000010	0.0199	0.0013	<0.01	14.1
W45	09/01/2014 14:45	<0.0050	0.0192	<0.00050	0.0037	<0.00050	0.00197	0.0567	<0.00010	<0.0010	0.896	0.000184	263	<0.0010	0.00061	0.0627	0.134	<0.00020	0.0121	43.4	0.206	<0.000010	0.0175	<0.0010	<0.01	8.9
W45	15/02/2014 14:45	<0.0050	0.0242	<0.00050	0.0039	<0.00050	0.00087	0.0294	<0.00010	<0.0010	0.203	0.000083	218	<0.0010	<0.00050	0.0239	0.0387	<0.00020	0.007	42.3	0.0995	<0.000010	0.0199	<0.0010	0.011	5.01
W45	25/03/2014 14:40	<0.0050	0.0166	<0.00050	0.337	<0.00050	0.00172	0.0372	<0.00010	<0.0010	0.237	0.00011	233	<0.0010	0.00096	0.0786	0.726	0.00066	0.0098	43	0.14	<0.000010	0.0224	0.0021	0.021	5.61
W45	04/04/2014 10:40	<0.0050	0.0361	<0.00050	0.0082	<0.00050	0.00119	0.0323	<0.00010	<0.0010	0.222	0.000093	208	<0.0010	0.00103	0.0395	0.0201	<0.00020	0.0079	41.4	0.142	<0.000010	0.022	0.0032	<0.01	5.19
W45	18/05/2014 12:50	<0.0050	0.0279	<0.00050	0.0082	<0.00050	0.00165	0.029	<0.00010	<0.0010	0.175	0.000099	178	<0.0010	0.0007	0.0121	0.0114	<0.00020	0.0058	33.2	0.126	<0.000010	0.0325	0.0026	<0.01	4.72
W45	19/06/2014 15:30	<0.0050	0.0259	<0.00050	0.008	<0.00050	0.00151	0.0339	<0.00010	<0.0010	0.188	0.000109	171	<0.0010	0.00076	0.0138	0.0072	<0.00020	0.006	32.9	0.106	<0.000010	0.0353	0.0028	<0.01	5.67
W45	03/07/2014 13:55	<0.0050	0.0193	<0.00050	0.0103	<0.00050	0.00147	0.0275	<0.00010	<0.0010	0.18	0.000154	164	<0.0010	0.00084	0.0479	<0.0050	<0.00020	0.0061	34.5	0.0905	<0.000010	0.0345	0.0033	<0.01	5.18
W45	21/08/2014 10:00	<0.0050	0.015	<0.00050	0.007	<0.00050	0.00086	0.0271	<0.00010	<0.0010	0.107	0.000244	164	<0.0010	<0.00050	0.212	0.016	<0.00020	0.0057	26.9	0.138	<0.000010	0.0329	<0.0010	<0.01	4.67
W45	01/09/2014 11:25	<0.0050	0.0491	<0.00050	0.0064	<0.00050	0.00123	0.0279	<0.00010	<0.0010	0.183	0.000265	178	<0.0010	<0.00050	0.114	0.0092	<0.00020	0.0074	31.3	0.114	<0.000010	0.0363	0.0012	<0.01	5.17
W45	13/10/2014 16:40	0.0084	0.0505	<0.00050	0.0229	<0.00050	0.00098	0.0252	<0.00010	<0.0010	0.234	0.00031	214	<0.0010	<0.00050	0.0715	0.0124	<0.00020	0.0088	33.4	0.145	<0.000010	0.0231	<0.0010	<0.01	5.02
W45	11/11/2014 9:30	<0.0050	0.0413	<0.00050	0.0074	<0.00050	0.00101	0.0245	<0.00010	<0.0010	0.152	0.000358	175	<0.0010	0.00051	0.276	0.0105	<0.00020	0.0068	33.7	0.1	<0.000010	0.0321	0.0013	<0.01	4.39
W45	17/01/2015 11:50	<0.0050	0.0086	<0.00050	0.0034	<0.00050	0.00094	0.0298	<0.00010	<0.0010	0.248	0.000318	208	<0.0010	<0.00050	0.268	0.0109	<0.00020	0.0091	41.7	0.142	<0.000010	0.0176	<0.0010	<0.01	4.56
W45	14/02/2015 13:50	0.0051	0.0476	<0.00050	0.0058	<0.00050	0.00103	0.0385	<0.00010	<0.0010	0.353	0.000379	235	<0.0010	0.0006	0.127	0.0054	<0.00020	0.0079	38.7	0.184	<0.000010	0.0264	0.0017	<0.01	6.06
W45	08/03/2015 15:55	<0.0050	0.077	<0.00050	0.0047	<0.00050	0.00094	0.0227	<0.00010	<0.0010	0.162	0.000517	166	<0.0010	<0.00050	0.112	<0.0050	<0.00020	0.0054	30.1	0.0919	<0.000010	0.04	<0.0010	<0.01	4.57
W45	04/08/2015 11:25	<0.0050	<0.0050	<0.00050	0.0144	<0.00050	0.00051	0.103	<0.00010	<0.0010	<0.05	<0.000010	84.6	<0.0010	<0.00050	0.0158	0.26	<0.00020	<0.0050	23.5	0.0911	<0.000010	0.0033	0.0012	0.01	2.28
W45	10/09/2015 9:40	<0.0050	<0.0050	<0.00050	0.0303	<0.00050	0.00044	0.0886	<0.00010	<0.0010	0.263	0.000048	60.5	<0.0010	<0.00050	0.00894	0.048	<0.00020	0.0138	24.7	0.225	<0.000010	0.115	0.001	0.036	49.9
W45	05/10/2015 16:00	<0.0050	<0.0050	<0.00050	0.0242	<0.00050	0.00038	0.098	<0.00010	<0.0010	0.244	0.000064	64	<0.0010	<0.00050	0.00486	0.0178	<0.00020	0.0143	23.6	0.201	<0.000010	0.111	0.001	<0.01	55.5
W45	17/11/2015 10:30	<0.0050	0.0053	<0.00050	0.025	<0.00050	0.00036	0.0943	<0.00010	<0.0010	0.223	<0.000010	81	<0.0010	<0.00050	0.00109	0.0525	<0.00020	0.0157	21.6	0.167	<0.000010	0.117	0.0018	<0.01	51.7
W45	28/12/2015 7:15	<0.0050	<0.0050	<0.00050	0.0382	<0.00050	0.00045	0.108	<0.00010	<0.0010	0.191	0.00002	103	<0.0010	<0.00050	0.00117	0.124	<0.00020	0.0151	19.4	0.145	<0.000010	0.0974	0.0016	<0.01	36.5
W45	04/01/2016 10:45	<0.0050	0.0139	<0.00050	0.0178	<0.00050	0.00037	0.107	<0.00010	<0.0010	0.185	0.000028	114	<0.0010	<0.00050	0.00095	0.188	<0.00020	0.0151	17.5	0.147	<0.000010	0.0948	0.0016	<0.01	34.6
W45	19/04/2016 15:40	0.00058	<0.0030	<0.00030	0.0134	0.00029	0.00036	0.107	<0.000020	<0.000050	0.163	<0.0000050	108	<0.00010	<0.00010	0.00025	0.013	<0.000050	0.0123	20.6	0.0874	<0.0000050	0.0945	0.00181	<0.050	41.4
W45	12/05/2016 15:30	<0.00050	<0.0030	<0.00030	0.0136	0.00027	0.00038	0.116	<0.000020	<0.000050	0.174	<0.000010	115	<0.00010	<0.00010	0.00133	<0.010	<0.000050	0.0132	19.4	0.0943	<0.0000050	0.0912	0.00259	<0.050	40.6
W45	19/05/2016 16:30	0.00081	<0.0030	<0.00030	0.0136	0.00025	0.00041	0.118	<0.000020	<0.000050	0.153	0.0000116	111	<0.00010	<0.00010	0.00218	0.042	<0.000050	0.0136	19.3	0.101	<0.0000050	0.0877	0.00269	<0.050	41.3
W45	23/06/2016 16:45	<0.00050	<0.0030	<0.00030	0.0143	0.00024	0.00053	0.119	<0.000020	<0.000050	0.194	0.0000060	135	<0.00010	<0.00010	0.00291	0.020	<0.000050	0.0145	21.5	0.165	<0.0000050	0.100	0.00307	<0.050	58.1
W45	22/08/2016 14:35	0.00060	<0.0030	<0.00030	0.0219	0.00018	0.00043	0.108	<0.000020	<0.000050	0.218	0.0000183	170	<0.00010	<0.00010	0.00295	<0.010	<0.000050	0.0139	23.1	0.119	<0.0000050	0.0984	0.00231	<0.050	59.4
W45	12/09/2016 17:17	0.00060	<0.0030	<0.00030	0.0131	0.00018	0.00050	0.146	<0.000020	<0.000050	0.190	0.0000215	157	<0.00010	<0.00010	0.0122	0.020	<0.000050	0.0121	22.8	0.138	<0.0000050	0.0939	0.00324	<0.050	55.0
W45	15/10/2016 11:00	0.00090	0.0064	<0.00030	0.0096	0.00021	0.00045	0.112	<0.000020	<0.000050	0.173	0.0000108	164	<0.00010	0.00012	0.0163	0.028	<0.000050	0.0114	24.7	0.143	<0.0000050	0.0895	0.00472	<0.050	52.1
W45	22/11/2016 14:20																									
W45	22/11/2016 14:20	<0.0010	<0.0060	<0.00060	0.0142	0.00024	0.00039	0.104	<0.000040	<0.00010	0.196	<0.000020	332	<0.00020	0.00154	0.00204	<0.020	<0.00010	0.0129	29.9	0.614	<0.0000050	0.0956	0.0040	<0.10	59.1
W45	01/12/2016 14:30	0.0020	<0.0060	<0.00060	0.0116	<0.00020	0.00032	0.123	<0.000040	<0.00010	0.192	0.000075	367	<0.00020	0.00160	0.00192	<0.020	<0.00010	0.0121	30.5	0.653	<0.0000050	0.0911	0.0036	<0.10	58.9
W8	27/05/2005	<0.030	<0.0050		0.0427	<0.00050	<0.00050	0.039	<0.0010		<0.10	<0.000050	16.6	<0.0010	<0.00030	0.0141	0.194	<0.00050	<0.0050	5.05	0.00284	<0.000020	<0.0010	0.0018		<2.0
W8	30/06/2005	<0.0010	<0.0020		0.0193	<0.00010	0.00043	0.0466	<0.00050	<0.00050	<0.010	<0.000050	24.8	0.00061	<0.00010	0.00942	0.249	<0.000050	<0.0050	7.68	0.0142		0.000547	0.00144	<0.30	<2.0
W8	29/07/2005	<0.0010	0.0011		0.0201	<0.00010	0.00045	0.0538	<0.00050	<0.00050	<0.010	<0.000050	30.9	0.00052	0.00014	0.00863	0.352	<0.000050	<0.0050	9.39	0.0206		0.000589	0.00157	<0.30	<2.0
W8	30/08/2005	<0.030	<0.0050		0.0259	<0.00050	<0.00050	0.054	<0.0010		<0.10	<0.000017	26.3	<0.0010	<0.00030	0.0081	0.544	<0.00050	<0.0050	8.28	0.0296	<0.000020	<0.0010	0.0016		<2.0
W8	28/09/2005	<0.030	<0.0050		0.0305	<0.00050	<0.00050	0.049	<0.0010		<0.10	<0.000017	25.3	<0.0010	<0.00030	0.0081	0.556	<0.00050	<0.0050	7.73	0.0387	<0.000020	<0.0010	0.0015		<2.0
W8	15/10/2005	<0.0010	0.0011		0.0258	<0.00010	0.0005	0.0479	<0.00050	<0.00050	<0.010	<0.000050	26.8	<0.00050	0.00028	0.00561	0.711	<0.000050	<0.0050	7.92	0.223		0.00169	0.00096	<0.30	<2.0
W8	08/05/2006	<0.0010	0.0047		0.0919	<0.00010	0.00025	0.0253	<0.00050	<0.00050	<0.010	<0.000050	8.55	<0.00050	0.00017	0.0159	0.196	<0.000050	<0.0050	2.33	0.034		0.000179	0.00113	<0.30	<2.0
W8	14/05/2006 18:00	<0.001	0.0027		0.0709	<0.0001	0.00037	0.0349	<0.0005	<0.0005	<0.01	<0.00005	12.1	<0.0005	0.00028	0.0174	0.291	<0.00005	<0.005	3.35	0.0782		0.000363	0.00185	<0.3	<2
W8	17/05/2006 16:00	<0.001	0.0019																							
W8	20/05/2006 16:30	<0.001	<0.001																							
W8	23/05/2006 15:30	<0.001	<0.001																							
W8	29/05/2006 14:00	<0.001	<0.001																							
W8	02/06/2006 11:30	<0.001	0.0014		0.0642	<0.0001	0.0004	0.0364	<0.0005	<0.0005	<0.01	<0.00005	16.3	0.00052	<0.0001	0.017	0.188	<0.00005	<0.005	4.85	0.00329		0.000474	0.00204	<0.3	<2
W8	08/06/2006 13:32	<0.001	0.002																							
W8	15/06/2006																									
W8	15/06/2006	0.0018	0.002	<0.001	0.023	<0.0002	0.0004	0.064	<0.0001	<0.0005	0.004	<0.00001	32.4	<0.0005	0.0001	0.013	0.28	<0.0001	<0.001	9	0.133		0.002	0.001		0.5
W8	23/06/2006	0.0007	<0.001	<0.001	0.024	<0.0002	0.0004	0.05	<0.0001	<0.0005	<0.002	<0.00001	25.4	0.0009	0.0001	0.011	0.22	<0.0001	<0.001	7.2	0.018		<0.001	0.002		0.4
W8	28/06/2006	0.0019	0.002	<0.001	0.15	<0.0002	0.0006	0.071	<0.0001	<0.0005	<0.002	0.00001	26.9	0.0008	0.0005	0.042	0.34	0.0002	<0.001	8.4	0.098		0.002	0.002		1.3
W8	07/07/2006	0.0006	<0.001	<0.001	0.017	<0.0002	0.0006	0.054	<0.0001	0.0007	<0.002	0.00003	21	0.0007	<0.0001	0.011	0.31	<0.0001	<0.001	7.4	0.012		<0.001	0.0023		<0.4
W8	12/07/2006	0.0005	0.002	<0.001	0.006	<0.0002	0.0004	0.072	<0.0001	0.0007	0.008	0.00002	34.7	0.0008	0.0001	0.007	0.19	0.0023	<0.001	11.5	0.147		0.003	0.0011		1.2
W8	02/08/2006	0.0009	0.002	<0.001	0.015	<0.0002	0.0004	0.058	<0.0001	<0.0005	<0.002	<0.00001	31.4	0.0006	0.0002	0.007	0.28	<0.0001	<0.001	9.3	0.02		<0.001	0.0011		<0.4

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	BOD5	Br	Cation	COD	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-T	N-TKN	P-PO4T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L
W35B	22/07/2012 11:15																															
W35B	11/08/2012																															
W45	02/08/2012 7:00	0.00324	6.2	0.000033	38.9	5.27	68.9	<0.000050	<0.0050	<0.0050	0.0081	<0.0050	<0.0050	<0.00050	249	<0.50	<0.50	<0.50														0.0052
W45	14/09/2012 7:00	0.0298	3.88	<0.000020	19.4	5.2	47.6	<0.000050	<0.0050	<0.0050	0.00849	<0.0050	<0.0050	<0.00050	188	<0.50	<0.50	<0.50										1.91				
W45	17/10/2012 16:15	0.00581	4.77	<0.000020	41.2	9.42	74.5	<0.000050	<0.0050	<0.0050	0.0162	<0.0050	0.0052	<0.00050	258	<0.50	<0.50	<0.50														
W45	21/12/2012 12:30	0.00363	6.62	0.000027	71.6	15.5	143	0.000061	<0.0050	<0.0050	0.0165	<0.0050	<0.0050	<0.00050	370	<0.50	<0.50	<0.50														
W45	22/01/2013 11:30	0.0011	6.22	<0.000020	50.4	14.9	142	<0.000050	<0.0050	<0.0050	0.0164	<0.0050	<0.0050	<0.00050	337	<0.50	<0.50	<0.50														
W45	13/02/2013	0.00123	6.06	<0.000020	64.8	19	146	<0.000050	<0.0050	<0.0050	0.0193	<0.0050	<0.0050	<0.00050	293	<0.50	<0.50	<0.50														
W45	14/03/2013 10:35	0.00236	6.58	0.000021	91.6	33.6	136	<0.000050	<0.0050	<0.0050	0.0104	<0.0050	0.0066	<0.00050	351	<0.50	<0.50	<0.50														
W45	18/04/2013 9:45	0.00148	5.06	<0.000020	61.5	12.6	110	<0.000050	<0.0050	<0.0050	0.00698	<0.0050	<0.0050	<0.00050	240	<0.50	<0.50	<0.50														
W45	18/09/2013 13:15	0.00536	5.46	<0.000020	59.2	14.3	152	<0.000050	<0.0050	<0.0050	0.0134	<0.0050	0.0122	<0.00050	264	<0.50	<0.50	<0.50														
W45	28/09/2013 14:20	0.00509	5.65	0.000067	57.4	13.3	160	<0.000050	<0.0050	<0.0050	0.0135	<0.0050	0.0109	<0.00050	264	<0.50	<0.50	<0.50														
W45	17/10/2013 17:15	0.00453	5.62	0.000026	59.7	17	176	<0.000050	<0.0050	<0.0050	0.0141	<0.0050	0.0186	<0.00050	244	<0.50	<0.50	<0.50														
W45	10/12/2013 10:00	0.0043	6.63	0.000031	83.1	28	222	<0.000050	<0.0050	<0.0050	0.0149	<0.0050	0.012	<0.00050	333	<0.50	<0.50	<0.50														
W45	09/01/2014 14:45	0.00199	7.99	0.000099	72.3	20.2	242	<0.000050	<0.0050	<0.0050	0.0136	<0.0050	0.0099	<0.00050	344	<0.50	<0.50	<0.50														
W45	15/02/2014 14:45	0.00116	6.7	<0.000020	53.8	12.5	221	<0.000050	<0.0050	<0.0050	0.0147	<0.0050	0.011	<0.00050	295	<0.50	<0.50	<0.50														
W45	25/03/2014 14:40	0.00099	8.14	0.000022	53.5	12.4	227	<0.000050	<0.0050	0.0139	0.013	<0.0050	0.0201	<0.00050	263	<0.50	<0.50	<0.50														
W45	04/04/2014 10:40	0.00154	6.71	<0.000020	51	10.8	208	<0.000050	<0.0050	<0.0050	0.0114	<0.0050	0.0258	<0.00050	238	<0.50	<0.50	<0.50														
W45	18/05/2014 12:50	0.00089	6.03	<0.000020	39.2	7.51	170	<0.000050	<0.0050	<0.0050	0.0142	<0.0050	0.0125	<0.00050	203	<0.50	<0.50	<0.50														
W45	19/06/2014 15:30	0.00105	5.4	<0.000020	42.7	8.38	162	<0.000050	<0.0050	<0.0050	0.0185	<0.0050	0.0107	<0.00050	224	<0.50	<0.50	<0.50														
W45	03/07/2014 13:55	0.00104	5.75	<0.000020	41.5	7.52	156	<0.000050	<0.0050	<0.0050	0.0191	<0.0050	0.0141	<0.00050	227	<0.50	<0.50	<0.50														
W45	21/08/2014 10:00	0.00329	6.04	<0.000020	28.3	7.13	128	<0.000050	<0.0050	<0.0050	0.0104	<0.0050	0.0062	<0.00050	231	<0.50	<0.50	<0.50														
W45	01/09/2014 11:25	0.00176	5.63	<0.000020	40	8.62	162	<0.000050	<0.0050	<0.0050	0.0171	<0.0050	0.0299	<0.00050	231	<0.50	<0.50	<0.50														
W45	13/10/2014 16:40	0.0026	7.09	<0.000020	57.7	11.2	190	<0.000050	<0.0050	<0.0050	0.0145	<0.0050	0.0211	<0.00050	252	<0.50	<0.50	<0.50														
W45	11/11/2014 9:30	0.00218	5.84	<0.000020	43.2	7.93	147	<0.000050	<0.0050	<0.0050	0.0171	<0.0050	0.0421	<0.00050	251	<0.50	<0.50	<0.50														
W45	17/01/2015 11:50	0.00093	6.77	<0.000020	62.7	11.9	196	<0.000050	<0.0050	<0.0050	0.0116	<0.0050	0.0052	<0.00050	341	<0.50	<0.50	<0.50														
W45	14/02/2015 13:50	0.00104	7.25	<0.000020	59	11.8	190	<0.000050	<0.0050	<0.0050	0.0177	<0.0050	0.0387	<0.00050	294	<0.50	<0.50	<0.50														
W45	08/03/2015 15:55	0.00153	5.19	<0.000020	32.9	7.41	142	<0.000050	<0.0050	<0.0050	0.0238	<0.0050	0.0673	<0.00050	215	<0.50	<0.50	<0.50														
W45	04/08/2015 11:25	0.00048	3.91	<0.000020	13.4	0.656	23.9	<0.000050	<0.0050	<0.0050	0.00195	<0.0050	<0.0050	<0.00050	287	<0.50	<0.50	<0.50														
W45	10/09/2015 9:40	0.0239	2.93	<0.000020	160	4.31	138	<0.000050	<0.0050	<0.0050	0.00206	<0.0050	<0.0050	<0.00050	183	<0.50	<0.50	<0.50														
W45	05/10/2015 16:00	0.0232	3.01	<0.000020	165	3.75	142	<0.000050	<0.0050	<0.0050	0.00168	<0.0050	<0.0050	<0.00050	167	<0.50	<0.50	<0.50														
W45	17/11/2015 10:30	0.0236	2.73	<0.000020	164	3.52	144	<0.000050	<0.0050	<0.0050	0.00252	<0.0050	<0.0050	<0.00050	160	<0.50	<0.50	<0.50														
W45	28/12/2015 7:15	0.0198	2.28	<0.000020	143	3.59	142	<0.000050	<0.0050	<0.0050	0.0014	<0.0050	<0.0050	<0.00050	166	<0.50	<0.50	<0.50														
W45	04/01/2016 10:45	0.0187	2.52	<0.000020	132	3.38	150	<0.000050	<0.0050	<0.0050	0.00144	<0.0050	<0.0050	<0.00050	164	<0.50	<0.50	<0.50														
W45	19/04/2016 15:40	0.0181	2.12	<0.000010	127	4.71	141	<0.000010	<0.00010	<0.00030	0.00121	<0.00050	<0.0010	<0.00030	150	<1.0	<1.0		13.9			13.8							-0.5			
W45	12/05/2016 15:30	0.0179	2.18	<0.000010	129	4.84	131	<0.000010	<0.00010	<0.00030	0.00145	<0.00050	<0.0010	<0.00030	148	<1.0	<1.0		14.1			14.2							0.2			
W45	19/05/2016 16:30	0.0173	2.22	<0.000010	123	4.47	128	<0.000010	<0.00010	<0.00030	0.00150	<0.00050	<0.0010	<0.00030	145	<1.0	<1.0		13.8			13.7							-0.5			
W45	23/06/2016 16:45	0.0189	2.41	<0.000010	132	4.94	160	<0.000010	<0.00010	<0.00030	0.000964	<0.00050	<0.0010	<0.00030	134	<1.0	<1.0		16.1			16.0							-0.4			
W45	22/08/2016 14:35	0.0195	2.36	<0.000010	164	4.74	253	<0.000010	<0.00010	<0.00030	0.00129	<0.00050	<0.0010	<0.00030	129	<1.0	<1.0		17.4			19.3							5.2			
W45	12/09/2016 17:17	0.0191	2.50	<0.000010	147	4.74	197	<0.000010	<0.00010	<0.00030	0.00126	<0.00050	0.0023	<0.00030	138	<1.0	<1.0		17.9			17.8							-0.3			
W45	15/10/2016 11:00	0.0191	2.49	<0.000010	142	4.08	227	<0.000010	<0.00010	<0.00030	0.00148	<0.00050	0.0024	<0.00030	146	<1.0	<1.0		18.2			18.0							-0.5			
W45	22/11/2016 14:20																															
W45	22/11/2016 14:20	0.0194	2.22	<0.000020	148	5.29	380	<0.000020	<0.00020	<0.00060	0.00221	<0.0010	<0.0020	<0.00060	131	<1.0	<1.0		27.6			27.3							-0.4			
W45	01/12/2016 14:30	0.0173	2.37	<0.000020	147	5.44	410	<0.000020	<0.00020	<0.00060	0.00260	<0.0010	<0.0020	<0.00060	127	<1.0	<1.0		31.3			29.2							-3.6			
W8	27/05/2005	<0.0010		<0.000020	2.6			<0.00020	<0.00050	<0.010	<0.00020	<0.030	<0.0050			49.1																
W8	30/06/2005	<0.0010	5.25	<0.000010	4.5	0.113		<0.00010	<0.00010	<0.010	0.000059	<0.0010	0.0012			89																
W8	29/07/2005	<0.0010	4.95	<0.000010	3.9	0.132		<0.00010	<0.00010	<0.010	0.000074	<0.0010	0.0019			104																
W8	30/08/2005	<0.0010		<0.000020	3.9			<0.00020	<0.00050	<0.010	<0.00020	<0.030	<0.0050			99.2																
W8	28/09/2005	<0.0010		<0.000020	3.9			<0.00020	<0.00050	<0.010	<0.00020	<0.030	<0.0050			74.7																
W8	15/10/2005	<0.0010	6.54	0.000031	4.8	0.171		<0.00010	<0.00010	<0.010	0.000093	<0.0010	<0.0010			87.1																
W8	08/05/2006	<0.0010	2.33	<0.000010	<2.0	0.0326		<0.00010	<0.00010	<0.010	0.000022	<0.0010	0.0042			16.3					<0.050						0.7	35.5				
W8	14/05/2006 18:00	<0.001	3.04	<0.00001	<2	0.0513		<0.0001	<0.0001	<0.01	0.000043	<0.001	0.0019								<0.05											
W8	17/05/2006 16:00																				<0.05											
W8	20/05/2006 16:30																				<0.05											
W8	23/05/2006 15:30																				<0.05											
W8	29/05/2006 14:00																				<0.05											
W8	02/06/2006 11:30	<0.001	4.04	<0.00001	3.2	0.07		<0.0001	<0.0001	<0.01	0.00004	<0.001	0.0017								<0.05											
W8	08/06/2006 13:32																				<0.05											
W8	15/06/2006																															
W8	15/06/2006	0.0002	6.11	High DL removed	5.8	0.221	10.4	<0.00005	<0.001	0.0021	<0.0005	0.0008	<0.001		109	<6	<5															
W8	23/06/2006	<0.0002	5.3	High DL removed	3.5	0.121	2.8	<0.00005	<0.001	0.0009	<0.0005	0.0006	<0.001		103	<6	<5															
W8	28/06/2006	<0.0002	6.92	High DL removed	5.8	0.223	10.9	<0.00005	<0.001	0.0067	<0.0005	0.0014	0.002		112	<6	<5															
W8	07/07/2006	<0.0002	6.44	High DL removed	4.4	0.127	3	<0.00005	<0.001	0.0012	<0.0005	0.001	0.003		106	<6	<5															
W8	12/07/2006	<0.0002	6.35	High DL removed	7.3	0.334	14.6	<0.00005	<0.001	0.0012	<0.0005	0.0015	<0.001		138	<6	<5															
W8	02/08/2006	<0.0002	5.96	High DL removed	5.4	0.108	2.7	<0.00005	<0.001	0.0007	<0.0005	0.001	<0.001		132	<6	<5															

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	P-TDP	P-TRP	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		mg/L	mg/L	Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W35B	22/07/2012 11:15								
W35B	11/08/2012								
W45	02/08/2012 7:00					1027			
W45	14/09/2012 7:00					950			
W45	17/10/2012 16:15					994			
W45	21/12/2012 12:30								
W45	22/01/2013 11:30					1275			
W45	13/02/2013								
W45	14/03/2013 10:35					175.5			
W45	18/04/2013 9:45					1084			
W45	18/09/2013 13:15					1312			
W45	28/09/2013 14:20					1324			
W45	17/10/2013 17:15					1399			
W45	10/12/2013 10:00					2009			
W45	09/01/2014 14:45					1581			
W45	15/02/2014 14:45					1429			
W45	25/03/2014 14:40					1566			
W45	04/04/2014 10:40					1310			
W45	18/05/2014 12:50					1252			
W45	19/06/2014 15:30					1239			
W45	03/07/2014 13:55					1175			
W45	21/08/2014 10:00					1166			
W45	01/09/2014 11:25					1169			
W45	13/10/2014 16:40					1367			
W45	11/11/2014 9:30					1307			
W45	17/01/2015 11:50					15.95			
W45	14/02/2015 13:50					1593			
W45	08/03/2015 15:55					1144			
W45	04/08/2015 11:25					1387			
W45	10/09/2015 9:40					1444			
W45	05/10/2015 16:00					1400			
W45	17/11/2015 10:30					1535			
W45	28/12/2015 7:15					1392			
W45	04/01/2016 10:45					1404			
W45	19/04/2016 15:40					1395			
W45	12/05/2016 15:30					1396			
W45	19/05/2016 16:30					1371			
W45	23/06/2016 16:45					1529			
W45	22/08/2016 14:35					1775			
W45	12/09/2016 17:17					1664			
W45	15/10/2016 11:00					1698			
W45	22/11/2016 14:20					2169			
W45	22/11/2016 14:20								
W45	01/12/2016 14:30					2194			
W8	27/05/2005				7.62				
W8	30/06/2005				<1.0				
W8	29/07/2005				7.08				
W8	30/08/2005				5.1				
W8	28/09/2005				7.72				
W8	15/10/2005				24.8				
W8	08/05/2006			<0.0050	0.84				
W8	14/05/2006 18:00								
W8	17/05/2006 16:00								
W8	20/05/2006 16:30								
W8	23/05/2006 15:30								
W8	29/05/2006 14:00								
W8	02/06/2006 11:30								
W8	08/06/2006 13:32								
W8	15/06/2006								
W8	15/06/2006								
W8	23/06/2006								
W8	28/06/2006								
W8	07/07/2006								
W8	12/07/2006								
W8	02/08/2006								

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T	B-T
			mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W8	10/08/2006	M	<2			7.58		237						120	118			4	0.009		<0.03		0.026	<0.0002	0.0004	0.061	<0.0001	<0.0005	<0.002
W8	06/09/2006	M	<2			7.83		278						146	152			7.4	0.004		<0.03		0.022	<0.0002	0.0004	0.063	<0.0001	<0.0005	0.002
W8	13/09/2006	M	<2			7.71		282						154	145			8	0.005		0.003		0.025	<0.0002	0.0004	0.066	<0.0001	<0.0005	<0.002
W8	20/09/2006	M	<2			7.7		281						154	142			7	0.006		<0.03		0.018	<0.0002	0.0005	0.064	<0.0001	<0.0005	<0.002
W8	04/10/2006	M	<2			7.89		282						145	143			6.8	0.03		<0.03		0.02	<0.0004	0.0004	0.066	<0.0002	<0.001	<0.004
W8	28/12/2006	M												236															
W8	03/05/2008	M												64									3.41	<0.0002	<0.0002	0.284	0.00006		<0.005
W8	07/05/2008	M											426										1.77	0.0002	0.0003	0.165	0.00014		0.036
W8	27/05/2008	M												303									0.48	<0.0002	0.0006	0.108	<0.00004		0.042
W8	10/05/2009	M	12	610		7.8		784						348	162	3.5				2.53	41.6		0.116	<0.0002	0.0004	0.12	<0.0001	<0.0005	0.079
W8	28/05/2009	M	14	648	7.4	7.8	958	881	1.2					389	180	3.61		96.3					0.438	<0.0002	0.0004	0.137	0.00008	<0.0001	0.095
W8	04/06/2009	M	<5	208	7.57	7.91	383	370	5.5					157	135	3.8		42.2					0.112	<0.0002	0.0004	0.095	<0.00004	<0.0001	0.015
W8	07/06/2009	M	12	820		7.7		1090						550	237	3.98		144					0.615	<0.0002	0.0006	0.159	<0.00004	<0.0001	0.135
W8	10/06/2009	M	5	280	7.27	7.71	410	398	7.7					171	144	6.9		48.1					0.118	0.0017	0.0005	0.098	<0.00004	<0.0001	0.02
W8	16/06/2009	M			7.94		1085		0.9																				
W8	29/06/2009	M	15	634	7.5	7.7	1036	965	1.1					470	226	3.75		140					0.445	<0.0002	0.0006	0.146	<0.00004	<0.0001	0.124
W8	06/07/2009	M			7.37		1171		11																				
W8	13/07/2009	M	6	<5	7.35	7.8	1311	1210	0.9					611	261	4.37		124					0.145	<0.0002	0.0003	0.175	<0.00004	<0.0001	0.134
W8	27/07/2009	M	6	1040		8.07	1413	1340	1.9					728	303	1.12		155					0.709	<0.0002	0.0008	0.221	<0.00004	<0.001	0.142
W8	05/08/2009	M	10	1030		7.76		1330						697	332	5.41		132					0.187	<0.0002	0.0009	0.242	0.00004	<0.001	0.137
W8	10/08/2009	M			8.16		689		3.4																				
W8	11/08/2009	M	<3	490		7.98		672						401	247	4.81		68			12.1		0.062	<0.0002	0.0007	0.16	<0.00004	<0.001	0.036
W8	19/08/2009	M	6	1010	8.15	7.73	1481	1400	3.4					768	372	5.4		184			60.3		0.12	<0.0002	0.0005	0.216	<0.00004	<0.001	0.106
W8	31/08/2009	M	8	1120		7.73		1400						726	325	5.27		157			75.2		0.22	<0.0002	0.0008	0.205	<0.00004	<0.001	0.137
W8	07/09/2009	M	14	1170	8.2	7.77	1474	1390	1.4					386	330	4.97		60			69.4		0.072	<0.0002	0.001	0.219	<0.00004	<0.001	0.14
W8	18/09/2009	M	8	730	7.19	7.87	941	998	3.7					543	390	2.64		79.3			15.9		0.086	<0.0002	0.0012	0.148	<0.00004	<0.001	0.021
W8	23/09/2009	M	12	738	8.01	7.85	1092	1040	3.3					528	278	3.74		129			39.7		0.224	<0.0002	0.0007	0.152	<0.00004	<0.001	0.11
W8	05/10/2009	M	16	910	7.8	7.57	1240	1170	1					609	261	4.49		174			48.4		0.413	<0.0002	0.0005	0.174	<0.00004	<0.001	0.151
W8	12/10/2009	M	22	774	7.35	7.78	1093	1050	1					528	263	4.51		132			41.1		0.625	<0.0002	0.0009	0.171	<0.00004	<0.001	0.11
W8	19/10/2009	M	<2	520	8.06	7.84	853	710	2.5					276	168	8.78		103			19.8		0.068	<0.0002	0.0005	0.152	<0.00004	<0.001	0.055
W8	19/04/2010	F	13	532	7.33	7.89	855	767	2.3				397		237	<0.02		95.2					0.31	<0.0002	0.0005	0.096	<0.00004	<0.001	0.033
W8	20/04/2010	F	10	860	6.62	7.94	1194	1180	2.1				626		390	53.2		138			18.6		0.081	<0.0002	0.0009	0.154	<0.00004	<0.001	0.044
W8	21/04/2010	F	77	164		7.49	212	178	1				82		80	3.16		8.2			<0.01		2.31	0.0003	0.0005	0.069	0.00005	<0.001	0.007
W8	22/04/2010	F	45	400		7.78		515					249		182	8.56		34.6			10.1		1.84	<0.0002	0.001	0.095	<0.00004	<0.001	0.021
W8	23/04/2010	F	20	186		7.68		248					110		109	6.56		10					0.351	<0.0002	0.0008	0.06	<0.00004	<0.001	0.008
W8	25/04/2010	F	36	140		7.54		196					92		98	3.31		2				12.1	0.396	0.0005	0.001	0.064	<0.00004	<0.001	<0.005
W8	26/04/2010	F	36	570	7.89	8	514	892	0.01		124.2		439	440	300	30	0.24	92	2.4	1.63	12.4	15.6	0.327	<0.0005	0.0007	0.114	<0.0001	<0.001	<0.05
W8	27/04/2010	F	9	120	7.56	7.9	189	173	0.05		26.3		83.3	81	84	3.8	0.18	<0.5	0.25	<0.005	0.04	12	0.077	<0.0005	0.0008	0.057	<0.0001	<0.001	<0.05
W8	28/04/2010	F	8	710	7.96	8.2		1030	0		3.8		535	524	360	30	0.25	110	0.45	2.08	15.8	20.8	0.144	<0.0005	0.0007	0.128	<0.0001	<0.001	<0.05
W8	29/04/2010	F	24	470	8	7.9	528	726	1.18		144.6		218	216	140	24	1.85	100	0.41	0.96	21.9	19.3	1.33	<0.0005	0.0007	0.12	<0.0001	<0.001	0.105
W8	30/04/2010	F	11	780		8		1150					627	563	390	31	0.25	130	0.52	2.39	22.1	23.8	0.335	<0.0005	0.0008	0.156	<0.0001	<0.001	0.053
W8	01/05/2010	F	5	440	7.52	8.1	660	650	3.59		37.3		198	196	140	21	1.38	93	0.45	0.76	17.8	29.8	0.367	<0.0005	0.0005	0.104	<0.0001	<0.001	0.066
W8	02/05/2010	F	<4	350	7.58	8.2	574	570	2.68		67.6		202	215	150	15	1.03	73	0.28	0.58	11.6	23.1	0.123	<0.0005	0.0005	0.102	<0.0001	<0.001	<0.05
W8	03/05/2010	F	10	420	7.6	8	608.00	650	3.77		74.2		210	216	150	20	1.27	88	0.48	0.65	17.2	14.7	0.112	<0.0005	0.0004	0.105	<0.0001	<0.001	0.069
W8	04/05/2010	F	<4	380	7.65	8.1	645	616	3.66		100.7		216	206	160	17	1.11	77	0.32	0.57	13.6	8.5	0.101	<0.0005	0.0004	0.104	<0.0001	<0.001	0.059
W8	05/05/2010	F	<4	410		8.1		641					230	223	160	18	1.19	85	0.34	0.53	14.7	8.3	0.099	<0.0005	0.0005	0.108	<0.0001	<0.001	0.064
W8	06/05/2010	F	<4	410	7.52	8.1	719	686	5.48		47.8		212	222	150	20	1.42	92	0.39	0.69	18.3	9	0.082	<0.0005	0.0005	0.107	<0.0001	<0.001	0.084
W8	07/05/2010	F	39	520		8.1		751					377	377	260	13	0.34	93	0.21	0.076	14.1	19.1	0.201	<0.0005	0.0007	0.119	<0.0001	<0.001	<0.05
W8	08/05/2010	F	42	890		8.2		1190					692	596	410	28	0.27	120	0.47	2.51	27.6	19.7	0.356	<0.0005	0.0009	0.149	<0.0001	<0.001	0.056
W8	09/05/2010	F	18	510		8.2		727					376	363	240	13	0.3	90	0.14	0.068	14.9	15.2	0.517	<0.0005	0.0008	0.125	<0.0001	<0.001	<0.05
W8	10/05/2010	F	12	430		8.3		638					323	321	220	12	0.27	80	0.086	0.065	11.9	<0.5	0.42	<0.0005	0.0007	0.108	<0.0001	<0.001	<0.05
W8	13/05/2010	F	6	500		8.2		789					388	416	280	13	0.34	100	0.32	0.047	13.8	16.2	0.19	<0.0005	0.0007	0.126	<0.0001	<0.001	<0.05
W8	17/05/2010	F	27	950	6.67	8	1362	1310	1.8				661	670	440	26	0.28	140	0.75	2.4	34	25.9	0.179	<0.0005	0.0009	0.149	<0.0001	<0.001	0.057
W8	20/05/2010	F	5	1100	7.42	8	1519	1340	1.1				793	919	470	29	0.31	150	0.61	2.76	36.5	25.4	0.029	<0.0005	<0.001	0.175	<0.0005	<0.001	0.052
W8	24/05/2010	F	15	1100	7.61	7.9	1566	1380	2.3				789	801	440	34	0.29	130				30.4	0.343	<0.0005	0.0009	0.19	<0.0002	<0.001	<0.1
W8	27/05/2010	F	74	1000	7.65	8.1	1475	1320	2.6				803	786	410	24	0.32	120	0.82	2.78	43	23	0.246	<0.0005	0.0008	0.166	<0.0002	<0.001	<0.1
W8	31/05/2010	F	5	1200	7.89	8.1	1601	1470	2.5				872	785	350	28	0.32	150				24.8	0.052	<0.0005	0.0009	0.181	<0.0002	<0.001	<0.1
W8	03/06/2010	P	41	1200	7.85	8	1375	1460	3.7				800	720	420	24	0.3	130	0.87	2.93	59	25.7	0.419	<0.0005	0.001	0.186	<0.0002	<0.001	<0.1
W8	14/06/2010	P	4	1200	7.19	8	1822	1540	3.4				873	776	350	40	0.32	140	0.82	2.5	62	24.8	0.101	<0.0005	0.0009	0.208	<0.0002	<0.001	<0.1
W8	17/06/2010	P	5	460	6.94	8.4	872	756	10.6				250	246	180	21	1.31	95	0.2	0.39	20.3	10.4	0.131	<0.0005	<0.0004	0.119	<0.0002	<0.001	<0.1
W8	21/06/2010	P	3	1300	7.24	8.1	1857	1610	3.2				853	791	410	54	0.3	140	4.2	2.13	75	8.2	0.06	<0.0005	0.0007	0.181	<0.0002	<0.001	<0.1
W8	25/06/2010	P	2	1100	7.66	8.12	1654	1520	2.93		93.4		844	759	440	32	0.28	130	0.68	1.83	64	22.8	0.076	<0.0005	0.0008	0.193	<0.0002	<0.001	<0.1
W8	04/07/2010	P	96	590	7.88	8.04	873	899	8.83		93.7		338	313	180	17	1.17	130	0.5	0.398	31.5	9.6	2.37	<0.0005	0.0007	0.165	<0.0002	<0.001	<0.1
W8	11/07/2010	P	110	970	7.97	8.18	1287	1330	1.72		95.1		620	616	290	14	0.36	170	0.91	1.32	65	14.9	3.97	<0.0005	0.0007	0.211	<0.0002	<0.001	<0.1
W8	18/07/2010	P	660	1000	7.93	8	1352	1340	1.28		104.9		622	557	280	12	0.31	140		1.51	69	16.3	12.2	<0.0005	0.0016	0.387	0.0003	<0.001	<0.1

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Stn.Code	Smpl Date	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W8	10/08/2006	<0.00001	33.4	<0.0005	0.0007	0.008	0.3	<0.0001	<0.001	9.8	0.093		<0.001	0.0017		0.4	<0.0002	5.7	<0.0001	5.3	0.164	2.5	<0.00005	<0.001	0.0012	<0.0005
W8	06/09/2006	<0.00001	36.3	0.0006	0.0001	0.006	0.4	<0.0001	<0.001	11	0.033		<0.001	0.0015		0.6	0.0002	5.72	<0.0001	5.8	0.176	2.7	<0.00005	<0.001	0.001	<0.0005
W8	13/09/2006	<0.00001	37.5	0.0005	0.0001	0.006	0.4	<0.0001	<0.001	11.4	0.042		<0.001	0.0015		0.7	<0.0002	6.27	<0.0001	6	0.192	2.5	<0.00005	<0.001	0.0012	<0.0005
W8	20/09/2006	<0.00001	38.4	0.0006	0.0001	0.006	0.3	<0.0001	<0.001	12.8	0.05		<0.001	0.0017		0.6	0.0003	5.92	<0.0001	5.6	0.185	2.6	<0.00005	<0.001	0.001	<0.0005
W8	04/10/2006	<0.00002	37.9	0.001	<0.0002	0.006	0.3	<0.0002	<0.002	12	0.053		<0.002	0.0026		<0.8	<0.0004	5.67	<0.0002	6	0.19	2.3	<0.0001	<0.002	0.001	<0.001
W8	28/12/2006																									
W8	03/05/2008	0.00035	12.1	0.0028	0.00296	0.395	9.89	0.0022	0.002	4.1	0.259	0.00004	0.0025	0.071	0.2	2.51	<0.0006	3.53	0.0009	2.2	0.106		0.00013	0.0003	0.234	<0.0005
W8	07/05/2008	0.00016	115	0.0016	0.00208	0.247	4.92	0.0005	0.005	33.7	0.401	<0.00001	0.0211	0.037	0.2	9.23	0.005	4.9	0.0001	24.1	1.66		0.00004	0.0001	0.128	0.0019
W8	27/05/2008	0.00014	78.9	0.0029	0.00141	0.201	4.09	0.0007	0.003	17.7	0.224	0.00002	0.011	0.002	0.27	4.23	0.0016	2.23	<0.0001	12.5	0.942		<0.00001	<0.0001	0.0513	0.0014
W8	10/05/2009	0.00009	107	0.001	0.0008	0.123	0.18	<0.0001	0.004	19.2	0.157	<0.0001	0.012	0.0024	<0.05	7.7	0.004	4.46	0.00003	20	1.36	24.9	<0.00005	<0.001	0.0066	0.0009
W8	28/05/2009	0.00024	125	0.0006	0.00161	0.264	0.91	0.0003	0.002	23.1	0.496	<0.00001	0.00918	0.002	0.06	6.5	0.0051	5.93	<0.00001	20.4	1.34	31.2	0.00001	<0.0001	0.0325	0.0012
W8	04/06/2009	0.00003	46.3	<0.0004	0.00066	0.031	1.09	<0.0001	0.001	13	0.9	<0.00001	0.00481	<0.001	<0.05	2.4	<0.0006	5.95	<0.00001	12.1	0.453	13.9	<0.00001	<0.0001	0.0067	0.0006
W8	07/06/2009	0.00011	170	0.0008	0.00172	0.188	1.27	0.0002	0.003	28.8	0.659	0.00002	0.00893	0.002	0.078	6.6	0.0049	8.15	0.00018	25.5	1.44	47.6	<0.00001	<0.0001	0.0362	0.0019
W8	10/06/2009	0.00001	49	0.0005	0.00062	0.027	1.21	0.0001	0.001	13.9	0.878		0.00581	0.001	0.017	2.8	<0.0006	5.84	<0.00001	13.5	0.514	15.6	<0.00001	<0.0001	0.0072	0.0006
W8	16/06/2009																									
W8	29/06/2009	0.00011	145	0.0008	0.00144	0.201	1.21	0.0002	0.002	25.9	0.582	0.00002	0.0108	0.002	0.058	6.7	0.0058	7.71	0.00066	24.9	1.35	45.1	<0.00001	<0.0001	0.0305	0.0021
W8	06/07/2009																									
W8	13/07/2009	0.00011	185	0.002	0.00147	0.235	0.36	<0.0001	0.002	32.3	0.796	<0.00001	0.00656	0.002	0.056	6.9	0.0039	6.65	0.00036	23.4	1.56	46.6	<0.00001	<0.0001	0.0091	0.0019
W8	27/07/2009	0.0002	228	0.001	0.00233	0.466	1.95	0.0003	0.003	41.7	1.23	0.00001	0.0063	0.004	0.109	7.1	0.003	8.87	0.00027	25.4	1.8	54	0.00001	<0.0001	0.0528	0.0028
W8	05/08/2009	0.0002	223	0.0012	0.00208	0.393	0.487	0.0005	0.003	42	1.36		0.007	0.004	0.056	6.9	0.0034	7.18	0.00007	23.6	1.96	42.4	<0.00001	<0.0001	0.012	0.0026
W8	10/08/2009																									
W8	11/08/2009	0.00005	108	0.001	0.00103	0.133	0.71	0.0004	0.002	25.2	0.965		0.0059	0.002	0.031	4.2	<0.0006	7.02	0.00002	18.5	0.831	23.8	<0.00001	<0.0001	0.0055	0.0019
W8	19/08/2009	0.00023	216	0.0008	0.00205	0.415	0.403	0.0004	0.003	42.2	1.98	0.00002	0.0063	0.003	0.055	6.1	0.0026	7.07	<0.00001	23.5	2.04	54.7	<0.00001	<0.0001	0.0065	0.0027
W8	31/08/2009	0.00019	239	0.0005	0.00234	0.374	0.6	0.0002	0.003	43.8	2.14	0.00003	0.006	0.003	0.077	7	0.003	7.98	<0.00001	28	2.08	56	<0.00001	<0.0001	0.0117	0.0023
W8	07/09/2009	0.0002	238	0.0012	0.00245	0.349	0.41	0.0004	0.003	42.4	2.48	0.00003	0.006	0.003	0.045	6.8	0.0033	8.28	<0.00001	28.9	1.77	59.5	<0.00001	<0.0001	0.0057	0.0026
W8	18/09/2009	0.0001	128	0.0014	0.00134	0.079	1.21	0.0005	0.007	56.8	1.86	<0.00001	0.0067	0.003	0.064	5.4	0.0022	8.92	<0.00001	28.1	1.35	26	<0.00001	<0.0001	0.0036	0.0028
W8	23/09/2009	0.00014	166	0.0013	0.00121	0.179	0.541	0.0007	0.004	31.4	1.06	<0.00001	0.0214	0.002	<0.05	7.1	0.0052	7.92	0.00001	26	1.67	41.1	0.00012	<0.0001	0.0148	0.0031
W8	05/10/2009	0.00011	197	0.0014	0.00155	0.21	1	0.0006	0.002	33.8	1.51	<0.00001	0.0059	0.006	<0.05	6.4	0.0049	9.08	0.00002	28.3	1.42	54.8	<0.00001	<0.0001	0.0239	0.0021
W8	12/10/2009	0.0001	172	0.0007	0.00176	0.19	1.41	0.0002	0.002	31	1.73	0.00001	0.0063	0.006	<0.05	6.2	0.0034	8.77	0.00005	25.2	1.29	49	<0.00001	<0.0001		0.0023
W8	19/10/2009	0.00013	80.1	<0.0004	0.00052	0.045	0.316	0.0001	0.005	20.3	0.571	<0.00001	0.0231	0.002	<0.05	10.7	0.0055	4.64	<0.00001	31.1	1.73	33.4	<0.00001	<0.0001		0.0018
W8	19/04/2010	0.00012	116	0.0006	0.00108	0.14	0.702	0.0002	0.002	23.9	2.2	<0.00001	0.0081	0.002	0.1	4.6	0.0023	4.08	0.00004	14.3	1.08	33.2	<0.00001	<0.0001		0.0016
W8	20/04/2010	0.00013	194	0.0009	0.00139	0.12	0.61	0.0001	0.003	41.6	3.51	<0.00001	0.0105	0.004	0.1	6.5	0.0032	5.94	0.00002	25.2	1.7	46.8	<0.00001	<0.0001		0.0027
W8	21/04/2010	0.00018	28	0.0007	0.00101	0.428	2.55	0.0008	0.001	6.52	0.312	0.00002	0.0007	0.002	0.84	3.8	<0.0006	5.04	0.0002	3.53	0.177	3	0.00001	<0.0001		<0.0004
W8	22/04/2010	0.00008	72	0.0013	0.0009	0.202	1.61	0.0006	0.004	19.9	0.544	0.00002	0.0062	0.002	0.18	4.5	0.0018	6.04	<0.00001	11	0.698	12.7	0.00001	<0.0001		0.0013
W8	23/04/2010	0.00034	39.5	0.0006	0.00081	0.083	0.769	0.0004	0.001	8.92	0.715	<0.00001	0.0023	0.002	0.14	3.8	<0.0006	4.8	<0.00001	5.22	0.243	3.7	<0.00001	<0.0001		<0.0004
W8	25/04/2010	0.00006	29.3	0.0005	0.00124	0.113	1.41	0.0002	<0.001	6.96	0.733	<0.00001	0.0022	0.002	0.12	3.1	<0.0006	5.82	0.00002	3.53	0.132	0.8	<0.00001	<0.0001		<0.0004
W8	26/04/2010	0.00017	131	<0.001	0.0014	0.227	0.968	0.0004	<0.005	26.9	2.43	0.00003	0.009	0.002		4.62	0.0017	5.28	<0.00002	17.8	1.08	26	<0.00005	<0.005	0.015	0.0022
W8	27/04/2010	0.00004	24.3	<0.001	0.0011	0.0472	0.612	<0.0002	<0.005	5.49	0.627	<0.00002	0.002	0.001		2.99	<0.0001	4.93	<0.00002	2.82	0.109	<3	<0.00005	<0.005	<0.005	<0.0001
W8	28/04/2010	0.00017	162	<0.001	0.0015	0.203	0.688	0.0002	<0.005	31.6	2.82	<0.00002	0.01	0.002		5.65	0.0022	6.05	0.00003	20.8	1.3	38	<0.00005	<0.005	0.006	0.0025
W8	29/04/2010	0.00016	66.8	0.001	0.0011	0.201	2.61	0.0005	0.01	12.3	0.601	<0.00002	0.055	0.001		23.1	0.0056	6.7	0.00007	56.1	1.72	34	<0.00005	<0.005	0.079	0.0009
W8	30/04/2010	0.00019	189	0.001	0.0019	0.319	1.12	0.0003	<0.005	37.7	3.47	<0.00002	0.012	0.003	0.126	6.39	0.0024	7.36	0.00007	25	1.56	41	<0.00005	<0.005	0.017	0.0031
W8	01/05/2010	<0.00001	58.4	0.001	0.0006	0.0358	0.645	0.0003	0.007	12.7	0.376	0.00003	0.037	0.002		17.5	0.0054	5.14	<0.00002	45.2	1.12	27	<0.00005	<0.005	0.013	0.0008
W8	02/05/2010	0.00004	59	<0.001	<0.0005	0.0291	0.382	0.0002	<0.005	13.2	0.411	<0.00002	0.028	0.001		14.1	0.0039	5.12	<0.00002	35	0.972	24	<0.00005	<0.005	<0.005	0.0009
W8	03/05/2010	0.00008	61.5	<0.001	<0.0005	0.0251	0.24	<0.0002	0.007	13.7	0.321	<0.00002	0.036	0.001	0.024	17.7	0.0062	4.84	<0.00002	44.6	1.11	28	<0.00005	<0.005	<0.005	0.0008
W8	04/05/2010	0.00011	63	<0.001	<0.0005	0.0378	0.368	0.0016	0.007	14.1	0.374	<0.00002	0.029	0.001	0.032	16.3	0.0047	4.96	<0.00002	37.4	1.02	27	<0.00005	<0.005	<0.005	0.0008
W8	05/05/2010	0.00006	67.3	<0.001	<0.0005	0.0288	0.349	0.0007	0.007	15	0.417	<0.00002	0.03	0.001	0.032	17.4	0.0052	5.14	<0.00002	40.8	1.03	31	<0.00005	<0.005	<0.005	0.0008
W8	06/05/2010	0.00004	62.3	<0.001	<0.0005	0.025	0.251	<0.0002	0.008	13.8	0.382	0.00004	0.041	0.001	0.024	20.8	0.0073	4.72	<0.00002	53.2	1.32	31	<0.00005	<0.005	<0.005	0.0008
W8	07/05/2010	0.00011	107	<0.001	0.0006	0.135	0.393	0.0004	<0.005	27.1	0.624	0.00003	0.01	0.002	0.053	4.89	0.0038	7.11	0.00004	19	1.01	30	<0.00005	<0.005	0.008	0.0025
W8	08/05/2010	0.00028	209	<0.001	0.0023	0.388	1.22	0.0003	<0.005	41.1	3.67	0.00003	0.012	0.003		7.32	0.0026	7.94	0.00005	27.1	1.76	42	<0.00005	<0.005	0.018	0.0033
W8	09/05/2010	0.00012	99.4	<0.001	0.0006	0.123	1.05	0.0003	<0.005	31	0.288	0.00003	0.009	0.001	0.074	5.03	0.0039	7.7	<0.00002	20.4	0.935	29	<0.00005	<0.005	0.044	0.0026
W8	10/05/2010	0.00022	84.8	<0.001	<0.0005	0.0933	0.645	0.0003	<0.005	27.1	0.266	<0.00002	0.007	0.002	0.048	4.3	0.0031	6.78	<0.00002	17.7	0.786	24	<0.00005	<0.005	0.019	0.0022
W8	13/05/2010	0.00009	110	<0.001	0.0007	0.13	0.34	<0.0002	<0.005	27.6	0.753	<0.00002	0.012	0.001	0.049	5.09	0.0037	6.85	<0.00002	19.1	1.14	32	<0.00005	<0.005	0.007	0.0028
W8	17/05/2010	0.00036	201	0.001	0.0025	0.368	0.775	<0.0002	<0.005	39	3.67	<0.0002	0.012	0.004	0.102	6.87	0.0026	7.02	0.00004	25.1	1.62	42	<0.00005	<0.005	0.011	0.0033
W8	20/05/2010	0.00029	232	0.001	0.0023	0.332	0.43	<0.0002	<0.005	51.9	3.99	<0.00002	0.013	<0.003	0.077	7.71	0.003	7.62	0.00005	36	1.92	46	<0.00005	<0.005	<0.005	0.0033
W8	24/05/2010	0.0004	238	<0.002	0.0028	0.461	1.09	0.0003	<0.01	47	4.14	<0.0002	0.014	0.004		8	0.0031	7.92	<0.0001	30	2.08	<60	<0.00005	<0.005	0.021	0.0043
W8	27/05/2010	0.0003	241	<0.002	0.0026	0.466	0.958	<0.0002	<0.01	49	3.96	<0.00002	0.014	0.003		8	0.0031	8.47	<0.0001	32	2	<60	<0.00005	<0.005	0.012	0.0041
W8	31/05/2010	0.0003	261	<0.002	0.0028	0.441	0.608	<0.0002	<0.01	53	4.39	<0.00002	0.015	0.003		8	0.004	8.43	<0.0001	35	2.3	<60	<0.00005	<0.005	<0.01	0.0041
W8	03/06/2010	0.0003	241	<0.002	0.0027	0.434	1.32	0.0003	<0.01	48	3.96	<0.0002	0.014	0.004		8	0.0038	8.79	<0.0001	30	2.09	<60	<0.00005	<0.005	0.023	0.0042
W8	14/06/2010	0.0003	260	<0.002	0.0024	0.391	0.721	<0.0002	<0.01	54	4.07	<0.0002	0.014	0.004		8	0.0033	8.94	<0.0001	33	2.3	<60	<0.00005	<0.005	<0.01	0.0048
W8	17/06/2010	<0.0001	70	<0.002	<0.0005	0.045	0.248	<0.0002	<0.01	19	0.592	<0.0002	0.037	0.001		20	0.006	5.02	<0.0001	46	1.44	<60	<0.00005	<0.005	<0.01	0.0014
W8	21/06/2010	0.0002	244	<0.002	0.0022	0.298	0.46	<0.0002	<0.01	59	3.23	<0.0002	0.012	0.003		8	0.0038	7.9	<0.0001	35	2.18	<60	<0.00005	<0.005	<0.01	0.0042
W8	25/06/2010	0.0002	250	<0.002	0.0021	0.319	0.674	<0.0002	<0.01	53	3.45	<0.0002	0.011	0.003		7	0.003	9.39	<0.0001	33	2.04	<60	<0.00005	<0.005	<0.01	0.0045
W8	04/07/2010	0.0001	98	<0.002	0.0017	0.308	4.68	0.0008	<0.01	23	0.677	<0.0002	0.037	0.002		19	0.0069	9.48	0.0002	42	1.4	<60	<0.00005	<0.005	0.112	0.0014
W8	11/07/2010	0.0003	183	0.003	0.0032	0.531	7.98	0.001	<0.01	40	1.5	<0.0002	0.013	0.004		10	0.0042	15	0.0004	30	1.96	<60	<0.00005	<0.005	0.218	0.0022
W8	18/07/2010	0.0006	180	0.008	0.0085	1.42	28.8	0.0039	<0.01	42	1.72	<0.0002	0.01	0.007		13	0.0041	33.1	0.0012	29	1.87	<60	0.00016	<0.005	0.784	0.0022

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W8	10/08/2006	0.0008	0.001	<0.001	0.022	<0.0002	0.0004	0.061	<0.0001	<0.0005	<0.002	<0.00001	31.6	0.0014	0.0002	0.008	0.29	<0.0001	<0.001	9.2	0.077		<0.001	0.0015		0.4
W8	06/09/2006	0.0006	0.003	<0.001	0.012	<0.0002	0.0005	0.062	<0.0001	<0.0005	<0.002	<0.00001	38.8	0.001	0.0001	0.007	0.39	0.0001	0.001	11.9	0.037		<0.001	0.0014		0.5
W8	13/09/2006	0.0006	<0.001	<0.001	0.015	<0.0002	0.0004	0.063	<0.0001	<0.0005	<0.002	<0.00001	39.1	0.0009	0.0001	0.006	0.37	<0.0001	0.001	12.6	0.041		<0.001	0.0013		0.7
W8	20/09/2006	0.0006	0.001	<0.001	0.015	<0.0002	0.0004	0.064	<0.0001	<0.0005	<0.002	<0.00001	40.4	0.001	0.0001	0.006	0.29	<0.0001	0.001	13	0.053		<0.001	0.0007		0.6
W8	04/10/2006	0.0006	<0.002	<0.002	0.012	<0.0002	0.0005	0.063	<0.0001	<0.0005	<0.002	0.00011	38.5	0.0007	0.0002	0.005	0.27	<0.0001	<0.001	11.9	0.049		<0.001	0.0017		0.6
W8	28/12/2006				<0.005	<0.0002	0.0002	0.057	<0.0001	<0.0005	0.021	<0.00001	50.2	0.0011	0.0006	<0.001	<0.01	<0.0001	0.004	26.9	0.013	<0.0001	0.002	<0.0005		1.5
W8	03/05/2008	0.013	0.047	0.0002	0.05	0.0024	0.0003	0.043	<0.00004		<0.005	<0.00008	18.4	0.0014	0.00027	0.05	0.09	0.0001	<0.001	4.29	0.0611	0.00001	0.00354	0.002	<0.01	2.05
W8	07/05/2008	0.0072	0.032	0.0012																						
W8	27/05/2008	0.00444	0.02	0.0005		0.0023	0.0006	0.09	<0.00004		0.069	0.00008	89.1	0.0012	0.00064	0.038	0.15	<0.0001	0.003	19.6	0.13	<0.00001	0.0124	0.001	0.02	4.6
W8	10/05/2009	0.0007	0.007	<0.001	0.009	<0.0002	0.0006	0.11	<0.0001	<0.0005	0.072	0.00009	107	0.0006	0.0008	0.096	0.02	<0.0001	0.004	19.8	0.147	<0.0001	0.013	0.0014		7.6
W8	28/05/2009	0.00203	0.013	0.0002	0.021	0.0009	0.0004	0.114	<0.00004	<0.0001	0.081	0.00211	120	<0.0004	0.00109	0.165	0.06	0.0002	0.002	21.8	0.396	<0.00001	0.00799	0.002	0.02	6.1
W8	04/06/2009	0.00075	0.022	0.0002	0.029	0.0012	0.0003	0.088	<0.00004	<0.0001	0.013	0.00002	43.2	<0.0004	0.00064	0.024	0.61	<0.0001	0.001	11.9	0.848	<0.00001	0.00459	<0.001	0.01	2.2
W8	07/06/2009	0.00269	0.012	0.0001	0.023	0.0036	0.0005	0.14	<0.00004	<0.0001	0.13	0.00011	172	0.0004	0.00184	0.107	0.1	0.0001	0.002	29	0.642	0.00001	0.00898	0.002	0.02	6.6
W8	10/06/2009	0.00072	0.024	0.0002	0.014	0.0009	0.0004	0.091	<0.00004	<0.0001	0.017	<0.00001	46.6	<0.0004	0.00056	0.018	0.5	<0.0001	0.001	13.2	0.811		0.00534	0.001	<0.01	2.4
W8	16/06/2009																									
W8	29/06/2009	0.00255	0.013	0.0003	<0.005	0.0011	0.0006	0.128	<0.00004	<0.0001	0.106	0.0001	146	<0.0004	0.00102	0.1	0.04	<0.0001	0.003	25.9	0.575	0.00002	0.0113	0.002	0.02	6.5
W8	06/07/2009																									
W8	13/07/2009	0.00088	0.01	0.0002	0.054	0.001	0.0005	0.178	<0.00004	<0.0001	0.141	0.00014	191	<0.0004	0.00144	0.207	0.17	<0.0001	0.002	32.4	0.854	<0.00001	0.0062	0.002	0.03	6.4
W8	27/07/2009	0.0033	0.019	0.0003	<0.005	0.001	0.0005	0.202	<0.00004	<0.001	0.138	0.00017	224	0.0013	0.00174	0.31	0.1	0.0004	0.002	40.6	1.12	<0.00001	0.0062	0.003	0.03	6.6
W8	05/08/2009	0.0013	0.023	0.0002	0.021	0.001	0.0007	0.212	<0.00004	<0.001	0.1	0.00017	213	0.0014	0.00178	0.333	0.17	0.0005	0.003	40.2	1.09		0.0063	0.004	0.04	6.6
W8	10/08/2009																									
W8	11/08/2009	0.0007	0.004	0.0002	<0.005	<0.0002	0.0006	0.094	<0.00004	<0.001	0.042	0.00008	118	<0.0004	0.00102	0.13	0.07	<0.0001	0.002	25.7	0.998		0.0057	0.002	0.03	4.3
W8	19/08/2009	0.0009	0.009	0.0003	<0.005	<0.0002	0.001	0.218	<0.00004	<0.001	0.104	0.00021	231	0.0053	0.00204	0.352	0.05	<0.0001	0.003	46.4	2.04	0.00003	0.006	0.005	0.03	7
W8	31/08/2009	0.0013	0.015	0.0002	0.01	0.001	0.0005	0.206	<0.00004	<0.001	0.134	0.00018	224	0.0014	0.00226	0.345	0.09	0.0005	0.003	40.6	2.16	0.00003	0.0056	0.004	0.03	6.6
W8	07/09/2009	0.0011	0.005	0.0003	0.022	0.0019	0.0005	0.148	0.00004	<0.001	0.032	0.00006	97.3	0.0016	0.00136	0.064	0.24	0.0007	0.005	34.6	1.55	<0.00001	0.005	0.002	0.02	4.3
W8	18/09/2009	0.0018	0.012	0.0004	0.027	0.001	0.0009	0.135	<0.00004	<0.001	0.028	0.00008	125	0.0018	0.0014	0.061	0.47	0.0003	0.008	56.2	1.88	<0.00001	0.0064	0.003	0.04	5.4
W8	23/09/2009	0.0015	0.009	0.0005	<0.005	0.0002	0.0005	0.146	<0.00004	<0.001	0.102	0.00008	161	0.001	0.00105	0.134	0.02	<0.0001	0.004	30.7	1.07	<0.00001	0.0214	0.003	<0.01	6.9
W8	05/10/2009	0.002	0.011	0.0001	<0.005	<0.0002	0.0005	0.167	<0.00004	<0.001	0.128	0.00009	190	0.0008	0.00127	0.137	0.02	<0.0001	0.002	32.9	1.39	<0.00001	0.0058	0.005	0.02	6.3
W8	12/10/2009	0.0028	0.013	0.0002	<0.005	0.0003	0.0006	0.156	<0.00004	<0.001	0.107	0.00011	164	0.0004	0.00139	0.115	0.03	<0.0001	0.002	29	1.62	<0.00001	0.0062	0.005	0.02	5.7
W8	19/10/2009	0.0005	0.008	0.0002	0.017	0.0008		0.152	<0.00004	<0.001	0.049	0.00016	78	<0.0004	0.00061	0.038	0.22	<0.0001	0.005	19.8	0.556	<0.00001	0.0236	0.002	0.02	10.2
W8	19/04/2010	0.0018	0.022	0.0002	0.022	0.0013	0.0004	0.092	<0.00004	<0.001	0.034	0.00024	118	0.0008	0.00089	0.053	0.13	0.0007	0.002	24.9	2.09	<0.00001	0.0077	0.002	0.02	4.4
W8	20/04/2010	0.0018	0.024	0.0004	0.013	0.0011	0.0005	0.144	<0.00004	<0.001	0.04	0.00011	185	0.0012	0.00121	0.069	0.19	0.0002	0.002	39.6	3.21	<0.00001	0.0097	0.003	0.04	6.1
W8	21/04/2010	0.0043	0.028	0.0002	<0.005	0.0002	0.0003	0.04	<0.00004	<0.001	<0.004	0.00004	24	<0.0004	0.00004	0.063	0.03	<0.0001	<0.001	5.4	0.0646	<0.00001	0.0004	0.001	0.03	3
W8	22/04/2010	0.0035	0.011	0.0003	0.016	0.0002	0.0008	0.078	<0.00004	<0.001	0.016	0.00003	68.9	<0.0004	0.00038	0.152	0.14	<0.0001	0.003	18.8	0.476	0.00001	0.0061	0.002	0.04	4.1
W8	23/04/2010	0.0013	0.016	0.0002	<0.005	0.0003	0.0005	0.044	<0.00004	<0.001	0.005	<0.00001	31.6	<0.0004	0.00022	0.036	0.12	<0.0001	<0.001	7.2	0.241	<0.00001	0.002	0.001	0.02	2.7
W8	25/04/2010	0.0017	0.007	<0.0001	<0.005	0.0004	0.0008	0.048	<0.00004	<0.001	<0.004	0.00001	26.5	<0.0004	0.00043	0.023	0.2	<0.0001	<0.001	6.2	0.299	<0.00001	0.002	0.001	0.01	2.8
W8	26/04/2010	<0.005	0.009	<0.0005	0.004	<0.0005	0.0006	0.102	<0.0001	<0.001	<0.05	0.00003	132	<0.001	0.0011	0.112	0.124	<0.0002	<0.005	26.6	2.29	0.00003	0.009	0.005		4.59
W8	27/04/2010	<0.005	<0.005	<0.0005	0.007	<0.0005	0.0007	0.038	<0.0001	<0.001	<0.05	<0.00001	23.8	<0.001	<0.0005	0.0235	0.186	<0.0002	<0.005	5.21	0.002	<0.00002	0.002	0.001		3.02
W8	28/04/2010	<0.005	0.007	<0.0005	0.004	<0.0005	0.0008	0.122	<0.0001	<0.001	<0.05	0.00013	157	<0.001	0.0014	0.139	0.151	<0.0002	<0.005	32.1	2.76	<0.00002	0.01	0.008		5.61
W8	29/04/2010	0.005	0.016	<0.0005	0.014	<0.0005	0.0005	0.093	<0.0001	<0.001	0.12	0.00007	66.6	<0.001	<0.0005	0.026	0.089	<0.0002	0.01	12	0.529	<0.00002	0.059	<0.001		22.9
W8	30/04/2010	<0.005	0.008	<0.0005	0.003	<0.0005	0.0007	0.134	<0.0001	<0.001	0.052	0.00017	168	<0.001	0.0016	0.151	0.146	<0.0002	<0.005	35	3.05	0.00003	0.01	0.007	0.031	5.77
W8	01/05/2010	<0.005	0.005	<0.0005	0.01	<0.0005	0.0005	0.094	<0.0001	<0.001	0.081	0.00003	58	<0.001	<0.0005	0.0172	0.096	<0.0002	0.007	12.4	0.272	<0.00002	0.039	<0.001		17.2
W8	02/05/2010	<0.005	<0.005	<0.0005	0.008	<0.0005	0.0004	0.091	<0.0001	<0.001	0.059	0.00004	63.7	<0.001	<0.0005	0.0197	0.124	<0.0002	0.005	13.6	0.316	<0.00002	0.028	0.001		13.9
W8	03/05/2010	<0.005	<0.005	<0.0005	0.008	<0.0005	0.0004	0.097	<0.0001	<0.001	0.073	0.00002	64.2	<0.001	<0.0005	0.0177	0.07	<0.0002	0.007	13.4	0.269	<0.00002	0.037	0.001	<0.01	17.2
W8	04/05/2010	<0.005	0.006	<0.0005	0.009	<0.0005	0.0004	0.091	<0.0001	<0.001	0.062	0.00003	60.1	<0.001	<0.0005	0.019	0.095	<0.0002	0.006	13.5	0.268	<0.00002	0.029	0.001	<0.01	14.6
W8	05/05/2010	<0.005	<0.005	<0.0005	0.009	<0.0005	0.0004	0.098	<0.0001	<0.001	0.065	0.00005	65.5	<0.001	<0.0005	0.0168	0.078	<0.0002	0.007	14.3	0.289	<0.00002	0.031	0.001	<0.01	16.3
W8	06/05/2010	<0.005	<0.005	<0.0005	0.01	<0.0005	0.0004	0.099	<0.0001	<0.001	0.083	0.00004	66.7	<0.001	<0.0005	0.0173	0.081	<0.0002	0.008	13.6	0.309	<0.00002	0.042	0.001	<0.01	20.6
W8	07/05/2010	<0.005	0.005	<0.0005	0.01	<0.0005	0.0006	0.113	<0.0001	<0.001	<0.05	0.00007	105	<0.001	0.0005	0.115	0.064	<0.0002	<0.005	28.1	0.601	<0.00002	0.01	0.001	0.022	4.91
W8	08/05/2010	<0.005	0.008	<0.0005	0.005	<0.0005	0.0007	0.122	<0.0001	<0.001	0.05	0.00023	178	<0.001	0.0017	0.242	0.127	<0.0002	<0.005	37	3.14	<0.00002	0.011	0.009		6.19
W8	09/05/2010	<0.005	0.011	<0.0005	0.007	<0.0005	0.0006	0.104	<0.0001	<0.001	<0.05	0.00006	95	<0.001	<0.0005	0.0683	0.038	<0.0002	<0.005	30.5	0.243	<0.00002	0.009	0.001	0.017	4.73
W8	10/05/2010	<0.005	0.007	<0.0005	0.008	<0.0005	0.0006	0.095	<0.0001	<0.001	<0.05	0.00018	84.6	<0.001	<0.0005	0.0621	0.033	<0.0002	<0.005	26.7	0.219	<0.00002	0.007	0.001	0.013	4.25
W8	13/05/2010	<0.005	<0.005	<0.0005	0.007	<0.0005	0.0007	0.117	<0.0001	<0.001	<0.05	0.00007	118	<0.001	0.0006	0.115	0.058	<0.0002	<0.005	29.6	0.782	<0.00002	0.013	0.001	0.019	5.49
W8	17/05/2010	<0.005	0.006	<0.0005	0.004	<0.0005	0.0008	0.148	<0.0001	<0.001	0.052	0.00028	201	<0.001	0.0024	0.265	0.091	<0.0002	<0.005	40.8	3.6	<0.0002	0.012	0.009	0.031	7.19
W8	20/05/2010	<0.005	<0.005	<0.0005	0.006	<0.0005	<0.001	0.214	<0.0005	<0.001	0.067	0.00031	273	0.001	0.003	0.341	0.117	<0.0002	<0.005	57.5	5.04	<0.00002	0.015	<0.003	0.041	9.03
W8	24/05/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	0.0009	0.156	<0.0002	<0.001	<0.1	0.0003	244	<0.002	0.0025	0.321	0.092	<0.0002	<0.01	47	3.93	<0.0002	0.014	0.003		8
W8	27/05/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.001	0.152	<0.0005	<0.001	<0.1	0.0002	225	<0.002	0.0022	0.344	0.121	<0.0002	<0.01	54	3.85	<0.00002	0.013	<0.003		7
W8	31/05/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	0.001	0.172	<0.0002	<0.001	<0.1	0.0003	236	<0.002	0.0024	0.337	0.108	<0.0002	<0.01	47	3.98	<0.00002	0.014	0.003		8
W8	03/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	0.0009	0.167	<0.0002	<0.001	<0.1	0.0002	216	<0.002	0.0023	0.283	0.098	<0.0002	<0.01	44	3.56	<0.0002	0.019	0.003		7
W8	14/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	0.0007	0.173	<0.0002	<0.001	<0.1	0.0002	227	<0.002	0.002	0.254	0.125	<0.0002	<0.01	51	3.18	<0.0002	0.013	0.003		7
W8	17/06/2010	<0.005	<0.01	<0.002	0.018	<0.0005	<0.0004	0.104	<0.0002	<0.001	<0.1	<0.0001	71	<0.002	<0.0005	0.031	0.066	<0.0002	<0.01	17	0.456	<0.0002	0.037	0.001		19
W8	21/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	0.0008	0.178	<0.0002	<0.001	<0.1	0.0002	235	<0.002	0.0018	0.226	0.082	<0.0002	<0.01	49	2.98	<0.0002	0.011	0.003		8
W8	25/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	0.0006	0.188	<0.0002	<0.001	<0.1	0.0002	222	<0.002	0.0018	0.228	0.099	<0.0002	<0.01	50	3.2	<0.0002	0.012	0.005		7
W8	04/07/2010	0.008	0.025	<0.002	0.016	<0.0005	<0.0004	0.127	<0.0002	<0.001	<0.1	0.0001	89	<0.002	<0.0005	0.058	<0.02	<0.0002	<0.01	22	0.55	<0.0002	0.04	0.001		19
W8	11/07/2010	0.014	0.041	<0.002	<0.01	<0.0005	0.0005	0.134	<0.0002	<0.001	<0.1	0.0002	190	<0.002	0.0012	0.14	<0.02	<0.0002	<0.01	35	1.35	<0.0002	0.013	0.002		9
W8	18/07/2010	0.049	0.124	<0.002	0.012	<0.0005	0.0005	0.148	<0.0002	<0.001	<0.1	0.0002	167	<0.002	0.001	0.163	<0.02	<0.0002	<0.01	34	1.19	<0.0002	0.011	0.002		9

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	BOD5	Br	Cation	COD	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-T	N-TKN	P-PO4T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L
W8	10/08/2006	<0.0002	5.75	High DL removed	5.3	0.15	2.5	<0.00005	<0.001	0.0011	<0.0005	0.0015	0.001		144	<6	<5															
W8	06/09/2006	<0.0002	6.02	High DL removed	6.2	0.191	2.8	<0.00005	<0.001	0.0008	<0.0005	0.0017	0.001		186	<6	<5															
W8	13/09/2006	<0.0002	5.69	High DL removed	6.3	0.177	2.6	<0.00005	<0.001	0.0008	<0.0005	0.0014	<0.001		177	<6	<5															
W8	20/09/2006	<0.0002	5.97	High DL removed	5.7	0.174	2.6	<0.00005	<0.001	<0.0005	<0.0005	0.0017	0.001		174	<6	<5															
W8	04/10/2006	<0.0002	5.88	High DL removed	6	0.18	2.4	<0.00005	<0.001	0.0009	<0.0005	0.001	<0.001		174	<6	<5															
W8	28/12/2006	<0.0002	6.2	High DL removed	16.6	0.661	15.5	<0.00005	<0.001	0.0017	0.0022	0.003	0.001																			
W8	03/05/2008	<0.0006	1.13	High DL removed	4.33	0.178		<0.00001	<0.004	0.0022	<0.0006	0.00029	0.001	0.0002																		
W8	07/05/2008																															
W8	27/05/2008	0.0029	1.94	High DL removed	14.1	1.05		<0.00001	<0.004	0.0048	0.0016	0.00062	0.005	0.0003																		
W8	10/05/2009	0.0041	4.78	0.00002	20.2	1.22	23.6	<0.00005	<0.001	0.0014	0.0007	0.0005	0.005		198	<6	<5							18							8.09	0.04
W8	28/05/2009	0.0041	5.01	<0.00001	20.1	1.1	29.4	<0.00001	<0.0001	0.0019	0.001	0.00036	0.007	<0.0001	220	<6	<5							29							6.54	0.02
W8	04/06/2009	<0.0006	5.39	<0.00001	10.9	0.425	12.5	<0.00001	<0.0001	0.0025	0.0005	0.00043	0.004	0.0001	160	<6	<5							26							0.36	0.03
W8	07/06/2009	0.0049	7.08	0.00015	25.7	1.53	48	<0.00001	<0.0001	0.0026	0.0018	0.0006	0.006	<0.0001	290	<6	<5							40							5.01	0.05
W8	10/06/2009	<0.0006	5.4	<0.00001	12.9	0.489	14.6	<0.00001	<0.0001	0.0017	0.0006	0.00031	0.004	0.0001	180	<6	<5							9								0.012
W8	16/06/2009																															
W8	29/06/2009	0.0061	6.98	0.00022	24.7	1.4	46.6	<0.00001	<0.0001	0.001	0.0019	0.00053	0.006	0.0002	270	<6	<5							29							4.93	0.04
W8	06/07/2009																															
W8	13/07/2009	<0.0006	6.38	0.00076	22.6	1.6	41.5	<0.00001	<0.0001	0.0013	0.0018	0.00061	0.006	0.0001	320	<6	<5							47							2.77	0.05
W8	27/07/2009	0.0034	7.3	0.00036	24.2	1.73	51.6	<0.00001	<0.0001	0.0011	0.0027	0.0006	0.005	0.0003	370	<6	<5							12							13.9	0.04
W8	05/08/2009	0.0033	6.69	0.00001	23	1.54	44.2	<0.00001	<0.0001	0.0019	0.0027	0.0007	0.005	0.0002	400	<6	<5							15							6.8	0.03
W8	10/08/2009																															
W8	11/08/2009	0.0019	6.34	<0.00001	18.7	0.95	22.6	<0.00001	<0.0001	0.0012	0.0019	0.0006	0.007	0.0002	300	<6	<5							15							0.39	0.03
W8	19/08/2009	0.0053	7.35	<0.00001	25.2	1.73	61.3	<0.00001	<0.0001	0.001	0.003	0.0021	<0.001	0.0003	450	<6	<5														3.88	0.07
W8	31/08/2009	0.0034	7.23	<0.00001	25.7	1.7	52.3	<0.00001	<0.0001	0.0012	0.0025	0.0007	0.007	0.0002	400	<6	<5														4.36	0.07
W8	07/09/2009	0.0011	6.69	<0.00001	19.9	1.03	20	<0.00001	<0.0001	0.0019	0.0021	0.0008	0.004	0.0003	400	<6	<5														3.72	0.05
W8	18/09/2009	0.0023	8.43	0.00003	25.7	1.43	26.4	<0.00001	<0.0001	0.0025	0.0028	0.0014	0.002	0.0004	480	<6	<5														0.61	0.07
W8	23/09/2009	0.006	7.18	<0.00001	24	1.59	42.9	<0.00001	<0.0001	0.0009	0.0029	0.0008	0.002	0.0002	340	<6	<5														7.81	0.05
W8	05/10/2009	0.0058	7.5	<0.00001	26.6	1.39	57.9	<0.00001	<0.0001	0.0014	0.002	0.0007	0.002	0.0002	320	<6	<5														5.82	0.09
W8	12/10/2009	0.0039	7.34	<0.00001	24.4	1.25	43.9	<0.00001	<0.0001	<0.01	0.0022	0.0007	0.002	0.0002	320	<6	<5														2.16	0.06
W8	19/10/2009	0.0059	4.36	<0.00001	29.8	1.7	34.4	<0.00001	<0.0001	<0.01	0.0018	0.0003	0.01	0.0001	200	<6	<5														2.66	0.03
W8	19/04/2010	0.0019	3.59	<0.00001	15.3	0.997	31.8	<0.00001	<0.0001	<0.01	0.0017	0.0009	0.005	0.0002	290	<6	<5														0.1	0.04
W8	20/04/2010	0.003	5.57	<0.00001	24.3	1.6	46.1	<0.00001	<0.0001	<0.01	0.0026	0.0011	0.005	0.0004	480	<6	<5														2.02	0.08
W8	21/04/2010	<0.0006	2.59	<0.00001	3	0.144	2.7	<0.00001	<0.0001	<0.01	<0.0004	0.0002	0.003	0.0002	100	<6	<5														0.92	0.06
W8	22/04/2010	0.0018	4.37	<0.00001	10.7	0.647	11.5	<0.00001	<0.0001	<0.01	0.0012	0.0008	0.003	0.0003	220	<6	<5														0.27	0.06
W8	23/04/2010	<0.0006	3.57	<0.00001	4.1	0.209	3.5	<0.00001	<0.0001	<0.01	<0.0004	0.0004	<0.001	0.0003	130	<6	<5														0.57	0.05
W8	25/04/2010	<0.0006	4.82	<0.00001	3.2	0.122	0.7	<0.00001	<0.0001	<0.01	<0.0004	0.0003	<0.001	<0.0001	100	<6	<5														0.67	0.06
W8	26/04/2010	0.0019	4.8	0.00008	17.8	1.13	30	<0.00005	<0.005	<0.005	0.0022	<0.005	<0.005	<0.0005	370	<0.5	<0.5	<0.5			<0.4											
W8	27/04/2010	<0.0001	4.57	<0.00002	2.8	0.107	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	100	<0.5	<0.5	<0.5			<0.4											
W8	28/04/2010	0.0023	5.81	0.00004	21.5	1.3	37	<0.00005	<0.005	<0.005	0.0026	<0.005	<0.005	<0.0005	440	<0.5	<0.5	<0.5			<0.4											
W8	29/04/2010	0.0058	4.06	<0.00002	60.8	1.83	34	<0.00005	<0.005	<0.005	0.0009	<0.005	<0.005	<0.0005	170	<0.5	<0.5	<0.5			<0.4											
W8	30/04/2010	0.0024	5.87	0.00002	23.3	1.4	41	<0.00005	<0.005	<0.005	0.0027	<0.005	<0.005	<0.0005	480	<0.5	<0.5	<0.5			<0.4											
W8	01/05/2010	0.0057	4.08	<0.00002	46.5	1.17	27	<0.00005	<0.005	<0.005	0.0008	<0.005	<0.005	<0.0005	170	<0.5	<0.5	<0.5			<0.4											
W8	02/05/2010	0.0039	4.97	<0.00002	35.9	0.969	26	<0.00005	<0.005	<0.005	0.0009	<0.005	<0.005	<0.0005	180	<0.5	<0.5	<0.5			<0.4											
W8	03/05/2010	0.0067	4.52	<0.00002	45.2	1.12	29	<0.00005	<0.005	<0.005	0.0007	<0.005	<0.005	<0.0005	180	<0.5	<0.5	<0.5			<0.4											
W8	04/05/2010	0.005	4.49	<0.00002	37.9	1.05	26	<0.00005	<0.005	<0.005	0.0009	<0.005	<0.005	<0.0005	190	<0.5	<0.5	<0.5			<0.4											
W8	05/05/2010	0.0053	4.87	<0.00002	42.2	1.06	30	<0.00005	<0.005	<0.005	0.0008	<0.005	<0.005	<0.0005	200	<0.5	<0.5	<0.5			<0.4											
W8	06/05/2010	0.0073	4.5	<0.00002	51.1	1.31	34	<0.00005	<0.005	<0.005	0.0007	<0.005	<0.005	<0.0005	180	<0.5	<0.5	<0.5			<0.4											
W8	07/05/2010	0.0039	6.19	<0.00002	20.2	1	30	<0.00005	<0.005	<0.005	0.0026	<0.005	<0.005	<0.0005	310	<0.5	<0.5	<0.5			<0.4											
W8	08/05/2010	0.0024	6.44	0.00002	24.7	1.52	31	<0.00005	<0.005	<0.005	0.003	<0.005	<0.005	<0.0005	510	<0.5	<0.5	<0.5			<0.4											
W8	09/05/2010	0.0038	6.17	<0.00002	20.7	0.874	31	<0.00005	<0.005	<0.005	0.0024	<0.005	<0.005	<0.0005	290	<0.5	<0.5	<0.5			<0.4											
W8	10/05/2010	0.0032	6.19	<0.00002	17.6	0.781	26	<0.00005	<0.005	<0.005	0.0021	<0.005	<0.005	<0.0005	260	3	<0.5	2.5			<0.4											
W8	13/05/2010	0.0042	7.6	0.00002	22.7	1.21	33	<0.00005	<0.005	<0.005	0.0028	<0.005	<0.005	<0.0005	340	<0.5	<0.5	<0.5			<0.4											
W8	17/05/2010	0.0027	7.3	0.00002	27.3	1.62	47	<0.00005	<0.005	<0.005	0.0032	<0.005	<0.005	<0.0005	530	<0.5	<0.5	<0.5			0.4											
W8	20/05/2010	0.004	8.81	<0.00002	40.3	2.44	54	<0.00005	<0.005	<0.005	0.0041	<0.005	<0.005	0.0006	570	<0.5	<0.5	<0.5			0.5											
W8	24/05/2010	0.0028	8	High DL removed	31	2.13	<60	<0.00005	<0.005	<0.01	0.0041	<0.005	<0.01	<0.002	530	<0.5	<0.5	<0.5			0.4											
W8	27/05/2010	0.004	7.74	High DL removed	37	2.01	<60	<0.00005	<0.005	<0.01	0.0029	<0.005	<0.01	<0.002	500	<0.5	<0.5	<0.5			<0.4											
W8	31/05/2010	0.0039	8.18	High DL removed	30	2.16	<60	<0.00005	<0.005	<0.01	0.0039	<0.005	<0.01	<0.002	430	<0.5	<0.5	<0.5			0.4											
W8	03/06/2010	0.0038	7.55	High DL removed	27	1.92	<60	<0.00005	<0.005	<0.01	0.0039	<0.005	<0.01	<0.002	510	<0.5	<0.5	<0.5			<0.4											
W8	14/06/2010	0.0028	8.24	High DL removed	35	2.07	<60	<0.00005	<0.005	<0.01	0.0045	<0.005	<0.01	<0.002	430	<0.5	<0.5	<0.5			0.5											
W8	17/06/2010	0.0064	4.62	High DL removed	46	1.45	<60	<0.00005	<0.005	<0.01	0.0015	<0.005	<0.01	<0.002	220	3.3	<0.5	2.7			<0.4											
W8	21/06/2010	0.0038	7.61	High DL removed	28	2.08	<60	<0.00005	<0.005	<0.01	0.0038	<0.005	<0.01	<0.002	490	<0.5	<0.5	<0.5			0.6							23.2				
W8	25/06/2010	0.0027	8.32	High DL removed	31	2.03	<60	<0.00005	<0.005	<0.01	0.0042	<0.005	<0.01	<0.002	530	<0.5	<0.5	<0.5			0.5							25.6				
W8	04/07/2010	0.0063	4.82	High DL removed	45	1.51	<60	<0.00005	<0.005	<0.01	0.0015	<0.005	<0.01	<0.002	220	<0.5	<0.5	<0.5			<0.4											
W8	11/07/2010	0.0043	6.48	High DL removed	26	1.98	<60	<0.00005	<0.005	<0.01	0.0022	<0.005	<0.01	<0.002	360	<0.5	<0.5	<0.5			<0.4											
W8	18/07/2010	0.0038	6.94	High DL removed	26	1.9	<60	<0.00005	<0.005	<0.01	0.0019	<0.005	<0.01	<0.002	340	<0.5	<0.5	<0.5			<0.4											

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	P-TDP	P-TRP	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		mg/L	mg/L	Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W8	10/08/2006								
W8	06/09/2006								
W8	13/09/2006								
W8	20/09/2006								
W8	04/10/2006								
W8	28/12/2006								
W8	03/05/2008								
W8	07/05/2008								
W8	27/05/2008								
W8	10/05/2009							3.7	
W8	28/05/2009							0.7	
W8	04/06/2009							3.6	
W8	07/06/2009		0.08					8.9	
W8	10/06/2009							4.5	
W8	16/06/2009								
W8	29/06/2009		0.07					12	
W8	06/07/2009								
W8	13/07/2009		0.08					2.3	
W8	27/07/2009		0.07					2.2	
W8	05/08/2009		0.06					3.7	
W8	10/08/2009								
W8	11/08/2009		<0.05					4	
W8	19/08/2009		<0.05					3.1	
W8	31/08/2009		<0.05					3.4	
W8	07/09/2009		<0.05					2	
W8	18/09/2009		0.05					5.1	
W8	23/09/2009							4.4	
W8	05/10/2009							4.2	
W8	12/10/2009							6.3	
W8	19/10/2009							1.9	
W8	19/04/2010							9.1	
W8	20/04/2010							5.7	
W8	21/04/2010							42	
W8	22/04/2010							18	
W8	23/04/2010							18	
W8	25/04/2010							20	
W8	26/04/2010		<0.005					28.4	15.4
W8	27/04/2010		0.009					8.7	3.8
W8	28/04/2010		0.006					6.4	50.1
W8	29/04/2010		<0.005					23.8	31.4
W8	30/04/2010		<0.005					6.8	
W8	01/05/2010		<0.005					3	6.4
W8	02/05/2010		<0.005					3	2.7
W8	03/05/2010		<0.005					3.9	30
W8	04/05/2010		<0.005					2.3	8
W8	05/05/2010		<0.005					2	
W8	06/05/2010		<0.005					2.2	-0.09
W8	07/05/2010		0.007					4.8	
W8	08/05/2010		<0.005					5.7	
W8	09/05/2010		<0.005					4.5	
W8	10/05/2010		<0.005					5.7	
W8	13/05/2010		<0.005					2	
W8	17/05/2010		<0.005					8.3	
W8	20/05/2010		<0.005					4	
W8	24/05/2010							10.4	
W8	27/05/2010		<0.005					28.3	
W8	31/05/2010							6.7	
W8	03/06/2010		<0.005					8.9	
W8	14/06/2010		<0.005					4.9	
W8	17/06/2010		<0.005					2.8	
W8	21/06/2010		0.007					6.1	
W8	25/06/2010		<0.005					4.7	3
W8	04/07/2010		<0.005					85.2	81.6
W8	11/07/2010		<0.005					52.2	1213.4
W8	18/07/2010		<0.005						268.8

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T	B-T
			mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W8	25/07/2010	P	120	1400	7.65	7.89	1527	1500	1.01		74.1		748	682	200	7.8	0.34	160	1.4	1.9	106	12.5	3.57	<0.0005	0.0009	0.261	<0.0002	<0.001	<0.1
W8	02/08/2010	P	19	1400	7.5	7.99	1580	1580	2.24		80.3		730	747	210	7.8	0.29	160	0.9	0.009	116	12.4	0.51	<0.0005	<0.0004	0.222	<0.0002	<0.001	<0.1
W8	09/08/2010	P	660	1200	7.56	8.15	1554	1580	0.83		77.8		1220	737	230	8.9	0.25	230	0.46	0.61	103	12	65.4	0.0008	0.0212	1.27	0.0024	0.001	<0.1
W8	15/08/2010	P	19	1200	7.61	8.13	1573	1570	0.57		82.4		735	741	230	9.4	0.24	250	0.48	1.24	97	11.9	0.376	<0.0005	0.0004	0.223	<0.0002	<0.001	<0.1
W8	22/08/2010	P	82	1400	7.97	8.23	1276		1.29		90.5		709	785	180	8.7	0.33	250	0.62	0.64	99	14.7	2.05	<0.0005	0.0007	0.267	<0.0002	<0.001	<0.1
W8	29/08/2010	P	30	450	7.97	7.76	692	708	7.97		72.7		162	163	120	16	1.67	130	0.24	0.407	16.1	11.8	0.94	<0.0005	0.0006	0.115	<0.0002	<0.001	<0.1
W8	05/09/2010	P	110	1000	7.65	7.93	1370	1350	1.41		72.1		636	622	230	7.2	0.37	200	0.72	0.62	72	12.9	2.03	<0.0005	0.0005	0.216	<0.0002	<0.001	<0.1
W8	09/09/2010	P	55	1200	7.92	7.94	1340	1390	1.18		83.7		661	646	220	6.6	0.32	200	0.53	0.369	70	11	1.55	<0.0005	<0.0004	0.227	<0.0002	<0.001	<0.1
W8	16/09/2010	P	42	920	7.55	8.19	1335	1330	0.29		108.3		711	606	220	6.3	0.29	190	0.54	0.337	69	11.4	1.18	<0.0005	0.0005	0.216	<0.0002	<0.001	<0.1
W8	23/09/2010	P	32	1000	7.63	7.97	1284	1270	0		86.1		611	586	240	6.9	0.29	180	0.64	0.361	60	12.6	0.826	<0.0005	0.0006	0.199	<0.0002	<0.001	<0.1
W8	07/10/2010	P	68	920	7.61	8.15	847	1230	-0.13		94.1		575	562	240	6.5	0.29	200	0.57	0.331	59	11	1.56	<0.0005	0.0006	0.195	<0.0001	<0.001	0.065
W8	01/04/2011	P	7	450		7.87		812					222	213	130	29	1.43	110	1.1	0.83	26.3	11.6	0.202	<0.0005	0.0004	0.126	<0.0001	<0.001	0.089
W8	07/04/2011	P	3	550		7.86		864					229	229	140	28	1.5	120	1.5	0.63	31	7.2	0.133	<0.0005	0.0005	0.134	<0.0001	<0.001	0.078
W8	21/04/2011	P	150	390		8.15		655					345	276	180	2.7	0.42	74	0.094	0.177	19.2	6.5	4.4	<0.0005	0.0007	0.153	<0.0001	<0.001	<0.05
W8	30/04/2011	P	16	780		8.24		1140					522	558	330	7.8	0.38	180	0.161	0.499	27.9	15	0.168	<0.0005	0.0005	0.108	<0.0001	<0.001	<0.05
W8	06/05/2011	P	56	320		8.04		522					237	243	200	2.8	0.37	65	0.042	0.03	5.1		0.97	<0.0005	0.0007	0.077	<0.0001	<0.001	<0.05
W8	13/05/2011	P	9	530		8.08							315	505	190	4.3	0.47	120	0.41	0.177	41	15.4	0.028	<0.0005	0.0003	0.08	<0.0001	<0.001	<0.05
W8	20/05/2011	P	12	260		8.05		457					176	178	140	3.2	0.34	57	0.802	0.109	8.5	10.1	0.268	<0.0005	0.0004	0.08	<0.0001	<0.001	<0.05
W8	25/05/2011	P	21	940		8.1		1310					756	655	350	8.7	0.33	190	0.141	0.265	46	22.9	0.008	<0.0005	0.0007	0.158	<0.0001	<0.001	0.076
W8	10/06/2011	P	70	1000		8.24		1340					810	663	360	7.7	0.33	190	0.124	0.159	50	17.9	0.217	<0.0005	0.0007	0.158	<0.0001	<0.001	0.055
W8	17/06/2011	P	3	500		8		834					423	391	370					0.03	6	9.7	0.077	<0.0005	0.0005	0.114	<0.0001	<0.001	<0.05
W8	24/06/2011	P	46	870		8.06		1170					538	589	220			150	0.227	0.122	53		0.938	<0.0005	0.0005	0.145	<0.0001	<0.001	0.064
W8	30/06/2011	P	15	790		7.87		1010					482	495	210			150	0.135	0.108	53		0.206	<0.0005	0.0004	0.123	<0.0001	<0.001	0.061
W8	08/07/2011	P	33	820		7.91		1110					531	555	220			150	0.005	0.102	53	9.3	0.749	<0.0005	0.0006	0.14	<0.0001	<0.001	0.073
W8	15/07/2011	P	87	910		7.92		1220					592	550	210	6.3	0.33	200	0.11	0.087	59	9.6	1.98	<0.0005	0.0007	0.172	<0.0001	<0.001	0.054
W8	21/07/2011	P	130	800		7.91		1110					644	492	210			160	0.044	0.068	56	9.6	7.21	<0.0005	0.0013	0.263	0.0002	<0.001	0.074
W8	31/07/2011	P	64	1000		8.11		1320					663	657	240			190	0.083	0.087	67	15	0.28	<0.0005	0.0004	0.171	<0.0001	<0.001	0.063
W8	05/08/2011	P	2	1000		7.94		1350					659	642	230			190	0.12	0.095	69	11.3	0.045	<0.0005	0.0005	0.173	<0.0001	<0.001	0.054
W8	08/08/2011	P	24	1100		7.96		1240					566	649	220				0.071	0.09	23	10.1	0.858	<0.0005	0.0005	0.157	<0.0001	<0.001	0.051
W8	09/08/2011	P	7	1200		7.79		1290					642	679	220				0.07	0.103	48	10.4	0.484	<0.0005	0.0004	0.169	<0.0001	<0.001	0.051
W8	10/08/2011	P	98	1100		8.02		1370					613	645	230					0.112	86	10.5	0.477	<0.0005	0.0005	0.16	<0.0001	<0.001	0.06
W8	11/08/2011	P	15	950		8.2		1210					548	524	220					0.088	63	10.5	0.501	<0.0005	0.0004	0.145	<0.0001	<0.001	0.055
W8	12/08/2011	P	24	1100		8.21		1210					539	575	220				0.112	0.094	68	11	0.321	<0.0005	0.0004	0.142	<0.0001	<0.001	0.058
W8	13/08/2011	P	23	150		8.04		216					104	108	98				0.011	0.028	0.06	8.4	1.48	<0.0005	0.0007	0.075	<0.0001	<0.001	<0.05
W8	14/08/2011	P	43	1000		7.92		1210					540	552	230				0.09	0.102	69	11	0.68	<0.0005	0.0005	0.144	<0.0001	<0.001	0.051
W8	15/08/2011	P	56	1100		8		1230					565	579	230				0.095	0.094	69	<0.5	2.34	<0.0005	0.0008	0.174	<0.0001	<0.001	0.052
W8	16/08/2011	P	13	1100		7.95		1290					574	590	230				0.067	0.121	72	10.5	0.415	<0.0005	0.0005	0.152	<0.0001	<0.001	0.057
W8	17/08/2011	P	6	1100		8.09		1350					584	607	230				0.085	0.134	74	10.7	0.31	<0.0005	0.0004	0.156	<0.0001	<0.001	0.055
W8	18/08/2011	P	14	1100		7.97		1370					619	633	240				0.079	0.141	75	11	0.17	<0.0005	0.0004	0.168	<0.0001	<0.001	0.061
W8	19/08/2011	P	6	560		8.02		804					383	382	310				0.026	0.014	10.5	11.1	0.152	<0.0005	0.0005	0.099	<0.0001	<0.001	<0.05
W8	20/08/2011	P	18	1100		8.01		1410					651	675	250				0.087	0.175	80	12.3	0.311	<0.0005	0.0005	0.167	<0.0001	<0.001	0.053
W8	21/08/2011	P	6	1100		8.1		1430					689	712	260				0.098	0.178	82	12	0.285	<0.0005	0.0009	0.169	<0.0001	<0.001	0.063
W8	27/08/2011	P	7	1200		7.94		1460					689	751	270			180	0.108	0.171	83	11.5	0.034	<0.0005	0.0005	0.18	<0.0001	<0.001	0.059
W8	10/09/2011	P	21	1100	7.38	7.95	1387	1450	0.2	17.37	120		692	887	240	9.8			0.118	0.083	80	9.4	0.562	<0.0005	0.0004	0.181	<0.0001	<0.001	0.053
W8	16/09/2011	P	130	1200	7.71		794.9		1.3	13.52	96.1		679	726					0.11				413	<0.5	0.5	177	<0.1	<1	0.054
W8	23/09/2011	P	15	1200	7.62	8.01	1433	1480	0.3	11.9	82.9		675	780	300	9		230	0.071	0.083	74		0.531	<0.0005	0.0005	0.201	<0.0001	<0.001	0.064
W8	30/09/2011	P	80	1100	7.41	7.96	1602	1520	0	11.74	90		725	786	320	9.4		230	0.06	0.076	67	14.4	1.73	<0.0005	0.0007	0.224	<0.0001	<0.001	0.053
W8	29/10/2013 14:55	P	176	1660	7.64	8.08	1174	1920	0.5	2.02	14	108.4	1150	1090	459	210	0.32	255	2.1	3.62	8.16		2.92	<0.00050	0.00122	0.219	0.00011	<0.0010	0.074
W8	07/11/2013 9:30	P	140	1680	7.02	8.14	1018	2140	-0.1	3.04	20.9	164.0	1180	1140	542	210	0.37	275	1.9	4.14	7.51		1.65	<0.00050	0.00122	0.189	<0.00010	<0.0010	0.064
W8	15/11/2013 8:15	P	134	1550	7.78	8.13	820	2110	0	6.09	42.3	155.7	1200	1110	542	210	0.4	307	2.3	3.99	6.28		2.76	<0.00050	0.00163	0.226	0.00013	<0.0010	0.06
W8	29/11/2013 15:10	P		1310	7.70	7.99	1829	2240	0				1200	1280		200	0.4	310	2.3	4.5	5.23		0.558	<0.00050	0.00134	0.167	<0.00010	<0.0010	0.064
W8A	03/05/2008	M												57									0.69	<0.0002	<0.0002	0.049	<0.00004		<0.005
W8A	07/05/2008	M											94										3.43	<0.0002	0.0019	0.099	0.00012		<0.005
W8A	01/05/2009	M			7.1		310		0.4																				
W8A	02/05/2009	M	6540	254		7.45		343						156	212	1.4		24.7					151	<0.001	0.015	2.5	0.0048	0.004	0.03
W8A	10/05/2009	M	311	308		7.76		415						191	195	1.6				0.106	1.58		44.2	<0.0004	0.0046	0.67	0.001	<0.001	0.027
W8A	28/05/2009	M	146	476	7.44	7.92	752	690	1.7					336	328	1.04		54.3					10.7	<0.001	0.002	0.32	0.00056	<0.0005	<0.02
W8A	04/06/2009	M	502	658	7.69	7.86	970	925	1.4					406	192	5		114					19	<0.0002	0.0011	0.357	0.00022	0.0003	0.107
W8A	07/06/2009	M	11	578		8.09		807						401	227	3.75		103					0.268	<0.0002	0.0007	0.144	<0.00004	<0.0001	0.078
W8A	10/06/2009	M	127	758	7.76	7.8	1068	994	1.4					454	190	5.8		138					2.39	<0.0002	0.0009	0.176	0.00009	<0.0001	0.11
W8A	16/06/2009	M			7.98		770		3																				
W8A	29/06/2009	M	10	514	8	7.98	758	725	4.4					359	219	3.34		93					0.31	<0.0002	0.0005	0.13	<0.00004	<0.0001	0.065
W8A	06/07/2009	M			8.13		834		5.2																				
W8A	13/07/2009	M	4	<5	6.87	8.18	714	684	4.3					334	228	4.01		67.6					0.069	<0.0002	0.0003	0.125	<0.00004	<0.0001	0.046
W8A	27/07/2009	M	6	498		8.32	754	745	7.54					398	332	0.64		66.4					0.179	<0.0002	0.001	0.126	<0.00004	<0.001	0.032

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W8	25/07/2010	0.0003	223	<0.002	0.0032	0.293	6.75	0.0007	<0.01	46	1.37	<0.0002	0.015	0.007		12	0.009	13.4	0.0002	28	2.14	69	<0.00005	<0.005	0.228	0.0018
W8	02/08/2010	0.0001	222	<0.002	0.0012	0.131	1.13	<0.0002	<0.01	43	0.919	<0.0002	0.009	0.003		9	0.0079	8.26	<0.0001	28	1.98	62	<0.00005	<0.005	0.027	0.0016
W8	09/08/2010	0.0035	327	0.11	0.0656	6.08	183	0.0287	0.047	97	6.11	0.0003	0.01	0.104		38	0.0123	89.4	0.0039	32	2.38	82	0.0011	<0.005	3.85	0.0044
W8	15/08/2010	0.0002	222	<0.002	0.0012	0.159	0.916	<0.0002	<0.01	44	1.02	<0.0002	0.007	0.002		8	0.0093	7.74	<0.0001	29	1.89	75	<0.00005	<0.005	0.028	0.0018
W8	22/08/2010	0.0002	216	0.002	0.0025	0.265	5.08	0.0005	<0.01	41	1.03	<0.0002	0.013	0.003		10	0.0131	10.2	0.0002	27	1.96	80	<0.00005	<0.005	0.165	0.0015
W8	29/08/2010	<0.0001	45	<0.002	<0.0005	0.07	0.831	0.0004	0.015	12	0.195	<0.0002	0.056	0.001		34	0.0136	4.31	<0.0001	51	2.14	<60	<0.00005	<0.005	0.019	0.0007
W8	05/09/2010	0.0002	187	<0.002	0.0021	0.271	4.24	0.0005	<0.01	41	0.846	<0.0002	0.018	0.002		9	0.0129	10.2	0.0002	26	1.94	78	<0.00005	<0.005	0.149	0.0024
W8	09/09/2010	0.0002	200	<0.002	0.0019	0.321	3.49	0.0005	<0.01	40	0.892	<0.0002	0.013	0.002		9	0.014	10	0.0002	26	1.9	78	<0.00005	<0.005	0.109	0.0022
W8	16/09/2010	0.0002	215	<0.002	0.0014	0.291	2.36	0.0003	<0.01	42	0.955	<0.0002	0.008	0.002		9	0.0125	10.3	0.0001	29	1.65	87	<0.00005	<0.005	0.074	0.0021
W8	23/09/2010	0.0002	185	<0.002	0.0013	0.203	1.96	0.0002	<0.01	36	0.941	<0.0002	0.009	0.002		7	0.0124	8.53	<0.0001	25	1.66	70	<0.00005	<0.005	0.06	0.0021
W8	07/10/2010	0.00019	174	<0.001	0.0018	0.267	3.31	0.0005	<0.005	34.5	1.1	0.00003	0.009	0.002		7.83	0.0126	10	0.00013	24.2	1.62	70	<0.00005	<0.005	0.116	0.0022
W8	01/04/2011	0.00005	63.9	<0.001	<0.0005	0.037	0.394	<0.0002	0.014	15.1	0.564	<0.00002	0.059	<0.001	0.026	20.7	0.0124	4.36	0.00002	62.8	1.48	36	<0.00005	<0.005	<0.005	0.0009
W8	07/04/2011	0.00005	63.2	<0.001	0.0005	0.0286	0.321	<0.0002	0.014	17.4	0.638	<0.00002	0.067	0.001	0.017	25.9	0.0154	4.07	<0.00002	63.1	1.67	39	<0.00005	<0.005	<0.005	0.0012
W8	21/04/2011	0.00044	89.5	0.001	0.0023	1.56	7.77	0.0022	0.006	29.6	0.462	<0.00002	0.017	0.001	0.4	6.77	0.0046	12.7	0.0012	17.1	1.39	24	<0.00005	<0.005	0.218	0.0017
W8	30/04/2011	0.00016	150	<0.001	0.0007	0.25	0.315	<0.0002	<0.005	36	1.41	<0.00002	0.015	0.002	0.056	6.09	0.0039	5.88	0.00004	22.9	1.71	61	<0.00005	<0.005	0.008	0.003
W8	06/05/2011	0.00008	58	0.001	0.0007	0.156	1.57	0.0005	0.009	22.3	0.206	<0.00002	0.009	0.002	0.068	4	0.0019	6.5	0.0001	16.6	0.689	19	<0.00005	<0.005	0.048	0.0023
W8	13/05/2011	0.00015	88.1	<0.001	<0.0005	0.0966	0.054	<0.0002	<0.005	23	0.332	<0.00002	0.014	0.003	0.034	5.18	0.0155	3.98	<0.00002	15	1.1	37	<0.00005	<0.005	<0.005	0.0019
W8	20/05/2011	0.00009	47.3	<0.001	0.0012	0.155	0.65	<0.0002	<0.005	14	2.06	<0.00002	0.019	0.002	0.12	6.34	0.0012	3.31	0.00007	12.6	0.656	18	<0.00005	<0.005	0.015	0.0013
W8	25/05/2011	0.00013	221	<0.001	0.0008	0.217	0.063	<0.0002	<0.005	49.5	1.9	<0.00002	0.013	0.002	0.035	7.9	0.0059	8.01	0.00002	29.7	2.08	80	<0.00005	<0.005	<0.005	0.0039
W8	10/06/2011	0.0002	236	<0.001	0.001	0.216	0.581	0.0002	<0.005	53.9	1.74	<0.00002	0.014	0.003	0.054	8.58	0.0055	8.65	0.00005	31.8	2.21	83	<0.00005	<0.005	0.016	0.0042
W8	17/06/2011	0.00021	92.1	<0.001	0.0005	0.179	0.365	<0.0002	0.007	46.9	0.887	<0.00002	0.007	0.002	0.036	5.21	0.002	7.64	0.00003	29.2	1.18	26	<0.00005	<0.005	<0.005	0.0026
W8	24/06/2011	0.00014	162	<0.001	0.001	0.185	2.27	0.0003	<0.005	32.4	0.45	<0.00002	0.01	0.001	0.101	7.11	0.0135	8.88	0.00009	22.5	1.42	54	<0.00005	<0.005	0.069	0.0022
W8	30/06/2011	0.00009	146	<0.001	<0.0005	0.12	0.47	<0.0002	<0.005	28.3	0.396	<0.00002	0.013	<0.001	0.048	6.91	0.0133	6.87	0.00003	21.7	1.38	54	<0.00005	<0.005	0.013	0.0025
W8	08/07/2011	0.0001	158	<0.001	0.0009	0.161	1.59	0.0004	<0.005	33	0.514	<0.00002	0.011	0.001	0.053	7.57	0.0118	8.34	0.00006	22.6	1.51	57	<0.00005	<0.005	0.048	0.0028
W8	15/07/2011	0.00022	180	0.001	0.0017	0.302	4.54	0.0007	<0.005	34.6	0.796	<0.00002	0.011	0.002	0.126	9.3	0.0112	10.6	0.00014	26.3	1.63	81	<0.00005	<0.005	0.148	0.0019
W8	21/07/2011	0.00043	195	0.005	0.0062	0.887	20.1	0.0019	0.006	38.2	1.05	<0.00005	0.011	0.004		11.3	0.0144	23.4	0.00047	25.2	1.58	64	0.00012	<0.005	0.666	0.0029
W8	31/07/2011	0.00014	201	<0.001	0.0009	0.164	0.674	0.0002	<0.005	38.9	0.839	<0.00002	0.006	0.002	0.054	7.71	0.0135	7.88	<0.00002	26.1	1.7	78	<0.00005	<0.005	0.026	0.0026
W8	05/08/2011	0.00009	194	<0.001	0.0007	0.126	0.112	<0.0002	<0.005	42.3	0.796	<0.00002	0.007	0.001	0.031	8.14	0.0129	6.96	<0.00002	29.6	1.78	84	<0.00005	<0.005	<0.005	0.0027
W8	08/08/2011	0.00013	170	<0.001	0.001	0.188	1.79	0.0003	<0.005	34.5	0.621	<0.00002	0.008	0.001	0.053	7.55	0.0106	8.02	0.00007	23.6	1.64	64	<0.00005	<0.005	0.056	0.0027
W8	09/08/2011	0.00013	197	<0.001	0.0009	0.142	1.47	<0.0002	<0.005	36.2	0.689	<0.00002	0.007	0.001	0.033	7.59	0.0119	8.4	0.00005	24.7	1.67	70	<0.00005	<0.005	0.054	0.0025
W8	10/08/2011	0.00013	186	<0.001	0.0009	0.165	1.1	0.0002	<0.005	36	0.776	<0.00002	0.007	0.002	0.047	7.14	0.0137	7.58	0.00004	24.4	1.62	70	<0.00005	<0.005	0.038	0.0025
W8	11/08/2011	0.0001	163	<0.001	0.0007	0.153	0.913	<0.0002	<0.005	34	0.496	<0.00002	0.008	0.001	0.032	7.02	0.0123	7.77	0.00004	22.7	1.63	58	<0.00005	<0.005	0.024	0.0028
W8	12/08/2011	0.00011	164	<0.001	0.0007	0.14	0.519	<0.0002	<0.005	31.7	0.517	<0.00002	0.007	0.001	0.025	6.66	0.0117	7.33	0.00003	21.6	1.55	58	<0.00005	<0.005	0.019	0.0023
W8	13/08/2011	0.00003	31.6	<0.001	0.0011	0.134	2.75	0.0005	<0.005	6.04	0.224	<0.00002	0.002	0.001	0.113	1.67	<0.0001	9.49	0.00007	3.2	0.155	<3	<0.00005	<0.005	0.11	0.0003
W8	14/08/2011	0.00009	164	<0.001	0.0009	0.182	1.2	0.0003	<0.005	31.9	0.533	<0.00002	0.007	0.001	0.031	6.75	0.0123	8.02	0.00005	21.7	1.55	54	<0.00005	<0.005	0.036	0.0025
W8	15/08/2011	0.00019	173	0.002	0.0022	0.322	5.59	0.0008	<0.005	32.5	0.682	<0.00002	0.008	0.003	0.153	7.55	0.0128	11.3	0.00017	20.7	1.53	62	<0.00005	<0.005	0.183	0.0026
W8	16/08/2011	0.00014	175	<0.001	0.0008	0.17	0.834	0.0003	<0.005	33.4	0.67	<0.00002	0.006	0.002	0.035	6.95	0.013	7.27	0.00003	22.6	1.56	66	<0.00005	<0.005	0.024	0.0023
W8	17/08/2011	0.00013	178	<0.001	0.0007	0.152	0.607	<0.0002	<0.005	33.6	0.681	<0.00002	0.006	0.002	0.029	6.74	0.0128	6.93	0.00004	22.4	1.61	65	<0.00005	<0.005	0.017	0.0024
W8	18/08/2011	0.00017	182	<0.001	0.0008	0.143	0.336	0.001	<0.005	40.2	0.765	<0.00002	0.006	0.002	0.027	7.56	0.0129	6.8	0.00002	27.4	1.75	70	<0.00005	<0.005	0.01	0.0025
W8	19/08/2011	0.00026	91.1	<0.001	<0.0005	0.15	0.315	0.0002	0.006	37.7	0.357	<0.00002	0.006	0.003	0.036	4.81	0.0051	7.47	0.00003	25.2	1.05	32	<0.00005	<0.005	0.006	0.0024
W8	20/08/2011	0.00015	196	<0.001	0.0008	0.149	0.709	<0.0002	<0.005	39.1	0.82	<0.00002	0.006	0.002	0.039	7.17	0.0123	7.46	0.00003	24.9	1.73	74	<0.00005	<0.005	0.021	0.0025
W8	21/08/2011	0.00015	208	<0.001	0.0009	0.16	0.743	<0.0002	<0.005	41.3	0.867	<0.00002	0.006	0.002	0.039	7.57	0.013	7.49	0.00003	26.2	1.75	77	<0.00005	<0.005	0.024	0.0025
W8	27/08/2011	0.00015	207	0.009	0.0007	0.147	0.157	<0.0002	<0.005	41.8	0.895	<0.00002	0.006	0.002		6.99	0.0123	7.14	<0.00002	25.9	1.79	76	<0.00005	<0.005	<0.005	0.0028
W8	10/09/2011	0.00017	209	<0.001	0.0008	0.19	1.27	0.0002	<0.005	41.3	0.763	<0.00002	0.006	0.002	0.059	7.59	0.0144	7.66	0.00007	27.5	1.74	85	<0.00005	<0.005	0.046	0.0026
W8	16/09/2011	0.2	207	High DL removed	0.7	170	1010	0.3	<0.005	39.2	879	<0.00002	6	2	47	7.61	12.4	7.27	0.05	25.9	1730	77	<0.05	<5	31	0.0025
W8	23/09/2011	0.00026	196	<0.001	0.0009	0.289	1.3	0.0003	<0.005	45.1	1.06	<0.00002	0.006	0.002	0.083	7.95	0.0111	6.81	0.00007	29.8	2.03	84	<0.00005	<0.005	0.051	0.0032
W8	30/09/2011	0.00028	214	0.002	0.0017	0.31	4.05	0.0005	<0.005	46.2	1.04	<0.00002	0.006	0.003	0.122	8.19	0.0103	11.1	0.00015	29	1.83	83	<0.00005	<0.005	0.14	0.0032
W8	29/10/2013 14:55	0.00013	306	0.0026	0.0101	0.655	7.55	0.00247	0.0178	92.7	2.85	<0.000010	0.0259	0.0044	0.405	11.5	0.00288	10.4	0.000303	48.8	2.95	101	0.000136	<0.0050	0.189	0.00284
W8	07/11/2013 9:30	0.00008	319	0.0018	0.00988	0.279	4.4	0.00157	0.0172	93.2	2.97	<0.000010	0.0283	0.0041	0.192	11.6	0.0028	10.1	0.000399	48.6	3.36	115	0.000107	<0.0050	0.113	0.00329
W8	15/11/2013 8:15	0.000117	323	0.0026	0.012	0.459	9.52	0.00264	0.0193	96.4	3.4	<0.000010	0.0268	0.0058	0.486	13.5	0.00274	11	0.000194	52.5	3.21	113	0.000146	<0.0050	0.226	0.00382
W8	29/11/2013 15:10	0.000052	320	0.0016	0.0104	0.283	3.29	0.00114	0.0182	96.9	3.4	<0.000010	0.0293	0.0058		12.2	0.00305	7.34	0.000161	51.3	3.35	117	0.000108	<0.0050	0.0437	0.00351
W8A	03/05/2008	<0.00007	12.4	0.0024	0.00047	0.03	0.96	0.0005	0.002	6.89	0.0514	0.00002	0.00034	0.008	0.09	1.97	<0.0006	1.8	<0.0001	4.6	0.124		<0.00001	<0.0001	0.0296	<0.0005
W8A	07/05/2008	<0.00007	20.3	0.0057	0.0017	0.053	4.82	0.0018	0.004	10.6	0.105	0.00002	0.00058	0.042	0.13	3.55	<0.0006	6.16	<0.0001	7.7	0.182		0.00003	<0.0001	0.12	<0.0005
W8A	01/05/2009																									
W8A	02/05/2009	0.00464	133	0.0854	0.088	30	365	0.043	0.074	99.6	6.78	0.00021	0.0142	0.32	3.55	60.2	0.0077	148	0.0121	26.4	1.45	14	0.00135	0.001	5.74	0.004
W8A	10/05/2009	0.00093	62.8	0.0234	0.022	5.85	64.6	0.0092	0.022	31.1	1.58	<0.0001	0.02	0.015	0.96	18	0.003	42.3	0.00485	20.7	1.18	10	0.00033	<0.002	2.11	0.002
W8A	28/05/2009	0.0115	75.6	0.0067	0.0057	1.63	18.3	0.004	0.01	45.9	1.33	0.00003	0.00884	0.005	0.21	11	<0.003	38.7	<0.00005	28.1	1.08	18	0.00011	0.0006	0.632	0.002
W8A	04/06/2009	0.00059	141	0.007	0.00842	1.79	28.2	0.003	0.008	30.8	1.02	0.00004	0.00718	0.006	0.47	12.1	0.0062	23.5	0.00055	22.9	1.36	38.9	0.00017	0.0002	0.732	0.0015
W8A	07/06/2009	0.00007	117	0.0007	0.00104	0.101	0.72	<0.0001	0.003	26.9	0.696	<0.00001	0.0079	0.002	0.056	5.6	0.0031	7.2	0.00012	22.2	1.13	34.5	<0.00001	<0.0001	0.0176	0.0017
W8A	10/06/2009	0.00029	147	0.0019	0.00267	0.91	6.12	0.0011	0.004	26	0.508		0.00862	0.003	0.171	7.2	0.0077	9.52	0.00015	21.9	1.39	44.1	0.00003	<0.0001	0.142	0.0017
W8A	16/06/2009																									
W8A	29/06/2009	0.00006	101	0.0007	0.00088	0.123	0.86	0.0001	0.003	25.4	0.727	0.00001	0.00847	0.002	0.372	5.7	0.0028	7.05	0.00034	21.6	1.1	30.9	<0.00001	<0.0001	0.0148	0.0017
W8A	06/07/2009																									
W8A	13/07/2009	0.00003	90.7	0.0005	0.00072	0.077	0.34	<0.0001	0.002	24.3	0.771	<0.00001	0.00645	0.002	<0.01	4.8	<0.0006	6.1	0.00013	20.1	0.882	24.7	<0.00001	<0.0001	0.0044	0.0014
W8A	27/07/2009	0.00004	87.8	0.0012	0.00073	0.109	0.864	0.0006	0.006	45.5	0.972	<0.00001	0.0081	0.002	0.041	6.1	0.0008	8.14	0.0001	27.8	1.09	23.8	<0.00001	<0.0001	0.014	0.0024

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W8	25/07/2010	0.011	0.036	<0.002	<0.01	<0.0005	0.0004	0.205	<0.0002	<0.001	<0.1	0.0002	207	<0.002	0.0013	0.073	0.069	<0.0002	<0.01	40	1.16	0.0002	0.015	0.002		10
W8	02/08/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	0.0004	0.22	<0.0002	<0.001	<0.1	0.0001	225	<0.002	0.001	0.075	0.028	<0.0002	<0.01	45	0.95	<0.0002	0.009	0.002		10
W8	09/08/2010	0.296	0.823	0.007	<0.01	<0.0005	<0.0004	0.217	<0.0002	<0.001	<0.1	0.0002	225	<0.002	0.0009	0.096	<0.02	<0.0002	<0.01	43	1	<0.0002	0.008	0.002		9
W8	15/08/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	0.0005	0.212	<0.0002	<0.001	<0.1	0.0002	224	<0.002	0.0011	0.121	0.037	<0.0002	<0.01	44	1.02	<0.0002	0.008	0.007		8
W8	22/08/2010	0.009	0.03	<0.002	0.011	<0.0005	0.0005	0.213	<0.0002	<0.001	<0.1	0.0002	244	<0.002	0.001	0.08	0.054	<0.0002	<0.01	43	0.936	<0.0002	0.012	0.001		9
W8	29/08/2010	<0.005	<0.01	<0.002	0.1	<0.0005	0.0005	0.087	<0.0002	<0.001	<0.1	<0.0001	46	<0.002	<0.0005	0.008	<0.02	<0.0002	0.015	12	0.157	<0.0002	0.057	<0.001		32
W8	05/09/2010	0.007	0.024	<0.002	<0.01	0.001	0.0006	0.179	<0.0002	<0.001	<0.1	0.0001	188	<0.002	0.0007	0.082	0.032	<0.0002	<0.01	37	0.719	0.0002	0.018	0.003		8
W8	09/09/2010	0.006	0.02	<0.002	0.011	<0.0005	0.0004	0.186	<0.0002	<0.001	<0.1	0.0002	195	<0.002	0.0008	0.094	0.173	<0.0002	<0.01	39	0.815	<0.0002	0.011	0.002		8
W8	16/09/2010	<0.005	0.014	<0.002	<0.01	<0.0005	<0.0004	0.185	<0.0002	<0.001	<0.1	0.0002	184	<0.002	0.0007	0.115	<0.02	<0.0002	<0.01	35	0.778	<0.0002	0.007	0.004		7
W8	23/09/2010	<0.005	0.013	<0.002	<0.01	<0.0005	<0.0004	0.172	<0.0002	<0.001	<0.1	0.0001	177	<0.002	0.0007	0.1	0.021	<0.0002	<0.01	35	0.832	<0.0002	0.009	0.001		7
W8	07/10/2010	0.006	0.02	<0.0005	0.008	<0.0005	0.0005	0.171	<0.0001	<0.001	0.071	0.00017	171	<0.001	0.0008	0.112	0.022	<0.0002	<0.005	33.1	0.985	<0.00002	0.009	0.001		6.92
W8	01/04/2011	<0.005	0.009	<0.0005	0.012	<0.0005	0.0005	0.125	<0.0001	<0.001	0.092	0.00006	61.4	<0.001	<0.0005	0.014	0.055	<0.0002	0.015	14.5	0.558	<0.00002	0.063	<0.001	<0.01	18.9
W8	07/04/2011	<0.005	<0.005	<0.0005	0.077	<0.0005	0.0005	0.128	<0.0001	<0.001	0.09	0.00006	65	<0.001	<0.0005	0.0132	0.042	<0.0002	0.014	16.2	0.621	<0.00002	0.064	<0.001	<0.01	25.9
W8	21/04/2011	0.015	0.043	<0.0005	0.006	<0.0005	0.0002	0.09	<0.0001	<0.001	<0.05	0.00009	70.5	<0.001	<0.0005	0.0791	0.019	<0.0002	<0.005	24.4	0.241	<0.00002	0.014	<0.001	0.025	5.24
W8	30/04/2011	<0.005	<0.005	<0.0005	0.004	<0.0005	0.0005	0.107	<0.0001	<0.001	<0.05	0.00018	163	<0.001	0.0007	0.207	0.056	<0.0002	<0.005	36.7	1.48	<0.00002	0.013	0.002	0.025	6.14
W8	06/05/2011	<0.005	0.008	<0.0005	0.013	<0.0005	0.0004	0.064	<0.0001	<0.001	<0.05	0.00003	59.8	<0.001	<0.0005	0.0887	0.05	<0.0002	<0.005	22.7	0.168	<0.00002	0.008	<0.001	0.018	3.79
W8	13/05/2011	<0.005	<0.005	<0.0005	0.144	<0.0005	0.0004	0.109	<0.0001	<0.001	0.052	0.00022	139	<0.001	<0.0005	0.323	0.344	<0.0002	0.005	38.6	0.543	<0.00002	0.018	<0.001	0.073	7.31
W8	20/05/2011	<0.005	<0.005	<0.0005	0.007	<0.0005	0.0003	0.076	<0.0001	<0.001	<0.05	0.00006	48.6	<0.001	0.001	0.0566	0.062	<0.0002	<0.005	13.8	1.98	<0.00002	0.018	0.002	0.03	6.44
W8	25/05/2011	<0.005	<0.005	<0.0005	0.005	<0.0005	0.0006	0.147	<0.0001	<0.001	0.072	0.00012	189	<0.001	0.0008	0.195	0.042	<0.0002	<0.005	44.3	1.7	<0.00002	0.013	0.002	0.02	6.95
W8	10/06/2011	<0.005	0.007	<0.0005	0.005	<0.0005	0.0005	0.143	<0.0001	<0.001	<0.05	0.00012	194	<0.001	0.0006	0.154	0.052	<0.0002	<0.005	43.3	1.35	<0.00002	0.013	0.003	0.019	7.14
W8	17/06/2011	<0.005	<0.005	<0.0005	0.006	<0.0005	0.0005	0.11	<0.0001	<0.001	<0.05	0.00016	82	<0.001	<0.0005	0.131	0.106	<0.0002	0.007	45.2	0.847	<0.00002	0.007	0.001	0.022	5.03
W8	24/06/2011	<0.005	0.013	<0.0005	0.034	<0.0005	0.0005	0.138	<0.0001	<0.001	0.065	0.00042	180	<0.001	<0.0005	0.0936	0.106	0.0002	<0.005	34.1	0.426	<0.00002	0.01	0.004	0.027	7.36
W8	30/06/2011	<0.005	0.005	<0.0005	0.005	<0.0005		0.12	<0.0001	<0.001	0.058	0.00007	151	<0.001	<0.0005	0.0751	0.1	<0.0002	<0.005	28.5	0.401	<0.00002	0.011	<0.001	0.024	6.7
W8	08/07/2011	<0.005	0.011	<0.0005	0.013	<0.0005	0.0004	0.129	<0.0001	<0.001	0.067	0.00014	169	<0.001	<0.0005	0.0872	0.033	<0.0002	<0.005	32.3	0.479	<0.00002	0.01	0.002	0.02	7.33
W8	15/07/2011	0.008	0.025	<0.0005	0.007	<0.0005	0.0003	0.149	<0.0001	<0.001	0.071	0.00013	161	<0.001	<0.0005	0.0986	0.027	<0.0002	<0.005	35.7	0.607	<0.00002	0.01	0.001	0.02	8.48
W8	21/07/2011	0.035	0.09	<0.0005	0.008	<0.0005	0.0003	0.114	<0.0001	<0.001	0.056	0.00009	148	<0.001	<0.0005	0.098	0.014	<0.0002	<0.005	29.5	0.4	<0.00005	0.01	<0.001		6.53
W8	31/07/2011	<0.005	0.009	<0.0005	0.01	<0.0005	0.0004	0.162	<0.0001	<0.001	0.067	0.00013	198	<0.001	0.0006	0.127	0.045	<0.0002	<0.005	39.2	0.865	<0.00002	0.006	0.001	0.017	7.74
W8	05/08/2011	<0.005	<0.005	<0.0005	0.016	<0.0005	0.0004	0.155	<0.0001	<0.001	0.059	0.00012	193	<0.001	0.0006	0.113	0.052	0.0002	<0.005	39	0.755	<0.00002	0.006	0.002	0.015	7.23
W8	08/08/2011	<0.005	0.008	<0.0005	0.013	<0.0005	0.0003	0.147	<0.0001	<0.001	0.062	0.00012	201	<0.001	0.0005	0.106	0.023	<0.0002	<0.005	36.1	0.569	<0.00002	0.007	0.001	0.012	7.03
W8	09/08/2011	<0.005	0.007	<0.0005	0.02	<0.0005	0.0004	0.151	<0.0001	<0.001	0.059	0.00012	212	<0.001	0.0005	0.109	0.062	<0.0002	<0.005	36	0.631	<0.00002	0.006	0.002	0.014	6.97
W8	10/08/2011	<0.005	0.007	<0.0005	0.009	<0.0005	0.0004	0.161	<0.0001	<0.001	0.062	0.00013	196	<0.001	0.0005	0.106	0.034	<0.0002	<0.005	37.7	0.678	<0.00002	0.007	0.002	0.014	6.99
W8	11/08/2011	<0.005	0.005	<0.0005	0.005	<0.0005	0.0004	0.141	<0.0001	<0.001	0.059	0.00009	155	<0.001	<0.0005	0.103	0.016	0.0002	<0.005	33.5	0.486	<0.00002	0.008	<0.001	0.014	7.29
W8	12/08/2011	<0.005	0.005	<0.0005	0.005	<0.0005	0.0005	0.137	<0.0001	<0.001	0.076	0.00011	177	<0.001	<0.0005	0.0999	0.02	<0.0002	0.012	32.7	0.509	<0.00002	0.007	0.001	<0.01	6.78
W8	13/08/2011	0.006	0.017	<0.0005	0.008	<0.0005	0.0004	0.057	<0.0001	<0.001	<0.05	0.00001	33.2	<0.001	<0.0005	0.0226	0.085	<0.0002	<0.005	6.06	0.134	<0.00002	0.003	<0.001	<0.01	1.34
W8	14/08/2011	<0.005	0.007	<0.0005	0.007	<0.0005	0.0004	0.146	<0.0001	<0.001	0.06	0.00011	168	<0.001	0.0012	0.0969	0.374	<0.0002	<0.005	32.1	0.527	<0.00002	0.007	0.001	0.014	7.18
W8	15/08/2011	0.01	0.033	<0.0005	0.011	<0.0005	0.0004	0.145	<0.0001	<0.001	0.058	0.00011	175	<0.001	0.0005	0.158	0.027	<0.0002	<0.005	34.5	0.555	<0.00002	0.006	0.001	0.014	7.68
W8	16/08/2011	<0.005	0.016	<0.0005	0.006	<0.0005	0.0004	0.158	<0.0001	<0.001	0.058	0.00013	177	<0.001	0.0006	0.117	0.025	<0.0002	<0.005	36	0.653	<0.00002	0.006	0.001	0.015	7.14
W8	17/08/2011	<0.005	<0.005	<0.0005	0.006	<0.0005	0.0004	0.15	<0.0001	<0.001	0.06	0.00013	184	<0.001	0.0006	0.115	0.056	<0.0002	<0.005	36	0.691	<0.00002	0.006	0.001	0.011	7.12
W8	18/08/2011	<0.005	0.009	<0.0005	0.007	<0.0005	0.0005	0.161	<0.0001	<0.001	0.063	0.00015	193	<0.001	0.0007	0.128	0.036	<0.0002	<0.005	36.6	0.792	<0.00002	0.006	0.001	0.013	6.9
W8	19/08/2011	<0.005	0.009	<0.0005	0.008	<0.0005	0.0005	0.104	<0.0001	<0.001	<0.05	0.00011	89.5	<0.001	<0.0005	0.133	0.056	<0.0002	0.006	38.5	0.364	<0.00002	0.006	0.001	0.023	4.1
W8	20/08/2011	<0.005	0.013	<0.0005	0.006	<0.0005	0.0004	0.175	<0.0001	<0.001	0.069	0.00014	204	<0.001	0.0006	0.128	0.034	<0.0002	<0.005	40.5	0.819	<0.00002	0.006	0.002	0.016	7.06
W8	21/08/2011	<0.005	0.007	<0.0005	0.01	<0.0005	0.0005	0.176	<0.0001	<0.001	0.053	0.00014	216	<0.001	0.0006	0.131	0.057	<0.0002	<0.005	41.8	0.849	<0.00002	0.006	0.002	0.014	7.62
W8	27/08/2011	<0.005	<0.005	<0.0005	0.005	<0.0005	0.0003	0.186	<0.0001	<0.001	0.052	0.00016	227	<0.001	0.0007	0.137	0.039	<0.0002	<0.005	44.8	0.914	<0.00002	0.005	0.002		7.79
W8	10/09/2011	<0.005	0.008	<0.0005	0.006	<0.0005	0.0003	0.192	<0.0001	<0.001	0.058	0.00017	283	<0.001	<0.0005	0.132	0.045	<0.0002	<0.005	44.1	0.77	<0.00002	0.005	0.001	0.013	8.01
W8	16/09/2011	<5	12	<0.5	0.027	<0.0005	0.0003	0.188	<0.0001	<0.001	0.057	0.00021	220	<0.001	0.0005	0.169	0.084	<0.0002	<0.005	43.1	0.807	<0.00002	0.005	0.002	0.02	7.31
W8	23/09/2011	<0.005	0.012	<0.0005	0.019	<0.0005	0.0004	0.177	<0.0001	<0.001	0.068	0.00023	235	<0.001	0.0006	0.182	0.077	0.0003	<0.005	47.1	0.94	<0.00002	0.006	0.003	0.023	8.11
W8	30/09/2011	0.007	0.024	<0.0005	0.022	<0.0005	0.0004	0.21	<0.0001	<0.001	0.088	0.0002	237	<0.001	0.0006	0.201	0.081	<0.0002	<0.005	46.9	1.04	<0.00002	0.005	0.002	0.011	7.96
W8	29/10/2013 14:55	0.0136	11.5	<0.00050	0.0152	<0.00050	0.00075	0.13	<0.00010	<0.0010	0.068	0.000031	285	<0.0010	0.00869	0.0233	0.347	<0.00020	0.0162	92.9	2.53	<0.000010	0.0272	0.0035	0.017	10.4
W8	07/11/2013 9:30	0.0087	8.89	0.00057	0.0043	<0.00050	0.00083	0.139	<0.00010	<0.0010	0.068	0.000028	304	<0.0010	0.00936	0.0226	0.378	<0.00020	0.0171	92.3	2.81	<0.000010	0.0259	0.0038	0.02	10.7
W8	15/11/2013 8:15	0.0163	12.5	0.00134	<0.0030	<0.00050	0.00148	0.135	<0.00010	<0.0010	0.061	0.000017	292	<0.0010	0.00944	0.0208	0.455	<0.00020	0.0165	92.4	2.95	<0.000010	0.0254	0.004	0.025	11.6
W8	29/11/2013 15:10	0.0054	9.56	<0.00050	0.0043	<0.00050	0.00105	0.148	<0.00010	<0.0010	0.077	0.000028	334	<0.0010	0.0105	0.0166	0.826	<0.00020	0.0191	108	3.71	<0.000010	0.0291	0.0049		13.3
W8A	03/05/2008	0.00204	0.009	0.0004	0.05	0.002	<0.0002	0.031	<0.00004		<0.005	<0.00008	11.6	0.0018	0.00024	0.023	0.09	<0.0001	0.001	6.74	0.0178	0.00002	0.00033	0.002	0.03	2.05
W8A	07/05/2008	0.00976	0.018	0.0016																						
W8A	01/05/2009																									
W8A	02/05/2009	0.505	1.59	0.004	0.028	0.0003	0.0004	0.055	<0.00004	<0.0001	0.012	0.00007	43.6	<0.0004	0.00023	0.094	0.05	<0.0001	0.004	11.5	0.255	<0.00001	0.0192	0.005	0.02	11.2
W8A	10/05/2009	0.148	0.348	0.003	0.024	<0.0002	0.0007	0.068	<0.0001	<0.0005	0.018	0.00008	46.5	<0.0005	0.0004	0.172	0.06	<0.0001	0.005	18.1	0.345	<0.0001	0.017	0.0046		8.1
W8A	28/05/2009	0.035	0.1	0.0007	0.088	0.0012	0.0008	0.093	<0.00004	<0.0001	0.01	0.00097	65.9	0.0011	0.00078	0.121	0.31	0.0003	0.006	41.8	0.858	<0.00001	0.00877	0.003	0.03	6.9
W8A	04/06/2009	0.0444	0.15	0.0003	0.092	0.0014	0.0004	0.103	<0.00004	<0.0001	0.11	0.00015	127	<0.0004	0.00094	0.164	0.24	<0.0001	0.003	21.7	0.392	<0.00001	0.00885	0.002	0.02	6.2
W8A	07/06/2009	0.00156	0.008	0.0002	0.007	0.0009	0.0006	0.134	<0.00004	<0.0001	0.076	0.00005	117	<0.0004	0.00081	0.067	0.11	<0.0001	0.003	26.5	0.662	0.00001	0.00768	0.002	0.01	5.4
W8A	10/06/2009	0.0099	0.033	0.0008	0.021	0.001	0.0004	0.12	<0.00004	<0.0001	0.112	0.00014	142	0.0007	0.00079	0.171	0.07	0.0003	0.003	24	0.352		0.00882	0.002	0.01	6.2
W8A	16/06/2009																									
W8A	29/06/2009	0.00158	0.008	0.0003	0.007	0.0008	0.0006	0.122	<0.00004	<0.0001	0.063	0.00006	102	<0.0004	0.00078	0.071	0.14	<0.0001	0.003	25.6	0.7	0.00001	0.00841	0.002	0.02	5.5
W8A	06/07/2009																									
W8A	13/07/2009	0.0006	0.003	0.0001	0.023	0.0007	0.0005	0.129	<0.00004	<0.0001	0.051	0.00004	93.6	<0.0004	0.00068	0.068	0.2	<0.0001	0.002	24.3	0.805	<0.00001	0.00629	0.001	0.01	4.4
W8A	27/07/2009	0.0015	0.013	0.0003	0.016	0.0009	0.0008	0.123	<0.00004	<0.001	0.03	0.00004	86.6	0.0013	0.00068	0.08	0.3	0.0005	0.006	44.2	0.945	<0.00001	0.0083	0.002	0.01	5.8

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	BOD5	Br	Cation	COD	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-T	N-TKN	P-PO4T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L
W8	25/07/2010	0.0091	7.01	High DL removed	26	2.04	61	<0.00005	<0.005	<0.01	0.0015	<0.005	<0.01	<0.002	240	<0.5	<0.5	<0.5			<0.4											
W8	02/08/2010	0.0085	7.75	High DL removed	31	2.07	72	<0.00005	<0.005	<0.01	0.0017	<0.005	<0.01	<0.002	260	<0.5	<0.5	<0.5			<0.4											
W8	09/08/2010	0.0096	7.69	High DL removed	29	2.1	79	<0.00005	<0.005	<0.01	0.0018	<0.005	<0.01	<0.002	280	<0.5	<0.5	<0.5			<0.4											
W8	15/08/2010	0.0099	7.06	High DL removed	28	1.85	77	<0.00005	<0.005	<0.01	0.0017	<0.005	<0.01	<0.002	280	<0.5	<0.5	<0.5			<0.4											
W8	22/08/2010	0.0133	7.34	High DL removed	29	1.98	88	<0.00005	<0.005	<0.01	0.0014	<0.005	<0.01	<0.002	220	<0.5	<0.5	<0.5			<0.4											
W8	29/08/2010	0.0139	2.7	High DL removed	53	2.11	<60	<0.00005	<0.005	<0.01	0.0006	<0.005	<0.01	<0.002	150	<0.5	<0.5	<0.5			<0.4											
W8	05/09/2010	0.0139	6.73	High DL removed	24	1.95	69	<0.00005	<0.005	<0.01	0.0024	<0.005	<0.01	<0.002	280	<0.5	<0.5	<0.5			<0.4											
W8	09/09/2010	0.0146	7.36	High DL removed	26	1.77	81	<0.00005	<0.005	<0.01	0.0022	<0.005	<0.01	<0.002	270	<0.5	<0.5	<0.5			<0.4											
W8	16/09/2010	0.0117	6.78	High DL removed	25	1.5	76	<0.00005	<0.005	<0.01	0.0019	<0.005	<0.01	<0.002	270	<0.5	<0.5	<0.5			<0.4											
W8	23/09/2010	0.0127	7.45	High DL removed	27	1.52	79	<0.00005	<0.005	<0.01	0.002	<0.005	<0.01	<0.002	290	<0.5	<0.5	<0.5			<0.4											
W8	07/10/2010	0.0128	6.99	<0.00002	23.7	1.55	70	<0.00005	<0.005	<0.005	0.0021	<0.005	<0.005	<0.0005	300	<0.5	<0.5	<0.5			<0.4											
W8	01/04/2011	0.0124	3.79	<0.00002	58.1	1.51	37	<0.00005	<0.005	<0.005	0.0009	<0.005	0.022	<0.0005	160	<0.5	<0.5	<0.5			<0.4											
W8	07/04/2011	0.0158	4.24	<0.00002	58.5	1.65	43	<0.00005	<0.005	<0.005	0.0011	<0.005	<0.005	<0.0005	180	<0.5	<0.5	<0.5			<0.4											
W8	21/04/2011	0.0038	4.44	<0.00002	15.1	1.24	24	<0.00005	<0.005	<0.005	0.0013	<0.005	<0.005	<0.0005	220	<0.5	<0.5	<0.5														
W8	30/04/2011	0.0042	6.2	<0.00002	23.2	1.67	68	<0.00005	<0.005	<0.005	0.0029	<0.005	<0.005	<0.0005	410	<0.5	<0.5	<0.5														
W8	06/05/2011	0.0019	4.91	<0.00002	17.9	0.697	20	<0.00005	<0.005	<0.005	0.0022	<0.005	<0.005	<0.0005	240	<0.5	<0.5	<0.5														
W8	13/05/2011	0.0114	7.24	0.00007	20.6	2.22	49	<0.00005	<0.005	0.007	0.0026	<0.005	0.005	<0.0005	230	<0.5	<0.5	<0.5														
W8	20/05/2011	0.0009	2.97	<0.00002	12.3	0.673	20	<0.00005	<0.005	<0.005	0.0013	<0.005	<0.005	<0.0005	170	<0.5	<0.5	<0.5														
W8	25/05/2011	0.0055	7.06	<0.00002	26.5	1.9	76	<0.00005	<0.005	<0.005	0.0035	<0.005	<0.005	<0.0005	430	<0.5	<0.5	<0.5														
W8	10/06/2011	0.0046	7.09	0.00002	26.2	1.9	72	<0.00005	<0.005	<0.005	0.0036	<0.005	<0.005	<0.0005	430	<0.5	<0.5	<0.5														
W8	17/06/2011	0.0021	6.67	<0.00002	29.1	1.2	25	<0.00005	<0.005	<0.005	0.0026	<0.005	<0.005	<0.0005	450	<0.5	<0.5	<0.5														
W8	24/06/2011	0.0154	7.84	<0.00002	24.6	1.63	62	<0.00005	<0.005	<0.005	0.0027	<0.005	0.013	<0.0005	270	<0.5	<0.5	<0.5														
W8	30/06/2011	0.014	6.94	<0.00002	21.1	1.34	56	<0.00005	<0.005	<0.005	0.0024	<0.005	<0.005	<0.0005	250	<0.5	<0.5	<0.5														
W8	08/07/2011	0.0124	7.45	<0.00002	22.4	1.45	61	<0.00005	<0.005	<0.005	0.0025	<0.005	0.014	<0.0005	260	<0.5	<0.5	<0.5														
W8	15/07/2011	0.0117	5.95	<0.00002	28	1.7	83	<0.00005	<0.005	<0.005	0.002	<0.005	<0.005	<0.0005	260	<0.5	<0.5	<0.5														
W8	21/07/2011	0.0123	7.04	<0.00002	20.9	1.39	58	<0.00005	<0.005	<0.005	0.0026	<0.005	<0.005	<0.0005	250	<0.5	<0.5	<0.5														
W8	31/07/2011	0.014	7.79	<0.00002	26.7	1.68	82	<0.00005	<0.005	<0.005	0.0026	<0.005	<0.005	<0.0005	290	<0.5	<0.5	<0.5														
W8	05/08/2011	0.0132	7.01	<0.00002	26.6	1.66	80	<0.00005	<0.005	<0.005	0.0026	<0.005	0.01	<0.0005	290	<0.5	<0.5	<0.5														
W8	08/08/2011	0.013	7.92	<0.00002	25.1	1.58	66	<0.00005	<0.005	<0.005	0.0025	<0.005	<0.005	<0.0005	270	<0.5	<0.5	<0.5														
W8	09/08/2011	0.0135	7.88	0.00003	25.1	1.56	72	<0.00005	<0.005	<0.005	0.0023	<0.005	0.013	<0.0005	270	<0.5	<0.5	<0.5														
W8	10/08/2011	0.0137	7.54	0.00002	25.6	1.7	80	<0.00005	<0.005	<0.005	0.0026	<0.005	<0.005	<0.0005	280	<0.5	<0.5	<0.5														
W8	11/08/2011	0.0129	6.7	<0.00002	22.9	1.66	62	<0.00005	<0.005	<0.005	0.0029	<0.005	<0.005	<0.0005	270	<0.5	<0.5	<0.5														
W8	12/08/2011	0.0143	7.5	<0.00002	22.8	1.51	61	<0.00005	<0.005	<0.005	0.0022	<0.005	<0.005	<0.0005	260	<0.5	<0.5	<0.5														
W8	13/08/2011	<0.0001	7.2	<0.00002	3.56	0.154	<3	<0.00005	<0.005	<0.005	0.0002	<0.005	0.006	<0.0005	120	<0.5	<0.5	<0.5														
W8	14/08/2011	0.0139	6.96	<0.00002	21.6	1.61	62	<0.00005	<0.005	<0.005	0.0024	<0.005	<0.005	<0.0005	280	<0.5	<0.5	<0.5														
W8	15/08/2011	0.0144	7.14	<0.00002	23	1.62	68	<0.00005	<0.005	<0.005	0.0023	<0.005	0.032	<0.0005	280	<0.5	<0.5	<0.5														
W8	16/08/2011	0.0132	7.06	<0.00002	24.2	1.65	68	<0.00005	<0.005	<0.005	0.0023	<0.005	<0.005	<0.0005	280	<0.5	<0.5	<0.5														
W8	17/08/2011	0.0136	6.77	<0.00002	24.5	1.58	70	<0.00005	<0.005	<0.005	0.0023	<0.005	<0.005	<0.0005	280	<0.5	<0.5	<0.5														
W8	18/08/2011	0.0132	6.96	<0.00002	23.9	1.68	74	<0.00005	<0.005	<0.005	0.0024	<0.005	<0.005	<0.0005	290	<0.5	<0.5	<0.5														
W8	19/08/2011	0.0055	7.32	<0.00002	25	1.13	31	<0.00005	<0.005	<0.005	0.0023	<0.005	<0.005	<0.0005	380	<0.5	<0.5	<0.5														
W8	20/08/2011	0.0126	7.1	<0.00002	25.3	1.8	74	<0.00005	<0.005	<0.005	0.0025	<0.005	<0.005	<0.0005	300	<0.5	<0.5	<0.5														
W8	21/08/2011	0.0131	7.65	<0.00002	26.9	1.82	81	<0.00005	<0.005	<0.005	0.0026	<0.005	<0.005	<0.0005	310	<0.5	<0.5	<0.5														
W8	27/08/2011	0.0126	7.71	<0.00002	28.2	1.83	86	<0.00005	<0.005	<0.005	0.0025	<0.005	<0.005	<0.0005	320	<0.5	<0.5	<0.5														
W8	10/09/2011	0.0193	9.51	<0.00002	29.5	1.92	95	<0.00005	<0.005	<0.005	0.0027	<0.005	<0.005	<0.0005	290	<0.5	<0.5	<0.5														
W8	16/09/2011	0.0135	7.08	<0.00002	28.9	1.8	84	<0.00005	<0.005	<0.005	0.0026	<0.005	0.008	<0.0005																		
W8	23/09/2011	0.0123	7.83	<0.00002	31.7	1.9	99	<0.00005	<0.005	<0.005	0.0032	<0.005	0.011	<0.0005	370	<0.5	<0.5	<0.5														
W8	30/09/2011	0.0116	7.75	<0.00002	30.8	1.86	90	<0.00005	<0.005	<0.005	0.003	<0.005	0.007	<0.0005	390	<0.5	<0.5	<0.5														
W8	29/10/2013 14:55	0.0024	5.87	<0.000020	49.6	3.08	108	0.000056	<0.0050	<0.0050	0.00302	<0.0050	6.75	<0.00050	560	<0.50	<0.50	<0.50														
W8	07/11/2013 9:30	0.00255	6.46	0.000023	49	3.06	114	0.000052	<0.0050	<0.0050	0.00314	<0.0050	7.21	<0.00050	661	<0.50	<0.50	<0.50														
W8	15/11/2013 8:15	0.00249	5.57	0.000032	49.6	3.01	108	0.000056	<0.0050	<0.0050	0.00355	<0.0050	8.04	<0.00050	661	<0.50	<0.50	<0.50														
W8	29/11/2013 15:10	0.00278	6.65	0.000033	56.6	3.36	125	0.000061	<0.0050	<0.0050	0.00365	<0.0050	9.49	<0.00050																		
W8A	03/05/2008	<0.0006	1.24	High DL removed	5.28	0.116		<0.00001	<0.004	0.0018	<0.0006	0.00046	0.004	0.0003																		
W8A	07/05/2008																															
W8A	01/05/2009																															
W8A	02/05/2009	0.001	3.06	<0.00001	14.9	0.634	8.8	<0.00001	<0.0001	0.0025	0.0008	0.00047	0.002	0.0001	260	<6	<5							250							2.03	0.46
W8A	10/05/2009	0.0012	4.12	0.00005	15.9	0.802	9.1	<0.00005	<0.001	0.0013	0.0014	0.0008	0.002		238	<6	<5							90							1.36	0.04
W8A	28/05/2009	0.0008	5.98	<0.00001	23.6	0.998	16.9	<0.00001	<0.0001	0.0071	0.002	0.00095	0.005	<0.0001	400	<6	<5							79							0.78	0.09
W8A	04/06/2009	0.0057	5.34	<0.00001	19.5	1.23	35.1	<0.00001	<0.0001	0.0082	0.0012	0.00078	0.004	0.0002	230	<6	<5							46							7.66	0.03
W8A	07/06/2009	0.0027	6.63	0.00002	22.2	1.16	34.4	<0.00001	<0.0001	0.0013	0.0016	0.00045	0.004	0.0001	280	<6	<5							160							3.59	0.04
W8A	10/06/2009	0.0075	5.64	<0.00001	21.7	1.34	43.4	<0.00001	<0.0001	0.0024	0.0014	0.00046	0.005	0.0002	230	<6	<5							19								0.003
W8A	16/06/2009																															
W8A	29/06/2009	0.0032	6.56	<0.00001	21.8	1.11	31	<0.00001	<0.0001	0.0013	0.0016	0.00056	0.004	0.0002	270	<6	<5							48							1.17	0.04
W8A	06/07/2009																															
W8A	13/07/2009	<0.0006	5.83	0.00025	18.5	0.926	22.5	<0.00001	<0.0001	0.0007	0.0014	0.00026	0.005	0.0001	280	<6	<5							36							0.54	0.04
W8A	27/07/2009	0.0008	7.52	0.00014	26.5	1.11	22.2	<0.00001	<0.0001	0.0023	0.0026	0.001	0.003	0.0003	400	<6	<5							<5							1.16	0.04

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	P-TDP	P-TRP	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		mg/L	mg/L	Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W8	25/07/2010		<0.005					26.1	49.1
W8	02/08/2010		<0.005					12.8	17.9
W8	09/08/2010		<0.005					1730	950
W8	15/08/2010		<0.005					13.3	6.6
W8	22/08/2010		<0.005					30.1	42.5
W8	29/08/2010		<0.005					25.8	36.4
W8	05/09/2010		<0.005					61.1	57.1
W8	09/09/2010		<0.005					27.7	21.2
W8	16/09/2010		<0.005					18.2	39.3
W8	23/09/2010		<0.005					26.1	15.9
W8	07/10/2010		0.036					39.1	36.4
W8	01/04/2011		<0.005					2.5	
W8	07/04/2011		0.005					2.6	
W8	21/04/2011								
W8	30/04/2011								
W8	06/05/2011								
W8	13/05/2011								
W8	20/05/2011								
W8	25/05/2011								
W8	10/06/2011								
W8	17/06/2011								
W8	24/06/2011								
W8	30/06/2011								
W8	08/07/2011								
W8	15/07/2011								
W8	21/07/2011								
W8	31/07/2011								
W8	05/08/2011								
W8	08/08/2011								
W8	09/08/2011								
W8	10/08/2011								
W8	11/08/2011								
W8	12/08/2011								
W8	13/08/2011								
W8	14/08/2011								
W8	15/08/2011								
W8	16/08/2011								
W8	17/08/2011								
W8	18/08/2011								
W8	19/08/2011								
W8	20/08/2011								
W8	21/08/2011								
W8	27/08/2011								
W8	10/09/2011								
W8	16/09/2011								
W8	23/09/2011								
W8	30/09/2011								
W8	29/10/2013 14:55					2189			
W8	07/11/2013 9:30					1957			
W8	15/11/2013 8:15					1574			
W8	29/11/2013 15:10								
W8A	03/05/2008								
W8A	07/05/2008								
W8A	01/05/2009								
W8A	02/05/2009							9900	
W8A	10/05/2009							2280	
W8A	28/05/2009							620	
W8A	04/06/2009							92	
W8A	07/06/2009		0.06					6.6	
W8A	10/06/2009							26	
W8A	16/06/2009								
W8A	29/06/2009		0.05					13	
W8A	06/07/2009								
W8A	13/07/2009		<0.05					2.5	
W8A	27/07/2009		<0.05					3.8	

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T	B-T
			mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W8A	06/08/2009	M	4	516	8.26	8.13	687	710	5.7					371	339	3.18		55.2					0.15	<0.0002	0.0008	0.122	<0.00004	<0.001	0.039
W8A	10/08/2009	M			8.27		773		3.5																				
W8A	11/08/2009	M	8	536		8.15		753						377	388	1.52		51.1			0.8		0.242	<0.0002	0.0013	0.106	<0.00004	<0.001	0.021
W8A	19/08/2009	M	21	496	8.33	7.94	689	677	5.5					349	310	3		58.5			3.95		0.661	<0.0002	0.0009	0.125	<0.00004	<0.001	0.02
W8A	21/08/2009	M	10	540		8.2		841					438	436	390	2.6	0.3	52	0.015	0.33	7.4		0.287	<0.0005	0.001	0.128	<0.0001	<0.001	<0.05
W8A	31/08/2009	M	28	648		7.95		927						508	373	3.09		98.2			14.8		0.874	<0.0002	0.0013	0.144	0.00005	<0.001	0.021
W8A	07/09/2009	M	14	600	8.54	8.08	850	837	5.2					648	336	3.38		131			14.9		0.104	<0.0002	0.001	0.148	<0.00004	<0.001	0.04
W8A	18/09/2009	M	10	726	7.4	7.86	515	1010	3.7					546	389	2.79		84.8			17		0.078	<0.0002	0.0013	0.157	<0.00004	<0.001	0.024
W8A	23/09/2009	M	26	606	8.46	8.11	892	851	3.6					435	288	3.43		88.3			21.8		0.544	<0.0002	0.0009	0.144	<0.00004	<0.001	0.055
W8A	30/09/2009	M	8	646	8.06	7.99	706	923	1					489	303	4.01		95.6			21.9		0.22	<0.0002	0.0007	0.153	<0.00004	<0.001	0.068
W8A	05/10/2009	M	2	520	8.04	8	769	736	1.5					383	261	3.69		75.5			13.8		0.083	<0.0002	0.0005	0.122	<0.00004	<0.001	0.049
W8A	12/10/2009	M	5	578	8.04	8.1	876	802	1					408	303	4.12		74.3			13.7		0.151	<0.0002	0.0008	0.135	<0.00004	<0.001	0.045
W8A	19/10/2009	M	2	568	7.73	8.04	774	778	3.8					349	235	6.95		95			18.3		0.096	<0.0002	0.0007	0.148	<0.00004	<0.001	0.053
W8A	09/11/2009	M	<2	534	7.25	7.88	753	799	1					381	274	6.54		89.5			10.8		0.059	<0.0002	0.0007	0.137	<0.00004	<0.001	0.044
W8A	16/11/2009	M	7	566	7.49	7.86	494	818	1					358	273	7.01		87.5			15.8		0.069	<0.0002	0.0006	0.132	<0.00004	<0.001	0.05
W8A	19/04/2010	F	31	196	7.3	8.16	395	263	1.4				130		122	5.96		14					0.096	<0.0002	0.0003	0.037	<0.00004	<0.001	0.007
W8A	20/04/2010	F	18	560	6.98	8.13	831	770	1				393		332	14.2		59.3			10		0.126	<0.0002	0.0009	0.149	<0.00004	<0.001	0.012
W8A	21/04/2010	F	79	416		7.68	604	576	1				276		202	9.98		46			11.8		2.39	<0.0002	0.0012	0.123	0.00006	<0.001	0.024
W8A	22/04/2010	F	21	438		7.84		652					303		224	24.8		45.2			7.59		0.87	<0.0002	0.0007	0.107	<0.00004	<0.001	0.024
W8A	23/04/2010	F	82	404		7.75		501					244		158	6.96		49.5					2.03	<0.0002	0.0011	0.111	0.00005	<0.001	0.018
W8A	24/04/2010	F	136	448		7.82		581					266		157	7.86		66				30.8	5.19	<0.0002	0.0019	0.138	0.00017	<0.001	0.02
W8A	25/04/2010	F	99	410		7.85		537					248		159	7.17		55.1				30.4	3.7	<0.0002	0.0014	0.137	0.00008	<0.001	0.02
W8A	26/04/2010	F	39	370	7.84	8.1	928	491	0.11		114.4		226	225	140	6	0.36	57	0.12	0.21	11.7	22.3	1.07	<0.0005	0.001	0.094	<0.0001	<0.001	<0.05
W8A	27/04/2010	F	14	240	7.84	8	494	483	0.94		28.4		221	92.1	150	5.9	0.32	51	0.039	0.121	11.1	24.9	1.11	<0.0005	0.001	0.099	<0.0001	<0.001	<0.05
W8A	28/04/2010	F	63	350	7.89	8.1	552	476	1.96		2.3		239	235	150	5.9	0.29	53	0.083	0.14	11.4	24.2	1.37	<0.0005	0.0012	0.116	<0.0001	<0.001	<0.05
W8A	29/04/2010	F	75	360	7.93	8	765	498	7.78		89.7		249	240	150	6.1	0.31	55	0.2	0.12	11.2	22.1	1.36	<0.0005	0.0012	0.117	<0.0001	<0.001	<0.05
W8A	30/04/2010	F	47	430		8.1		570					291	268	170	6.8	0.37	72	0.16	0.125	13.9	23.8	0.494	<0.0005	0.0009	0.098	<0.0001	<0.001	<0.05
W8A	01/05/2010	F	110	400	7.95	8.2	582	549	0.9		39.8		274	252	170	7.9	0.3	71	0.1	0.118	13.2	24	2.9	<0.0005	0.0016	0.157	0.0001	<0.001	<0.05
W8A	02/05/2010	F	48	400	8	8.2	599	568	0.93		68.4		280	284	180	8.8	0.28	68	0.1	0.12	12.8	28.4	1.96	<0.0005	0.0014	0.131	<0.0001	<0.001	<0.05
W8A	03/05/2010	F	30	440	8.07	8	655	614	0.57		85.5		282	293	180	11	0.29	80	0.15	0.103	14.3	17.5	0.563	<0.0005	0.0006	0.107	<0.0001	<0.001	<0.05
W8A	04/05/2010	F	29	430		8.1		608					299	285	190	11	0.28	80	0.04	0.088	13.1	17.6	0.974	<0.0005	0.0009	0.12	<0.0001	<0.001	<0.05
W8A	05/05/2010	F	19	460	7.52	8.2	667	674	3.18		15.1		318	327	210	13	0.29	83	0.07	0.084	13.6	17	0.514	<0.0005	0.0007	0.112	<0.0001	<0.001	<0.05
W8A	06/05/2010	F	34	480		8.2		654					331	328	210	12	0.3	85	0.06	0.074	14.1	16.1	0.672	<0.0005	0.0008	0.114	<0.0001	<0.001	<0.05
W8A	07/05/2010	F	120	520		8.4		752					361	378	250	15	0.34	92	0.17	0.079	15.3	17	0.202	<0.0005	0.0007	0.112	<0.0001	<0.001	<0.05
W8A	08/05/2010	F	13	550		7.8		751					411	371	260	13	0.37	89	0.18	0.089	14	16.3	0.202	<0.0005	0.0008	0.129	<0.0001	<0.001	<0.05
W8A	09/05/2010	F	7	470	7.82	8.1	763	729	5.13		122		230	217	150	22	1.6	97	0.36	0.55	19.6	7.3	0.082	<0.0005	0.0004	0.112	<0.0001	<0.001	0.083
W8A	10/05/2010	F	<4	160		8.2		280					124	120	120	6.9	0.44	14	0.065	0.055	0.65	10.3	0.08	<0.0005	0.0006	0.075	<0.0001	<0.001	<0.05
W8A	13/05/2010	F	18	400		8.1		710					264	286	190	19	0.98	94	0.62	0.485	15	7.8	0.329	<0.0005	0.0005	0.126	<0.0001	<0.001	0.064
W8A	17/05/2010	F	20	530	7.94	8.4	398	759	1.9				365	371	280	16	0.33	88	0.18	0.064	10.5	15.6	0.149	<0.0005	0.0006	0.104	<0.0001	<0.001	<0.05
W8A	20/05/2010	F	8	620	7.6	8.5	813	793	2.2				439	428	300	17	0.4	94	0.28	0.09	10.4	15.2	0.126	<0.0005	<0.001	0.117	<0.0005	<0.001	<0.05
W8A	24/05/2010	F	6	610	7.39	8.4	746	789	2.7				417	408	310	17	0.42	79	0.32	0.374	8.8	15.5	0.069	<0.0005	0.0008	0.12	<0.0002	<0.001	<0.1
W8A	27/05/2010	F	24	490	7.72	8.5	770	747	4.8				418	400	310	11	0.39	71	0.32	0.098	8.2	13.5	0.532	<0.0005	<0.001	0.119	<0.0005	<0.001	<0.1
W8A	31/05/2010	F	41	570	7.52	8.2	780	786	4.4				421	404	330	11	0.4	80				15.2	0.16	<0.0005	0.0007	0.119	<0.0002	<0.001	<0.1
W8A	03/06/2010	P	7	470	7.63	8.4	712	731	9.2				348	334	240	15	0.86	82	0.31	0.253	14	11.6	0.264	<0.0005	0.0005	0.111	<0.0002	<0.001	<0.1
W8A	14/06/2010	P	4	540	7.31	8.5	858	771	9.2				310	316	250	18	0.84	92	0.22	0.159	14.3	11.3	0.089	<0.0005	0.0004	0.122	<0.0002	<0.001	<0.1
W8A	17/06/2010	P	4	610	7.08	8.2	1075	913	4.3				456	460	400	11	0.38	74	0.15	0.015	10.5	15.3	0.099	<0.0005	0.0007	0.129	<0.0002	<0.001	<0.1
W8A	25/06/2010	P	4	530	7.99	8.6	855	831	3.73		105.1		426	403	360	9.3	0.38	76	0.05	0.018	10.9	17	0.047	<0.0005	0.0008	0.12	<0.0002	<0.001	<0.1
W8A	04/07/2010	P	4	520	7.50	7.94	707	761	2.27		97.8		352	338	220	4.8	0.37	110	0.19	0.113	20.1	16.4	0.14	<0.0005	0.0006	0.101	<0.0002	<0.001	<0.1
W8A	11/07/2010	P	2	600	8.09	8.41	906	867	3.73		94.7		450	412	320	7.8	0.37	91	0.045	0.035	23.2	13	0.032	<0.0005	0.0006	0.112	<0.0002	<0.001	<0.1
W8A	18/07/2010	P	4	580	8.09	8.19	764	845	2.89		105.8		358	363	270	5.7	0.35	97		0.074	23	14.7	0.103	<0.0005	0.0006	0.105	<0.0002	<0.001	<0.1
W8A	25/07/2010	P	60	560	7.94	8.04	778	794	3.08		73.3		415	371	220	4.7	0.42	110	0.28	0.142	22.8	14.2	1.41	<0.0005	0.0014	0.162	<0.0002	<0.001	<0.1
W8A	02/08/2010	P	2	630	7.89	8.2	966	974	3.68		79.7		537	480	310	8.3	0.39	110	0.15	0.06	29	16.4	0.084	<0.0005	0.0006	0.15	<0.0002	<0.001	<0.1
W8A	09/08/2010	P	19	610	7.86	8.35	954	968	3.74		82.9		533	482	350	6.2	0.37	100	0.062	0.068	23.5	17	0.437	<0.0005	0.0008	0.158	<0.0002	<0.001	<0.1
W8A	15/08/2010	P	19	640	8.03	8.33	958	976	4.29		92.1		458	474	350	5.7	0.36	100	0.11	0.114	23	16.6	0.539	<0.0005	0.0009	0.149	<0.0002	<0.001	<0.1
W8A	22/08/2010	P	100	650	8.06	8.47	913		3.58		93.8		432	475	270	7.1	0.44	120	0.22	0.61	32	20.2	2.56	<0.0005	0.0013	0.186	<0.0002	<0.001	<0.1
W8A	29/08/2010	P	10	640	7.8	7.95	890	919	3.78		68.2		415	439	270	5.1	0.4	120	0.09	0.068	27	12	0.139	<0.0005	0.0007	0.138	<0.0002	<0.001	<0.1
W8A	05/09/2010	P	3	640	7.97	8.22	938	943	2.34		78.2		455	442	360	5.9	0.4	97	0.15	0.044	19.3	11.7	0.132	<0.0005	0.0005	0.136	<0.0002	<0.001	<0.1
W8A	09/09/2010	P	25	780	8.06	8.24	924	954	3.24		83.6		452	463	350	4.4	0.39	100	0.039	0.051	8.9	12.7	0.912	<0.0005	0.0005	0.152	<0.0002	<0.001	<0.1
W8A	16/09/2010	P	9	420	8.08	8.35	898	917	2.91		109.3		467	448	370	3.5	0.41	86	0.093	0.033	15.1	12.2	0.106	<0.0005	0.0006	0.13	<0.0002	<0.001	<0.1
W8A	23/09/2010	P	3	610	8.16	8.26	888	883	0.77		91.4		425	446	380	4.4	0.37	83	0.06	0.016	10.4	12.8	0.107	<0.0005	0.0006	0.117	<0.0002	<0.001	<0.1
W8A	07/10/2010	P	4	550	8.16	8.41	870	854	0.01		101.8		448	403	390	2.6	0.37	79	0.041	0.012	7.7	9.8	0.13	<0.0005	0.0004	0.114	<0.0001	<0.001	<0.05
W8A	01/04/2011	P	3	450		7.94		770					218	215	130	27	1.19	110	0.51	0.57	23.3	8.8	0.086	<0.0005	0.0004	0.122	<0.0001	<0.001	0.077
W8A	07/04/2011	P	1	520		7.78		809					231	219	140	26	1.24	110	0.8	0.56	30	5.9	0.032	<0.0005	0.0004	0.13	<0.0001	<0.001	0.068
W8A	21/04/2011	P	3	370		8.03		703					335	313	290	2.8	0.4	76	0.085	0.017	4.9	6.3	0.222	<0.0005	0.0003	0.086	<0.0001	<0.001	<0.05
W8A	25/04/2011	P	11	390		8.13		638					306	288	240	3	0.38	75	0.084	0.04	6.6	8.1	0.473	<0.0005	0.0004	0.082	<0.0001	<0.001	<0.05

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W8A	06/08/2009	0.00005	88.5	0.0012	0.00075	0.084	0.528	0.0004	0.005	40.2	1.04		0.0053	0.002	0.034	4.9	<0.0006	7.42	0.00003	23.9	1.17	18.9	<0.00001	<0.0001	0.0074	0.0014
W8A	10/08/2009																									
W8A	11/08/2009	0.00008	84.9	0.0013	0.00091	0.174	0.807	0.0005	0.008	50.1	1.06		0.007	0.003	0.062	5.7	<0.0006	9.25	0.00005	24.4	0.988	16.9	<0.00001	<0.0001	0.0186	0.0025
W8A	19/08/2009	0.00008	80.1	0.0013	0.00119	0.143	1.16	0.0006	0.005	33.2	1.32	<0.00001	0.0062	0.002	0.053	4.7	<0.0006	8.13	<0.00001	19.4	0.866	17.1	<0.00001	<0.0001	0.0214	0.0014
W8A	21/08/2009	0.00009	100	0.001	0.0013	0.109	1.03	0.0005	0.007	45.7	1.63	0.00005	0.007	0.002		5.73	0.0015	9.21	0.00003	22.2	1.12	25	<0.00005	<0.005	0.014	0.0024
W8A	31/08/2009	0.00009	124	0.0017	0.00168	0.125	2.07	0.0007	0.007	56	1.78	0.00001	0.0051	0.003	0.105	6	0.0014	10.3	<0.00001	25.9	1.2	35	<0.00001	<0.0001	0.0294	0.0022
W8A	07/09/2009	0.00006	116	0.0014	0.00124	0.083	0.788	0.0004	0.004	41.6	1.46	<0.00001	0.005	0.002	0.047	5	<0.0006	8.34	<0.00001	24.1	1.03	25.2	<0.00001	<0.0001	0.0085	0.002
W8A	18/09/2009	0.0001	138	0.0016	0.00164	0.093	1.31	0.0004	0.007	56.5	2.2	<0.00001	0.0071	0.003	0.073	5.8	0.003	9.31	<0.00001	28.4	1.41	30.6	<0.00001	<0.0001	0.0056	0.0028
W8A	23/09/2009	0.0001	125	0.0027	0.00125	0.092	1.2	0.0017	0.005	33.7	0.899	<0.00001	0.0165	0.004	0.05	6.3	0.0038	8.6	<0.00001	22.1	1.37	30.2	0.00014	<0.0001	0.0214	0.0029
W8A	30/09/2009	0.00009	134	0.0016	0.00133	0.104	0.746	0.0008	0.004	39	1.6	<0.00001	0.006	0.005	<0.05	5.2	0.0025	8.42	<0.00001	24.6	1.21	29.6	<0.00001	<0.0001	0.0095	0.002
W8A	05/10/2009	0.00003	108	0.0012	0.0009	0.066	0.555	0.0003	0.003	31.2	1.18	<0.00001	0.0049	0.003	<0.05	4.3	0.0015	7.87	<0.00001	20.7	0.915	22.9	<0.00001	<0.0001	0.005	0.0015
W8A	12/10/2009	0.00007	114	0.0005	0.00107	0.09	0.456	<0.0001	0.004	34.6	1.42	<0.00001	0.0057	0.004	<0.05	4.7	0.0013	7.74	<0.00001	22.4	1.13	25.6	<0.00001	<0.0001		0.002
W8A	19/10/2009	0.0001	97.1	0.0005	0.00075	0.072	0.383	0.0003	0.005	27.6	0.945	<0.00001	0.0165	0.003	<0.05	8.6	0.0041	5.8	<0.00001	28.4	1.54	31.2	<0.00001	<0.0001		0.002
W8A	09/11/2009	0.00017	110	0.0005	0.00073	0.066	0.41	0.0001	0.005	33	1.11	<0.00001	0.0103	0.003	0.06	7.6	0.0024	7.36	<0.00001	31.3	1.24	32.2	<0.00001	<0.0001		0.0017
W8A	16/11/2009	0.00011	99.6	0.0005	0.00064	0.068	0.353	0.0001	0.005	31.6	0.943	<0.00001	0.013	0.003	0.08	7.8	0.0026	6.55	0.00001	30.4	1.56	30.9	<0.00001	<0.0001		0.0018
W8A	19/04/2010	0.00003	32.2	<0.0004	0.00018	0.05	0.137	0.0001	0.002	12.3	0.232	0.00001	0.0013	<0.001	0.08	3.4	<0.0006	3.3	0.00001	7.3	0.324	4.7	<0.00001	<0.0001		0.0005
W8A	20/04/2010	0.00006	109	0.0004	0.00039	0.074	0.256	0.0002	0.004	35.1	0.542	<0.00001	0.0048	0.002	0.11	5.7	0.002	7.01	0.00002	20.5	0.954	20.8	<0.00001	<0.0001		0.0019
W8A	21/04/2010	0.0001	80.1	0.0019	0.00133	0.205	2.39	0.0008	0.005	23.6	0.681	0.00002	0.0068	0.003	0.22	5.1	0.0024	7.24	0.00001	13.2	0.834	15.4	0.00002	<0.0001		0.0015
W8A	22/04/2010	0.00018	103	0.0009	0.00106	0.154	0.989	0.0003	0.002	22.1	1.66	<0.00001	0.0049	0.003	0.1	5	0.0009	5.65	<0.00001	12.9	0.833	17.6	<0.00001	<0.0001		0.0013
W8A	23/04/2010	0.00008	78	0.0017	0.00132	0.238	2.57	0.0008	0.004	21.6	0.566	0.00002	0.0083	0.003	0.25	5	0.0025	7.86	0.00005	13.2	0.707	18.6	0.00002	<0.0001		0.0013
W8A	24/04/2010	0.00011	85.8	0.0033	0.00263	0.403	5.7	0.0016	0.004	23	0.77	0.00002	0.0121	0.004	0.35	5.3	0.0044	11.3	0.0002	15.2	0.844	25.4	0.00003	<0.0001		0.0016
W8A	25/04/2010	0.00014	81	0.0025	0.00204	0.529	4.8	0.0012	0.004	21.1	0.675	0.00002	0.0127	0.004	0.42	5.3	0.0041	9.15	0.00012	14.9	0.812	21.4	0.00003	<0.0001		0.0016
W8A	26/04/2010	0.00008	63	0.001	0.0009	0.209	1.83	0.0005	<0.005	16.7	0.334	<0.00002	0.011	0.002		4.14	0.0035	6.81	0.00004	12.5	0.55	17	<0.00005	<0.005	0.056	0.0011
W8A	27/04/2010	0.00009	60.8	0.002	0.0009	0.155	1.83	0.0006	<0.005	16.8	0.282	0.00002	0.008	0.002		4.21	0.003	7.6	0.00002	11.9	0.507	15	<0.00005	<0.005	0.055	0.001
W8A	28/04/2010	0.00017	66	0.002	0.0013	0.324	2.71	0.001	<0.005	18.1	0.38	<0.00002	0.008	0.003		4.45	0.003	7.61	0.00006	12.4	0.548	16	<0.00005	<0.005	0.069	0.0011
W8A	29/04/2010	0.00012	68.9	0.002	0.0013	0.188	2.46	0.0008	<0.005	18.6	0.318	0.00003	0.008	0.003		4.36	0.0033	8.1	0.00004	12.6	0.564	17	<0.00005	<0.005	0.073	0.0013
W8A	30/04/2010	0.00008	83.6	0.001	0.0007	0.172	0.773	0.0004	<0.005	19.9	0.397	<0.00002	0.014	0.002	0.049	4.52	0.0043	7.05	0.00005	16	0.757	23	<0.00005	<0.005	0.022	0.0018
W8A	01/05/2010	0.00011	74.6	0.005	0.0024	0.325	5.43	0.0018	<0.005	21.4	0.384	0.00007	0.008	0.005		4.84	0.0038	10.8	0.0001	14.7	0.638	16	0.00005	<0.005	0.175	0.0017
W8A	02/05/2010	0.00012	76	0.004	0.0016	0.189	3.35	0.0009	<0.005	21.8	0.315	<0.00002	0.008	0.004		4.51	0.0037	9.74	0.00004	15.8	0.681	20	<0.00005	<0.005	0.101	0.0017
W8A	03/05/2010	0.0012	76.1	0.001	0.0006	0.0897	0.869	0.0004	<0.005	22.5	0.252	0.00005	0.007	0.002	0.069	4.02	0.0036	7.01	<0.00002	15.6	0.672	22	<0.00005	<0.005	0.027	0.0017
W8A	04/05/2010	0.00008	80.5	0.002	0.001	0.122	1.67	0.0013	<0.005	23.8	0.28	<0.00002	0.007	0.003	0.138	4.32	0.0034	8	<0.00002	15.5	0.667	29	<0.00005	<0.005	0.051	0.0017
W8A	05/05/2010	0.00007	84	0.001	0.0006	0.1	0.854	0.0003	<0.005	26.2	0.272	0.00007	0.007	0.002	0.066	4.35	0.0036	7.52	0.00002	18.9	0.745	26	<0.00005	<0.005	0.026	0.002
W8A	06/05/2010	0.00007	87	0.001	0.0007	0.137	1.33	0.0004	<0.005	27.6	0.281	0.00004	0.008	0.002	0.122	4.65	0.0037	8	0.00004	19.6	0.778	29	<0.00005	<0.005	0.041	0.0021
W8A	07/05/2010	0.00005	98.6	<0.001	<0.0005	0.0877	0.342	0.0002	<0.005	27.9	0.356	<0.00002	0.011	<0.001	0.044	4.56	0.0036	6.69	0.00003	18	0.988	29	<0.00005	<0.005	0.009	0.0027
W8A	08/05/2010	0.00011	115	<0.001	0.0007	0.149	0.343	<0.0002	<0.005	30	0.758	0.00002	0.012	0.002		5.43	0.0041	7.98	0.00004	21.8	1.13	32	<0.00005	<0.005	0.013	0.0028
W8A	09/05/2010	0.00008	68	<0.001	<0.0005	0.0208	0.251	<0.0002	0.008	14.7	0.364	<0.00002	0.049	0.001	0.025	24.8	0.0079	4.51	<0.00002	56.4	1.64	31	<0.00005	<0.005	<0.005	0.0008
W8A	10/05/2010	0.00025	36	<0.001	0.0006	0.0243	0.229	<0.0002	<0.005	8.35	0.425	<0.00002	0.01	0.002	0.034	5.1	0.0004	5.17	<0.00002	11.8	0.36	3	<0.00005	<0.005	<0.005	0.0002
W8A	13/05/2010	0.00009	77.6	<0.001	0.0009	0.106	1.1	<0.0002	0.006	17	1.07	<0.00002	0.032	0.001	0.049	16	0.0043	5.46	<0.00002	35	1.44	32	<0.00005	<0.005	0.017	0.0013
W8A	17/05/2010	0.00008	100	<0.001	<0.0005	0.101	0.292	<0.0002	0.006	27.8	0.463	<0.0002	0.01	0.001	0.036	4.45	0.003	6.44	0.00003	19.2	1.03	24	<0.00005	<0.005	0.009	0.0028
W8A	20/05/2010	0.00005	111	0.001	0.0005	0.117	0.284	<0.0002	<0.005	39.1	0.609	<0.00002	0.013	<0.003	0.045	5.73	0.003	7.42	0.00005	28	1.25	30	<0.00005	<0.005	0.009	0.0025
W8A	24/05/2010	0.0001	110	<0.002	0.0006	0.119	0.181	<0.0002	<0.01	34	0.699	<0.0002	0.013	0.001		5	0.0028	6.93	<0.0001	23	1.19	<60	<0.00005	<0.005	<0.01	0.0029
W8A	27/05/2010	0.0002	103	<0.002	0.0009	0.191	1.11	0.0003	<0.01	39	0.831	<0.00002	0.011	<0.003		6	0.003	8.07	<0.0001	28	1.12	<60	<0.00005	<0.005	0.041	0.0025
W8A	31/05/2010	0.0001	106	<0.002	0.0008	0.136	0.369	<0.0002	<0.01	38	0.849	<0.00002	0.011	0.002		6	0.002	7.97	<0.0001	26	1.09	<60	<0.00005	<0.005	0.01	0.003
W8A	03/06/2010	<0.0001	96	<0.002	0.0006	0.073	0.389	0.0002	<0.01	26	0.569	<0.0002	0.025	0.002		13	0.0032	6.15	<0.0001	39	1.48	<60	<0.00005	<0.005	0.011	0.002
W8A	14/06/2010	0.0001	80	<0.002	<0.0005	0.07	0.204	<0.0002	<0.01	27	0.476	<0.0002	0.021	0.001		12	0.0034	6.13	<0.0001	34	1.29	<60	<0.00005	<0.005	<0.01	0.0021
W8A	17/06/2010	<0.0001	108	<0.002	0.0005	0.107	0.221	<0.0002	<0.01	45	0.779	<0.0002	0.009	0.002		6	0.002	8.3	<0.0001	26	1.23	<60	<0.00005	<0.005	<0.01	0.0032
W8A	25/06/2010	<0.0001	102	<0.002	<0.0005	0.116	0.161	<0.0002	<0.01	42	0.663	<0.0002	0.008	0.001		6	0.0022	8.59	<0.0001	25	1.15	<60	<0.00005	<0.005	<0.01	0.0027
W8A	04/07/2010	<0.0001	95	<0.002	0.0008	0.162	0.356	<0.0002	<0.01	28	0.976	<0.0002	0.012	0.001		6	0.0048	7.86	<0.0001	18	1.01	<60	<0.00005	<0.005	<0.01	0.002
W8A	11/07/2010	<0.0001	108	<0.002	<0.0005	0.129	0.144	<0.0002	<0.01	44	0.728	<0.0002	0.009	0.001		7	0.0034	8.16	<0.0001	30	1.15	<60	<0.00005	<0.005	<0.01	0.0023
W8A	18/07/2010	<0.0001	94	<0.002	0.0006	0.111	0.216	<0.0002	<0.01	30	0.618	<0.0002	0.01	0.002		5	0.0047	7.61	<0.0001	21	1.01	<60	<0.00005	<0.005	<0.01	0.0024
W8A	25/07/2010	0.0002	111	0.002	0.0015	0.147	2.04	0.0009	<0.01	34	0.648	<0.0002	0.014	0.009		6	0.0064	10.5	<0.0001	23	1.08	<60	<0.00005	<0.005	0.055	0.0025
W8A	02/08/2010	0.0001	149	<0.002	0.0006	0.173	0.2	<0.0002	<0.01	40	1.02	<0.0002	0.011	0.003		7	0.0069	8.7	<0.0001	27	1.48	<60	<0.00005	<0.005	<0.01	0.0029
W8A	09/08/2010	0.0002	142	<0.002	0.0009	0.202	0.834	0.0003	<0.01	43	0.994	<0.0002	0.01	0.003		7	0.0064	9.71	0.0001	26	1.57	<60	<0.00005	<0.005	0.018	0.0038
W8A	15/08/2010	0.0002	119	<0.002	0.0008	0.191	0.887	0.0003	<0.01	39	0.882	<0.0002	0.009	0.003		6	0.0053	8.65	<0.0001	25	1.47	<60	<0.00005	<0.005	0.022	0.0035
W8A	22/08/2010	0.0002	120	0.003	0.0024	0.332	4.69	0.001	<0.01	32	0.871	<0.0002	0.013	0.004		7	0.0084	11	0.0002	20	1.73	<60	<0.00005	<0.005	0.127	0.0032
W8A	29/08/2010	<0.0001	116	<0.002	<0.0005	0.124	0.262	<0.0002	<0.01	30	0.594	<0.0002	0.01	0.001		6	0.0051	7.89	<0.0001	22	1.16	<60	<0.00005	<0.005	<0.01	0.0026
W8A	05/09/2010	0.0002	109	<0.002	0.0006	0.139	0.277	<0.0002	<0.01	44	0.753	<0.0002	0.008	0.002		6	0.0039	7.65	<0.0001	26	1.42	<60	<0.00005	<0.005	<0.01	0.0032
W8A	09/09/2010	0.0001	110	<0.002	0.001	0.228	1.59	0.0004	<0.01	43	0.758	<0.0002	0.008	0.002		6	0.0039	8.88	0.0001	26	1.52	<60	<0.00005	<0.005	0.036	0.0032
W8A	16/09/2010	0.0002	109	<0.002	0.0006	0.138	0.262	<0.0002	<0.01	47	0.694	<0.0002	0.007	0.002		6	0.003	8.26	<0.0001	28	1.32	<60	<0.00005	<0.005	<0.01	0.0031
W8A	23/09/2010	0.0002	99	<0.002	0.0005	0.138	0.27	<0.0002	<0.01	43	0.677	<0.0002	0.007	0.002		5	0.0023	7.31	<0.0001	26	1.3	<60	<0.00005	<0.005	<0.01	0.003
W8A	07/10/2010	0.0001	101	<0.001	0.0005	0.139	0.343	<0.0002	0.007	47.5	0.66	0.00002	0.006	0.002		5.43	0.0022	8.36	0.00003	28	1.3	27	<0.00005	<0.005	0.009	0.0031
W8A	01/04/2011	0.00005	63	<0.001	<0.0005	0.0445	0.162	<0.0002	0.013	14.7	0.211	<0.00002	0.035	<0.001	0.029	17.5	0.0105	4.15	<0.00002	59.9	1.3	36	<0.00005	<0.005	0.006	0.0007
W8A	07/04/2011	0.00003	65.4	<0.001	<0.0005	0.0219	0.073	<0.0002	0.012	16.5	0.126	<0.00002	0.04	<0.001	0.02	21.8	0.0131	3.96	<0.00002	60	1.35	38	<0.00005	<0.005	<0.005	0.0007
W8A	21/04/2011	0.00009	78.3	<0.001	<0.0005	0.137	0.371	<0.0002	0.007	34	0.348	<0.00002	0.006	<0.001	0.035	4.39	0.0017	6.5	0.00006	24.4	0.954	26	<0.00005	<0.005	0.009	0.003
W8A	25/04/2011	0.0001	76.1	<0.001	<0.0005	0.16	0.618	0.0002	0.006	28.1	0.399	<0.00002	0.008	<0.001	0.046	4.55	0.0021	6.84	0.00008	20.6	0.854	28	<0.00005	<0.005	0.017	0.0027

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W8A	06/08/2009	0.0012	0.005	0.0002	0.019	0.0006	0.0004	0.119	<0.00004	<0.001	0.028	0.00003	85.2	0.0014	0.00064	0.069	0.26	0.0005	0.005	38.4	0.896		0.0057	0.002	<0.01	4.7
W8A	10/08/2009																									
W8A	11/08/2009	0.0021	0.007	0.0003	0.051	<0.0002	0.0014	0.093	<0.00004	<0.001	0.014	0.00009	77.6	0.0014	0.00075	0.084	0.44	0.0001	0.007	44.5	1.05		0.0066	0.003	0.04	5.4
W8A	19/08/2009	0.0023	0.008	0.0002	0.009	0.0009	0.0008	0.11	<0.00004	<0.001	0.02	0.00004	82.2	0.0015	0.00094	0.066	0.17	0.0005	0.004	34.9	1.33	<0.00001	0.0059	0.002	0.03	5.1
W8A	21/08/2009	<0.005	0.007	<0.0005	0.007	<0.0005	0.0009	0.122	<0.0001	<0.001	<0.05	0.00006	99.3	<0.001	0.0011	0.0676	0.262	<0.0002	0.007	45.6	1.53	<0.00002	0.007	0.002		5.58
W8A	31/08/2009	0.0033	0.015	0.0003	0.022	0.0008	0.001	0.139	<0.00004	<0.001	0.022	0.00005	114	0.0016	0.00143	0.064	0.37	0.0005	0.006	54.6	1.8	<0.00001	0.0054	0.003	0.05	5.6
W8A	07/09/2009	0.0013	0.009	0.0002	0.013	0.0012	0.0005	0.184	<0.00004	<0.001	0.116	0.00017	201	0.001	0.0021	0.272	0.09	0.0005	0.003	35.8	2.39	0.00002	0.0052	0.003	0.03	5.9
W8A	18/09/2009	0.002	0.012	0.0004	0.023	0.0009	0.0012	0.148	<0.00004	<0.001	0.029	0.0001	130	0.0019	0.0016	0.072	0.55	0.0003	0.008	53.9	2.24	<0.00001	0.007	0.003	0.05	5.6
W8A	23/09/2009	0.0023	0.006	0.0004	<0.005	0.0003	0.0008	0.135	<0.00004	<0.001	0.052	0.00006	120	0.0016	0.00071	0.059	0.07	<0.0001	0.004	32.7	0.897	<0.00001	0.0169	0.003	0.01	5.8
W8A	30/09/2009	0.0016	0.009	0.0003	<0.005	0.0004	0.0008	0.148	<0.00004	<0.001	0.054	0.00007	132	0.0009	0.00119	0.069	0.1	<0.0001	0.004	39.1	1.5	<0.00001	0.0058	0.004	0.02	5.5
W8A	05/10/2009	0.001	0.003	0.0002	<0.005	<0.0002	0.0005	0.12	<0.00004	<0.001	0.041	0.00003	103	0.0008	0.0009	0.048	0.08	<0.0001	0.003	30.4	1.16	<0.00001	0.005	0.003	0.02	4.5
W8A	12/10/2009	0.0012	0.006	0.0003	<0.005	0.0004	0.0005	0.129	<0.00004	<0.001	0.039	0.00005	110	0.0006	0.00094	0.062	0.05	<0.0001	0.003	32.7	1.32	<0.00001	0.0057	0.004	0.02	4.5
W8A	19/10/2009	0.0008	0.007	0.0003	0.067	0.0014		0.15	<0.00004	<0.001	0.048	0.00012	94.8	<0.0004	0.00081	0.07	0.41	<0.0001	0.004	27.2	0.897	<0.00001	0.0167	0.003	0.02	8.2
W8A	09/11/2009	0.0008	0.014	0.0004	<0.005	0.0012	0.0006	0.132	<0.00004	<0.001	0.043	0.00008	102	0.0004	0.00073	0.052	0.15	0.0001	0.005	30.6	1.07	<0.00001	0.0099	0.003	<0.01	7
W8A	16/11/2009	0.0008	0.011	0.0002	0.11	0.001	0.0005	0.135	<0.00004	<0.001	0.046	0.0013	94.1	0.001	0.00071	0.084	0.28	0.0005	0.005	29.8	0.956	<0.00001	0.013	0.003	0.05	7.5
W8A	19/04/2010	0.0005	0.016	<0.0001	<0.005	0.0003	0.0003	0.033	<0.00004	<0.001	<0.004	0.00002	31.7	0.002	0.00014	0.032	0.02	<0.0001	0.002	12.4	0.195	<0.00001	0.0013	<0.001	0.02	3.2
W8A	20/04/2010	0.0009	0.008	0.0001	0.017	0.0014	0.0009	0.138	<0.00004	<0.001	0.013	0.00006	103	0.0008	0.00044	0.051	0.09	0.0002	0.005	33.1	0.524	<0.00001	0.0046	0.002	0.03	5.5
W8A	21/04/2010	0.0053	0.021	0.0003	0.006	0.0004	0.001	0.084	<0.00004	<0.001	0.017	0.00002	74.8	<0.0004	0.00039	0.115	0.1	<0.0001	0.003	21.7	0.534	0.00001	0.0065	0.002	0.03	4.4
W8A	22/04/2010	0.002	0.01	0.0005	<0.005	0.0002	0.0006	0.082	<0.00004	<0.001	0.138	0.00004	87.9	<0.0004	0.00077	0.064	0.1	<0.0001	0.044	20.3	1.5	<0.00001	0.0045	0.002	0.02	4.5
W8A	23/04/2010	0.0051	0.018	0.0004	0.016	0.0002	0.0007	0.077	<0.00004	<0.001	0.017	0.00004	67.3	0.0006	0.00038	0.128	0.12	<0.0001	0.003	18.6	0.379	<0.00001	0.008	0.002	0.04	4.1
W8A	24/04/2010	0.0112	0.028	0.0004	0.011	0.0002	0.0008	0.08	<0.00004	<0.001	0.02	0.00004	74.4	0.0006	0.00042	0.131	0.1	<0.0001	0.003	19.6	0.447	<0.00001	0.0125	0.001	0.03	4.2
W8A	25/04/2010	0.0094	0.031	0.0005	0.016	0.0002	0.0007	0.075	<0.00004	<0.001	0.02	0.00004	69.5	0.0005	0.00046	0.193	0.1	<0.0001	0.003	18	0.412	0.00001	0.012	0.002	0.02	4.1
W8A	26/04/2010	<0.005	0.014	<0.0005	0.021	<0.0005	0.0007	0.074	<0.0001	<0.001	<0.05	0.00005	63	<0.001	<0.0005	0.109	0.095	<0.0002	<0.005	16.5	0.249	<0.00002	0.011	0.001		4
W8A	27/04/2010	<0.005	0.009	<0.0005	0.038	<0.0005	0.0004	0.014	<0.0001	<0.001	<0.05	0.00003	25.7	<0.001	<0.0005	0.0322	0.065	<0.0002	<0.005	6.76	0.019	<0.00002	0.004	<0.001		1.8
W8A	28/04/2010	0.006	0.018	<0.0005	0.023	<0.0005	0.0007	0.077	<0.0001	<0.001	<0.05	0.00006	64.8	<0.001	<0.0005	0.124	0.098	<0.0002	<0.005	17.7	0.239	<0.00002	0.008	0.001		4.06
W8A	29/04/2010	0.005	0.014	0.0006	0.019	<0.0005	0.0006	0.081	<0.0001	<0.001	<0.05	0.00005	66.4	<0.001	<0.0005	0.103	0.086	<0.0002	<0.005	18	0.231	0.00002	0.008	0.001		3.88
W8A	30/04/2010	<0.005	0.008	<0.0005	0.015	<0.0005	0.0007	0.081	<0.0001	<0.001	<0.05	0.00009	78.5	<0.001	<0.0005	0.128	0.081	<0.0002	<0.005	17.6	0.344	<0.00002	0.014	<0.001	0.022	4.13
W8A	01/05/2010	0.011	0.028	0.0007	0.021	<0.0005	0.0006	0.092	<0.0001	<0.001	<0.05	0.00008	69.8	<0.001	<0.0005	0.108	0.072	<0.0002	<0.005	19	0.208	<0.00002	0.008	0.001		3.86
W8A	02/05/2010	0.006	0.016	0.0005	0.015	<0.0005	0.0006	0.094	<0.0001	<0.001	<0.05	0.00005	78.1	<0.001	<0.0005	0.082	0.055	<0.0002	<0.005	21.6	0.203	<0.00002	0.008	0.001		4.16
W8A	03/05/2010	<0.005	0.006	<0.0005	0.011	<0.0005	0.0006	0.095	<0.0001	<0.001	<0.05	0.00006	80.1	<0.001	<0.0005	0.0674	0.043	<0.0002	<0.005	22.6	0.219	<0.00002	0.008	0.001	0.018	4.11
W8A	04/05/2010	<0.005	0.009	<0.0005	0.011	<0.0005	0.0005	0.095	<0.0001	<0.001	<0.05	0.00004	75.4	<0.001	<0.0005	0.0589	0.042	<0.0002	<0.005	23.5	0.192	<0.00002	0.007	0.001	0.02	3.87
W8A	05/05/2010	<0.005	0.006	<0.0005	0.009	<0.0005	0.0006	0.1	<0.0001	<0.001	<0.05	0.00003	88.2	<0.001	<0.0005	0.071	0.043	<0.0002	<0.005	25.9	0.243	<0.00002	0.007	0.001	0.023	4.38
W8A	06/05/2010	<0.005	0.008	<0.0005	0.01	<0.0005	0.0006	0.093	<0.0001	<0.001	<0.05	0.00005	88.1	<0.001	<0.0005	0.0773	0.039	<0.0002	<0.005	26.3	0.225	<0.00002	0.008	0.001	0.02	4.34
W8A	07/05/2010	<0.005	<0.005	<0.0005	0.008	<0.0005	0.0006	0.107	<0.0001	<0.001	<0.05	0.00005	102	<0.001	<0.0005	0.0794	0.046	<0.0002	<0.005	29.8	0.35	<0.00002	0.011	<0.001	0.022	4.75
W8A	08/05/2010	<0.005	<0.005	<0.0005	0.009	<0.0005	0.0006	0.106	<0.0001	<0.001	<0.05	0.00007	104	<0.001	0.0006	0.124	0.058	<0.0002	<0.005	27	0.683	<0.00002	0.011	<0.001		4.94
W8A	09/05/2010	<0.005	<0.005	<0.0005	0.009	<0.0005	0.0004	0.102	<0.0001	<0.001	0.086	0.00006	63.5	<0.001	<0.0005	0.0125	0.049	<0.0002	0.009	14.2	0.298	<0.00002	0.049	<0.001	<0.01	23
W8A	10/05/2010	<0.005	<0.005	<0.0005	0.007	<0.0005	0.0006	0.07	<0.0001	<0.001	<0.05	0.00007	35.3	<0.001	<0.0005	0.0175	0.073	<0.0002	<0.005	7.85	0.336	<0.00002	0.01	0.002	0.013	4.98
W8A	13/05/2010	<0.005	0.007	<0.0005	0.006	<0.0005	0.0004	0.111	<0.0001	<0.001	0.072	0.00006	84.6	<0.001	0.0005	0.0279	0.12	<0.0002	0.006	18.1	0.855	<0.00002	0.036	0.001	<0.01	16.9
W8A	17/05/2010	<0.005	<0.005	<0.0005	0.011	<0.0005	0.0005	0.108	<0.0001	<0.001	<0.05	0.00005	99.9	<0.001	<0.0005	0.0693	0.036	<0.0002	<0.005	29.4	0.439	<0.0002	0.011	0.005	0.015	4.59
W8A	20/05/2010	<0.005	<0.005	<0.0005	0.007	<0.0005	<0.001	0.127	<0.0005	<0.001	<0.05	0.00006	112	<0.001	<0.0005	0.0986	0.064	<0.0002	0.006	36	0.601	<0.00002	0.015	<0.003	0.017	5.78
W8A	24/05/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	0.0007	0.104	<0.0002	<0.001	<0.1	<0.0001	110	High DL removed	0.0005	0.093	0.056	<0.0002	<0.01	32	0.655	<0.0002	0.013	0.001		5
W8A	27/05/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.001	0.107	<0.0005	<0.001	<0.1	<0.0001	97	High DL removed	<0.0005	0.117	0.064	<0.0002	<0.01	38	0.765	<0.00002	0.011	<0.003		6
W8A	31/05/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	0.0007	0.111	<0.0002	<0.001	<0.1	<0.0001	105	High DL removed	0.0006	0.105	0.058	<0.0002	<0.01	34	0.809	<0.00002	0.011	0.001		6
W8A	03/06/2010	<0.005	<0.01	<0.002	0.022	<0.0005	0.0005	0.103	<0.0002	<0.001	<0.1	<0.0001	93	High DL removed	<0.0005	0.043	0.03	<0.0002	<0.01	25	0.328	<0.0002	0.024	0.001		12
W8A	14/06/2010	<0.005	<0.01	<0.002	0.02	<0.0005	<0.0004	0.109	<0.0002	<0.001	<0.1	<0.0001	82	High DL removed	<0.0005	0.047	0.053	<0.0002	<0.01	27	0.416	<0.0002	0.02	0.001		12
W8A	17/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	0.0007	0.115	<0.0002	<0.001	<0.1	<0.0001	113	High DL removed	<0.0005	0.09	0.06	<0.0002	<0.01	43	0.744	<0.0002	0.009	0.001		6
W8A	25/06/2010	<0.005	<0.01	<0.002	0.01	<0.0005	0.0005	0.118	<0.0002	<0.001	<0.1	<0.0001	100	High DL removed	<0.0005	0.089	0.067	<0.0002	<0.01	37	0.604	<0.0002	0.009	0.001		6
W8A	04/07/2010	<0.005	<0.01	<0.002	0.061	<0.0005	0.0006	0.1	<0.0002	<0.001	<0.1	0.0001	86	High DL removed	0.0007	0.147	0.138	<0.0002	<0.01	30	0.961	<0.0002	0.013	0.001		6
W8A	11/07/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	0.0006	0.111	<0.0002	<0.001	<0.1	<0.0001	110	High DL removed	<0.0005	0.097	0.063	<0.0002	<0.01	34	0.62	<0.0002	0.01	0.001		6
W8A	18/07/2010	<0.005	<0.01	<0.002	0.013	<0.0005	0.0006	0.109	<0.0002	<0.001	<0.1	<0.0001	96	High DL removed	<0.0005	0.099	0.055	<0.0002	<0.01	30	0.654	<0.0002	0.011	0.001		5
W8A	25/07/2010	<0.005	0.015	<0.002	<0.01	<0.0005	0.0007	0.123	<0.0002	<0.001	<0.1	0.0001	102	High DL removed	<0.0005	0.096	0.083	<0.0002	<0.01	28	0.506	<0.0002	0.014	0.002		5
W8A	02/08/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	0.0006	0.146	<0.0002	<0.001	<0.1	0.0001	130	High DL removed	0.0006	0.146	0.065	<0.0002	<0.01	38	0.962	<0.0002	0.011	0.002		7
W8A	09/08/2010	<0.005	<0.01	<0.002	0.012	<0.0005	0.0007	0.145	<0.0002	<0.001	<0.1	0.0001	128	High DL removed	0.0005	0.138	0.07	<0.0002	<0.01	40	0.884	<0.0002	0.01	0.002		7
W8A	15/08/2010	<0.005	<0.01	<0.002	0.01	<0.0005	0.0007	0.143	<0.0002	<0.001	<0.1	0.0002	124	High DL removed	0.0005	0.153	0.07	<0.0002	<0.01	40	0.875	<0.0002	0.009	0.006		6
W8A	22/08/2010	0.009	0.022	<0.002	0.011	<0.0005	0.0007	0.141	<0.0002	<0.001	<0.1	0.0002	133	High DL removed	0.0008	0.121	0.068	<0.0002	<0.01	34	0.822	<0.0002	0.014	0.002		7
W8A	29/08/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	0.0008	0.128	<0.0002	<0.001	<0.1	0.0001	122	High DL removed	<0.0005	0.117	0.034	<0.0002	<0.01	33	0.618	<0.0002	0.011	0.001		6
W8A	05/09/2010	<0.005	<0.01	<0.002	0.012	0.001	0.0007	0.148	<0.0002	<0.001	<0.1	0.0001	110	High DL removed	0.0005	0.115	0.065	<0.0002	<0.01	41	0.687	<0.0002	0.009	0.004		5
W8A	09/09/2010	<0.005	0.011	<0.002	<0.01	<0.0005	0.0005	0.133	<0.0002	<0.001	<0.1	0.0001	112	High DL removed	0.0006	0.114	0.043	<0.0002	<0.01	44	0.733	<0.0002	0.008	0.002		7
W8A	16/09/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	0.0006	0.127	<0.0002	<0.001	<0.1	0.0001	105	High DL removed	0.0005	0.117	0.076	<0.0002	<0.01	45	0.659	<0.0002	0.007	0.004		6
W8A	23/09/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	0.0005	0.115	<0.0002	<0.001	<0.1	0.0001	103	High DL removed	0.0005	0.12	0.094	<0.0002	<0.01	46	0.691	<0.0002	0.007	0.001		6
W8A	07/10/2010	<0.005	<0.005	<0.0005	0.008	<0.0005	0.0005	0.108	<0.0001	<0.001	<0.05	0.00017	91.3	<0.001	<0.0005	0.102	0.065	<0.0002	0.007	42.5	0.588	<0.00002	0.005	0.001		4.8
W8A	01/04/2011	<0.005	0.008	<0.0005	0.017	<0.0005	0.0004	0.118	<0.0001	<0.001	0.082	0.00005	62.4	<0.001	<0.0005	0.0169	0.026	<0.0002	0.014	14.3	0.203	<0.00002	0.035	<0.001	<0.01	16.2
W8A	07/04/2011	<0.005	<0.005	<0.0005	0.005	<0.0005	0.0004	0.122	<0.0001	<0.001	0.074	0.00003	62.8	<0.001	<0.0005	0.0145	0.017	<0.0002	0.013	15.2	0.119	<0.00002	0.036	<0.001	<0.01	21.3
W8A	21/04/2011	<0.005	<0.005	<0.0005	0.003	<0.0005	0.0003	0.081	<0.0001	<0.001	<0.05	0.00007	76	<0.001	<0.0005	0.0844	0.035	<0.0002	0.007	30	0.314	<0.00002	0.005	<0.001	0.013	4.03
W8A	25/04/2011	<0.005	<0.005	<0.0005	0.006	<0.0005	0.0003	0.07	<0.0001	<0.001	<0.05	0.00007	74.1	<0.001	<0.0005	0.0897	0.041	<0.0002	0.005	24.9	0.361	<0.00002	0.007	<0.001	0.012	3.78

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	BOD5	Br	Cation	COD	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-T	N-TKN	P-PO4T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L
W8A	06/08/2009	0.0006	6.97	<0.00001	23	1	18.4	<0.00001	<0.0001	0.0018	0.0016	0.0008	0.002	0.0002	410	<6	<5							<5							0.44	0.03
W8A	10/08/2009																															
W8A	11/08/2009	0.0016	7.82	<0.00001	23.9	0.935	17	<0.00001	<0.0001	0.0099	0.0022	0.0017	0.025	0.0003	470	<6	<5							87							0.77	0.04
W8A	19/08/2009	0.0007	7.37	<0.00001	20.1	0.816	19.5	<0.00001	<0.0001	0.0008	0.0017	0.0009	0.002	0.0003	380	<6	<5														0.62	0.07
W8A	21/08/2009	0.0015	8.77	<0.00002	22.4	1.15	22	<0.00005	<0.005	<0.005	0.0025	<0.005	<0.005	<0.0005	480	<0.5	<0.5	<0.5			<0.4											
W8A	31/08/2009	0.0022	8.2	<0.00001	24.8	1.17	32.8	<0.00001	<0.0001	0.0018	0.0025	0.0014	0.006	0.0004	450	<6	<5														0.86	0.07
W8A	07/09/2009	0.0032	6.8	<0.00001	24.6	1.57	43.6	<0.00001	<0.0001	0.0011	0.0022	0.0006	0.004	0.0002	410	<6	<5														<0.06	0.05
W8A	18/09/2009	0.0024	8.6	0.00003	25.6	1.47	28.2	<0.00001	<0.0001	0.0023	0.0029	0.0015	0.003	0.0004	470	<6	<5														0.77	0.08
W8A	23/09/2009	0.0045	7.14	<0.00001	21.3	1.31	29.4	<0.00001	<0.0001	0.001	0.0026	0.001	0.001	0.0002	350	<6	<5														3.41	0.05
W8A	30/09/2009	0.003	7.64	<0.00001	24.1	1.18	31.9	<0.00001	<0.0001	0.0014	0.0019	0.0008	0.002	0.0002	370	<6	<5														1.87	0.09
W8A	05/10/2009	0.0015	7.06	<0.00001	19	0.927	25.2	<0.00001	<0.0001	0.0013	0.0014	0.0007	0.001	0.0002	320	<6	<5														1.11	0.08
W8A	12/10/2009	0.0015	7.28	<0.00001	21.4	1.04	24.8	<0.00001	<0.0001	<0.01	0.002	0.0007	0.002	0.0002	370	<6	<5														0.19	0.06
W8A	19/10/2009	0.0042	5.55	<0.00001	26.9	1.48	31.7	<0.00001	<0.0001	<0.01	0.0019	0.0008	0.009	0.0002	290	<6	<5														2.05	0.04
W8A	09/11/2009	0.0025	6.88	<0.00001	30.4	1.19	29.8	<0.00001	<0.0001	<0.010	0.0017	0.0006	0.006	0.0002	330	<6	<5														0.73	0.04
W8A	16/11/2009	0.0026	6.12	<0.00001	28.2	1.53	29.2	<0.00001	<0.0001	<0.01	0.0019	0.0009	0.017	0.0002	330	<6	<5														1.97	0.08
W8A	19/04/2010	<0.0006	3.17	<0.00001	7.3	0.309	4.8	<0.00001	<0.0001	<0.01	0.0005	0.0008	<0.001	0.0002	150	<6	<5														0.65	0.04
W8A	20/04/2010	0.0024	6.45	<0.00001	19.7	0.931	19.8	<0.00001	<0.0001	<0.01	0.0019	0.0007	0.007	0.0002	400	<6	<5														1.05	0.09
W8A	21/04/2010	0.0022	4.54	<0.00001	12.4	0.727	15.3	<0.00001	<0.0001	<0.01	0.0013	0.0008	0.002	0.0002	250	<6	<5														0.36	0.07
W8A	22/04/2010	0.0008	4.46	<0.00001	11.9	0.738	15.1	<0.00001	<0.0001	<0.01	0.0012	0.0005	0.003	0.0002	270	<6	<5														0.39	0.05
W8A	23/04/2010	0.0024	4.31	0.00001	11.6	0.637	16.5	<0.00001	<0.0001	<0.01	0.0012	0.0009	<0.001	0.0003	190	<6	<5														0.3	0.06
W8A	24/04/2010	0.0041	4.41	<0.00001	14.4	0.761	22	<0.00001	<0.0001	<0.01	0.0015	0.001	<0.001	0.0002	190	<6	<5														1.32	0.06
W8A	25/04/2010	0.0035	4.4	0.00001	13.5	0.722	18.4	<0.00001	<0.0001	<0.01	0.0015	0.0009	<0.001	0.0002	190	<6	<5														0.94	0.06
W8A	26/04/2010	0.0036	4.52	<0.00002	12.8	0.565	20	<0.00005	<0.005	<0.005	0.0011	<0.005	<0.005	<0.0005	180	<0.5	<0.5	<0.5			<0.4											
W8A	27/04/2010	0.0004	3.81	<0.00002	4.02	0.109	4	<0.00005	<0.005	<0.005	0.0004	<0.005	<0.005	<0.0005	180	<0.5	<0.5	<0.5			<0.4											
W8A	28/04/2010	0.0033	5.55	<0.00002	12.9	0.535	17	<0.00005	<0.005	<0.005	0.0011	<0.005	<0.005	<0.0005	180	<0.5	<0.5	<0.5			<0.4											
W8A	29/04/2010	0.0035	5.48	<0.00002	12.9	0.563	17	<0.00005	<0.005	<0.005	0.0012	<0.005	<0.005	<0.0005	190	<0.5	<0.5	<0.5			<0.4											
W8A	30/04/2010	0.0042	5.6	<0.00002	14.7	0.709	21	<0.00005	<0.005	<0.005	0.0016	<0.005	<0.005	<0.0005	210	<0.5	<0.5	<0.5			<0.4											
W8A	01/05/2010	0.0039	5.44	<0.00002	14.2	0.616	20	<0.00005	<0.005	<0.005	0.0014	<0.005	<0.005	<0.0005	210	<0.5	<0.5	<0.5			<0.4											
W8A	02/05/2010	0.0039	6.01	<0.00002	15.9	0.655	22	<0.00005	<0.005	<0.005	0.0016	<0.005	<0.005	<0.0005	210	<0.5	<0.5	<0.5			<0.4											
W8A	03/05/2010	0.004	5.99	<0.00002	16.3	0.708	25	<0.00005	<0.005	<0.005	0.0018	<0.005	<0.005	<0.0005	220	<0.5	<0.5	<0.5			<0.4											
W8A	04/05/2010	0.0038	5.97	<0.00002	16.4	0.687	24	<0.00005	<0.005	<0.005	0.0018	<0.005	<0.005	<0.0005	230	<0.5	<0.5	<0.5			<0.4											
W8A	05/05/2010	0.0037	6.58	<0.00002	17.7	0.76	28	<0.00005	<0.005	<0.005	0.002	<0.005	<0.005	<0.0005	260	<0.5	<0.5	<0.5			<0.4											
W8A	06/05/2010	0.0037	6.34	<0.00002	18	0.775	28	<0.00005	<0.005	<0.005	0.0021	<0.005	<0.005	<0.0005	250	<0.5	<0.5	<0.5			<0.4											
W8A	07/05/2010	0.0039	6.01	<0.00002	20	1.01	31	<0.00005	<0.005	<0.005	0.0029	<0.005	<0.005	<0.0005	300	6.3	<0.5	5.3			<0.4											
W8A	08/05/2010	0.0038	6.38	<0.00002	20.4	1.01	29	<0.00005	<0.005	<0.005	0.0026	<0.005	<0.005	<0.0005	310	<0.5	<0.5	<0.5			<0.4											
W8A	09/05/2010	0.0078	3.89	<0.00002	56.4	1.58	34	<0.00005	<0.005	<0.005	0.0008	<0.005	<0.005	<0.0005	180	<0.5	<0.5	<0.5			<0.4											
W8A	10/05/2010	0.0004	5.68	<0.00002	11.4	0.359	5	<0.00005	<0.005	<0.005	0.0002	<0.005	<0.005	<0.0005	150	<0.5	<0.5	<0.5			<0.4											
W8A	13/05/2010	0.0048	5.63	<0.00002	42.2	1.55	33	<0.00005	<0.005	<0.005	0.0013	<0.005	<0.005	<0.0005	240	<0.5	<0.5	<0.5			<0.4											
W8A	17/05/2010	0.0033	7.13	0.00003	20.6	1.04	30	<0.00005	<0.005	<0.005	0.0028	<0.005	<0.005	<0.0005	320	6.7	<0.5	5.6			<0.4											
W8A	20/05/2010	0.004	7.21	0.00004	28.2	1.37	29	<0.00005	<0.005	<0.005	0.0027	<0.005	<0.005	<0.0005	350	11	<0.5	9.3			<0.4											
W8A	24/05/2010	0.0027	7.08	High DL removed	22	1.17	<60	<0.00005	<0.005	<0.01	0.0028	<0.005	<0.01	<0.002	360	9.3	<0.5	7.7			<0.4											
W8A	27/05/2010	0.003	7.15	High DL removed	28	1.1	<60	<0.00005	<0.005	<0.01	0.0023	<0.005	<0.01	<0.002	350	14	<0.5	11			<0.4											
W8A	31/05/2010	0.002	7.52	High DL removed	24	1.12	<60	<0.00005	<0.005	<0.01	0.003	<0.005	<0.01	<0.002	410	<0.5	<0.5	<0.5			<0.4											
W8A	03/06/2010	0.0038	5.94	High DL removed	36	1.36	<60	<0.00005	<0.005	<0.01	0.0019	<0.005	<0.01	<0.002	280	5.4	<0.5	4.5			<0.4											
W8A	14/06/2010	0.0032	6.33	High DL removed	40	1.25	<60	<0.00005	<0.005	<0.01	0.0021	<0.005	<0.01	<0.002	290	10	<0.5	8.5			<0.4											
W8A	17/06/2010	0.0019	8.37	High DL removed	26	1.26	<60	<0.00005	<0.005	<0.01	0.0031	<0.005	<0.01	<0.002	480	<0.5	<0.5	<0.5			<0.4											
W8A	25/06/2010	0.0018	8.38	High DL removed	23	1.19	<60	<0.00005	<0.005	<0.01	0.0026	<0.005	<0.01	<0.002	400	22	<0.5	18			<0.4							15.6				
W8A	04/07/2010	0.0047	7.36	High DL removed	20	1.06	<60	<0.00005	<0.005	<0.01	0.0022	<0.005	<0.01	<0.002	270	<0.5	<0.5	<0.5			<0.4											
W8A	11/07/2010	0.0038	7.44	High DL removed	22	1.18	<60	<0.00005	<0.005	<0.01	0.0024	<0.005	<0.01	<0.002	370	8.2	<0.5	6.8			<0.4											
W8A	18/07/2010	0.0054	7.69	High DL removed	21	1.09	<60	<0.00005	<0.005	<0.01	0.0026	<0.005	<0.01	<0.002	330	<0.5	<0.5	<0.5			<0.4											
W8A	25/07/2010	0.0069	7.58	High DL removed	20	0.992	<60	<0.00005	<0.005	<0.01	0.0021	<0.005	<0.01	<0.002	270	<0.5	<0.5	<0.5			<0.4											
W8A	02/08/2010	0.0071	8.64	High DL removed	26	1.48	<60	<0.00005	<0.005	<0.01	0.003	<0.005	<0.01	<0.002	380	<0.5	<0.5	<0.5			<0.4											
W8A	09/08/2010	0.0059	8.62	High DL removed	26	1.54	<60	<0.00005	<0.005	<0.01	0.0035	<0.005	<0.01	<0.002	410	6.8	<0.5	5.7			<0.4											
W8A	15/08/2010	0.0059	7.86	High DL removed	23	1.44	<60	<0.00005	<0.005	<0.01	0.0036	<0.005	<0.01	<0.002	420	5.9	<0.5	4.9			<0.4											
W8A	22/08/2010	0.0093	7.91	High DL removed	22	1.82	<60	<0.00005	<0.005	<0.01	0.0031	<0.005	<0.01	<0.002	320	9.3	<0.5	7.8			<0.4											
W8A	29/08/2010	0.0055	8.05	High DL removed	25	1.21	<60	<0.00005	<0.005	<0.01	0.0025	<0.005	<0.01	<0.002	330	<0.5	<0.5	<0.5			<0.4											
W8A	05/09/2010	0.0042	7.13	High DL removed	24	1.59	<60	<0.00005	<0.005	<0.01	0.0034	<0.005	<0.01	<0.002	440	<0.5	<0.5	<0.5			<0.4											
W8A	09/09/2010	0.0043	7.89	High DL removed	27	1.47	<60	<0.00005	<0.005	<0.01	0.003	<0.005	<0.01	<0.002	430	<0.5	<0.5	<0.5			<0.4											
W8A	16/09/2010	0.003	7.55	High DL removed	26	1.29	<60	<0.00005	<0.005	<0.01	0.003	<0.005	<0.01	<0.002	430	7.2	<0.5	6			<0.4											
W8A	23/09/2010	0.0024	7.83	High DL removed	31	1.28	<60	<0.00005	<0.005	<0.01	0.0029	<0.005	<0.01	<0.002	460	<0.5	<0.5	<0.5			<0.4											
W8A	07/10/2010	0.002	7.28	<0.00002	24.9	1.18	25	<0.00005	<0.005	<0.005	0.0027	<0.005	<0.005	<0.0005	460	9.1	<0.5	7.6			<0.4											
W8A	01/04/2011	0.0109	3.95	<0.00002	54.7	1.28	35	<0.00005	<0.005	<0.005	0.0007	<0.005	0.012	<0.0005	160	<0.5	<0.5	<0.5			<0.4											
W8A	07/04/2011	0.0129	4.1	<0.00002	54.4	1.32	41	<0.00005	<0.005	<0.005	0.0007	<0.005	<0.005	<0.0005	170	<0.5	<0.5	<0.5			<0.4											
W8A	21/04/2011	0.0018	6.06	<0.00002	21.5	0.916	24	<0.00005	<0.005	<0.005	0.0026	<0.005	<0.005	<0.0005	350	<0.5	<0.5	<0.5														
W8A	25/04/2011	0.0021	5.51	0.00002	18.3	0.796	24	<0.00005	<0.005	<0.005	0.0024	<0.005	<0.005	<0.0005	300	<0.5	<0.5	<0.5														

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	P-TDP	P-TRP	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		mg/L	mg/L	Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W8A	06/08/2009		0.05					2.5	
W8A	10/08/2009								
W8A	11/08/2009		0.06					8	
W8A	19/08/2009		0.06					7.6	
W8A	21/08/2009		0.009					10.3	
W8A	31/08/2009		0.06					17	
W8A	07/09/2009		<0.05					3.2	
W8A	18/09/2009		0.07					5.6	
W8A	23/09/2009							13	
W8A	30/09/2009							3.1	
W8A	05/10/2009							2.4	
W8A	12/10/2009							2.6	
W8A	19/10/2009							2.1	
W8A	09/11/2009							1.8	
W8A	16/11/2009							1.9	
W8A	19/04/2010							14	
W8A	20/04/2010							12	
W8A	21/04/2010							21	
W8A	22/04/2010							6.1	
W8A	23/04/2010							32	
W8A	24/04/2010							58	
W8A	25/04/2010							32	
W8A	26/04/2010		0.008					13.4	63
W8A	27/04/2010		0.009					37.8	19.1
W8A	28/04/2010		0.008					13.4	8
W8A	29/04/2010		<0.005					27.9	10.7
W8A	30/04/2010		<0.005					18.3	
W8A	01/05/2010		<0.005					83.8	41
W8A	02/05/2010		<0.005					51.7	38
W8A	03/05/2010		<0.005					12.5	7.5
W8A	04/05/2010		<0.005					18.5	
W8A	05/05/2010		<0.005					7.9	15
W8A	06/05/2010		<0.005					10.7	
W8A	07/05/2010		0.007					10.4	
W8A	08/05/2010		<0.005					9.2	
W8A	09/05/2010		<0.005					2.2	10
W8A	10/05/2010		<0.005					2.3	
W8A	13/05/2010		<0.005					4.8	
W8A	17/05/2010		<0.005					3.9	
W8A	20/05/2010		<0.005					4.1	
W8A	24/05/2010		<0.005					2	
W8A	27/05/2010		<0.005					4	
W8A	31/05/2010							8.5	
W8A	03/06/2010		<0.005					6.2	
W8A	14/06/2010		<0.005					1.9	
W8A	17/06/2010		<0.005					1.3	
W8A	25/06/2010		<0.005					1	3.1
W8A	04/07/2010		<0.005					2.6	1.7
W8A	11/07/2010		<0.005					0.7	-0.8
W8A	18/07/2010		<0.005						10.2
W8A	25/07/2010		<0.005					10.6	22.7
W8A	02/08/2010		<0.005					2.2	3
W8A	09/08/2010		0.006					9.3	12.8
W8A	15/08/2010		0.006					13.4	6.8
W8A	22/08/2010		0.008					56.8	26.8
W8A	29/08/2010		<0.005					5.7	12.9
W8A	05/09/2010		<0.005					4	7.9
W8A	09/09/2010		<0.005					32.5	30.3
W8A	16/09/2010		<0.005					3.5	13.7
W8A	23/09/2010		0.008					4.3	14.7
W8A	07/10/2010		0.05					5.3	3.6
W8A	01/04/2011		<0.005					0.9	
W8A	07/04/2011		0.005					0.6	
W8A	21/04/2011								
W8A	25/04/2011								

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T	B-T
			mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W8A	30/04/2011	P	42	320		8.14		524					236	220	170	4.7	0.42	71	0.161	0.058	7.8	13.6	1.52	<0.0005	0.0007	0.087	<0.0001	<0.001	<0.05
W8A	06/05/2011	P	37	290		8.09		493					237	227	190	2.8	0.35	56	0.051	0.029	4.8		0.846	<0.0005	0.0007	0.081	<0.0001	<0.001	<0.05
W8A	13/05/2011	P	18	380		8.37							292	302	240	3.1	0.38	73	0.019	0.026	6.5	11.5	0.514	<0.0005	0.0007	0.09	<0.0001	<0.001	<0.05
W8A	21/05/2011	P	100	430		8.33		680					321	323	280	3.8	0.38	74	0.007	0.077	6.8	15.5	2.19	<0.0005	0.0016	0.126	0.0001	<0.001	<0.05
W8A	25/05/2011	P	30	480		8.19		707					404	347	280	4.6	0.4	80	0.042	0.025	8.6	13.1	0.669	<0.0005	0.0009	0.097	<0.0001	<0.001	<0.05
W8A	10/06/2011	P	35	490		8.42		762					415	383	330	<0.5	0.41	71	0.029	0.02	6.2	10.1	1.48	<0.0005	0.0012	0.124	<0.0001	<0.001	<0.05
W8A	17/06/2011	P	170	990		7.91		1410					758	676	360					0.328	54	15.7	1.23	<0.0005	0.0008	0.178	<0.0001	<0.001	0.062
W8A	24/06/2011	P	25	480		8.28		752					358	391	330			63	0.032	0.013	5.6		0.498	<0.0005	0.0007	0.101	<0.0001	<0.001	<0.05
W8A	30/06/2011	P	49	410		7.98		621					299	319	280			55	0.019	0.017	6.1		0.956	<0.0005	0.0009	0.095	<0.0001	<0.001	<0.05
W8A	08/07/2011	P	44	510		7.88		727					379	377	310			85	0.04	0.012	5.9	12.4	2.54	<0.0005	0.0011	0.127	<0.0001	<0.001	<0.05
W8A	15/07/2011	P	270	470		7.99		736					368	350	300	3.5	0.34	73	0.008	0.022	8.5	14.1	3.63	<0.0005	0.0028	0.158	0.0001	<0.001	<0.05
W8A	21/07/2011	P	43	550		7.97		804					385	371	270			100	0.024	0.024	16.6	13.9	0.225	<0.0005	0.0006	0.12	<0.0001	<0.001	<0.05
W8A	31/07/2011	P	3	550		8.21		846					389	437	310			97	0.042	0.016	14.6	12.7	0.077	<0.0005	0.0005	0.104	<0.0001	<0.001	<0.05
W8A	05/08/2011	P	19	520		8.04		809					430	405	280			94	0.043	0.026	14.4	12.3	0.637	<0.0005	0.0008	0.111	<0.0001	<0.001	<0.05
W8A	08/08/2011	P	30	570		7.8		708					362	397	240				0.022	0.046	7.8	14.6	0.777	<0.0005	0.0007	0.106	<0.0001	<0.001	<0.05
W8A	09/08/2011	P	16	540		7.85		740					362	380	240				0.009	0.038	12.8	14.2	0.693	<0.0005	0.0008	0.114	<0.0001	<0.001	<0.05
W8A	10/08/2011	P	13	550		8.09		769					336	372	250					0.031	14.2	12.9	0.468	<0.0005	0.0007	0.102	<0.0001	<0.001	<0.05
W8A	11/08/2011	P	12	540		8.3		763					357	423	260					0.022	13.9	14	0.981	<0.0005	0.0007	0.114	<0.0001	<0.001	<0.05
W8A	12/08/2011	P	15	640		8.06		792					358	381	280				0.039	0.023	15.2	12.5	0.42	<0.0005	0.0006	0.108	<0.0001	<0.001	<0.05
W8A	13/08/2011	P	7	640		8.06		808					367	375	280				0.043	0.021	14.6	12.4	0.236	<0.0005	0.0005	0.107	<0.0001	<0.001	<0.05
W8A	14/08/2011	P	7	620		8		821					381	384	290				0.038	0.017	14	12.1	0.187	<0.0005	0.0005	0.106	<0.0001	<0.001	<0.05
W8A	15/08/2011	P	94	630		8.1		823					369	387	300				0.035	0.018	17.7	0.6	0.991	<0.0005	0.0009	0.117	<0.0001	<0.001	<0.05
W8A	16/08/2011	P	70	660		8.09		828					376	376	300				0.038	0.02	13.3	11.2	0.65	<0.0005	0.0007	0.113	<0.0001	<0.001	<0.05
W8A	17/08/2011	P	10	700		8.19		832					366	411	310				0.042	0.017	12.5	10.9	0.333	<0.0005	0.0006	0.107	<0.0001	<0.001	<0.05
W8A	18/08/2011	P	8	580		8.06		816					378	407	300				0.018	0.016	11.1	12.2	0.328	<0.0005	0.0005	0.107	<0.0001	<0.001	<0.05
W8A	19/08/2011	P	21	1200		7.87		1390					694	691	250				0.076	0.157	72	12	4.1	<0.0005	0.001	0.244	0.0001	<0.001	0.056
W8A	20/08/2011	P	7	540		8.22		799					354	377	310				0.02	0.015	9.9	11.8	0.148	<0.0005	0.0005	0.099	<0.0001	<0.001	<0.05
W8A	21/08/2011	P	6	550		8.3		790					375	405	310				0.013	0.013	9.7	10.1	0.167	<0.0005	0.0007	0.099	<0.0001	<0.001	<0.05
W8A	27/08/2011	P	5	520		7.93		823					392	421	320			91	0.048	0.015	12.1	9.7	0.203	<0.0005	0.0006	0.104	<0.0001	<0.001	<0.05
W8A	03/09/2011	P	2	540	7.68	8.37	762.8	842	2	11.78	85.4		350	407	350	3.8			0.042	0.006	7	8.5	0.042	<0.0005	0.0004	0.088	<0.0001	<0.001	<0.05
W8A	10/09/2011	P	1	560	7.64	8.18	604.1	858	1.6	17.55	125.8		412	450	360	4.6			0.032	0.005	8.8	6.7	0.043	<0.0005	0.0004	0.098	<0.0001	<0.001	<0.05
W8A	16/09/2011	P	2	510	7.59	8.07	140.9	850	0.2	12.46	86.4		368	418	360	3.2		87	0.019	0.007	7.7		126	<0.5	0.4	90	<0.1	<1	<0.05
W8A	23/09/2011	P	7	530	7.66	8.2	786.3	826	1.1	12.39	87.6		376	401	370	2.9		85	0.028	<0.005	6.3		0.049	<0.0005	0.0004	0.091	<0.0001	<0.001	<0.05
W8A	30/09/2011	P	<4	500	7.62	8.21	858.6	828	0.9	12.61	88.6		381	414	370	3.8		85	0.055	<0.005	5.3	6.8	0.047	<0.0005	0.0004	0.09	<0.0001	<0.001	<0.05
W8A	08/10/2011	P	1	510	7.6	8.24	896.2	848	0.4	12.94	89.6		411	483	370	3.8			0.009	<0.005	5.5	7.6	0.029	<0.0005	0.0003	0.087	<0.0001	<0.001	<0.05
W8A	08/11/2011	P	10.6	518	7.64	8.26	629.7	850	0	12.83	87.7		411	448	380	3.4			0.0273	0.007	6.07	4.63	0.195	<0.0005	0.0005	0.087	<0.0001	<0.001	<0.05
W8A	21/11/2011	P	6.3	524		8.09		874					424	465	394	3.8			0.0222	<0.005	5.29	4.53	0.079	<0.0005	0.0003	0.089	<0.0001	<0.001	<0.05
W8A	28/11/2011	P	2.4	524		8.24		855					392	406	393	3.3	0.43	92.3	0.028	<0.005	4.37	4.97	0.077	<0.0005	0.0003	0.08	<0.0001	<0.001	<0.05
W8A	05/12/2011	P	<4.0	506		7.77		887					369	422	392	3.2		83.3	0.0351	0.007	3.54	3.83	0.058	<0.0005	0.0003	0.083	<0.0001	<0.001	<0.05
W8A	20/09/2012 11:20	P	23.3	752	7.49	7.87	522	941	3.7	7.25	55.8	104.7	423	470	358	4.7	0.49	131	0.11	0.0233	12.4	10.1	0.707	<0.00050	0.00064	0.0973	<0.00010	<0.0010	<0.05
W8A	25/09/2012 7:35	P	5.1	584	7.3	8.2	490.3	1040	1	6.46	46	134.7	470	434	332	4.6	0.42	150	0.041	0.0373	24.9		0.596	<0.0010	0.00059	0.102	<0.00020	<0.0020	<0.1
W8A	12/10/2012 11:10	P	20.3	576	7.35	7.92	516	898	0	6.3	43.3	143.3	502		370	3.5	0.41	107	0.03	0.0111	9.41	9.27	0.465	<0.00050	0.00053	0.118	<0.00010	<0.0010	<0.05
W8A	19/10/2012 13:10	P	34.6	556	7.52	7.92	497.6	912	0.2	6	42.2	112	452	428	391	2.9	0.36	97.4	0.051	0.0114	6	6.66	0.101	<0.00050	0.00042	0.0939	<0.00010	<0.0010	<0.05
W8A	25/10/2012 16:40	P	19.9	752	8.2	8.05		982	0.2				447	450	381	3.8	0.42	118	0.037	0.0136	13.5	6.15	0.179	<0.00050	0.00049	0.0899	<0.00010	<0.0010	<0.05
W8A	05/11/2012 15:10	P	8.2	602		8.35		967					472	509	406	3.6	0.42	110	0.024	0.0108	9.8	6.16	0.208	<0.00050	0.00047	0.092	<0.00010	<0.0010	<0.05
W8A	09/11/2012 15:45	P	8.8	796	8.2	8.19	309.2	1130	-0.1			216.7	471	477	296	6.7	0.54	179	0.031	0.036	33.3	5	0.21	0.000066	0.000413	0.0964	0.000013	<0.0000050	<0.05
W8A	18/11/2012 16:30	P	12	650	7.48	8.23	573	946	-0.1			294.5	432	482	429	3.3	0.39	94.4	0.02	0.0075	5.56	4.86	0.27	<0.00050	0.00034	0.0849	<0.00010	<0.0010	<0.05
W8A	11/12/2012 16:15	P	15.7	628	7.47	8.27	486.5	935	2	7.94	59.7	199.4	470	487	435	2.9	0.4	90.1	0.012	0.0085	4.17		0.197	<0.00050	0.00033	0.0889	<0.00010	<0.0010	<0.05
W8A	28/12/2012 9:30	P	24.9	448		8.19		927					442	461	434	2.8	0.38	96.4	0.014	<0.0050	3.23	4.04	0.929	<0.00050	0.0004	0.0986	<0.00010	<0.0010	<0.05
W8A	02/01/2013	P	4.9	530	7.36	8.27	262.6	936	0.3	10.35	73.4	250.9	453	446	445	2.9	0.38	86.6	0.11	<0.0050	3.04	4.18	0.749	<0.00050	0.00046	0.0965	<0.00010	<0.0010	<0.05
W8A	09/01/2013	P	<4.0	570	7.58	7.97	407	954	0	9.21	57.4	258.2	434	451	443	3.2	0.39	93.4	0.03	<0.0050	2.49		0.0843	<0.00050	0.00023	0.0812	<0.00010	<0.0010	<0.05
W8A	14/01/2013	P	9	566	7.54	8.04	421	928	-1.1	7.71	51.5	202.3	484	435	440	2.7	0.38	85.1	0.036	<0.0050	2.56		0.353	<0.00050	0.0004	0.0938	<0.00010	<0.0010	<0.05
W8A	22/01/2013	P	10.7	578	7.75	8.41	429.2	924	0	8.99	62.3	111.9	446	462	447	2.8	0.37	87.4	0.063	<0.0050	2.45		0.61	<0.00050	0.00043	0.0922	<0.00010	<0.0010	<0.05
W8A	03/02/2013	P	12.2	552		8.14		938					461	449	451	2.8	0.38	87	0.086	<0.0050	2.18		0.25	<0.00050	0.00036	0.0899	<0.00010	<0.0010	<0.05
W8A	07/02/2013	P	14.6	578		8.05		950					466	463	450	3	0.39	88	0.066	<0.0050	2.5		0.376	<0.00050	0.00039	0.0851	<0.00010	<0.0010	<0.05
W8A	13/02/2013	P	1.2	564		7.95		974					428	450	444	3.2	0.34	99.6	0.068	0.0112	3.44		0.266	<0.00050	0.00024	0.0792	<0.00010	<0.0010	<0.05
W8A	21/02/2013	P	3.6	628		8.08		949					457	475	446	2.7	0.38	89.4	0.18	<0.0050	2.19	4.9	0.0663	<0.00050	0.00025	0.0839	<0.00010	<0.0010	<0.05
W8A	27/02/2013	P	13.5	542		8.16		942					454	461	452	2.6	0.35	81.5	0.086	<0.0050	1.63	4.96	0.0588	<0.00050	0.00025	0.0791	<0.00010	<0.0010	<0.05
W8A	04/03/2013	P	3.8	578	7.53	8.23	463.1	943	0.5	7.74	54.1	-392.8	464	472	461	2.7	0.37	78.1	0.058	<0.0050	1.73	6.01	0.0303	<0.00050	0.00021	0.0814	<0.00010	<0.0010	<0.05
W8A	14/03/2013	P	18.9	568	7.54	8.25	494.2	939	0.3	5.52	45.7	-426.7	522	501	460	3.1	0.37	87.5	0.042	<0.0050	1.71		0.0556	<0.00050	0.00025	0.0939	<0.00010	<0.0010	<0.05
W8A	19/03/2013	P	37.3	580	7.41	8.24	560	970	5.2	8.49	66.2	-405.6	496	507	466	3	0.33	87.9	0.054	<0.0050	1.87		0.184	<0.00050	0.00025	0.0903	<0.00010	<0.0010	<0.05
W8A	29/03/2013	P	6.3	612	7.73	8.15	581	989	1.3	11.28	85.4	-407.3	485	488	482	3.6	0.39	89.1	0.094	<0.050	2.06		1.32	<0.00050	0.00057	0.113	<0.00010	<0.0010	<0.05
W8A	01/04/2013 16:45	P	11.8	628	7.48	7.95	519	1030	1.2	7.49	52.6	-406.5	497	519	499	4.4	0.37	92	0.031	0.005	2.61		0.106	<0.00050	0.00052	0.0978	<0.00010	<0.0010	<0.05
W8A	06/04/2013 9:45	P	4.5	722	7.74	8.22	528	1170	0.2	10.35	72.4	-397.9	606	627	557	6.4	0.4	123	0.089	<0.050	6.58		0.534	<0.00050	0.00068	0.138	<0.00010	<0.0010	<0.05
W8A	13/04/2013 10:30	P	16.6	670	7.7	8.07	965	1020	0.4				526	510	490	3.8	0.37	104	0.057	0.0054	1.64		0.196	<0.00050	0.00054	0.116	<0.00010	<0.0010	<0.05

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W8A	30/04/2011	0.00011	60.3	<0.001	0.0008	0.304	1.77	0.0006	<0.005	20.7	0.365	<0.00002	0.014	0.001	0.075	4.28	0.0026	7.2	0.00016	16.5	0.762	22	<0.00005	<0.005	0.065	0.0024
W8A	06/05/2011	0.00007	58.3	<0.001	0.0006	0.217	1.44	0.0005	<0.005	22.1	0.233	<0.00002	0.009	0.001	0.075	4.11	0.0018	6.26	0.00014	16.3	0.688	18	<0.00005	<0.005	0.037	0.0022
W8A	13/05/2011	0.00013	72.7	<0.001	0.0006	0.149	0.86	0.0003	0.006	26.9	0.35	<0.00002	0.008	0.001	0.052	4.67	0.0024	6.61	0.00007	18.9	0.806	25	<0.00005	<0.005	0.028	0.0027
W8A	21/05/2011	0.0002	77.1	0.002	0.0022	0.301	3.4	0.0014	0.005	31.3	0.779	<0.00002	0.007	0.006	0.198	4.91	0.0023	9.69	0.00011	20.1	0.908	23	<0.00005	<0.005	0.072	0.0023
W8A	25/05/2011	0.00005	91.5	0.001	0.0006	0.0856	1.19	0.0004	0.007	42.7	0.19	<0.00002	0.011	0.002	0.077	5.59	0.003	8.71	0.00004	26.1	1.12	30	<0.00005	<0.005	0.034	0.0033
W8A	10/06/2011	0.00012	90.5	0.003	0.0013	0.121	2.43	0.0007	0.007	46	0.398	<0.00002	0.008	0.004	0.099	5.6	0.002	10.2	0.00004	28.6	1.11	27	<0.00005	<0.005	0.069	0.0032
W8A	17/06/2011	0.00023	225	0.001	0.0016	0.334	2.53	0.0004	<0.005	47.8	1.42	<0.00002	0.012	0.003	0.127	8.25	0.0051	10.1	0.00013	29.6	2.23	74	<0.00005	<0.005	0.077	0.0043
W8A	24/06/2011	0.00013	78.7	0.001	0.0005	0.0945	0.95	0.0005	0.006	39.3	0.194	<0.00002	0.006	0.003	0.058	4.6	0.0019	8.03	0.00004	25.2	0.945	22	<0.00005	<0.005	0.021	0.0023
W8A	30/06/2011	0.00013	68.1	0.001	0.0009	0.226	1.68	0.0005	0.006	31.2	0.438	<0.00002	0.006	0.003	0.115	4.52	0.0023	8.18	0.00005	19.8	0.85	20	<0.00005	<0.005	0.044	0.0018
W8A	08/07/2011	0.00018	82.9	0.001	0.0015	0.305	4.18	0.0009	0.006	41.7	0.557	<0.00002	0.006	0.002	0.167	5.76	0.0031	12.3	0.00012	26.1	1.03	25	<0.00005	<0.005	0.105	0.0023
W8A	15/07/2011	0.00026	86.8	0.004	0.0031	0.442	5.82	0.002	0.007	36.8	0.689	<0.00002	0.006	0.007	0.521	5.74	0.0034	14.6	0.00052	22.2	0.992	26	<0.00005	<0.005	0.17	0.0019
W8A	21/07/2011	0.00015	91	<0.001	<0.0005	0.161	0.339	<0.0002	0.007	38.3	0.416	<0.00005	0.008	0.001		5.8	0.0064	8.09	0.00002	23.7	1.26	36	<0.00005	<0.005	0.012	0.0022
W8A	31/07/2011	0.00016	88.1	<0.001	<0.0005	0.168	0.203	<0.0002	0.007	41.1	0.438	<0.00002	0.006	0.001	0.038	5.09	0.0061	7.21	<0.00002	24.8	1.15	31	<0.00005	<0.005	0.005	0.0021
W8A	05/08/2011	0.00017	94.5	<0.001	0.0006	0.217	0.834	0.0003	0.007	47.1	0.447	<0.00002	0.008	0.002	0.058	6.51	0.0073	8.45	0.00004	31.1	1.21	42	<0.00005	<0.005	0.023	0.0023
W8A	08/08/2011	0.00015	89.5	<0.001	0.0006	0.22	1.25	0.0003	0.006	33.6	0.335	<0.00002	0.008	0.003	0.054	5.84	0.0069	8.51	0.00005	23.4	1.04	33	<0.00005	<0.005	0.039	0.0019
W8A	09/08/2011	0.00015	88	<0.001	0.0006	0.232	1.01	0.0004	0.006	34.5	0.35	<0.00002	0.009	0.002	0.046	5.79	0.0074	8.05	0.00007	23.8	1.13	33	<0.00005	<0.005	0.026	0.0021
W8A	10/08/2011	0.00014	81.7	<0.001	<0.0005	0.2	0.755	0.0002	0.005	32	0.337	<0.00002	0.008	0.001	0.037	4.96	0.0081	7.21	0.00005	21.8	1.02	32	<0.00005	<0.005	0.024	0.0021
W8A	11/08/2011	0.00013	84.8	<0.001	0.0007	0.214	1.44	0.0005	0.006	35.1	0.357	<0.00002	0.007	0.002	0.095	5.17	0.0074	8.73	0.00006	23.3	1.06	32	<0.00005	<0.005	0.045	0.0021
W8A	12/08/2011	0.00012	87.4	<0.001	<0.0005	0.175	0.689	0.0003	0.005	33.8	0.36	<0.00002	0.007	0.002	0.039	4.75	0.0069	7.64	0.00003	22.8	1.03	30	<0.00005	<0.005	0.021	0.002
W8A	13/08/2011	0.00014	87.9	<0.001	<0.0005	0.16	0.415	<0.0002	0.005	35.9	0.374	<0.00002	0.007	0.002	0.036	4.73	0.0067	7.22	0.00002	23.9	1.05	32	<0.00005	<0.005	0.009	0.0021
W8A	14/08/2011	0.00012	93.7	<0.001	<0.0005	0.151	0.377	<0.0002	0.005	35.7	0.368	<0.00002	0.006	0.001	0.035	4.61	0.0069	7.62	0.00002	23.5	1.06	31	<0.00005	<0.005	0.007	0.0021
W8A	15/08/2011	0.00016	89.1	0.001	0.0009	0.191	1.69	0.0005	0.006	35.6	0.427	<0.00002	0.007	0.003	0.086	4.86	0.0063	8.49	0.00005	22.6	1.04	33	<0.00005	<0.005	0.056	0.0024
W8A	16/08/2011	0.00016	88.8	<0.001	0.0007	0.212	1.27	0.0004	0.006	37.6	0.433	<0.00002	0.007	0.002	0.071	5.12	0.0066	7.7	0.00005	25	1.08	33	<0.00005	<0.005	0.039	0.0022
W8A	17/08/2011	0.00012	86	<0.001	<0.0005	0.158	0.508	<0.0002	0.006	36.8	0.384	<0.00002	0.007	0.002	0.035	4.86	0.0059	7.06	0.00003	24.8	1.08	32	<0.00005	<0.005	0.016	0.0023
W8A	18/08/2011	0.00013	84	<0.001	<0.0005	0.161	0.488	<0.0002	0.006	40.8	0.373	<0.00002	0.007	0.002	0.045	5.14	0.0051	6.91	0.00003	28.1	1.11	30	<0.00005	<0.005	0.014	0.0024
W8A	19/08/2011	0.00036	209	0.004	0.0037	0.495	10.1	0.0015	<0.005	41.6	1.08	<0.00002	0.005	0.005	0.494	9.1	0.0134	14.1	0.00023	25.6	1.76	75	0.00007	<0.005	0.292	0.0027
W8A	20/08/2011	0.0001	80.8	<0.001	<0.0005	0.142	0.262	<0.0002	0.006	37	0.345	<0.00002	0.006	0.001	0.035	4.63	0.0045	6.73	0.00002	24.4	1	30	<0.00005	<0.005	0.005	0.0023
W8A	21/08/2011	0.00012	87.5	<0.001	<0.0005	0.151	0.321	<0.0002	0.006	38.1	0.347	<0.00002	0.006	0.001	0.03	4.87	0.0048	7.12	0.00002	25.1	1.04	31	<0.00005	<0.005	0.008	0.0023
W8A	27/08/2011	0.00014	90.9	<0.001	<0.0005	0.175	0.429	0.0002	0.008	40.2	0.39	<0.00002	0.007	0.001		4.68	0.0056	7.43	0.00003	25.8	1.19	32	<0.00005	<0.005	0.011	0.0026
W8A	03/09/2011	0.00009	75.9	<0.001	<0.0005	0.103	0.107	<0.0002	0.007	39.1	0.264	<0.00002	0.005	<0.001	0.023	4.24	0.0037	6.92	<0.00002	25.6	0.964	31	<0.00005	<0.005	<0.005	0.0024
W8A	10/09/2011	0.00009	87.2	<0.001	<0.0005	0.108	0.106	<0.0002	0.007	47.3	0.298	<0.00002	0.005	0.001	0.023	4.62	0.0036	6.94	<0.00002	29.8	1.08	30	<0.00005	<0.005	<0.005	0.0027
W8A	16/09/2011	0.14	78.3	High DL removed	<0.5	124	264	0.4	0.008	41.9	314	<0.00002	5	2	28	4.62	3.2	6.4	High DL removed	26.5	1090	27	<0.05	<5	6	0.0023
W8A	23/09/2011	0.00012	73.2	<0.001	<0.0005	0.141	0.127	<0.0002	0.009	46.9	0.308	<0.00002	0.006	0.001	0.025	4.64	0.0027	5.97	<0.00002	30.1	1.19	27	<0.00005	<0.005	<0.005	0.0027
W8A	30/09/2011	0.00007	81	<0.001	<0.0005	0.0986	0.118	<0.0002	0.007	43.5	0.226	<0.00002	0.005	0.001	0.021	4.08	0.0022	6.99	<0.00002	26.7	1.01	25	<0.00005	<0.005	<0.005	0.0026
W8A	08/10/2011	0.00008	87.6	<0.001	<0.0005	0.0989	0.1	<0.0002	0.007	46.7	0.233	<0.00002	0.004	<0.001	0.016	4.2	0.0026	6.93	<0.00002	28.6	1.03	27	<0.00005	<0.005	<0.005	0.0025
W8A	08/11/2011	0.00017	78.2	0.001	<0.0005	0.146	0.373	<0.0002	0.009	52.3	0.303	<0.000020	0.005	0.002	0.047	4.66	0.0024	6.9	<0.00002	32.5	1.14	29.2	<0.00005	<0.005	0.009	0.0025
W8A	21/11/2011	0.00014	83.6	<0.001	<0.0005	0.145	0.229	<0.0002	0.011	52.4	0.359	<0.000020	0.005	<0.001	0.03	4.97	0.0026	7.33	0.00003	31.8	1.15	31.7	<0.00005	<0.005	<0.005	0.0023
W8A	28/11/2011	0.0001	76.1	<0.001	<0.0005	0.147	0.21	<0.0002	0.01	49.1	0.351	<0.000020	0.005	0.001	0.019	4.33	0.002	6.94	<0.00002	30.2	1.16	26.8	<0.00005	<0.005	<0.005	0.0025
W8A	05/12/2011	0.00009	72.1	<0.001	<0.0005	0.145	0.186	<0.0002	0.01	45.8	0.34	<0.000020	0.004	<0.001	0.022	4.01	0.0019	6.77	<0.00002	28.3	1.1	21.5	<0.00005	<0.005	<0.005	0.0025
W8A	20/09/2012 11:20	0.000174	95.6	<0.0010	0.00058	0.184	1.31	0.00034	0.0075	44.7	0.478	<0.000010	0.007	0.0053	0.078	5.14	0.00589	7.9	0.000021	28.2	1.38	38.6	<0.000050	<0.0050	0.0434	0.00263
W8A	25/09/2012 7:35	0.00013	98.3	<0.0020	<0.0010	0.23	1.28	0.00058	<0.01	54.6	0.487	<0.000010	0.0064	0.0023	0.161	5.42	0.00523	8.6	<0.000040	34.1	1.44	1940	<0.00010	<0.01	0.028	0.00288
W8A	12/10/2012 11:10	0.000154	105	<0.0010	0.00055	0.176	0.909	0.00054	0.0096	58.3	0.459	<0.000010	0.0085	0.0013	0.128	5.82	0.0052	9.55	0.000039	37.1	1.68	39.5	<0.000050	<0.0050	0.0354	0.0033
W8A	19/10/2012 13:10	0.000117	93.7	<0.0010	<0.00050	0.118	0.23	<0.00020	0.0095	53	0.421	<0.000010	0.0072	0.0012	0.046	5.11	0.00482	7.32	0.000021	32.3	1.43	36.6	<0.000050	<0.0050	0.0055	0.00308
W8A	25/10/2012 16:40	0.000083	90.9	<0.0010	<0.00050	0.109	0.433	<0.00020	0.0092	53.4	0.365	<0.000010	0.0066	0.0013	0.043	5.01	0.00424	7.43	<0.000020	33.1	1.41	32.4	<0.000050	<0.0050	0.0148	0.00319
W8A	05/11/2012 15:10	0.00015	101	0.02	<0.00050	0.1	0.436	0.00033	0.0091	53.5	0.358	<0.000010	0.0075	0.0109	0.043	5.2	0.00526	7.49	0.0001	33.3	1.55	38.4	<0.000050	<0.0050	0.0126	0.00302
W8A	09/11/2012 15:45	0.000129	103	0.00024	0.000316	0.133	0.503	0.00032	0.00914	51.6	0.379		0.00801	0.000744		5.22	0.00699	7.17	0.000013	32.4	1.56	45.4	0.000015	<0.00020	0.0157	0.00314
W8A	18/11/2012 16:30	0.000121	87.8	<0.0010	<0.00050	0.133	0.591	0.00027	0.0081	51.8	0.351	<0.000010	0.0063	<0.0010	0.047	4.49	0.00419	7.21	0.000023	31.3	1.41	32.9	<0.000050	<0.0050	0.0163	0.00277
W8A	11/12/2012 16:15	0.000094	88.8	<0.0010	<0.00050	0.124	0.41	<0.00020	0.0125	60.2	0.34	<0.000010	0.0056	0.0013	0.023	4.73	0.00336	7.77	<0.000020	36.3	1.62	33.1	<0.000050	<0.0050	0.0063	0.0033
W8A	28/12/2012 9:30	0.000136	82.1	0.0013	0.0007	0.206	2.11	0.00093	0.0105	57.6	0.34	<0.000010	0.0046	<0.0010	0.101	4.75	0.00211	9.07	0.000023	33	1.46	29.1	<0.000050	<0.0050	0.0652	0.00312
W8A	02/01/2013	0.000124	82.8	0.0017	0.00061	0.228	1.73	0.00104	0.0114	59.8	0.321	<0.000010	0.0045	0.0015	0.159	4.94	0.00216	8.06	0.000037	34.5	1.51	26.6	<0.000050	<0.0050	0.0464	0.00304
W8A	09/01/2013	0.000102	81.4	<0.0010	<0.00050	0.122	0.268	<0.00020	0.0103	56.1	0.282	<0.000010	0.0041	<0.0010	0.02	4.4	0.00216	7.56	<0.000020	32.8	1.44	28.9	<0.000050	<0.0050	0.0098	0.00295
W8A	14/01/2013	0.000097	81.7	<0.0010	<0.00050	0.146	0.691	0.00036	0.0108	68	0.296	<0.000010	0.004	<0.0010	0.042	5.24	0.00205	7.9	0.000022	39.7	1.53	36.2	<0.000050	<0.0050	0.0143	0.00344
W8A	22/01/2013	0.000087	80.5	0.0016	<0.00050	0.214	1.25	0.00097	0.0124	59.5	0.299	<0.000010	0.0038	<0.0010	0.091	5.62	0.00174	7.97	0.000038	33.1	1.48	28.4	<0.000050	<0.0050	0.0366	0.00371
W8A	03/02/2013	0.000128	79.7	<0.0010	<0.00050	0.177	0.573	0.00035	0.0117	63.7	0.314	<0.000010	0.004	<0.0010	0.046	5.04	0.00212	7.27	<0.000020	35.3	1.54	33.9	<0.000050	<0.0050	0.0151	0.00328
W8A	07/02/2013	0.000083	78.8	0.0016	<0.00050	0.172	0.801	0.00072	0.012	65.4	0.293	<0.000010	0.0034	0.0011	0.053	4.78	0.0015	7.9	<0.000020	37.3	1.48	27.2	<0.000050	<0.0050	0.0275	0.0033
W8A	13/02/2013	0.000102	75.5	0.0015	<0.00050	0.153	0.591	0.00047	0.0103	58	0.279	<0.000010	0.003	<0.0010	0.043	4.24	0.00166	7.5	<0.000020	32.3	1.37	26.7	<0.000050	<0.0050	0.0144	0.00285
W8A	21/02/2013	0.000111	82.6	<0.0010	<0.00050	0.134	0.225	<0.00020	0.0111	61	0.313	<0.000010	0.0034	<0.0010	0.023	4.5	0.0018	7.71	<0.000020	33.7	1.52	28.4	<0.000050	<0.0050	<0.0050	0.00321
W8A	27/02/2013	0.000096	77.4	<0.0010	<0.00050	0.114	0.174	<0.00020	0.0109	63.3	0.296	<0.000010	0.0033	<0.0010	0.018	4.3	0.00174	6.8	<0.000020	35	1.47	26.3	<0.000050	<0.0050	<0.0050	0.0032
W8A	04/03/2013	0.000139	82.6	<0.0010	<0.00050	0.144	0.141	<0.00020	0.0114	62.6	0.348	<0.000010	0.0042	<0.0010	0.016	4.59	0.00187	7.24	<0.000020	35.1	1.54	29.6	<0.000050	<0.0050	<0.0050	0.00327
W8A	14/03/2013	0.000102	105	<0.0010	<0.00050	0.15	0.21	<0.00020	0.0112	63.2	0.346	<0.000010	0.0072	<0.0010	0.016	5.13	0.003	7.61	<0.000020	36.6	1.77	42.6	<0.000050	<0.0050	<0.0050	0.00365
W8A	19/03/2013	0.000126	86.7	0.001	<0.00050	0.189	0.474	0.00021	0.0118	67.8	0.417	<0.000010	0.0039	<0.0010	0.03	4.83	0.00209	8.06	<0.000020	36.6	1.6	28.8	<0.000050	<0.0050	0.01	0.00364
W8A	29/03/2013	0.000144	89.5	0.0029	0.00103	0.494	3.16	0.00118	0.0114	63.5	0.566	<0.000010	0.0037	0.0014	0.21	4.95	0.00166	10	0.000136	34	1.51	28.2	0.000058	<0.0050	0.0986	0.00306
W8A	01/04/2013 16:45	0.000117	97	<0.0010	<0.00050	0.146	0.435	<0.00020	0.0096	62	0.599	<0.000010	0.0029	0.0011	0.046	4.66	0.00153	8.26	0.00002	33.7	1.57	28.5	<0.000050	<0.0050	0.0059	0.00284
W8A	06/04/2013 9:45	0.000108	139	0.0018	0.00062	0.21	2	0.00048	0.009	62.9	1.04	<0.000010	0.0054	0.0016	0.099	5.79	0.0026	10.1	<0.000020	34	2	36.9	<0.000050	<0.0050	0.0334	0.0031
W8A	13/04/2013 10:30	0.000118	113	<0.0010	<0.00050	0.179	0.558	0.00026	0.0099	59.4	0.966	<0.000010	0.0048	<0.0010	0.068	5.36	0.00178	8.34	<0.000020	35.2	1.68	33.7	<0.000050	<0.0050	0.0088	0.00295

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W8A	30/04/2011	<0.005	0.009	<0.0005	0.008	<0.0005	0.0004	0.062	<0.0001	<0.001	<0.05	0.00006	58.3	<0.001	<0.0005	0.123	0.045	<0.0002	<0.005	18	0.288	<0.00002	0.011	<0.001	0.017	3.56
W8A	06/05/2011	<0.005	0.007	<0.0005	0.01	<0.0005	0.0004	0.064	<0.0001	<0.001	<0.05	0.00003	55.6	<0.001	<0.0005	0.0775	0.043	<0.0002	<0.005	21.5	0.173	<0.00002	0.008	0.001	0.016	3.84
W8A	13/05/2011	<0.005	0.005	<0.0005	0.01	<0.0005	0.0005	0.082	<0.0001	<0.001	<0.05	0.00007	74.2	<0.001	<0.0005	0.11	0.057	<0.0002	<0.005	28.4	0.331	<0.00002	0.007	0.001	0.018	4.46
W8A	21/05/2011	0.007	0.016	<0.0005	0.014	<0.0005	0.0006	0.087	<0.0001	<0.001	<0.05	0.00014	80.7	<0.001	<0.0005	0.133	0.128	<0.0002	0.005	29.6	0.658	<0.00002	0.008	0.001	0.026	4.45
W8A	25/05/2011	<0.005	<0.005	<0.0005	0.008	<0.0005	0.0006	0.08	<0.0001	<0.001	<0.05	0.00003	78.8	<0.001	<0.0005	0.0468	0.043	<0.0002	0.006	36.4	0.134	<0.00002	0.01	<0.001	0.02	4.75
W8A	10/06/2011	0.005	0.009	<0.0005	0.025	<0.0005	0.0005	0.095	<0.0001	<0.001	<0.05	0.00014	83.2	<0.001	<0.0005	0.0678	0.08	<0.0002	0.006	42.5	0.289	<0.00002	0.008	0.001	0.026	5.15
W8A	17/06/2011	<0.005	0.024	<0.0005	0.062	<0.0005	0.0006	0.142	<0.0001	<0.001	0.052	0.00014	199	<0.001	0.0007	0.193	0.129	<0.0002	<0.005	43.5	1.18	<0.00002	0.011	0.003	0.038	6.85
W8A	24/06/2011	<0.005	0.017	<0.0005	0.008	<0.0005	0.0006	0.097	<0.0001	<0.001	<0.05	0.00008	85.3	<0.001	<0.0005	0.0679	0.056	<0.0002	0.006	43.2	0.17	<0.00002	0.006	0.001	0.019	4.96
W8A	30/06/2011	<0.005	0.011	<0.0005	0.016	<0.0005	0.0006	0.087	<0.0001	<0.001	<0.05	0.00009	74.3	<0.001	<0.0005	0.163	0.1	<0.0002	0.006	32.4	0.378	<0.00002	0.006	0.001	0.031	4.6
W8A	08/07/2011	0.008	0.026	<0.0005	0.013	<0.0005	0.0006	0.094	<0.0001	<0.001	<0.05	0.00012	84.2	<0.001	<0.0005	0.144	0.09	<0.0002	0.006	40.6	0.351	<0.00002	0.005	0.002	0.033	5.11
W8A	15/07/2011	0.013	0.021	0.0007	0.014	<0.0005	0.0006	0.102	<0.0001	<0.001	<0.05	0.0002	77.6	<0.001	<0.0005	0.167	0.075	<0.0002	0.006	37.9	0.441	<0.00002	0.006	0.003	0.042	5.34
W8A	21/07/2011	<0.005	<0.005	<0.0005	0.016	<0.0005	0.0005	0.103	<0.0001	<0.001	<0.05	0.00013	84.7	<0.001	<0.0005	0.144	0.074	<0.0002	0.006	38.7	0.403	<0.00005	0.007	0.001		5.3
W8A	31/07/2011	<0.005	<0.005	0.0006	0.013	<0.0005	0.0006	0.113	<0.0001	<0.001	<0.05	0.00015	98.9	<0.001	<0.0005	0.162	0.08	<0.0002	0.007	46.2	0.487	<0.00002	0.007	0.001	0.031	5.69
W8A	05/08/2011	<0.005	<0.005	<0.0005	0.03	<0.0005	0.0006	0.106	<0.0001	<0.001	<0.05	0.00018	94.5	<0.001	<0.0005	0.162	0.11	0.0004	0.007	41.1	0.403	<0.00002	0.007	0.002	0.03	5.36
W8A	08/08/2011	<0.005	0.007	<0.0005	0.015	<0.0005	0.0006	0.095	<0.0001	<0.001	<0.05	0.00012	103	<0.001	<0.0005	0.155	0.091	<0.0002	0.005	34.1	0.296	<0.00002	0.007	0.002	0.026	5.14
W8A	09/08/2011	<0.005	0.01	<0.0005	0.019	<0.0005	0.0006	0.1	<0.0001	<0.001	<0.05	0.00012	96.4	<0.001	<0.0005	0.151	0.084	<0.0002	0.005	33.7	0.312	<0.00002	0.007	0.002	0.025	5.14
W8A	10/08/2011	<0.005	0.005	<0.0005	0.022	<0.0005	0.0006	0.105	<0.0001	<0.001	<0.05	0.00014	91.8	<0.001	<0.0005	0.153	0.083	<0.0002	0.006	34.8	0.333	<0.00002	0.007	0.002	0.025	5.09
W8A	11/08/2011	<0.005	0.008	<0.0005	0.011	<0.0005	0.0006	0.104	<0.0001	<0.001	<0.05	0.00012	110	<0.001	<0.0005	0.15	0.092	<0.0002	0.005	35.7	0.336	<0.00002	0.008	0.001	0.024	5.35
W8A	12/08/2011	<0.005	0.007	<0.0005	0.012	<0.0005	0.0006	0.108	<0.0001	<0.001	<0.05	0.00013	92	<0.001	<0.0005	0.147	0.069	<0.0002	0.008	36.7	0.385	<0.00002	0.008	0.001	0.024	5.48
W8A	13/08/2011	<0.005	0.009	<0.0005	0.008	<0.0005	0.0005	0.107	<0.0001	<0.001	<0.05	0.00012	91.1	<0.001	<0.0005	0.136	0.069	<0.0002	0.008	35.9	0.375	<0.00002	0.007	0.001	0.021	5.09
W8A	14/08/2011	<0.005	<0.005	<0.0005	0.009	<0.0005	0.0005	0.104	<0.0001	<0.001	<0.05	0.00012	90.8	<0.001	<0.0005	0.132	0.061	<0.0002	0.006	38.2	0.397	<0.00002	0.007	0.001	0.026	5.28
W8A	15/08/2011	<0.005	0.01	<0.0005	0.009	<0.0005	0.0005	0.109	<0.0001	<0.001	<0.05	0.00013	90.9	<0.001	<0.0005	0.129	0.056	<0.0002	0.006	38.8	0.394	<0.00002	0.007	0.001	0.023	5.37
W8A	16/08/2011	<0.005	0.344	<0.0005	0.01	<0.0005	0.0005	0.113	<0.0001	<0.001	<0.05	0.00013	87.3	<0.001	<0.0005	0.129	0.057	0.0003	0.006	38.4	0.409	<0.00002	0.007	0.002	0.025	5.27
W8A	17/08/2011	<0.005	<0.005	<0.0005	0.007	<0.0005	0.0005	0.106	<0.0001	<0.001	<0.05	0.00012	98.3	<0.001	<0.0005	0.133	0.058	<0.0002	0.006	40.2	0.393	<0.00002	0.007	0.001	0.021	5
W8A	18/08/2011	<0.005	0.006	<0.0005	0.007	<0.0005	0.0006	0.104	<0.0001	<0.001	<0.05	0.00012	98.2	<0.001	<0.0005	0.144	0.056	<0.0002	0.006	39.4	0.402	<0.00002	0.006	0.001	0.025	4.95
W8A	19/08/2011	0.016	0.054	<0.0005	0.028	<0.0005	0.0005	0.175	<0.0001	<0.001	0.072	0.00015	211	<0.001	0.0007	0.13	0.055	0.0002	<0.005	39.7	0.79	<0.00002	0.006	0.002	0.029	6.26
W8A	20/08/2011	<0.005	<0.005	<0.0005	0.009	<0.0005	0.0005	0.104	<0.0001	<0.001	<0.05	0.00011	89.6	<0.001	<0.0005	0.129	0.05	<0.0002	0.006	37.3	0.355	<0.00002	0.006	0.001	0.022	4.03
W8A	21/08/2011	<0.005	<0.005	<0.0005	0.008	<0.0005	0.0005	0.104	<0.0001	<0.001	<0.05	0.00011	94.2	<0.001	<0.0005	0.134	0.046	<0.0002	0.006	41.2	0.366	<0.00002	0.007	0.001	0.022	5.05
W8A	27/08/2011	<0.005	0.006	<0.0005	0.006	<0.0005	0.0004	0.102	<0.0001	<0.001	<0.05	0.00015	98.3	<0.001	<0.0005	0.146	0.054	<0.0002	0.007	42.7	0.375	<0.00002	0.006	<0.001		5.26
W8A	03/09/2011	<0.005	<0.005	<0.0005	0.008	<0.0005	0.0004	0.099	<0.0001	<0.001	<0.05	0.00009	91.6	<0.001	<0.0005	0.102	0.036	<0.0002	0.008	43.2	0.302	<0.00002	0.005	<0.001	0.021	4.7
W8A	10/09/2011	<0.005	<0.005	<0.0005	0.007	<0.0005	0.0004	0.104	<0.0001	<0.001	<0.05	0.0001	96.4	<0.001	<0.0005	0.103	0.033	<0.0002	0.008	51	0.325	<0.00002	0.005	<0.001	0.023	5
W8A	16/09/2011	<5	9	<0.5	0.005	<0.0005	0.0003	0.096	<0.0001	<0.001	<0.05	0.00011	88.1	<0.001	<0.0005	0.124	0.033	<0.0002	0.009	48.1	0.334	<0.00002	0.005	<0.001	0.019	4.65
W8A	23/09/2011	<0.005	<0.005	<0.0005	0.012	<0.0005	0.0004	0.088	<0.0001	<0.001	<0.05	0.00012	85	<0.001	<0.0005	0.125	0.05	<0.0002	0.009	45.8	0.323	<0.00002	0.005	<0.001	0.023	4.41
W8A	30/09/2011	<0.005	0.005	<0.0005	0.014	<0.0005	0.0003	0.102	<0.0001	<0.001	<0.05	0.00007	86.5	<0.001	<0.0005	0.104	0.042	<0.0002	0.007	48	0.252	<0.00002	0.005	0.001	0.016	4.5
W8A	08/10/2011	<0.005	<0.005	<0.0005	0.011	<0.0005	0.0004	0.107	<0.0001	<0.001	<0.05	0.00009	107	<0.001	<0.0005	0.108	0.045	<0.0002	0.009	52.6	0.251	<0.00002	0.005	0.001	0.02	4.87
W8A	08/11/2011	<0.005	<0.005	<0.0005	0.0065	<0.00050	0.0003	0.0894	<0.00010	<0.0010	<0.05	0.000114	88.9	<0.0010	<0.00050	0.112	0.0249	<0.00020	0.01	55	0.285	<0.000020	0.0055	<0.0010	0.017	4.8
W8A	21/11/2011	<0.005	<0.005	<0.0005	0.0125	<0.00050	0.00035	0.0985	<0.00010	<0.0010	<0.05	0.000284	91.6	<0.0010	<0.00050	0.141	0.0678	0.00033	0.0102	57.4	0.379	<0.000020	0.0053	<0.0010	0.023	4.9
W8A	28/11/2011	<0.005	<0.005	<0.0005	0.0126	<0.00050	0.00033	0.0895	<0.00010	<0.0010	<0.05	0.000128	83.4	<0.0010	<0.00050	0.123	0.0515	<0.00020	0.0105	47.9	0.341	<0.000020	0.0048	<0.0010	0.019	4.78
W8A	05/12/2011	<0.005	<0.005	<0.0005	0.011	<0.00050	0.00025	0.088	<0.00010	<0.0010	<0.05	0.000098	82.6	<0.0010	<0.00050	0.136	0.0488	<0.00020	0.0106	52.4	0.353	<0.000020	0.0047	<0.0010	0.012	4.41
W8A	20/09/2012 11:20	<0.0050	1.65	<0.00050	0.0159	<0.00050	0.00038	0.0964	<0.00010	<0.0010	<0.05	0.000168	105	<0.0010	<0.00050	0.126	0.075	<0.00020	0.0078	50.4	0.468	<0.000010	0.0085	0.0019	0.019	5.46
W8A	25/09/2012 7:35	<0.01	1.14	<0.0010	0.004	<0.00050	0.00039	0.0918	<0.00010	<0.0010	<0.05	0.000123	93.5	<0.0010	<0.00050	0.0959	0.0312	<0.00020	0.0083	48.7	0.431	<0.000010	0.007	<0.0010	0.022	5.22
W8A	12/10/2012 11:10	<0.0050	1.85	<0.00050																		<0.000010				
W8A	19/10/2012 13:10	<0.0050	1.33	<0.00050	0.0051	<0.00050	0.00036	0.0875	<0.00010	<0.0010	<0.05	0.000104	89.8	<0.0010	<0.00050	0.0804	0.0388	<0.00020	0.0084	49.5	0.386	<0.000010	0.0067	<0.0010	0.022	4.94
W8A	25/10/2012 16:40	<0.0050	0.446	<0.00050	0.0042	<0.00050	0.00038	0.0906	<0.00010	<0.0010	<0.05	0.000089	92.4	<0.0010	<0.00050	0.0843	0.0419	<0.00020	0.0094	53.2	0.362	<0.000010	0.0074	<0.0010	0.021	4.84
W8A	05/11/2012 15:10	<0.0050	1.94	<0.00050	0.157	<0.00050	0.00043	0.102	<0.00010	<0.0010	<0.05	0.000102	119	<0.0010	<0.00050	0.136	0.336	0.00021	0.0099	51.5	0.36	<0.000010	0.0093	<0.0010	0.058	5.34
W8A	09/11/2012 15:45	0.00132	1.86	0.00012	0.00262	0.000044	0.000288	0.0905	<0.000010	<0.0000050	<0.05	0.000142	105	0.0001	0.000146	0.0998	0.022	0.000013	0.0092	52.4	0.36		0.00875	0.000677		5.14
W8A	18/11/2012 16:30	<0.0050	0.928	<0.00050	0.004	<0.00050	0.0003	0.0861	<0.00010	<0.0010	<0.05	0.000119	97.6	<0.0010	<0.00050	0.0928	0.031	<0.00020	0.0098	54.8	0.345	<0.000010	0.0076	<0.0010	0.02	4.95
W8A	11/12/2012 16:15	<0.0050	0.811	<0.00050	0.0071	<0.00050	0.00039	0.0848	<0.00010	<0.0010	<0.05	0.000112	91.2	<0.0010	<0.00050	0.0878	0.0366	<0.00020	0.0111	63	0.326	<0.000010	0.0056	0.002	0.012	4.69
W8A	28/12/2012 9:30	<0.0050	1.95	<0.00050	0.004	<0.00050	0.00029	0.0808	<0.00010	<0.0010	<0.05	0.000088	83.7	<0.0010	<0.00050	0.0965	0.0273	<0.00020	0.0109	61.1	0.307	<0.000010	0.0049	<0.0010	0.013	4.69
W8A	02/01/2013	<0.0050	1.92	<0.00050	0.0159	<0.00050	0.00036	0.0906	<0.00010	<0.0010	<0.05	0.000128	84.7	<0.0010	<0.00050	0.0899	0.0482	0.0002	0.0125	57	0.267	<0.000010	0.0046	0.001	0.13	4.97
W8A	09/01/2013	<0.0050	0.918	<0.00050	<0.0030	<0.00050	0.00027	0.083	<0.00010	<0.0010	<0.05	0.000106	77.6	<0.0010	<0.00050	0.103	0.0204	<0.00020	0.0115	62.5	0.309	<0.000010	0.0043	<0.0010	0.013	4.86
W8A	14/01/2013	<0.0050	1.14	<0.00050	0.0034	<0.00050	0.00026	0.0801	<0.00010	<0.0010	<0.05	0.000081	78.6	<0.0010	<0.00050	0.0894	0.0257	0.00048	0.0105	57.9	0.267	<0.000010	0.0041	<0.0010	0.019	4.49
W8A	22/01/2013	<0.0050	2.42	<0.00050	0.0097	<0.00050	0.0003	0.0814	<0.00010	<0.0010	<0.05	0.000103	84.1	<0.0010	<0.00050	0.114	0.0509	<0.00020	0.0125	61.2	0.304	<0.000010	0.0042	<0.0010	0.013	5.56
W8A	03/02/2013	<0.0050	1.9	<0.00050	<0.0030	<0.00050	0.00026	0.0806	<0.00010	<0.0010	<0.05	0.000101	76.7	<0.0010	<0.00050	0.111	0.0248	<0.00020	0.011	62.5	0.302	<0.000010	0.004	<0.0010	0.014	4.68
W8A	07/02/2013	<0.0050	1.3	<0.00050	0.004	<0.00050	0.00026	0.0856	<0.00010	<0.0010	<0.05	0.000082	83.8	<0.0010	<0.00050	0.0897	0.0367	<0.00020	0.0118	61.6	0.273	<0.000010	0.0035	<0.0010	0.028	4.81
W8A	13/02/2013	<0.0050	1.67	<0.00050	0.0051	<0.00050	0.00027	0.0847	<0.00010	<0.0010	<0.05	0.000111	87	<0.0010	<0.00050	0.106	0.0323	<0.00020	0.0111	59.9	0.3	<0.000010	0.0045	<0.0010	0.012	4.73
W8A	21/02/2013	<0.0050	1.35	<0.00050	<0.0030	<0.00050	0.00026	0.0831	<0.00010	<0.0010	<0.05	0.000117	83.3	<0.0010	<0.00050	0.112	0.0359	<0.00020	0.0114	64.9	0.313	<0.000010	0.0034	<0.0010	0.013	4.73
W8A	27/02/2013	<0.0050	1.28	<0.00050	0.0032	<0.00050	0.00027	0.08	<0.00010	<0.0010	<0.05	0.000099	80.5	<0.0010	<0.00050	0.097	0.032	<0.00020	0.0115	63	0.29	<0.000010	0.0033	<0.0010	0.011	4.46
W8A	04/03/2013	<0.0050	2.66	<0.00050	<0.0030	<0.00050	0.00027	0.084	<0.00010	<0.0010	<0.05	0.000119	84.1	<0.0010	<0.00050	0.12	0.0354	<0.00020	0.0121	63.7	0.33	<0.000010	0.0044	<0.0010	0.014	4.76
W8A	14/03/2013	<0.0050	5.39	<0.00050	<0.0030	<0.00050	0.00014	0.0897	<0.00010	<0.0010	<0.05	0.000115	93.3	<0.0010	<0.00050	0.114	0.0361	<0.00020	0.0114	65	0.311	<0.000010	0.0044	<0.0010	<0.01	4.88
W8A	19/03/2013	<0.0050	1.13	<0.00050	0.0031	<0.00050	0.00023	0.084	<0.00010	<0.0010	<0.05	0.000135	92.7	<0.0010	<0.00050	0.132	0.0395	<0.00020	0.0119	66.9	0.412	<0.000010	0.0034	<0.0010	<0.01	5.3
W8A	29/03/2013	0.0058	3.99	<0.00050	<0.0030	<0.00050	0.00029	0.0914	<0.00010	<0.0010	<0.05	0.00013	88.9	<0.0010	<0.00050	0.12	0.0504	<0.00020	0.0114	64.6	0.51	<0.000010	0.0035	<0.0010	0.017	4.85
W8A	01/04/2013 16:45	<0.0050	1.33	<0.00050	0.0139	<0.00050	0.00054	0.102	<0.00010	<0.0010	<0.05	0.000112	104	<0.0010	<0.00050	0.0995	0.0715	<0.00020	0.011	62.7	0.577	<0.000010	0.0038	<0.0010	0.033	5.18
W8A	06/04/2013 9:45	<0.0050	2.49	<0.00050	0.0065	<0.00050	0.00094	0.126	<0.00010	<0.0010	<0.05	0.000161	153	<0.0010	<0.00050	0.122	0.098	<0.00020	0.0075	59.3	0.991	<0.000010	0.006	0.0012	0.048	5.52
W8A	13/04/2013 10:30	<0.0050	1.93	<0.00050	0.0031	<0.00050	0.00047	0.106	<0.00010	<0.0010	<0.05	0.000084	109	<0.0010	<0.00050	0.103	0.0629	<0.00020	0.0092	57.5	0.883	<0.000010	0.005	<0.0010	0.031	4.99

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	BOD5	Br	Cation	COD	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-T	N-TKN	P-PO4T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L
W8A	30/04/2011	0.0026	4.77	0.00003	14.5	0.673	23	<0.00005	<0.005	<0.005	0.002	<0.005	<0.005	<0.0005	210	<0.5	<0.5	<0.5														
W8A	06/05/2011	0.0017	4.67	<0.00002	17.2	0.668	19	<0.00005	<0.005	<0.005	0.002	<0.005	<0.005	<0.0005	230	<0.5	<0.5	<0.5														
W8A	13/05/2011	0.0025	5.82	0.00003	19.9	0.827	25	<0.00005	<0.005	<0.005	0.0026	<0.005	<0.005	<0.0005	280	3.3	<0.5	2.8														
W8A	21/05/2011	0.0026	6.58	0.00003	19.5	0.927	26	<0.00005	<0.005	<0.005	0.0023	<0.005	<0.005	<0.0005	330	3.2	<0.5	2.7														
W8A	25/05/2011	0.0026	6.88	0.00002	22.8	1	26	<0.00005	<0.005	<0.005	0.0029	<0.005	<0.005	<0.0005	340	<0.5	<0.5	<0.5														
W8A	10/06/2011	0.0018	6.82	<0.00002	27.4	1.02	27	<0.00005	<0.005	<0.005	0.0027	<0.005	<0.005	<0.0005	390	7.4	<0.5	6.1														
W8A	17/06/2011	0.005	6.75	<0.00002	27.9	2.06	71	<0.00005	<0.005	<0.005	0.0036	<0.005	<0.005	<0.0005	440	<0.5	<0.5	<0.5														
W8A	24/06/2011	0.002	7.66	<0.00002	28	1.06	24	<0.00005	<0.005	<0.005	0.0028	<0.005	<0.005	<0.0005	410	<0.5	<0.5	<0.5														
W8A	30/06/2011	0.0026	7.34	<0.00002	20.9	0.909	21	<0.00005	<0.005	<0.005	0.0018	<0.005	<0.005	<0.0005	340	<0.5	<0.5	<0.5														
W8A	08/07/2011	0.003	8.04	<0.00002	25.3	0.988	27	<0.00005	<0.005	<0.005	0.0018	<0.005	<0.005	<0.0005	370	<0.5	<0.5	<0.5														
W8A	15/07/2011	0.0038	6.77	<0.00002	24.3	1	27	<0.00005	<0.005	<0.005	0.0021	<0.005	0.011	<0.0005	370	<0.5	<0.5	<0.5														
W8A	21/07/2011	0.0073	6.99	<0.00002	24.3	1.16	35	<0.00005	<0.005	<0.005	0.0021	<0.005	<0.005	<0.0005	330	<0.5	<0.5	<0.5														
W8A	31/07/2011	0.0067	8.35	<0.00002	28.5	1.28	37	<0.00005	<0.005	<0.005	0.0024	<0.005	<0.005	<0.0005	380	<0.5	<0.5	<0.5														
W8A	05/08/2011	0.0073	7.56	<0.00002	27.2	1.23	39	<0.00005	<0.005	<0.005	0.0024	<0.005	0.014	<0.0005	340	<0.5	<0.5	<0.5														
W8A	08/08/2011	0.0083	8.35	<0.00002	23.9	1.02	33	<0.00005	<0.005	<0.005	0.0019	<0.005	<0.005	<0.0005	290	<0.5	<0.5	<0.5														
W8A	09/08/2011	0.0082	7.75	<0.00002	23.7	1.05	35	<0.00005	<0.005	<0.005	0.0019	<0.005	0.006	<0.0005	290	<0.5	<0.5	<0.5														
W8A	10/08/2011	0.0084	7.62	0.00005	23.6	1.09	37	<0.00005	<0.005	<0.005	0.0021	<0.005	<0.005	<0.0005	310	<0.5	<0.5	<0.5														
W8A	11/08/2011	0.0111	9.29	<0.00002	24.2	1.1	34	<0.00005	<0.005	<0.005	0.0022	<0.005	<0.005	<0.0005	310	<0.5	<0.5	<0.5														
W8A	12/08/2011	0.0086	7.29	<0.00002	25.2	1.13	34	<0.00005	<0.005	<0.005	0.0022	<0.005	<0.005	<0.0005	340	<0.5	<0.5	<0.5														
W8A	13/08/2011	0.0079	7.16	<0.00002	24.2	1.12	34	<0.00005	<0.005	<0.005	0.0021	<0.005	<0.005	<0.0005	340	<0.5	<0.5	<0.5														
W8A	14/08/2011	0.0072	7.09	<0.00002	25.1	1.08	36	<0.00005	<0.005	<0.005	0.0021	<0.005	<0.005	<0.0005	360	<0.5	<0.5	<0.5														
W8A	15/08/2011	0.007	7.03	<0.00002	25.5	1.1	36	<0.00005	<0.005	<0.005	0.0021	<0.005	<0.005	<0.0005	370	<0.5	<0.5	<0.5														
W8A	16/08/2011	0.0069	7.1	<0.00002	26.3	1.16	34	<0.00005	<0.005	<0.005	0.0023	<0.005	0.006	<0.0005	370	<0.5	<0.5	<0.5														
W8A	17/08/2011	0.0068	7.53	<0.00002	26.8	1.15	34	<0.00005	<0.005	<0.005	0.0024	<0.005	<0.005	<0.0005	380	<0.5	<0.5	<0.5														
W8A	18/08/2011	0.0063	7.75	<0.00002	26.4	1.15	36	<0.00005	<0.005	<0.005	0.0024	<0.005	<0.005	<0.0005	370	<0.5	<0.5	<0.5														
W8A	19/08/2011	0.014	7.57	<0.00002	28.2	1.79	76	<0.00005	<0.005	<0.005	0.0025	<0.005	0.006	<0.0005	300	<0.5	<0.5	<0.5														
W8A	20/08/2011	0.0051	7.3	<0.00002	24.2	1.11	31	<0.00005	<0.005	<0.005	0.0023	<0.005	<0.005	<0.0005	380	<0.5	<0.5	<0.5														
W8A	21/08/2011	0.0049	7.72	<0.00002	27.4	1.14	32	<0.00005	<0.005	<0.005	0.0027	<0.005	<0.005	<0.0005	380	2.3	<0.5	1.9														
W8A	27/08/2011	0.0057	7.88	<0.00002	28	1.2	35	<0.00005	<0.005	<0.005	0.0022	<0.005	<0.005	<0.0005	390	<0.5	<0.5	<0.5														
W8A	03/09/2011	0.0036	7.82	<0.00002	28.7	1.09	33	<0.00005	<0.005	<0.005	0.0026	<0.005	<0.005	<0.0005	420	6.5	<0.5	5.4														
W8A	10/09/2011	0.0041	8.03	<0.00002	32.2	1.2	37	<0.00005	<0.005	<0.005	0.0026	<0.005	0.006	<0.0005	440	<0.5	<0.5	<0.5														
W8A	16/09/2011	0.0034	7.35	<0.00002	30.6	1.17	31	<0.00005	<0.005	<0.005	0.0025	<0.005	<0.005	<0.0005	440	<0.5	<0.5	<0.5														
W8A	23/09/2011	0.0031	7.1	<0.00002	31.6	1.2	28	<0.00005	<0.005	<0.005	0.0029	<0.005	<0.005	<0.0005	460	<0.5	<0.5	<0.5														
W8A	30/09/2011	0.0026	7.16	<0.00002	29.7	1.12	29	<0.00005	<0.005	<0.005	0.0026	<0.005	<0.005	<0.0005	450	<0.5	<0.5	<0.5														
W8A	08/10/2011	0.003	7.44	<0.00002	33.2	1.21	33	<0.00005	<0.005	<0.005	0.0029	<0.005	<0.005	<0.0005	460	<0.5	<0.5	<0.5														
W8A	08/11/2011	0.00297	8.01	<0.000020	34.3	1.23	32.4	<0.000050	<0.0050	<0.0050	0.00266	<0.0050	<0.0050	<0.00050	464	<0.50	<0.50	<0.50														
W8A	21/11/2011	0.00278	8.47	<0.000020	35.8	1.31	33.7	<0.000050	<0.0050	<0.0050	0.00276	<0.0050	0.0058	<0.00050	481	<0.50	<0.50	<0.50														
W8A	28/11/2011	0.00237	7.21	<0.000020	28.3	1.11	30.4	<0.000050	<0.0050	<0.0050	0.00254	<0.0050	<0.0050	<0.00050	479	<0.50	<0.50	<0.50														
W8A	05/12/2011	0.00216	8.08	<0.000020	32.2	1.18	25.9	<0.000050	<0.0050	<0.0050	0.00272	<0.0050	<0.0050	<0.00050	478	<0.50	<0.50	<0.50														
W8A	20/09/2012 11:20	0.00763	7.18	<0.000020	32.8	1.53	41.3	<0.000050	<0.0050	<0.0050	0.00295	<0.0050	2.12	<0.00050	437	<0.50	<0.50	<0.50														
W8A	25/09/2012 7:35	0.00522	7.64	<0.000020	31.2	1.47	37.4	<0.000050	<0.0050	<0.0050	0.00281	<0.0050	1.89	<0.00050	405	<0.50	<0.50	<0.50														
W8A	12/10/2012 11:10														452	<0.50	<0.50	<0.50														
W8A	19/10/2012 13:10	0.00474	7.28	<0.000020	30.9	1.4	32.9	<0.000050	<0.0050	<0.0050	0.00268	<0.0050	1.13	<0.00050	477	<0.50	<0.50	<0.50														
W8A	25/10/2012 16:40	0.00577	7.91	<0.000020	33.6	1.48	36.9	<0.000050	<0.0050	<0.0050	0.00311	<0.0050	0.791	<0.00050	465	<0.50	<0.50	<0.50														
W8A	05/11/2012 15:10	0.0093	7.14	<0.000020	33.6	1.73	51.8	<0.000050	<0.0050	0.0096	0.003	<0.0050	3.76	<0.00050	485	5.46	<0.50	4.55														
W8A	09/11/2012 15:45	0.00785	6.89	0.000007	33.9	1.6	47.3	0.000007	<0.00020	<0.00050	0.00311	0.00038	1.87	0.0001	361	<0.50	<0.50	<0.50														
W8A	18/11/2012 16:30	0.00544	7.58	<0.000020	34	1.54	41.1	<0.000050	<0.0050	<0.0050	0.00326	<0.0050	1.31	<0.00050	523	<0.50	<0.50	<0.50														
W8A	11/12/2012 16:15	0.00305	8.82	<0.000020	37.6	1.53	36	<0.000050	<0.0050	<0.0050	0.00315	<0.0050	0.739	<0.00050	531	<0.50	<0.50	<0.50														
W8A	28/12/2012 9:30	0.00237	7.8	<0.000020	36.2	1.49	32	<0.000050	<0.0050	<0.0050	0.00315	<0.0050	0.75	<0.00050	530	<0.50	<0.50	<0.50														
W8A	02/01/2013	0.00252	7.98	<0.000020	34.3	1.57	35.1	<0.000050	<0.0050	<0.0050	0.00286	<0.0050	0.697	<0.00050	543	<0.50	<0.50	<0.50														
W8A	09/01/2013	0.00215	7.5	<0.000020	36.1	1.58	33.3	<0.000050	<0.0050	<0.0050	0.00297	<0.0050	0.885	<0.00050	540	<0.50	<0.50	<0.50														
W8A	14/01/2013	0.0021	7.47	<0.000020	34.5	1.51	30.8	<0.000050	<0.0050	<0.0050	0.0031	<0.0050	1.15	<0.00050	537	<0.50	<0.50	<0.50														
W8A	22/01/2013	0.00198	7.13	0.00003	34.1	1.51	32.1	<0.000050	<0.0050	<0.0050	0.00358	<0.0050	2.14	<0.00050	523	11.1	<0.50	9.28														
W8A	03/02/2013	0.00202	7.01	<0.000020	36	1.52	30.3	<0.000050	<0.0050	<0.0050	0.00313	<0.0050	1.42	<0.00050	550	<0.50	<0.50	<0.50														
W8A	07/02/2013	0.00166	8.03	<0.000020	34.3	1.6	30.7	<0.000050	<0.0050	<0.0050	0.00313	<0.0050	0.505	<0.00050	549	<0.50	<0.50	<0.50														
W8A	13/02/2013	0.00223	6.7	<0.000020	34.3	1.6	33.5	<0.000050	<0.0050	<0.0050	0.00314	<0.0050	1.97	<0.00050	542	<0.50	<0.50	<0.50														
W8A	21/02/2013	0.00185	7.79	<0.000020	36.3	1.6	29	<0.000050	<0.0050	<0.0050	0.00326	<0.0050	1.28	<0.00050	544	<0.50	<0.50	<0.50														
W8A	27/02/2013	0.00174	7.42	<0.000020	34.6	1.53	27.7	<0.000050	<0.0050	<0.0050	0.00326	<0.0050	1.28	<0.00050	552	<0.50	<0.50	<0.50														
W8A	04/03/2013	0.00215	7.75	<0.000020	35.9	1.58	31	<0.000050	<0.0050	<0.0050	0.00317	<0.0050	2.39	<0.00050	562	<0.50	<0.50	<0.50														0.0152
W8A	14/03/2013	0.00272	7.9	<0.000020	36.1	1.62	37.3	<0.000050	<0.0050	<0.0050	0.00297	<0.0050	3.08	<0.00050	561	<0.50	<0.50	<0.50														
W8A	19/03/2013	0.00159	8.67	<0.000020	37.6	1.48	29.4	<0.000050	<0.0050	<0.0050	0.00372	<0.0050	0.753	<0.00050	569	<0.50	<0.50	<0.50														
W8A	29/03/2013	0.00182	7.95	<0.000020	35.6	1.64	30	<0.000050	<0.0050	<0.0050	0.00307	<0.0050	1.07	<0.00050	588	<0.50	<0.50	<0.50														0.0222
W8A	01/04/2013 16:45	0.00181	8.44	<0.000020	34.6	1.76	32.3	<0.000050	<0.0050	<0.0050	0.00306	<0.0050	1.55	<0.00050	608	<0.50	<0.50	<0.50														0.0455
W8A	06/04/2013 9:45	0.00333	9.81	<0.000020	33.1	2	39.4	<0.000050	<0.0050	<0.0050	0.00302	<0.0050	1.23	<0.00050	680	<0.50	<0.50	<0.50														
W8A	13/04/2013 10:30	0.00185	7.73	<0.000020	34.1	1.6	33	<0.000050	<0.0050	<0.0050	0.00283	<0.0050	1.35	<0.00050	598	<0.50	<0.50	<0.50														

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	P-TDP	P-TRP	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		mg/L	mg/L	Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W8A	30/04/2011								
W8A	06/05/2011								
W8A	13/05/2011								
W8A	21/05/2011								
W8A	25/05/2011								
W8A	10/06/2011								
W8A	17/06/2011								
W8A	24/06/2011								
W8A	30/06/2011								
W8A	08/07/2011								
W8A	15/07/2011								
W8A	21/07/2011								
W8A	31/07/2011								
W8A	05/08/2011								
W8A	08/08/2011								
W8A	09/08/2011								
W8A	10/08/2011								
W8A	11/08/2011								
W8A	12/08/2011								
W8A	13/08/2011								
W8A	14/08/2011								
W8A	15/08/2011								
W8A	16/08/2011								
W8A	17/08/2011								
W8A	18/08/2011								
W8A	19/08/2011								
W8A	20/08/2011								
W8A	21/08/2011								
W8A	27/08/2011								
W8A	03/09/2011								
W8A	10/09/2011								
W8A	16/09/2011								
W8A	23/09/2011								
W8A	30/09/2011								
W8A	08/10/2011								
W8A	08/11/2011								
W8A	21/11/2011								
W8A	28/11/2011								
W8A	05/12/2011								
W8A	20/09/2012 11:20					877			
W8A	25/09/2012 7:35					884.3			
W8A	12/10/2012 11:10					987			
W8A	19/10/2012 13:10					943.1			
W8A	25/10/2012 16:40					803			
W8A	05/11/2012 15:10								
W8A	09/11/2012 15:45					579.5			
W8A	18/11/2012 16:30					109.9			
W8A	11/12/2012 16:15					834.8			
W8A	28/12/2012 9:30								
W8A	02/01/2013					477.5			
W8A	09/01/2013					779.8			
W8A	14/01/2013					835.2			
W8A	22/01/2013					817.5			
W8A	03/02/2013								
W8A	07/02/2013								
W8A	13/02/2013								
W8A	21/02/2013								
W8A	27/02/2013								
W8A	04/03/2013					869.4			
W8A	14/03/2013					947.2			
W8A	19/03/2013					929			
W8A	29/03/2013					1021			
W8A	01/04/2013 16:45					953			
W8A	06/04/2013 9:45					1003			
W8A	13/04/2013 10:30								

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T	B-T
			mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W8A	17/04/2013 10:45	P	28.8	2810	7.2	7.81	2460	4710	0.2				642	1190	498	1300	0.34	102	0.14	0.0275	3.06		2.29	<0.00050	0.00175	0.16	<0.00010	<0.0010	<0.05
W8A	25/04/2013 15:00	P	12.2	588	7.2	8.18	776	1650	2.7		38.2	-34.2	482	607	494	180	0.4	90.4	0.041	0.0237	3.1		0.277	<0.00050	0.00053	0.12	<0.00010	<0.0010	<0.05
W8A	02/05/2013 11:15	P	39.5	598	8.01	8.02	465.3	936	1.3		58.7	-51.1	494	433	403	22	0.38	84.1	0.065	0.0323	1.8		3.72	<0.00050	0.00195	0.162	0.00014	<0.0010	<0.05
W8A	12/05/2013 10:40	P	165	174	7.4	7.64	102.5	172	1.5	9.49	67.6	35.5	96	85.2	64.3	2.3	0.24	6.15	0.081	<0.0050	0.534		2.25	<0.00050	0.00078	0.0762	<0.00010	<0.0010	<0.05
W8A	17/05/2013 16:30	P	8.9	316	7.5	7.92	513	484	1.9				250	236	176	7.6	0.37	69.3	0.037	0.0152	2.38		0.292	<0.00050	0.00074	0.076	<0.00010	<0.0010	<0.05
W8A	25/05/2013 13:55	P	49.3	464	8.63	7.99	380.6	711	3.1	10.24	79.4	-64.1	383	325	269	6.9	0.41	96.6	0.042	0.0082	3.48		0.239	<0.00050	0.00049	0.0976	<0.00010	<0.0010	<0.05
W8A	30/05/2013 8:45	P	19	502	7.35	8.07	387.4	679	3.3	8.22	62.3	39	407	357	255	6.9	0.44	97.8	0.038	0.0091	3.4		0.106	<0.00050	0.00054	0.0969	<0.00010	<0.0010	<0.05
W8A	08/06/2013	P	24.8	486	7.01	7.86	401.4	785	3	6.54	48.8	88.4	363	368	312	6.8	0.41	104	0.025	0.0189	4.23		0.276	<0.00050	0.0007	0.098	<0.00010	<0.0010	<0.05
W8A	15/06/2013	P	9.3	564	6.2	8.13		804	5.6				425	366	327	7.8	0.41	111	0.03	0.0117	4.03		0.0797	<0.00050	0.0006	0.0976	<0.00010	<0.0010	<0.05
W8A	18/06/2013	P	17.2	666	8	8.17	901	875	4.7				426	392	345	13	0.43	125	0.034	0.0622	5.74		0.535	<0.00050	0.00073	0.105	<0.00010	<0.0010	<0.05
W8A	24/06/2013	P	17	766	8	8.35	885	917	5.2				474	434	358	7.3	0.42	131	0.0106	0.0201	7.45		0.296	<0.00050	0.00061	0.11	<0.00010	<0.0010	<0.05
W8A	01/07/2013	P	5.3	612	7.28	8.29		958	3.7	7.62	58	101.9	462	460	359	9.1	0.42	144	0.032	0.0099	8.75		0.0367	<0.00050	0.00051	0.108	<0.00010	<0.0010	<0.05
W8A	11/07/2013	P	9.1	668	8.00	8.06	1020	938	2				454	421	359	8.6	0.42	146	0.019	0.009	8.8		0.166	<0.00050	0.0005	0.108	<0.00010	<0.0010	<0.05
W8A	19/07/2013	P	2.5	746	7.37	8.08	616	992	7.5	6.93	58.1	133.1	515	477	369	9.2	0.47	148	0.032	0.0244	11.2		0.0549	<0.00050	0.00047	0.119	<0.00010	<0.0010	<0.05
W8A	23/07/2013	P	4.7	566	8.50	8.21	884	868	5.7				584	579	309	9	0.45	136	0.082	<0.050	9.1		0.0451	<0.00050	0.00057	0.119	<0.00010	<0.0010	<0.05
W8A	31/07/2013 16:15	P	14.9	568	7.36	8.11	587	861	2.7	9.21	68.4	102.7	442	411	266	7.7	0.53	143	0.34	0.0063	18.4		0.183	<0.00050	0.0006	0.107	<0.00010	<0.0010	<0.05
W8A	09/08/2013 11:30	P	6.7	784	7.27	7.98	577	947	3.9	8.81	67.9	140.5	508	436	323	7.9	0.5	154	0.03	<0.050	12.3		3.76	<0.00050	0.00184	0.173	0.00012	<0.0010	<0.05
W8A	15/08/2013 9:40	P	5.7	688	7.80	8.29	985	961	7.1				481	477	347	7.7	0.48	151	1.6	<0.0050	11.3		0.0698	<0.00050	0.00053	0.109	<0.00010	<0.0010	<0.05
W8A	19/08/2013 16:00	P	9.9	658	7.41	8.04	571	969	3.3	6.81	57.1	192.1	506	512	349	8.7	0.48	150	0.03	0.0068	11.1		0.188	<0.00050	0.00055	0.115	<0.00010	<0.0010	<0.05
W8A	26/08/2013 11:00	P	6.1	706	7.34	8.17	572	990	1.9	8.86	70.7	199.3	501	471	347	9	0.44	169	0.024	<0.0050	13.3		0.0552	<0.00050	0.00045	0.111	<0.00010	<0.0010	<0.05
W8A	02/09/2013 16:30	P	2.2	706	7.29	7.82	322.4	933	5.2	9.97	86.7	158.4	494	452	306	7.7	0.45	138	0.03	<0.0050	15.2		0.059	<0.00050	0.00063	0.114	<0.00010	<0.0010	<0.05
W8A	12/09/2013 10:35	P	3.8	680	7.15	8.17	585	983	2.7	7.63	63.1	128.5	512	494	316	11	0.48	165	0.0153	<0.0050	14		0.665	<0.00050	0.00078	0.121	<0.00010	<0.0010	<0.05
W8A	17/09/2013 14:15	P	6.4	744	7.12	7.8	551	975	2.5	7.32	54.7	184.0	553	456	328	9.9	0.5	164	0.02	<0.0050	12		0.139	<0.00050	0.00074	0.125	<0.00010	<0.0010	<0.05
W8A	28/09/2013 17:00	P	4.9	620	7.00	8.14	999.6	885	1.2	8.57	62.9	185.2	428	430	307	8.8	0.46	154	0.022	0.01	9.39		0.212	<0.00050	0.00056	0.104	<0.00010	<0.0010	<0.05
W8A	04/10/2013 11:30	P	17.1	624		8.11		919					486	437	312	9.3	0.51	146	0.029	0.0106	9.83		0.0572	<0.00050	0.00051	0.101	<0.00010	<0.0010	<0.05
W8A	09/10/2013 14:45	P	7.4	672	7.09	8.02	564	960	0.6	7.12	51.5	187.9	528	508	329	9.9	0.46	150	0.053	0.0161	10.1		0.0965	<0.00050	0.00057	0.111	<0.00010	<0.0010	<0.05
W8A	17/10/2013 15:30	P	14.3	666	7.29	8.41	543	1010	1.5	6.91	49.3	157.5	511	473	331	11	0.54	176	0.033	0.0296	13.8		0.174	<0.00050	0.00055	0.112	<0.00010	<0.0010	<0.05
W8A	22/10/2013 11:45	P	4.1	634	7.31	8.08	552	994	0.1	7.97	54.5	167.8	510	508	349	10	0.49	163	0.12	0.0116	11		0.098	<0.00050	0.00056	0.108	<0.00010	<0.0010	<0.05
W8A	29/10/2013 14:30	P			7.20		628		1.8	5.29	38.4	162.9																	
W8A	02/11/2013 8:00	P	21.7	658	7.31	8	546	999	0.7	10.30	72.1	156.0	574	521	362	10	0.45	150	0.023	<0.050	9.88		0.697	<0.00050	0.00079	0.133	<0.00010	<0.0010	<0.05
W8A	07/11/2013 10:00	P	7.2	756	7.46	8.2	519	1050	-0.1	7.77	53.5	148.8	548	530	366	11	0.47	172	0.035	0.009	12.6		0.443	<0.00050	0.00068	0.125	<0.00010	<0.0010	<0.05
W8A	15/11/2013 8:40	P	4.6	782	8.03	8.3	504	1160	0	8.53	58.5	150.4	604	581	357	16	0.51	225	0.018	0.0532	17.2		0.233	<0.00050	0.00057	0.116	<0.00010	<0.0010	<0.05
W8A	19/11/2013 10:45	P	13.2	768	7.55	8.19	543	1100	0.2	11.09	76.6	-113.9	468	497	282	17	0.54	218	0.03	0.0143	21.4		0.17	<0.00050	0.0007	0.105	<0.00010	<0.0010	<0.05
W8A	29/11/2013 15:30	P	11.4	652	7.53	8	514	1050	0	7.37	50.7	269.9	645	587		11	0.41	195	0.036	0.0102	13.1		0.137	<0.00050	0.00087	0.129	<0.00010	<0.0010	<0.05
W8A	06/12/2013 16:00	P	4.4	782	7.72	7.96	528	1160	0	5.64	39.2	113.4	571	588	383	15	0.49	198	0.067	0.0234	17.1		0.126	<0.00050	0.00066	0.111	<0.00010	<0.0010	<0.05
W8A	09/12/2013 15:30	P	22.5	706	7.86	8.17	527	1110	-0.1	7.48	50.9	80.1	563	538	469	9.2	0.43	139	0.028	0.0124	9.09		0.0874	<0.00050	0.00056	0.113	<0.00010	<0.0010	<0.05
W8A	16/12/2013 15:45	P	6.9	646	6.41	8.16	586	1060	1.7	10.79	77.9	188.2	498	506	468	6.7	0.42	121	0.024	0.0194	4.76		0.0362	<0.00050	0.00043	0.105	<0.00010	<0.0010	<0.05
W8A	23/12/2013 9:40	P	2.7	628	7.57	8.2	565	1020	0.4	9.98	69.8	140.8	504	537	463	5.7	0.42	117	0.023	<0.0050	3.63		0.13	<0.00050	0.00048	0.104	<0.00010	<0.0010	<0.05
W8A	02/01/2014 16:30	P	8.6	612	7.55	8.1	867	987		8.16	65.1	235.4	507	500	444	4.9	0.38	109	0.017	0.0092	2.89		0.0864	<0.00050	0.00041	0.106	<0.00010	<0.0010	<0.05
W8A	07/01/2014 13:40	P	5.8	610	7.78	8.26	167.4	1020	0	8.8	60.4	205	528	510	454	5.7	0.42	115	0.014	<0.0050	3.59		0.0589	<0.00050	0.00041	0.105	<0.00010	<0.0010	<0.05
W8A	17/01/2014 10:20	P	14.2	642	7.59	7.96	501	1040	0.4	7.35	50.8	199.5	521	507	478	6.3	0.43	114	0.014	<0.0050	3.23		0.292	<0.00050	0.00055	0.119	<0.00010	<0.0010	<0.05
W8A	21/01/2014 16:00	P	10.6	672	7.61	8.36	498.8	1060	0.1	8.67	59.7	241.7	509	536	473	6.1	0.43	126	0.029	<0.0050	3.85		0.1	<0.00050	0.00048	0.111	<0.00010	<0.0010	<0.05
W8A	28/01/2014 13:30	P	11	564	7.51	8.26	575	1070	0.5	8.85	61.6	216.6	569	567	476	6.3	0.4	123	0.017	<0.0050	4.15		0.045	<0.00050	0.0005	0.115	<0.00010	<0.0010	<0.05
W8A	03/02/2014 14:00	P	28.8	660	7.68	8.1	494.1	1020	0	9.44	64.9	237.8	563	528	481	5.6	0.45	112	0.045	0.0058	3.18		0.0861	<0.00050	0.00041	0.114	<0.00010	<0.0010	<0.05
W8A	13/02/2014 16:30	P	7.7	670	7.55	8.13	1120	1090	0	8.95	61.9	282.8	535	501	490	5.7	0.41	115	0.021	0.0134	3.66		0.304	<0.00050	0.00054	0.115	<0.00010	<0.0010	<0.05
W8A	18/02/2014 15:45	P	10.6	680	7.57	8.09	610	1100	0	7.67	52.7	308.8	528	534	512	6.3	0.42	112	0.027	0.046	3.58		0.561	<0.00050	0.00071	0.115	<0.00010	<0.0010	<0.05
W8A	27/02/2014 9:45	P	20.7	680	7.59	8.06	558	1100	0	8.98	61.5	317.4	550	532	497	5.7	0.41	106	0.031	0.0064	3.03		0.0815	<0.00050	0.00044	0.106	<0.00010	<0.0010	<0.05
W8A	06/03/2014 9:20	P	9.1	676	7.92	8.17	440.8	1090	-0.1	10.17	70.9	320.6	507	531	511	6.2	0.44	120	0.018	0.016	3.89		0.485	<0.00050	0.00045	0.105	<0.00010	<0.0010	<0.05
W8A	14/03/2014 10:45	P	7.5	666	7.4	8.14	621	1080	1.1	5.61	40	229.5	590	533	518	5.4	0.42	102	0.029	0.0077	2.4		0.06	<0.00050	0.00046	0.109	<0.00010	<0.0010	<0.05
W8A	21/03/2014 15:10	P	9.2	678	7.5	8.27	584	1060	0.5	8.6	60.5	156.5	549	543	511	5.2	0.41	98.5	0.072	0.0091	2.23		0.149	<0.00050	0.00041	0.108	<0.00010	<0.0010	<0.05
W8A	27/03/2014 10:00	P	6.5	668	7.46	8.31	525	1050	0.8	7.58	53.3	233.2	527	545	509	5.4	0.4	97.8	0.033	0.0107	1.76	9.45	0.0775	<0.00050	0.00036	0.111	<0.00010	<0.0010	<0.05
W8A	02/04/2014 16:15	P	9.8	680	7.28	8.29	564	1120	0.2	6.79	47.1	233.2	590	572	548	5.6	0.41	97	0.048	0.0133	1.81		0.124	<0.00050	0.00061	0.112	<0.00010	<0.0010	<0.05
W8A	07/04/2014 17:20	P	19.6	710	7.33	8.18	585	1150	1.2	4.77	33.6	196.5	552	571	561	6.7	0.44	96.2	0.035	0.0331	2.4		0.119	<0.00050	0.00045	0.111	<0.00010	<0.0010	<0.05
W8A	16/04/2014 11:10	P	9.2	418	7.46	7.91	431.8	667	2.3	9.83	72.5	174.5	362	332	240	3.5	0.37	104	0.19	0.0126	2.42		0.171	<0.00050	0.00065	0.0968	<0.00010	<0.0010	<0.05
W8A	22/04/2014 10:00	P	31.3	324	7.52	7.92	237.8	433	0.5	11.15	78.3	234.4	123	124	144	5.7	0.37	64.3	0.022	0.0928	3.62		1.4	<0.00050	0.00099	0.0637	<0.00010	<0.0010	<0.05
W8A	02/05/2014 16:45	P	19	312	7.77	7.66	30.2	418	2.3	9.6	70.2	190.2	220	202	148	3.5	0.3	52.4	0.029	0.0166	2.44		0.888	<0.00050	0.00093	0.0767	<0.00010	<0.0010	<0.05
W8A	06/05/2014 9:30	P	18	298	7.7	8.1	246.6	413	0.7	9.7	68.4	184.8	224	218	154	3.4	0.31	50.4	0.088	0.0228	2.17		2.12	<0.00050	0.0014	0.0964	<0.00010	<0.0010	<0.05
W8A	15/05/2014 16:10	P	6.1	576	8.03	7.85	412.5	755	1.9	8.55	63.2	207.4	391	328	256	6.2	0.58	111	0.021	0.0085	6.63		0.275	<0.00050	0.00052	0.0829	<0.00010	<0.0010	<0.05
W8A	23/05/2014 13:40	P	5.7	459	6.94	8.49	362.6	696	1.4	8.54	64	204.9	293	294	252	4.9	0.47	103	0.041	0.0176	5.66		0.798	<0.00050	0.00073	0.094	<0.00010	<0.0010	<0.05
W8A	29/05/2014 11:00	P	22.3	517	7.74	8.17	417	762	2.7	7.86	58.5	214.8	367	399	241	7	0.59	135	0.027	0.0137	8.23		0.217	<0.00050	0.0005	0.0878	<0.00010	<0.0010	<0.05
W8A	05/06/2014 9:10	P	16.8	526	7.55	8.14	444.5	764	4.4	9.21	72.4	266.6	343	344	255	7.2	0.6	118	0.036	0.011	8.34		1.92	<0.00050	0.0009	0.132	<0.00010	<0.0010	<0.05
W8A	11/06/2014 0:45	P	15.8	520	7.79	8.05	428.9	782	0.9	7.42	52.6	217.1	348	348	262	7.8	0.66	121	0.032	0.0187	7.95		1	<0.00050	0.00081	0.112	<0.00010	<0.0010	<0.05
W8A	17/06/2014 10:45	P	5.6	624	7.6	8.04	452.9	800	1.4	8.08	58.3	263.6	403	367	268	8.2	0.62	123	0.047	0.0192	8.51		0.789	<0.00050	0.00081	0.108	<0.00010	<0.0010	<0.05
W8A	26/06/2014 9:00	P	82.6	576	7.84	7.96	492.4	891	1.6	8.52	61.9	247.3	411	381	298	8.7	0.61	134	0.041	0.0288	9.24		0.167	<0.00050	0.00056	0.0979	<0.00010	<0.0010	<0.05
W8A	30/06/2014 1:45	P	16.9	648	7.74	7.94	503	907	3.6	8.13	61.9	189.5	484	491	296	9.8	0.59	143	0.49	0.0651	11		0.0281	<0.00050	0.00085	0.112	<0.00010	<0.0010	<0.05

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W8A	17/04/2013 10:45	0.000153	157	0.0064	0.00188	0.142	3.99	0.00104	0.0108	60.6	0.849	<0.000010	0.0071	0.0064	0.103	5.55	0.00178	12.7	0.000078	37	1.66	29	<0.000050	<0.0050	0.107	0.00249
W8A	25/04/2013 15:00	0.000129	104	0.0011	0.00068	0.129	0.622	<0.00020	0.0092	53.8	1.11	<0.000010	0.0067	0.0015	0.042	5.29	0.00178	8.04	0.000021	32.5	1.58	28.5	<0.000050	<0.0050	0.0121	0.0029
W8A	02/05/2013 11:15	0.000141	108	0.0088	0.00282	0.203	5.47	0.00179	0.0107	54.7	1.28	<0.000010	0.0062	0.0088	0.128	6.31	0.0018	14.5	0.0002	32	1.52	29.8	0.000053	<0.0050	0.137	0.00296
W8A	12/05/2013 10:40	0.000067	28	0.0017	0.00096	0.399	3.21	0.00111	<0.0050	6.36	0.145	0.000011	0.0039	0.0018	0.154	3.25	0.00104	8.08	0.000119	5.56	0.303	5.1	<0.000050	<0.0050	0.0991	0.00057
W8A	17/05/2013 16:30	0.000098	64	<0.0010	0.00052	0.186	0.603	0.00025	<0.0050	21.8	0.51	<0.000010	0.0083	0.0014	0.059	4.12	0.00338	5.89	0.000031	15.3	0.909	21.9	<0.000050	<0.0050	0.015	0.00191
W8A	25/05/2013 13:55	0.000236	92.6	<0.0010	<0.00050	0.211	0.605	<0.00020	0.0059	37	0.786	<0.000010	0.0093	0.0013	0.05	5.03	0.00459	6.62	0.00003	24.9	1.38	37.1	<0.000050	<0.0050	0.0115	0.00237
W8A	30/05/2013 8:45	0.000182	101	<0.0010	<0.00050	0.186	0.376	<0.00020	0.0059	37.4	0.74	<0.000010	0.0088	0.0012	0.042	4.81	0.00495	6.57	0.000021	25.7	1.44	36.6	<0.000050	<0.0050	0.006	0.0022
W8A	08/06/2013	0.00014	82.3	<0.0010	<0.00050	0.173	0.528	0.00026	0.0062	38.1	0.465	<0.000010	0.0062	0.0012	0.053	5.21	0.0042	7.34	<0.000020	25.9	1.43	33.5	<0.000050	<0.0050	0.0109	0.00212
W8A	15/06/2013	0.000151	93.9	<0.0010	<0.00050	0.162	0.253	<0.00020	0.0059	46.4	0.561	<0.000010	0.0075	0.0013	0.04	5.09	0.004	6.94	0.000052	31.4	1.61	37.5	<0.000050	<0.0050	0.0064	0.00246
W8A	18/06/2013	0.000118	93.5	0.0012	0.00054	0.182	0.984	0.00054	0.008	46.7	0.519	<0.000010	0.0072	0.0018	0.065	5.6	0.00486	7.93	<0.000020	31.5	1.64	37.9	<0.000050	<0.0050	0.0238	0.00278
W8A	24/06/2013	0.000158	101	<0.0010	<0.00050	0.138	0.561	0.0003	0.0109	54.1	0.469	<0.000010	0.0065	0.0015	0.051	6	0.00567	8.45	0.000058	34.5	1.66	40.5	<0.000050	<0.0050	0.0106	0.00301
W8A	01/07/2013	0.000194	108	<0.0010	<0.00050	0.139	0.177	<0.00020	0.007	46.5	0.499	<0.000010	0.0087	<0.0010	0.033	5.33	0.0084	7.42	<0.000020	32.6	1.66	51.2	<0.000050	<0.0050	<0.0050	0.00284
W8A	11/07/2013	0.000133	101	<0.0010	<0.00050	0.129	0.374	<0.00020	0.0067	49	0.403	<0.000010	0.0073	0.0012	0.035	5.37	0.00825	7.18	<0.000020	33.3	1.66	48.2	<0.000050	<0.0050	0.0087	0.00292
W8A	19/07/2013	0.000263	119	<0.0010	<0.00050	0.147	0.194	<0.00020	0.0105	52.9	0.468	<0.000010	0.0109	0.0014	0.027	5.7	0.0112	7.2	0.000038	36.6	1.89	66.7	<0.000050	<0.0050	<0.0050	0.00313
W8A	23/07/2013	0.000305	149	<0.0010	<0.00050	0.178	0.198	<0.00020	0.0069	51.3	0.62	<0.000010	0.0123	0.001	0.031	6.06	0.0122	7.05	<0.000020	37.4	1.91	61.2	<0.000050	<0.0050	<0.0050	0.00313
W8A	31/07/2013 16:15	0.000164	104	<0.0010	<0.00050	0.142	0.392	<0.00020	0.0071	44.5	0.422	<0.000010	0.0125	0.001	0.042	6.03	0.0113	7.34	<0.000020	28.5	1.42	47.6	<0.000050	<0.0050	0.0067	0.00262
W8A	09/08/2013 11:30	0.000197	118	0.0062	0.00269	0.337	6.67	0.00231	0.0096	51.8	0.534	<0.000010	0.0112	0.0057	0.24	6.39	0.0122	14.1	0.000181	35.7	1.58	53.3	0.00006	<0.0050	0.175	0.00258
W8A	15/08/2013 9:40	0.000142	110	<0.0010	<0.00050	0.121	0.182	<0.00020	0.0069	50.1	0.362	<0.000010	0.011	<0.0010	0.025	5.33	0.0133	6.88	<0.000020	34.2	1.68	53.7	<0.000050	<0.0050	<0.0050	0.00305
W8A	19/08/2013 16:00	0.000128	122	<0.0010	<0.00050	0.115	0.327	<0.00020	0.0053	49	0.329	<0.000010	0.0111	<0.0010	0.033	5.34	0.0167	7.22	<0.000020	32.7	1.67	58.8	<0.000050	<0.0050	0.0115	0.0029
W8A	26/08/2013 11:00	0.000142	118	<0.0010	<0.00050	0.115	0.183	<0.00020	0.0076	50.3	0.387	<0.000010	0.0099	<0.0010	0.034	5.51	0.0137	7.8	<0.000020	34	1.61	53.9	<0.000050	<0.0050	<0.0050	0.00253
W8A	02/09/2013 16:30	0.000116	123	<0.0010	<0.00050	0.122	0.238	<0.00020	0.0064	45.3	0.312	<0.000010	0.0119	0.0011	0.047	5.68	0.0155	7.89	0.00002	33	1.64	50.7	<0.000050	<0.0050	<0.0050	0.00233
W8A	12/09/2013 10:35	0.000144	123	0.0019	0.00058	0.168	1.42	0.0006	0.0068	49.8	0.369	<0.000010	0.0132	0.0013	0.095	5.66	0.0154	8.55	0.000024	34.2	1.6	58.5	<0.000050	<0.0050	0.0428	0.00263
W8A	17/09/2013 14:15	0.000097	134	<0.0010	<0.00050	0.109	0.318	<0.00020	0.0073	53	0.371	<0.000010	0.013	0.0012	0.054	6.14	0.015	8.2	0.000027	36.2	1.7	63.3	<0.000050	<0.0050	0.0078	0.00276
W8A	28/09/2013 17:00	0.000105	104	<0.0010	<0.00050	0.109	0.562	0.00024	0.0063	40.7	0.367	<0.000010	0.0107	0.0028	0.064	4.97	0.0116	7.72	0.00002	29.8	1.41	54.9	<0.000050	<0.0050	0.0169	0.00215
W8A	04/10/2013 11:30	0.000128	110	<0.0010	<0.00050	0.108	0.233	<0.00020	0.0076	51.1	0.486	<0.000010	0.0106	0.0011	0.042	5.37	0.00842	8.04	0.000026	34.2	1.53	50.5	<0.000050	<0.0050	<0.0050	0.00267
W8A	09/10/2013 14:45	0.000232	131	<0.0010	<0.00050	0.151	0.267	<0.00020	0.0063	48.9	0.492	<0.000010	0.013	<0.0010	0.043	5.87	0.013	7.62	0.000027	33.8	1.74	63.6	<0.000050	<0.0050	0.0057	0.00258
W8A	17/10/2013 15:30	0.000157	117	<0.0010	<0.00050	0.119	0.377	<0.00020	0.008	53	0.436	<0.000010	0.0115	<0.0010	0.049	5.54	0.0106	8.01	0.000041	35.5	1.72	59.3	<0.000050	<0.0050	0.0095	0.00281
W8A	22/10/2013 11:45	0.000149	125	<0.0010	<0.00050	0.109	0.25	<0.00020	0.0064	48.1	0.373	<0.000010	0.0117	<0.0010	0.044	5.35	0.0109	8.3	<0.000020	34.2	1.61	60.9	<0.000050	<0.0050	<0.0050	0.00254
W8A	29/10/2013 14:30																									
W8A	02/11/2013 8:00	0.000236	146	<0.0010	0.00066	0.197	1.53	0.00055	0.0063	50.7	0.505	<0.000010	0.0118	0.0014	0.092	6.09	0.0118	8.54	<0.000020	35.4	1.76	65.9	<0.000050	<0.0050	0.0418	0.00245
W8A	07/11/2013 10:00	0.000178	138	<0.0010	<0.00050	0.168	0.895	0.00041	0.0069	49.5	0.47	<0.000010	0.0113	0.0011	0.077	6.07	0.0107	9.67	0.000108	34	1.77	65.1	<0.000050	<0.0050	0.0225	0.00276
W8A	15/11/2013 8:40	0.000236	154	<0.0010	<0.00050	0.184	0.615	0.00023	0.006	53.1	0.593	<0.000010	0.0133	0.0013	0.058	6.28	0.0129	7.61	0.000028	37.8	1.86	76.2	<0.000050	<0.0050	0.0143	0.00275
W8A	19/11/2013 10:45	0.000164	128	<0.0010	<0.00050	0.148	0.455	0.00027	<0.0050	35.8	0.363	<0.000010	0.0131	<0.0010	0.079	5.25	0.0109	7.13	<0.000020	31.9	1.44	69.9	<0.000050	<0.0050	0.0114	0.00166
W8A	29/11/2013 15:30	0.000233	177	<0.0010	<0.00050	0.185	0.53	<0.00020	0.0056	49	0.746	<0.000010	0.0133	0.0012		6.74	0.0126	10.1	0.000046	39.2	2.02	79.5	<0.000050	<0.0050	0.0115	0.00217
W8A	06/12/2013 16:00	0.000293	153	<0.0010	<0.00050	0.197	0.551	<0.00020	0.0051	45.7	1.04	<0.000010	0.014	0.0014	0.05	6.17	0.0119	8.56	0.000023	35.1	1.92	74.9	<0.000050	<0.0050	0.0132	0.00216
W8A	09/12/2013 15:30	0.000223	124	<0.0010	<0.00050	0.204	0.489	<0.00020	0.0088	61.5	0.958	<0.000010	0.008	0.0012	0.053	5.88	0.00503	8.24	<0.000020	37	1.77	41.8	<0.000050	<0.0050	0.0081	0.00312
W8A	16/12/2013 15:45	0.000206	106	<0.0010	<0.00050	0.156	0.304	<0.00020	0.0096	56.6	0.708	<0.000010	0.0061	0.0012	0.037	5.43	0.0035	8.07	0.000044	34	1.67	41.4	<0.000050	<0.0050	<0.0050	0.00306
W8A	23/12/2013 9:40	0.000148	102	0.0011	<0.00050	0.166	0.555	<0.00020	0.0099	60.5	0.57	<0.000010	0.0056	0.0011	0.043	5.11	0.00259	7.82	<0.000020	36.2	1.62	36.5	<0.000050	<0.0050	0.0127	0.00304
W8A	02/01/2014 16:30	0.000143	103	0.0019	<0.00050	0.137	0.365	<0.00020	0.0104	60.7	0.513	<0.000010	0.0052	0.0011	0.039	5.38	0.00228	7.88	0.000037	38.2	1.68	36.4	<0.000050	<0.0050	0.0054	0.00298
W8A	07/01/2014 13:40	0.000175	109	<0.0010	<0.00050	0.147	0.343	<0.00020	0.0105	62.2	0.573	<0.000010	0.0054	<0.0010	0.032	5.4	0.00268	8.35	<0.000020	38.2	1.73	42.5	<0.000050	<0.0050	<0.0050	0.00337
W8A	17/01/2014 10:20	0.000208	109	0.0028	<0.00050	0.234	1.11	0.00092	0.0087	60.4	0.621	<0.000010	0.0055	0.0018	0.09	5.53	0.00238	8.27	0.000024	38.4	1.78	37.5	<0.000050	<0.0050	0.0233	0.00318
W8A	21/01/2014 16:00	0.00013	106	0.0031	<0.00050	0.148	0.48	0.00023	0.0085	59.1	0.548	<0.000010	0.0053	0.0015	0.067	4.68	0.00216	7.81	0.000022	37.4	1.79	37.3	<0.000050	<0.0050	0.0113	0.00251
W8A	28/01/2014 13:30	0.000239	123	<0.0010	<0.00050	0.182	0.532	<0.00020	0.0089	63.5	0.815	<0.000010	0.0061	0.0013	0.04	5.27	0.00297	8.14	<0.000020	38	1.98	45.8	<0.000050	<0.0050	0.0079	0.00312
W8A	03/02/2014 14:00	0.00016	120	<0.0010	<0.00050	0.139	0.625	<0.00020	0.0097	63.7	0.656	<0.000010	0.0056	<0.0010	0.039	5.62	0.00242	9.21	<0.000020	37.9	1.9	42.2	<0.000050	<0.0050	0.0108	0.00334
W8A	13/02/2014 16:30	0.000219	111	0.005	<0.00050	0.254	1.87	0.00067	0.0117	63	0.699		0.0053	0.0015	0.072	5.2	0.00213	8.63	0.000084	39.3	1.78	39.9	<0.000050	<0.0050	0.0212	0.00346
W8A	18/02/2014 15:45	0.00017	106	0.0024	0.00056	0.286	2.95	0.00071	0.0093	64	0.657	<0.000010	0.005	0.0018	0.099	4.91	0.00192	8.96	0.000072	36.9	1.74	34.5	<0.000050	<0.0050	0.0377	0.00324
W8A	27/02/2014 9:45	0.000259	112	<0.0010	<0.00050	0.184	0.73	<0.00020	0.0102	65.4	0.828	<0.000010	0.0052	0.0015	0.036	5.25	0.00229	8.19	<0.000020	38.6	1.84	37	<0.000050	<0.0050	<0.0050	0.00324
W8A	06/03/2014 9:20	0.000168	99.3	0.0011	0.00055	0.229	1.63	0.0003	0.0101	62.9	0.657	<0.000010	0.0051	0.0017	0.061	4.75	0.00176	8.27	0.000032	36.5	1.69	31.4	<0.000050	<0.0050	0.0285	0.00297
W8A	14/03/2014 10:45	0.000277	118	<0.0010	<0.00050	0.213	1.06	<0.00020	0.0123	71.4	1.09	<0.000010	0.0058	0.0016	0.048	6.2	0.00189	9.05	<0.000020	40.4	1.91	35.6	<0.000050	<0.0050	<0.0050	0.00368
W8A	21/03/2014 15:10	0.000215	105	<0.0010	<0.00050	0.208	0.985	<0.00020	0.0115	69.9	0.914	<0.000010	0.0047	0.0016	0.05	5.36	0.00166	8.11	0.00004	39.2	1.73	36.5	<0.000050	<0.0050	0.0142	0.00316
W8A	27/03/2014 10:00	0.000188	103	<0.0010	<0.00050	0.17	0.942	<0.00020	0.0111	65.5	0.791	<0.000010	0.0048	0.0014	0.044	4.96	0.00171	8.03	0.000031	36.9	1.71	35.2	<0.000050	<0.0050	<0.0050	0.00314
W8A	02/04/2014 16:15	0.000292	120	<0.0010	<0.00050	0.235	1.1	0.00029	0.0104	70.8	1.25	<0.000010	0.0061	0.0014	0.047	5.43	0.00306	8.69	0.00003	40.3	1.91	33.5	<0.000050	<0.0050	0.0092	0.00323
W8A	07/04/2014 17:20	0.000238	116	<0.0010	<0.00050	0.212	1.15	<0.00020	0.009	63.4	1.39	<0.000010	0.0056	0.0015	0.044	5.2	0.00155	8.53	<0.000020	34.9	1.9	28.5	<0.000050	<0.0050	0.0068	0.003
W8A	16/04/2014 11:10	0.00015	95.7	<0.0010	<0.00050	0.121	0.536	<0.00020	<0.0050	29.9	0.624	<0.000010	0.0078	<0.0010	0.066	4.35	0.00442	5.62	0.000029	21.8	1.23	38.8	<0.000050	<0.0050	0.0088	0.00166
W8A	22/04/2014 10:00	0.000092	34.9	0.0015	0.00066	0.491	2.18	0.00083	<0.0050	8.66	0.139	<0.000010	0.0045	0.0017	0.127	3.38	0.00222	6.92	0.000123	8.69	0.482	9.6	<0.000050	<0.0050	0.0778	0.0007
W8A	02/05/2014 16:45	0.000147	60.6	0.0013	<0.00050	0.208	1.31	0.00048	<0.0050	16.7	0.328	<0.000010	0.0061	0.002	0.073	3.49	0.00351	6.89	0.000072	13.3	0.848	21	<0.000050	<0.0050	0.0487	0.00107
W8A	06/05/2014 9:30	0.000144	57.1	0.0029	0.00127	0.474	4.42	0.00152	<0.0050	19.7	0.418	<0.000050	0.0058	0.0032	0.161	3.95	0.00389	8.69	0.000131	15.7	0.857	18.9	<0.000050	<0.0050	0.128	0.00125
W8A	15/05/2014 16:10	0.000337	103	<0.0010	<0.00050	0.266	0.841	0.00021	<0.0050	32.4	0.768	<0.000010	0.0137	0.0012	0.05	4.8	0.0085	7.41	0.000048	25.3	1.32	43.6	<0.000050	<0.0050	0.0195	0.00171
W8A	23/05/2014 13:40	0.000134	71.9	<0.0010	0.0006	0.294	1.6	0.00061	<0.0050	27.5	0.373	<0.000010	0.0077	0.0016	0.093	4.28	0.00479	7.13	0.000079	21.4	1.15	26.6	<0.000050	<0.0050	0.0463	0.00185
W8A	29/05/2014 11:00	0.000311	95.5	<0.0010	<0.00050	0.22	0.652	<0.00020	<0.0050	31.2	0.528	<0.000010	0.0134	<0.0010	0.069	4.72	0.00868	6.13	0.000031	24.6	1.26	45.4	<0.000050	<0.0050	0.014	0.00177
W8A	05/06/2014 9:10	0.00024	87.9	0.002	0.00163	0.532	4.45	0.00168	0.005	30	0.486	<0.000010	0.0131	0.0019	0.165	5.14	0.0072	8.6	0.000122	24.6	1.29	38.5	<0.000050	<0.0050	0.101	0.00184
W8A	11/06/2014 0:45	0.00022	86	0.0023	0.00096	0.483	3.79	0.00126	<0.0050	32.4	0.537	<0.000010	0.0162	0.0019	0.18	5.34	0.00767	6.67	0.000089	26.4	1.32	39.3	<0.000050	<0.0050	0.0691	0.00174
W8A	17/06/2014 10:45	0.000225	104	0.0031	0.00059	0.298	2.12	0.00098	<0.0050	34.5	0.54	<0.000010	0.0145	0.0016	0.117	5.31	0.00679	7.92	0.0164	28.5	1.46	42.1	<0.000050	<0.0050	0.0391	0.00178
W8A	26/06/2014 9:00	0.000241	106	<0.0010	<0.00050	0.187	0.505	0.00027	<0.0050	35.5	0.642	<0.000010	0.0155	<0.0010	0.051	5.54	0.00889	6.57	0.000024	28.7	1.57	48.4	<0.000050	<0.0050	0.0115	0.00169
W8A	30/06/2014 1:45	0.000176	134	<0.0010	<0.00050	0.131	0.155	<0.00020	<0.0050	36.1	0.428	<0.000010	0.0125	0.0013	0.099	5.35	0.00881	7.68	0.000023	29.8	1.58	51.8	0.000059	<0.0050	<0.0050	0.00228

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W8A	17/04/2013 10:45	0.0067	0.909	0.0009	<0.0030	<0.00050	0.00057	0.202	<0.00010	<0.0010	<0.05	0.000254	333	<0.0010	0.00054	0.0773	0.152	<0.00020	0.0112	86.2	1	<0.000010	0.0071	0.0021	0.022	7.58
W8A	25/04/2013 15:00	<0.0050	0.465	<0.00050	0.0113	<0.00050	0.00055	0.119	<0.00010	<0.0010	<0.05	0.000142	135	<0.0010	<0.00050	0.125	0.104	<0.00020	0.0099	65.4	1.31	<0.000010	0.0068	0.0013	0.019	5.56
W8A	02/05/2013 11:15	0.0102	2.9	0.00202	0.0052	<0.00050	0.00051	0.111	<0.00010	<0.0010	<0.05	0.000103	97.6	<0.0010	<0.00050	0.0832	0.0913	<0.00020	0.0082	46	0.864	<0.000010	0.0052	<0.0010	0.033	5.15
W8A	12/05/2013 10:40	0.0067	0.578	0.00056	0.0541	<0.00050	0.00056	0.0293	<0.00010	<0.0010	<0.05	0.00005	24.6	<0.0010	<0.00050	0.236	0.153	<0.00020	<0.0050	5.76	0.0817	<0.000010	0.0034	<0.0010	0.049	2.44
W8A	17/05/2013 16:30	<0.0050	0.611	<0.00050	0.0177	<0.00050	0.00057	0.0706	<0.00010	<0.0010	<0.05	0.000107	59.4	<0.0010	<0.00050	0.159	0.144	<0.00020	<0.0050	21.3	0.465	<0.000010	0.0087	<0.0010	0.038	4.3
W8A	25/05/2013 13:55	<0.0050	1.27	<0.00050	0.0077	<0.00050	0.0006	0.0939	<0.00010	<0.0010	<0.05	0.000113	80.8	<0.0010	<0.00050	0.111	0.11	<0.00020	<0.0050	30	0.47	<0.000010	0.0072	<0.0010	0.049	5.01
W8A	30/05/2013 8:45	<0.0050	1.97	<0.00050	0.0063	<0.00050	0.00056	0.092	<0.00010	<0.0010	<0.05	0.000179	86.3	<0.0010	<0.00050	0.15	0.149	<0.00020	0.0057	34.4	0.691	<0.000010	0.0078	0.001	0.032	4.83
W8A	08/06/2013	<0.0050	0.893	<0.00050	0.0063	<0.00050	0.00059	0.0889	<0.00010	<0.0010	<0.05	0.000154	83	<0.0010	<0.00050	0.142	0.0927	<0.00020	0.0062	39.1	0.571	<0.000010	0.0071	<0.0010	0.03	5.16
W8A	15/06/2013	<0.0050	1.6	<0.00050	0.0058	<0.00050	0.00054	0.0935	<0.00010	<0.0010	<0.05	0.000112	82.9	<0.0010	<0.00050	0.108	0.0791	<0.00020	0.0068	38.5	0.411	<0.000010	0.0061	<0.0010	0.033	5.02
W8A	18/06/2013	<0.0050	1.66	<0.00050	0.0178	<0.00050	0.00045	0.095	<0.00010	<0.0010	<0.05	0.000127	86.3	<0.0010	<0.00050	0.114	0.0856	<0.00020	0.0071	42.9	0.46	<0.000010	0.0065	<0.0010	0.042	4.98
W8A	24/06/2013	<0.0050	1.7	<0.00050	0.0058	<0.00050	0.00045	0.105	<0.00010	<0.0010	<0.05	0.000164	98	<0.0010	<0.00050	0.104	0.0503	<0.00020	0.0078	45.9	0.41	<0.000010	0.0077	<0.0010	0.031	5.21
W8A	01/07/2013	<0.0050	1.11	<0.00050	0.0083	<0.00050	0.00044	0.111	<0.00010	<0.0010	<0.05	0.000153	106	<0.0010	<0.00050	0.0967	0.0899	<0.00020	0.0072	47.5	0.455	<0.000010	0.0073	0.0011	0.025	5.63
W8A	11/07/2013	<0.0050	0.596	<0.00050	0.0051	<0.00050	0.00042	0.103	<0.00010	<0.0010	<0.05	0.000153	92.5	<0.0010	<0.00050	0.0912	0.0573	<0.00020	0.0073	46.1	0.381	<0.000010	0.0078	<0.0010	0.02	4.8
W8A	19/07/2013	<0.0050	3.47	<0.00050	0.007	<0.00050	0.00033	0.103	<0.00010	<0.0010	<0.05	0.000236	113	<0.0010	<0.00050	0.121	0.061	<0.00020	0.0079	47	0.419	<0.000010	0.0095	<0.0010	0.018	5.4
W8A	23/07/2013	<0.0050	3.49	<0.00050	0.007	<0.00050	0.00054	0.116	<0.00010	<0.0010	<0.05	0.000305	155	<0.0010	<0.00050	0.157	0.073	<0.00020	0.0064	46.8	0.578	<0.000010	0.0112	<0.0010	0.012	5.94
W8A	31/07/2013 16:15	<0.0050	0.501	<0.00050	0.0086	<0.00050	0.0005	0.102	<0.00010	<0.0010	<0.05	0.00015	99.3	<0.0010	<0.00050	0.111	0.0775	<0.00020	0.0075	39.7	0.35	<0.000010	0.0124	<0.0010	0.027	5.33
W8A	09/08/2013 11:30	0.0119	2.9	0.00075	0.0046	<0.00050	0.00046	0.106	<0.00010	<0.0010	<0.05	0.000137	103	<0.0010	<0.00050	0.0769	0.043	<0.00020	0.0064	43.6	0.354	<0.000010	0.011	<0.0010	0.033	5.23
W8A	15/08/2013 9:40	<0.0050	0.711	<0.00050	0.0042	<0.00050	0.00042	0.108	<0.00010	<0.0010	<0.05	0.00013	113	<0.0010	<0.00050	0.0942	0.0627	<0.00020	0.0074	47	0.336	<0.000010	0.0106	<0.0010	0.023	5.13
W8A	19/08/2013 16:00	<0.0050	1.84	<0.00050	0.07	<0.00050	0.00046	0.109	<0.00010	<0.0010	<0.05	0.000154	126	<0.0010	<0.00050	0.0898	0.227	<0.00020	0.0067	47.8	0.314	<0.000010	0.0101	<0.0010	0.023	5.23
W8A	26/08/2013 11:00	<0.0050	0.697	<0.00050	0.0041	<0.00050	0.00043	0.111	<0.00010	<0.0010	<0.05	0.000131	110	<0.0010	<0.00050	0.0919	0.0626	<0.00020	0.0064	47.9	0.36	<0.000010	0.0105	<0.0010	0.027	5.29
W8A	02/09/2013 16:30	<0.0050	0.837	<0.00050	0.0046	<0.00050	0.00056	0.106	<0.00010	<0.0010	<0.05	0.00012	110	<0.0010	<0.00050	0.0999	0.0633	<0.00020	0.006	43.2	0.296	<0.000010	0.0103	<0.0010	0.04	5.11
W8A	12/09/2013 10:35	<0.0050	2.06	<0.00050	0.0043	<0.00050	0.00055	0.109	<0.00010	<0.0010	<0.05	0.000094	123	<0.0010	<0.00050	0.084	0.0576	<0.00020	0.0068	45.7	0.32	<0.000010	0.0125	<0.0010	0.035	6.62
W8A	17/09/2013 14:15	<0.0050	0.393	<0.00050	0.0037	<0.00050	0.00052	0.102	<0.00010	<0.0010	<0.05	0.00009	113	<0.0010	<0.00050	0.0788	0.0598	<0.00020	0.0052	42.2	0.314	<0.000010	0.0107	<0.0010	0.036	4.97
W8A	28/09/2013 17:00	<0.0050	0.699	<0.00050	0.0052	<0.00050	0.00049	0.0918	<0.00010	<0.0010	<0.05	0.000129	102	<0.0010	<0.00050	0.0874	0.0645	<0.00020	0.006	42.5	0.419	<0.000010	0.0098	<0.0010	0.034	4.75
W8A	04/10/2013 11:30	<0.0050	0.953	<0.00050	0.0057	<0.00050	0.00053	0.0994	<0.00010	<0.0010	<0.05	0.0001	105	<0.0010	<0.00050	0.0774	0.0614	<0.00020	0.0065	42.5	0.363	<0.000010	0.0117	<0.0010	0.038	5.15
W8A	09/10/2013 14:45	<0.0050	4.32	<0.00050	0.0034	<0.00050	0.00046	0.102	<0.00010	<0.0010	<0.05	0.000196	125	<0.0010	<0.00050	0.123	0.0467	<0.00020	0.0062	47.6	0.488	<0.000010	0.0103	<0.0010	0.034	5.64
W8A	17/10/2013 15:30	<0.0050	4.42	<0.00050	0.0042	<0.00050	0.00051	0.0986	<0.00010	<0.0010	<0.05	0.000135	112	<0.0010	<0.00050	0.0823	0.0505	<0.00020	0.0071	46.9	0.4	<0.000010	0.0107	<0.0010	0.029	5.24
W8A	22/10/2013 11:45	<0.0050	3.04	<0.00050	0.0042	<0.00050	0.00057	0.104	<0.00010	<0.0010	<0.05	0.000237	130	<0.0010	<0.00050	0.126	0.0633	<0.00020	0.0067	44.4	0.41	<0.000010	0.0122	<0.0010	0.028	5.32
W8A	29/10/2013 14:30																									
W8A	02/11/2013 8:00	<0.0050	2.5	<0.00050	0.0048	<0.00050	0.0005	0.114	<0.00010	<0.0010	<0.05	0.000208	131	<0.0010	<0.00050	0.12	0.0627	<0.00020	0.0059	47	0.438	<0.000010	0.0108	<0.0010	0.03	5.77
W8A	07/11/2013 10:00	<0.0050	2.02	<0.00050	0.0695	<0.00050	0.00051	0.113	<0.00010	<0.0010	<0.05	0.000189	133	<0.0010	<0.00050	0.12	0.0586	<0.00020	0.0065	47.9	0.408	<0.000010	0.0116	<0.0010	0.03	5.47
W8A	15/11/2013 8:40	<0.0050	2.63	<0.00050	0.0039	<0.00050	0.0009	0.12	<0.00010	<0.0010	<0.05	0.000151	146	<0.0010	<0.00050	0.0963	0.0683	<0.00020	0.0063	52.2	0.481	<0.000010	0.013	<0.0010	0.037	6.22
W8A	19/11/2013 10:45	<0.0050	1.54	<0.00050	0.0053	<0.00050	0.00078	0.107	<0.00010	<0.0010	<0.05	0.000189	136	<0.0010	<0.00050	0.136	0.0585	<0.00020	<0.0050	38.2	0.384	<0.000010	0.0144	<0.0010	0.055	5.49
W8A	29/11/2013 15:30	<0.0050	1.68	<0.00050	0.0059	<0.00050	0.0008	0.109	<0.00010	<0.0010	<0.05	0.000192	159	<0.0010	<0.00050	0.126	0.108	<0.00020	0.0056	46.4	0.635	<0.000010	0.0118	0.0022		6.19
W8A	06/12/2013 16:00	<0.0050	2.93	<0.00050	0.0037	<0.00050	0.00055	0.11	<0.00010	<0.0010	<0.05	0.000361	158	<0.0010	<0.00050	0.193	0.164	<0.00020	<0.0050	47.1	1.17	<0.000010	0.0145	0.0014	0.04	6.27
W8A	09/12/2013 15:30	<0.0050	0.976	<0.00050	0.0043	<0.00050	0.00051	0.112	<0.00010	<0.0010	<0.05	0.000217	122	<0.0010	<0.00050	0.161	0.0893	<0.00020	0.008	56.8	0.95	<0.000010	0.0081	0.0013	0.026	5.7
W8A	16/12/2013 15:45	<0.0050	1.89	<0.00050	0.0033	<0.00050	0.00038	0.109	<0.00010	<0.0010	<0.05	0.000198	111	<0.0010	<0.00050	0.123	0.0764	<0.00020	0.0094	55.4	0.684	<0.000010	0.0064	<0.0010	0.021	4.91
W8A	23/12/2013 9:40	<0.0050	0.767	<0.00050	0.0043	<0.00050	0.0004	0.112	<0.00010	<0.0010	<0.05	0.000151	110	<0.0010	<0.00050	0.122	0.107	<0.00020	0.0109	63.7	0.657	<0.000010	0.0062	0.001	0.026	5.62
W8A	02/01/2014 16:30	<0.0050	0.614	<0.00050	0.0032	<0.00050	0.00035	0.105	<0.00010	<0.0010	<0.05	0.000134	107	<0.0010	<0.00050	0.1	0.0864	<0.00020	0.0102	56.8	0.522	<0.000010	0.0053	0.0011	0.033	4.81
W8A	07/01/2014 13:40	<0.0050	0.759	<0.00050	<0.0030	<0.00050	0.00039	0.105	<0.00010	<0.0010	<0.05	0.000162	104	<0.0010	<0.00050	0.113	0.0926	<0.00020	0.0107	60.7	0.557	<0.000010	0.0057	<0.0010	0.02	5.31
W8A	17/01/2014 10:20	<0.0050	1.73	<0.00050	0.0087	<0.00050	0.00047	0.108	<0.00010	<0.0010	<0.05	0.000134	109	<0.0010	<0.00050	0.104	0.104	<0.00020	0.0096	56.7	0.572	<0.000010	0.0059	0.0012	0.031	4.98
W8A	21/01/2014 16:00	<0.0050	0.594	<0.00050	0.0033	<0.00050	0.00042	0.112	<0.00010	<0.0010	<0.05	0.000171	112	<0.0010	<0.00050	0.125	0.114	<0.00020	0.0093	61.9	0.679	<0.000010	0.006	0.001	0.034	5.5
W8A	28/01/2014 13:30	<0.0050	0.853	<0.00050	0.0033	<0.00050	0.00039	0.11	<0.00010	<0.0010	<0.05	0.000212	125	<0.0010	<0.00050	0.14	0.14	<0.00020	0.0089	61.7	0.836	<0.000010	0.0063	0.0011	0.03	5.66
W8A	03/02/2014 14:00	<0.0050	0.525	<0.00050	0.004	<0.00050	0.00038	0.109	<0.00010	<0.0010	<0.05	0.000144	110	<0.0010	<0.00050	0.108	0.102	<0.00020	0.0099	61.6	0.649	<0.000010	0.005	0.001	0.024	5.17
W8A	13/02/2014 16:30	<0.0050	1.28	<0.00050	0.0044	<0.00050	0.00037	0.104	<0.00010	<0.0010	<0.05	0.000203	100	<0.0010	<0.00050	0.13	0.126	<0.00020	0.0097	60.7	0.718		0.006	0.0011	0.022	5.1
W8A	18/02/2014 15:45	<0.0050	1.43	<0.00050	0.0036	<0.00050	0.00037	0.108	<0.00010	<0.0010	<0.05	0.000152	102	<0.0010	<0.00050	0.11	0.135	<0.00020	0.0113	67.5	0.678	<0.000010	0.0051	0.001	0.024	5.54
W8A	27/02/2014 9:45	<0.0050	1.67	<0.00050	0.0033	<0.00050	0.00033	0.104	<0.00010	<0.0010	<0.05	0.000233	110	<0.0010	<0.00050	0.132	0.124	<0.00020	0.0104	62.5	0.801	<0.000010	0.0055	0.0011	0.023	5.12
W8A	06/03/2014 9:20	<0.0050	0.799	<0.00050	<0.0030	<0.00050	0.00036	0.105	<0.00010	<0.0010	<0.05	0.000122	101	<0.0010	<0.00050	0.0991	0.127	<0.00020	0.0105	67.6	0.645	<0.000010	0.0045	0.001	0.025	5.34
W8A	14/03/2014 10:45	<0.0050	1.85	<0.00050	<0.0030	<0.00050	0.00035	0.103	<0.00010	<0.0010	<0.05	0.000231	109	<0.0010	<0.00050	0.135	0.121	<0.00020	0.0113	63.5	0.91	<0.000010	0.0057	0.0012	0.02	5.26
W8A	21/03/2014 15:10	<0.0050	1.58	<0.00050	0.0036	<0.00050	0.00032	0.106	<0.00010	<0.0010	<0.05	0.000248	106	<0.0010	<0.00050	0.127	0.141	<0.00020	0.0106	67.3	0.975	<0.000010	0.0054	0.0012	0.02	5.12
W8A	27/03/2014 10:00	<0.0050	1.08	<0.00050	0.0046	<0.00050	0.00033	0.111	<0.00010	<0.0010	<0.05	0.00018	107	<0.0010	<0.00050	0.11	0.118	<0.00020	0.0111	67.7	0.835	<0.000010	0.005	0.0011	0.025	5.37
W8A	02/04/2014 16:15	<0.0050	2.3	<0.00050	0.0054	<0.00050	0.00036	0.104	<0.00010	<0.0010	<0.05	0.000204	120	<0.0010	<0.00050	0.116	0.157	<0.00020	0.0109	66.3	1.02	<0.000010	0.0051	0.0012	0.025	5.53
W8A	07/04/2014 17:20	<0.0050	0.971	<0.00050	0.0036	<0.00050	0.00033	0.113	<0.00010	<0.0010	<0.05	0.000194	121	<0.0010	<0.00050	0.13	0.147	<0.00020	0.0097	65.2	1.48	<0.000010	0.0052	0.0012	0.025	5.32
W8A	16/04/2014 11:10	<0.0050	0.443	<0.00050	0.0051	<0.00050	0.00057	0.09	<0.00010	<0.0010	<0.05	0.000122	86.8	<0.0010	<0.00050	0.0945	0.0778	<0.00020	<0.0050	28.1	0.672	<0.000010	0.008	<0.0010	0.04	4.49
W8A	22/04/2014 10:00	<0.0050	0.204	<0.00050	0.044	<0.00050	0.00064	0.0385	<0.00010	<0.0010	<0.05	0.000056	36.5	<0.0010	<0.00050	0.235	0.177	<0.00020	<0.0050	8.12	0.11	<0.000010	0.0045	<0.0010	0.052	2.98
W8A	02/05/2014 16:45	<0.0050	0.384	0.00095	0.0249	<0.00050	0.00064	0.0559	<0.00010	<0.0010	<0.05	0.000112	55.9	<0.0010	<0.00050	0.167	0.154	<0.00020	<0.0050	15.1	0.25	<0.000010	0.0055	<0.0010	0.047	3.4
W8A	06/05/2014 9:30	0.0075	1.1	0.00135	0.023	<0.00050	0.00056	0.0614	<0.00010	<0.0010	<0.05	0.000099	57.6	<0.0010	<0.00050	0.149	0.143	<0.00020	<0.0050	18	0.277	<0.000050	0.0052	0.0011	0.043	3.33
W8A	15/05/2014 16:10	<0.0050	1.92	<0.00050	0.0102	<0.00050	0.00052	0.0771	<0.00010	<0.0010	<0.05	0.000203	86.7	<0.0010	<0.00050	0.144	0.102	<0.00020	<0.0050	27.1	0.521	<0.000010	0.0091	0.0015	0.036	4.54
W8A	23/05/2014 13:40	<0.0050	1.15	<0.00050	0.0205	<0.00050	0.00055	0.0807	<0.00010	<0.0010	<0.05	0.000112	74.1	<0.0010	<0.00050	0.122	0.111	<0.00020	<0.0050	26.5	0.334	<0.000010	0.0073	<0.0010	0.048	4.35
W8A	29/05/2014 11:00	<0.0050	1.37	<0.00050	0.0094	<0.00050	0.00043	0.0857	<0.00010	<0.0010	<0.05	0.000295	108	<0.0010	<0.00050	0.144	0.0698	<0.00020	<0.0050	31.7	0.629	<0.000010	0.0147	<0.0010	0.036	4.69
W8A	05/06/2014 9:10	0.0085	1.23	<0.00050	0.006	<0.00050	0.00045	0.086	<0.00010	<0.0010	<0.05	0.000143	87.8	<0.0010	<0.00050	0.104	0.065	<0.00020	<0.0050	30.2	0.441	<0.000010	0.014	<0.0010	0.03	4.56
W8A	11/06/2014 0:45	0.0051	1.97	<0.00050	0.0075	<0.00050	0.00053	0.0813	<0.00010	<0.0010	<0.05	0.000176	89.2	<0.0010	<0.00050	0.112	0.0701	<0.00020	<0.0050	30.3	0.465	<0.000010	0.0147	0.0012	0.03	4.86
W8A	17/06/2014 10:45	<0.0050	2.51	<0.00050	0.0064	<0.00050	0.00052	0.0906	<0.00010	<0.0010	<0.05	0.000184	95.2	<0.0010	<0.00050	0.116	0.0713	<0.00020	<0.0050	31.4	0.505	<0.000010	0.015	<0.0010	0.04	5.14
W8A	26/06/2014 9:00	<0.0050	1.85	<0.00050	0.0096	<0.00050	0.0005	0.0926	<0.00010	<0.0010	<0.05	0.000213	98.8	<0.0010	<0.00050	0.108	0.094	<0.00020	<0.0050	32.7	0.618	<0.000010	0.015	0.0011	0.037	5.71
W8A	30/06/2014 1:45	<0.0050	5.66	<0.00050	0.0082	<0.00050	0.00078	0.112	<0.00010	<0.0010	<0.05	0.000153	135	<0.0010	<0.00050	0.114	0.0799	<0.00020	<0.0050	37.3	0.444	<0.000010	0.0133	<0.0010	0.09	5.86

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	BOD5	Br	Cation	COD	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-T	N-TKN	P-PO4T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L
W8A	17/04/2013 10:45	0.00181	7.05	<0.000020	59.5	2.26	31.2	<0.000050	<0.0050	<0.0050	0.00294	<0.0050	2.19	<0.00050	607	<0.50	<0.50	<0.50														
W8A	25/04/2013 15:00	0.00171	7.91	0.000034	36.2	1.76	29.6	<0.000050	<0.0050	<0.0050	0.00327	<0.0050	3.36	<0.00050	602	<0.50	<0.50	<0.50														
W8A	02/05/2013 11:15	0.00194	6.77	<0.000020	29.8	1.43	26.5	<0.000050	<0.0050	<0.0050	0.00247	<0.0050	0.593	<0.00050	491	<0.50	<0.50	<0.50														
W8A	12/05/2013 10:40	0.00127	2.88	0.00002	5.18	0.287	6	<0.000050	<0.0050	<0.0050	0.00044	<0.0050	0.191	<0.00050	78.4	<0.50	<0.50	<0.50														
W8A	17/05/2013 16:30	0.00337	4.81	<0.000020	15.8	0.891	22	<0.000050	<0.0050	<0.0050	0.00184	<0.0050	0.176	<0.00050	215	<0.50	<0.50	<0.50														
W8A	25/05/2013 13:55	0.00376	5.87	<0.000020	23.8	1.23	32.4	<0.000050	<0.0050	<0.0050	0.00175	<0.0050	0.312	<0.00050	328	<0.50	<0.50	<0.50														
W8A	30/05/2013 8:45	0.00487	6.35	<0.000020	24.1	1.39	33.2	<0.000050	<0.0050	<0.0050	0.00217	<0.0050	1.14	<0.00050	311	<0.50	<0.50	<0.50														
W8A	08/06/2013	0.00418	6.37	<0.000020	26.8	1.44	33.7	<0.000050	<0.0050	<0.0050	0.00234	<0.0050	1.09	<0.00050	380	<0.50	<0.50	<0.50														
W8A	15/06/2013	0.0041	6.65	<0.000020	26.6	1.46	34.6	<0.000050	<0.0050	<0.0050	0.00228	<0.0050	0.587	<0.00050	398	<0.50	<0.50	<0.50														
W8A	18/06/2013	0.00432	7.04	<0.000020	29.2	1.53	37	<0.000050	<0.0050	<0.0050	0.0026	<0.0050	1.58	<0.00050	421	<0.50	<0.50	<0.50														
W8A	24/06/2013	0.00587	7.27	<0.000020	31.4	1.64	46.2	<0.000050	<0.0050	<0.0050	0.00291	<0.0050	2.2	<0.00050	427	4.84	<0.50	4.03														
W8A	01/07/2013	0.00832	7.55	<0.000020	32.6	1.67	53.2	<0.000050	<0.0050	<0.0050	0.00284	<0.0050	0.665	<0.00050	438	<0.50	<0.50	<0.50														
W8A	11/07/2013	0.00934	7.08	<0.000020	31	1.54	51.5	<0.000050	<0.0050	<0.0050	0.00267	<0.0050	0.588	<0.00050	438	<0.50	<0.50	<0.50														
W8A	19/07/2013	0.0108	6.76	<0.000020	32	1.71	55.7	<0.000050	<0.0050	<0.0050	0.00276	<0.0050	3.19	<0.00050	450	<0.50	<0.50	<0.50														
W8A	23/07/2013	0.0129	6.94	0.000043	32.4	1.81	59.5	<0.000050	<0.0050	<0.0050	0.00272	<0.0050	3.88	<0.00050	377	<0.50	<0.50	<0.50														
W8A	31/07/2013 16:15	0.0115	6.65	<0.000020	27.9	1.46	48.9	<0.000050	<0.0050	<0.0050	0.0028	<0.0050	0.32	<0.00050	324	<0.50	<0.50	<0.50														
W8A	09/08/2013 11:30	0.0125	6.84	<0.000020	31.4	1.57	48.2	<0.000050	<0.0050	<0.0050	0.00252	<0.0050	0.998	<0.00050	394	<0.50	<0.50	<0.50														
W8A	15/08/2013 9:40	0.0141	7.37	<0.000020	32.1	1.58	54	<0.000050	<0.0050	<0.0050	0.00259	<0.0050	0.598	<0.00050	423	<0.50	<0.50	<0.50														
W8A	19/08/2013 16:00	0.018	7.25	<0.000020	33.1	1.64	62.9	<0.000050	<0.0050	0.006	0.00297	<0.0050	1.86	<0.00050	426	<0.50	<0.50	<0.50														
W8A	26/08/2013 11:00	0.0137	7.67	<0.000020	32.2	1.62	55.1	<0.000050	<0.0050	<0.0050	0.00263	<0.0050	0.6	<0.00050	423	<0.50	<0.50	<0.50														
W8A	02/09/2013 16:30	0.0151	7.28	<0.000020	31.1	1.45	55.2	<0.000050	<0.0050	<0.0050	0.00224	<0.0050	0.723	<0.00050	374	<0.50	<0.50	<0.50														
W8A	12/09/2013 10:35	0.0159	7.94	0.000022	33	1.59	62.1	<0.000050	<0.0050	<0.0050	0.00249	<0.0050	1.02	<0.00050	386	<0.50	<0.50	<0.50														
W8A	17/09/2013 14:15	0.0139	7.39	<0.000020	29	1.46	54.3	<0.000050	<0.0050	<0.0050	0.00226	<0.0050	0.297	<0.00050	400	<0.50	<0.50	<0.50														
W8A	28/09/2013 17:00	0.0104	7.51	<0.000020	28.6	1.35	52.3	<0.000050	<0.0050	<0.0050	0.00213	<0.0050	0.314	<0.00050	374	<0.50	<0.50	<0.50														
W8A	04/10/2013 11:30	0.00998	7.33	<0.000020	31.1	1.49	53.5	<0.000050	<0.0050	<0.0050	0.00225	<0.0050	1.56	<0.00050	380	<0.50	<0.50	<0.50														
W8A	09/10/2013 14:45	0.0137	7.11	<0.000020	34.5	1.64	66	<0.000050	<0.0050	<0.0050	0.00223	<0.0050	3.93	<0.00050	402	<0.50	<0.50	<0.50														
W8A	17/10/2013 15:30	0.0108	7.11	<0.000020	32.6	1.56	55.7	<0.000050	<0.0050	<0.0050	0.00252	<0.0050	4.02	<0.00050	385	9.36	<0.50	7.8														
W8A	22/10/2013 11:45	0.0143	7.01	0.000024	33.7	1.68	66.9	<0.000050	<0.0050	<0.0050	0.00262	<0.0050	4.17	<0.00050	426	<0.50	<0.50	<0.50														
W8A	29/10/2013 14:30																															
W8A	02/11/2013 8:00	0.0125	7.29	<0.000020	33.1	1.74	63.8	<0.000050	<0.0050	<0.0050	0.00262	<0.0050	1.91	<0.00050	441	<0.50	<0.50	<0.50														
W8A	07/11/2013 10:00	0.0107	7.73	<0.000020	32.7	1.6	58.1	<0.000050	<0.0050	<0.0050	0.00249	<0.0050	1.71	<0.00050	446	<0.50	<0.50	<0.50														
W8A	15/11/2013 8:40	0.0124	7.26	<0.000020	37.2	1.77	74.9	<0.000050	<0.0050	<0.0050	0.00291	<0.0050	1.17	<0.00050	436	<0.50	<0.50	<0.50														
W8A	19/11/2013 10:45	0.013	7.92	0.000061	33.3	1.46	69.4	<0.000050	<0.0050	<0.0050	0.00178	<0.0050	1.51	<0.00050	344	<0.50	<0.50	<0.50														
W8A	29/11/2013 15:30	0.0111	9.22	0.000021	36.4	1.8	72	<0.000050	<0.0050	<0.0050	0.00203	<0.0050	0.607	<0.00050																		
W8A	06/12/2013 16:00	0.0131	8.28	<0.000020	36.4	2.01	72	<0.000050	<0.0050	<0.0050	0.00218	<0.0050	2.98	<0.00050	467	<0.50	<0.50	<0.50														
W8A	09/12/2013 15:30	0.00546	7.76	<0.000020	35.4	1.78	40	<0.000050	<0.0050	<0.0050	0.00288	<0.0050	0.805	<0.00050	572	<0.50	<0.50	<0.50														
W8A	16/12/2013 15:45	0.00352	8.52	<0.000020	34.1	1.72	38.6	<0.000050	<0.0050	<0.0050	0.00313	<0.0050	1.62	<0.00050	571	<0.50	<0.50	<0.50														
W8A	23/12/2013 9:40	0.00306	8.39	<0.000020	39	1.8	43.3	<0.000050	<0.0050	<0.0050	0.00327	<0.0050	0.901	<0.00050	565	<0.50	<0.50	<0.50														
W8A	02/01/2014 16:30	0.00238	8.11	<0.000020	35.9	1.6	35.1	<0.000050	<0.0050	<0.0050	0.00323	<0.0050	0.568	<0.00050	542	<0.50	<0.50	<0.50														
W8A	07/01/2014 13:40	0.00281	7.96	<0.000020	38	1.84	41.1	<0.000050	<0.0050	<0.0050	0.00326	<0.0050	0.608	<0.00050	554	<0.50	<0.50	<0.50														
W8A	17/01/2014 10:20	0.00233	7.6	<0.000020	35.9	1.76	35.3	<0.000050	<0.0050	<0.0050	0.00304	<0.0050	0.675	<0.00050	583	<0.50	<0.50	<0.50														
W8A	21/01/2014 16:00	0.00301	7.77	<0.000020	38.4	1.95	42	<0.000050	<0.0050	<0.0050	0.00296	<0.0050	0.489	<0.00050	565	5.86	<0.50	4.88														
W8A	28/01/2014 13:30	0.00321	8.8	<0.000020	37.9	1.94	44.7	<0.000050	<0.0050	<0.0050	0.00295	<0.0050	0.751	<0.00050	580	<0.50	<0.50	<0.50														
W8A	03/02/2014 14:00	0.00227	8.22	<0.000020	37.6	1.87	38.8	<0.000050	<0.0050	<0.0050	0.00311	<0.0050	0.4	<0.00050	586	<0.50	<0.50	<0.50														
W8A	13/02/2014 16:30	0.0026	6.08	<0.000020	37.9	1.88	36.2	<0.000050	<0.0050	<0.0050	0.00327	<0.0050	0.802	<0.00050	598	<0.50	<0.50	<0.50														
W8A	18/02/2014 15:45	0.00211	7.62	<0.000020	41.2	1.78	37.7	<0.000050	<0.0050	<0.0050	0.00348	<0.0050	0.524	<0.00050	624	<0.50	<0.50	<0.50														
W8A	27/02/2014 9:45	0.00212	7.82	<0.000020	36.6	1.8	35	<0.000050	<0.0050	<0.0050	0.0034	<0.0050	1.41	<0.00050	606	<0.50	<0.50	<0.50														
W8A	06/03/2014 9:20	0.00175	8.45	<0.000020	39.2	1.74	35.8	<0.000050	<0.0050	<0.0050	0.0033	<0.0050	0.316	<0.00050	623	<0.50	<0.50	<0.50														
W8A	14/03/2014 10:45	0.00213	8.29	0.000021	37	1.82	38.2	<0.000050	<0.0050	<0.0050	0.00363	<0.0050	1.23	<0.00050	631	<0.50	<0.50	<0.50														
W8A	21/03/2014 15:10	0.00211	7.24	<0.000020	37	1.94	34.1	<0.000050	<0.0050	<0.0050	0.00319	<0.0050	1.53	<0.00050	624	<0.50	<0.50	<0.50														
W8A	27/03/2014 10:00	0.00172	8.27	<0.000020	38.4	1.91	35.1	<0.000050	<0.0050	<0.0050	0.00345	<0.0050	0.892	<0.00050	615	3.29	<0.50	2.74														
W8A	02/04/2014 16:15	0.00186	8.84	<0.000020	38.4	1.84	36.4	<0.000050	<0.0050	<0.0050	0.0032	<0.0050	1.77	<0.00050	668	<0.50	<0.50	<0.50														
W8A	07/04/2014 17:20	0.00137	8.83	<0.000020	38.7	1.83	29.8	<0.000050	<0.0050	<0.0050	0.00321	<0.0050	0.618	<0.00050	684	<0.50	<0.50	<0.50														
W8A	16/04/2014 11:10	0.00411	5.16	<0.000020	21.6	1.17	35.2	<0.000050	<0.0050	<0.0050	0.00152	<0.0050	0.223	<0.00050	292	<0.50	<0.50	<0.50														
W8A	22/04/2014 10:00	0.00229	3.75	0.000027	8.26	0.47	12.6	<0.000050	<0.0050	<0.0050	0.00053	<0.0050	0.21	<0.00050	175	<0.50	<0.50	<0.50														
W8A	02/05/2014 16:45	0.00303	4.66	<0.000020	13.2	0.798	18.8	<0.000050	<0.0050	<0.0050	0.00099	<0.0050	0.323	<0.00050	181	<0.50	<0.50	<0.50														
W8A	06/05/2014 9:30	0.00313	4.88	<0.000020	15.3	0.849	20.6	<0.000050	<0.0050	<0.0050	0.00111	<0.0050	0.174	<0.00050	188	<0.50	<0.50	<0.50														
W8A	15/05/2014 16:10	0.00604	6.24	<0.000020	22.2	1.21	34.6	<0.000050	<0.0050	<0.0050	0.00155	<0.0050	0.867	<0.00050	312	<0.50	<0.50	<0.50														
W8A	23/05/2014 13:40	0.00467	5.87	<0.000020	21.8	1.19	30.5	<0.000050	<0.0050	<0.0050	0.00173	<0.0050	0.961	<0.00050	292	7.96	<0.50	6.63														
W8A	29/05/2014 11:00	0.0084	5.86	<0.000020	26.4	1.41	51.2	<0.000050	<0.0050	<0.0050	0.00201	<0.0050	3.71	<0.00050	294	<0.50	<0.50	<0.50														
W8A	05/06/2014 9:10	0.00747	6.09	<0.000020	24.9	1.28	39.6	<0.000050	<0.0050	<0.0050	0.00178	<0.0050	0.716	<0.00050	311	<0.50	<0.50	<0.50														
W8A	11/06/2014 0:45	0.00679	5.64	<0.000020	26.6	1.3	38	<0.000050	<0.0050	<0.0050	0.0016	<0.0050	2.3	<0.00050	320	<0.50	<0.50	<0.50														
W8A	17/06/2014 10:45	0.00637	6.06	<0.000020	27	1.35	45.5	<0.000050	<0.0050	<0.0050	0.00173	<0.0050	2.22	<0.00050	327	<0.50	<0.50	<0.50														
W8A	26/06/2014 9:00	0.00712	5.87	<0.000020	26.9	1.49	47.6	<0.000050	<0.0050	<0.0050	0.00166	<0.0050	1.12	<0.00050	364	<0.50	<0.50	<0.50														
W8A	30/06/2014 1:45	0.00744	7.6	<0.000020	30.7	1.67	56.3	<0.000050	<0.0050	<0.0050	0.0022	<0.0050	5.17	<0.00050	361	<0.50	<0.50	<0.50														

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	P-TDP	P-TRP	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		mg/L	mg/L	Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W8A	17/04/2013 10:45								
W8A	25/04/2013 15:00					1352			
W8A	02/05/2013 11:15					851.4			
W8A	12/05/2013 10:40					186.4			
W8A	17/05/2013 16:30								
W8A	25/05/2013 13:55					562.9			
W8A	30/05/2013 8:45					660.2			
W8A	08/06/2013					691.8			
W8A	15/06/2013								
W8A	18/06/2013								
W8A	24/06/2013								
W8A	01/07/2013					972			
W8A	11/07/2013								
W8A	19/07/2013					925			
W8A	23/07/2013								
W8A	31/07/2013 16:15					883			
W8A	09/08/2013 11:30					968			
W8A	15/08/2013 9:40								
W8A	19/08/2013 16:00					975			
W8A	26/08/2013 11:00					1024			
W8A	02/09/2013 16:30					512.1			
W8A	12/09/2013 10:35					1018			
W8A	17/09/2013 14:15					965			
W8A	28/09/2013 17:00					912.8			
W8A	04/10/2013 11:30								
W8A	09/10/2013 14:45					1053			
W8A	17/10/2013 15:30					984			
W8A	22/10/2013 11:45					1082			
W8A	29/10/2013 14:30					1134			
W8A	02/11/2013 8:00					1018			
W8A	07/11/2013 10:00					995			
W8A	15/11/2013 8:40					967			
W8A	19/11/2013 10:45					1033			
W8A	29/11/2013 15:30					984			
W8A	06/12/2013 16:00					1129			
W8A	09/12/2013 15:30					1012			
W8A	16/12/2013 15:45					1057			
W8A	23/12/2013 9:40					1072			
W8A	02/01/2014 16:30					1056			
W8A	07/01/2014 13:40					320.5			
W8A	17/01/2014 10:20					941			
W8A	21/01/2014 16:00					947.1			
W8A	28/01/2014 13:30					1080			
W8A	03/02/2014 14:00					947.1			
W8A	13/02/2014 16:30								
W8A	18/02/2014 15:45					978			
W8A	27/02/2014 9:45					1021			
W8A	06/03/2014 9:20					843			
W8A	14/03/2014 10:45					1146			
W8A	21/03/2014 15:10					1099			
W8A	27/03/2014 10:00					979			
W8A	02/04/2014 16:15					1068			
W8A	07/04/2014 17:20					1082			
W8A	16/04/2014 11:10					763.4			
W8A	22/04/2014 10:00					445.8			
W8A	02/05/2014 16:45					581.2			
W8A	06/05/2014 9:30					458.9			
W8A	15/05/2014 16:10					719.4			
W8A	23/05/2014 13:40					819.9			
W8A	29/05/2014 11:00					721.8			
W8A	05/06/2014 9:10					737.3			
W8A	11/06/2014 0:45					799.1			
W8A	17/06/2014 10:45					821			
W8A	26/06/2014 9:00					886			
W8A	30/06/2014 1:45					856			

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T	B-T
			mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W8A	10/07/2014 14:35	P	16	638	7.7	8.4	549	976	1.8	7.69	58.2	204.8	466	440	326	11	0.54	163	0.058	0.119	12.7		0.0913	<0.00050	0.00076	0.118	<0.00010	<0.0010	<0.05
W8A	15/07/2014 14:15	P	62.2	738	7.27	7.8	558	1140	2.2	7.21	52.9	204.1	487	482	363	29	0.55	174	0.048	0.538	13.9		1.79	<0.00050	0.00113	0.155	<0.00010	<0.0010	<0.05
W8A	21/07/2014 11:40	P	15.5	690	7.7	8.09	586	1020	2.8	9.48	70.1	209.1	497	473	324	9	0.51	165	0.09	0.0547	15.5		0.0966	<0.00050	0.00059	0.108	<0.00010	<0.0010	<0.05
W8A	29/07/2014 11:00	P	3.8	766	6.88	8.07	617	1010	4.2	7.36	56.9	174.3	521	470	352	9.6	0.54	151	0.033	0.0172	11.6		0.374	<0.00050	0.00079	0.123	<0.00010	<0.0010	<0.05
W8A	06/08/2014 16:55	P	23.2	740	7.22	7.97	582	1010	1	7.94	57	179.6	536	519	317	9.4	0.5	174	0.032	0.0115	12.1		0.261	<0.00050	0.00068	0.129	<0.00010	<0.0010	<0.05
W8A	14/08/2014 10:30	P	32.2	780	7.3	8.07	610	1110	1.8	7.36	53.3	188.9	610	520	328	11	0.53	188	0.16	0.0109	15.8		0.831	<0.00050	0.00094	0.151	<0.00010	<0.0010	<0.05
W8A	18/08/2014 10:25	P	31	812	7.27	8.12	684	1120	3.5	6.97	53	194.3	579	524	345	11	0.52	197	0.044	0.0135	14.6		0.739	<0.00050	0.0007	0.138	<0.00010	<0.0010	<0.05
W8A	26/08/2014 16:10	P	3.3	834	7.36	7.83	600	1140	2.6	8.21	60.6	208.3	576	541	332	11	0.54	170	0.08	0.0233	16.5		0.125	<0.00050	0.00071	0.132	<0.00010	<0.0010	<0.05
W8A	05/09/2014 9:45	P	6.2	794	7.77	8.12	577	1150	0.3	8.41	58.1	150.1	635	569	380	11	0.52	193	0.29	0.0124	14.1		0.066	<0.00050	0.00078	0.133	<0.00010	<0.0010	<0.05
W8A	12/09/2014 11:05	P	12.3	941	7.21	7.95	587	1150	1.1	7.89	56.1	199.3	562	566	398	9.5	0.47	186	0.034	0.0096	12.9		0.0585	<0.00050	0.00089	0.136	<0.00010	<0.0010	<0.05
W8A	15/09/2014 14:50	P	3.6	820	7.10	7.98	635	1190	2.6	5.53	41.1	143.9	643	582	393	11	0.52	162	0.03	0.0165	14.1		0.0238	<0.00050	0.00057	0.127	<0.00010	<0.0010	<0.05
W8A	25/09/2014 11:10	P	4	800	7.22	8.16	607	1110	-0.1	7.01	48.2	188.7	613	568	366	9.2	0.5	193	0.03	0.0086	13.2		0.0829	<0.00050	0.00066	0.123	<0.00010	<0.0010	<0.05
W8A	01/10/2014 15:40	P	4.8	896	7.11	7.95	549	1110	-0.2	6.79	47.2	191.4	565	518	362	11	0.56	185	0.04	0.0135	13.3		0.0762	<0.00050	0.00063	0.118	<0.00010	<0.0010	<0.05
W8A	08/10/2014 15:40	P	3.7	780	7.23	8.01	495.9	1080	-1	5.98	39.9	203.2	545	512	344	12	0.51	187	0.048	0.0132	13.2		0.11	<0.00050	0.00059	0.114	<0.00010	<0.0010	<0.05
W8A	13/10/2014 15:15	P	17.7	845	7.15	8.16	589	1160	1.1	5.15	36.7	185.5	579	557	350	13	0.55	218	0.047	0.0193	15.2		0.058	<0.00050	0.00064	0.111	<0.00010	<0.0010	<0.05
W8A	21/10/2014 11:30	P	6.2	901	7.19	8.05	639	1230	-1.4	6.97	47.1	228.7	618	622	382	18	0.57	219	0.059	0.324	16.1		0.108	<0.00050	0.00073	0.137	<0.00010	<0.0010	<0.05
W8A	28/10/2014 11:30	P	6.3	770	7.25	7.66	581	1210	-1.3	6.01	39.7	184.2	629	612	361	14	0.63	229	0.065	0.0175	16.3		0.0459	<0.00050	0.00065	0.124	<0.00010	<0.0010	<0.05
W8A	05/11/2014 15:45	P	7.6	914	7.16	8.08	524	1280	-1.7	6.58	43.2	228.6	640	641	375	15	0.61	249	0.085	0.0257	15.4		0.0985	<0.00050	0.00062	0.131	<0.00010	<0.0010	<0.05
W8A	10/11/2014 10:50	P	7.8	904	7.14	8.27	685	1310	-1.8	7.13	46.5	214.3	668	646	387	14	0.64	260	0.1	0.0252	16.1		0.0718	<0.00050	0.00066	0.138	<0.00010	<0.0010	<0.05
W8A	17/11/2014 14:50	P	4.4	972	7.07	7.8	669	1340	-1.9	7.16	46.7	241.6	638	717	422	13	0.6	225	0.051	0.0264	15.9		0.0285	<0.00050	0.00066	0.136	<0.00010	<0.0010	<0.05
W8A	25/11/2014 11:30	P	6.2	934	7.32	7.83	686	474	-1.9	8.83	60.6	231.3	639	656	434	15	0.6	253	0.051	0.0857	1.47		0.0766	<0.00050	0.00064	0.116	<0.00010	<0.0010	<0.05
W8A	05/12/2014 9:00	P	9.5	1020	7.20	8.14	658	1390	-1.9	4.94	32.3	234.9	766	739	474	14	0.56	240	0.075	0.0452	14.6		0.03	<0.00050	0.00077	0.151	<0.00010	<0.0010	<0.05
W8A	11/12/2014 8:55	P	14.8	962	7.20	8.28	672	1380	-2	3.65	23.8	184.2	738	741	491	16	0.61	243	0.1	0.065	14.3		0.0394	<0.00050	0.00068	0.153	<0.00010	<0.0010	<0.05
W8A	18/12/2014 14:30	P	7.6	1000	7.22	8.12	657	1400	-1.9	3.80	24.8	201.9	778	697	500	16	0.57	301	0.078	0.0809	14.4		0.0413	<0.00050	0.00066	0.148	<0.00010	<0.0010	<0.05
W8A	22/12/2014 16:30	P	5.2	929	7.33	7.84	763	1380	-0.5	4.12	28.4	151.5	731	762	487	16	0.61	209	0.1	0.117	15.2		0.0718	<0.00050	0.00078	0.166	<0.00010	<0.0010	<0.05
W8A	02/01/2015 12:10	P	7.7	982	7.24	7.97	719	1420	-2.1	6.13	42.4	180.2	790	768	508	15	0.6	256	0.18	0.181	14.5		0.0185	<0.00050	0.00078	0.168	<0.00010	<0.0010	<0.05
W8A	06/01/2015 10:30	P		1000	7.20	7.86	727	1480	-1.2	5.48	36.6	157.1	764	793	574	16	0.6	189	0.15	0.208	12		0.0364	<0.00050	0.0008	0.165	<0.00010	<0.0010	<0.05
W8A	13/01/2015 11:30	P	12.3	990	7.20	8.11	653	1440	-2.2	5.75	40.1	203.1	773	733	517	16	0.64	261	0.18	0.226	13.5		0.0691	0.00067	0.00092	0.153	<0.00010	<0.0010	<0.05
W8A	21/01/2015 14:00	P	7.4	1000	7.34	8.14	751	1480	-1.7	2.94	19.6	129.4	838	778	601	16	0.56	193	0.24	0.227	12.3		0.0723	0.00071	0.00089	0.185	<0.00010	<0.0010	<0.05
W8A	29/01/2015 9:50	P	12	1010	7.33	8.29	763	1470	-1.1	3.91	26.3	123.4	870	807	607	16	0.6	190	0.27	0.194	9.9		0.0248	<0.00050	0.00087	0.193	<0.00010	<0.0010	<0.05
W8A	03/02/2015 14:30	P	16.5	1030	7.32	8.12	864	1500	0.2	4.2	30.4	290.8	793	814	629	17	0.56	202	0.25	0.196	10.9		0.165	0.00427	0.00081	0.208	<0.00010	<0.0010	<0.05
W8A	10/02/2015 15:30	P	11.6	1010	7.43	7.67	774	1510	-0.1	2.39	16.6	177.9	855	782	643	17	0.58	172	0.35	0.275	8.73		0.0592	0.00071	0.00093	0.181	<0.00010	<0.0010	<0.05
W8A	18/02/2015 15:45	P	13	1020	7.2	7.76	805	1530	0	2.47	17.2	144.1	868	772	662	19	0.64	177	0.41	0.224	6.76		0.0534	<0.00050	0.0009	0.203	<0.00010	<0.0010	<0.05
W8A	26/02/2015 10:30	P	14.7	1020	7.35	8.09	788	1530	-0.1	4.63	32.9	117.2	808	792	693	18	0.55	167	0.35	0.221	8.17		0.483	<0.00050	0.00121	0.196	<0.00010	<0.0010	<0.05
W8A	03/03/2015 9:30	P	16.7	1010	7.27	8.05	8.06	1520	-0.1	3.58	24.6	139.5	828	817	668	17	0.57	175	0.28	0.19	9.65		0.0416	<0.00050	0.00093	0.196	<0.00010	<0.0010	<0.05
W8A	09/03/2015 13:15	P	13.7	1070	7.17	7.93	744	1550	-0.1	1.51	10.4	183.9	805	852	690	17	0.56	174	0.34	0.219	8.06		0.091	<0.00050	0.00082	0.175	<0.00010	<0.0010	<0.05
W8A	17/03/2015 9:00	P	13.8	1080	7.57	8.06	563	1590	0.1	18.2	92.39	233.1	831	838	712	19	0.54	153	0.37	0.262	6.59		0.0444	<0.00050	0.0009	0.242	<0.00010	<0.0010	<0.05
W8A	25/03/2015 17:30	P	27	1050	7.36	8.13	861	1570	1.2	3.42	91.68	205.6	883	844	732	18	0.55	147	0.38	0.218	5.56		0.101	<0.00050	0.00097	0.207	<0.00010	<0.0010	<0.05
W8A	30/03/2015 12:45	P	16.8	1100	7.33	7.76	861	1470	0.6	2.49	17.4	158.6	905	867	712	18	0.5	130	0.35	0.179	3.86		0.132	<0.00050	0.00105	0.23	<0.00010	<0.0010	<0.05
W8A	06/04/2015 10:30	P	9	706	7.23	7.59	541	948	2.1	6.26	45.6	155.9	442	450	275	7.4	0.65	185	0.052	0.0326	13.1		0.108	<0.00050	0.0004	0.106	<0.00010	<0.0010	<0.05
W8A	18/04/2015 13:00	P	8.5	698	7.14	7.81	603	1090	2.6	5.11	37.9	168.3	526	555	423	10	0.6	170	0.069	0.0401	6.56		0.128	<0.00050	0.00043	0.133	<0.00010	<0.0010	<0.05
W8A	21/04/2015 15:30	P	6.4	754	7.11	7.83	641	1160	1.6	3.29	23.6	169.2	601	583	445	11	0.64	173	0.13	0.0445	5.73		0.055	<0.00050	0.00052	0.155	<0.00010	<0.0010	<0.05
W8A	29/04/2015 14:30	P	5.7	792	7.13	7.71	680	1230	1.7	2.9	21.2	268.8	569	599	495	12	0.53	164	0.18	0.0585	4.62		0.177	<0.00050	0.00058	0.179	<0.00010	<0.0010	0.093
W8A	11/06/2015 16:30	P	20.2	624	6.94	7.7	571	969	3.2	6.63	49.7	169.3	472	472	299	10	0.61	173	0.066	0.0233	8.32		0.303	<0.00050	0.00049	0.112	<0.00010	<0.0010	<0.05
W8A	15/06/2015 16:45	P	7.1	676	7.07	8.01	569	1020	1.1	6.9	48.9	175.3	510	494	351	10	0.61	179	0.059	0.0307	8.38		0.106	<0.00050	0.0005	0.122	<0.00010	<0.0010	<0.05
W8A	22/06/2015 17:00	P	6.2	792	7.28	7.89	659	1080	3.9	9.07	73.6	177.2	536	541	347	11	0.66	189	0.061	0.0226	8.06		0.0865	<0.00050	0.00047	0.111	<0.00010	<0.0010	<0.05
W8A	29/06/2015 17:15	P	6.9	776	21.6	7.93	665	1090	4.2	5.7	44.2	176	509	575	364	11	0.59	188	0.1	0.0208	7.5		0.121	<0.00050	0.00051	0.115	<0.00010	<0.0010	<0.05
W8A	06/07/2015 9:20	M			7.21		656		3.1	8.26	63.3	163.6																	
W8A	06/07/2015 9:20	P	5	768		7.97		1080					552	520	343	9.6	0.46	192	0.071	0.0132	12.1		0.216	<0.00050	0.00056	0.142	<0.00010	<0.0010	<0.05
W8A	16/07/2015 15:15	P	6.1	722	7.04	7.71	587	1050	2.4	4.85	35.6	169.1	526	510	357	8.8	0.5	180	0.087	0.0146	10.7		0.0542	<0.00050	0.00045	0.118	<0.00010	<0.0010	<0.05
W8A	20/07/2015 9:50	P	7.2	790	7.26	7.82	645	1090	3.1	6.54	49.7	172.6	557	569	364	8.7	0.52	192	0.084	0.0126	10.5		0.111	<0.00050	0.00054	0.128	<0.00010	<0.0010	<0.05
W8A	29/07/2015 15:45	P	19.4	896	7.21	7.91	725	1160	1.5	5.23	38.5	159.0	606	579	366	11	0.59	210	0.091	0.0127	9.44		0.0747	<0.00050	0.00056	0.13	<0.00010	<0.0010	<0.05
W8A	05/08/2015 14:25	P	10.2	860	7.65	7.95	697	1130	2.3	7.01	52.6	167	558	546	352	11	0.65	205	0.065	0.0184	9.94		0.0422	<0.00050	0.00043	0.109	<0.00010	<0.0010	<0.05
W8A	14/08/2015 11:20	P	10.5	804	7.57	7.66	622	1090	2.1	7.14	51.7	155	568	522	367	11	0.58	186	0.072	0.0128	9.36		0.0855	<0.00050	0.00068	0.117	<0.00010	<0.0010	<0.05
W8A	20/08/2015 9:15	P	5.2	820	7.3	7.56	665	1140	2.6	5.89	43.7	191.9	571	545	375	9.9	0.51	210	0.13	0.0166	10.4		0.125	<0.00050	0.0007	0.149	<0.00010	<0.0010	<0.05
W8A	24/08/2015 15:10	P	5	858	7.4	7.47	624	1110	2.1	6.89	52	210.3	605	595	344	11	0.59	218	0.061	0.0147	10.6		0.0475	<0.00050	0.00048	0.13	<0.00010	<0.0010	<0.05
W8A	01/09/2015 14:25	P	3.4	762	7.22	7.82	550	996	1.3	8.16	58.7	181.7	427	470	280	6.6	0.44	207	0.097	0.109	9.73		0.0369	<0.00050	0.00054	0.105	<0.00010	<0.0010	<0.05
W8A	02/09/2015 16:45	P	4.2	784	7	7.94	579	1050	1.9	6.56	47.4	185.9	518	519	283	7.7	0.49	218	0.043	0.102	10.7		0.0529	<0.00050	0.00066	0.128	<0.00010	<0.0010	<0.05
W8A	08/09/2015 10:40	P	4.8	802	7.16	7.87	607	1110	1.4	6.87	49.1	169.6	565	546	258	9.1	0.54	236	0.048	0.0404	13.1		0.0335	<0.00050	0.00053	0.139	<0.00010	<0.0010	<0.05
W8A	15/09/2015 10:15	P	2.3	786	7.08	7.93	646	1110	2.1	7.06	52.1	218.8	518	536	253	8.9	0.57	248	0.029	0.022	11.8		0.0436	<0.00050	0.00046	0.122	<0.00010	<0.0010	<0.05
W8A	23/09/2015 16:40	P	5.4	774	7.01	8.24	618	1100	1.1	5.23	37.1	181.1	571	585	286	9.3	0.56	248	0.091	0.0152	10.9		0.0308	<0.00050	0.00054	0.121	<0.00010	<0.0010	<0.05
W8A	02/10/2015 9:40	P	4	926	7.3	8.18	595	1130	0.1	7.29	50.5	215.6	685	613	302	10	0.55	222	0.073	0.0181	10.1		0.0516	<0.00050	0.00045	0.102	<0.00010	<0.0010	<0.05
W8A	08/10/2015 16:10	P	4.1	874	7.13	8.1	649	1210	0.5	5.32	37.2	205.3	611	576	343	11	0.54	272	0.086	0.0207	10.1		0.015	<0.00050	0.00052	0.153	<0.00010	<0.0010	<0.05
W8A	16/10/2015 15:30	P	8.1	838	6.81	8.23	654	1160	0.6	3.36	24.2	154.7	572	572	333	10	0.57	236	0.11	0.0441	10.6		0.049	<0.00050	0.00047	0.127	<0.00010	<0.0010	<0.05
W8A	23/10/2015 16:05	P	14	912	7.37	7.71	580	1220	0.9	5.01	44.1	115.2	520	586	377	11	0.62	222	0.089	0.0735	10.6		0.134	<0.00050	0.00056	0.125	<0.00010	<0.0010	<0.05

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W8A	10/07/2014 14:35	0.000213	120	<0.0010	<0.00050	0.175	1.79	0.00033	0.0052	40.1	0.586	<0.000010	0.013	0.0011	0.069	5.78	0.00806	7.14	<0.000020	31.1	1.76	49.1	<0.000050	<0.0050	0.006	0.00192
W8A	15/07/2014 14:15	0.000337	125	0.0019	0.00113	0.598	4.15	0.00175	0.0053	42.4	0.679	<0.000010	0.0143	0.002	0.192	6.31	0.00878	10.2	0.000143	31.8	1.87	60.2	<0.000050	<0.0050	0.119	0.00207
W8A	21/07/2014 11:40	0.000264	132	<0.0010	<0.00050	0.179	0.615	0.00023	0.0058	40.5	0.599	<0.000010	0.013	0.0011	0.061	5.57	0.00868	7.39	0.000028	32.1	1.85	63.7	<0.000050	<0.0050	<0.0050	0.00225
W8A	29/07/2014 11:00	0.000239	131	0.0011	<0.00050	0.253	1.32	0.00059	0.0053	47.4	0.851	<0.000010	0.0125	0.0018	0.074	6.01	0.0081	8.26	0.000029	34.2	1.95	53	<0.000050	<0.0050	0.0186	0.00241
W8A	06/08/2014 16:55	0.000216	139	<0.0010	<0.00050	0.177	0.799	0.00036	<0.0050	45.7	0.79	<0.000010	0.0135	0.0014	0.086	6.74	0.00847	8.97	0.000021	35.1	1.94	63	<0.000050	<0.0050	0.0167	0.00243
W8A	14/08/2014 10:30	0.00026	166	0.0017	0.00079	0.304	2.2	0.00104	0.0052	47.8	0.825	<0.000010	0.0163	0.0019	0.116	7.1	0.0149	9.31	0.00007	36.1	2.1	76.3	<0.000050	<0.0050	0.0475	0.00297
W8A	18/08/2014 10:25	0.000273	154	<0.0010	0.00084	0.264	2.05	0.00074	0.0055	47	0.956	<0.000010	0.0158	0.0016	0.111	6.83	0.0137	8.68	<0.000020	34.5	2.03	71.2	<0.000050	<0.0050	0.0617	0.00239
W8A	26/08/2014 16:10	0.000231	157	<0.0010	<0.00050	0.153	0.442	0.00025	0.0054	44.5	0.657	<0.000010	0.0159	0.0014	0.071	6.33	0.0153	7.91	<0.000020	34.3	2.04	77.7	<0.000050	<0.0050	0.0056	0.00257
W8A	05/09/2014 9:45	0.000272	172	<0.0010	<0.00050	0.172	0.416	<0.00020	<0.0050	49.9	0.947	<0.000010	0.0168	0.0013	0.069	7.02	0.0144	8.66	<0.000020	36.1	2.25	77.7	<0.000050	<0.0050	<0.0050	0.00252
W8A	12/09/2014 11:05	0.000195	147	<0.0010	<0.00050	0.166	0.456	<0.00020	0.0055	47.1	0.963	<0.000010	0.0128	0.0014	0.061	6.25	0.0126	8.07	<0.000020	34.6	2.02	66.4	<0.000050	<0.0050	<0.0050	0.00236
W8A	15/09/2014 14:50	0.000236	172	<0.0010	<0.00050	0.15	0.497	<0.00020	<0.0050	51.8	1.07	<0.000010	0.0136	0.0013	0.053	6.65	0.0131	8.68	<0.000020	36.7	2.12	78	<0.000050	<0.0050	<0.0050	0.00219
W8A	25/09/2014 11:10	0.000281	165	<0.0010	<0.00050	0.176	0.933	<0.00020	<0.0050	49	0.941	<0.000010	0.0149	0.0012	0.061	6.95	0.0164	7.31	<0.000020	38.4	2.15	71.3	<0.000050	<0.0050	0.0053	0.00249
W8A	01/10/2014 15:40	0.000429	145	<0.0010	<0.00050	0.214	0.914	<0.00020	<0.0050	49	1.41	<0.000010	0.0149	0.0017	0.054	6.49	0.0128	7.25	0.000038	35.4	2.2	63.4	<0.000050	<0.0050	0.0066	0.00216
W8A	08/10/2014 15:40	0.000381	143	<0.0010	<0.00050	0.216	2.09	<0.00020	<0.0050	45.7	1.38	<0.000010	0.0149	0.0014	0.056	6.21	0.012	7.41	<0.000020	34.1	2.09	68.9	<0.000050	<0.0050	0.0067	0.00218
W8A	13/10/2014 15:15	0.000341	154	<0.0010	<0.00050	0.18	0.611	<0.00020	<0.0050	47	1.37	<0.000010	0.0141	0.0013	0.052	7.17	0.0136	8.07	<0.000020	35.3	2.03	75.1	<0.000050	<0.0050	<0.0050	0.00227
W8A	21/10/2014 11:30	0.000317	165	<0.0010	0.00056	0.213	1.62	0.00026	<0.0050	49.6	1.5	<0.000010	0.0163	0.0028	0.058	6.59	0.0127	7.98	<0.000020	37.6	2.13	82.4	<0.000050	<0.0050	0.0062	0.00242
W8A	28/10/2014 11:30	0.000372	168	<0.0010	<0.00050	0.206	0.749	<0.00020	<0.0050	50.7	1.16	<0.000010	0.0178	0.0013	0.054	6.94	0.0155	6.83	<0.000020	41.5	2.18	92.1	<0.000050	<0.0050	<0.0050	0.00231
W8A	05/11/2014 15:45	0.00027	175	<0.0010	0.00058	0.174	1.52	<0.00020	<0.0050	49.2	1.7	<0.000010	0.0169	0.0013	0.047	7.24	0.0149	7.44	<0.000020	36.2	2.11	82.6	<0.000050	<0.0050	0.0062	0.00257
W8A	10/11/2014 10:50	0.000248	179	<0.0010	0.00059	0.141	1.2	<0.00020	<0.0050	53.5	1.66	<0.000010	0.0178	0.0014	0.061	7.04	0.0157	7.65	0.000021	37.2	2.33	89.9	<0.000050	<0.0050	0.0054	0.00299
W8A	17/11/2014 14:50	0.000267	171	<0.0010	0.00059	0.139	0.98	<0.00020	<0.0050	51.5	1.88	<0.000010	0.0174	0.0013	0.048	6.69	0.0135	6.73	<0.000020	36.8	2.51	85.9	<0.000050	<0.0050	<0.0050	0.00274
W8A	25/11/2014 11:30	0.000382	170	0.0012	0.0006	0.183	1.05	<0.00020	<0.0050	52.1	1.89	<0.000010	0.0169	0.001	0.051	6.97	0.0138	7.25	<0.000020	38	2.26	96.7	<0.000050	<0.0050	0.0069	0.00243
W8A	05/12/2014 9:00	0.000307	207	<0.0010	0.00077	0.153	1.19	<0.00020	<0.0050	60.4	2.69	<0.000010	0.0189	0.0029	0.06	7.9	0.0115	9.2	0.000035	42.5	2.65	108	<0.000050	<0.0050	<0.0050	0.00301
W8A	11/12/2014 8:55	0.000392	199	<0.0010	0.00077	0.161	2.24	<0.00020	<0.0050	58.8	2.62	<0.000010	0.0187	0.0039	0.045	7.42	0.0134	8.12	<0.000020	39.9	2.79	105	<0.000050	<0.0050	<0.0050	0.00317
W8A	18/12/2014 14:30	0.000332	208	<0.0010	0.00077	0.166	1.21	<0.00020	<0.0050	62.7	2.73	<0.000010	0.0175	0.0021	0.078	7.88	0.00874	9.16	<0.000020	42.2	2.56	102	<0.000050	<0.0050	<0.0050	0.00281
W8A	22/12/2014 16:30	0.00043	193	0.0011	0.00091	0.222	1.64	0.00051	0.005	60.2	2.8	<0.000010	0.0195	0.0015	0.077	7.92	0.0105	8.07	0.000023	42	2.79	88.8	<0.000050	<0.0050	<0.0050	0.00341
W8A	02/01/2015 12:10	0.000325	208	<0.0010	0.00099	0.155	1.6	<0.00020	<0.0050	65.5	3.51	<0.000010	0.0182	0.0018	0.066	7.67	0.00921	8.91	<0.000020	43.7	2.81	78.3	<0.000050	<0.0050	<0.0050	0.00322
W8A	06/01/2015 10:30	0.000412	204	<0.0010	0.00095	0.191	1.65	<0.00020	0.0052	62	3.56	<0.000010	0.0192	0.0023	0.073	7.37	0.00772	8	0.000036	42.1	2.74	84.3	<0.000050	<0.0050	<0.0050	0.00292
W8A	13/01/2015 11:30	0.000406	205	<0.0010	0.00099	0.226	1.68	<0.00020	0.0052	63.5	3.68	<0.000010	0.018	0.0018	0.082	7.11	0.00726	8.24	0.000029	42.8	2.6	77.9	<0.000050	<0.0050	<0.0050	0.00296
W8A	21/01/2015 14:00	0.000403	219	<0.0010	0.00143	0.24	2.23	0.00026	0.0057	70.5	4.9	<0.000010	0.0163	0.0022	0.088	7.36	0.00514	9.25	0.000034	43.3	2.92	71.7	<0.000050	<0.0050	0.0071	0.00338
W8A	29/01/2015 9:50	0.000389	222	<0.0010	0.00145	0.199	2.09	<0.00020	<0.0050	76.9	5.44	<0.000010	0.0161	0.0033	0.087	8.3	0.00438	10.4	0.000029	45.9	2.99	71.8	<0.000050	<0.0050	<0.0050	0.00332
W8A	03/02/2015 14:30	0.000621	210	0.0016	0.00132	0.306	2.73	0.00042	<0.0050	65.2	4.37	<0.000010	0.0188	0.0024	0.084	7.37	0.00652	9.36	0.000026	41.3	3.13	71	<0.000050	<0.0050	0.0111	0.00365
W8A	10/02/2015 15:30	0.000681	223	0.0013	0.00159	0.374	2.88	0.00023	0.0055	72.2	5.97	<0.000010	0.0187	0.0024	0.081	7.89	0.0051	9.71	0.000049	46.5	2.94	68.1	<0.000050	<0.0050	<0.0050	0.00307
W8A	18/02/2015 15:45	0.00084	219	0.0014	0.00209	0.451	3.6	<0.00020	0.0064	77.7	6.51	<0.000010	0.0206	0.0357	0.096	8.28	0.00653	9.64	0.000029	46.5	3.17	57.2	<0.000050	<0.0050	<0.0050	0.00359
W8A	26/02/2015 10:30	0.000611	213	0.0022	0.00169	0.414	6.56	0.00104	<0.0050	67.2	5.82	<0.000010	0.0163	0.0024	0.136	7.85	0.00397	10.2	0.000096	41.6	2.78	63.5	<0.000050	<0.0050	0.0304	0.00285
W8A	03/03/2015 9:30	0.000558	218	0.0011	0.00149	0.263	2.73	<0.00020	0.0058	68.9	5.71	<0.000010	0.0176	0.0068	0.085	7.27	0.00579	9.32	0.000024	42.9	2.95	55.7	<0.000050	<0.0050	<0.0050	0.00327
W8A	09/03/2015 13:15	0.0005	204	0.0013	0.00145	0.264	2.77	0.00025	<0.0050	72	5.69	<0.000010	0.0159	0.0024	0.094	7.01	0.00333	8.57	0.000034	41.3	2.63	59.2	<0.000050	<0.0050	0.0055	0.00285
W8A	17/03/2015 9:00	0.000543	214	0.0011	0.00189	0.255	3.21	0.0003	0.0051	72.3	6.38	<0.000010	0.0168	0.0024	0.109	7.28	0.00487	9.35	<0.000020	43.1	3.2	52.4	<0.000050	<0.0050	<0.0050	0.00331
W8A	25/03/2015 17:30	0.000595	225	0.0014	0.00179	0.335	4.11	0.00027	0.0052	77.6	7.3	<0.000010	0.0161	0.0022	0.101	7.29	0.00285	9.85	0.000047	43.8	3.11	53.6	<0.000050	<0.0050	0.0058	0.00315
W8A	30/03/2015 12:45	0.000458	234	0.0015	0.00223	0.288	3.31	0.00046	0.0054	77.9	7.31	<0.000010	0.0124	0.0022	0.116	7.75	0.00207	10.6	0.000042	45.2	3.03	46.3	<0.000050	<0.0050	0.0129	0.00332
W8A	06/04/2015 10:30	0.000316	120	<0.0010	0.00064	0.154	0.657	<0.00020	<0.0050	34.8	1.6	<0.000010	0.0181	<0.0010	0.035	5.41	0.011	5.66	<0.000020	27	1.6	61.5	<0.000050	<0.0050	0.005	0.00216
W8A	18/04/2015 13:00	0.000294	138	<0.0010	0.00079	0.178	1.11	0.00024	<0.0050	44	2.28	<0.000010	0.0141	0.0013	0.049	5.79	0.00768	7.12	<0.000020	32.1	1.84	59.8	<0.000050	<0.0050	0.0079	0.0024
W8A	21/04/2015 15:30	0.000334	159	<0.0010	0.00093	0.167	1	<0.00020	<0.0050	49.5	3.21	<0.000010	0.0128	0.0012	0.036	6.68	0.00506	8.11	<0.000020	34	2.26	71.1	<0.000050	<0.0050	<0.0050	0.00266
W8A	29/04/2015 14:30	0.000377	148	0.0011	0.00093	0.22	1.56	0.00032	<0.0050	48.3	2.98	<0.000010	0.0134	0.0016	0.046	6.35	0.00638	7.67	0.000035	33.1	2.14	54.6	<0.000050	<0.0050	0.0087	0.00234
W8A	11/06/2015 16:30	0.000324	127	<0.0010	0.00056	0.215	0.975	0.00024	<0.0050	37.7	1.41	<0.000010	0.0129	0.0015	0.055	6.23	0.0083	7.11	0.000028	31.1	1.62	66	<0.000050	<0.0050	0.0142	0.00171
W8A	15/06/2015 16:45	0.000299	140	<0.0010	<0.00050	0.173	0.869	<0.00020	<0.0050	39.1	1.48	<0.000010	0.0136	0.0012	0.054	6.09	0.00804	7.92	<0.000020	32.4	1.74	63.3	<0.000050	<0.0050	<0.0050	0.00195
W8A	22/06/2015 17:00	0.000386	147	<0.0010	<0.00050	0.204	0.66	<0.00020	<0.0050	40.9	1.48	<0.000010	0.0158	0.0015	0.053	6.31	0.00845	8.03	<0.000020	32.2	1.91	73.8	<0.000050	<0.0050	<0.0050	0.00184
W8A	29/06/2015 17:15	0.000243	140	<0.0010	<0.00050	0.175	1.2	0.00028	<0.0050	38.6	1.38	<0.000010	0.013	0.0013	0.054	5.79	0.00682	7.54	<0.000020	34.2	1.69	64	<0.000050	<0.0050	0.0063	0.00203
W8A	06/07/2015 9:20																									
W8A	06/07/2015 9:20	0.000176	154	<0.0010	0.00053	0.158	1.11	0.00033	0.0052	40.7	1.21	<0.000010	0.0131	0.0013	0.061	6.7	0.00978	8.78	<0.000020	32.9	2.1	72	<0.000050	<0.0050	0.0127	0.00227
W8A	16/07/2015 15:15	0.00022	141	<0.0010	<0.00050	0.158	0.713	<0.00020	<0.0050	42.3	1.36	<0.000010	0.0126	0.0016	0.045	5.97	0.00717	7.98	<0.000020	34.1	1.83	63.6	<0.000050	<0.0050	0.005	0.00181
W8A	20/07/2015 9:50	0.00023	147	<0.0010	<0.00050	0.173	1.01	0.00027	<0.0050	46.3	1.43	<0.000010	0.0123	0.0013	0.058	7.3	0.00833	8.11	0.00002	36.1	1.93	69.9	<0.000050	<0.0050	0.0076	0.00223
W8A	29/07/2015 15:45	0.000297	165	<0.0010	<0.00050	0.179	0.787	<0.00020	<0.0050	47.1	1.5	<0.000010	0.0165	0.0014	0.059	6.35	0.00857	8.73	<0.000020	37.8	2.13	82	<0.000050	<0.0050	0.0064	0.00213
W8A	05/08/2015 14:25	0.000406	153	<0.0010	<0.00050	0.196	0.628	<0.00020	<0.0050	43	1.48	<0.000010	0.0169	0.0014	0.034	6.61	0.00935	8.25	0.000301	33.9	1.99	90.5	<0.000050	<0.0050	<0.0050	0.00181
W8A	14/08/2015 11:20	0.000419	146	<0.0010	0.00064	0.255	1.33	0.00038	<0.0050	49	1.71	<0.000010	0.0155	0.0018	0.057	6.36	0.00855	7.58	<0.000020	34.9	2.04	72.7	<0.000050	<0.0050	<0.0050	0.00218
W8A	20/08/2015 9:15	0.000277	152	<0.0010	0.0008	0.17	1.45	0.00032	<0.0050	46.3	2.01	<0.000010	0.0132	0.0017	0.074	6.57	0.00908	7.5	<0.000020	34.4	2.26	71.2	<0.000050	<0.0050	0.0053	0.00254
W8A	24/08/2015 15:10	0.000295	166	<0.0010	<0.00050	0.171	0.906	<0.00020	<0.0050	46	1.23	<0.000010	0.0151	0.0014	0.05	7.05	0.0129	8.87	<0.000020	37	2.14	82.5	<0.000050	<0.0050	<0.0050	0.00212
W8A	01/09/2015 14:25	0.000193	116	<0.0010	<0.00050	0.108	0.329	<0.00020	<0.0050	33.3	0.871	<0.000010	0.0117	0.0012	0.031	4.65	0.0109	6.42	<0.000020	25	1.55	64.2	<0.000050	<0.0050	<0.0050	0.00187
W8A	02/09/2015 16:45	0.000226	138	<0.0010	0.00053	0.146	0.533	<0.00020	<0.0050	41.8	1.2	<0.000010	0.0137	0.0014	0.043	5.89	0.0129	7.42	<0.000020	29.8	1.91	83.7	<0.000050	<0.0050	<0.0050	0.00244
W8A	08/09/2015 10:40	0.000137	161	<0.0010	<0.00050	0.0769	0.315	<0.00020	<0.0050	39.5	0.589	<0.000010	0.0145	<0.0010	0.039	5.98	0.0184	6.8	<0.000020	33.1	1.91	113	<0.000050	<0.0050	<0.0050	0.00306
W8A	15/09/2015 10:15	0.000125	148	<0.0010	<0.00050	0.0824	0.482	<0.00020	<0.0050	35.9	0.515	<0.000010	0.0147	<0.0010	0.044	5.27	0.0146	6.82	<0.000020	32	1.68	93	<0.000050	<0.0050	<0.0050	0.00239
W8A	23/09/2015 16:40	0.000251	159	<0.0010	<0.00050	0.11	0.443	<0.00020	<0.0050	42.4	1.16	<0.000010	0.0145	<0.0010	0.033	6.1	0.0135	7.32	<0.000020	36.5	2.04	92.9	<0.000050	<0.0050	<0.0050	0.00271
W8A	02/10/2015 9:40	0.000353	184	<0.0010	0.00052	0.171	0.942	<0.00020	0.0051	54.4	2.02	<0.000010	0.0153	0.0011	0.041	6.84	0.0133	8.15	<0.000020	42.3	2.04	103	<0.000050	<0.0050	<0.0050	0.00268
W8A	08/10/2015 16:10	0.000171	169	<0.0010	<0.00050	0.088	0.837	<0.00020	<0.0050	45.9	1.67	<0.000010	0.014	0.0012	0.034	6.83	0.0117	7.54	<0.000020	38.5	2.22	90.5	<0.000050	<0.0050	<0.0050	0.003
W8A	16/10/2015 15:30	0.000192	160	<0.0010	<0.00050	0.109	1.07	<0.00020	<0.0050	42.2	1.41	<0.000010	0.0139	<0.0010	0.049	6.6	0.0102	7.84	<0.000020	33.7	2.02	85.1	<0.000050	<0.0050	<0.0050	0.00194
W8A	23/10/2015 16:05	0.000152	146	<0.0010	<0.00050	0.132	1.6	0.00039	<0.0050	37.8	1.25	<0.000010	0.0127	0.0012	0.056	5.52	0.00994	7.53	0.000026	31.9	1.85	76	<0.000050	<0.0050	0.0102	0.00229

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W8A	10/07/2014 14:35	<0.0050	1.43	<0.00050	0.0072	<0.00050	0.00062	0.111	<0.00010	<0.0010	<0.05	0.000178	115	<0.0010	<0.00050	0.103	0.0817	<0.00020	<0.0050	37.1	0.524	<0.000010	0.0127	<0.0010	0.051	5.91
W8A	15/07/2014 14:15	0.0068	2.18	0.00068	0.0068	<0.00050	0.0006	0.109	<0.00010	<0.0010	<0.05	0.000187	123	<0.0010	<0.00050	0.126	0.103	<0.00020	0.0051	42.1	0.632	<0.000010	0.0127	0.0013	0.046	5.76
W8A	21/07/2014 11:40	<0.0050	2.75	<0.00050	0.009	<0.00050	0.00057	0.106	<0.00010	<0.0010	<0.05	0.00022	128	<0.0010	<0.00050	0.131	0.0974	<0.00020	<0.0050	37.4	0.496	<0.000010	0.012	0.001	0.059	5.81
W8A	29/07/2014 11:00	<0.0050	1.83	<0.00050	0.0055	<0.00050	0.00045	0.11	<0.00010	<0.0010	<0.05	0.000202	115	<0.0010	<0.00050	0.123	0.113	<0.00020	0.0059	44.4	0.724	<0.000010	0.0111	0.0015	0.039	5.58
W8A	06/08/2014 16:55	<0.0050	1.79	<0.00050	0.008	<0.00050	0.00073	0.114	<0.00010	<0.0010	<0.05	0.00022	133	<0.0010	<0.00050	0.129	0.08	<0.00020	<0.0050	45.1	0.727	<0.000010	0.0136	0.0012	0.044	5.9
W8A	14/08/2014 10:30	<0.0050	5.61	<0.00050	0.0044	<0.00050	0.00057	0.126	<0.00010	<0.0010	<0.05	0.000149	140	<0.0010	<0.00050	0.0885	0.0769	<0.00020	<0.0050	41.1	0.614	<0.000010	0.0154	<0.0010	0.049	5.45
W8A	18/08/2014 10:25	<0.0050	2.38	<0.00050	0.0088	<0.00050	0.00061	0.124	<0.00010	<0.0010	<0.05	0.000243	135	<0.0010	<0.00050	0.127	0.12	<0.00020	0.0052	45.5	0.806	<0.000010	0.0154	0.0011	0.045	6.15
W8A	26/08/2014 16:10	<0.0050	1.43	<0.00050	0.0072	<0.00050	0.00058	0.126	<0.00010	<0.0010	<0.05	0.000227	144	<0.0010	<0.00050	0.121	0.113	<0.00020	<0.0050	44.1	0.709	<0.000010	0.0158	0.0012	0.051	6.36
W8A	05/09/2014 9:45	<0.0050	0.982	<0.00050	<0.0030	<0.00050	0.00051	0.129	<0.00010	<0.0010	<0.05	0.00021	149	<0.0010	<0.00050	0.122	0.154	<0.00020	<0.0050	48.2	0.845	<0.000010	0.014	0.0011	0.057	6.05
W8A	12/09/2014 11:05	<0.0050	0.648	<0.00050	0.0089	<0.00050	0.00054	0.131	<0.00010	<0.0010	<0.05	0.000238	150	<0.0010	<0.00050	0.144	0.18	<0.00020	0.0051	46.8	1.1	<0.000010	0.0139	0.0014	0.032	6.14
W8A	15/09/2014 14:50	<0.0050	0.906	<0.00050	0.0095	<0.00050	0.0006	0.128	<0.00010	<0.0010	<0.05	0.000266	150	<0.0010	<0.00050	0.125	0.179	<0.00020	<0.0050	50.3	1.05	<0.000010	0.0146	0.0012	0.049	6.57
W8A	25/09/2014 11:10	<0.0050	0.562	<0.00050	0.0064	<0.00050	0.00065	0.118	<0.00010	<0.0010	<0.05	0.000261	152	<0.0010	<0.00050	0.132	0.182	<0.00020	<0.0050	45.6	0.94	<0.000010	0.014	0.0011	0.035	6.11
W8A	01/10/2014 15:40	<0.0050	4.16	<0.00050	0.0065	<0.00050	0.00051	0.114	<0.00010	<0.0010	<0.05	0.000392	135	<0.0010	<0.00050	0.156	0.231	<0.00020	<0.0050	43.7	1.32	<0.000010	0.0142	0.0017	0.033	6.27
W8A	08/10/2014 15:40	<0.0050	0.959	<0.00050	0.0055	<0.00050	0.0005	0.103	<0.00010	<0.0010	<0.05	0.000352	136	<0.0010	<0.00050	0.159	0.212	<0.00020	<0.0050	42.1	1.33	<0.000010	0.0142	0.0012	0.034	6.05
W8A	13/10/2014 15:15	<0.0050	2.08	<0.00050	0.024	<0.00050	0.00056	0.113	<0.00010	<0.0010	<0.05	0.000374	146	<0.0010	<0.00050	0.15	0.2	<0.00020	<0.0050	46.6	1.46	<0.000010	0.0142	0.0013	0.038	7.03
W8A	21/10/2014 11:30	<0.0050	1.46	<0.00050	0.0085	<0.00050	0.00056	0.127	<0.00010	<0.0010	<0.05	0.000291	171	<0.0010	<0.00050	0.132	0.214	<0.00020	<0.0050	47.5	1.45	<0.000010	0.0156	0.0013	0.037	6.53
W8A	28/10/2014 11:30	<0.0050	1.55	<0.00050	0.0171	<0.00050	0.00048	0.125	<0.00010	<0.0010	<0.05	0.000294	165	<0.0010	<0.00050	0.131	0.263	<0.00020	<0.0050	48.9	1.48	<0.000010	0.0171	0.0013	0.032	6.24
W8A	05/11/2014 15:45	<0.0050	0.63	<0.00050	0.0074	<0.00050	0.00053	0.129	<0.00010	<0.0010	<0.05	0.000237	171	<0.0010	<0.00050	0.0953	0.455	<0.00020	<0.0050	52.1	1.56	<0.000010	0.0168	0.0012	0.026	6.92
W8A	10/11/2014 10:50	<0.0050	1.25	<0.00050	0.0066	<0.00050	0.00056	0.129	<0.00010	<0.0010	<0.05	0.000258	172	<0.0010	0.00052	0.103	0.307	<0.00020	<0.0050	52.5	1.57	<0.000010	0.0172	0.0013	0.025	6.68
W8A	17/11/2014 14:50	<0.0050	0.559	<0.00050	0.0073	<0.00050	0.00051	0.138	<0.00010	<0.0010	<0.05	0.000216	198	<0.0010	0.00056	0.0959	0.276	<0.00020	<0.0050	53.8	1.76	<0.000010	0.0166	0.0014	0.024	7.24
W8A	25/11/2014 11:30	<0.0050	1.59	<0.00050	0.0066	<0.00050	0.00054	0.131	<0.00010	<0.0010	<0.05	0.000242	174	<0.0010	0.00055	0.109	0.287	<0.00020	<0.0050	54.1	1.96	<0.000010	0.0174	0.0014	0.021	7.05
W8A	05/12/2014 9:00	<0.0050	1.08	<0.00050	0.013	<0.00050	0.00059	0.141	<0.00010	<0.0010	<0.05	0.000323	198	<0.0010	0.00068	0.121	0.291	<0.00020	<0.0050	59.4	2.35	<0.000010	0.0187	0.0015	0.029	7.53
W8A	11/12/2014 8:55	<0.0050	1.71	<0.00050	0.0059	<0.00050	0.00054	0.139	<0.00010	<0.0010	<0.05	0.000333	200	<0.0010	0.00076	0.12	0.304	<0.00020	<0.0050	58.7	2.48	<0.000010	0.0186	0.0014	0.031	7.16
W8A	18/12/2014 14:30	<0.0050	1.03	<0.00050	0.0062	<0.00050	0.00049	0.144	<0.00010	<0.0010	<0.05	0.000326	191	<0.0010	0.00075	0.132	0.314	<0.00020	0.0052	53.8	2.74	<0.000010	0.0187	0.0022	0.012	7.3
W8A	22/12/2014 16:30	<0.0050	1.63	0.0023	0.0054	<0.00050	0.00046	0.167	<0.00010	<0.0010	<0.05	0.000263	205	<0.0010	0.00072	0.114	0.243	<0.00020	0.0056	61	2.75	<0.000010	0.019	0.0015	0.027	7.97
W8A	02/01/2015 12:10	<0.0050	1.58	0.0006	0.0091	<0.00050	0.00053	0.152	<0.00010	<0.0010	<0.05	0.000316	204	<0.0010	0.00093	0.115	0.325	<0.00020	0.0056	62.8	3.54	<0.000010	0.0166	0.0035	0.03	7.39
W8A	06/01/2015 10:30	<0.0050	1.63	<0.00050	0.0095	<0.00050	0.00069	0.147	<0.00010	<0.0010	0.051	0.000394	215	<0.0010	0.00082	0.138	0.326	<0.00020	<0.0050	62.4	3.27	<0.000010	0.0184	0.0019	0.029	7.71
W8A	13/01/2015 11:30	<0.0050	1.86	0.00053	0.0074	<0.00050	0.00056	0.155	<0.00010	<0.0010	<0.05	0.000382	189	<0.0010	0.00093	0.144	0.294	<0.00020	0.0051	63.4	3.37	<0.000010	0.0196	0.002	0.034	7.53
W8A	21/01/2015 14:00	<0.0050	1.22	0.00054	0.0121	<0.00050	0.00052	0.161	<0.00010	<0.0010	<0.05	0.000369	203	<0.0010	0.00114	0.133	0.293	<0.00020	0.0053	66.1	4.54	<0.000010	0.0161	0.0019	0.031	7.17
W8A	29/01/2015 9:50	<0.0050	1.34	0.00073	0.0061	<0.00050	0.00063	0.177	<0.00010	<0.0010	<0.05	0.000358	207	<0.0010	0.00135	0.143	0.373	<0.00020	<0.0050	70.3	5.01	<0.000010	0.015	0.0024	0.032	7.48
W8A	03/02/2015 14:30	<0.0050	1.7	0.00065	0.0062	<0.00050	0.0006	0.165	<0.00010	<0.0010	<0.05	0.000486	213	<0.0010	0.00132	0.186	0.462	<0.00020	<0.0050	68.6	4.88	<0.000010	0.0168	0.0023	0.027	6.88
W8A	10/02/2015 15:30	<0.0050	2.26	0.00065	0.0064	<0.00050	0.0007	0.159	<0.00010	<0.0010	<0.05	0.000577	199	<0.0010	0.00145	0.229	0.392	<0.00020	<0.0050	69.5	5.71	<0.000010	0.0175	0.0029	0.031	7.33
W8A	18/02/2015 15:45	<0.0050	1.19	0.00075	0.0077	<0.00050	0.00065	0.16	<0.00010	<0.0010	<0.05	0.000672	196	<0.0010	0.00166	0.259	0.473	<0.00020	0.0051	68.7	6.16	<0.000010	0.0174	0.0026	0.045	6.99
W8A	26/02/2015 10:30	<0.0050	3.09	0.00063	0.011	<0.00050	0.00136	0.198	<0.00010	<0.0010	<0.05	0.000502	201	<0.0010	0.00161	0.161	0.513	<0.00020	<0.0050	70.4	5.7	<0.000010	0.0159	0.004	0.04	7.12
W8A	03/03/2015 9:30	<0.0050	1.44	0.00101	0.0067	<0.00050	0.00063	0.165	<0.00010	<0.0010	<0.05	0.000487	213	<0.0010	0.00151	0.18	0.563	<0.00020	<0.0050	69.1	5.74	<0.000010	0.0165	0.0049	0.048	6.81
W8A	09/03/2015 13:15	<0.0050	1.65	0.00067	0.012	<0.00050	0.0006	0.182	<0.00010	<0.0010	<0.05	0.000455	225	<0.0010	0.00144	0.162	0.648	<0.00020	0.0053	70.6	6.25	<0.000010	0.0161	0.0023	0.049	7.08
W8A	17/03/2015 9:00	<0.0050	2.79	0.00094	0.0067	<0.00050	0.00062	0.213	<0.00010	<0.0010	<0.05	0.000501	216	<0.0010	0.00154	0.167	0.501	<0.00020	0.0055	72.8	5.96	<0.000010	0.0177	0.002	0.043	7.58
W8A	25/03/2015 17:30	<0.0050	1.56	0.00069	0.012	<0.00050	0.00063	0.189	<0.00010	<0.0010	<0.05	0.0005	218	<0.0010	0.0017	0.186	0.558	<0.00020	0.0055	73	6.61	<0.000010	0.0158	0.0024	0.05	7.26
W8A	30/03/2015 12:45	<0.0050	0.847	0.00107	0.0077	<0.00050	0.00062	0.194	<0.00010	<0.0010	<0.05	0.000463	224	<0.0010	0.00187	0.177	0.457	<0.00020	<0.0050	74.8	7.03	<0.000010	0.0118	0.0022	0.038	7.06
W8A	06/04/2015 10:30	<0.0050	0.439	<0.00050	0.0038	<0.00050	0.00037	0.0965	<0.00010	<0.0010	<0.05	0.000274	124	<0.0010	0.00051	0.104	0.101	<0.00020	<0.0050	34	1.58	<0.000010	0.0157	<0.0010	0.01	5.54
W8A	18/04/2015 13:00	<0.0050	0.796	<0.00050	0.006	<0.00050	0.0004	0.139	<0.00010	<0.0010	0.052	0.000281	147	<0.0010	0.00079	0.107	0.16	<0.00020	<0.0050	45.3	2.41	<0.000010	0.0147	0.0014	0.02	6.78
W8A	21/04/2015 15:30	<0.0050	0.664	<0.00050	0.0068	<0.00050	0.00041	0.141	<0.00010	<0.0010	<0.05	0.000283	151	<0.0010	0.00084	0.129	0.18	<0.00020	<0.0050	49.8	2.86	<0.000010	0.0125	0.0013	0.023	6.35
W8A	29/04/2015 14:30	<0.0050	1.18	<0.00050	0.0061	<0.00050	0.00044	0.155	<0.00010	<0.0010	<0.05	0.000354	158	<0.0010	0.00077	0.133	0.194	<0.00020	<0.0050	49.5	2.92	<0.000010	0.013	0.0014	0.018	6.92
W8A	11/06/2015 16:30	<0.0050	0.636	<0.00050	0.0084	<0.00050	0.0004	0.106	<0.00010	<0.0010	<0.05	0.000325	126	<0.0010	<0.00050	0.149	0.118	<0.00020	<0.0050	38.2	1.35	<0.000010	0.0128	0.0012	0.025	5.98
W8A	15/06/2015 16:45	<0.0050	0.511	<0.00050	0.0128	<0.00050	0.00033	0.109	<0.00010	<0.0010	<0.05	0.000341	135	<0.0010	<0.00050	0.148	0.147	<0.00020	<0.0050	38	1.39	<0.000010	0.0118	0.0011	0.029	6.1
W8A	22/06/2015 17:00	<0.0050	0.431	<0.00050	0.0144	<0.00050	0.00049	0.115	<0.00010	<0.0010	0.061	0.000365	153	<0.0010	<0.00050	0.156	0.21	<0.00020	<0.0050	38.8	1.46	<0.000010	0.0168	<0.0010	0.015	6.38
W8A	29/06/2015 17:15	<0.0050	0.695	<0.00050	0.0198	<0.00050	0.00033	0.101	<0.00010	<0.0010	<0.05	0.000497	154	<0.0010	<0.00050	0.213	0.251	<0.00020	<0.0050	46.3	1.92	<0.000010	0.0191	0.0015	0.025	7.05
W8A	06/07/2015 9:20																									
W8A	06/07/2015 9:20	<0.0050	0.648	<0.00050	0.0072	<0.00050	0.00055	0.128	<0.00010	<0.0010	<0.05	0.000103	140	<0.0010	<0.00050	0.0819	0.141	<0.00020	<0.0050	41.7	1.09	<0.000010	0.0115	0.0013	0.037	6.35
W8A	16/07/2015 15:15	<0.0050	0.851	<0.00050	0.0123	<0.00050	0.00048	0.113	<0.00010	<0.0010	<0.05	0.000252	135	<0.0010	<0.00050	0.142	0.172	<0.00020	<0.0050	41.8	1.38	<0.000010	0.012	0.0014	0.031	5.63
W8A	20/07/2015 9:50	<0.0050	0.375	<0.00050	0.0379	<0.00050	0.00051	0.125	<0.00010	<0.0010	<0.05	0.000253	149	<0.0010	<0.00050	0.126	0.171	<0.00020	<0.0050	47.9	1.39	<0.000010	0.0124	0.0013	0.023	6.37
W8A	29/07/2015 15:45	<0.0050	0.457	<0.00050	0.015	<0.00050	0.00056	0.118	<0.00010	<0.0010	<0.05	0.000206	154	<0.0010	<0.00050	0.101	0.218	<0.00020	<0.0050	47.4	1.33	<0.000010	0.0138	0.0012	0.041	6.48
W8A	05/08/2015 14:25	<0.0050	0.789	<0.00050	0.0056	<0.00050	0.00047	0.126	<0.00010	<0.0010	<0.05	0.000178	148	<0.0010	<0.00050	0.0932	0.189	<0.00020	<0.0050	42.8	1.28	<0.000010	0.0141	0.0012	0.038	6.98
W8A	14/08/2015 11:20	<0.0050	0.354	<0.00050	0.0125	<0.00050	0.00047	0.11	<0.00010	<0.0010	<0.05	0.000297	142	<0.0010	<0.00050	0.151	0.215	<0.00020	<0.0050	40.8	1.36	<0.000010	0.0131	0.0015	0.024	5.82
W8A	20/08/2015 9:15	<0.0050	2.7	<0.00050	0.0088	<0.00050	0.00049	0.13	<0.00010	<0.0010	<0.05	0.00018	144	<0.0010	<0.00050	0.0922	0.158	<0.00020	<0.0050	45.3	1.13	<0.000010	0.013	0.0013	0.04	6.09
W8A	24/08/2015 15:10	<0.0050	0.392	<0.00050	0.0086	<0.00050	0.0005	0.126	<0.00010	<0.0010	<0.05	0.000189	165	<0.0010	<0.00050	0.108	0.123	<0.00020	<0.0050	44.1	0.887	<0.000010	0.0136	0.0013	0.043	6.84
W8A	01/09/2015 14:25	<0.0050	0.179	<0.00050	0.0155	<0.00050	0.00062	0.122	<0.00010	<0.0010	<0.05	0.000158	127	<0.0010	<0.00050	0.105	0.159	<0.00020	<0.0050	37.1	0.893	<0.000010	0.0119	0.0013	0.048	5.3
W8A	02/09/2015 16:45	<0.0050	0.359	<0.00050	0.0109	<0.00050	0.00056	0.129	<0.00010	<0.0010	<0.05	0.000223	139	<0.0010	0.00058	0.133	0.165	<0.00020	<0.0050	41.9	1.3	<0.000010	0.0132	0.0015	0.026	5.81
W8A	08/09/2015 10:40	<0.0050	1.35	<0.00050	0.0127	<0.00050	0.00053	0.118	<0.00010	<0.0010	<0.05	0.000247	152	<0.0010	<0.00050	0.111	0.109	<0.00020	<0.0050	40.6	1.01	<0.000010	0.0117	0.0011	0.021	5.46
W8A	15/09/2015 10:15	<0.0050	0.981	<0.00050	0.0071	<0.00050	0.00035	0.124	<0.00010	<0.0010	<0.05	0.000309	145	<0.0010	<0.00050	0.122	0.101	<0.00020	<0.0050	41.9	0.957	<0.000010	0.0146	<0.0010	0.02	6.23
W8A	23/09/2015 16:40	<0.0050	0.582	<0.00050	0.0191	<0.00050	0.00049	0.128	<0.00010	<0.0010	<0.05	0.00027	161	<0.0010	<0.00050	0.112	0.123	<0.00020	<0.0050	44.3	1.31	<0.000010	0.0144	0.001	0.018	6.36
W8A	02/10/2015 9:40	<0.0050	0.308	<0.00050	0.0082	<0.00050	0.0005	0.122	<0.00010	<0.0010	<0.05	0.000177	173	<0.0010	<0.00050	0.0927	0.209	<0.00020	<0.0050	44.1	1.34	<0.000010	0.0141	0.001	0.029	6.29
W8A	08/10/2015 16:10	<0.0050	0.36	<0.00050	0.0107	<0.00050	0.00052	0.137	<0.00010	<0.0010	<0.05	0.000155	156	<0.0010	<0.00050	0.0624	0.3	<0.00020	<0.0050	45.3	1.6	<0.000010	0.0132	<0.0010	0.027	5.98
W8A	16/10/2015 15:30	<0.0050	0.435	<0.00050	0.0089	<0.00050	0.00038	0.119	<0.00010	<0.0010	<0.05	0.000209	157	<0.0010	<0.00050	0.0943	0.338	<0.00020	<0.0050	43.7	1.52	<0.000010	0.0139	<0.0010	0.021	6.14
W8A	23/10/2015 16:05	<0.0050	1.47	<0.00050	0.0117	<0.00050	0.00045	0.13	<0.00010	<0.0010	0.057	0.00017	163	<0.0010	<0.00050	0.082	0.345	<0.00020	<0.0050	43.8	1.53	<0.000010	0.0137	0.0013	0.028	6.24

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	BOD5	Br	Cation	COD	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-T	N-TKN	P-PO4T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L
W8A	10/07/2014 14:35	0.00806	6.38	<0.000020	28.6	1.79	56.5	<0.000050	<0.0050	<0.0050	0.00184	<0.0050	1	<0.00050	385	6.64	<0.50	5.53														
W8A	15/07/2014 14:15	0.0082	7.2	<0.000020	31.1	1.81	58.5	<0.000050	<0.0050	<0.0050	0.002	<0.0050	0.687	<0.00050	443	<0.50	<0.50	<0.50														
W8A	21/07/2014 11:40	0.0102	7.04	<0.000020	29.8	1.78	52.4	<0.000050	<0.0050	<0.0050	0.00207	<0.0050	1.98	<0.00050	396	<0.50	<0.50	<0.50														
W8A	29/07/2014 11:00	0.00705	7.1	<0.000020	32	1.79	53.8	<0.000050	<0.0050	<0.0050	0.00218	<0.0050	1.3	<0.00050	430	<0.50	<0.50	<0.50														
W8A	06/08/2014 16:55	0.00938	7.23	<0.000020	34.9	1.83	57.9	<0.000050	<0.0050	<0.0050	0.00219	<0.0050	1.89	<0.00050	387	<0.50	<0.50	<0.50														
W8A	14/08/2014 10:30	0.0138	7.17	<0.000020	32.6	2.04	74.4	<0.000050	<0.0050	<0.0050	0.00221	<0.0050	0.833	<0.00050	400	<0.50	<0.50	<0.50														
W8A	18/08/2014 10:25	0.0133	6.38	0.00002	34.4	1.99	76.6	<0.000050	<0.0050	<0.0050	0.00232	<0.0050	0.925	<0.00050	421	<0.50	<0.50	<0.50														
W8A	26/08/2014 16:10	0.0157	6.2	<0.000020	32.7	2.18	76.7	<0.000050	<0.0050	<0.0050	0.00239	<0.0050	1.25	<0.00050	405	<0.50	<0.50	<0.50														
W8A	05/09/2014 9:45	0.0157	6.66	<0.000020	35.8	2.04	69.4	<0.000050	<0.0050	<0.0050	0.00234	<0.0050	0.217	<0.00050	463	<0.50	<0.50	<0.50														
W8A	12/09/2014 11:05	0.012	7.61	<0.000020	33.6	2.11	57	<0.000050	<0.0050	<0.0050	0.00246	<0.0050	0.988	<0.00050	485	<0.50	<0.50	<0.50														
W8A	15/09/2014 14:50	0.0135	7.43	<0.000020	35.9	2.09	71.3	<0.000050	<0.0050	<0.0050	0.00216	<0.0050	1.18	<0.00050	479	<0.50	<0.50	<0.50														
W8A	25/09/2014 11:10	0.0141	8.05	<0.000020	33.6	2.07	77.6	<0.000050	<0.0050	<0.0050	0.00223	<0.0050	0.49	<0.00050	447	<0.50	<0.50	<0.50														
W8A	01/10/2014 15:40	0.0125	6.49	<0.000020	32.6	2.1	66.5	<0.000050	<0.0050	<0.0050	0.00211	<0.0050	3.83	<0.00050	441	<0.50	<0.50	<0.50														
W8A	08/10/2014 15:40	0.0118	6.65	<0.000020	33.2	1.99	65.7	<0.000050	<0.0050	<0.0050	0.00207	<0.0050	0.772	<0.00050	419	<0.50	<0.50	<0.50														
W8A	13/10/2014 15:15	0.0128	7.64	<0.000020	34.6	2.06	75.4	<0.000050	<0.0050	<0.0050	0.00226	<0.0050	1.41	<0.00050	427	<0.50	<0.50	<0.50														
W8A	21/10/2014 11:30	0.0128	7.67	<0.000020	37.4	2.07	82	<0.000050	<0.0050	<0.0050	0.00236	<0.0050	1.25	<0.00050	466	<0.50	<0.50	<0.50														
W8A	28/10/2014 11:30	0.0131	7.55	<0.000020	36.7	2.13	82.1	<0.000050	<0.0050	<0.0050	0.00244	<0.0050	0.659	<0.00050	441	<0.50	<0.50	<0.50														
W8A	05/11/2014 15:45	0.014	7.34	<0.000020	37.4	2.31	93	<0.000050	<0.0050	<0.0050	0.00258	<0.0050	0.624	<0.00050	458	<0.50	<0.50	<0.50														
W8A	10/11/2014 10:50	0.0145	7.4	<0.000020	39	2.34	97.7	<0.000050	<0.0050	<0.0050	0.00258	<0.0050	1.18	<0.00050	472	<0.50	<0.50	<0.50														
W8A	17/11/2014 14:50	0.0133	8.83	<0.000020	37.8	2.42	105	<0.000050	<0.0050	<0.0050	0.00281	<0.0050	0.376	<0.00050	515	<0.50	<0.50	<0.50														
W8A	25/11/2014 11:30	0.0116	7.1	<0.000020	37.4	2.56	88.3	<0.000050	<0.0050	<0.0050	0.00279	<0.0050	1.24	<0.00050	530	<0.50	<0.50	<0.50														
W8A	05/12/2014 9:00	0.012	8.4	<0.000020	41.1	2.69	98.3	<0.000050	<0.0050	<0.0050	0.00319	<0.0050	1.12	<0.00050	578	<0.50	<0.50	<0.50														
W8A	11/12/2014 8:55	0.01	8.25	<0.000020	40.4	2.56	90.8	<0.000050	<0.0050	<0.0050	0.00285	<0.0050	1.49	<0.00050	599	<0.50	<0.50	<0.50														
W8A	18/12/2014 14:30	0.0093	8.02	<0.000020	40.2	2.47	97.3	<0.000050	<0.0050	<0.0050	0.00287	<0.0050	1.11	<0.00050	610	<0.50	<0.50	<0.50														
W8A	22/12/2014 16:30	0.0106	8.6	<0.000020	42.8	2.86	88.3	<0.000050	<0.0050	<0.0050	0.00321	<0.0050	1.47	<0.00050	595	<0.50	<0.50	<0.50														
W8A	02/01/2015 12:10	0.00715	8.93	<0.000020	44.4	2.66	77.8	<0.000050	<0.0050	<0.0050	0.00297	<0.0050	1.96	<0.00050	620	<0.50	<0.50	<0.50														
W8A	06/01/2015 10:30	0.00738	9.14	<0.000020	41.2	2.57	88.4	<0.000050	<0.0050	<0.0050	0.0029	<0.0050	1.55	<0.00050	701	<0.50	<0.50	<0.50														
W8A	13/01/2015 11:30	0.00889	7.93	<0.000020	43.1	2.88	82.8	<0.000050	<0.0050	<0.0050	0.00291	<0.0050	3.72	<0.00050	631	<0.50	<0.50	<0.50														
W8A	21/01/2015 14:00	0.00503	8.81	<0.000020	41.4	2.7	75.9	<0.000050	<0.0050	<0.0050	0.00271	<0.0050	0.954	0.00054	733	<0.50	<0.50	<0.50														
W8A	29/01/2015 9:50	0.00403	9.58	<0.000020	43.7	2.8	63.4	<0.000050	<0.0050	<0.0050	0.00301	<0.0050	1.24	0.00059	740	<0.50	<0.50	<0.50														
W8A	03/02/2015 14:30	0.00474	8.75	<0.000020	43.6	2.73	74.2	<0.000050	<0.0050	<0.0050	0.00288	<0.0050	1.54	<0.00050	768	<0.50	<0.50	<0.50														
W8A	10/02/2015 15:30	0.00413	8.89	<0.000020	45	2.73	60.7	<0.000050	<0.0050	<0.0050	0.00277	<0.0050	1.94	0.00056	784	<0.50	<0.50	<0.50														
W8A	18/02/2015 15:45	0.00386	8.54	<0.000020	39.3	2.78	55.6	<0.000050	<0.0050	<0.0050	0.00297	<0.0050	1.02	0.00066	808	<0.50	<0.50	<0.50														
W8A	26/02/2015 10:30	0.0047	8.18	<0.000020	42.4	3.34	57	<0.000050	<0.0050	<0.0050	0.00321	<0.0050	1.96	0.0008	846	<0.50	<0.50	<0.50														
W8A	03/03/2015 9:30	0.00343	9.39	<0.000020	41.7	2.62	61.7	<0.000050	<0.0050	<0.0050	0.00293	<0.0050	1.4	0.00052	816	<0.50	<0.50	<0.50														
W8A	09/03/2015 13:15	0.00291	10	<0.000020	42.1	2.81	67.4	<0.000050	<0.0050	<0.0050	0.00285	<0.0050	1.22	0.00077	842	<0.50	<0.50	<0.50														
W8A	17/03/2015 9:00	0.00495	9.75	0.000042	44	3.14	57.8	<0.000050	<0.0050	<0.0050	0.00338	<0.0050	1.37	0.0008	869	<0.50	<0.50	<0.50														
W8A	25/03/2015 17:30	0.00251	9.34	<0.000020	42.2	2.83	50.5	<0.000050	<0.0050	<0.0050	0.00298	<0.0050	1.32	0.00081	893	<0.50	<0.50	<0.50														
W8A	30/03/2015 12:45	0.00218	10.1	<0.000020	42.2	3.05	44.6	<0.000050	<0.0050	<0.0050	0.00299	<0.0050	0.962	0.00087	869	<0.50	<0.50	<0.50														
W8A	06/04/2015 10:30	0.0111	6.12	<0.000020	26.5	1.53	61.7	<0.000050	<0.0050	<0.0050	0.00195	<0.0050	0.324	<0.00050	335	<0.50	<0.50	<0.50														
W8A	18/04/2015 13:00	0.00647	7.93	<0.000020	33.6	1.94	64.3	<0.000050	<0.0050	<0.0050	0.00258	<0.0050	0.734	<0.00050	516	<0.50	<0.50	<0.50														
W8A	21/04/2015 15:30	0.00486	7.58	<0.000020	34.7	2.01	61	<0.000050	<0.0050	<0.0050	0.00242	<0.0050	0.528	<0.00050	543	<0.50	<0.50	<0.50														
W8A	29/04/2015 14:30	0.00646	8.84	<0.000020	34.2	2.11	61.5	<0.000050	<0.0050	<0.0050	0.0022	<0.0050	1	<0.00050	604	<0.50	<0.50	<0.50														
W8A	11/06/2015 16:30	0.00835	6.89	<0.000020	32.2	1.61	64.7	<0.000050	<0.0050	<0.0050	0.00165	<0.0050	0.505	<0.00050	365	<0.50	<0.50	<0.50														
W8A	15/06/2015 16:45	0.0084	7.33	<0.000020	31.7	1.65	65.4	<0.000050	<0.0050	<0.0050	0.00153	<0.0050	0.504	<0.00050	428	<0.50	<0.50	<0.50														
W8A	22/06/2015 17:00	0.0077	8.43	<0.000020	30.1	1.88	82.9	<0.000050	<0.0050	<0.0050	0.00164	<0.0050	0.341	<0.00050	424	<0.50	<0.50	<0.50														
W8A	29/06/2015 17:15	0.0085	7.26	<0.000020	35.6	1.92	75.6	<0.000050	<0.0050	<0.0050	0.00169	<0.0050	0.739	<0.00050	444	<0.50	<0.50	<0.50														
W8A	06/07/2015 9:20																															
W8A	06/07/2015 9:20	0.00863	7.79	<0.000020	34.3	1.87	66.7	<0.000050	<0.0050	<0.0050	0.00182	<0.0050	0.27	<0.00050	419	<0.50	<0.50	<0.50														
W8A	16/07/2015 15:15	0.0071	7.88	<0.000020	31.8	1.77	64.3	<0.000050	<0.0050	<0.0050	0.00173	<0.0050	0.552	<0.00050	435	<0.50	<0.50	<0.50														
W8A	20/07/2015 9:50	0.00608	8.37	<0.000020	37.2	2.09	68.1	<0.000050	<0.0050	<0.0050	0.00196	<0.0050	0.265	<0.00050	444	<0.50	<0.50	<0.50														
W8A	29/07/2015 15:45	0.00761	7.39	<0.000020	35.1	2.04	76.4	<0.000050	<0.0050	<0.0050	0.00202	<0.0050	0.507	<0.00050	446	<0.50	<0.50	<0.50														
W8A	05/08/2015 14:25	0.00833	8.33	0.000036	33	2.01	82.4	<0.000050	<0.0050	<0.0050	0.002	<0.0050	0.29	<0.00050	429	<0.50	<0.50	<0.50														
W8A	14/08/2015 11:20	0.00884	7.65	<0.000020	32.8	1.81	70.8	<0.000050	<0.0050	<0.0050	0.00174	<0.0050	0.383	<0.00050	448	<0.50	<0.50	<0.50														
W8A	20/08/2015 9:15	0.00912	6.81	0.000055	35.3	2.05	72.2	<0.000050	<0.0050	<0.0050	0.00203	<0.0050	0.417	<0.00050	457	<0.50	<0.50	<0.50														
W8A	24/08/2015 15:10	0.0115	8.79	<0.000020	37	1.94	80.5	<0.000050	<0.0050	<0.0050	0.0019	<0.0050	0.438	<0.00050	420	<0.50	<0.50	<0.50														
W8A	01/09/2015 14:25	0.0147	7.23	<0.000020	29.7	1.61	77.1	<0.000050	<0.0050	<0.0050	0.00196	<0.0050	0.123	<0.00050	342	<0.50	<0.50	<0.50														
W8A	02/09/2015 16:45	0.0153	7.57	<0.000020	32.2	1.86	88.5	<0.000050	<0.0050	<0.0050	0.00226	<0.0050	0.377	<0.00050	345	<0.50	<0.50	<0.50														
W8A	08/09/2015 10:40	0.0163	6.56	<0.000020	34.3	1.78	96.7	<0.000050	<0.0050	<0.0050	0.00292	<0.0050	0.338	<0.00050	314	<0.50	<0.50	<0.50														
W8A	15/09/2015 10:15	0.0139	6.41	<0.000020	34.5	1.96	106	<0.000050	<0.0050	<0.0050	0.0024	<0.0050	0.392	<0.00050	309	<0.50	<0.50	<0.50														
W8A	23/09/2015 16:40	0.0127	7.76	<0.000020	37.5	2.06	99.4	<0.000050	<0.0050	<0.0050	0.00256	<0.0050	0.361	<0.00050	349	<0.50	<0.50	<0.50														
W8A	02/10/2015 9:40	0.0114	8.18	<0.000020	36.2	1.92	97.8	<0.000050	<0.0050	<0.0050	0.00235	<0.0050	0.377	<0.00050	369	<0.50	<0.50	<0.50														
W8A	08/10/2015 16:10	0.0109	7.09	<0.000020	35.9	2.17	91.7	<0.000050	<0.0050	<0.0050	0.00271	<0.0050	0.336	<0.00050	419	<0.50	<0.50	<0.50														
W8A	16/10/2015 15:30	0.0109	7.43	<0.000020	35	1.93	84.9	<0.000050	<0.0050	<0.0050	0.00256	<0.0050	0.381	<0.00050	407	<0.50	<0.50	<0.50														
W8A	23/10/2015 16:05	0.0102	7.87	<0.000020	36.8	2.08	87.3	<0.000050	<0.0050	<0.0050	0.00234	<0.0050	0.812	<0.00050	460	<0.50	<0.50	<0.50														

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	P-TDP	P-TRP	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		mg/L	mg/L	Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W8A	10/07/2014 14:35					939			
W8A	15/07/2014 14:15					985			
W8A	21/07/2014 11:40					1020			
W8A	29/07/2014 11:00					1035			
W8A	06/08/2014 16:55					1065			
W8A	14/08/2014 10:30					1091			
W8A	18/08/2014 10:25					1156			
W8A	26/08/2014 16:10					1047			
W8A	05/09/2014 9:45					1090			
W8A	12/09/2014 11:05					1079			
W8A	15/09/2014 14:50					1106			
W8A	25/09/2014 11:10					1163			
W8A	01/10/2014 15:40					1043			
W8A	08/10/2014 15:40					985.6			
W8A	13/10/2014 15:15					1079			
W8A	21/10/2014 11:30					1288			
W8A	28/10/2014 11:30					1175			
W8A	05/11/2014 15:45					1276			
W8A	10/11/2014 10:50					1361			
W8A	17/11/2014 14:50					1374			
W8A	25/11/2014 11:30					1410			
W8A	05/12/2014 9:00					1417			
W8A	11/12/2014 8:55					1385			
W8A	18/12/2014 14:30					1354			
W8A	22/12/2014 16:30					1472			
W8A	02/01/2015 12:10					1490			
W8A	06/01/2015 10:30					1455			
W8A	13/01/2015 11:30					1358			
W8A	21/01/2015 14:00					1521			
W8A	29/01/2015 9:50					1510			
W8A	03/02/2015 14:30					1548			
W8A	10/02/2015 15:30					1486			
W8A	18/02/2015 15:45					1540			
W8A	26/02/2015 10:30					1511			
W8A	03/03/2015 9:30					1546			
W8A	09/03/2015 13:15					1429			
W8A	17/03/2015 9:00					1256			
W8A	25/03/2015 17:30					1574			
W8A	30/03/2015 12:45					1614			
W8A	06/04/2015 10:30					959			
W8A	18/04/2015 13:00					1053			
W8A	21/04/2015 15:30					1159			
W8A	29/04/2015 14:30					1225			
W8A	11/06/2015 16:30					979			
W8A	15/06/2015 16:45					1046			
W8A	22/06/2015 17:00					1100			
W8A	29/06/2015 17:15					1102			
W8A	06/07/2015 9:20					1110			
W8A	06/07/2015 9:20								
W8A	16/07/2015 15:15					1031			
W8A	20/07/2015 9:50					1103			
W8A	29/07/2015 15:45					1316			
W8A	05/08/2015 14:25					1239			
W8A	14/08/2015 11:20					1092			
W8A	20/08/2015 9:15					1159			
W8A	24/08/2015 15:10					1092			
W8A	01/09/2015 14:25					1003			
W8A	02/09/2015 16:45					1036			
W8A	08/09/2015 10:40					1105			
W8A	15/09/2015 10:15					1145			
W8A	23/09/2015 16:40					1133			
W8A	02/10/2015 9:40					1140			
W8A	08/10/2015 16:10					1219			
W8A	16/10/2015 15:30					1217			
W8A	23/10/2015 16:05					1074			

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T	B-T
			mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W8A	29/10/2015 15:50	P	7.4	864	7.18	7.74	668	1240	0.6	4.91	35.7	110.7	722	597	363	12	0.61	273	0.13	0.0706	11		0.049	<0.00050	0.00055	0.135	<0.00010	<0.0010	<0.05
W8A	03/11/2015 13:50	P	11.7	894	7.21	7.85	720	1260	1.6	6.81	51.8	75.1	782	714	371	13	0.62	283	0.16	0.0827	10.6		0.0248	<0.00050	0.00052	0.139	<0.00010	<0.0010	<0.05
W8A	10/11/2015 16:30	P	8.3	924	7.54	7.86	690	1310	0.1	3.62	24.8	112.6	790	704	379	14	0.66	290	0.14	0.106	11.7		0.138	<0.00050	0.00058	0.129	<0.00010	<0.0010	<0.05
W8A	22/11/2015 16:00	P	9.9	956	7.04	8	863	1320	3.1	4.18	32.5	249.6	727	689	398	17	0.63	271	0.3	0.173	10		0.0587	<0.00050	0.00061	0.142	<0.00010	<0.0010	<0.05
W8A	28/11/2015 14:05	P			7.22		806		2.2	2.80	20.6	119.70																	
W8A	04/12/2015 11:25	P	12	1000	7.16	8.23	755	1380	0.3	3.36	23.1	113.5	686	769	449	15	0.56	255	0.27	0.118	8.92		0.0709	<0.00050	0.00064	0.16	<0.00010	<0.0010	<0.05
W8A	10/12/2015 17:20	P	5	986	7.7	7.72	740	1420	0.1	2.56	17.9	-30.1	689	763	509	15	0.59	245	0.23	0.0952	8.22		0.0157	<0.00050	0.00057	0.152	<0.00010	<0.0010	<0.05
W8A	18/06/2016 16:15	P	161	676		7.76		1030						536	336	8.3		204	0.135	0.0488	6.45		0.735	0.00013	0.00087	0.138	0.000036	<0.000050	0.026
W8A	19/06/2016 16:15	P			6.92		849		14.4	4.2	41.4	147.5																	
W8A	26/06/2016 16:30	P	229	790	6.92	7.85	711	1140	3.7	4.31	33.4	119.2		611	359	10.0		269	0.147	0.0755	7.03		0.459	0.00011	0.00062	0.139	0.000025	<0.000050	0.032
W8A	02/07/2016 15:45	P	16.7	785	7.05	7.22	820	1150	10.2	6.18	56.2	130.7		603	343	10.1		278	0.168	0.0779	7.34		0.378	<0.00010	0.00057	0.130	0.000028	<0.000050	0.033
W8A	14/07/2016 16:25	P	52.0	805	6.9	7.70	711	1150	4.2	4.33	34	131		625	341	9.5		291	0.133	0.0417	7.68		0.154	<0.00010	0.00053	0.135	0.000023	<0.000050	0.032
W8A	19/07/2016 17:30	P	117	828	7.02	7.37	772	1210	4.4	5.19	41.5	118		645	341	9.8		302	0.145	0.0505	7.89		0.511	0.00017	0.00074	0.151	0.000035	<0.000050	0.031
W8A	30/07/2016 8:41	P	13.3		7.00	7.51	465.9	957	4.3	8.15	62.9	88.8		495	277	5.7	0.493	219	0.0303	0.0107	8.50		0.246	0.00014	0.00071	0.117	0.000025	<0.000050	0.020
W8A	07/08/2016 11:00	P	74.7	828	7.31	7.71	717	1170	5.7	5.34	42.7	141.9		628	281	8.6		339	0.0631	0.0203	9.75		0.249	0.00013	0.00077	0.153	0.000020	<0.000050	0.026
W8A	11/08/2016 15:05	P	7.1	786	7.37	7.53	662	1160	2.2	8.78	65.6	141		602	298	7.3		291	0.0561	0.0199	8.75		0.172	<0.00010	0.00062	0.131	0.000021	<0.000050	0.027
W8A	17/08/2016 15:15	P	30.0	821		8.05		1190						617	346	9.4		306	0.0695	0.0713	7.50		0.921	0.00011	0.00094	0.145	0.000091	<0.000050	0.030
W8A	25/08/2016 16:00	P	58.0	871	6.83	7.94	796	1230	6.9	8.36	68.9	147.7		650	323	10.4		348	0.0928	0.0730	8.83		0.0880	0.00012	0.00055	0.130	<0.000020	<0.000050	0.035
W8A	04/09/2016 16:35	P	24.2	796	8.66	7.93	725	1120	2.5	7.36	54.3	138.7		600	351	8.6		287	0.0620	0.0468	6.55		0.322	<0.00010	0.00073	0.139	0.000026	<0.000050	0.026
W8A	09/09/2016 9:00	P	25.0	729	7.21	7.62	591	1050	1	6.84	48.3	193		549	336	8.30		258	0.0533	0.0406	5.90		0.106	0.00010	0.00064	0.131	0.000020	<0.000050	0.026
W8A	13/09/2016 8:22	P	16.1	755	7.02	7.79	633	1090	2.9	3.68	27.3	115.8		580	358	9.0		257	0.110	0.0320	5.62		0.0287	<0.00010	0.00056	0.126	<0.000020	<0.000050	0.023
W8A	19/09/2016 14:50	P	13.3	729	6.82	7.71	647	1070	4.1	4.04	31	145.7		546	364	8.9		244	0.0994	0.0864	5.04		0.441	<0.00010	0.00079	0.150	0.000032	<0.000050	0.026
W8A	28/09/2016 15:00	P	63.7	767	7.06	7.52	657	1070	3.2	5.68	43.6	120.3		552	387	9.7		259	0.141	0.0714	5.46		0.0592	<0.00010	0.00060	0.127	0.000020	<0.000050	0.028
W8A	03/10/2016 15:40	P	22.7	810	7.33	7.77	676	1080	1	4.79	34.5	112.9		628	406	10.2		259	0.223	0.0514	5.48		0.0955	<0.00010	0.00060	0.148	0.000026	<0.000050	0.032
W8A	11/10/2016 15:20	P	34.7	896	7.19	7.33	720	1230	2.6	4.37	31.2	100.1		671	390	11.5		329	0.246	0.111	7.65		0.207	<0.00010	0.00055	0.140	0.000025	<0.000050	0.034
W8A	17/10/2016 15:45	P	16.1	932	7.37	7.87	699	1250	0.1	4.49	30.7	156.8		675	398	12.5		353	0.238	0.119	8.42		0.140	0.00014	0.00059	0.143	0.000029	0.000054	0.035
W8A	24/10/2016 16:50	P	7.7	948	7.36	7.77	738	1340	0	4.22	29	165.3		695	406	13.6		351	0.245	0.115	8.76	18.9	0.286	0.00049	0.00072	0.155	0.000028	<0.000050	0.034
W8A	27/10/2016 16:21	P			7.56		783		1.4	5.38	38.4	108.3																	
W8A	27/10/2016 16:21	M	20.8	940		7.79		1360						683	432	14.0		337	0.250	0.145	8.09		0.0875	0.00034	0.00056	0.154	<0.000020	<0.000050	0.035
W8A	01/11/2016 15:50	P	33.2	962	7.47	8.22	759	1330	0.2	7.07	55	96.6		700	481	13.5		325	0.323	0.322	7.65		0.431	0.00025	0.00067	0.153	0.000039	<0.000050	0.035
W8A	11/11/2016 9:45	P	14.5	976	6.94	7.88	845	1400	5	4.62	36.5	111.4		726	491	14.1		321	0.312	0.288	7.35		0.0547	0.00018	0.00062	0.170	0.000023	<0.000050	0.032
W8A	14/11/2016 11:11	P	102	985	6.92	7.75	821	1420	2.7	2.80	21.1	88.3		720	534	14.9		308	0.357	0.297	6.57		0.0734	0.00018	0.00065	0.175	0.000025	<0.000050	0.035
W8A	22/11/2016 14:45	P	54.7	1010	7.50	7.46	754	1440	-0.1	5.28	38.3	92.6		806	550	14.6		296	0.531	0.288	6.15		0.0268	0.00015	0.00055	0.183	<0.000020	<0.000050	0.038
W8A	29/11/2016 14:05	P	26.1	1030		7.66		1500						846	590	14.8		276	0.434	0.282	5.25		0.109	0.00015	0.00062	0.190	<0.000020	<0.000050	0.038
W8A	06/12/2016 15:15	P	39.2	1010	7.14	8.06	891	1470	5	3.75	30	36.2		745	584	14.8		295	0.435	0.295	6.02		0.344	0.00031	0.00071	0.194	0.000034	<0.000050	0.038
W8A	12/12/2016 15:45	P	19.1	1050	7.11	7.58	964	1520	5	4.83	38.6	81.3		827	627	15.7		278	0.394	0.262	4.91	25.4	0.0983	0.00022	0.00064	0.200	0.000027	<0.000050	0.038
W8A	20/12/2016 11:15	P	20.6	1050	7.05	7.26	978	1520	3.4	4.41	34	105.7		832	672	16.1		255	0.426	0.358	3.80		0.0878	0.00019	0.00063	0.216	0.000024	<0.000050	0.034
W8A	27/12/2016 16:15	P	69.7	1060	7.17	7.37	877	1550	3	4.71	37.5	134.2		873	619	15.4		272	0.414	0.368	4.84		0.126	0.00022	0.00068	0.195	0.000027	<0.000050	0.036
W16	22/11/2006	P	2	502		7.83		739					392		335			83	0.004	<0.03	0.14		0.1	<0.0004	0.0005	0.12	<0.0002	<0.001	0.01
W16	19/12/2006	P	<2	536		7.5		780					419		383			64	0.066	<0.1	0.1		0.031	<0.0002	0.0011	0.138	<0.0001	<0.0005	0.008
W16	04/01/2007	P	<2	484		7.4		733					415		385			56	0.15	<0.03	0.09		0.056	0.0002	0.0008	0.139	<0.0001	<0.0005	0.006
W16	10/01/2007	P	<2	500		8.52		744					415		366			54	0.09	<0.03	0.08		0.026	<0.0002	0.0008	0.137	<0.0001	<0.0005	0.006
W16	16/01/2007	P	41	492		7.41		752					412		387			52	0.033	<0.03	<0.05		0.92	<0.0002	0.0011	0.15	<0.0001	<0.0005	0.014
W16	30/01/2007	P	<2	484		8.12		735					399		371	0.81		48	0.058	0.31	<0.05	8.5	0.012	<0.0002	0.0009	0.133	<0.0001	<0.0005	0.008
W16	07/02/2007	P	<2	484		7.34		741							361	0.84		47	0.11	<0.03	<0.05		0.053	<0.0002	0.0008	0.14	<0.0001	<0.0005	0.008
W16	15/02/2007	P	<2	470		7.33		742					375		364			51	0.101	<0.05	<0.1		0.072	<0.0002	0.0008	0.137	<0.0001	<0.0005	0.007
W16	22/02/2007	P	<2	1440		8.25		1600					947		582	0.9		286	2	3.75	35		0.094	<0.0004	0.0022	0.26	<0.0002	<0.001	0.078
W16	02/03/2007	P	181	473		7.97		762					394		369	1.4				0.022	0.17		4.72	<0.0002	0.002	0.179	0.0002	<0.0005	0.008
W16	23/03/2007	P	126	432		7.82		726					404		340	1.7		52	0.082	<0.05	0.2		6.06	<0.0004	0.002	0.2	0.0002	<0.001	0.01
W16	17/04/2007	P	31	318		8.27		438					223		185	2.4		67		0.18	1.1		1.55	<0.0002	0.0008	0.09	<0.0001	<0.0005	0.012
W16	11/05/2007	P	28	250		7.61		240						115	73	0.9		21.4	0.48	0.62	5.7		1.96	<0.0004	0.001	0.081	<0.0002	<0.001	0.044
W16	19/05/2007	P	15	220		7.46		246						122	74	0.9		21.6	0.51	0.62	5.6		1.21	<0.0004	0.001	0.077	<0.0002	<0.001	0.021
W16	30/05/2007	P	8	244		7.72		259					125		79	1.1		25.1	0.37	0.64	5.4		0.552	<0.0002	0.0007	0.068	<0.0001	<0.0005	0.023
W16	13/06/2007	P	5	226		8.59		235						132	93	1.1		25.9	0.07	0.3	4.8		0.09	<0.0002	0.0003	0.061	<0.0001	<0.0005	0.024
W16	20/06/2007	P	<2	266		8.76		252					137		98	1.1		26.9	0.1	0.23	4.3		0.127	<0.0002	0.0006	0.061	<0.0001	<0.0005	0.022
W16	27/06/2007	P																					0.038	<0.0002	0.0007	0.06	<0.0001	<0.0005	0.02
W16	04/07/2007	P											135										0.071	<0.0002	0.0005	0.064	<0.0001	<0.0005	0.022
W16	05/07/2007	P	<2	258		7.81		269					139		115	1.2		30		0.24	3		0.062	<0.0002	0.0005	0.068	<0.0001	<0.0005	0.024
W16	11/07/2007	P	2	244		7.77		309						146	121	1		26	0.13	0.21	3.2		0.365	<0.0002	0.0008	0.076	<0.0001	<0.0005	0.024
W16	18/07/2007	P	<2	270		7.66		320					155		128	1.2		27	0.15	0.21	3.2		0.035	<0.0002	0.0008	0.071	<0.0001	<0.0005	0.023
W16	25/07/2007	P	2	276		7.73		336					156		137	1.3		30	0.17	0.19	2.9		0.031	<0.0002	0.0005	0.072	0.0009	<0.0005	0.024
W16	01/08/2007	P											164										0.135	<0.0002	0.0008	0.074	<0.0001	<0.0005	0.026
W16	09/08/2007	P	<2	282		7.76		377					171		152	1.6		34	0.31	0.32	3.7		0.066	<0.0002	0.0007	0.083	<0.0001	<0.0005	0.027
W16	14/08/2007	P	<2	328		7.99		370					178		161	1.8		35	0.41	0.32	4.2		0.065	<0.0002	0.0007	0.088	<0.0001	<0.0005	0.032
W16	29/08/2007	P	<2	334		7.97		420					188		178	2.2		39	0.68	0.47	7.4		0.101	<0.0002	0.0007	0.098	<0.0001	<0.0005	0.049

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W8A	29/10/2015 15:50	0.000351	201	<0.0010	0.00059	0.152	1.93	<0.00020	<0.0050	53.6	2.54	<0.000010	0.0159	0.0013	0.066	7.71	0.0118	9.53	0.000051	39.6	2.42	115	<0.000050	<0.0050	<0.0050	0.00269
W8A	03/11/2015 13:50	0.000442	220	<0.0010	0.00066	0.171	1.7	<0.00020	<0.0050	56.3	2.85	<0.000010	0.0195	<0.0010	0.054	8.76	0.0125	9.42	0.000026	43.4	2.78	124	<0.000050	<0.0050	<0.0050	0.00312
W8A	10/11/2015 16:30	0.000445	227	<0.0010	0.00068	0.212	3.62	0.00046	<0.0050	54.2	2.79	<0.000010	0.0174	0.005	0.071	7.65	0.0147	9.46	0.000039	42.1	2.5	110	<0.000050	<0.0050	0.007	0.00299
W8A	22/11/2015 16:00	0.000293	196	<0.0010	0.00068	0.14	1.56	0.00025	<0.0050	57.4	3.09	<0.000010	0.0173	0.0017	0.053	7.39	0.00938	8.31	<0.000020	44.8	2.49	107	<0.000050	<0.0050	<0.0050	0.00299
W8A	28/11/2015 14:05																									
W8A	04/12/2015 11:25	0.000243	185	<0.0010	0.00072	0.105	1.66	<0.00020	<0.0050	54.3	3.21	<0.000010	0.0144	0.0017	0.052	7.27	0.00844	7.54	<0.000020	42.1	2.59	88.9	<0.000050	<0.0050	<0.0050	0.0032
W8A	10/12/2015 17:20	0.000274	186	<0.0010	0.00068	0.112	1.11	<0.00020	<0.0050	54.6	3.22	<0.000010	0.0151	0.0012	0.048	7.44	0.00728	7.96	<0.000020	42.6	2.54	100	<0.000050	<0.0050	<0.0050	0.00314
W8A	18/06/2016 16:15	0.000208	144	0.00122	0.00100	0.209	2.28	0.000374	0.0038	41.5	2.06	<0.0000050	0.0123	0.00142	0.073	7.25	0.00673	8.27	0.000091	35.7	1.83	74.1	<0.000010	0.00012	0.0354	0.00225
W8A	19/06/2016 16:15																									
W8A	26/06/2016 16:30	0.000287	157	0.00070	0.00087	0.207	2.21	0.000296	0.0040	45.3	2.29	<0.0000050	0.0153	0.00132	0.088	6.87	0.00874	7.55	0.000073	38.1	2.11	95.8	<0.000010	<0.00010	0.0266	0.00245
W8A	02/07/2016 15:45	0.000352	159	0.00081	0.00077	0.167	3.06	0.000284	0.0045	43.7	2.18	<0.0000050	0.0144	0.00130	0.054	6.70	0.00921	6.94	0.000045	35.2	1.96	90.4	<0.000010	<0.00010	0.0167	0.00226
W8A	14/07/2016 16:25	0.000347	174	0.00062	0.00069	0.164	2.35	0.000166	0.0049	48.3	1.91	<0.0000050	0.0157	0.00124	<0.050	7.04	0.00926	7.31	0.000035	38.6	2.26	99.8	<0.000010	<0.00010	0.00732	0.00257
W8A	19/07/2016 17:30	0.000314	175	0.00106	0.00092	0.241	4.07	0.000281	0.0044	50.0	2.34	<0.0000050	0.0148	0.00156	0.100	7.06	0.00912	8.12	0.000084	40.8	2.26	99.5	0.000010	<0.00010	0.0302	0.00263
W8A	30/07/2016 8:41	0.0000889	133	0.00053	0.00049	0.145	0.990	0.000179	0.0025	35.0	0.847		0.0127	0.00110	0.064	5.59	0.0101	7.51	0.000047	30.6	1.54	71.5	<0.000010	<0.00010	0.0154	0.00171
W8A	07/08/2016 11:00	0.000135	173	0.00058	0.00052	0.104	1.16	0.000160	0.0034	45.5	1.11	<0.0000050	0.0151	0.00110	<0.050	6.78	0.0153	7.50	0.000032	41.6	1.90	115	<0.000010	<0.00010	0.0133	0.00226
W8A	11/08/2016 15:05	0.000152	166	0.00052	0.00051	0.117	1.38	0.000141	0.0036	42.4	1.23	<0.0000050	0.0143	0.00107	0.067	6.45	0.0126	7.58	0.000033	35.7	1.97	98.9	<0.000010	<0.00010	0.00883	0.00225
W8A	17/08/2016 15:15	0.000195	167	0.00140	0.00100	0.231	3.85	0.000454	0.0043	43.8	1.54	<0.0000050	0.0150	0.00158	0.113	6.96	0.0121	8.73	0.000098	36.9	2.06	103	0.000013	<0.00010	0.0494	0.00245
W8A	25/08/2016 16:00	0.000314	174	0.00045	0.00052	0.132	0.721	0.000069	0.0043	47.0	1.65	<0.0000050	0.0157	0.00104	<0.050	7.23	0.0136	6.97	0.000025	42.5	2.31	117	<0.000010	<0.00010	0.00401	0.00274
W8A	04/09/2016 16:35	0.0000470	157	0.00075	0.00054	0.143	1.79	0.000175	0.0033	43.6	1.45	0.0000053	0.0124	0.00110	0.081	7.05	0.0118	8.11	0.000052	37.4	1.92	103	<0.000010	<0.00010	0.0148	0.00229
W8A	09/09/2016 9:00	0.000107	151	0.00049	0.00046	0.0964	0.747	0.000120	0.0030	41.4	1.31	<0.0000050	0.0128	0.00106	<0.050	7.21	0.0102	7.78	0.000023	37.5	1.93	85.9	<0.000010	<0.00010	0.00556	0.00235
W8A	13/09/2016 8:22	0.000224	166	0.00052	0.00055	0.103	0.837	<0.000050	0.0029	43.5	1.80	<0.0000050	0.0104	0.00107	0.069	6.66	0.00961	7.49	0.000017	37.8	1.72	87.4	<0.000010	<0.00010	0.00152	0.00208
W8A	19/09/2016 14:50	0.000181	156	0.00086	0.00089	0.220	3.44	0.000456	0.0034	41.4	1.77	0.0000107	0.0115	0.00131	0.144	6.54	0.00831	7.97	0.000024	35.9	2.10	81.5	0.000012	<0.00010	0.0205	0.00262
W8A	28/09/2016 15:00	0.000219	161	0.00053	0.00061	0.104	1.24	0.000052	0.0040	41.9	1.93	0.0000057	0.0119	0.00121	0.056	7.00	0.00896	8.05	0.000027	39.5	2.12	100	<0.000010	<0.00010	0.00272	0.00262
W8A	03/10/2016 15:40	0.000226	178	0.00067	0.00078	0.130	2.17	0.000180	0.0032	46.9	2.32	0.0000147	0.0120	0.00154	0.061	7.73	0.00822	8.51	0.000020	41.1	2.36	102	<0.000010	<0.00010	0.00401	0.00304
W8A	11/10/2016 15:20	0.000332	192	0.00084	0.00074	0.174	2.84	0.000460	0.0048	50.5	2.30	<0.0000050	0.0139	0.00155	0.066	7.47	0.0107	7.87	0.000058	40.3	2.67	117	<0.000010	<0.00010	0.0108	0.00324
W8A	17/10/2016 15:45	0.000343	186	0.00087	0.00077	0.146	2.20	0.000119	0.0042	52.6	2.55	<0.0000050	0.0137	0.00139	0.063	7.61	0.0111	7.63		42.9	2.64	118	<0.000010	<0.00010	0.00941	0.00346
W8A	24/10/2016 16:50	0.000390	195	0.00089	0.00086	0.214	4.60	0.000182	0.0045	53.6	2.79	0.0000086	0.0140	0.00160	0.091	8.44	0.0117	8.19	0.000074	45.1	2.68	132	<0.000010	<0.00010	0.0140	0.00344
W8A	27/10/2016 16:21																									
W8A	27/10/2016 16:21	0.000335	194	0.00074	0.00073	0.139	2.85	<0.000050	0.0040	54.6	2.80	<0.0000050	0.0137	0.00127	0.066	8.18	0.0105	7.61	0.000034	43.2	2.67	116	<0.000010	<0.00010	0.00504	0.00345
W8A	01/11/2016 15:50	0.000339	197	0.00098	0.00099	0.274	6.00	0.000249	0.0049	51.7	3.28	0.0000074	0.0131	0.00151	0.085	7.79	0.00934	8.63	0.000092	40.6	2.86	109	<0.000010	<0.00010	0.0233	0.00367
W8A	11/11/2016 9:45	0.000353	202	0.00087	0.00091	0.146	3.92	0.000068	0.0051	59.6	3.35	0.0000051	0.0125	0.00167	0.062	8.06	0.00972	8.30	0.000032	49.3	2.91	121	<0.000010	<0.00010	0.00310	0.00379
W8A	14/11/2016 11:11	0.000357	202	0.00085	0.00098	0.149	4.43	0.000112	0.0053	55.6	3.41	<0.0000050	0.0124	0.00178	0.074	7.95	0.00906	8.55	0.000029	47.0	2.85	116	<0.000010	<0.00010	0.00409	0.00406
W8A	22/11/2016 14:45	0.000361	221	0.00090	0.00149	0.131	3.45	0.000059	0.0055	64.6	4.99	<0.0000050	0.0125	0.00260	0.066	8.99	0.00769	8.47	0.000027	50.7	3.21	119	<0.000010	<0.00010	0.00175	0.00395
W8A	29/11/2016 14:05	0.000421	238	0.00116	0.00159	0.181	3.75	0.000101	0.0054	69.9	5.26	0.0000054	0.0134	0.00214	0.072	9.25	0.00793	9.00	0.000042	51.9	3.46	134	<0.000010	<0.00010	0.00565	0.00423
W8A	06/12/2016 15:15	0.000537	215	0.00118	0.00153	0.247	6.37	0.000323	0.0048	66.5	4.90	<0.0000050	0.0129	0.00221	0.115	8.52	0.00719	9.10	0.000072	52.8	3.24	108	<0.000010	<0.00010	0.0210	0.00421
W8A	12/12/2016 15:45	0.000355	222	0.00097	0.00151	0.138	2.56	0.000100	0.0052	66.4	5.51	<0.0000050	0.0116	0.00190	0.077	8.98	0.00598	9.13	0.000044	52.0	3.18	107	<0.000010	0.00011	0.00600	0.00425
W8A	20/12/2016 11:15	0.000329	218	0.00115	0.00160	0.141	3.55	0.000113	0.0044	70.4	6.20	0.0000065	0.00991	0.00177	0.074	8.67	0.00485	8.81	0.000044	52.3	3.05	92.3	<0.000010	<0.00010	0.00513	0.00370
W8A	27/12/2016 16:15	0.000323	218	0.00152	0.00169	0.162	4.69	0.000164	0.0048	68.3	5.81	0.0000057	0.0109	0.00211	0.125	8.75	0.00508	8.98	0.000065	51.9	3.18	99.4	<0.000010	0.00025	0.00768	0.00412
W16	22/11/2006	<0.00002	97.8	<0.001	0.0004	0.007	0.2	0.0006	0.003	35.8	0.271	<0.00005	0.004	0.0039		3.8	<0.0004	10.1	<0.0002	21.1	0.604	26.7	<0.0001	<0.002	0.0058	0.0042
W16	19/12/2006	0.00009	112	0.0013	0.0005	0.006	<0.1	0.0002	0.002	34	0.62	<0.0001	0.005	0.003		4.4	<0.0002	8.65	<0.0001	17.8	0.543	23.4	<0.00005	<0.001	0.0032	0.0058
W16	04/01/2007	<0.00001	114	<0.0005	0.0007	0.009	<0.1	0.0003	0.002	31.8	1.04	<0.0001	0.004	0.0023	0.16	4.8	0.0002	8.21	<0.0001	15.8	0.559	20.9	<0.00005	<0.001	0.0027	0.0065
W16	10/01/2007	0.00009	114	<0.0005	0.0006	0.006	<0.1	0.0006	0.002	31.9	1.08	<0.0001	0.005	0.0018	<0.05	4.4	<0.0002	7.5	<0.0001	15.9	0.485	23.1	<0.00005	<0.001	<0.0005	0.0059
W16	16/01/2007	0.00004	113	0.0012	0.0013	0.006	1.2	0.0005	0.002	31.4	1.35	<0.0001	0.004	0.0018		4.4	<0.0002	8.95	<0.0001	14.2	0.45	19.2	<0.00005	<0.001	0.0444	0.0058
W16	30/01/2007	<0.00001	111	0.0006	0.0012	0.003	<0.1	0.0003	0.001	29.5	1.78	<0.0001	0.004	0.0018	0.04	4.2	<0.0002	7.5	<0.0001	13.1	0.498	18.1	<0.00005	<0.001	0.0017	0.0054
W16	07/02/2007	0.00002	115	<0.0005	0.0016	0.004	0.1	0.0002	0.004	29	1.96	<0.0001	0.004	0.0076	0.04	4.2	<0.0002	7.66	<0.0001	12.8	0.49	18.4	<0.00005	<0.001	0.0041	0.0052
W16	15/02/2007	<0.00001	107	<0.0005	0.0013	0.007	0.2	0.0002	0.002	25.9	1.97	<0.0001	0.004	0.0018		4.2	<0.0002	6.47	<0.0001	12.5	0.471	15.9	<0.00005	<0.001	0.0048	0.005
W16	22/02/2007	<0.00002	221	<0.001	0.002	0.1	0.6	0.0002	0.009	95.8	0.333	0.0001	0.02	0.0046	0.28	21	0.002	28.4	0.001	64.6	1.68	102	<0.0001	<0.002	0.0089	0.0036
W16	02/03/2007	0.00004		0.0047	0.004	0.017		0.0016	0.005			<0.0001	0.004	0.0063			<0.0002		<0.0001		0.535		<0.00005	<0.001	0.244	0.0053
W16	23/03/2007	0.00003	110	0.0066	0.0043	0.01	8.2	0.002	0.004	31.4	2.41	<0.0001	0.003	0.0083		5.2	0.0004	21.6	<0.0002	13	0.519	18	<0.0001	<0.002	0.261	0.0054
W16	17/04/2007	0.00003	46	0.0012	0.0008	0.042	1.9	0.0005	0.005	26.4	0.162	<0.0001	0.006	0.0019		3.7	0.0004	9.89	<0.0001	17.3	0.367	19.1	<0.00005	<0.001	0.08	0.0016
W16	11/05/2007	0.00004	32.3	0.0026	0.001	0.082	2.6	0.0009	0.003	11	0.19	<0.0001	0.003	0.0027	0.1	2.3	<0.0004	9.1	<0.0002	5.7	0.232	7.5	<0.0001	<0.002	0.1	<0.001
W16	19/05/2007	0.00006	33.1	0.001	0.001	0.07	2	0.0006	0.002	11	0.17	<0.0001	0.003	0.0033	0.11	2.2	<0.0004	7.18	0.0002	5.6	0.228	7.9	<0.0001	<0.002	0.0654	<0.001
W16	30/05/2007	0.00005	32.6	0.0011	0.0008	0.054	0.8	0.0002	0.002	10.6	0.125	<0.0001	0.003	0.0019	0.06	2.3	<0.0002	5.1	0.0001	6.6	0.236	8.1	<0.00005	<0.001	0.0286	0.0006
W16	13/06/2007	0.00003	32.7	0.0006	0.0006	0.047	0.2	<0.0001	0.002	11.3	0.085	<0.0001	0.002	0.001	<0.05	2.4	0.0003	4.56	<0.0001	7.1	0.258	8.2	<0.00005	<0.001	0.0047	0.0006
W16	20/06/2007	0.00003	35.8	0.0006	0.0006	0.052	0.2	<0.0001	0.002	11.6	0.077	<0.0001	0.003	0.0021	0.06	2.4	0.0002	4.84	<0.0001	7.1	0.263	8.5	<0.00005	<0.001	<0.0005	0.0006
W16	27/06/2007	0.00001	34.6	<0.0005	0.0005	0.041	0.1	<0.0001	0.002	12.2	0.046	<0.0001	0.003	0.0019		2.4	<0.0002	4.74	<0.0001	7.6	0.275	8.5	<0.00005	<0.001	0.0023	0.0006
W16	04/07/2007	0.00003	33.8	<0.0005	0.0005	0.035	0.2	<0.0001	0.002	12.4	0.028	<0.0001	0.003	0.002		2.4	0.0002	4.7	<0.0001	7.8	0.259	8.6	<0.00005	<0.001	<0.0005	0.0006
W16	05/07/2007	0.00003	34.8	<0.0005	0.0005	0.038	0.1	0.0004	0.002	12.6	0.03	<0.0001	0.003	0.002	<0.05	2.5	0.0002	4.73	0.0002	8.2	0.275	8.7	<0.00005	<0.001	0.0013	0.0006
W16	11/07/2007	0.00002	38.3	0.0007	0.0006	0.059	0.6	0.0002	0.002	13.5	0.055	<0.0001	0.003	0.0018	<0.05	2.8	0.0007	5.61	<0.0001	9	0.286	9.7	<0.00005	<0.001	0.0221	0.0007
W16	18/07/2007	0.00001	38.8	<0.0005	0.0003	0.031	0.1	<0.0001	0.002	14.2	0.049	<0.0001	0.004	0.0011		3	0.0006	5	<0.0001	10	0.34	10.1	<0.00005	<0.001	0.0019	0.0007
W16	25/07/2007	0.00002	39.1	<0.0005	0.0002	0.029	0.1	<0.0001	0.002	14.2	0.043	<0.0001	0.004	0.0007	<0.05	3.3	0.0006	4.74	<0.0001	10.2	0.319	10.2	<0.00005	<0.001	0.002	0.0007
W16	01/08/2007	0.00002	41.8	<0.0005	0.0004	0.028	0.2	0.0001	0.003	14.5	0.085	<0.0001	0.005	0.0018		3.4	0.0011	5.04	<0.0001	11.4	0.333	10.7	<0.00005	<0.001	0.0059	0.0009
W16	09/08/2007	0.00002	43.1	<0.0005	0.0008	0.031	0.1	0.0001	0.003	15.3	0.091	<0.0001	0.007	0.0017	<0.05	4.3	0.0009	4.95	<0.0001	13.1	0.389	11.6	<0.00005	<0.001	0.0026	0.001
W16	14/08/2007	0.00002	46.1	<0.0005	0.0003	0.031	0.1	<0.0001	0.004	15.4	0.091	<0.0001	0.008	0.0014	<0.05	4.5	0.001	4.7	<0.0001	13.7	0.406	12.2	<0.00005	<0.001	<0.0005	0.0011
W16	29/08/2007	0.00002	48.8	<0.0005	0.0003	0.033	0.1	<0.0001	0.004	16.2	0.123	<0.0001	0.011	0.0015	<0.05	6.7	0.0012	4.97	<0.0001	17.2	0.511	13.4	<0.00005	<0.001	0.003	0.0014

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W8A	29/10/2015 15:50	<0.0050	0.449	<0.00050	0.0132	<0.00050	0.00041	0.135	<0.00010	<0.0010	<0.05	0.000294	166	<0.0010	<0.00050	0.0808	0.319	<0.00020	<0.0050	44.5	2.23	<0.000010	0.0156	<0.0010	0.025	6.44
W8A	03/11/2015 13:50	<0.0050	0.323	<0.00050	0.0092	<0.00050	0.00052	0.132	<0.00010	<0.0010	<0.05	0.000189	205	<0.0010	<0.00050	0.0713	0.306	<0.00020	<0.0050	48.8	2.13	<0.000010	0.0155	0.0013	0.029	8.89
W8A	10/11/2015 16:30	<0.0050	0.615	<0.00050	0.0092	<0.00050	0.00037	0.118	<0.00010	<0.0010	<0.05	0.000402	189	<0.0010	0.00055	0.127	0.294	<0.00020	<0.0050	56.7	2.65	<0.000010	0.0167	0.0011	0.024	7.79
W8A	22/11/2015 16:00	<0.0050	1.27	<0.00050	0.0091	<0.00050	0.00044	0.132	<0.00010	<0.0010	<0.05	0.000273	189	<0.0010	0.00056	0.0791	0.254	<0.00020	<0.0050	53	2.79	<0.000010	0.0167	0.0012	0.028	6.91
W8A	28/11/2015 14:05																									
W8A	04/12/2015 11:25	<0.0050	0.606	<0.00050	0.036	<0.00050	0.00058	0.164	<0.00010	<0.0010	<0.05	0.000237	207	<0.0010	0.00064	0.0749	0.263	<0.00020	<0.0050	61.2	2.97	<0.000010	0.015	0.0014	0.019	7.76
W8A	10/12/2015 17:20	<0.0050	0.657	<0.00050	0.0106	<0.00050	0.00047	0.153	<0.00010	<0.0010	<0.05	0.000246	210	<0.0010	0.00063	0.0791	0.325	<0.00020	<0.0050	57.9	3.26	<0.000010	0.0154	0.0012	0.011	6.9
W8A	18/06/2016 16:15	0.00360	0.570	0.00033	0.0085	<0.00010	0.00051	0.131	<0.000020	<0.000050	0.026	0.000211	145	0.00033	0.00065	0.0736	0.347	<0.000050	0.0037	42.0	2.07	<0.0000050	0.0121	0.00093	<0.050	7.21
W8A	19/06/2016 16:15																									
W8A	26/06/2016 16:30	0.00293	0.382	0.00032	0.0230	<0.00010	0.00042	0.137	<0.000020	<0.000050	0.029	0.000260	166	0.00035	0.00065	0.0815	0.376	<0.000050	0.0039	47.6	2.32	<0.0000050	0.0140	0.00104	<0.050	7.14
W8A	02/07/2016 15:45	0.00250	0.637	<0.00030	0.0059	<0.00010	0.00035	0.126	<0.000020	<0.000050	0.031	0.000324	167	0.00035	0.00059	0.0769	0.248	<0.000050	0.0040	45.0	2.21	<0.0000050	0.0146	0.00108	<0.050	6.97
W8A	14/07/2016 16:25	0.00211	0.309	0.00032	0.0051	<0.00010	0.00033	0.128	<0.000020	<0.000050	0.030	0.000306	172	0.00034	0.00058	0.0818	0.318	0.000064	0.0046	47.4	1.83	<0.0000050	0.0149	0.00113	<0.050	6.83
W8A	19/07/2016 17:30	0.00377	0.495	0.00040	0.0071	<0.00010	0.00043	0.136	<0.000020	<0.000050	0.030	0.000277	176	0.00036	0.00070	0.0788	0.330	<0.000050	0.0039	49.7	2.25	<0.0000050	0.0134	0.00128	<0.050	6.91
W8A	30/07/2016 8:41	0.00194	0.297	<0.00030	0.0076	<0.00010	0.00064	0.119	0.000025	<0.000050	0.019	0.0000719	139	0.00031	0.00036	0.0772	0.211	<0.000050	0.0024	36.0	0.860		0.0118	0.00094	<0.050	5.76
W8A	07/08/2016 11:00	0.00209	0.159	<0.00030	0.0051	<0.00010	0.00052	0.142	<0.000020	<0.000050	0.024	0.000112	177	0.00023	0.00039	0.0547	0.153	<0.000050	0.0029	45.0	1.11	<0.0000050	0.0148	0.00084	<0.050	6.84
W8A	11/08/2016 15:05	0.00160	0.146	<0.00030	0.0067	<0.00010	0.00055	0.132	<0.000020	<0.000050	0.025	0.000132	169	0.00029	0.00043	0.0745	0.147	<0.000050	0.0035	43.4	1.23	<0.0000050	0.0130	0.00097	<0.050	6.59
W8A	17/08/2016 15:15	0.00443	0.432	0.00031	0.0071	<0.00010	0.00054	0.132	<0.000020	<0.000050	0.029	0.000154	169	0.00035	0.00046	0.0715	0.187	<0.000050	0.0040	47.2	1.49	<0.0000050	0.0140	0.00110	<0.050	6.93
W8A	25/08/2016 16:00	0.00151	0.178	<0.00030	0.0060	<0.00010	0.00049	0.140	<0.000020	<0.000050	0.030	0.000282	179	0.00033	0.00053	0.109	0.175	<0.000050	0.0041	49.2	1.70	<0.0000050	0.0143	0.00082	<0.050	7.85
W8A	04/09/2016 16:35	0.00227	0.218	<0.00030	0.0073	<0.00010	0.00055	0.144	<0.000020	<0.000050	0.028	0.0000808	166	0.00040	0.00046	0.0714	0.266	<0.000050	0.0039	44.8	1.46	<0.0000050	0.0123	0.00118	<0.050	6.60
W8A	09/09/2016 9:00	0.00139	0.124	<0.00030	0.0065	<0.00010	0.00051	0.112	<0.000020	<0.000050	0.025	0.000100	153	0.00030	0.00035	0.0623	0.244	<0.000050	0.0030	40.6	1.13	<0.0000050	0.0116	0.00085	<0.050	7.21
W8A	13/09/2016 8:22	0.00132	0.112	<0.00030	0.0064	<0.00010	0.00050	0.129	<0.000020	<0.000050	0.026	0.000210	159	0.00040	0.00053	0.0832	0.329	<0.000050	0.0036	44.6	1.77	<0.0000050	0.0115	0.00108	<0.050	6.42
W8A	19/09/2016 14:50	0.00349	0.362	0.00038	0.0070	<0.00010	0.00045	0.134	<0.000020	<0.000050	0.024	0.000134	152	0.00038	0.00049	0.0669	0.371	<0.000050	0.0031	40.3	1.61	<0.0000050	0.0118	0.00105	<0.050	6.20
W8A	28/09/2016 15:00	0.00158	0.152	0.00030	0.0065	<0.00010	0.00040	0.123	<0.000020	<0.000050	0.027	0.000205	155	0.00038	0.00057	0.0699	0.372	<0.000050	0.0037	40.3	1.84	<0.0000050	0.0110	0.00110	<0.050	6.74
W8A	03/10/2016 15:40	0.00201	0.322	0.00040	0.0070	<0.00010	0.00046	0.136	<0.000020	<0.000050	0.031	0.000213	175	0.00040	0.00070	0.0641	0.394	<0.000050	0.0032	46.3	2.26	<0.0000050	0.0111	0.00146	<0.050	7.58
W8A	11/10/2016 15:20	0.00241	0.274	0.00043	0.0061	<0.00010	0.00038	0.134	<0.000020	<0.000050	0.031	0.000310	184	0.00032	0.00063	0.0694	0.367	<0.000050	0.0042	51.3	2.32	<0.0000050	0.0126	0.00137	<0.050	7.51
W8A	17/10/2016 15:45	0.00258	0.242	0.00047	0.0055	<0.00010	0.00041	0.139	<0.000020	<0.000050	0.032	0.000300	185	0.00033	0.00070	0.0654	0.313	<0.000050	0.0040	51.8	2.48	<0.0000050	0.0125	0.00120	<0.050	7.60
W8A	24/10/2016 16:50	0.00339	0.288	0.00045	0.0056	0.00011	0.00040	0.141	<0.000020	<0.000050	0.031	0.000295	191	0.00042	0.00067	0.0736	0.257	<0.000050	0.0044	52.9	2.72	<0.0000050	0.0130	0.00130	<0.050	8.33
W8A	27/10/2016 16:21																									
W8A	27/10/2016 16:21	0.00231	0.160	0.00047	0.0054	0.00012	0.00042	0.127	<0.000020	<0.000050	0.032	0.000318	190	0.00047	0.00067	0.0671	0.341	<0.000050	0.0040	50.5	2.70	<0.0000050	0.0133	0.00128	<0.050	7.40
W8A	01/11/2016 15:50	0.00412	0.296	0.00059	0.0062	<0.00010	0.00041	0.149	<0.000020	<0.000050	0.032	0.000341	187	0.00049	0.00081	0.0657	0.295	<0.000050	0.0048	56.3	3.49	<0.0000050	0.0124	0.00128	<0.050	8.09
W8A	11/11/2016 9:45	0.00285	0.237	0.00057	0.0062	<0.00010	0.00044	0.159	<0.000020	<0.000050	0.029	0.000301	195	0.00054	0.00085	0.0612	0.357	<0.000050	0.0047	57.9	3.34	<0.0000050	0.0117	0.00160	<0.050	8.19
W8A	14/11/2016 11:11	0.00323	0.352	0.00065	0.0059	<0.00010	0.00045	0.160	<0.000020	<0.000050	0.032	0.000300	198	0.00052	0.00091	0.0594	0.413	<0.000050	0.0050	55.1	3.37	<0.0000050	0.0118	0.00161	<0.050	7.98
W8A	22/11/2016 14:45	0.00258	0.932	0.00062	0.0040	<0.00010	0.00044	0.163	<0.000020	<0.000050	0.036	0.000314	219	0.00048	0.00132	0.0473	0.139	<0.000050	0.0054	63.0	4.86	<0.0000050	0.0119	0.00240	<0.050	8.52
W8A	29/11/2016 14:05	0.00322	1.60	0.00065	0.0098	<0.00010	0.00045	0.163	<0.000020	<0.000050	0.036	0.000350	223	0.00054	0.00140	0.0554	0.545	<0.000050	0.0049	70.1	4.49	<0.0000050	0.0119	0.00177	<0.050	9.05
W8A	06/12/2016 15:15	0.00414	0.538	0.00072	0.0504	<0.00010	0.00044	0.167	<0.000020	<0.000050	0.032	0.000347	196	0.00051	0.00124	0.0608	0.470	<0.000050	0.0043	62.1	4.51	<0.0000050	0.0114	0.00190	<0.050	7.90
W8A	12/12/2016 15:45	0.00327	0.294	0.00078	0.0057	<0.00010	0.00050	0.191	<0.000020	<0.000050	0.034	0.000291	221	0.00068	0.00150	0.0611	0.463	<0.000050	0.0048	67.0	5.64	0.0000050	0.0102	0.00172	<0.050	9.06
W8A	20/12/2016 11:15	0.00360	0.313	0.00077	0.0107	<0.00010	0.00049	0.194	<0.000020	<0.000050	0.036	0.000265	226	0.00076	0.00147	0.0543	0.434	0.000063	0.0046	65.0	5.85	<0.0000050	0.00983	0.00214	<0.050	8.50
W8A	27/12/2016 16:15	0.00419	0.380	0.00085	0.0071	<0.00010	0.00056	0.229	<0.000020	<0.000050	0.034	0.000294	227	0.00085	0.00172	0.0457	0.379	<0.000050	0.0049	74.4	6.50	<0.0000050	0.00972	0.00199	<0.050	10.1
W16	22/11/2006	0.002	0.01	<0.002																						
W16	19/12/2006	0.0012	0.004	<0.001																						
W16	04/01/2007	0.0014	0.025	<0.001																						
W16	10/01/2007	0.0011	0.009	<0.001																						
W16	16/01/2007	0.004	0.008	<0.001																						
W16	30/01/2007	0.001	0.005	<0.001	<0.005	<0.0002	0.0012	0.14	<0.0001	<0.0005	0.007	0.00002	116	0.0032	0.0012	0.002	0.02	<0.0001	0.001	28.7	1.79	<0.0001	0.004	<0.0005		4.6
W16	07/02/2007	0.001	0.004	<0.001																						
W16	15/02/2007	0.0009	0.003	<0.001																						
W16	22/02/2007	0.002	0.01	<0.002																						
W16	02/03/2007	0.0173	0.033	0.002																					<0.05	
W16	23/03/2007	0.0202	0.029	0.003																						
W16	17/04/2007	0.0057	0.009	0.001																						
W16	11/05/2007	0.0068	0.02	0.002	0.072	<0.0002	0.0007	0.056	<0.0001	<0.0005	0.022	0.00002	29.2	0.0013	0.0009	0.045	0.27	<0.0001	0.002	10.1	0.114	<0.0001	0.003	0.0015		2.1
W16	19/05/2007	0.005	0.02	<0.002	0.068	<0.0002	0.0006	0.057	<0.0001	<0.0005	0.02	0.00004	31.3	0.001	0.0006	0.05	0.22	0.0001	0.002	10.7	0.131	<0.0001	0.003	0.0012		2
W16	30/05/2007	0.0022	0.015	<0.001																						
W16	13/06/2007	0.0011	0.006	<0.001	0.037	<0.0002	0.0005	0.056	<0.0001	<0.0005	0.019	0.00003	33.8	0.0006	0.0005	0.043	0.14	<0.0001	0.002	11.6	0.079	<0.0001	0.003	0.0009		2.4
W16	20/06/2007	0.0015	0.007	<0.001																						
W16	27/06/2007	0.001	0.007	<0.001																						
W16	04/07/2007	0.0011	0.005	<0.001																						
W16	05/07/2007	0.0011	0.011	<0.001																						
W16	11/07/2007	0.0021	0.012	<0.001	0.022	<0.0002	0.0007	0.066	<0.0001	<0.0005	0.02	0.00002	37.1	<0.0005	0.0004	0.034	0.09	<0.0001	0.002	13	0.036	<0.0001	0.004	0.0011		2.5
W16	18/07/2007	0.0008	0.005	<0.001																						
W16	25/07/2007	0.0009	0.005	<0.001																						
W16	01/08/2007	0.0017	0.006	<0.001																						
W16	09/08/2007	0.0011	0.006	<0.001																						
W16	14/08/2007	0.0012	0.01	<0.001																						
W16	29/08/2007	0.0011	0.013	<0.001																						

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	BOD5	Br	Cation	COD	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-T	N-TKN	P-PO4T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L
W8A	29/10/2015 15:50	0.00957	7.35	<0.000020	37.4	2.29	93.4	<0.000050	<0.0050	<0.0050	0.00248	<0.0050	0.309	<0.00050	443	<0.50	<0.50	<0.50														
W8A	03/11/2015 13:50	0.00998	9.29	0.000044	41.5	2.25	107	<0.000050	<0.0050	<0.0050	0.00267	<0.0050	0.492	<0.00050	453	<0.50	<0.50	<0.50														
W8A	10/11/2015 16:30	0.0116	7.59	0.00003	43.8	2.48	119	<0.000050	<0.0050	<0.0050	0.00261	<0.0050	0.174	<0.00050	463	<0.50	<0.50	<0.50														
W8A	22/11/2015 16:00	0.00866	8.6	0.000022	42.6	2.52	102	<0.000050	<0.0050	<0.0050	0.00296	<0.0050	0.885	<0.00050	485	<0.50	<0.50	<0.50														
W8A	28/11/2015 14:05																															
W8A	04/12/2015 11:25	0.00871	7.41	<0.000020	46.7	2.74	105	<0.000050	<0.0050	<0.0050	0.00336	<0.0050	0.456	<0.00050	548	<0.50	<0.50	<0.50														
W8A	10/12/2015 17:20	0.007	9.54	<0.000020	42.4	2.62	105	<0.000050	<0.0050	<0.0050	0.00305	<0.0050	0.512	<0.00050	621	<0.50	<0.50	<0.50														
W8A	18/06/2016 16:15	0.00801	6.88	<0.000010	36.1	1.86	74.5	<0.000010	<0.00010	0.00052	0.00219	0.00073	0.394	0.00036	336	<1.0	<1.0		11.7			12.6							3.8			
W8A	19/06/2016 16:15																															
W8A	26/06/2016 16:30	0.00988	6.90	<0.000010	39.9	2.01	95.6	<0.000010	<0.00010	0.00150	0.00218	0.00080	0.285	0.00030	359	<1.0	<1.0		13.6			14.3							2.5			
W8A	02/07/2016 15:45	0.00978	6.52	<0.000010	36.3	2.03	89.8	<0.000010	<0.00010	0.00044	0.00222	0.00052	0.461	<0.00030	343	<1.0	<1.0		13.4			13.9							1.8			
W8A	14/07/2016 16:25	0.00882	6.80	<0.000010	37.3	2.17	96.2	<0.000010	<0.00010	0.00032	0.00242	0.00059	0.239	0.00033	341	<1.0	<1.0		13.7			14.4							2.5			
W8A	19/07/2016 17:30	0.0107	7.04	<0.000010	40.5	2.21	97.7	<0.000010	<0.00010	0.00052	0.00251	0.00081	0.335	0.00036	341	<1.0	<1.0		14.0			14.9							3.4			
W8A	30/07/2016 8:41	0.0122	7.24	0.000011	31.5	1.57	74.0	<0.000010	<0.00010	0.00036	0.00166	0.00076	0.191	<0.00030	277	<1.0	<1.0		10.9	<2.0		11.5	50					19.4	2.5	9.79	1.28	
W8A	07/08/2016 11:00	0.0155	6.92	<0.000010	38.7	2.02	117	<0.000010	<0.00010	<0.00030	0.00230	0.00067	0.0959	<0.00030	281	<1.0	<1.0		13.6			14.5							3.1			
W8A	11/08/2016 15:05	0.0130	7.35	0.000012	36.1	1.88	96.4	<0.000010	<0.00010	0.00037	0.00212	0.00071	0.0861	<0.00030	298	<1.0	<1.0		12.9			13.8							3.5			
W8A	17/08/2016 15:15	0.0134	7.20	0.000011	38.9	2.08	103	<0.000010	<0.00010	0.00045	0.00239	0.00079	0.167	<0.00030	346	<1.0	<1.0		14.1			14.3							0.6			
W8A	25/08/2016 16:00	0.0146	6.76	<0.000010	41.2	2.25	112	<0.000010	<0.00010	0.00039	0.00253	0.00076	0.146	<0.00030	323	<1.0	<1.0		14.6			15.1							1.5			
W8A	04/09/2016 16:35	0.0122	7.72	0.000011	41.2	2.04	92.9	<0.000010	<0.00010	0.00050	0.00232	0.00094	0.117	<0.00030	351	<1.0	<1.0		13.7			14.0							1.2			
W8A	09/09/2016 9:00	0.0100	7.37	0.000010	32.8	1.84	83.5	<0.000010	<0.00010	0.00046	0.00215	0.00080	0.0709	<0.00030	336	<1.0	<1.0		12.7			12.6							-0.4			
W8A	13/09/2016 8:22	0.0109	7.26	0.000011	36.6	2.09	84.6	<0.000010	<0.00010	0.00044	0.00231	0.00099	0.0965	0.00034	358	<1.0	<1.0		13.2			13.4							1.1			
W8A	19/09/2016 14:50	0.00820	7.17	<0.000010	34.9	1.99	79.9	<0.000010	<0.00010	0.00046	0.00248	0.00096	0.130	0.00033	364	<1.0	<1.0		13.0			12.7							-1.2			
W8A	28/09/2016 15:00	0.00977	7.56	<0.000010	37.9	2.03	93.4	<0.000010	<0.00010	0.00041	0.00249	0.00090	0.133	0.00032	387	<1.0	<1.0		13.8			13.0							-3.1			
W8A	03/10/2016 15:40	0.00934	8.26	<0.000010	40.6	2.28	100	<0.000010	<0.00010	0.00050	0.00283	0.00081	0.246	0.00039	406	<1.0	<1.0		14.2			14.6							1.6			
W8A	11/10/2016 15:20	0.0120	7.11	<0.000010	41.0	2.55	112	<0.000010	<0.00010	0.00046	0.00305	0.00072	0.184	0.00038	390	<1.0	<1.0		15.5			15.5							-0.1			
W8A	17/10/2016 15:45	0.0110	7.31	<0.000010	42.4	2.58	113	<0.000010	<0.00010	0.00035	0.00323	0.00094	0.161	0.00040	398	<1.0	<1.0		16.3			15.7							-1.9			
W8A	24/10/2016 16:50	0.0126	7.23	<0.000010	44.1	2.62	125	<0.000010	<0.00010	0.00047	0.00330	0.00080	0.176	0.00040	406	<1.0	<1.0		16.4			16.2							-0.9			
W8A	27/10/2016 16:21																															
W8A	27/10/2016 16:21	0.0117	7.24	<0.000010	41.9	2.59	119	<0.000010	<0.00010	0.00044	0.00331	0.00104	0.102	0.00044	432	<1.0	<1.0		16.6			15.8							-2.6			
W8A	01/11/2016 15:50	0.0107	7.55	<0.000010	43.5	2.71	110	<0.000010	<0.00010	0.00050	0.00347	0.00093	0.143	0.00052	481	<1.0	<1.0		17.3			16.3							-3.2			
W8A	11/11/2016 9:45	0.0101	7.85	0.000011	46.9	2.79	116	<0.000010	<0.00010	0.00049	0.00363	0.00098	0.175	0.00054	491	<1.0	<1.0		17.4			16.9							-1.5			
W8A	14/11/2016 11:11	0.0108	8.00	0.000011	46.5	2.83	111	<0.000010	<0.00010	0.00050	0.00399	0.00102	0.245	0.00059	534	<1.0	<1.0		18.0			16.8							-3.5			
W8A	22/11/2016 14:45	0.00832	7.84	<0.000010	48.1	3.17	111	<0.000010	<0.00010	0.00048	0.00376	0.00067	0.875	0.00059	550	<1.0	<1.0		18.0			18.7							1.7			
W8A	29/11/2016 14:05	0.00857	8.42	0.000014	52.8	3.08	127	<0.000010	<0.00010	0.00054	0.00377	0.00107	1.41	0.00062	590	<1.0	<1.0		18.3			19.7							3.6			
W8A	06/12/2016 15:15	0.00659	8.07	0.000012	49.5	2.93	104	<0.000010	<0.00010	0.00057	0.00384	0.00100	0.329	0.00064	584	<1.0	<1.0		18.7			17.5							-3.3			
W8A	12/12/2016 15:45	0.00631	8.32	0.000011	51.0	3.19	99.8	<0.000010	<0.00010	0.00065	0.00384	0.00154	0.225	0.00077	627	<1.0	<1.0		19.1			19.2							0.3			
W8A	20/12/2016 11:15	0.00490	8.49	0.000011	51.7	3.19	92.6	<0.000010	<0.00010	0.00076	0.00395	0.00149	0.241	0.00081	672	<1.0	<1.0		19.5			19.4							-0.3			
W8A	27/12/2016 16:15	0.00473	8.72	<0.000010	59.4	3.19	97.0	<0.000010	<0.00010	0.00074	0.00358	0.00154	0.333	0.00077	619	<1.0	<1.0		18.8			20.6							4.4			
W16	22/11/2006														408	<6	<5															
W16	19/12/2006														467	<6	<5															
W16	04/01/2007														469	<6	<5														1	0.06
W16	10/01/2007														414	16	<5														0.53	0.07
W16	16/01/2007														472	<6	<5															
W16	30/01/2007	<0.0002	7.88	High DL removed	14.6	0.492	18.4	<0.00005	<0.001	0.002	0.0054	0.0056	0.001		452	<6	<5							13			83.3	8.1				0.022
W16	07/02/2007														440	<5	<5							13							0.5	0.09
W16	15/02/2007														444	<6	<5															
W16	22/02/2007														710	<5	<5							100								0.211
W16	02/03/2007														450	<6	<5							15								0.12
W16	23/03/2007														415	<6	<5							16								
W16	17/04/2007														225	<6	<5							50								
W16	11/05/2007	<0.0002	4.66	High DL removed	5.9	0.238	8.1	<0.00005	<0.001	0.0065	<0.0005	0.0034	0.008		89	<6	<5							>60							1.71	0.04
W16	19/05/2007	<0.0002	4.48	High DL removed	5.7	0.225	7.3	<0.00005	<0.001	0.006	0.0005	0.0024	0.012		90	<6	<5							150							1.03	0.05
W16	30/05/2007														96	<6	<5							220							2.97	0.03
W16	13/06/2007	<0.0002	4.59	High DL removed	7.4	0.237	8.3	<0.00005	<0.001	0.0032	0.0005	0.0013	0.004		100	<6	<5							50							2.1	0.03
W16	20/06/2007														100	7	<5							160							1.19	0.03
W16	27/06/2007																															
W16	04/07/2007																															
W16	05/07/2007														140	<6	<5							80							1.66	0.02
W16	11/07/2007	0.0004	4.84	High DL removed	8.7	0.286	9.4	<0.00005	<0.001	0.0025	0.0006	0.0012	0.008		148	<6	<5							120							1.44	0.03
W16	18/07/2007														156	<6	<5							120							1.63	0.06
W16	25/07/2007														167	<6	<5							100							1.34	0.06
W16	01/08/2007																															
W16	09/08/2007														185	<6	<5							90							1.27	0.04
W16	14/08/2007														196	<6	<5							80							1.15	0.02
W16	29/08/2007														217	<6	<5							80							1.6	0.05

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	P-TDP	P-TRP	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		mg/L	mg/L	Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W8A	29/10/2015 15:50					1252			
W8A	03/11/2015 13:50					1300			
W8A	10/11/2015 16:30					1324			
W8A	22/11/2015 16:00					1485			
W8A	28/11/2015 14:05					1426			
W8A	04/12/2015 11:25					1436			
W8A	10/12/2015 17:20					1406			
W8A	18/06/2016 16:15								
W8A	19/06/2016 16:15					1066			
W8A	26/06/2016 16:30					1170			
W8A	02/07/2016 15:45					1140			
W8A	14/07/2016 16:25					1177			
W8A	19/07/2016 17:30					1270			
W8A	30/07/2016 8:41					771.1			
W8A	07/08/2016 11:00					1137			
W8A	11/08/2016 15:05					1171			
W8A	17/08/2016 15:15								
W8A	25/08/2016 16:00					1217			
W8A	04/09/2016 16:35					1269			
W8A	09/09/2016 9:00					1090			
W8A	13/09/2016 8:22					1097			
W8A	19/09/2016 14:50					1076			
W8A	28/09/2016 15:00					1121			
W8A	03/10/2016 15:40					1244			
W8A	11/10/2016 15:20					1256			
W8A	17/10/2016 15:45					1344			
W8A	24/10/2016 16:50					1412			
W8A	27/10/2016 16:21					1427			
W8A	27/10/2016 16:21								
W8A	01/11/2016 15:50					1443			
W8A	11/11/2016 9:45					1370			
W8A	14/11/2016 11:11					1431			
W8A	22/11/2016 14:45					1454			
W8A	29/11/2016 14:05								
W8A	06/12/2016 15:15					1438			
W8A	12/12/2016 15:45					1549			
W8A	20/12/2016 11:15					1668			
W8A	27/12/2016 16:15					1509			
W16	22/11/2006							1.8	
W16	19/12/2006								
W16	04/01/2007								
W16	10/01/2007								
W16	16/01/2007								
W16	30/01/2007	0.03						1.3	
W16	07/02/2007	<0.02						0.8	
W16	15/02/2007								
W16	22/02/2007	0.06						4.1	
W16	02/03/2007							70.6	
W16	23/03/2007							78	
W16	17/04/2007	0.03						18	
W16	11/05/2007	0.02						16	
W16	19/05/2007	0.03						13	
W16	30/05/2007							9.1	
W16	13/06/2007	<0.02						2.6	
W16	20/06/2007	<0.02						1.8	
W16	27/06/2007								
W16	04/07/2007								
W16	05/07/2007	<0.02						1.5	
W16	11/07/2007	<0.02						0.8	
W16	18/07/2007	<0.02	0.04					<0.1	
W16	25/07/2007	<0.02						0.6	
W16	01/08/2007								
W16	09/08/2007	0.02						0.5	
W16	14/08/2007	<0.02						0.5	
W16	29/08/2007	<0.02						1.2	

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T	B-T
			mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W16	06/09/2007	P	<2	322		8		411					195		188	2.2		41	0.69	0.46	7.4		0.103	<0.0002	0.0007	0.091	<0.0001	<0.0005	0.052
W16	11/09/2007	P	<2	316		7.87		401					189		174	2.32		39.9	0.74	0.53	8.51		0.137	<0.0002	0.0008	0.095	<0.0001	<0.0005	0.051
W16	18/09/2007	P	19	304		7.9		445					180		179	2.38		39.7	0.6	0.47	7.47		0.151	<0.0002	0.0007	0.094	<0.0001	<0.0005	0.044
W16	25/09/2007	P	<2	320		7.86		409					182		163	2.42		40.2	0.77	0.48	8.33		0.123	<0.0002	0.0006	0.094	<0.0001	<0.0005	0.047
W16	03/10/2007	P	14	320		7.94		439					191		162	2.56		41.5	0.55	0.41	8.96		0.125	<0.0002	0.0007	0.104	<0.0001	<0.0005	0.052
W16	11/10/2007	P	<2	306		8		462					189		162	2.51		40		0.36	6.8		0.126	<0.0002	0.0007	0.103	<0.0001	<0.0005	0.044
W16	17/10/2007	P	<2	298		7.91		444					194		160	2.61			0.65	0.34	6.8		0.142	<0.0002	0.0006	0.101	<0.0001	<0.0005	0.049
W16	22/10/2007	P	8	322		7.96		462					195		162	2.5		40.4	0.63	0.3	8.73		0.093	<0.0002	0.0007	0.102	<0.0001	<0.0005	0.045
W16	30/10/2007	P	<2	322		7.89		470					202		168	2.72		38.8	0.57	8.62	0.26		0.073	<0.0002	0.0006	0.101	<0.0001	<0.0005	0.045
W16	08/11/2007	P	4	352		7.56		492					204		177	3.37		40.7	0.61	0.35	9.11		0.114	0.0002	0.0005	0.105	<0.0001	<0.0005	0.05
W16	13/11/2007	P	4	364		8.16		497					208		182	3.42		43	0.64	0.27	9.11		0.404	<0.0002	0.0008	0.106	<0.0001	<0.0005	0.042
W16	20/11/2007	P	3	374		7.83		510						219	184	2.96			0.52	0.17	8		0.128	<0.0002	0.0007	0.108	<0.0001	<0.0005	0.049
W16	27/11/2007	P	2	368		7.9		477					214		182	3.74		40.7	0.54	0.25	7.7		0.067	<0.0002	0.0006	0.107	<0.0001	<0.0005	0.048
W16	11/12/2007	P	2	380		7.74		536					218		189	3.88		44.5	0.63	0.27	9.85		0.053	<0.0002	0.0007	0.112	<0.0001	<0.0005	0.052
W16	18/12/2007	P	<2	412		7.94		465						234	192	3.77		49.7		0.35	8.6		0.047	0.0003	0.001	0.11	<0.0001	<0.0005	0.048
W16	18/12/2007	P																	0.44										
W16	26/12/2007	P	<5	378		7.64		491					221		203	3.63		43.7	0.64	0.34	9.75		0.043	<0.0002	0.0007	0.105	<0.0001	<0.0005	0.049
W16	09/01/2008	P	<2	390		7.66		521					241		203	4.41		48	0.61	0.4	9.14		0.046	0.0002	0.0007	0.125	<0.0001	<0.0005	0.054
W16	16/01/2008	P	<5	394		7.58		547					236		208	4.31		47.1	0.6	0.52	9.27		0.034	<0.0002	0.0004	0.112	<0.0001	<0.0005	0.052
W16	22/01/2008	P	<2	412		7.65		570					247		208	4.83		51.8	0.67	0.52	8.69		0.029	<0.0002	0.0008	0.115	<0.0001	<0.0005	0.052
W16	13/02/2008	P	3	398		7.67		591					248		215	4.98		53.1	0.73	0.61	8.53		0.072	<0.0002	0.0006	0.115	<0.0001	<0.0005	0.052
W16	14/03/2008	P	<2	400		7.77		540							218	5.3		56	0.75	0.39	7.28		0.09	0.0004	0.0006	0.116	<0.0001	<0.0005	0.057
W16	20/03/2008	P											230						0.83	0.15	7.02		0.23	<0.0002	0.0009	0.108	<0.00004		0.049
W16	26/03/2008	P											237						1.09				0.05	<0.0002	0.0006	0.106	<0		0.057
W16	26/03/2008	P	<5	380		7.63		560					230		208	5.77		65.4	0.93	0.46	8.17		0.03	<0.0002	0.0007	0.105	<0		0.053
W16	10/04/2008	P																											
W16	17/04/2008	P											217						0.243				0.625	0.0003	0.0007	0.126	<0.0001	<0.0005	0.063
W16	22/04/2008	P																	0.79				0.2	<0.001	0.005	0.04	<0.0002		<0.02
W16	03/05/2008	P												30															
W16	04/05/2008	P	8	102		7.19		76							27	0.71		7	0.12	0.05	0.51		0.39	<0.0002	0.0002	0.029	<0.00004		<0.005
W16	05/05/2008	P	18	176		7.18		132							46	1.28		13.8	0.12	0.08	0.71		0.48	<0.0002	0.0004	0.04	<0.00004		<0.005
W16	07/05/2008	P											59										0.55	<0.0002	<0.0002	0.045	0.00005		0.01
W16	08/05/2008	P	12	126		7.07		134					51	63	44	1.27		13.8	0.11	0.07	0.71		0.43	<0.0002	<0.0002	0.038	0.00004		0.009
W16	09/05/2008	P	12	224		7.02		187						74	60	1.98		20.6		0.09	0.94		0.95	<0.0002	0.0011	0.058	<0.00004		0.014
W16	11/05/2008	P	16	230		7.08		189						74	60	1.87		21.8		0.08	0.95		0.84	<0.0002	0.001	0.056	0.00005		0.014
W16	13/05/2008	P	12	188		7.28		178						50	59	1.78		22.4	<0.05	0.08	0.96		0.59	<0.0002	0.0022	0.055	<0.00004		0.015
W16	15/05/2008	P	10	170		7.22		178						65	56	1.61		21.6	0.032	0.08	0.86		0.31	<0.0002	<0.0002	0.05	<0.00004		0.01
W16	18/05/2008	P	8	210		7.24		212						75	67	2.07		26.5	0.056	0.1	1.02		0.35	<0.0002	0.0012	0.056	<0.00004		0.013
W16	20/05/2008	P	16	236		7.41		216						75	68	2.11		27	<0.05	0.09	1.03		0.39	<0.0002	0.0002	0.057	<0.00004		0.012
W16	27/05/2008	P	7	222		7.38		207						88	71	2.27		27.5	0.11	0.09	1.28		0.04	<0.0002	0.0003	0.05	<0.00004		0.016
W16	29/05/2008	P	8	230		7.64		234						90	72	2.43		32	0.22	0.13	1.88		0.04	<0.0002	<0.0002	0.051	0.00005		0.019
W16	05/06/2008	P	4	254		7.7		246					103		76	2.46		39.3	0.3	0.16	2.05		<0.01	<0.0002	0.002	0.058	<0.00004		0.02
W16	11/06/2008	P	<2	222		7.59		249							78	2.63		44.3	0.34	0.28	1.99		<0.01	<0.0002	0.0003	0.06	<0.00004		0.023
W16	17/06/2008	P	3	246		7.6		273							80	2.55		43.8	0.38	0.25	1.82		0.08	<0.0002	0.0009	0.057	<0.00004		0.022
W16	25/06/2008	P	<2	342		7.69		286							87	2.78		46.1	0.38	0.32	1.32		0.09	<0.0002	<0.0002	0.061	<0.00004		0.023
W16	26/06/2008	P																		0.28	1.23		0.07	<0.0002	0.0009	0.056	<0.00004		0.023
W16	03/07/2008	P	<2	272		7.71		299						120	94	2.86		50.3	0.34	0.31	0.82		0.084	<0.0002	0.0007	0.07	<0.0001	<0.0005	0.023
W16	08/07/2008	P	<2	302		7.77		300							96	2.88		48.2	0.29	0.27	0.66		0.06	<0.0002	0.0007	0.064	<0.00004		0.021
W16	09/07/2008	P																		0.163	0.6		0.128	<0.0002	0.0004	0.071	<0.0001	<0.0005	0.037
W16	22/07/2008	P	4	284		7.7		307						125	83	2.85		50.4	0.33	0.11	0.22		0.107	<0.0002	0.0005	0.074	<0.0001	<0.0005	0.028
W16	23/08/2008	P	<2	264		7.8		327							134	2.72		47.5		<0.01	0.03		0.083	<0.0002	0.0005	0.076	<0.00004		0.022
W16	25/08/2008	P	4	272		7.76		348							131	2.66		44.9	0.53	<0.01	0.03	26.7	0.24	<0.0002	0.0008	0.075	<0.00004		0.021
W16	18/09/2008	P	33	300		7.47		419							184	3.72		31.7	0.46	<0.01	0.01	27.6	1.15	<0.0002	0.0012	0.104	0.00007	<0.0001	0.022
W16	08/10/2008	P	12	308		7.9		424							138	2.64		73.8	0.94	0.18	5.22	18.3	0.645	0.0003	0.0009	0.081	<0.00004	<0.0001	0.03
W16	17/10/2008	P	10	362		7.81		450							140	2.58		74.8	0.72	0.2	5.05		0.497	<0.0002	0.0009	0.089	<0.00004	<0.0001	0.038
W16	18/11/2008	P	57	436	8.47	7.84	581	571	7.6						172	6.6		80.9	0.49				3.71	0.0003	0.0007	0.154	<0.0001	<0.0005	0.051
W16	10/12/2008	P	15	446	7.79	7.87	611	606	9.1						168	5.28		105	0.7				0.27	0.0002	0.0008	0.102	<0.00004	<0.0001	0.037
W16	17/12/2008	P	8	192		7.59		466						199	148	2.78		78	0.76				0.301	0.0004	0.0009	0.096	<0.0001	<0.0005	0.031
W16	17/01/2009	P	4	364	6.64	7.7	339	497	0.1					203	143	3.27		76		<0.005	4.81		0.158	0.0003	0.0008	0.083	<0.0001	<0.0005	0.034
W16	18/01/2009	P			7.7		606																						
W16	31/03/2009	P			7.8		575		0.3		77			232									0.046	<0.0002	0.0007	0.095	<0.00004	<0.0001	0.038
W16	21/04/2009	P	<5	140	8.1	7.52	504	194	3.8						62	1.22		23.4					0.225	<0.0002	0.0003	0.044	<0.00004	<0.0001	0.009
W16	05/05/2009	P	10	36		6.74		36						24	11	0.4		2.1					0.218	<0.0002	<0.0002	0.015	<0.00004	<0.0001	<0.005
W16	20/06/2009	P			7.71		328		14.8																				
W16	22/06/2009	P	4	274		7.93		396						163	131	2.92		45.3					0.125	<0.0002	0.0004	0.073	0.00004	<0.0001	0.024

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W16	06/09/2007	0.00002	51.7	0.0005	0.0004	0.032	0.1	<0.0001	0.005	16	0.137	<0.0001	0.012	0.0018	<0.05	6.6	0.0014	5.11	<0.0001	16.4	0.54	13.7	<0.00005	<0.001	<0.0005	0.0014
W16	11/09/2007	0.00003	50.4	0.0007	0.0004	0.031	0.2	<0.0001	0.004	15.4	0.15	<0.0001	0.012	0.0024	<0.05	7.6	0.0015	5.26	<0.0001	17.5	0.51	14.2	<0.00005	<0.001	0.0051	0.0013
W16	18/09/2007	0.00002	47	0.0006	0.0004	0.03	0.2	<0.0001	0.005	15.2	0.144	<0.0001	0.012	0.0009	0.13	7.6	0.0018	5.18	<0.0001	17.4	0.516	13.5	<0.00005	<0.001	0.0059	0.0012
W16	25/09/2007	0.00003	47.4	<0.0005	0.0003	0.034	0.2	0.0001	0.004	15.4	0.148	<0.0001	0.012	0.0016	<0.05	7	0.0017	3.56	<0.0001	16.4	0.561	13.1	<0.00005	<0.001	0.005	0.0013
W16	03/10/2007	0.00005	50.4	0.0016	0.0003	0.036	0.2	0.0001	<0.001	15.9	0.14	<0.0001	0.012	0.002	0.18	6.8	0.0013	5.24	<0.0001	16.7	0.568	13.6	<0.00005	<0.001	0.0062	0.0014
W16	11/10/2007	0.00002	49.9	0.0007	0.0004	0.032	0.2	0.0002	0.004	15.6	0.127	<0.0001	0.011	0.0015	<0.05	6.5	0.0018	5.02	<0.0001	16.7	0.577	13.3	<0.00005	<0.001	<0.0005	0.0015
W16	17/10/2007	0.00002	51.2	0.0006	0.0004	0.029	0.2	<0.0001	0.004	16	0.115	<0.0001	0.012	0.0015		6.6	0.0021	5.12	<0.0001	16.4	0.549	13.4	<0.00005	<0.001	0.0022	0.0015
W16	22/10/2007	0.00002	51.6	<0.0005	0.0002	0.03	0.2	<0.0001	0.004	16	0.107	<0.0001	0.011	<0.0005	0.07	6.4	0.0014	5.18	<0.0001	16.6	0.576	13.6	<0.00005	<0.001	0.0045	0.0016
W16	30/10/2007	0.00004	53.4	0.0005	0.0002	0.026	0.1	<0.0001	0.004	16.6	0.098	<0.0001	0.011	0.0008		6.6	0.0014	5.2	<0.0001	16.9	0.607	13.8	<0.00005	<0.001	0.0037	0.0016
W16	08/11/2007	0.00004	54	0.0008	0.0004	0.035	0.2	0.0004	0.004	16.7	0.106	<0.0001	0.012	0.0018	0.02	8.8	0.0017	4.79	<0.0001	19.3	0.645	15.2	<0.00005	<0.001	0.006	0.0017
W16	13/11/2007	0.00005	55.8	0.0009	0.0004	0.044	0.6	0.0004	0.004	16.8	0.115	<0.0001	0.012	0.0008	<0.05	7.8	0.0013	6.27	<0.0001	18.4	0.576	14.6	<0.00005	<0.001	0.0324	0.0016
W16	20/11/2007	0.00004	55.8	0.0009	0.0003	0.032	0.2	0.0006	0.004	17.3	0.108	<0.0001	0.012	<0.0005		8	0.0017	5.69	<0.0001	18.3	0.574	14.8	<0.00005	<0.001	0.0019	0.0018
W16	27/11/2007	0.00003	56.8	0.0013	0.0003	0.028	0.5	0.0001	0.004	17.6	0.11	<0.0001	0.012	0.0014	<0.05	8	0.0012	5.48	<0.0001	18.7	0.589	15.1	<0.00005	<0.001	0.0034	0.0018
W16	11/12/2007	0.00004	57.5	0.0006	0.0003	0.031	0.1	<0.0001	0.005	18.1	0.109	<0.0001	0.014	0.0018	0.09	9.9	0.0021	5.46	<0.0001	20.8	0.598	16.1	<0.00005	<0.001	0.0038	0.002
W16	18/12/2007	0.00009	57.4	0.0008	0.0003	0.032	0.1	0.0002	0.004	18.8	0.12	<0.0001	0.014	0.002	<0.05	8.6	0.0018	5.55	<0.0001	21	0.645	17.4	<0.00005	<0.001	0.003	0.0022
W16	18/12/2007																									
W16	26/12/2007	0.00003	59.2	0.0006	0.0003	0.04	0.1	0.0001	0.005	17.8	0.114	<0.0001	0.013	0.0017	<0.05	8.1	0.0014	5.45	<0.0001	19.5	0.677	16.3	<0.00005	<0.001	0.003	0.0021
W16	09/01/2008	0.00007	64.2	0.0013	0.0004	0.053	0.2	0.0024	0.005	19.5	0.152	0.0001	0.016	0.0026	<0.05	9	0.0026	5.85	<0.0001	21.2	0.718	17.8	<0.00005	<0.001	0.003	0.0026
W16	16/01/2008	0.00002	63.3	<0.0005	0.0004	0.029	<0.1	<0.0001	0.004	18.9	0.153	<0.0001	0.015	0.0019	<0.05	9	0.0022	5.84	<0.0001	21.3	0.653	17.8	<0.00005	<0.001	0.0023	0.0024
W16	22/01/2008	0.00004	66.4	<0.0005	0.0004	0.028	<0.1	0.0002	0.004	19.7	0.213	<0.0001	0.017	0.0021	<0.05	9.8	0.0029	5.78	<0.0001	22.7	0.686	18.8	<0.00005	<0.001	<0.0005	0.0024
W16	13/02/2008	0.00003	66.8	0.0012	0.0004	0.077	0.2	0.0004	0.005	19.8	0.256	<0.0001	0.019	0.0025	<0.05	10.9	0.0029	5.78	0.00003	24	0.719	20.2	<0.00005	<0.001	0.0043	0.0024
W16	14/03/2008	0.00003	63.8	0.0014	0.0004	0.053	0.2	0.0003	0.006	18.9	0.284		0.019	0.0025	<0.05	11.5	0.0032	5.52	0.00002	25.7	0.687	20.6	<0.00005	<0.001	0.0048	0.0022
W16	20/03/2008	High DL removed	62.3	0.006	0.00051	0.021	0.36	0.0002	0.005	18.1	0.299	<0.00001	0.0216	0.005	0.09	13.6	0.0056	5.2	High DL removed	27.2	0.7		<0.00001	<0.004	0.0093	0.0022
W16	26/03/2008	High DL removed	63.3	0.0014	0.00032	0.022	0.15	<0.0001	0.005	19.2	0.33	<0.0001	0.0268	0.003	<0.05	15	0.0058	2.69	<0.0001	31	0.79		<0.00001	<0.0001	0.0016	0.0018
W16	26/03/2008	High DL removed	62	0.0025	0.00036	0.019	0.12	0.0001	0.005	18.1	0.314	0.0001	0.0228	0.003	<0.05	13.6	0.0063	2.68	<0.0001	28.5	0.68		<0.00001	<0.0001	0.0012	0.0018
W16	10/04/2008																									
W16	17/04/2008	0.00009	57.6	0.001	0.0012	0.047	0.7	0.0005	0.006	17.8	0.489	<0.0001	0.031	0.0029	<0.05	26	0.0039	5.96	0.00004	37.8	0.755	25.9	<0.00005	<0.001	0.0425	0.002
W16	22/04/2008	High DL removed	28.9	High DL removed	0.0004	0.052	0.38	High DL removed	<0.005	8.36	0.117	0.00002	0.0121	High DL removed	<0.05	7.73	0.004	1	<0.0001	12.6	0.55		<0.00005	<0.0005	0.011	<0.002
W16	03/05/2008																									
W16	04/05/2008	High DL removed	6.65	<0.0005	0.00038	0.043	0.64	0.0004	<0.001	1.75	0.0526	<0.00001	0.00171	0.006	0.06	1.6	<0.0006	1.11	<0.0001	2.2	0.076		<0.00001	<0.0001	0.0344	<0.0005
W16	05/05/2008	High DL removed	14.3	0.0007	0.00057	0.082	1.08	0.0002	<0.001	3.87	0.113	0.00001	0.00378	0.01	0.1	3.74	<0.0006	1.67	<0.0001	6	0.152		<0.00001	<0.0001	0.0231	<0.0005
W16	07/05/2008	High DL removed	16.5	0.0005	0.00057	0.088	1.16	0.0003	<0.001	4.44	0.134	0.00001	0.00424	0.01	0.07	4.52	<0.0006	1.8	<0.0001	7.2	0.177		<0.00001	<0.0001	0.0275	<0.0005
W16	08/05/2008	High DL removed	14.2	<0.0005	0.00051	0.068	0.92	0.0002	<0.001	3.73	0.111	<0.00001	0.00373	0.008	0.07	3.89	<0.0006	1.49	<0.0001	6.2	0.154		<0.00001	0.0001	0.0276	<0.0005
W16	09/05/2008	High DL removed	20.2	0.001	0.00091	0.138	2.38	0.0004	0.002	5.86	0.21	0.00001	0.00557	0.019	0.11	6.09	0.002	2.68	<0.0001	10.2	0.221		0.00001	<0.0001	0.0376	<0.0005
W16	11/05/2008	High DL removed	20.5	0.0009	0.00088	0.127	2.53	0.0003	0.001	5.81	0.212	0.00001	0.00537	0.02	0.09	5.91	0.0014	2.43	<0.0001	10.4	0.216		0.00001	<0.0001	0.0393	<0.0005
W16	13/05/2008	High DL removed	20.2	0.0008	0.00078	0.121	2.58	0.0003	0.002	5.77	0.212	0.00001	0.00507	0.019	0.08	5.6	<0.0006	2.08	<0.0001	10	0.207		<0.00001	0.0002	0.0104	<0.0005
W16	15/05/2008	High DL removed	18.1	0.0015	0.00055	0.083	1.65	0.0003	0.001	4.53	0.148	<0.00001	0.00481	0.014	0.04	4.39	<0.0006	1.51	<0.0001	8.2	0.191		<0.00001	<0.0001	0.0093	<0.0005
W16	18/05/2008	High DL removed	19.9	0.0016	0.0007	0.082	1.94	0.0003	0.001	5.57	0.198	0.00001	0.00579	0.017	0.06	5.52	<0.0006	1.8	<0.0001	10.6	0.212		<0.00001	<0.0001	0.0113	<0.0005
W16	20/05/2008	High DL removed	21.9	0.0015	0.00073	0.08	1.94	0.0002	0.002	6.36	0.209	0.00001	0.00604	0.015	0.07	6.35	<0.0006	1.74	<0.0001	11.2	0.222		0.00001	<0.0001	0.0117	<0.0005
W16	27/05/2008	High DL removed	21.1	0.0014	0.00057	0.083	1.72	0.0002	0.002	6.04	0.203	0.00001	0.00621	0.003	0.04	5.91	<0.0006	1.48	<0.0001	10.9	0.225		<0.00001	<0.0001	0.0149	<0.0005
W16	29/05/2008	High DL removed	23.2	0.0015	0.00062	0.081	1.84	0.0002	0.002	6.54	0.206	<0.00001	0.0073	0.002	0.04	6.53	<0.0006	1.55	<0.0001	12.1	0.255		<0.00001	<0.0001	0.0152	<0.0005
W16	05/06/2008	High DL removed	28.4	0.001	0.0006	0.085	1.83	0.0002	0.002	7.84	0.211	<0.01	0.00889	0.002	<0.05	7.86	0.0009	1.64	<0.00005	14.3	0.309		<0.00001	<0.0001	0.0058	0.0005
W16	11/06/2008	High DL removed	33.5	0.0015	0.00057	0.094	1.83	0.0012	0.002	9.37	0.237	<0.01	0.00944	0.025	<0.05	8.97	0.0015	3.21	<0.00001	16.1	0.351		0.00001	<0.0001	0.0049	0.0005
W16	17/06/2008	High DL removed	28.7	0.001	0.00043	0.072	1.49	0.0002	0.002	8.28	0.195		0.00884	<0.001	<0.05	7.84	0.0019	2.74	<0.00001	14.4	0.336		<0.00001	<0.0001	0.0046	0.0005
W16	25/06/2008	High DL removed	31.6	0.0027	0.00061	0.075	1.56	0.0002	0.002	8.96	0.237	0.00002	0.00836	0.003	0.04	9.21	0.0009	3.04	0.00001	15.9	0.339		<0.00001	<0.0001	0.0075	0.0005
W16	26/06/2008	0.00012	30.6	0.0024	0.00056	0.066	1.4	0.0003	0.002	9.04	0.23	<0.00001	0.00814	0.003	0.05	8.99	0.0028	2.96	0.00007	15.5	0.322		<0.00001	<0.0001	0.0038	0.0005
W16	03/07/2008	0.00007	29.7	0.001	0.0006	0.06	1.39	<0.0001	0.002	9.1	0.253	<0.0001	0.01	0.0027		9.3	0.002	3.36	0.00004	15.8	0.365	16.1	<0.00005	<0.001	0.0057	0.0005
W16	08/07/2008	High DL removed	32.7	0.001	0.00067	0.057	1.5	0.0002	0.002	9.47	0.282	0.00001	0.0085	0.003	0.02	9.83	0.001	3.01	<0.00001	14.8	0.353		<0.00001	0.0012	0.0038	0.0005
W16	09/07/2008	0.00007	32.6	0.0012	0.0007	0.058	1.4	0.0002	0.003	9.5	0.283	<0.0001	0.01	0.0052		9	0.0024	3.42	0.00013	15.4	0.37	16.8	<0.00005	<0.001	0.0058	0.0005
W16	22/07/2008	0.00002	32.8	<0.0005	0.0008	0.051	1.36	0.0002	0.003	10	0.326	<0.0001	0.009	0.002		9.4	0.0014	3.62	<0.00001	16.6	0.379	17.3	<0.00005	<0.001	0.0053	0.0006
W16	23/08/2008	0.00004	38.8	0.0017	0.00072	0.127	1.1	0.0002	0.003	12.3	0.439	0.00002	0.00754	0.004	0.06	9.28	0.0015	4.52	0.00011	17.6	0.416		<0.00001	<0.0001	0.0061	0.0006
W16	25/08/2008	0.00003	38.7	0.0019	0.00075	0.036	1.25	0.0002	0.002	12.1	0.447	<0.00001	0.00684	0.005	0.05	9.05	0.0013	4.48	<0.00001	16.4	0.4		<0.00001	<0.0001	0.0137	0.0006
W16	18/09/2008	0.0001	49.3	0.0028	0.00142	0.207	3.02	0.0008	0.002	14.3	0.72	<0.00001	0.0055	0.003	0.09	9.83	<0.0006	7.19	0.00011	18.8	0.488		<0.00001	0.0002	0.0416	0.0011
W16	08/10/2008	0.00011	57.3	0.0014	0.00092	0.207	1.81	0.0006	0.003	15.5	0.502	<0.00001	0.0193	0.003	0.079	7.3	0.006	6.04	0.00005		0.871		<0.00001	<0.0001	0.0268	0.0017
W16	17/10/2008	0.00019	53.3	0.001	0.00075	0.178	1.24	0.0006	0.004	14.4	0.461	<0.00001	0.0207	0.002	0.03	6.4	0.0067	5.26	<0.00001	17.3	0.949		<0.00001	0.0003	0.015	0.0019
W16	18/11/2008	0.00019	54.6	0.0019	0.001	0.468	2.92	0.001	0.008	17	0.529	<0.0001	0.033	0.0022		15.6	0.0052	11.4	0.00033	36.1	0.973	33.8	<0.00005	<0.001	0.139	0.0015
W16	10/12/2008	0.00012	65.8	0.0008	0.00052	0.125	0.86	0.0002	0.004	19.5	0.481	<0.00001	0.0297	0.002	0.026	11.5	0.0059	5.06	0.00002	31.7	1.19		0.00002	0.0007	0.0096	0.0017
W16	17/12/2008	0.00012	57.2	0.0012	0.0006	0.149	0.87	0.0006	0.003	15.1	0.488	0.00004	0.022	0.0021		6.9	0.0048	5.54	0.00005	18.9	0.855	25.1	<0.00005	<0.001	0.0194	0.002
W16	17/01/2009	0.00011	54.8	0.0006	0.0007	0.16	0.63	0.0002	0.004	14.9	0.455	<0.0001	0.02	0.0027	<0.05	6.5	0.0053	4.36	0.00016	18.1	0.861	24.6	<0.00005	<0.001	0.0093	0.0022
W16	18/01/2009																									
W16	31/03/2009	0.00014	72.9	0.0006	0.00044	0.114	0.3	0.0003	0.004	21.1	0.536	<0.00001	0.02	0.002	0.018	8.6	0.0042	5.75	<0.00001	26.6	1.03	31	<0.00001	<0.0001	0.0025	0.0024
W16	21/04/2009	0.0001	24.4	<0.0004	0.00021	0.069	0.32	0.0002	0.001	5.8	0.145	<0.00001	0.00652	<0.001	<0.05	3.1	0.001	1.92	<0.00001	7.71	0.292	8.1	<0.00001	<0.0001	0.016	0.0007
W16	05/05/2009	0.0026	6.2	0.0005	0.00015	0.035	0.27	0.0006	<0.001	1.28	0.0383	<0.00001	0.00051	<0.001	<0.05	0.8	<0.0006	1.09	<0.00001	2.14	0.044	0.8	<0.00001	<0.0001	0.0106	<0.0004
W16	20/06/2009																									
W16	22/06/2009	0.00006	45.1	0.0005	0.00021	0.082	0.3	<0.0001	0.003	13.2	0.2	0.00002	0.0109	0.002	<0.01	5.7	0.0019	3.71	0.00033	15.4	0.598	15.8	<0.00001	0.0077	0.0049	0.001

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W16	06/09/2007	0.0011	0.011	<0.001																						
W16	11/09/2007	0.0013	0.009	<0.001																						
W16	18/09/2007	0.0014	0.014	<0.001																						
W16	25/09/2007	0.0012	0.014	<0.001																						
W16	03/10/2007	0.0012	0.01	<0.001																					0.08	
W16	11/10/2007	0.0012	0.013	<0.001																						
W16	17/10/2007	0.0013	0.012	<0.001																						
W16	22/10/2007	0.0011	0.012	<0.001																						
W16	30/10/2007	0.001	0.014	<0.001																						
W16	08/11/2007	0.0011	0.019	<0.001																						
W16	13/11/2007	0.0021	0.021	<0.001																						
W16	20/11/2007	0.0012	0.016	<0.001	0.017	0.0012	0.0004	0.11	<0.0001	<0.0005	0.046	0.00004	58.3	0.0009	0.0004	0.025	0.06	<0.0001	0.004	17.9	0.104	<0.0001	0.011	<0.0005		8
W16	27/11/2007	0.0009	0.014	<0.001																						
W16	11/12/2007	0.001	0.019	<0.001																						
W16	18/12/2007	0.0009	0.022	<0.001	0.017	0.0012	0.0009	0.108	<0.0001	<0.0005	0.052	0.00002	61.6	0.0007	0.0003	0.029	0.06	0.0001	0.004	19.5	0.113	<0.0001	0.014	0.0006		8.5
W16	18/12/2007																									
W16	26/12/2007	0.0008	0.016	<0.001																						
W16	09/01/2008	0.001	0.033	<0.001																						
W16	16/01/2008	0.0009	0.016	<0.001																						
W16	22/01/2008	0.001	0.02	<0.001																						
W16	13/02/2008	0.0011	0.035	<0.001																						
W16	14/03/2008	0.0008	0.02	<0.001																						
W16	20/03/2008	0.00272	0.015	0.0003																						
W16	26/03/2008	0.00067	0.023	0.0002																						
W16	26/03/2008	0.0008	0.024	0.0002																						
W16	10/04/2008																									
W16	17/04/2008	0.003	0.027	<0.001																						
W16	22/04/2008	0.0012	0.02	<0.0005																						
W16	03/05/2008				0.06	0.0008	<0.0002	0.026	<0.00004		<0.005	High DL removed	8.11	<0.0006	0.00022	0.032	0.09	<0.0001	<0.001	2.25	0.055	0.00002	0.00182	0.001	<0.01	2.76
W16	04/05/2008	0.00142	0.01	0.0004	0.05	0.0009	<0.0002	0.023	<0.00004		<0.005	High DL removed	8.86	<0.0006	0.00022	0.028	0.08	<0.0001	<0.001	2.15	0.0486	<0.00001	0.00215	0.001	0.01	1.96
W16	05/05/2008	0.00239	0.016	0.0003																						
W16	07/05/2008	0.00237	0.017	0.0004																						
W16	08/05/2008	0.002	0.014	0.0003	0.09	0.0007	<0.0002	0.037	<0.00004		0.01	High DL removed	18.2	0.001	0.00033	0.055	0.46	0.0001	<0.001	4.39	0.119	<0.00001	0.0046	0.005	0.04	4.53
W16	09/05/2008	0.00411	0.026	0.0005	0.08	0.0007	0.0007	0.043	<0.00004		0.013	High DL removed	20.6	0.0013	0.00054	0.076	0.79	<0.0001	0.001	5.6	0.184	0.00001	0.00537	0.007	0.04	5.93
W16	11/05/2008	0.00446	0.022	0.0005	0.09	0.0011	0.0008	0.043	<0.00004		0.013	High DL removed	20.4	0.0012	0.00066	0.077	1.05	0.0002	0.001	5.7	0.185	0.00001	0.00514	0.009	0.04	5.81
W16	13/05/2008	0.00359	0.027	0.0004	0.05	0.0008	0.0013	0.044	<0.00004		0.009	High DL removed	13.8	<0.0006	0.00037	0.049	0.69	0.0001	<0.001	3.91	0.113	<0.00001	0.00414	0.006	0.01	3.39
W16	15/05/2008	0.00315	0.02	0.0005	0.08	0.0016	<0.0002	0.041	<0.00004		0.009	High DL removed	18.5	0.0015	0.00058	0.06	0.87	<0.0001	0.001	4.59	0.136	0.00001	0.0049	0.008	0.02	4.49
W16	18/05/2008	0.00334	0.019	0.0004	0.06	0.0007	<0.0002	0.049	<0.00004		0.014	High DL removed	20.7	0.0017	0.00059	0.06	1.02	0.0001	0.002	5.77	0.191	<0.00001	0.00643	0.009	0.02	5.98
W16	20/05/2008	0.00362	0.021	0.0004	0.06	0.0009	0.0015	0.048	<0.00004		0.013	High DL removed	20.5	0.0014	0.00058	0.058	0.94	0.0002	0.002	5.72	0.196	<0.00001	0.00622	0.009	0.01	5.94
W16	27/05/2008	0.00259	0.019	0.0008	<0.02	0.0012	0.0009	0.051	<0.00004		0.025	High DL removed	24.4	0.0014	0.00054	0.07	1.05	<0.0001	0.002	6.64	0.205	<0.00001	0.00619	0.003	0.02	6.89
W16	29/05/2008	0.00279	0.022	0.0007	<0.02	0.0008	0.0003	0.051	<0.00004		0.029	High DL removed	24.8	0.0014	0.00055	0.073	1.09	<0.0001	0.002	6.86	0.193	<0.00001	0.00726	0.002	0.02	7.07
W16	05/06/2008	0.00288	0.028	0.0007	<0.01	0.0008	<0.0002	0.053	<0.00004		0.022	High DL removed		0.001	0.00043	0.077	1.13	0.0001	0.002		0.186	0.02	0.00882	0.002		
W16	11/06/2008	0.00252	0.028	0.0007	<0.01	0.0007	<0.0002	0.052	<0.00004		0.021	High DL removed		0.0013	0.00047	0.073	1.12	0.0001	0.002		0.211	<0.01	0.0085	0.003		
W16	17/06/2008	0.0023	0.024	0.0008	0.05	0.0008	0.0014	0.054	<0.00004		0.022	High DL removed		0.0013	0.00038	0.065	1.16	0.0002	0.002		0.173		0.0089	0.001		
W16	25/06/2008	0.00251	0.029	0.0006	0.05	0.0007	<0.0002	0.057	<0.00004		0.022	High DL removed	29.8	0.0026	0.00055	0.066	1.28	0.0001	0.002	8.76	0.224	<0.00001	0.00849	0.003	0.02	8.73
W16	26/06/2008	0.00243	0.034	0.0006	0.05	0.0008	0.0008	0.058	<0.00004		0.023	High DL removed	30.7	0.0027	0.00054	0.065	1.29	0.0001	0.002	9	0.231	0.00001	0.0085	0.003	0.02	9.01
W16	03/07/2008	0.0026	0.024	<0.001	0.056	0.0021	0.0006	0.065	<0.0001	<0.0005	0.024	0.00007	31.6	0.0017	0.0006	0.054	1.22	0.0001	0.002	9.3	0.276	<0.0001	0.009	0.0026		9.7
W16	08/07/2008	0.00215	0.024	0.0007	0.05	0.0008	0.0006	0.063	<0.00004		0.022	High DL removed	33.8	0.0011	0.00072	0.058	1.35	0.0001	0.003	9.94	0.29	0.00001	0.00813	0.003	<0.01	10.2
W16	09/07/2008	0.0024	0.024	<0.001	0.064	0.0011	0.0006	0.068	<0.0001	<0.0005	0.023	0.00005	30.6	0.0172	0.001	0.054	1.36	0.0007	0.002	9.6	0.29	<0.0001	0.009	0.0088		9.3
W16	22/07/2008	0.0028	0.022	<0.001	0.037	0.0014	0.0005	0.07	<0.0001	<0.0005	0.023	<0.00001	33.3	<0.0005	0.0008	0.043	1.12	0.0001	0.002	10.2	0.321	<0.0001	0.008	0.0018		9.2
W16	23/08/2008	0.00265	0.025	0.0004	0.026	0.001	0.0007	0.074	<0.00004		0.021	0.00002	36.5	0.001	0.00058	0.025	0.89	0.0002	0.003	11.4	0.4	<0.00001	0.0068	0.004	0.02	8.77
W16	25/08/2008	0.00327	0.012	0.0004	0.041	0.0008	0.0005	0.071	<0.00004		0.022	<0.00001	37.7	0.0009	0.00067	0.024	1.04	0.0001	0.003	12.1	0.426	<0.00001	0.00645	0.004	0.02	8.96
W16	18/09/2008	0.00668	0.016	0.0005	0.091	0.0033	0.0003	0.081	<0.00004		0.027	0.00002	46.2	0.0018	0.00134	0.02	0.57	0.0002	0.002	13.1	0.763	<0.00001	0.00332	0.002	0.02	9.14
W16	08/10/2008	0.00401	0.022	0.0006	0.013	0.0004	0.0007	0.079	<0.00004		0.032	0.00009	47.8	0.0009	0.0004	0.104	0.194	0.0001	0.003	13.3	0.367	<0.00001	0.0186	0.005	<0.01	5.7
W16	17/10/2008	0.00326	0.021	0.0018																						
W16	18/11/2008	0.0085	0.029	0.001																						
W16	10/12/2008	0.00158	0.016	0.0004	0.016	0.0018	0.0006	0.09	<0.00004	<0.0001	0.049	0.00008	65.7	0.0007	0.00049	0.073	0.167	<0.0001	0.006	19.4	0.455	<0.00001	0.0271	0.001	<0.01	12.8
W16	17/12/2008	0.0028	0.019	0.001	0.026	0.0003	0.0006	0.085	<0.0001	<0.0005	0.032	0.00009	54.3	<0.0005	0.0005	0.123	0.3	0.0001	0.003	15.4	0.457	<0.00001	0.021	0.0011		6.9
W16	17/01/2009	0.0024	0.017	<0.001	0.029	0.0021	0.0008	0.086	<0.0001	<0.0005	0.035	0.00012	55.1	0.0005	0.0005	0.121	0.31	0.0001	0.004	15.8	0.468	<0.0001	0.021	0.002		6.9
W16	18/01/2009																									
W16	31/03/2009	0.00079	0.024	0.0003	0.012	0.001	0.0007	0.088	<0.00004	<0.0001	0.037	0.00006	62	0.0005	0.00041	0.072	0.12	0.0002	0.003	18.9	0.512	<0.00001	0.019	0.002	<0.01	8.3
W16	21/04/2009	0.00096	0.008	0.0001																						
W16	05/05/2009	0.00071	0.017	0.0002	0.098	0.0008	<0.0002	0.016	<0.00004	<0.0001	<0.004	0.00557	7.21	0.0006	0.00024	0.027	0.14	0.0008	<0.001	1.54	0.043	<0.00001	0.00074	<0.001	0.03	0.9
W16	20/06/2009																									
W16	22/06/2009	0.00088	0.004	0.0003	0.043	<0.0002	0.0003	0.072	<0.00004	<0.0001	0.019	0.00006	44.1	<0.0004	0.00016	0.073	0.2	0.0001	0.002	13	0.17	0.00002	0.0104	0.002	0.02	5.7

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	BOD5	Br	Cation	COD	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-T	N-TKN	P-PO4T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L
W16	06/09/2007														229	<6	<5							70							1.65	0.04
W16	11/09/2007														212	<6	<5							70							1.44	0.03
W16	18/09/2007														218	<6	<5							56							1.54	0.04
W16	25/09/2007														198	<6	<5							58							0.94	0.03
W16	03/10/2007														198	<6	<5							54							0.83	0.06
W16	11/10/2007														197	<6	<5							47							1.17	0.03
W16	17/10/2007														196	<6	<5							40							0.68	<0.05
W16	22/10/2007														197	<6	<5							50							1.65	0.05
W16	30/10/2007														206	<6	<5							52							0.49	<0.02
W16	08/11/2007														216	<6	<5							47				22.2			0.96	<0.01
W16	13/11/2007														222	<6	<5							50							0.57	0.07
W16	20/11/2007	0.0018	5.73	High DL removed	18.5	0.557	15.1	<0.00005	<0.001	0.0019	0.0017	0.0019	0.01		224	<6	<5							48				19.5			0.59	<0.05
W16	27/11/2007														222	<6	<5							49							0.7	0.06
W16	11/12/2007														230	<6	<5							46				28.4			1.28	0.07
W16	18/12/2007	0.0021	5.78	High DL removed	21.1	0.617	17.6	<0.00005	<0.001	0.0023	0.0021	0.0011	0.021		234	<6	<5							42				19.8			0.45	0.07
W16	18/12/2007																															
W16	26/12/2007														247	<6	<5							42				14.5			0.82	0.06
W16	09/01/2008														248	<6	<5							44				17.3			1.23	0.06
W16	16/01/2008														253	<6	<5							49							0.62	0.06
W16	22/01/2008														254	<6	<5							52				20.2			1.26	0.06
W16	13/02/2008														262	<6	<5							45							1.93	0.06
W16	14/03/2008														266	<6	<5							37							0.84	0.04
W16	20/03/2008																											23.8			1.39	0.05
W16	26/03/2008																											14.6			0.49	0.05
W16	26/03/2008														253	<6	<5							33				14			0.47	0.03
W16	10/04/2008																											309				
W16	17/04/2008																											78.7				
W16	22/04/2008																											19.3			1.88	<0.05
W16	03/05/2008	<0.0006	0.811	High DL removed	3.18	0.082		<0.00001	<0.004	0.0025	<0.0006	0.00033	0.006	0.0002																		
W16	04/05/2008	<0.0006	0.755	High DL removed	3.04	0.098		<0.00001	<0.004	0.0016	<0.0006	0.00037	0.006	0.0002	33	<6	<5							120							0.88	<0.05
W16	05/05/2008														56	<6	<5							200							1.48	0.06
W16	07/05/2008																															
W16	08/05/2008	<0.0006	1.37	High DL removed	7.44	0.184		<0.00001	<0.004	0.0036	<0.0006	0.00114	0.022	0.0003	53	<6	<5							180							1.55	0.06
W16	09/05/2008	0.0008	1.68	High DL removed	9.37	0.216		<0.00001	<0.004	0.0032	<0.0006	0.00153	0.017	0.0004	73	<6	<5							240								
W16	11/05/2008	0.0011	1.71	High DL removed	9.46	0.212		<0.00001	<0.004	0.0045	<0.0006	0.00179	0.017	0.0004	72	<6	<5							240				45.2				
W16	13/05/2008	<0.0006	1.08	High DL removed	6.8	0.149		<0.00001	<0.004	0.003	<0.0006	0.00105	0.011	0.0002	72	<6	<5							280				41.8			1.76	0.06
W16	15/05/2008	<0.0006	1.25	High DL removed	8.38	0.197		<0.00001	<0.004	0.0034	<0.0006	0.00153	0.01	0.0003	68	<6	<5							250				33.8				
W16	18/05/2008	<0.0006	1.49	High DL removed	10.8	0.225		<0.00001	<0.004	0.0035	<0.0006	0.00179	0.016	0.0003	80	<6	<5							360				38.7				
W16	20/05/2008	<0.0006	1.22	High DL removed	10.7	0.232		<0.00001	<0.004	0.0019	<0.0006	0.00162	0.014	0.0003	80	<6	<5							240				41.2			1.91	<0.05
W16	27/05/2008	<0.0006	1.42	High DL removed	12.2	0.243		<0.00001	<0.0040	0.0029	<0.0006	0.00161	0.017	0.0005	90	<6	<5							250				36.6			1.91	0.06
W16	29/05/2008	0.0015	1.44	High DL removed	12.7	0.265		<0.00001	<0.004	0.0037	<0.0006	0.00169	0.016	0.0006	90	<6	<5							250				34.8			1.83	0.06
W16	05/06/2008	0.001		<0.00001		0.309		<0.00001	<0.0001	0.004	0.0005	0.00186	0.019	0.0006	90	<6	<5							150				32.9			1.69	0.03
W16	11/06/2008	0.002		<0.00001		0.317		<0.00001	<0.0001	0.0035	0.0005	0.00167	0.021	0.0006	90	<6	<5							230				31.5			1.87	0.02
W16	17/06/2008	0.0037		<0.00001		0.315		<0.00001	<0.0001	0.0037	0.0005	0.00218	0.018	0.0006	100	<6	<5							310				33.3			1.83	0.04
W16	25/06/2008	<0.0006	2.86	0.00002	15.5	0.319		<0.00001	<0.0001	0.0029	0.0005	0.0021	0.02	0.0007	100	<6	<5							230				32.9			2.13	<0.05
W16	26/06/2008	0.0035	3.01	0.00002	15.2	0.327		<0.00001	<0.0001	0.0035	0.0005	0.00229	0.02	0.0006														33.8				
W16	03/07/2008	0.002	3.5	<0.00001	16.2	0.358	16.9	<0.00005	<0.001	0.0046	0.0005	0.0021	0.026		100	<6	<5							120				34.9			1.95	<0.05
W16	08/07/2008	0.0019	3.17	<0.00001	15.4	0.354		<0.00001	<0.0001	0.003	0.0005	0.00205	0.02	0.0008	100	<6	<5							200				35.8			2.03	<0.05
W16	09/07/2008	0.0016	3.52	<0.00001	16	0.359	16.5	<0.00005	<0.001	0.0053	<0.0005	0.002	0.024															34.9				
W16	22/07/2008	0.0016	3.63	0.00001	16.4	0.373	17	<0.00005	<0.001	0.0028	0.0005	0.0023	0.014		100	<6	<5							140				32			2.16	0.08
W16	23/08/2008	0.0024	4.07	<0.00001	15.5	0.403	0.012	<0.00001	<0.0001	0.0022	0.0006	0.00184	0.008	0.0003	160	<6	<5							170				27.6				
W16	25/08/2008	<0.0006	4.45	<0.00001	16.6	0.383		<0.00001	<0.0001	0.004	0.0005	0.00226	0.008	0.0003	160	<6	<5							150				26.9			1.85	<0.05
W16	18/09/2008	0.0039	5.02	<0.00001	17.2	0.442		<0.00001	<0.0001	0.0066	0.0009	0.0038	0.005	0.0005	220	<6	<5							120				28.8			1.99	0.09
W16	08/10/2008	0.0064	4.22	0.0003	15.7	0.844		0.00002	<0.0001	0.0016	0.0016	0.00103	0.008	0.0003	170	<6	<5							60				18.2			1.29	<0.05
W16	17/10/2008														170	<6	<5							70							1.27	<0.05
W16	18/11/2008														210	<6	<5							35							1.05	0.05
W16	10/12/2008	0.0056	4.4	<0.00001	32.2	1.2	35.7	<0.00001	0.0002	0.0011	0.0016	0.00059	0.012	0.0002	200	<6	<5							31							1.35	<0.05
W16	17/12/2008	0.0058	4.98	<0.00001	19.6	0.851	25.1	<0.00005	<0.001	0.004	0.0021	0.0012	0.017		180	<6	<5							65				19.1			1.63	<0.05
W16	17/01/2009	0.0058	5.22	<0.00001	19.7	0.885	25.5	<0.00005	<0.001	0.0036	0.0022	0.0018	0.015		170	<6	<5							<50							1	0.05
W16	18/01/2009																															
W16	31/03/2009	0.0041	5	<0.00001	24.9	0.944	28.9	<0.00001	<0.0001	0.0008	0.0022	0.00056	0.013	0.0002																		
W16	21/04/2009														80	<6	<5							13							0.49	<0.01
W16	05/05/2009	<0.0006	1.01	<0.00001	3.1	0.051	1.3	<0.00001	<0.0001	0.0037	<0.0004	0.00042	0.023	0.0002	10	<6	<5							89							0.56	0.01
W16	20/06/2009																															
W16	22/06/2009	0.0024	3.53	<0.00001	15.2	0.571	15.1	<0.00001	0.0071	0.0029	0.0008	0.00066	0.003	0.0003	160	<6	<5							91					128		1.63	0.02

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	P-TDP	P-TRP	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		mg/L	mg/L	Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W16	06/09/2007	<0.02						1.1	
W16	11/09/2007	<0.02						1.5	
W16	18/09/2007	<0.02						1.3	
W16	25/09/2007	<0.02						5.5	
W16	03/10/2007							2.4	
W16	11/10/2007	<0.02						1.9	
W16	17/10/2007	<0.02	0.03		39.3			1.6	
W16	22/10/2007							2	
W16	30/10/2007	<0.02	<0.01					1.4	
W16	08/11/2007	<0.02						1.4	
W16	13/11/2007	<0.02						2.1	
W16	20/11/2007	<0.02	0.04		43.3			1.3	
W16	27/11/2007	<0.02						1.9	
W16	11/12/2007	<0.02						1.5	
W16	18/12/2007	<0.02						1	
W16	18/12/2007								
W16	26/12/2007	<0.02						0.8	
W16	09/01/2008	<0.02						0.8	
W16	16/01/2008	<0.02						0.4	
W16	22/01/2008	<0.02						0.7	
W16	13/02/2008	<0.02						1.2	
W16	14/03/2008							1.2	
W16	20/03/2008								
W16	26/03/2008								
W16	26/03/2008							1	
W16	10/04/2008								
W16	17/04/2008								
W16	22/04/2008		0.03						
W16	03/05/2008								
W16	04/05/2008		0.04					9	
W16	05/05/2008	<0.05	0.03					18	
W16	07/05/2008								
W16	08/05/2008		0.03					12	
W16	09/05/2008							16	
W16	11/05/2008							20	
W16	13/05/2008		0.04					18	
W16	15/05/2008							12	
W16	18/05/2008							13	
W16	20/05/2008		0.04					8.4	
W16	27/05/2008		0.04					8.6	
W16	29/05/2008		0.04					9.6	
W16	05/06/2008							4.4	
W16	11/06/2008							3.4	
W16	17/06/2008							7.1	
W16	25/06/2008		0.03					2.6	
W16	26/06/2008								
W16	03/07/2008		0.03					2.2	
W16	08/07/2008		0.03					2.1	
W16	09/07/2008								
W16	22/07/2008		0.04					1.9	
W16	23/08/2008							1.1	
W16	25/08/2008		0.05					3	
W16	18/09/2008		0.08					38	
W16	08/10/2008		0.05					14	
W16	17/10/2008		0.05					19	
W16	18/11/2008		0.08					37	
W16	10/12/2008		0.04					15	
W16	17/12/2008		0.02				0.01	12	
W16	17/01/2009						<0.005	3.8	
W16	18/01/2009								
W16	31/03/2009								
W16	21/04/2009							5.6	
W16	05/05/2009							4.3	
W16	20/06/2009								
W16	22/06/2009		0.05					4.5	

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T	B-T
			mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W16	27/10/2009	P	<2	184	7.1	7.56	307	262	3.4					110	78	9.79		28			3.58		0.073	0.0002	0.0003	0.068	<0.00004	<0.001	0.019
W16	05/11/2009	P	14	356		7.52		485						208	107	7.35		69.9			9.29		0.11	0.0006	0.0006	0.137	<0.00004	<0.001	0.042
W16	02/12/2009	P	<2	364	7.88	7.8	745	554	1.6					228	123	23.9		79			10.1		0.092	0.001	0.0006	0.138	<0.00004	<0.001	0.038
W16	04/01/2010	P	<5	392	7.98	7.68	495	627					239	239	141	23		80.6			11.4		0.096	0.0022	0.0006	0.145	<0.00004	<0.001	0.04
W16	01/02/2010	P	<5	388	7.17	7.85	790	207	1.1				243		94	20.5		73.9			11		0.036	0.0004	0.0005	0.132	<0.00004	<0.001	0.037
W16	02/03/2010	P	<5	414	6.8	7.68	675	613	1.7				247		160	18.5		82.6			10.9		0.136	0.0006	0.0005	0.122	<0.00004	<0.001	0.045
W16	05/04/2010	P	4	418	6.73	7.7	664	650	2.3				265		156	18.2		88					0.154	0.0002	0.0006	0.125	<0.00004	<0.001	0.035
W16	28/04/2010	F	7	76	7.93	7.4	135	62	1.28		10.9		32.9	24.6	21	0.7	0.12	4.4	0.11	0.052	0.86	4.3	0.455	<0.0005	0.0002	0.034	<0.0001	<0.001	<0.05
W16	04/05/2010	F	8	290	7.77	8.1	406	375	4.36		87.4		165	165	110	10	0.33	54	0.02	0.279	5.4	16.5	0.528	<0.0005	0.0004	0.091	<0.0001	<0.001	<0.05
W16	11/05/2010	F	24	220		8		353					163	155	100	8.3	0.21	45	0.15	0.241	5.1	18.1	0.863	<0.0005	0.0006	0.096	<0.0001	<0.001	<0.05
W16	18/05/2010	F	8	290	7.58	8.2	361	405	13.5				179	180	120	9.6	<0.01	54	0.05	0.264	5.7	16.1	0.723	<0.0005	High DL removed	0.097	<0.0005	<0.001	<0.05
W16	26/05/2010	F	5	260	7.58	8.1	413	421	15.6				179	209	130	9.4	0.39	53	0.11	0.232	5.8	16.2	0.151	<0.0005	0.0005	0.092	<0.0002	<0.001	<0.1
W16	02/06/2010	P	7	290	7.24	8.2	441	452	17.3				216	187	130	9.6	0.49	59	0.34	0.219	7.9	15.7	0.287	<0.0005	0.0006	0.087	<0.0002	<0.001	<0.1
W16	14/06/2010	P	1	320	7.29	8.2	511	465	16.8				185	180	120	9.1	0.56	70	0.94	0.182	9.6	14.9	0.11	<0.0005	0.0006	0.088	<0.0002	<0.001	<0.1
W16	15/06/2010	P	2	310	7.2	8.34	547	450	15.4				194	181	130	8.5	0.56	66	0.6	0.187	9.7	14.2	0.071	<0.0005	0.0007	0.09	<0.0002	<0.001	<0.1
W16	16/06/2010	P	4	300	7.47	8.1	544	465	16.5				180	183	130	8.3	0.55	68	0.61	0.181	9.2	16.1	0.072	<0.0005	0.0005	0.082	<0.0002	<0.001	<0.1
W16	17/06/2010	P	<1	300	7.07	8.1	544	467	17.2				186	183	130	8.8	0.57	66	0.38	0.178	9.3	14.5	0.048	<0.0005	0.0006	0.083	<0.0002	<0.001	<0.1
W16	23/06/2010	P	2	320	7.97	8.17	457	466	16.34		95.5		187	176	130	8	0.54	65	0.27	0.187	9.3	14.9	0.049	<0.0005	0.0005	0.081	<0.0002	<0.001	<0.1
W16	24/06/2010	P	1	340	7.94	8.2	463	469	18.22		98.2		193	178	130	8.2	0.54	64	0.39	0.183	9.2	13.8	0.035	<0.0005	0.0005	0.088	<0.0002	<0.001	<0.1
W16	29/06/2010	P	1	340	7.94	7.87	471	468	15.63		78.9		187	183	130	7.1	0.57	71	0.52	0.175	9.8	14.5	0.068	<0.0005	0.0005	0.082	<0.0002	<0.001	<0.1
W16	04/07/2010	P	2	340	7.91	8.03	466	483	17.83		84.0		188	188	130	7.8	0.55	75	0.45	0.176	9.6	14.7	0.082	<0.0005	0.0006	0.082	<0.0002	<0.001	<0.1
W16	11/07/2010	P	<1	300	8.06	8.17	457	481	17.27		88.6		183	181	130	8	0.55	68	0.32	0.187	9.7	13.9	0.097	<0.0005	0.0004	0.08	<0.0002	<0.001	<0.1
W16	14/07/2010	P			8.13		472		17.31		87.8																		
W16	19/07/2010	P	3	320	8.07	8.12	477	487	16.97		92.5		193	190	130	7.6	0.56	68	0.25	0.188	9.6	14.8	0.085	<0.0005	<0.0004	0.079	<0.0002	<0.001	<0.1
W16	25/07/2010	P	10	360	7.77	7.99	485	491	15.09		67.2		205	191	130	7.1	0.59	69	0.18	0.214	9.8	12.8	0.589	<0.0005	0.0009	0.118	<0.0002	<0.001	<0.1
W16	02/08/2010	P	4	340	7.89	8.15	486	496	17.45		73.3		184	201	140	7.1	0.59	67	0.16	0.006	10.6	14.2	0.138	<0.0005	0.0005	0.096	<0.0002	<0.001	<0.1
W16	05/08/2010	P	3	310	7.97	8.12	494	495	19.37		80.4		194	234	130	6.3	0.57	67	0.18	0.178	10.6	14.6	0.093	<0.0005	0.0006	0.097	<0.0002	<0.001	<0.1
W16	10/08/2010	P	2	340	7.88	8.21	504	512	16.98		42.6		229	212	140	6.7	0.54	72	0.23	0.172	11.3	14.8	0.093	<0.0005	0.0006	0.117	<0.0002	<0.001	<0.1
W16	15/08/2010	P	3	310	8.37	8.18	508	514	17.96		87.4		208	213	130	5.9	0.55	74	0.058	0.175	11.5	14.2	0.056	<0.0005	0.0007	0.108	<0.0002	<0.001	<0.1
W16	22/08/2010	P	19	340	8.24	8.31	501		14.66		80.5		205	200	140	6.5	0.59	76	0.065	0.152	10.5	8.5	0.192	<0.0005	0.0007	0.114	<0.0002	<0.001	<0.1
W16	29/08/2010	P	3	370	7.86	7.94	501	514	13.01		63		203	201	140	7.1	0.51	78	<0.005	0.136	10.7	14.9	0.078	<0.0005	0.0005	0.103	<0.0002	<0.001	<0.1
W16	06/09/2010	P	<1	380	7.76	8.01	527	531	12.87		60.4		211	213	140	7.1	0.65	73	0.21	0.147	12.4	14.4	0.075	<0.0005	0.0005	0.107	<0.0002	<0.001	<0.1
W16	10/09/2010	P	2	390	7.79	8.13	534	545	13.12		69.8		212	209	140	7.3		74	0.091	0.136	12	14	0.065	<0.0005	0.0005	0.111	<0.0002	<0.001	<0.1
W16	13/09/2010	P	<1	380	7.94	8.25	535	540	12.13		68.5		189	216	140	7.4	0.61	77	0.071	0.135	12.4	14.5	0.05	<0.0005	<0.0004	0.098	<0.0002	<0.001	<0.1
W16	19/09/2010	P	<1	360	7.98	8.05	540	557	10.57		89.5		213	229	150	7	0.59	73	0.11	0.126	13	15.3	0.035	<0.0005	<0.0004	0.107	<0.0002	<0.001	<0.1
W16	03/10/2010	P	<1	390		8.04		566					243	235	150	6.7	0.56	70	0.086	0.08	13.6	16.3	0.04	<0.0005	0.0004	0.114	<0.0001	<0.001	<0.05
W16	09/10/2010	P	1	380	8.01	8.26	564	560	3.83		82.8		249	222	150	5.8	0.53	82	<0.005	0.098	13.6	11.4	0.05	<0.0005	0.0004	0.129	<0.0001	<0.001	0.073
W16	07/11/2010	P	5	430	7.84	8.07	672	657	-0.01				295	280	170	5.6	0.66	99	0.33	0.096	16.1	12.5	0.176	<0.0005	0.0007	0.124	<0.0001	<0.001	<0.05
W16	06/12/2010	P	6	420	7.74	8.15	677	658	-0.09		93.2		281	290	170	7	0.7	100	0.37	0.095	15.5	13.5	0.162	<0.0005	0.0005	0.122	<0.0001	<0.001	0.059
W16	08/01/2011	P	3	450	7.23	7.77	680	683	0.23	10.61	73.2		283	279	170	7.9	0.72	110	0.23	0.1	16.4	13	0.06	<0.0005	0.0003	0.133	<0.0001	<0.001	0.056
W16	04/02/2011	P	2	470	7.62	8.07	721	711	0.62				302	293	190	8.3	0.71	120	0.39	0.11	14.2	12.3	0.045	<0.0005	0.0005	0.129	<0.0001	<0.001	0.064
W16	02/04/2011	P	8	430		8.01		717					258	245	160	19	0.72	100	0.42	0.291	16.2	10.8	0.358	<0.0005	0.0005	0.116	<0.0001	<0.001	0.051
W16	09/04/2011	P	37	190		7.8		337					135	121	81	4.8	0.33	48	0.22	0.094	7.6	4.1	0.657	<0.0005	0.0005	0.088	<0.0001	<0.001	<0.05
W16	16/04/2011	P	7	490		8.09		751					290	291	190	12	0.81	110	0.523	0.22	16.6	9.9	0.339	<0.0005	0.0005	0.134	<0.0001	<0.001	0.059
W16	25/04/2011	P	3	64		7.63		127					52.3	46.8	41	1.2	0.21	12	0.083	0.037	1.79	1.8	0.088	<0.0005	0.0001	0.035	<0.0001	<0.001	<0.05
W16	02/05/2011	P	7	100		7.32		111					53.5	50.4	43	4.2	0.18	<5		0.012	0.63	29	0.408	<0.0005	0.0004	0.038	<0.0001	<0.001	<0.05
W16	07/05/2011	P	14	160		7.47		223					98.3	83.9	65	3.6	0.22	28	0.087	0.03	2.6		0.526	<0.0005	0.0005	0.056	<0.0001	<0.001	<0.05
W16	14/05/2011	P	6	270		7.79							130	129	89	5.2	0.31	46	0.13	0.048	5.3	21.3	0.333	<0.0005	0.0005	0.065	<0.0001	<0.001	<0.05
W16	21/05/2011	P	1	220		8		339					134	143	98	5.2	0.33	47	0.12	0.048	5.4	20.2	0.029	<0.0005	0.0004	0.062	<0.0001	<0.001	<0.05
W16	29/05/2011	P	7	230		8.15		358					139	150	110	5.5	0.34	51	0.033	0.037	5.3	21.4	0.23	<0.0005	0.0004	0.07	<0.0001	<0.001	<0.05
W16	04/06/2011	P	4	260		7.97		369					140	152	110		0.35	47	0.051	0.034	4.9	18.6	0.087	<0.0005	0.0004	0.068	<0.0001	<0.001	<0.05
W16	13/06/2011	P	1	250		8.01		385					148	163	120					0.022	4.9	17	0.12	<0.0005	0.0005	0.072	<0.0001	<0.001	<0.05
W16	27/06/2011	P	6	270		8.19		402					156	170	130			49	0.065	0.025	4.7	17	0.084	<0.0005	0.0004	0.071	<0.0001	<0.001	<0.05
W16	03/07/2011	P	26	260		8.18		405					167	184	130			58	0.056	0.022	4.4		0.101	<0.0005	0.0004	0.075	<0.0001	<0.001	<0.05
W16	09/07/2011	P	5	280		8.02		400					184	184	130			46	0.049	0.023	4.2	16.3	0.111	<0.0005	0.0004	0.077	<0.0001	<0.001	<0.05
W16	16/07/2011	P	3	270		8.05		403					176	174	130	5.3	0.34	49	0.036	0.023	4.5	16.1	0.125	<0.0005	0.0004	0.073	<0.0001	<0.001	<0.05
W16	23/07/2011	P	2	270		7.98		406					178	172	140			47	0.029	0.02	4.2	19	0.162	<0.0005	0.0004	0.077	<0.0001	<0.001	<0.05
W16	07/08/2011	P	6	240		7.96		372					168	178	130			37	0.038	0.027	4.3	19.7	0.352	<0.0005	0.0006	0.086	<0.0001	<0.001	<0.05
W16	11/08/2011	P	3	190		8.05		358					168	175	120				0.026	0.033	4.6	18.4	0.154	<0.0005	0.0005	0.065	<0.0001	<0.001	<0.05
W16	28/08/2011	P	3	240		8.13		368					166	178	130			36	0.012	0.034	4.5	18.2	0.065	<0.0005	0.0005	0.075	<0.0001	<0.001	<0.05
W16	30/08/2011	P	3	270		8.08		370					145	172	130				0.057	0.027	3.6	18.1	0.072	<0.0005	0.0004	0.066	<0.0001	<0.001	<0.05
W16	05/09/2011	P	2	300	7.98	8.24	346.7	374	10.9	8.48	76.8		165	183	130	4.3			0.042	0.028	4.2	18.1	0.036	<0.0005	0.0004	0.075	<0.0001	<0.001	<0.05
W16	10/09/2011	P	3	260	7.87	8.13	361.9	385	10.7	9.08	82		154	185	130	5.3			0.043	0.024	4.7	17.1	0.067	<0.0005	0.0004	0.07	<0.0001	<0.001	<0.05
W16	24/09/2011	P	<4	270	7.71	8.01	363.4	400	8.6	7.97	68.9		178	188	140	4.6		41	0.023	0.019	4.3	15.8	0.034	<0.0005	0.0004	0.073	<0.0001	<0.001	<0.05
W16	30/09/2011	P	<4	240	7.77	8.08	437.1	413	7.4	7.53	62.8		169	185	150	4.7		46	0.035	0.018	4.6	16.6	0.037	<0.0005	0.0004	0.073	<0.0001	<0.001	<0.05

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W16	27/10/2009	0.00002	35.2	<0.0004	0.00011	0.005	0.022	<0.0001	0.001	8.24	0.178	<0.00001	0.0067	0.001	<0.05	2.7	0.0006	5.3	<0.00001	9.5	0.399	10.4	<0.00001	<0.0001		<0.0004
W16	05/11/2009	0.00004	64.5	<0.0004	0.00035	0.013	0.061	0.0001	0.002	17.6	0.39	<0.00001	0.0172	0.003	<0.05	4.8	0.0025	3.94	<0.00001	20.9	1.02	24.9	<0.00001	<0.0001		0.0009
W16	02/12/2009	0.00002	63.7	<0.0004	0.00032	0.019	0.127	0.0002	0.002	17.9	0.386	<0.00001	0.0184	0.002	0.06	5.4	0.0026	4.22	<0.00001	22.9	1.08	26.7	<0.00001	<0.0001		0.0011
W16	04/01/2010	0.00004	69.2	0.0005	0.00036	0.02	0.139	0.0002	0.003	19.7	0.431	<0.00001	0.0183	0.003	<0.05	5.8	0.003	4.23	<0.00001	23.3	1.22	28.9	<0.00001	<0.0001		0.0014
W16	01/02/2010	0.00008	69.3	<0.0004	0.00024	0.011	0.064	0.0004	0.003	20.5	0.346	<0.00001	0.0159	0.002	0.05	5.5	0.0024	4.21	<0.00001	23.7	1.08	24.5	<0.00001	<0.0001		0.0016
W16	02/03/2010	0.00006	68.2	<0.0004	0.00026	0.047	0.242	0.0002	0.003	20.7	0.345	<0.00001	0.0156	<0.001	<0.05	5.6	0.0022	4.48	0.00002	23.2	1.04	29	<0.00001	<0.0001		0.0018
W16	05/04/2010	0.00002	72.5	0.0005	0.00027	0.018	0.331	0.0002	0.003	23	0.262	<0.00001	0.0127	0.002	0.06	6	0.0019	4.93	<0.00001	25.5	1.02	29.8	<0.00001	<0.0001		0.0019
W16	28/04/2010	0.00007	9.82	<0.001	<0.0005	0.0227	0.689	0.0003	<0.005	2.03	0.069	<0.00002	0.002	<0.001		1.16	0.0003	1.83	0.00003	2.92	0.108	<3	<0.00005	<0.005	0.023	0.0001
W16	04/05/2010	0.00002	44.1	<0.001	0.0007	0.0572	0.899	0.0004	<0.005	13.2	0.267	<0.00002	0.007	0.002	0.042	4.36	0.0014	5.09	<0.00002	15.7	0.489	16	<0.00005	<0.005	0.02	0.0009
W16	11/05/2010	0.00041	44.5	<0.001	0.0008	0.0653	1.52	0.0005	<0.005	12.5	0.254	<0.00002	0.007	0.002	0.042	4.33	0.0011	6.07	<0.00002	13.7	0.435	17	<0.00005	<0.005	0.043	0.0009
W16	18/05/2010	0.00004	46.2	0.001	0.0007	0.0504	1.31	0.0002	<0.005	15.5	0.212	<0.00002	0.008	High DL removed	0.075	4.65	0.0016	5.54	0.00002	17.7	0.53	16	<0.00005	<0.005	0.045	0.0009
W16	26/05/2010	High DL removed	48	High DL removed	<0.0005	0.038	0.429	<0.0002	<0.01	14	0.204	<0.00002	0.008	0.001		5	0.0014	4.67	<0.0001	15	0.52	<60	<0.00005	<0.005	<0.01	0.0011
W16	02/06/2010	High DL removed	61	High DL removed	<0.0005	0.051	0.555	0.0003	<0.01	15	0.18	<0.0002	0.014	0.001		6	0.0019	4.87	<0.0001	21	0.923	<60	<0.00005	<0.005	0.011	0.0014
W16	14/06/2010	High DL removed	50	High DL removed	<0.0005	0.082	0.217	<0.0002	<0.01	15	0.065	<0.0002	0.015	0.001		5	0.0026	4.47	<0.0001	19	1.05	<60	<0.00005	<0.005	<0.01	0.0019
W16	15/06/2010	High DL removed	53	High DL removed	<0.0005	0.078	0.175	0.0002	<0.01	15	0.059	<0.0002	0.016	0.001		5	0.0028	4.54	<0.0001	20	1.13	<60	<0.00005	<0.005	<0.01	0.002
W16	16/06/2010	High DL removed	49	High DL removed	<0.0005	0.068	0.16	0.0007	<0.01	14	0.053	<0.0002	0.014	0.001		5	0.0025	4.31	<0.0001	18	1.01	<60	<0.00005	<0.005	<0.01	0.0017
W16	17/06/2010	High DL removed	50	High DL removed	<0.0005	0.066	0.121	<0.0002	<0.01	15	0.051	<0.0002	0.015	0.001		5	0.0025	4.36	<0.0001	19	1.02	<60	<0.00005	<0.005	<0.01	0.0018
W16	23/06/2010	High DL removed	48	High DL removed	<0.0005	0.066	0.132	<0.0002	<0.01	16	0.045	<0.0002	0.014	0.001		5	0.0024	4.07	<0.0001	21	0.992	<60	<0.00005	<0.005	<0.01	0.0018
W16	24/06/2010	High DL removed	52	High DL removed	<0.0005	0.068	0.1	<0.0002	<0.01	15	0.049	<0.0002	0.016	<0.001		5	0.0026	4.32	<0.0001	19	1.06	<60	<0.00005	<0.005	<0.01	0.0019
W16	29/06/2010	High DL removed	51	High DL removed	<0.0005	0.083	0.168	<0.0002	<0.01	14	0.071	<0.0002	0.016	0.001		5	0.0027	4.34	<0.0001	19	1.09	<60	<0.00005	<0.005	<0.01	0.0019
W16	04/07/2010	High DL removed	51	High DL removed	<0.0005	0.082	0.188	<0.0002	<0.01	15	0.078	<0.0002	0.016	0.001		5	0.0026	4.21	<0.0001	19	1.09	<60	<0.00005	<0.005	<0.01	0.0019
W16	11/07/2010	High DL removed	50	High DL removed	<0.0005	0.073	0.164	<0.0002	<0.01	14	0.066	<0.0002	0.016	0.001		5	0.0027	4.27	<0.0001	22	1.1	<60	<0.00005	<0.005	<0.01	0.0017
W16	14/07/2010																									
W16	19/07/2010	High DL removed	55	High DL removed	<0.0005	0.06	0.161	<0.0002	<0.01	13	0.035	<0.0002	0.015	0.001		5	0.0027	4.14	<0.0001	20	0.983	<60	<0.00005	<0.005	<0.01	0.0016
W16	25/07/2010	High DL removed	55	High DL removed	<0.0005	0.053	0.763	0.0003	<0.01	16	0.057	<0.0002	0.017	0.006		6	0.0032	5.57	<0.0001	21	0.954	<60	<0.00005	<0.005	0.023	0.0021
W16	02/08/2010	High DL removed	51	High DL removed	<0.0005	0.042	0.408	<0.0002	<0.01	14	0.023	<0.0002	0.015	0.003		5	0.0028	4.44	<0.0001	20	0.864	<60	<0.00005	<0.005	<0.01	0.0016
W16	05/08/2010	High DL removed	53	High DL removed	<0.0005	0.045	0.191	<0.0002	<0.01	15	0.021	<0.0002	0.015	0.004		5	0.003	4.25	<0.0001	20	0.947	<60	<0.00005	<0.005	<0.01	0.0018
W16	10/08/2010	High DL removed	62	High DL removed	<0.0005	0.052	0.257	<0.0002	<0.01	18	0.051	<0.0002	0.018	0.002		6	0.0039	4.87	<0.0001	22	1.16	<60	<0.00005	<0.005	<0.01	0.0021
W16	15/08/2010	High DL removed	57	High DL removed	<0.0005	0.045	0.13	<0.0002	<0.01	16	0.053	<0.0002	0.016	0.001		5	0.0038	4.42	<0.0001	22	1.08	<60	<0.00005	<0.005	<0.01	0.0019
W16	22/08/2010	High DL removed	57	High DL removed	<0.0005	0.052	0.342	<0.0002	<0.01	15	0.048	<0.0002	0.017	0.002		5	0.0038	4.62	<0.0001	19	1.05	<60	<0.00005	<0.005	<0.01	0.0019
W16	29/08/2010	High DL removed	56	High DL removed	<0.0005	0.046	0.159	<0.0002	<0.01	16	0.023	<0.0002	0.015	0.002		6	0.0038	4.47	<0.0001	20	0.937	<60	<0.00005	<0.005	<0.01	0.0017
W16	06/09/2010	High DL removed	58	High DL removed	<0.0005	0.042	0.214	0.0008	<0.01	16	0.021	<0.0002	0.016	0.001		7	0.0043	4.67	<0.0001	21	0.981	<60	<0.00005	<0.005	<0.01	0.0016
W16	10/09/2010	High DL removed	58	High DL removed	<0.0005	0.037	0.113	<0.0002	<0.01	16	0.026	<0.0002	0.017	0.001		7	0.0042	4.4	<0.0001	21	1.03	<60	<0.00005	<0.005	<0.01	0.0016
W16	13/09/2010	High DL removed	52	High DL removed	<0.0005	0.029	0.089	<0.0002	<0.01	14	0.026	0.0003	0.014	0.001		6	0.0037	4.09	<0.0001	18	0.852	<60	<0.00005	<0.005	<0.01	0.0013
W16	19/09/2010	High DL removed	59	High DL removed	<0.0005	0.03	0.083	<0.0002	<0.01	16	0.048	<0.0002	0.015	0.001		6	0.004	4.44	<0.0001	19	0.965	<60	<0.00005	<0.005	<0.01	0.0015
W16	03/10/2010	0.00004	67	<0.001	<0.0005	0.0306	0.147	<0.0002	<0.005	18.4	0.081	<0.00002	0.015	0.001		6.91	0.0046	5.46	<0.00002	23.8	1.01	28	<0.00005	<0.005	<0.005	0.0015
W16	09/10/2010	0.00005	67.7	<0.001	<0.0005	0.0444	0.139	<0.0002	<0.005	19.4	0.1	<0.00002	0.018	0.001		6.77	0.0044	5.14	<0.00002	23.8	1.24	28	<0.00005	<0.005	<0.005	0.0019
W16	07/11/2010	0.00006	80.1	<0.001	<0.0005	0.0724	0.288	<0.0002	<0.005	23.1	0.129	<0.00002	0.019	0.001		6.87	0.0053	5.86	<0.00002	27.2	1.61	36	<0.00005	<0.005	0.007	0.0027
W16	06/12/2010	0.00013	78.1	<0.001	<0.0005	0.131	0.415	<0.0002	<0.005	21	0.127	<0.00002	0.018	0.001		6.4	0.0052	5.6	0.00005	24.6	1.53	35	<0.00005	<0.005	0.009	0.0025
W16	08/01/2011	0.0001	78.2	<0.001	<0.0005	0.0668	0.175	<0.0002	<0.005	21.2	0.136	<0.00002	0.02	0.003		6.96	0.0053	5.32	0.00002	26.2	1.64	34	<0.00005	<0.005	<0.005	0.0027
W16	04/02/2011	0.00006	82.5	<0.001	<0.0005	0.0547	0.128	<0.0002	0.005	23.4	0.185	<0.00002	0.02	0.001		7.94	0.0051	5.46	<0.00002	32.3	1.6	38	<0.00005	<0.005	<0.005	0.0027
W16	02/04/2011	0.00007	68.5	<0.001	<0.0005	0.0652	0.562	<0.0002	0.006	21.2	0.256	<0.00002	0.024	<0.001	0.023	10.1	0.0052	5.1	0.00003	41.4	1.41	35	<0.00005	<0.005	0.021	0.0022
W16	09/04/2011	0.00012	35.8	<0.001	0.0007	0.268	7.76	0.0004	<0.005	11	0.157	<0.00002	0.01	0.002	0.061	3.99	0.0024	3.32	0.00016	15	0.749	17	<0.00005	<0.005	0.031	0.0012
W16	16/04/2011	0.00005	76.5	<0.001	<0.0005	0.0408	0.501	<0.0002	0.006	24	0.255	<0.00002	0.021	0.001	0.015	9.29	0.0047	5.65	<0.00002	38.4	1.54	39	<0.00005	<0.005	0.02	0.0025
W16	25/04/2011	0.00003	15.1	<0.001	<0.0005	0.0311	0.442	<0.0002	<0.005	3.52	0.045	<0.00002	0.002	<0.001	0.014	1.34	0.0006	1.78	<0.00002	4.23	0.266	5	<0.00005	<0.005	<0.005	0.0004
W16	02/05/2011	0.00004	15.1	<0.001	<0.0005	0.062	0.619	<0.0002	<0.005	3.86	0.075	<0.00002	0.002	0.002		2.05	0.0003	3.38	0.00002	3.05	0.143	<3	<0.00005	<0.005	0.02	0.0002
W16	07/05/2011	0.00004	26.1	<0.001	0.0005	0.12	0.994	0.0002	<0.005	8.04	0.193	<0.00002	0.003	0.002	0.063	2.5	0.0009	3.8	0.00005	8.93	0.343	9	<0.00005	<0.005	0.022	0.0006
W16	14/05/2011	0.00005	34.7	<0.001	<0.0005	0.0429	0.572	<0.0002	<0.005	10.6	0.175	<0.00002	0.006	0.002	0.037	3.61	0.0013	3.8	0.00012	12.8	0.495	14	<0.00005	<0.005	0.013	0.001
W16	21/05/2011	0.00004	35.6	<0.001	<0.0005	0.0305	0.159	<0.0002	<0.005	11.1	0.157	<0.00002	0.006	0.001	0.017	3.45	0.0014	3.31	<0.00002	13.4	0.502	14	<0.00005	<0.005	<0.005	0.001
W16	29/05/2011	0.00002	36.9	<0.001	<0.0005	0.0385	0.465	0.0003	<0.005	11.4	0.164	<0.00002	0.006	0.002	0.025	3.5	0.0014	3.52	<0.00002	13.4	0.512	15	<0.00005	<0.005	0.01	0.0011
W16	04/06/2011	0.00003	36.7	<0.001	<0.0005	0.0322	0.223	<0.0002	<0.005	11.7	0.154	<0.00002	0.006	0.002	0.021	3.37	0.0012	3.01	<0.00002	14.1	0.522	15	<0.00005	<0.005	<0.005	0.0012
W16	13/06/2011	0.00045	37.8	<0.001	<0.0005	0.044	0.239	0.0006	<0.005	13.1	0.138	<0.00002	0.007	0.002	0.042	3.74	0.0012	3.3	<0.00002	14.9	0.537	16	<0.00005	<0.005	<0.005	0.0014
W16	27/06/2011	0.00005	41	<0.001	<0.0005	0.0309	0.245	0.0025	<0.005	13	0.142	<0.00002	0.007	0.002	0.027	3.43	0.0011	3.56	<0.00002	15.3	0.525	17	<0.00005	<0.005	<0.005	0.0012
W16	03/07/2011	0.00004	44.1	<0.001	<0.0005	0.0324	0.259	<0.0002	<0.005	13.7	0.144	<0.00002	0.006	0.002	0.019	3.48	0.0012	3.8	<0.00002	15.1	0.542	16	<0.00005	<0.005	<0.005	0.0013
W16	09/07/2011	0.00002	48.3	<0.001	<0.0005	0.0314	0.303	<0.0002	<0.005	15.4	0.125	<0.00002	0.007	0.002	0.022	3.73	0.0011	4.26	<0.00002	17.3	0.585	18	<0.00005	<0.005	0.005	0.0016
W16	16/07/2011	0.00005	46.8	<0.001	<0.0005	0.0315	0.258	<0.0002	<0.005	14.4	0.077	<0.00002	0.007	0.001	0.022	3.7	0.0012	4.03	<0.00002	15.5	0.533	17	<0.00005	<0.005	0.007	0.0012
W16	23/07/2011	0.00002	46.8	<0.001	<0.0005	0.0304	0.253	<0.0002	<0.005	14.7	0.045	<0.00002	0.006	0.001	0.025	3.41	0.001	4.19	<0.00002	15.8	0.547	17	<0.00005	<0.005	0.007	0.0014
W16	07/08/2011	0.00001	43.5	<0.001	<0.0005	0.0483	0.481	0.0002	<0.005	14.4	0.073	<0.00002	0.006	0.002	0.034	3.25	0.0012	4.83	<0.00002	13.9	0.531	15	<0.00005	<0.005	0.014	0.0011
W16	11/08/2011	0.00003	46.1	<0.001	<0.0005	0.04	0.353	<0.0002	<0.005	12.9	0.048	<0.00002	0.004	0.002	0.022	2.7	0.0011	4.96	<0.00002	11.7	0.379	14	<0.00005	<0.005	0.008	0.0008
W16	28/08/2011	0.00001	44.4	0.001	<0.0005	0.0333	0.129	<0.0002	<0.005	13.5	0.013	<0.00002	0.005	0.002		2.52	0.0012	4.42	<0.00002	11.7	0.468	14	<0.00005	<0.005	<0.005	0.0009
W16	30/08/2011	0.00002	39.6	<0.001	<0.0005	0.0272	0.123	<0.0002	<0.005	11.2	0.014	<0.00002	0.004	0.001	0.029	2.31	0.0011	4.1	<0.00002	9.64	0.42	13	<0.00005	<0.005	<0.005	0.0008
W16	05/09/2011	0.00003	44.1	<0.001	<0.0005	0.0316	0.105	<0.0002	<0.005	13.3	0.015	<0.00002	0.004	0.001	0.018	2.64	0.0012	4.33	<0.00002	12	0.462	14	<0.00005	<0.005	<0.005	0.0009
W16	10/09/2011	0.00002	39.6	<0.001	<0.0005	0.0329	0.123	<0.0002	<0.005	13.5	0.017	<0.00002	0.005	0.001	0.036	2.66	0.0011	4.09	<0.00002	12.2	0.457	14	<0.00005	<0.005	<0.005	0.001
W16	24/09/2011	0.00001	48.3	<0.001	<0.0005	0.0314	0.104	<0.0002	<0.005	13.9	0.026	<0.00002	0.005	0.001	0.017	2.73	0.0015	4.76	<0.00002	13.1	0.491	14	<0.00005	<0.005	<0.005	0.0011
W16	30/09/2011	0.00002	44.1	<0.001	<0.0005	0.0296	0.091	<0.0002	<0.005	14.3	0.032	<0.00002	0.005	0.002	0.014	2.89	0.0013	4.43	<0.00002	13	0.505	15	<0.00005	<0.005	<0.005	0.0011

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W16	27/10/2009	0.0006	0.104	0.0001																						
W16	05/11/2009	0.0008	0.015	0.0002																						
W16	02/12/2009	0.0008	0.013	0.0007																						
W16	04/01/2010	0.0008	0.012	0.0002	0.03	0.0077	0.0006	0.131	<0.00004	<0.001	0.036	0.00018	65.3	<0.0004	0.00029	0.009	0.04	0.0004	0.003	18.4	0.36	<0.00001	0.0172	0.007	0.03	5.8
W16	01/02/2010	0.0006	0.006	0.0002																						
W16	02/03/2010	0.001	0.024	0.0001																						
W16	05/04/2010	0.001	0.007	0.0001																						
W16	28/04/2010	<0.005	0.008	<0.0005	0.016	<0.0005	<0.0001	0.024	<0.0001	<0.001	<0.05	0.00005	7.74	<0.001	<0.0005	0.0073	0.012	<0.0002	<0.005	1.29	0.032	<0.00002	0.001	<0.001		0.87
W16	04/05/2010	<0.005	0.009	<0.0005	0.032	<0.0005	0.0004	0.074	<0.0001	<0.001	<0.05	0.00003	45.7	<0.001	<0.0005	0.0282	0.123	<0.0002	<0.005	12.3	0.072	0.00003	0.008	0.001	0.013	4.17
W16	11/05/2010	<0.005	0.009	0.0021	0.033	<0.0005	0.0005	0.085	<0.0001	<0.001	<0.05	0.00006	42.2	<0.001	<0.0005	0.0407	0.126	<0.0002	<0.005	12	0.168	0.00003	0.007	0.001	0.011	4.01
W16	18/05/2010	<0.005	0.008	<0.0005	0.024	<0.0005	0.0003	0.084	<0.0001	<0.001	<0.05	0.00002	47.9	<0.001	<0.0005	0.0306	0.126	<0.0002	<0.005	14.8	0.151	<0.00002	0.008	<0.001	0.013	4.41
W16	26/05/2010	<0.005	<0.01	<0.002	0.025	<0.0005	High DL removed	0.096	<0.0005	<0.001	<0.1	High DL removed	55	High DL removed	<0.0005	0.033	0.138	<0.0002	<0.01	18	0.106	<0.00002	0.01	High DL removed		5
W16	02/06/2010	<0.005	<0.01	<0.002	0.028	<0.0005	0.0005	0.08	<0.0002	<0.001	<0.1	High DL removed	53	High DL removed	<0.0005	0.03	0.094	<0.0002	<0.01	14	0.021	<0.0002	0.013	0.001		6
W16	14/06/2010	<0.005	<0.01	<0.002	0.022	<0.0005	0.0005	0.076	<0.0002	<0.001	<0.1	High DL removed	48	High DL removed	<0.0005	0.055	0.071	<0.0002	<0.01	14	0.029	<0.0002	0.014	0.001		5
W16	15/06/2010	<0.005	<0.01	<0.002	0.023	<0.0005	0.0005	0.076	<0.0002	<0.001	<0.1	High DL removed	49	High DL removed	<0.0005	0.055	0.074	<0.0002	<0.01	14	0.034	<0.0002	0.014	<0.001		5
W16	16/06/2010	<0.005	<0.01	<0.002	0.021	<0.0005	0.0005	0.078	<0.0002	<0.001	<0.1	High DL removed	51	High DL removed	<0.0005	0.06	0.075	<0.0002	<0.01	14	0.035	<0.0002	0.015	<0.001		5
W16	17/06/2010	<0.005	<0.01	<0.002	0.028	<0.0005	0.0006	0.076	<0.0002	<0.001	<0.1	High DL removed	50	High DL removed	<0.0005	0.058	0.078	<0.0002	<0.01	14	0.026	<0.0002	0.015	<0.001		5
W16	23/06/2010	<0.005	<0.01	<0.002	0.022	<0.0005	0.0005	0.078	<0.0002	<0.001	<0.1	High DL removed	48	High DL removed	<0.0005	0.058	0.055	<0.0002	<0.01	14	0.033	<0.0002	0.015	<0.001		5
W16	24/06/2010	<0.005	<0.01	<0.002	0.024	<0.0005	0.0005	0.078	<0.0002	<0.001	<0.1	High DL removed	50	High DL removed	<0.0005	0.052	0.075	<0.0002	<0.01	13	0.041	<0.0002	0.015	<0.001		5
W16	29/06/2010	<0.005	<0.01	<0.002	0.019	<0.0005	0.0005	0.079	<0.0002	<0.001	<0.1	High DL removed	50	High DL removed	<0.0005	0.07	0.08	<0.0002	<0.01	14	0.056	<0.0002	0.016	<0.001		5
W16	04/07/2010	<0.005	<0.01	<0.002	0.023	<0.0005	0.0005	0.088	<0.0002	<0.001	<0.1	High DL removed	51	High DL removed	<0.0005	0.074	0.098	<0.0002	<0.01	15	0.074	<0.0002	0.017	<0.001		5
W16	11/07/2010	<0.005	<0.01	<0.002	0.034	<0.0005	0.0005	0.072	<0.0002	<0.001	<0.1	High DL removed	50	High DL removed	<0.0005	0.054	0.062	<0.0002	<0.01	14	0.056	<0.0002	0.015	0.001		5
W16	14/07/2010																									
W16	19/07/2010	<0.005	<0.01	<0.002	0.03	<0.0005	0.0006	0.084	<0.0002	<0.001	<0.1	High DL removed	52	High DL removed	<0.0005	0.053	0.065	<0.0002	<0.01	15	0.002	<0.0002	0.016	0.001		5
W16	25/07/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	0.0005	0.101	<0.0002	<0.001	<0.1	High DL removed	53	High DL removed	<0.0005	0.027	0.036	<0.0002	<0.01	15	0.01	<0.0002	0.016	0.001		6
W16	02/08/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	0.0006	0.102	<0.0002	<0.001	<0.1	High DL removed	55	High DL removed	<0.0005	0.016	0.022	<0.0002	<0.01	15	0.004	<0.0002	0.016	0.001		5
W16	05/08/2010	<0.005	<0.01	0.002	<0.01	<0.0005	0.0004	0.081	<0.0002	<0.001	<0.1	High DL removed	63	High DL removed	<0.0005	0.007	<0.02	<0.0002	<0.01	18	0.039	<0.0002	0.007	<0.001		4
W16	10/08/2010	<0.005	<0.01	<0.002	0.011	<0.0005	0.0006	0.106	<0.0002	<0.001	<0.1	High DL removed	58	High DL removed	<0.0005	0.033	0.049	<0.0002	<0.01	16	0.036	<0.0002	0.016	0.001		5
W16	15/08/2010	<0.005	<0.01	<0.002	0.01	<0.0005	0.0007	0.101	<0.0002	<0.001	<0.1	High DL removed	59	High DL removed	<0.0005	0.039	0.047	<0.0002	<0.01	16	0.046	<0.0002	0.016	0.001		5
W16	22/08/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	0.0006	0.1	<0.0002	<0.001	<0.1	High DL removed	55	High DL removed	<0.0005	0.037	0.028	<0.0002	<0.01	15	0.019	<0.0002	0.016	0.001		5
W16	29/08/2010	<0.005	<0.01	<0.002	0.011	<0.0005	0.0006	0.097	<0.0002	<0.001	<0.1	High DL removed	55	High DL removed	<0.0005	0.036	0.025	<0.0002	<0.01	15	<0.001	<0.0002	0.016	0.001		5
W16	06/09/2010	<0.005	<0.01	<0.002	0.016	0.0009	0.0006	0.102	<0.0002	<0.001	<0.1	High DL removed	60	High DL removed	<0.0005	0.015	0.033	<0.0002	<0.01	15	0.012	<0.0002	0.017	0.001		6
W16	10/09/2010	<0.005	<0.01	<0.002	0.014	<0.0005	0.0006	0.107	<0.0002	<0.001	<0.1	High DL removed	57	High DL removed	<0.0005	0.019	0.026	<0.0002	<0.01	16	0.023	<0.0002	0.018	0.001		7
W16	13/09/2010	<0.005	<0.01	<0.002	0.017	<0.0005	0.0006	0.11	<0.0002	<0.001	<0.1	High DL removed	59	High DL removed	<0.0005	0.02	0.046	<0.0002	<0.01	16	0.029	<0.0002	0.017	0.003		7
W16	19/09/2010	<0.005	<0.01	<0.002	0.015	<0.0005	0.0006	0.109	<0.0002	<0.001	<0.1	High DL removed	63	High DL removed	<0.0005	0.024	0.042	<0.0002	<0.01	18	0.051	<0.0002	0.016	0.001		7
W16	03/10/2010	<0.005	<0.005	<0.0005	0.011	<0.0005	0.0005	0.113	<0.0001	<0.001	<0.05	0.00003	66	<0.001	<0.0005	0.0244	0.057	<0.0002	<0.005	16.9	0.079	<0.00002	0.015	0.001		6.27
W16	09/10/2010	<0.005	<0.005	<0.0005	0.011	<0.0005	0.0005	0.109	<0.0001	<0.001	<0.05	0.00004	61.5	<0.001	<0.0005	0.0296	0.055	<0.0002	<0.005	16.6	0.086	<0.00002	0.015	0.001		6.39
W16	07/11/2010	<0.005	<0.005	<0.0005	0.01	<0.0005	0.0006	0.123	<0.0001	<0.001	0.061	0.00003	77.1	<0.001	<0.0005	0.0307	0.048	<0.0002	<0.005	21.4	0.116	<0.00002	0.02	0.001		6.59
W16	06/12/2010	<0.005	0.005	<0.0005	0.062	<0.0005	0.0006	0.12	<0.0001	<0.001	0.051	0.00011	80.4	<0.001	<0.0005	0.0389	0.202	<0.0002	<0.005	21.6	0.125	<0.00002	0.018	0.001		6.69
W16	08/01/2011	<0.005	0.005	<0.0005	0.019	<0.0005	0.0006	0.123	<0.0001	<0.001	0.056	0.00006	76.3	<0.001	<0.0005	0.033	0.077	<0.0002	<0.005	21.4	0.123	<0.00002	0.019	0.002		7.01
W16	04/02/2011	<0.005	0.008	<0.0005	0.017	<0.0005	0.0005	0.124	<0.0001	<0.001	0.056	0.00007	77.8	<0.001	<0.0005	0.0305	0.061	<0.0002	<0.005	24	0.169	<0.00002	0.017	0.001		8.02
W16	02/04/2011	<0.005	0.006	<0.0005	0.006	<0.0005	0.0004	0.105	<0.0001	<0.001	0.056	0.00006	63.4	<0.001	<0.0005	0.0242	0.026	<0.0002	0.006	21	0.233	<0.00002	0.023	<0.001	<0.01	9.94
W16	09/04/2011	<0.005	0.027	<0.0005	0.006	<0.0005	0.0001	0.058	<0.0001	<0.001	<0.05	0.00002	33	<0.001	<0.0005	0.0126	0.057	<0.0002	<0.005	9.34	0.103	<0.00002	0.008	0.001	<0.01	3.43
W16	16/04/2011	<0.005	<0.005	<0.0005	0.006	<0.0005	0.0004	0.127	<0.0001	<0.001	0.057	0.00011	77.2	<0.001	<0.0005	0.0261	0.029	<0.0002	0.006	23.9	0.234	<0.00002	0.018	0.001	0.01	9.31
W16	25/04/2011	<0.005	0.005	<0.0005	0.005	<0.0005	<0.0001	0.03	<0.0001	<0.001	<0.05	<0.00001	13.8	<0.001	<0.0005	0.0074	0.048	<0.0002	<0.005	3.02	0.036	<0.00002	0.002	<0.001	<0.01	1.12
W16	02/05/2011	<0.005	0.009	<0.0005	0.04	<0.0005	0.0002	0.032	<0.0001	<0.001	<0.05	0.00003	14.6	<0.001	<0.0005	0.0307	0.125	<0.0002	<0.005	3.39	0.053	<0.00002	0.001	0.001		1.79
W16	07/05/2011	<0.005	0.006	<0.0005	0.037	<0.0005	0.0003	0.046	<0.0001	<0.001	<0.05	0.00003	22.4	<0.001	<0.0005	0.0283	0.15	<0.0002	<0.005	6.83	0.167	<0.00002	0.003	0.001	0.016	2.15
W16	14/05/2011	<0.005	<0.005	<0.0005	0.042	<0.0005	0.0004	0.062	<0.0001	<0.001	<0.05	0.00005	34.5	<0.001	<0.0005	0.0313	0.151	<0.0002	<0.005	10.5	0.162	<0.00002	0.005	0.001	0.015	3.52
W16	21/05/2011	<0.005	<0.005	<0.0005	0.139	<0.0005	0.0004	0.067	<0.0001	<0.001	<0.05	0.00004	39	<0.001	<0.0005	0.0338	0.297	<0.0002	<0.005	11.2	0.171	<0.00002	0.005	0.001	0.024	3.71
W16	29/05/2011	<0.005	<0.005	<0.0005	0.029	<0.0005	0.0004	0.069	<0.0001	<0.001	<0.05	0.00002	40.7	<0.001	<0.0005	0.0319	0.137	<0.0002	<0.005	11.7	0.161	<0.00002	0.005	0.001	0.021	3.69
W16	04/06/2011	<0.005	<0.005	<0.0005	0.031	<0.0005	0.0004	0.072	<0.0001	<0.001	<0.05	0.00003	40.1	<0.001	<0.0005	0.0319	0.145	<0.0002	<0.005	12.5	0.158	<0.00002	0.006	0.002	0.017	3.61
W16	13/06/2011	<0.005	0.009	<0.0005	0.073	<0.0005	0.0004	0.077	<0.0001	<0.001	<0.05	0.00021	42.4	<0.001	<0.0005	0.038	0.224	0.0003	<0.005	13.8	0.131	<0.00002	0.007	0.002	0.018	4.03
W16	27/06/2011	<0.005	<0.005	<0.0005	0.029	<0.0005	0.0004	0.075	<0.0001	<0.001	<0.05	0.00004	44.6	<0.001	<0.0005	0.0322	0.14	<0.0002	<0.005	14.1	0.154	<0.00002	0.006	0.001	0.014	3.71
W16	03/07/2011	<0.005	0.006	<0.0005	0.234	<0.0005	0.0005	0.082	<0.0001	<0.001	<0.05	0.00003	48	<0.001	<0.0005	0.0385	0.454	<0.0002	<0.005	15.5	0.165	<0.00002	0.006	0.002	0.051	3.96
W16	09/07/2011	<0.005	<0.005	<0.0005	0.029	<0.0005	0.0004	0.076	<0.0001	<0.001	<0.05	0.00002	48.9	<0.001	<0.0005	0.0294	0.115	<0.0002	<0.005	15.1	0.101	<0.00002	0.005	0.001	0.013	3.84
W16	16/07/2011	<0.005	<0.005	<0.0005	0.019	<0.0005	0.0004	0.076	<0.0001	<0.001	<0.05	0.00006	45.5	<0.001	<0.0005	0.0271	0.064	<0.0002	<0.005	14.7	0.019	<0.00002	0.006	0.002	0.025	3.8
W16	23/07/2011	<0.005	<0.005	<0.0005	0.016	<0.0005	0.0004	0.073	<0.0001	<0.001	<0.05	0.00002	45.9	<0.001	<0.0005	0.0259	0.049	<0.0002	<0.005	13.9	0.025	<0.00002	0.006	0.001	<0.01	3.31
W16	07/08/2011	<0.005	<0.005	<0.0005	0.02	<0.0005	0.0005	0.08	<0.0001	<0.001	<0.05	0.00003	47.5	<0.001	<0.0005	0.0398	0.082	<0.0002	<0.005	14.4	0.02	<0.00002	0.005	0.001	<0.01	2.91
W16	11/08/2011	<0.005	0.009	<0.0005	0.017	<0.0005	0.0004	0.077	<0.0001	<0.001	<0.05	0.00002	47.9	<0.001	<0.0005	0.032	0.091	<0.0002	<0.005	13.5	0.006	<0.00002	0.004	0.001	<0.01	2.76
W16	28/08/2011	<0.005	<0.005	<0.0005	0.015	<0.0005	0.0004	0.079	<0.0001	<0.001	<0.05	0.00002	48.6	<0.001	<0.0005	0.0297	0.065	<0.0002	<0.005	13.7	0.006	<0.00002	0.004	0.001		2.74
W16	30/08/2011	<0.005	<0.005	<0.0005	0.018	<0.0005	0.0004	0.075	<0.0001	<0.001	<0.05	0.00002	46.5	<0.001	<0.0005	0.0307	0.063	<0.0002	<0.005	13.7	0.007	<0.00002	0.004	0.001	0.01	2.69
W16	05/09/2011	<0.005	<0.005	<0.0005	0.027	<0.0005	0.0004	0.077	<0.0001	<0.001	<0.05	0.00002	51	<0.001	<0.0005	0.0303	0.105	<0.0002	<0.005	13.5	0.008	<0.00002	0.004	0.001	<0.01	2.79
W16	10/09/2011	<0.005	<0.005	<0.0005	0.016	<0.0005	0.0004	0.08	<0.0001	<0.001	<0.05	0.00002	49.7	<0.001	<0.0005	0.0308	0.058	<0.0002	<0.005	14.7	0.008	<0.00002	0.004	0.002	<0.01	3.02
W16	24/09/2011	<0.005	<0.005	<0.0005	0.02	<0.0005	0.0004	0.08	<0.0001	<0.001	<0.05	0.00002	51.8	<0.001	<0.0005	0.0297	0.066	<0.0002	<0.005	14.1	0.019	<0.00002	0.005	0.001	0.01	3.13
W16	30/09/2011	<0.005	<0.005	<0.0005	0.023	<0.0005	0.0004	0.081	<0.0001	<0.001	<0.05	0.00002	48.5	<0.001	<0.0005	0.0318	0.079	<0.0002	<0.005	15.4	0.024	<0.00002	0.005	0.001	<0.01	3.05

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	BOD5	Br	Cation	COD	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-T	N-TKN	P-PO4T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L
W16	27/10/2009														90	<6	<5														0.58	0.04
W16	05/11/2009														130	<6	<5														0.88	0.04
W16	02/12/2009														150	<6	<5														0.12	0.05
W16	04/01/2010	0.0028	3.89	<0.00001	22.6	1.08	26.9	<0.00001	<0.0001	<0.01	0.0013	0.0005	0.02	0.0001	170	<6	<5														1.82	0.05
W16	01/02/2010														100	<6	<5														1.88	0.05
W16	02/03/2010														190	<6	<5														1.5	0.05
W16	05/04/2010														190	<6	<5														0.38	0.06
W16	28/04/2010	0.0002	0.723	<0.00002	2.13	0.082	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	25	<0.5	<0.5	<0.5			<0.4											
W16	04/05/2010	0.0014	3.97	<0.00002	14	0.483	17	<0.00005	<0.005	<0.005	0.0009	<0.005	<0.005	<0.0005	130	<0.5	<0.5	<0.5			<0.4											
W16	11/05/2010	0.0012	4.28	<0.00002	13.1	0.454	14	<0.00005	<0.005	<0.005	0.0009	<0.005	<0.005	<0.0005	130	<0.5	<0.5	<0.5			<0.4											
W16	18/05/2010	0.0015	4.37	<0.00002	17.9	0.467	19	<0.00005	<0.005	<0.005	0.001	<0.005	<0.005	<0.0005	150	<0.5	<0.5	<0.5			<0.4											
W16	26/05/2010	0.002	4.89	High DL removed	21	0.634	<60	<0.00005	<0.005	<0.01	0.001	<0.005	<0.01	<0.002	150	<0.5	<0.5	<0.5			<0.4											
W16	02/06/2010	0.0022	4.39	High DL removed	18	0.808	<60	<0.00005	<0.005	<0.01	0.0013	<0.005	<0.01	<0.002	150	<0.5	<0.5	<0.5			<0.4											
W16	14/06/2010	0.0025	4.4	High DL removed	21	0.988	<60	<0.00005	<0.005	<0.01	0.0018	<0.005	<0.01	<0.002	150	<0.5	<0.5	<0.5			<0.4											
W16	15/06/2010	0.0024	4.37	High DL removed	21	0.99	<60	<0.00005	<0.005	<0.01	0.0018	<0.005	<0.01	<0.002	150	1.5	<0.5	1.3			<0.4											
W16	16/06/2010	0.0027	4.18	High DL removed	19	1.05	<60	<0.00005	<0.005	<0.01	0.0018	<0.005	<0.01	<0.002	150	<0.5	<0.5	<0.5			<0.4											
W16	17/06/2010	0.0026	4.28	High DL removed	19	1.02	<60	<0.00005	<0.005	<0.01	0.0018	<0.005	<0.01	<0.002	150	<0.5	<0.5	<0.5			<0.4											
W16	23/06/2010	0.0025	3.98	High DL removed	18	0.985	<60	<0.00005	<0.005	<0.01	0.0017	<0.005	<0.01	<0.002	150	<0.5	<0.5	<0.5			<0.4							13.8				
W16	24/06/2010	0.0025	4.2	High DL removed	17	1.02	<60	<0.00005	<0.005	<0.01	0.0017	<0.005	<0.01	<0.002	160	<0.5	<0.5	<0.5			<0.4							15.1				
W16	29/06/2010	0.0025	4.82	High DL removed	19	1.13	<60	<0.00005	<0.005	<0.01	0.0017	<0.005	<0.01	<0.002	150	<0.5	<0.5	<0.5			<0.4											
W16	04/07/2010	0.0027	4.32	High DL removed	20	1.24	<60	<0.00005	<0.005	<0.01	0.0021	<0.005	<0.01	<0.002	160	<0.5	<0.5	<0.5			<0.4											
W16	11/07/2010	0.0029	3.95	High DL removed	19	1.06	<60	<0.00005	<0.005	<0.01	0.0017	<0.005	<0.01	<0.002	160	<0.5	<0.5	<0.5			<0.4											
W16	14/07/2010																															
W16	19/07/2010	0.0028	4.11	High DL removed	20	1.1	<60	<0.00005	<0.005	<0.01	0.0019	<0.005	<0.01	<0.002	160	<0.5	<0.5	<0.5			<0.4											
W16	25/07/2010	0.0031	4.2	High DL removed	20	0.917	<60	<0.00005	<0.005	<0.01	0.0018	<0.005	<0.01	<0.002	160	<0.5	<0.5	<0.5			<0.4											
W16	02/08/2010	0.0033	4.67	High DL removed	22	0.969	<60	<0.00005	<0.005	<0.01	0.0018	<0.005	<0.01	<0.002	170	<0.5	<0.5	<0.5			<0.4											
W16	05/08/2010	0.0019	5.7	High DL removed	20	0.583	<60	<0.00005	<0.005	<0.01	0.0021	<0.005	<0.01	<0.002	160	<0.5	<0.5	<0.5			<0.4											
W16	10/08/2010	0.0038	4.68	High DL removed	22	1.07	<60	<0.00005	<0.005	<0.01	0.0019	<0.005	<0.01	<0.002	170	<0.5	<0.5	<0.5			<0.4											
W16	15/08/2010	0.0039	4.43	High DL removed	20	1.08	<60	<0.00005	<0.005	<0.01	0.0018	<0.005	<0.01	<0.002	160	<0.5	<0.5	<0.5			<0.4											
W16	22/08/2010	0.0039	4.3	High DL removed	20	0.993	<60	<0.00005	<0.005	<0.01	0.0017	<0.005	<0.01	<0.002	170	0.7	<0.5	0.6			<0.4											
W16	29/08/2010	0.0039	4.36	High DL removed	20	0.945	<60	<0.00005	<0.005	<0.01	0.0016	<0.005	<0.01	<0.002	170	<0.5	<0.5	<0.5			<0.4											
W16	06/09/2010	0.0045	4.56	High DL removed	21	1.05	<60	<0.00005	<0.005	<0.01	0.0016	<0.005	<0.01	<0.002	170	<0.5	<0.5	<0.5			<0.4											
W16	10/09/2010	0.0048	4.25	High DL removed	23	1.03	<60	<0.00005	<0.005	<0.01	0.0016	<0.005	<0.01	<0.002	170	<0.5	<0.5	<0.5			<0.4											
W16	13/09/2010	0.0045	4.68	High DL removed	23	1.04	<60	<0.00005	<0.005	<0.01	0.0015	<0.005	<0.01	<0.002	170	<0.5	<0.5	<0.5			<0.4											
W16	19/09/2010	0.0043	4.75	High DL removed	22	1.03	<60	<0.00005	<0.005	<0.01	0.0015	<0.005	<0.01	<0.002	180	<0.5	<0.5	<0.5			<0.4											
W16	03/10/2010	0.0043	5.27	<0.00002	21.9	0.981	25	<0.00005	<0.005	<0.005	0.0014	<0.005	<0.005	<0.0005	190	<0.5	<0.5	<0.5			<0.4											
W16	09/10/2010	0.0041	4.73	<0.00002	19.3	1.11	27	<0.00005	<0.005	<0.005	0.0016	<0.005	<0.005	<0.0005	190	<0.5	<0.5	<0.5			<0.4											
W16	07/11/2010	0.0053	5.57	<0.00002	28	1.69	37	<0.00005	<0.005	<0.005	0.0026	<0.005	<0.005	<0.0005	210	<0.5	<0.5	<0.5			<0.4											
W16	06/12/2010	0.0051	5.57	<0.00002	25.6	1.61	38	<0.00005	<0.005	<0.005	0.0026	<0.005	<0.005	<0.0005	210	<0.5	<0.5	<0.5			<0.01											
W16	08/01/2011	0.0054	5.37	<0.00002	26.7	1.59	37	<0.00005	<0.005	<0.005	0.0025	<0.005	<0.005	<0.0005	210	<0.5	<0.5	<0.5			<0.1											
W16	04/02/2011	0.0048	5.36	<0.00002	32.8	1.54	41	<0.00005	<0.005	<0.005	0.0024	<0.005	0.008	<0.0005	230	<0.5	<0.5	<0.5			<0.4											
W16	02/04/2011	0.0059	4.31	<0.00002	41.9	1.31	41	<0.00005	<0.005	<0.005	0.0021	<0.005	<0.005	<0.0005	200	<0.5	<0.5	<0.5			<0.4											
W16	09/04/2011	0.0021	2.05	<0.00002	12.6	0.675	18	<0.00005	<0.005	<0.005	0.001	<0.005	<0.005	<0.0005	99	<0.5	<0.5	<0.5			<0.4											
W16	16/04/2011	0.0048	5.19	<0.00002	37	1.53	40	<0.00005	<0.005	<0.005	0.0023	<0.005	<0.005	<0.0005	230	<0.5	<0.5	<0.5			<0.4											
W16	25/04/2011	0.0006	1.43	<0.00002	3.71	0.243	4	<0.00005	<0.005	<0.005	0.0004	<0.005	<0.005	<0.0005	50	<0.5	<0.5	<0.5														
W16	02/05/2011	0.0003	2.78	<0.00002	2.82	0.131	<3	<0.00005	<0.005	<0.005	0.0002	<0.005	0.005	<0.0005	52	<0.5	<0.5	<0.5														
W16	07/05/2011	0.0008	2.45	<0.00002	8.32	0.312	8	<0.00005	<0.005	<0.005	0.0005	<0.005	<0.005	<0.0005	80	<0.5	<0.5	<0.5														
W16	14/05/2011	0.0014	3.28	<0.00002	13.3	0.497	14	<0.00005	<0.005	<0.005	0.001	<0.005	<0.005	<0.0005	110	<0.5	<0.5	<0.5														
W16	21/05/2011	0.0015	3.83	<0.00002	13.6	0.534	16	<0.00005	<0.005	0.006	0.001	<0.005	<0.005	<0.0005	120	<0.5	<0.5	<0.5														
W16	29/05/2011	0.0014	3.53	<0.00002	14.6	0.556	17	<0.00005	<0.005	<0.005	0.0011	<0.005	<0.005	<0.0005	130	<0.5	<0.5	<0.5														
W16	04/06/2011	0.0014	3.3	<0.00002	15.1	0.563	16	<0.00005	<0.005	<0.005	0.0011	<0.005	<0.005	<0.0005	140	<0.5	<0.5	<0.5														
W16	13/06/2011	0.0014	3.2	0.00002	16.1	0.615	17	<0.00005	<0.005	<0.005	0.0014	<0.005	0.008	<0.0005	150	<0.5	<0.5	<0.5														
W16	27/06/2011	0.0013	3.66	<0.00002	16.4	0.583	17	<0.00005	<0.005	<0.005	0.0014	<0.005	0.005	<0.0005	160	<0.5	<0.5	<0.5														
W16	03/07/2011	0.0013	4.61	<0.00002	17.8	0.576	21	<0.00005	<0.005	0.009	0.0013	<0.005	<0.005	<0.0005	160	<0.5	<0.5	<0.5														
W16	09/07/2011	0.0013	4.17	<0.00002	16.9	0.549	19	<0.00005	<0.005	<0.005	0.0012	<0.005	<0.005	<0.0005	160	<0.5	<0.5	<0.5														
W16	16/07/2011	0.0011	3.67	<0.00002	16.6	0.561	18	<0.00005	<0.005	<0.005	0.0014	<0.005	0.014	<0.0005	160	<0.5	<0.5	<0.5														
W16	23/07/2011	0.0013	3.73	<0.00002	15.1	0.587	17	<0.00005	<0.005	<0.005	0.0014	<0.005	<0.005	<0.0005	170	<0.5	<0.5	<0.5														
W16	07/08/2011	0.0013	4.77	<0.00002	13.7	0.547	16	<0.00005	<0.005	<0.005	0.0011	<0.005	<0.005	<0.0005	160	<0.5	<0.5	<0.5														
W16	11/08/2011	0.0013	5.04	<0.00002	12.4	0.463	14	<0.00005	<0.005	<0.005	0.001	<0.005	<0.005	<0.0005	150	<0.5	<0.5	<0.5														
W16	28/08/2011	0.0013	5.07	<0.00002	12.2	0.486	16	<0.00005	<0.005	<0.005	0.0008	<0.005	<0.005	<0.0005	150	<0.5	<0.5	<0.5														
W16	30/08/2011	0.0013	4.59	<0.00002	12.5	0.486	14	<0.00005	<0.005	<0.005	0.0009	<0.005	<0.005	<0.0005	160	<0.5	<0.5	<0.5														
W16	05/09/2011	0.0014	5.17	<0.00002	12.6	0.496	14	<0.00005	<0.005	<0.005	0.0009	<0.005	<0.005	<0.0005	160	<0.5	<0.5	<0.5														
W16	10/09/2011	0.0014	4.99	<0.00002	13.7	0.534	16	<0.00005	<0.005	<0.005	0.001	<0.005	0.006	<0.0005	160	<0.5	<0.5	<0.5														
W16	24/09/2011	0.0016	5.15	<0.00002	13.3	0.523	16	<0.00005	<0.005	<0.005	0.0011	<0.005	<0.005	<0.0005	170	<0.5	<0.5	<0.5														
W16	30/09/2011	0.0016	4.71	<0.00002	14.4	0.56	17	<0.00005	<0.005	<0.005	0.0011	<0.005	<0.005	<0.0005	180	<0.5	<0.5	<0.5														

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	P-TDP	P-TRP	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		mg/L	mg/L	Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W16	27/10/2009							0.9	
W16	05/11/2009							3	
W16	02/12/2009							2.1	
W16	04/01/2010							1.7	
W16	01/02/2010							1.3	
W16	02/03/2010							1.5	
W16	05/04/2010							6.2	
W16	28/04/2010		<0.005					1.5	0.9
W16	04/05/2010		<0.005					9.2	11
W16	11/05/2010		<0.005					8.7	
W16	18/05/2010		<0.005					5.6	
W16	26/05/2010		<0.005					6.3	
W16	02/06/2010		<0.005					7.2	
W16	14/06/2010		<0.005					1.5	
W16	15/06/2010		<0.005					1.7	
W16	16/06/2010		<0.005					1.5	
W16	17/06/2010		<0.005					4.4	
W16	23/06/2010		<0.005					1	-4.1
W16	24/06/2010		<0.005					1.4	-4
W16	29/06/2010		<0.005					2.4	-2.5
W16	04/07/2010		<0.005					1.5	-3.5
W16	11/07/2010		<0.005					1.4	-2.4
W16	14/07/2010								-3.6
W16	19/07/2010		<0.005					3.5	-1
W16	25/07/2010		<0.005					13.5	9.3
W16	02/08/2010		<0.005					4.1	-0.1
W16	05/08/2010		<0.005					2.8	-2.2
W16	10/08/2010		<0.005					2.5	-3
W16	15/08/2010		<0.005					2.2	-2.6
W16	22/08/2010		<0.005					8.6	2.9
W16	29/08/2010		<0.005					3	-1.6
W16	06/09/2010		<0.005					1.3	-3.2
W16	10/09/2010		<0.005					1.5	-2.6
W16	13/09/2010		<0.005					1.3	-1.6
W16	19/09/2010		<0.005					0.8	0.7
W16	03/10/2010		<0.005					1.2	
W16	09/10/2010		<0.005					1.74	-2.6
W16	07/11/2010		0.009					2.5	-2
W16	06/12/2010		<0.005					2.6	-2.2
W16	08/01/2011		0.005					1.4	-3.7
W16	04/02/2011							1	-3.7
W16	02/04/2011		<0.005					7.5	
W16	09/04/2011		<0.005					39.4	
W16	16/04/2011		<0.005					5.7	
W16	25/04/2011								
W16	02/05/2011								
W16	07/05/2011								
W16	14/05/2011								
W16	21/05/2011								
W16	29/05/2011								
W16	04/06/2011								
W16	13/06/2011								
W16	27/06/2011								
W16	03/07/2011								
W16	09/07/2011								
W16	16/07/2011								
W16	23/07/2011								
W16	07/08/2011								
W16	11/08/2011								
W16	28/08/2011								
W16	30/08/2011								
W16	05/09/2011								
W16	10/09/2011								
W16	24/09/2011								
W16	30/09/2011								

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T	B-T
			mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W16	06/10/2011	P	2	260	7.72	8.21	433.1	426	5.9	7.07	56.6		188	189	150	4.4		41	0.029	<0.05	5.3	15	0.052	<0.0005	0.0004	0.077	<0.0001	<0.001	<0.05
W16	18/10/2011	P	7	280	7.69	8.15	445.6	431	2.7	8.61	63.7		195	190	150	5		48	0.009	0.015	5.3	15.3	0.041	<0.0005	0.0005	0.082	<0.0001	<0.001	<0.05
W16	13/11/2011	P	3.7	546	7.77	8.36	600	792	0	11.34	77.6		374	355	302	10			0.0755	0.032	8.77	28.3	0.127	<0.0005	0.0008	0.155	<0.0001	<0.001	0.067
W16	21/11/2011	P	5.1	284		8.01		456					203	222	165	5.5			0.0359	0.012	4.98	14.6	0.118	0.0008	0.0004	0.088	<0.0001	<0.001	<0.05
W16	13/02/2012	P	<4.0	298		8.19		494					200	219	188	5.4			0.0067	0.012	4.52		0.048	<0.0005	0.0004	0.074	<0.0001	<0.001	<0.05
W16	24/03/2012	P	1.3	322		8.22		510					231	236	191	5.7	0.39	56.3	<0.0050	0.01	4.81	14.5	0.012	<0.0005	0.0005	0.086	<0.0001	<0.001	<0.05
W16	31/03/2012 16:45	P	26.8	284		8.32		472					184	209	178	4.8	0.37	50.1	0.0076	0.01	4.29	11	0.634	<0.0005	0.0005	0.081	<0.0001	<0.001	<0.05
W16	01/04/2012 17:30	P	14.6	278		8.3		474					205	214	179	4.9	0.37	40.2	0.0118	0.012	4.95	11.1	0.327	<0.0005	0.0004	0.089	<0.0001	<0.001	<0.05
W16	02/04/2012 16:45	P	19.1	280	7.7	8.22	224.8	426	0.6	8.15	56.6		180	182	161	4.1	0.35	43.2	<0.0050	0.013	3.76	10.9	1.21	<0.0005	0.0006	0.089	<0.0001	<0.001	<0.05
W16	03/04/2012 17:30	P	14	296		8.24		468					223	218	178	4.7	0.37	44.4	0.0123	0.01	4.41	9.85	0.877	<0.0005	0.0006	0.098	<0.0001	<0.001	<0.05
W16	04/04/2012 16:00	P	20.7	288		8.16		444					205	209	168	4.9	0.36	45.6	0.0101	0.014	4.26	10.3	1.22	<0.0005	0.0006	0.1	<0.0001	<0.001	<0.05
W16	05/04/2012 15:30	P	31.3	292		8.05		390					161	184	149	3.9	0.32	36.1	0.0099	0.014	3.31	8.36	1.03	<0.0005	0.0006	0.087	<0.0001	<0.001	<0.05
W16	06/04/2012 14:30	P	42.1	320		8.08		458					169	200	173	4.5	0.35	47.4	0.009	0.013	4.08	10.1	1.22	<0.0005	0.0006	0.089	<0.0001	<0.001	<0.05
W16	08/04/2012 15:30	P	9.3	300		8.13		478					208	224	179	4.7	0.37	47.4	0.0191	0.01	4.31	12	0.21	<0.0005	0.0005	0.085	<0.0001	<0.001	<0.05
W16	10/04/2012 17:00	P	36.2	114	7.7	7.87	244.9	187	1.1	5.58	39.3		85	83.2	73.6	2.2	0.2	14.2	<0.0050	0.031	1.39	2.19	1.99	<0.0005	0.0006	0.073	<0.0001	<0.001	<0.05
W16	11/04/2012 7:30	P	39.8	76	8.27	7.79	71	128	0.7	137.5	13.2		52.6	43.5	48.5	2	0.21	10.7	<0.0050	0.037	0.769	1.38	2.68	<0.0005	0.0007	0.063	<0.0001	<0.001	<0.05
W16	12/04/2012 16:05	P	23	72	7.66	7.68	254.3	101	1.3	5.56	39.4		44.8	47.9	39.5	1.5	0.18	8.19	<0.0050	0.041	0.592	1.35	1.98	<0.0005	0.0006	0.053	<0.0001	<0.001	<0.05
W16	13/04/2012	P	11	58	7.7	7.67	254.5	82.5	0.6	6.48	45.3		32.1	219	32.3	0.6	0.12	4.43	0.089	0.0132	0.476	1.19	0.628	<0.00050	0.00023	0.0296	<0.00010	<0.0010	<0.05
W16	14/04/2012 12:00	P	5.9	54	7.73	7.68	251.3	118	1.2	6.93	49.2		56.5	55.7	44	1.2	0.16	8.05	0.012	0.015	0.838	2.14	0.668	<0.00050	0.00037	0.043	<0.00010	<0.0010	<0.05
W16	15/04/2012 10:50	P	2.5	62	7.68	7.86	270.2	120	1.3	5.41	38.3		50.8	52.5	47.4	0.83	0.16	8.14	0.019	0.0094	0.974	2.55	0.339	<0.00050	0.00026	0.0356	<0.00010	<0.0010	<0.05
W16	16/04/2012 10:07	P	3.6	54	7.67	7.79	196.4	104	0.9	8.4	59		47.7	44.9	39.6	1.1	0.14	6.94	0.012	0.0095	0.786	3.09	0.42	<0.00050	0.00022	0.0326	<0.00010	<0.0010	<0.05
W16	17/04/2012 12:00	P	3.2	56	7.83	7.73	259.2	102	1.5	6.59	46.7		42.2	45.4	38.8	0.71	0.13	6.92	0.04	0.0083	0.72	1.71	0.244	<0.00050	0.00022	0.0305	<0.00010	<0.0010	<0.05
W16	18/04/2012 10:50	P	3.4	56	7.74	7.8	159	96	1.2	7.83	55.4		39.7	43.9	38.5	0.68	0.12	5.56	0.0268	0.0076	0.612	3.82	0.246	<0.00050	0.00022	0.0308	<0.00010	<0.0010	<0.05
W16	19/04/2012	P	4.9	48	8.4	7.82	78.9	90.3	2.3	9.41	69		40.8	39.4	36.8	0.84	0.12	6.61	0.0212	0.008	0.535	3.19	0.298	<0.00050	0.00023	0.0319	<0.00010	<0.0010	<0.05
W16	20/04/2012 17:00	P	3.7	40	8.37	7.56	47.5	82.1	1.2	8.67	61.3		35.2	35.7	32.2	0.68	0.11	3.46	0.013	0.007	0.449	3.93	0.261	<0.00050	0.0002	0.0272	<0.00010	<0.0010	<0.05
W16	21/04/2012 15:40	P	17.8	46	7.62	7.56	43.7	79.3	0.9	8.98	63		34.7	35.9	31.1	0.81	0.11	3.71	0.032	0.0078	0.439	3.49	0.489	<0.00050	0.00024	0.0312	<0.00010	<0.0010	<0.05
W16	22/04/2012 14:10	P	8.1	46	7.47	7.57	239.8	70.3	2.3	6.33	46.2		32.8	33.9	28.2	0.65	0.099	2.38	0.015	<0.0050	0.386	3.69	0.224	<0.00050	0.0002	0.0268	<0.00010	<0.0010	<0.05
W16	23/04/2012 15:40	P	4.1	48	7.99	7.55	39.2	66.8	1.6	8.14	58.4		35.3	29.5	28.7	0.61	0.11	2.83	0.013	0.0058	0.338	2.72	0.27	<0.0013	<0.00025	0.025	<0.00025	<0.0025	<0.13
W16	24/04/2012 17:00	P	2.3	40	8.06	7.48	37.5	65.5	1.2	6.66	47.1		29.9	30.4	26.7	0.76	0.099	2.44	0.0098	<0.0050	0.345	3.09	0.236	<0.00050	0.00018	0.0244	<0.00010	<0.0010	<0.05
W16	25/04/2012	P	8.3	46		7.68		65					30.9	29.2	26.4	<0.50	0.1	2.45	0.017	<0.0050	0.315	2.56	0.336	<0.00050	0.00022	0.0244	<0.00010	<0.0010	<0.05
W16	26/04/2012	P	2.6	52	7.58	7.52	81.8	63.9	3.1	6.59	49.1	166.5	29.6	28.5	26	<0.50	0.096	2.88	0.023	<0.0050	0.305	4.19	0.184	<0.00050	0.00011	0.0228	<0.00010	<0.0010	<0.05
W16	27/04/2012	P	1.7	32	7.78	7.55	72.1	59.7	4.2	6.22	47.7	145.3	25.7	26.5	24	<0.50	0.083	2.41	0.02	<0.0050	0.293	3.04	0.128	<0.00050	0.00022	0.02	<0.00010	<0.0010	<0.05
W16	28/04/2012	P	5.3	38		7.61		60.4					20.6	24.8	24.9	0.55	0.11	<0.50	0.025	0.0053	0.191	7.43	0.323	<0.00050	0.00023	0.0189	<0.00010	<0.0010	<0.05
W16	29/04/2012	P	4.4	24	9.03	7.53	23	42.9	1.5	6.12	43.6	98	22.1	20.6	20.1	<0.50	0.09	<0.50	0.021	<0.0050	0.115	6.53	0.17	<0.00050	0.00024	0.0181	<0.00010	<0.0010	<0.05
W16	30/04/2012	P	7.7	26	8.27	7.54	34.6	43.3	2.9	5.82	43.1	49.1	25.7	19.6	16.5	<0.50	0.39	<0.50	0.015	<0.0050	0.113	4.56	0.157	<0.00050	0.0002	0.0201	<0.00010	<0.0010	<0.05
W16	01/05/2012 15:00	P	5.7	52	7.67	7.5	71	48.4	5.9	5.8	46.5	82.3	24	18.2	20.6	<0.50	0.084	1.08	0.02	<0.0050	0.161	6.67	0.332	<0.00050	0.00016	0.0187	<0.00010	<0.0010	<0.05
W16	02/05/2012	P	<1.0	26	7.36	7.59	76.5	53.8	4.6	6.95	54.1	94.9	24.6	15.4	21.9	<0.50	0.086	2.05	0.0084	0.0053	0.208	4.24	0.0965	<0.00050	0.00013	0.0163	<0.00010	<0.0010	<0.05
W16	03/05/2012 11:30	P	4.1	70	7.72	7.65	68.1	85	4.5	6.22	47.9	127.3	41.6	17.1	32.6	1.5	0.11	0.82	0.02	<0.0050	0.298	15.1	0.119	<0.00050	0.00026	0.0232	<0.00010	<0.0010	<0.05
W16	04/05/2012 3:30	P	4.3	76	7.16	7.72	95.1	142	7.6	6.1	50.9	96.4	66.3	69.7	51.9	1.8	0.13	3.11	0.023	0.0056	0.615	31.2	0.439	<0.00050	0.00059	0.0392	<0.00010	<0.0010	<0.05
W16	05/05/2012 10:45	P	3.8	114	7.33	7.78	110.5	154	4	4.43	34	110.6	69.6	70	59	2.3	0.14	3.1	0.017	0.0053	0.713	23.6	0.218	<0.00050	0.00038	0.0371	<0.00010	<0.0010	<0.05
W16	06/05/2012 14:35	P	5.7	156	7.41	7.84	157.2	226	4.4	5.45	42.1	115.2	102	103	86.3	2.8	0.2	19.3	0.019	<0.0050	1.26	20.6	0.249	<0.00050	0.00045	0.0473	<0.00010	<0.0010	<0.05
W16	07/05/2012	P	10.7	140	7.35	7.63	124.1	201	5.3	5.42	43.7	75.7	85.2	96.3	77.1	2.6	0.17	13.9	0.017	0.0058	1.02	17.5	0.248	<0.00050	0.00039	0.0429	<0.00010	<0.0010	<0.05
W16	08/05/2012 5:30	P	6.2	148	6.81	7.78	148	205	4.3	5.87	43.6	146.2	84.8	98.7	77.4	2.7	0.17	14.7	0.088	0.0088	1.04	18	0.361	<0.00050	0.00043	0.0457	<0.00010	<0.0010	<0.05
W16	09/05/2012 17:50	P			7.32		151.4		7.6	7.43	62.2	94.9																	
W16	13/05/2012 11:30	P	7	196	7.66	8.15	197.6	296	5.4	8.12	64.8	95.1	131	138	116	3.4	0.23	28.2	0.063	0.0073	1.82	16.4	0.279	<0.00050	0.00049	0.0583	<0.00010	<0.0010	<0.05
W16	14/05/2012 15:35	P	6.6	212	8.02	8.14	202.4	300	6.6	10.57	86.6	71.9	130	142	116	3.6	0.23	27.8	0.08	0.0102	1.83	17.6	0.25	<0.00050	0.00048	0.0575	<0.00010	<0.0010	<0.05
W16	24/05/2012	P	8.2	130	8.42	8.09	206.4	255	14.2	12.41	119.4	14.7	117	109	99.1	3	0.18	21.1	0.025	0.0122	1.71	13.6	0.324	<0.0010	0.00024	0.0483	<0.00020	<0.0020	<0.1
W16	03/06/2012	P	12.7	140	8.31	8.21	184.5	248	12.8	8.85	83.8	45.9	97.7	97.7	92.8	3.5	0.16	20	0.068	0.0084	1.66	10.1	0.367	<0.00050	0.00031	0.0462	<0.00010	<0.0010	<0.05
W16	08/06/2012	P	2.6	138	8.01	8.05	185.9	225	15.5	8.94	86.2	9.3	94.6	90.4	85.1	2.5	0.15	19.6	0.026	0.0083	1.49	8.1	0.0794	<0.00050	0.00029	0.041	<0.00010	<0.0010	<0.05
W16	15/06/2012 16:07	P	3.5	168	7.71	7.98	212.6	231	14.7	8.05	79.3	32	97.2	97.4	82.3	2.3	0.14	22	0.15	0.0478	2.68	9.02	0.159	<0.00050	0.00032	0.0442	<0.00010	<0.0010	<0.05
W16	24/06/2012 16:05	P	15.8	188	8.26	7.96	236.7	259	21.4	7.69	88.2		105	110	93.1	2.5	0.16	25	0.043	0.0451	3.19	10.6	0.265	<0.00050	0.00063	0.0529	<0.00010	<0.0010	<0.05
W16	28/06/2012 9:45	P	2.7	172	8.28	8.19	235.2	272	17.8	6.64	70.1	22.3	110	121	99.4	2.6	0.16	25	0.053	0.0357	3.12	10.7	0.0241	<0.00050	0.00028	0.0515	<0.00010	<0.0010	<0.05
W16	05/07/2012 9:00	P	1.8	192	7.88	8.29	444.4	294	15.4	7.39	74.2	42.6	122	125	109	2.3	0.17	26.4	0.0074	0.0289	3.12	10.1	0.041	<0.00050	0.00037	0.0544	<0.00010	<0.0010	<0.05
W16	15/07/2012 17:46	P	1.8	210	8.13	8.09	294	304	18.59	11.73	97.1	26.4	131	136	111	2.8	0.18	29.5	0.012	0.0226	2.92	11.2	0.0262	<0.00050	0.00033	0.0575	<0.00010	<0.0010	<0.05
W16	17/07/2012 16:15	P	2.9	196	8.22	8.15	248.5	311	16.3	7.8	79.7		136	142	116	2.6	0.18	28.4	0.025	0.022	2.14	11.1	0.0401	<0.00050	0.00035	0.0616	<0.00010	<0.0010	<0.05
W16	24/07/2012 15:04	P	4.3	206	8.49	8.24	255.5	320	18.2	17.17	74.9	17.6	140	144	120	3	0.2	28.4	0.077	0.0163	2.84	10.7	0.226	<0.00050	0.00043	0.0652	<0.00010	<0.0010	<0.05
W16	02/08/2012 16:38	P	1.8	218	8.14	8.24	247	339	17.2	8.26	86.3	-7.6	148	157	129	2.6	0.22	31	0.0055	0.0159	2.96	11	0.0195	<0.00050	0.00037	0.0639	<0.00010	<0.0010	<0.05
W16	07/08/2012 10:45	P	6.9	250	8.13	8.21	282.2	349	15.6	7.98	80.6	1.5	166	155	133	21	0.21	19.8	0.025	<0.050	3	10.6	0.188	<0.00050	0.00042	0.0758	<0.00010	<0.0010	<0.05
W16	16/08/2012 10:15	P	9.4	248	8.1	8.3	285.2	356	16.8	8.02	83.2	60.1	170	163	135	2.8	0.22	30.2	0.024	0.0134	3.42	10.9	0.225	<0.00050	0.00038	0.0793	<0.00010	<0.0010	<0.05
W16	27/08/2012 13:35	P	2.3	222	8.41	8.38	266.9	371	14.4	6.6	64.7	19.6	166	164	145	3.4	0.22	35.9	<0.0050	0.0112	3.15	12	0.0309	<0.00050	0.00032	0.071	<0.00010	<0.0010	<0.05
W16	03/09/2012 9:15	P	2.3	246	7.98	8.24	254.5	371	11.9	7.93	73.3	34.2	161	168	143	2.7	0.23	33.8	0.032	0.0132	3.16	11.3	0.0183	<0.00050	0.00025	0.0698	<0.00010	<0.0010	<0.05
W16	05/09/2012 8:00	M	1.8	248		8.26		376					194	167	146	3.2	0.24	34.1	0.012	0.0164	3.38	11.5	0.027	<0.00050	0.00039	0.0807	<0.00010	<0.0010	<0.05
W16	05/09/2012 8:00	P			6.71		273.4		11.8	7.59	70.4	31.3																	
W16	10/09/2012 13:55	P	5.5	244	7.92	8.19	263.4	381	9.9	7.28	64.5	104.3	168	175	146	3.4	0.23	32.8	0.068	0.0191	3.31	11	0.101	<0.00050	0.00038	0.0711	<0.00010	<0.0010	<0.05
W16	17/09/2012 11:07	P	4.7	276	7.79	8.01	256.9	383	8.8	6.93	59.7	65.5	158	177	144	3.3	0.23	33.9	0.11	0.0203	3.86	11.6	0.0999	<0.00050	0.00032	0.067	<0.00010	<0.0010	<0.05

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W16	06/10/2011	0.00003	51.4	<0.001	<0.0005	0.0325	0.135	<0.0002	<0.005	14.4	0.038	<0.00002	0.005	0.001	0.012	2.98	0.0014	5	<0.00002	12.9	0.5	15	<0.00005	<0.005	<0.005	0.0013
W16	18/10/2011	0.00001	52.4	<0.001	<0.0005	0.032	0.103	<0.0002	<0.005	15.7	0.032	<0.00002	0.005	0.001	0.066	3.19	0.0014	5.24	<0.00002	14.8	0.56	16	<0.00005	<0.005	<0.005	0.0012
W16	13/11/2011	0.00004	100	<0.001	<0.0005	0.0761	0.386	<0.0002	<0.005	29.8	0.059	<0.000020	0.01	0.003	0.128	6.52	0.0028	10.4	0.00007	29.6	1.1	30.8	<0.00005	<0.005	0.006	0.0022
W16	21/11/2011	0.00004	54.5	<0.001	<0.0005	0.0321	0.237	0.0003	<0.005	16.4	0.036	<0.000020	0.006	0.002	0.023	3.63	0.0015	5.36	<0.00002	15.1	0.56	19	<0.00005	<0.005	0.006	0.0015
W16	13/02/2012	0.00008	53	<0.001	<0.0005	0.0207	0.124	<0.0002	<0.005	16.4	0.038	<0.000010	0.006	0.001	0.011	3.27	0.0012	4.88	<0.00002	15.3	0.536	15.9	<0.00005	<0.005	<0.005	0.0019
W16	24/03/2012	0.00002	60.5	<0.001	<0.0005	0.0237	0.033	<0.0002	<0.005	19.3	0.032	<0.000010	0.006	0.001	<0.01	3.76	0.0016	5.82	<0.00002	18.3	0.637	19.5	<0.00005	<0.005	<0.005	0.0021
W16	31/03/2012 16:45	0.00003	48.3	<0.001	<0.0005	0.0434	1.07	0.0003	<0.005	15.3	0.072	<0.000010	0.005	0.001	0.03	3.07	0.0011	5.01	<0.00002	13.8	0.52	14.2	<0.00005	<0.005	0.027	0.0016
W16	01/04/2012 17:30	0.00002	53.6	<0.001	<0.0005	0.0349	0.59	<0.0002	<0.005	17.3	0.053	<0.000010	0.005	0.001	0.022	3.36	0.0014	4.84	<0.00002	15.9	0.604	15.4	<0.00005	<0.005	0.015	0.0019
W16	02/04/2012 16:45	0.00004	49	<0.001	0.0007	0.0789	1.85	0.0004	<0.005	14.1	0.097	<0.000010	0.005	0.001	0.115	3.16	0.0011	6.53	0.00004	12.6	0.485	13	<0.00005	<0.005	0.067	0.0015
W16	03/04/2012 17:30	0.00004	60	<0.001	0.0006	0.0766	1.4	0.0004	<0.005	17.9	0.091	<0.000010	0.006	0.001	0.048	3.85	0.0012	7	0.00003	16.6	0.611	15.7	<0.00005	<0.005	0.048	0.0021
W16	04/04/2012 16:00	0.00003	54.8	<0.001	0.0007	0.0936	1.78	0.0005	<0.005	16.6	0.099	<0.000010	0.006	0.001	0.045	3.59	0.0012	7.23	0.00004	14.9	0.569	14	<0.00005	<0.005	0.058	0.0019
W16	05/04/2012 15:30	0.00003	43	<0.001	0.0006	0.0774	1.53	0.0004	<0.005	12.9	0.096	<0.000010	0.004	0.001	0.043	2.99	0.0009	5.86	0.00003	11.6	0.451	10.4	<0.00005	<0.005	0.058	0.0015
W16	06/04/2012 14:30	0.00004	45.5	<0.001	0.0007	0.0828	1.81	0.0005	<0.005	13.4	0.113	<0.000010	0.005	0.001	0.048	3.15	0.001	6.44	0.00003	11.4	0.453	10.7	<0.00005	<0.005	0.053	0.0014
W16	08/04/2012 15:30	0.00002	55.5	<0.001	<0.0005	0.0319	0.33	<0.0002	<0.005	16.8	0.04	<0.000010	0.006	<0.001	0.019	3.3	0.0013	5.24	<0.00002	15.4	0.554	15.3	<0.00005	<0.005	0.014	0.002
W16	10/04/2012 17:00	0.00004	23	0.001	0.0009	0.112	2.68	0.0008	<0.005	6.71	0.12	<0.000010	0.002	0.001	0.054	2.01	0.0006	6.32	0.00005	5.39	0.239	4.6	<0.00005	<0.005	0.105	0.0007
W16	11/04/2012 7:30	0.00005	14.4	0.001	0.0011	0.143	3.47	0.001	<0.005	4.04	0.109	<0.000010	0.002	0.001	0.064	1.79	0.0005	7.31	0.00007	3.62	0.159	<3.0	<0.00005	<0.005	0.149	0.0004
W16	12/04/2012 16:05	0.00005	12.4	0.001	0.0008	0.119	2.5	0.0009	<0.005	3.36	0.084	<0.000010	0.002	<0.001	0.05	1.53	0.0004	5.19	0.00007	3.07	0.139	<3.0	<0.00005	<0.005	0.131	0.0004
W16	13/04/2012	0.000017	9.27	<0.0010	<0.00050	0.0416	0.724	0.00029	<0.0050	2.18	0.0376	<0.000010	<0.0010	<0.0010	0.022	0.918	0.00025	2.54	0.000023	1.85	0.0982	<3.0	<0.000050	<0.0050	0.0239	0.0002
W16	14/04/2012 12:00	0.000018	15.9	<0.0010	<0.00050	0.045	0.838	0.00027	<0.0050	4.08	0.0447	<0.000010	0.0017	<0.0010	0.025	1.38	0.00044	3.31	<0.000020	3.79	0.17	<3.0	<0.000050	<0.0050	0.0367	0.0004
W16	15/04/2012 10:50	0.000011	14.8	<0.0010	<0.00050	0.0309	0.429	<0.00020	<0.0050	3.35	0.0301	<0.000010	0.0013	<0.0010	0.02	1.03	0.00031	2.52	<0.000020	3.04	0.156	<3.0	<0.000050	<0.0050	0.0119	0.00033
W16	16/04/2012 10:07	0.00001	14.2	<0.0010	<0.00050	0.0284	0.508	<0.00020	<0.0050	2.97	0.0293	<0.000010	0.0011	<0.0010	0.029	0.911	0.00026	2.61	<0.000020	2.59	0.129	<3.0	<0.000050	<0.0050	0.0236	0.00029
W16	17/04/2012 12:00	0.000014	12.3	<0.0010	<0.00050	0.0245	0.314	<0.00020	<0.0050	2.81	0.0425	<0.000010	<0.0010	<0.0010	0.019	0.9	0.0003	2.06	<0.000020	2.52	0.124	<3.0	<0.000050	<0.0050	0.0103	0.00027
W16	18/04/2012 10:50	0.000037	11.5	<0.0010	<0.00050	0.0236	0.331	<0.00020	<0.0050	2.65	0.0417	<0.000010	<0.0010	<0.0010	0.017	0.932	0.0003	1.87	<0.000020	2.24	0.119	<3.0	<0.000050	<0.0050	0.0089	0.00027
W16	19/04/2012	0.000015	11.8	<0.0010	<0.00050	0.0291	0.435	<0.00020	<0.0050	2.75	0.042	<0.000010	<0.0010	<0.0010	0.02	0.98	0.00025	1.9	<0.000020	2.28	0.131	<3.0	<0.000050	<0.0050	0.0126	0.00028
W16	20/04/2012 17:00	0.000013	10.4	<0.0010	<0.00050	0.0254	0.292	<0.00020	<0.0050	2.27	0.0332	<0.000010	<0.0010	<0.0010	0.018	0.873	0.0002	1.78	<0.000020	1.85	0.109	<3.0	<0.000050	<0.0050	0.0101	0.00022
W16	21/04/2012 15:40	0.000019	10.1	<0.0010	<0.00050	0.0355	0.757	0.00022	<0.0050	2.29	0.0442	<0.000010	<0.0010	<0.0010	0.054	0.88	0.00022	2.23	<0.000020	1.72	0.112	<3.0	<0.000050	<0.0050	0.0242	0.00024
W16	22/04/2012 14:10	0.000015	9.72	<0.0010	<0.00050	0.0439	0.382	<0.00020	<0.0050	2.08	0.0375	<0.000010	<0.0010	<0.0010	0.037	0.898	0.00021	1.84	<0.000020	1.6	0.0938	<3.0	<0.000050	<0.0050	0.0113	0.00019
W16	23/04/2012 15:40	<0.000025	10.9	High DL removed	<0.0013	0.0255	0.55	High DL removed	<0.013	1.97	0.0314	<0.000010	<0.0025	High DL removed	<0.025	1.03	0.00033	1.95	<0.000050	1.78	0.102	1740	<0.00013	<0.013	<0.013	<0.00025
W16	24/04/2012 17:00	0.000013	8.91	<0.0010	<0.00050	0.0255	0.279	<0.00020	<0.0050	1.86	0.0321	<0.000010	<0.0010	<0.0010	0.019	0.806	0.00022	1.37	<0.000020	1.47	0.0948	<3.0	<0.000050	<0.0050	0.0094	0.00016
W16	25/04/2012	0.000015	9.28	<0.0010	<0.00050	0.0275	0.423	0.00021	<0.0050	1.87	0.0356	<0.000010	<0.0010	<0.0010	0.017	0.816	0.0003	1.72	<0.000020	1.5	0.0877	<3.0	<0.000050	<0.0050	0.0143	0.00015
W16	26/04/2012	0.000022	8.93	<0.0010	<0.00050	0.0293	0.251	0.0005	<0.0050	1.79	0.0298	<0.000010	<0.0010	<0.0010	0.019	0.773	0.00025	1.48	<0.000020	1.47	0.0857	<3.0	<0.000050	<0.0050	0.0058	0.00015
W16	27/04/2012	<0.000010	7.78	<0.0010	<0.00050	0.0231	0.252	<0.00020	<0.0050	1.51	0.0256	<0.000010	<0.0010	<0.0010	0.017	0.634	0.00018	1.25	<0.000020	1.28	0.0731	<3.0	<0.000050	<0.0050	0.0078	0.00018
W16	28/04/2012	0.000064	6.54	<0.0010	<0.00050	0.0308	0.572	0.00021	<0.0050	1.03	0.0351	<0.000010	<0.0010	<0.0010	0.023	0.564	0.00011	1.36	0.000022	0.746	0.0568	<3.0	<0.000050	<0.0050	0.0201	0.00013
W16	29/04/2012	0.000033	7.04	<0.0010	<0.00050	0.0212	0.274	<0.00020	<0.0050	1.1	0.0204	<0.000010	<0.0010	<0.0010	0.023	0.563	0.00018	1.16	<0.000020	0.844	0.0594	<3.0	<0.000050	<0.0050	0.0102	0.00011
W16	30/04/2012	0.000026	8.04	<0.0010	<0.00050	0.0253	0.23	<0.00020	<0.0050	1.37	0.0209	<0.000010	<0.0010	<0.0010	0.018	0.703	0.00013	1.25	<0.000020	1.02	0.0652	<3.0	<0.000050	<0.0050	0.007	0.00012
W16	01/05/2012 15:00	0.000018	7.08	<0.0010	<0.00050	0.031	0.568	<0.00020	<0.0050	1.54	0.0404	<0.000010	<0.0010	<0.0010	0.027	0.852	0.00017	1.55	<0.000020	1.46	0.069	<3.0	<0.000050	<0.0050	0.0181	0.0001
W16	02/05/2012	0.000036	7.24	<0.0010	<0.00050	0.0207	0.238	<0.00020	<0.0050	1.59	0.0286	<0.000010	<0.0010	<0.0010	0.014	0.603	0.00011	1.15	<0.000020	1.28	0.0624	<3.0	<0.000050	<0.0050	<0.0050	0.00014
W16	03/05/2012 11:30	0.000232	11.7	<0.0010	<0.00050	0.0272	0.192	<0.00020	<0.0050	3.04	0.0422	<0.000010	<0.0010	0.0018	0.024	1.02	0.00027	1.74	<0.000020	2.15	0.0923	<3.0	<0.000050	<0.0050	<0.0050	0.00028
W16	04/05/2012 3:30	0.000131	17.4	<0.0010	<0.00050	0.0689	0.744	0.00026	<0.0050	5.55	0.127	<0.000010	0.0013	0.0017	0.088	3.41	0.0003	3.3	<0.000020	4.49	0.156	4.9	<0.000050	<0.0050	0.0204	0.0004
W16	05/05/2012 10:45	0.000031	18.6	<0.0010	<0.00050	0.0376	0.359	<0.00020	<0.0050	5.65	0.0973	<0.000010	0.0014	0.0011	0.036	1.58	0.00035	3.02	<0.000020	4.52	0.166	3.1	<0.000050	<0.0050	0.0078	0.00042
W16	06/05/2012 14:35	0.000052	27.5	<0.0010	<0.00050	0.0415	0.476	<0.00020	<0.0050	8.15	0.124	<0.000010	0.0026	0.0011	0.037	2.03	0.00057	3.79	<0.000020	6.69	0.255	6.7	<0.000050	<0.0050	0.0104	0.00063
W16	07/05/2012	0.000043	22.6	<0.0010	<0.00050	0.039	0.448	<0.00020	<0.0050	7.01	0.13	<0.000010	0.0019	0.0012	0.035	1.69	0.00044	3.39	<0.000020	5.73	0.206	4.8	<0.000050	<0.0050	0.0107	0.00062
W16	08/05/2012 5:30	0.000037	22.7	<0.0010	<0.00050	0.0416	0.619	0.0002	<0.0050	6.83	0.145	<0.000010	0.0018	0.0012	0.04	1.65	0.00039	3.59	<0.000020	5.55	0.208	4.5	<0.000050	<0.0050	0.0173	0.00063
W16	09/05/2012 17:50																									
W16	13/05/2012 11:30	0.000032	34.1	<0.0010	<0.00050	0.0385	0.564	<0.00020	<0.0050	11.2	0.173	<0.000010	0.0027	0.0016	0.038	2.25	0.00057	4.39	<0.000020	9.58	0.336	6.8	<0.000050	<0.0050	0.012	0.00093
W16	14/05/2012 15:35	0.000035	33.8	<0.0010	<0.00050	0.0365	0.527	<0.00020	<0.0050	11.1	0.171	<0.000010	0.003	0.0016	0.039	2.23	0.00064	4.14	<0.000020	10	0.339	7.8	<0.000050	<0.0050	0.0128	0.00091
W16	24/05/2012	0.000063	30.8	High DL removed	<0.0010	0.0348	0.705	<0.00040	<0.01	9.75	0.147	<0.000010	0.0023	0.0022	0.032	2.12	0.00093	3.96	<0.000040	11.3	0.276	2040	<0.00010	<0.01	0.013	0.00072
W16	03/06/2012	0.000018	25.6	<0.0010	<0.00050	0.0398	0.761	0.00038	<0.0050	8.2	0.13	<0.000010	0.0022	<0.0010	0.033	1.9	0.00047	3.03	0.000025	10.2	0.245	7	<0.000050	<0.0050	0.0192	0.00068
W16	08/06/2012	<0.000010	25.2	<0.0010	<0.00050	0.0199	0.246	<0.00020	<0.0050	7.67	0.0782	<0.000010	0.0022	<0.0010	0.016	1.7	0.00046	2.33	<0.000020	9.84	0.247	5	<0.000050	<0.0050	<0.0050	0.00064
W16	15/06/2012 16:07	0.00002	25.5	<0.0010	<0.00050	0.035	0.413	<0.00020	<0.0050	8.16	0.0763	<0.000010	0.0022	<0.0010	0.024	1.83	0.00035	2.46	<0.000020	8.86	0.281	5.2	<0.000050	<0.0050	0.0069	0.00061
W16	24/06/2012 16:05	0.000032	28.4	<0.0010	<0.00050	0.0386	0.618	<0.00020	<0.0050	8.22	0.0704	<0.000010	0.0025	<0.0010	0.023	1.87	0.00055	2.98	<0.000020	8.12	0.289	4	<0.000050	<0.0050	0.0101	0.00067
W16	28/06/2012 9:45	0.000027	29.6	<0.0010	<0.00050	0.0199	0.137	<0.00020	<0.0050	8.82	0.0302	<0.000010	0.0026	<0.0010	0.016	1.79	0.00061	2.32	<0.000020	8.53	0.302	8.1	<0.000050	<0.0050	<0.0050	0.00062
W16	05/07/2012 9:00	0.000011	31.9	<0.0010	<0.00050	0.0206	0.175	<0.00020	<0.0050	10.2	0.0242	<0.000010	0.0028	<0.0010	0.018	1.91	0.00073	2.27	<0.000020	9.47	0.328	9	<0.000050	<0.0050	<0.0050	0.00069
W16	15/07/2012 17:46	<0.000010	35.2	<0.0010	<0.00050	0.0194	0.129	<0.00020	<0.0050	10.4	0.0104	<0.000010	0.003	0.001	0.014	1.99	0.00055	2.72	<0.000020	9.52	0.338	7.5	<0.000050	<0.0050	<0.0050	0.00075
W16	17/07/2012 16:15	0.000019	36	<0.0010	<0.00050	0.0214	0.165	<0.00020	<0.0050	11.3	0.0116	<0.000010	0.0031	<0.0010	0.018	2.11	0.0006	2.78	<0.000020	9.97	0.356	8.4	<0.000050	<0.0050	<0.0050	0.00078
W16	24/07/2012 15:04	0.000025	36.9	<0.0010	<0.00050	0.0556	0.482	0.00025	<0.0050	11.5	0.0263	<0.000010	0.0032	0.0011	0.034	2.2	0.00062	3.08	0.000025	9.93	0.359	8.8	<0.000050	<0.0050	0.0112	0.0008
W16	02/08/2012 16:38	<0.000010	39.7	<0.0010	<0.00050	0.0175	0.0835	<0.00020	<0.0050	11.9	0.008	<0.000010	0.0033	<0.0010	0.012	2.1	0.0008	2.65	<0.000020	10.1	0.388	8.3	<0.000050	<0.0050	<0.0050	0.00087
W16	07/08/2012 10:45	0.000012	44	<0.0010	<0.00050	0.0341	0.36	<0.00020	<0.0050	13.6	0.0231	<0.000010	0.0034	0.0011	0.029	2.4	0.00091	3.18	<0.000020	11.2	0.422	11.6	<0.000050	<0.0050	0.0085	0.00097
W16	16/08/2012 10:15	0.000015	45.5	<0.0010	<0.00050	0.109	0.519	<0.00020	<0.0050	13.7	0.0274	<0.000010	0.0036	<0.0010	0.048	2.47	0.00087	2.94	0.000052	11.2	0.44	10.9	<0.000050	<0.0050	0.0139	0.00096
W16	27/08/2012 13:35	<0.000010	44.9	<0.0010	<0.00050	0.0196	0.103	<0.00020	<0.0050	13	0.0075	<0.000010	0.0034	<0.0010	0.012	2.31	0.00065	2.13	<0.000020	10.6	0.422	11.1	<0.000050	<0.0050	<0.0050	0.00092
W16	03/09/2012 9:15	<0.000010	43.2	<0.0010	<0.00050	0.018	0.0698	<0.00020	<0.0050	12.9	0.0124	<0.000010	0.0034	0.001	0.016	2.27	0.00062	2.14	<0.000020	10.9	0.428	11.3	<0.000050	<0.0050	<0.0050	0.00096
W16	05/09/2012 8:00	<0.000010	51.7	<0.0010	<0.00050	0.022	0.0963	<0.00020	<0.0050	15.7	0.0178	<0.000010	0.004	0.0012	0.013	2.68	0.00084	2.6	<0.000020	12.8	0.513	14	<0.000050	<0.0050	<0.0050	0.00105
W16	05/09/2012 8:00																									
W16	10/09/2012 13:55	<0.000010	45.2	<0.0010	<0.00050	0.0263	0.196	<0.00020	<0.0050	13.5	0.0466	<0.000010	0.0036	<0.0010	0.015	2.29	0.00093	2.46	<0.000020	11	0.459	11.9	<0.000050	<0.0050	0.0054	0.00093
W16	17/09/2012 11:07	<0.000010	41.9	<0.0010	<0.00050	0.0272	0.178	<0.00020	<0.0050	12.9	0.0484	<0.000010	0.0033	0.0011	0.018	2.25	0.00074	2.49	<0.000020	10.3	0.441	10.9	<0.000050	<0.0050	0.0053	0.00095

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W16	06/10/2011	<0.005	<0.005	<0.0005	0.026	<0.0005	0.0004	0.084	<0.0001	<0.001	<0.05	0.00003	50.6	<0.001	<0.0005	0.0315	0.089	<0.0002	<0.005	15.1	0.028	<0.00002	0.005	0.001	0.011	3.07
W16	18/10/2011	<0.005	<0.005	<0.0005	0.013	<0.0005	0.0004	0.081	<0.0001	<0.001	<0.05	0.00002	50.6	<0.001	<0.0005	0.0287	0.065	<0.0002	<0.005	15.4	0.026	<0.00002	0.005	0.001	<0.01	3
W16	13/11/2011	<0.005	0.018	<0.0005	0.0162	<0.00050	0.00079	0.154	<0.00010	<0.0010	<0.05	0.000045	93.2	<0.0010	<0.00050	0.0568	0.0934	<0.00020	<0.0050	29.6	0.0555	<0.000020	0.0086	0.0026	0.024	6.58
W16	21/11/2011	<0.005	0.01	<0.0005	0.0191	<0.00050	0.00041	0.0892	<0.00010	<0.0010	<0.05	0.000031	61	<0.0010	<0.00050	0.03	0.072	<0.00020	<0.0050	16.9	0.0289	<0.000020	0.0061	0.0013	<0.01	3.42
W16	13/02/2012	<0.005	<0.005	<0.0005	0.006	<0.00050	0.00042	0.0855	<0.00010	<0.0010	<0.05	0.000018	58	<0.0010	<0.00050	0.0181	0.0289	<0.00020	<0.0050	17.9	0.0333	<0.000010	0.0062	<0.0010	<0.01	3.6
W16	24/03/2012	<0.005	<0.005	<0.0005	0.0063	<0.00050	0.00049	0.0849	<0.00010	<0.0010	<0.05	0.000025	62.7	<0.0010	<0.00050	0.0245	0.0352	<0.00020	<0.0050	19.4	0.0322	<0.000010	0.0059	0.0018	<0.01	3.84
W16	31/03/2012 16:45	<0.005	0.006	<0.0005	0.0056	<0.00050	0.00041	0.0852	<0.00010	<0.0010	<0.05	0.000025	55.1	<0.0010	<0.00050	0.0244	0.029	<0.00020	<0.0050	17.4	0.0331	<0.000010	0.0059	<0.0010	<0.01	3.48
W16	01/04/2012 17:30	<0.005	<0.005	<0.0005	0.0075	<0.00050	0.00038	0.0838	<0.00010	<0.0010	<0.05	0.000028	57.3	<0.0010	<0.00050	0.0259	0.033	<0.00020	<0.0050	17.3	0.0343	<0.000010	0.0058	<0.0010	0.012	3.48
W16	02/04/2012 16:45	<0.005	0.008	<0.0005	0.0058	<0.00050	0.00036	0.0765	<0.00010	<0.0010	<0.05	0.000021	48.4	<0.0010	<0.00050	0.0294	0.0286	<0.00020	<0.0050	14.9	0.0393	<0.000010	0.0052	<0.0010	0.013	3.16
W16	03/04/2012 17:30	<0.005	0.008	0.0009	0.0051	<0.00050	0.00043	0.0838	<0.00010	<0.0010	<0.05	0.000015	57.8	<0.0010	<0.00050	0.0269	0.0247	<0.00020	<0.0050	17.9	0.0347	<0.000010	0.0059	<0.0010	<0.01	3.61
W16	04/04/2012 16:00	<0.005	0.009	<0.0005	0.0173	<0.00050	0.00039	0.084	<0.00010	<0.0010	<0.05	0.000023	55.8	<0.0010	<0.00050	0.0289	0.0551	<0.00020	<0.0050	17	0.0405	<0.000010	0.0056	<0.0010	0.013	3.43
W16	05/04/2012 15:30	<0.005	0.006	<0.0005	0.021	<0.00050	0.00035	0.0783	<0.00010	<0.0010	<0.05	0.000028	49.2	<0.0010	<0.00050	0.0317	0.0597	<0.00020	<0.0050	14.7	0.0497	<0.000010	0.0048	<0.0010	0.023	3.19
W16	06/04/2012 14:30	<0.005	0.008	<0.0005	0.0094	<0.00050	0.00035	0.0814	<0.00010	<0.0010	<0.05	0.000022	53.4	<0.0010	<0.00050	0.0265	0.0365	<0.00020	<0.0050	16.2	0.0446	<0.000010	0.0052	<0.0010	0.011	3.33
W16	08/04/2012 15:30	<0.005	<0.005	<0.0005	0.007	<0.00050	0.0004	0.0853	<0.00010	<0.0010	<0.05	0.000013	59.6	<0.0010	<0.00050	0.0223	0.0327	<0.00020	<0.0050	18.2	0.0328	<0.000010	0.0059	0.0011	0.01	3.56
W16	10/04/2012 17:00	0.007	0.01	<0.0005	0.0068	<0.00050	0.00015	0.052	<0.00010	<0.0010	<0.05	0.00002	23.4	<0.0010	<0.00050	0.0212	0.0208	<0.00020	<0.0050	6	0.0522	<0.000010	0.0023	<0.0010	0.012	1.76
W16	11/04/2012 7:30	0.009	0.014	0.0005	0.0094	<0.00050	0.00011	0.028	<0.00010	<0.0010	<0.05	<0.000010	12.9	<0.0010	<0.00050	0.0121	0.0181	<0.00020	<0.0050	2.75	0.0144	<0.000010	0.0023	<0.0010	0.013	1.27
W16	12/04/2012 16:05	0.007	0.011	<0.0005	0.006	<0.00050	0.0002	0.035	<0.00010	<0.0010	<0.05	0.000014	14	<0.0010	<0.00050	0.0157	0.016	<0.00020	<0.0050	3.13	0.0231	<0.000010	0.0018	<0.0010	0.012	1.27
W16	13/04/2012	<0.0050	<0.0050	<0.00050	0.0064	<0.00050	0.00035	0.0794	<0.00010	<0.0010	<0.05	0.000012	57.9	<0.0010	<0.00050	0.00658	0.0131	<0.00020	<0.0050	18.1	0.0759	<0.000010	0.0064	<0.0010	0.02	3.56
W16	14/04/2012 12:00	<0.0050	<0.0050	<0.00050	0.0072	<0.00050	0.00012	0.0344	<0.00010	<0.0010	<0.05	0.000014	15.9	<0.0010	<0.00050	0.0155	0.0134	<0.00020	<0.0050	3.88	0.0249	<0.000010	0.0016	<0.0010	0.012	1.17
W16	15/04/2012 10:50	<0.0050	<0.0050	<0.00050	0.008	<0.00050	0.00012	0.0331	<0.00010	<0.0010	<0.05	<0.000010	15.2	<0.0010	<0.00050	0.0148	0.0156	<0.00020	<0.0050	3.54	0.02	<0.000010	0.0013	<0.0010	<0.01	0.969
W16	16/04/2012 10:07	<0.0050	<0.0050	0.00097	0.0085	<0.00050	0.00012	0.028	<0.00010	<0.0010	<0.05	0.000011	13	<0.0010	<0.00050	0.0128	0.02	<0.00020	<0.0050	3	0.0181	<0.000010	0.0011	<0.0010	0.01	0.849
W16	17/04/2012 12:00	<0.0050	<0.0050	<0.00050	0.0083	<0.00050	0.00014	0.029	<0.00010	<0.0010	<0.05	0.000011	13.1	<0.0010	<0.00050	0.0164	0.0269	<0.00020	<0.0050	3.08	0.0338	<0.000010	0.0011	<0.0010	<0.01	0.897
W16	18/04/2012 10:50	<0.0050	<0.0050	<0.00050	0.0068	<0.00050	<0.00010	0.0274	<0.00010	<0.0010	<0.05	<0.000010	13	<0.0010	<0.00050	0.0145	0.0246	<0.00020	<0.0050	2.78	0.0358	<0.000010	<0.0010	<0.0010	<0.01	0.882
W16	19/04/2012	<0.0050	<0.0050	<0.00050	0.0106	<0.00050	0.00011	0.0262	<0.00010	<0.0010	<0.05	0.000012	11.8	<0.0010	<0.00050	0.0154	0.0345	<0.00020	<0.0050	2.44	0.0316	<0.000010	<0.0010	<0.0010	<0.01	0.83
W16	20/04/2012 17:00	<0.0050	<0.0050	<0.00050	0.0104	<0.00050	<0.00010	0.0236	<0.00010	<0.0010	<0.05	0.000015	10.7	<0.0010	<0.00050	0.0175	0.0299	<0.00020	<0.0050	2.17	0.0279	<0.000010	<0.0010	<0.0010	<0.01	0.871
W16	21/04/2012 15:40	<0.0050	0.0064	<0.00050	0.0091	<0.00050	<0.00010	0.0245	<0.00010	<0.0010	<0.05	0.000011	10.8	<0.0010	<0.00050	0.0167	0.0222	<0.00020	<0.0050	2.14	0.0221	<0.000010	<0.0010	<0.0010	<0.01	0.778
W16	22/04/2012 14:10	<0.0050	<0.0050	<0.00050	0.0088	<0.00050	0.0001	0.0222	<0.00010	<0.0010	<0.05	0.000013	10.2	<0.0010	<0.00050	0.0176	0.0292	<0.00020	<0.0050	2.03	0.0284	<0.000010	<0.0010	<0.0010	<0.01	0.822
W16	23/04/2012 15:40	<0.013	<0.013	<0.0013	0.0106	<0.00050	<0.00010	0.0216	<0.00010	<0.0010	<0.05	0.000014	8.96	<0.0010	<0.00050	0.0145	0.0254	<0.00020	<0.0050	1.72	0.0217	<0.000010	<0.0010	<0.0010	<0.01	0.798
W16	24/04/2012 17:00	<0.0050	<0.0050	<0.00050	0.0106	<0.00050	<0.00010	0.0208	<0.00010	<0.0010	<0.05	0.000014	9.29	<0.0010	<0.00050	0.0151	0.0242	<0.00020	<0.0050	1.74	0.0236	<0.000010	<0.0010	<0.0010	<0.01	0.794
W16	25/04/2012	<0.0050	<0.0050	<0.00050	0.0099	<0.00050	<0.00010	0.0204	<0.00010	<0.0010	<0.05	<0.000010	8.86	<0.0010	<0.00050	0.0154	0.0231	<0.00020	<0.0050	1.73	0.0244	<0.000010	<0.0010	<0.0010	<0.01	0.745
W16	26/04/2012	<0.0050	<0.0050	<0.00050	0.0116	<0.00050	<0.00010	0.0205	<0.00010	<0.0010	<0.05	0.00001	8.71	<0.0010	<0.00050	0.0156	0.0267	<0.00020	<0.0050	1.63	0.0252	<0.000010	<0.0010	<0.0010	<0.01	0.736
W16	27/04/2012	<0.0050	<0.0050	<0.00050	0.0084	<0.00050	<0.00010	0.0178	<0.00010	<0.0010	<0.05	0.000012	8.21	<0.0010	<0.00050	0.0131	0.0186	<0.00020	<0.0050	1.46	0.0202	<0.000010	<0.0010	<0.0010	<0.01	0.633
W16	28/04/2012	<0.0050	<0.0050	<0.00050	0.0253	<0.00050	<0.00010	0.0166	<0.00010	<0.0010	<0.05	<0.000010	7.94	<0.0010	<0.00050	0.0138	0.0398	<0.00020	<0.0050	1.21	0.0103	<0.000010	<0.0010	<0.0010	0.012	0.679
W16	29/04/2012	<0.0050	<0.0050	<0.00050	0.021	<0.00050	<0.00010	0.015	<0.00010	<0.0010	<0.05	0.00001	6.79	<0.0010	<0.00050	0.0116	0.0276	<0.00020	<0.0050	0.879	0.0083	<0.000010	<0.0010	<0.0010	<0.01	0.503
W16	30/04/2012	<0.0050	<0.0050	<0.00050	0.0196	<0.00050	<0.00010	0.0149	<0.00010	<0.0010	<0.05	0.000013	6.49	<0.0010	<0.00050	0.0117	0.0249	<0.00020	<0.0050	0.816	0.0088	<0.000010	<0.0010	<0.0010	<0.01	0.483
W16	01/05/2012 15:00	<0.0050	<0.0050	<0.00050	0.0184	<0.00050	<0.00010	0.0122	<0.00010	<0.0010	<0.05	<0.000010	5.69	<0.0010	<0.00050	0.0111	0.032	<0.00020	<0.0050	0.973	0.0126	<0.000010	<0.0010	<0.0010	<0.01	0.547
W16	02/05/2012	<0.0050	<0.0050	<0.00050	0.0093	<0.00050	<0.00010	0.0112	<0.00010	<0.0010	<0.05	0.00001	4.87	<0.0010	<0.00050	0.00795	0.0501	<0.00020	<0.0050	0.796	0.0136	<0.000010	<0.0010	<0.0010	<0.01	0.397
W16	03/05/2012 11:30	<0.0050	0.023	<0.00050	0.0173	<0.00050	<0.00010	0.012	<0.00010	<0.0010	<0.05	0.000012	5.4	<0.0010	<0.00050	0.0109	0.0312	<0.00020	<0.0050	0.873	0.0143	<0.000010	<0.0010	<0.0010	<0.01	0.476
W16	04/05/2012 3:30	<0.0050	0.0141	<0.00050	0.16	<0.00050	0.00054	0.0373	<0.00010	<0.0010	<0.05	0.000109	18.9	<0.0010	<0.00050	0.0509	0.333	<0.00020	<0.0050	5.48	0.112	<0.000010	0.0013	0.0014	0.048	4.14
W16	05/05/2012 10:45	<0.0050	<0.0050	<0.00050	0.0451	<0.00050	0.00031	0.035	<0.00010	<0.0010	<0.05	0.000043	19.2	<0.0010	<0.00050	0.0311	0.146	<0.00020	<0.0050	5.37	0.093	<0.000010	0.0013	<0.0010	0.021	1.58
W16	06/05/2012 14:35	<0.0050	<0.0050	<0.00050	0.0304	<0.00050	0.00036	0.0463	<0.00010	<0.0010	<0.05	0.000034	27.9	<0.0010	<0.00050	0.0373	0.16	<0.00020	<0.0050	8.1	0.113	<0.000010	0.0027	<0.0010	0.017	1.97
W16	07/05/2012	<0.0050	<0.0050	<0.00050	0.0326	<0.00050	0.00033	0.0439	<0.00010	<0.0010	<0.05	0.000035	26	<0.0010	<0.00050	0.0326	0.172	<0.00020	<0.0050	7.59	0.126	<0.000010	0.0019	0.001	0.018	1.91
W16	08/05/2012 5:30	<0.0050	<0.0050	<0.00050	0.0315	<0.00050	0.00032	0.044	<0.00010	<0.0010	<0.05	0.000032	26.7	<0.0010	<0.00050	0.0299	0.171	<0.00020	<0.0050	7.77	0.129	<0.000010	0.0018	0.001	0.018	1.95
W16	09/05/2012 17:50																									
W16	13/05/2012 11:30	<0.0050	<0.0050	<0.00050	0.021	<0.00050	0.00038	0.0577	<0.00010	<0.0010	<0.05	0.000031	36.4	<0.0010	<0.00050	0.0293	0.162	<0.00020	<0.0050	11.4	0.162	<0.000010	0.0028	0.001	0.015	2.3
W16	14/05/2012 15:35	<0.0050	<0.0050	<0.00050	0.0207	<0.00050	0.00039	0.0605	<0.00010	<0.0010	<0.05	0.000033	37.2	<0.0010	<0.00050	0.0301	0.166	<0.00020	<0.0050	11.9	0.169	<0.000010	0.003	0.0011	0.016	2.43
W16	24/05/2012	<0.01	0.011	<0.0010	0.0749	<0.00050	0.00032	0.051	<0.00010	<0.0010	<0.05	0.000029	29.4	<0.0010	<0.00050	0.0253	0.212	<0.00020	<0.0050	8.75	0.128	<0.000010	0.0026	<0.0010	0.043	1.91
W16	03/06/2012	<0.0050	<0.0050	<0.00050	0.0168	<0.00050	0.00031	0.0432	<0.00010	<0.0010	<0.05	0.000012	25.8	<0.0010	<0.00050	0.0213	0.118	<0.00020	<0.0050	8.06	0.0989	<0.000010	0.0023	<0.0010	<0.01	1.93
W16	08/06/2012	<0.0050	<0.0050	<0.00050	0.0116	<0.00050	0.00025	0.04	<0.00010	<0.0010	<0.05	0.000015	23.9	<0.0010	<0.00050	0.0186	0.0922	<0.00020	<0.0050	7.46	0.072	<0.000010	0.0022	<0.0010	<0.01	1.73
W16	15/06/2012 16:07	<0.0050	<0.0050	<0.00050	0.0104	<0.00050	0.00029	0.0438	<0.00010	<0.0010	<0.05	0.000015	25.8	<0.0010	<0.00050	0.0212	0.0918	<0.00020	<0.0050	7.99	0.0683	<0.000010	0.0024	<0.0010	<0.01	1.88
W16	24/06/2012 16:05	<0.0050	<0.0050	<0.00050	0.0092	<0.00050	0.00035	0.0523	<0.00010	<0.0010	<0.05	0.000016	29.3	<0.0010	<0.00050	0.0232	0.0934	<0.00020	<0.0050	8.9	0.0413	<0.000010	0.0027	<0.0010	<0.01	1.95
W16	28/06/2012 9:45	<0.0050	<0.0050	<0.00050	0.004	<0.00050	0.00035	0.0534	<0.00010	<0.0010	<0.05	0.000011	32.6	<0.0010	<0.00050	0.0193	0.0692	<0.00020	<0.0050	9.65	0.0032	<0.000010	0.0027	<0.0010	<0.01	2.02
W16	05/07/2012 9:00	<0.0050	<0.0050	<0.00050	0.0066	<0.00050	0.00033	0.0653	<0.00010	<0.0010	<0.05	0.00004	34.4	<0.0010	<0.00050	0.0179	0.0732	<0.00020	<0.0050	9.53	0.0137	<0.000010	0.0029	<0.0010	0.015	2.1
W16	15/07/2012 17:46	<0.0050	<0.0050	<0.00050	0.0041	<0.00050	0.00038	0.0626	<0.00010	<0.0010	<0.05	<0.000010	36.5	<0.0010	<0.00050	0.0189	0.0713	<0.00020	<0.0050	10.9	0.0027	<0.000010	0.0032	<0.0010	<0.01	2.06
W16	17/07/2012 16:15	<0.0050	<0.0050	<0.00050	0.0067	<0.00050	0.00037	0.0631	<0.00010	<0.0010	<0.05	0.00001	38.1	<0.0010	<0.00050	0.0188	0.0617	<0.00020	<0.0050	11.4	0.002	<0.000010	0.003	<0.0010	<0.01	2.13
W16	24/07/2012 15:04	<0.0050	<0.0050	<0.00050	0.0076	<0.00050	0.00036	0.0654	<0.00010	<0.0010	<0.05	<0.000010	38.8	<0.0010	<0.00050	0.0198	0.0687	<0.00020	<0.0050	11.5	0.0027	<0.000010	0.0034	<0.0010	<0.01	2.26
W16	02/08/2012 16:38	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00036	0.0692	<0.00010	<0.0010	<0.05	<0.000010	43.2	<0.0010	<0.00050	0.0161	0.0465	<0.00020	<0.0050	12	0.0022	<0.000010	0.0033	<0.0010	<0.01	2.24
W16	07/08/2012 10:45	<0.0050	<0.0050	<0.00050	0.0058	<0.00050	0.00038	0.07	<0.00010	<0.0010	<0.05	<0.000010	42.4	<0.0010	<0.00050	0.0168	0.0465	<0.00020	<0.0050	11.9	0.0052	<0.000010	0.0033	<0.0010	<0.01	2.29
W16	16/08/2012 10:15	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00036	0.0708	<0.00010	<0.0010	<0.05	<0.000010	44.8	<0.0010	<0.00050	0.0164	0.0388	<0.00020	<0.0050	12.4	0.0038	<0.000010	0.0034	<0.0010	<0.01	2.19
W16	27/08/2012 13:35	<0.0050	<0.0050	<0.00050	0.0036	<0.00050	0.00034	0.0727	<0.00010	<0.0010	<0.05	<0.000010	44.8	<0.0010	<0.00050	0.0176	0.0344	<0.00020	<0.0050	12.7	0.0013	<0.000010	0.0036	<0.0010	<0.01	2.41
W16	03/09/2012 9:15	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00037	0.0752	<0.00010	<0.0010	<0.05	<0.000010	44.8	<0.0010	<0.00050	0.0165	0.0257	<0.00020	<0.0050	13.8	<0.0010	<0.000010	0.0037	<0.0010	<0.01	2.5
W16	05/09/2012 8:00	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00038	0.0721	<0.00010	<0.0010	<0.05	<0.000010	44.5	<0.0010	<0.00050	0.0173	0.0264	<0.00020	<0.0050	13.4	<0.0010	<0.000010	0.0037	<0.0010	<0.01	2.36
W16	05/09/2012 8:00																									
W16	10/09/2012 13:55	<0.0050	<0.0050	<0.00050	0.13	<0.00050	0.00037	0.0771	<0.00010	<0.0010	<0.05	0.000011	46.8	<0.0010	<0.00050	0.0277	0.174	<0.00020	<0.0050	14.2	0.0567	<0.000010	0.0036	<0.0010	0.018	2.56
W16	17/09/2012 11:07	<0.0050	<0.0050	<0.00050	0.0053	<0.00050	0.00041	0.0767	<0.00010	<0.0010	<0.05	<0.000010	47.8	<0.0010	<0.00050	0.019	0.0312	<0.00020	<0.0050	14	0.0033	<0.000010	0.0038	<0.0010	<0.01	2.42

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	BOD5	Br	Cation	COD	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-T	N-TKN	P-PO4T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L
W16	06/10/2011	0.0016	5.06	<0.00002	13.9	0.571	16	<0.00005	<0.005	<0.005	0.0012	<0.005	0.007	<0.0005	180	<0.5	<0.5	<0.5														
W16	18/10/2011	0.0016	5.31	<0.00002	14.5	0.551	18	<0.00005	<0.005	<0.005	0.0012	<0.005	<0.005	<0.0005	190	<0.5	<0.5	<0.5														
W16	13/11/2011	0.00341	8.27	<0.000020	29.4	1.06	32.4	<0.000050	<0.0050	<0.0050	0.0022	<0.0050	0.0185	<0.00050	359	4.81	<0.50	4.01														
W16	21/11/2011	0.00174	5.63	<0.000020	16.2	0.617	17.1	<0.000050	<0.0050	<0.0050	0.00141	<0.0050	0.0107	<0.00050	201	<0.50	<0.50	<0.50														
W16	13/02/2012	0.00157	5.55	<0.000020	16.8	0.607	19.9	<0.000050	<0.0050	<0.0050	0.00195	<0.0050	<0.0050	<0.00050	230	<0.50	<0.50	<0.50														
W16	24/03/2012	0.00167	6.02	<0.000020	18.3	0.622	19.7	<0.000050	<0.0050	<0.0050	0.00192	<0.0050	0.0054	<0.00050	233	<0.50	<0.50	<0.50														
W16	31/03/2012 16:45	0.00136	5.4	<0.000020	16.5	0.601	18.4	<0.000050	<0.0050	<0.0050	0.00189	<0.0050	<0.0050	<0.00050	213	1.85	<0.50	1.54														0.0201
W16	01/04/2012 17:30	0.00151	5.83	<0.000020	16.5	0.583	18.4	<0.000050	<0.0050	<0.0050	0.00185	<0.0050	<0.0050	<0.00050	218	<0.50	<0.50	<0.50														0.0265
W16	02/04/2012 16:45	0.00133	4.53	<0.000020	13.6	0.515	14.4	<0.000050	<0.0050	<0.0050	0.00155	<0.0050	<0.0050	<0.00050	197	<0.50	<0.50	<0.50														0.0476
W16	03/04/2012 17:30	0.00154	5.29	<0.000020	17.2	0.589	17.6	<0.000050	<0.0050	<0.0050	0.00199	<0.0050	<0.0050	<0.00050	217	<0.50	<0.50	<0.50														0.0309
W16	04/04/2012 16:00	0.00138	5.13	<0.000020	15.9	0.559	16.6	<0.000050	<0.0050	<0.0050	0.0018	<0.0050	<0.0050	<0.00050	204	<0.50	<0.50	<0.50														0.0329
W16	05/04/2012 15:30	0.00122	5.05	<0.000020	13.3	0.499	13.9	<0.000050	<0.0050	<0.0050	0.00153	<0.0050	<0.0050	<0.00050	182	<0.50	<0.50	<0.50														0.0368
W16	06/04/2012 14:30	0.00137	5.4	<0.000020	14.7	0.545	15.9	<0.000050	<0.0050	<0.0050	0.0017	<0.0050	<0.0050	<0.00050	212	<0.50	<0.50	<0.50														0.0293
W16	08/04/2012 15:30	0.00158	5.76	<0.000020	16.9	0.617	17.9	<0.000050	<0.0050	<0.0050	0.00195	<0.0050	<0.0050	<0.00050	219	<0.50	<0.50	<0.50														0.022
W16	10/04/2012 17:00	0.00057	2.69	<0.000020	5.33	0.239	4.7	<0.000050	<0.0050	<0.0050	0.00063	<0.0050	<0.0050	<0.00050	89.8	<0.50	<0.50	<0.50														0.064
W16	11/04/2012 7:30	0.00053	1.45	<0.000020	2.87	0.132	<3.0	<0.000050	<0.0050	<0.0050	0.00025	<0.0050	<0.0050	<0.00050	59.2	<0.50	<0.50	<0.50														0.0668
W16	12/04/2012 16:05	0.00057	1.46	<0.000020	3.32	0.148	<3.0	<0.000050	<0.0050	<0.0050	0.00037	<0.0050	<0.0050	<0.00050	48.1	<0.50	<0.50	<0.50														0.0594
W16	13/04/2012	0.00085	5.2	<0.000020	16.7	0.611	17	<0.000050	<0.0050	<0.0050	0.00294	<0.0050	<0.0050	<0.00050	39.5	<0.50	<0.50	<0.50														0.0201
W16	14/04/2012 12:00	0.00047	1.93	<0.000020	3.6	0.162	3.3	<0.000050	<0.0050	<0.0050	0.00034	<0.0050	<0.0050	<0.00050	53.6	<0.50	<0.50	<0.50														0.022
W16	15/04/2012 10:50	0.00042	1.72	<0.000020	3.3	0.157	<3.0	<0.000050	<0.0050	<0.0050	0.0003	<0.0050	<0.0050	<0.00050	57.9	<0.50	<0.50	<0.50														0.0233
W16	16/04/2012 10:07	0.00032	1.5	<0.000020	2.7	0.132	<3.0	<0.000050	<0.0050	<0.0050	0.00026	<0.0050	<0.0050	<0.00050	48.3	<0.50	<0.50	<0.50														0.0151
W16	17/04/2012 12:00	0.00035	1.53	<0.000020	2.82	0.133	<3.0	<0.000050	<0.0050	<0.0050	0.00028	<0.0050	<0.0050	<0.00050	47.3	<0.50	<0.50	<0.50														0.0151
W16	18/04/2012 10:50	0.0003	1.65	<0.000020	2.39	0.122	<3.0	<0.000050	<0.0050	<0.0050	0.00022	<0.0050	<0.0050	<0.00050	47	<0.50	<0.50	<0.50														0.0129
W16	19/04/2012	0.00024	1.42	<0.000020	2.1	0.114	<3.0	<0.000050	<0.0050	<0.0050	0.00021	<0.0050	0.0097	<0.00050	44.9	<0.50	<0.50	<0.50														0.0197
W16	20/04/2012 17:00	0.00023	1.34	<0.000020	1.83	0.102	<3.0	<0.000050	<0.0050	<0.0050	0.00018	<0.0050	<0.0050	<0.00050	39.3	<0.50	<0.50	<0.50														0.0201
W16	21/04/2012 15:40	0.00023	1.28	<0.000020	1.84	0.111	<3.0	<0.000050	<0.0050	<0.0050	0.00021	<0.0050	<0.0050	<0.00050	37.9	<0.50	<0.50	<0.50														0.0221
W16	22/04/2012 14:10	0.00019	1.34	<0.000020	1.7	0.0923	<3.0	<0.000050	<0.0050	<0.0050	0.00016	<0.0050	<0.0050	<0.00050	34.4	<0.50	<0.50	<0.50														0.0375
W16	23/04/2012 15:40	0.00023	1.09	<0.000020	1.63	0.0931	<3.0	<0.000050	<0.0050	<0.0050	0.00017	<0.0050	<0.0050	<0.00050	35	<0.50	<0.50	<0.50														0.0172
W16	24/04/2012 17:00	0.00022	1.1	<0.000020	1.44	0.0903	<3.0	<0.000050	<0.0050	<0.0050	0.00016	<0.0050	<0.0050	<0.00050	32.5	<0.50	<0.50	<0.50														0.0177
W16	25/04/2012	0.0002	1.07	<0.000020	1.47	0.087	<3.0	<0.000050	<0.0050	<0.0050	0.00015	<0.0050	<0.0050	<0.00050	32.2	<0.50	<0.50	<0.50										2.93				0.0215
W16	26/04/2012	0.00016	1.05	<0.000020	1.42	0.0821	<3.0	<0.000050	<0.0050	<0.0050	0.00014	<0.0050	<0.0050	<0.00050	31.7	<0.50	<0.50	<0.50										3.47				0.0212
W16	27/04/2012	0.00017	0.968	<0.000020	1.25	0.0736	<3.0	<0.000050	<0.0050	<0.0050	0.00011	<0.0050	<0.0050	<0.00050	29.3	<0.50	<0.50	<0.50														0.0204
W16	28/04/2012	0.00013	0.987	<0.000020	0.954	0.0663	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	30.4	<0.50	<0.50	<0.50														0.0188
W16	29/04/2012	<0.00010	0.765	<0.000020	0.756	0.0562	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	24.5	<0.50	<0.50	<0.50														0.0187
W16	30/04/2012	<0.00010	0.67	<0.000020	0.708	0.0519	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	20.1	<0.50	<0.50	<0.50														0.0189
W16	01/05/2012 15:00	<0.00010	0.671	<0.000020	0.879	0.0477	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	25.1	<0.50	<0.50	<0.50														0.0157
W16	02/05/2012	0.00011	0.557	<0.000020	0.74	0.043	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	26.7	<0.50	<0.50	<0.50														0.0189
W16	03/05/2012 11:30	<0.00010	0.577	<0.000020	0.823	0.0432	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	39.8	<0.50	<0.50	<0.50														0.0291
W16	04/05/2012 3:30	0.00035	2.82	<0.000020	4.38	0.16	6.5	<0.000050	<0.0050	0.009	0.00039	<0.0050	0.0114	<0.00050	63.3	<0.50	<0.50	<0.50														0.0582
W16	05/05/2012 10:45	0.0004	2.68	<0.000020	4.28	0.164	3.8	<0.000050	<0.0050	<0.0050	0.00039	<0.0050	<0.0050	<0.00050	72	<0.50	<0.50	<0.50														0.0293
W16	06/05/2012 14:35	0.00058	3.52	<0.000020	6.69	0.256	7.2	<0.000050	<0.0050	<0.0050	0.00063	<0.0050	<0.0050	<0.00050	105	<0.50	<0.50	<0.50														0.0376
W16	07/05/2012	0.00055	3.33	<0.000020	6.2	0.226	5.9	<0.000050	<0.0050	<0.0050	0.00058	<0.0050	<0.0050	<0.00050	94.1	<0.50	<0.50	<0.50														0.0351
W16	08/05/2012 5:30	0.00055	3.35	<0.000020	6.38	0.233	6.6	<0.000050	<0.0050	<0.0050	0.00059	<0.0050	<0.0050	<0.00050	94.4	<0.50	<0.50	<0.50														0.0401
W16	09/05/2012 17:50																															
W16	13/05/2012 11:30	0.00082	4	<0.000020	10.1	0.351	9.9	<0.000050	<0.0050	<0.0050	0.00093	<0.0050	<0.0050	<0.00050	142	<0.50	<0.50	<0.50														0.028
W16	14/05/2012 15:35	0.0008	4.16	<0.000020	11.1	0.363	10.7	<0.000050	<0.0050	<0.0050	0.00094	<0.0050	<0.0050	<0.00050	141	<0.50	<0.50	<0.50														0.0284
W16	24/05/2012	0.00064	3.23	<0.000020	9.97	0.287	7.9	<0.000050	<0.0050	<0.0050	0.00077	<0.0050	<0.0050	<0.00050	121	<0.50	<0.50	<0.50														0.0984
W16	03/06/2012	0.00056	2.53	<0.000020	10.3	0.255	7.2	<0.000050	<0.0050	<0.0050	0.00067	<0.0050	<0.0050	<0.00050	113	<0.50	<0.50	<0.50														0.0593
W16	08/06/2012	0.00056	2.33	<0.000020	9.28	0.226	6.5	<0.000050	<0.0050	<0.0050	0.00068	<0.0050	<0.0050	<0.00050	104	<0.50	<0.50	<0.50														0.0175
W16	15/06/2012 16:07	0.00053	2.32	<0.000020	8.98	0.277	7.2	<0.000050	<0.0050	<0.0050	0.0006	<0.0050	<0.0050	<0.00050	100	<0.50	<0.50	<0.50														0.0214
W16	24/06/2012 16:05	0.00061	2.42	<0.000020	9.03	0.304	8	<0.000050	<0.0050	<0.0050	0.00069	<0.0050	<0.0050	<0.00050	114	<0.50	<0.50	<0.50														0.0365
W16	28/06/2012 9:45	0.00063	2.35	<0.000020	9.5	0.324	9.2	<0.000050	<0.0050	<0.0050	0.00066	<0.0050	<0.0050	<0.00050	121	<0.50	<0.50	<0.50														0.0179
W16	05/07/2012 9:00	0.00077	2.63	<0.000020	8.82	0.328	10.5	<0.000050	<0.0050	<0.0050	0.0007	<0.0050	<0.0050	<0.00050	133	<0.50	<0.50	<0.50														0.0164
W16	15/07/2012 17:46	0.00076	2.78	<0.000020	9.98	0.368	9.7	<0.000050	<0.0050	<0.0050	0.0008	<0.0050	<0.0050	<0.00050	135	<0.50	<0.50	<0.50														0.0315
W16	17/07/2012 16:15	0.00072	2.74	<0.000020	10.2	0.361	10.1	<0.000050	<0.0050	<0.0050	0.00076	<0.0050	<0.0050	<0.00050	142	<0.50	<0.50	<0.50														0.0204
W16	24/07/2012 15:04	0.00076	2.75	<0.000020	10.2	0.373	11	<0.000050	<0.0050	<0.0050	0.0008	<0.0050	<0.0050	<0.00050	147	<0.50	<0.50	<0.50														0.024
W16	02/08/2012 16:38	0.0008	2.98	<0.000020	10.1	0.401	12.1	<0.000050	<0.0050	<0.0050	0.00083	<0.0050	<0.0050	<0.00050	158	<0.50	<0.50	<0.50														0.0133
W16	07/08/2012 10:45	0.00079	2.88	<0.000020	10.1	0.405	12.6	<0.000050	<0.0050	<0.0050	0.00081	<0.0050	<0.0050	<0.00050	163	<0.50	<0.50	<0.50														0.0309
W16	16/08/2012 10:15	0.00084	2.53	<0.000020	10.2	0.431	13.1	<0.000050	<0.0050	<0.0050	0.00085	<0.0050	<0.0050	<0.00050	164	<0.50	<0.50	<0.50														
W16	27/08/2012 13:35	0.00075	2.11	<0.000020	10.4	0.427	11.8	<0.000050	<0.0050	<0.0050	0.00095	<0.0050	<0.0050	<0.00050	172	2.44	<0.50	2.03														
W16	03/09/2012 9:15	0.00083	2.2	<0.000020	11.3	0.47	12.7	<0.000050	<0.0050	<0.0050	0.00099	<0.0050	<0.0050	<0.00050	174	<0.50	<0.50	<0.50														
W16	05/09/2012 8:00	0.0008	2.22	<0.000020	11	0.472	13	<0.000050	<0.0050	<0.0050	0.00098	<0.0050	<0.0050	<0.00050	179	<0.50	<0.50	<0.50														<0.0050
W16	05/09/2012 8:00																															
W16	10/09/2012 13:55	0.00088	2.59	<0.000020	11.5	0.498	12.8	<0.000050	<0.0050	0.0067	0.00099	<0.0050	<0.0050	<0.00050	178	<0.50	<0.50	<0.50														
W16	17/09/2012 11:07	0.00096	2.73	<0.000020	11.3	0.508	13.2	<0.000050	<0.0050	<0.0050	0.001	<0.0050	<0.0050	<0.00050	176	<0.50	<0.50	<0.50														

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	P-TDP	P-TRP	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		mg/L	mg/L	Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W16	06/10/2011								
W16	18/10/2011								
W16	13/11/2011								
W16	21/11/2011								
W16	13/02/2012								
W16	24/03/2012								
W16	31/03/2012 16:45								
W16	01/04/2012 17:30								
W16	02/04/2012 16:45					416.1			
W16	03/04/2012 17:30								
W16	04/04/2012 16:00								
W16	05/04/2012 15:30								
W16	06/04/2012 14:30								
W16	08/04/2012 15:30								
W16	10/04/2012 17:00					450.7			
W16	11/04/2012 7:30					137.5			
W16	12/04/2012 16:05					465.4			
W16	13/04/2012					475.4			
W16	14/04/2012 12:00					461.3			
W16	15/04/2012 10:50					494.2			
W16	16/04/2012 10:07					363.4			
W16	17/04/2012 12:00					470			
W16	18/04/2012 10:50					291.4			
W16	19/04/2012					138.9			
W16	20/04/2012 17:00					87.1			
W16	21/04/2012 15:40					81			
W16	22/04/2012 14:10					423.6			
W16	23/04/2012 15:40					70.7			
W16	24/04/2012 17:00					68.7			
W16	25/04/2012								
W16	26/04/2012					140.4			
W16	27/04/2012					119.7			
W16	28/04/2012								
W16	29/04/2012					41.8			
W16	30/04/2012					59.9			
W16	01/05/2012 15:00					111.8			
W16	02/05/2012					125.4			
W16	03/05/2012 11:30					112.2			
W16	04/05/2012 3:30					142.6			
W16	05/05/2012 10:45					184.4			
W16	06/05/2012 14:35					259.2			
W16	07/05/2012					193.2			
W16	08/05/2012 5:30					240			
W16	09/05/2012 17:50					226.8			
W16	13/05/2012 11:30					315			
W16	14/05/2012 15:35					312.1			
W16	24/05/2012					263.5			
W16	03/06/2012					240.8			
W16	08/06/2012					227.4			
W16	15/06/2012 16:07					264.6			
W16	24/06/2012 16:05					253.8			
W16	28/06/2012 9:45					273.1			
W16	05/07/2012 9:00					543.5			
W16	15/07/2012 17:46					280.7			
W16	17/07/2012 16:15					298.2			
W16	24/07/2012 15:04					293.8			
W16	02/08/2012 16:38					289.4			
W16	07/08/2012 10:45					343.5			
W16	16/08/2012 10:15					338.1			
W16	27/08/2012 13:35					334.8			
W16	03/09/2012 9:15					339			
W16	05/09/2012 8:00								
W16	05/09/2012 8:00					365.6			
W16	10/09/2012 13:55					370			
W16	17/09/2012 11:07					371			

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T	B-T
			mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W16	24/09/2012 9:35	P	8.1	252	7.67	8.22	255.4	391	8.1	8.02	68.4	75.1	185	179	146	3.1	0.23	34.8	0.14	0.0179	3.73	12.5	0.0874	<0.00050	0.00039	0.0788	<0.00010	<0.0010	<0.05
W16	06/10/2012 17:00	P	2.1	258	7.8	8.02	247	390	6.4	8.83	71.8	38.8	190		147	3.2	0.24	36.7	0.21	0.0153	3.82	12.1	0.0467	<0.00050	0.0004	0.089	<0.00010	<0.0010	<0.05
W16	12/10/2012 8:25	P	2	272	7.77	8	237.9	389	4.7	7.94	61.7	90.9	180		150	3.3	0.24	37.3	0.045	0.0128	3.48	13	0.0447	<0.00050	0.0004	0.0765	<0.00010	<0.0010	<0.05
W16	19/10/2012 10:55	P	5.7	248	7.9	8.07	222.5	396	3	9.34	69.4	78.7	179	118	148	3.5	0.22	42.4	0.048	0.0107	3.45	10.3	0.0471	<0.00050	0.00044	0.0768	<0.00010	<0.0010	<0.05
W16	22/10/2012 7:20	P	2	244	8.4	8.02		391	2.2				189	183	152	3	0.22	38.8	0.032	0.0165	3.29	11.7	0.0741	<0.00050	0.0004	0.0825	<0.00010	<0.0010	<0.05
W16	25/10/2012 13:45	P	2.2	284	8.2	8.09		428	0.7				198	201	159	3.6	0.24	40.4	0.045	0.0114	4.15	11.9	0.0398	<0.00050	0.00045	0.0816	<0.00010	<0.0010	<0.05
W16	04/11/2012	P	1.5	262		8.29		424					200	206	160	3.6	0.26	40.8	0.023	0.0116	4.07	12.3	0.0497	0.00115	0.00054	0.0798	<0.00010	<0.0010	<0.05
W16	05/11/2012 10:50	P			7.01		229.2		0.3	11.42	79.2	250.6																	
W16	09/11/2012 14:45	P	4.7	272	7.93	8.23	206.8	414	1.4			189.4	189	190	156	3.4	0.26	39.8	0.028	0.0101	3.93	11.4	0.0434	0.000118	0.000361	0.0813	<0.000010	<0.0000050	<0.05
W16	18/11/2012 10:00	P	1.5	254	8	7.95	174.5	394	0			164.8	179	244	157	3.8	0.24	41.2	0.024	0.0114	1.85	9.58	0.0272	0.00082	0.00029	0.0795	<0.00010	<0.0010	<0.05
W16	24/11/2012	P	<1.0	260		8.09		420					203	195	159	3.7	0.24	39.2	0.038	0.0095	3.86	11.8	0.0127	<0.00050	0.00035	0.0803	<0.00010	<0.0010	<0.05
W16	25/11/2012 12:00	P			7.71		195.8		0.4	8.46	61.6	146.1																	
W16	07/03/2013	P	<1.0	300	7.5	7.97	220.6	451	0.4	5.05	37.2	-400.3	210	205	177	3.5	0.29	41.1	0.058	0.0079	3.24	10.1	0.01	<0.00050	0.00037	0.0792	<0.00010	<0.0010	<0.05
W16	09/03/2013 8:00	P	1.5	300	7.42	7.99	225.1	464	0.1	4.76	32.7	-405.5	218	208	182	3.6	0.3	40.7	0.1	0.008	3.36	10.2	0.0466	<0.00050	0.00041	0.0825	<0.00010	<0.0010	<0.05
W16	24/03/2013 15:00	P	8.5	288	7.3	8.04	242.1	470	0.1	4.4	30.2	-414.1	210	213	185	4.6	0.31	45.1	0.13	0.0433	3.31	11.7	0.167	<0.00050	0.00033	0.0833	<0.00010	<0.0010	<0.05
W16	28/03/2013	M	5.2	286	10.05	8.09	231	474	0.5	4.44	31.4	-411.8	227	208	187	4.1	0.3	44.4	0.042	0.0079	3.39	8.93	0.119	<0.00050	0.00032	0.0866	<0.00010	<0.0010	<0.05
W16	29/03/2013	M	<1.0	296	7.99	8.12	230.7	477	0.3	4.27	27.9	-410.6	217	219	189	4.2	0.32	47.7	0.047	0.053	3.84	10.5	0.0116	<0.00050	0.00054	0.0791	<0.00010	<0.0010	<0.05
W16	30/03/2013	M	3.6	294	7.67	8.12	231.5	476	0.2	4.79	33.3	-406.8	224	217	189	4.5	0.32	47.3	0.33	<0.050	3.69	11.4	0.0387	<0.00050	0.00044	0.0809	<0.00010	<0.0010	<0.05
W16	31/03/2013	M	4.8	286	7.51	8.16	228.1	448	0.3	3.36	23.3	-411.6	199	205	170	4.8	0.29	47.9	0.06	<0.050	3.65	11.8	0.132	<0.00050	0.00052	0.0742	<0.00010	<0.0010	<0.05
W16	01/04/2013 11:30	P	2.8	214	7.66	7.9	190.1	387	0.1	6.76	40.2	-402.9	172	170	137	4.4	0.22	45.6	0.08	0.0162	4.69	10.6	0.113	<0.00050	0.00055	0.064	<0.00010	<0.0010	<0.05
W16	02/04/2013 10:00	M	2	242		8.11		429					188	186	159	4.3	0.26	43.4	0.048	0.0145	5.58	10.1	0.0897	<0.00050	0.00039	0.068	<0.00010	<0.0010	<0.05
W16	03/04/2013 16:00	M	2.3	284	7.44	8.07	226.4	467	1.1	4.21	29.5	-409.9	207	214	184	4.4	0.3	46.1	0.11	0.008	3.33	9.77	0.0584	<0.00050	0.00034	0.0766	<0.00010	<0.0010	<0.05
W16	04/04/2013 17:00	M	1.4	284	7.32	8.13	234.3	463	2.5	3.81	28	-416.1	205	216	186	4.1	0.31	50.1	0.059	0.007	3.27	9.78	0.0438	<0.00050	0.00028	0.0748	<0.00010	<0.0010	<0.05
W16	05/04/2013 11:40	M	<1.0	278	7.45	8.04	210.3	469	0.3	3.9	27.1	-410.9	221	213	185	4.1	0.35	44.9	0.029	0.0114	3.39	10.3	0.0447	<0.00050	0.0003	0.0825	<0.00010	<0.0010	<0.05
W16	06/04/2013 16:00	M	1.4	288	7.7	8.09	214	473	0.5	5	34.7	-410.7	232	217	188	4.1	0.33	45.8	0.029	<0.050	3.46	9.02	0.0492	<0.00050	0.00037	0.088	<0.00010	<0.0010	<0.05
W16	07/04/2013 17:10	M	2.7	256	7.53	7.98	215.8	443	0.6	5.24	36.7	-405.3	221	207	176	4.1	0.32	43.9	0.04	<0.050	3.31	9.69	0.0838	<0.00050	0.00039	0.0818	<0.00010	<0.0010	<0.05
W16	08/04/2013 18:30	P	6.4	292	7.78	8.24	213.9	464	0.6	4.3	29.7	-408.2	210	216	182	4.5	0.3	46.9	0.06	0.0134	3.17	10.5	0.159	<0.00050	0.00033	0.0842	<0.00010	<0.0010	<0.05
W16	09/04/2013 16:30	M	5.7	298	7.5	8.02	239.7	462	0.7	4.52	31.6	-378.4	208	208	182	4.1	0.3	43	0.11	0.0127	3.03	8.9	0.164	<0.00050	0.00039	0.0801	<0.00010	<0.0010	<0.05
W16	10/04/2013 17:00	P	7.1	236	7.58	8.17	216.4	393	1.2	6.03	42.5	-354	184	173	152	3.9	0.23	38.9	0.049	0.0244	2.8	9.92	0.304	<0.00050	0.00043	0.0924	<0.00010	<0.0010	<0.05
W16	12/04/2013 17:30	P	2.1	296	7.4	7.99	542	473	0.2				224	217	186	4.6	0.3	46.8	0.023	0.0099	3.2	10.8	0.0691	<0.00050	0.00035	0.0836	<0.00010	<0.0010	<0.05
W16	13/04/2013 16:50	P	2.1	286	7.6	8.1	497	468	0.3				213	209	185	4.6	0.3	43.5	0.014	0.0076	3.13	9.85	0.0609	<0.00050	0.00034	0.078	<0.00010	<0.0010	<0.05
W16	14/04/2013 16:40	P	5.1	278	7.4	8.09	475	452	0.5				206	204	175	4.5	0.28	44.6	0.13	0.0206	3.16	10.8	0.172	<0.00050	0.00036	0.0909	<0.00010	<0.0010	<0.05
W16	15/04/2013 16:30	P	2.5	302	7.7	8.16	485	473	0.4				220	210	182	4.5	0.31	44.6	0.059	0.0054	3.17	10.1	0.0859	<0.00050	0.00038	0.083	<0.00010	<0.0010	<0.05
W16	16/04/2013 17:30	P			7.5		470		0.3																				
W16	17/04/2013 17:30	M	1.7	294		7.92		474					214	188	183	4.9	0.3	47.4	0.067	0.0103	3.89	10.2	0.0421	<0.00050	0.00032	0.0778	<0.00010	<0.0010	<0.05
W16	18/04/2013 15:00	P	1.2	282	7.53	7.95	218.9	470	0			-423.4	213	189	181	5	0.3	43.6	0.031	0.0086	3.37	12.6	0.04	<0.00050	0.00031	0.0759	<0.00010	<0.0010	<0.05
W16	19/04/2013 16:15	P	2.4	308	8.31	7.98	229.6	468	0.1			-411	230	222	184	4	0.32	43.3	0.011	0.0104	3.5	10.5	0.0582	<0.00050	0.00033	0.0829	<0.00010	<0.0010	<0.05
W16	20/04/2013 17:15	P	5.3	294	7.87	8.05	233.1	469	1.4			-406.1	223	229	185	4.5	0.31	42.7	0.022	0.0131	3.24	11.8	0.115	<0.00050	0.00038	0.0868	<0.00010	<0.0010	<0.05
W16	25/04/2013 14:05	P	6.7	254	7.95	8.01	227.9	422	0.5		45.6	-140.7	200	188	164	5.9	0.28	38.5	0.025	0.0192	2.82	9.19	0.443	<0.00050	0.00043	0.0826	<0.00010	<0.0010	<0.05
W16	17/05/2013 8:10	P			7.48		48.1		0.5		66.9	33.4																	
W16	18/05/2013 9:20	P	19.6	112	7.89	7.46	47.2	101	0.9	9.12	64.2	44	47.3	44.4	35.5	4.3	0.1	<0.50	0.032	0.021	0.778	18.4	1.14	<0.00050	0.00071	0.0501	<0.00010	<0.0010	<0.05
W16	18/05/2013 10:15	M			8		104		3																				
W16	19/05/2013 11:30	P			7.85		56.5		1.6	10.16	73.3	63.4																	
W16	20/05/2013 8:30	P			7.49		57.2		1.6	9.72	69.8	39.7																	
W16	21/05/2013 8:00	P			8.6				1.8																				
W16	22/05/2013 9:15	P			8.2				2.3																				
W16	23/05/2013	P	18.3	112	8.07	7.62	76.7	123	5.5	8.1	64.2	-4.3	54	53.4	43.6	4.6	0.11	<0.50	0.047	0.0338	0.812	17.9	1.18	<0.00050	0.00058	0.0497	<0.00010	<0.0010	<0.05
W16	25/05/2013 8:10	P			7.62		66.9		3.9	8.57	65.3	61.1																	
W16	26/05/2013 8:00	P			7.8				7.8																				
W16	27/05/2013 7:25	P			8.1				9.3																				
W16	28/05/2013 10:00	P	10	142	7.45	7.8	149.5	172	14.1	5.54	56.9	62.3	65.9	66.6	53.5	5.5	0.18	16.5	0.059	0.0442	1.88	15.4	0.571	<0.00050	0.00045	0.046	<0.00010	<0.0010	<0.05
W16	06/06/2013 15:00	P	9.2	190	7.3	8.09	207.8	252	15.3	7.7	79	35.5	106	101	79.9	6.5	0.25	27.7	0.036	0.0697	2.77	14.4	0.337	<0.00050	0.00044	0.0628	<0.00010	<0.0010	<0.05
W16	15/06/2013 16:15	P	6.2	200	8.9	8.14	282	281	22.9				124	114	93.3	7.2	0.26	29.2	0.024	0.0404	2.36	14	0.135	<0.00050	0.00058	0.0676	<0.00010	<0.0010	<0.05
W16	20/06/2013	P	6	248	8.8	8.09	286	291	20.9				126	125	98.9	6.8	0.25	27.6	0.061	0.0278	1.76	14.6	0.138	<0.00050	0.00044	0.0651	<0.00010	<0.0010	<0.05
W16	25/06/2013	P	10.5	200	8.95	8.02		306	24.3	7.44	80.8	78.2	142	122	109	7.4	0.26	29	0.03	0.0203	1.77	14.2	0.304	<0.00050	0.00057	0.0719	<0.00010	<0.0010	<0.05
W16	01/07/2013	P	24	184	8.96	8.44		317	21.7	8.40	96.6	50.2	151	134	116	8	0.26	29.4	0.024	0.0164	1.56	13.2	1.54	<0.00050	0.00081	0.0922	<0.00010	<0.0010	<0.05
W16	12/07/2013	P	2	224	9.00	8.17	272	324	17	8.18	84.8	99.4	165	136	120	8.7	0.26	32	0.032	0.0104	1.35	13.7	0.139	<0.00050	0.00053	0.0692	<0.00010	<0.0010	<0.05
W16	21/07/2013 11:40	P	5.1	246	8.99	8.33	267.7	328	16.9	9.08	94	65.6	154	150	125	8.7	0.26	32.9	0.024	0.0087	1.11	13.3	0.133	<0.00050	0.00055	0.0663	<0.00010	<0.0010	<0.05
W16	23/07/2013	P	5.1	204	9.20	8.28	317	337	17.5				163	149	128	8.8	0.27	30.4	0.022	<0.050	1.15	13.1	0.179	<0.00050	0.00064	0.0695	<0.00010	<0.0010	<0.05
W16	31/07/2013 16:00	P	13.8	188	9.16	8.17	272.6	325	19.7	9.84	107.8	72.5	159	145	120	9	0.25	25.2	0.051	0.0117	1.04	14	0.349	<0.00050	0.00062	0.0762	<0.00010	<0.0010	<0.05
W16	08/08/2013 10:00	P	4.8	242	9.03	8.43	282.3	326	18.5	7.78	83.5	104.5	163	141	124	9.2	0.25	27.7	0.019	<0.050	1.13	14.2	0.047	<0.00050	0.00066	0.07	<0.00010	<0.0010	<0.05
W16	15/08/2013 10:20	P	3.5	276	9.30	8.31	330	338	18.5				171	160	133	9.3	0.25	26	0.084	0.0077	1.01	19.5	0.0724	<0.00050	0.00056	0.0769	<0.00010	<0.0010	<0.05
W16	19/08/2013 15:20	P	2.5	212	8.79	8.34	284.3	349	17.1	6.56	75.4	82.7	168	158	133	9.9	0.25	29	0.033	0.0082	1.05	13.7	0.0434	<0.00050	0.00062	0.0744	<0.00010	<0.0010	<0.05
W16	26/08/2013 10:05	P	2.6	258	8.45	8.37	289.1	359	14.3	7.99	85.1	138.7	180	161	134	10	0.25	25.6	0.021	0.0073	1.04	13.5	0.0526	<0.00050	0.00052	0.0759	<0.00010	<0.0010	<0.05
W16	02/09/2013 14:15	P	5	236	8.43	8.12	153	358	14.6	7.67	82	75.6	177	161	134	10	0.26	29	0.075	0.0073	0.936	13.2	0.0399	<0.00050	0.00056	0.0747	<0.00010	<0.0010	<0.05

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W16	24/09/2012 9:35	0.000015	49.7	<0.0010	<0.00050	0.0267	0.202	<0.00020	<0.0050	14.7	0.0444	<0.000010	0.0039	0.0081	0.02	2.53	0.00087	3.02	<0.000020	11.9	0.504	12.9	<0.000050	<0.0050	<0.0050	0.00111
W16	06/10/2012 17:00	0.000011	50	<0.0010	<0.00050	0.0224	0.102	<0.00020	<0.0050	15.9	0.0383	<0.000010	0.0043	<0.0010	0.016	2.7	0.00105	3.04	<0.000020	12.4	0.599	15.2	<0.000050	<0.0050	<0.0050	0.00125
W16	12/10/2012 8:25	<0.000010	47.5	<0.0010	<0.00050	0.0223	0.103	<0.00020	<0.0050	14.9	0.0312	<0.000010	0.0041	0.0011	<0.01	2.52	0.00107	2.83	<0.000020	11.7	0.514	14.3	<0.000050	<0.0050	<0.0050	0.00111
W16	19/10/2012 10:55	<0.000010	48.1	<0.0010	<0.00050	0.0249	0.0999	<0.00020	<0.0050	14.4	0.0235	<0.000010	0.0037	0.0013	0.016	2.57	0.00088	2.81	<0.000020	11.3	0.488	14	<0.000050	<0.0050	<0.0050	0.00114
W16	22/10/2012 7:20	0.000015	49.9	<0.0010	<0.00050	0.0298	0.173	<0.00020	<0.0050	15.6	0.0227	<0.000010	0.0039	<0.0010	0.121	3.07	0.0009	3.22	<0.000020	12.3	0.538	10.5	<0.000050	<0.0050	<0.0050	0.00122
W16	25/10/2012 13:45	0.000013	52.3	<0.0010	<0.00050	0.0253	0.122	<0.00020	<0.0050	16.4	0.0139	<0.000010	0.0042	0.0014	0.018	2.96	0.00104	2.95	<0.000020	13.1	0.552	15.9	<0.000050	<0.0050	<0.0050	0.00129
W16	04/11/2012	0.000143	53.7	<0.0010	<0.00050	0.0307	0.116	0.00109	<0.0050	16	0.0088	<0.000010	0.0043	0.002	0.069	4.42	0.00088	3.09	<0.000020	12.8	0.552	15.8	<0.000050	<0.0050	<0.0050	0.00122
W16	05/11/2012 10:50																									
W16	09/11/2012 14:45	0.000008	51.1	0.00013	0.000067	0.0215	0.103	0.000046	0.00139	15	0.0056		0.00393	0.000799		2.81	0.000949	2.87	<0.0000050	11.6	0.516	14	0.000002	<0.00020	0.00433	0.00117
W16	18/11/2012 10:00	0.000023	47.5	<0.0010	<0.00050	0.023	0.0923	<0.00020	<0.0050	14.6	0.0046	<0.000010	0.0039	<0.0010	0.02	2.56	0.0011	2.77	<0.000020	11.5	0.531	12.1	<0.000050	<0.0050	<0.0050	0.00117
W16	24/11/2012	0.000059	54.4	<0.0010	<0.00050	0.0201	0.0407	<0.00020	<0.0050	16.3	0.0039	<0.000010	0.0041	<0.0010	0.017	3.05	0.00099	3.13	<0.000020	12.9	0.562	15.7	<0.000050	<0.0050	<0.0050	0.00123
W16	25/11/2012 12:00																									
W16	07/03/2013	<0.000010	55.8	<0.0010	<0.00050	0.0174	0.0496	<0.00020	<0.0050	17.2	0.0173	<0.000010	0.0045	<0.0010	<0.01	3.01	0.001	3.89	<0.000020	13.5	0.577	15.1	<0.000050	<0.0050	<0.0050	0.00164
W16	09/03/2013 8:00	<0.000010	57.3	<0.0010	<0.00050	0.0313	0.14	<0.00020	<0.0050	18.1	0.0158	<0.000010	0.0047	<0.0010	0.014	3.16	0.00089	3.98	<0.000020	14.4	0.59	16.6	<0.000050	<0.0050	<0.0050	0.00171
W16	24/03/2013 15:00	0.00002	53.8	<0.0010	<0.00050	0.0566	0.393	<0.00020	<0.0050	18.5	0.0265	0.000011	0.0045	0.0012	0.022	3.35	0.00085	4.19	<0.000020	14.8	0.577	15	<0.000050	<0.0050	0.0116	0.0015
W16	28/03/2013	0.00002	59.5	<0.0010	<0.00050	0.0541	0.258	<0.00020	<0.0050	19	0.0238	<0.000010	0.0047	<0.0010	0.021	3.2	0.00095	4.42	<0.000020	14.6	0.608	16.3	<0.000050	<0.0050	0.0071	0.0018
W16	29/03/2013	<0.000010	56.8	<0.0010	<0.00050	0.0174	0.0517	<0.00020	<0.0050	18.2	0.0164	<0.000010	0.0043	0.001	<0.01	2.95	0.00106	4.24	<0.000020	14.1	0.581	15.2	<0.000050	<0.0050	<0.0050	0.00159
W16	30/03/2013	0.000024	58.4	<0.0010	<0.00050	0.0275	0.162	<0.00020	<0.0050	19.1	0.0198	<0.000010	0.0044	0.0012	0.013	3.23	0.00097	4.43	<0.000020	14.9	0.582	16.1	<0.000050	<0.0050	<0.0050	0.00162
W16	31/03/2013	0.000012	50.5	<0.0010	<0.00050	0.0513	0.305	<0.00020	<0.0050	17.7	0.0209	<0.000010	0.0043	0.0011	0.041	3.09	0.00087	3.72	0.000036	14.1	0.52	14.1	<0.000050	<0.0050	0.0057	0.00151
W16	01/04/2013 11:30	0.000019	40.7	<0.0010	<0.00050	0.0396	0.196	<0.00020	<0.0050	17.1	0.0208	<0.000010	0.0044	<0.0010	0.03	3.02	0.00077	2.89	<0.000020	13.6	0.437	16.7	<0.000050	<0.0050	0.0072	0.00133
W16	02/04/2013 10:00	0.000029	46	<0.0010	<0.00050	0.0379	0.183	<0.00020	<0.0050	17.8	0.0188	<0.000010	0.0043	<0.0010	0.025	3.21	0.001	3.12	<0.000020	14.6	0.481	15.6	<0.000050	<0.0050	<0.0050	0.00145
W16	03/04/2013 16:00	0.00001	53.7	<0.0010	<0.00050	0.0219	0.134	<0.00020	<0.0050	17.7	0.0191	<0.000010	0.0042	<0.0010	0.013	3.03	0.00078	3.86	<0.000020	13.7	0.545	15	<0.000050	<0.0050	<0.0050	0.00168
W16	04/04/2013 17:00	0.000017	53.2	<0.0010	<0.00050	0.0212	0.122	<0.00020	<0.0050	17.5	0.0139	<0.000010	0.0043	<0.0010	0.012	2.95	0.00094	3.65	<0.000020	13.8	0.545	14.2	<0.000050	<0.0050	<0.0050	0.00162
W16	05/04/2013 11:40	<0.000010	57.5	<0.0010	<0.00050	0.0205	0.108	<0.00020	<0.0050	18.8	0.0174	<0.000010	0.0045	0.0011	0.014	3.02	0.00081	4.24	<0.000020	14.5	0.597	14.6	<0.000050	<0.0050	<0.0050	0.00164
W16	06/04/2013 16:00	<0.000010	60.6	<0.0010	<0.00050	0.0225	0.133	<0.00020	<0.0050	19.5	0.017	<0.000010	0.0048	<0.0010	0.012	3.21	0.0008	4.47	<0.000020	15.2	0.63	14.9	<0.000050	<0.0050	<0.0050	0.00169
W16	07/04/2013 17:10	<0.000010	57.2	<0.0010	<0.00050	0.0254	0.177	<0.00020	<0.0050	19.1	0.0199	<0.000010	0.0048	0.0011	0.021	3.07	0.00084	4.32	<0.000020	14.9	0.581	14.9	<0.000050	<0.0050	0.009	0.00165
W16	08/04/2013 18:30	0.000014	54.4	<0.0010	<0.00050	0.0266	0.271	<0.00020	<0.0050	18	0.0254	<0.000010	0.0048	0.0011	0.018	3.22	0.00089	4.16	<0.000020	14	0.59	15.9	<0.000050	<0.0050	0.0078	0.00174
W16	09/04/2013 16:30	0.000016	52.7	<0.0010	<0.00050	0.0499	0.377	<0.00020	<0.0050	18.5	0.0328	<0.000010	0.004	<0.0010	0.02	3.02	0.00089	4.2	<0.000020	14.2	0.548	16	<0.000050	<0.0050	0.0086	0.0016
W16	10/04/2013 17:00	0.000049	46.8	<0.0010	<0.00050	0.0617	0.475	<0.00020	<0.0050	16.3	0.0501	<0.000010	0.0045	<0.0010	0.017	3.41	0.00099	3.26	<0.000020	12.6	0.528	12.8	<0.000050	<0.0050	0.0142	0.0014
W16	12/04/2013 17:30	<0.000010	59.6	<0.0010	<0.00050	0.0254	0.183	<0.00020	<0.0050	18.3	0.0362	<0.000010	0.0042	<0.0010	0.012	3.21	0.00091	4.19	<0.000020	14.4	0.57	14.5	<0.000050	<0.0050	<0.0050	0.00168
W16	13/04/2013 16:50	<0.000010	56	<0.0010	<0.00050	0.0204	0.163	<0.00020	<0.0050	17.8	0.0277	<0.000010	0.0043	<0.0010	0.015	2.92	0.00066	4.11	<0.000020	13.5	0.566	15	<0.000050	<0.0050	<0.0050	0.00158
W16	14/04/2013 16:40	0.000024	54.2	<0.0010	<0.00050	0.0514	0.375	<0.00020	<0.0050	17.2	0.0472	<0.000010	0.0045	0.0011	0.015	3.48	0.00086	3.82	0.000032	13.3	0.554	14.1	<0.000050	<0.0050	0.0074	0.0015
W16	15/04/2013 16:30	0.000012	57.7	<0.0010	<0.00050	0.025	0.219	<0.00020	<0.0050	18.4	0.0279	<0.000010	0.0048	<0.0010	0.013	2.98	0.00081	4.28	<0.000020	14.4	0.597	16.4	<0.000050	<0.0050	<0.0050	0.00168
W16	16/04/2013 17:30																									
W16	17/04/2013 17:30	0.000011	56.1	<0.0010	<0.00050	0.02	0.154	<0.00020	<0.0050	17.9	0.0253	<0.000010	0.0043	<0.0010	0.016	2.89	0.00074	4.34	<0.000020	13.9	0.554	15.5	<0.000050	<0.0050	<0.0050	0.00149
W16	18/04/2013 15:00	<0.000010	55.9	<0.0010	<0.00050	0.0199	0.166	<0.00020	<0.0050	17.9	0.026	<0.000010	0.0042	<0.0010	0.013	2.83	0.00065	4.16	<0.000020	13.9	0.548	14.8	<0.000050	<0.0050	<0.0050	0.00151
W16	19/04/2013 16:15	0.000015	59.6	<0.0010	<0.00050	0.0222	0.201	<0.00020	<0.0050	19.6	0.0285	<0.000010	0.0046	<0.0010	0.013	3.08	0.0008	4.56	<0.000020	15.4	0.604	16.2	<0.000050	<0.0050	<0.0050	0.00175
W16	20/04/2013 17:15	0.000033	57.3	<0.0010	<0.00050	0.0336	0.314	<0.00020	<0.0050	19.5	0.0455	<0.000010	0.0046	0.0012	0.023	3.34	0.00074	4.41	<0.000020	15.5	0.592	16.6	<0.000050	<0.0050	0.0058	0.00163
W16	25/04/2013 14:05	<0.000010	52.7	<0.0010	<0.00050	0.0523	0.743	<0.00020	<0.0050	16.5	0.0513	<0.000010	0.0039	0.0012	0.021	2.94	0.00095	5.33	<0.000020	14	0.525	12.5	<0.000050	<0.0050	0.0177	0.00142
W16	17/05/2013 8:10																									
W16	18/05/2013 9:20	0.000026	12.8	0.0013	0.00082	0.0656	1.78	0.00048	<0.0050	3.7	0.0953	<0.000010	0.0011	0.0022	0.07	1.76	0.00026	4.2	<0.000020	3.51	0.127	<3.0	<0.000050	<0.0050	0.039	0.00022
W16	18/05/2013 10:15																									
W16	19/05/2013 11:30																									
W16	20/05/2013 8:30																									
W16	21/05/2013 8:00																									
W16	22/05/2013 9:15																									
W16	23/05/2013	0.00002	14.5	0.0013	0.00058	0.0674	1.52	0.00038	<0.0050	4.31	0.0797	<0.000010	0.0017	0.0021	0.058	2.07	0.00029	4.58	0.00002	5.57	0.212	<3.0	<0.000050	<0.0050	0.045	0.00025
W16	25/05/2013 8:10																									
W16	26/05/2013 8:00																									
W16	27/05/2013 7:25																									
W16	28/05/2013 10:00	<0.000010	16.8	<0.0010	<0.00050	0.0481	0.786	0.00023	<0.0050	5.8	0.0535	<0.000010	0.004	0.0012	0.039	3.33	0.00032	2.82	<0.000020	7.8	0.488	5.9	<0.000050	<0.0050	0.021	0.00027
W16	06/06/2013 15:00	<0.000010	27	<0.0010	<0.00050	0.0337	0.47	<0.00020	<0.0050	9.4	0.0989	<0.000010	0.0068	0.0013	0.032	4.82	0.00064	3.3	<0.000020	12	0.838	9.3	<0.000050	<0.0050	0.0141	0.00046
W16	15/06/2013 16:15	0.000021	32.4	<0.0010	<0.00050	0.0316	0.313	<0.00020	<0.0050	10.5	0.104	<0.000010	0.0063	0.0017	0.033	3.95	0.00049	2.53	0.000021	11.7	0.747	10.8	<0.000050	<0.0050	0.0052	0.0006
W16	20/06/2013	0.000019	33.5	<0.0010	<0.00050	0.0273	0.372	<0.00020	<0.0050	10.2	0.101	<0.000010	0.0059	0.0013	0.029	4	0.00048	2.64	<0.000020	11.5	0.67	13.4	<0.000050	<0.0050	0.0057	0.00063
W16	25/06/2013	0.000014	37.1	<0.0010	<0.00050	0.0368	0.633	<0.00020	<0.0050	11.9	0.103	<0.000010	0.0059	0.0013	0.029	4.31	0.00052	2.81	<0.000020	12.7	0.696	12	<0.000050	<0.0050	0.0219	0.00073
W16	01/07/2013	0.00003	39.9	0.0012	0.00113	0.138	2.78	0.00081	<0.0050	12.6	0.158	<0.000010	0.0068	0.0022	0.106	4.39	0.00057	5.47	0.000067	11.6	0.702	11	<0.000050	<0.0050	0.106	0.00088
W16	12/07/2013	<0.000010	43.8	<0.0010	<0.00050	0.0312	0.25	<0.00020	<0.0050	13.6	0.0491	<0.000010	0.0056	0.0013	0.021	4.16	0.00047	2.49	<0.000020	12.9	0.729	9.6	<0.000050	<0.0050	0.0056	0.00095
W16	21/07/2013 11:40	<0.000010	39.2	<0.0010	<0.00050	0.0303	0.315	<0.00020	<0.0050	13.6	0.0532	<0.000010	0.0057	0.0012	0.021	3.61	0.00059	2.06	<0.000020	12.1	0.653	11.3	<0.000050	<0.0050	0.0078	0.00087
W16	23/07/2013	0.000013	42.3	<0.0010	<0.00050	0.0328	0.289	<0.00020	<0.0050	14	0.0503	<0.000010	0.0058	0.0013	0.032	3.63	0.00065	2.5	<0.000020	13.6	0.675	10.9	<0.000050	<0.0050	0.0058	0.00108
W16	31/07/2013 16:00	0.000012	40.8	<0.0010	<0.00050	0.0369	0.621	<0.00020	<0.0050	13.8	0.0525	<0.000010	0.0049	0.0017	0.04	3.4	0.00052	3.35	<0.000020	11.7	0.563	9.6	<0.000050	<0.0050	0.0195	0.00088
W16	08/08/2013 10:00	0.000014	42.7	<0.0010	<0.00050	0.0265	0.166	<0.00020	<0.0050	13.6	0.0294	<0.000010	0.0047	0.0013	0.029	2.93	0.00052	3.11	<0.000020	11.8	0.534	9.7	<0.000050	<0.0050	<0.0050	0.00081
W16	15/08/2013 10:20	0.000013	45	<0.0010	<0.00050	0.0292	0.18	<0.00020	<0.0050	14.1	0.0313	<0.000010	0.0051	0.0017	0.026	3.06	0.00043	3.09	<0.000020	12.2	0.566	9.6	<0.000050	<0.0050	<0.0050	0.00103
W16	19/08/2013 15:20	<0.000010	44.1	<0.0010	<0.00050	0.0248	0.153	<0.00020	<0.0050	14	0.0388	<0.000010	0.0053	0.0012	0.025	2.99	0.00059	3.42	<0.000020	11.6	0.55	10.1	<0.000050	<0.0050	<0.0050	0.00098
W16	26/08/2013 10:05	<0.000010	47.3	<0.0010	<0.00050	0.0245	0.179	<0.00020	<0.0050	14.9	0.0564	<0.000010	0.0049	0.0012	0.024	3.15	0.00069	3.55	<0.000020	12.8	0.554	11.8	<0.000050	<0.0050	<0.0050	0.00097
W16	02/09/2013 14:15	<0.000010	47	<0.0010	<0.00050	0.025	0.148	<0.00020	<0.0050	14.6	0.0436	<0.000010	0.005	0.0014	0.024	2.94	0.00058	3.45	<0.000020	12.3	0.546	10.7	<0.000050	<0.0050	<0.0050	0.00094

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W16	24/09/2012 9:35	<0.0050	<0.0050	<0.00050	0.0062	<0.00050	0.00038	0.0765	<0.00010	<0.0010	<0.05	<0.000010	49.1	<0.0010	<0.00050	0.0178	0.0368	<0.00020	<0.0050	13.7	0.0015	<0.000010	0.0035	<0.0010	<0.01	2.54
W16	06/10/2012 17:00	<0.0050	<0.0050	<0.00050																		<0.000010				
W16	12/10/2012 8:25	<0.0050	<0.0050	<0.00050																		<0.000010				
W16	19/10/2012 10:55	<0.0050	0.009	<0.00050	<0.0030	<0.00050	0.00018	0.049	<0.00010	<0.0010	<0.05	0.000022	33.3	<0.0010	<0.00050	0.023	0.0107	<0.00020	<0.0050	8.46	0.0024	<0.000010	0.0019	<0.0010	<0.01	1.93
W16	22/10/2012 7:20	<0.0050	0.0069	<0.00050	<0.0030	<0.00050	0.00036	0.0754	<0.00010	<0.0010	<0.05	<0.000010	50.1	<0.0010	<0.00050	0.0181	0.0207	<0.00020	<0.0050	14.1	0.0013	<0.000010	0.0037	<0.0010	<0.01	2.61
W16	25/10/2012 13:45	<0.0050	0.0056	<0.00050	<0.0030	<0.00050	0.00038	0.0793	<0.00010	<0.0010	<0.05	<0.000010	53.6	<0.0010	<0.00050	0.0186	0.0207	<0.00020	<0.0050	16.3	0.0014	<0.000010	0.0041	<0.0010	<0.01	2.78
W16	04/11/2012	<0.0050	0.0164	<0.00050	0.0124	<0.00050	0.00043	0.0883	<0.00010	<0.0010	<0.05	0.000059	54.2	<0.0010	<0.00050	0.023	0.0394	0.00037	<0.0050	17.2	0.0018	<0.000010	0.0045	0.0014	0.046	3.54
W16	05/11/2012 10:50																									
W16	09/11/2012 14:45	0.00041	0.0026	0.00012	0.00432	0.000118	0.000382	0.0801	<0.000010	<0.0000050	<0.05	0.000007	50.5	0.00013	0.000046	0.0183	0.0213	0.00002	0.00141	15.5	0.00118		0.00431	0.000841		2.86
W16	18/11/2012 10:00	<0.0050	0.0082	<0.00050	0.0034	<0.00050	0.00042	0.0966	<0.00010	<0.0010	<0.05	0.00003	64.8	<0.0010	<0.00050	0.019	0.0289	<0.00020	<0.0050	18.6	0.0242	<0.000010	0.0043	<0.0010	0.012	3.28
W16	24/11/2012	<0.0050	0.0064	<0.00050	0.0388	<0.00050	0.00038	0.0778	<0.00010	<0.0010	<0.05	0.00007	51.9	<0.0010	<0.00050	0.0264	0.105	<0.00020	<0.0050	16	0.0109	<0.000010	0.0041	0.0018	0.033	3
W16	25/11/2012 12:00																									
W16	07/03/2013	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00036	0.0779	<0.00010	<0.0010	<0.05	<0.000010	53.9	<0.0010	<0.00050	0.0148	0.02	<0.00020	<0.0050	17.1	0.0018	<0.000010	0.0043	<0.0010	<0.01	2.95
W16	09/03/2013 8:00	<0.0050	<0.0050	<0.00050	0.0079	<0.00050	0.00037	0.0801	<0.00010	<0.0010	<0.05	0.000014	55.2	<0.0010	<0.00050	0.0164	0.0366	<0.00020	<0.0050	17.1	0.0014	<0.000010	0.0045	<0.0010	0.02	3.03
W16	24/03/2013 15:00	<0.0050	0.016	<0.00050	0.0057	<0.00050	0.00038	0.0813	<0.00010	<0.0010	<0.05	0.000021	55.5	<0.0010	<0.00050	0.0183	0.028	<0.00020	<0.0050	18.2	0.0039	<0.000010	0.0043	0.0012	<0.01	3.33
W16	28/03/2013	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00036	0.0823	<0.00010	<0.0010	<0.05	0.000012	54.9	<0.0010	<0.00050	0.0151	0.0229	<0.00020	<0.0050	17.1	0.0017	<0.000010	0.0044	<0.0010	<0.01	3.03
W16	29/03/2013	<0.0050	<0.0050	<0.00050	0.0087	<0.00050	0.00044	0.0836	<0.00010	<0.0010	<0.05	<0.000010	57.5	<0.0010	<0.00050	0.0148	0.0204	<0.00020	<0.0050	18.2	0.0025	<0.000010	0.0044	<0.0010	<0.01	3.22
W16	30/03/2013	<0.0050	0.007	<0.00050	<0.0030	<0.00050	0.0004	0.0821	<0.00010	<0.0010	<0.05	0.000026	57.7	<0.0010	<0.00050	0.0158	0.0207	<0.00020	<0.0050	17.7	0.0036	<0.000010	0.0042	<0.0010	<0.01	3.29
W16	31/03/2013	<0.0050	<0.0050	<0.00050	0.0067	<0.00050	0.00053	0.0772	<0.00010	<0.0010	<0.05	0.000021	52.1	<0.0010	<0.00050	0.0251	0.017	<0.00020	<0.0050	18.1	0.009	<0.000010	0.0047	<0.0010	0.036	3.43
W16	01/04/2013 11:30	<0.0050	<0.0050	<0.00050	0.009	<0.00050	0.00046	0.0638	<0.00010	<0.0010	<0.05	0.000019	40.8	<0.0010	<0.00050	0.0283	0.0134	<0.00020	<0.0050	16.5	0.0133	<0.000010	0.0045	<0.0010	0.023	3.17
W16	02/04/2013 10:00	<0.0050	0.0066	<0.00050	<0.0030	<0.00050	0.00039	0.0669	<0.00010	<0.0010	<0.05	0.000022	45.2	<0.0010	<0.00050	0.0272	0.0162	<0.00020	<0.0050	17.7	0.0121	<0.000010	0.0044	<0.0010	0.019	3.35
W16	03/04/2013 16:00	<0.0050	<0.0050	<0.00050	0.0359	<0.00050	0.00039	0.0798	<0.00010	<0.0010	<0.05	0.00001	56.6	<0.0010	<0.00050	0.0185	0.103	<0.00020	<0.0050	17.7	0.0052	<0.000010	0.0042	<0.0010	0.011	3.2
W16	04/04/2013 17:00	<0.0050	<0.0050	<0.00050	0.0041	<0.00050	0.00032	0.0797	<0.00010	<0.0010	<0.05	<0.000010	57.1	<0.0010	<0.00050	0.0148	0.0245	<0.00020	<0.0050	17.7	0.0028	<0.000010	0.0043	<0.0010	<0.01	3.13
W16	05/04/2013 11:40	<0.0050	<0.0050	<0.00050	0.0033	<0.00050	0.00033	0.0824	<0.00010	<0.0010	<0.05	<0.000010	55.5	<0.0010	<0.00050	0.0152	0.0228	<0.00020	<0.0050	18.1	0.0025	<0.000010	0.0041	<0.0010	<0.01	3.28
W16	06/04/2013 16:00	<0.0050	<0.0050	<0.00050	0.0133	<0.00050	0.00044	0.0792	<0.00010	<0.0010	<0.05	<0.000010	57.2	<0.0010	<0.00050	0.0154	0.02	<0.00020	<0.0050	18.2	0.0033	<0.000010	0.0044	<0.0010	<0.01	3.1
W16	07/04/2013 17:10	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00043	0.0763	<0.00010	<0.0010	<0.05	0.000013	54.6	<0.0010	<0.00050	0.0155	0.0193	<0.00020	<0.0050	17.1	0.0039	<0.000010	0.0043	<0.0010	<0.01	2.96
W16	08/04/2013 18:30	<0.0050	<0.0050	<0.00050	0.0095	<0.00050	0.00037	0.0778	<0.00010	<0.0010	<0.05	0.000012	57	<0.0010	<0.00050	0.0165	0.0404	<0.00020	<0.0050	17.8	0.0031	<0.000010	0.0044	<0.0010	<0.01	3.1
W16	09/04/2013 16:30	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00036	0.0794	<0.00010	<0.0010	<0.05	<0.000010	54.7	<0.0010	<0.00050	0.0159	0.0324	<0.00020	<0.0050	17.4	0.006	<0.000010	0.0041	<0.0010	<0.01	3.15
W16	10/04/2013 17:00	<0.0050	0.0073	<0.00050	0.0054	<0.00050	0.00034	0.0842	<0.00010	<0.0010	<0.05	0.000031	46.2	<0.0010	<0.00050	0.0288	0.0206	<0.00020	<0.0050	14.1	0.0343	<0.000010	0.0039	<0.0010	<0.01	3.21
W16	12/04/2013 17:30	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00035	0.084	<0.00010	<0.0010	<0.05	<0.000010	56.9	<0.0010	<0.00050	0.0185	0.0371	<0.00020	<0.0050	18.1	0.0237	<0.000010	0.0043	<0.0010	<0.01	3.33
W16	13/04/2013 16:50	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00033	0.078	<0.00010	<0.0010	<0.05	<0.000010	53.7	<0.0010	<0.00050	0.0159	0.0383	<0.00020	<0.0050	18.2	0.0152	<0.000010	0.0042	<0.0010	<0.01	3.07
W16	14/04/2013 16:40	<0.0050	<0.0050	<0.00050	0.0041	<0.00050	0.00034	0.088	<0.00010	<0.0010	<0.05	0.000026	52.6	<0.0010	<0.00050	0.0275	0.0311	<0.00020	<0.0050	17.5	0.0331	<0.000010	0.0046	<0.0010	<0.01	3.52
W16	15/04/2013 16:30	<0.0050	<0.0050	<0.00050	0.0066	<0.00050	0.00035	0.0782	<0.00010	<0.0010	<0.05	<0.000010	55.1	<0.0010	<0.00050	0.0167	0.0421	<0.00020	<0.0050	17.6	0.012	<0.000010	0.0042	<0.0010	<0.01	3.01
W16	16/04/2013 17:30																									
W16	17/04/2013 17:30	<0.0050	0.0056	<0.00050	<0.0030	<0.00050	0.00035	0.0715	<0.00010	<0.0010	<0.05	<0.000010	49.3	<0.0010	<0.00050	0.0146	0.0543	<0.00020	<0.0050	15.8	0.0158	<0.000010	0.0039	<0.0010	<0.01	2.63
W16	18/04/2013 15:00	<0.0050	<0.0050	<0.00050	0.0054	<0.00050	0.00032	0.0711	<0.00010	<0.0010	<0.05	0.00001	49.3	<0.0010	<0.00050	0.0149	0.0624	<0.00020	<0.0050	16.1	0.0168	<0.000010	0.0039	<0.0010	<0.01	2.67
W16	19/04/2013 16:15	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00032	0.0803	<0.00010	<0.0010	<0.05	<0.000010	59.3	<0.0010	<0.00050	0.0157	0.0698	<0.00020	<0.0050	17.9	0.0165	<0.000010	0.0043	<0.0010	<0.01	3.18
W16	20/04/2013 17:15	<0.0050	0.0061	<0.00050	<0.0030	<0.00050	0.00035	0.0811	<0.00010	<0.0010	<0.05	0.000015	62.5	<0.0010	<0.00050	0.0198	0.0479	<0.00020	<0.0050	17.8	0.0248	<0.000010	0.0043	<0.0010	0.012	3.45
W16	25/04/2013 14:05	<0.0050	<0.0050	<0.00050	0.006	<0.00050	0.00027	0.0714	<0.00010	<0.0010	<0.05	0.000013	48.8	<0.0010	<0.00050	0.0189	0.0499	<0.00020	<0.0050	16	0.0249	<0.000010	0.0038	<0.0010	<0.01	2.86
W16	17/05/2013 8:10																									
W16	18/05/2013 9:20	<0.0050	0.0065	<0.00050	0.0571	<0.00050	0.00029	0.0317	<0.00010	<0.0010	<0.05	0.000016	12.3	<0.0010	<0.00050	0.0328	0.172	<0.00020	<0.0050	3.35	0.0416	<0.000010	0.0011	<0.0010	0.017	1.52
W16	18/05/2013 10:15																									
W16	19/05/2013 11:30																									
W16	20/05/2013 8:30																									
W16	21/05/2013 8:00																									
W16	22/05/2013 9:15																									
W16	23/05/2013	<0.0050	0.0051	0.00054	0.064	<0.00050	0.00027	0.0354	<0.00010	<0.0010	<0.05	0.000013	14.7	<0.0010	<0.00050	0.0343	0.16	<0.00020	<0.0050	4.07	0.0281	<0.000010	0.0015	0.001	0.026	1.91
W16	25/05/2013 8:10																									
W16	26/05/2013 8:00																									
W16	27/05/2013 7:25																									
W16	28/05/2013 10:00	<0.0050	<0.0050	<0.00050	0.0391	<0.00050	0.00027	0.0396	<0.00010	<0.0010	<0.05	0.000015	18.1	<0.0010	<0.00050	0.0367	0.12	<0.00020	<0.0050	5.22	0.0379	<0.000010	0.0035	<0.0010	0.015	3.12
W16	06/06/2013 15:00	<0.0050	<0.0050	<0.00050	0.0203	<0.00050	0.00041	0.0553	<0.00010	<0.0010	<0.05	0.000014	26.3	<0.0010	<0.00050	0.0258	0.11	<0.00020	<0.0050	8.59	0.0804	<0.000010	0.0067	0.0012	0.013	4.53
W16	15/06/2013 16:15	<0.0050	<0.0050	<0.00050	0.0055	<0.00050	0.00039	0.06	<0.00010	<0.0010	<0.05	0.000011	29.9	<0.0010	<0.00050	0.0243	0.0836	<0.00020	<0.0050	9.48	0.0798	<0.000010	0.0056	0.0011	0.013	3.94
W16	20/06/2013	<0.0050	<0.0050	<0.00050	0.006	<0.00050	0.00042	0.0638	<0.00010	<0.0010	<0.05	0.000012	34.2	<0.0010	<0.00050	0.0225	0.102	<0.00020	<0.0050	9.58	0.0745	<0.000010	0.0054	0.001	0.011	4.05
W16	25/06/2013	<0.0050	<0.0050	<0.00050	0.0098	<0.00050	0.00044	0.0616	<0.00010	<0.0010	<0.05	0.000014	31.4	<0.0010	<0.00050	0.0225	0.0825	<0.00020	<0.0050	10.6	0.065	<0.000010	0.0058	0.0011	0.012	3.96
W16	01/07/2013	0.0065	0.0144	<0.00050	0.0112	<0.00050	0.00044	0.0619	<0.00010	<0.0010	<0.05	<0.000010	35.4	<0.0010	<0.00050	0.0222	0.0833	<0.00020	<0.0050	11	0.0504	<0.000010	0.0059	<0.0010	<0.01	3.74
W16	12/07/2013	<0.0050	<0.0050	<0.00050	0.0079	<0.00050	0.00047	0.0643	<0.00010	<0.0010	<0.05	<0.000010	36	<0.0010	<0.00050	0.02	0.0643	<0.00020	<0.0050	11.1	0.0264	<0.000010	0.0054	0.001	<0.01	3.37
W16	21/07/2013 11:40	<0.0050	<0.0050	<0.00050	0.0108	<0.00050	0.00047	0.0652	<0.00010	<0.0010	<0.05	<0.000010	39.7	<0.0010	<0.00050	0.0217	0.0801	<0.00020	<0.0050	12.3	0.0389	<0.000010	0.0056	0.001	<0.01	3.47
W16	23/07/2013	<0.0050	<0.0050	<0.00050	0.0089	<0.00050	0.00048	0.0644	<0.00010	<0.0010	<0.05	<0.000010	39.5	<0.0010	<0.00050	0.0247	0.0813	<0.00020	<0.0050	12.3	0.032	<0.000010	0.0056	0.001	0.013	3.42
W16	31/07/2013 16:00	<0.0050	<0.0050	<0.00050	0.0132	<0.00050	0.00047	0.0668	<0.00010	<0.0010	<0.05	<0.000010	39.2	<0.0010	<0.00050	0.0235	0.0787	<0.00020	<0.0050	11.5	0.0119	<0.000010	0.0048	0.0011	<0.01	3.02
W16	08/08/2013 10:00	<0.0050	<0.0050	<0.00050	0.0093	<0.00050	0.00052	0.0681	<0.00010	<0.0010	<0.05	0.00001	36.7	<0.0010	<0.00050	0.0213	0.0662	<0.00020	<0.0050	12.1	0.009	<0.000010	0.0047	0.0013	<0.01	2.91
W16	15/08/2013 10:20	<0.0050	<0.0050	<0.00050	0.0115	<0.00050	0.00054	0.0708	<0.00010	<0.0010	<0.05	<0.000010	43.9	<0.0010	<0.00050	0.0211	0.0678	<0.00020	<0.0050	12.3	0.014	<0.000010	0.0049	0.0011	0.012	2.92
W16	19/08/2013 15:20	<0.0050	<0.0050	<0.00050	0.0051	<0.00050	0.00056	0.0716	<0.00010	<0.0010	<0.05	0.000011	42	<0.0010	<0.00050	0.0205	0.0643	<0.00020	<0.0050	13	0.0243	<0.000010	0.0046	0.0011	<0.01	3.01
W16	26/08/2013 10:05	<0.0050	<0.0050	<0.00050	0.0039	<0.00050	0.00052	0.0746	<0.00010	<0.0010	<0.05	<0.000010	42.7	<0.0010	<0.00050	0.019	0.0657	<0.00020	<0.0050	13.2	0.035	<0.000010	0.005	0.0011	<0.01	2.93
W16	02/09/2013 14:15	<0.0050	<0.0050	<0.00050	0.0037	<0.00050	0.00053	0.0713	<0.00010	<0.0010	<0.05	<0.000010	42.3	<0.0010	<0.00050	0.0209	0.0617	<0.00020	<0.0050	13.5	0.0256	<0.000010	0.0047	0.0013	<0.01	2.9

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	BOD5	Br	Cation	COD	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-T	N-TKN	P-PO4T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L
W16	24/09/2012 9:35	0.00095	2.82	<0.000020	11	0.514	13.2	<0.000050	<0.0050	<0.0050	0.00096	<0.0050	<0.0050	<0.00050	178	<0.50	<0.50	<0.50														
W16	06/10/2012 17:00														179	<0.50	<0.50	<0.50														
W16	12/10/2012 8:25														183	<0.50	<0.50	<0.50														
W16	19/10/2012 10:55	0.00048	4.59	<0.000020	6.68	0.265	6.7	<0.000050	<0.0050	<0.0050	0.00068	<0.0050		<0.00050	181	<0.50	<0.50	<0.50														
W16	22/10/2012 7:20	0.00089	3.15	<0.000020	11.2	0.496	13.4	<0.000050	<0.0050	<0.0050	0.00106	<0.0050	<0.0050	<0.00050	186	<0.50	<0.50	<0.50														
W16	25/10/2012 13:45	0.0012	3.28	<0.000020	12.8	0.554	15.9	<0.000050	<0.0050	<0.0050	0.00125	<0.0050	<0.0050	<0.00050	194	<0.50	<0.50	<0.50														
W16	04/11/2012	0.00106	3.11	<0.000020	14.1	0.583	18.1	<0.000050	<0.0050	<0.0050	0.00132	<0.0050	0.0092	<0.00050	195	<0.50	<0.50	<0.50														
W16	05/11/2012 10:50																															
W16	09/11/2012 14:45	0.000955	2.84	<0.0000050	12.3	0.512	16.4	<0.0000020	<0.00020	<0.00050	0.00124	0.00024	0.00276	0.00011	191	<0.50	<0.50	<0.50														
W16	18/11/2012 10:00	0.00168	3.83	<0.000020	13.4	0.643	19.6	<0.000050	<0.0050	<0.0050	0.00143	<0.0050	0.0059	<0.00050	192	<0.50	<0.50	<0.50														
W16	24/11/2012	0.00108	3.05	<0.000020	12.7	0.542	13.9	<0.000050	<0.0050	<0.0050	0.00125	<0.0050		<0.00050	194	<0.50	<0.50	<0.50														
W16	25/11/2012 12:00																															
W16	07/03/2013	0.00097	3.98	<0.000020	13.6	0.566	14.9	<0.000050	<0.0050	<0.0050	0.00157	<0.0050	<0.0050	<0.00050	216	<0.50	<0.50	<0.50														
W16	09/03/2013 8:00	0.00107	4.01	<0.000020	13.8	0.591	18.3	<0.000050	<0.0050	<0.0050	0.00162	<0.0050	0.0074	<0.00050	222	<0.50	<0.50	<0.50														
W16	24/03/2013 15:00	0.00095	4.07	<0.000020	14.8	0.595	15.3	<0.000050	<0.0050	<0.0050	0.00166	<0.0050	0.0123	<0.00050	225	<0.50	<0.50	<0.50														
W16	28/03/2013	0.00105	4.03	<0.000020	13.5	0.588	14.9	<0.000050	<0.0050	<0.0050	0.00172	<0.0050	<0.0050	<0.00050	228	<0.50	<0.50	<0.50														0.0185
W16	29/03/2013	0.001	4.24	<0.000020	14.6	0.608	16	<0.000050	<0.0050	<0.0050	0.00159	<0.0050	<0.0050	<0.00050	231	<0.50	<0.50	<0.50														0.0098
W16	30/03/2013	0.0009	4.32	<0.000020	14.3	0.596	16	<0.000050	<0.0050	<0.0050	0.00153	<0.0050	<0.0050	<0.00050	230	<0.50	<0.50	<0.50														0.0147
W16	31/03/2013	0.00104	3.54	<0.000020	14.9	0.553	16.3	<0.000050	<0.0050	<0.0050	0.00155	<0.0050	<0.0050	<0.00050	207	<0.50	<0.50	<0.50														0.0375
W16	01/04/2013 11:30	0.00093	2.66	<0.000020	13.5	0.448	15	<0.000050	<0.0050	<0.0050	0.00137	<0.0050	<0.0050	<0.00050	167	<0.50	<0.50	<0.50														0.0275
W16	02/04/2013 10:00	0.00101	2.99	<0.000020	14.6	0.473	15.2	<0.000050	<0.0050	<0.0050	0.00148	<0.0050	0.0058	<0.00050	194	<0.50	<0.50	<0.50														
W16	03/04/2013 16:00	0.00087	4.01	<0.000020	14.1	0.58	15.3	<0.000050	<0.0050	<0.0050	0.00157	<0.0050	<0.0050	<0.00050	225	<0.50	<0.50	<0.50														
W16	04/04/2013 17:00	0.001	4.04	<0.000020	14.2	0.59	15	<0.000050	<0.0050	<0.0050	0.00156	<0.0050	<0.0050	<0.00050	227	<0.50	<0.50	<0.50														
W16	05/04/2013 11:40	0.00101	4.12	<0.000020	14.4	0.589	16.3	<0.000050	<0.0050	<0.0050	0.00158	<0.0050	<0.0050	<0.00050	226	<0.50	<0.50	<0.50														
W16	06/04/2013 16:00	0.00102	4.13	<0.000020	14.4	0.586	16.1	<0.000050	<0.0050	<0.0050	0.00166	<0.0050	<0.0050	<0.00050	229	<0.50	<0.50	<0.50														
W16	07/04/2013 17:10	0.00099	3.97	<0.000020	13.6	0.56	14.4	<0.000050	<0.0050	<0.0050	0.0016	<0.0050	<0.0050	<0.00050	215	<0.50	<0.50	<0.50														
W16	08/04/2013 18:30	0.00097	3.99	<0.000020	14.2	0.594	15	<0.000050	<0.0050	<0.0050	0.00166	<0.0050	<0.0050	<0.00050	223	<0.50	<0.50	<0.50														
W16	09/04/2013 16:30	0.00105	4.05	<0.000020	13.9	0.569	16	<0.000050	<0.0050	<0.0050	0.00155	<0.0050	<0.0050	<0.00050	222	<0.50	<0.50	<0.50														
W16	10/04/2013 17:00	0.00091	2.7	<0.000020	11	0.489	12.7	<0.000050	<0.0050	<0.0050	0.00128	<0.0050	<0.0050	<0.00050	185	<0.50	<0.50	<0.50														
W16	12/04/2013 17:30	0.00097	4.06	<0.000020	14.4	0.604	15.1	<0.000050	<0.0050	<0.0050	0.00164	<0.0050	<0.0050	<0.00050	227	<0.50	<0.50	<0.50														
W16	13/04/2013 16:50	0.00077	4.05	<0.000020	14.5	0.576	15.9	<0.000050	<0.0050	<0.0050	0.00154	<0.0050	<0.0050	<0.00050	226	<0.50	<0.50	<0.50														
W16	14/04/2013 16:40	0.00096	3.54	<0.000020	14	0.574	15.3	<0.000050	<0.0050	<0.0050	0.00141	<0.0050	<0.0050	<0.00050	213	<0.50	<0.50	<0.50														
W16	15/04/2013 16:30	0.0009	4.11	<0.000020	14.2	0.579	15.4	<0.000050	<0.0050	<0.0050	0.00152	<0.0050	<0.0050	<0.00050	222	<0.50	<0.50	<0.50														
W16	16/04/2013 17:30																															
W16	17/04/2013 17:30	0.00072	3.59	<0.000020	12.6	0.52	12.7	<0.000050	<0.0050	<0.0050	0.00148	<0.0050	<0.0050	<0.00050	224	<0.50	<0.50	<0.50														
W16	18/04/2013 15:00	0.00079	3.61	<0.000020	12.9	0.515	13.3	<0.000050	<0.0050	<0.0050	0.00147	<0.0050	<0.0050	<0.00050	220	<0.50	<0.50	<0.50														
W16	19/04/2013 16:15	0.00094	4.59	<0.000020	14.2	0.588	15.7	<0.000050	<0.0050	<0.0050	0.00162	<0.0050	<0.0050	<0.00050	224	<0.50	<0.50	<0.50														
W16	20/04/2013 17:15	0.00094	4.75	<0.000020	14.2	0.582	15.2	<0.000050	<0.0050	<0.0050	0.00161	<0.0050	<0.0050	<0.00050	226	<0.50	<0.50	<0.50														
W16	25/04/2013 14:05	0.00078	4.18	<0.000020	14	0.499	13.8	<0.000050	<0.0050	<0.0050	0.0013	<0.0050	<0.0050	<0.00050	200	<0.50	<0.50	<0.50														
W16	17/05/2013 8:10																															
W16	18/05/2013 9:20	0.00022	1.84	<0.000020	3.36	0.119	<3.0	<0.000050	<0.0050	<0.0050	0.00017	<0.0050	<0.0050	<0.00050	43.3	<0.50	<0.50	<0.50														
W16	18/05/2013 10:15																															
W16	19/05/2013 11:30																															
W16	20/05/2013 8:30																															
W16	21/05/2013 8:00																															
W16	22/05/2013 9:15																															
W16	23/05/2013	0.0002	2.16	<0.000020	5.22	0.206	3.2	<0.000050	<0.0050	<0.0050	0.00019	<0.0050	<0.0050	<0.00050	53.2	<0.50	<0.50	<0.50														
W16	25/05/2013 8:10																															
W16	26/05/2013 8:00																															
W16	27/05/2013 7:25																															
W16	28/05/2013 10:00	0.00033	1.96	<0.000020	7.39	0.472	5.5	<0.000050	<0.0050	<0.0050	0.00024	<0.0050	<0.0050	<0.00050	65.2	<0.50	<0.50	<0.50														
W16	06/06/2013 15:00	0.00052	2.38	<0.000020	11.1	0.789	9.9	<0.000050	<0.0050	<0.0050	0.00044	<0.0050	<0.0050	<0.00050	97.5	<0.50	<0.50	<0.50														
W16	15/06/2013 16:15	0.00057	1.9	<0.000020	10.7	0.702	9.9	<0.000050	<0.0050	<0.0050	0.00058	<0.0050	<0.0050	<0.00050	114	<0.50	<0.50	<0.50														
W16	20/06/2013	0.00057	2.03	<0.000020	10.2	0.698	10.9	<0.000050	<0.0050	<0.0050	0.00061	<0.0050	<0.0050	<0.00050	121	<0.50	<0.50	<0.50														
W16	25/06/2013	0.00052	1.89	<0.000020	11	0.675	11.6	<0.000050	<0.0050	<0.0050	0.00071	<0.0050	<0.0050	<0.00050	133	<0.50	<0.50	<0.50														
W16	01/07/2013	0.00052	2.11	<0.000020	11.4	0.648	10.8	<0.000050	<0.0050	<0.0050	0.00078	<0.0050	<0.0050	<0.00050	135	3.5	<0.50	2.92														
W16	12/07/2013	0.00053	2.2	<0.000020	10.4	0.633	11.2	<0.000050	<0.0050	<0.0050	0.00081	<0.0050	<0.0050	<0.00050	147	<0.50	<0.50	<0.50														
W16	21/07/2013 11:40	0.00047	2.06	<0.000020	11.5	0.638	10.8	<0.000050	<0.0050	<0.0050	0.00089	<0.0050	<0.0050	<0.00050	149	1.82	<0.50	1.52														
W16	23/07/2013	0.00051	2.06	<0.000020	11.4	0.597	11.5	<0.000050	<0.0050	<0.0050	0.00091	<0.0050	<0.0050	<0.00050	157	<0.50	<0.50	<0.50														
W16	31/07/2013 16:00	0.00045	2.53	<0.000020	10.7	0.517	10.1	<0.000050	<0.0050	<0.0050	0.00091	<0.0050	<0.0050	<0.00050	146	<0.50	<0.50	<0.50														
W16	08/08/2013 10:00	0.00045	2.73	<0.000020	10.3	0.519	8.8	<0.000050	<0.0050	<0.0050	0.0008	<0.0050	<0.0050	<0.00050	144	3.36	<0.50	2.8														
W16	15/08/2013 10:20	0.00048	3.32	<0.000020	10.8	0.524	9.8	<0.000050	<0.0050	<0.0050	0.00081	<0.0050	<0.0050	<0.00050	158	2.03	<0.50	1.69														
W16	19/08/2013 15:20	0.00069	3.02	<0.000020	11.5	0.543	10.2	<0.000050	<0.0050	<0.0050	0.00102	<0.0050	<0.0050	<0.00050	160	1.16	<0.50	0.97														
W16	26/08/2013 10:05	0.00055	3.32	<0.000020	11	0.536	10.8	<0.000050	<0.0050	<0.0050	0.00092	<0.0050	<0.0050	<0.00050	159	2.02	<0.50	1.68														
W16	02/09/2013 14:15	0.00057	3.18	<0.000020	11.9	0.503	10.2	<0.000050	<0.0050	<0.0050	0.0009	<0.0050	<0.0050	<0.00050	163	<0.50	<0.50	<0.50														

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	P-TDP	P-TRP	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		mg/L	mg/L	Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W16	24/09/2012 9:35					376.7			
W16	06/10/2012 17:00					382.7			
W16	12/10/2012 8:25					388.8			
W16	19/10/2012 10:55					384.5			
W16	22/10/2012 7:20					382			
W16	25/10/2012 13:45					420			
W16	04/11/2012								
W16	05/11/2012 10:50					436			
W16	09/11/2012 14:45					376			
W16	18/11/2012 10:00					334.5			
W16	24/11/2012								
W16	25/11/2012 12:00					370			
W16	07/03/2013					416.9			
W16	09/03/2013 8:00					428.7			
W16	24/03/2013 15:00					462.2			
W16	28/03/2013					432.4			
W16	29/03/2013					436.9			
W16	30/03/2013					433.6			
W16	31/03/2013					431.4			
W16	01/04/2013 11:30					365.5			
W16	02/04/2013 10:00								
W16	03/04/2013 16:00					430.4			
W16	04/04/2013 17:00					415.3			
W16	05/04/2013 11:40					398.3			
W16	06/04/2013 16:00					401			
W16	07/04/2013 17:10					403.7			
W16	08/04/2013 18:30					401.8			
W16	09/04/2013 16:30					447.6			
W16	10/04/2013 17:00					399.4			
W16	12/04/2013 17:30								
W16	13/04/2013 16:50								
W16	14/04/2013 16:40								
W16	15/04/2013 16:30								
W16	16/04/2013 17:30								
W16	17/04/2013 17:30								
W16	18/04/2013 15:00					419			
W16	19/04/2013 16:15					435.6			
W16	20/04/2013 17:15					423.3			
W16	25/04/2013 14:05					428.2			
W16	17/05/2013 8:10					90.8			
W16	18/05/2013 9:20					87.6			
W16	18/05/2013 10:15								
W16	19/05/2013 11:30					102			
W16	20/05/2013 8:30					103.3			
W16	21/05/2013 8:00								
W16	22/05/2013 9:15								
W16	23/05/2013					122.2			
W16	25/05/2013 8:10					112.2			
W16	26/05/2013 8:00								
W16	27/05/2013 7:25								
W16	28/05/2013 10:00					179			
W16	06/06/2013 15:00					248.8			
W16	15/06/2013 16:15								
W16	20/06/2013								
W16	25/06/2013					273.7			
W16	01/07/2013					303.6			
W16	12/07/2013					321.3			
W16	21/07/2013 11:40					316.5			
W16	23/07/2013								
W16	31/07/2013 16:00					303			
W16	08/08/2013 10:00					322.3			
W16	15/08/2013 10:20								
W16	19/08/2013 15:20					347.1			
W16	26/08/2013 10:05					363.5			
W16	02/09/2013 14:15					190.9			

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T	B-T
			mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W16	12/09/2013 12:55	P	2.3	226	8.06	8.19	272.9	367	11.5	6.88	69.2	98.2	184	172	138	11	0.26	29.7	0.093	0.0095	0.904	13.4	0.0345	<0.00050	0.00057	0.0785	<0.00010	<0.0010	<0.05
W16	17/09/2013 13:30	P	2.8	192	7.77	8.12	260.6	366	10.1	8.26	73.6	127.8	183	163	145	11	0.28	33.4	0.029	<0.0050	0.817	3.1	0.0561	<0.00050	0.00065	0.078	<0.00010	<0.0010	<0.05
W16	28/09/2013 14:55	P	2.7	258	7.68	8.16	238.7	364	7	6.93	58.3	171.7	169	160	146	11	0.25	33.7	0.022	<0.0050	<0.020	13.9	0.0376	<0.00050	0.00048	0.0722	<0.00010	<0.0010	<0.05
W16	03/10/2013 16:00	P	2.9	242	7.67	8.09	233.8	363	6.3	8.59	69.6	125.0	184	168	142	10	0.25	29.2	0.021	0.0058	0.701	13	0.0676	<0.00050	0.00054	0.0815	<0.00010	<0.0010	<0.05
W16	09/10/2013 14:00	P	10	218	7.61	7.97	221.7	362	4.9	10.09	80.2	123.5	180	172	144	9.8	0.23	28.5	0.023	<0.0050	0.67	12.2	0.257	<0.00050	0.00059	0.0786	<0.00010	<0.0010	<0.05
W16	16/10/2013 9:20	P	3.7	266	7.82	8.33	202.3	370	3.1	9.41	69.2	87.6	181	163	151	9.8	0.26	30.8	0.034	0.0056	0.712	13.4	0.0405	<0.00050	0.00052	0.0777	<0.00010	<0.0010	<0.05
W16	22/10/2013 14:45	P	5.3	260	8.02	8.23	225.1	378	3	13.50	97.6	99.8	181	182	153	9.7	0.26	29.1	0.03	<0.0050	0.655	13.1	0.0424	<0.00050	0.0005	0.0761	<0.00010	<0.0010	<0.05
W16	28/10/2013 17:05	P	6.5	256	7.93	8.26	210.2	378	2.4	12.24	90.1	145.0	211	178	150	10	0.26	28.6	0.012	<0.0050	0.658	14.1	0.0453	<0.00050	0.00063	0.0839	<0.00010	<0.0010	<0.05
W16	07/11/2013 13:30	P	7.5	234	8.12	8.24	187.8	377	1.1	13.21	94	106.2	187	173	154	9.6	0.26	29.4	0.021	<0.0050	0.682	13.6	0.0269	<0.00050	0.00045	0.0766	<0.00010	<0.0010	<0.05
W16	14/11/2013 10:45	P	7.6	228	7.84	8.35	189.9	395	2.4	9.34	72.5	174.3	210	175	157	11	0.27	33.9	0.024	0.0055	0.729	14.4	0.0319	<0.00050	0.00056	0.0773	<0.00010	<0.0010	<0.05
W16	18/11/2013 11:05	P	9.8	242	8.27	8.24	179.4	393	1.3	9.79	69.7	-207.4	206	199	156	10	0.27	34	0.022	<0.0050	0.75	14	0.0617	<0.00050	0.00051	0.0751	<0.00010	<0.0010	<0.05
W16	01/12/2013 11:40	P	9.6	252	7.91	8.18	231.5	403	2.2	10.29	75.1	-25.6	189	181	158	11	0.27	30	0.036	0.005	0.711	13.1	0.0197	<0.00050	0.00048	0.0793	<0.00010	<0.0010	<0.05
W16	05/12/2013 15:45	P	9.2	242	7.80	7.99	246.5	396	0.1	9.06	68.9	267.1	176	182	161	10	0.23	37.8	0.07	<0.0050	0.754	14	0.0186	<0.00050	0.00047	0.0719	<0.00010	<0.0010	<0.05
W16	09/12/2013 14:50	P	5.4	228	8.10	8.18	203.4	398	1.2	8.71	62.5	-4.5	195	179	160	10	0.25	43	0.042	<0.0050	0.751	12.6	0.0152	<0.00050	0.00046	0.0746	<0.00010	<0.0010	<0.05
W16	16/12/2013 11:45	P	10.7	258	6.73	8.16	27.9	412	0	20.08	139.6	282.5	183	189	163	11	0.27	34.8	0.034	<0.0050	0.747	12.1	0.0735	<0.00050	0.00045	0.0736	<0.00010	<0.0010	<0.05
W16	23/12/2013 13:40	P	4.4	291	7.71	8.17	223.3	447	0.9	9.75	68.7	96.0	202	213	181	12	0.32	33.6	0.05	<0.0050	0.88	13.9	0.0155	<0.00050	0.00058	0.0799	<0.00010	<0.0010	<0.05
W16	02/01/2014 15:30	P	3.4	222	7.6	7.89	224.7	364	1.3	78		258	171	168	147	7.6	0.25	25.3	0.066	0.0089	0.85	13.5	0.0243	<0.00050	0.00055	0.0757	<0.00010	<0.0010	<0.05
W16	07/01/2014 10:40	P	3.7	262	7.68	8.13	90.8	419	0	8.51	58.2	252	201	190	163	11	0.28	35	0.045	<0.0050	0.746	12.1	0.0261	<0.00050	0.00047	0.074	<0.00010	<0.0010	<0.05
W16	18/01/2014 14:30	P	2.1	240	7.56	7.86	185.9	393	1.9	5.16	37.5	145.8	177	174	156	9.4	0.25	30.7	0.046	0.0054	0.773	10.4	0.02	<0.00050	0.00041	0.0709	<0.00010	<0.0010	<0.05
W16	21/01/2014 13:30	P	2.3	248	7.67	8.22	188.1	409	0.3	5.85	40.7	171.2	177	185	162	10	0.29	32.5	0.063	0.0051	0.736	11.5	0.0274	<0.00050	0.00047	0.0697	<0.00010	<0.0010	<0.05
W16	27/01/2014 14:40	P	2.8	236	7.58	7.83	226.1	410	1.4	6.3	43.7	173.6	187	188	161	10	0.29	30.9	0.053	<0.0050	0.739	11.5	0.0564	<0.00050	0.00043	0.0688	<0.00010	<0.0010	<0.05
W16	03/02/2014 11:30	P	4.4	298	7.69	8.2	222.2	414	0.1	5.98	41.1	335.3	216	191	171	11	0.34	35.5	0.061	0.0052	0.724	12	0.0252	<0.00050	0.00045	0.0781	<0.00010	<0.0010	<0.05
W16	13/02/2014 17:10	P	3	228	7.54	8	422	428	0.3	6.36	42.8	245	195	180	167	10	0.29	33.3	0.065	0.0062	0.718	11.8	0.0654	<0.00050	0.00042	0.0724	<0.00010	<0.0010	<0.05
W16	18/02/2014 16:30	P	3.6	268	7.67	8.02	223.4	432	0.1	7.03	48.4	277.8	203	185	176	11	0.3	31.7	0.06	<0.0050	0.693	10.9	0.0668	<0.00050	0.00051	0.0765	<0.00010	<0.0010	<0.05
W16	27/02/2014 9:10	P	3	234	7.67	8.05	202.3	433	0	4.42	31.3	266.9	195	200	170	11	0.29	32.8	0.044	<0.0050	0.711	12.1	0.0675	<0.00050	0.00039	0.0708	<0.00010	<0.0010	<0.05
W16	06/03/2014 8:45	P	1.7	264	7.84	7.83	232	434	0.8	4.34	30.2	255.2	201	196	176	11	0.3	37.8	0.078	0.0068	0.693	11.4	0.0173	<0.00050	0.0004	0.0733	<0.00010	<0.0010	<0.05
W16	10/03/2014 15:20	P	1.7	259	7.8	8.09	230.4	437	0.2	6.52	38.8	178.6	204	194	177	11	0.28	36.2	0.078	0.0054	0.684	12.3	0.0206	<0.00050	0.00043	0.0743	<0.00010	<0.0010	<0.05
W16	21/03/2014 16:00	P	23.8	263	7.63	8.22	118.8	428	0	3.72	25.5	208.3	191	190	161	21	0.31	24.5	0.059	0.0214	0.631	12.3	0.55	<0.00050	0.00062	0.0875	<0.00010	<0.0010	<0.05
W16	27/03/2014 11:00	P	1.4	274	7.52	8.13	188.6	434	0	3.39	23.1	192.4	199	195	174	11	0.3	35.3	0.1	0.0053	0.605	12.1	0.0199	<0.00050	0.00042	0.0745	<0.00010	<0.0010	<0.05
W16	28/03/2014 9:45	P			7.45		201.4		0.3	7.25	50.9	134.7																	
W16	29/03/2014 9:00	P			7.5		189		0	7.89	57.9	143.9																	
W16	30/03/2014 10:00	P			7.48		196.5		0.1	6.86	41.1	141.5																	
W16	31/03/2014 8:00	P			7.42		195.5		0	5.32	37.2	127																	
W16	01/04/2014 8:45	P			7.23		204.5		0	7.29	50	175																	
W16	02/04/2014 9:15	M			7.44		211.5		0	5.87	40.7	187.6																	
W16	02/04/2014 15:00	P	7	288	7.35	8.16	215.1	445	1.2	4.46	31.6	215	210	203	179	11	0.3	36	0.082	0.0072	0.635	12.9	0.12	<0.00050	0.00053	0.0746	<0.00010	<0.0010	<0.05
W16	03/04/2014 8:05	P			7.44		212.7		0.7	5.13	35.8	173.9																	
W16	08/04/2014 11:30	P	5.7	257	7.51	8.03	210.7	403	1.1	3.95	27.2	127.9	167	177	155	10	0.29	33.3	0.095	0.0067	1.1	10.7	0.111	<0.00050	0.00032	0.0594	<0.00010	<0.0010	<0.05
W16	16/04/2014 13:50	P	24.1	170	7.51	7.93	202.1	293	0.8	4.6	32.4	155	117	117	109	6.4	0.22	23	0.19	0.0081	1.23	4.58	0.376	<0.00050	0.00035	0.0533	<0.00010	<0.0010	<0.05
W16	21/04/2014 16:10	P	<1.0	50		7.57		60.7					26	25.3	25	1.5	0.11	3.07	0.034	<0.0050	0.121	0.97	0.0679	<0.00050	<0.00010	0.0174	<0.00010	<0.0010	<0.05
W16	21/04/2014 16:10	P			7.9		177.8		0.2	7.88	55.6	240.7																	
W16	02/05/2014 15:40	P	1.7	20	9.15	7.55	37.9	36.2	2.5	6.19	45.6	149.6	16	13.3	13.5	<0.50	0.06	0.93	0.02	<0.0050	0.12	3.58	0.0704	<0.00050	<0.00010	0.0107	<0.00010	<0.0010	<0.05
W16	06/05/2014 8:20	P	3.6	96	8.1	7.69	141	110	4.3				47	44.8	36.1	2.1	0.12	11.2	0.23	0.0159	1.05	14.6	0.238	<0.00050	0.00033	0.0296	<0.00010	<0.0010	<0.05
W16	17/05/2014 9:20	P	9.2	170	7.24	7.93	213.6	244	11.5	9.01	83.1	131.6	106	97.9	73.9	3.2	0.22	30.8	0.1	0.0375	2.15	14.7	0.419	<0.00050	0.00051	0.0536	<0.00010	<0.0010	<0.05
W16	23/05/2014 13:15	P	12.9	208	7.37	8.09	220	305	9.8	8.8	77.9	147.9	123	120	92.2	4.6	0.26	41.6	0.14	0.0347	2.54	15.6	0.987	<0.00050	0.00076	0.0715	<0.00010	<0.0010	<0.05
W16	27/05/2014 10:30	P			7.56		253.7		11.6	10.4	95.4	122.9																	
W16	28/05/2014 15:50	P	14.8	238	8.35	8.13	281.2	319	13.4	9	86.2	141.6	135	132	97.2	4.8	0.29	44.4	0.099	0.0298	2.71	16.8	0.765	<0.00050	0.00086	0.086	<0.00010	<0.0010	<0.05
W16	29/05/2014 8:35	P			8.34		263		12.3	9.76	91.2	111.3																	
W16	30/05/2014 8:20	P			8.42		241.6		13.4	9.37	89.8	118.3																	
W16	31/05/2014 9:05	P			8.42		248.9		14	9.6	93.2	119.1																	
W16	05/06/2014 8:45	P	23.8	248	8.44	8.21	282.3	368	13.3	10.23	98.6	177.4	162	159	114	4.8	0.32	52	0.013	0.0265	2.71	17.3	0.647	<0.00050	0.00083	0.0845	<0.00010	<0.0010	<0.05
W16	10/06/2014 11:20	P	17.6	262	8.94	8.19	407.8	390	15.8	10	100.7	167	168	167	124	5	0.34	56	0.027	0.0208	2.43	16.6	0.533	<0.00050	0.00078	0.0828	<0.00010	<0.0010	<0.05
W16	17/06/2014 8:45	P	11.1	328	8.86	8.36	340.2	421	15.4			125.8	195	185	131	5.3	0.38	67.5	0.045	0.0228	2.78	14.8	1.35	<0.00050	0.00098	0.0949	<0.00010	<0.0010	<0.05
W16	24/06/2014 5:45	P	6.9	288	8.91	8.37	376.3	461	15.3	9.31	93.1	123.7	182	187	132	5.7	0.44	77	0.057	0.0377	3.56	11.4	0.137	<0.00050	0.0006	0.0705	<0.00010	<0.0010	<0.05
W16	30/06/2014 22:45	P	5.9	296	9.09	8.48	376.7	444	17.9	9.36	98.9	136.5	191	189	123	6.3	0.44	83.4	0.15	0.0414	3.25	11.2	0.0799	<0.00050	0.00072	0.0677	<0.00010	<0.0010	0.061
W16	09/07/2014 13:40	P	6.2	270	9.21	8.36	400.9	466	18.2	10.62	88.2	100.4	194	184	122	6.5	0.49	90.4	0.059	0.0505	3.72	8.27	0.172	0.0015	0.00056	0.0686	<0.00010	<0.0010	0.058
W16	15/07/2014 15:40	P	6.3	296	9.06	8.76	416.2	474	18.1	9.48	100.7	141.8	197	195	127	6.8	0.5	94.4	0.052	0.0572	3.85	8.12	0.199	<0.00050	0.00058	0.0671	<0.00010	<0.0010	0.072
W16	21/07/2014 11:25	P	6.2	304	9.43	8.49	473.4	489	16.6	9.44	96.9	173.9	203	201	129	6.8	0.51	93.7	0.046	0.0548	4	8.14	0.121	<0.00050	0.00054	0.0646	<0.00010	<0.0010	0.066
W16	31/07/2014 11:30	P	2	302	8.76	8.44	360.4	501	16.4	8.8	90.1	130.4	202	206	133	6.6	0.49	96.8	0.053	0.0454	3.86	8.33	0.0487	<0.00050	0.00055	0.0681	<0.00010	<0.0010	0.069
W16	06/08/2014 9:35	P	1.3	380	8.43	8.01	437	507	16.7	5.95	61.7	190.6	221	205	129	7	0.51	104	0.092	0.0433	3.52	10.1	0.0443	<0.00050	0.00063	0.0707	<0.00010	<0.0010	0.057
W16	14/08/2014 9:50	P	17.1	302	8.22	8.29	399.8	516	15.5	6.37	64.1	115.6	238	212	141	6.6	0.5	99.7	0.13	0.0426	3.67	7.72	0.365	<0.00050	0.00079	0.0778	<0.00010	<0.0010	0.066
W16	18/08/2014 10:00	P	7	378	8.22	8.27	429.7	518	14.8	7.41	73.3	130.5	213	210	143	6.4	0.47	98.2	0.1	0.0413	3.38	7.31	0.177	<0.00050	0.00063	0.0708	<0.00010	<0.0010	0.056
W16	26/08/2014 15:35	P	11.3	360	8.36	8.23	390.2	514	13.8	9.27	89.6	155.5	227	209	139	6.7	0.49	102	0.046	0.0441	3.57	7.93	0.248	<0.00050	0.00066	0.0781	<0.00010	<0.0010	0.058
W16	04/09/2014 11:15	P	2.5	312	8.13	8.24	348.2	508	10.7	9.06	82.2	142.7	215	214	146	6.2	0.47	96.7	0.35	0.0394	3.12	8.98	0.0476	<0.00050	0.00047	0.0681	<0.00010	<0.0010	0.062
W16	04/09/2014 16:15	M	2	318		8.26		517					234	224	147	6.5	0.47	99.8	0.082	0.0403	3.23	8.01	0.0368	<0.00050	0.00058	0.0731	<0.00010	<0.0010	0.061

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W16	12/09/2013 12:55	<0.000010	48.2	<0.0010	<0.00050	0.0241	0.153	<0.00020	<0.0050	15.4	0.0625	<0.000010	0.0052	0.0013	0.019	3.19	0.00054	3.94	<0.000020	12.9	0.562	11.5	<0.000050	<0.0050	<0.0050	0.00096
W16	17/09/2013 13:30	<0.000010	48.2	<0.0010	<0.00050	0.0232	0.175	<0.00020	<0.0050	15.3	0.0953	<0.000010	0.0049	0.0013	0.021	3.12	0.0006	3.57	<0.000020	13	0.581	8.8	<0.000050	<0.0050	<0.0050	0.00104
W16	28/09/2013 14:55	<0.000010	44.1	<0.0010	<0.00050	0.0199	0.14	<0.00020	<0.0050	14.4	0.16	<0.000010	0.0046	0.0013	0.013	2.71	0.00046	4	<0.000020	11.4	0.54	11.7	<0.000050	<0.0050	<0.0050	0.00098
W16	03/10/2013 16:00	0.000027	47.3	<0.0010	<0.00050	0.0251	0.194	<0.00020	<0.0050	16	0.193	<0.000010	0.0043	0.0032	0.032	3.35	0.00039	4.17	<0.000020	13.4	0.539	15	<0.000050	<0.0050	<0.0050	0.00099
W16	09/10/2013 14:00	0.000011	47	<0.0010	<0.00050	0.0245	0.539	<0.00020	<0.0050	15.1	0.213	<0.000010	0.0044	0.0013	0.047	2.92	0.00048	4.92	<0.000020	12.2	0.532	11.1	<0.000050	<0.0050	0.026	0.00098
W16	16/10/2013 9:20	0.00001	47.7	<0.0010	<0.00050	0.02	0.134	<0.00020	<0.0050	15	0.25	<0.000010	0.0048	0.0014	0.025	3.01	0.00061	4.4	<0.000020	12.7	0.571	10.6	<0.000050	<0.0050	<0.0050	0.00104
W16	22/10/2013 14:45	0.000011	48.1	<0.0010	<0.00050	0.0181	0.146	<0.00020	<0.0050	14.8	0.217	<0.000010	0.0045	0.0014	0.021	2.96	0.00049	4.62	<0.000020	12.7	0.555	11.6	<0.000050	<0.0050	<0.0050	0.001
W16	28/10/2013 17:05	<0.000010	55.5	<0.0010	<0.00050	0.0247	0.197	<0.00020	<0.0050	17.6	0.221	<0.000010	0.0047	0.0015	0.055	3.38	0.00065	4.46	<0.000020	14.4	0.581	11.7	<0.000050	<0.0050	<0.0050	0.00107
W16	07/11/2013 13:30	<0.000010	50.6	<0.0010	<0.00050	0.019	0.112	<0.00020	<0.0050	14.6	0.194	<0.000010	0.0044	0.0013	0.048	3.21	0.00044	5.18	0.000054	11.4	0.537	12.2	<0.000050	<0.0050	<0.0050	0.00097
W16	14/11/2013 10:45	0.000013	55.7	<0.0010	<0.00050	0.0269	0.167	<0.00020	<0.0050	17.1	0.223	<0.000010	0.0049	0.0013	0.038	3.2	0.0007	4.69	<0.000020	14	0.578	11.2	<0.000050	<0.0050	<0.0050	0.00113
W16	18/11/2013 11:05	<0.000010	54.9	<0.0010	<0.00050	0.0454	0.222	<0.00020	<0.0050	16.6	0.213	<0.000010	0.0046	0.0011	0.038	2.95	0.0005	4.39	<0.000020	13.8	0.564	11.7	<0.000050	<0.0050	<0.0050	0.00109
W16	01/12/2013 11:40	0.00001	50.4	<0.0010	<0.00050	0.0284	0.128	<0.00020	<0.0050	15.3	0.21	<0.000010	0.0047	0.0012	0.046	3.14	0.00062	4.93	<0.000020	13.5	0.558	13.1	<0.000050	<0.0050	<0.0050	0.00111
W16	05/12/2013 15:45	0.000015	46.5	<0.0010	<0.00050	0.024	0.12	<0.00020	<0.0050	14.6	0.197	<0.000010	0.0043	0.0014	0.054	2.98	0.00056	4.53	<0.000020	11.6	0.537	7.9	<0.000050	<0.0050	<0.0050	0.00106
W16	09/12/2013 14:50	0.000013	51.4	<0.0010	<0.00050	0.0194	0.103	<0.00020	<0.0050	16.3	0.19	<0.000010	0.005	0.0015	0.031	2.95	0.00065	4.75	<0.000020	12.8	0.561	9.1	<0.000050	<0.0050	<0.0050	0.00113
W16	16/12/2013 11:45	0.000016	49.4	<0.0010	<0.00050	0.0256	0.225	<0.00020	<0.0050	14.4	0.165	<0.000010	0.0042	0.0013	0.027	3.15	0.00055	4.68	<0.000020	12.3	0.546	11.6	<0.000050	<0.0050	0.0067	0.00099
W16	23/12/2013 13:40	0.000013	53.1	<0.0010	<0.00050	0.0247	0.109	<0.00020	<0.0050	16.8	0.179	<0.000010	0.0048	0.0015	0.028	3.36	0.00045	4.92	<0.000020	13.9	0.607	10.3	<0.000050	<0.0050	<0.0050	0.00115
W16	02/01/2014 15:30	<0.000010	45.3	<0.0010	<0.00050	0.0225	0.212	<0.00020	<0.0050	14	0.322	<0.000010	0.0036	<0.0010	0.041	2.95	0.00046	5.59	0.000046	10.2	0.454	7.7	<0.000050	<0.0050	<0.0050	0.00076
W16	07/01/2014 10:40	0.000021	52.8	<0.0010	<0.00050	0.0242	0.146	<0.00020	<0.0050	16.7	0.13	<0.000010	0.0047	0.0011	0.033	3.26	0.00053	5.05	<0.000020	13.5	0.565	11.4	<0.000050	<0.0050	<0.0050	0.00129
W16	18/01/2014 14:30	0.000011	46	<0.0010	<0.00050	0.0178	0.147	<0.00020	<0.0050	15.2	0.196	<0.000050	0.0041	0.0011		2.53	0.00042	4.89	<0.000020	12	0.48	6.8	<0.000050	<0.0050	<0.0050	0.00104
W16	21/01/2014 13:30	<0.000010	46.1	<0.0010	<0.00050	0.0272	0.162	<0.00020	<0.0050	15.1	0.162	<0.000010	0.0041	0.0011	0.033	2.61	0.00039	4.61	<0.000020	12.2	0.506	9.9	<0.000050	<0.0050	<0.0050	0.00093
W16	27/01/2014 14:40	0.000012	49.1	<0.0010	<0.00050	0.028	0.172	<0.00020	<0.0050	15.5	0.163	<0.000010	0.0038	0.001	0.034	2.76	0.00043	5.01	<0.000020	12.6	0.52	10	<0.000050	<0.0050	<0.0050	0.00122
W16	03/02/2014 11:30	0.000013	57.7	<0.0010	<0.00050	0.0246	0.108	<0.00020	<0.0050	17.5	0.124	<0.000010	0.0049	0.0012	0.042	3.39	0.00045	5.7	<0.000020	14.2	0.611	16.3	<0.000050	<0.0050	<0.0050	0.00131
W16	13/02/2014 17:10	<0.000010	50.9	<0.0010	<0.00050	0.0422	0.212	<0.00020	<0.0050	16.5	0.143		0.0043	0.001	0.024	2.88	0.00064	5.14	0.000045	13.7	0.558	10.4	<0.000050	<0.0050	0.0053	0.00122
W16	18/02/2014 16:30	0.000013	52.1	<0.0010	<0.00050	0.0509	0.191	<0.00020	<0.0050	17.6	0.136	<0.000010	0.0045	0.0011	0.026	2.99	0.00044	4.98	0.000036	13.8	0.569	11.5	<0.000050	<0.0050	<0.0050	0.00125
W16	27/02/2014 9:10	0.000011	51.3	<0.0010	<0.00050	0.0509	0.205	<0.00020	<0.0050	16.2	0.119	<0.000010	0.004	0.0012	0.023	2.78	0.00044	4.78	0.000033	12.9	0.54	10.7	<0.000050	<0.0050	0.0054	0.00115
W16	06/03/2014 8:45	<0.000010	52.5	<0.0010	<0.00050	0.0207	0.115	<0.00020	<0.0050	17.1	0.0972	<0.000010	0.0044	0.0013	0.021	3	0.00041	5	<0.000020	13.6	0.574	11.8	<0.000050	<0.0050	<0.0050	0.00118
W16	10/03/2014 15:20	<0.000010	52.7	<0.0010	<0.00050	0.0201	0.11	<0.00020	<0.0050	17.6	0.0748	<0.000010	0.0045	0.0013	0.014	3.39	0.00052	4.74	<0.000020	14.3	0.604	10.9	<0.000050	<0.0050	<0.0050	0.00135
W16	21/03/2014 16:00	0.000409	50.8	<0.0010	<0.00050	0.131	0.907	0.00025	<0.0050	15.4	0.0942	<0.000010	0.0041	0.0012	0.039	3.68	0.00067	6.19	0.000055	13	0.498	9.1	<0.000050	<0.0050	0.0313	0.00109
W16	27/03/2014 11:00	0.000011	52	<0.0010	<0.00050	0.0332	0.085	<0.00020	<0.0050	16.9	0.0332	<0.000010	0.0042	0.0013	0.018	3.04	0.00053	5.05	<0.000020	12.9	0.55	10.9	<0.000050	0.0165	<0.0050	0.00117
W16	28/03/2014 9:45																									
W16	29/03/2014 9:00																									
W16	30/03/2014 10:00																									
W16	31/03/2014 8:00																									
W16	01/04/2014 8:45																									
W16	02/04/2014 9:15																									
W16	02/04/2014 15:00	<0.000010	54.8	<0.0010	<0.00050	0.0433	0.274	<0.00020	<0.0050	17.6	0.0307	<0.000010	0.0044	0.0014	0.017	3.04	0.00064	5.18	<0.000020	13.9	0.593	12.2	<0.000050	<0.0050	0.0077	0.00124
W16	03/04/2014 8:05																									
W16	08/04/2014 11:30	0.000024	43.5	<0.0010	<0.00050	0.0427	0.287	<0.00020	<0.0050	14.1	0.0408	<0.000010	0.0048	0.0013	0.021	3.56	0.00067	4.31	<0.000020	12.3	0.628	11.6	<0.000050	<0.0050	0.0066	0.00103
W16	16/04/2014 13:50	0.000054	30.5	<0.0010	<0.00050	0.199	1.05	0.00023	<0.0050	9.96	0.148	<0.000010	0.0043	<0.0010	0.047	3.18	0.00061	3.55	0.000073	13.5	0.54	6.8	<0.000050	<0.0050	0.0235	0.00062
W16	21/04/2014 16:10	0.000042	7.95	<0.0010	<0.00050	0.0203	0.111	<0.00020	<0.0050	1.49	0.0246	<0.000010	<0.0010	<0.0010	0.01	0.468	<0.00010	0.981	<0.000020	1.63	0.0849	<3.0	<0.000050	<0.0050	<0.0050	0.00016
W16	21/04/2014 16:10																									
W16	02/05/2014 15:40	0.000028	5	<0.0010	<0.00050	0.0201	0.132	<0.00020	<0.0050	0.846	0.0179	<0.000010	<0.0010	<0.0010	0.014	0.474	<0.00010	0.67	<0.000020	0.94	0.0589	<3.0	<0.000050	<0.0050	<0.0050	<0.00010
W16	06/05/2014 8:20	0.000026	13.1	<0.0010	<0.00050	0.0327	0.367	<0.00020	<0.0050	3.47	0.0577	<0.000050	0.0019	<0.0010	0.031	1.98	0.00041	2.03	<0.000020	4.45	0.28	4.1	<0.000050	<0.0050	0.0092	0.00018
W16	17/05/2014 9:20	0.000029	29	<0.0010	<0.00050	0.0461	0.866	0.00031	<0.0050	8.11	0.185	<0.000010	0.0041	0.0013	0.047	3.47	0.00077	3.66	<0.000020	9.06	0.607	10.7	<0.000050	<0.0050	0.026	0.00059
W16	23/05/2014 13:15	0.00003	32.5	<0.0010	0.0005	0.0501	1.03	0.00035	<0.0050	10.1	0.279	<0.000010	0.0059	0.0022	0.051	4.34	0.0009	4.36	0.000027	11.9	0.815	12.1	<0.000050	<0.0050	0.0292	0.00074
W16	27/05/2014 10:30																									
W16	28/05/2014 15:50	0.000032	35.9	<0.0010	0.00068	0.0673	1.56	0.00043	<0.0050	11	0.359	<0.000010	0.0059	0.0019	0.059	4.56	0.00099	4.34	0.000027	11.5	0.853	12.8	<0.000050	<0.0050	0.0349	0.00081
W16	29/05/2014 8:35																									
W16	30/05/2014 8:20																									
W16	31/05/2014 9:05																									
W16	05/06/2014 8:45	0.000016	42.6	<0.0010	0.00062	0.0617	1.38	0.00034	<0.0050	13.5	0.285	<0.000010	0.0058	0.0022	0.064	4.2	0.00091	3.52	<0.000020	12.5	0.927	18.7	<0.000050	<0.0050	0.0373	0.00109
W16	10/06/2014 11:20	0.000021	43	<0.0010	0.00053	0.0428	1.19	0.00024	<0.0050	14.7	0.219	<0.000010	0.0059	0.0017	0.075	4.3	0.00095	2.65	<0.000020	12.5	0.956	18.9	<0.000050	<0.0050	0.0285	0.0012
W16	17/06/2014 8:45	0.000019	51.6	0.001	0.00116	0.0629	2.57	0.00052	<0.0050	16.1	0.235	<0.000010	0.0074	0.0019	0.143	5	0.0009	3.97	0.000025	13.7	1.17	21.7	<0.000050	<0.0050	0.0753	0.00149
W16	24/06/2014 5:45	0.000021	46	<0.0010	<0.00050	0.0281	0.388	<0.00020	<0.0050	16.4	0.13	<0.000010	0.0105	0.0019	0.029	6.63	0.00133	0.729	0.000021	17.5	1.48	28.4	<0.000050	<0.0050	0.0071	0.00147
W16	30/06/2014 22:45	0.000013	50.8	<0.0010	<0.00050	0.021	0.216	0.00021	<0.0050	15.5	0.107	<0.000010	0.0112	0.0016	0.017	7.2	0.00127	0.468	<0.000020	18.5	1.64	34.2	<0.000050	<0.0050	<0.0050	0.00149
W16	09/07/2014 13:40	0.000031	50.4	<0.0010	<0.00050	0.0241	0.328	<0.00020	<0.0050	16.5	0.0921	<0.000010	0.0124	0.0015	0.047	8.75	0.00136	0.727	<0.000020	20.7	1.78	27.9	<0.000050	<0.0050	0.0081	0.00143
W16	15/07/2014 15:40	0.000014	51.2	<0.0010	<0.00050	0.0183	0.383	0.00037	<0.0050	16.8	0.0797	<0.000010	0.0138	0.0011	0.054	8.81	0.0013	0.949	<0.000020	20.5	1.87	34.1	<0.000050	<0.0050	0.0109	0.00147
W16	21/07/2014 11:25	0.000013	53	<0.0010	<0.00050	0.0187	0.241	<0.00020	<0.0050	17	0.0572	<0.000010	0.0132	0.0011	0.029	8.2	0.00137	0.656	0.00002	21	1.81	31.9	<0.000050	<0.0050	0.0061	0.00157
W16	31/07/2014 11:30	0.000015	53	<0.0010	<0.00050	0.0176	0.146	<0.00020	<0.0050	16.9	0.0241	<0.000010	0.0117	<0.0010	0.022	7.94	0.00114	0.935	<0.000020	18.8	1.78	32.2	<0.000050	<0.0050	<0.0050	0.00166
W16	06/08/2014 9:35	0.000014	58.9	<0.0010	<0.00050	0.0176	0.09	0.00021	<0.0050	17.9	0.0178	<0.000010	0.0121	<0.0010	0.038	8.55	0.00105	1.23	<0.000020	20.2	1.8	38.1	<0.000050	<0.0050	<0.0050	0.00166
W16	14/08/2014 9:50	0.000012	62.5	<0.0010	<0.00050	0.0348	0.662	<0.00020	<0.0050	19.8	0.0415	<0.000010	0.0124	0.0012	0.074	9	0.00145	2.33	0.000026	21.6	1.85	37.8	<0.000050	<0.0050	0.0217	0.00193
W16	18/08/2014 10:00	<0.000010	56.9	<0.0010	<0.00050	0.0198	0.338	<0.00020	<0.0050	17.1	0.0375	<0.000010	0.0108	0.001	0.025	7.62	0.00134	1.69	<0.000020	18.6	1.62	30.7	<0.000050	<0.0050	0.0097	0.00168
W16	26/08/2014 15:35	<0.000010	60.3	<0.0010	<0.00050	0.0189	0.4	<0.00020	<0.0050	18.7	0.0516	<0.000010	0.0112	0.0011	0.04	7.93	0.00129	2	<0.000020	20	1.8	39.5	<0.000050	<0.0050	0.0119	0.00177
W16	04/09/2014 11:15	<0.000010	56.4	<0.0010	<0.00050	0.0162	0.106	<0.00020	<0.0050	18.1	0.0653	<0.000010	0.0094	0.0013	0.022	6.58	0.00088	1.44	<0.000020	20.1	1.6	28.6	<0.000050	<0.0050	<0.0050	0.00171
W16	04/09/2014 16:15	<0.000010	62.7	<0.0010	<0.00050	0.0146	0.098	<0.00020	<0.0050	18.9	0.059	<0.000010	0.0115	<0.0010	0.029	7.57	0.00105	1.76	<0.000020	19.3	1.83	31.4	<0.000050	<0.0050	<0.0050	0.00186

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W16	12/09/2013 12:55	<0.0050	<0.0050	<0.00050	0.0043	<0.00050	0.00055	0.0737	<0.00010	<0.0010	<0.05	<0.000010	45.9	<0.0010	<0.00050	0.0191	0.0563	<0.00020	<0.0050	13.9	0.0062	<0.000010	0.0047	0.0012	<0.01	3.06
W16	17/09/2013 13:30	<0.0050	<0.0050	<0.00050	0.0053	<0.00050	0.00047	0.0685	<0.00010	<0.0010	<0.05	<0.000010	43.8	<0.0010	<0.00050	0.0176	0.0618	<0.00020	<0.0050	13.2	0.0112	<0.000010	0.0045	0.0011	<0.01	2.76
W16	28/09/2013 14:55	<0.0050	<0.0050	<0.00050	0.0049	<0.00050	0.00045	0.0663	<0.00010	<0.0010	<0.05	<0.000010	42.5	<0.0010	<0.00050	0.0164	0.0478	<0.00020	<0.0050	13.1	0.0856	<0.000010	0.0044	0.0012	0.01	2.67
W16	03/10/2013 16:00	<0.0050	<0.0050	<0.00050	0.0051	<0.00050	0.00046	0.0704	<0.00010	<0.0010	<0.05	<0.000010	44.9	<0.0010	<0.00050	0.0156	0.044	<0.00020	<0.0050	13.6	0.0949	<0.000010	0.0047	0.0012	<0.01	2.75
W16	09/10/2013 14:00	<0.0050	<0.0050	<0.00050	0.005	<0.00050	0.00045	0.0696	<0.00010	<0.0010	<0.05	<0.000010	46.3	<0.0010	<0.00050	0.0155	0.0497	<0.00020	<0.0050	13.7	0.131	<0.000010	0.0036	0.0011	<0.01	2.82
W16	16/10/2013 9:20	<0.0050	<0.0050	<0.00050	0.0078	<0.00050	0.00044	0.0707	<0.00010	<0.0010	<0.05	<0.000010	42.7	<0.0010	<0.00050	0.0152	0.0602	<0.00020	<0.0050	13.6	0.205	<0.000010	0.0043	0.0012	<0.01	2.75
W16	22/10/2013 14:45	<0.0050	<0.0050	<0.00050	0.0068	<0.00050	0.00043	0.0718	<0.00010	<0.0010	<0.05	<0.000010	49	<0.0010	<0.00050	0.0163	0.0639	<0.00020	<0.0050	14.5	0.197	<0.000010	0.0044	0.0012	<0.01	3.08
W16	28/10/2013 17:05	<0.0050	<0.0050	<0.00050	0.0058	<0.00050	0.00052	0.0704	<0.00010	<0.0010	<0.05	<0.000010	47.4	<0.0010	<0.00050	0.0165	0.0631	<0.00020	<0.0050	14.5	0.191	<0.000010	0.0042	0.0011	0.018	2.92
W16	07/11/2013 13:30	<0.0050	0.0104	<0.00050	0.0053	<0.00050	0.00042	0.073	<0.00010	<0.0010	<0.05	0.00001	46.8	<0.0010	<0.00050	0.0158	0.0582	<0.00020	<0.0050	13.6	0.166	<0.000010	0.0041	0.0012	<0.01	2.86
W16	14/11/2013 10:45	<0.0050	<0.0050	<0.00050	0.0055	<0.00050	0.00048	0.0755	<0.00010	<0.0010	<0.05	<0.000010	46.9	<0.0010	<0.00050	0.0166	0.0612	<0.00020	<0.0050	14.1	0.196	<0.000010	0.0045	0.0012	0.011	2.82
W16	18/11/2013 11:05	<0.0050	<0.0050	<0.00050	0.0047	<0.00050	0.00046	0.0728	<0.00010	<0.0010	<0.05	<0.000010	52.8	<0.0010	<0.00050	0.0151	0.0563	<0.00020	<0.0050	16.3	0.193	<0.000010	0.0044	0.002	<0.01	3.21
W16	01/12/2013 11:40	<0.0050	<0.0050	<0.00050	0.0038	<0.00050	0.00048	0.0717	<0.00010	<0.0010	<0.05	<0.000010	48.7	<0.0010	<0.00050	0.018	0.0537	0.0003	<0.0050	14.4	0.175	<0.000010	0.0042	0.0011	<0.01	2.94
W16	05/12/2013 15:45	<0.0050	<0.0050	<0.00050	0.0061	<0.00050	0.00045	0.0759	<0.00010	<0.0010	<0.05	<0.000010	49.9	<0.0010	<0.00050	0.0152	0.057	<0.00020	<0.0050	14.1	0.172	<0.000010	0.0044	0.0011	<0.01	2.99
W16	09/12/2013 14:50	<0.0050	<0.0050	<0.00050	0.0039	<0.00050	0.00046	0.0735	<0.00010	<0.0010	<0.05	<0.000010	48.4	<0.0010	<0.00050	0.0147	0.0543	<0.00020	<0.0050	14.1	0.151	<0.000010	0.0043	0.0012	<0.01	2.97
W16	16/12/2013 11:45	<0.0050	<0.0050	<0.00050	0.0039	<0.00050	0.00044	0.0733	<0.00010	<0.0010	<0.05	<0.000010	51.5	<0.0010	<0.00050	0.0179	0.0554	<0.00020	<0.0050	14.7	0.134	<0.000010	0.0046	0.0011	<0.01	2.95
W16	23/12/2013 13:40	<0.0050	0.0052	<0.00050	0.0043	<0.00050	0.00051	0.0839	<0.00010	<0.0010	<0.05	<0.000010	56.7	<0.0010	<0.00050	0.0246	0.0477	<0.00020	<0.0050	17.4	0.157	<0.000010	0.0053	0.0013	<0.01	3.62
W16	02/01/2014 15:30	<0.0050	<0.0050	<0.00050	0.0051	<0.00050	0.00042	0.0779	<0.00010	<0.0010	<0.05	<0.000010	46.7	<0.0010	<0.00050	0.0128	0.129	<0.00020	<0.0050	12.4	0.32	<0.000010	0.0037	<0.0010	0.014	2.65
W16	07/01/2014 10:40	<0.0050	<0.0050	<0.00050	0.0046	<0.00050	0.00044	0.0744	<0.00010	<0.0010	<0.05	<0.000010	49.5	<0.0010	<0.00050	0.0152	0.056	<0.00020	<0.0050	16.1	0.0938	<0.000010	0.0046	0.0011	0.013	3.19
W16	18/01/2014 14:30	<0.0050	0.0084	<0.00050	0.0034	<0.00050	0.00042	0.0734	<0.00010	<0.0010	<0.05	<0.000010	47	<0.0010	<0.00050	0.0135	0.073	<0.00020	<0.0050	13.7	0.162	<0.000010	0.004	<0.0010	0.015	2.66
W16	21/01/2014 13:30	<0.0050	<0.0050	<0.00050	0.0036	<0.00050	0.00043	0.0741	<0.00010	<0.0010	<0.05	<0.000010	48.6	<0.0010	<0.00050	0.0143	0.0688	<0.00020	<0.0050	15.5	0.132	<0.000010	0.0042	0.0011	0.014	3.04
W16	27/01/2014 14:40	<0.0050	<0.0050	<0.00050	0.0064	<0.00050	0.00041	0.0712	<0.00010	<0.0010	<0.05	<0.000010	48.9	<0.0010	<0.00050	0.0151	0.071	<0.00020	<0.0050	16	0.135	<0.000010	0.0041	0.0011	0.013	3
W16	03/02/2014 11:30	<0.0050	<0.0050	<0.00050	0.0037	<0.00050	0.00043	0.074	<0.00010	<0.0010	<0.05	<0.000010	50.5	<0.0010	<0.00050	0.0145	0.0474	<0.00020	<0.0050	15.8	0.0938	<0.000010	0.0043	0.0011	0.013	3.13
W16	13/02/2014 17:10	<0.0050	0.0085	<0.00050	0.0034	<0.00050	0.00042	0.0741	<0.00010	<0.0010	<0.05	<0.000010	46.8	<0.0010	<0.00050	0.0145	0.0455	<0.00020	<0.0050	15.4	0.104		0.0046	0.0011	<0.01	2.84
W16	18/02/2014 16:30	<0.0050	0.0054	<0.00050	0.0033	<0.00050	0.00043	0.071	<0.00010	<0.0010	<0.05	<0.000010	48.9	<0.0010	<0.00050	0.0136	0.0382	<0.00020	<0.0050	15.3	0.0846	<0.000010	0.0046	0.0011	<0.01	2.88
W16	27/02/2014 9:10	<0.0050	<0.0050	<0.00050	0.0035	<0.00050	0.0004	0.0729	<0.00010	<0.0010	<0.05	<0.000010	53.4	<0.0010	<0.00050	0.0135	0.0359	<0.00020	<0.0050	16.3	0.0527	<0.000010	0.0043	0.0011	<0.01	2.91
W16	06/03/2014 8:45	<0.0050	<0.0050	<0.00050	0.0032	<0.00050	0.0004	0.0712	<0.00010	<0.0010	<0.05	<0.000010	50.9	<0.0010	<0.00050	0.0133	0.0393	<0.00020	<0.0050	16.7	0.0234	<0.000010	0.0043	0.0011	0.012	3.24
W16	10/03/2014 15:20	<0.0050	<0.0050	<0.00050	0.0155	<0.00050	0.00045	0.0743	<0.00010	<0.0010	<0.05	0.000013	51.2	<0.0010	<0.00050	0.0152	0.0459	<0.00020	<0.0050	16	0.0071	<0.000010	0.0046	0.0012	0.03	3.08
W16	21/03/2014 16:00	<0.0050	0.0125	<0.00050	0.0065	<0.00050	0.00042	0.0818	<0.00010	<0.0010	<0.05	0.000033	51	<0.0010	<0.00050	0.0225	0.0189	<0.00020	<0.0050	15.3	0.0438	<0.000010	0.0045	<0.0010	0.011	3.5
W16	27/03/2014 11:00	<0.0050	0.0054	<0.00050	0.0038	<0.00050	0.0004	0.0741	<0.00010	<0.0010	<0.05	<0.000010	51	<0.0010	<0.00050	0.0135	0.0552	<0.00020	<0.0050	16.5	0.0088	0.000014	0.0044	0.0011	<0.01	3.42
W16	28/03/2014 9:45																									
W16	29/03/2014 9:00																									
W16	30/03/2014 10:00																									
W16	31/03/2014 8:00																									
W16	01/04/2014 8:45																									
W16	02/04/2014 9:15																									
W16	02/04/2014 15:00	<0.0050	0.0059	<0.00050	0.0066	<0.00050	0.00042	0.0727	<0.00010	<0.0010	<0.05	0.000015	53.7	<0.0010	<0.00050	0.0153	0.0382	<0.00020	<0.0050	16.7	0.0063	<0.000010	0.0042	0.0012	<0.01	3.15
W16	03/04/2014 8:05																									
W16	08/04/2014 11:30	<0.0050	0.0096	<0.00050	0.0044	<0.00050	0.00032	0.0596	<0.00010	<0.0010	<0.05	0.000014	48.1	<0.0010	<0.00050	0.0116	0.0319	<0.00020	<0.0050	13.8	0.0189	<0.000010	0.0046	0.001	<0.01	3.47
W16	16/04/2014 13:50	<0.0050	0.01	<0.00050	0.0054	<0.00050	0.00025	0.0475	<0.00010	<0.0010	<0.05	0.000029	31.2	<0.0010	<0.00050	0.0132	0.0606	<0.00020	<0.0050	9.47	0.123	<0.000010	0.0044	<0.0010	<0.01	3.32
W16	21/04/2014 16:10	<0.0050	<0.0050	<0.00050	0.0047	<0.00050	<0.00010	0.0166	<0.00010	<0.0010	<0.05	0.000031	7.75	<0.0010	<0.00050	0.0112	0.0103	<0.00020	<0.0050	1.45	0.0212	<0.000010	<0.0010	<0.0010	<0.01	0.447
W16	21/04/2014 16:10																									
W16	02/05/2014 15:40	<0.0050	<0.0050	<0.00050	0.013	<0.00050	<0.00010	0.0087	<0.00010	<0.0010	<0.05	0.000015	4.21	<0.0010	<0.00050	0.01	0.011	<0.00020	<0.0050	0.665	0.012	<0.000010	<0.0010	<0.0010	<0.01	0.348
W16	06/05/2014 8:20	<0.0050	<0.0050	<0.00050	0.0418	<0.00050	0.0002	0.0269	<0.00010	<0.0010	<0.05	0.000024	12.3	<0.0010	<0.00050	0.0255	0.119	<0.00020	<0.0050	3.41	0.0538	<0.000050	0.0019	<0.0010	0.019	1.78
W16	17/05/2014 9:20	<0.0050	0.0061	<0.00050	0.0261	<0.00050	0.0004	0.0505	<0.00010	<0.0010	<0.05	0.000024	26.2	<0.0010	<0.00050	0.0274	0.163	<0.00020	<0.0050	7.88	0.15	<0.000010	0.004	<0.0010	0.017	3.65
W16	23/05/2014 13:15	<0.0050	0.0069	<0.00050	0.0214	<0.00050	0.00051	0.0627	<0.00010	<0.0010	<0.05	0.000017	32.2	<0.0010	<0.00050	0.0262	0.189	<0.00020	<0.0050	9.57	0.226	<0.000010	0.0054	0.001	0.015	4.37
W16	27/05/2014 10:30																									
W16	28/05/2014 15:50	<0.0050	0.0085	<0.00050	0.02	<0.00050	0.00055	0.0683	<0.00010	<0.0010	<0.05	0.000018	34.8	<0.0010	<0.00050	0.0303	0.208	<0.00020	<0.0050	10.9	0.258	<0.000010	0.0062	0.0012	0.016	4.42
W16	29/05/2014 8:35																									
W16	30/05/2014 8:20																									
W16	31/05/2014 9:05																									
W16	05/06/2014 8:45	<0.0050	0.0079	<0.00050	0.0075	<0.00050	0.00064	0.0708	<0.00010	<0.0010	<0.05	0.000016	43.5	<0.0010	<0.00050	0.0278	0.172	<0.00020	<0.0050	12.3	0.147	<0.000010	0.0059	0.0012	0.013	3.94
W16	10/06/2014 11:20	<0.0050	<0.0050	<0.00050	0.0058	<0.00050	0.00066	0.0739	<0.00010	<0.0010	<0.05	0.000012	45	<0.0010	<0.00050	0.0262	0.131	<0.00020	<0.0050	13.3	0.12	<0.000010	0.0059	0.0012	0.013	4.24
W16	17/06/2014 8:45	0.006	0.016	0.00054	0.0056	<0.00050	0.00057	0.0716	<0.00010	<0.0010	<0.05	<0.000010	49.2	<0.0010	<0.00050	0.0217	0.0745	<0.00020	<0.0050	15.1	0.0802	<0.000010	0.0073	0.0012	0.01	4.93
W16	24/06/2014 5:45	<0.0050	0.01	<0.00050	0.0102	<0.00050	0.00054	0.0701	<0.00010	<0.0010	<0.05	0.000014	50	<0.0010	<0.00050	0.0186	0.078	<0.00020	<0.0050	15.1	0.0931	<0.000010	0.0102	0.0011	0.013	6.7
W16	30/06/2014 22:45	<0.0050	0.0073	<0.00050	0.0117	<0.00050	0.0005	0.0638	<0.00010	<0.0010	0.054	<0.000010	49.6	<0.0010	<0.00050	0.0166	0.0671	<0.00020	<0.0050	15.8	0.0771	<0.000010	0.011	0.0011	0.012	7.21
W16	09/07/2014 13:40	<0.0050	0.0193	<0.00050	0.0114	<0.00050	0.00049	0.0641	<0.00010	<0.0010	0.063	<0.000010	48.2	<0.0010	<0.00050	0.0133	0.067	<0.00020	<0.0050	15.3	0.0631	<0.000010	0.0118	<0.0010	0.024	8.28
W16	15/07/2014 15:40	<0.0050	<0.0050	<0.00050	0.0142	<0.00050	0.00049	0.0616	<0.00010	<0.0010	0.075	<0.000010	51.4	<0.0010	<0.00050	0.0139	0.066	<0.00020	<0.0050	16.2	0.053	<0.000010	0.0132	<0.0010	0.023	8.5
W16	21/07/2014 11:25	<0.0050	<0.0050	<0.00050	0.0146	<0.00050	0.0005	0.0651	<0.00010	<0.0010	0.069	<0.000010	53.3	<0.0010	<0.00050	0.014	0.0432	<0.00020	<0.0050	16.5	0.031	<0.000010	0.0129	0.001	0.02	8.75
W16	31/07/2014 11:30	<0.0050	<0.0050	<0.00050	0.0167	<0.00050	0.0006	0.0655	<0.00010	<0.0010	0.065	<0.000010	50.9	<0.0010	<0.00050	0.0139	0.0434	<0.00020	<0.0050	17	0.0107	<0.000010	0.0125	<0.0010	0.018	8.1
W16	06/08/2014 9:35	<0.0050	<0.0050	<0.00050	0.0138	<0.00050	0.00058	0.0638	<0.00010	<0.0010	0.065	<0.000010	54.7	<0.0010	<0.00050	0.0144	0.0373	<0.00020	<0.0050	16.6	0.0087	<0.000010	0.0122	<0.0010	0.015	7.45
W16	14/08/2014 9:50	<0.0050	<0.0050	<0.00050	0.0085	<0.00050	0.00051	0.0625	<0.00010	<0.0010	0.053	<0.000010	56.7	<0.0010	<0.00050	0.0136	0.0346	<0.00020	<0.0050	17.2	0.0138	<0.000010	0.0118	<0.0010	0.018	7.7
W16	18/08/2014 10:00	<0.0050	<0.0050	<0.00050	0.0084	<0.00050	0.0006	0.0776	<0.00010	<0.0010	0.067	0.00001	52.9	<0.0010	<0.00050	0.0154	0.0351	<0.00020	<0.0050	19	0.0231	<0.000010	0.0111	<0.0010	0.018	7.51
W16	26/08/2014 15:35	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00053	0.0697	<0.00010	<0.0010	0.055	<0.000010	54.5	<0.0010	<0.00050	0.0132	0.0213	<0.00020	<0.0050	17.8	0.0222	<0.000010	0.0114	<0.0010	0.018	7.45
W16	04/09/2014 11:15	<0.0050	<0.0050	<0.00050	0.0095	<0.00050	0.00056	0.0729	<0.00010	<0.0010	0.053	<0.000010	56.8	<0.0010	<0.00050	0.013	0.0214	<0.00020	<0.0050	17.7	0.0154	<0.000010	0.0097	<0.0010	0.018	6.79
W16	04/09/2014 16:15	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00049	0.0691	<0.00010	<0.0010	0.059	<0.000010	59.9	<0.0010	<0.00050	0.0122	0.0161	<0.00020	<0.0050	18	0.0133	<0.000010	0.01	<0.0010	0.015	6.8

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	BOD5	Br	Cation	COD	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-T	N-TKN	P-PO4T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L
W16	12/09/2013 12:55	0.00053	3.7	<0.000020	12.2	0.534	11.6	<0.000050	<0.0050	<0.0050	0.0009	<0.0050	<0.0050	<0.00050	168	<0.50	<0.50	<0.50														
W16	17/09/2013 13:30	0.00052	3.55	<0.000020	10.9	0.5	9.5	<0.000050	<0.0050	<0.0050	0.00087	<0.0050	<0.0050	<0.00050	177	<0.50	<0.50	<0.50														
W16	28/09/2013 14:55	0.00051	3.68	<0.000020	11	0.493	10.1	<0.000050	<0.0050	<0.0050	0.00083	<0.0050	<0.0050	<0.00050	179	<0.50	<0.50	<0.50														
W16	03/10/2013 16:00	0.00051	3.86	<0.000020	11.9	0.502	9	<0.000050	<0.0050	<0.0050	0.00091	<0.0050	<0.0050	<0.00050	174	<0.50	<0.50	<0.50														
W16	09/10/2013 14:00	0.00044	3.98	<0.000020	11.4	0.515	10.2	<0.000050	<0.0050	<0.0050	0.00083	<0.0050	<0.0050	<0.00050	176	<0.50	<0.50	<0.50														
W16	16/10/2013 9:20	0.00046	3.9	<0.000020	11.2	0.514	10	<0.000050	<0.0050	<0.0050	0.00089	<0.0050	<0.0050	<0.00050	180	1.63	<0.50	1.36														
W16	22/10/2013 14:45	0.00051	4.1	<0.000020	12.3	0.527	11.3	<0.000050	<0.0050	<0.0050	0.00096	<0.0050	<0.0050	<0.00050	187	<0.50	<0.50	<0.50														
W16	28/10/2013 17:05	0.0004	4.35	<0.000020	12	0.519	10.6	<0.000050	<0.0050	<0.0050	0.00095	<0.0050	<0.0050	<0.00050	183	<0.50	<0.50	<0.50														
W16	07/11/2013 13:30	0.00049	4.63	<0.000020	11.1	0.499	10.2	<0.000050	<0.0050	<0.0050	0.00092	<0.0050	<0.0050	<0.00050	188	<0.50	<0.50	<0.50														
W16	14/11/2013 10:45	0.00053	4.17	<0.000020	11.5	0.557	10	<0.000050	<0.0050	<0.0050	0.00098	<0.0050	<0.0050	<0.00050	188	2.24	<0.50	1.87														
W16	18/11/2013 11:05	0.00055	4.5	<0.000020	13.6	0.559	13.1	<0.000050	<0.0050	<0.0050	0.00098	<0.0050	<0.0050	<0.00050	191	<0.50	<0.50	<0.50														
W16	01/12/2013 11:40	0.0004	4.62	0.000022	12.7	0.537	9.1	<0.000050	<0.0050	<0.0050	0.00109	<0.0050	<0.0050	<0.00050	193	<0.50	<0.50	<0.50														
W16	05/12/2013 15:45	0.00056	4.76	<0.000020	12.1	0.54	11.1	<0.000050	<0.0050	<0.0050	0.00103	<0.0050	<0.0050	<0.00050	197	<0.50	<0.50	<0.50														
W16	09/12/2013 14:50	0.0005	4.35	<0.000020	11.8	0.545	11.3	<0.000050	<0.0050	<0.0050	0.00105	<0.0050	<0.0050	<0.00050	196	<0.50	<0.50	<0.50														
W16	16/12/2013 11:45	0.00053	4.9	<0.000020	12.3	0.545	11.4	<0.000050	<0.0050	<0.0050	0.00112	<0.0050	<0.0050	<0.00050	198	<0.50	<0.50	<0.50														
W16	23/12/2013 13:40	0.00064	5.34	<0.000020	14.5	0.659	13.4	<0.000050	<0.0050	<0.0050	0.00124	<0.0050	<0.0050	<0.00050	221	<0.50	<0.50	<0.50														
W16	02/01/2014 15:30	0.00047	6.02	<0.000020	9.37	0.441	7.1	<0.000050	<0.0050	<0.0050	0.00083	<0.0050	<0.0050	<0.00050	179	<0.50	<0.50	<0.50														
W16	07/01/2014 10:40	0.00049	4.7	<0.000020	13.3	0.576	12.6	<0.000050	<0.0050	<0.0050	0.00124	<0.0050	<0.0050	<0.00050	199	<0.50	<0.50	<0.50														
W16	18/01/2014 14:30	0.00047	4.71	<0.000020	10.9	0.501	8.9	<0.000050	<0.0050	<0.0050	0.00104	<0.0050	<0.0050	<0.00050	190	<0.50	<0.50	<0.50														
W16	21/01/2014 13:30	0.00052	4.75	<0.000020	12.8	0.555	10.8	<0.000050	<0.0050	<0.0050	0.00108	<0.0050	<0.0050	<0.00050	197	<0.50	<0.50	<0.50														
W16	27/01/2014 14:40	0.00047	4.81	<0.000020	13	0.536	10.2	<0.000050	<0.0050	<0.0050	0.00106	<0.0050	0.007	<0.00050	196	<0.50	<0.50	<0.50														
W16	03/02/2014 11:30	0.00051	4.71	<0.000020	12.9	0.569	11.8	<0.000050	<0.0050	<0.0050	0.00113	<0.0050	<0.0050	<0.00050	208	<0.50	<0.50	<0.50														
W16	13/02/2014 17:10	0.00066	3.96	<0.000020	13	0.569	10.1	<0.000050	<0.0050	<0.0050	0.00115	<0.0050	<0.0050	<0.00050	204	<0.50	<0.50	<0.50														
W16	18/02/2014 16:30	0.00054	4.48	<0.000020	12.7	0.546	10.8	<0.000050	<0.0050	<0.0050	0.00124	<0.0050	<0.0050	<0.00050	214	<0.50	<0.50	<0.50														
W16	27/02/2014 9:10	0.00048	4.84	<0.000020	12.7	0.543	11.2	<0.000050	<0.0050	<0.0050	0.00127	<0.0050	<0.0050	<0.00050	207	<0.50	<0.50	<0.50														
W16	06/03/2014 8:45	0.00045	4.99	<0.000020	13.5	0.57	11.8	<0.000050	<0.0050	<0.0050	0.00122	<0.0050	<0.0050	<0.00050	215	<0.50	<0.50	<0.50														
W16	10/03/2014 15:20	0.00055	4.65	<0.000020	12.7	0.556	14.1	<0.000050	<0.0050	<0.0050	0.00125	<0.0050	0.0079	<0.00050	216	<0.50	<0.50	<0.50														
W16	21/03/2014 16:00	0.00059	4.77	<0.000020	12.3	0.533	8.7	<0.000050	<0.0050	<0.0050	0.00115	<0.0050	<0.0050	<0.00050	197	<0.50	<0.50	<0.50														
W16	27/03/2014 11:00	0.00046	5.1	<0.000020	13.3	0.588	12	<0.000050	<0.0050	<0.0050	0.00123	<0.0050	<0.0050	<0.00050	212	<0.50	<0.50	<0.50														
W16	28/03/2014 9:45																															
W16	29/03/2014 9:00																															
W16	30/03/2014 10:00																															
W16	31/03/2014 8:00																															
W16	01/04/2014 8:45																															
W16	02/04/2014 9:15																															
W16	02/04/2014 15:00	0.00054	5.23	<0.000020	13.5	0.587	12.2	<0.000050	<0.0050	<0.0050	0.00127	<0.0050	<0.0050	<0.00050	218	<0.50	<0.50	<0.50														
W16	03/04/2014 8:05																															
W16	08/04/2014 11:30	0.00053	4.31	<0.000020	13	0.599	11.3	<0.000050	<0.0050	<0.0050	0.00104	<0.0050	<0.0050	<0.00050	189	<0.50	<0.50	<0.50														
W16	16/04/2014 13:50	0.00056	2.93	<0.000020	13.3	0.538	8	<0.000050	<0.0050	<0.0050	0.00061	<0.0050	<0.0050	<0.00050	133	<0.50	<0.50	<0.50														
W16	21/04/2014 16:10	0.00018	0.929	<0.000020	1.64	0.0885	<3.0	<0.000050	<0.0050	<0.0050	0.00015	<0.0050	<0.0050	<0.00050	30.5	<0.50	<0.50	<0.50														
W16	21/04/2014 16:10																															
W16	02/05/2014 15:40	<0.00010	0.535	<0.000020	0.75	0.0485	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	16.5	<0.50	<0.50	<0.50														
W16	06/05/2014 8:20	0.0004	1.49	<0.000020	4.28	0.26	3.6	<0.000050	<0.0050	<0.0050	0.00017	<0.0050	<0.0050	<0.00050	44.1	<0.50	<0.50	<0.50														
W16	17/05/2014 9:20	0.00081	2.31	<0.000020	9.38	0.613	11.3	<0.000050	<0.0050	<0.0050	0.00055	<0.0050	<0.0050	<0.00050	90.1	<0.50	<0.50	<0.50														
W16	23/05/2014 13:15	0.00074	2.88	<0.000020	11.1	0.814	14	<0.000050	<0.0050	<0.0050	0.00063	<0.0050	<0.0050	<0.00050	112	<0.50	<0.50	<0.50														
W16	27/05/2014 10:30																															
W16	28/05/2014 15:50	0.00087	3.04	<0.000020	12.1	0.862	15.1	<0.000050	<0.0050	<0.0050	0.00075	<0.0050	<0.0050	<0.00050	119	<0.50	<0.50	<0.50														
W16	29/05/2014 8:35																															
W16	30/05/2014 8:20																															
W16	31/05/2014 9:05																															
W16	05/06/2014 8:45	0.00085	2.43	<0.000020	11.2	0.903	18.7	<0.000050	<0.0050	<0.0050	0.00105	<0.0050	<0.0050	<0.00050	140	<0.50	<0.50	<0.50														
W16	10/06/2014 11:20	0.00084	1.67	<0.000020	12.3	0.97	20	<0.000050	<0.0050	<0.0050	0.00113	<0.0050	<0.0050	<0.00050	151	<0.50	<0.50	<0.50														
W16	17/06/2014 8:45	0.00095	0.948	<0.000020	13.3	1.13	24	<0.000050	<0.0050	<0.0050	0.00139	<0.0050	<0.0050	<0.00050	155	2.21	<0.50	1.84														
W16	24/06/2014 5:45	0.00111	0.728	<0.000020	16.6	1.51	27.6	<0.000050	<0.0050	<0.0050	0.00137	<0.0050	<0.0050	<0.00050	157	1.8	<0.50	1.5														
W16	30/06/2014 22:45	0.00112	0.286	<0.000020	18.1	1.56	30.4	<0.000050	<0.0050	<0.0050	0.00145	<0.0050	<0.0050	<0.00050	142	4.03	<0.50	3.36														
W16	09/07/2014 13:40	0.00136	0.406	<0.000020	19.4	1.69	32.7	<0.000050	<0.0050	<0.0050	0.00135	<0.0050	<0.0050	<0.00050	146	1.63	<0.50	1.36														
W16	15/07/2014 15:40	0.00112	0.476	<0.000020	20.5	1.77	35.3	<0.000050	<0.0050	<0.0050	0.00143	<0.0050	<0.0050	<0.00050	135	9.54	<0.50	7.95														
W16	21/07/2014 11:25	0.00152	0.433	<0.000020	20.3	1.78	31.8	<0.000050	<0.0050	<0.0050	0.00147	<0.0050	<0.0050	<0.00050	149	4.28	<0.50	3.57														
W16	31/07/2014 11:30	0.00139	0.868	<0.000020	20.1	1.71	44.6	<0.000050	<0.0050	<0.0050	0.00156	<0.0050	<0.0050	<0.00050	156	3.14	<0.50	2.62														
W16	06/08/2014 9:35	0.0011	1.13	<0.000020	19.5	1.78	37.3	<0.000050	<0.0050	<0.0050	0.00159	<0.0050	<0.0050	<0.00050	157	<0.50	<0.50	<0.50														
W16	14/08/2014 9:50	0.00144	1.3	<0.000020	19.5	1.82	36.2	<0.000050	<0.0050	<0.0050	0.0015	<0.0050	<0.0050	<0.00050	172	<0.50	<0.50	<0.50														
W16	18/08/2014 10:00	0.0013	1.08	0.000025	22.4	1.71	31.8	<0.000050	<0.0050	<0.0050	0.00166	<0.0050	<0.0050	<0.00050	174	<0.50	<0.50	<0.50														
W16	26/08/2014 15:35	0.00116	1.09	<0.000020	18.8	1.78	35.4	<0.000050	<0.0050	<0.0050	0.00169	<0.0050	<0.0050	<0.00050	170	<0.50	<0.50	<0.50														
W16	04/09/2014 11:15	0.00102	1.45	<0.000020	18.2	1.6	35.6	<0.000050	<0.0050	<0.0050	0.00161	<0.0050	<0.0050	<0.00050	178	<0.50	<0.50	<0.50														
W16	04/09/2014 16:15	0.00106	1.39	<0.000020	19.7	1.71	34.2	<0.000050	<0.0050	<0.0050	0.00168	<0.0050	<0.0050	<0.00050	180	<0.50	<0.50	<0.50														

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	P-TDP	P-TRP	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		mg/L	mg/L	Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W16	12/09/2013 12:55					367.5			
W16	17/09/2013 13:30					365.2			
W16	28/09/2013 14:55					363.5			
W16	03/10/2013 16:00					314.2			
W16	09/10/2013 14:00					358.3			
W16	16/10/2013 9:20					347.2			
W16	22/10/2013 14:45					388			
W16	28/10/2013 17:05					370.1			
W16	07/11/2013 13:30					343.2			
W16	14/11/2013 10:45					333.8			
W16	18/11/2013 11:05					324			
W16	01/12/2013 11:40					409.4			
W16	05/12/2013 15:45					417.6			
W16	09/12/2013 14:50					371.7			
W16	16/12/2013 11:45					60			
W16	23/12/2013 13:40					413.1			
W16	02/01/2014 15:30					410.3			
W16	07/01/2014 10:40					154			
W16	18/01/2014 14:30					331.7			
W16	21/01/2014 13:30					355.4			
W16	27/01/2014 14:40					411.1			
W16	03/02/2014 11:30					425.1			
W16	13/02/2014 17:10								
W16	18/02/2014 16:30					426.3			
W16	27/02/2014 9:10					371.9			
W16	06/03/2014 8:45					432			
W16	10/03/2014 15:20					438.2			
W16	21/03/2014 16:00					227.3			
W16	27/03/2014 11:00					360.1			
W16	28/03/2014 9:45					381.5			
W16	29/03/2014 9:00					361.8			
W16	30/03/2014 10:00					373.2			
W16	31/03/2014 8:00					374.3			
W16	01/04/2014 8:45					391.7			
W16	02/04/2014 9:15					398.7			
W16	02/04/2014 15:00					395.3			
W16	03/04/2014 8:05					397			
W16	08/04/2014 11:30					388			
W16	16/04/2014 13:50					373.3			
W16	21/04/2014 16:10								
W16	21/04/2014 16:10					327.2			
W16	02/05/2014 15:40					66.7			
W16	06/05/2014 8:20								
W16	17/05/2014 9:20					287.7			
W16	23/05/2014 13:15					309.8			
W16	27/05/2014 10:30					340.6			
W16	28/05/2014 15:50					361.3			
W16	29/05/2014 8:35					346.8			
W16	30/05/2014 8:20					310.5			
W16	31/05/2014 9:05					314.9			
W16	05/06/2014 8:45					364.2			
W16	10/06/2014 11:20					494.3			
W16	17/06/2014 8:45					417.6			
W16	24/06/2014 5:45					452.3			
W16	30/06/2014 22:45					434.9			
W16	09/07/2014 13:40					464.9			
W16	15/07/2014 15:40					479.1			
W16	21/07/2014 11:25					563.3			
W16	31/07/2014 11:30					431.5			
W16	06/08/2014 9:35					518.6			
W16	14/08/2014 9:50					488.7			
W16	18/08/2014 10:00					533.6			
W16	26/08/2014 15:35					465.2			
W16	04/09/2014 11:15					479.4			
W16	04/09/2014 16:15								

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T	B-T
			mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W16	12/09/2014 10:15	P	3.8	384	8.10	8.24	338.4	499	9.4	8.90	77.2		218	216	141	6.3	0.44	93.1	0.069	0.0369	3.8	8.39	0.0515	<0.00050	0.00068	0.072	<0.00010	<0.0010	0.053
W16	15/09/2014 10:40	P	4.2	306	8.15	8.25	336.8	500	10.1	7.54	67.1	142.5	227	208	141	6.2	0.46	89.9	0.11	0.0386	3.24	6.69	0.0889	<0.00050	0.00046	0.0645	<0.00010	<0.0010	0.058
W16	25/09/2014 8:50	P	2.3	314	7.97	8.23	332.1	505	7.5	7.78	65.1	153.2	225	206	146	6.3	0.45	99.6	0.077	0.0331	3.22	7.39	0.0318	<0.00050	0.00044	0.0653	<0.00010	<0.0010	0.055
W16	01/10/2014 13:45	P	3.2	396	7.85	8.11	307.5	499	5.7	11.07	89	147.3	212	200	143	6.7	0.45	93.2	0.095	0.0286	3.12	8.48	0.0722	<0.00050	0.00041	0.0721	<0.00010	<0.0010	0.054
W16	08/10/2014 15:10	P	7.8	326	7.98	8.16	271.7	492	3.2	10.92	81.9	174.9	210	197	139	6.4	0.4	88.3	0.093	0.0288	3.08	7.34	0.522	<0.00050	0.00058	0.0763	<0.00010	<0.0010	<0.05
W16	13/10/2014 14:10	P	2.1	313	8.05	8.11	290.8	485	2.8	10.32	76.3	143.7	208	200	134	6.6	0.39	85.9	0.097	0.0303	3.15	7.7	0.0237	<0.00050	0.00047	0.0621	<0.00010	<0.0010	0.061
W16	20/10/2014 11:30	P	2.5	316	8.01	8.22	291	483	1.5	12.31	88.1	209.8	205	217	142	6.7	0.42	111	0.07	0.0281	3.27	5.9	0.0544	<0.00050	0.00038	0.0646	<0.00010	<0.0010	0.062
W16	28/10/2014 11:00	P	2.4	272	8.09	8.08	259.2	485	0.1	13.10	89.9	156.7	203	201	140	7.1	0.44	87.3	0.073	0.0309	3.51	7.17	0.0087	<0.00050	0.00043	0.0651	<0.00010	<0.0010	0.059
W16	05/11/2014 15:15	P	24.9	272	7.89	8.17	231.1	438	-1.2	13.42	89.4	202.9	192	172	123	7.8	0.4	82.7	0.046	0.0319	3.52	6.46	0.282	<0.00050	0.00046	0.0698	<0.00010	<0.0010	0.078
W16	10/11/2014 10:15	P	5.9	266	7.88	8.09	248.7	442	-1.1	13.81	91.4	179.4	177	179	122	7.1	0.42	76.2	0.092	0.0365	3.79	7.88	0.0681	<0.00050	0.00037	0.0632	<0.00010	<0.0010	0.069
W16	18/12/2014 14:00	P	4.6	174	7.72	7.82	195.5	304	-0.9	11.01	73.4	149.1	110	108	71.1	6.5	0.27	54.2	0.21	0.0672	3.48	6.14	0.168	<0.00050	0.00029	0.0373	<0.00010	<0.0010	0.083
W16	22/12/2014 13:45	P	2.1	174	7.74	7.82	232.1	305	-0.1	8.34	57.1	129.3	106	112	71.3	5.7	0.26	52.4	0.16	0.0857	3.87	3.01	0.0344	<0.00050	0.00027	0.036	<0.00010	<0.0010	0.093
W16	02/01/2015 11:45	P	2.7	96	7.91	7.69	158.7	188	-1.1	12.20	83	124.8	38.4	40.2	44.9	4.3	0.13	25.1	0.17	0.295	2.6	1.9	0.0405	<0.00050	0.00016	0.0136	<0.00010	<0.0010	0.089
W16	06/01/2015 10:15	P		184	7.89	7.8	189.5	331	0.2	10.77	74.9	115.2	103	99.5	76.2	6.6	0.27	53.5	0.21	0.254	3.99	3.74	0.0519	<0.00050	0.00025	0.0366	<0.00010	<0.0010	0.097
W16	13/01/2015 10:30	P	3.6	228	7.76	8.03	217	381	-1.3	9.26	61.3	231.9	145	138	94.8	6.9	0.33	65	0.16	0.133	3.55	3.98	0.0553	0.00051	0.00034	0.0499	<0.00010	<0.0010	0.08
W16	21/01/2015 14:35	P	1.1	236	8.08	8.06	232.7	406	-0.7	10.13	68.1	138.6	164	149	108	7.1	0.34	72.8	0.14	0.12	3.92	4.42	0.0205	<0.00050	0.00029	0.0572	<0.00010	<0.0010	0.073
W16	29/01/2015 13:15	P	5.6	170	8.71	8.05	184.7	310	-0.8	10.7	71.8	119.2	87	81.4	85.1	7.1	0.19	42.3	0.15	0.0683	2.79	1.57	0.0836	<0.00050	0.00021	0.0304	<0.00010	<0.0010	0.095
W16	04/02/2015 10:30	P	1.4	192	7.5	7.91	231.3	365	3	9.73	74	232.3	79.4	83	112	7.6	0.22	48.4	0.17	0.059	2.54	4.23	0.0333	0.00081	0.00019	0.0285	<0.00010	<0.0010	0.086
W16	09/02/2015 13:35	P	2.8	202	8.05	8.08	169.6	341	1.8	16.04	117.6	195.4	97.8	93.9	93.3	8.1	0.22	52.5	0.16	0.0629	2.63	2.89	0.0506	<0.00050	0.00027	0.0338	<0.00010	<0.0010	0.093
W16	18/02/2015 14:55	P	3.7	188	7.77	7.89	213.6	336	1.4	10.07	72.1	130.4	74.5	74.9	93.9	9.6	0.2	45	0.25	0.0734	2.29	2.31	0.0403	0.00071	0.00022	0.0266	<0.00010	<0.0010	0.103
W16	26/02/2015 9:40	P	3.2	136	8.08	7.96	115.4	281	0.1	17.58	120.9	139.9	53.6	51.8	77	9.1	0.13	38	0.28	0.0846	1.71	2.21	0.0865	<0.00050	0.0002	0.018	<0.00010	<0.0010	0.103
W16	03/03/2015 8:30	P	12	156	8.39	7.89	149.2	283	0.3	11.51	79.5	121.1	57.4	53.5	75.7	10	0.15	43.5	0.29	0.123	1.67	1.95	0.195	<0.00050	0.00023	0.0235	<0.00010	<0.0010	0.135
W16	09/03/2015 10:50	P	4.2	170	8.09	7.92	163.4	315	0.5	11.39	79.2	185.9	69.9	65	88.9	8.9	0.16	40.5	0.24	0.122	1.82	1.47	0.1	<0.00050	0.00022	0.0255	<0.00010	<0.0010	0.113
W16	17/03/2015 16:00	P	2.5	210	7.63	7.93	183.2	355	0.2	13.08	90.2	205.5	96.3	90.2	96.6	8.9	0.22	50.7	0.22	0.11	2.41	1.68	0.0385	<0.00050	0.00014	0.0395	<0.00010	<0.0010	0.105
W16	25/03/2015 16:00	P	8.7	194	7.55	8.01	190.1	363	0.3	10.34	70.6	165.3	102	99	97.9	9.4	0.23	50.5	0.24	0.118	2.61	3.25	0.134	<0.00050	0.00027	0.0351	<0.00010	<0.0010	0.114
W16	30/03/2015 11:20	P	15	168	7.73	8.04	147	284	0	10.86	73.5	180	66.2	67.1	73.4	8.6	0.18	38.1	0.22	0.123	2.22	2.22	0.268	<0.00050	0.00032	0.0378	<0.00010	<0.0010	0.118
W16	31/03/2015 8:20	P			7.8		163.1		0	11.56	77.9	184.8																	
W16	01/04/2015 8:50	P			7.75		171.5		0	11.28	76.9	216.9																	
W16	02/04/2015 8:20	P			7.68		209.4		0.7	8.28	61.7	199.2																	
W16	03/04/2015 7:40	P			7.87		159.5		0	13.22	90.5	155.4																	
W16	06/04/2015 9:00	P	13.9	202	7.63	7.98	210	379	0.1	9.3	63.8	149	123	128	110	7.7	0.27	58.6	0.14	0.0576	2.44	4.42	0.267	<0.00050	0.00029	0.0522	<0.00010	<0.0010	0.074
W16	07/04/2015 7:30	P			7.6		227.1		0.8	8.43	59.4	175.7																	
W16	21/04/2015 15:10	P	2.6	130	7.41	7.78	128.3	234	1.2	9.5	67.5	135.8	77.8	80	67.6	5.8	0.16	29.3	0.084	0.0758	2.1	4.01	0.12	<0.00050	0.00027	0.0331	<0.00010	<0.0010	<0.05
W16	29/04/2015 15:15	P	4	110	7.48	7.67	125.9	176	3	7.7	57.3	135.2	97.5	64.1	56.3	3.8	0.15	18	0.065	0.0191	1.22	6.18	0.153	<0.00050	0.00034	0.0481	<0.00010	<0.0010	<0.05
W16	06/05/2015 15:30	P	4.5	198	7.22	7.9	191.4	303	5.7	8.76	70.5	153	118	127	94.2	5.7	0.23	39	0.054	0.036	1.66	10.8	0.144	<0.00050	0.00042	0.0491	<0.00010	<0.0010	<0.05
W16	12/05/2015 14:55	P	6.1	196	7.87	7.99	210.7	296	10.8	12.29	112.2	143.3	132	121	97.6	5.7	0.2	31.4	0.044	0.0514	1.63	11.9	0.216	<0.00050	0.00046	0.0578	<0.00010	<0.0010	0.052
W16	18/05/2015 10:30	P	17.9	198	8.12	8.1	233.4	298	15.4	8.69	97.1	114.9	116	119	99.3	5.9	0.22	32.4	0.034	0.0509	1.52	11	0.338	<0.00050	0.00056	0.0542	<0.00010	<0.0010	<0.05
W16	28/05/2015 17:15	P	9.6	168	8.91	8.15	238.8	268	19.3	8.06	87.5	114.5	114	92.4	94.5	5	0.17	24.6	0.035	0.0565	1.34	6.7	0.213	<0.00050	0.00061	0.0539	<0.00010	<0.0010	0.062
W16	04/06/2015 9:35	P	5	114	8.72	8.1	198.1	250	14.4	8.57	83.7	92.6	99.6	96.1	90.3	4.6	0.16	21.5	0.041	0.0342	1.22	4.93	0.156	<0.00050	0.00056	0.0468	<0.00010	<0.0010	0.057
W16	09/06/2015 16:05	P	<1.0	158	8.64	7.81	211.6	255	15.2	9.27	87.2	115.8	81.8	99.6	89.7	4.7	0.16	22.6	0.034	0.0384	1.24	6.79	0.157	<0.00050	0.00038	0.0348	<0.00010	<0.0010	<0.05
W16	15/06/2015 14:35	P	5.5	172	8.78	8.19	236.8	276	17.9	9.14	96.5	100.1	127	107	102	4.9	0.17	25.9	0.04	0.0317	1.18	5.42	0.279	<0.00050	0.00061	0.057	<0.00010	<0.0010	0.065
W16	22/06/2015 16:20	P	5.6	176	8.44	8.25	250.2	283	20.2	8.1	89.5	120	111	114	108	5.5	0.2	26.5	0.061	0.0288	1.03	7.83	0.259	<0.00050	0.00056	0.0538	<0.00010	<0.0010	0.068
W16	29/06/2015 16:40	P	25.1	172	8.14	8.18	258.1	282	19.2	8.19	88.6	139.7	111	123	108	5.4	0.18	26.1	0.077	0.0493	0.946	8.47	0.286	<0.00050	0.00055	0.0517	<0.00010	<0.0010	0.063
W16	06/07/2015 10:20	P	8.8	165		8.1		275					106	105	97.7	5	0.17	25.2	0.09	0.0683	1.2	5.87	0.162	<0.00050	0.00053	0.0443	<0.00010	<0.0010	0.073
W16	06/07/2015 10:20	M			8.07		230.1		17.5	8.27	87.1	121.6																	
W16	13/07/2015 13:35	P	7.9	158	8.9	8.17	243	272	19.8	9.57	109.6	152.9	112	104	99.7	5.3	0.18	26.5	0.037	0.0508	1.08	3.38	0.0537	<0.00050	0.00043	0.0447	<0.00010	<0.0010	0.071
W16	20/07/2015 9:15	P	6.1	164	8.84	8.37	243.4	287	17.5	7.94	82.9	139.1	120	119	107	4.8	0.19	25.9	0.03	0.0371	1.03	4.95	0.0395	<0.00050	0.00044	0.0432	<0.00010	<0.0010	0.084
W16	29/07/2015 14:10	P	10	178	9.08	8.54	252.6	290	17.8	10.07	105.7	107.8	106	113	108	5.5	0.21	27	0.063	0.0299	0.807	9.2	0.0967	<0.00050	0.00047	0.0402	<0.00010	<0.0010	0.068
W16	05/08/2015 11:10	P			9		252.9		16.7	10.77	110.5	91.6																	
W16	14/08/2015 10:45	P	8	170	8.99	8.56	251.8	318	15.1	8.66	86	97.2	131	128	125	6.4	0.21	29.6	0.055	0.0255	0.345	7.7	0.0774	<0.00050	0.00059	0.0488	<0.00010	<0.0010	0.074
W16	20/08/2015 9:00	P			8.89		248.4		13.7	9.28	89.4	146.4																	
W16	24/08/2015 11:05	P			8.86		249.1		13.3	9.2	87.7	133.6																	
W16	01/09/2015 13:47	P			8.21		239.7		9.1	8.14	70.6	155.8																	
W16	08/09/2015 10:25	P			8.37		240		8.9	9.92	78.4	99.4																	
W16	11/09/2015 15:50	P	5.3	198	8.28	8.3	250.5	347	10.1	8.63	76.7	137.9	160	146	132	7	0.23	32.4	0.061	0.014	0.958	8.3	0.0835	<0.00050	0.00054	0.0551	<0.00010	<0.0010	0.051
W16	15/09/2015 14:00	F			8.37		251.5		9.7	9.99	87.9	172.8																	
W16	25/09/2015 15:40	P			8.25		244.9		7.2	9.89	82	155.7																	
W16	28/09/2015 11:00	M	5.7	228	7.95	8.15	244.7	369	6.1	11.07	92.5	139.4	177	166	142	7.2	0.24	35.3	0.024	0.0138	0.962	12	0.112	<0.00050	0.0005	0.064	<0.00010	<0.0010	0.058
W16	28/09/2015 11:30	P			7.88		244.7		6.1	10.9	88.8	158.3																	
W16	08/10/2015 15:50	P	10.8	218	8.26	8.15	222.6	384	3.5	10.63	80.2	193.7	173	159	144	7.9	0.23	35.7	0.062	0.0135	0.896	10.1	0.0301	<0.00050	0.00057	0.0756	<0.00010	<0.0010	<0.05
W16	16/10/2015 15:00	F			8.23		215.8		1.3	12.11	87	157.1																	
W16	23/10/2015 15:40	F			8.44		222.9		5.9	10.69	85.3	49.6																	
W16	29/10/2015 15:35	F			8.25		272.2		4	12.68	97.1	41.6																	
W16	02/11/2015 11:30	F			8.13		225.2		2.7	10.69	78.2	75.0																	
W16	10/11/2015 14:45	P	10.9	220	8.39	8.17	228.7	394	2.3	11.19	81.6	40.0	157	172	150	7.8	0.26	36.5	0.053	0.011	0.955	8.93	0.19	<0.00050	0.00044	0.0582	<0.00010	<0.0010	<0.05

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W16	12/09/2014 10:15	<0.000010	58	<0.0010	<0.00050	0.0145	0.113	<0.00020	<0.0050	17.8	0.046	<0.000010	0.0093	<0.0010	0.02	6.88	0.00116	1.83	<0.000020	18.8	1.57	34.4	<0.000050	<0.0050	<0.0050	0.00168
W16	15/09/2014 10:40	0.000012	59.1	<0.0010	<0.00050	0.0159	0.147	<0.00020	<0.0050	19.2	0.0372	<0.000010	0.0091	<0.0010	0.043	7.41	0.00112	1.8	<0.000020	19.9	1.59	31.3	<0.000050	<0.0050	<0.0050	0.00158
W16	25/09/2014 8:50	<0.000010	59.6	<0.0010	<0.00050	0.0127	0.067	<0.00020	<0.0050	18.4	0.0928	<0.000010	0.0094	0.0011	0.038	6.78	0.0012	1.47	<0.000020	20.1	1.49	32.5	<0.000050	<0.0050	<0.0050	0.00164
W16	01/10/2014 13:45	0.000011	54.5	<0.0010	<0.00050	0.0221	0.191	<0.00020	<0.0050	18.4	0.249	<0.000010	0.0095	<0.0010	0.044	6.67	0.0011	1.61	<0.000020	18.5	1.53	33.4	<0.000050	<0.0050	<0.0050	0.00164
W16	08/10/2014 15:10	0.000018	54.8	<0.0010	<0.00050	0.0747	1.09	0.00024	<0.0050	17.7	0.185	<0.000010	0.0091	<0.0010	0.107	6.23	0.00089	2.42	<0.000020	16.9	1.48	29.8	<0.000050	<0.0050	0.0286	0.00158
W16	13/10/2014 14:10	<0.000010	56.3	<0.0010	<0.00050	0.0115	0.051	<0.00020	<0.0050	16.4	0.109	<0.000010	0.0089	0.001	0.042	7.06	0.00115	1.61	<0.000020	17.9	1.43	34	<0.000050	<0.0050	<0.0050	0.00144
W16	20/10/2014 11:30	0.000026	53.6	<0.0010	<0.00050	0.0135	0.102	<0.00020	<0.0050	17.2	0.0644	<0.000010	0.0092	<0.0010	0.041	7.07	0.00095	1.3	<0.000020	19.6	1.46	28.8	<0.000050	<0.0050	<0.0050	0.00149
W16	28/10/2014 11:00	<0.000010	52.9	<0.0010	<0.00050	0.0101	0.021	<0.00020	<0.0050	17.2	0.0395	<0.000010	0.0095	<0.0010	0.043	7.22	0.00111	0.942	<0.000020	20.1	1.52	28.4	<0.000050	<0.0050	<0.0050	0.00141
W16	05/11/2014 15:15	<0.000010	50.2	<0.0010	<0.00050	0.018	0.485	<0.00020	<0.0050	16.1	0.0498	<0.000010	0.0091	0.0013	0.073	8.06	0.00144	1.6	<0.000020	19.2	1.36	26.1	<0.000050	<0.0050	0.0083	0.00131
W16	10/11/2014 10:15	<0.000010	45.7	<0.0010	<0.00050	0.0136	0.141	<0.00020	<0.0050	15.2	0.0185	<0.000010	0.0104	0.001	0.069	7.62	0.00106	1.33	<0.000020	19.1	1.42	22.2	<0.000050	<0.0050	<0.0050	0.00127
W16	18/12/2014 14:00	0.000011	28.9	<0.0010	<0.00050	0.0288	0.27	<0.00020	<0.0050	9.15	0.0215	<0.000010	0.0083	<0.0010	0.093	6.49	0.00078	1.24	<0.000020	16.5	1.04	16.6	<0.000050	<0.0050	0.0068	0.00063
W16	22/12/2014 13:45	<0.000010	27	<0.0010	<0.00050	0.00607	0.045	<0.00020	<0.0050	9.35	0.0163	<0.000010	0.0097	<0.0010	0.054	7.13	0.00134	0.972	<0.000020	15.6	1.07	25.2	<0.000050	<0.0050	<0.0050	0.00074
W16	02/01/2015 11:45	<0.000010	9.64	<0.0010	<0.00050	0.0101	0.063	<0.00020	<0.0050	3.47	0.0212	<0.000010	0.0055	0.0011	0.048	4.46	0.00141	0.516	<0.000020	19.5	0.527	7.4	<0.000050	<0.0050	<0.0050	0.00019
W16	06/01/2015 10:15	0.000012	26.7	<0.0010	<0.00050	0.00783	0.095	<0.00020	<0.0050	8.9	0.0268	<0.000010	0.0096	<0.0010	0.053	7.11	0.00108	0.988	0.000036	20.6	1.11	17.2	<0.000050	<0.0050	<0.0050	0.0006
W16	13/01/2015 10:30	0.000017	37.9	<0.0010	<0.00050	0.0126	0.116	<0.00020	<0.0050	12.2	0.0288	<0.000010	0.0093	<0.0010	0.054	7.03	0.00097	1.56	<0.000020	19.8	1.15	20.8	<0.000050	<0.0050	<0.0050	0.00095
W16	21/01/2015 14:35	<0.000010	43.1	<0.0010	<0.00050	0.0114	0.073	<0.00020	<0.0050	13.7	0.0449	<0.000010	0.0098	<0.0010	0.046	7.23	0.00107	1.99	<0.000020	20.2	1.27	26.1	<0.000050	<0.0050	<0.0050	0.00105
W16	29/01/2015 13:15	0.000017	22.2	<0.0010	<0.00050	0.0277	0.2	<0.00020	<0.0050	7.64	0.0577	<0.000010	0.0076	<0.0010	0.05	6.02	0.0009	1.13	<0.000020	31.9	0.788	22.9	<0.000050	<0.0050	<0.0050	0.00051
W16	04/02/2015 10:30	0.00004	21.1	<0.0010	<0.00050	0.0135	0.088	<0.00020	<0.0050	6.51	0.0394	<0.000010	0.0061	0.0049	0.042	5.85	0.00083	0.959	<0.000020	39.9	0.77	12	<0.000050	<0.0050	<0.0050	0.00049
W16	09/02/2015 13:35	0.000014	24.9	<0.0010	<0.00050	0.0197	0.112	<0.00020	<0.0050	8.66	0.0414	<0.000010	0.0088	0.001	0.042	6.39	0.00101	1.17	<0.000020	31.9	0.882	17.5	<0.000050	<0.0050	<0.0050	0.00061
W16	18/02/2015 14:55	0.000012	18.8	<0.0010	<0.00050	0.0165	0.079	<0.00020	<0.0050	6.68	0.0501	<0.000010	0.0087	<0.0010	0.05	6.34	0.00122	0.998	<0.000020	35.6	0.803	14.5	<0.000050	<0.0050	<0.0050	0.00045
W16	26/02/2015 9:40	<0.000010	13.4	<0.0010	<0.00050	0.0324	0.196	<0.00020	<0.0050	4.9	0.0592	<0.000010	0.0083	<0.0010	0.056	6.18	0.00113	0.764	<0.000020	31.4	0.679	12.4	<0.000050	<0.0050	0.0053	0.00022
W16	03/03/2015 8:30	0.000017	14.4	<0.0010	<0.00050	0.106	0.394	<0.00020	<0.0050	5.2	0.0792	<0.000010	0.0082	0.0014	0.07	6.49	0.00164	1.03	<0.000020	33.9	0.724	15.8	<0.000050	<0.0050	0.0117	0.00029
W16	09/03/2015 10:50	0.00002	17.5	<0.0010	<0.00050	0.0361	0.242	0.00025	<0.0050	6.35	0.0616	<0.000010	0.009	<0.0010	0.05	5.95	0.00099	1.03	0.00002	35.4	0.711	11.4	<0.000050	<0.0050	0.0063	0.00039
W16	17/03/2015 16:00	<0.000010	25.1	<0.0010	<0.00050	0.0191	0.082	<0.00020	<0.0050	8.16	0.0579	<0.000010	0.0094	<0.0010	0.034	6.56	0.00151	1.31	<0.000020	32.1	0.872	20.7	<0.000050	<0.0050	<0.0050	0.00066
W16	25/03/2015 16:00	0.00001	26.8	<0.0010	<0.00050	0.0477	0.34	<0.00020	<0.0050	8.59	0.0666	<0.000010	0.009	<0.0010	0.058	6.7	0.00101	1.52	0.000028	34.3	0.862	17.4	<0.000050	<0.0050	0.0105	0.00061
W16	30/03/2015 11:20	0.000021	17.2	<0.0010	<0.00050	0.0551	0.488	<0.00020	<0.0050	5.66	0.0677	<0.000010	0.0091	<0.0010	0.068	5.8	0.0011	1.68	0.000036	27.9	0.604	15	<0.000050	<0.0050	0.0136	0.00031
W16	31/03/2015 8:20																									
W16	01/04/2015 8:50																									
W16	02/04/2015 8:20																									
W16	03/04/2015 7:40																									
W16	06/04/2015 9:00	0.000017	31.8	<0.0010	<0.00050	0.103	0.601	<0.00020	<0.0050	10.6	0.0607	<0.000010	0.0073	<0.0010	0.052	5.41	0.00119	2.13	<0.000020	24.4	0.817	14.5	<0.000050	<0.0050	0.0163	0.00088
W16	07/04/2015 7:30																									
W16	21/04/2015 15:10	0.000018	21	<0.0010	<0.00050	0.0227	0.238	<0.00020	<0.0050	6.17	0.06	<0.000010	0.0036	<0.0010	0.018	3.1	0.00055	1.66	0.000034	12.7	0.473	7	<0.000050	<0.0050	<0.0050	0.00044
W16	29/04/2015 15:15	0.000019	25.4	<0.0010	<0.00050	0.0379	0.314	<0.00020	<0.0050	8.27	0.119	<0.000010	0.0028	<0.0010	0.039	2.92	0.00046	2.85	<0.000020	8.96	0.421	7.8	<0.000050	<0.0050	0.0096	0.00052
W16	06/05/2015 15:30	0.00002	31.1	<0.0010	<0.00050	0.0274	0.392	<0.00020	<0.0050	9.85	0.12	<0.000010	0.0035	<0.0010	0.066	3.27	0.00049	2.71	<0.000020	11.7	0.566	15.1	<0.000050	<0.0050	0.008	0.00069
W16	12/05/2015 14:55	0.000024	34.7	<0.0010	<0.00050	0.035	0.473	0.00023	<0.0050	10.9	0.177	<0.000010	0.0039	<0.0010	0.036	3.82	0.00081	3.15	<0.000020	14.3	0.601	13.2	<0.000050	<0.0050	0.0135	0.00073
W16	18/05/2015 10:30	0.00002	31	<0.0010	<0.00050	0.0531	0.807	0.0004	<0.0050	9.37	0.208	<0.000010	0.0034	0.0011	0.049	3.05	0.00059	2.09	0.000051	12.6	0.484	12	<0.000050	<0.0050	0.0232	0.0006
W16	28/05/2015 17:15	0.000013	30.3	<0.0010	<0.00050	0.0301	0.628	0.00026	<0.0050	9.42	0.235	<0.000010	0.0032	<0.0010	0.033	3.06	0.00063	0.433	<0.000020	14.6	0.425	8.5	<0.000050	<0.0050	0.0077	0.00064
W16	04/06/2015 9:35	0.000014	27.4	<0.0010	<0.00050	0.0315	0.46	0.00022	<0.0050	7.59	0.179	<0.000010	0.0035	<0.0010	0.024	2.79	0.00068	0.49	<0.000020	14.1	0.403	9.3	<0.000050	<0.0050	<0.0050	0.00056
W16	09/06/2015 16:05	<0.000010	21.3	<0.0010	<0.00050	0.0178	0.373	<0.00020	<0.0050	6.96	0.136	<0.000010	0.0026	<0.0010	0.022	2.33	0.00036	0.419	<0.000020	11.5	0.304	7.1	<0.000050	<0.0050	0.0093	0.00045
W16	15/06/2015 14:35	0.000017	33.1	<0.0010	<0.00050	0.0282	0.609	<0.00020	<0.0050	10.8	0.213	<0.000010	0.004	<0.0010	0.044	3.34	0.00048	0.876	<0.000020	16.8	0.471	9.6	<0.000050	<0.0050	0.0191	0.00076
W16	22/06/2015 16:20	<0.000010	30.1	<0.0010	<0.00050	0.0257	0.653	0.00035	<0.0050	8.76	0.184	<0.000010	0.0038	<0.0010	0.041	2.92	0.00047	0.97	<0.000020	13.5	0.424	10.3	<0.000050	<0.0050	0.0124	0.00061
W16	29/06/2015 16:40	0.000013	28.7	<0.0010	<0.00050	0.0294	0.781	<0.00020	<0.0050	9.61	0.23	<0.000010	0.0035	<0.0010	0.03	2.93	0.00044	1.3	<0.000020	15.7	0.406	10.7	<0.000050	<0.0050	0.0143	0.00068
W16	06/07/2015 10:20	0.000012	28.1	<0.0010	<0.00050	0.0169	0.539	<0.00020	<0.0050	8.72	0.274	<0.000010	0.0039	<0.0010	0.019	2.76	0.00047	1.19	<0.000020	14.7	0.392	12.1	<0.000050	<0.0050	0.0081	0.00058
W16	06/07/2015 10:20																									
W16	13/07/2015 13:35	0.000015	29.4	<0.0010	<0.00050	0.0159	0.313	<0.00020	<0.0050	9.27	0.251	<0.000010	0.004	<0.0010	0.026	2.95	0.00042	0.959	<0.000020	15.1	0.408	10.2	<0.000050	<0.0050	<0.0050	0.00066
W16	20/07/2015 9:15	<0.000010	29.8	<0.0010	<0.00050	0.0149	0.176	<0.00020	<0.0050	11.1	0.0772	<0.000010	0.0043	<0.0010	0.034	3.57	0.00051	1.3	<0.000020	15.3	0.414	8.3	<0.000050	<0.0050	<0.0050	0.00071
W16	29/07/2015 14:10	0.000011	28.1	<0.0010	<0.00050	0.0158	0.281	<0.00020	<0.0050	8.65	0.0771	<0.000010	0.0043	<0.0010	0.035	2.62	0.00045	1.29	<0.000020	14.5	0.374	8.7	<0.000050	<0.0050	<0.0050	0.00061
W16	05/08/2015 11:10																									
W16	14/08/2015 10:45	<0.000010	34.1	<0.0010	<0.00050	0.0191	0.238	<0.00020	<0.0050	11.1	0.315	<0.000010	0.005	<0.0010	0.051	3.04	0.00054	0.556	<0.000020	14.9	0.458	10.4	<0.000050	<0.0050	<0.0050	0.00081
W16	20/08/2015 9:00																									
W16	24/08/2015 11:05																									
W16	01/09/2015 13:47																									
W16	08/09/2015 10:25																									
W16	11/09/2015 15:50	<0.000010	41.3	<0.0010	<0.00050	0.0202	0.273	<0.00020	<0.0050	13.7	0.206	<0.000010	0.0045	<0.0010	0.04	2.94	0.00068	0.819	<0.000020	15.4	0.499	8.1	<0.000050	<0.0050	<0.0050	0.00089
W16	15/09/2015 14:00																									
W16	25/09/2015 15:40																									
W16	28/09/2015 11:00	<0.000010	44.9	<0.0010	<0.00050	0.0217	0.294	0.00029	<0.0050	15.8	0.292	<0.000010	0.0042	<0.0010	0.052	3.22	0.00054	0.744	<0.000020	16.5	0.505	12.5	<0.000050	<0.0050	<0.0050	0.00086
W16	28/09/2015 11:30																									
W16	08/10/2015 15:50	0.000011	45.9	<0.0010	<0.00050	0.0174	0.202	<0.00020	<0.0050	14.2	0.795	<0.000010	0.0042	<0.0010	0.033	2.87	0.00058	0.459	<0.000020	15.2	0.538	12.7	<0.000050	<0.0050	<0.0050	0.00094
W16	16/10/2015 15:00																									
W16	23/10/2015 15:40																									
W16	29/10/2015 15:35																									
W16	02/11/2015 11:30																									
W16	10/11/2015 14:45	<0.000010	40.2	<0.0010	<0.00050	0.0231	0.44	<0.00020	<0.0050	13.6	0.23	<0.000010	0.0036	<0.0010	0.049	2.74	0.00042	1.2	<0.000020	13.7	0.438	10.9	<0.000050	<0.0050	0.0123	0.00084

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W16	12/09/2014 10:15	<0.0050	<0.0050	<0.00050	0.0036	<0.00050	0.00049	0.0676	<0.00010	<0.0010	0.052	<0.000010	58.4	<0.0010	<0.00050	0.0127	0.0187	<0.00020	<0.0050	17.1	0.0143	<0.000010	0.0094	0.001	0.015	6.94
W16	15/09/2014 10:40	<0.0050	<0.0050	<0.00050	0.0061	<0.00050	0.00044	0.0657	<0.00010	<0.0010	0.059	<0.000010	53.2	<0.0010	<0.00050	0.0113	0.0116	<0.00020	<0.0050	18.2	0.0088	<0.000010	0.0102	<0.0010	0.023	7.11
W16	25/09/2014 8:50	<0.0050	<0.0050	<0.00050	0.0031	<0.00050	0.00044	0.0662	<0.00010	<0.0010	0.059	<0.000010	55.2	<0.0010	<0.00050	0.0106	0.011	<0.00020	<0.0050	16.6	0.0422	<0.000010	0.0092	<0.0010	0.02	6.9
W16	01/10/2014 13:45	<0.0050	<0.0050	<0.00050	0.0086	<0.00050	0.00041	0.0685	<0.00010	<0.0010	0.054	<0.000010	52.4	<0.0010	<0.00050	0.0113	0.0442	<0.00020	<0.0050	16.9	0.167	<0.000010	0.0092	0.0011	0.029	6.72
W16	08/10/2014 15:10	<0.0050	0.0066	<0.00050	0.0031	<0.00050	0.0004	0.065	<0.00010	<0.0010	0.051	<0.000010	52.5	<0.0010	<0.00050	0.0121	0.0123	<0.00020	<0.0050	16	0.0747	<0.000010	0.009	<0.0010	0.018	6.15
W16	13/10/2014 14:10	<0.0050	<0.0050	<0.00050	0.005	<0.00050	0.00038	0.0627	<0.00010	<0.0010	0.054	<0.000010	54.1	<0.0010	<0.00050	0.00978	0.0107	<0.00020	<0.0050	15.9	0.0301	<0.000010	0.0088	<0.0010	0.021	7.02
W16	20/10/2014 11:30	<0.0050	<0.0050	<0.00050	0.0044	<0.00050	0.00044	0.064	<0.00010	<0.0010	0.054	<0.000010	58.6	<0.0010	<0.00050	0.00878	0.0105	<0.00020	<0.0050	17.2	0.0037	<0.000010	0.0094	<0.0010	0.027	7.52
W16	28/10/2014 11:00	<0.0050	<0.0050	<0.00050	0.0035	<0.00050	0.0004	0.0641	<0.00010	<0.0010	0.059	<0.000010	53.2	<0.0010	<0.00050	0.0112	0.0066	<0.00020	<0.0050	16.6	0.002	<0.000010	0.0097	<0.0010	0.026	6.81
W16	05/11/2014 15:15	<0.0050	<0.0050	<0.00050	0.0056	<0.00050	0.00032	0.0588	<0.00010	<0.0010	0.063	<0.000010	44.7	<0.0010	<0.00050	0.00704	0.0072	<0.00020	<0.0050	14.7	0.0048	<0.000010	0.0093	<0.0010	0.035	7.2
W16	10/11/2014 10:15	<0.0050	<0.0050	<0.00050	0.0068	<0.00050	0.00032	0.0597	<0.00010	<0.0010	0.065	<0.000010	48.7	<0.0010	<0.00050	0.00762	0.0085	<0.00020	<0.0050	13.9	0.006	<0.000010	0.0099	<0.0010	0.058	7.44
W16	18/12/2014 14:00	<0.0050	0.0111	<0.00050	0.0052	<0.00050	0.00023	0.0369	<0.00010	<0.0010	0.083	<0.000010	27	<0.0010	<0.00050	0.00587	0.011	<0.00020	<0.0050	9.79	0.0144	<0.000010	0.0091	<0.0010	0.077	6.89
W16	22/12/2014 13:45	<0.0050	0.01	<0.00050	0.0055	<0.00050	0.00025	0.0401	<0.00010	<0.0010	0.091	<0.000010	29.5	<0.0010	<0.00050	0.00507	0.0078	<0.00020	<0.0050	9.42	0.0138	<0.000010	0.0097	<0.0010	0.044	7.55
W16	02/01/2015 11:45	<0.0050	0.0053	<0.00050	0.0066	<0.00050	0.00011	0.0129	<0.00010	<0.0010	0.082	<0.000010	10.3	<0.0010	<0.00050	0.00158	0.0091	<0.00020	<0.0050	3.52	0.0185	<0.000010	0.0058	<0.0010	0.048	4.53
W16	06/01/2015 10:15	<0.0050	0.0145	<0.00050	0.0059	<0.00050	0.00024	0.0337	<0.00010	<0.0010	0.095	<0.000010	26.3	<0.0010	<0.00050	0.00369	0.0438	<0.00020	<0.0050	8.22	0.0239	<0.000010	0.0099	<0.0010	0.05	6.81
W16	13/01/2015 10:30	<0.0050	<0.0050	<0.00050	0.0056	<0.00050	0.00027	0.0511	<0.00010	<0.0010	0.085	<0.000010	35.8	<0.0010	<0.00050	0.00532	0.0214	<0.00020	<0.0050	11.7	0.0226	<0.000010	0.0107	<0.0010	0.048	6.75
W16	21/01/2015 14:35	<0.0050	0.017	<0.00050	0.0043	<0.00050	0.00031	0.0526	<0.00010	<0.0010	0.08	0.00001	39.5	<0.0010	<0.00050	0.00513	0.0158	<0.00020	<0.0050	12.2	0.0201	<0.000010	0.0094	<0.0010	0.038	7.25
W16	29/01/2015 13:15	<0.0050	0.0118	<0.00050	0.0048	<0.00050	0.00018	0.0273	<0.00010	<0.0010	0.094	<0.000010	20.6	<0.0010	<0.00050	0.00355	0.0155	<0.00020	<0.0050	7.28	0.0294	<0.000010	0.0076	<0.0010	0.034	5.63
W16	04/02/2015 10:30	<0.0050	0.0167	<0.00050	0.0199	<0.00050	0.00016	0.027	<0.00010	<0.0010	0.097	0.000034	21.5	<0.0010	<0.00050	0.0044	0.0182	<0.00020	<0.0050	7.11	0.0358	<0.000010	0.006	<0.0010	0.036	5.7
W16	09/02/2015 13:35	<0.0050	0.011	<0.00050	0.0051	<0.00050	0.00021	0.0315	<0.00010	<0.0010	0.095	0.00001	24.4	<0.0010	<0.00050	0.00431	0.0083	<0.00020	<0.0050	7.99	0.0352	<0.000010	0.0085	<0.0010	0.036	6.02
W16	18/02/2015 14:55	<0.0050	0.0174	<0.00050	0.0057	<0.00050	0.00016	0.0251	<0.00010	<0.0010	0.105	<0.000010	19.2	<0.0010	<0.00050	0.00357	0.0113	<0.00020	<0.0050	6.57	0.0479	<0.000010	0.0089	<0.0010	0.041	6.43
W16	26/02/2015 9:40	<0.0050	0.0076	<0.00050	0.0105	<0.00050	0.00013	0.0189	<0.00010	<0.0010	0.113	<0.000010	12.5	<0.0010	<0.00050	0.00382	0.0124	<0.00020	<0.0050	5.02	0.0539	<0.000010	0.0099	0.0012	0.058	6.34
W16	03/03/2015 8:30	<0.0050	0.0057	<0.00050	0.0246	<0.00050	0.00014	0.0174	<0.00010	<0.0010	0.117	0.000013	13.1	<0.0010	<0.00050	0.00709	0.0476	<0.00020	<0.0050	5.04	0.0596	<0.000010	0.008	<0.0010	0.059	6.16
W16	09/03/2015 10:50	<0.0050	0.053	<0.00050	0.006	<0.00050	0.00019	0.0211	<0.00010	<0.0010	0.114	<0.000010	16.6	<0.0010	<0.00050	0.00254	0.0106	<0.00020	<0.0050	5.7	0.053	<0.000010	0.0086	<0.0010	0.039	5.82
W16	17/03/2015 16:00	<0.0050	0.008	<0.00050	0.0069	<0.00050	0.00018	0.0346	<0.00010	<0.0010	0.109	<0.000010	23.3	<0.0010	<0.00050	0.00326	0.011	<0.00020	<0.0050	7.8	0.0511	<0.000010	0.009	<0.0010	0.036	6.22
W16	25/03/2015 16:00	<0.0050	<0.0050	<0.00050	0.0072	<0.00050	0.00021	0.0337	<0.00010	<0.0010	0.112	<0.000010	25.9	<0.0010	<0.00050	0.00459	0.0113	<0.00020	<0.0050	8.33	0.0546	<0.000010	0.0095	<0.0010	0.046	6.56
W16	30/03/2015 11:20	<0.0050	0.034	<0.00050	0.008	<0.00050	0.00022	0.0277	<0.00010	<0.0010	0.12	0.00001	17.2	<0.0010	<0.00050	0.00824	0.0113	<0.00020	<0.0050	5.88	0.0513	<0.000010	0.0091	<0.0010	0.047	5.59
W16	31/03/2015 8:20																									
W16	01/04/2015 8:50																									
W16	02/04/2015 8:20																									
W16	03/04/2015 7:40																									
W16	06/04/2015 9:00	<0.0050	0.0052	<0.00050	0.0058	<0.00050	0.00025	0.0454	<0.00010	<0.0010	0.075	<0.000010	33.5	<0.0010	<0.00050	0.0102	0.0079	<0.00020	<0.0050	10.8	0.0404	<0.000010	0.0073	<0.0010	0.033	5.57
W16	07/04/2015 7:30																									
W16	21/04/2015 15:10	<0.0050	0.0112	<0.00050	0.0102	<0.00050	0.00019	0.0317	<0.00010	<0.0010	<0.05	<0.000010	21.7	<0.0010	<0.00050	0.016	0.048	<0.00020	<0.0050	6.26	0.0547	<0.000010	0.0037	<0.0010	0.014	3.2
W16	29/04/2015 15:15	<0.0050	<0.0050	<0.00050	0.0134	<0.00050	0.00017	0.0315	<0.00010	<0.0010	<0.05	0.000012	17.5	<0.0010	<0.00050	0.0174	0.0478	<0.00020	<0.0050	4.93	0.0577	<0.000010	0.0019	<0.0010	0.012	2.21
W16	06/05/2015 15:30	<0.0050	<0.0050	<0.00050	0.0142	<0.00050	0.0003	0.0497	<0.00010	<0.0010	<0.05	0.000012	34.3	<0.0010	<0.00050	0.0192	0.132	<0.00020	<0.0050	10.1	0.0923	<0.000010	0.0038	<0.0010	0.013	3.48
W16	12/05/2015 14:55	<0.0050	<0.0050	<0.00050	0.0339	<0.00050	0.00035	0.0483	<0.00010	<0.0010	<0.05	0.000014	31.8	<0.0010	<0.00050	0.0246	0.153	<0.00020	<0.0050	10.1	0.0906	<0.000010	0.0037	<0.0010	0.02	3.38
W16	18/05/2015 10:30	<0.0050	<0.0050	<0.00050	0.0103	<0.00050	0.00042	0.0462	<0.00010	<0.0010	<0.05	0.000012	32	<0.0010	<0.00050	0.0211	0.191	<0.00020	<0.0050	9.57	0.11	<0.000010	0.0034	<0.0010	0.015	2.93
W16	28/05/2015 17:15	<0.0050	<0.0050	<0.00050	0.0414	<0.00050	0.00047	0.0413	<0.00010	<0.0010	0.061	<0.000010	23.9	<0.0010	<0.00050	0.0166	0.17	<0.00020	<0.0050	7.93	0.131	<0.000010	0.0032	<0.0010	<0.01	2.6
W16	04/06/2015 9:35	<0.0050	<0.0050	<0.00050	0.0227	<0.00050	0.00043	0.0381	<0.00010	<0.0010	0.066	<0.000010	25.1	<0.0010	<0.00050	0.0136	0.131	<0.00020	<0.0050	8.1	0.0916	<0.000010	0.0034	<0.0010	<0.01	2.8
W16	09/06/2015 16:05	<0.0050	0.0638	<0.00050	0.0209	<0.00050	0.00043	0.0416	<0.00010	<0.0010	0.058	<0.000010	26.2	<0.0010	<0.00050	0.0138	0.123	<0.00020	<0.0050	8.32	0.123	<0.000010	0.0034	<0.0010	<0.01	2.65
W16	15/06/2015 14:35	<0.0050	<0.0050	<0.00050	0.0216	<0.00050	0.00048	0.0439	<0.00010	<0.0010	0.06	0.000012	28.3	<0.0010	<0.00050	0.0151	0.15	<0.00020	<0.0050	8.83	0.144	<0.000010	0.0035	<0.0010	0.013	2.83
W16	22/06/2015 16:20	<0.0050	<0.0050	<0.00050	0.0279	<0.00050	0.00054	0.0481	<0.00010	<0.0010	0.062	<0.000010	30.5	<0.0010	<0.00050	0.0141	0.214	<0.00020	<0.0050	9.21	0.149	<0.000010	0.004	<0.0010	<0.01	3.05
W16	29/06/2015 16:40	<0.0050	<0.0050	<0.00050	0.0335	<0.00050	0.00049	0.0492	<0.00010	<0.0010	0.07	<0.000010	32.8	<0.0010	<0.00050	0.0154	0.264	<0.00020	<0.0050	9.88	0.191	<0.000010	0.0038	<0.0010	0.018	3.21
W16	06/07/2015 10:20	<0.0050	<0.0050	<0.00050	0.0154	<0.00050	0.00044	0.0443	<0.00010	<0.0010	0.071	0.000012	27.2	<0.0010	<0.00050	0.0135	0.216	<0.00020	<0.0050	9.09	0.245	<0.000010	0.0039	<0.0010	0.012	2.98
W16	06/07/2015 10:20																									
W16	13/07/2015 13:35	<0.0050	<0.0050	<0.00050	0.0063	<0.00050	0.00039	0.0387	<0.00010	<0.0010	0.067	<0.000010	27.2	<0.0010	<0.00050	0.0132	0.119	<0.00020	<0.0050	8.8	0.14	<0.000010	0.0035	<0.0010	0.014	2.87
W16	20/07/2015 9:15	<0.0050	<0.0050	<0.00050	0.0102	<0.00050	0.00036	0.0429	<0.00010	<0.0010	0.082	<0.000010	31.1	<0.0010	<0.00050	0.0116	0.0786	<0.00020	<0.0050	10.1	0.0071	<0.000010	0.0043	<0.0010	<0.01	3.14
W16	29/07/2015 14:10	<0.0050	<0.0050	<0.00050	0.0153	<0.00050	0.00049	0.0364	<0.00010	<0.0010	0.074	0.000018	29.6	<0.0010	<0.00050	0.0127	0.0961	<0.00020	<0.0050	9.46	0.0201	<0.000010	0.0042	<0.0010	0.014	2.79
W16	05/08/2015 11:10																									
W16	14/08/2015 10:45	<0.0050	<0.0050	<0.00050	0.0127	<0.00050	0.00051	0.0409	<0.00010	<0.0010	0.072	<0.000010	33.8	<0.0010	<0.00050	0.0134	0.1	<0.00020	<0.0050	10.6	0.139	<0.000010	0.0045	<0.0010	0.017	2.91
W16	20/08/2015 9:00																									
W16	24/08/2015 11:05																									
W16	01/09/2015 13:47																									
W16	08/09/2015 10:25																									
W16	11/09/2015 15:50	<0.0050	<0.0050	<0.00050	0.0085	<0.00050	0.00054	0.0472	<0.00010	<0.0010	0.056	<0.000010	37.6	<0.0010	<0.00050	0.0144	0.0555	<0.00020	<0.0050	12.7	0.0049	<0.000010	0.0044	<0.0010	0.016	2.61
W16	15/09/2015 14:00																									
W16	25/09/2015 15:40																									
W16	28/09/2015 11:00	<0.0050	<0.0050	<0.00050	0.0089	<0.00050	0.00045	0.0535	<0.00010	<0.0010	<0.05	<0.000010	44.4	<0.0010	<0.00050	0.013	0.0617	<0.00020	<0.0050	13.5	0.0269	<0.000010	0.0039	<0.0010	0.022	2.9
W16	28/09/2015 11:30																									
W16	08/10/2015 15:50	<0.0050	<0.0050	<0.00050	0.0108	<0.00050	0.00039	0.0485	<0.00010	<0.0010	<0.05	<0.000010	41.6	<0.0010	<0.00050	0.0126	0.0553	<0.00020	<0.0050	13.5	0.0625	<0.000010	0.0038	<0.0010	0.02	2.61
W16	16/10/2015 15:00																									
W16	23/10/2015 15:40																									
W16	29/10/2015 15:35																									
W16	02/11/2015 11:30																									
W16	10/11/2015 14:45	<0.0050	0.0075	<0.00050	0.0082	<0.00050	0.00044	0.0572	<0.00010	<0.0010	<0.05	<0.000010	45.3	<0.0010	<0.00050	0.0128	0.0683	<0.00020	<0.0050	14.3	0.0303	<0.000010	0.0038	<0.0010	0.021	3.06

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	BOD5	Br	Cation	COD	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-T	N-TKN	P-PO4T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L
W16	12/09/2014 10:15	0.00109	1.54	<0.000020	17.9	1.52	35.5	<0.000050	<0.0050	<0.0050	0.0016	<0.0050	<0.0050	<0.00050	172	<0.50	<0.50	<0.50														
W16	15/09/2014 10:40	0.00091	1.52	<0.000020	20.1	1.59	27.6	<0.000050	<0.0050	<0.0050	0.00145	<0.0050	<0.0050	<0.00050	172	<0.50	<0.50	<0.50														
W16	25/09/2014 8:50	0.00092	1.49	<0.000020	17	1.55	30.5	<0.000050	<0.0050	<0.0050	0.00158	<0.0050	<0.0050	<0.00050	179	<0.50	<0.50	<0.50														
W16	01/10/2014 13:45	0.00092	1.42	<0.000020	17.7	1.51	28.7	<0.000050	<0.0050	<0.0050	0.00161	<0.0050	<0.0050	<0.00050	174	<0.50	<0.50	<0.50														
W16	08/10/2014 15:10	0.00088	1.38	<0.000020	16.6	1.45	29	<0.000050	<0.0050	<0.0050	0.00145	<0.0050	<0.0050	<0.00050	170	<0.50	<0.50	<0.50														
W16	13/10/2014 14:10	0.00103	1.49	<0.000020	17.5	1.45	30.8	<0.000050	<0.0050	<0.0050	0.00151	<0.0050	<0.0050	<0.00050	164	<0.50	<0.50	<0.50														
W16	20/10/2014 11:30	0.00113	1.2	<0.000020	18.9	1.5	30.4	<0.000050	<0.0050	<0.0050	0.00132	<0.0050	<0.0050	<0.00050	174	<0.50	<0.50	<0.50														
W16	28/10/2014 11:00	0.00097	0.947	<0.000020	18.5	1.51	28.9	<0.000050	<0.0050	<0.0050	0.00145	<0.0050	<0.0050	<0.00050	171	<0.50	<0.50	<0.50														
W16	05/11/2014 15:15	0.00097	0.88	<0.000020	18	1.38	26.2	<0.000050	<0.0050	<0.0050	0.00116	<0.0050	<0.0050	<0.00050	150	<0.50	<0.50	<0.50														
W16	10/11/2014 10:15	0.00102	1.3	<0.000020	18.2	1.37	23.7	<0.000050	<0.0050	<0.0050	0.00116	<0.0050	<0.0050	<0.00050	149	<0.50	<0.50	<0.50														
W16	18/12/2014 14:00	0.00101	0.896	<0.000020	16.4	1.03	20.2	<0.000050	<0.0050	<0.0050	0.00066	<0.0050	<0.0050	<0.00050	86.7	<0.50	<0.50	<0.50														
W16	22/12/2014 13:45	0.00138	1.09	<0.000020	16	1.11	19	<0.000050	<0.0050	<0.0050	0.00076	<0.0050	<0.0050	<0.00050	86.9	<0.50	<0.50	<0.50														
W16	02/01/2015 11:45	0.00065	0.478	<0.000020	20.7	0.531	9	<0.000050	<0.0050	<0.0050	0.00019	<0.0050	<0.0050	<0.00050	54.8	<0.50	<0.50	<0.50														
W16	06/01/2015 10:15	0.00107	1.1	<0.000020	19.8	1.08	18.9	<0.000050	<0.0050	<0.0050	0.00062	<0.0050	<0.0050	<0.00050	93	<0.50	<0.50	<0.50														
W16	13/01/2015 10:30	0.00109	1.45	<0.000020	19.2	1.3	23.6	<0.000050	<0.0050	<0.0050	0.00105	<0.0050	<0.0050	<0.00050	116	<0.50	<0.50	<0.50														
W16	21/01/2015 14:35	0.0011	1.92	<0.000020	18.7	1.17	25.3	<0.000050	<0.0050	<0.0050	0.00087	<0.0050	0.0057	<0.00050	132	<0.50	<0.50	<0.50														
W16	29/01/2015 13:15	0.00091	0.901	<0.000020	29.3	0.79	15.3	<0.000050	<0.0050	<0.0050	0.00048	<0.0050	<0.0050	<0.00050	104	<0.50	<0.50	<0.50														
W16	04/02/2015 10:30	0.00089	0.905	<0.000020	39	0.74	15.4	<0.000050	<0.0050	<0.0050	0.00049	<0.0050	<0.0050	<0.00050	137	<0.50	<0.50	<0.50														
W16	09/02/2015 13:35	0.00101	1.05	<0.000020	28.7	0.813	18.1	<0.000050	<0.0050	<0.0050	0.0006	<0.0050	0.0087	<0.00050	114	<0.50	<0.50	<0.50														
W16	18/02/2015 14:55	0.00102	0.912	<0.000020	36.3	0.79	16.4	<0.000050	<0.0050	<0.0050	0.00043	<0.0050	0.0062	<0.00050	115	<0.50	<0.50	<0.50														
W16	26/02/2015 9:40	0.00112	0.565	<0.000020	34.5	0.781	12.5	<0.000050	<0.0050	<0.0050	0.00024	<0.0050	<0.0050	<0.00050	93.9	<0.50	<0.50	<0.50														
W16	03/03/2015 8:30	0.00106	0.653	<0.000020	31.4	0.674	14.5	<0.000050	<0.0050	<0.0050	0.00024	<0.0050	<0.0050	<0.00050	92.4	<0.50	<0.50	<0.50														
W16	09/03/2015 10:50	0.00095	0.902	<0.000020	32.7	0.681	14.8	<0.000050	<0.0050	<0.0050	0.00033	<0.0050	<0.0050	<0.00050	109	<0.50	<0.50	<0.50														
W16	17/03/2015 16:00	0.00147	1.23	<0.000020	31.6	0.82	17.7	<0.000050	<0.0050	<0.0050	0.00059	<0.0050	<0.0050	<0.00050	118	<0.50	<0.50	<0.50														
W16	25/03/2015 16:00	0.00117	1.37	<0.000020	32.9	0.854	17.3	<0.000050	<0.0050	<0.0050	0.0006	<0.0050	<0.0050	<0.00050	120	<0.50	<0.50	<0.50														
W16	30/03/2015 11:20	0.00123	1.29	<0.000020	27.9	0.656	14.3	<0.000050	<0.0050	<0.0050	0.00028	<0.0050	<0.0050	<0.00050	89.6	<0.50	<0.50	<0.50														
W16	31/03/2015 8:20																															
W16	01/04/2015 8:50																															
W16	02/04/2015 8:20																															
W16	03/04/2015 7:40																															
W16	06/04/2015 9:00	0.00133	1.83	<0.000020	24.3	0.834	18.6	<0.000050	<0.0050	<0.0050	0.00084	<0.0050	<0.0050	<0.00050	135	<0.50	<0.50	<0.50														
W16	07/04/2015 7:30																															
W16	21/04/2015 15:10	0.00054	1.58	<0.000020	13.1	0.437	9.2	<0.000050	<0.0050	<0.0050	0.00043	<0.0050	<0.0050	<0.00050	82.5	<0.50	<0.50	<0.50														
W16	29/04/2015 15:15	0.00036	1.78	<0.000020	6.46	0.303	5.3	<0.000050	<0.0050	<0.0050	0.00032	<0.0050	<0.0050	<0.00050	68.7	<0.50	<0.50	<0.50														
W16	06/05/2015 15:30	0.00058	2.59	<0.000020	12.1	0.616	13	<0.000050	<0.0050	<0.0050	0.00082	<0.0050	<0.0050	<0.00050	115	<0.50	<0.50	<0.50														
W16	12/05/2015 14:55	0.00053	2.64	0.000028	13.4	0.559	13.7	<0.000050	<0.0050	<0.0050	0.00072	<0.0050	<0.0050	<0.00050	119	<0.50	<0.50	<0.50														
W16	18/05/2015 10:30	0.00052	1.78	<0.000020	12.8	0.483	10.7	<0.000050	<0.0050	<0.0050	0.00069	<0.0050	<0.0050	<0.00050	121	<0.50	<0.50	<0.50														
W16	28/05/2015 17:15	0.00049	<0.1	<0.000020	13.2	0.377	7.9	<0.000050	<0.0050	<0.0050	0.00057	<0.0050	<0.0050	<0.00050	115	<0.50	<0.50	<0.50														
W16	04/06/2015 9:35	0.00041	0.235	<0.000020	13	0.386	8.7	<0.000050	<0.0050	<0.0050	0.00052	<0.0050	<0.0050	<0.00050	110	<0.50	<0.50	<0.50														
W16	09/06/2015 16:05	0.00045	0.176	<0.000020	13.8	0.365	9.1	<0.000050	<0.0050	<0.0050	0.00054	<0.0050	<0.0050	<0.00050	109	<0.50	<0.50	<0.50														
W16	15/06/2015 14:35	0.00039	0.288	<0.000020	13.5	0.397	9.2	<0.000050	<0.0050	<0.0050	0.00061	<0.0050	<0.0050	<0.00050	124	<0.50	<0.50	<0.50														
W16	22/06/2015 16:20	0.00039	0.628	<0.000020	13.3	0.422	11.9	<0.000050	<0.0050	<0.0050	0.00058	<0.0050	<0.0050	<0.00050	131	<0.50	<0.50	<0.50														
W16	29/06/2015 16:40	0.00037	0.867	<0.000020	15.7	0.436	13	<0.000050	<0.0050	<0.0050	0.00061	<0.0050	<0.0050	<0.00050	132	<0.50	<0.50	<0.50														
W16	06/07/2015 10:20	0.0004	0.881	<0.000020	14.9	0.391	8.2	<0.000050	<0.0050	<0.0050	0.00057	<0.0050	<0.0050	<0.00050	119	<0.50	<0.50	<0.50														
W16	06/07/2015 10:20																															
W16	13/07/2015 13:35	0.00049	0.88	<0.000020	13.9	0.357	9.3	<0.000050	<0.0050	<0.0050	0.00052	<0.0050	<0.0050	<0.00050	122	<0.50	<0.50	<0.50														
W16	20/07/2015 9:15	0.00044	1.13	<0.000020	15.7	0.451	11.6	<0.000050	<0.0050	<0.0050	0.00077	<0.0050	<0.0050	<0.00050	127	1.52	<0.50	1.27														
W16	29/07/2015 14:10	0.00039	1.1	<0.000020	15.4	0.403	11.2	<0.000050	<0.0050	<0.0050	0.00064	<0.0050	<0.0050	<0.00050	123	4.19	<0.50	3.49														
W16	05/08/2015 11:10																															
W16	14/08/2015 10:45	0.00047	0.436	<0.000020	15.7	0.437	13.3	<0.000050	<0.0050	<0.0050	0.00078	<0.0050	<0.0050	<0.00050	143	4.24	<0.50	3.53														
W16	20/08/2015 9:00																															
W16	24/08/2015 11:05																															
W16	01/09/2015 13:47																															
W16	08/09/2015 10:25																															
W16	11/09/2015 15:50	0.0005	0.56	<0.000020	13.9	0.472	9.3	<0.000050	<0.0050	<0.0050	0.00089	<0.0050	<0.0050	<0.00050	162	<0.50	<0.50	<0.50														
W16	15/09/2015 14:00																															
W16	25/09/2015 15:40																															
W16	28/09/2015 11:00	0.00054	0.496	<0.000020	14.6	0.496	13.1	<0.000050	<0.0050	<0.0050	0.00085	<0.0050	<0.0050	<0.00050	173	<0.50	<0.50	<0.50														
W16	28/09/2015 11:30																															
W16	08/10/2015 15:50	0.00036	0.338	<0.000020	14.6	0.503	13.9	<0.000050	<0.0050	<0.0050	0.00098	<0.0050	<0.0050	<0.00050	176	<0.50	<0.50	<0.50														
W16	16/10/2015 15:00																															
W16	23/10/2015 15:40																															
W16	29/10/2015 15:35																															
W16	02/11/2015 11:30																															
W16	10/11/2015 14:45	0.00034	1.01	0.00004	14.2	0.508	12.2	<0.000050	<0.0050	<0.0050	0.00094	<0.0050	<0.0050	<0.00050	184	<0.50	<0.50	<0.50														

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	P-TDP	P-TRP	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		mg/L	mg/L	Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W16	12/09/2014 10:15					481.1			
W16	15/09/2014 10:40					470.9			
W16	25/09/2014 8:50					498.9			
W16	01/10/2014 13:45					487.8			
W16	08/10/2014 15:10					465.2			
W16	13/10/2014 14:10					504.5			
W16	20/10/2014 11:30					527.2			
W16	28/10/2014 11:00					494.6			
W16	05/11/2014 15:15					460.9			
W16	10/11/2014 10:15					496.1			
W16	18/12/2014 14:00					388.9			
W16	22/12/2014 13:45					446			
W16	02/01/2015 11:45					305.2			
W16	06/01/2015 10:15					358.7			
W16	13/01/2015 10:30					435.9			
W16	21/01/2015 14:35					456.4			
W16	29/01/2015 13:15					351.6			
W16	04/02/2015 10:30					386.4			
W16	09/02/2015 13:35					300.5			
W16	18/02/2015 14:55					389.4			
W16	26/02/2015 9:40					219.9			
W16	03/03/2015 8:30					280.9			
W16	09/03/2015 10:50					302.4			
W16	17/03/2015 16:00					348.2			
W16	25/03/2015 16:00					362.4			
W16	30/03/2015 11:20					281.6			
W16	31/03/2015 8:20					312.7			
W16	01/04/2015 8:50					327.8			
W16	02/04/2015 8:20					397.2			
W16	03/04/2015 7:40					302.3			
W16	06/04/2015 9:00					400.1			
W16	07/04/2015 7:30					423.8			
W16	21/04/2015 15:10					234.9			
W16	29/04/2015 15:15					217.3			
W16	06/05/2015 15:30					303.1			
W16	12/05/2015 14:55					285.2			
W16	18/05/2015 10:30					292.3			
W16	28/05/2015 17:15					268.1			
W16	04/06/2015 9:35					248.2			
W16	09/06/2015 16:05					260.1			
W16	15/06/2015 14:35					274.1			
W16	22/06/2015 16:20					287			
W16	29/06/2015 16:40					290.2			
W16	06/07/2015 10:20								
W16	06/07/2015 10:20					268.6			
W16	13/07/2015 13:35					270			
W16	20/07/2015 9:15					283.7			
W16	29/07/2015 14:10					292.7			
W16	05/08/2015 11:10					300.6			
W16	14/08/2015 10:45					310			
W16	20/08/2015 9:00					315.9			
W16	24/08/2015 11:05					320.8			
W16	01/09/2015 13:47					344.3			
W16	08/09/2015 10:25					345.1			
W16	11/09/2015 15:50					350.1			
W16	15/09/2015 14:00					355.8			
W16	25/09/2015 15:40					370.8			
W16	28/09/2015 11:00					382.6			
W16	28/09/2015 11:30					382.4			
W16	08/10/2015 15:50					377.8			
W16	16/10/2015 15:00					386.3			
W16	23/10/2015 15:40					354.2			
W16	29/10/2015 15:35					456.4			
W16	02/11/2015 11:30					392.8			
W16	10/11/2015 14:45					404.3			

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T	B-T
			mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W16	06/12/2015 17:00	P	3.5	225	8.07	8.2	213.4	419	0.3	8.84	61.1	97.1	151	174	149	8.7	0.25	41	0.081	0.0095	0.913	7.82	0.0752	<0.00050	0.00032	0.0506	<0.00010	<0.0010	<0.05
W16	02/01/2016 15:00	P	3.2	224	7.67	8.12	234.4	433	1	5.87	41.4	133.1	208	194	172	8.8	0.27	43.6	0.091	0.0066	0.863	8.05	0.0507	<0.00050	0.00045	0.065	<0.00010	<0.0010	0.054
W16	09/01/2016 13:35	P			7.56		241.1		1	6.7	47.5	133.6																	
W16	12/01/2016 15:20	P			7.85		249.2		2.1	9.93	72.3	-24																	
W16	18/01/2016 15:25	P			7.42		225.2		2.7	9.06	66.9	143.7																	
W16	31/01/2016 11:25	P			7.77		246.8		0.9	5.49	39.2	61.6																	
W16	06/02/2016 10:25	P	1.2	268	7.61	8.1	238.5	451	0.5	4.01	27.8	7.2	221	204	180	9.5	0.27	41.7	0.15	0.0072	0.85	8.32	0.0816	<0.00050	0.00039	0.0647	<0.00010	<0.0010	0.059
W16	11/02/2016 11:20	P			7.56		241		0.6	5.62	39.6	89.1																	
W16	20/02/2016 15:10	P			7.87		231.3		0.5	12.34	85.8	115.4																	
W16	28/02/2016 9:40	P			7.44		247.9		0.5	3.84	27	37.8																	
W16	06/03/2016 16:45	P	1.7	256	7.44	8.06	248.6	466	0.5	3.15	21.9	68.2	204	205	184	9.8	0.27	43.9	0.11	0.0059	0.805	8.47	0.0105	<0.00050	0.00033	0.0647	<0.00010	<0.0010	<0.05
W16	13/03/2016 7:26	P			7.85		248		0	7.73	52.9	87.6																	
W16	20/03/2016 16:45	P			7.21		256.2		2	2.43	17.6	81.9																	
W16	25/03/2016 11:15	P			7.47		242		0.8	2.72	19.2	100																	
W16	04/04/2016 16:30	P	12.0	90.3	8.44	7.66	88	169	1.4	10.85	77.8	145		50.2	45.5	4.47		19.1	0.135	0.0477	2.24	2.29	0.853	<0.00010	0.00030	0.0301	0.000027	<0.000050	0.060
W16	05/04/2016 8:45	M			8.04		132.7		0.8	9.55	67.5	135.9																	
W16	06/04/2016 8:05	M			7.69		118		1.5	9.28	66.7	137.2																	
W16	07/04/2016 9:30	M			8.03		120.7		1.3	13.74	98.2	117.6																	
W16	08/04/2016 9:20	M			7.82		90.8		0.8	9.7	68.6	142.5																	
W16	09/04/2016 8:10	M			8		101.2		2.2	8.38	61.2	131.9																	
W16	12/04/2016 15:45	M			7.67		141.6		4.5	8.19	63.5	157.9																	
W16	22/04/2016 7:40	P	9.3	123	7.6	7.73	138.5	229	5.1	8.73	68.7	129.1		97.3	76.5	4.39		22.2	0.0643	0.0212	1.27	18.1	0.116	0.00015	0.00034	0.0394	<0.000020	<0.000050	0.041
W16	29/04/2016 8:15	P	<3.0	137	7.71	7.83	159.4	244	7.2	8.57	71.1	111.1		110	85.0	4.65		24.2	0.0413	0.0218	1.40	16.5	0.0956	<0.00010	0.00030	0.0417	<0.000020	<0.000050	0.039
W16	03/05/2016 17:00	P	6.0	170	7.71	7.86	205	297	9.2	9.42	82.1	130.2		134	104	5.26		31.5	0.0173	0.0282	2.22	13.8	0.717	<0.00010	0.00043	0.0539	0.000059	<0.000050	0.040
W16	15/05/2016 17:05	M			8.58		281		16.4	13.9	144.6	95.7																	
W16	19/05/2016 12:00	P	13.3	205	9.11	8.71	278.6	336	13.7	13.55	135	86.4		165	120	5.22		41.5	0.0125	0.0366	3.37	14.1	0.108	<0.00010	0.00040	0.0633	<0.000020	<0.000050	0.034
W16	24/05/2016 9:00	P	12.0	201	9.18	8.81	259	335	13.4	11.21	107.6	98.8		166	116	4.47		39.0	0.0136	0.0385	3.36	14.4	0.0642	<0.00010	0.00032	0.0538	<0.000020	<0.000050	0.031
W16	05/06/2016 16:20	M			9.12		270.2		15.8	10.05	101.6	71.1																	
W16	14/06/2016 8:00	P	<3.0	203		8.56		330						157	111	4.33		41.4	0.0308	0.0547	4.42	11.9	0.0412	<0.00010	0.00029	0.0434	<0.000020	<0.000050	0.039
W16	14/06/2016 8:00	M			8.87		276.3		15.7	9.19	92.2	93.8																	
W16	24/06/2016 8:10	P	8.8	218	8.73	8.36	310.9	358	17.9	8.48	89.5	69.2		169	118	4.60		45.8	0.0253	0.0467	4.77	12.2	0.0436	<0.00010	0.00035	0.0572	<0.000020	<0.000050	0.049
W16	28/06/2016 8:15	P	3.3	219	8.75	8.34	315.5	349	18	7.84	83	58.7		167	118	4.74		46.6	0.0266	0.0524	5.02	11.9	0.0290	<0.00010	0.00034	0.0542	<0.000020	<0.000050	0.046
W16	10/07/2016 8:00	P	3.3	240	8.34	8.12	354.8	391	18.7	9.42	95.3	124.4		176	122	5.75		54.8	0.0907	0.0659	5.53	12.0	0.0128	<0.00010	0.00037	0.0591	<0.000020	<0.000050	0.055
W16	14/07/2016 8:45	P	3.3	244	8.67	8.29	351.5	411	19.7	7.24	79.2	94.9		177	124	5.84		55.6	0.0251	0.0661	5.60	11.7	0.0653	0.00012	0.00039	0.0624	<0.000020	<0.000050	0.051
W16	20/07/2016 8:30	P	<3.0	239	7.85	7.98	345	401	16.8	6.31	65.3	87		185	126	5.59		53.2	0.116	0.0542	4.71	12.4	0.0324	0.00012	0.00036	0.0577	<0.000020	<0.000050	0.045
W16	26/07/2016 10:05	P	3.3	234	7.96	7.99	336.9	380	16	6.98	70.9	80.9		177	125	5.51		51.9	0.0928	0.0574	4.52	11.9	0.0280	<0.00010	0.00038	0.0585	<0.000020	<0.000050	0.048
W16	26/07/2016 10:05	P	3.3	234		7.99		380						177	125	5.51		51.9	0.0928	0.0574	4.52	11.9	0.0280	<0.00010	0.00038	0.0585	<0.000020	<0.000050	0.048
W16	02/08/2016 15:35	P	3.3	234	8.46	8.17	240	391	17.9	10.72	112.4	98		183	126	5.25		51.0	0.0265	0.0545	4.52	12.4	0.0218	<0.00010	0.00035	0.0592	<0.000020	<0.000050	0.044
W16	11/08/2016 14:50	P	<3.0	270	8.2	8.30	337	424	17.4	8.05	85	113.9		191	131	5.17		51.5	0.0314	0.0447	4.60	12.3	0.0236	0.00012	0.00029	0.0519	<0.000020	<0.000050	0.048
W16	17/08/2016 14:50	P	<3.0	249	8.38	8.31	345.5	413	16.5	8.43	86.7	125.8		189	140	5.31		54.5	0.0264	0.0421	4.77	12.7	0.0228	0.00012	0.00034	0.0604	<0.000020	<0.000050	0.046
W16	23/08/2016 8:30	P	4.0	254	8.39	8.32	343.9	415	15.3	7.04	69.9	113.8		195	145	5.36		55.9	0.0181	0.0350	4.80	14.3	0.0160	0.00011	0.00038	0.0604	<0.000020	<0.000050	0.053
W16	30/08/2016 8:40	P	<3.0	266	7.85	8.25	347.9	430	14.2	8.35	80.6	127.9		206	147	5.44		58.4	0.0413	0.0354	4.97	12.3	0.0470	<0.00010	0.00038	0.0672	<0.000020	<0.000050	0.043
W16	06/09/2016 12:46	P	4.7	268	7.85	8.28	347	435	13.8	8.45	81.8	88.6		207	150	5.56		60.0	0.0446	0.0318	5.07	12.1	0.0440	<0.00010	0.00039	0.0726	<0.000020	<0.000050	0.042
W16	13/09/2016 7:50	P	<3.0	274	7.94	8.10	323.9	451	11.7	7.91	72.9	117.3		203	160	5.58		60.9	0.0576	0.0300	5.15	12.2	0.0286	<0.00010	0.00036	0.0717	<0.000020	<0.000050	0.041
W16	19/09/2016 14:30	P	8.7	268	7.64	7.99	338.2	436	11	6.95	63.3	149.7		209	147	5.49		61.4	0.0501	0.0264	5.14	12.4	0.0869	<0.00010	0.00041	0.0730	<0.000020	<0.000050	0.038
W16	27/09/2016 16:25	P	<3.0	281	7.53	8.15	327.4	435	8.9	7.57	66.4	152.2		211	160	5.60		63.9	0.0373	0.0219	5.38	11.7	0.0322	<0.00010	0.00036	0.0736	<0.000020	<0.000050	0.039
W16	04/10/2016 11:45	P	3.3	293	7.82	8.19	296.4	446	5.8	8.25	66.4	127.2		226	164	5.80		66.0	0.0384	0.0202	5.68	12.0	0.0185	<0.00010	0.00037	0.0770	<0.000020	<0.000050	0.039
W16	10/10/2016 8:05	P	7.3	296	7.77	8.16	282.9	456	3.7	7.49	56.8	116.4		226	167	5.97		67.8	0.0301	0.0137	5.73	11.4	0.0292	0.00011	0.00037	0.0735	<0.000020	<0.000050	0.037
W16	17/10/2016 15:15	P	14.8	285	7.74	8.16	272.3	441	1.6	6.88	49.2	137.6		218	164	5.99		64.0	0.0319	0.0169	5.34	10.9	0.613	<0.00010	0.00051	0.0849	0.000026	<0.000050	0.038
W16	24/10/2016 16:05	P	3.9	290	7.8	8.16	285.1	482	2.5	6.54	48	151		220	164	6.01		66.4	0.0271	0.0125	5.50	11.7	0.0203	0.00027	0.00035	0.0779	<0.000020	<0.000050	0.035
W16	25/11/2016 10:50	P	<3.0	318	5.65	8.11	288.6	523	1.2	5.61	39.7	86.2		250	185	6.44		69.4	0.0508	0.0136	5.36	12.3	0.0106	0.00012	0.00035	0.0829	<0.000020	<0.000050	0.035
W16	29/11/2016 11:30	M			7.88		288.4		1.3	7.57	55.2	149.1																	
W16	07/12/2016 13:30	P	<3.0	316	7.65	8.25	302.2	525	1.1	4.59	33	177.9		236	193	6.47		69.5	0.0562	0.0127	5.20	11.9	0.0142	<0.00010	0.00044	0.0851	<0.000020	<0.000050	0.038
W62	28/01/2016 15:30	P	26.6	630	7.2	8.03	418.1	951	0.4	7.56	53.5	140.9	478	490	291	25	0.38	153	0.063	0.0264	11.3		0.852	<0.00050	0.00051	0.128	<0.00010	<0.0010	<0.05
W62	03/02/2016 15:55	P	3.4	534	7.37	8.03	505	913	1.5	6.52	45.6	108.4	428	448	284	24	0.36	154	0.045	0.0282	10.5		0.267	<0.00050	0.0002	0.113	<0.00010	<0.0010	<0.05
W62	29/03/2016 13:30	P	3.2	623	7.84	8.23	576	994	3.6	11.11	84.3	116.1		532	332	30.1		137	0.0344	0.0444	9.84		0.0239	0.00010	0.00046	0.118	<0.000020	<0.000050	0.018
W62	26/04/2016 16:15	P	6.0	515	7.47	8.06	453.1	817	2.2	13.15	97.4	137.6		422	240	20.0		139	0.230	0.119	8.38		0.286	0.00011	0.00052	0.0980	<0.000020	<0.000050	0.019
W62	06/05/2016 14:25	M			7.71		509		0.3	12.04	83.2	154.1																	
W62	20/05/2016 14:35	P	11.3	545	7.79	8.21	541	859	4.3	9.86	76.1	126.4		456	303	20.5		128	<0.0050	0.0218	6.16		0.251	0.00013	0.00050	0.108	<0.000020	<0.000050	0.020
W62	24/05/2016 15:35	P	58.0	86.1		7.90		161						84.0	82.9	0.53		1.71	0.0066	<0.0010	0.0084	14.1	0.822	0.00012	0.00091	0.0574	0.000034	<0.000050	<0.010
W62	25/06/2016 16:40	P	7.3	572	7.82	8.30	550	890	4.5	10.71	83.5	73		474	312	21.7		141	0.0134	0.0090	6.34		0.0982	0.00011	0.00044	0.107	<0.000020	<0.000050	0.020
W62	30/08/2016 15:50	P	10.0	803	7.8	8.37	676	1120	2	17.4	128.2	79.7		623	292	26.8		294	<0.0050	0.0209	10.4	10.6	0.0871	<0.00010	0.00042	0.165	<0.000020	<0.000050	0.055
W62	17/09/2016 15:35	P	7.3	714	7.87	8.22	621	1050	2.7	10.25	79	141.8		558	330	23.8		231	0.0088	0.0205	7.43		0.0469	<0.00010	0.00054	0.158	<0.000020	<0.000050	0.039
W62	16/10/2016 16:00	P	5.8	691	7.58	8.35	586	977	1.6	8.76	62.8	120.3		543	345	24.6		206	0.0052	0.0109	6.64		0.323	<0.00010	0.00052	0.134	<0.000020	<0.000050	0.028
W62	04/11/2016 14:20	P	12.0	645	7.87	8.25	613	965	1.6	11.79	86.7	72.6		509	332	25.7		184	<0.0050	0.0266	6.24		0.122	<0.00010	0.00039	0.111	<0.000020	<0.000050	0.023

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W16	06/12/2015 17:00	0.000036	37.6	<0.0010	<0.00050	0.0268	0.314	<0.00020	<0.0050	13.8	0.0631	<0.000010	0.0039	0.0022	0.024	2.81	0.00044	0.646	<0.000020	13.7	0.492	11.9	<0.000050	<0.0050	<0.0050	0.00097
W16	02/01/2016 15:00	0.000023	52.1	<0.0010	<0.00050	0.021	0.148	<0.00020	<0.0050	18.9	0.0548	<0.000010	0.0045	<0.0010	0.028	3.66	0.00057	1.35	<0.000020	19.2	0.671	16.7	<0.000050	<0.0050	<0.0050	0.0013
W16	09/01/2016 13:35																									
W16	12/01/2016 15:20																									
W16	18/01/2016 15:25																									
W16	31/01/2016 11:25																									
W16	06/02/2016 10:25	<0.000010	56.9	<0.0010	<0.00050	0.0108	0.072	<0.00020	<0.0050	19	0.0353	<0.000010	0.0038	<0.0010	0.016	3.58	0.00034	1.96	<0.000020	18	0.655	17.5	<0.000050	<0.0050	<0.0050	0.00141
W16	11/02/2016 11:20																									
W16	20/02/2016 15:10																									
W16	28/02/2016 9:40																									
W16	06/03/2016 16:45	<0.000010	54.2	<0.0010	<0.00050	0.00948	0.072	<0.00020	<0.0050	16.8	0.0457	<0.000010	0.004	<0.0010	0.015	3.45	0.00037	2.33	<0.000020	15.3	0.642	16.8	<0.000050	<0.0050	<0.0050	0.00125
W16	13/03/2016 7:26																									
W16	20/03/2016 16:45																									
W16	25/03/2016 11:15																									
W16	04/04/2016 16:30	0.0000142	14.5	0.00045	0.00041	0.0601	1.12	0.000240	0.0014	4.56	0.0762	<0.0000050	0.00324	0.00052	<0.050	2.80	0.000711	2.78	0.000020	10.0	0.235	6.18	<0.000010	<0.00010	0.0510	0.000328
W16	05/04/2016 8:45																									
W16	06/04/2016 8:05																									
W16	07/04/2016 9:30																									
W16	08/04/2016 9:20																									
W16	09/04/2016 8:10																									
W16	12/04/2016 15:45																									
W16	22/04/2016 7:40	0.0000169	24.6	0.00022	0.00012	0.0328	0.203	0.000059	<0.0010	7.57	0.0595	0.0000106	0.00251	0.00083	<0.050	2.23	0.000527	2.30	<0.000010	9.11	0.291	7.87	<0.000010	<0.00010	0.00397	0.000581
W16	29/04/2016 8:15	0.0000149	27.0	0.00022	0.00010	0.0317	0.191	<0.000050	<0.0010	8.50	0.0725	0.0000122	0.00276	0.00092	<0.050	2.59	0.000504	2.42	<0.000010	10.1	0.311	8.14	<0.000010	<0.00010	0.00346	0.000581
W16	03/05/2016 17:00	0.0000120	34.9	0.00051	0.00051	0.0532	1.20	0.000247	0.0016	10.5	0.180	0.0000126	0.00299	0.00114	0.078	2.99	0.000712	3.92	0.000024	10.2	0.392	10.4	<0.000010	<0.00010	0.0379	0.000785
W16	15/05/2016 17:05																									
W16	19/05/2016 12:00	0.0000182	45.2	0.00022	0.00023	0.0297	0.225	0.000085	0.0012	12.5	0.311	0.0000081	0.00312	0.00100	<0.050	2.86	0.00112	2.65	0.000013	11.2	0.469	13.8	<0.000010	<0.00010	0.00457	0.00101
W16	24/05/2016 9:00	0.0000122	45.1	0.00019	0.00014	0.0252	0.146	0.000079	0.0011	12.5	0.0992	<0.0000050	0.00230	0.00084	<0.050	2.75	0.00117	2.36	<0.000010	11.6	0.451	14.6	<0.000010	<0.00010	0.00219	0.000858
W16	05/06/2016 16:20																									
W16	14/06/2016 8:00	0.0000057	39.7	0.00016	<0.00010	0.0209	0.080	0.000051	0.0013	10.8	0.0219	<0.0000050	0.00298	0.00071	<0.050	2.85	0.00113	1.10	<0.000010	11.2	0.413	13.8	<0.000010	<0.00010	0.00153	0.000887
W16	14/06/2016 8:00																									
W16	24/06/2016 8:10	0.0000090	46.7	0.00013	<0.00010	0.0211	0.079	0.000070	0.0015	12.8	0.0218	<0.0000050	0.00408	0.00081	<0.050	3.60	0.00146	1.43	<0.000010	12.9	0.502	15.9	<0.000010	<0.00010	0.00240	0.00114
W16	28/06/2016 8:15	0.0000071	45.4	0.00014	<0.00010	0.0202	0.057	0.000051	0.0016	12.1	0.0164	<0.0000050	0.00363	0.00070	<0.050	3.12	0.00136	1.40	<0.000010	12.1	0.486	16.0	<0.000010	<0.00010	0.00141	0.00108
W16	10/07/2016 8:00	<0.0000050	49.8	0.00015	<0.00010	0.0180	0.026	<0.000050	0.0015	13.4	0.00971	0.0000087	0.00554	0.00068	<0.050	4.31	0.00165	1.64	<0.000010	15.9	0.631	20.1	<0.000010	<0.00010	0.00035	0.00110
W16	14/07/2016 8:45	0.0000163	50.7	0.00016	<0.00010	0.0213	0.117	0.000054	0.0014	13.5	0.0167	<0.0000050	0.00524	0.00086	<0.050	4.45	0.00152	1.90	<0.000010	16.2	0.581	20.4	<0.000010	<0.00010	0.00363	0.00107
W16	20/07/2016 8:30	0.0000076	49.1	0.00014	<0.00010	0.0204	0.073	0.000069	0.0015	13.1	0.0863	<0.0000050	0.00468	0.00081	<0.050	3.39	0.00135	2.11	<0.000010	14.5	0.572	17.8	<0.000010	<0.00010	0.00140	0.00115
W16	26/07/2016 10:05	0.0000107	48.0	0.00012	<0.00010	0.0202	0.065	<0.000050	0.0011	13.0	0.0968	<0.0000050	0.00440	0.00071	<0.050	3.45	0.00137	2.12	<0.000010	13.9	0.544	17.9	<0.000010	<0.00010	0.00106	0.00104
W16	26/07/2016 10:05	0.0000107	48.0	0.00012	<0.00010	0.0202	0.065	<0.000050	0.0011	13.0	0.0968	<0.0000050	0.00440	0.00071	<0.050	3.45	0.00137	2.12	<0.000010	13.9	0.544	17.9	<0.000010	<0.00010	0.00106	0.00104
W16	02/08/2016 15:35	0.0000144	50.6	0.00012	<0.00010	0.0204	0.056	<0.000050	0.0012	13.4	0.101	<0.0000050	0.00409	0.00069	<0.050	3.36	0.00132	2.40	<0.000010	13.8	0.538	17.5	<0.000010	<0.00010	0.00079	0.00105
W16	11/08/2016 14:50	0.0000121	54.0	0.00014	<0.00010	0.0166	0.065	0.000082	0.0013	13.7	0.0767	<0.0000050	0.00423	0.00054	<0.050	3.39	0.00138	2.58	0.000011	11.2	0.578	18.5	0.000011	<0.00010	0.00107	0.00107
W16	17/08/2016 14:50	0.0000089	53.1	0.00012	<0.00010	0.0194	0.055	0.000056	0.0011	14.1	0.0849	<0.0000050	0.00421	0.00075	<0.050	3.36	0.00141	2.69	<0.000010	13.5	0.578	18.6	<0.000010	<0.00010	0.00098	0.00114
W16	23/08/2016 8:30	0.0000088	55.3	0.00083	<0.00010	0.0185	0.066	<0.000050	0.0017	14.6	0.0728	<0.0000050	0.00532	0.00071	<0.050	3.44	0.00146	2.83	<0.000010	13.2	0.610	18.7	<0.000010	<0.00010	0.00065	0.00114
W16	30/08/2016 8:40	0.0000077	53.8	0.00015	<0.00010	0.0227	0.087	<0.000050	0.0013	15.2	0.0709	<0.0000050	0.00380	0.00069	<0.050	3.21	0.00149	3.06	<0.000010	14.8	0.575	20.4	<0.000010	<0.00010	0.00203	0.00109
W16	06/09/2016 12:46	0.0000110	54.1	0.00017	<0.00010	0.0216	0.093	<0.000050	0.0011	15.2	0.0449	<0.0000050	0.00442	0.00064	<0.050	3.45	0.00159	3.14	<0.000010	13.7	0.678	22.1	<0.000010	<0.00010	0.00205	0.00123
W16	13/09/2016 7:50	0.0000139	61.5	0.00015	<0.00010	0.0195	0.058	0.000053	<0.0010	15.9	0.0510	<0.0000050	0.00415	0.00070	<0.050	3.38	0.00147	3.42	<0.000010	14.1	0.628	20.6	<0.000010	<0.00010	0.00143	0.00126
W16	19/09/2016 14:30	0.0000078	58.1	0.00021	0.00014	0.0223	0.159	0.000060	0.0012	16.2	0.0507	<0.0000050	0.00399	0.00084	<0.050	3.31	0.00135	3.31	<0.000010	13.7	0.650	19.7	<0.000010	<0.00010	0.00313	0.00130
W16	27/09/2016 16:25	0.0000078	58.9	0.00014	<0.00010	0.0206	0.072	<0.000050	0.0014	17.1	0.0391	<0.0000050	0.00386	0.00073	<0.050	3.46	0.00164	3.56	<0.000010	14.8	0.637	23.1	<0.000010	<0.00010	0.00189	0.00125
W16	04/10/2016 11:45	0.0000060	64.5	0.00014	<0.00010	0.0192	0.064	<0.000050	<0.0010	17.1	0.0369	<0.0000050	0.00382	0.00071	<0.050	3.50	0.00160	3.80	<0.000010	14.4	0.681	24.9	<0.000010	<0.00010	0.00114	0.00135
W16	10/10/2016 8:05	<0.0000050	63.4	0.00015	<0.00010	0.0188	0.080	<0.000050	0.0012	17.6	0.0293	<0.0000050	0.00391	0.00069	<0.050	3.54	0.00156	3.68	<0.000010	14.6	0.699	24.3	<0.000010	<0.00010	0.00174	0.00138
W16	17/10/2016 15:15	0.0000113	59.5	0.00122	0.00050	0.0568	1.09	0.000204	0.0012	16.8	0.0903	<0.0000050	0.00362	0.00089	<0.050	3.32	0.00157	5.21	0.000018	13.2	0.641	21.2	<0.000010	<0.00010	0.0398	0.00135
W16	24/10/2016 16:05	0.0000120	62.5	0.00013	<0.00010	0.0181	0.072	<0.000050	0.0014	17.3	0.0544	<0.0000050	0.00390	0.00073	<0.050	3.34	0.00148	3.69	<0.000010	14.3	0.666	23.7	<0.000010	<0.00010	0.00086	0.00141
W16	25/11/2016 10:50	0.0000074	64.3	0.00018	<0.00010	0.0174	0.063	<0.000050	0.0011	17.2	0.0546	<0.0000050	0.00418	0.00068	<0.050	3.67	0.00149	3.99	0.000021	14.4	0.714	24.3	<0.000010	0.00011	0.00059	0.00152
W16	29/11/2016 11:30																									
W16	07/12/2016 13:30	0.0000185	66.8	0.00016	<0.00010	0.0180	0.063	<0.000050	0.0015	17.3	0.0491	<0.0000050	0.00425	0.00083	<0.050	3.55	0.00146	4.16	<0.000010	15.3	0.730	24.3	<0.000010	<0.00010	0.00132	0.00163
W62	28/01/2016 15:30	0.00004	120	0.0017	0.00075	0.101	1.86	0.00046	<0.0050	43.1	0.152	<0.000010	0.005	0.0023	0.061	4.01	0.00415	8.89	<0.000020	24.8	1.07	58.1	<0.000050	<0.0050	0.0467	0.00553
W62	03/02/2016 15:55	0.000026	107	<0.0010	<0.00050	0.0432	0.471	<0.00020	<0.0050	39.2	0.108	<0.000010	0.0045	<0.0010	0.02	3.34	0.00332	7.31	<0.000020	23.3	0.967	49.1	<0.000050	<0.0050	0.0151	0.00566
W62	29/03/2016 13:30	0.0000176	143	0.00022	0.00017	0.0527	0.148	0.000071	0.0022	42.4	0.0941	<0.0000050	0.00675	0.00157	<0.050	4.93	0.00337	7.57	<0.000010	21.8	1.28	45.6	<0.000010	<0.00010	0.00130	0.00526
W62	26/04/2016 16:15	0.0000327	106	0.00050	0.00034	0.0845	0.494	0.000176	0.0028	30.9	0.202	<0.0000050	0.00871	0.00118	<0.050	4.56	0.00361	6.44	0.000021	20.3	1.09	45.4	<0.000010	<0.00010	0.0139	0.00341
W62	06/05/2016 14:25																									
W62	20/05/2016 14:35	0.0000264	121	0.00038	0.00027	0.0669	0.463	0.000124	0.0025	36.1	0.136	<0.0000050	0.00787	0.00128	<0.050	5.51	0.00338	7.55	0.000018	23.0	1.24	47.2	<0.000010	<0.00010	0.00999	0.00386
W62	24/05/2016 15:35	0.0000172	22.7	0.00166	0.00067	0.00311	1.33	0.000390	<0.0010	6.14	0.0586	<0.0000050	0.000427	0.00296	0.075	0.66	0.000102	7.08	<0.000010	3.54	0.102	0.87	<0.000010	<0.00010	0.0301	0.000216
W62	25/06/2016 16:40	0.0000298	123	0.00027	0.00019	0.0754	0.228	0.000107	0.0024	36.2	0.0840	<0.0000050	0.00810	0.00264	<0.050	4.97	0.00353	7.18	0.000012	23.4	1.31	50.4	<0.000010	<0.00010	0.00459	0.00375
W62	30/08/2016 15:50	0.0000205	171	0.00026	0.00014	0.0488	0.210	0.000086	0.0032	42.4	0.0337	<0.0000050	0.00754	0.00116	<0.050	5.74	0.00463	7.46	0.000012	31.6	2.19	103	<0.000010	<0.00010	0.00364	0.00470
W62	17/09/2016 15:35	0.0000172	162	0.00065	0.00015	0.0593	0.156	<0.000050	0.0029	43.1	0.0403	<0.0000050	0.00772	0.00145	<0.050	5.41	0.00467	8.19	0.000011	26.8	1.89	83.6	<0.000010	<0.00010	0.00263	0.00469
W62	16/10/2016 16:00	0.0000193	152	0.00046	0.00026	0.0643	0.534	0.000146	0.0024	40.4	0.0570	<0.0000050	0.00702	0.00117	<0.050	5.24	0.00342	7.99	0.000017	26.1	1.53	75.1	<0.000010	<0.00010	0.0187	0.00470
W62	04/11/2016 14:20	0.0000211	138	0.00033	0.00018	0.0618	0.217	0.000086	0.0025	39.1	0.127	<0.0000050	0.00594	0.00116	<0.050	4.83	0.00265	7.80	0.000011	24.9	1.45	63.9	<0.000010	<0.00010	0.00573	0.00475

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W16	06/12/2015 17:00	<0.0050	0.006	<0.00050	0.0531	<0.00050	0.00039	0.057	<0.00010	<0.0010	<0.05	0.000095	43.8	<0.0010	<0.00050	0.0125	0.0747	<0.00020	<0.0050	15.8	0.0085	<0.000010	0.0044	0.0011	0.025	3.33
W16	02/01/2016 15:00	<0.0050	0.0072	<0.00050	0.0083	<0.00050	0.00039	0.0571	<0.00010	<0.0010	<0.05	0.000017	51.2	<0.0010	<0.00050	0.0116	0.0595	<0.00020	<0.0050	16	0.004	<0.000010	0.0036	<0.0010	0.011	3.2
W16	09/01/2016 13:35																									
W16	12/01/2016 15:20																									
W16	18/01/2016 15:25																									
W16	31/01/2016 11:25																									
W16	06/02/2016 10:25	<0.0050	0.0053	<0.00050	0.0285	<0.00050	0.00088	0.063	<0.00010	<0.0010	0.061	<0.000010	53.6	<0.0010	<0.00050	0.0102	0.043	<0.00020	<0.0050	17	0.0038	<0.000010	0.0039	<0.0010	<0.01	3.09
W16	11/02/2016 11:20																									
W16	20/02/2016 15:10																									
W16	28/02/2016 9:40																									
W16	06/03/2016 16:45	<0.0050	<0.0050	<0.00050	0.0061	<0.00050	0.00032	0.0628	<0.00010	<0.0010	<0.05	<0.000010	54.4	<0.0010	<0.00050	0.00881	0.0313	<0.00020	<0.0050	16.8	0.0021	<0.000010	0.0041	<0.0010	0.019	3.28
W16	13/03/2016 7:26																									
W16	20/03/2016 16:45																									
W16	25/03/2016 11:15																									
W16	04/04/2016 16:30	0.00245	0.0048	<0.00030	0.0049	<0.00010	0.00012	0.0189	<0.000020	<0.000050	0.054	0.0000092	13.6	<0.00010	<0.00010	0.0123	<0.010	<0.000050	<0.0010	3.95	0.0431	<0.0000050	0.00300	<0.00050	<0.050	2.39
W16	05/04/2016 8:45																									
W16	06/04/2016 8:05																									
W16	07/04/2016 9:30																									
W16	08/04/2016 9:20																									
W16	09/04/2016 8:10																									
W16	12/04/2016 15:45																									
W16	22/04/2016 7:40	0.00063	<0.0030	<0.00030	0.0222	<0.00010	0.00027	0.0368	<0.000020	<0.000050	0.037	0.0000122	25.9	0.00013	<0.00010	0.0264	0.066	<0.000050	<0.0010	7.93	0.0395	0.0000125	0.00243	0.00075	<0.050	2.37
W16	29/04/2016 8:15	0.00053	0.0031	<0.00030	0.0194	<0.00010	0.00029	0.0381	<0.000020	<0.000050	0.037	0.0000115	29.8	0.00011	<0.00010	0.0263	0.070	<0.000050	<0.0010	8.63	0.0273	0.0000072	0.00240	0.00075	<0.050	2.52
W16	03/05/2016 17:00	0.00264	0.0053	<0.00030	0.0150	<0.00010	0.00030	0.0440	<0.000020	<0.000050	0.039	0.0000130	36.3	<0.00010	<0.00010	0.0248	0.066	<0.000050	0.0011	10.6	0.0181	<0.0000050	0.00272	0.00071	<0.050	2.83
W16	15/05/2016 17:05																									
W16	19/05/2016 12:00	0.00099	<0.0030	<0.00030	0.0118	<0.00010	0.00028	0.0516	<0.000020	<0.000050	0.032	<0.0000050	45.4	<0.00010	<0.00010	0.0226	0.038	<0.000050	0.0011	12.5	0.0108	<0.0000050	0.00276	0.00078	<0.050	2.81
W16	24/05/2016 9:00	0.00056	<0.0030	<0.00030	0.0150	<0.00010	0.00037	0.0507	<0.000020	<0.000050	0.032	0.0000080	45.9	0.00013	<0.00010	0.0230	0.050	<0.000050	<0.0010	12.5	0.00969	<0.0000050	0.00281	0.00085	<0.050	2.79
W16	05/06/2016 16:20																									
W16	14/06/2016 8:00	0.00054	0.0038	<0.00030	0.0086	<0.00010	0.00027	0.0482	<0.000020	<0.000050	0.044	0.0000056	43.3	0.00025	<0.00010	0.0186	0.038	<0.000050	<0.0010	11.8	0.0135	<0.0000050	0.00299	0.00069	<0.050	3.06
W16	14/06/2016 8:00																									
W16	24/06/2016 8:10	0.00052	<0.0030	<0.00030	0.0069	<0.00010	0.00032	0.0563	<0.000020	<0.000050	0.046	0.0000077	46.9	<0.00010	<0.00010	0.0191	0.020	<0.000050	0.0013	12.5	0.0131	<0.0000050	0.00347	0.00070	<0.050	3.30
W16	28/06/2016 8:15	<0.00050	0.0069	<0.00030	0.0049	<0.00010	0.00034	0.0552	<0.000020	<0.000050	0.047	<0.0000050	46.5	<0.00010	<0.00010	0.0186	0.020	<0.000050	0.0014	12.3	0.00399	<0.0000050	0.00335	0.00063	<0.050	3.22
W16	10/07/2016 8:00	0.00051	<0.0030	<0.00030	0.0076	<0.00010	0.00035	0.0593	<0.000020	<0.000050	0.049	0.0000060	49.1	<0.00010	<0.00010	0.0185	0.015	0.000080	0.0011	12.9	0.00152	<0.0000050	0.00510	0.00069	<0.050	3.99
W16	14/07/2016 8:45	0.00062	0.0052	<0.00030	0.0065	<0.00010	0.00038	0.0619	<0.000020	<0.000050	0.047	0.0000068	49.4	0.00010	<0.00010	0.0177	0.015	<0.000050	0.0013	13.0	0.00230	<0.0000050	0.00490	0.00064	<0.050	4.23
W16	20/07/2016 8:30	0.00050	<0.0030	<0.00030	0.0099	<0.00010	0.00035	0.0594	<0.000020	<0.000050	0.043	0.0000104	51.3	0.00010	<0.00010	0.0183	0.028	<0.000050	0.0010	13.7	0.0728	<0.0000050	0.00415	0.00064	<0.050	3.52
W16	26/07/2016 10:05	0.00052	<0.0030	<0.00030	0.0079	<0.00010	0.00038	0.0649	<0.000020	<0.000050	0.047	0.0000134	48.9	<0.00010	<0.00010	0.0192	0.029	<0.000050	<0.0010	13.2	0.0985	<0.0000050	0.00381	0.00066	<0.050	3.46
W16	26/07/2016 10:05	0.00052	<0.0030	<0.00030	0.0079	<0.00010	0.00038	0.0649	<0.000020	<0.000050	0.047	0.0000134	48.9	<0.00010	<0.00010	0.0192	0.029	<0.000050	<0.0010	13.2	0.0985	<0.0000050	0.00381	0.00066	<0.050	3.46
W16	02/08/2016 15:35	<0.00050	<0.0030	<0.00030	0.0080	<0.00010	0.00035	0.0586	<0.000020	<0.000050	0.043	0.0000111	51.1	<0.00010	<0.00010	0.0183	0.024	<0.000050	0.0013	13.5	0.0846	<0.0000050	0.00369	0.00059	<0.050	3.36
W16	11/08/2016 14:50	<0.00050	<0.0030	<0.00030	0.0052	<0.00010	0.00034	0.0617	<0.000020	<0.000050	0.042	0.0000129	53.9	<0.00010	<0.00010	0.0179	0.027	<0.000050	0.0014	13.8	0.0706	<0.0000050	0.00350	0.00063	<0.050	3.43
W16	17/08/2016 14:50	<0.00050	<0.0030	<0.00030	0.0051	<0.00010	0.00036	0.0617	<0.000020	<0.000050	0.044	0.0000075	52.7	<0.00010	<0.00010	0.0181	0.025	<0.000050	0.0012	13.9	0.0388	<0.0000050	0.00382	0.00065	<0.050	3.28
W16	23/08/2016 8:30	0.00064	<0.0030	<0.00030	0.0047	<0.00010	0.00035	0.0554	<0.000020	<0.000050	0.046	0.0000069	54.4	<0.00010	<0.00010	0.0157	0.025	<0.000050	0.0015	14.3	0.0112	<0.0000050	0.00386	0.00054	<0.050	3.34
W16	30/08/2016 8:40	0.00062	<0.0030	<0.00030	0.0093	<0.00010	0.00034	0.0651	<0.000020	<0.000050	0.043	0.0000051	58.4	0.00010	<0.00010	0.0184	0.032	<0.000050	0.0013	14.5	0.00562	<0.0000050	0.00397	0.00074	<0.050	3.36
W16	06/09/2016 12:46	0.00062	<0.0030	<0.00030	0.0067	<0.00010	0.00035	0.0705	<0.000020	<0.000050	0.041	0.0000052	57.5	0.00011	<0.00010	0.0173	0.028	<0.000050	<0.0010	15.4	0.00376	<0.0000050	0.00412	0.00066	<0.050	3.33
W16	13/09/2016 7:50	<0.00050	<0.0030	<0.00030	0.0037	<0.00010	0.00031	0.0707	<0.000020	<0.000050	0.037	0.0000053	57.1	<0.00010	<0.00010	0.0162	0.019	<0.000050	0.0011	14.8	0.00144	<0.0000050	0.00372	0.00059	<0.050	3.13
W16	19/09/2016 14:30	0.00080	<0.0030	<0.00030	0.0044	<0.00010	0.00031	0.0699	<0.000020	<0.000050	0.036	<0.0000050	58.2	0.00011	<0.00010	0.0163	0.019	<0.000050	0.0010	15.5	0.00304	<0.0000050	0.00395	<0.00050	<0.050	3.23
W16	27/09/2016 16:25	0.00051	<0.0030	<0.00030	0.0019	<0.00010	0.00032	0.0720	<0.000020	<0.000050	0.036	0.0000068	57.6	<0.00010	<0.00010	0.0161	0.015	<0.000050	0.0013	16.3	0.00369	<0.0000050	0.00350	0.00061	<0.050	3.35
W16	04/10/2016 11:45	<0.00050	<0.0030	<0.00030	0.0019	<0.00010	0.00034	0.0752	<0.000020	<0.000050	0.037	<0.0000050	63.3	0.00010	<0.00010	0.0154	0.020	<0.000050	<0.0010	16.6	0.00362	<0.0000050	0.00350	0.00063	<0.050	3.43
W16	10/10/2016 8:05	0.00052	<0.0030	<0.00030	0.0018	<0.00010	0.00032	0.0774	<0.000020	<0.000050	0.038	<0.0000050	62.2	<0.00010	<0.00010	0.0148	0.021	<0.000050	0.0018	17.1	0.00348	<0.0000050	0.00352	0.00064	<0.050	3.22
W16	17/10/2016 15:15	0.00260	0.0057	<0.00030	0.0030	<0.00010	0.00030	0.0749	<0.000020	<0.000050	0.035	<0.0000050	60.0	<0.00010	<0.00010	0.0153	0.019	<0.000050	<0.0010	16.5	0.0167	<0.0000050	0.00334	0.00057	<0.050	3.21
W16	24/10/2016 16:05	<0.00050	<0.0030	<0.00030	0.0013	0.00019	0.00035	0.0750	<0.000020	<0.000050	0.032	0.0000074	60.1	0.00011	<0.00010	0.0148	0.027	<0.000050	0.0014	17.0	0.00630	<0.0000050	0.00351	0.00068	<0.050	3.36
W16	25/11/2016 10:50	<0.00050	<0.0030	<0.00030	0.0015	<0.00010	0.00037	0.0828	<0.000020	<0.000050	0.037	0.0000075	68.7	<0.00010	<0.00010	0.0149	0.024	<0.000050	0.0014	19.0	0.0201	<0.0000050	0.00391	0.00066	<0.050	3.73
W16	29/11/2016 11:30																									
W16	07/12/2016 13:30	0.00061	0.0030	<0.00030	0.0035	0.00012	0.00037	0.0756	<0.000020	<0.000050	0.035	0.0000135	63.8	0.00011	<0.00010	0.0145	0.030	<0.000050	0.0015	18.6	0.0154	<0.0000050	0.00398	0.00066	<0.050	3.54
W62	28/01/2016 15:30	<0.0050	0.407	<0.00050	0.0058	<0.00050	0.00011	0.113	<0.00010	<0.0010	<0.05	0.000029	129	<0.0010	<0.00050	0.0181	0.0113	<0.00020	<0.0050	41	0.108	<0.000010	0.0044	<0.0010	<0.01	4.36
W62	03/02/2016 15:55	<0.0050	0.789	<0.00050	0.0089	<0.00050	0.00022	0.107	<0.00010	<0.0010	<0.05	0.000032	114	<0.0010	<0.00050	0.0186	0.0114	<0.00020	<0.0050	39.8	0.0993	<0.000010	0.0053	<0.0010	<0.01	3.44
W62	29/03/2016 13:30	0.00088	0.396	<0.00030	0.0034	<0.00010	0.00044	0.118	<0.000020	<0.000050	0.017	0.0000140	144	0.00011	0.00015	0.0483	0.063	<0.000050	0.0021	42.0	0.0928	<0.0000050	0.00638	0.00123	<0.050	4.86
W62	26/04/2016 16:15	0.00151	0.152	<0.00030	0.0056	<0.00010	0.00040	0.0999	<0.000020	<0.000050	0.019	0.0000383	115	0.00017	0.00018	0.0529	0.034	<0.000050	0.0028	32.8	0.208	<0.0000050	0.00822	0.00092	<0.050	4.64
W62	06/05/2016 14:25																									
W62	20/05/2016 14:35	0.00168	0.0673	<0.00030	0.0052	<0.00010	0.00038	0.103	<0.000020	<0.000050	0.019	0.0000260	124	0.00015	0.00014	0.0501	0.052	<0.000050	0.0023	35.9	0.124	<0.0000050	0.00744	0.00092	<0.050	5.11
W62	24/05/2016 15:35	0.00324	0.0042	0.00031	0.0144	<0.00010	0.00043	0.0414	<0.000020	<0.000050	<0.010	<0.0000050	23.5	0.00022	<0.00010	0.00195	0.072	<0.000050	<0.0010	6.16	0.0160	<0.0000050	0.000420	0.00161	<0.050	0.64
W62	25/06/2016 16:40	0.00098	0.0684	<0.00030	0.0045	<0.00010	0.00037	0.107	<0.000020	<0.000050	0.019	0.0000268	127	0.00014	0.00014	0.0629	0.058	<0.000050	0.0022	37.8	0.0783	<0.0000050	0.00756	0.00110	<0.050	5.09
W62	30/08/2016 15:50	0.00084	0.165	<0.00030	0.0023	<0.00010	0.00036	0.163	<0.000020	<0.000050	0.057	0.0000176	181	<0.00010	0.00010	0.0409	0.045	<0.000050	0.0033	41.7	0.0307	<0.0000050	0.00803	0.00111	<0.050	5.87
W62	17/09/2016 15:35	0.00099	0.0329	<0.00030	0.0036	<0.00010	0.00038	0.155	<0.000020	<0.000050	0.036	0.0000133	154	0.00013	0.00012	0.0508	0.048	<0.000050	0.0027	42.0	0.0380	0.0000050	0.00706	0.00114	<0.050	5.33
W62	16/10/2016 16:00	0.00181	0.219	<0.00030	0.0026	<0.00010	0.00040	0.131	<0.000020	<0.000050	0.025	0.0000147	150	0.00018	0.00011	0.0438	0.035	<0.000050	0.0022	40.8	0.0450	<0.0000050	0.00602	0.00098	<0.050	5.24
W62	04/11/2016 14:20	0.00100	0.435	<0.00030	0.0022	<0.00010	0.00032	0.112	<0.000020	<0.000050	0.025	0.0000194	141	0.00014	0.00011	0.0418	0.028	<0.000050	0.0017	38.1	0.118	<0.0000050	0.00558	0.00082	<0.050	4.95

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	BOD5	Br	Cation	COD	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-T	N-TKN	P-PO4T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L
W16	06/12/2015 17:00	0.00039	0.591	<0.000020	16	0.582	11.2	<0.000050	<0.0050	<0.0050	0.00117	<0.0050	<0.0050	<0.00050	182	<0.50	<0.50	<0.50														
W16	02/01/2016 15:00	0.00041	1.04	<0.000020	16.1	0.57	12.3	<0.000050	<0.0050	<0.0050	0.00128	<0.0050	<0.0050	<0.00050	209	<0.50	<0.50	<0.50														
W16	09/01/2016 13:35																															
W16	12/01/2016 15:20																															
W16	18/01/2016 15:25																															
W16	31/01/2016 11:25																															
W16	06/02/2016 10:25	0.00045	2.02	0.00002	16.5	0.578	13.2	<0.000050	<0.0050	<0.0050	0.00149	<0.0050	<0.0050	<0.00050	220	<0.50	<0.50	<0.50														
W16	11/02/2016 11:20																															
W16	20/02/2016 15:10																															
W16	28/02/2016 9:40																															
W16	06/03/2016 16:45	0.00041	2.24	<0.000020	16	0.598	16.6	<0.000050	<0.0050	<0.0050	0.00139	<0.0050	<0.0050	<0.00050	225	<0.50	<0.50	<0.50														
W16	13/03/2016 7:26																															
W16	20/03/2016 16:45																															
W16	25/03/2016 11:15																															
W16	04/04/2016 16:30	0.000680	0.702	<0.000010	9.24	0.213	5.93	<0.000010	<0.00010	<0.00030	0.000271	<0.00050	<0.0010	<0.00030	45.5	<1.0	<1.0		1.60			1.48							-3.9			
W16	05/04/2016 8:45																															
W16	06/04/2016 8:05																															
W16	07/04/2016 9:30																															
W16	08/04/2016 9:20																															
W16	09/04/2016 8:10																															
W16	12/04/2016 15:45																															
W16	22/04/2016 7:40	0.000535	2.13	<0.000010	8.78	0.292	7.95	<0.000010	<0.00010	0.00044	0.000561	<0.00050	0.0013	<0.00030	76.5	<1.0	<1.0		2.21			2.40							4.2			
W16	29/04/2016 8:15	0.000552	2.29	<0.000010	9.64	0.303	8.24	<0.000010	<0.00010	0.00038	0.000536	<0.00050	<0.0010	<0.00030	85.0	<1.0	<1.0		2.43			2.69							5.0			
W16	03/05/2016 17:00	0.000790	2.53	<0.000010	10.5	0.395	10.9	<0.000010	<0.00010	0.00037	0.000747	<0.00050	<0.0010	<0.00030	104	<1.0	<1.0		3.05			3.22							2.7			
W16	15/05/2016 17:05																															
W16	19/05/2016 12:00	0.00113	2.41	<0.000010	10.9	0.453	13.9	<0.000010	<0.00010	<0.00030	0.000924	<0.00050	<0.0010	<0.00030	104	15.6	<1.0		3.64			3.84							2.6			
W16	24/05/2016 9:00	0.00119	2.31	<0.000010	11.6	0.461	14.9	<0.000010	<0.00010	0.00055	0.000927	<0.00050	0.0017	<0.00030	98.6	17.8	<1.0		3.51			3.90							5.3			
W16	05/06/2016 16:20																															
W16	14/06/2016 8:00	0.00129	1.08	<0.000010	12.2	0.442	15.0	<0.000010	<0.00010	<0.00030	0.000909	<0.00050	<0.0010	<0.00030	103	8.4	<1.0		3.53			3.75							3.0			
W16	14/06/2016 8:00																															
W16	24/06/2016 8:10	0.00144	1.32	<0.000010	12.7	0.483	15.7	<0.000010	<0.00010	0.00036	0.00105	<0.00050	<0.0010	<0.00030	112	5.4	<1.0		3.79			4.01							2.9			
W16	28/06/2016 8:15	0.00136	1.34	<0.000010	12.5	0.475	15.8	<0.000010	<0.00010	0.00030	0.00102	<0.00050	0.0024	<0.00030	115	2.6	<1.0		3.82			3.96							1.8			
W16	10/07/2016 8:00	0.00154	1.61	<0.000010	15.5	0.599	19.7	<0.000010	<0.00010	<0.00030	0.00100	<0.00050	0.0063	<0.00030	122	<1.0	<1.0		4.14			4.30							1.9			
W16	14/07/2016 8:45	0.00154	1.75	<0.000010	15.9	0.574	19.9	<0.000010	<0.00010	<0.00030	0.00100	<0.00050	0.0021	<0.00030	124	<1.0	<1.0		4.21			4.33							1.4			
W16	20/07/2016 8:30	0.00157	2.13	<0.000010	14.6	0.559	18.4	<0.000010	<0.00010	0.00037	0.00104	<0.00050	0.0012	<0.00030	126	<1.0	<1.0		4.12			4.43							3.6			
W16	26/07/2016 10:05	0.00143	2.11	<0.000010	15.3	0.541	17.5	<0.000010	<0.00010	0.00034	0.000980	<0.00050	0.0027	<0.00030	125	<1.0	<1.0		4.06			4.29							2.9			
W16	26/07/2016 10:05	0.00143	2.11	<0.000010	15.3	0.541	17.5	<0.000010	<0.00010	0.00034	0.000980	<0.00050	0.0027	<0.00030	125	<1.0	<1.0		4.06			4.29							2.9			
W16	02/08/2016 15:35	0.00128	2.37	<0.000010	13.4	0.534	17.5	<0.000010	<0.00010	0.00032	0.000959	<0.00050	0.0017	<0.00030	126	<1.0	<1.0		4.06			4.34							3.3			
W16	11/08/2016 14:50	0.00136	2.49	<0.000010	13.4	0.503	18.4	<0.000010	<0.00010	0.00038	0.000948	<0.00050	<0.0010	<0.00030	131	<1.0	<1.0		4.18			4.50							3.7			
W16	17/08/2016 14:50	0.00154	2.66	<0.000010	13.8	0.568	18.2	<0.000010	<0.00010	0.00033	0.00105	<0.00050	<0.0010	<0.00030	136	4.4	<1.0		4.43			4.46							0.4			
W16	23/08/2016 8:30	0.00116	2.73	<0.000010	12.5	0.583	19.0	<0.000010	<0.00010	<0.00030	0.00104	<0.00050	0.0015	<0.00030	142	3.0	<1.0		4.56			4.52							-0.4			
W16	30/08/2016 8:40	0.00142	2.85	<0.000010	15.1	0.610	18.8	<0.000010	<0.00010	0.00050	0.00109	<0.00050	0.0028	<0.00030	147	<1.0	<1.0		4.67			4.86							2.0			
W16	06/09/2016 12:46	0.00142	3.12	<0.000010	13.7	0.644	20.2	<0.000010	<0.00010	0.00055	0.00116	<0.00050	<0.0010	<0.00030	150	<1.0	<1.0		4.76			4.82							0.6			
W16	13/09/2016 7:50	0.00154	3.15	<0.000010	13.6	0.635	19.5	<0.000010	<0.00010	<0.00030	0.00114	<0.00050	<0.0010	<0.00030	160	<1.0	<1.0		5.00			4.74							-2.7			
W16	19/09/2016 14:30	0.00129	3.21	<0.000010	13.2	0.641	19.2	<0.000010	<0.00010	<0.00030	0.00126	<0.00050	<0.0010	<0.00030	147	<1.0	<1.0		4.74			4.84							1.1			
W16	27/09/2016 16:25	0.00150	3.47	<0.000010	13.9	0.621	22.2	<0.000010	<0.00010	<0.00030	0.00118	<0.00050	<0.0010	<0.00030	160	<1.0	<1.0		5.07			4.91							-1.6			
W16	04/10/2016 11:45	0.00164	3.68	<0.000010	14.0	0.672	23.4	<0.000010	<0.00010	<0.00030	0.00127	<0.00050	0.0013	<0.00030	164	<1.0	<1.0		5.22			5.23							0.0			
W16	10/10/2016 8:05	0.00159	3.47	<0.000010	14.1	0.639	23.0	<0.000010	<0.00010	<0.00030	0.00130	<0.00050	0.0013	<0.00030	167	<1.0	<1.0		5.33			5.22							-1.1			
W16	17/10/2016 15:15	0.00147	3.74	<0.000010	13.2	0.639	19.9	<0.000010	<0.00010	<0.00030	0.00124	<0.00050	<0.0010	<0.00030	164	<1.0	<1.0		5.17			5.01							-1.5			
W16	24/10/2016 16:05	0.00154	3.50	<0.000010	14.2	0.635	22.7	<0.000010	<0.00010	<0.00030	0.00129	<0.00050	0.0058	<0.00030	164	<1.0	<1.0		5.22			5.10							-1.1			
W16	25/11/2016 10:50	0.00154	3.91	<0.000010	15.7	0.753	23.5	<0.000010	<0.00010	<0.00030	0.00146	<0.00050	0.0043	<0.00030	185	<1.0	<1.0		5.70			5.77							0.6			
W16	29/11/2016 11:30																															
W16	07/12/2016 13:30	0.00143	4.06	<0.000010	15.2	0.724	25.0	<0.000010	<0.00010	<0.00030	0.00163	<0.00050	0.0030	<0.00030	193	<1.0	<1.0		5.86			5.47							-3.4			
W62	28/01/2016 15:30	0.00348	7.61	<0.000020	24.5	1.06	60.7	<0.000050	<0.0050	<0.0050	0.00565	<0.0050	0.263	<0.00050	355	<0.50	<0.50	<0.50														
W62	03/02/2016 15:55	0.00318	6.88	<0.000020	23.8	1.01	46.6	<0.000050	<0.0050	<0.0050	0.006	<0.0050	0.799	<0.00050	347	<0.50	<0.50	<0.50														
W62	29/03/2016 13:30	0.00371	7.47	<0.000010	21.6	1.28	44.2	<0.000010	<0.00010	<0.00030	0.00494	0.00058	0.402	<0.00030	332	<1.0	<1.0		11.1			11.7							2.9			
W62	26/04/2016 16:15	0.00412	6.13	<0.000010	21.6	1.16	47.3	<0.000010	<0.00010	<0.00030	0.00350	0.00054	0.0923	<0.00030	240	<1.0	<1.0		8.86			9.52							3.6			
W62	06/05/2016 14:25																															
W62	20/05/2016 14:35	0.00343	6.97	<0.000010	22.2	1.21	46.6	<0.000010	<0.00010	0.00049	0.00374	<0.00050	0.0641	<0.00030	303	<1.0	<1.0		9.74			10.2							2.4			
W62	24/05/2016 15:35	0.000095	5.94	<0.000010	3.69	0.100	0.86	<0.000010	<0.00010	0.00087	0.000145	0.00077	0.0018	<0.00030	82.9	<1.0	<1.0		1.71			1.86							4.3			
W62	25/06/2016 16:40	0.00400	7.05	<0.000010	23.5	1.27	50.9	<0.000010	<0.00010	<0.00030	0.00357	0.00058	0.0678	<0.00030	308	3.6	<1.0		10.2			10.6							1.9			
W62	30/08/2016 15:50	0.00485	6.80	<0.000010	31.9	2.39	91.1	<0.000010	<0.00010	<0.00030	0.00485	<0.00050	0.153	<0.00030	280	11.2	<1.0		13.5			14.0							2.0			
W62	17/09/2016 15:35	0.00465	7.91	<0.000010	26.4	1.80	80.3	<0.000010	<0.00010	0.00035	0.00426	<0.00050	0.0303	<0.00030	330	<1.0	<1.0		12.6			12.4							-0.7			
W62	16/10/2016 16:00	0.00389	7.48	<0.000010	26.4	1.50	73.7	<0.000010	<0.00010	<0.00030	0.00439	<0.00050	0.107	<0.00030	335	10.2	<1.0		12.4			12.1							-1.0			
W62	04/11/2016 14:20	0.00283	7.79	<0.000010	24.4	1.46	61.8	<0.000010	<0.00010	<0.00030	0.00438	<0.00050	0.406	<0.00030	332	<1.0	<1.0		11.6			11.4							-1.1			

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	P-TDP	P-TRP	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		mg/L	mg/L	Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W16	06/12/2015 17:00					403.5			
W16	02/01/2016 15:00					433.1			
W16	09/01/2016 13:35					445.1			
W16	12/01/2016 15:20					443.3			
W16	18/01/2016 15:25					392.1			
W16	31/01/2016 11:25					456.8			
W16	06/02/2016 10:25					448.5			
W16	11/02/2016 11:20					451.5			
W16	20/02/2016 15:10					436.1			
W16	28/02/2016 9:40					467.4			
W16	06/03/2016 16:45					467.3			
W16	13/03/2016 7:26					474.6			
W16	20/03/2016 16:45					457			
W16	25/03/2016 11:15					450.4			
W16	04/04/2016 16:30					158.5			
W16	05/04/2016 8:45					247.1			
W16	06/04/2016 8:05					213.7			
W16	07/04/2016 9:30					220.8			
W16	08/04/2016 9:20					167.1			
W16	09/04/2016 8:10					179.3			
W16	12/04/2016 15:45					232.6			
W16	22/04/2016 7:40					223.1			
W16	29/04/2016 8:15					241.1			
W16	03/05/2016 17:00					293.5			
W16	15/05/2016 17:05					336.6			
W16	19/05/2016 12:00					342.8			
W16	24/05/2016 9:00					332.3			
W16	05/06/2016 16:20					328.1			
W16	14/06/2016 8:00								
W16	14/06/2016 8:00					335.6			
W16	24/06/2016 8:10					359.5			
W16	28/06/2016 8:15					364.2			
W16	10/07/2016 8:00					402.3			
W16	14/07/2016 8:45					402.3			
W16	20/07/2016 8:30					408.9			
W16	26/07/2016 10:05					405.5			
W16	26/07/2016 10:05								
W16	02/08/2016 15:35					393.1			
W16	11/08/2016 14:50					394.4			
W16	17/08/2016 14:50					413.7			
W16	23/08/2016 8:30					422.7			
W16	30/08/2016 8:40					437.2			
W16	06/09/2016 12:46					440.9			
W16	13/09/2016 7:50					434.6			
W16	19/09/2016 14:30					461			
W16	27/09/2016 16:25					473			
W16	04/10/2016 11:45					467.7			
W16	10/10/2016 8:05					477.3			
W16	17/10/2016 15:15					492.5			
W16	24/10/2016 16:05					499.7			
W16	25/11/2016 10:50					529.1			
W16	29/11/2016 11:30					526.5			
W16	07/12/2016 13:30					552.5			
W62	28/01/2016 15:30					786.2			
W62	03/02/2016 15:55					918			
W62	29/03/2016 13:30					974			
W62	26/04/2016 16:15					801.7			
W62	06/05/2016 14:25					965			
W62	20/05/2016 14:35					893			
W62	24/05/2016 15:35								
W62	25/06/2016 16:40					904			
W62	30/08/2016 15:50					1204			
W62	17/09/2016 15:35					1051			
W62	16/10/2016 16:00					1076			
W62	04/11/2016 14:20					1108			

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T	B-T
			mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W62	01/12/2016 15:50	P	<3.0	701	8.12	8.22	590	1070	0.7	12.50	88.4	63.5		551	373	27.1		197	<0.0050	0.0137	6.36		0.0115	<0.00010	0.00040	0.120	<0.000020	<0.000050	0.025

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W62	01/12/2016 15:50	0.0000255	161	0.00021	0.00013	0.0499	0.101	<0.000050	0.0026	38.3	0.0616	<0.0000050	0.00681	0.00109	<0.050	4.85	0.00300	8.13	<0.000010	23.4	1.73	74.6	<0.000010	<0.00010	0.00058	0.00502

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W62	01/12/2016 15:50	0.00063	0.139	<0.00030	0.0025	<0.00010	0.00039	0.124	<0.000020	<0.000050	0.022	0.0000192	155	0.00019	0.00011	0.0478	0.046	<0.000050	0.0023	39.4	0.0620	<0.0000050	0.00608	0.00111	<0.050	4.94

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	BOD5	Br	Cation	COD	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-T	N-TKN	P-PO4T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L
W62	01/12/2016 15:50	0.00305	8.35	<0.000010	24.9	1.58	67.1	<0.000010	<0.00010	<0.00030	0.00455	<0.00050	0.138	<0.00030	373	<1.0	<1.0		12.8			12.2							-2.2			

Appendix C - Minto Water Quality Data - Mine Site

Stn.Code	Smpl Date	P-TDP	P-TRP	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		mg/L	mg/L	Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W62	01/12/2016 15:50					1105			

Appendix C - Minto Water Quality Data - Minto North Pit

Stn.Code	Smpl Date	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
			mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MN	12/11/2015 14:30	P	142	1550	8.13	7.96	1132	1990	0.2	13.40	92.8	49.6	951	880	223	16	0.27	27.9	6.4	11.9	183		4.41	<0.00050	0.001	0.309	0.00015	<0.0010
MN	28/12/2015 16:50	P	101	2190	7.74	7.63	1905	3250	1.8	13.57	98.7	49	1470	1260	140	6.6	0.82	90.7	51	8.17	342		2.91	<0.00050	0.00103	0.42	0.0002	<0.0010
MN	27/02/2016 15:27	P	134	854	7.69	8.06	562	1030	1.4	13.66	96.1	65.6	407	393	83.8	2	1.7	32.3	6.2	2.32	97.1		2.55	<0.00050	0.00069	0.0853	0.00024	<0.0010
MN	29/04/2016 17:15	P	24.0	1350	8.6	7.77	1975	2010	1.9					662	122	4.7		76.9	10.1	6.94	183		0.523	0.00042	0.00066	0.303	<0.000040	<0.00010
MN	31/03/2016 9:15	P	29.3	2020	7.58	7.73	1676	2900	2.3	8.18	60.8	202.9		1100	171	<5.0		59.7	23.4	7.55	300		1.44	0.00091	0.00081	0.351	0.000061	<0.00010
MN	27/05/2016 13:10	P	10.7	953	8.3	7.84	1508	1370	8.8					528	132	<2.5		63.8	8.68	3.81	122		0.281	0.00030	0.00093	0.111	<0.000020	<0.000050
MN	30/06/2016 9:00	P	111	998	7.72	7.85	1123	1410	17.2	5.85	62.2	146.2		567	127	3.2		173	9.49	1.52	105		1.52	0.00015	0.00121	0.0864	0.000069	0.000063
MN	28/07/2016 11:00	P	115		7.73	7.68	688	984	8	9.71	82.2	124.4		341	56.0	4.9	2.48	118	3.93	1.40	77.1		1.99	0.00034	0.00143	0.111	0.000059	0.000077
MN	25/08/2016 15:15	P	<3.0	537	7.26	8.02	709	790	18.4	7.57	80.8	131.4		295	112	2.41		92.2	5.91	0.644	49.5		0.161	0.00025	0.00056	0.0451	<0.000020	<0.000050
MN	25/09/2016 14:00	P	8.3	1550	7.03	7.56	1493	1860	9.8	9.61	85.4	191.3		825	231	9.1		193	25.2	14.7	173	8.36	0.0896	0.00014	0.00173	0.189	0.000040	<0.000050
MN	01/10/2016 12:30	P	6.0	219	7.8	8.16	240.7	333	6.7	11.94	97.7	166.9		124	94.9	1.07		26.7	1.45	0.345	14.2		0.120	0.00029	0.00072	0.0261	<0.000020	<0.000050

Appendix C - Minto Water Quality Data - Minto North Pit

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T	V-T	Zn-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MN	12/11/2015 14:30	0.848	0.000056	300	0.0024	0.00708	0.128	8.15	0.00149	0.006	49.1	1.87	0.000348	0.009	0.0032	0.109	6.71	0.00401	16.7	0.00396	26.3	2.98	7.6	<0.000050	<0.0050	0.255	0.00413	0.017	0.0308
MN	28/12/2015 16:50	0.647	0.000015	455	<0.0010	0.00953	0.323	5.53	0.00116	0.0162	82.2	0.845	<0.000010	0.0189	0.0048	0.106	9.53	0.015	13.4	0.000274	44	15.3	32.8	<0.000050	<0.0050	0.0857	0.00277	0.0082	0.014
MN	27/02/2016 15:27	0.211	0.000017	135	<0.0010	0.00165	0.234	3.45	0.00144	0.0087	16.7	0.159	<0.000010	0.0412	<0.0010	0.057	3.6	0.00464	7.17	<0.000020	21.2	4.74	8.7	<0.000050	<0.0050	0.0348	0.00177	0.0057	0.0111
MN	29/04/2016 17:15	0.672	0.000025	246	<0.00020	0.00133	0.265	0.880	0.00021	0.0182	23.9	0.115	0.0000065	0.0213	0.0022	<0.050	10.6	0.00847	4.56	0.000064	92.7	13.7	28.7	<0.000020	<0.00020	0.0181	0.00236	0.0017	<0.0060
MN	31/03/2016 9:15	0.401	0.000268	348	0.00038	0.00216	0.438	1.75	0.00051	0.0173	50.8	0.519	0.0000188	0.0110	0.0013	<0.050	12.0	0.0138	7.18	0.000090	54.6	13.3	21.9	<0.000020	<0.00020	0.0714	0.00307	0.0047	0.0075
MN	27/05/2016 13:10	0.358	0.0000963	178	<0.00010	0.00059	0.0840	0.482	0.000160	0.0144	21.3	0.0885	<0.0000050	0.0148	<0.00050	<0.050	7.77	0.00927	3.58	0.000040	46.2	7.95	22.5	0.000015	<0.00010	0.0140	0.00269	0.00109	<0.0030
MN	30/06/2016 9:00	0.372	0.000108	187	0.00029	0.00118	0.280	3.02	0.00378	0.0155	24.0	0.191	<0.0000050	0.0201	0.00189	<0.050	6.19	0.00968	7.03	0.000252	49.1	5.73	59.3	0.000010	0.00020	0.0511	0.00174	0.00577	0.0478
MN	28/07/2016 11:00	0.180	0.0000912	112	0.00050	0.00111	0.412	2.86	0.000727	0.0087	14.8	0.148		0.0329	<0.00050	<0.050	7.67	0.0611	5.94	0.000220	53.1	5.14	39.1	0.000023	<0.00010	0.0947	0.00173	0.00666	0.0145
MN	25/08/2016 15:15	0.160	0.000169	96.0	<0.00010	0.00057	0.105	0.274	0.000141	0.0100	12.6	0.125	<0.0000050	0.0240	<0.00050	<0.050	4.15	0.0237	2.87	0.000045	35.8	2.97	32.8	<0.000010	<0.00010	0.00708	0.00138	0.00078	0.0097
MN	25/09/2016 14:00	1.45	0.0000323	248	<0.00010	0.00129	0.577	0.599	0.000224	0.0217	41.8	0.129	<0.0000050	0.0135	0.00240	<0.050	5.99	0.0140	7.30	0.000049	53.0	6.83	30.3	<0.000010	<0.00010	0.00129	0.00199	0.00055	0.0052
MN	01/10/2016 12:30	0.165	0.000108	42.8	<0.00010	0.00018	0.216	0.217	0.000417	0.0033	6.06	0.0140	<0.0000050	0.0360	<0.00050	<0.050	2.16	0.00371	3.70	0.000115	20.2	1.21	9.77	<0.000010	<0.00010	0.00327	0.00127	0.00100	<0.0030

Appendix C - Minto Water Quality Data - Minto North Pit

Stn.Code	Smpl Date	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D	Se-D	Si-D	Ag-D	Na-D	Sr-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MN	12/11/2015 14:30	0.00057	0.009	<0.00050	0.0002	0.225	<0.00010	<0.0010	0.809	0.000035	278	<0.0010	0.00427	0.0945	0.241	<0.00020	<0.0050	45.3	1.51	0.000348	0.0077	0.0014	0.011	5.52	0.00421	7.36	0.00483	24.7	2.77
MN	28/12/2015 16:50	<0.00050	0.0241	<0.00050	0.00036	0.359	<0.00010	<0.0010	0.605	0.00001	392	<0.0010	0.00743	0.276	0.449	<0.00020	0.0139	67.7	0.643	<0.000010	0.0164	0.0041	<0.01	7.85	0.0134	6.58	0.000124	36.9	12.9
MN	27/02/2016 15:27	<0.00050	0.0266	<0.00050	0.00041	0.0708	<0.00010	<0.0010	0.177	<0.000010	130	<0.0010	0.00086	0.199	0.0601	<0.00020	0.0077	16.6	0.0765	<0.000010	0.0384	<0.0010	<0.01	3.39	0.00466	2.53	<0.000020	21.2	4.58
MN	29/04/2016 17:15	<0.00060	0.0035	0.00056	0.00047	0.277	<0.000040	<0.00010	0.591	0.000013	229	<0.00020	0.00105	0.158	0.030	<0.00010	0.0161	22.0	0.0878	<0.0000050	0.0213	0.0020	<0.050	9.75	0.00797	3.30	<0.000020	87.0	12.4
MN	31/03/2016 9:15	<0.00060	0.0044	0.00100	0.00051	0.355	<0.000040	<0.00010	0.444	0.000283	359	<0.00020	0.00176	0.327	0.087	<0.00010	0.0175	50.8	0.522	0.0000146	0.0112	0.0012	<0.050	11.6	0.0136	4.35	<0.000020	56.7	13.1
MN	27/05/2016 13:10	<0.00030	0.0032	0.00028	0.00077	0.107	<0.000020	<0.000050	0.346	0.0000710	178	<0.00010	0.00046	0.0407	0.012	<0.000050	0.0143	20.5	0.0765	<0.0000050	0.0136	<0.00050	<0.050	7.09	0.00957	2.91	<0.000010	44.3	7.69
MN	30/06/2016 9:00	<0.00030	0.0025	0.00012	0.00080	0.0718	<0.000020	<0.000050	0.356	0.0000404	188	<0.00010	0.00046	0.0156	0.019	<0.000050	0.0146	23.6	0.127	<0.0000050	0.0201	0.00060	<0.050	5.98	0.00961	3.77	<0.000010	47.6	5.60
MN	28/07/2016 11:00	<0.00030	0.0091	0.00038	0.00096	0.0853	<0.000020	<0.000050	0.168	0.0000271	114	<0.00010	0.00022	0.0119	<0.010	<0.000050	0.0083	14.0	0.0618		0.0319	<0.00050	<0.050	6.83	0.0627	2.25	<0.000010	52.0	5.35
MN	25/08/2016 15:15	<0.00030	0.0033	0.00018	0.00046	0.0422	<0.000020	<0.000050	0.130	0.000137	96.9	<0.00010	0.00047	0.0594	<0.010	<0.000050	0.0098	12.8	0.111	<0.0000050	0.0219	<0.00050	<0.050	4.12	0.0235	2.55	<0.000010	33.2	2.74
MN	25/09/2016 14:00	<0.00030	0.0031	0.00013	0.00142	0.187	0.000022	<0.000050	1.47	0.0000271	262	<0.00010	0.00122	0.562	0.221	<0.000050	0.0234	41.4	0.130	<0.0000050	0.0134	0.00261	<0.050	6.20	0.0138	6.95	0.000015	51.9	7.12
MN	01/10/2016 12:30	<0.00030	0.0069	0.00028	0.00064	0.0247	<0.000020	<0.000050	0.152	0.0000162	40.1	<0.00010	0.00012	0.0243	<0.010	<0.000050	0.0029	5.90	0.00970	<0.0000050	0.0316	<0.00050	<0.050	2.14	0.00385	3.31	<0.000010	20.0	1.13

Appendix C - Minto Water Quality Data - Minto North Pit

Stn.Code	Smpl Date	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	BOD5	Cation	COD	C-TOC	IB	N-T	N-TKN	Sp-Cond
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	mg/L	%	mg/L	mg/L	µS/cm
MN	12/11/2015 14:30	6.2	<0.000050	<0.0050	<0.0050	0.00374	<0.0050	0.0066	<0.00050	273	<0.50	<0.50	<0.50									2156
MN	28/12/2015 16:50	31	<0.000050	<0.0050	<0.0050	0.00236	<0.0050	<0.0050	<0.00050	171	<0.50	<0.50	<0.50									3423
MN	27/02/2016 15:27	8.9	<0.000050	<0.0050	<0.0050	0.00146	<0.0050	<0.0050	<0.00050	102	<0.50	<0.50	<0.50									1054
MN	29/04/2016 17:15	27.8	<0.000020	<0.00020	<0.00060	0.00210	<0.0010	<0.0020	<0.00060	122	<1.0	<1.0		17.7		18.0			0.7			
MN	31/03/2016 9:15	20.5	<0.000020	<0.00020	<0.00060	0.00293	<0.0010	<0.0020	<0.00060	171	<1.0	<1.0		26.6		26.5			-0.1			2959
MN	27/05/2016 13:10	21.7	0.000011	<0.00010	<0.00030	0.00255	<0.00050	<0.0010	<0.00030	132	<1.0	<1.0		12.9		13.3			1.5			
MN	30/06/2016 9:00	58.1	<0.000010	<0.00010	<0.00030	0.00168	<0.00050	0.0159	<0.00030	127	<1.0	<1.0		13.8		14.2			1.5			1320
MN	28/07/2016 11:00	40.0	<0.000010	<0.00010	0.00075	0.00167	<0.00050	0.0021	<0.00030	56.0	<1.0	<1.0		9.44	<2.0	9.54	<20	4.01	0.5	82.4	3.93	1020
MN	25/08/2016 15:15	31.2	<0.000010	<0.00010	<0.00030	0.00128	<0.00050	0.0021	<0.00030	112	<1.0	<1.0		7.81		7.86			0.4			811
MN	25/09/2016 14:00	28.1	<0.000010	0.00013	<0.00030	0.00193	<0.00050	0.0118	<0.00030	231	<1.0	<1.0		22.3		20.7			-3.7			2102
MN	01/10/2016 12:30	9.32	<0.000010	<0.00010	<0.00030	0.00111	0.00064	<0.0010	<0.00030	94.9	<1.0	<1.0		3.52		3.51			-0.1			370.1

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Phase	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
				mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W50	25/08/2008	No Discharge	P																					0.498	<0.0002	0.0012	0.096	<0.00004	
W50	28/02/2009	No Discharge	P	6	384		7.92		541					246		205	5.21		79.2					0.277	<0.0002	0.0005	0.09	<0.00004	<0.0001
W50	07/03/2009	No Discharge	P			8.1		464		3.2																			
W50	05/04/2009	No Discharge	P	<2	402	7.9	8.04	216	582						266	216	4.2		82.3					0.008	<0.0002	0.0004	0.094	<0.00004	<0.0001
W50	06/04/2009	No Discharge	P																					0.018	<0.0002	0.0004	0.094	<0.00004	<0.0001
W50	02/05/2009	No Discharge	P	6	360		7.93		511						252	188	4.85		72.4					0.169	<0.0002	0.0005	0.087	<0.00004	<0.0001
W50	09/05/2009	No Discharge	P	2	324	8.56	8.1	0.57	467	3					216	191	4				<0.005	0.6		0.086	<0.0002	0.0005	0.076	<0.0001	<0.0005
W50	18/05/2009	No Discharge	P	3	338	7.23	8.03	507	482						237	184	4.53		60.5					0.024	<0.0002	0.0004	0.08	<0.00004	<0.0001
W50	26/05/2009	No Discharge	P			7.88		490																					
W50	27/05/2009	No Discharge	P	4	310		8.14		479						210	182	3.04		56.8					0.084	<0.0002	0.0004	0.087	<0.00004	<0.0001
W50	03/06/2009	No Discharge	P	2	308	8.11	8.15	497	474	5.4					205	180	3.8		54.8					0.036	<0.0002	0.0004	0.069	<0.00004	<0.0001
W50	07/06/2009	No Discharge	P	3	310		7.96		434						198	150	3.81		58.1					0.15	<0.0002	0.0006	0.082	<0.00004	<0.0001
W50	11/06/2009	No Discharge	P	6	308	8.19	8.08	455	438	6.3					189	157	3.7		55.4					0.121	<0.0002	0.0004	0.055	<0.00004	<0.0001
W50	20/06/2009	No Discharge	P	<2	272	7.8	8.15	474	467	4.4					211	182	4.38		50.1					0.018	<0.0002	0.0005	0.069	<0.00004	<0.0001
W50	10/08/2009	No Discharge	P			8.03		499		3.8																			
W50	11/08/2009	No Discharge	P	<2	348		8.06		487						212	196	6.59		62.3					0.027	<0.0002	0.0008	0.073	<0.00004	<0.001
W50	03/05/2010	No Discharge	F	<4	200	7.39	8.1	339	317	0.41		63.1		167	155	120	7.5	0.24	33	0.035	0.024	0.35	29	0.232	<0.0005	0.0006	0.089	<0.0001	<0.001
W50	18/05/2010	No Discharge	F																										
W50	16/06/2010	No Discharge	P	<1	310	7.62	8.4	625	512	5.3				217	218	170	10	0.46	68	0.023	0.008	6.1	9.9	0.021	<0.0005	<0.0004	0.083	<0.0002	<0.001
W50	23/06/2010	No Discharge	P	<1	350	8.01	8.31	515	522	4.05		105.4		225	215	170	9.5	0.48	68	High DL removed	0.008	6.4	8.6	0.01	<0.0005	<0.0004	0.079	<0.0002	<0.001
W50	04/07/2010	No Discharge	P	2	370	8.03	8.15	516	535	5.49		102.9		220	216	170	9.3	0.48	72	<0.005	0.011	6.9	9.6	0.063	<0.0005	<0.0004	0.09	<0.0002	<0.001
W50	11/07/2010	No Discharge	P	<1	310	7.84	8.13	519	527	5.52		85.5		224	218	170	8.6	0.48	67	<0.03	0.008	6.6	9.3	0.016	<0.0005	<0.0004	0.083	<0.0002	<0.001
W50	07/11/2010	No Discharge	P	<1	370	7.98	8.22	606	601	2.97				298	257	180	7.3	0.53	86	0.008	0.06	10.8	8.5	0.017	<0.0005	0.0004	0.107	<0.0001	<0.001
W50	11/11/2010 2:00	No Discharge	P	<1	400	7.99	8.26	608	604	3				262	270	180	7.7	0.45	86	0.067	0.007	10.8	8.7	0.018	<0.0005	0.0002	0.098	<0.0001	<0.001
W50	02/05/2011	No Discharge	P	2	92		7.27		96					55.7	51.7	37	2.3	0.15	<5		0.005	0.07	43	0.12	<0.0005	0.0004	0.035	<0.0001	<0.001
W50	07/05/2011	No Discharge	P	27	54		7.17		55					32.3	28.5	24	1.1	0.06	<0.5	0.006	<0.005	<0.02		0.664	<0.0005	0.0005	0.033	<0.0001	<0.001
W50	18/10/2011	No Discharge	P	<4	290	7.02	7.92	514.9	494	3.8	2.63	20.2		213	213	190	5.5		50	0.018	<0.005	1.92	9	0.015	<0.0005	0.0003	0.081	<0.0001	<0.001
W50	13/11/2011	No Discharge	P	5.3	284	7.83	8.27	394.9	479	2.5	12.42	91.1		215	195	183	5.7			0.0091	<0.005	3.1	10.6	0.187	<0.0005	0.0004	0.084	<0.0001	<0.001
W50	13/04/2012 18:48	No Discharge	P	30.4	254	7.86	8.31	252.6	462	0	12.41	85.2		199	206	182	4.5	0.38	46.3	0.11	0.0116	2.47	8.73	0.72	<0.00050	0.00061	0.0775	<0.00010	<0.0010
W50	14/04/2012 11:10	No Discharge	P	2.9	294	7.62	8.19	292	505	2	12.72	92.2		224	230	201	5.1	0.45	48.7	0.012	0.0073	2.74	8.93	0.0628	<0.00050	0.00046	0.0787	<0.00010	<0.0010
W50	15/04/2012 9:50	No Discharge	P	3.7	308	8.01	8.29	297.8	511	2.4	11.52	84.5		235	228	207	5.1	0.42	46.7	0.017	0.0072	2.85	9.32	0.037	<0.00050	0.00048	0.0817	<0.00010	<0.0010
W50	23/05/2013	No Discharge	P	27.8	118	8.25	7.6	71.7	133	3.7	12.22	92.7	5.5	54.3	57.4	46.8	4.9	0.12	<0.50	0.043	0.0371	0.906	16.9	1.15	<0.00050	0.00067	0.0513	<0.00010	<0.0010
W50	24/05/2013 7:30	No Discharge	P	19.4	132	7.97	7.61	77.4	142	3.6	12.7	96	-11.9	59.1		48.7	4.9	0.13	3.22	0.056	0.0415	1.2		0.971	<0.00050	0.00058	0.05	<0.00010	<0.0010
W50	25/05/2013 7:25	No Discharge	P			7.91		85.9		4.7	11.24	88.5	10.6																
W50	26/05/2013 7:15	No Discharge	P			7.54		100.1		5.4	11.56	86.9	37.5																
W50	27/05/2013 6:50	No Discharge	P			8				8																			
W50	28/05/2013 8:25	No Discharge	P	8.5	156	7.81	7.93	142.3	205	7.1	8.9	74.9	41.5	77.1	79.9	63.8	6.1	0.2	21.6	0.082	0.048	2.13	14.7	0.515	<0.00050	0.00046	0.0492	<0.00010	<0.0010
W50	29/05/2013 8:00	No Discharge	P	7	170	7.53	7.92	142.9	228	0.6	11.32	93.8	40.6	89.5	87.5	70.9	6.1	0.22	24.1	0.088	0.0495	2.29	14.1	0.461	<0.00050	0.00046	0.0542	<0.00010	<0.0010
W50	30/05/2013 7:50	No Discharge	P			7.84		149.5		6.3	11.54	94	34.5																
W50	31/05/2013 8:30	No Discharge	P	7.5	192	7.6	7.89	257	252	8.5				106	102	81.5	6.8	0.24	30.9	0.083	0.0486	2.43	11.6	0.501	<0.00050	0.00043	0.059	<0.00010	<0.0010
W50	07/06/2013	No Discharge	P	2.1	242	7.32	8.17	234.1	372	6.1	9.03	73	20.3	176	163	161	4.3	0.33	24.7	0.043	0.0105	0.662	11.4	0.076	<0.00050	0.00038	0.0747	<0.00010	<0.0010
W50	11/07/2013	No Discharge	P	20.8	286	6.99	7.89	260	417	6.4	2.33	19.1	124.7	198	178	187	6.3	0.3	26.6	0.043	<0.0050	<0.020	10	0.601	<0.00050	0.00071	0.14	<0.00010	<0.0010
W50	27/02/2014 8:40	No Discharge	P	6.7	264	8.16	8.26	239.7	453	1	12.29	86.5	131.6	218	204	185	10	0.34	32.7	0.012	<0.0050	0.225	8.71	0.391	<0.00050	0.00058	0.0812	<0.00010	<0.0010
W50	05/03/2014 8:25	No Discharge	F																										
W50	08/03/2014 10:25	No Discharge	P	12.8	258	8.35	8.24	240.8	446	1.2	12.33	87.3	133.1	238	201	192	10	0.32	34	0.015	<0.0050	0.215	9.02	0.272	<0.00050	0.00054	0.0831	<0.00010	<0.0010
W50	10/03/2014 7:45	No Discharge	P	5.9	254	8.34	8.28	214.9	448	1	11.88	84	213.1	215	205	192	10	0.33	33.5	0.016	<0.0050	0.211	9.08	0.16	<0.00050	0.00046	0.0715	<0.00010	<0.0010
W50	21/03/2014 9:50	No Discharge	P	<1.0	254	7.98	8.27	250.4	448	1.5	11.47	82.3	196.2	204	198	188	10	0.35	33.1	0.011	<0.0050	0.192	8.89	0.0225	<0.00050	0.00038	0.0683	<0.00010	<0.0010
W50	27/03/2014 8:45	No Discharge	P	<1.0	196	8.06	8.19	218.8	443	1.4	16.69	119.1	112.3	206	210	188	10	0.36	32.7	0.019	<0.0050	0.183	9.45	0.0245	<0.00050	0.0003	0.0713	<0.00010	<0.0010
W50	02/04/2014 14:00	No Discharge	P	1	278		8.37		457					209	205	195	9.9	0.36	31.4	0.023	<0.0050	0.192	10.1	0.0142	<0.00050	0.00038	0.0726	<0.00010	<0.0010
W50	02/04/2014 14:00	No Discharge	M			8.03		230.5		2	15.54	111.3	122.2																
W50	17/11/2014 14:00	No Discharge	P	<1.0	327	7.85	8.1	282.8	511	-0.2	14.50	98.9	194.7	209	227	171	6.6	0.38	79.6	0.012	<0.0050	2.15	5.29	0.0061	<0.00050	0.00031	0.0745	<0.00010	<0.0010
W50	24/11/2014 14:15	No Discharge	P	<1.0	332	7.88	8.22	286.5	517	0.6	11.18	92.4	225.6	236	231	172	7	0.17	88	0.029	<0.0050	1.93	7.16	0.0089	<0.00050	0.00033	0.0809	<0.00010	<0.0010
W50	03/12/2014 8:40	No Discharge	P	<1.0	298	7.92	8.08	280	510	0	14.02	96.3	184.2	226	230	161	6.6	0.38	81.5	0.0058	<0.0050	2.21	7.76	0.0051	<0.00050	0.0003	0.0828	<0.00010	<0.0010
W50	20/12/2014 9:00	No Discharge	P	<1.0	356	8.02	8.08	276.2	508	-0.6	15.47	105.1	210.5	255	253	158	7	0.4	82.6	0.014	<0.0050	1.99	6.26	0.015	<0.00050	0.00036	0.0801	<0.00010	<0.0010
W50	26/08/2008	Discharge	P																					0.607	<0.0002	0.0013	0.094	<0.00004	
W50	29/08/2008	Discharge	P	34	284		7.96		374							159	3.52		33.3		0.05	0.16							
W50	29/06/2009	Discharge	P	<2	318	7.9	8.04	477	466	6.1					225	184	4.64		58.4					0.038	<0.0002	0.0006	0.07	<0.00004	<0.0001
W50	06/07/2009	Discharge	P			7.84		428		14.4																			
W50	13/07/2009	Discharge	P	6	524	7.82	8.02	432	430	14.5					197	154	3.44		47.4					0.2	<0.0002	0.0005	0.083	<0.00004	<0.0001
W50	27/07/2009	Discharge	P	42	234		7.87	318	321	12.6					130	72	8.84		46.6			6.08		1.11	0.0007	0.0022	0.165	0.00009	<0.001
W50	18/08/2009	Discharge	P	<3	280	7.85	7.71	412	390	12.04					155	96	17.6		53.1			5.73		0.202	0.0006	0.0007	0.111	<0.00004	<0.001
W50	25/08/2009	Discharge	P	6	248	7.82	7.7	413	403	11.95					157	91	24.2		52.6			6.34		0.323	0.0005	0.0007	0.133	<0.00004	<0.001
W50	07/09/2009	Discharge	P	6	320	7.86	7.54	437	442	12.1					172	82	30.9		54.5			7.46		0.252	0.0007	0.0009	0.143	<0.00004	<0.001
W50	17/09/2009	Discharge	P	3	328	7.81	7.66	455	445	10.7					186	78	31		70.2			7.95		0.405	0.0007	0.0005	0.14	<0.00004	<0.001
W50	23/09/2009	Discharge	P	2	312	9.5	7.74	464	456	9.5					186	86	31.1		64.5			7.94		0.428	0.0006	0.0005	0.128	<0.00004	<0.001

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W50	25/08/2008	0.024	0.00006	48.9	0.0017	0.00099	0.058	1.12	0.0004	0.003	13.1	0.666	<0.00001	0.00743	0.006	0.06	7.48	0.0007	5.64	<0.00001	16.9	0.371		0.00003	<0.0001	0.0288	0.0012
W50	28/02/2009	0.022	0.00003	66.5	0.0006	0.00036	0.076	0.5	0.0017	0.002	21	0.251	<0.00001	0.0057	0.002	<0.05	3.6	0.0007	6.18	0.00004	19.4	0.556	25.3	0.00001	<0.0001	0.0157	0.0031
W50	07/03/2009																										
W50	05/04/2009	0.024	0.00002	73.6	0.0005	0.00022	0.008	0.02	<0.0001	0.002	24.2	0.392	<0.00001	0.0073	0.003	<0.05	4.1	<0.0006	6.14	<0.00001	22	0.644	28.9	<0.00001	<0.0001	0.0009	0.0037
W50	06/04/2009	0.024	0.00002	71.5	0.0005	0.00021	0.012	0.04	0.0001	0.002	23.4	0.401	<0.00001	0.00721	0.003	<0.01	4.1	0.0007	6.05	<0.00001	23.3	0.643	28.1	<0.00001	<0.0001	0.002	0.0036
W50	02/05/2009	0.022	0.00004	68.7	0.0021	0.00039	0.019	0.41	0.0002	0.002	20.7	0.304	<0.00001	0.0057	0.005	<0.05	4.3	<0.0006	6.02	0.00001	19.9	0.541	25.5	<0.00001	<0.0001	0.0096	0.003
W50	09/05/2009	0.027	0.00002	60.9	0.0018	0.0002	0.015	0.1	<0.0001	0.002	17.2	0.2	<0.0001	0.008	0.0024	<0.05	3.8	0.001	5.06	0.00006	18.2	0.557	20.9	<0.00005	<0.001	0.0056	0.003
W50	18/05/2009	0.022	0.00002	70.5	0.0014	0.00027	0.014	0.03	0.0002	0.002	19.6	0.168	<0.00001	0.0078	0.002	<0.05	4.2	<0.0006	5.35	<0.00001	19.2	0.548	20.5	<0.00001	<0.0001	0.0018	0.0032
W50	26/05/2009																										
W50	27/05/2009	0.02		61.2	<0.0004	0.00019	0.015	0.1	0.0003	0.001	17.3	0.135	<0.00001	0.0081	0.002	<0.05	4	0.0008	5.22	<0.00001	18.9	0.533	18.6	<0.00001	<0.0001	0.0045	0.0027
W50	03/06/2009	0.028	0.00001	61	0.0059	0.00047	0.011	0.21	<0.0001	0.002	17.5	0.109	<0.00001	0.00786	0.018	<0.05	3.8	<0.0006	5.31	<0.00001	18.5	0.518	18.4	<0.00001	<0.0001	0.0026	0.0025
W50	07/06/2009	0.03	0.00004	54.5	0.0006	0.00027	0.093	0.36	0.0006	0.003	16.4	0.262	0.00001	0.0104	0.002	0.02	6.2	0.0018	4.84	0.00011	17.8	0.619	20.1	<0.00001	<0.0001	0.0086	0.0013
W50	11/06/2009	0.028	0.00002	54	0.0007	0.00022	0.033	1.03	<0.0001	0.002	15.4	0.482		0.00757	0.002	<0.05	5.2	0.0011	4.82	<0.00001	16.9	0.548	17.8	<0.00001	<0.0001	0.01	0.0019
W50	20/06/2009	0.024	0.00001	57.2	0.0004	0.00014	0.011	0.02	0.0002	0.002	16.4	0.101	0.00001	0.00743	0.002	<0.01	3.7	<0.0006	5.13	0.00006	17.6	0.503	16.6	<0.00001	<0.0001	0.0011	0.0021
W50	10/08/2009																										
W50	11/08/2009	0.034	0.00003	61	0.0008	0.00018	0.011	0.013	0.0003	0.002	18.6	0.283		0.0081	0.003	0.01	3.8	<0.0006	6.18	0.00001	18.1	0.522	19.2	<0.00001	<0.0001	0.0015	0.0025
W50	03/05/2010	<0.05	0.00011	46.9	0.001	<0.0005	0.0572	0.338	0.0003	<0.005	12.2	0.904	<0.00002	0.019	0.003		3.52	0.0005	3.96	<0.00002	12.5	0.602	12	<0.00005	<0.005	0.01	0.0011
W50	18/05/2010																										
W50	16/06/2010	<0.1	High DL removed	57	High DL removed	<0.0005	0.006	<0.02	<0.0002	<0.01	18	0.028	<0.0002	0.006	<0.001		4	0.0012	5.29	High DL removed	18	0.601	<60	<0.00005	<0.005	<0.01	0.0023
W50	23/06/2010	<0.1	High DL removed	57	High DL removed	<0.0005	0.005	<0.02	<0.0002	<0.01	20	0.013	<0.0002	0.005	<0.001		4	0.0012	5.15	High DL removed	20	0.552	<60	<0.00005	<0.005	<0.01	0.0024
W50	04/07/2010	<0.1	High DL removed	56	High DL removed	<0.0005	0.01	0.08	0.0002	<0.01	19	0.025	<0.0002	0.007	0.001		4	0.0014	5.26	High DL removed	19	0.613	<60	<0.00005	<0.005	<0.01	0.0027
W50	11/07/2010	<0.1	High DL removed	61	High DL removed	<0.0005	0.006	<0.02	<0.0002	<0.01	17	0.01	<0.0002	0.007	<0.001		4	0.0014	5.96	High DL removed	21	0.595	<60	<0.00005	<0.005	<0.01	0.0025
W50	07/11/2010	<0.05	<0.00001	77.3	<0.001	<0.0005	0.0053	0.009	<0.0002	<0.005	25.5	0.085	<0.00002	0.008	0.001		5.01	0.0028	6.26	<0.00002	23.7	0.737	31	<0.00005	<0.005	<0.005	0.0032
W50	11/11/2010 2:00	<0.05	<0.00001	69.2	<0.001	<0.0005	0.0055	0.015	<0.0002	<0.005	21.6	0.078	0.00004	0.007	<0.001		4.47	0.0025	5.5	<0.00002	23.3	0.686	33	<0.00005	<0.005	<0.005	0.0027
W50	02/05/2011	<0.05	0.00004	14	<0.001	<0.0005	0.0417	0.151	0.0003	<0.005	5.07	0.151	<0.00002	0.002	0.003		3.83	0.0002	3.15	<0.00002	1.87	0.109	<3	<0.00005	<0.005	<0.005	0.0002
W50	07/05/2011	<0.05	0.00003	8.34	0.002	0.0006	0.0143	1.22	0.0003	<0.005	2.78	0.082	<0.00002	<0.001	0.002	0.089	1.19	<0.0001	3.5	<0.00002	1.35	0.066	<3	<0.00005	<0.005	0.025	0.0001
W50	18/10/2011	<0.05	<0.00001	57.1	<0.001	<0.0005	0.004	0.025	<0.0002	<0.005	17	0.008	<0.00002	0.007	0.001	<0.01	3.33	0.0005	5.32	<0.00002	18.3	0.725	18	<0.00005	<0.005	<0.005	0.002
W50	13/11/2011	<0.05	0.00003	58.2	<0.001	<0.0005	0.0218	0.217	<0.0002	<0.005	17	0.197	<0.000020	0.008	0.001	0.026	3.57	0.0009	6.02	<0.00002	17.9	0.61	17.1	<0.00005	<0.005	0.007	0.0024
W50	13/04/2012 18:48	<0.05	0.000018	52.3	0.0013	<0.00050	0.0259	0.935	0.00032	<0.0050	16.7	0.101	<0.000010	0.0056	0.0017	0.045	3.68	0.00075	6.14	<0.000020	15.4	0.542	15.8	<0.000050	<0.0050	0.0315	0.00275
W50	14/04/2012 11:10	<0.05	<0.000010	60.2	<0.0010	<0.00050	0.00679	0.103	<0.00020	<0.0050	17.9	0.109	<0.000010	0.0062	<0.0010	0.016	3.61	0.00075	5.31	<0.000020	17.2	0.612	16	<0.000050	<0.0050	<0.0050	0.00308
W50	15/04/2012 9:50	<0.05	<0.000010	62.4	<0.0010	<0.00050	0.00727	0.0547	<0.00020	<0.0050	19.2	0.0629	<0.000010	0.0066	<0.0010	0.016	3.76	0.00069	5.49	<0.000020	18.3	0.646	17	<0.000050	<0.0050	<0.0050	0.0033
W50	23/05/2013	<0.05	0.000025	14.2	0.0013	0.00068	0.0589	1.51	0.00051	<0.0050	4.59	0.102	<0.000010	0.0019	0.0021	0.062	2.14	0.00025	4	<0.000020	5.72	0.237	<3.0	<0.000050	<0.0050	0.0492	0.00027
W50	24/05/2013 7:30	<0.05	0.000025	15.6	0.0012	0.00064	0.0536	1.38	0.00041	<0.0050	4.88	0.0832	<0.000010	0.0024	0.002	0.063	2.37	0.00026	3.97	<0.000020	6.34	0.292	4.4	<0.000050	<0.0050	0.0375	0.00029
W50	25/05/2013 7:25																										
W50	26/05/2013 7:15																										
W50	27/05/2013 6:50																										
W50	28/05/2013 8:25	<0.05	0.00002	19.7	<0.0010	<0.00050	0.0348	0.729	0.00021	<0.0050	6.76	0.0571	<0.000010	0.0043	0.0014	0.033	3.5	0.00037	2.93	<0.000020	8.96	0.577	6.6	<0.000050	<0.0050	0.0152	0.00039
W50	29/05/2013 8:00	<0.05	0.000017	22.4	<0.0010	<0.00050	0.0366	0.646	0.00021	<0.0050	8.16	0.0653	<0.000010	0.0051	0.0014	0.036	4.04	0.00045	3.05	<0.000020	10.2	0.681	8.1	<0.000050	<0.0050	0.0156	0.00047
W50	30/05/2013 7:50																										
W50	31/05/2013 8:30	<0.05	0.000023	27.4	<0.0010	<0.00050	0.0414	0.675	0.00034	<0.0050	9.08	0.0776	<0.000010	0.0055	0.0017	0.035	3.64	0.00043	3.52	<0.000020	10.8	0.674	8.1	<0.000050	<0.0050	0.0212	0.00061
W50	07/06/2013	<0.05	<0.000010	46.2	<0.0010	<0.00050	0.0112	0.124	0.00039	<0.0050	14.6	0.119	<0.000010	0.0056	0.0012	0.039	3.09	0.00051	4.66	<0.000020	12.4	0.548	9	<0.000050	<0.0050	<0.0050	0.00137
W50	11/07/2013	<0.05	0.000049	51.4	<0.0010	0.00101	0.0169	0.92	0.00105	<0.0050	16.9	0.335	<0.000010	0.0042	0.0041	0.156	3.47	0.00023	6.94	<0.000020	14.7	0.646	6	<0.000050	<0.0050	0.0313	0.00098
W50	27/02/2014 8:40	<0.05	0.000011	58.4	<0.0010	<0.00050	0.012	0.634	0.00067	<0.0050	17.5	0.0894	<0.000010	0.0054	0.0016	0.021	3.07	0.00026	6	<0.000020	13.9	0.575	12.8	<0.000050	<0.0050	0.0185	0.0019
W50	05/03/2014 8:25																										
W50	08/03/2014 10:25	<0.05	<0.000010	62.1	0.0021	<0.00050	0.00961	0.692	0.00027	<0.0050	20.1	0.113	<0.000010	0.0064	0.0016	0.02	3.9	0.00049	5.97	<0.000020	16.1	0.654	11	<0.000050	<0.0050	0.0138	0.0025
W50	10/03/2014 7:45	<0.05	<0.000010	56.8	<0.0010	<0.00050	0.00783	0.253	<0.00020	<0.0050	17.8	0.0799	<0.000010	0.0057	0.0013	0.011	3.41	0.00047	5.26	<0.000020	14.4	0.597	9.9	<0.000050	<0.0050	0.0085	0.00227
W50	21/03/2014 9:50	<0.05	<0.000010	52.6	<0.0010	<0.00050	0.00633	0.047	<0.00020	<0.0050	17.8	0.056	<0.000010	0.0049	<0.0010	<0.01	2.98	0.00039	4.97	<0.000020	14	0.555	12.3	<0.000050	<0.0050	<0.0050	0.00181
W50	27/03/2014 8:45	<0.05	<0.000010	55	<0.0010	<0.00050	0.00674	0.049	<0.00020	<0.0050	16.6	0.0656	<0.000010	0.0055	<0.0010	<0.01	2.82	0.00018	5.05	0.000471	12.4	0.566	8.9	<0.000050	<0.0050	<0.0050	0.00191
W50	02/04/2014 14:00	<0.05	<0.000010	55.7	<0.0010	<0.00050	0.00686	0.033	<0.00020	<0.0050	17.1	0.0558	<0.000010	0.0054	<0.0010	<0.01	3.19	0.00035	5.19	<0.000020	13.5	0.577	11.6	<0.000050	<0.0050	<0.0050	0.00201
W50	02/04/2014 14:00																										
W50	17/11/2014 14:00	<0.05	0.000013	55.5	<0.0010	<0.00050	0.0055	0.02	<0.00020	<0.0050	17	0.0661	<0.000010	0.0053	<0.0010	<0.01	3.73	0.00049	3.37	<0.000020	16.3	0.779	24.3	<0.000050	<0.0050	<0.0050	0.00183
W50	24/11/2014 14:15	<0.05	<0.000010	62.5	<0.0010	<0.00050	0.00481	0.026	<0.00020	<0.0050	19.3	0.0707	<0.000010	0.0052	<0.0010	<0.01	4.24	0.00054	4.24	<0.000020	18.2	0.759	29.9	<0.000050	<0.0050	<0.0050	0.00184
W50	03/12/2014 8:40	<0.05	<0.000010	60.2	<0.0010	<0.00050	0.00498	0.018	<0.00020	<0.0050	18.3	0.0745	<0.000010	0.0052	<0.0010	<0.01	4.04	0.00062	3.76	<0.000020	17.5	0.767	27.6	<0.000050	<0.0050	<0.0050	0.00186
W50	20/12/2014 9:00	<0.05	<0.000010	68.1	<0.0010	<0.00050	0.00532	0.032	<0.00020	<0.0050	20.5	0.0678	<0.000010	0.0053	<0.0010	0.015	4.42	0.00046	4.98	<0.000020	18.9	0.816	32.6	<0.000050	<0.0050	<0.0050	0.00192
W50	26/08/2008	0.024	0.00006	49	0.0021	0.00099	0.066	1.3	0.0004	0.003	12.6	0.563	0.00001	0.00726	0.006	0.07	7.15	0.0006	5.86	<0.00001	16.7	0.352		0.00002	<0.0001	0.0394	0.0012
W50	29/08/2008																										
W50	29/06/2009	0.027	0.00001	60.5	0.0006	0.00022	0.016	0.06	0.0008	0.002	18	0.128	<0.00001	0.00711	0.002	<0.01	4.1	0.0006	5.7	0.00022	18.3	0.521	19.2	<0.00001	<0.0001	0.0025	0.0023
W50	06/07/2009																										
W50	13/07/2009	0.028	0.00004	50.1	0.0008	0.00042	0.087	0.45	0.0006	0.005	15.2	0.399	<0.00001	0.0108	0.003	0.021	6.2	0.0012	4.56	0.00037	17	0.602	18	<0.00001	<0.0001	0.0098	0.0012
W50	27/07/2009	0.029	0.00006	39.6	0.0022	0.00104	0.073	1.94	0.0021	0.003	10.8	0.2	<0.00001	0.0128	0.004	0.061	3.3	0.002	5.21	<0.00001	11.6	0.674	16.2	0.00001	<0.0001	0.0424	0.0015
W50	18/08/2009	0.026	0.00007	41.7	0.0008	0.00025	0.016	0.147	0.0006	0.002	11.4	0.259	<0.00001	0.0134	0.001	0.016	3.6	0.0008	3.25	<0.00001	14.7	0.649	15.6	<0.00001	<0.0001	0.0036	0.0004
W50	25/08/2009	0.028	0.00001	44.4	0.0008	0.00023	0.013	0.114	0.0006	0.002	12.1	0.281	<0.00001	0.0131	0.001	<0.01	3.4	<0.0006	3.34	<0.00001	17	0.684	17.4	<0.00001	<0.0001	0.0027	0.0004
W50	07/09/2009	0.031	0.00002	51	0.0008	0.00029	0.008	0.087	0.0006	0.002	13.2	0.309	<0.00001	0.0148	0.001	<0.01	3.7	0.0009	3.43	<0.00001	19.8	0.731	20.1	<0.00001	<0.0001	0.0031	<0.0004
W50	17/09/2009	0.028	0.00001	52.8	0.0008	0.00027	0.005	0.038	0.0005	0.002	13.8	0.317	<0.00001	0.0151	0.001	<0.01	3.4	0.0009	3.28	<0.00001	20.5	0.761	21.2	<0.00001	<0.0001	0.001	<0.0004
W50	23/09/2009	0.029	0.00005	53.4	0.0008	0.00025	0.006	0.031	0.0007	0.002	13.6	0.28	<0.00001	0.0149	0.001	<0.05	3.6	0.0011	3.33	<0.00001	20.2	0.744	21.3	0.00014	<0.0001	0.0014	0.0006

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W50	25/08/2008	0.00398	0.009	0.0005																						
W50	28/02/2009	0.00123	0.033	0.0003	<0.005	0.0006	0.0005	0.086	<0.00004	<0.0001	0.023	<0.00001	64.8	0.0004	0.0002	0.009	<0.01	0.0002	0.002	20.5	0.193	<0.00001	0.00566	0.002	<0.01	3.5
W50	07/03/2009																									
W50	05/04/2009	0.0005	0.022	0.0003	0.018	0.0007	0.0005	0.084	<0.00004	<0.0001	0.025	0.00006	69.2	0.0006	0.00022	0.011	0.06	0.0002	0.002	22.6	0.353	<0.00001	0.00636	0.003	<0.01	4
W50	06/04/2009	0.00047	0.016	0.0003																						
W50	02/05/2009	0.00093	0.018	0.0005	0.028	0.001	0.0004	0.076	<0.00004	<0.0001	0.022	0.00004	67.5	0.0017	0.00031	0.014	0.13	0.0003	0.002	20.2	0.243	<0.00001	0.00511	0.002	0.02	4.4
W50	09/05/2009	0.0008	0.009	0.01	0.012	0.0009	0.0004	0.071	<0.0001	<0.0005	0.026	0.00002	57.9	0.0008	0.0002	0.012	0.02	0.0001	0.002	17.3	0.172	<0.0001	0.008	0.0019		3.7
W50	18/05/2009	0.0005	0.008	0.0003	0.018	0.0007	0.0004	0.07	<0.00004	<0.0001	0.024	0.00002	65.3	0.0016	0.00018	0.012	0.03	0.0001	0.002	18	0.151	<0.00001	0.00699	0.002	<0.01	3.8
W50	26/05/2009																									
W50	27/05/2009	0.00065	0.022	0.0003	0.006	0.0009	0.0004	0.072	<0.00004	<0.0001	0.018	0.00003	56.9	0.0015	0.00014	0.01	0.01	0.0002	0.002	16.4	0.0867	<0.00001	0.00735	0.002	<0.01	3.7
W50	03/06/2009	0.00042	0.012	0.0002	0.007	0.0011	0.0005	0.065	<0.00004	<0.0001	0.025	<0.00001	55.8	0.001	0.00019	0.009	0.03	0.0002	0.002	15.8	0.0816	<0.00001	0.0069	0.003	<0.01	3.5
W50	07/06/2009	0.00117	0.007	0.0002	0.026	0.0011	0.0005	0.078	0.00005	<0.0001	0.025	0.00005	53.4	0.0004	0.00027	0.075	0.18	0.0004	0.002	15.9	0.254	0.00001	0.0104	0.002	<0.01	6
W50	11/06/2009	0.00198	0.008	0.0003	0.013	0.001	0.0003	0.044	<0.00004	<0.0001	0.026	0.00001	51.5	0.0007	0.00016	0.02	0.29	0.0001	0.002	14.6	0.167		0.00692	0.001	0.01	5.1
W50	20/06/2009	0.00042	0.003	0.0002	<0.005	0.0012	0.0005	0.07	<0.00004	<0.0001	0.021	<0.00001	57.1	0.0017	0.00014	0.008	<0.01	<0.0001	0.001	16.7	0.0846	<0.00001	0.0074	0.002	0.01	4
W50	10/08/2009																									
W50	11/08/2009	0.0006	0.009	0.0002	0.007	<0.0002	0.0004	0.081	<0.00004	<0.001	0.02	0.00002	56.5	0.0011	0.00014	0.007	<0.01	0.0004	0.002	17.2	0.278		0.0075	0.002	<0.01	3.5
W50	03/05/2010	<0.005	0.008	<0.0005	0.022	<0.0005	0.0004	0.071	<0.0001	<0.001	<0.05	0.00004	43.4	<0.001	<0.0005	0.0106	0.022	<0.0002	<0.005	11.2	<0.001	<0.00002	0.011	0.002		3.38
W50	18/05/2010																									
W50	16/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.079	<0.0002	<0.001	<0.1	High DL removed	58	High DL removed	<0.0005	0.005	<0.02	<0.0002	<0.01	17	0.01	<0.0002	0.006	<0.001		4
W50	23/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.077	<0.0002	<0.001	<0.1	High DL removed	58	High DL removed	<0.0005	0.005	<0.02	<0.0002	<0.01	17	0.004	<0.0002	0.006	<0.001		4
W50	04/07/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.086	<0.0002	<0.001	<0.1	High DL removed	57	High DL removed	<0.0005	0.006	<0.02	<0.0002	<0.01	18	0.015	<0.0002	0.006	<0.001		4
W50	11/07/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.075	<0.0002	<0.001	<0.1	High DL removed	60	High DL removed	<0.0005	0.005	<0.02	<0.0002	<0.01	17	0.005	<0.0002	0.006	<0.001		4
W50	07/11/2010	<0.005	<0.005	<0.0005	0.008	<0.0005	0.0003	0.101	<0.0001	<0.001	<0.05	<0.00001	69.7	<0.001	<0.0005	0.0043	<0.005	<0.0002	<0.005	20.2	0.068	<0.00002	0.008	<0.001		4.15
W50	11/11/2010 2:00	<0.005	<0.005	<0.0005	0.008	<0.0005	0.0004	0.104	<0.0001	<0.001	<0.05	<0.00001	71.6	<0.001	<0.0005	0.0045	<0.005	<0.0002	<0.005	22	0.077	<0.00002	0.007	<0.001		4.68
W50	02/05/2011	<0.005	0.01	0.0005	0.066	<0.0005	0.0004	0.03	<0.0001	<0.001	<0.05	0.00003	13.1	<0.001	<0.0005	0.0281	0.094	<0.0002	<0.005	4.6	0.127	<0.00002	0.002	0.003		3.47
W50	07/05/2011	<0.005	0.006	<0.0005	0.063	<0.0005	0.0003	0.02	<0.0001	<0.001	<0.05	0.00002	7.55	<0.001	<0.0005	0.0042	0.186	<0.0002	<0.005	2.34	0.03	<0.00002	<0.001	0.001	0.031	1.07
W50	18/10/2011	<0.005	<0.005	<0.0005	0.011	<0.0005	0.0003	0.08	<0.0001	<0.001	<0.05	0.00001	56.8	<0.001	<0.0005	0.0051	0.02	<0.0002	<0.005	17.3	0.002	<0.00002	0.008	0.001	<0.01	3.41
W50	13/11/2011	<0.005	0.008	<0.0005	0.0062	<0.00050	0.00039	0.0756	<0.00010	<0.0010	<0.05	<0.000010	49.9	<0.0010	<0.00050	0.00638	<0.0050	<0.00020	<0.0050	17.1	0.0151	<0.000020	0.0067	0.001	<0.01	3.94
W50	13/04/2012 18:48	<0.0050	<0.0050	<0.00050	0.0066	<0.00050		0.0702	<0.00010	<0.0010	<0.05	0.000011	54.5	0.0012	<0.00050	0.00781	0.0181	<0.00020	<0.0050	17	0.0734	<0.000010	0.0059	<0.0010	0.02	3.59
W50	14/04/2012 11:10	<0.0050	<0.0050	<0.00050	0.0119	<0.00050	0.0004	0.0792	<0.00010	<0.0010	<0.05	0.000012	60.7	<0.0010	<0.00050	0.00727	0.0165	<0.00020	<0.0050	19	0.104	<0.000010	0.0063	<0.0010	0.012	3.64
W50	15/04/2012 9:50	<0.0050	<0.0050	<0.00050	0.0041	<0.00050	0.00038	0.0799	<0.00010	<0.0010	<0.05	<0.000010	60.4	<0.0010	<0.00050	0.00523	<0.0050	<0.00020	<0.0050	18.7	0.0373	<0.000010	0.0067	<0.0010	<0.01	3.74
W50	23/05/2013	<0.0050	0.0073	0.00067	0.12	<0.00050	0.00029	0.0371	<0.00010	<0.0010	<0.05	0.000014	15.5	<0.0010	<0.00050	0.0322	0.205	<0.00020	<0.0050	4.53	0.0309	<0.000010	0.0017	0.0015	0.029	2.12
W50	24/05/2013 7:30	<0.0050	0.0064	<0.00050																						
W50	25/05/2013 7:25																									
W50	26/05/2013 7:15																									
W50	27/05/2013 6:50																									
W50	28/05/2013 8:25	<0.0050	<0.0050	<0.00050	0.0363	<0.00050	0.00027	0.0441	<0.00010	<0.0010	<0.05	0.000013	21.3	<0.0010	<0.00050	0.0243	0.117	<0.00020	<0.0050	6.47	0.0441	<0.000010	0.0039	0.001	0.014	3.62
W50	29/05/2013 8:00	<0.0050	<0.0050	<0.00050	0.0345	<0.00050	0.00027	0.047	<0.00010	<0.0010	<0.05	0.00001	23.1	<0.0010	<0.00050	0.0237	0.114	<0.00020	<0.0050	7.22	0.0462	<0.000010	0.0046	<0.0010	0.014	3.8
W50	30/05/2013 7:50																									
W50	31/05/2013 8:30	<0.0050	<0.0050	<0.00050	0.0342	<0.00050	0.00032	0.0516	<0.00010	<0.0010	<0.05	0.000013	26.7	<0.0010	<0.00050	0.0258	0.11	<0.00020	<0.0050	8.6	0.0494	<0.000010	0.0049	0.0011	0.016	3.78
W50	07/06/2013	<0.0050	<0.0050	<0.00050	0.0105	<0.00050	0.00041	0.075	<0.00010	<0.0010	<0.05	<0.000010	44.2	<0.0010	<0.00050	0.0082	0.0231	<0.00020	<0.0050	12.8	0.0938	<0.000010	0.0057	0.0013	0.016	3.02
W50	11/07/2013	<0.0050	0.0082	<0.00050	0.0095	<0.00050	0.00031	0.105	<0.00010	<0.0010	<0.05	0.000022	47.7	<0.0010	<0.00050	0.00323	0.0131	<0.00020	<0.0050	14.3	0.0586	<0.000010	0.0047	0.0024	<0.01	2.74
W50	27/02/2014 8:40	<0.0050	0.0064	<0.00050	0.0037	<0.00050	0.00037	0.0719	<0.00010	<0.0010	<0.05	<0.000010	54.3	<0.0010	<0.00050	0.006	0.0068	<0.00020	<0.0050	16.7	0.0396	<0.000010	0.0052	<0.0010	<0.01	2.96
W50	05/03/2014 8:25																									
W50	08/03/2014 10:25	<0.0050	<0.0050	<0.00050	0.004	<0.00050	0.00039	0.0731	<0.00010	<0.0010	<0.05	<0.000010	53	<0.0010	<0.00050	0.00586	0.0099	<0.00020	<0.0050	16.7	0.0751	<0.000010	0.0054	<0.0010	<0.01	3.16
W50	10/03/2014 7:45	<0.0050	<0.0050	<0.00050	0.0036	<0.00050	0.0004	0.0734	<0.00010	<0.0010	<0.05	<0.000010	53.6	<0.0010	<0.00050	0.00602	0.011	<0.00020	<0.0050	17.3	0.0626	<0.000010	0.0052	<0.0010	0.011	3.17
W50	21/03/2014 9:50	<0.0050	<0.0050	<0.00050	0.0049	<0.00050	0.00039	0.0709	<0.00010	<0.0010	<0.05	<0.000010	51.6	<0.0010	<0.00050	0.00566	0.009	<0.00020	<0.0050	16.9	0.0517	<0.000010	0.0056	<0.0010	<0.01	3.05
W50	27/03/2014 8:45	<0.0050	<0.0050	<0.00050	0.0044	<0.00050	0.00041	0.0737	<0.00010	<0.0010	<0.05	<0.000010	55.1	<0.0010	<0.00050	0.00641	0.0164	<0.00020	<0.0050	17.6	0.0673	<0.000010	0.0055	<0.0010	<0.01	3.19
W50	02/04/2014 14:00	<0.0050	<0.0050	<0.00050	0.0062	<0.00050	0.00039	0.0695	<0.00010	<0.0010	<0.05	<0.000010	55	<0.0010	<0.00050	0.0071	0.0223	<0.00020	<0.0050	16.5	0.0675	<0.000010	0.0054	<0.0010	<0.01	3.02
W50	02/04/2014 14:00																									
W50	17/11/2014 14:00	<0.0050	<0.0050	<0.00050	0.0056	<0.00050	0.00034	0.0792	<0.00010	<0.0010	<0.05	<0.000010	61.5	<0.0010	<0.00050	0.00523	0.0132	<0.00020	<0.0050	17.9	0.0624	<0.000010	0.0052	<0.0010	<0.01	4.11
W50	24/11/2014 14:15	<0.0050	0.0141	<0.00050	0.0055	<0.00050	0.00032	0.0811	<0.00010	<0.0010	<0.05	0.000022	61.2	<0.0010	<0.00050	0.00489	0.0139	<0.00020	<0.0050	19.1	0.068	<0.000010	0.0053	<0.0010	<0.01	4.28
W50	03/12/2014 8:40	<0.0050	<0.0050	<0.00050	0.0044	<0.00050	0.00031	0.0834	<0.00010	<0.0010	<0.05	<0.000010	62.2	<0.0010	<0.00050	0.005	0.014	<0.00020	<0.0050	18.1	0.0737	<0.000010	0.0054	<0.0010	<0.01	4.13
W50	20/12/2014 9:00	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00033	0.0793	<0.00010	<0.0010	<0.05	<0.000010	68.4	<0.0010	<0.00050	0.00478	0.0154	<0.00020	<0.0050	19.9	0.0587	<0.000010	0.0054	<0.0010	0.01	4.35
W50	26/08/2008	0.0043	0.008	0.0005																						
W50	29/08/2008																									
W50	29/06/2009	0.00058	0.006	0.0003	<0.005	0.001	0.0004	0.069	0.00005	<0.0001	0.025	<0.00001	60.6	<0.0004	0.00017	0.013	0.01	<0.0001	0.002	18	0.113	<0.00001	0.00704	0.002	<0.01	4
W50	06/07/2009																									
W50	13/07/2009	0.00118	0.014	0.0005	0.088	0.0075	0.0006	0.084	<0.00004	<0.0001	0.025	0.00004	53.1	0.0007	0.0008	0.073	0.28	0.0007	0.002	15.8	0.401	<0.00001	0.0105	0.002	<0.01	5.9
W50	27/07/2009	0.0051	0.011	0.0021	0.028	0.0017	0.0008	0.141	<0.00004	<0.001	0.025	0.00002	37.5	<0.0004	0.0004	0.022	0.1	0.0004	0.002	9.6	0.15	<0.00001	0.0151	0.001	<0.01	2.9
W50	18/08/2009	0.001	0.012	<0.0001	0.041	0.0015	0.0004	0.111	<0.00004	<0.001	0.024	<0.00001	42.5	0.0011	0.00024	0.005	0.02	0.0006	0.002	11.8	0.208	<0.00001	0.013	0.001	0.03	3.9
W50	25/08/2009	0.001	0.004	0.0001	0.061	0.0014	0.0003	0.131	<0.00004	<0.001	0.026	0.00028	43.4	0.001	0.00026	0.003	0.09	0.0006	0.002	11.9	0.273	<0.00001	0.0139	0.001	<0.01	3.5
W50	07/09/2009	0.0009	0.013	<0.0001	0.046	0.0021	0.0004	0.135	<0.00004	<0.001	0.03	0.00005	48.2	0.001	0.00043	0.006	0.04	0.0008	0.002	12.4	0.3	<0.00001	0.014	0.001	<0.01	3.5
W50	17/09/2009	0.0007	0.01	<0.0001	0.049	0.0015	0.0003	0.136	<0.00004	<0.001	0.032	0.00002	52.2	0.0008	0.00027	0.005	0.01	0.0003	0.002	13.4	0.303	0.00005	0.015	0.001	<0.01	3.2
W50	23/09/2009	0.0007	0.006	0.0001	0.046	0.001	0.0004	0.142	<0.00004	<0.001	0.029	0.00001	52.3	<0.0004	0.00022	0.001	<0.01	<0.0001	0.002	13.4	0.319	<0.00001	0.0163	0.001	<0.01	3.7

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	Br	Cation	CN-T	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-TKN	P-PO4T	P-TDP	P-TRP
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L
W50	25/08/2008																															
W50	28/02/2009	0.0007	5.55	<0.00001	18.7	0.56	24.6	0.00001	<0.0001	0.0007	0.0031	0.00036	0.011	0.0002	250	<6	<5						14						0.47	0.03		
W50	07/03/2009																															
W50	05/04/2009	0.0008	5.8	<0.00001	22.2	0.549	30.1	<0.00001	<0.0001	0.002	0.0031	0.00044	0.018	0.0002	260	<6	<5						19						0.49	0.04		
W50	06/04/2009																															
W50	02/05/2009	0.0007	5.67	<0.00001	19.6	0.493	24.4	<0.00001	<0.0001	0.0026	0.0029	0.00083	0.006	0.0003	230	<6	<5						<20						0.52	0.04		
W50	09/05/2009	0.0006	5.33	0.00001	18.2	0.474	20.3	<0.00005	<0.001	0.0013	0.003	0.0005	0.007		233	<6	<5						20						0.31	0.04		
W50	18/05/2009	<0.0006	5.33	<0.00001	18.1	0.496	18.4	<0.00001	<0.0001	0.002	0.0028	0.00037	0.004	0.0002	220	<6	<5						31						0.36	0.03		
W50	26/05/2009																															
W50	27/05/2009	<0.0006	4.87	<0.00001	16.6	0.482	17.6	<0.00001	<0.0001	0.0009	0.0026	0.00038	0.007	<0.0001	220	<6	<5						28						0.33	0.02		
W50	03/06/2009	0.0007	4.78	<0.00001	16.4	0.497	16.3	<0.00001	<0.0001	0.0011	0.0023	0.00042	0.009	0.0002	220	<6	<5						31						0.34	0.03		
W50	07/06/2009	0.0018	4.48	<0.00001	17.5	0.606	19.4	<0.00001	<0.0001	0.0026	0.0012	0.00068	0.005	0.0002	180	<6	<5						100						0.52	0.03		<0.05
W50	11/06/2009	0.001	4.41	<0.00001	16.7	0.512	17	<0.00001	<0.0001	0.0017	0.0018	0.00065	0.006	0.0002	190	<6	<5						32						0.39	0.03		
W50	20/06/2009	0.001	5.16	<0.00001	17.6	0.472	16.7	<0.00001	<0.0001	0.0005	0.0014	0.00084	<0.001	0.001	220	<6	<5						32					122	0.54	0.03		<0.05
W50	10/08/2009																															
W50	11/08/2009	0.0007	5.78	<0.00001	16.9	0.48	20.8	<0.00001	<0.0001	0.0006	0.0022	0.0004	0.004	0.0002	240	<6	<5						<5						0.3	0.02		<0.05
W50	03/05/2010	0.0003	3.93	<0.00002	11	0.538	12	<0.00005	<0.005	<0.005	0.0011	<0.005	<0.005	<0.0005	150	<0.5	<0.5	<0.5		0												<0.005
W50	18/05/2010																															
W50	16/06/2010	0.0013	5.16	High DL removed	19	0.643	<60	<0.00005	<0.005	<0.01	0.0025	<0.005	High DL removed	<0.002	200	4.1	<0.5	3.4		<0.4												<0.005
W50	23/06/2010	0.0012	5.24	High DL removed	17	0.555	<60	<0.00005	<0.005	<0.01	0.0025	<0.005	High DL removed	<0.002	200	2.1	<0.5	1.8		<0.4							8.8					<0.005
W50	04/07/2010	0.0015	5.29	High DL removed	19	0.609	<60	<0.00005	<0.005	<0.01	0.0027	<0.005	High DL removed	<0.002	210	<0.5	<0.5	<0.5		<0.4												<0.005
W50	11/07/2010	0.0015	5.4	High DL removed	18	0.555	<60	<0.00005	<0.005	<0.01	0.0024	<0.005	High DL removed	<0.002	210	<0.5	<0.5	<0.5		<0.4												<0.005
W50	07/11/2010	0.0026	5.92	<0.00002	21.3	0.742	30	<0.00005	<0.005	<0.005	0.003	<0.005	<0.005	<0.0005	220	<0.5	<0.5	<0.5		<0.4												<0.005
W50	11/11/2010 2:00	0.0026	6.13	<0.00002	23.2	0.728	33	<0.00005	<0.005	<0.005	0.0028	<0.005	<0.005	<0.0005	220	<0.5	<0.5	<0.5		<0.4							8.5					<0.005
W50	02/05/2011	0.0002	3.1	<0.00002	1.69	0.091	<3	<0.00005	<0.005	<0.005	0.0001	<0.005	0.009	<0.0005	45	<0.5	<0.5	<0.5														
W50	07/05/2011	<0.0001	2.22	<0.00002	1.37	0.061	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	29	<0.5	<0.5	<0.5														
W50	18/10/2011	0.0006	5.75	<0.00002	19.1	0.731	20	<0.00005	<0.005	<0.005	0.0022	<0.005	<0.005	<0.0005	240	<0.5	<0.5	<0.5														
W50	13/11/2011	0.00102	4.31	<0.000020	18.1	0.562	18.6	<0.000050	<0.0050	<0.0050	0.00231	<0.0050	<0.0050	<0.00050	223	<0.50	<0.50	<0.50														
W50	13/04/2012 18:48	0.00073	4.92	<0.000020	16.1	0.577	16	<0.000050	<0.0050	<0.0050	0.00269	<0.0050	0.0092	<0.00050	219	1.32	<0.50	1.1												0.0381		
W50	14/04/2012 11:10	0.0008	5.41	<0.000020	18.1	0.615	17.9	<0.000050	<0.0050	<0.0050	0.00282	<0.0050	<0.0050	<0.00050	245	<0.50	<0.50	<0.50												0.0131		
W50	15/04/2012 9:50	0.00078	5.32	<0.000020	18	0.63	17.9	<0.000050	<0.0050	<0.0050	0.00301	<0.0050	<0.0050	<0.00050	253	<0.50	<0.50	<0.50												0.0114		
W50	23/05/2013	0.00027	2.36	<0.000020	5.69	0.241	4.1	<0.000050	<0.0050	0.0052	0.00024	<0.0050	<0.0050	<0.00050	57.1	<0.50	<0.50	<0.50														
W50	24/05/2013 7:30														59.4	<0.50	<0.50	<0.50														
W50	25/05/2013 7:25																															
W50	26/05/2013 7:15																															
W50	27/05/2013 6:50																															
W50	28/05/2013 8:25	0.00033	2.12	<0.000020	8.79	0.619	7.3	<0.000050	<0.0050	<0.0050	0.00037	<0.0050	<0.0050	<0.00050	77.9	<0.50	<0.50	<0.50														
W50	29/05/2013 8:00	0.00036	2.18	<0.000020	9.53	0.671	8.1	<0.000050	<0.0050	<0.0050	0.00044	<0.0050	<0.0050	<0.00050	86.5	<0.50	<0.50	<0.50														
W50	30/05/2013 7:50																															
W50	31/05/2013 8:30	0.00061	2.65	<0.000020	10.5	0.654	9.1	<0.000050	<0.0050	<0.0050	0.00056	<0.0050	<0.0050	<0.00050	99.5	<0.50	<0.50	<0.50														
W50	07/06/2013	0.00036	3.89	<0.000020	11.3	0.547	8.4	<0.000050	<0.0050	<0.0050	0.00135	<0.0050	<0.0050	<0.00050	196	<0.50	<0.50	<0.50														
W50	11/07/2013	0.00024	5.73	<0.000020	13.1	0.565	9.1	<0.000050	<0.0050	<0.0050	0.00082	<0.0050	<0.0050	<0.00050	228	<0.50	<0.50	<0.50														
W50	27/02/2014 8:40	0.0003	4.73	<0.000020	13.3	0.569	11	<0.000050	<0.0050	<0.0050	0.00202	<0.0050	<0.0050	<0.00050	226	<0.50	<0.50	<0.50														
W50	05/03/2014 8:25																															
W50	08/03/2014 10:25	0.00032	4.89	<0.000020	14	0.577	12.7	<0.000050	<0.0050	<0.0050	0.00183	<0.0050	<0.0050	<0.00050	234	<0.50	<0.50	<0.50														
W50	10/03/2014 7:45	0.0003	4.88	<0.000020	14	0.572	12.2	<0.000050	<0.0050	<0.0050	0.00192	<0.0050	<0.0050	<0.00050	235	<0.50	<0.50	<0.50														
W50	21/03/2014 9:50	0.00035	4.54	<0.000020	13.5	0.596	11.1	<0.000050	<0.0050	<0.0050	0.00191	<0.0050	<0.0050	<0.00050	230	<0.50	<0.50	<0.50														
W50	27/03/2014 8:45	0.00027	5.24	<0.000020	13.4	0.582	11.4	<0.000050	<0.0050	<0.0050	0.00205	<0.0050	<0.0050	<0.00050	229	<0.50	<0.50	<0.50														
W50	02/04/2014 14:00	0.0003	5.19	<0.000020	13.1	0.558	10.7	<0.000050	<0.0050	<0.0050	0.00195	<0.0050	<0.0050	<0.00050	232	2.75	<0.50	2.29														
W50	02/04/2014 14:00																															
W50	17/11/2014 14:00	0.00047	4.15	<0.000020	17	0.756	28.7	<0.000050	<0.0050	<0.0050	0.00192	<0.0050	<0.0050	<0.00050	208	<0.50	<0.50	<0.50														
W50	24/11/2014 14:15	0.00054	4.35	<0.000020	17.5	0.755	30.2	<0.000050	<0.0050	<0.0050	0.00178	<0.0050	<0.0050	<0.00050	210	<0.50	<0.50	<0.50														
W50	03/12/2014 8:40	0.00051	4.12	<0.000020	17.3	0.779	27.9	<0.000050	<0.0050	<0.0050	0.00187	<0.0050	<0.0050	<0.00050	197	<0.50	<0.50	<0.50														
W50	20/12/2014 9:00	0.00048	4.76	<0.000020	18.3	0.803	30	<0.000050	<0.0050	<0.0050	0.00192	<0.0050	<0.0050	<0.00050	193	<0.50	<0.50	<0.50														
W50	26/08/2008																															
W50	29/08/2008														190	<6	<5						100									
W50	29/06/2009	0.0006	5.62	<0.00001	17.9	0.529	19.5	<0.00001	<0.0001	0.0007	0.0023	0.00039	0.006	0.0002	220	<6	<5						32						0.27	0.04		<0.05
W50	06/07/2009																															
W50	13/07/2009	<0.0006	4.28	0.00002	16.2	0.614	15.8	<0.00001	<0.0001	0.005	0.0012	0.00046	0.011	0.0002	190	<6	<5						110						0.34	0.03		<0.05
W50	27/07/2009	0.0017	2.9	<0.00001	11	0.634	15.5	<0.00001	<0.0001	0.0054	0.0014	0.0019	0.005	0.0006	90	<6	<5						>60						1.93	0.02		0.05
W50	18/08/2009	0.0012	3.24	<0.00001	15.7	0.598	17.7	<0.00001	<0.0001	0.0006	0.0005	0.0007	0.003	<0.0001	100	<6	<5												0.97	0.03		<0.05
W50	25/08/2009	0.001	3.08	<0.00001	16.6	0.648	17.5	<0.00001	<0.0001	0.0005	0.0004	0.0007	0.003	<0.0001	100	<6	<5												0.73	0.02		<0.05
W50	07/09/2009	0.0016	3.15	<0.00001	19.1	0.724	18.2	<0.00001	0.0003	0.0014	<0.0004	0.0007	0.005	<0.0001	100	<6	<5												0.57	0.02		<0.05
W50	17/09/2009	0.0015	3.22	<0.00001	20.2	0.78	23.4	<0.00001	<0.0001	0.0007	<0.0004	0.0006	0.006	<0.0001	100	<6	<5												0.4	0.04		<0.05
W50	23/09/2009	0.0016	3.02	<0.00001	17.6	0.8	21.5	<0.00001	<0.0001	0.0004	<0.0004	0.0006	0.002	<0.0001	100	<6	<5												1.34	0.02		

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W50	25/08/2008						
W50	28/02/2009					0.8	
W50	07/03/2009						
W50	05/04/2009					0.2	0.075
W50	06/04/2009						
W50	02/05/2009					2.1	
W50	09/05/2009					1.7	
W50	18/05/2009					0.1	
W50	26/05/2009						
W50	27/05/2009					<0.1	
W50	03/06/2009					0.2	
W50	07/06/2009					4.7	
W50	11/06/2009					5.2	
W50	20/06/2009					1.7	
W50	10/08/2009						
W50	11/08/2009					0.2	
W50	03/05/2010					1.8	-1.4
W50	18/05/2010						
W50	16/06/2010					0.3	
W50	23/06/2010					0.2	-4.1
W50	04/07/2010					0.9	1.3
W50	11/07/2010					0.3	0.9
W50	07/11/2010					0.2	-4
W50	11/11/2010 2:00						-3.8
W50	02/05/2011						
W50	07/05/2011						
W50	18/10/2011						
W50	13/11/2011						
W50	13/04/2012 18:48			483.5			
W50	14/04/2012 11:10			520.5			
W50	15/04/2012 9:50			523.2			
W50	23/05/2013			121.8			
W50	24/05/2013 7:30			130.1			
W50	25/05/2013 7:25			140.7			
W50	26/05/2013 7:15			159.9			
W50	27/05/2013 6:50						
W50	28/05/2013 8:25			211.2			
W50	29/05/2013 8:00			28.4			
W50	30/05/2013 7:50			232.9			
W50	31/05/2013 8:30						
W50	07/06/2013			367.7			
W50	11/07/2013			404.8			
W50	27/02/2014 8:40			442.8			
W50	05/03/2014 8:25						
W50	08/03/2014 10:25			440.9			
W50	10/03/2014 7:45			394.6			
W50	21/03/2014 9:50			454.7			
W50	27/03/2014 8:45			398.8			
W50	02/04/2014 14:00						
W50	02/04/2014 14:00			410.9			
W50	17/11/2014 14:00			544.5			
W50	24/11/2014 14:15			541.4			
W50	03/12/2014 8:40			527.9			
W50	20/12/2014 9:00			539.4			
W50	26/08/2008						
W50	29/08/2008					10	
W50	29/06/2009					0.9	
W50	06/07/2009						
W50	13/07/2009					3.1	
W50	27/07/2009					24	
W50	18/08/2009					1.7	
W50	25/08/2009					3.6	
W50	07/09/2009					2.3	
W50	17/09/2009					2	
W50	23/09/2009					3	

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Phase	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
				mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W50	05/10/2009	Discharge	P	<3	328	7.8	7.69	487	478	6.4					200	90	33.8		75			8.65		0.356	0.0006	0.0003	0.14	<0.00004	<0.001
W50	12/10/2009	Discharge	P	2	334	7.84	7.76	508	476	4.9					184	90	40.5		66.1			9.26		0.616	0.0006	0.0008	0.143	<0.00004	<0.001
W50	19/10/2009	Discharge	P	<3	304	7.43	7.77	554	484	3.8					190	99	25.1		65.5			8.94		0.126	0.0005	0.0004	0.134	<0.00004	<0.001
W50	27/10/2009	Discharge	P	<2	342	7.16	7.66	522	468	3.6					193	102	24.9		70.2			9.34		0.116	0.0006	0.0004	0.133	<0.00004	<0.001
W50	15/07/2010	Discharge	P	<1	340	7.99	8.09	525	522	15.34		103		212	205	120	29	0.35	70	0.26	0.158	9.4	9.6	0.111	<0.0005	<0.0004	0.084	<0.0002	<0.001
W50	13/10/2010	Discharge	P	3	390		8.09		623					250	247	150	21	0.52	97	0.3	0.097	14.3		0.332	<0.0005	0.0005	0.109	<0.0001	<0.001
W50	14/10/2010	Discharge	P	<1	400		8.08		627					235	241	140	22	0.5	99	0.17	0.081	14.5	9.9	0.158	<0.0005	0.0005	0.107	<0.0001	<0.001
W50	15/10/2010	Discharge	P	<1	410	7.84	8.04	641	649	3.88		104		231	226	140	27	0.42	100	0.2	0.085	15.3	9.3	0.141	<0.0005	0.0004	0.107	<0.0001	<0.001
W50	16/10/2010	Discharge	P	<1	410		8.06		650					246	239	140	24	0.43	110	0.31	0.089	15.3	9.5	0.136	<0.0005	0.0004	0.107	<0.0001	<0.001
W50	17/10/2010	Discharge	P	<1	470		8.16		680					268	261	140	28	0.48	110	0.77	0.094	16.2	8.1	0.105	<0.0005	0.0004	0.095	<0.0001	<0.001
W50	18/10/2010	Discharge	P	<1	450		8.15		697					315	269	140	24	0.5	110	1	0.102	16	8.2	0.113	<0.0005	0.0005	0.108	<0.0001	<0.001
W50	19/10/2010	Discharge	P	<1	410		8.17		644					265	248	140	25	0.44	91	0.37	0.081	14	9.2	0.099	<0.0005	0.0003	0.103	<0.0001	<0.001
W50	16/04/2012 11:00	Discharge	P	1.7	312		8.24		513					235	229	204	5.1	0.43	48.2	0.015	0.0051	2.75	10.2	0.0789	<0.00050	0.00044	0.0806	<0.00010	<0.0010
W50	17/04/2012 11:00	Discharge	P			7.79		299.2		2.4	11.63	85.2																	
W50	18/04/2012 10:30	Discharge	P	17.9	314	7.88	8.25	301.8	521	2.3	12.64	92.3		229	237	195	5.9	0.35	57.5	0.034	0.0097	4.89	13.1	0.362	<0.00050	0.00055	0.0961	<0.00010	<0.0010
W50	19/04/2012 13:50	Discharge	P	5.8	308	7.77	8.27	303.1	518	2.5	11.89	87.3		235	238	195	5.9	0.35	59.1	0.0251	0.0096	5.15	12.3	0.152	<0.00050	0.00042	0.0952	<0.00010	<0.0010
W50	20/04/2012 16:05	Discharge	P	7	324	7.79	8.06	300.1	515	2.4	11.46	8.39		226	244	192	5.4	0.36	55.7	0.021	0.0079	4.77	12.3	0.194	<0.00050	0.00049	0.0861	<0.00010	<0.0010
W50	21/04/2012 16:30	Discharge	P	4.7	316	7.78	8.04	304.1	515	2.4	12.38	90.8		222	240	189	5.6	0.38	52.5	0.017	0.0091	4.63	13	0.129	<0.00050	0.00049	0.0845	<0.00010	<0.0010
W50	22/04/2012 15:30	Discharge	P	5	328	7.65	8.07	303.8	512	2.5	12.6	92.5		221	240	188	5.3	0.37	51.6	0.021	0.0089	4.66	13.1	0.126	<0.00050	0.00045	0.0841	<0.00010	<0.0010
W50	23/04/2012 14:46	Discharge	P	4.9	334	7.62	8.15	303.4	511	2.5	13.5	99.2		233	219	190	5.2	0.36	51.7	0.017	0.0092	4.71	13.3	0.155	<0.00050	0.00047	0.0887	<0.00010	<0.0010
W50	24/04/2012	Discharge	P	8	322	7.58	8.21	293.4	512	2.1	13.54	98.3		223	228	193	5.4	0.36	49.4	0.016	0.0087	4.78	13	0.19	<0.00050	0.00049	0.0832	<0.00010	<0.0010
W50	25/04/2012	Discharge	P	3.8	316	7.58	8.08	295.8	512	2.4	12.42	90.9		232	229	186	5.2	0.37	50.8	0.018	0.0086	4.51	12.2	0.15	<0.00050	0.00049	0.0899	<0.00010	<0.0010
W50	26/04/2012	Discharge	P	4.4	310	7.57	8.1	294.3	510	2.4	12.13	88.6	187.2	237	223	184	5.3	0.38	52.6	0.021	0.0093	4.51	15.4	0.18	<0.00050	0.00048	0.0935	<0.00010	<0.0010
W50	27/04/2012	Discharge	P	3.9	322	7.77	8.21	291	510	2.4	11.85	86.5	143.7	222	237	183	5.5	0.37	50.9	0.018	0.0097	4.52	13.4	0.144	<0.00050	0.0005	0.0869	<0.00010	<0.0010
W50	28/04/2012	Discharge	P	4.2	324	7.6	8.17	291.2	511	2.3	11.96	87.3	156.3	220	240	185	5.3	0.37	50.5	0.021	0.0091	4.55	12.9	0.131	<0.00050	0.00045	0.0858	<0.00010	<0.0010
W50	29/04/2012	Discharge	P	4.1	308	7.47	8.16	291	511	2.3	12.27	89.2	133.2	220	236	184	5.3	0.37	50	0.016	0.0103	4.37	12.7	0.126	<0.00050	0.00051	0.0844	<0.00010	<0.0010
W50	30/04/2012	Discharge	P	3.9	314	7.48	8.2	291.1	512	2.4	11.17	81.8	88.7	221	233	185	5.2	0.37	50.7	0.018	0.0099	4.47	12.9	0.126	<0.00050	0.00052	0.0877	<0.00010	<0.0010
W50	01/05/2012 14:30	Discharge	P	3.6	322	7.73	8.35	283.1	507	2.6	11.19	82.1	79.6	219	233	191	5.1	0.37	51.9	0.016	0.0085	4.37	12.1	0.158	<0.00050	0.00041	0.0833	<0.00010	<0.0010
W50	02/05/2012 15:45	Discharge	P	4.1	322	7.65	8.26	282.3	497	2.4	11.47	84	94.5	211	229	190	5.6	0.37	51.4	0.013	0.0087	4.47	12.4	0.122	<0.00050	0.00039	0.0789	<0.00010	<0.0010
W50	03/05/2012 10:30	Discharge	P	3.8	316	7.59	8.37	289.4	502	2.5	11.27	82.6	87	212	231	190	5.4	0.37	50.4	0.019	0.0112	4.21	12	0.132	<0.00050	0.00039	0.0818	<0.00010	<0.0010
W50	04/05/2012 14:30	Discharge	P	6.6	264	7.25	6.82	231.9	388	3.5	11.57	87.2	95.1	167	174	104	4.3	0.27	40.7	0.021	0.0084	2.97	11.7	0.267	<0.00050	0.00057	0.068	<0.00010	<0.0010
W50	05/05/2012 9:30	Discharge	P	6.3	230	7.52	6.83	268.9	388	3.1	9.51	70.8	95.2	174	173	104	4.2	0.27	40.1	0.017	0.0083	2.96	17.7	0.213	<0.00050	0.00043	0.0692	<0.00010	<0.0010
W50	06/05/2012 14:00	Discharge	P	10.6	246	7.55	8.1	273	411	3.1	9.43	70.2	84.4	185	185	153	4.6	0.31	43.6	0.022	0.0101	3.21	16.3	0.327	<0.00050	0.00061	0.0738	<0.00010	<0.0010
W50	07/05/2012	Discharge	P	3.7	286	7.7	8.06	271.3	477	4.3	6.07	46.9	26	200	227	195	5	0.4	44.2	0.0062	<0.0050	1.6	9.88	0.0398	<0.00050	0.00035	0.0704	<0.00010	<0.0010
W50	09/05/2012 14:00	Discharge	P	6.1	286	7.3	8.08	266.7	433	3.2	12.64	94.6	132	186	201	163	4.4	0.32	46.3	0.027	0.0099	3.16	17.5	0.208	<0.00050	0.00045	0.0736	<0.00010	<0.0010
W50	10/05/2012 17:00	Discharge	P	6.8	258	7.83	8.01	249.5	399	3.6	12.56	95	80.6	170	184	151	3.9	0.29	42	0.03	0.0091	2.91	17.4	0.254	<0.00050	0.00042	0.0679	<0.00010	<0.0010
W50	22/04/2013 11:45	Discharge	P	13.7	286	8.64	8.23	241.5	478	1.9			397.4	219	226	193	5.2	0.31	47.6	0.032	<0.0050	2.42	10.4	0.327	<0.00050	0.00048	0.0837	<0.00010	<0.0010
W50	23/04/2013 8:10	Discharge	P			8.07		224.8		1.8			-418.2																
W50	25/04/2013 6:40	Discharge	P			7.8		270.6		1.6		114	15.2																
W50	26/04/2013 6:40	Discharge	P	3.7	280		8.29		484					229	219	196	5.8	0.32	46.5	0.035	0.0077	3.15	10.1	0.199	<0.00050	0.00035	0.0836	<0.00010	<0.0010
W50	30/04/2013 5:50	Discharge	P	3	280	7.79	8.09	228.01	447	1.2		105.2	-14.1	216	201	176	5.1	0.29	38.2	0.023	0.0149	2.71	9.5	0.131	<0.00050	0.00035	0.0818	<0.00010	<0.0010
W50	03/05/2013 13:45	Discharge	P	2.9	252		8.21		437					211	191	173				0.043	0.0115	2.59		0.144	<0.00050	0.00027	0.0775	<0.00010	<0.0010
W50	05/05/2013 15:00	Discharge	P	6.4	252	7.59	8.03	207.4	423	1.6		106.5	36.7	207	191	169	5.7	0.26	39.5	0.048	0.0084	2.61	7.78	0.199	<0.00050	0.00035	0.0774	<0.00010	<0.0010
W50	07/05/2013 16:30	Discharge	P	8.8	278	8.8	8.1	240.5	441	1.5	12.57	91.9	45.4	204	198	165	11	0.29	40.8	0.044	0.0187	12.2	10.4	0.328	<0.00050	0.00031	0.0813	<0.00010	<0.0010
W50	16/05/2013 14:50	Discharge	P	3.5	116	8.1	7.84	70.2	116	4.2	11.14	85.8	67.7	62.7	64	46.2	1.9	0.12	0.82	0.079	0.0646	0.953	20.3	0.177	<0.00050	0.00034	0.0381	<0.00010	<0.0010
W50	07/04/2014 7:00	Discharge	P	8.3	256	7.77	8.08	223	440	2	12.74	92.3	126.4	202	197	174	11	0.3	33.4	0.062	0.0075	0.605	12.4	0.183	<0.00050	0.00041	0.0728	<0.00010	<0.0010
W50	07/04/2014 7:00	Discharge	M	8.3	256		8.08		440					202	197	174	11	0.3	33.4	0.062	0.0075	0.605	12.4	0.183	<0.00050	0.00041	0.0728	<0.00010	<0.0010
W50	17/04/2014 9:10	Discharge	P	13.6	290	7.77	8.21	257.9	463	2.1	12.97	94.1	237.1	203	201	185	11	0.29	38.3	0.24	0.0161	1	10.5	0.704	<0.00050	0.00055	0.0797	<0.00010	<0.0010
W50	21/04/2014 13:45	Discharge	P	11.8	268		8.16		442					204	197	176	11	0.31	35.5	0.13	0.0153	1.07	9.95	0.624	<0.00050	0.00048	0.0833	<0.00010	<0.0010
W50	21/04/2014 13:45	Discharge	P			8.01		268.4		2.2	13.7	99.7	239.3																
W50	28/04/2014 11:20	Discharge	P	16.7	216	8.15	8.12	214.4	326	2.4	15.2	111.4	190.8	138	131	116	7	0.29	35	0.13	0.0143	1.68	11.5	1.05	<0.00050	0.00081	0.067	<0.00010	<0.0010
W50	06/05/2014 7:35	Discharge	P	8.7	228	7.8	8.15	190.3	339	2.8	13.37	98.9	178.5	147	147	124	7.4	0.27	34.5	0.18	0.0182	1.7	14.6	0.433	<0.00050	0.00054	0.0642	<0.00010	<0.0010
W50	18/05/2014 16:20	Discharge	P	7.2	216	7.15	8.18	235.2	344	5.7	10.8	86.2	104.4	161	146	124	6.4	0.25	47.3	0.18	0.0271	1.8	13.5	0.445	<0.00050	0.00058	0.0683	<0.00010	<0.0010
W50	22/05/2014 7:50	Discharge	P	24.3	217	7.36	7.9	211.1	313	5.9	11.71	93.8	104.4	139	137	99.6	5.6	0.26	40.4	0.17	0.0369	2.89	16.4	1.17	<0.00050	0.00096	0.0841	<0.00010	<0.0010
W50	26/05/2014 8:30	Discharge	P	20.1	230	7.4	7.94	245.2	359	7.3	11.46	95.3	128.7	158	155	110	5.5	0.1	44.1	0.18	0.03	2.75	19.2	1.13	<0.00050	0.00114	0.104	<0.00010	<0.0010
W50	09/12/2014 7:25	Discharge	P	2.5	302	7.73	8.1	284.5	491	1.7	12.34	90.06	76.8	229	210	147	7.5	0.43	85.3	0.082	0.0266	3.06	7.56	0.0387	<0.0010	0.00042	0.0675	<0.00020	<0.0020
W50	15/12/2014 9:15	Discharge	P	<1.0	308	7.75	7.94	278.9	497	1.5	11.20	80.2	163.1	222	214	136	7.6	0.41	91.8	0.083	0.0254	3.24	7.41	0.0206	<0.00050	0.0004	0.0735	<0.00010	<0.0010
W50	16/12/2014 9:00	Discharge	P	<1.0	274	7.60	7.85	278.4	499	1.4	12.18	86.7	124.4	226	218	137	7.5	0.43	95.7	0.088	0.0241	3.3	6.78	0.0363	<0.00050	0.00042	0.0759	<0.00010	<0.0010
W50	08/04/2015 7:10	Discharge	P	1.2	276	7.63	8.12	285.3	500	3	10.06	74.9	152.3	212	201	150	8	0.38	81.2	0.092	0.0102	2.91	6.01	0.0544	<0.00050	0.00041	0.0703	<0.00010	<0.0010
W50	14/04/2015 16:40	Discharge	P	1.3	282	7.52	8.1	286.1	503	3.1	10.09	75.3	179.7	211	202	154	9	0.37	83.7	0.065	0.0111	2.89	5.54	0.0635	<0.00050	0.00034	0.0715	<0.00010	<0.0010
W50	20/04/2015 8:20	Discharge	P	8.6	192	7.89	7.97	180.2	314	2.6	12.88	94.9	183.4	117	116	91.3	7.1	0.22	45.2	0.069	0.0668	2.15	1.17	0.167	<0.00050	0.00026	0.0491	<0.00010	<0.0010
W50	27/04/2015 7:50	Discharge	P	2.5	216	7.85	8.07	200.8	341	2.9	12.53	93.5	140.9	137	133	101	6.7	0.26	44.3	0.062	0.0401	2.65	8.86	0.0844	<0.00050	0.00035	0.0533	<0.00010	<0.0010
W50	07/05/2015 15:25	Discharge	P	1.3	364	7.33	8.05	355.8	594	3.6	12.36	93.6	146.2	236	272	189	14	0.39	83.1	0.18	0.0094	3.53	7.37	0.0227	<0.00050	0.00034	0.0761	<0.00010	<0.0010
W50	14/05/2015 11:15	Discharge	P	3.8	184	7.93	8.05	213.5	296	11.1	9.93	90.4	96.4	116	146	95.4	6.1	0.21	35.3	0.031	0.0525	1.57	8.08	0.082	<0.00050	0.00043	0.0481	<0.00010	<0.0010
W50	15/05/2015 7:05	Discharge	P	3.6	178	8.01	8.03	209	298	10.9	9.93	89.7	107.9	113	115	96	6.7	0.21	36.1	0.036	0.0575	1.58	8.91	0.096	<0.00050	0.00042	0.0475	<0.00010	<0.0010

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W50	05/10/2009	0.044	0.00022	56.9	0.001	0.00038	0.009	0.157	0.0012	0.002	14.4	0.352	<0.00001	0.0165	0.002	<0.05	3.3	0.002	3.3	<0.00001	19.7	0.858	22.3	<0.00001	<0.0001	0.0045	0.0005
W50	12/10/2009	0.032	0.00002	56.6	<0.0004	0.00048	0.017	0.324	0.0004	0.002	14.7	0.407	<0.00001	0.0172	0.002	<0.05	3.6	0.0019	3.62	<0.00001	19.1	0.93	23.5	<0.00001	<0.0001		0.0005
W50	19/10/2009	0.032	0.00002	54.9	0.0008	0.00031	0.013	0.081	0.0004	0.002	14.7	0.365	<0.00001	0.0163	0.002	<0.05	3.9	0.0021	3.45	<0.00001	18.2	0.884	21.9	<0.00001	<0.0001		0.0006
W50	27/10/2009	0.041	0.00003	58.8	<0.0004	0.00027	0.01	0.042	0.0001	0.002	15.4	0.382	<0.00001	0.0171	0.002	<0.05	4.2	0.0023	3.49	<0.00001	19.8	0.955	25	<0.00001	<0.0001		0.0006
W50	15/07/2010	<0.1	High DL removed	58	High DL removed	<0.0005	0.005	<0.02	<0.0002	<0.01	16	0.036	<0.0002	0.014	<0.001		5	0.0023	4.24	High DL removed	26	1.05	<60	<0.00005	<0.005	<0.01	0.0008
W50	13/10/2010	<0.05	0.00004	68	<0.001	<0.0005	0.0138	0.088	<0.0002	<0.005	19.5	0.131	<0.00002	0.017	0.001		6.4	0.0043	5.44	<0.00002	25.3	1.35	37	<0.00005	<0.005	<0.005	0.0017
W50	14/10/2010	<0.05	<0.00001	64.1	<0.001	<0.0005	0.0081	0.017	<0.0002	<0.005	18.1	0.108	<0.00002	0.017	0.001		6.04	0.0042	4.89	<0.00002	23.8	1.37	38	<0.00005	<0.005	<0.005	0.0017
W50	15/10/2010	<0.05	<0.00001	62.6	<0.001	<0.0005	0.0069	0.007	<0.0002	<0.005	18.2	0.109	<0.00002	0.017	<0.001		6.1	0.0047	4.71	<0.00002	25.1	1.43	40	<0.00005	<0.005	<0.005	0.0014
W50	16/10/2010	<0.05	0.00002	65.1	<0.001	<0.0005	0.007	<0.005	<0.0002	<0.005	20.1	0.112	<0.00002	0.018	<0.001		6.28	0.0046	4.76	<0.00002	27.7	1.58	44	<0.00005	<0.005	<0.005	0.0015
W50	17/10/2010	<0.05	0.00002	73.3	<0.001	<0.0005	0.0074	0.006	<0.0002	<0.005	20.6	0.121	<0.00002	0.018	0.001		6.3	0.005	4.72	<0.00002	35.5	1.77	45	<0.00005	<0.005	<0.005	0.0014
W50	18/10/2010	<0.05	0.00002	85	<0.001	<0.0005	0.0085	0.009	<0.0002	0.005	25.1	0.142	<0.00002	0.02	0.001		6.56	0.0054	5.45	<0.00002	40.8	2.1	53	<0.00005	<0.005	<0.005	0.0018
W50	19/10/2010	<0.05	0.00002	71.8	<0.001	<0.0005	0.0068	0.005	<0.0002	<0.005	20.8	0.11	<0.00002	0.017	0.001		6.4	0.0042	5.25	<0.00002	33	1.41	38	<0.00005	<0.005	<0.005	0.0014
W50	16/04/2012 11:00	<0.05	<0.000010	63.4	<0.0010	<0.00050	0.00883	0.121	<0.00020	<0.0050	18.6	0.0641	<0.000010	0.0063	<0.0010	0.018	3.73	0.00076	5.62	<0.000020	17.9	0.628	16.9	<0.000050	<0.0050	<0.0050	0.00329
W50	17/04/2012 11:00																										
W50	18/04/2012 10:30	<0.05	0.000031	58.7	<0.0010	<0.00050	0.0347	0.585	0.00035	<0.0050	19.9	0.0964	<0.000010	0.0056	0.0016	0.03	3.66	0.00165	5.85	<0.000020	17.7	0.659	18.7	<0.000050	<0.0050	0.0201	0.00206
W50	19/04/2012 13:50	<0.05	0.000016	61.3	<0.0010	<0.00050	0.0303	0.249	<0.00020	<0.0050	19.8	0.063	<0.000010	0.006	0.0011	0.021	3.68	0.00153	5.73	<0.000020	17.5	0.681	19.3	<0.000050	<0.0050	0.0086	0.00209
W50	20/04/2012 16:05	<0.05	<0.000010	58.6	<0.0010	<0.00050	0.0309	0.304	<0.00020	<0.0050	19.2	0.0714	<0.000010	0.0057	0.0012	0.021	3.53	0.00162	5.76	<0.000020	17.6	0.65	17.7	<0.000050	<0.0050	0.0104	0.00205
W50	21/04/2012 16:30	<0.05	0.000014	57.7	<0.0010	<0.00050	0.029	0.2	<0.00020	<0.0050	18.9	0.0544	<0.000010	0.0055	0.0015	0.018	3.55	0.00158	5.44	<0.000020	17.2	0.625	16.7	<0.000050	<0.0050	0.0074	0.00196
W50	22/04/2012 15:30	<0.05	0.000019	57.3	<0.0010	<0.00050	0.0292	0.211	<0.00020	<0.0050	19	0.0565	<0.000010	0.0056	0.0011	0.018	3.49	0.00145	5.33	<0.000020	17.4	0.629	16.9	<0.000050	<0.0050	0.0064	0.00198
W50	23/04/2012 14:46	<0.05	0.000021	62.1	<0.0010	<0.00050	0.0305	0.256	<0.00020	<0.0050	19	0.0632	<0.000010	0.006	0.0013	0.017	3.65	0.00145	5.96	<0.000020	17.4	0.645	16.6	<0.000050	<0.0050	0.0068	0.00216
W50	24/04/2012	<0.05	0.000025	58.6	<0.0010	<0.00050	0.031	0.228	<0.00020	<0.0050	18.5	0.0701	<0.000010	0.0053	0.0011	0.017	3.36	0.00168	5.72	<0.000020	16.6	0.609	15.8	<0.000050	<0.0050	0.007	0.00186
W50	25/04/2012	<0.05	0.00003	61.4	<0.0010	<0.00050	0.0325	0.263	<0.00020	<0.0050	19.2	0.0602	<0.000010	0.0056	0.0011	0.012	3.64	0.00137	5.57	<0.000020	17.3	0.639	15.9	<0.000050	<0.0050	0.006	0.00205
W50	26/04/2012	<0.05	0.000046	61.6	<0.0010	<0.00050	0.0325	0.312	0.00028	<0.0050	20.1	0.0658	<0.000010	0.006	0.0012	0.019	3.75	0.00167	5.6	<0.000020	18.2	0.682	17.8	<0.000050	<0.0050	0.0088	0.00204
W50	27/04/2012	<0.05	0.000021	57.7	<0.0010	<0.00050	0.0298	0.239	<0.00020	<0.0050	19	0.0598	<0.000010	0.0056	0.0012	0.012	3.45	0.0013	5.93	<0.000020	16.9	0.64	16.7	<0.000050	<0.0050	0.0074	0.00191
W50	28/04/2012	<0.05	0.000015	56.4	<0.0010	<0.00050	0.0298	0.227	<0.00020	<0.0050	19.3	0.0614	<0.000010	0.0053	0.001	0.014	3.5	0.00161	5.5	<0.000020	17	0.635	17.9	<0.000050	<0.0050	0.0074	0.00194
W50	29/04/2012	<0.05	0.000018	56.6	<0.0010	<0.00050	0.0288	0.233	<0.00020	<0.0050	19.1	0.0631	<0.000010	0.0053	0.0011	0.016	3.48	0.00184	5.43	<0.000020	16.9	0.611	17.6	<0.000050	<0.0050	0.0066	0.00191
W50	30/04/2012	<0.05	0.000031	57.4	<0.0010	<0.00050	0.0287	0.213	<0.00020	<0.0050	18.9	0.0667	<0.000010	0.0054	0.0014	0.014	3.43	0.00132	5.77	<0.000020	16.7	0.62	17.3	<0.000050	<0.0050	0.0081	0.00193
W50	01/05/2012 14:30	<0.05	0.000013	57	<0.0010	<0.00050	0.0297	0.273	<0.00020	<0.0050	18.5	0.0684	<0.000010	0.0052	0.001	0.018	3.42	0.00159	5.64	<0.000020	16.7	0.607	16.5	<0.000050	<0.0050	0.0084	0.00176
W50	02/05/2012 15:45	<0.05	0.000012	54.8	<0.0010	<0.00050	0.0282	0.223	<0.00020	<0.0050	17.9	0.0697	<0.000010	0.0051	0.0012	0.017	3.3	0.00132	5.49	<0.000020	16.3	0.569	15.6	<0.000050	<0.0050	0.0074	0.00168
W50	03/05/2012 10:30	<0.05	0.000016	55.2	<0.0010	<0.00050	0.0278	0.23	<0.00020	<0.0050	17.9	0.0688	<0.000010	0.0052	<0.0010	0.015	3.33	0.0014	5.48	<0.000020	16.5	0.577	16.8	<0.000050	<0.0050	0.0074	0.00171
W50	04/05/2012 14:30	<0.05	0.000047	43.1	<0.0010	<0.00050	0.0393	0.425	<0.00020	<0.0050	14.3	0.0972	<0.000010	0.0038	0.0014	0.038	3.64	0.00101	4.8	<0.000020	12.7	0.448	13	<0.000050	<0.0050	0.0147	0.00126
W50	05/05/2012 9:30	<0.05	0.000032	45.5	<0.0010	<0.00050	0.0338	0.368	<0.00020	<0.0050	14.7	0.0985	<0.000010	0.0041	0.0012	0.031	3.01	0.00107	4.89	<0.000020	12.9	0.459	12.3	<0.000050	<0.0050	0.0125	0.00131
W50	06/05/2012 14:00	<0.05	0.000027	49.7	<0.0010	<0.00050	0.0315	0.528	0.00022	<0.0050	14.8	0.0919	<0.000010	0.0042	0.0014	0.036	3.13	0.00113	5.58	<0.000020	13.3	0.491	13.6	<0.000050	<0.0050	0.0141	0.00142
W50	07/05/2012	<0.05	0.000012	52.5	<0.0010	<0.00050	0.00774	0.0716	<0.00020	<0.0050	16.7	0.033	<0.000010	0.0058	0.0014	0.011	3.22	0.00035	4.88	<0.000020	16	0.541	13.8	<0.000050	<0.0050	<0.0050	0.00269
W50	09/05/2012 14:00	<0.05	0.00002	48.3	<0.0010	<0.00050	0.032	0.38	<0.00020	<0.0050	15.9	0.114	<0.000010	0.0045	0.0011	0.025	2.92	0.00109	4.86	<0.000020	13.8	0.506	12	<0.000050	<0.0050	0.0119	0.0015
W50	10/05/2012 17:00	<0.05	0.000025	43.5	<0.0010	<0.00050	0.0347	0.475	<0.00020	<0.0050	14.8	0.129	<0.000010	0.0039	0.0012	0.028	2.8	0.00103	4.52	<0.000020	12.7	0.456	12.3	<0.000050	<0.0050	0.0104	0.00134
W50	22/04/2013 11:45	<0.05	<0.000010	56.3	<0.0010	<0.00050	0.0265	0.506	0.00027	<0.0050	19.1	0.084	<0.000010	0.0043	0.0012	0.026	3.04	0.00074	4.68	<0.000020	14.5	0.582	13.8	<0.000050	<0.0050	0.0159	0.0019
W50	23/04/2013 8:10																										
W50	25/04/2013 6:40																										
W50	26/04/2013 6:40	<0.05	<0.000010	59.8	<0.0010	<0.00050	0.0298	0.29	<0.00020	<0.0050	19.5	0.0496	<0.000010	0.004	<0.0010	0.02	3	0.00073	5.01	<0.000020	15.1	0.603	15.5	<0.000050	<0.0050	0.0101	0.00177
W50	30/04/2013 5:50	<0.05	0.000015	55.8	<0.0010	<0.00050	0.0252	0.223	<0.00020	<0.0050	18.7	0.0432	<0.000010	0.0042	<0.0010	0.019	3.33	0.00076	4.29	<0.000020	16.6	0.591	14.7	<0.000050	<0.0050	0.0054	0.00196
W50	03/05/2013 13:45	<0.05	0.000012	53.8	<0.0010	<0.00050	0.0239	0.244	<0.00020	<0.0050	18.6	0.0519	<0.000010	0.004	<0.0010	0.014	3.06	0.00067	3.99	<0.000020	16.6	0.531	12.9	<0.000050	<0.0050	0.0057	0.00176
W50	05/05/2013 15:00	<0.05	0.00001	54.1	<0.0010	<0.00050	0.0228	0.328	<0.00020	<0.0050	17.5	0.0572	<0.000010	0.0042	<0.0010	0.026	3.15	0.0007	4.45	<0.000020	15.5	0.56	13.5	<0.000050	<0.0050	0.0095	0.00182
W50	07/05/2013 16:30	<0.05	0.000017	53.2	<0.0010	<0.00050	0.031	0.546	<0.00020	<0.0050	17.4	0.14	<0.000010	0.0041	0.0014	0.033	3.06	0.00073	5.27	<0.000020	14.7	0.549	13.3	<0.000050	<0.0050	0.02	0.00156
W50	16/05/2013 14:50	<0.05	<0.000010	17.5	<0.0010	<0.00050	0.0274	0.335	<0.00020	<0.0050	4.63	0.036	<0.000010	0.0015	0.0014	0.03	1.45	0.00026	3.19	<0.000020	3.41	0.147	<3.0	<0.000050	<0.0050	0.0057	0.00039
W50	07/04/2014 7:00	<0.05	0.000012	53.1	<0.0010	<0.00050	0.017	0.33	<0.00020	<0.0050	16.9	0.0853	0.000012	0.0039	0.0014	0.019	3.15	0.00063	5.34	<0.000020	13.1	0.565	11.4	<0.000050	<0.0050	0.0095	0.0013
W50	07/04/2014 7:00	<0.05	0.000012	53.1	<0.0010	<0.00050	0.017	0.33	<0.00020	<0.0050	16.9	0.0853	0.000012	0.0039	0.0014	0.019	3.15	0.00063	5.34	<0.000020	13.1	0.565	11.4	<0.000050	<0.0050	0.0095	0.0013
W50	17/04/2014 9:10	<0.05	0.000018	52.3	0.0011	<0.00050	0.0586	1.1	0.00028	<0.0050	17.7	0.197	<0.000010	0.0042	0.0013	0.028	3.3	0.00074	6.13	0.000027	14.2	0.621	12.2	<0.000050	<0.0050	0.0452	0.00125
W50	21/04/2014 13:45	<0.05	0.00002	52.8	<0.0010	<0.00050	0.0659	1.02	0.00028	<0.0050	17.5	0.21	<0.000010	0.0046	0.0013	0.031	3.53	0.00059	6.08	<0.000020	14.7	0.635	12	<0.000050	<0.0050	0.0316	0.00125
W50	21/04/2014 13:45																										
W50	28/04/2014 11:20	<0.05	0.000031	35.9	0.0013	0.00058	0.0705	1.46	0.00041	<0.0050	11.7	0.135	<0.000010	0.0056	0.002	0.054	4.15	0.00094	5.43	<0.000020	14.1	0.67	11	<0.000050	<0.0050	0.0539	0.00078
W50	06/05/2014 7:35	<0.05	0.000026	38.3	<0.0010	<0.00050	0.0452	0.715	<0.00020	<0.0050	12.5	0.144	<0.000050	0.005	0.0014	0.031	3.76	0.00092	4.47	<0.000020	12.5	0.662	10.7	<0.000050	<0.0050	0.022	0.00085
W50	18/05/2014 16:20	<0.05	0.000039	44.1	<0.0010	<0.00050	0.039	0.781	0.0002	<0.0050	12.2	0.311	<0.000010	0.0044	0.0015	0.037	3.5	0.00085	4.83	0.000051	11.1	0.651	13.1	<0.000050	<0.0050	0.0188	0.00092
W50	22/05/2014 7:50	<0.05	0.000035	36.7	0.0015	0.00088	0.0782	1.91	0.00061	<0.0050	11.4	0.325	<0.000010	0.0054	0.0023	0.071	4.25	0.00107	5.5	0.000026	11.4	0.782	14.6	<0.000050	<0.0050	0.0473	0.00081
W50	26/05/2014 8:30	<0.05	0.000055	41.3	0.0015	0.00119	0.105	2.2	0.00088	<0.0050	13.4	0.652	<0.000010	0.0054	0.0029	0.111	4.55	0.00086	5.78	0.000038	12.3	0.89	18.7	<0.000050	<0.0050	0.0435	0.001
W50	09/12/2014 7:25	<0.1	<0.000020	56.3	High DL removed	<0.0010	0.01	0.06	<0.00040	<0.01	21.6	0.0182	<0.000010	0.0095	<0.0020	0.04	8.26	0.00126	1.48	<0.000040	55.9	1.47	1670	<0.00010	<0.01	<0.01	0.00147
W50	15/12/2014 9:15	0.062	<0.000010	60.4	<0.0010	<0.00050	0.01	0.038	<0.00020	<0.0050	17.3	0.0155	<0.000010	0.0102	<0.0010	0.027	7.5	0.00121	1.54	<0.000020	19	1.59	32.6	<0.000050	<0.0050	<0.0050	0.00161
W50	16/12/2014 9:00	0.06	<0.000010	60.9	<0.0010	<0.00050	0.00969	0.059	<0.00020	<0.0050	18	0.0192	<0.000010	0.0104	<0.0010	0.025	7.34	0.00126	1.62	<0.000020	20	1.61	127	<0.000050	<0.0050	<0.0050	0.00164
W50	08/04/2015 7:10	0.06	<0.000010	56	<0.0010	<0.00050	0.0116	0.104	<0.00020	<0.0050	17.6	0.0204	<0.000010	0.0087	<0.0010	0.028	6.81	0.00092	2.29	<0.000020	20.1	1.41	29.8	<0.000050	<0.0050	<0.0050	0.00151
W50	14/04/2015 16:40	0.056	<0.000010	55.4	<0.0010	<0.00050	0.0134	0.107	<0.00020	<0.0050	17.8	0.0343	<0.000010	0.0081	0.0021	0.033	6.33	0.00125	2.49	<0.000020	21.2	1.29	24.3	<0.000050	<0.0050	0.008	0.00131
W50	20/04/2015 8:20	0.068	<0.000010	30.6	<0.0010	<0.00050	0.0209	0.237	<0.00020	<0.0050	9.96	0.0494	<0.000010	0.0059	<0.0010	0.028	4.62	0.00103	2.05	<0.000020	19.1	0.698	16.6	<0.000050	<0.0050	0.0067	0.00078
W50	27/04/2015 7:50	<0.05	0.000015	35.9	<0.0010	<0.00050	0.024	0.201	<0.00020	<0.0050	11.5	0.0759	<0.000010	0.0055	<0.0010	0.042	4.44	0.00074	2.62	<0.000020	16.4	0.742	20.6	<0.000050	<0.0050	<0.0050	0.00089
W50	07/05/2015 15:25	<0.05	<0.000010	61.7	<0.0010	<0.00050	0.0123	0.074	<0.00020	<0.0050	19.9	0.0907	<0.000010	0.0063	<0.0010	0.017	4.91	0.00141	3.69	<0.000020	18.6	1.14	27.3	<0.000050	<0.0050	<0.0050	0.00181
W50	14/05/2015 11:15	<0.05	0.000014	31.2	<0.0010	<0.00050	0.0238	0.303	<0.00020	<0.0050	9.24	0.145	<0.000010	0.0032	<0.0010	0.026	3.04	0.00053	2.5	<0.000020	12.9	0.499	18.9	<0.000050	<0.0050	<0.0050	0.00063
W50	15/05/2015 7:05	<0.05	<0.000010	30.2	0.001	<0.00050	0.0259	0.342	<0.00020	<0.0050	9.14	0.147	<0.000010	0.0035	0.0015	0.037	2.99	0.00054	2.37	<0.000020	12.8	0.513	10.6	<0.000050	<0.0050	0.007	0.00063

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W50	05/10/2009	0.001	0.004	0.0001	0.023	0.001	0.0006	0.141	<0.00004	<0.001	0.032	<0.00001	56.3	<0.0004	0.00027	0.001	<0.01	<0.0001	0.002	14.4	0.322	<0.00001	0.0171	0.002	0.01	3.7
W50	12/10/2009	0.0012	0.008	0.0001	0.035	0.0007	0.0005	0.136	<0.00004	<0.001	0.032	<0.00001	51.5	<0.0004	0.00029	0.001	<0.01	<0.0001	0.002	13.5	0.319	<0.00001	0.017	0.002	0.01	3.4
W50	19/10/2009	0.0008	0.003	0.0001	0.117	0.0013		0.136	<0.00004	<0.001	0.031	0.00013	52.8	<0.0004	0.00038	0.014	0.08	0.0002	0.002	14.2	0.367	<0.00001	0.0169	0.002	0.01	3.6
W50	27/10/2009	0.0007	0.013	0.0002	0.027	0.0007	0.0005	0.127	<0.00004	<0.001	0.037	0.00001	54	0.001	0.00022	<0.001	0.03	<0.0001	0.002	14.1	0.341	<0.00001	0.0165	0.003	0.07	3.8
W50	15/07/2010	<0.005	<0.01	<0.002	0.079	<0.0005	0.0005	0.08	<0.0002	<0.001	<0.1	High DL removed	58	High DL removed	<0.0005	0.003	<0.02	<0.0002	<0.01	15	0.031	<0.0002	0.014	<0.001		5
W50	13/10/2010	<0.005	0.01	<0.0005	0.066	<0.0005	0.0005	0.097	<0.0001	<0.001	<0.05	<0.00001	68.2	<0.001	<0.0005	0.0057	0.007	<0.0002	<0.005	18.5	0.099	0.00003	0.016	<0.001		6.13
W50	14/10/2010	<0.005	0.008	<0.0005	0.063	<0.0005	0.0004	0.096	<0.0001	<0.001	<0.05	<0.00001	65.8	<0.001	<0.0005	0.0053	<0.005	<0.0002	<0.005	18.7	0.102	0.00002	0.017	<0.001		6.32
W50	15/10/2010	<0.005	0.007	<0.0005	0.054	<0.0005	0.0004	0.094	<0.0001	<0.001	<0.05	<0.00001	60.7	<0.001	<0.0005	0.0045	<0.005	<0.0002	<0.005	18.1	0.103	0.00004	0.017	<0.001		6.22
W50	16/10/2010	<0.005	0.007	<0.0005	0.068	<0.0005	0.0004	0.096	<0.0001	<0.001	<0.05	0.00001	66.8	<0.001	<0.0005	0.0044	0.009	<0.0002	<0.005	17.5	0.108	0.00002	0.019	<0.001		6.24
W50	17/10/2010	<0.005	0.007	<0.0005	0.052	<0.0005	0.0004	0.098	<0.0001	<0.001	0.057	0.00001	72	<0.001	<0.0005	0.0051	<0.005	<0.0002	<0.005	19.8	0.108	<0.00002	0.017	0.001		5.94
W50	18/10/2010	<0.005	0.013	<0.0005	0.049	<0.0005	0.0004	0.097	<0.0001	<0.001	0.061	0.00001	74.4	<0.001	<0.0005	0.004	<0.005	<0.0002	<0.005	20.2	0.111	<0.00002	0.017	<0.001		5.57
W50	19/10/2010	<0.005	0.006	<0.0005	0.048	<0.0005	0.0004	0.099	<0.0001	<0.001	<0.05	<0.00001	67.8	<0.001	<0.0005	0.0047	<0.005	<0.0002	<0.005	19.2	0.104	<0.00002	0.015	0.001		5.97
W50	16/04/2012 11:00	<0.0050	<0.0050	<0.00050	0.0048	<0.00050	0.00039	0.0798	<0.00010	<0.0010	<0.05	<0.000010	60.7	<0.0010	<0.00050	0.0057	<0.0050	<0.00020	<0.0050	18.9	0.0445	<0.000010	0.0062	<0.0010	<0.01	3.66
W50	17/04/2012 11:00																									
W50	18/04/2012 10:30	<0.0050	<0.0050	<0.00050	0.0078	<0.00050	0.0004	0.0866	<0.00010	<0.0010	<0.05	0.000021	61.3	<0.0010	<0.00050	0.0253	0.0421	<0.00020	<0.0050	20.3	0.0446	<0.000010	0.0057	0.0011	0.01	3.66
W50	19/04/2012 13:50	<0.0050	<0.0050	<0.00050	0.0062	<0.00050	0.00038	0.086	<0.00010	<0.0010	<0.05	0.000021	62	<0.0010	<0.00050	0.0246	0.0407	<0.00020	<0.0050	20.2	0.0436	<0.000010	0.0057	0.001	<0.01	3.6
W50	20/04/2012 16:05	<0.0050	<0.0050	<0.00050	0.0097	<0.00050	0.00037	0.0884	<0.00010	<0.0010	<0.05	0.000025	64.6	<0.0010	<0.00050	0.0262	0.0516	<0.00020	<0.0050	20	0.0448	<0.000010	0.0055	0.0011	0.014	3.75
W50	21/04/2012 16:30	<0.0050	<0.0050	<0.00050	0.0063	<0.00050	0.0004	0.0854	<0.00010	<0.0010	<0.05	0.000024	63.5	<0.0010	<0.00050	0.0246	0.041	<0.00020	<0.0050	19.9	0.0413	<0.000010	0.0057	0.0011	<0.01	3.62
W50	22/04/2012 15:30	<0.0050	<0.0050	<0.00050	0.0069	<0.00050	0.00041	0.0865	<0.00010	<0.0010	<0.05	0.000032	63.1	<0.0010	<0.00050	0.0249	0.043	<0.00020	<0.0050	20	0.041	<0.000010	0.0057	<0.0010	<0.01	3.62
W50	23/04/2012 14:46	<0.0050	<0.0050	<0.00050	0.0068	<0.00050	0.0004	0.0861	<0.00010	<0.0010	<0.05	0.000015	57.2	<0.0010	<0.00050	0.0239	0.0439	<0.00020	<0.0050	18.6	0.0402	<0.000010	0.0057	<0.0010	0.01	3.46
W50	24/04/2012	<0.0050	<0.0050	<0.00050	0.0058	<0.00050	0.0004	0.0843	<0.00010	<0.0010	<0.05	0.000025	59.4	<0.0010	<0.00050	0.0247	0.0383	<0.00020	<0.0050	19.4	0.0387	<0.000010	0.0054	<0.0010	<0.01	3.64
W50	25/04/2012	<0.0050	<0.0050	<0.00050	0.019	<0.00050	0.00038	0.0864	<0.00010	<0.0010	<0.05	0.000019	59.5	<0.0010	<0.00050	0.0256	0.0449	<0.00020	<0.0050	19.6	0.0402	<0.000010	0.0056	0.0014	<0.01	3.54
W50	26/04/2012	<0.0050	<0.0050	<0.00050	0.0104	<0.00050	0.00038	0.0868	<0.00010	<0.0010	<0.05	0.000022	57.4	<0.0010	<0.00050	0.0254	0.0477	<0.00020	<0.0050	19.2	0.0435	<0.000010	0.0055	0.0011	<0.01	3.59
W50	27/04/2012	<0.0050	<0.0050	<0.00050	0.0076	<0.00050	0.00043	0.0854	<0.00010	<0.0010	<0.05	0.000025	62.2	<0.0010	<0.00050	0.0244	0.0442	<0.00020	<0.0050	19.9	0.0422	<0.000010	0.0054	<0.0010	0.011	3.68
W50	28/04/2012	<0.0050	<0.0050	<0.00050	0.0215	<0.00050	0.00041	0.0865	<0.00010	<0.0010	<0.05	0.000027	62.9	<0.0010	<0.00050	0.0271	0.0784	<0.00020	<0.0050	20.1	0.0449	<0.000010	0.0054	0.0011	0.014	3.71
W50	29/04/2012	<0.0050	<0.0050	<0.00050	0.0064	<0.00050	0.0004	0.0848	<0.00010	<0.0010	<0.05	0.000022	61.8	<0.0010	<0.00050	0.0245	0.0432	<0.00020	<0.0050	19.8	0.0448	<0.000010	0.0056	0.001	<0.01	3.68
W50	30/04/2012	<0.0050	<0.0050	<0.00050	0.0061	<0.00050	0.00038	0.0852	<0.00010	<0.0010	<0.05	0.000019	60.7	<0.0010	<0.00050	0.0245	0.0447	<0.00020	<0.0050	19.7	0.0488	<0.000010	0.0054	0.001	<0.01	3.65
W50	01/05/2012 14:30	<0.0050	<0.0050	<0.00050	0.0066	<0.00050	0.00045	0.0874	<0.00010	<0.0010	<0.05	0.000016	60.7	<0.0010	<0.00050	0.026	0.0493	<0.00020	<0.0050	19.9	0.0545	<0.000010	0.0057	0.001	<0.01	3.68
W50	02/05/2012 15:45	<0.0050	<0.0050	<0.00050	0.0099	<0.00050	0.00044	0.0868	<0.00010	<0.0010	<0.05	0.000021	59.1	<0.0010	<0.00050	0.026	0.0572	<0.00020	<0.0050	19.8	0.0579	<0.000010	0.0056	0.001	<0.01	3.67
W50	03/05/2012 10:30	<0.0050	<0.0050	<0.00050	0.0063	<0.00050	0.00043	0.0856	<0.00010	<0.0010	<0.05	0.000022	60.6	<0.0010	<0.00050	0.0257	0.0504	<0.00020	<0.0050	19.4	0.0547	<0.000010	0.0055	0.001	<0.01	3.61
W50	04/05/2012 14:30	<0.0050	0.0053	<0.00050	0.0239	<0.00050	0.00038	0.0691	<0.00010	<0.0010	<0.05	0.000033	45.7	<0.0010	<0.00050	0.027	0.0851	<0.00020	<0.0050	14.5	0.0703	<0.000010	0.0039	<0.0010	0.015	2.93
W50	05/05/2012 9:30	<0.0050	<0.0050	<0.00050	0.0165	<0.00050	0.00037	0.0688	<0.00010	<0.0010	<0.05	0.000021	44.9	<0.0010	<0.00050	0.0253	0.0812	<0.00020	<0.0050	14.7	0.0742	<0.000010	0.004	<0.0010	<0.01	2.91
W50	06/05/2012 14:00	<0.0050	<0.0050	<0.00050	0.0136	<0.00050	0.00038	0.0718	<0.00010	<0.0010	<0.05	0.000019	49.6	<0.0010	<0.00050	0.0254	0.0768	<0.00020	<0.0050	14.8	0.0683	<0.000010	0.0043	<0.0010	0.011	3.09
W50	07/05/2012	<0.0050	<0.0050	<0.00050	0.0056	<0.00050	0.00036	0.0782	<0.00010	<0.0010	<0.05	0.000012	61.1	<0.0010	<0.00050	0.0071	0.0174	<0.00020	<0.0050	18.2	0.0227	<0.000010	0.0063	0.0011	<0.01	3.63
W50	09/05/2012 14:00	<0.0050	<0.0050	<0.00050	0.0209	<0.00050	0.00037	0.0795	<0.00010	<0.0010	<0.05	0.000024	52.6	<0.0010	<0.00050	0.0281	0.105	<0.00020	<0.0050	16.9	0.1	<0.000010	0.0046	0.001	0.013	3.38
W50	10/05/2012 17:00	<0.0050	<0.0050	<0.00050	0.016	<0.00050	0.00039	0.0745	<0.00010	<0.0010	<0.05	0.000024	48.8	<0.0010	<0.00050	0.0256	0.12	<0.00020	<0.0050	15.2	0.119	<0.000010	0.0044	<0.0010	0.013	3.07
W50	22/04/2013 11:45	<0.0050	<0.0050	<0.00050	0.0077	<0.00050	0.00033	0.0761	<0.00010	<0.0010	<0.05	<0.000010	59.8	<0.0010	<0.00050	0.0167	0.029	<0.00020	<0.0050	18.7	0.0126	<0.000010	0.0044	<0.0010	<0.01	3.1
W50	23/04/2013 8:10																									
W50	25/04/2013 6:40																									
W50	26/04/2013 6:40	<0.0050	<0.0050	<0.00050	0.0052	<0.00050	0.00029	0.0775	<0.00010	<0.0010	<0.05	<0.000010	56.3	<0.0010	<0.00050	0.0176	0.0265	<0.00020	<0.0050	19	0.0041	<0.000010	0.0038	<0.0010	<0.01	3.02
W50	30/04/2013 5:50	<0.0050	<0.0050	<0.00050	0.0033	<0.00050	0.0003	0.0729	<0.00010	<0.0010	<0.05	<0.000010	52	<0.0010	<0.00050	0.0158	0.023	<0.00020	<0.0050	17.3	0.0049	<0.000010	0.0037	<0.0010	<0.01	2.9
W50	03/05/2013 13:45	<0.0050	0.005	<0.00050	0.0042	<0.00050	0.00032	0.0715	<0.00010	<0.0010	<0.05	<0.000010	49.2	<0.0010	<0.00050	0.0142	0.0213	<0.00020	<0.0050	16.5	0.0111	<0.000010	0.0039	<0.0010	<0.01	2.84
W50	05/05/2013 15:00	<0.0050	<0.0050	<0.00050	0.0047	<0.00050	0.0003	0.0701	<0.00010	<0.0010	<0.05	<0.000010	49.8	<0.0010	<0.00050	0.0149	0.0308	<0.00020	<0.0050	16.2	0.0206	<0.000010	0.0037	<0.0010	<0.01	2.76
W50	07/05/2013 16:30	<0.0050	<0.0050	<0.00050	0.0062	<0.00050	0.00035	0.0746	<0.00010	<0.0010	<0.05	<0.000010	51.7	<0.0010	<0.00050	0.0195	0.0869	<0.00020	<0.0050	16.7	0.0999	<0.000010	0.0038	<0.0010	<0.01	3.09
W50	16/05/2013 14:50	<0.0050	<0.0050	<0.00050	0.0496	<0.00050	0.00027	0.0361	<0.00010	<0.0010	<0.05	<0.000010	17.3	<0.0010	<0.00050	0.0223	0.131	<0.00020	<0.0050	5.03	0.026	<0.000010	0.0014	0.0012	0.022	1.44
W50	07/04/2014 7:00	<0.0050	0.006	<0.00050	0.0035	<0.00050	0.00039	0.0733	<0.00010	<0.0010	<0.05	<0.000010	52.3	<0.0010	<0.00050	0.0124	0.0361	<0.00020	<0.0050	16.1	0.0174	<0.000010	0.004	0.0011	<0.01	3.09
W50	07/04/2014 7:00	<0.0050	0.006	<0.00050	0.0035	<0.00050	0.00039	0.0733	<0.00010	<0.0010	<0.05	<0.000010	52.3	<0.0010	<0.00050	0.0124	0.0361	<0.00020	<0.0050	16.1	0.0174	<0.000010	0.004	0.0011	<0.01	3.09
W50	17/04/2014 9:10	<0.0050	0.008	0.00083	0.0055	<0.00050	0.00036	0.0754	<0.00010	<0.0010	<0.05	0.000013	52.7	<0.0010	<0.00050	0.0211	0.0513	<0.00020	<0.0050	16.8	0.142	<0.000010	0.0043	<0.0010	<0.01	3.39
W50	21/04/2014 13:45	<0.0050	0.0077	<0.00050	0.0058	<0.00050	0.00036	0.0745	<0.00010	<0.0010	<0.05	0.000013	51.9	<0.0010	<0.00050	0.0241	0.0478	<0.00020	<0.0050	16.4	0.157	<0.000010	0.0046	0.001	<0.01	3.4
W50	21/04/2014 13:45																									
W50	28/04/2014 11:20	<0.0050	0.0097	0.00054	0.0154	<0.00050	0.00035	0.0541	<0.00010	<0.0010	<0.05	0.000018	35.5	<0.0010	<0.00050	0.0241	0.0771	<0.00020	<0.0050	10.4	0.0811	<0.000010	0.0057	<0.0010	0.014	4.03
W50	06/05/2014 7:35	<0.0050	0.0066	<0.00050	0.0233	<0.00050	0.00036	0.0609	<0.00010	<0.0010	<0.05	0.000019	38.5	<0.0010	<0.00050	0.0271	0.103	<0.00020	<0.0050	12.4	0.119	<0.000050	0.005	<0.0010	0.011	3.64
W50	18/05/2014 16:20	<0.0050	0.0056	<0.00050	0.0215	<0.00050	0.00039	0.0654	<0.00010	<0.0010	<0.05	0.000017	39.2	<0.0010	<0.00050	0.0225	0.204	<0.00020	<0.0050	11.6	0.272	<0.000010	0.004	0.001	0.014	3.3
W50	22/05/2014 7:50	<0.0050	0.0104	<0.00050	0.0264	<0.00050	0.00056	0.0709	<0.00010	<0.0010	<0.05	0.000018	37	<0.0010	<0.00050	0.0263	0.25	<0.00020	<0.0050	10.9	0.257	<0.000010	0.0055	0.0012	0.016	4.17
W50	26/05/2014 8:30	<0.0050	0.012	<0.00050	0.0262	<0.00050	0.0006	0.0744	<0.00010	<0.0010	<0.05	0.00002	41.7	<0.0010	<0.00050	0.0256	0.3	<0.00020	<0.0050	12.4	0.33	<0.000010	0.0054	0.0012	0.017	4.05
W50	09/12/2014 7:25	<0.01	0.038	<0.0010	0.0035	<0.00050	0.00039	0.0671	<0.00010	<0.0010	0.057	<0.000010	54.6	<0.0010	<0.00050	0.00818	0.0094	<0.00020	<0.0050	17.8	0.0043	<0.000010	0.0093	0.0019	0.02	7.21
W50	15/12/2014 9:15	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00038	0.0667	<0.00010	<0.0010	0.055	<0.000010	56.9	<0.0010	<0.00050	0.00803	0.0099	<0.00020	<0.0050	17.4	0.0067	<0.000010	0.0091	<0.0010	0.022	7.14
W50	16/12/2014 9:00	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00036	0.0693	<0.00010	<0.0010	0.057	<0.000010	59	<0.0010	<0.00050	0.00784	0.0092	<0.00020	<0.0050	17.1	0.0076	<0.000010	0.0094	<0.0010	0.022	7.15
W50	08/04/2015 7:10	<0.0050	0.0141	<0.00050	0.003	<0.00050	0.00034	0.0651	<0.00010	<0.0010	0.059	<0.000010	52.9	<0.0010	<0.00050	0.00833	0.0105	<0.00020	<0.0050	16.6	0.0099	<0.000010	0.0082	<0.0010	0.023	6.33
W50	14/04/2015 16:40	<0.0050	<0.0050	<0.00050	0.0041	<0.00050	0.00034	0.0659	<0.00010	<0.0010	0.056	<0.000010	53.5	<0.0010	<0.00050	0.00886	0.0121	<0.00020	<0.0050	16.7	0.0235	<0.000010	0.0076	<0.0010	0.023	6.08
W50	20/04/2015 8:20	<0.0050	<0.0050	<0.00050	0.0069	<0.00050	0.00023	0.043	<0.00010	<0.0010	0.066	<0.000010	31.5	<0.0010	<0.00050	0.0117	0.0157	<0.00020	<0.0050	9.09	0.0325	<0.000010	0.0057	<0.0010	0.016	4.73
W50	27/04/2015 7:50	<0.0050	0.0067	<0.00050	0.0088	<0.00050	0.00026	0.0508	<0.00010	<0.0010	<0.05	0.00001	35.6	<0.0010	<0.00050	0.0173	0.0488	<0.00020	<0.0050	10.7	0.058	<0.000010	0.0052	<0.0010	0.018	4.38
W50	07/05/2015 15:25	<0.0050	<0.0050	0.00325	0.0085	<0.00050	0.00032	0.0816	<0.00010	<0.0010	<0.05	<0.000010	73.7	<0.0010	<0.00050	0.0104	0.0454	<0.00020	<0.0050	21.5	0.051	<0.000010	0.0063	<0.0010	0.014	5.8
W50	14/05/2015 11:15	<0.0050	<0.0050	<0.00050	0.0111	<0.00050	0.00035	0.0454	<0.00010	<0.0010	<0.05	0.00001	42.7	<0.0010	<0.00050	0.0186	0.199	<0.00020	<0.0050	9.43	0.0878	<0.000010	0.0033	<0.0010	0.016	3.08
W50	15/05/2015 7:05	<0.0050	<0.0050	<0.00050	0.0093	<0.00050	0.00032	0.046	<0.00010	<0.0010	<0.05	0.00001	30.1	<0.0010	<0.00050	0.0182	0.15	<0.00020	<0.0050	9.62	0.0968	<0.000010	0.0032	<0.0010	0.015	3.15

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	Br	Cation	CN-T	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-TKN	P-PO4T	P-TDP	P-TRP
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L
W50	05/10/2009	0.0022	3.08	<0.00001	18.6	0.854	25	<0.00001	<0.0001	0.0004	0.0004	0.0006	0.001	<0.0001	100	<6	<5												0.63	0.04		
W50	12/10/2009	0.0021	2.88	<0.00001	17.2	0.89	22	<0.00001	<0.0001	<0.01	0.0004	0.0005	0.001	<0.0001	100	<6	<5												0.41	0.03		
W50	19/10/2009	0.0022	3.27	<0.00001	16.8	0.9	21.8	<0.00001	<0.0001	<0.01	0.0006	0.0008	0.005	<0.0001	100	<6	<5												0.34	0.03		
W50	27/10/2009	0.0024	3.15	<0.00001	18.9	0.882	23.4	<0.00001	<0.0001	<0.01	0.0006	0.0006	0.004	0.0002	120	<6	<5												0.58	0.03		
W50	15/07/2010	0.0026	4.31	High DL removed	25	1.05	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	140	<0.5	<0.5	<0.5		6.8												<0.005
W50	13/10/2010	0.0045	5.36	<0.00002	24.9	1.3	39	<0.00005	<0.005	<0.005	0.0017	<0.005	<0.005	<0.0005	180	<0.5	<0.5	<0.5		6.5												<0.005
W50	14/10/2010	0.0046	5.03	<0.00002	25.4	1.33	40	<0.00005	<0.005	<0.005	0.0016	<0.005	<0.005	<0.0005	180	<0.5	<0.5	<0.5		6.1												<0.005
W50	15/10/2010	0.0045	4.39	<0.00002	25.7	1.38	40	<0.00005	<0.005	<0.005	0.0013	<0.005	<0.005	<0.0005	170	<0.5	<0.5	<0.5		6.8												<0.005
W50	16/10/2010	0.0048	4.46	<0.00002	26.7	1.62	44	<0.00005	<0.005	<0.005	0.0012	<0.005	<0.005	<0.0005	170	<0.5	<0.5	<0.5		6.7												<0.005
W50	17/10/2010	0.0049	4.39	<0.00002	30	1.7	39	<0.00005	<0.005	<0.005	0.0014	<0.005	<0.005	<0.0005	170	<0.5	<0.5	<0.5		8.4												0.022
W50	18/10/2010	0.0049	4.4	<0.00002	31.4	1.85	43	<0.00005	<0.005	<0.005	0.0016	<0.005	<0.005	<0.0005	170	<0.5	<0.5	<0.5		6.3												0.024
W50	19/10/2010	0.0042	4.52	<0.00002	28	1.32	34	<0.00005	<0.005	<0.005	0.0013	<0.005	<0.005	<0.0005	180	<0.5	<0.5	<0.5		6.2												0.023
W50	16/04/2012 11:00	0.00084	5.38	<0.000020	17.9	0.629	18.1	<0.000050	<0.0050	<0.0050	0.00297	<0.0050	<0.0050	<0.00050	249	<0.50	<0.50	<0.50												0.0136		
W50	17/04/2012 11:00																															
W50	18/04/2012 10:30	0.00209	5.78	<0.000020	18.4	0.663	20.8	<0.000050	<0.0050	<0.0050	0.00181	<0.0050	<0.0050	<0.00050	238	<0.50	<0.50	<0.50												0.0261		
W50	19/04/2012 13:50	0.00188	5.89	<0.000020	18.2	0.657	20.7	<0.000050	<0.0050	<0.0050	0.0018	<0.0050	<0.0050	<0.00050	238	<0.50	<0.50	<0.50												0.0136		
W50	20/04/2012 16:05	0.00181	5.93	<0.000020	18.1	0.666	19.5	<0.000050	<0.0050	<0.0050	0.00182	<0.0050	0.0066	<0.00050	234	<0.50	<0.50	<0.50												0.0173		
W50	21/04/2012 16:30	0.00195	5.96	<0.000020	18.1	0.653	20.4	<0.000050	<0.0050	<0.0050	0.00179	<0.0050	<0.0050	<0.00050	231	<0.50	<0.50	<0.50												0.0143		
W50	22/04/2012 15:30	0.00187	5.95	<0.000020	18.2	0.653	19.8	<0.000050	<0.0050	<0.0050	0.00182	<0.0050	<0.0050	<0.00050	230	<0.50	<0.50	<0.50												0.0147		
W50	23/04/2012 14:46	0.00169	5.45	<0.000020	16.9	0.648	19.8	<0.000050	<0.0050	<0.0050	0.00201	<0.0050	<0.0050	<0.00050	232	<0.50	<0.50	<0.50												0.0585		
W50	24/04/2012	0.0019	5.56	<0.000020	17.5	0.635	19.3	<0.000050	<0.0050	<0.0050	0.00181	<0.0050	<0.0050	<0.00050	236	<0.50	<0.50	<0.50												0.0234		
W50	25/04/2012	0.00175	5.49	<0.000020	17.3	0.657	18.1	<0.000050	<0.0050	<0.0050	0.00197	<0.0050	<0.0050	<0.00050	227	<0.50	<0.50	<0.50									13.5			0.0161		
W50	26/04/2012	0.00174	5.49	<0.000020	17.5	0.643	18.3	<0.000050	<0.0050	<0.0050	0.00191	<0.0050	<0.0050	<0.00050	225	<0.50	<0.50	<0.50									13.4			0.0177		
W50	27/04/2012	0.00168	5.97	<0.000020	18.1	0.633	19.6	<0.000050	<0.0050	<0.0050	0.00182	<0.0050	<0.0050	<0.00050	224	<0.50	<0.50	<0.50												0.0174		
W50	28/04/2012	0.00176	5.96	<0.000020	18.2	0.638	20.2	<0.000050	<0.0050	<0.0050	0.00182	<0.0050	<0.0050	<0.00050	226	<0.50	<0.50	<0.50												0.0186		
W50	29/04/2012	0.00185	5.89	<0.000020	17.9	0.635	19.5	<0.000050	<0.0050	<0.0050	0.00182	<0.0050	<0.0050	<0.00050	225	<0.50	<0.50	<0.50												0.0179		
W50	30/04/2012	0.00161	5.78	<0.000020	17.9	0.633	19.4	<0.000050	<0.0050	<0.0050	0.0018	<0.0050	<0.0050	<0.00050	226	<0.50	<0.50	<0.50												0.0185		
W50	01/05/2012 14:30	0.00173	5.75	<0.000020	17.7	0.643	18.7	<0.000050	<0.0050	<0.0050	0.00185	<0.0050	<0.0050	<0.00050	227	2.64	<0.50	2.2												0.0181		
W50	02/05/2012 15:45	0.0016	5.67	<0.000020	17.6	0.637	18.1	<0.000050	<0.0050	<0.0050	0.00182	<0.0050	<0.0050	<0.00050	232	<0.50	<0.50	<0.50												0.0182		
W50	03/05/2012 10:30	0.00161	5.82	<0.000020	17.5	0.631	18.6	<0.000050	<0.0050	<0.0050	0.00181	<0.0050	<0.0050	<0.00050	226	3.13	<0.50	2.61												0.0224		
W50	04/05/2012 14:30	0.00123	4.44	<0.000020	12.7	0.474	13.3	<0.000050	<0.0050	<0.0050	0.00131	<0.0050	<0.0050	<0.00050	127	<0.50	<0.50	<0.50												0.0308		
W50	05/05/2012 9:30	0.00115	4.17	<0.000020	12.8	0.472	13.4	<0.000050	<0.0050	<0.0050	0.00131	<0.0050	<0.0050	<0.00050	127	<0.50	<0.50	<0.50												0.0231		
W50	06/05/2012 14:00	0.00129	5.07	<0.000020	13	0.497	15.3	<0.000050	<0.0050	<0.0050	0.00141	<0.0050	<0.0050	<0.00050	187	<0.50	<0.50	<0.50												0.03		
W50	07/05/2012	0.00063	5.67	<0.000020	17.6	0.607	17	<0.000050	<0.0050	<0.0050	0.00262	<0.0050	<0.0050	<0.00050	238	<0.50	<0.50	<0.50												0.0101		
W50	09/05/2012 14:00	0.00143	4.89	<0.000020	14.7	0.548	15.3	<0.000050	<0.0050	<0.0050	0.00161	<0.0050	<0.0050	<0.00050	199	<0.50	<0.50	<0.50												0.0258		
W50	10/05/2012 17:00	0.00126	4.54	<0.000020	13.3	0.513	14.2	<0.000050	<0.0050	<0.0050	0.00155	<0.0050	<0.0050	<0.00050	185	<0.50	<0.50	<0.50												0.0278		
W50	22/04/2013 11:45	0.00087	4.57	<0.000020	14.8	0.594	15.7	<0.000050	<0.0050	<0.0050	0.00178	<0.0050	<0.0050	<0.00050	236	<0.50	<0.50	<0.50														
W50	23/04/2013 8:10																															
W50	25/04/2013 6:40																															
W50	26/04/2013 6:40	0.0008	4.49	<0.000020	14.8	0.578	16.4	<0.000050	<0.0050	<0.0050	0.00159	<0.0050	<0.0050	<0.00050	239	<0.50	<0.50	<0.50														
W50	30/04/2013 5:50	0.00093	4.15	<0.000020	15.4	0.549	14.9	<0.000050	<0.0050	<0.0050	0.00153	<0.0050	<0.0050	<0.00050	215	<0.50	<0.50	<0.50														
W50	03/05/2013 13:45	0.00064	3.85	<0.000020	15.1	0.536	13.3	<0.000050	<0.0050	<0.0050	0.00158	<0.0050	<0.0050	<0.00050	211	<0.50	<0.50	<0.50														
W50	05/05/2013 15:00	0.00062	3.86	<0.000020	15.1	0.524	13.2	<0.000050	<0.0050	<0.0050	0.00154	<0.0050	<0.0050	<0.00050	206	<0.50	<0.50	<0.50														
W50	07/05/2013 16:30	0.0007	4.06	<0.000020	14.4	0.537	13.3	<0.000050	<0.0050	<0.0050	0.00149	<0.0050	<0.0050	<0.00050	201	<0.50	<0.50	<0.50														
W50	16/05/2013 14:50	0.00026	2.61	<0.000020	3.54	0.147	<3.0	<0.000050	<0.0050	<0.0050	0.0004	<0.0050	<0.0050	<0.00050	56.4	<0.50	<0.50	<0.50														
W50	07/04/2014 7:00	0.00049	4.76	<0.000020	12.6	0.577	11.5	<0.000050	<0.0050	<0.0050	0.00124	<0.0050	<0.0050	<0.00050	212	<0.50	<0.50	<0.50														
W50	07/04/2014 7:00	0.00049	4.76	<0.000020	12.6	0.577	11.5	<0.000050	<0.0050	<0.0050	0.00124	<0.0050	<0.0050	<0.00050	212	<0.50	<0.50	<0.50														
W50	17/04/2014 9:10	0.00062	4.88	<0.000020	14	0.652	12.2	<0.000050	<0.0050	<0.0050	0.00131	<0.0050	<0.0050	<0.00050	226	<0.50	<0.50	<0.50														
W50	21/04/2014 13:45	0.00059	4.92	<0.000020	14.1	0.647	12.9	<0.000050	<0.0050	<0.0050	0.00127	<0.0050	<0.0050	<0.00050	215	<0.50	<0.50	<0.50														
W50	21/04/2014 13:45																															
W50	28/04/2014 11:20	0.00071	3.47	<0.000020	13.9	0.632	11.5	<0.000050	<0.0050	<0.0050	0.00074	<0.0050	<0.0050	<0.00050	142	<0.50	<0.50	<0.50														
W50	06/05/2014 7:35	0.00076	3.71	<0.000020	13	0.668	12.6	<0.000050	<0.0050	<0.0050	0.00082	<0.0050	<0.0050	<0.00050	151	<0.50	<0.50	<0.50														
W50	18/05/2014 16:20	0.00077	3.75	<0.000020	10.6	0.641	13.1	<0.000050	<0.0050	<0.0050	0.00083	<0.0050	<0.0050	<0.00050	152	<0.50	<0.50	<0.50														
W50	22/05/2014 7:50	0.00094	3.5	<0.000020	11.3	0.789	14.2	<0.000050	<0.0050	<0.0050	0.00077	<0.0050	<0.0050	<0.00050	122	<0.50	<0.50	<0.50														
W50	26/05/2014 8:30	0.00086	3.66	<0.000020	11.4	0.873	15.1	<0.000050	<0.0050	<0.0050	0.00084	<0.0050	<0.0050	<0.00050	134	<0.50	<0.50	<0.50														
W50	09/12/2014 7:25	0.0009	1.47	<0.000020	19.8	1.4	31.3	<0.000050	<0.0050	<0.0050	0.00142	<0.0050	<0.0050	<0.00050	180	<0.50	<0.50	<0.50														
W50	15/12/2014 9:15	0.00095	1.57	<0.000020	19.4	1.44	32.2	<0.000050	<0.0050	<0.0050	0.00142	<0.0050	<0.0050	<0.00050	166	<0.50	<0.50	<0.50														
W50	16/12/2014 9:00	0.00097	1.63	<0.000020	19.1	1.45	32	<0.000050	<0.0050	<0.0050	0.00138	<0.0050	<0.0050	<0.00050	167	<0.50	<0.50	<0.50														
W50	08/04/2015 7:10	0.00085	2.12	<0.000020	18.7	1.31	30.6	<0.000050	<0.0050	<0.0050	0.00142	<0.0050	<0.0050	<0.00050	183	<0.50	<0.50	<0.50														
W50	14/04/2015 16:40	0.00119	2.42	<0.000020	19.2	1.22	25.2	<0.000050	<0.0050	<0.0050	0.00129	<0.0050	<0.0050	<0.00050	188	<0.50	<0.50	<0.50														
W50	20/04/2015 8:20	0.00096	1.91	<0.000020	17.9	0.678	14.6	<0.000050	<0.0050	<0.0050	0.00072	<0.0050	<0.0050	<0.00050	111	<0.50	<0.50	<0.50														
W50	27/04/2015 7:50	0.00071	2.53	<0.000020	15.5	0.732	16.7	<0.000050	<0.0050	<0.0050	0.00087	<0.0050	<0.0050	<0.00050	123	<0.50	<0.50	<0.50														
W50	07/05/2015 15:25	0.00143	4.5	<0.000020	20.9	1.21	31.2	<0.000050	<0.0050	<0.0050	0.00191	<0.0050	<0.0050	<0.00050	230	<0.50	<0.50	<0.50														
W50	14/05/2015 11:15	0.00097	3.16	<0.000020	12.8	0.514	10.3	<0.000050	<0.0050	<0.0050	0.00065	<0.0050	<0.0050	<0.00050	116	<0.50	<0.50	<0.50														
W50	15/05/2015 7:05	0.00072	2.28	<0.000020	13.3	0.5	9.6	<0.000050	<0.0050	<0.0050	0.00063	<0.0050	<0.0050	<0.00050	117	<0.50	<0.50	<0.50														

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W50	05/10/2009					1	
W50	12/10/2009					1.4	
W50	19/10/2009					2	
W50	27/10/2009					1.8	
W50	15/07/2010					0.3	-3.8
W50	13/10/2010					1	
W50	14/10/2010					0.3	
W50	15/10/2010					0.3	-3.2
W50	16/10/2010					0.2	
W50	17/10/2010					0.2	
W50	18/10/2010					0.2	
W50	19/10/2010					0.2	
W50	16/04/2012 11:00						
W50	17/04/2012 11:00			529.1			
W50	18/04/2012 10:30			532.8			
W50	19/04/2012 13:50			531.2			
W50	20/04/2012 16:05			528.1			
W50	21/04/2012 16:30			534.7			
W50	22/04/2012 15:30			532.8			
W50	23/04/2012 14:46			532			
W50	24/04/2012			521			
W50	25/04/2012			520.5			
W50	26/04/2012			518.5			
W50	27/04/2012			512.2			
W50	28/04/2012			514			
W50	29/04/2012			514.5			
W50	30/04/2012			514			
W50	01/05/2012 14:30			495.4			
W50	02/05/2012 15:45			496			
W50	03/05/2012 10:30			507.9			
W50	04/05/2012 14:30			393.6			
W50	05/05/2012 9:30			462.6			
W50	06/05/2012 14:00			468.7			
W50	07/05/2012			449.7			
W50	09/05/2012 14:00			457.3			
W50	10/05/2012 17:00			422.4			
W50	22/04/2013 11:45			433.7			
W50	23/04/2013 8:10			400.3			
W50	25/04/2013 6:40			490			
W50	26/04/2013 6:40						
W50	30/04/2013 5:50			417.5			
W50	03/05/2013 13:45						
W50	05/05/2013 15:00			375.5			
W50	07/05/2013 16:30			436			
W50	16/05/2013 14:50			116.6			
W50	07/04/2014 7:00			396.9			
W50	07/04/2014 7:00						
W50	17/04/2014 9:10			458.6			
W50	21/04/2014 13:45						
W50	21/04/2014 13:45			475.1			
W50	28/04/2014 11:20			376.3			
W50	06/05/2014 7:35			330.2			
W50	18/05/2014 16:20			372.4			
W50	22/05/2014 7:50			332.6			
W50	26/05/2014 8:30			370.2			
W50	09/12/2014 7:25			512.8			
W50	15/12/2014 9:15			505			
W50	16/12/2014 9:00			506.6			
W50	08/04/2015 7:10			491.5			
W50	14/04/2015 16:40			491.8			
W50	20/04/2015 8:20			314.6			
W50	27/04/2015 7:50			347.2			
W50	07/05/2015 15:25			602.3			
W50	14/05/2015 11:15			290.6			
W50	15/05/2015 7:05			286.3			

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Phase	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
				mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W50	19/05/2015 8:30	Discharge	P	6	224	7.97	8.14	232.8	344	12.1	9.49	88.4	94.6	135	139	114	6.6	0.25	38.6	0.058	0.0541	1.78	11.6	0.153	<0.00050	0.00057	0.0583	<0.00010	<0.0010
W50	27/05/2015 15:03	Discharge	P	1.8	318	7.48	8.16	322.7	532	4.6	12.19	94.8	129.4	236	213	176	11	0.36	74.3	0.14	0.0296	2.72		0.0416	<0.00050	0.00037	0.082	<0.00010	<0.0010
W50	12/04/2016 15:00	Discharge	P	5.3	303	7.27	7.94	299	527	2.7	11.82	87.2	178.3		252	201	11.2		57.9	0.287	0.0080	0.793	8.69	0.0704	<0.00010	0.00036	0.0770	<0.000020	<0.000050
W50	15/04/2016 11:23	Discharge	P	3.3	288	7.8	8.12	539	508	2.3					238	194	10.6		54.8	0.219	0.0077	0.841	7.71	0.0828	<0.00010	0.00034	0.0807	<0.000020	<0.000050
W50	21/04/2016 15:20	Discharge	P	8	278	7.59	7.99	279.3	493	2.9	13.31	98.8	142.7		233	185	10.2		52.4	0.175	0.0043	0.853	7.91	0.0548	0.00018	0.00033	0.0722	<0.000020	<0.000050
W50	26/04/2016 11:25	Discharge	P	<3.0	272	7.46	7.93	273.4	478	2.6	10.08	74.2	178.6		223	184	9.90		50.2	0.153	0.0042	0.884	7.36	0.0632	<0.00010	0.00031	0.0698	<0.000020	<0.000050
W50	27/04/2016 9:05	Discharge	P	<3.0	270	7.69	7.91	270.7	478	2.5	11.25	83	138.5		225	180	9.82		49.8	0.151	0.0053	0.881	7.31	0.0793	<0.00010	0.00031	0.0703	<0.000020	<0.000050
W50	02/05/2016 16:50	Discharge	P	4.7	256	7.54	8.15	263.9	454	3.4	11.21	84.1	100.4		207	176	9.28		46.7	0.120	0.0037	0.938	8.68	0.0632	<0.00010	0.00029	0.0623	<0.000020	<0.000050
W50	22/05/2016 11:30	Discharge	P	3.3	203	7.56	8.04	232.2	352	7.1	10.37	85.9	153		166	124	5.72		38.3	0.0538	0.0239	2.45	12.5	0.0368	0.00012	0.00034	0.0561	<0.000020	<0.000050
W50	25/05/2016 9:50	Discharge	P	4	201	7.68	8.18	229.8	350	7	10.47	86.4	145.1		167	122	5.61		37.9	0.0523	0.0208	2.47	12.9	0.0435	<0.00010	0.00031	0.0542	<0.000020	<0.000050
W50	31/05/2016 8:55	Discharge	P	4	205	7.77	7.95	230.5	343	7.2	10.61	88.4	138.8		167	125	5.81		39.1	0.0566	0.0203	2.49	12.7	0.0300	<0.00010	0.00032	0.0586	<0.000020	<0.000050
W50	01/06/2016 7:45	Discharge	M			8.8		315		7.3																			
W50	07/06/2016 14:35	Discharge	P	<3.0	205	7.67	7.84	233.1	343	7.7	10.69	89.6	141.4		167	125	5.80		38.8	0.0878	0.0212	2.45	13.3	0.0176	<0.00010	0.00033	0.0566	<0.000020	<0.000050
W50	17/06/2016 8:00	Discharge	P	4	202	7.62	7.80	245.9	345	9.5	9.18	79.9	133.7		164	124	5.27		38.9	0.143	0.0301	2.58	13.5	0.0202	0.00011	0.00037	0.0583	<0.000020	<0.000050
W50	23/06/2016 9:35	Discharge	P	<3.0	205	7.6	7.86	259.4	348	11	8.55	77.7	170.8		168	121	5.10		40.0	0.0968	0.0460	2.91	12.7	0.0422	<0.00010	0.00037	0.0570	<0.000020	<0.000050
W50	10/07/2016 15:45	Discharge	P	<3.0	208	7.56	7.69	271.5	352	12	9.56	88.7	138.4		166	127	5.18		41.2	0.124	0.0635	2.48	12.8	0.0292	<0.00010	0.00042	0.0649	<0.000020	<0.000050
W50	12/07/2016 9:58	Discharge	P	4	207	7.66	7.77	237.4	347	11.2	8.82	80.3	137.2		165	127	5.15		41.2	0.240	0.0896	2.40	12.6	0.0340	<0.00010	0.00041	0.0592	<0.000020	<0.000050
W50	19/07/2016 9:50	Discharge	P	5.3	209	7.58	7.96	267.7	357	11.3	7.79	71.3	95.2		171	129	5.11		41.0	0.106	0.0611	2.41	12.6	0.0213	<0.00010	0.00035	0.0555	<0.000020	<0.000050
W50	26/07/2016 15:25	Discharge	P	5.3	211	7.51	7.78	271.2	359	11.4	8.8	81	103.2		169	128	5.25		42.2	0.330	0.0853	2.25	13.2	0.132	<0.00010	0.00044	0.0677	<0.000020	<0.000050
W50	02/08/2016 14:40	Discharge	P	4	222	7.47	7.86	291.4	377	12.6	8.24	77.2	116.2		183	130	5.28		44.6	0.196	0.0619	2.72	12.3	0.223	<0.00010	0.00044	0.0729	<0.000020	<0.000050
W50	11/08/2016 14:15	Discharge	P	<3.0	279	7.45	8.02	325.4	432	14	8.08	78.6	133.2		199	142	5.47		52.8	0.199	0.0573	3.90	11.8	0.0290	<0.00010	0.00036	0.0653	<0.000020	<0.000050
W50	15/08/2016 8:45	Discharge	P	<3.0	248	7.63	7.93	328.4	409	13.6	7.58	73	130.3		193	141	5.52		54.2	0.111	0.0645	4.04	12.1	0.0210	<0.00010	0.00038	0.0709	<0.000020	<0.000050
W50	17/08/2016 8:50	Discharge	P	<3.0	251	7.62	7.78	329.9	405	13.7	8.1	78.3	138.5		200	142	5.52		54.4	0.0970	0.0585	4.04	11.5	0.0582	<0.00010	0.00038	0.0658	<0.000020	<0.000050
W50	18/08/2016 8:25	Discharge	M			7.71		328.9		13.5	7.62	73.6	121.5																
W50	28/08/2016 17:00	Discharge	P	4	274	7.19	8.27	361.9	441	14.4	7.16	70.1	151.1		215	152	5.60		60.8	0.0806	0.0585	5.01	12.0	0.0359	<0.00010	0.00036	0.0700	<0.000020	<0.000050
W50	04/09/2016 8:15	Discharge	P	<3.0	90.7	7.12	7.65	87.3	109	13.6	9.32	89.3	149.2		40.8	34.0	2.96		33.5	0.0282	0.0249	3.14	2.81	0.0163	<0.00010	0.00015	0.0161	<0.000020	<0.000050
W50	06/09/2016 15:45	Discharge	P	5.2	154	7.86	8.01	209.5	258	14.3	9	88.1	156.7		112	85.2	3.03		33.6	0.0480	0.0236	3.14	6.72	0.0574	<0.00010	0.00024	0.0404	<0.000020	<0.000050
W50	07/09/2016 15:45	Discharge	M																										
W50	13/09/2016 7:30	Discharge	P	<3.0	93.8	7.56	7.41	165.8	165	12.4	4.49	42	108.6		56.8	62.7	1.80		17.1	0.0173	0.0119	1.60	3.74	0.0077	<0.00010	0.00014	0.0252	<0.000020	<0.000050
W50	16/09/2016 13:25	Discharge	P	<3.0	146	7.22	7.94	200.4	252	12.8	9.81	92.8	171.7		103	85.4	2.90		31.8	0.0497	0.0193	2.95	6.35	0.0155	<0.00010	0.00019	0.0374	<0.000020	<0.000050
W50	20/09/2016 7:55	Discharge	P	<3.0	142	7.85	7.85	179.6	238	10.7	10.03	90.4	109.6		105	79.0	2.80		31.4	0.0405	0.0162	2.92	6.11	0.0085	<0.00010	0.00021	0.0357	<0.000020	<0.000050
W50	27/09/2016 16:00	Discharge	P	<3.0	137	7.23	7.96	171.1	223	9.6	10.7	94	147.6		93.1	78.8	2.61		30.1	0.0286	0.0149	2.91	5.28	0.0077	<0.00010	0.00017	0.0312	<0.000020	<0.000050
W50	04/10/2016 13:30	Discharge	P	<3.0	138	7.59	8.02	148.8	215	6.9	11.65	95.8	133.8		94.0	81.7	2.55		28.3	0.0259	0.0143	2.73	5.06	0.0059	<0.00010	0.00014	0.0321	<0.000020	<0.000050
W50	11/10/2016 8:05	Discharge	M			7.68		283.7		3.7	11.58	87.7	115.7																
W50	12/10/2016 7:40	Discharge	P	<3.0	297	7.89	8.03	286.1	469	3.8	11.72	89.4	122.1		229	168	6.08		67.9	0.0308	0.0170	5.65	11.4	0.0564	<0.00010	0.00036	0.0775	<0.000020	<0.000050
W50	13/10/2016 8:30	Discharge	M			7.79		289.6		3.8	12	91.2	108.4																
W50	14/10/2016 7:50	Discharge	M			7.7		291.9		3.9	13.67	104.2	108.7																
W50	15/10/2016 7:50	Discharge	M			7.57		304.2		3.9	11.95	91.2	106.1																
W50	16/10/2016 8:00	Discharge	M			7.61		303.7		3.8	11.38	86.7	107.9																
W50	17/10/2016 7:55	Discharge	M			7.73		303.8		3.8	16.91	128.8	107																
W50	18/10/2016 9:00	Discharge	P	<3.0	304	7.81	8.09	306.2	483	4	11.2	85.5	123.2		234	174	6.34		68.8	0.0697	0.0203	5.37	11.6	0.0270	<0.00010	0.00039	0.0790	<0.000020	<0.000050
W50	19/10/2016 7:10	Discharge	M			7.61		305.9		3.9	11.96	91	109.4																
W50	20/10/2016 8:30	Discharge	M			7.76		304.6		3.9	11.93	90.8	108.4																
W50	21/10/2016 8:10	Discharge	M			7.58		295.3		3.9	11.23	85.9	117.8																
W50	22/10/2016 8:25	Discharge	M			7.62		304.6		3.9	11.49	87.6	120.7																
W50	23/10/2016 8:20	Discharge	M			7.59		214.9		3.7	11.62	88.1	124.4																
W50	24/10/2016 8:05	Discharge	M			7.63		302.7		3.5	11.59	88.1	122.1																
W50	25/10/2016 8:30	Discharge	P	<3.0	307	7.71	8.19	302.2	497	3.5	11.33	85.5	120		238	180	6.38		67.3	0.0730	0.0209	5.13	11.6	0.0099	0.00018	0.00039	0.0798	<0.000020	<0.000050
W3	04/04/2006	No Discharge	P	<3.0	487		8.04		731								2.82	0.513		0.018	0.0019	0.1160		0.034	<0.00010	0.00061	0.123	<0.00050	<0.00050
W3	05/04/2006	No Discharge	P	18.6	940	8.50	8.45		1270								2.38	0.87		0.016	<0.0010	<0.0050		0.3840	<0.00020	0.00103	0.1550	<0.0010	<0.0010
W3	06/04/2006	No Discharge	P	3.6	442	8.40	8.43		661								2.09	0.519		0.0093	0.0016	<0.0050		0.101	<0.00010	0.00055	0.084	<0.00050	<0.00050
W3	07/04/2006	No Discharge	P	5.6	354		8.36		539								2.08	0.42		0.0073	0.0017	0.0125	9.9100	0.1560	<0.00010	0.00048	0.0683	<0.00050	<0.00050
W3	08/04/2006	No Discharge	P	6.4	288	7.70	8.28		434							190	1.58	0.336	58.1	0.01	0.0017	0.0640		0.323	<0.00010	0.0005	0.058	<0.00050	<0.00050
W3	09/04/2006	No Discharge	P	6.4	252	8.50	8.28		391							164	1.46	0.34	53.1	0.0107	0.001	<0.0050		0.3160	<0.00010	0.00047	0.0551	<0.00050	<0.00050
W3	10/04/2006	No Discharge	P	8.9	256	8.45	8.30		400							165	1.1	0.314	56.2	<0.0050	<0.0010	0.0146		0.444	<0.00010	0.00049	0.055	<0.00050	<0.00050
W3	11/04/2006	No Discharge	P	5.4	276	8.5	8.31		424							177	0.95	0.32	63.1	<0.0050	<0.0010	0.0225		0.1990	<0.00010	0.00039	0.0551	<0.00050	<0.00050
W3	12/04/2006	No Discharge	P	6.9	305	8.5	8.29		479							197	1.18	0.360	74.9	<0.0050	<0.0010	0.0094		0.173	<0.00010	0.00038	0.0579	<0.00050	<0.00050
W3	13/04/2006	No Discharge	P	4.4	361	8.5	8.32		551							224	1.47	0.387	84.2	<0.0050	<0.0010	0.0061		0.280	<0.00010	0.00043	0.0705	<0.00050	<0.00050
W3	14/04/2006	No Discharge	P	<3.0	316	8.6	8.33		533							220	1.41	0.402	78.9	<0.0050	<0.0010	<0.0050		0.0407	<0.00010	0.00033	0.0639	<0.00050	<0.00050
W3	15/04/2006	No Discharge	P	<3.0	363	8.6	8.38		575							239	1.33	0.405	81.5	0.0120	<0.0010	0.249		0.0423	<0.00010	0.00031	0.0659	<0.00050	<0.00050
W3	16/04/2006	No Discharge	P	3.4	554	8.55	8.39		822							364	2.27	0.532	124	0.0300	0.0014	0.0992		0.0419	<0.00010	0.00046	0.0954	<0.00050	<0.00050
W3	17/04/2006	No Discharge	P	<3.0	585	8.6	8.41		872							368	2.24	0.570	136	0.0480	0.0012	0.0694	14.0000	0.0653	<0.00010	0.00055	0.1020	<0.00050	<0.00050
W3	18/04/2006	No Discharge	P	3.7	504	8.6	8.18		756							337	2.03	0.574	120	<0.005	<0.0010	<0.0050		0.1790	<0.00010	0.00064	0.0936	<0.00050	<0.00050
W3	19/04/2006	No Discharge	P	4.2	294	8.6	8.32		473							208	1.00	0.369	65.6	<0.005	<0.0010	<0.0050		0.2040	<0.00010	0.00039	0.0564	<0.00050	<0.00050
W3	20/04/2006	No Discharge	P	4.2	285	8.5	8.33		462							201	0.95	0.356	60.3	<0.005	<0.0010	<0.0050		0.2750	<0.00010	0.00041	0.0563	<0.00050	<0.00050

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W50	19/05/2015 8:30	<0.05	0.000016	36	<0.0010	<0.00050	0.0293	0.547	0.00032	<0.0050	11	0.235	<0.000010	0.0039	<0.0010	0.038	3.15	0.00056	2.47	0.000073	14	0.596	12	<0.000050	<0.0050	0.0145	0.00074
W50	27/05/2015 15:03	<0.05	0.000016	62.1	<0.0010	<0.00050	0.015	0.163	<0.00020	<0.0050	19.6	0.182	<0.000010	0.0062	<0.0010	0.024	6.07	0.00128	3.83	<0.000020	19.5	1.18	28.5	<0.000050	<0.0050	<0.0050	0.00164
W50	12/04/2016 15:00	0.032	0.0000091	64.3	0.00014	0.00013	0.0148	0.239	0.000182	0.0012	20.4	0.725	<0.0000050	0.00313	0.00085	<0.050	3.24	0.000377	3.71	<0.000010	17.7	0.662	19.6	<0.000010	<0.00010	0.00303	0.00147
W50	15/04/2016 11:23	0.039	0.0000074	63.5	0.00012	0.00013	0.0181	0.282	0.000131	0.0014	20.4	0.562	<0.0000050	0.00346	0.00074	<0.050	3.35	0.000394	3.71	<0.000010	17.1	0.676	18.6	<0.000010	<0.00010	0.00375	0.00153
W50	21/04/2016 15:20	0.043	0.0000085	62.7	0.00014	<0.00010	0.0153	0.178	0.000111	0.0014	19.3	0.300	<0.0000050	0.00335	0.00078	<0.050	3.24	0.000396	3.42	<0.000010	17.2	0.656	19.4	<0.000010	<0.00010	0.00243	0.00156
W50	26/04/2016 11:25	0.037	0.0000075	58.4	0.00020	<0.00010	0.0166	0.155	0.000068	0.0016	18.1	0.208	<0.0000050	0.00348	0.00077	<0.050	3.23	0.000399	3.15	<0.000010	16.3	0.635	16.9	<0.000010	<0.00010	0.00263	0.00144
W50	27/04/2016 9:05	0.038	<0.0000050	60.4	0.00016	<0.00010	0.0171	0.173	0.000067	0.0015	18.8	0.254	<0.0000050	0.00354	0.00081	<0.050	3.37	0.000405	3.32	<0.000010	16.9	0.636	17.5	<0.000010	<0.00010	0.00374	0.00145
W50	02/05/2016 16:50	0.035	0.0000075	51.6	0.00013	<0.00010	0.0155	0.146	0.000073	0.0015	16.5	0.176	<0.0000050	0.00327	0.00063	<0.050	3.10	0.000429	2.85	<0.000010	14.5	0.555	14.9	<0.000010	<0.00010	0.00289	0.00121
W50	22/05/2016 11:30	0.043	0.0000072	44.0	0.00016	<0.00010	0.0212	0.103	0.000117	<0.0010	12.8	0.154	<0.0000050	0.00332	0.00083	<0.050	3.35	0.000905	2.97	<0.000010	12.0	0.504	14.1	<0.000010	<0.00010	0.00133	0.000997
W50	25/05/2016 9:50	0.035	<0.0000050	43.7	0.00016	<0.00010	0.0224	0.107	0.000435	0.0014	12.5	0.136	<0.0000050	0.00308	0.00083	<0.050	2.86	0.000941	2.92	<0.000010	12.5	0.477	14.6	<0.000010	<0.00010	0.00144	0.000913
W50	31/05/2016 8:55	0.040	0.0000079	46.0	<0.00020	<0.00010	0.0254	0.103	0.000086	0.0014	12.7	0.198	<0.0000050	0.00325	0.00080	<0.050	2.85	0.000959	3.00	<0.000010	12.7	0.500	13.7	<0.000010	<0.00010	0.00110	0.000949
W50	01/06/2016 7:45																										
W50	07/06/2016 14:35	0.038	0.0000065	46.3	0.00014	<0.00010	0.0209	0.115	0.000059	<0.0010	12.7	0.277	<0.0000050	0.00318	0.00073	<0.050	3.29	0.000898	2.94	<0.000010	12.2	0.485	13.2	<0.000010	<0.00010	0.00047	0.000963
W50	17/06/2016 8:00	0.038	0.0000089	43.4	0.00016	<0.00010	0.0214	0.081	0.000131	0.0012	12.6	0.177	<0.0000050	0.00319	0.00072	<0.050	3.36	0.000903	2.74	<0.000010	12.3	0.477	14.4	<0.000010	<0.00010	0.00057	0.000934
W50	23/06/2016 9:35	0.040	0.0000089	45.9	0.00019	<0.00010	0.0205	0.110	0.000250	0.0012	12.7	0.157	<0.0000050	0.00335	0.00084	<0.050	3.37	0.000985	2.60	<0.000010	12.0	0.487	14.3	<0.000010	<0.00010	0.00172	0.000889
W50	10/07/2016 15:45	0.040	0.0000080	45.8	0.00046	<0.00010	0.0225	0.077	0.000261	0.0012	12.6	0.252	0.0000065	0.00347	0.00085	<0.050	2.95	0.00106	2.76	<0.000010	13.4	0.509	14.9	<0.000010	<0.00010	0.00084	0.000830
W50	12/07/2016 9:58	0.038	0.0000099	45.5	0.00018	<0.00010	0.0215	0.101	0.000240	0.0012	12.6	0.388	0.0000061	0.00345	0.00079	<0.050	3.10	0.00101	2.77	<0.000010	12.1	0.492	14.5	<0.000010	<0.00010	0.00117	0.000849
W50	19/07/2016 9:50	0.037	<0.0000050	46.3	0.00015	<0.00010	0.0184	0.082	0.000158	0.0012	12.6	0.232	<0.0000050	0.00324	0.00081	<0.050	2.83	0.000949	2.83	<0.000010	11.5	0.481	14.0	<0.000010	<0.00010	0.00076	0.000841
W50	26/07/2016 15:25	0.040	0.0000154	46.8	0.00024	0.00017	0.0307	0.241	0.000195	<0.0010	13.1	0.544	<0.0000050	0.00351	0.00090	<0.050	3.11	0.00108	3.07	<0.000010	13.0	0.490	14.7	<0.000010	<0.00010	0.00646	0.000927
W50	02/08/2016 14:40	0.039	0.0000140	48.2	0.00035	0.00023	0.0351	0.372	0.000312	0.0015	13.0	0.712	<0.0000050	0.00381	0.00092	<0.050	2.99	0.00110	3.30	0.000013	12.8	0.528	15.2	<0.000010	<0.00010	0.0115	0.000957
W50	11/08/2016 14:15	0.043	0.0000091	54.4	0.00016	<0.00010	0.0190	0.078	0.000168	0.0013	14.1	0.172	<0.0000050	0.00389	0.00063	<0.050	3.31	0.00121	3.14	<0.000010	12.5	0.579	18.4	<0.000010	<0.00010	0.00134	0.00104
W50	15/08/2016 8:45	0.046	0.0000055	54.4	0.00014	<0.00010	0.0185	0.057	<0.00010	0.0013	14.6	0.101	<0.0000050	0.00396	0.00068	<0.050	3.46	0.00121	3.26	<0.000010	14.2	0.581	18.8	<0.000010	<0.00010	0.00077	0.00106
W50	17/08/2016 8:50	0.041	0.0000068	54.8	0.00017	<0.00010	0.0186	0.121	0.000142	0.0012	14.7	0.166	<0.0000050	0.00374	0.00069	<0.050	3.38	0.00112	3.39	<0.000010	13.1	0.546	18.1	<0.000010	<0.00010	0.00238	0.00101
W50	18/08/2016 8:25																										
W50	28/08/2016 17:00	0.042	<0.0000050	57.2	0.00014	<0.00010	0.0193	0.087	0.000075	0.0013	16.0	0.0647	<0.0000050	0.00403	0.00069	<0.050	3.30	0.00138	3.51	<0.000010	14.8	0.630	21.5	<0.000010	<0.00010	0.00130	0.00116
W50	04/09/2016 8:15	0.031	<0.0000050	11.1	0.00010	<0.00010	0.00482	0.034	0.000192	<0.0010	3.30	0.0459	<0.0000050	0.00111	<0.00050	<0.050	1.04	0.000344	0.740	<0.000010	4.59	0.146	4.84	<0.000010	<0.00010	0.00064	0.000183
W50	06/09/2016 15:45	0.032	<0.0000050	29.5	0.00012	<0.00010	0.0128	0.109	0.000286	<0.0010	8.60	0.107	<0.0000050	0.00225	<0.00050	<0.050	2.09	0.000762	1.88	<0.000010	10.1	0.356	12.3	<0.000010	<0.00010	0.00254	0.000632
W50	07/09/2016 15:45																										
W50	13/09/2016 7:30	0.031	<0.0000050	17.2	<0.00010	<0.00010	0.00487	0.016	0.000082	<0.0010	4.68	0.0339	<0.0000050	0.00190	0.00056	<0.050	1.34	0.000377	1.31	<0.000010	9.30	0.193	5.71	<0.000010	<0.00010	<0.00030	0.000117
W50	16/09/2016 13:25	0.029	<0.0000050	29.3	0.00011	<0.00010	0.00957	0.039	0.000134	<0.0010	7.60	0.0524	<0.0000050	0.00195	<0.00050	<0.050	1.75	0.000771	1.77	<0.000010	9.17	0.326	10.2	<0.000010	<0.00010	0.00071	0.000621
W50	20/09/2016 7:55	0.030	<0.0000050	29.6	<0.00010	<0.00010	0.00949	0.029	0.000111	<0.0010	8.30	0.0439	<0.0000050	0.00198	<0.00050	<0.050	1.78	0.000712	1.68	<0.000010	9.38	0.325	10.3	<0.000010	<0.00010	0.00034	0.000629
W50	27/09/2016 16:00	0.031	<0.0000050	26.3	<0.00010	<0.00010	0.00747	0.028	0.000072	<0.0010	7.53	0.0221	<0.0000050	0.00170	<0.00050	<0.050	1.59	0.000669	1.66	<0.000010	9.87	0.287	10.5	<0.000010	<0.00010	<0.00030	0.000544
W50	04/10/2016 13:30	0.031	<0.0000050	26.3	<0.00010	<0.00010	0.00710	0.021	0.000141	<0.0010	7.50	0.0230	<0.0000050	0.00171	<0.00050	<0.050	1.66	0.000644	1.57	<0.000010	11.8	0.293	10.1	<0.000010	<0.00010	<0.00030	0.000590
W50	11/10/2016 8:05																										
W50	12/10/2016 7:40	0.037	0.0000059	65.4	0.00020	<0.00010	0.0174	0.119	0.000577	0.0016	18.2	0.0791	<0.0000050	0.00393	0.00095	<0.050	3.25	0.00161	3.70	0.000048	14.3	0.708	23.4	<0.000010	<0.00010	0.00250	0.00145
W50	13/10/2016 8:30																										
W50	14/10/2016 7:50																										
W50	15/10/2016 7:50																										
W50	16/10/2016 8:00																										
W50	17/10/2016 7:55																										
W50	18/10/2016 9:00	0.031	0.0000080	61.7	0.00030	<0.00010	0.0178	0.123	0.000234	<0.0010	18.1	0.103	<0.0000050	0.00379	0.00090	<0.050	3.25	0.00154	3.84	<0.000010	14.5	0.677	23.2	<0.000010	0.00021	0.00229	0.00149
W50	19/10/2016 7:10																										
W50	20/10/2016 8:30																										
W50	21/10/2016 8:10																										
W50	22/10/2016 8:25																										
W50	23/10/2016 8:20																										
W50	24/10/2016 8:05																										
W50	25/10/2016 8:30	0.035	0.0000052	64.5	0.00016	<0.00010	0.0167	0.107	0.000094	0.0015	18.9	0.110	<0.0000050	0.00392	0.00068	<0.050	3.56	0.00145	4.04	<0.000010	15.2	0.699	24.2	<0.000010	<0.00010	0.00043	0.00145
W3	04/04/2006	<0.010	High DL removed	75.6	<0.00050	0.0002	0.0032	0.279	<0.000050	0.0071	45.80	0.3090		0.0033	0.0009	<0.30	5.3	<0.0010	11.4	<0.000010	28.7	0.676		<0.00010	<0.00010	<0.010	0.00232
W3	05/04/2006	<0.020	High DL removed	102.0	<0.0010	0.00023	0.00542	0.357	0.000120	0.02	104.0	0.03450		0.00574	<0.0010	<0.30	11.1	0.0021	20.00	<0.000020	67.2	1.120		<0.00020	<0.00020	0.014	0.003930
W3	06/04/2006	<0.010	High DL removed	60.3	<0.00050	0.0001	0.0053	0.133	<0.000050	0.008	44.80	0.0216		0.0045	<0.00050	<0.30	6.4	<0.0010	12.1	<0.000010	28.3	0.575		<0.00010	<0.00010	<0.010	0.00153
W3	07/04/2006	<0.010	High DL removed	51.8	<0.00050	0.00011	0.00629	0.129	0.000057	0.006	36.2	0.02160		0.00345	<0.00050	<0.30	4.8	<0.0010	10.10	<0.000010	22.7	0.455		<0.00010	<0.00010	<0.010	0.001130
W3	08/04/2006	<0.010	High DL removed	41.9	<0.00050	0.00023	0.0067	0.354	0.000212	<0.0050	28.80	0.0286		0.0027	0.0005	<0.30	3.6	<0.0010	7.78	<0.000010	16.1	0.36		<0.00010	<0.00010	<0.010	0.00096
W3	09/04/2006	<0.010	High DL removed	40.3	<0.00050	0.0002	0.01000	0.325	0.000142	<0.0050	24.5	0.02770		0.00278	<0.00050	<0.30	3.7	<0.0010	7.39	<0.000010	13.9	0.317		<0.00010	<0.00010	0.014	0.000809
W3	10/04/2006	<0.010	High DL removed	38.8	<0.00050	0.00023	0.0084	0.430	0.000168	<0.0050	25.60	0.0298		0.0026	0.0005	<0.30	3.4	<0.0010	7.1	<0.000010	14.8	0.305		<0.00010	<0.00010	0.018	0.00091
W3	11/04/2006	<0.010	High DL removed	39.9	<0.00050	0.00016	0.00768	0.271	0.000096	<0.0050	28.3	0.02890		0.00273	<0.00050	<0.30	3.5	<0.0010	7.11	<0.000010	16.5	0.326		<0.00010	<0.00010	0.01	0.000979
W3	12/04/2006	<0.010	High DL removed	41.9	<0.00050	0.00015	0.00919	0.178	0.000103	0.0051	26.4	0.0347		0.00365	<0.00050	<0.30	4.0	<0.0010	7.28	<0.000010	16.8	0.365		<0.00010	<0.00010	<0.010	0.00102
W3	13/04/2006	<0.010	High DL removed	47.8	<0.00050	0.00021	0.00966	0.291	0.000113	0.0056	31.3	0.0475		0.00384	0.00075	<0.30	4.0	<0.0010	7.95	<0.000010	20.7	0.430		<0.00010	<0.00010	0.012	0.00129
W3	14/04/2006	<0.010	High DL removed	47.6	<0.00050	<0.00010	0.00626	<0.030	<0.000050	0.0058	30.7	0.0237		0.00400	<0.00050	<0.30	4.5	<0.0010	8.16	<0.000010	19.7	0.437		<0.00010	<0.00010	<0.010	0.00121
W3	15/04/2006	<0.010	High DL removed	49.1	<0.00050	<0.00010	0.00613	0.030	<0.000050	0.0061	33.5	0.0261		0.00355	<0.00050	<0.30	4.3	<0.0010	8.73	<0.000010	21.1	0.473		<0.00010	0.00023	<0.010	0.00135
W3	16/04/2006	<0.010	High DL removed	70.5	<0.00050	0.00015	0.00670	0.034	0.000059	0.0088	51.2	0.0362		0.00481	0.00084	<0.30	6.2	<0.0010	12.2	<0.000010	32.4	0.699		<0.00010	<0.00010	<0.010	0.00223
W3	17/04/2006	<0.010	High DL removed	80.0	<0.00050	0.00015	0.00687	0.071	0.000074	0.0095	62.4	0.0371		0.00525	0.00070	<0.30	6.4	<0.0010	13.3	<0.000010	35.9	0.734		<0.00010	0.00019	<0.010	0.00245
W3	18/04/2006	<0.010	High DL removed	66.8	<0.00050	0.00027	0.00904	0.185	0.000051	0.0076	51.4	0.0509		0.00470	0.00080	<0.30	8.7	<0.0010	12.4	<0.000010	29.6	0.615		<0.00010	<0.00010	<0.010	0.00189
W3	19/04/2006	<0.010	High DL removed	43.3	<0.00050	0.00019	0.00565	0.247	0.000153	0.0054	31.5	0.0342		0.00278	<0.00050	<0.30	4.3	<0.0010	8.0	<0.000010	18.5	0.382		<0.00010	<0.00010	<0.010	0.00108
W3	20/04/2006	<0.010	High DL removed	41.2	<0.00050	0.00016	0.00878	0.279	0.000142	0.0055	31.9	0.0296		0.00268	<0.00050	<0.30	4.1	<0.0010	8.0	<0.000010	18.1	0.393		<0.00010	<0.00010	0.015	0.00106

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W50	19/05/2015 8:30	<0.0050	<0.0050	<0.00050	0.01	<0.00050	0.00046	0.054	<0.00010	<0.0010	<0.05	0.000013	36.7	<0.0010	<0.00050	0.0172	0.234	<0.00020	<0.0050	11.5	0.186	<0.000010	0.0039	<0.0010	0.019	3.34
W50	27/05/2015 15:03	<0.0050	0.0261	<0.00050	0.0295	<0.00050	0.00036	0.0746	<0.00010	<0.0010	0.052	<0.000010	55	<0.0010	<0.00050	0.0114	0.0872	<0.00020	<0.0050	18.3	0.152	<0.000010	0.0063	<0.0010	0.015	5.18
W50	12/04/2016 15:00	0.00053	<0.0030	<0.00030	0.0034	<0.00010	0.00028	0.0754	<0.000020	<0.000050	0.031	0.0000089	66.5	<0.00010	<0.00010	0.00953	0.047	<0.000050	0.0012	20.9	0.660	<0.0000050	0.00301	0.00069	<0.050	3.34
W50	15/04/2016 11:23	<0.00050	<0.0030	<0.00030	0.0026	<0.00010	0.00028	0.0747	<0.000020	<0.000050	0.036	<0.0000050	62.7	<0.00010	<0.00010	0.0101	0.046	<0.000050	0.0013	19.9	0.403	<0.0000050	0.00300	0.00068	<0.050	3.18
W50	21/04/2016 15:20	<0.00050	<0.0030	<0.00030	0.0025	<0.00010	0.00028	0.0682	<0.000020	<0.000050	0.037	0.0000061	62.0	<0.00010	<0.00010	0.00995	0.035	<0.000050	0.0013	19.0	0.163	<0.0000050	0.00307	0.00063	<0.050	3.16
W50	26/04/2016 11:25	<0.00050	<0.0030	<0.00030	0.0019	<0.00010	0.00027	0.0666	<0.000020	<0.000050	0.036	<0.0000050	59.4	<0.00010	<0.00010	0.0107	0.015	<0.000050	0.0016	18.2	0.0338	<0.0000050	0.00311	0.00059	<0.050	3.21
W50	27/04/2016 9:05	<0.00050	<0.0030	<0.00030	0.0027	<0.00010	0.00026	0.0641	<0.000020	<0.000050	0.035	<0.0000050	60.0	<0.00010	<0.00010	0.0109	0.014	<0.000050	0.0016	18.2	0.0834	<0.0000050	0.00312	0.00060	<0.050	3.23
W50	02/05/2016 16:50	<0.00050	<0.0030	<0.00030	0.0032	<0.00010	0.00026	0.0624	<0.000020	<0.000050	0.036	<0.0000050	54.6	<0.00010	<0.00010	0.0113	0.019	<0.000050	0.0014	17.1	0.0648	<0.0000050	0.00313	0.00067	<0.050	3.14
W50	22/05/2016 11:30	0.00056	<0.0030	<0.00030	0.0104	<0.00010	0.00029	0.0538	<0.000020	<0.000050	0.037	0.0000058	45.4	0.00012	<0.00010	0.0191	0.048	<0.000050	0.0012	12.7	0.0741	0.0000051	0.00278	0.00065	<0.050	3.13
W50	25/05/2016 9:50	<0.00050	<0.0030	<0.00030	0.0164	<0.00010	0.00026	0.0518	<0.000020	<0.000050	0.037	<0.0000050	45.6	0.00013	<0.00010	0.0192	0.056	0.000060	<0.0010	12.9	0.0299	<0.0000050	0.00290	0.00062	<0.050	2.95
W50	31/05/2016 8:55	<0.00050	<0.0030	0.00033	0.0091	<0.00010	0.00028	0.0543	<0.000020	<0.000050	0.036	0.0000052	46.0	0.00012	<0.00010	0.0199	0.060	<0.000050	0.0012	12.6	0.104	<0.0000050	0.00284	0.00073	<0.050	2.87
W50	01/06/2016 7:45																									
W50	07/06/2016 14:35	<0.00050	<0.0030	<0.00030	0.0090	<0.00010	0.00028	0.0547	<0.000020	<0.000050	0.038	<0.0000050	46.4	0.00012	<0.00010	0.0185	0.078	<0.000050	<0.0010	12.5	0.174	<0.0000050	0.00286	0.00067	<0.050	3.12
W50	17/06/2016 8:00	<0.00050	<0.0030	<0.00030	0.0115	<0.00010	0.00030	0.0561	<0.000020	<0.000050	0.036	0.0000066	44.8	0.00014	<0.00010	0.0191	0.060	0.000060	0.0013	12.6	0.104	<0.0000050	0.00290	0.00071	<0.050	3.14
W50	23/06/2016 9:35	0.00056	0.0049	<0.00030	0.0144	<0.00010	0.00036	0.0569	<0.000020	<0.000050	0.038	0.0000070	46.6	<0.00010	<0.00010	0.0178	0.060	0.000131	0.0011	12.6	0.105	<0.0000050	0.00299	0.00066	<0.050	3.12
W50	10/07/2016 15:45	0.00055	<0.0030	<0.00030	0.0150	<0.00010	0.00036	0.0600	<0.000020	<0.000050	0.036	0.0000075	46.1	0.00014	<0.00010	0.0190	0.053	0.000147	<0.0010	12.3	0.223	<0.0000050	0.00330	0.00069	<0.050	2.83
W50	12/07/2016 9:58	0.00055	<0.0030	<0.00030	0.0168	<0.00010	0.00034	0.0596	<0.000020	<0.000050	0.035	0.0000108	45.6	0.00014	<0.00010	0.0193	0.063	0.000291	<0.0010	12.3	0.380	<0.0000050	0.00342	0.00071	<0.050	2.96
W50	19/07/2016 9:50	<0.00050	<0.0030	<0.00030	0.0143	<0.00010	0.00035	0.0576	<0.000020	<0.000050	0.037	<0.0000050	47.2	0.00024	<0.00010	0.0165	0.062	0.000125	0.0012	12.9	0.230	<0.0000050	0.00308	0.00086	<0.050	2.90
W50	26/07/2016 15:25	0.00093	<0.0030	<0.00030	0.0116	<0.00010	0.00041	0.0670	<0.000020	<0.000050	0.038	0.0000110	46.5	<0.00010	0.00011	0.0194	0.053	0.000057	<0.0010	12.8	0.520	<0.0000050	0.00311	0.00078	<0.050	2.94
W50	02/08/2016 14:40	0.00107	0.0036	<0.00030	0.0136	<0.00010	0.00036	0.0627	<0.000020	<0.000050	0.036	0.0000091	50.8	0.00011	<0.00010	0.0218	0.038	<0.000050	0.0012	13.6	0.188	<0.0000050	0.00318	0.00080	<0.050	3.15
W50	11/08/2016 14:15	<0.00050	<0.0030	<0.00030	0.0141	<0.00010	0.00034	0.0693	<0.000020	<0.000050	0.042	0.0000076	56.0	<0.00010	<0.00010	0.0180	0.050	0.000098	0.0015	14.3	0.145	<0.0000050	0.00369	0.00068	<0.050	3.34
W50	15/08/2016 8:45	<0.00050	<0.0030	<0.00030	0.0132	<0.00010	0.00038	0.0672	<0.000020	<0.000050	0.043	0.0000052	54.0	0.00012	<0.00010	0.0168	0.043	0.000056	0.0013	14.2	0.0840	<0.0000050	0.00357	0.00062	<0.050	3.35
W50	17/08/2016 8:50	0.00055	<0.0030	<0.00030	0.0116	<0.00010	0.00033	0.0638	<0.000020	<0.000050	0.040	0.0000053	55.6	<0.00010	<0.00010	0.0161	0.042	0.000060	0.0012	15.0	0.0745	<0.0000050	0.00348	0.00060	<0.050	3.41
W50	18/08/2016 8:25																									
W50	28/08/2016 17:00	0.00053	<0.0030	<0.00030	0.0140	<0.00010	0.00033	0.0690	<0.000020	<0.000050	0.041	<0.0000050	60.9	0.00013	<0.00010	0.0177	0.040	<0.000050	0.0013	15.3	0.0407	<0.0000050	0.00393	0.00063	<0.050	3.42
W50	04/09/2016 8:15	<0.00050	0.0031	<0.00030	0.0043	<0.00010	0.00012	0.0147	<0.000020	<0.000050	0.031	<0.0000050	11.0	<0.00010	<0.00010	0.00354	<0.010	0.000069	<0.0010	3.23	0.00635	<0.0000050	0.00103	<0.00050	<0.050	0.97
W50	06/09/2016 15:45	<0.00050	<0.0030	<0.00030	0.0065	<0.00010	0.00020	0.0373	<0.000020	<0.000050	0.031	<0.0000050	31.1	<0.00010	<0.00010	0.00884	0.021	0.000061	<0.0010	8.25	0.0157	<0.0000050	0.00216	<0.00050	<0.050	1.92
W50	07/09/2016 15:45																									
W50	13/09/2016 7:30	<0.00050	<0.0030	<0.00030	0.0033	<0.00010	0.00012	0.0256	<0.000020	<0.000050	0.030	<0.0000050	15.6	<0.00010	<0.00010	0.00440	<0.010	<0.000050	<0.0010	4.34	0.0270	<0.0000050	0.00179	0.00050	<0.050	1.24
W50	16/09/2016 13:25	<0.00050	<0.0030	<0.00030	0.0038	<0.00010	0.00018	0.0371	<0.000020	<0.000050	0.026	<0.0000050	28.4	<0.00010	<0.00010	0.00807	0.015	<0.000050	<0.0010	7.66	0.00918	<0.0000050	0.00190	<0.00050	<0.050	1.78
W50	20/09/2016 7:55	<0.00050	<0.0030	<0.00030	0.0020	<0.00010	0.00017	0.0342	<0.000020	<0.000050	0.028	<0.0000050	28.7	<0.00010	<0.00010	0.00777	0.012	<0.000050	<0.0010	8.14	0.00833	<0.0000050	0.00192	<0.00050	<0.050	1.76
W50	27/09/2016 16:00	<0.00050	<0.0030	<0.00030	0.0022	<0.00010	0.00014	0.0314	<0.000020	<0.000050	0.029	<0.0000050	25.3	<0.00010	<0.00010	0.00680	0.015	<0.000050	<0.0010	7.28	0.00781	<0.0000050	0.00158	<0.00050	<0.050	1.59
W50	04/10/2016 13:30	<0.00050	<0.0030	<0.00030	0.0014	<0.00010	0.00015	0.0318	<0.000020	<0.000050	0.029	<0.0000050	25.8	<0.00010	<0.00010	0.00636	<0.010	<0.000050	<0.0010	7.19	0.00208	<0.0000050	0.00144	<0.00050	<0.050	1.66
W50	11/10/2016 8:05																									
W50	12/10/2016 7:40	0.00053	<0.0030	<0.00030	0.0026	<0.00010	0.00031	0.0749	<0.000020	<0.000050	0.035	<0.0000050	62.4	<0.00010	<0.00010	0.0146	0.027	0.000175	0.0015	17.8	0.0101	<0.0000050	0.00358	0.00067	<0.050	3.24
W50	13/10/2016 8:30																									
W50	14/10/2016 7:50																									
W50	15/10/2016 7:50																									
W50	16/10/2016 8:00																									
W50	17/10/2016 7:55																									
W50	18/10/2016 9:00	<0.00050	<0.0030	<0.00030	0.0013	<0.00010	0.00038	0.0808	<0.000020	<0.000050	0.032	0.0000076	62.5	<0.00010	<0.00010	0.0156	0.058	0.000074	<0.0010	18.9	0.0757	<0.0000050	0.00351	0.00058	<0.050	3.39
W50	19/10/2016 7:10																									
W50	20/10/2016 8:30																									
W50	21/10/2016 8:10																									
W50	22/10/2016 8:25																									
W50	23/10/2016 8:20																									
W50	24/10/2016 8:05																									
W50	25/10/2016 8:30	<0.00050	<0.0030	<0.00030	0.0017	<0.00010	0.00033	0.0807	<0.000020	<0.000050	0.033	<0.0000050	64.3	0.00011	<0.00010	0.0148	0.065	<0.000050	0.0015	18.8	0.0965	<0.0000050	0.00380	0.00061	<0.050	3.58
W3	04/04/2006	<0.0010	<0.0030																							
W3	05/04/2006	<0.0020	<0.0040																							
W3	06/04/2006	<0.0010	<0.0030																							
W3	07/04/2006	<0.0010	0.0016		0.0122	<0.00010	0.00042	0.0653	<0.00050	<0.00050	<0.010	High DL removed	51.3	<0.00050	<0.00010	0.00428	<0.030	<0.000050	0.0056	35.7	0.01780		0.00353	<0.00050	<0.30	4.8
W3	08/04/2006	0.0015	0.0031																							
W3	09/04/2006	0.0015	0.0025																							
W3	10/04/2006	0.0018	0.0028																							
W3	11/04/2006	0.0011	0.002																							
W3	12/04/2006	<0.0010	0.0027																							
W3	13/04/2006	0.0011	0.0036																							
W3	14/04/2006	<0.0010	0.0016																							
W3	15/04/2006	<0.0010	0.0031																							
W3	16/04/2006	<0.0010	0.0029																							
W3	17/04/2006	<0.0010	<0.0030		0.0161	<0.00010	0.00051	0.1000	<0.00050	<0.00050	<0.010	High DL removed	82.5	<0.00050	0.00015	0.00648	<0.030	<0.000050	0.0096	64.3	0.03540		0.00504	0.00065	<0.30	6.6
W3	18/04/2006	0.0013	0.0025																							
W3	19/04/2006	0.0011	0.0031																							
W3	20/04/2006	0.0011	0.0035																							

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	Br	Cation	CN-T	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-TKN	P-PO4T	P-TDP	P-TRP
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L
W50	19/05/2015 8:30	0.00062	2.23	<0.000020	13.9	0.603	13.9	<0.000050	<0.0050	<0.0050	0.00083	<0.0050	<0.0050	<0.00050	139	<0.50	<0.50	<0.50														
W50	27/05/2015 15:03	0.00108	2.98	<0.000020	18.3	1.13	24.8	<0.000050	<0.0050	<0.0050	0.00154	<0.0050	<0.0050	<0.00050	215	<0.50	<0.50	<0.50									7.55					
W50	12/04/2016 15:00	0.000409	3.61	<0.000010	18.1	0.656	19.5	<0.000010	<0.00010	<0.00030	0.00143	<0.00050	0.0013	<0.00030	201	<1.0	<1.0		5.59		5.95							3.1				
W50	15/04/2016 11:23	0.000399	3.42	<0.000010	15.9	0.636	18.0	<0.000010	<0.00010	<0.00030	0.00139	<0.00050	<0.0010	<0.00030	194	<1.0	<1.0		5.39		5.57							1.7				
W50	21/04/2016 15:20	0.000441	3.22	<0.000010	16.2	0.630	18.6	<0.000010	<0.00010	<0.00030	0.00143	<0.00050	<0.0010	<0.00030	185	<1.0	<1.0		5.14		5.46							3.0				
W50	26/04/2016 11:25	0.000449	3.01	<0.000010	16.2	0.616	16.7	<0.000010	<0.00010	<0.00030	0.00131	<0.00050	<0.0010	<0.00030	184	<1.0	<1.0		5.07		5.26							1.9				
W50	27/04/2016 9:05	0.000430	2.95	<0.000010	16.4	0.597	16.8	<0.000010	<0.00010	<0.00030	0.00128	<0.00050	<0.0010	<0.00030	180	<1.0	<1.0		4.97		5.30							3.2				
W50	02/05/2016 16:50	0.000385	2.85	<0.000010	14.9	0.580	15.5	<0.000010	<0.00010	<0.00030	0.00122	<0.00050	<0.0010	<0.00030	176	<1.0	<1.0		4.82		4.88							0.5				
W50	22/05/2016 11:30	0.00103	2.91	<0.000010	11.9	0.474	14.1	<0.000010	<0.00010	<0.00030	0.000887	<0.00050	0.0020	<0.00030	124	<1.0	<1.0		3.62		3.92							4.0				
W50	25/05/2016 9:50	0.000896	2.89	<0.000010	11.7	0.489	14.3	<0.000010	<0.00010	0.00044	0.000900	<0.00050	0.0045	<0.00030	122	<1.0	<1.0		3.56		3.93							4.9				
W50	31/05/2016 8:55	0.000996	2.91	<0.000010	12.1	0.478	13.0	<0.000010	<0.00010	<0.00030	0.000871	<0.00050	0.0014	<0.00030	125	<1.0	<1.0		3.66		3.95							3.8				
W50	01/06/2016 7:45																															
W50	07/06/2016 14:35	0.000934	2.92	<0.000010	12.1	0.475	13.1	<0.000010	<0.00010	<0.00030	0.000875	<0.00050	0.0018	<0.00030	125	<1.0	<1.0		3.64		3.97							4.4				
W50	17/06/2016 8:00	0.000930	2.69	<0.000010	11.8	0.479	14.2	<0.000010	<0.00010	0.00036	0.000859	<0.00050	0.0018	<0.00030	124	<1.0	<1.0		3.61		3.88							3.6				
W50	23/06/2016 9:35	0.00119	2.50	<0.000010	11.7	0.470	14.2	<0.000010	<0.00010	0.00060	0.000825	<0.00050	<0.0010	<0.00030	121	<1.0	<1.0		3.61		3.97							4.7				
W50	10/07/2016 15:45	0.000985	2.73	<0.000010	12.5	0.497	14.4	<0.000010	<0.00010	0.00056	0.000774	<0.00050	0.0014	<0.00030	127	<1.0	<1.0		3.71		3.95							3.1				
W50	12/07/2016 9:58	0.00103	2.68	<0.000010	12.0	0.487	14.5	<0.000010	<0.00010	0.00074	0.000843	<0.00050	0.0010	<0.00030	127	<1.0	<1.0		3.72		3.93							2.7				
W50	19/07/2016 9:50	0.00102	2.85	<0.000010	11.6	0.480	13.9	<0.000010	<0.00010	0.00058	0.000804	<0.00050	<0.0010	<0.00030	129	<1.0	<1.0		3.75		4.02							3.5				
W50	26/07/2016 15:25	0.00104	2.76	<0.000010	13.1	0.484	14.3	<0.000010	<0.00010	0.00056	0.000879	<0.00050	<0.0010	<0.00030	128	<1.0	<1.0		3.76		4.06							3.9				
W50	02/08/2016 14:40	0.00114	2.98	<0.000010	13.1	0.514	15.0	<0.000010	<0.00010	0.00084	0.000874	<0.00050	0.0020	<0.00030	130	<1.0	<1.0		3.88		4.33							5.5				
W50	11/08/2016 14:15	0.00108	3.18	<0.000010	13.0	0.569	18.5	<0.000010	<0.00010	0.00099	0.00101	<0.00050	<0.0010	<0.00030	142	<1.0	<1.0		4.39		4.65							2.9				
W50	15/08/2016 8:45	0.00120	3.20	<0.000010	13.8	0.568	18.3	<0.000010	<0.00010	0.00080	0.000983	<0.00050	<0.0010	<0.00030	141	<1.0	<1.0		4.40		4.56							1.8				
W50	17/08/2016 8:50	0.00120	3.37	<0.000010	13.1	0.550	18.8	<0.000010	<0.00010	0.00069	0.00100	<0.00050	<0.0010	<0.00030	142	<1.0	<1.0		4.43		4.68							2.7				
W50	18/08/2016 8:25																															
W50	28/08/2016 17:00	0.00146	3.26	<0.000010	14.4	0.627	19.6	<0.000010	<0.00010	0.00084	0.00113	<0.00050	<0.0010	<0.00030	152	<1.0	<1.0		4.82		5.02							2.0				
W50	04/09/2016 8:15	0.000339	0.711	<0.000010	4.62	0.138	4.46	<0.000010	<0.00010	<0.00030	0.000172	<0.00050	<0.0010	<0.00030	34.0	<1.0	<1.0		1.69		1.04							-23.5				
W50	06/09/2016 15:45	0.000774	1.79	<0.000010	10.5	0.346	11.4	<0.000010	<0.00010	<0.00030	0.000598	<0.00050	0.0010	<0.00030	85.2	<1.0	<1.0		2.71		2.74							0.5				
W50	07/09/2016 15:45																															
W50	13/09/2016 7:30	0.000427	1.19	<0.000010	9.00	0.196	5.47	<0.000010	<0.00010	<0.00030	0.000105	<0.00050	0.0018	<0.00030	62.7	<1.0	<1.0		1.77		1.56							-6.4				
W50	16/09/2016 13:25	0.000801	1.70	<0.000010	9.34	0.313	9.99	<0.000010	<0.00010	<0.00030	0.000578	<0.00050	0.0017	<0.00030	85.4	<1.0	<1.0		2.66		2.51							-3.0				
W50	20/09/2016 7:55	0.000700	1.65	<0.000010	9.18	0.316	9.67	<0.000010	<0.00010	<0.00030	0.000565	<0.00050	<0.0010	<0.00030	79.0	<1.0	<1.0		2.52		2.55							0.5				
W50	27/09/2016 16:00	0.000687	1.55	<0.000010	9.53	0.275	9.74	<0.000010	<0.00010	<0.00030	0.000516	<0.00050	<0.0010	<0.00030	78.8	<1.0	<1.0		2.48		2.32							-3.5				
W50	04/10/2016 13:30	0.000719	1.55	<0.000010	11.5	0.279	10.0	<0.000010	<0.00010	<0.00030	0.000524	<0.00050	<0.0010	<0.00030	81.7	<1.0	<1.0		2.49		2.42							-1.4				
W50	11/10/2016 8:05																															
W50	12/10/2016 7:40	0.00167	3.46	<0.000010	13.9	0.680	22.5	<0.000010	<0.00010	<0.00030	0.00133	<0.00050	0.0015	<0.00030	168	<1.0	<1.0		5.34		5.27							-0.7				
W50	13/10/2016 8:30																															
W50	14/10/2016 7:50																															
W50	15/10/2016 7:50																															
W50	16/10/2016 8:00																															
W50	17/10/2016 7:55																															
W50	18/10/2016 9:00	0.00162	3.79	<0.000010	15.0	0.678	22.9	<0.000010	<0.00010	<0.00030	0.00138	<0.00050	<0.0010	<0.00030	174	<1.0	<1.0		5.48		5.42							-0.5				
W50	19/10/2016 7:10																															
W50	20/10/2016 8:30																															
W50	21/10/2016 8:10																															
W50	22/10/2016 8:25																															
W50	23/10/2016 8:20																															
W50	24/10/2016 8:05																															
W50	25/10/2016 8:30	0.00147	3.92	<0.000010	15.3	0.693	23.3	<0.000010	<0.00010	<0.00030	0.00137	<0.00050	<0.0010	<0.00030	180	<1.0	<1.0		5.55		5.53							-0.2				
W3	04/04/2006															336.0				<0.050												
W3	05/04/2006															585				<0.050												
W3	06/04/2006															287.0				<0.050												
W3	07/04/2006	<0.0010	9.83	<0.000010	22.4	0.449		<0.00010	<0.00010	<0.010	0.001130	<0.0010	0.0017			240				<0.050						50.2000	10.6000					
W3	08/04/2006															190.0				<0.050												
W3	09/04/2006															164				<0.050												
W3	10/04/2006															165.0				<0.050												
W3	11/04/2006															177				<0.050												
W3	12/04/2006															197				<0.050												
W3	13/04/2006															224				<0.050												
W3	14/04/2006															220				<0.050												
W3	15/04/2006															239				<0.050												
W3	16/04/2006															364				<0.050												
W3	17/04/2006	<0.0010	13.50	<0.000010	36.7	0.737		<0.00010	0.00017	<0.010	0.002440	<0.0010	0.0017			368				<0.050		0.0128				89.3000	15.4000					
W3	18/04/2006															337				<0.050												
W3	19/04/2006															208				<0.050												
W3	20/04/2006															201				<0.050												

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W50	19/05/2015 8:30			308.6			
W50	27/05/2015 15:03			528.6			
W50	12/04/2016 15:00			520.9			
W50	15/04/2016 11:23						
W50	21/04/2016 15:20			482.9			
W50	26/04/2016 11:25			477.7			
W50	27/04/2016 9:05			475.2			
W50	02/05/2016 16:50			450			
W50	22/05/2016 11:30			352.4			
W50	25/05/2016 9:50			350.6			
W50	31/05/2016 8:55			348.7			
W50	01/06/2016 7:45						
W50	07/06/2016 14:35			348.4			
W50	17/06/2016 8:00			349.8			
W50	23/06/2016 9:35			354			
W50	10/07/2016 15:45			361.6			
W50	12/07/2016 9:58			322.5			
W50	19/07/2016 9:50			362			
W50	26/07/2016 15:25			365.9			
W50	02/08/2016 14:40			382.2			
W50	11/08/2016 14:15			412.2			
W50	15/08/2016 8:45			419.3			
W50	17/08/2016 8:50			420.6			
W50	18/08/2016 8:25			420.4			
W50	28/08/2016 17:00			453.7			
W50	04/09/2016 8:15			111.8			
W50	06/09/2016 15:45			263.3			
W50	07/09/2016 15:45						
W50	13/09/2016 7:30			218.5			
W50	16/09/2016 13:25			261.2			
W50	20/09/2016 7:55			247.6			
W50	27/09/2016 16:00			242.8			
W50	04/10/2016 13:30			227.9			
W50	11/10/2016 8:05			477.9			
W50	12/10/2016 7:40			481.9			
W50	13/10/2016 8:30			483.3			
W50	14/10/2016 7:50			488.7			
W50	15/10/2016 7:50			508.7			
W50	16/10/2016 8:00			509.7			
W50	17/10/2016 7:55			509.7			
W50	18/10/2016 9:00			514.3			
W50	19/10/2016 7:10			511.8			
W50	20/10/2016 8:30			510.2			
W50	21/10/2016 8:10			494.8			
W50	22/10/2016 8:25			511			
W50	23/10/2016 8:20			375.1			
W50	24/10/2016 8:05			512.4			
W50	25/10/2016 8:30			512.7			
W3	04/04/2006		103.0				
W3	05/04/2006		234.0				
W3	06/04/2006		101.0				
W3	07/04/2006	<0.0050	74.3				
W3	08/04/2006		58.1				
W3	09/04/2006		53.1				
W3	10/04/2006		56.2				
W3	11/04/2006		63.1				
W3	12/04/2006		74.9				
W3	13/04/2006		84.2				
W3	14/04/2006		78.9				
W3	15/04/2006		81.5				
W3	16/04/2006		124				
W3	17/04/2006	<0.0050	136				
W3	18/04/2006		120				
W3	19/04/2006		66				
W3	20/04/2006		60				

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Phase	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
				mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	21/04/2006	No Discharge	P	<3.0	266	8.45	8.31		426							178	0.80	0.315	55	<0.005	<0.0010	<0.0050		0.2170	<0.00010	0.00037	0.0533	<0.00050	<0.00050
W3	22/04/2006	No Discharge	P	7.7	266	8.5	8.31		427							182	0.84	0.292	58.6	<0.005	<0.0010	<0.0050		0.2120	<0.00010	0.00035	0.0531	<0.00050	<0.00050
W3	23/04/2006	No Discharge	P	12.7	210	8.55	8.25		341							152	0.64	0.233	42.7	<0.005	<0.0010	<0.0050		0.5360	<0.00010	0.00040	0.0483	<0.00050	<0.00050
W3	24/04/2006	No Discharge	P	11.7	182	8.45	8.16		271							103	0.88	0.238	35.3	<0.020	<0.0010	<0.0050	13.9000	0.8480	<0.00010	0.00057	0.0491	<0.00050	<0.00050
W3	25/04/2006	No Discharge	P	16.1	165	8.6	7.63		212							84.4	1.15	0.203	26.4		<0.0010	<0.0050		0.3940	<0.00010	0.00048	0.0522	<0.00050	<0.00050
W3	26/04/2006	No Discharge	P	6.6	174	8.4	7.81		211							75.4	0.88	0.167	29.9		<0.0010	<0.0050		0.3300	<0.00010	0.00045	0.0393	<0.00050	<0.00050
W3	27/04/2006	No Discharge	P	6.6	168	8	7.90		215							84.2	0.83	0.17	28.5		<0.0010	<0.0050		0.2690	<0.00010	0.00042	0.0373	<0.00050	<0.00050
W3	28/04/2006	No Discharge	P	<3.0	174	7.9	7.85		186							73.1	0.73	0.14	23.9		<0.0010	<0.0050		0.2100	<0.00010	0.00039	0.0368	<0.00050	<0.00050
W3	29/04/2006	No Discharge	P	4.1	177	8.5	7.94		220							87.4	0.72	0.15	29.3		<0.0010	<0.0050		0.2130	<0.00010	0.00040	0.0443	<0.00050	<0.00050
W3	30/04/2006	No Discharge	P	3.1	159	8.4	7.93		199							77.9	0.63	0.15	25.4		<0.0010	<0.0050		0.2090	<0.00010	0.00037	0.0412	<0.00050	<0.00050
W3	01/05/2006	No Discharge	P	4.6	170	8.3	7.94		199							81.6	0.64	0.16	24.7		<0.0010	<0.0050		0.2250	<0.00010	0.00037	0.0417	<0.00050	<0.00050
W3	02/05/2006	No Discharge	P	4.9	137	8.2	7.87		155								0.60	0.122			<0.0010	<0.0050		0.2090	<0.00010	0.00036	0.0368	<0.00050	<0.00050
W3	03/05/2006	No Discharge	P	30.9	126	8.2	7.80		143								0.55	0.126			<0.0010	<0.0050		1.0200	<0.00010	0.00076	0.0495	<0.00050	<0.00050
W3	04/05/2006	No Discharge	P			8.2																							
W3	05/05/2006	No Discharge	P	40.4	100		7.53		77								<0.50	0.064			<0.0010	<0.0050		1.0700	0.00016	0.00065	0.0397	<0.00050	<0.00050
W3	06/05/2006	No Discharge	P	82.9	102		7.52		76								<0.50	0.069			<0.0010	<0.0050		2.1300	0.00011	0.00101	0.0605	<0.00050	<0.00050
W3	08/05/2006	No Discharge	P	18.4	122		7.43		69								<0.50	0.063		<0.020	<0.0010	<0.0050	37.7000	0.7740	<0.00010	0.00057	0.0400	<0.00050	<0.00050
W3	10/05/2006	No Discharge	P	13.8	118		7.51		82.2							29.9	<0.5	0.078	5.48		<0.001	<0.005		0.316	<0.0001	0.00045	0.034	<0.0005	<0.0005
W3	14/05/2006 14:30	No Discharge	P	46.8	116		7.6		93							35.5	<0.5	0.158	6.85	0.049	<0.001	<0.005	29.7	1.66	0.00016	0.00118	0.065	<0.0005	<0.0005
W3	17/05/2006 15:00	No Discharge	P	7.1	131		7.59		105							43.2	<0.5	0.105	7.66		<0.001	<0.005		0.357	<0.0001	0.00056	0.0393	<0.0005	<0.0005
W3	20/05/2006 16:00	No Discharge	P	6.1	126		7.75		125							55.4	<0.5	0.136	10.3		<0.001	<0.005		0.0881	<0.0001	0.00045	0.034	<0.0005	<0.0005
W3	23/05/2006 16:00	No Discharge	P	17.8	133		7.89		161							68.4	<0.5	0.149	15.4	0.012	<0.001	<0.005	21.5	0.281	<0.0001	0.00056	0.0431	<0.0005	<0.0005
W3	26/05/2006 16:00	No Discharge	P	5.9	139		7.71		166							74	<0.5	0.143	19		0.0015	0.013		0.125	0.00012	0.00051	0.0415	<0.0005	<0.0005
W3	29/05/2006 16:00	No Discharge	P	13.4	120		7.64		120							55.2	<0.5	0.122	11.9		<0.001	0.0075		0.195	0.00039	0.00055	0.036	<0.0005	<0.0005
W3	02/06/2006 16:00	No Discharge	P	26.4	129		7.42		136							68.7	<0.5	0.127	12.2	0.022	<0.001	<0.005	27.8	0.847	0.00014	0.00079	0.0503	<0.0005	<0.0005
W3	07/06/2006 16:57	No Discharge	P	7.1	134		7.59		143							69.7	<0.5	0.126	14.3	0.043	0.0011	0.0179	28.4	0.17	<0.0001	0.00054	0.0404	<0.0005	<0.0005
W3	15/06/2006	No Discharge	P	<2	196		7.95		323						169	134			34			0.12	13.3	0.032	<0.0002	0.0004	0.058	<0.0001	<0.0005
W3	15/06/2006	No Discharge	P																	0.013									
W3	23/06/2006	No Discharge	P	4	266		7.83		382						190	164			47	0.007		<0.03	5.9	0.067	<0.0002	0.0004	0.068	<0.0001	<0.0005
W3	28/06/2006	No Discharge	P	4	212		7.88		334						163	138				<0.002		0.025	11.3	0.065	<0.0002	0.0004	0.059	<0.0001	<0.0005
W3	07/07/2006	No Discharge	P	14	249		7.93		319						179	158			38			0.086	9.8	0.16	<0.001	High DL removed	0.074	<0.0005	<0.002
W3	12/07/2006	No Discharge	P	<2			7.7		372						183	164			39	0.006		0.11	7.9	0.014	<0.0002	0.0003	0.067	<0.0001	<0.0005
W3	20/07/2006	No Discharge	P	16			7.92		378						208	174			42	0.006		<0.03	8.7	0.594	<0.0002	0.0006	0.08	<0.0001	<0.0005
W3	26/07/2006	No Discharge	P	<2			7.93		405						209	171			45			0.04	8.7	0.183	<0.0002	0.0004	0.082	<0.0001	<0.0005
W3	26/07/2006	No Discharge	P																	0.007									
W3	02/08/2006	No Discharge	P	18			8		422						163	182			40	0.016		0.12	9.2	0.138	<0.0002	0.0006	0.086	<0.0001	<0.0005
W3	10/08/2006	No Discharge	P	6			7.82		430						202	183			45	0.013		0.12	8.7	0.306	<0.0002	0.0005	0.087	<0.0001	<0.0005
W3	18/08/2006	No Discharge	P																										
W3	25/08/2006	No Discharge	P	4	282		7.94		413						204	175			43			<0.03	9	0.19	<0.0004	0.0004	0.086	<0.0002	<0.001
W3	25/08/2006	No Discharge	P																	0.02									
W3	30/08/2006	No Discharge	P	<2	294		7.86		406						192	178			39	0.004		<0.03	8.2	0.064	<0.0002	0.0003	0.075	<0.0001	<0.0005
W3	06/09/2006	No Discharge	P	<2			7.92		416						210	186			38	0.003		<0.03	8	0.05	<0.0002	0.0004	0.076	<0.0001	<0.0005
W3	13/09/2006	No Discharge	P	4			7.96		407						215	183			42.9	0.006		0.008	8.4	0.16	<0.0002	0.0004	0.079	<0.0001	<0.0005
W3	20/09/2006	No Discharge	P	2			8.02		423						216	190			42	0.004		<0.03	7.5	0.138	<0.0002	0.0005	0.078	<0.0001	<0.0005
W3	28/09/2006	No Discharge	P																										
W3	29/09/2006	No Discharge	P	<2	160		7.74		434						210	191			43	0.006		<0.03	7.4	0.03	<0.0004	0.0004	0.079	<0.0002	<0.001
W3	04/10/2006	No Discharge	P	<2			7.93		413						203	180			43	0.073		<0.03	8	0.081	<0.0004	<0.0004	0.075	<0.0002	<0.001
W3	12/10/2006	No Discharge	P	<2	280		7.61		430						210	184			42	0.006		<0.03	7.7	0.047	<0.0002	0.0002	0.078	<0.0001	<0.0005
W3	18/10/2006	No Discharge	P	<1	247		8.19		335						216	152	0.9			<0.05	<0.005	0.05	7.8	0.006	<0.0002	0.0003	0.084	<0.0001	<0.0005
W3	28/10/2006	No Discharge	P	14	130		7.44		456						224	205	1.12		42	0.029	<0.03	0.25	4.1	0.114	<0.0002	0.0004	0.082	<0.0001	<0.0005
W3	01/11/2006	No Discharge	P	<2	290		7.1		445						226	210	1.06		42	<0.05	<0.03	0.23	5.2	0.96	0.005	0.009	1.9	<0.002	<0.01
W3	09/11/2006	No Discharge	P	<2	304		7.49		469						234	214	1.21		42	0.071	<0.03	0.23	8	0.031	0.0002	0.0003	0.075	<0.0001	<0.0005
W3	16/11/2006	No Discharge	P	<2	324		7.22		518						267	248	1.46		40	0.1	<0.03	0.03	12.6	0.008	<0.0002	0.0002	0.052	<0.0001	<0.0005
W3	23/11/2006	No Discharge	P	<2	320		8.29		480						244	202			46	0.032	<0.1	0.31	3.2	0.064	<0.0004	<0.0004	0.074	<0.0002	<0.001
W3	30/11/2006	No Discharge	P	12	296		7.45		480						230	215			44	<0.05	<0.005	0.39	2.4	0.505	0.0004	0.0006	0.069	<0.0001	<0.0005
W3	06/12/2006	No Discharge	P	5	240		8.15		478					238		204	1.13		41	0.017	<0.03	0.37	2.9	0.213	<0.0002	0.0004	0.061	<0.0001	<0.0005
W3	13/12/2006	No Discharge	P	33	320		8.28		469						229	208	1.28		42	<0.002	<0.1	0.46	1.9	0.516	<0.0002	0.0003	0.064	<0.0001	<0.0005
W3	20/12/2006	No Discharge	P	3	308		7.46		485						223	210	1.5		42	0.002	<0.1	0.5	2.4	0.13	<0.0002	0.0006	0.062	<0.0001	<0.0005
W3	28/12/2006	No Discharge	P	14	308		7.5		460						236	206	1.9		43	<0.002	<0.1	0.5	2.2	0.49	<0.0002	0.0004	0.071	<0.0001	<0.0005
W3	04/01/2007	No Discharge	P	18	298		7.63		463						233	193	2.18		43	<0.05	<0.03	0.56	2.8	0.562	<0.0002	0.0004	0.08	<0.0001	0.0005
W3	10/01/2007	No Discharge	P	4	288		8.36		482					239		204	2.39		42	<0.05	<0.03	0.59	2.4	0.226	<0.0002	<0.0002	0.067	<0.0001	<0.0005
W3	17/04/2007	No Discharge	P	24	332		7.91		461						246	203	4		48		<0.05	0.2	14.1	1.46	<0.0002	0.0012	0.104	<0.0001	<0.0005
W3	27/04/2007	No Discharge	P	2	274		7.92		313						167	130	2.5		31	<0.05	<0.05	1.6	25.6	0.212	<0.0004	0.0005	0.071	<0.0002	<0.001
W3	04/05/2007	No Discharge	P	6	252		7.97		264						142	106	1.7		22.1	0.07	0.16	2.9		0.31	<0.0004	0.0008	0.064	<0.0002	<0.001
W3	11/05/2007	No Discharge	P	<2	280		7.91		317						167	118	1.9		25.9	<0.05	0.19	4		0.17	<0.0004	0.0009	0.064	<0.0002	<0.001

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	21/04/2006	<0.010	High DL removed	38.9	<0.00050	0.00016	0.00818	0.201	0.000198	<0.0050	28.6	0.0325		0.00235	<0.00050	<0.30	3.8	<0.0010	7.1	<0.000010	16.1	0.358		<0.00010	<0.00010	<0.010	0.00095
W3	22/04/2006	<0.010	High DL removed	37.7	<0.00050	0.00015	0.00780	0.220	0.000074	<0.0050	28.4	0.0342		0.00239	0.00050	<0.30	3.4	<0.0010	6.7	<0.000010	16.4	0.358		<0.00010	<0.00010	0.012	0.00097
W3	23/04/2006	<0.010	High DL removed	29.2	0.00061	0.00029	0.01180	0.590	0.000195	<0.0050	22.8	0.0451		0.00177	0.00067	<0.30	2.8	<0.0010	5.8	<0.000010	12.6	0.287		<0.00010	<0.00010	0.022	0.00082
W3	24/04/2006	<0.010	High DL removed	24.0	0.00102	0.00035	0.02790	0.913	0.000289	<0.0050	17.4	0.0465		0.00187	0.00110	<0.30	3.4	<0.0010	6.1	0.000021	10.6	0.215		<0.00010	<0.00010	0.046	0.00056
W3	25/04/2006	<0.010	High DL removed	20.1	<0.00050	0.00012	0.02680	0.370	0.000078	<0.0050	10.5	0.0112		0.00139	0.00087	<0.30	6.6	<0.0010	4.2	<0.000010	8.5	0.137		<0.00010	<0.00010	0.015	0.00023
W3	26/04/2006	<0.010	High DL removed	20.0	<0.00050	0.00022	0.03210	0.366	0.000086	<0.0050	11.2	0.0506		0.00109	0.00099	<0.30	3.4	<0.0010	4.5	0.00001	9.9	0.139		<0.00010	<0.00010	0.016	0.00026
W3	27/04/2006	<0.010	High DL removed	21.0	<0.00050	0.00021	0.02970	0.285	0.000068	<0.0050	11.8	0.04950		0.00116	0.00096	<0.30	3.1	<0.0010	4.49	0.000016	9.9	0.146		<0.00010	<0.00010	<0.010	0.000273
W3	28/04/2006	<0.010	High DL removed	19.4	<0.00050	0.00019	0.03150	0.261	0.000091	<0.0050	10.6	0.03960		0.00089	0.00110	<0.30	3.1	<0.0010	4.30	0.00001	7.5	0.137		<0.00010	<0.00010	0.011	0.000220
W3	29/04/2006	<0.010	High DL removed	24.0	<0.00050	0.00018	0.03320	0.256	0.000060	<0.0050	13.1	0.03600		0.00118	0.00117	<0.30	3.2	<0.0010	4.89	0.000012	7.7	0.174		<0.00010	<0.00010	0.011	0.000321
W3	30/04/2006	<0.010	High DL removed	22.4	<0.00050	0.00017	0.03010	0.251	0.000078	<0.0050	11.7	0.03570		0.00113	0.00110	<0.30	3	<0.0010	4.73	0.00001	5.4	0.165		<0.00010	<0.00010	0.012	0.000270
W3	01/05/2006	<0.010	High DL removed	23.0	<0.00050	0.00018	0.03040	0.259	0.000062	<0.0050	11.7	0.03110		0.00100	0.00106	<0.30	2.9	<0.0010	4.82	<0.000010	5.3	0.162		<0.00010	<0.00010	<0.010	0.000266
W3	02/05/2006	<0.010	High DL removed	17.5	<0.00050	0.00019	0.03040	0.327	0.000117	<0.0050	8.1	0.0302		0.00080	0.00119	<0.30	2.6	<0.0010	4.0	0.000013	3.4	0.124		<0.00010	<0.00010	<0.010	0.00020
W3	03/05/2006	<0.010	High DL removed	16.4	0.00156	0.00064	0.03670	1.460	0.000461	<0.0050	7.8	0.0711		0.00085	0.00212	<0.30	2.8	<0.0010	5.2	0.000022	3.3	0.119		<0.00010	<0.00010	0.046	0.00024
W3	04/05/2006																										
W3	05/05/2006	<0.010	High DL removed	10.5	0.00162	0.00071	0.03480	1.530	0.000461	<0.0050	4.3	0.0925		0.00047	0.00223	<0.30	2.1	<0.0010	4.2	0.00002	<2.0	0.068		<0.00010	<0.00010	0.047	0.00013
W3	06/05/2006	<0.010	High DL removed	11.4	0.00238	0.00136	0.10100	3.200	0.000760	<0.0050	4.8	0.1380		0.00056	0.00304	<0.30	2.4	<0.0010	6.2	0.00003	<2.0	0.074		<0.00010	<0.00010	0.122	0.00019
W3	08/05/2006	<0.010	High DL removed	11.1	0.001	0.00057	0.04150	1.200	0.000285	<0.0050	4.0	0.0599		0.00041	0.00212	<0.30	2.1	<0.0010	3.7	0.000017	<2.0	0.064		<0.00010	<0.00010	0.04	0.00011
W3	10/05/2006	<0.01	0.000134	12.2	0.00074	0.00041	0.0213	0.504	0.000183	<0.005	4.32	0.0708		0.000454	0.00183	<0.3	2	<0.001	3.18	0.000028	<2	0.0751		<0.0001	<0.0001	0.01	0.000112
W3	14/05/2006 14:30	<0.01	High DL removed	14	0.00318	0.0013	0.013	2.44	0.00116	<0.005	4.26	0.135		0.000581	0.0046	<0.3	<2	<0.001	6.01	0.000023	2.1	0.1		<0.0001	<0.0001	0.067	0.000297
W3	17/05/2006 15:00	<0.01	High DL removed	14.9	0.00067	0.00043	0.0224	0.82	0.000183	<0.005	5.82	0.0965		0.000681	0.00221	<0.3	<2	<0.001	3.56	0.000012	3.4	0.0919		<0.0001	<0.0001	0.016	0.000177
W3	20/05/2006 16:00	<0.01	High DL removed	17.1	<0.0005	<0.0001	0.0147	0.261	<0.00005	<0.005	6.8	0.0107		0.000956	0.00187	<0.3	<2	<0.001	3.33	<0.00001	3.5	0.115		<0.0001	<0.0001	<0.01	0.0002
W3	23/05/2006 16:00	<0.01	High DL removed	19.5	0.00061	0.00035	0.0144	0.629	0.000193	<0.005	8.8	0.0543		0.000992	0.00211	<0.3	<2	<0.001	4.08	<0.00001	5.4	0.136		<0.0001	<0.0001	0.01	0.00032
W3	26/05/2006 16:00	<0.01	High DL removed	21.7	0.00056	0.00019	0.0117	0.299	0.000084	<0.005	9.4	0.0187		0.000868	0.00209	<0.3	<2	<0.001	4.07	0.000013	5.7	0.148		<0.0001	<0.0001	<0.01	0.000282
W3	29/05/2006 16:00	<0.01	High DL removed	16.7	0.00071	0.00018	0.022	0.385	0.000131	<0.005	6.42	0.0172		0.000815	0.00238	<0.3	<2	<0.001	3.96	0.000017	4.3	0.109		<0.0001	0.00011	<0.01	0.000149
W3	02/06/2006 16:00	<0.01	High DL removed	18.8	0.00183	0.00068	0.0204	1.38	0.000386	<0.005	7.65	0.0641		0.000915	0.00354	<0.3	<2	<0.001	5.05	0.000019	4.7	0.13		<0.0001	<0.0001	0.036	0.000248
W3	07/06/2006 16:57	<0.01	High DL removed	19.6	<0.0005	0.00017	0.0279	0.342	0.000087	<0.005	7.53	0.0201		0.000802	0.00212	<0.3	<2	<0.001	4.46	<0.00001	4.6	0.124		<0.0001	<0.0001	<0.01	0.000221
W3	15/06/2006	0.007	<0.00001	36.5	<0.0005	<0.0001	0.009	0.1	<0.0001	0.002	14.8	0.011		0.002	0.0014		1.3	0.0002	5	<0.0001	9.6	0.339	10.5	<0.00005	<0.001	0.0019	0.001
W3	15/06/2006																										
W3	23/06/2006	0.006	<0.00001	45.2	<0.0005	<0.0001	0.005	<0.1	<0.0001	0.002	17.3	0.008		0.002	0.0011		1.4	<0.0002	5.61	0.0002	11	0.408	13.2	<0.00005	<0.001	0.0036	0.0013
W3	28/06/2006	0.007	<0.00001	38.1	<0.0005	<0.0001	0.012	0.2	<0.0001	0.002	15.1	0.01		0.002	0.0009		1.3	<0.0002	5.47	<0.0001	10.2	0.294	11.7	<0.00005	<0.001	0.0034	0.0011
W3	07/07/2006	0.01	High DL removed	45.2	High DL removed	<0.0005	0.008	0.1	<0.0005	<0.005	17.1	0.012		<0.005	0.003		1.3	<0.001	5.6	High DL removed	11.6	0.42	13.8	<0.0002	<0.005	0.0078	<0.002
W3	12/07/2006	0.007	<0.00001	46.7	<0.0005	<0.0001	0.004	<0.1	<0.0001	0.002	16.8	0.008		0.001	0.001		1.4	<0.0002	5.87	<0.0001	11.1	0.382	13.6	<0.00005	<0.001	0.0012	0.0013
W3	20/07/2006	0.077	<0.00001	47.3	0.0006	0.0003	0.01	0.7	0.0002	0.002	20.7	0.043		0.002	0.0019		1.6	<0.0002	6.22	<0.0001	12.6	0.393	16.2	<0.00005	<0.001	0.0244	0.0012
W3	26/07/2006	0.005	<0.00001	50.4	<0.0005	0.0002	0.005	0.3	0.0001	0.002	20.1	0.021		0.002	0.0009		1.7	<0.0002	7.04	<0.0001	11.6	0.405	16.4	<0.00005	<0.001	0.0076	0.0013
W3	26/07/2006																										
W3	02/08/2006	0.007	<0.00001	48.4	<0.0005	0.0001	0.004	0.3	<0.0001	0.002	18.8	0.057		0.002	0.0011		1.6	0.0003	6.38	0.0002	13.5	0.391	15.1	<0.00005	<0.001	0.0062	0.0016
W3	10/08/2006	0.007	<0.00001	54.7	<0.0005	0.0006	0.014	0.4	0.0002	0.002	20.4	0.104		0.002	0.0014		1.8	0.0003	6.65	<0.0001	13.2	0.442	16.4	<0.00005	<0.001	0.0183	0.0016
W3	18/08/2006																										
W3	25/08/2006	0.006	<0.00002	48.3	<0.001	<0.0002	0.004	0.3	<0.0002	0.002	19	0.046		<0.002	0.002		1.7	<0.0004	6.38	High DL removed	13	0.314	15	<0.0001	<0.002	<0.0010	<0.001
W3	25/08/2006																										
W3	30/08/2006	0.006	<0.00001	47.1	0.0008	0.0001	0.005	0.1	<0.0001	0.002	17.8	0.032		0.002	0.0014		1.4	0.0002	6.58	<0.0001	11.4	0.369	13.5	<0.00005	<0.001	0.0031	0.0011
W3	06/09/2006	0.007	<0.00001	49.2	0.0007	0.0001	0.004	0.1	0.0001	0.002	18.5	0.036		0.002	0.0015		1.5	0.0004	6.3	<0.0001	11.9	0.378	16.1	<0.00005	<0.001	0.0027	0.0012
W3	13/09/2006	0.007	<0.00001	49.8	0.0005	0.0001	0.005	0.3	0.0001	0.002	18.8	0.038		0.002	0.0014		1.5	<0.0002	7.18	<0.0001	12.2	0.409	14.2	<0.00005	<0.001	0.0094	0.0013
W3	20/09/2006	0.007	<0.00001	51.2	0.0005	0.0001	0.004	0.2	0.0001	0.002	21.3	0.029		0.002	0.0015		1.7	0.0004	6.78	<0.0001	12.1	0.416	14.7	<0.00005	<0.001	0.0078	0.0013
W3	28/09/2006																										
W3	29/09/2006	0.008	<0.00002	51.1	<0.001	<0.0002	0.004	<0.2	<0.0002	0.002	20.4	0.03		<0.002	0.002		1.6	<0.0004	5.96	High DL removed	13	0.381	15	<0.0001	<0.002	0.002	0.001
W3	04/10/2006	0.007	<0.00002	46.2	<0.001	<0.0002	0.004	<0.2	<0.0002	<0.002	18	0.047		<0.002	0.0025		1.4	0.0006	5.76	High DL removed	12	0.382	14	<0.0001	<0.002	0.0049	0.001
W3	12/10/2006	0.007	<0.00001	52	<0.0005	<0.0001	0.005	<0.1	<0.0001	0.002	20.8	0.047		0.002	0.0012		1.4	<0.0002	6.36	<0.0001	11.6	0.415	15.2	<0.00005	<0.001	0.0023	0.0012
W3	18/10/2006	0.006	<0.00001	54.3	<0.0005	<0.0001	0.003	<0.1	<0.0001	0.002	20.8	0.073		0.002	0.0013	0.06	1.4	<0.0002	6.56	<0.0001	11.1	0.435	15.2	<0.00005	<0.001	0.0008	0.0013
W3	28/10/2006	0.018	<0.00001	50.4	<0.0005	0.0002	0.002	0.2	<0.0001	0.004	24.8	0.297	<0.00005	0.002	<0.0005		1.9	0.0002	6.34	<0.0001	15.8	0.607	14.1	<0.00005	<0.001	0.006	0.0022
W3	01/11/2006	0.48	High DL removed	49.8	High DL removed	0.004	0.05	0.1	0.003	0.09	24	0.308	<0.00005	0.06	0.03	<0.05	1.8	0.008	6.23	High DL removed	14.9	15.9	14.7	<0.001	<0.02	0.052	0.058
W3	09/11/2006	0.018	<0.00001	53	<0.0005	0.0002	0.002	0.1	0.0001	0.004	26.9	0.399	<0.00005	0.002	0.0011		1.9	0.0004	6.72	<0.0001	14.2	0.693	16	<0.00005	<0.001	0.0021	0.0024
W3	16/11/2006	0.007	<0.00001	64.4	<0.0005	0.0005	0.001	0.3	<0.0001	0.002	29.2	2.26	<0.00005	0.002	0.0014	0.06	2	<0.0002	7.4	<0.0001	14	0.345	15	<0.00005	<0.001	0.0007	0.0013
W3	23/11/2006	0.02	<0.00002	52.1	<0.001	<0.0002	0.004	<0.2	0.0007	0.004	26.7	0.14	<0.00005	0.002	0.0023		2	0.0005	6.45	High DL removed	15	0.689	15	<0.0001	<0.002	0.0031	0.0025
W3	30/11/2006	0.022	<0.00001	51.5	0.002	0.0012	0.005	0.7	0.0031	0.004	27.7	0.021	<0.00005	0.002	0.0016	<0.05	2.1	0.0007	7.58	<0.0001	14.8	0.728	15.6	<0.00005	<0.001	0.0377	0.0027
W3	06/12/2006	0.017	<0.00001	50.9	0.0007	0.0002	0.002	0.3	0.0003	0.004	26.8	0.018	<0.0001	0.002	0.0015	<0.02	2.2	0.0003	7.12	<0.0001	15.5	0.654	15.8	<0.00005	<0.001	0.0124	0.0025
W3	13/12/2006	0.02	<0.00001	50.2	0.0011	0.0002	0.003	0.6	0.0003	0.004	27.4	0.023	0.0001	0.002	0.0014	0.03	2	0.0006	6.2	<0.0001	15.1	0.711	16.4	<0.00005	<0.001	0.0268	0.0027
W3	20/12/2006	0.017	<0.00001	47.9	<0.0005	<0.0001	0.002	0.2	<0.0001	0.003	25.3	0.012	<0.0001	0.002	0.0007	<0.02	2	0.0003	5.92	<0.0001	14.1	0.663	15	<0.00005	<0.001	0.0071	0.0024
W3	28/12/2006	0.019	0.00001	51.6	0.0005	0.0002	0.002	0.6	0.0002	0.004	27.4	0.027	<0.0001	0.002	<0.0005	0.02	2.4	0.0006	7.82	<0.0001	15.2	0.753	16.1	<0.00005	<0.001	0.0258	0.0026
W3	04/01/2007	0.017	<0.00001	52.9	0.0008	0.0003	0.002	0.6	0.0002	0.004	28	0.024	<0.0001	0.002	0.0012	0.02	2.2	0.0006	8.18	<0.0001	15.5	0.768	16.7	<0.00005	<0.001	0.0295	0.0027
W3	10/01/2007	0.015	0.00001	50.5	0.0006	<0.0001	0.002	0.3	0.0003	0.004	27.4	0.013	<0.0001	0.002	0.0007	<0.05	2	<0.0002	6.75	<0.0001	14.6	0.673	16	<0.00005	<0.001	0.013	0.0024
W3	17/04/2007	0.016	0.00003	60.6	0.0016	0.0009	0.016	1.8	0.0004	0.002	23.6	0.692	<0.0001	0.002	0.0023	0.09	3	<0.0002	10.1	<0.0001	14.1	0.459	17.4	<0.00005	<0.001	0.0264	0.0014
W3	27/04/2007	0.009	0.00003	45.1	0.001	0.0003	0.01	0.2	<0.0002	<0.002	12	0.054	<0.0001	0.002	0.002	0.14	2.4	0.0007	5.46	High DL removed	8.9	0.308	10	<0.0001	<0.002	<0.001	0.0024
W3	04/05/2007	0.058	0.00003	38.9	0.001	0.0004	0.02	0.4	<0.0002	<0.002	11	0.057	<0.0001	0.002	0.0022	0.09	2.4	0.001	5.74	High DL removed	7.7	0.236	7.7	<0.0001	<0.002	0.002	0.002
W3	11/05/2007	0.075	<0.00002	43.9	0.001	0.0004	0.02	0.2	<0.0002	<0.002	13	0.062	<0.0001	0.003	<0.001	0.06	2.1	<0.0004	5.17	High DL removed	7.8	0.301	8.9	<0.0001	<0.002	0.0071	0.0023

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	21/04/2006	<0.0010	0.0031																							
W3	22/04/2006	<0.0010	0.0094																							
W3	23/04/2006	0.0018	0.0031																							
W3	24/04/2006	0.0024	0.0047		0.0710	<0.00010	0.00033	0.0369	<0.00050	<0.00050	<0.010	High DL removed	24.3	<0.00050	<0.00010	0.01350	0.134	<0.000050	<0.0050	17.7	0.03240		0.00204	0.00056	<0.30	3.3
W3	25/04/2006	0.0013	0.0023																							
W3	26/04/2006	0.0011	0.0027																							
W3	27/04/2006	<0.0010	0.0028																							
W3	28/04/2006	<0.0010	0.0236																							
W3	29/04/2006	<0.0010	0.0035																							
W3	30/04/2006	<0.0010	0.0138																							
W3	01/05/2006	<0.0010	0.0037																							
W3	02/05/2006	<0.0010	0.0050																							
W3	03/05/2006	0.0035	0.0053																							
W3	04/05/2006																									
W3	05/05/2006	0.0036	0.0192																							
W3	06/05/2006	0.0075	0.0137																							
W3	08/05/2006	0.003	0.0079		0.1240	<0.00010	0.00031	0.0270	<0.00050	<0.00050	<0.010	High DL removed	11.1	<0.00050	0.0002	0.01850	0.220	0.000052	<0.0050	3.8	0.02550		0.00032	0.00136	<0.30	<2.0
W3	10/05/2006	0.0011	0.0051																							
W3	14/05/2006 14:30	0.0056	0.0085		0.0846	<0.0001	0.0004	0.0323	<0.0005	<0.0005	<0.01	High DL removed	13.8	<0.0005	0.00026	0.0146	0.285	0.00007	<0.005	4.32	0.0901		0.000572	0.00159	<0.3	<2
W3	17/05/2006 15:00	0.0017	0.0029																							
W3	20/05/2006 16:00	<0.001	<0.001																							
W3	23/05/2006 16:00	0.0016	0.0023		0.0383	<0.0001	0.00043	0.0367	<0.0005	<0.0005	<0.01	High DL removed	19	<0.0005	0.00011	0.0102	0.167	<0.00005	<0.005	8.52	0.0292		0.00101	0.00152	<0.3	<2
W3	26/05/2006 16:00	<0.001	0.0018																							
W3	29/05/2006 16:00	0.0013	<0.005																							
W3	02/06/2006 16:00	0.0033	0.0052		0.0507	<0.0001	0.00049	0.0351	<0.0005	<0.0005	<0.01	High DL removed	19.1	<0.0005	<0.0001	0.0116	0.198	<0.00005	<0.005	7.63	0.00826		0.000854	0.00204	<0.3	<2
W3	07/06/2006 16:57	0.0013	0.0016																							
W3	15/06/2006	0.0009	<0.001	<0.001	0.009	<0.0002	0.0004	0.061	<0.0001	<0.0005	0.004	<0.00001	40.7	<0.0005	<0.0001	0.005	0.04	<0.0001	0.001	16.3	<0.005		0.001	0.0009		0.6
W3	15/06/2006																									
W3	23/06/2006	0.0008	0.001	<0.001	0.006	<0.0002	0.0004	0.065	<0.0001	<0.0005	0.004	<0.00001	46.6	0.0006	<0.0001	0.003	0.03	<0.0001	0.001	18	0.006		0.002	0.001		1.4
W3	28/06/2006	0.0007	0.002	<0.001	0.015	<0.0002	0.0004	0.056	<0.0001	<0.0005	0.004	<0.00001	39	0.0005	<0.0001	0.008	0.03	<0.0001	0.001	16.9	<0.005		0.002	0.0012		1.4
W3	07/07/2006	0.0006	<0.005	<0.005	<0.005	<0.0002	0.0004	0.067	<0.0001	0.0007	0.007	<0.00001	40.9	0.0014	<0.0001	0.005	0.03	<0.0001	0.002	18.8	<0.005		0.002	0.0014		1.2
W3	12/07/2006	0.0005	0.002	<0.001	<0.005	<0.0002	0.0004	0.07	<0.0001	0.0007	0.007	<0.00001	42.6	0.0014	<0.0001	0.004	0.02	<0.0001	0.002	18.6	0.005		0.002	<0.0005		1.5
W3	20/07/2006	0.0022	0.003	<0.001	0.007	<0.0002	0.0003	0.084	<0.0001	<0.0005	0.004	<0.00001	48.6	<0.0005	<0.0001	0.004	0.04	<0.0001	0.001	21.2	0.01		0.001	<0.0005		1.6
W3	26/07/2006	0.0012	0.003	<0.001	<0.005	<0.0002	0.0002	0.082	<0.0001	<0.0005	<0.002	<0.00001	51.5	<0.0005	<0.0001	0.002	0.03	<0.0001	<0.001	19.6	0.012		<0.001	<0.0005		1.7
W3	26/07/2006																									
W3	02/08/2006	0.0013	0.002	<0.001	0.017	<0.0002	0.0005	0.086	<0.0001	<0.0005	0.006	<0.00001	45.7	0.0007	0.0002	0.003	0.08	<0.0001	0.001	11.9	0.135		0.001	0.0008		2.1
W3	10/08/2006	0.0021	0.004	<0.001	0.021	<0.0002	0.0006	0.078	<0.0001	<0.0005	0.008	0.00001	50.1	0.0011	0.0001	0.006	0.04	<0.0001	0.002	18.8	0.085		0.002	0.0007		1.7
W3	18/08/2006																									
W3	25/08/2006	0.001	0.005	<0.002	0.009	<0.0002	0.0004	0.082	<0.0001	<0.0005	0.004	<0.00001	48.1	0.0007	0.0002	0.003	0.04	<0.0001	0.002	20.4	0.041		0.001	0.0009		1.5
W3	25/08/2006																									
W3	30/08/2006	0.0008	0.002	<0.001	0.007	<0.0002	0.0004	0.07	<0.0001	<0.0005	0.005	<0.00001	46.9	0.0016	0.0002	0.004	0.05	<0.0001	0.002	18.1	0.027		0.002	0.0007		1.4
W3	06/09/2006	0.0007	0.002	<0.001	<0.005	<0.0002	0.0004	0.074	<0.0001	<0.0005	0.005	0.00001	51.7	0.0008	<0.0001	0.004	0.05	<0.0001	0.002	19.7	0.03		0.002	0.001		1.6
W3	13/09/2006	0.001	0.003	<0.001	0.006	<0.0002	0.0003	0.071	<0.0001	<0.0005	0.007	0.00001	50.6	0.002	<0.0001	0.003	0.05	<0.0001	0.002	20.3	0.018		0.002	0.0008		1.6
W3	20/09/2006	0.001	0.003	<0.001	0.006	<0.0002	0.0003	0.074	<0.0001	<0.0005	0.006	<0.00001	52.2	0.0007	<0.0001	0.003	0.06	<0.0001	0.002	20.9	0.021		0.002	<0.0005		1.6
W3	28/09/2006																									
W3	29/09/2006	0.0006	0.003	<0.002	0.009	<0.0002	0.0004	0.077	<0.0001	<0.0005	0.004	<0.00001	51.3	0.0006	<0.0001	0.003	0.03	<0.0001	0.002	20	0.032		0.002	<0.0005		1.6
W3	04/10/2006	0.0009	0.002	<0.002	<0.005	<0.0002	0.0005	0.071	<0.0001	<0.0005	0.004	<0.00001	49.4	0.0006	<0.0001	0.002	0.06	<0.0001	0.002	19.3	0.038		0.002	0.0006		1.6
W3	12/10/2006	0.0006	0.001	<0.001	0.007	<0.0002	0.0004	0.072	<0.0001	<0.0005	0.006	<0.00001	51.7	<0.0005	<0.0001	0.003	0.05	<0.0001	0.002	19.6	0.046		0.002	0.0006		1.4
W3	18/10/2006	0.0005	0.002	<0.001	0.005	<0.0002	0.0004	0.083	<0.0001	<0.0005	0.007	0.00001	54.8	<0.0005	<0.0001	0.003	0.03	<0.0001	0.002	19.2	0.069		0.001	0.001		1.4
W3	28/10/2006	0.0009	0.003	<0.001	<0.005	<0.0002	0.0004	0.078	<0.0001	<0.0005	0.017	0.00003	48.4		0.0002	0.001	0.06	<0.0001	0.004	25	0.27	<0.0001	0.002	<0.0005		1.7
W3	01/11/2006	0.02	0.05	<0.02	0.006	<0.0002	0.0003	0.078	<0.0001	<0.0005	0.016	0.00001	48.5	0.0008	0.0002	0.002	0.05	<0.0001	0.004	25.6	0.307	<0.0001	0.002	0.0025		1.8
W3	09/11/2006	0.0007	0.004	<0.001	<0.005	<0.0002	0.0002	0.069	<0.0001	<0.0005	0.02	<0.00001	51.6	0.0014	0.0002	0.001	<0.01	<0.0001	0.003	25.6	0.334	<0.0001	0.002	0.0009		1.9
W3	16/11/2006	0.0004	0.002	<0.001	0.006	<0.0002	0.0006	0.095	<0.0001	<0.0005	0.011	0.00002	63.1	0.0009	0.0008	0.002	0.29	<0.0001	0.003	26.5	2.16	<0.0001	0.003	0.0008		1.7
W3	23/11/2006	0.0008	0.01	<0.002	<0.005	<0.0002	0.0003	0.075	<0.0001	<0.0005	0.018	0.00003	53.3	0.0014	<0.0001	0.003	0.06	0.0002	0.003	27	0.136	<0.0001	0.002	<0.0005		2
W3	30/11/2006	0.0021	0.044	<0.001	<0.005	<0.0002	0.0003	0.056	<0.0001	<0.0005	0.019	0.00005	49.3	0.0014	<0.0001	0.004	0.01	0.0005	0.004	26	0.006	<0.0001	0.002	<0.0005		2
W3	06/12/2006	0.0013	0.008	<0.001	0.006	<0.0002	0.0004	0.056	<0.0001	<0.0005	0.022	0.00004	50.9	0.0018	<0.0001	0.003	0.01	<0.0001	0.004	26.2	0.006		0.003	<0.0005		2
W3	13/12/2006	0.0022	0.01	<0.001	<0.005	<0.0002	0.0004	0.058	<0.0001	<0.0005	0.018	<0.00001	47.6	0.0006	<0.0001	0.001	<0.01	<0.0001	0.003	26.8	0.008	<0.0001	0.002	0.0006		1.9
W3	20/12/2006	0.001	0.005	<0.001	<0.005	<0.0002	0.0003	0.056	<0.0001	<0.0005	0.017	<0.00001	47	0.0012	<0.0001	<0.001	<0.01	<0.0001	0.003	25.6	0.007	<0.0001	0.002	<0.0005		1.9
W3	28/12/2006	0.0022	0.005	<0.001	<0.005	<0.0002	0.0003	0.058	<0.0001	<0.0005	0.021	<0.00001	50.2	0.0005	<0.0001	<0.001	<0.01	<0.0001	0.004	26.9	0.016	<0.0001	0.002	<0.0005		1.5
W3	04/01/2007	0.0025	0.007	<0.001	<0.005	<0.0002	0.0003	0.06	<0.0001	<0.0005	0.016	<0.00001	48.8	<0.0005	<0.0001	<0.001	<0.01	<0.0001	0.004	27	0.007	<0.0001	0.002	<0.0005		2
W3	10/01/2007	0.0012	0.002	<0.001	<0.005	<0.0002	<0.0002	0.062	<0.0001	<0.0005	0.017	<0.00001	51	0.0008	<0.0001	<0.001	<0.01	0.0002	0.004	26.9	0.008	<0.0001	0.002	<0.0005		2
W3	17/04/2007	0.0045	0.007	0.002	0.026	<0.0002	0.0011	0.092	<0.0001	<0.0005	0.014	0.00001	59.3	0.0008	0.0006	0.008	0.27	<0.0001	0.002	23.8	0.785		0.001	0.0014		2.8
W3	27/04/2007	0.001	0.01	<0.002	0.041	<0.0002	0.0005	0.066	<0.0001	<0.0005	0.007	0.00002	46.1	0.0005	0.0002	0.007	0.09	<0.0001	0.002	12.6	0.05	<0.0001	0.002	0.0015	0.1	2.6
W3	04/05/2007	0.002	0.01	<0.002	0.045	<0.0002	0.0007	0.058	<0.0001	<0.0005	0.009	0.00003	38.6	0.0009	0.0002	0.014	0.08	<0.0001	0.001	11.1	0.048	<0.0001	0.002	0.0011		2.2
W3	11/05/2007	0.001	0.007	<0.002	0.026	<0.0002	0.0005	0.061	<0.0001	<0.0005	0.013	<0.00001	45.7	0.0008	0.0003	0.018	0.07	<0.0001	0.002	12.9	0.057	<0.0001	0.003	0.0006		2.2

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	Br	Cation	CN-T	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-TKN	P-PO4T	P-TDP	P-TRP
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L
W3	21/04/2006															178				<0.050												
W3	22/04/2006															182				<0.050												
W3	23/04/2006															152				<0.050												
W3	24/04/2006	<0.0010	4.58	<0.000010	10.9	0.212		<0.00010	<0.00010	<0.010	0.000548	<0.0010	0.0017			103				<0.050		0.0127				20.7000	51.9000					
W3	25/04/2006															84				<0.050												
W3	26/04/2006															75				<0.050												
W3	27/04/2006															84				<0.050												
W3	28/04/2006															73				<0.050												
W3	29/04/2006															87				<0.050												
W3	30/04/2006															77.9				<0.050												
W3	01/05/2006															82				<0.050												
W3	02/05/2006															57				<0.050												
W3	03/05/2006															57				<0.050												
W3	04/05/2006																															
W3	05/05/2006															<2.0				<0.050												
W3	06/05/2006															24				<0.050												
W3	08/05/2006	<0.0010	2.51	<0.000010	<2.0	0.057		<0.00010	<0.00010	<0.010	0.000067	<0.0010	0.0057			24				<0.050						1.8400	47.1000					
W3	10/05/2006																			<0.05												
W3	14/05/2006 14:30	<0.001	2.95	<0.00001	2.3	0.0843		<0.0001	0.00027	<0.01	0.000123	<0.001	0.0024							<0.05		0.0235				3.99	32.6					
W3	17/05/2006 15:00																			<0.05												
W3	20/05/2006 16:00																			<0.05												
W3	23/05/2006 16:00	<0.001	3.58	<0.00001	5.3	0.134		<0.0001	<0.0001	<0.01	0.000286	<0.001	<0.001							<0.05		0.0181				11.7	22.8					
W3	26/05/2006 16:00																			<0.05												
W3	29/05/2006 16:00																			<0.05												
W3	02/06/2006 16:00	<0.001	3.94	<0.00001	4.9	0.124		<0.0001	<0.0001	<0.01	0.00019	<0.001	0.0013							<0.05		0.0214				9.55	28.4					
W3	07/06/2006 16:57																			<0.05		0.0215				9.26	26.8					
W3	15/06/2006	<0.0002	5.73	<0.0001	10.8	0.323	11.7	<0.00005	<0.001	0.0008	0.0009	0.0012	<0.001		163	<6	<5					<0.001				36.2	13					
W3	15/06/2006																															
W3	23/06/2006	<0.0002	5.77	<0.0001	11	0.405	13.8	<0.00005	<0.001	0.0007	0.0014	0.0009	0.003		200	<6	<5					<0.001				38.6	7.7					
W3	28/06/2006	<0.0002	6.49	<0.0001	10.2	0.304	12.9	<0.00005	<0.001	0.0009	0.0008	0.0009	0.002		169	<6	<5					<0.001				36.2	12.5					
W3	07/07/2006	<0.0002	7	<0.0001	11.3	0.387	14.6	<0.00005	<0.001	0.0013	0.001	0.0012	0.001		193	<6	<5					0.001				40.6	8.9					
W3	12/07/2006	<0.0002	5.86	<0.0001	11	0.408	14.4	<0.00005	<0.001	0.001	0.0008	0.002	<0.001		200	<6	<5					0.001				42.9	8.9					
W3	20/07/2006	<0.0002	6.88	<0.0001	13.1	0.294	16.8	<0.00005	<0.001	0.001	0.0011	0.0013	<0.001		213	<6	<5					<0.001				45.3	9.6					
W3	26/07/2006	<0.0002	6.02	<0.0001	13	0.301	16.7	<0.00005	<0.001	0.0007	0.001	0.0007	0.001		209	<6	<5					0.001				43.2	8.6					
W3	26/07/2006																															
W3	02/08/2006	<0.0002	4.57	<0.0001	13.6	0.284	50.1	<0.00005	<0.001	0.0018	0.0021	0.0022	0.002		222	<6	<5					0.001				44.6	9.4					
W3	10/08/2006	<0.0002	6.02	<0.0001	13.3	0.389	15.8	<0.00005	<0.001	0.0016	0.0018	0.0021	0.003		224	<6	<5					0.001				46	8.5					
W3	18/08/2006																															
W3	25/08/2006	<0.0002	6.7	<0.0001	12.2	0.31	15.7	<0.00005	<0.001	<0.0005	0.0009	0.002	0.003		213	<6	<5					0.12				44	9.2					
W3	25/08/2006																															
W3	30/08/2006	<0.0002	6.15	<0.0001	11.4	0.322	13.5	<0.00005	<0.001	<0.0005	0.0011	0.0018	0.002		217	<6	<5					0.001				43.8	8.4					
W3	06/09/2006	<0.0002	6.44	<0.0001	12.7	0.4	14.6	<0.00005	<0.001	0.001	0.0011	0.0018	0.002		226	<6	<5					<0.001				45	9.1					
W3	13/09/2006	<0.0002	6.02	<0.0001	13.4	0.372	14.3	<0.00005	<0.001	0.0012	0.0012	0.0016	0.002		223	<6	<5					0.001				44	8.3					
W3	20/09/2006	<0.0002	6.4	<0.0001	12.1	0.379	15.5	<0.00005	<0.001	<0.0005	0.0013	0.0019	0.002		231	<6	<5					0.001				45.7	7.8					
W3	28/09/2006																															
W3	29/09/2006	<0.0002	6.49	<0.0001	13.2	0.401	15	<0.00005	<0.001	0.0011	0.0011	0.0006	0.002		233	<6	<5					0.001				44.2	8.1					
W3	04/10/2006	<0.0002	6.2	<0.0001	12.7	0.384	14.8	<0.00005	<0.001	0.0012	0.0011	0.0012	0.001		219	<6	<5					<0.001				43.5	7.9					
W3	12/10/2006	0.0004	6.37	<0.0001	12.6	0.392	14.8	<0.00005	<0.001	0.0018	0.0011	0.001	0.002		224	<6	<5					<0.001				46.1	8					
W3	18/10/2006	<0.0002	6.33	<0.0001	11.9	0.424	15	<0.00005	<0.001	0.0009	0.0012	0.0011	0.002		186	<6	<5					<0.001	17			37.3	8.3		0.15	0.04		
W3	28/10/2006	0.0004	6.48	<0.0001	14	0.574	15.5	<0.00005	<0.001	0.0012	0.0019	0.0031	<0.001		250	<6	<5					<0.001	10			54.6	4.3					
W3	01/11/2006	<0.0002	6.31	<0.0001	13.9	0.654	14.6	<0.00005	<0.001	0.0013	0.0022	0.0007	0.005		256	<6	<5					<0.001	5			54.3	5.1		0.16	0.04		
W3	09/11/2006	0.0006	6.36	<0.0001	15.4	0.634	15.2	<0.00005	<0.001	0.0013	0.0016	0.0029	0.002		260	<6	<5					0.001	12			56	7					
W3	16/11/2006	<0.0002	6.98	<0.0001	15.3	0.566	14.9	<0.00005	<0.001	0.0012	0.0024	0.0034	0.002		302	<6	<5					0.14	15			65.2	11		0.34	0.09		
W3	23/11/2006	0.0004	6.44	<0.0001	16.3	0.584	15.2	<0.00005	<0.001	0.0012	0.0026	0.0031	0.002		246	<6	<5					0.002				57.2	3.1					
W3	30/11/2006	0.0004	6.34	<0.0001	15.9	0.652	15.4	<0.00005	<0.001	0.0012	0.0022	0.0026	0.005		262	<6	<5					0.006				55.6	2.6		0.09	0.08		
W3	06/12/2006	0.0004	6.49	<0.0001	15.8	0.638	17.4	<0.00005	<0.001	0.0021	0.0016	0.0053	0.004		249	<6	<5					0.002	<5			50	5.5			<0.01	<0.04	
W3	13/12/2006	<0.0002	6.53	<0.0001	15.2	0.661	15.2	<0.00005	<0.001	0.0019	0.0023	0.0015	0.012		254	<6	<5						<5			55.2	2.3		0.13	<0.01	<0.02	
W3	20/12/2006	0.0004	6.3	<0.0001	14.2	0.656	15	<0.00005	<0.001	0.0012	0.0023	0.0022	0.003		256	<6	<5						10			55.3	2			<0.01	<0.02	
W3	28/12/2006	0.0006	6.36	<0.0001	16.6	0.659	15.4	<0.00005	<0.001	0.0018	0.0022	0.0012	0.001		251	<6	<5						10			20	3		0.1	0.014	<0.02	
W3	04/01/2007	0.0004	6.58	<0.0001	14.7	0.661	15.7	<0.00005	<0.001	0.0014	0.0024	0.0007	0.006		235	<6	<5						10			52.2	2.8		0.16	0.015	<0.02	
W3	10/01/2007	<0.0002	6.7	<0.0001	15.1	0.646	16.2	<0.00005	<0.001	0.0014	0.0023	0.0019	0.001		249	<6	<5						8			49.3	3.1		<0.06	0.06	<0.02	
W3	17/04/2007	<0.0002	6.55	<0.0001	14.1	0.432	17	<0.00005	<0.001	0.0034	0.0013	0.0025	0.003		247	<6	<5						50						0.95	0.05	<0.02	
W3	27/04/2007	<0.0002	5.24	<0.0001	9.6	0.287	10.8	<0.00005	<0.001	<0.0005	0.0024	0.001	0.004		159	<6	<5						>60						1.2	0.03		
W3	04/05/2007	<0.0002	5.2	<0.0001	7.2	0.238	7.6	<0.00005	<0.001	0.002	0.0021	0.001	0.003		129	<6	<5						>60						1.21	0.05	0.03	
W3	11/05/2007	<0.0002	5.57	<0.0001	8.3	0.299	9.6	<0.00005	<0.001	0.0017	0.0022	0.0014	0.005		144	<6	<5						50						0.75	0.04	<0.02	

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W3	21/04/2006		55				
W3	22/04/2006		59				
W3	23/04/2006		43				
W3	24/04/2006	<0.005	35				
W3	25/04/2006		26				
W3	26/04/2006		30				
W3	27/04/2006		28.5				
W3	28/04/2006		23.9				
W3	29/04/2006		29.3				
W3	30/04/2006		25.4				
W3	01/05/2006	<0.0050	24.7				
W3	02/05/2006		18				
W3	03/05/2006		15				
W3	04/05/2006						
W3	05/05/2006		6				
W3	06/05/2006		6				
W3	08/05/2006	<0.0050	4				
W3	10/05/2006						
W3	14/05/2006 14:30						
W3	17/05/2006 15:00						
W3	20/05/2006 16:00						
W3	23/05/2006 16:00						
W3	26/05/2006 16:00						
W3	29/05/2006 16:00						
W3	02/06/2006 16:00						
W3	07/06/2006 16:57						
W3	15/06/2006						
W3	15/06/2006						
W3	23/06/2006						
W3	28/06/2006						
W3	07/07/2006						
W3	12/07/2006	<0.005					
W3	20/07/2006	<0.005					
W3	26/07/2006						
W3	26/07/2006	<0.005					
W3	02/08/2006	<0.005					
W3	10/08/2006	<0.005					
W3	18/08/2006	<0.005					
W3	25/08/2006						
W3	25/08/2006	<0.005					
W3	30/08/2006	0.01					
W3	06/09/2006	<0.005					
W3	13/09/2006	<0.005					
W3	20/09/2006	<0.005					
W3	28/09/2006	<0.005					
W3	29/09/2006						
W3	04/10/2006	<0.005					
W3	12/10/2006	0.02					
W3	18/10/2006	<0.005				0.4	
W3	28/10/2006	0.009				2.9	
W3	01/11/2006	<0.005				6.6	
W3	09/11/2006	<0.005				0.6	
W3	16/11/2006	<0.005				0.9	
W3	23/11/2006	0.006				0.6	
W3	30/11/2006	<0.005				3.2	
W3	06/12/2006	<0.006				1.5	
W3	13/12/2006	<0.005				4.4	
W3	20/12/2006	<0.005				1.2	
W3	28/12/2006	<0.005				25	
W3	04/01/2007	<0.005				2.2	
W3	10/01/2007	<0.005				1.2	
W3	17/04/2007	0.05				27	
W3	27/04/2007	<0.005				1.4	
W3	04/05/2007	<0.005				3.9	
W3	11/05/2007	<0.005				1.7	

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Phase	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
				mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	19/05/2007	No Discharge	P	10	250		7.8		352						173	128	2		27.4	<0.05	0.06	4.5	18.3	0.485	<0.0004	0.0007	0.079	<0.0002	<0.001
W3	25/05/2007	No Discharge	P	34	236		7.91		314						167	127	1.8		25	<0.05	<0.05	4.6		1.14	<0.0002	0.0005	0.084	<0.0001	<0.0005
W3	30/05/2007	No Discharge	P	13	260		7.89		341					168		126	1.7		25	0.06	<0.05	4.8		0.708	<0.0002	0.0006	0.085	<0.0001	<0.0005
W3	05/06/2007	No Discharge	P	9	238		7.88		330					168		128	1.9		26	<0.05	0.08	5.2		0.62	<0.0002	0.0007	0.08	<0.0001	<0.0005
W3	13/06/2007	No Discharge	P	6	232		7.91		316						174	144	1.9		26	<0.05	<0.05	4.8	17.2	0.36	<0.0002	0.0004	0.075	<0.0001	<0.0005
W3	20/06/2007	No Discharge	P	6	244		7.75		346						178	147	1.7		26	<0.05	<0.05	4.4		0.579	<0.0002	0.0006	0.076	<0.0001	<0.0005
W3	27/06/2007	No Discharge	P																					0.12	<0.0002	0.0005	0.071	<0.0001	<0.0005
W3	28/06/2007	No Discharge	P	7	256		7.86		328						184	153	1.9		27	<0.05	0.08	3.5		0.295	<0.0002	0.0007	0.078	<0.0001	<0.0005
W3	04/07/2007	No Discharge	P											172										0.346	<0.0002	0.0005	0.082	<0.0001	<0.0005
W3	05/07/2007	No Discharge	P	6	258		7.86		339						175	159	1.8		27		<0.05	3		0.258	<0.0002	0.0005	0.076	<0.0001	<0.0005
W3	11/07/2007	No Discharge	P	<2	248		7.9		369						180	162	1.8		28	<0.05	<0.05	3		0.136	<0.0002	0.0006	0.082	<0.0001	<0.0005
W3	18/07/2007	No Discharge	P	<2	284		7.8		383						193	169	0.4		29	<0.05	<0.05	2.9		0.184	<0.0002	0.0005	0.08	<0.0001	<0.0005
W3	25/07/2007	No Discharge	P	4	270		7.78		387						199	175	5		30	<0.05	<0.05	2.4		0.041	<0.0002	0.0005	0.078	0.001	<0.0005
W3	26/07/2007	No Discharge	P																					0.051	<0.0002	0.0004	0.079	<0.0001	<0.0005
W3	01/08/2007	No Discharge	P	<2	304		8.08		366						188	175	2		31	<0.05	<0.05	2		0.119	<0.0002	0.0006	0.081	<0.0001	<0.0005
W3	09/08/2007	No Discharge	P	10	262		7.85		395						199	183	2		32	<0.05	<0.05	1.5		0.218	<0.0002	0.0005	0.082	<0.0001	<0.0005
W3	15/08/2007	No Discharge	P	6	318		8.03		385						202	191	2.4		32	<0.05	<0.05	1.8		0.18	<0.0002	0.0004	0.088	<0.0001	<0.0005
W3	24/08/2007	No Discharge	P	<2	288		8.03		406					198		198	2.1		34	<0.05	<0.05	1.5		0.036	<0.0002	0.0005	0.076	<0.0001	<0.0005
W3	29/08/2007	No Discharge	P	<2	304		8.08		394						206	202	2.4		34	<0.05	<0.05	1.6		0.12	<0.0002	0.0006	0.084	<0.0001	<0.0005
W3	06/09/2007	No Discharge	P	5	300		8.08		398					218		209	2.8		36	<0.05	<0.05	2.8		0.578	<0.0002	0.0006	0.102	<0.0001	<0.0005
W3	11/09/2007	No Discharge	P	4	310		8.05		395						217	208	2.98		35.2	<0.05	<0.02	3.17		0.148	<0.0002	0.0006	0.091	<0.0001	<0.0005
W3	17/09/2007	No Discharge	P	26	318		8.07		447						208	204	3.17		36.5	<0.05	<0.02	3.41		0.395	<0.0002	0.0006	0.092	<0.0001	<0.0005
W3	25/09/2007	No Discharge	P	<2	302		8.05		443						211	202	2.89		37.5	<0.05	<0.02	2.27		0.036	<0.0002	0.0003	0.082	<0.0001	<0.0005
W3	03/10/2007	No Discharge	P	<2	276		8.13		410						218	184	3.06		36	<0.05	<0.02	2.82		0.137	<0.0002	0.0004	0.091	<0.0001	<0.0005
W3	10/10/2007	No Discharge	P	3	290		8.06		453						228	183	2.7		38		<0.02	3.5		0.124	<0.0002	0.0004	0.095	<0.0001	<0.0005
W3	17/10/2007	No Discharge	P	<2	300		8.06		442						224	184	2.7			<0.05	<0.02	3.75		0.035	<0.0002	0.0003	0.091	<0.0001	<0.0005
W3	22/10/2007	No Discharge	P	<2	290		8.09		465						233	182	2.7		39.7	<0.05	<0.02	4.08		0.045	<0.0002	0.0002	0.092	<0.0001	<0.0005
W3	30/10/2007	No Discharge	P	<2	288		7.93		464						221	186	3.44		39.1	<0.05				0.025	<0.0002	<0.0002	0.091	<0.0001	<0.0005
W3	08/11/2007	No Discharge	P	<2	304		7.76		469						221	194	3.37		40.6	<0.05	<0.02	3.08		0.045	<0.0002	<0.0002	0.085	<0.0001	<0.0005
W3	13/11/2007	No Discharge	P	<2	320		8.19		472						232	203	3.45		41.2	0.06	<0.02	2.55		0.153	<0.0002	0.0004	0.085	<0.0001	<0.0005
W3	20/11/2007	No Discharge	P	4	328		7.94		490						239	208	4.13			<0.05	<0.02	2.61		0.257	<0.0002	0.0005	0.097	<0.0001	<0.0005
W3	27/11/2007	No Discharge	P	<2	316		8.02		455						235	215	3.62		40.9	<0.05	<0.02	2.23		0.032	<0.0002	0.0006	0.088	<0.0001	<0.0005
W3	06/12/2007	No Discharge	P	<2	316		7.91		495						251	216	3.92		41.1	<0.05	<0.02	1.8		0.084	<0.0002	<0.0002	0.093	<0.0001	<0.0005
W3	11/12/2007	No Discharge	P	4	322		7.86		498					232		211	3.74		39.9	<0.05	<0.02	1.58		0.174	<0.0002	<0.0002	0.094	<0.0001	<0.0005
W3	18/12/2007	No Discharge	P	2	352		8.06		419						241	214	3.77		39.3		<0.02	1.5		0.046	<0.0002	0.0005	0.091	<0.0001	<0.0005
W3	18/12/2007	No Discharge	P																	<0.05									
W3	26/12/2007	No Discharge	P	<5	330		7.82		462					230		233	3.77		38.4	<0.05	<0.02	1.39		0.106	<0.0002	0.0002	0.09	<0.0001	<0.0005
W3	03/01/2008	No Discharge	P	<2	322		7.97		472						255	228	3.93		40.2	<0.05	<0.02	1.34		0.121	<0.0002	0.0006	0.097	<0.0001	<0.0005
W3	09/01/2008	No Discharge	P	<2	338		7.87		485						257	228	6.97		40.2	<0.05	<0.02	1.16		0.092	<0.0002	0.0002	0.099	<0.0001	<0.0005
W3	15/01/2008	No Discharge	P	2	336		7.78		509						258	243	4.25		40.1	<0.05	<0.02	1.1		0.136	<0.0002	0.0002	0.095	<0.0001	<0.0005
W3	22/01/2008	No Discharge	P	<2	348		7.83		515						266	232	4.22		39.8	<0.05	<0.02	1.02		0.094	<0.0002	0.0005	0.096	<0.0001	<0.0005
W3	30/01/2008	No Discharge	P	10	346		7.89		538						266	238	0.14		39.8	<0.05	<0.02	0.88		0.451	<0.0002	0.0005	0.103	<0.0001	<0.0005
W3	07/02/2008	No Discharge	P	8	364		7.84		519							250	4.41		42.6	<0.05	<0.02	0.86		0.389	<0.0002	0.0007	0.11	<0.0001	<0.0005
W3	13/02/2008	No Discharge	P	<2	360		7.96		571						288	259	4.66		42.3	<0.05	<0.02	0.77		0.068	<0.0002	0.0003	0.099	<0.0001	<0.0005
W3	20/02/2008	No Discharge	P	<2	350		7.85		557					256		252	4.59		42.4	0.08	<0.02	0.78		0.04	<0.0002	0.0005	0.096	<0.0001	<0.0005
W3	27/02/2008	No Discharge	P	8	358		7.87		506							248	4.6		43.4	<0.05	<0.02	0.76		0.105	<0.0002	0.0003	0.101	<0.0001	<0.0005
W3	03/03/2008	No Discharge	P	4	360		7.84		507							254	4.85		42	<0.05	<0.02	0.72		0.157	<0.0002	0.0005	0.099	<0.0001	<0.0005
W3	14/03/2008	No Discharge	P	<2	356		8.03		508							253	4.56		42.6	<0.05	<0.02	0.69		0.118	<0.0002	0.0002	0.095	<0.0001	<0.0005
W3	19/03/2008	No Discharge	P	<2	352		8.1		564					272		254	4.65		44.2	<0.05	<0.02	0.7		<0.1	<0.001	0.001	0.096	<0.00020	
W3	26/03/2008	No Discharge	P	<2	350		8.02		514					276		254	4.61		44.8	<0.05	<0.02	0.68		0.09	<0.0002	0.0004	0.099	<0.0001	<0.0005
W3	03/04/2008	No Discharge	P	3	362		8.08		554						271	253	3.38		49.3	<0.05	<0.02	0.69		0.985	<0.0002	0.0003	0.112	<0.0001	<0.0005
W3	10/04/2008	No Discharge	P	<2	370		8.07	517							270	254	3.45		50.6		<0.02	0.61		0.107	<0.0002	0.0004	0.107	<0.0001	<0.0005
W3	10/04/2008	No Discharge	P																	<0.05									
W3	17/04/2008	No Discharge	P	6	372		8.02		575						280	258	4.73		50.7	<0.05	<0.02	0.53		0.08	<0.0002	0.0004	0.096	<0.0001	<0.0005
W3	22/04/2008	No Discharge	P	2	378		8.05		523						261	252	4.74		49.8	<0.05	<0.02	0.47		0.11	<0.0002	0.0004	0.102	<0.00004	
W3	01/05/2008	No Discharge	P	15	264		7.67		173							83	1.43		11.7	<0.05	<0.02	0.1		0.3	<0.0002	0.0024	0.053	<0.00004	
W3	04/05/2008	No Discharge	P	<5	304		7.75		394							178	2.12		34.5	<0.05	<0.02	0.52		0.24	<0.0002	0.0003	0.082	<0.00004	
W3	05/05/2008	No Discharge	P	9	302		7.86		364							170	2.81		27.9	<0.05	<0.02	0.19		0.22	<0.0002	0.0004	0.074	<0.00004	
W3	08/05/2008	No Discharge	P	3	304		7.86		422					184	191	190	3.18		31.7	<0.05	<0.02	0.23		0.14	<0.0002	<0.0002	0.084	<0.00004	
W3	11/05/2008	No Discharge	P	<2	338		7.92		466						236	210	3.53		35		<0.02	0.23		0.24	<0.0002	0.0009	0.083	<0.00004	
W3	13/05/2008	No Discharge	P	<2	338		8.07		499						232	241	4.42		40.3	<0.05	<0.02	0.28		0.07	<0.0002	0.0007	0.094	<0.00004	
W3	15/05/2008	No Discharge	P	<3	340		8.02		544						257	247	0.19		41	0.006	<0.02	0.26		0.04	<0.0002	<0.0002	0.086	<0.00004	
W3	18/05/2008	No Discharge	P	7	324		8.04		504						238	233	0.13		37.8	0.009	<0.02	0.24		0.19	<0.0002	0.0008	0.087	0.00005	
W3	20/05/2008	No Discharge	P	<2	364		7.84		523						246	246	4.39		41.3	<0.05	<0.02	0.26		0.05	<0.0002	<0.0002	0.089	<0.00004	
W3	27/05/2008	No Discharge	P	<2	336		8.01		474						247	244	4.37		36.3	<0.05	<0.01	0.2		0.02	<0.0002	<0.0002	0.076	<0.00004	

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	19/05/2007	0.01	0.00002	48.4	<0.001	0.0006	0.02	0.7	0.0003	<0.002	15	0.11	<0.0001	0.002	0.0023	0.07	2	<0.0004	6.4	High DL removed	8.3	0.323	10	<0.0001	<0.002	0.019	0.002
W3	25/05/2007	0.017	0.00002	44.8	0.0021	0.0009	0.02	1.4	0.0004	0.002	13	0.088	<0.0001	0.002	0.001	0.06	2.1	0.0003	7.16	<0.0001	8.9	0.344	9.5	<0.00005	<0.001	0.0568	0.0016
W3	30/05/2007	0.013	0.00002	45.7	0.0014	0.0007	0.014	0.8	0.0002	0.002	13.2	0.06	<0.0001	0.002	0.0016	<0.05	1.9	<0.0002	6.76	<0.0001	9.4	0.324	9.4	<0.00005	<0.001	0.0365	0.0015
W3	05/06/2007	0.014	0.00002	46	0.0006	0.0006	0.014	0.7	0.0003	0.002	12.8	0.062	<0.0001	0.003	0.0016	<0.05	2	<0.0002	6.26	<0.0001	9.1	0.348	9.3	<0.00005	<0.001	0.0305	0.0017
W3	13/06/2007	0.016	0.00002	45.6	0.001	0.0004	0.018	0.4	0.0002	0.002	13.4	0.038	<0.0001	0.002	0.0008	<0.05	2	0.0003	6.08	<0.0001	9.4	0.355	9.7	<0.00005	<0.001	0.0155	0.0018
W3	20/06/2007	0.016	0.00002	49.1	0.0012	0.0006	0.015	0.6	0.0002	0.002	13.3	0.048	<0.0001	0.003	0.0022	<0.05	1.9	0.0003	6.64	<0.0001	9	0.355	9.6	<0.00005	<0.001	0.0307	0.002
W3	27/06/2007	0.015	0.00004	47.5	<0.0005	0.0004	0.014	0.2	<0.0001	0.002	13.6	0.03	<0.0001	0.003	0.0014		2	0.0003	5.52	<0.0001	9.4	0.357	9.4	<0.00005	<0.001	0.007	0.0019
W3	28/06/2007	0.015	<0.00001	47.8	0.0011	0.0005	0.014	0.4	0.0001	0.002	13.5	0.045	<0.0001	0.003	0.0017	<0.05	2.1	<0.0002	5.95	<0.0001	9.4	0.345	9.4	<0.00005	<0.001	0.0181	0.0019
W3	04/07/2007	0.016	0.00001	46.4	0.0005	0.0005	0.014	0.4	0.0001	0.002	13.7	0.042	<0.0001	0.003	0.0018		2	<0.0002	6.03	<0.0001	9.6	0.364	9.3	<0.00005	<0.001	0.0145	0.0019
W3	05/07/2007	0.016	0.00001	47.4	<0.0005	0.0004	0.015	0.3	<0.0001	0.002	13.9	0.04	<0.0001	0.003	0.0015	<0.05	2	<0.0002	5.83	<0.0001	9.5	0.341	9.4	<0.00005	<0.001	0.0106	0.0019
W3	11/07/2007	0.014	<0.00001	49.4	0.0005	0.0004	0.013	0.2	0.0001	0.002	14.3	0.036	<0.0001	0.003	0.0011	<0.05	2	0.0008	5.47	<0.0001	9.9	0.372	9.9	<0.00005	<0.001	0.0031	0.0022
W3	18/07/2007	0.016	0.00002	51.5	0.0006	0.0003	0.013	0.3	<0.0001	0.002	15.4	0.037	<0.0001	0.003	0.0009		2.3	0.0003	5.32	<0.0001	10.7	0.436	10.4	<0.00005	<0.001	0.0085	0.0021
W3	25/07/2007	0.017	0.00002	49.7	<0.0005	0.0002	0.011	<0.1	<0.0001	0.002	14.8	0.047	<0.0001	0.003	<0.0005	<0.05	2.2	<0.0002	5.28	<0.0001	10.6	0.387	10.1	<0.00005	<0.001	0.002	0.002
W3	26/07/2007	0.016	0.00002	50.5	<0.0005	0.0003	0.012	0.1	<0.0001	0.002	14.8	0.047	<0.0001	0.003	0.0009		2.2	0.0006	5.6	<0.0001	10.5	0.412	10.1	<0.00005	<0.001	0.0024	0.0021
W3	01/08/2007	0.016	0.00002	51.3	<0.0005	0.0004	0.013	0.2	0.0007	0.002	16.1	0.067	<0.0001	0.003	0.0018	<0.05	1.9	<0.0002	5.84	<0.0001	10.4	0.404	10.3	<0.00005	<0.001	0.0067	0.002
W3	09/08/2007	0.014	0.00002	50.6	0.0006	0.0009	0.007	0.3	0.0001	0.002	15.5	0.05	<0.0001	0.003	0.0013	<0.05	1.9	0.0003	6.65	<0.0001	11	0.413	10.6	<0.00005	<0.001	0.0094	0.0021
W3	15/08/2007	0.016	0.00001	54.2	<0.0005	0.0003	0.009	0.2	0.0001	0.002	15.9	0.053	<0.0001	0.003	0.0012	<0.05	2.1	0.0002	6.24	<0.0001	11.2	0.419	11	<0.00005	<0.001	0.0027	0.0021
W3	24/08/2007	0.016	0.00002	53.1	<0.0005	0.0002	0.005	<0.1	0.0003	0.002	16	0.066	<0.0001	0.002	0.0006	<0.05	1.8	<0.0002	5.77	<0.0001	10.6	0.46	10.7	<0.00005	<0.001	0.0018	0.0022
W3	29/08/2007	0.013	0.00002	51.1	0.0006	0.0002	0.007	0.2	<0.0001	0.002	16.2	0.071	<0.0001	0.002	0.0011	<0.05	2	0.0003	5.63	<0.0001	11.4	0.418	10.9	<0.00005	<0.001	0.0067	0.002
W3	06/09/2007	0.024	0.00001	59.3	0.0011	0.0007	0.012	0.7	0.0002	0.003	17	0.143	<0.0001	0.004	0.0021	<0.05	2.4	0.0006	6.94	<0.0001	12.1	0.444	12	<0.00005	<0.001	0.0285	0.0023
W3	11/09/2007	0.026	0.00001	58.7	0.001	0.0003	0.01	0.2	<0.0001	0.002	16.7	0.097	<0.0001	0.003	0.0021	<0.05	2.4	0.0004	6.25	<0.0001	12.5	0.445	12.6	<0.00005	<0.001	0.0081	0.0023
W3	17/09/2007	0.021	0.00001	55.1	0.0008	0.0005	0.011	0.5	0.0002	0.002	16.8	0.108	<0.0001	0.004	0.0015	<0.05	2.5	0.0005	6.53	<0.0001	13	0.459	12.4	<0.00005	<0.001	0.0196	0.0023
W3	25/09/2007	0.015	0.00002	52.2	0.0006	0.0002	0.005	<0.1	<0.0001	0.002	16.6	0.073	<0.0001	0.002	0.0011	<0.05	1.9	0.0004	5.48	<0.0001	11.8	0.464	12	<0.00005	<0.001	0.0018	0.0022
W3	03/10/2007	0.015	0.00002	51.4	0.0008	0.0002	0.006	0.2	<0.0001	0.004	16.7	0.125	<0.0001	0.002	0.0011	0.06	1.9	0.0003	5.73	<0.0001	11.6	0.42	11.6	<0.00005	<0.001	0.0078	0.002
W3	10/10/2007	0.022	<0.00001	57.8	0.0013	0.0003	0.008	0.2	0.0002	0.002	17.6	0.057	<0.0001	0.003	0.0008	<0.05	2.3	0.0008	5.86	<0.0001	13.6	0.517	13	<0.00005	<0.001	0.0068	0.0024
W3	17/10/2007	0.017	0.00001	57.7	<0.0005	0.0002	0.009	<0.1	<0.0001	0.002	18.2	0.064	<0.0001	0.002	0.0011		2	0.0005	5.65	<0.0001	12.4	0.492	13.1	<0.00005	<0.001	0.0017	0.0023
W3	22/10/2007	0.017	0.00001	56.5	<0.0005	0.0001	0.004	<0.1	<0.0001	0.002	17.8	0.064	<0.0001	0.002	<0.0005	0.12	1.9	<0.0002	5.65	<0.0001	12.6	0.515	13.2	<0.00005	<0.001	0.0025	0.0023
W3	30/10/2007	0.016	0.00002	55.8	<0.0005	0.0001	0.004	<0.1	<0.0001	0.002	17.7	0.062	<0.0001	0.002	0.0007		1.8	<0.0002	5.65	<0.0001	12.7	0.545	13	<0.00005	<0.001	0.0019	0.0023
W3	08/11/2007	0.018	0.00002	55.8	<0.0005	0.0002	0.004	<0.1	<0.0001	0.002	19.3	0.074	<0.0001	0.002	0.0013	<0.02	2	<0.0002	5.34	<0.0001	13.7	0.575	14.2	<0.00005	<0.001	0.0033	0.0024
W3	13/11/2007	0.016	0.00002	57.6	0.0005	0.0002	0.005	0.2	0.0002	0.002	19.8	0.088	<0.0001	0.002	0.0015	<0.05	2	0.0005	6.05	<0.0001	13.5	0.547	13.9	<0.00005	<0.001	0.0076	0.0025
W3	20/11/2007	0.024	0.00002	61.4	0.0008	0.0002	0.011	0.3	0.0003	0.003	19.6	0.079	<0.0001	0.005	<0.0005		2.6	0.0004	6.06	<0.0001	14.8	0.533	14.4	<0.00005	<0.001	0.0114	0.0033
W3	27/11/2007	0.017	0.00002	57.4	0.0005	0.0001	0.004	0.2	0.0001	0.002	19.9	0.079	<0.0002	0.002	0.001	<0.05	1.9	0.001	5.62	<0.0001	13.6	0.531	14.1	<0.00005	<0.001	0.002	0.0029
W3	06/12/2007	0.016	0.00002	61.1	<0.0005	0.0002	0.004	0.1	<0.0001	0.002	21.9	0.079	<0.0001	0.002	0.0008	<0.05	2	0.0007	6.12	<0.0001	14.6	0.565	15	<0.00005	<0.001	0.0049	0.0031
W3	11/12/2007	0.019	0.00002	58	0.0006	0.0002	0.004	0.2	0.0006	0.003	21.1	0.079	<0.0001	0.002	0.0009	0.07	2.2	0.0003	5.95	<0.0001	14.9	0.545	14.5	<0.00005	<0.001	0.0086	0.0032
W3	18/12/2007	0.018	<0.00001	57.7	0.0007	0.0005	0.004	<0.1	<0.0001	0.002	21.4	0.055	<0.0001	0.002	<0.0005	<0.05	2	<0.0002	5.69	<0.0001	14.5	0.582	14.5	<0.00005	<0.001	0.0033	0.0034
W3	18/12/2007																										
W3	26/12/2007	0.017	<0.00001	58.3	0.0005	0.0002	0.004	0.1	0.0002	0.003	20.5	0.07	<0.0001	0.002	0.0011	<0.05	1.9	<0.0002	5.65	<0.0001	14.2	0.606	14.2	<0.00005	<0.001	0.0051	0.0035
W3	03/01/2008	0.018	0.00002	62.1	0.0005	0.0002	0.004	0.2	0.0003	0.003	21.9	0.11	<0.0001	0.002	0.0009	<0.05	2	0.0002	5.83	<0.0001	14.7	0.57	14.5	<0.00005	<0.001	0.0069	0.0039
W3	09/01/2008	0.017	0.00001	64.7	<0.0005	0.0002	0.004	0.2	<0.0001	0.002	22.9	0.123	<0.0001	0.003	0.0013	<0.05	2	0.0005	5.94	<0.0001	15.3	0.586	15.1	<0.00005	<0.001	0.0018	0.0042
W3	15/01/2008	0.029	<0.00001	62.5	0.0006	0.0003	0.004	0.2	0.0002	0.002	22.5	0.136	<0.0001	0.002	0.0012	<0.05	2.1	0.0005	5.94	<0.0001	15.6	0.589	14.9	<0.00005	<0.001	0.0068	0.0043
W3	22/01/2008	0.016	0.00001	66	0.0007	0.0002	0.004	0.2	<0.0001	0.002	23	0.151	<0.0001	0.002	0.0012	<0.05	2	0.0003	5.93	<0.0001	15.5	0.613	14.9	<0.00005	<0.001	0.005	0.0042
W3	30/01/2008	0.018	0.00002	65	0.0008	0.0005	0.006	0.6	0.0002	0.003	22.5	0.213	<0.0001	0.003	0.0017	<0.05	2.1	0.0004	5.19	<0.0001	15.2	0.611	14.9	<0.00005	<0.001	0.016	0.0046
W3	07/02/2008	0.019	0.00001	63.3	0.0007	0.0004	0.006	0.5	0.0001	0.003	24.8	0.185	<0.0001	0.003	0.0016	<0.05	2.4	0.0005	6.41	<0.0001	16.7	0.678	15.6	<0.00005	<0.001	0.0016	0.0048
W3	13/02/2008	0.018	0.00001	70.2	0.0009	0.0003	0.004	0.2	<0.0001	0.003	24.9	0.117	<0.0001	0.002	0.0014	<0.05	2.3	0.0004	6.11	<0.00001	16.3	0.688	16.3	<0.00005	<0.001	0.0039	0.0047
W3	20/02/2008	0.02	0.00001	64.2	0.0006	0.0002	0.004	0.1	<0.0001	0.002	23.3	0.104	<0.0001	0.002	0.0012	<0.05	2.1	0.0006	6.08	<0.00001	16	0.628	15	<0.00005	<0.001	0.0026	0.0049
W3	27/02/2008	0.023	0.00001	66.6	<0.0005	0.0004	0.006	0.2	<0.0001	0.002	23.8	0.122	<0.0001	0.003	0.0014	<0.05	2.2	0.0002	5.94	<0.00001	17.2	0.616	15.4	<0.00005	<0.001	0.0054	0.0055
W3	03/03/2008	0.018	<0.00001	67.8	0.0009	0.0003	0.004	0.2	0.0001	0.002	24	0.123	<0.0001	0.002	0.0026	<0.05	2.1	0.0006	5.87	0.00027	16.3	0.649	15.6	<0.00005	<0.001	0.0078	0.0056
W3	14/03/2008	0.021	0.00001	66.4	0.0014	0.0002	0.004	0.2	<0.0001	0.003	23.2	0.108	<0.0001	0.002	0.0023	<0.05	2.2	0.0004	5.68	<0.00001	16.1	0.656	15.6	<0.00005	<0.001	0.0059	0.0047
W3	19/03/2008	<0.02	High DL removed	69	High DL removed	<0.0001	<0.005	0.2	<0.0005	<0.005	24.1	0.111	<0.01	0.0017	High DL removed	<0.05	2.2	0.005	3	High DL removed	16.6	0.641		<0.00005	<0.004	0.005	0.005
W3	26/03/2008	0.02	0.00001	70.6	0.0016	0.0002	0.005	0.2	<0.0001	0.002	24.2	0.108	<0.0001	0.003	0.0012	<0.05	1.9	0.0006	5.66	<0.00001	16.4	0.696	16.2	<0.00005	<0.001	0.0017	0.0052
W3	03/04/2008	0.018	0.00002	68.3	0.0012	0.0006	0.014	1.2	0.0002	0.003	24.4	0.157	<0.0001	0.002	0.0018		2.3	0.0004	7.72	0.00008	15.8	0.656	16.3	<0.00005	<0.001	0.0316	0.0049
W3	10/04/2008	0.02	<0.00001	66.9	0.0012	0.0002	0.004	0.2	<0.0001	0.003	23.9	0.122	<0.0001	0.003	0.0006		2.1	0.0004	5.2	<0.00001	16.4	0.674	16.9	<0.00005	<0.001	0.0054	0.0056
W3	10/04/2008																										
W3	17/04/2008	0.017	<0.00001	70.9	<0.0005	0.0001	0.004	0.2	<0.0001	0.002	25	0.12	<0.0001	0.002	<0.0005		2.1	0.0002	5.66	<0.00001	16.6	0.617	16.5	<0.00005	<0.001	0.0037	0.0051
W3	22/04/2008	0.015	High DL removed	63.4	0.001	0.00023	0.004	0.2	<0.0001	0.002	22.1	0.11	<0.00001	0.00216	0.003	0.02	1.98	<0.0006	3.06	<0.0001	14.7	0.599		0.00006	<0.0001	0.0004	0.0055
W3	01/05/2008	0.016	High DL removed	17.9	0.0013	0.00026	0.007	0.42	0.0001	<0.001	6.41	0.0308	0.00002	0.00057	0.005	0.07	1.42	0.0012	2.07	<0.0001	4.2	0.15		<0.00001	<0.0001	0.0105	0.0012
W3	04/05/2008	0.008	High DL removed	40.8	<0.0005	0.00025	0.006	0.38	0.0002	0.002	18.1	0.0569	<0.00001	0.00165	0.004	0.04	1.69	<0.0006	3.01	<0.0001	11.5	0.452		<0.00001	<0.0001	0.0092	0.0027
W3	05/05/2008	<0.005	High DL removed	41.4	<0.0005	0.00023	0.008	0.35	0.0003	0.001	14.2	0.0818	<0.00001	0.00132	0.004	0.04	1.63	<0.0006	2.66	<0.0001	9.7	0.353		<0.00001	<0.0001	0.0096	0.0033
W3	08/05/2008	0.011	High DL removed	47.3	<0.0005	0.00023	0.006	0.25	<0.0001	0.001	16	0.0897	<0.00001	0.00157	0.004	0.03	1.64	<0.0006	2.75	<0.0001	11.1	0.411		0.00001	0.0002	0.0049	0.0037
W3	11/05/2008	0.015	High DL removed	59.6	0.0005	0.00031	0.009	0.43	<0.0001	0.002	20.8	0.132	<0.00001	0.00198	0.005	0.04	1.98	0.0009	3.37	<0.0001	14.7	0.516		0.00001	<0.0001	0.0102	0.0043
W3	13/05/2008	0.019	High DL removed	64.7	<0.0005	0.00021	0.006	0.23	<0.0001	0.002	23.2	0.131	<0.00001	0.00202	0.003	0.03	2.06	<0.0006	3.41	<0.0001	16.1	0.581		0.00001	0.0002	0.0029	0.0051
W3	15/05/2008	0.013	High DL removed	62.5	0.0028	0.0002	0.004	0.13	<0.0001	0.002	20.9	0.106	<0.00001	0.00209	0.002	0.01	1.92	<0.0006	2.99	<0.0001	15	0.576		<0.00001	<0.0001	0.002	0.0051
W3	18/05/2008	0.014	High DL removed	58.5	0.0015	0.00029	0.007	0.36	0.0001	0.002	19.9	0.0977	<0.00001	0.00209	0.004	0.03	1.82	<0.0006	3.02	<0.0001	15	0.519		<0.00001	<0.0001	0.0085	0.0048
W3	20/05/2008	0.013	High DL removed	66.8	0.0011	0.00022	0.006	0.16	<0.0001	0.002	23.1	0.0982	<0.00001	0.00223	0.002	0.03	2.15	<0.0006	2.78	<0.0001	16.1	0.58		<0.00001	<0.0001	0.0019	0.0049
W3	27/05/2008	0.016	High DL removed	55.6	0.0012	0.00019	0.004	0.09	<0.0001	0.002	19.9	0.0845	<0.00001	0.00202	<0.001	0.01	1.72	<0.0006	2.56	<0.0001	14.2	0.523		<0.00001	<0.0001	0.0023	0.0046

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	19/05/2007	0.0024	0.02	<0.002	0.009	<0.0002	0.0007	0.069	<0.0001	<0.0005	0.012	0.00001	45.8	0.0008	0.0004	0.016	0.11	<0.0001	0.002	14.2	0.094	<0.0001	0.002	<0.0005		2
W3	25/05/2007	0.004	0.009	<0.001	0.017	<0.0002	0.0004	0.064	<0.0001	<0.0005	0.011	<0.00001	45.1	0.001	0.0003	0.014	0.05	0.0002	0.001	13.1	0.058	<0.0001	0.002	<0.0005		1.9
W3	30/05/2007	0.0026	0.008	<0.001	0.009	<0.0002	0.0004	0.071	<0.0001	<0.0005	0.01	<0.00001	43.9	0.0012	0.0003	0.012	0.06	<0.0001	0.001	12.7	0.05	<0.0001	0.002	<0.0005		1.9
W3	05/06/2007	0.0028	0.006	0.001																						
W3	13/06/2007	0.0018	0.007	<0.001	0.014	<0.0002	0.0004	0.066	<0.0001	<0.0005	0.012	0.00001	47	0.0008	0.0003	0.014	0.04	<0.0001	0.002	13.8	0.031	<0.0001	0.002	<0.0005		1.9
W3	20/06/2007	0.0028	0.005	<0.001	0.013	<0.0002	0.0006	0.069	<0.0001	<0.0005	0.017	<0.00001	49.2	0.0008	0.0003	0.014	0.04	<0.0001	0.002	13.5	0.038	<0.0001	0.003	0.0009		2
W3	27/06/2007	0.0013	0.004	<0.001																						
W3	28/06/2007	0.0016	0.004	<0.001	0.006	<0.0002	0.0008	0.073	<0.0001	<0.0005	0.02	<0.00001	49.8	0.001	0.0002	0.013	0.03	<0.0001	0.002	14.4	<0.005	<0.0001	0.003	<0.0005		2
W3	04/07/2007	0.002	0.003	<0.001																						
W3	05/07/2007	0.0017	0.004	<0.001	0.011	<0.0002	0.0005	0.075	<0.0001	<0.0005	0.015	<0.00001	47.7	<0.0005	0.0002	0.013	0.03	<0.0001	0.002	13.5	0.033	<0.0001	0.003	0.0014		2
W3	11/07/2007	0.0014	0.003	<0.001	0.01	<0.0002	0.0006	0.075	<0.0001	<0.0005	0.014	<0.00001	48.8	0.0005	0.0002	0.011	0.03	<0.0001	0.002	14	0.031	<0.0001	0.003	<0.0005		1.8
W3	18/07/2007	0.0014	0.006	<0.001	0.01	<0.0002	0.0004	0.075	<0.0001	<0.0005	0.016	0.00001	51.7	<0.0005	0.0002	0.012	0.03	<0.0001	0.002	15.6	0.032	<0.0001	0.004	<0.0005		2
W3	25/07/2007	0.001	0.006	<0.001	0.009	<0.0002	0.0005	0.074	<0.0001	<0.0005	0.014	<0.00001	54.3	<0.0005	0.0003	0.01	0.04	<0.0001	0.002	15.4	0.044	<0.0001	0.003	<0.0005		2.2
W3	26/07/2007	0.0011	0.006	<0.001	0.009	<0.0002	0.0005	0.08	<0.0001	<0.0005	0.012	0.00002	53.6	0.0009	0.0002	0.01	0.04	0.0001	0.001	15.1	0.043	<0.0001	0.003	<0.0005		2.2
W3	01/08/2007	0.0014	0.008	<0.001	0.009	<0.0002	0.0002	0.077	<0.0001	<0.0005	0.014	0.00001	50.6	<0.0005	0.0003	0.01	0.04	<0.0001	0.002	14.8	0.058	<0.0001	0.003	0.0034		2
W3	09/08/2007	0.0014	0.008	<0.001	<0.005	<0.0002	0.0004	0.079	<0.0001	<0.0005	0.014	0.00001	53.9	<0.0005	0.0001	0.007	0.03	<0.0001	0.002	15.7	0.044	<0.0001	0.002	<0.0005		1.8
W3	15/08/2007	0.0015	0.012	<0.001	0.025	<0.0002	0.0003	0.081	<0.0001	<0.0005	0.017	0.00001	54	<0.0005	0.0002	0.008	0.04	0.0001	0.002	16.3	0.047	0.0001	0.003	<0.0005		2
W3	24/08/2007	0.0008	0.009	<0.001																						
W3	29/08/2007	0.0011	0.008	<0.001	0.006	0.0011	0.0005	0.082	<0.0001	<0.0005	0.014	0.00001	54.9	0.0005	0.0002	0.005	0.03	<0.0001	0.002	16.8	0.07	<0.0001	0.002	<0.0005		1.8
W3	06/09/2007	0.0026	0.01	<0.001	0.008	<0.0002	0.0006	0.09	<0.0001	<0.0005	0.018	<0.00001	57.4	0.001	0.0002	0.008	0.06	<0.0001	0.002	17.4	0.113	<0.0001	0.003	0.0008		2.3
W3	11/09/2007	0.0013	0.003	<0.001	0.007	0.001	0.0004	0.082	<0.0001	<0.0005	0.02	<0.00001	58.2	0.0006	0.0003	0.008	0.03	<0.0001	0.002	17.4	0.08	<0.0001	0.003	0.0015		2.2
W3	17/09/2007	0.0023	0.009	<0.001	0.01	<0.0002	0.0004	0.091	<0.0001	<0.0005	0.02	0.00001	55.5	<0.0005	0.0001	0.008	0.04	<0.0001	0.002	16.9	0.071	<0.0001	0.003	0.0009		2.4
W3	25/09/2007	0.0007	0.006	<0.001	0.005	<0.0002	0.0003	0.088	<0.0001	<0.0005	0.013	0.00001	55.1	0.0006	0.0001	0.004	0.03	<0.0001	0.002	17.8	0.076	<0.0001	0.002	<0.0005		2
W3	03/10/2007	0.001	0.008	<0.001	0.007	<0.0002	0.0004	0.087	<0.0001	<0.0005	0.015	<0.00001	56.5	<0.0005	0.0002	0.005	0.08	<0.0001	0.002	18.8	0.127	<0.0001	0.002	0.0011	<0.05	2
W3	10/10/2007	0.001	0.011	<0.001	0.011	<0.0002	0.0004	0.09	<0.0001	<0.0005	0.016	<0.00001	60.5	0.0006	0.0002	0.007	0.03	0.0001	0.002	18.7	0.054	<0.0001	0.003	0.0007		2.2
W3	17/10/2007	0.0008	0.007	<0.001	<0.005	0.001	0.0004	0.086	<0.0001	<0.0005	0.018	<0.00001	58.8	<0.0005	0.0001	0.004	0.05	<0.0001	0.002	18.8	0.063		0.002	<0.0005		2
W3	22/10/2007	0.0008	0.006	<0.001	0.006	0.0011	0.0003	0.083	<0.0001	<0.0005	0.015	<0.00001	60.8	<0.0005	<0.0001	0.004	0.02	<0.0001	0.002	19.7	0.061	<0.0001	0.002	<0.0005		1.8
W3	30/10/2007	0.0007	0.007	<0.001	0.005	0.0015	0.0003	0.084	<0.0001	<0.0005	0.015	<0.00001	58.7	<0.0005	0.0001	0.004	0.02	<0.0001	0.002	18.2	0.065	<0.0001	0.002	<0.0005		1.9
W3	08/11/2007	0.0007	0.005	<0.001	0.008	0.001	0.0004	0.083	<0.0001	<0.0005	0.015	<0.00001	55.8	<0.0005	0.0002	0.004	0.03	<0.0001	0.002	19.9	0.073	<0.0001	0.002	<0.0005		2
W3	13/11/2007	0.0009	0.012	<0.001	0.005	0.0008	0.0004	0.085	<0.0001	<0.0005	0.014	<0.00001	59.6	<0.0005	0.0002	0.003	0.03	<0.0001	0.002	20.3	0.078	<0.0001	0.002	0.0007		1.8
W3	20/11/2007	0.0013	0.01	<0.001	0.008	0.0011	0.0005	0.095	<0.0001	<0.0005	0.02	<0.00001	62.6	0.0007	0.0002	0.007	0.02	<0.0001	0.002	20	0.067	<0.0001	0.004	<0.0005		2.5
W3	27/11/2007	0.0008	0.006	<0.001	<0.005	0.0009	0.0003	0.083	<0.0001	<0.0005	0.016	<0.00001	60.2	<0.0005	0.0002	0.004	0.03	<0.0001	0.002	20.6	0.079	<0.0001	0.002	0.001		1.8
W3	06/12/2007	0.0008	0.005	<0.001	<0.005	<0.0002	0.0003	0.091	<0.0001	<0.0005	0.017	<0.00001	63.1	<0.0005	0.0001	0.003	0.01	<0.0001	0.002	22.8	0.067	<0.0001	0.002	<0.0005		2
W3	11/12/2007	0.001	0.007	<0.001	<0.005	0.0008	0.0005	0.089	<0.0001	<0.0005	0.017	0.00001	63	0.0005	0.0002	0.004	0.02	<0.0001	0.002	22	0.067	<0.0001	0.002	<0.0005		2
W3	18/12/2007	0.0007	0.005	<0.001	<0.005	0.0009	0.0005	0.089	<0.0001	<0.0005	0.017	<0.00001	60.9	<0.0005	<0.0001	0.003	0.01	0.0001	0.002	21.7	0.054	<0.0001	0.002	<0.0005		2
W3	18/12/2007																									
W3	26/12/2007	0.0009	0.006	<0.001	<0.005	<0.0002	0.0005	0.086	<0.0001	<0.0005	0.015	<0.00001	64.4	0.0024	0.0001	0.003	<0.01	<0.0001	0.002	23.2	<0.005	<0.0001	0.007	0.0009		2.1
W3	03/01/2008	0.0009	0.005	<0.001	<0.005	0.0012	0.0004	0.087	<0.0001	<0.0005	0.014	<0.00001	64.4	0.0005	0.0002	0.003	0.05	<0.0001	0.002	23	0.105	<0.0001	0.002	<0.0005		2
W3	09/01/2008	0.001	0.005	<0.001	<0.005	0.0008	0.0003	0.098	<0.0001	<0.0005	0.018	<0.00001	64.9	<0.0005	0.0002	0.003	0.05	<0.0001	0.002	23.1	0.117	<0.0001	0.002	0.0008		2
W3	15/01/2008	0.0011	0.006	<0.001	0.007	0.0009	0.0004	0.091	<0.0001	<0.0005	0.018	0.00001	65.3	0.0005	0.0002	0.003	0.06	0.0001	0.002	22.9	0.131	<0.0001	0.003	0.001		2
W3	22/01/2008	0.001	0.007	<0.001	<0.005	0.0007	0.0005	0.091	<0.0001	<0.0005	0.018	0.00001	67.3	0.0008	0.0001	0.003	0.07	<0.0001	0.003	23.7	0.145	<0.0001	0.002	<0.0005		2
W3	30/01/2008	0.002	0.007	<0.001	0.006	0.0005	<0.0002	0.097	<0.0001	<0.0005	0.02	0.00002	67.6	0.0006	0.0001	0.003	0.1	<0.0001	0.002	23.7	0.164	<0.0001	0.002	0.0005		2
W3	07/02/2008	0.0019	0.007	<0.001	0.008	0.0009	0.0006	0.1	<0.0001	<0.0005	0.022	0.00001	69.3	0.0005	0.0002	0.004	0.1	<0.0001	0.003	26.2	0.179	<0.0001	0.003	<0.0005		2.4
W3	13/02/2008	0.0009	0.007	<0.001	<0.005	0.0006	0.0003	0.101	<0.0001	<0.0005	0.016	<0.00001	72.1	0.0013	<0.0001	0.004	0.06	<0.0001	0.002	26.2	0.117	<0.0001	0.002	<0.0005		2.4
W3	20/02/2008	0.0007	0.006	<0.001	0.006	0.0006	0.0005	0.097	<0.0001	<0.0005	0.018	0.00002	69.6	0.0011	<0.0001	0.005	0.06	0.0001	0.004	25.6	0.113	<0.0001	0.002	<0.0005		5.4
W3	27/02/2008	0.001	0.008	<0.001	<0.005	0.0006	0.0003	0.095	<0.0001	<0.0005	0.023	<0.00001	70.9	<0.0005	0.0002	0.003	0.06	<0.0001	0.002	25	0.123	<0.0001	0.003	0.001		2.1
W3	03/03/2008	0.0012	0.007	<0.001	0.008	0.0006	0.0004	0.097	<0.0001	<0.0005	0.018	0.00001	70.5	<0.0005	0.0002	0.003	0.06	0.0001	0.002	25	0.12	<0.0001	0.003	0.0018		2.1
W3	14/03/2008	0.001	0.007	<0.001	<0.005	0.0014	0.0004	0.095	<0.0001	<0.0005	0.019	0.00001	71.2	0.0013	0.0003	0.003	0.06	<0.0001	0.002	25.2	0.104	<0.0001	0.002	0.001		2
W3	19/03/2008	0.0008	0.01	<0.0005	<0.02	0.0007	0.0002	0.092	<0.0		0.015	High DL removed		0.0016	0.00014	0.002	0.06	0.0002	0.002		0.103	<0.01	0.00221	0.001		
W3	26/03/2008	0.001	0.007	<0.001	0.005	0.0007	0.0004	0.096	<0.0001	<0.0005	0.019	<0.00001	74.3	0.0015	0.0002	0.004	0.07	<0.0001	0.002	25.9	0.112	<0.0001	0.002	0.0011		2.2
W3	03/04/2008	0.0032	0.005	<0.001	0.012	0.0008	0.0003	0.096	<0.0001	<0.0005	0.018	0.00002	65.9	0.0012	0.0002	0.003	0.05	<0.0001	0.003	24.9	0.124	<0.0001	0.002	0.0012	<0.03	2.1
W3	10/04/2008	0.001	0.004	<0.001	0.009	0.0008	0.0003	0.095	<0.0001	<0.0005	0.014	0.00001	66.5	0.001	<0.0001	0.005	0.04	0.0004	0.004	25.2	0.117	<0.0001	0.002	<0.0005		5.6
W3	10/04/2008																									
W3	17/04/2008	0.0008	0.009	<0.001	0.005	0.001	0.0003	0.096	<0.0001	<0.0005	0.019	<0.00001	70.7	<0.0005	0.0002	0.004	0.05	<0.0001	0.002	25.2	0.113	<0.0001	0.002	<0.0005	<0.05	2.1
W3	22/04/2008	0.00077	0.005	0.0001	<0.02	0.0006	0.0004	0.097	<0.00004		0.015	High DL removed	65.9	<0.0006	0.00018	0.002	0.04	<0.0001	0.002	23.5	0.11	<0.00001	0.00218	0.001	0.01	2.12
W3	01/05/2008	0.00182	0.005	0.0005	0.08	0.0011	0.0005	0.046	<0.00004		0.006	High DL removed	21.7	0.0007	0.00022	0.007	0.12	<0.0001	<0.001	7.07	0.0248	0.00002	0.00066	0.003	0.04	1.52
W3	04/05/2008	0.0011	0.007	0.0003	0.03	0.0013	<0.0002	0.074	<0.00004		0.012	High DL removed	43.9	0.0018	0.0002	0.006	0.1	0.0001	0.002	18.8	0.0508	<0.00001	0.00154	0.002	0.02	1.86
W3	05/05/2008	0.00103	0.005	0.0004																						
W3	08/05/2008	0.00078	0.008	0.0005	0.03	0.0013	0.0003	0.079	0.00006		0.012	High DL removed	49.9	0.002	0.00017	0.006	0.1	<0.0001	0.001	16.2	0.0892	<0.00001	0.0015	0.003	0.02	1.68
W3	11/05/2008	0.00114	0.009	0.0004	<0.02	0.0008	0.001	0.079	<0.00004		0.014	High DL removed	59.8	0.0029	0.00026	0.006	0.11	<0.0001	0.002	21	0.123	<0.00001	0.00183	0.002	0.02	1.98
W3	13/05/2008	0.00074	0.004	0.0003	<0.02	0.0007	0.0012	0.089	<0.00004		0.013	High DL removed	58.8	<0.0006	0.00019	0.004	0.07	<0.0001	0.002	20.8	0.0979	<0.00001	0.00205	0.002	<0.01	1.28
W3	15/05/2008	0.0011	0.006	0.0003	<0.02	0.0013	<0.0002	0.091	<0.00004		0.013	High DL removed	66.7	0.0013	0.00028	0.004	0.09	<0.0001	0.002	21.9	0.106	<0.00001	0.00223	0.002	0.01	1.98
W3	18/05/2008	0.00115	0.005	0.0002	<0.02	0.0006	0.0003	0.082	<0.00004		0.014	High DL removed	61.4	0.0026	0.00018	0.005	0.06	0.0001	0.002	20.6	0.0926	<0.00001	0.00217	0.002	<0.01	1.9
W3	20/05/2008	0.00068	0.004	0.0002	<0.02	0.0012	0.0008	0.084	<0.00004		0.013	High DL removed	63.8	0.0015	0.00024	0.005	0.07	0.0002	0.002	21	0.0998	<0.00001	0.00241	0.002	<0.01	2.19
W3	27/05/2008	0.00059	0.003	0.0003	<0.02	0.0013	0.0007	0.084	<0.00004		0.023	High DL removed	63.1	0.0011	0.00015	0.004	0.04	<0.0001	0.002	21.8	0.0885	<0.00001	0.00208	0.001	<0.01	2.02

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	Br	Cation	CN-T	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-TKN	P-PO4T	P-TDP	P-TRP
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L
W3	19/05/2007	0.0003	5.69	<0.0001	8.6	0.315	9.7	<0.00005	<0.001	0.0015	0.0018	0.0017	0.003		156	<6	<5						120						1.24	0.05	<0.02	
W3	25/05/2007	<0.0002	5.22	<0.0001	8.9	0.324	9.3	<0.00005	<0.001	0.0015	0.0014	0.0021	0.002		155	<6	<5						>60						0.7	0.02	<0.02	
W3	30/05/2007	<0.0002	5.11	<0.0001	9.6	0.314	9.1	<0.00005	<0.001	0.0018	0.0014	0.0018	0.003		154	<6	<5						55						1.55	0.04		
W3	05/06/2007														156	<6	<5						130						1.47	0.05	<0.02	
W3	13/06/2007	<0.0002	5.38	0.0001	9.7	0.333	9.5	<0.00005	<0.001	0.0018	0.0016	0.0018	0.002		175	<6	<5						30						1.17	0.05	<0.02	
W3	20/06/2007	<0.0002	5.27	<0.0001	9.6	0.368	9.7	<0.00005	<0.001	0.0014	0.0018	0.0024	0.004		179	<6	<5						57						0.43	0.04	<0.02	
W3	27/06/2007																															
W3	28/06/2007	0.0002	5.37	<0.0001	10	0.367	9.6	<0.00005	<0.001	0.0011	0.0017	0.003	0.002		187	<6	<5						40						0.63	0.04	<0.02	
W3	04/07/2007																															
W3	05/07/2007	<0.0002	5.34	<0.0001	9.6	0.361	9.3	<0.00005	<0.001	0.0014	0.002	0.0015	0.003		194	<6	<5						52						0.68	0.03	<0.02	
W3	11/07/2007	<0.0002	5.47	<0.0001	9.8	0.37	9.7	<0.00005	<0.001	0.0012	0.002	0.0014	0.002		197	<6	<5						42						0.88	0.03	<0.02	
W3	18/07/2007	0.0002	5.6	<0.0001	10.2	0.391	10.2	<0.00005	<0.001	0.0011	0.0021	0.001	0.002		206	<6	<5						50						0.8	0.08	<0.02	0.05
W3	25/07/2007	<0.0002	5.78	<0.0001	11.4	0.408	10.3	<0.00005	<0.001	0.0015	0.002	0.0014	0.002		213	<6	<5						40						0.72	0.03	<0.02	
W3	26/07/2007	0.0005	5.88	<0.0001	10.8	0.411	10.6	<0.00005	<0.001	0.0012	0.002	0.0022	0.003																			
W3	01/08/2007	0.0004	6.2	<0.0001	10.8	0.391	10.3	<0.00005	<0.001	0.0012	0.002	0.0016	0.007		213	<6	<5						46						0.38	0.05	<0.02	
W3	09/08/2007	<0.0002	6.04	<0.0001	11.1	0.408	11	<0.00005	<0.001	0.001	0.0019	0.0014	0.008		223	<6	<5						34						0.16	0.05	<0.02	
W3	15/08/2007	0.0003	5.98	<0.0001	11.6	0.383	11.1	<0.00005	<0.001	0.0011	0.002	0.0018	0.008		233	<6	<5						37						0.32	0.04	<0.02	
W3	24/08/2007														242	<6	<5						27						0.36	0.04	<0.02	
W3	29/08/2007	<0.0002	5.95	<0.0001	11.3	0.416	11.8	<0.00005	<0.001	0.0011	0.0022	0.0011	0.002		246	<6	<5						31						0.37	0.06	<0.02	
W3	06/09/2007	0.0005	6.02	<0.0001	12.4	0.44	12.2	<0.00005	<0.001	0.0014	0.0022	0.0018	0.006		255	<6	<5						34						0.24	0.07	<0.02	
W3	11/09/2007	0.0005	5.86	<0.0001	12.3	0.426	12.2	<0.00005	<0.001	0.001	0.0024	0.0009	0.003		254	<6	<5						34						<0.06	0.04	<0.02	
W3	17/09/2007	0.0002	5.76	<0.0001	12.6	0.464	12.2	<0.00005	<0.001	0.0012	0.0023	0.001	0.008		248	<6	<5						29						0.31	0.04	<0.02	
W3	25/09/2007	<0.0002	6.02	<0.0001	12.2	0.458	12.7	<0.00005	<0.001	0.0009	0.0021	0.0012	0.007		246	<6	<5						25						0.37	0.04	<0.02	
W3	03/10/2007	<0.0002	5.96	<0.0001	12	0.423	12.3	<0.00005	<0.001	<0.0005	0.002	0.0007	0.007		224	<6	<5						24						0.13	0.04		
W3	10/10/2007	0.0004	6.01	<0.0001	12.9	0.452	13.3	<0.00005	<0.001	0.0017	0.0022	0.001	0.009		223	<6	<5						20						0.06	0.03	<0.02	
W3	17/10/2007	0.0002	5.98	<0.0001	12.7	0.485	13.6	<0.00005	<0.001	0.0007	0.0022	0.0008	0.002		224	<6	<5						15						<0.06	<0.05	<0.02	0.03
W3	22/10/2007	<0.0002	6.06	<0.0001	12.5	0.484	13.9	<0.00005	<0.001	0.001	0.0022	0.0017	0.003		222	<6	<5						20						0.74	0.06		
W3	30/10/2007	0.0004	5.86	<0.0001	12.8	0.481	13.5	<0.00005	<0.001	0.0011	0.0024	0.0006	0.002		226	<6	<5						21						<0.06	<0.02	<0.02	<0.01
W3	08/11/2007	0.0003	5.81	<0.0001	14.4	0.545	13.8	<0.00005	<0.001	0.0022	0.0024	0.0007	0.002		237	<6	<5						16						0.15	<0.01	<0.02	
W3	13/11/2007	0.0002	6.06	<0.0001	13.8	0.505	14.4	<0.00005	<0.001	<0.0005	0.0026	0.001	0.002		247	<6	<5						26						0.25	0.07	<0.02	
W3	20/11/2007	0.0003	5.65	<0.0001	14.5	0.505	14.4	<0.00005	<0.001	0.0012	0.0033	0.002	0.004		254	<6	<5						20						0.08	<0.05	<0.02	0.05
W3	27/11/2007	0.0003	5.87	<0.0001	13.8	0.497	14.5	<0.00005	<0.001	<0.0005	0.003	0.0008	0.002		262	<6	<5						16						0.26	0.07	<0.02	
W3	06/12/2007	0.0003	6.17	<0.0001	14.9	0.564	15.4	<0.00005	<0.001	0.0008	0.0032	0.0005	0.004		263	<6	<5						14						0.26	0.07	<0.02	
W3	11/12/2007	<0.0002	6.04	<0.0001	14.7	0.531	15.5	<0.00005	<0.001	0.0013	0.0031	0.0013	0.002		257	<6	<5						10						0.49	0.07	<0.02	
W3	18/12/2007	<0.0002	5.92	<0.0001	14.8	0.531	14.6	<0.00005	<0.001	0.0013	0.0032	0.001	0.003		261	<6	<5						10						0.15	0.07	<0.02	
W3	18/12/2007																															
W3	26/12/2007	<0.0002	6.04	<0.0001	15.2	0.585	15.7	<0.00005	<0.001	0.0007	0.0028	0.0072	0.002		284	<6	<5						13						0.08	0.06	<0.02	
W3	03/01/2008	0.0002	5.87	<0.0001	15	0.532	15	<0.00005	<0.001	0.0007	0.0035	0.0008	0.002		278	<6	<5						12						0.19	0.07	<0.02	
W3	09/01/2008	0.0002	5.9	<0.0001	15	0.591	15	<0.00005	<0.001	0.0011	0.0038	0.0015	0.003		278	<6	<5						14						0.31	0.07	<0.02	
W3	15/01/2008	<0.0002	5.83	<0.0001	14.8	0.583	14.8	<0.00005	<0.001	0.0011	0.0041	0.0009	0.003		297	<6	<5						16						0.07	0.07	<0.02	
W3	22/01/2008	0.0003	5.87	<0.0001	15.8	0.616	15.4	<0.00005	<0.001	0.0014	0.004	0.0023	0.002		283	<6	<5						16						0.12	0.06	<0.02	
W3	30/01/2008	<0.0002	5.95	<0.0001	15.7	0.646	15.3	<0.00005	<0.001	0.0022	0.0042	0.0015	0.002		291	<6	<5						15						0.21	0.08	<0.02	
W3	07/02/2008	0.0004	6.24	<0.0001	17.2	0.713	16.9	<0.00005	<0.001	0.0013	0.0046	0.0016	0.005		305	<6	<5						11						0.58	0.08	<0.02	
W3	13/02/2008	0.0004	6.23	<0.00001	17.4	0.651	16.9	<0.00005	<0.001	0.0009	0.0048	0.0019	0.004		315	<6	<5						17						0.46	0.07	<0.02	
W3	20/02/2008	0.0003	6.03	<0.00001	16.9	0.653	16.3	<0.00005	<0.001	0.001	0.0048	0.0032	0.006		307	<6	<5						18						0.06	0.02	<0.02	
W3	27/02/2008	<0.0002	5.93	<0.00001	16.6	0.639	15.8	<0.00005	<0.001	0.0008	0.005	0.001	0.002		303	<6	<5						13						0.2	0.06	<0.02	
W3	03/03/2008	0.0004	5.88	<0.00001	16.5	0.689	16	<0.00005	<0.001	0.0012	0.0054	0.0007	0.003		309	<6	<5						17						<0.06	0.04	<0.02	
W3	14/03/2008	0.0003	5.99	<0.00001	17.2	0.66	17.1	<0.00005	<0.001	0.0012	0.0052	0.0008	0.003		308	<6	<5						12						0.2	0.04	<0.02	
W3	19/03/2008	<0.0006		High DL removed		0.65		<0.00001	<0.004	0.0005	0.0047	0.0008	0.003	0.0001	309	<6	<5						10						<0.06	0.05		
W3	26/03/2008	0.0006	6.06	<0.00001	16.7	0.674	17.3	<0.00005	<0.001	0.0013	0.0052	0.0026	0.006		309	<6	<5						13						<0.06	0.04		
W3	03/04/2008	0.0005	5.76	<0.00001	16.6	0.671	16.4	<0.00005	<0.001	0.0017	0.0051	0.0011	0.003		309	<6	<5						12						<0.06	<0.05		0.05
W3	10/04/2008	0.0003	5.74	<0.00001	16.8	0.644	16.3	<0.00005	<0.001	0.0011	0.0052	0.0006	0.006		309	<6	<5						13						<0.06	<0.05	<0.01	0.03
W3	10/04/2008																															
W3	17/04/2008	<0.0002	5.84	<0.00001	16.6	0.665	16.8	<0.00005	<0.001	0.0007	0.0053	0.0007	0.005		314	<6	<5						13						0.5	<0.05		0.07
W3	22/04/2008	<0.0006	3.18	High DL removed	16	0.625		<0.00001	<0.004	0.0051	0.0052	0.00063	<0.001	0.0001	308	<6	<5						14						0.34	<0.05		0.08
W3	01/05/2008	<0.0006	1.74	High DL removed	4.61	0.171		<0.00001	<0.004	0.0021	0.0011	0.0005	0.006	0.0005	100	<6	<5						380						1.97	0.08		0.06
W3	04/05/2008	<0.0006	2.83	High DL removed	12.5	0.473		<0.00001	<0.004	0.0013	0.0025	0.00098	0.004	0.0003	218	<6	<5						140						0.77	<0.05		0.09
W3	05/05/2008														207	<6	<5						150						0.8	<0.05	<0.05	0.07
W3	08/05/2008	<0.0006	2.73	High DL removed	11.1	0.429		<0.00001	<0.004	0.001	0.0037	0.00106	0.005	0.0004	232	<6	<5						160						0.77	<0.05		0.05
W3	11/05/2008	<0.0006	3.29	High DL removed	13.5	0.522		0.00001	<0.004	0.0009	0.0043	0.0014	0.003	0.0003	256	<6	<5						110				18					
W3	13/05/2008	<0.0006	2.89	High DL removed	14.5	0.557		0.00001	<0.004	0.0008	0.005	0.0005	0.002	0.0003	294	<6	<5						90				14.2		0.5	<0.05		0.08
W3	15/05/2008	<0.0006	3.06	High DL removed	15.4	0.61		<0.00001	<0.004	0.0006	0.0053	0.00059	0.002	0.0002	301	<6	<5						57				12.6					
W3	18/05/2008	<0.0006	2.92	High DL removed	14.7	0.548		<0.00001	<0.004	0.0008	0.0047	0.001	0.002	0.0002	280	<6	<5						49				11.5					
W3	20/05/2008	<0.0006	2.46	High DL removed	15.1	0.585		<0.00001	<0.004	0.0003	0.005	0.00063	0.004	0.0002	300	<6	<5						51				12.3		<0.06	<0.05		0.07
W3	27/05/2008	<0.0006	2.6	High DL removed	15.4	0.564		<0.00001	<0.004	0.0016	0.0051	0.00053	0.002	0.0003	300	<6	<5						35				9.6		0.41	<0.05		0.07

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Stn.Code	Smpl Date	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W3	19/05/2007	<0.005				8.1	
W3	25/05/2007	<0.005				5	
W3	30/05/2007	<0.005				9.3	
W3	05/06/2007	<0.005				14	
W3	13/06/2007	<0.005				4.8	
W3	20/06/2007	<0.005				2.4	
W3	27/06/2007						
W3	28/06/2007	<0.005				7.6	
W3	04/07/2007						
W3	05/07/2007	<0.005				4.2	
W3	11/07/2007	<0.005				2	
W3	18/07/2007	<0.005				4	
W3	25/07/2007	<0.005				1	
W3	26/07/2007						
W3	01/08/2007	<0.005				0.8	
W3	09/08/2007	<0.005				<0.1	
W3	15/08/2007	<0.005				2.4	
W3	24/08/2007	<0.005				0.5	
W3	29/08/2007	<0.005				1	
W3	06/09/2007	<0.005				3.5	
W3	11/09/2007	<0.005				0.5	
W3	17/09/2007	<0.005				0.9	
W3	25/09/2007	<0.005				0.1	
W3	03/10/2007					2	
W3	10/10/2007					1.9	
W3	17/10/2007	<0.005	38.6			0.7	
W3	22/10/2007					0.7	
W3	30/10/2007					0.7	
W3	08/11/2007					1.2	
W3	13/11/2007					0.2	
W3	20/11/2007		41.6			0.3	
W3	27/11/2007					0.4	
W3	06/12/2007					0.4	
W3	11/12/2007					0.5	
W3	18/12/2007					0.5	
W3	18/12/2007						
W3	26/12/2007					0.5	
W3	03/01/2008					0.9	
W3	09/01/2008					0.5	
W3	15/01/2008					1	
W3	22/01/2008					0.4	
W3	30/01/2008					1.3	
W3	07/02/2008					0.6	
W3	13/02/2008					0.4	
W3	20/02/2008					0.2	
W3	27/02/2008					1	
W3	03/03/2008					0.6	
W3	14/03/2008					0.8	
W3	19/03/2008					0.5	
W3	26/03/2008	<0.005				0.4	
W3	03/04/2008					5.9	
W3	10/04/2008					0.8	
W3	10/04/2008						
W3	17/04/2008					0.9	
W3	22/04/2008	0.006167				2.6	
W3	01/05/2008					2.8	
W3	04/05/2008					1.6	
W3	05/05/2008					2.5	
W3	08/05/2008					1.3	
W3	11/05/2008					2.4	
W3	13/05/2008					0.8	
W3	15/05/2008					0.7	
W3	18/05/2008					3	
W3	20/05/2008					1	
W3	27/05/2008					0.8	

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Phase	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
				mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	29/05/2008	No Discharge	P	<2	352		8.22		528						260	257	4.72		39.2	<0.05	<0.01	0.22		<0.01	<0.0002	<0.0002	0.083	<0.00004	
W3	03/06/2008	No Discharge	P	<2	328		8		552					272		261	4.29		40.8	<0.05	<0.01	0.21		0.01	<0.0002	0.0006	0.089	<0.00004	
W3	05/06/2008	No Discharge	P	<2	368		8.2		516					288		261	4.23		40.4	<0.05	<0.01	0.2		0.02	<0.0002	<0.0002	0.09	<0.00004	
W3	11/06/2008	No Discharge	P	<2	338		8.03		504							261	4.35		41.2	<0.05	<0.01	0.19		0.02	<0.0002	<0.0002	0.091	<0.00004	
W3	17/06/2008	No Discharge	P	<2	332		7.98		533							258	4.04		37.9	<0.05	<0.01	0.21		0.03	<0.0002	0.0009	0.084	<0.00004	
W3	25/06/2008	No Discharge	P	<2	422		8.14		522							258	3.86		38.2	<0.05	<0.01	0.14		0.01	<0.0002	<0.0002	0.086	<0.00004	
W3	03/07/2008	No Discharge	P	<2	282		8.08		530						273	264	3.86		37.7	<0.05	<0.01	0.15		0.01	0.0006	0.0011	0.094	<0.0001	<0.0005
W3	08/07/2008	No Discharge	P	<2	368		8.15		528							266	3.93		36.9	<0.05	<0.01	0.13		<0.01	<0.0002	0.0009	0.09	<0.00004	
W3	15/07/2008	No Discharge	P	<3	340		8.01		536							233	3.77		35.9	<0.05	<0.01	0.12		0.017	<0.0002	0.0003	0.089	<0.0001	<0.0005
W3	22/07/2008	No Discharge	P	<2	310		7.96		496						259	250	3.79		32.8	<0.05	<0.01	0.14		0.026	<0.0002	0.0004	0.094	<0.0001	<0.0005
W3	30/07/2008	No Discharge	P	<5	330		7.89		532							273	3.66		3.29	<0.05	<0.01	0.13		0.02	<0.0002	0.0004	0.093	<0.00004	
W3	06/08/2008	No Discharge	P												269					<0.05			7.3	0.015	<0.0002	0.0004	0.1	<0.0001	<0.0005
W3	12/08/2008	No Discharge	P	<3	330		8.09		527							249	4.17		30.5	<0.05	<0.01	0.16		0.01	<0.0002	0.0005	0.084	<0.00004	
W3	21/08/2008	No Discharge	P	<2	384		8.15		517							270	3.86		29.3	<0.05	<0.01	0.11		0.04	<0.0002	0.0004	0.092	<0.00004	
W3	25/08/2008	No Discharge	P																					4.69	<0.0002	0.0026	0.168	0.00017	
W3	08/10/2008	No Discharge	P	<2	296		7.98		445							222	3.01		35.8	0.13	<0.01	0.12	13	0.095	<0.0002	0.0005	0.082	<0.00004	<0.0001
W3	17/10/2008	No Discharge	P	<5	334		7.86		494							232	3.22		36.5	<0.05	<0.01	0.11		0.025	<0.0002	0.0004	0.08	<0.00004	<0.0001
W3	24/10/2008	No Discharge	P	4	356		7.94		514						276	246	0.54		39	<0.05			11.7	0.012	<0.0002	0.0004	0.088	<0.00004	<0.0001
W3	28/10/2008	No Discharge	P												304								10.4						
W3	04/11/2008	No Discharge	P	<2	384	8.5	7.7	601	522						255	239	0.82		40	<0.05			9.5	0.01	<0.0002	0.0005	0.084	<0.0001	<0.0005
W3	12/11/2008	No Discharge	P	<2	388	8.2	8.01	616	542	2.2					260	255	1.6		43.1	<0.05			9.4	0.018	<0.0002	0.0004	0.085	<0.0001	<0.0005
W3	18/11/2008	No Discharge	P	7	414	7.96	7.82	284	556	0.3						261	3.3		46.2	<0.05				0.069	<0.0002	0.0005	0.093	<0.0001	<0.0005
W3	24/11/2008	No Discharge	P			8.32		622																					
W3	26/11/2008	No Discharge	P	44	238	8.32	8.12	622	303							129	1.97		27.5	<0.05				0.014	<0.0002	0.0003	0.032	<0.00004	<0.0001
W3	05/12/2008	No Discharge	P	<2	392	8.15	7.71	646	565	1.6						254	4.14		51.8	<0.05				<0.005	<0.0002	0.0004	0.089	<0.00004	<0.0001
W3	10/12/2008	No Discharge	P	4	386	7.24	7.66	556	547	2.1						243	3.27		49.7	<0.05				0.015	<0.0002	0.0004	0.09	<0.00004	<0.0001
W3	18/12/2008	No Discharge	P	2	362		7.7		562						288	261	3.25		59.2	<0.05				0.013	<0.0002	0.0003	0.098	<0.0001	<0.0005
W3	24/12/2008	No Discharge	P	30	422	7.17	7.88	464	570						162	256	5.9		61.3					0.016	<0.0002	0.0004	0.095	<0.0001	<0.0005
W3	02/01/2009	No Discharge	P	4	390	6.98	7.71	566	560	0.1					277	254	4.6		57.6					0.066	<0.0002	0.0003	0.087	<0.0001	<0.0005
W3	09/01/2009	No Discharge	P	6	448	7.17	7.81	616	577	0.4					278	251	3.1		71.8					0.026	<0.0002	0.0004	0.092	<0.0001	<0.0005
W3	15/01/2009	No Discharge	P	6	420	7.6	7.85	581	565	0.2					264	226	3.5		77.5					0.096	<0.0002	0.0005	0.098	<0.0001	<0.0005
W3	20/01/2009	No Discharge	P	3	398	7.3	7.99	628	596	0.1					330	253	3.68		75.8					0.075	<0.0002	0.0003	0.099	<0.00004	<0.0001
W3	28/01/2009	No Discharge	P	4	392	7.12	7.9	604	593	0.2					330	258	3.64		74.8					0.018	<0.0002	0.0002	0.093	<0.00004	<0.0001
W3	02/02/2009	No Discharge	P	4	330	6.95	7.96	88.3	546	0.8					307	229	3.28		67.8					0.02	<0.0002	<0.0002	0.087	<0.00004	<0.0001
W3	12/02/2009	No Discharge	P			6.9		572		1.3																			
W3	15/02/2009	No Discharge	P	<2	396		7.64		576						261	251	3.2		68.5					0.011	<0.0002	<0.0002	0.081	<0.00004	<0.0001
W3	18/02/2009	No Discharge	P			6.59		683		1.4																			
W3	19/02/2009	No Discharge	P	8	414		7.8		633					299		275	2.7		76.8					0.041	<0.0002	0.0003	0.091	<0.00004	<0.0001
W3	06/03/2009	No Discharge	P	11	380	7.63	7.88	352	561	1.2				252		212	3.9		84.2					0.153	<0.0002	0.0004	0.087	<0.00004	<0.0001
W3	14/03/2009	No Discharge	P	4	398	7.13	7.75	387	572	1.2					252	220	3.9		82.9					0.039	<0.0002	0.0003	0.096	<0.00004	<0.0001
W3	20/03/2009	No Discharge	P	2	388		7.77		591	0.1		113			276	224	4.89		83.6					0.07	<0.0002	0.0007	0.097	<0.00004	<0.0001
W3	06/04/2009	No Discharge	P			7.8		577																					
W3	21/04/2009	No Discharge	P	<2	314	8.2	7.81	267	483	4					246	192	2.8		58.9					0.138	<0.0002	0.0004	0.08	<0.00004	<0.0001
W3	30/04/2009	No Discharge	P	58	170	7.63	7.44	176	188	0.1		301			95	63	1.5		24				27.8	1.66	<0.0002	0.0007	0.076	0.00012	<0.0001
W3	02/05/2009	No Discharge	P	21	200		7.62		271						147	98	2.13		34.4					0.605	<0.0002	0.0006	0.066	<0.00004	<0.0001
W3	04/05/2009	No Discharge	P	32	180		7.8		242							94	2.3				<0.005	0.3		0.862	<0.0002	0.0004	0.062	<0.0001	<0.0005
W3	06/05/2009	No Discharge	P	74	310		8.17		448							163	3.5				0.079	0.19		0.091	<0.0002	<0.0002	0.053	<0.0001	<0.0005
W3	09/05/2009	No Discharge	P	14	298	7.41	7.83	518	442	1.3					198	192	2.2				<0.005	0.48		0.551	<0.0002	0.0004	0.07	<0.0001	<0.0005
W3	18/05/2009	No Discharge	P	5	308	7.25	7.86	467	438	8.6					224	171	3.63		53.3					0.051	<0.0002	0.0004	0.082	<0.00004	<0.0001
W3	27/05/2009	No Discharge	P	13	308	7.75	7.99	492	463						221	180	2.93		54.4					0.314	<0.0002	0.0005	0.088	<0.00004	<0.0001
W3	03/06/2009	No Discharge	P	4	302	7.97	8.05	477	466	4.9					213	182	3.4		53.2					0.175	<0.0002	0.0006	0.087	<0.00004	<0.0001
W3	07/06/2009	No Discharge	P	<2	302		8.05		434						203	152	3.1		58.7					0.147	<0.0002	0.0006	0.078	<0.00004	<0.0001
W3	11/06/2009	No Discharge	P	7	310	7.88	8.04	471	454	6					206	171	3.5		55.5					0.138	<0.0002	0.0004	0.07	<0.00004	<0.0001
W3	18/06/2009	No Discharge	P	8	286	8	7.97	445	440	3.2					198	176	2.84		42.2				12.7	0.306	<0.0002	0.0004	0.074	<0.00004	<0.0001
W3	08/08/2009	No Discharge	P	<4	290		8.2		473					241						0.015	0.006	0.69		0.05	<0.0005	0.0004	0.092	<0.0001	<0.001
W3	09/08/2009	No Discharge	P			7.88		487		5.65		89.3																	
W3	10/08/2009	No Discharge	P			7.96		484		4.6																			
W3	11/08/2009	No Discharge	P	<2	326		8.02		475						208	197	5.48		49.8					0.026	<0.0002	0.0006	0.076	<0.00004	<0.001
W3	12/08/2009	No Discharge	P	<4	300		8.1		472					236	222	190	6.5	0.42	45	0.013	0.005	0.74		0.039	<0.0005	0.0003	0.088	<0.0001	<0.001
W3	05/11/2009	No Discharge	P	<2	340	7.53	7.67	452	463	2.1					224	172	14.9		55.7			1.85		0.058	<0.0002	0.0004	0.094	<0.00004	<0.001
W3	09/11/2009	No Discharge	P	<2	132	7.56	7.79	518	512	1.1					243	175	14.3		59.6			1.57		0.082	<0.0002	0.0005	0.089	<0.00004	<0.001
W3	16/11/2009	No Discharge	P	<3	358	8.34	7.68	525	512	0.04		67.5			230	186	16.6		50.7			1.38		0.044	<0.0002	0.0006	0.091	<0.00004	<0.001
W3	25/11/2009	No Discharge	P	4	340		7.79		487						240	184	16.1		56					0.083	<0.0002	0.0004	0.095	<0.00004	<0.001
W3	25/11/2009	No Discharge	P			7.39		605		1.1												1.15							
W3	02/12/2009	No Discharge	P	<2	336	7.71	7.83	652	504	1.1					240	182	13		56.5			1.12		0.032	<0.0002	0.0004	0.094	<0.00004	<0.001

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	29/05/2008	0.015	High DL removed	61.2	0.0017	0.00016	0.003	0.07	<0.0001	0.002	21.4	0.0882	<0.00001	0.0022	<0.001	0.01	1.85	<0.0006	2.55	<0.0001	15.2	0.566		<0.00001	<0.0001	0.0012	0.005
W3	03/06/2008	0.017	High DL removed	68.8	0.0032	0.00016	0.003	0.11	<0.0001	0.002	24.5	0.112	<0.00001	0.00225	<0.001	0.02	2.1	<0.0006	2.93	<0.0001	17.3	0.6		<0.00001	<0.0001	0.0014	0.005
W3	05/06/2008	0.016	High DL removed	73.1	0.0018	0.00023	0.004	0.12	<0.0001	0.002	25.8	0.11	<0.01	0.00243	0.001	<0.05	2.2	<0.0006	3.04	<0.00005	18.6	0.638		<0.00001	<0.0001	0.0017	0.0051
W3	11/06/2008	0.016	High DL removed	79.8	0.0013	0.00019	0.004	0.11	<0.0001	0.002	27.8	0.117	<0.01	0.00248	<0.001	<0.05	2.4	<0.0006	5.67	<0.00001	19.2	0.686		0.00002	<0.0001	0.0016	0.0055
W3	17/06/2008	0.017	High DL removed	67.1	0.001	0.00018	0.003	0.11	<0.0001	0.002	23.7	0.0911		0.0023	<0.001	<0.05	2.08	0.0012	4.81	<0.00001	16.9	0.613		<0.00001	<0.0001	0.0013	0.0046
W3	25/06/2008	0.018	High DL removed	70	0.0033	0.00019	0.004	0.09	<0.0001	0.002	24.8	0.0883	<0.00001	0.00235	0.001	0.03	2.08	<0.0006	5.08	<0.00001	17.6	0.626		<0.00001	<0.0001	0.0009	0.0047
W3	03/07/2008	0.021	0.00002	68.1	<0.0005	0.0001	0.004	0.06	0.0004	0.003	24.7	0.078	<0.0001	0.003	<0.0005		2	<0.0002	5.61	0.00004	16.6	0.668	12.8	<0.00005	<0.001	0.0009	0.0053
W3	08/07/2008	0.014	High DL removed	73.2	0.0013	0.0002	0.004	0.11	<0.0001	0.002	26	0.0932	<0.00001	0.00239	0.001	0.01	2.13	<0.0006	5.16	<0.00001	16.5	0.642		<0.00001	<0.0001	0.0009	0.0044
W3	15/07/2008	0.019	0.00002	64.5	0.0008	0.0002	0.004	0.08	<0.0001	0.003	23.4	0.082	0.0001	0.003	0.0028		1.9	<0.0002	5.39	0.00001	16.5	0.62	11.9	<0.00005	<0.001	0.002	0.0047
W3	22/07/2008	0.019	<0.00001	63.8	<0.0005	0.0002	0.005	0.09	<0.0001	0.002	22.8	0.09	<0.0001	0.002	0.0008		1.8	<0.0002	5.43	<0.00001	16.3	0.591	11.3	<0.00005	<0.001	0.0013	0.0046
W3	30/07/2008	0.014	High DL removed	70.5	0.0005	0.00019	0.004	0.16	0.0001	0.002	24.9	0.115	<0.00001	0.0026	0.002	0.01	2.1	<0.0006	5.73	<0.00001	17.9	0.664		<0.00001	<0.0001	0.0018	0.0045
W3	06/08/2008	0.019	0.00001	67.4	0.0006	0.0001	0.004	0.12	<0.0001	0.003	24.5	0.11	<0.0001	0.002	0.0014		1.9	0.0005	5.61	<0.00001	16.6	0.68	11	<0.00005	<0.001	0.0015	0.0046
W3	12/08/2008	0.018	High DL removed	72.2	0.0023	0.00017	0.003	0.11	<0.0001	0.002	26	0.102	<0.00001	0.00252	0.001	0.04	2.13	<0.0006	6.63	0.00022	18.1	0.617		<0.00001	0.0001	0.0015	0.0044
W3	21/08/2008	0.016	High DL removed	71.2	0.0021	0.00018	0.003	0.12	<0.0001	0.002	25.8	0.0966	<0.00001	0.00262	0.002	0.04	2.14	<0.0006	6.55	<0.00001	18.1	0.669		<0.00001	<0.0001	0.0028	0.0043
W3	25/08/2008	0.026	0.0001	53.5	0.0084	0.00339	0.072	6.61	0.0022	0.006	15.2	0.618	0.00002	0.00585	0.024	0.25	5.26	0.0008	14.7	<0.00001	15.8	0.365		0.00006	0.002	0.112	0.0017
W3	08/10/2008	0.016	0.00002	61.9	0.0008	0.00036	0.009	0.23	0.0004	0.002	22.9	0.306	<0.00001	0.00289	0.002	<0.01	2.4	0.0008	6.14	0.00008		0.574		0.00003	0.0028	0.0038	0.0029
W3	17/10/2008	0.018	0.00001	59.1	0.0008	0.00025	0.007	0.18	0.001	0.002	21.7	0.237	<0.00001	0.00259	0.002	0.015	2	<0.0006	5.58	<0.00001	15	0.598		<0.00001	0.001	0.0017	0.0031
W3	24/10/2008	0.015	<0.00001	75.5	<0.0004	0.00023	0.008	0.2	<0.0001	0.002	27.1	0.21	0.00001	0.00292	0.002	<0.01	2.7	<0.0006	6.99	<0.00001	20	0.597		<0.00001	<0.0001	0.0015	0.0032
W3	28/10/2008																										
W3	04/11/2008	0.024	0.00001	64	<0.0005	0.0002	0.005	0.15	<0.0001	0.003	23.1	0.19	<0.0001	0.003	0.0015		2.1	<0.0002	5.94	0.00002	16.9	0.644	14	<0.00005	<0.001	0.0014	0.0036
W3	12/11/2008	0.019	0.00001	67.4	0.0008	0.0002	0.006	0.14	<0.0001	0.003	24.3	0.185	<0.0001	0.003	0.0014		2.1	<0.0002	6.22	0.00002	16.4	0.606	16	<0.00005	<0.001	0.002	0.0035
W3	18/11/2008	0.02	0.00001	69	<0.0005	0.0002	0.018	0.29	<0.0001	0.003	25.6	0.234	<0.0001	0.003	0.0017		2.2	<0.0002	7.25	0.00005	17.4	0.658	16.7	<0.00005	<0.001	0.004	0.0035
W3	24/11/2008																										
W3	26/11/2008	<0.005	0.00001	24.7	<0.0004	0.00008	0.004	0.11	0.0003	<0.001	9.68	0.0745	<0.00001	0.00092	<0.001	0.01	0.7	<0.0006	1.94	<0.00001	6.04	0.209		<0.00001	<0.0001	0.0014	0.0011
W3	05/12/2008	0.011	<0.00001	69.7	0.0004	0.0002	0.004	0.18	<0.0001	0.002	27.5	0.227	<0.00001	0.00232	0.001	0.019	2.2	0.0006	6.06	<0.00001	16.6	0.647		<0.00001	0.0001	0.0007	0.003
W3	10/12/2008	0.012	0.00001	69.7	<0.0004	0.00021	0.004	0.23	<0.0001	0.002	26.6	0.24	<0.00001	0.00242	0.002	<0.01	2.1	<0.0006	5.96	<0.00001	16.8	0.627		<0.00001	0.0003	0.0014	0.003
W3	18/12/2008	0.02	<0.00001	69.6	<0.0005	0.0001	0.005	0.14	<0.0001	0.003	27.5	0.165	<0.00001	0.003	0.0008		2.2	0.0002	6.32	<0.00001	18.4	0.696	19.4	<0.00005	<0.001	0.0021	0.0034
W3	24/12/2008	0.016	0.00001	66.4	<0.0005	0.0003	0.005	0.17	<0.0001	0.003	25.3	0.221	<0.0001	0.002	0.0011	<0.05	2.1	<0.0002	5.57	0.00007	16.7	0.722	17.9	<0.00005	<0.001	0.0014	0.0035
W3	02/01/2009	0.017	0.00001	63.8	<0.0005	0.0002	0.006	0.18	<0.0001	0.003	27.9	0.132	<0.0001	0.002	0.0011	<0.05	2.3	0.0003	5.58	0.00025	18.2	0.714	19.9	<0.00005	<0.001	0.0037	0.0033
W3	09/01/2009	0.02	0.00001	68.3	<0.0005	0.0003	0.013	0.1	0.0004	0.003	27.8	0.114	<0.0001	0.003	0.0019	<0.05	3.1	0.001	5.8	0.00008	19.9	0.718	24.2	<0.00005	<0.001	0.0026	0.0036
W3	15/01/2009	0.022	0.00003	71.1	0.0005	0.0003	0.029	0.18	0.0001	0.002	23.8	0.154	<0.0001	0.005	0.0026	<0.05	3.8	0.0012	5.53	0.00012	19.3	0.625	26.2	<0.00005	<0.001	0.0061	0.0039
W3	20/01/2009	0.02	0.00002		0.001	0.00022	0.008		0.0002	0.004		0.129	<0.00001	0.00241	0.001	0.07		<0.0006		<0.00001		0.849		<0.00001	<0.0001	0.0044	0.0034
W3	28/01/2009	0.017	<0.00001		0.0008	0.00012	0.006		<0.0001	0.003		0.112	<0.00001	0.00232	0.001	0.08		<0.0006		<0.00001		0.804		<0.00001	<0.0001	0.0017	0.0031
W3	02/02/2009	0.015	<0.00001		0.0011	0.00011	0.005		<0.0001	0.003		0.102	<0.00001	0.002	0.001	0.06		<0.0006		<0.00001		0.764		<0.00001	<0.0001	0.002	0.0029
W3	12/02/2009																										
W3	15/02/2009	0.016	0.00001	69.3	0.0007	0.0001	0.003	0.09	<0.0001	0.003	28.6	0.0965	<0.00001	0.00195	<0.001	<0.05	2.5	<0.0006	5.93	<0.00001	18.6	0.687	21	<0.00001	<0.0001	0.0012	0.0028
W3	18/02/2009																										
W3	19/02/2009	0.017	0.00002	73.2	0.0005	0.00016	0.017	0.18	0.0002	0.003	31.7	0.128	<0.00001	0.00218	0.001	<0.05	2.5	<0.0006	6.79	<0.00001	20.9	0.761	23.7	<0.00001	<0.0001	0.0031	0.0031
W3	06/03/2009	0.018	0.00002	65.5	0.001	0.00023	0.027	0.26	0.0003	0.002	23.7	0.0601	<0.00001	0.00412	0.002	<0.05	3.4	<0.0006	6.18	<0.00001	20.4	0.617	25	<0.00001	<0.0001	0.0092	0.0029
W3	14/03/2009	0.016	0.00003		0.0004	0.00013	0.01		0.0002	0.002		0.0354	<0.00001	0.00465	0.002	<0.05		<0.0006		<0.00001		0.594		<0.00001	<0.0001	0.0027	0.0033
W3	20/03/2009	0.021	0.00006	80.4	0.0008	0.00017	0.027	0.19	0.0004	0.002	27.8	0.0498	<0.00001	0.00488	0.002	0.05	3.9	<0.0006	6.63	<0.00001	22	0.689	29.3	<0.00001	0.0002	0.0043	0.004
W3	06/04/2009																										
W3	21/04/2009	0.01	0.00001	62.8	0.0005	0.00012	0.013	0.17	0.0002	0.002	22.7	0.0158	<0.00001	0.00222	0.001	<0.05	2.5	<0.0006	5.32	<0.00001	14.8	0.544	19.8	<0.00001	<0.0001	0.0066	0.0027
W3	30/04/2009	0.01	0.00014	26	0.0027	0.00109	0.052	3.22	0.0008	0.002	8.97	0.348	0.00002	0.00163	0.004	0.12	3.2	<0.0006	5.62	0.00008	8.27	0.202	8.9	0.00001	<0.0001	0.0691	0.0008
W3	02/05/2009	0.01	0.00114	37.9	0.0012	0.0005	0.014	0.96	0.0004	0.001	12	0.155	0.00002	0.00238	0.002	0.08	3	<0.0006	4.65	<0.00001	10.9	0.263	12	<0.00001	<0.0001	0.025	0.0015
W3	04/05/2009	0.013	0.00003	30.9	0.002	0.0006	0.03	0.98	0.0003	0.002	9.4	0.15	<0.0001	0.002	0.002		2.3	<0.0002	4	0.00003	8.2	0.273	9.6	<0.00005	<0.001	0.0349	0.0014
W3	06/05/2009	0.016	0.00002	39.8	<0.0005	<0.0001	0.029	0.14	<0.0001	0.002	13.9	0.037	<0.0001	0.002	<0.0005	<0.05	1.6	0.0007	3.21	0.00002	11.1	0.413	14.5	<0.00005	<0.001	0.0048	0.0022
W3	09/05/2009	0.019	0.00003	50.3	0.0021	0.0003	0.014	0.7	0.0002	0.003	21.5	0.082	<0.0001	0.003	0.0018	<0.05	2.6	0.0006	5.6	0.00002	15.1	0.647	17.2	<0.00005	<0.001	0.03	0.0028
W3	18/05/2009	0.015	0.00002	64	0.0013	0.00034	0.011	0.09	0.0002	0.002	19.7	0.0532	<0.00001	0.00524	0.002	<0.05	3.2	<0.0006	5.02	<0.00001	17.2	0.51	18.3	<0.00001	<0.0001	0.0028	0.0029
W3	27/05/2009	0.015	0.00078	58.3	0.0013	0.00042	0.017	0.45	0.0003	0.002	18.8	0.18	<0.00001	0.00583	0.002	<0.05	3.3	<0.0006	5.29	<0.00001	16.6	0.528	17.8	<0.00001	<0.0001	0.0165	0.0028
W3	03/06/2009	0.021	0.0285	62.7	0.0011	0.00029	0.028	0.27	0.0016	0.002	19.3	0.126	<0.00001	0.00541	0.002	<0.05	3.5	<0.0006	5.15	<0.00001	21	0.54	18.6	<0.00001	<0.0001	0.0072	0.0026
W3	07/06/2009	0.027	0.00003	53.4	0.0005	0.00023	0.076	0.35	0.0004	0.003	16	0.201	0.00001	0.00982	0.002	<0.01	5.8	0.0013	4.76	0.00018	17.4	0.593	19.3	<0.00001	<0.0001	0.007	0.0012
W3	11/06/2009	0.027	0.00001	56.1	0.0005	0.00021	0.019	0.63	<0.0001	0.002	17.4	0.243		0.0056	0.002	<0.05	4	<0.0006	4.87	<0.00001	16.6	0.549	17.9	<0.00001	<0.0001	0.0072	0.0022
W3	18/06/2009	0.019	0.00002	53.9	0.0006	0.00029	0.014	0.39	0.0002	0.002	16.9	0.0864	<0.00001	0.00496	0.002	0.026	2.9	<0.0006	5.2	0.00038	15.1	0.492	15.1	<0.00001	<0.0001	0.0132	0.002
W3	08/08/2009	<0.05	0.00021	62.9	<0.001	<0.0005	0.0113	0.121	0.0005	<0.005	20.5	0.192	<0.00002	0.006	0.002		3.11	0.0004	6.75	<0.00002	17.3	0.557	20	<0.00005	<0.005	<0.005	0.0024
W3	09/08/2009																										
W3	10/08/2009																										
W3	11/08/2009	0.025	0.00001	59.6	0.0008	0.00019	0.006	0.067	0.0003	0.002	19.8	0.16		0.0048	0.002	0.016	2.8	<0.0006	5.98	<0.00001	16.9	0.538	16.4	<0.00001	<0.0001	0.0013	0.002
W3	12/08/2009	<0.05	0.00002	61.7	<0.001	<0.0005	0.0092	0.098	0.0008	<0.005	19.9	0.153	<0.00002	0.005	0.002		2.91	0.0004	6.3	<0.00002	16.6	0.549	19	<0.00005	<0.005	<0.005	0.0025
W3	05/11/2009	0.025	0.00002	62.1	<0.0004	0.00026	0.003	0.115	0.0001	0.002	22.7	0.342	<0.00001	0.0038	0.003	<0.05	2.4	<0.0006	5.51	<0.00001	16.7	0.644	19.2	<0.00001	<0.0001		0.0019
W3	09/11/2009	0.019	0.00002	60.1	<0.0004	0.00027	0.004	0.172	0.0001	0.002	21.1	0.333	<0.00001	0.0034	0.003	<0.05	2	<0.0006	5.71	<0.00001	18.5	0.591	20	<0.00001	<0.0001		0.0016
W3	16/11/2009	0.021	0.00002	62.7	0.0009	0.00025	0.004	0.126	<0.0001	0.002	22.8	0.34	<0.00001	0.0033	0.002	0.07	2.2	<0.0006	5.58	<0.00001	17.9	0.61	19.3	<0.00001	<0.0001		0.0019
W3	25/11/2009	0.018	0.00003	61.5	<0.0004	0.00032	0.003	0.145	0.0001	0.002	22.7	0.358	<0.00001	0.0032	0.002	0.08	2.1	<0.0006	5.5	<0.00001	17.4	0.623	19.4	<0.00001	<0.0001		0.002
W3	25/11/2009																										
W3	02/12/2009	0.015	<0.00001	58.3	<0.0004	0.00029	0.003	0.166	0.0001	0.002	22.4	0.373	<0.00001	0.0031	0.002	0.05	2.1	<0.0006	5.41	<0.00001	16.7	0.611	23.5	<0.00001	<0.0001		0.0021

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	29/05/2008	0.00071	0.003	0.0003	<0.02	0.0012	0.0005	0.087	<0.00004		0.024	High DL removed	66.4	0.0008	0.00022	0.003	0.04	<0.0001	0.002	22.8	0.0886	<0.00001	0.00207	0.001	<0.01	2.03
W3	03/06/2008	0.0011	0.002	0.0002																						
W3	05/06/2008	0.00076	0.002	0.0003	<0.01	0.0008	<0.0002	0.087	<0.00004		0.016	High DL removed		0.0039	0.00018	0.003	0.05	<0.0001	0.002		0.103	<0.01	0.00227	0.001		
W3	11/06/2008	0.00062	0.005	0.0003	<0.01	0.0008	0.0003	0.085	<0.00004		0.016	High DL removed		0.001	0.00018	0.003	0.05	<0.0001	0.002		0.104	<0.01	0.00238	0.001		
W3	17/06/2008	0.00069	0.006	0.0002	<0.01	0.001	0.0005	0.081	<0.00004		0.018	High DL removed		0.002	0.00017	0.003	0.04	<0.0001	0.002		0.0844		0.00237	0.001		
W3	25/06/2008	0.00105	0.004	0.0003	<0.01	0.0006	<0.0002	0.082	<0.00004		0.016	High DL removed	68	0.0039	0.00015	0.004	0.04	<0.0001	0.002	23.7	0.083	<0.00001	0.00233	0.001	0.01	1.94
W3	03/07/2008	0.0007	0.006	<0.001	0.009	0.001	0.0004	0.091	<0.0001	<0.0005	0.019	0.00001	68.9	<0.0005	0.0001	0.003	0.05	<0.0001	0.002	24.6	0.084	<0.0001	0.003	<0.0005		2
W3	08/07/2008	0.00077	0.005	0.0003	0.01	0.0011	0.0006	0.09	<0.00004		0.014	High DL removed	72	0.0018	0.00025	0.004	0.07	0.0004	0.002	25	0.0893	<0.00001	0.00229	0.001	<0.01	2.09
W3	15/07/2008	0.0006	0.006	<0.001	0.005	0.001	0.0004	0.089	<0.0001	<0.0005	0.019	0.00002	67.1	0.0005	0.0003	0.004	0.08	0.0002	0.002	24.2	0.082	<0.0001	0.002	<0.0005		2
W3	22/07/2008	0.0007	0.003	<0.001	0.007	0.0014	0.0004	0.09	<0.0001	<0.0005	0.016	<0.00001	65.7	<0.0005	0.0002	0.005	0.05	<0.0001	0.002	23.1	0.067	<0.0001	0.002	0.0007		1.8
W3	30/07/2008	0.0006	0.006	0.0002	<0.01	0.0007	0.0004	0.09	<0.00004		0.016	High DL removed	67.8	0.0008	0.00031	0.004	0.09	0.0001	0.002	23.9	0.111	<0.00001	0.00245	0.001	<0.01	2.04
W3	06/08/2008	0.0007	0.005	<0.001	<0.005	0.0008	0.0004	0.094	<0.0001	<0.0005	0.015	<0.00001	67.6	0.0006	0.0002	0.003	0.1	<0.0001	0.002	24.2	0.106	<0.0001	0.002	<0.0005	<0.05	1.9
W3	12/08/2008	0.00097	0.004	0.0002	<0.01	0.0009	0.0004	0.087	<0.00004		0.017	High DL removed	69.8	0.002	0.00031	0.003	0.08	0.0001	0.002	25	0.103	<0.00001	0.00258	0.001	0.01	2.06
W3	21/08/2008	0.00107	0.003	0.0002	<0.01	0.0009	0.0003	0.084	<0.00004		0.013	High DL removed	65.6	0.0011	0.00028	0.004	0.08	<0.0001	0.002	22.9	0.0899	<0.00001	0.00231	0.001	<0.01	1.96
W3	25/08/2008	0.0162	0.025	0.001																						
W3	08/10/2008	0.00082	0.016	0.0005	0.007	0.0003	0.0005	0.083	<0.00004		0.018	0.00003	53.9	0.0022	0.00025	0.008	0.142	0.0002	0.002	20.3	0.24	<0.00001	0.00268	0.004	<0.01	2.1
W3	17/10/2008	0.00065	0.007	0.0002	0.011	0.0011	0.0006	0.075	<0.00004		0.013	0.00003	61.9	0.0006	0.00044	0.006	0.171	0.001	0.002	22.6	0.243	<0.00001	0.00236	0.002	<0.01	2.3
W3	24/10/2008	0.00065	0.007	0.0002	<0.005	0.0008	0.0004	0.086	<0.00004		0.018	<0.00001	69.5	0.0008	0.00022	0.006	0.085	<0.0001	0.002	24.8	0.209	<0.00001	0.00302	0.002	0.02	2.4
W3	28/10/2008				<0.005	0.0008	0.0003	0.079	<0.00004		0.016	<0.00001	74	0.0007	0.00019	0.004	0.167	<0.0001	0.002	28.9	0.201	<0.00001	0.00232	0.002	<0.01	2.6
W3	04/11/2008	0.0006	0.008	<0.001	0.007	0.001	0.0004	0.088	<0.0001	<0.0005	0.022	0.00001	64	<0.0005	0.0002	0.005	0.13	0.0001	0.003	23.2	0.188	<0.0001	0.003	0.0015		3.2
W3	12/11/2008	0.0006	0.006	<0.001	0.016	0.0011	0.0014	0.088	<0.0001	<0.0005	0.023	0.00002	63.4	<0.0005	0.0002	0.009	0.13	0.0004	0.004	24.7	0.18	<0.0001	0.003	0.0009		3
W3	18/11/2008	0.0008	0.006	<0.001	0.01	0.0008	0.0004	0.094	<0.0001	<0.0005	0.018	<0.00001	65.4	<0.0005	0.0002	0.007	0.15	<0.0001	0.003	26.1	0.226	<0.0001	0.002	0.0006		2.2
W3	24/11/2008																									
W3	26/11/2008	0.00025	0.002	<0.0001	<0.005	0.0008	0.0004	0.09	<0.00004	<0.0001	0.017	<0.00001	64.7	0.0011	0.00018	0.003	0.146	<0.0001	0.002	24.3	0.213	<0.00001	0.00234	0.001	0.02	1.9
W3	05/12/2008	0.00047	0.003	0.0002	<0.005	0.0006	0.0003	0.099	<0.00004	<0.0001	0.016	<0.00001	69.7	0.0016	0.00026	0.003	0.175	<0.0001	0.002	27.1	0.229	<0.00001	0.00244	0.001	0.01	2
W3	10/12/2008	0.0005	<0.001	0.0002	<0.005	0.0011	0.0003	0.091	<0.00004	<0.0001	0.017	<0.00001	69.1	0.0007	0.00017	0.003	0.192	<0.0001	0.002	26.2	0.245	<0.00001	0.00236	0.001	<0.01	1.9
W3	18/12/2008	0.0008	0.008	<0.001	0.009	0.001	0.0002	0.092	<0.0001	<0.0005	0.021	0.00001	67.9	<0.0005	0.0002	0.005	0.12	0.0014	0.003	28.8	0.165	<0.00001	0.003	<0.0005		2.3
W3	24/12/2008	0.0006	0.006	<0.001	0.006	0.0016	<0.0002	0.051	<0.0001	<0.0005	0.011	<0.00001	36.2	<0.0005	0.0002	0.004	0.02	<0.0001	0.002	17.4	0.114	<0.0001	0.001	0.0007		1.5
W3	02/01/2009	0.0008	0.007	<0.001	0.006	0.0011	0.0003	0.091	<0.0001	<0.0005	0.018	<0.00001	63.8	<0.0005	0.0003	0.004	0.11	<0.0001	0.003	28.6	0.134	<0.0001	0.002	0.0011		2.2
W3	09/01/2009	0.0007	0.005	<0.001	0.008	0.0019	0.0004	0.093	<0.0001	<0.0005	0.019	0.00001	66.2	<0.0005	0.0003	0.006	0.08	0.0001	0.003	27.3	0.11	<0.0001	0.003	0.0014		3
W3	15/01/2009	0.0009	0.01	<0.001	0.01	0.0014	0.0004	0.097	<0.0001	<0.0005	0.02	0.00002	67.1	<0.0005	0.0004	0.01	0.05	<0.0001	0.002	23.5	0.139	<0.0001	0.005	0.0019		3.6
W3	20/01/2009	0.00078	0.055	0.0002	<0.005	0.0014	0.0002	0.094	<0.00004	<0.0001	0.017	<0.00001	77.6	0.0008	0.00011	0.004	0.08	<0.0001	0.003	33.2	0.114	<0.00001	0.00233	0.001	0.02	2.9
W3	28/01/2009	0.00049	0.011	0.0001	<0.005	0.0015	0.0002	0.094	<0.00004	<0.0001	0.017	0.00002	77.7	0.0009	0.00022	0.008	0.09	0.0002	0.027	33.2	0.109	<0.00001	0.00229	0.001	<0.01	4.5
W3	02/02/2009	0.00052	0.007	0.0001	<0.005	0.0009	0.0002	0.089	<0.00004	<0.0001	0.015	<0.00001	72.3	0.0006	0.0002	0.003	0.1	0.0002	0.003	30.7	0.0997	<0.00001	0.00199	<0.001	0.02	2.6
W3	12/02/2009																									
W3	15/02/2009	0.00047	0.006	<0.0001	<0.005	0.0012	0.0003	0.092	<0.00004	<0.0001	0.014	<0.00001	70.7	0.0005	0.00013	0.003	0.08	<0.0001	0.002	20.5	0.1	<0.00001	0.00198	<0.001	<0.01	3.8
W3	18/02/2009																									
W3	19/02/2009	0.00062	0.024	0.0001	<0.005	0.0007	0.0004	0.093	<0.00004	<0.0001	0.017	<0.00001	69.2	0.0006	0.00019	0.003	0.08	0.0002	0.003	30.7	0.127	<0.00001	0.0023	0.001	0.01	2.4
W3	06/03/2009	0.00083	0.022	0.0002	<0.005	0.0007	0.0004	0.088	<0.00004	<0.0001	0.017	0.00002	62.9	0.0007	0.00015	0.008	0.04	0.0002	0.002	22.9	0.0537	<0.00001	0.00402	0.002	0.01	3.4
W3	14/03/2009	0.00043	0.016	0.0002	0.006	0.001	0.0003	0.096	<0.00004	<0.0001	0.019	0.00001	63.5	0.0005	0.00018	0.008	0.04	0.0002	0.002	22.8	0.036	<0.00001	0.00459	0.002	0.02	3.1
W3	20/03/2009	0.00058	0.031	0.0002	0.006	0.003	0.0004	0.091	<0.00004	<0.0001	0.023	0.00004	69	0.0006	0.00023	0.01	0.03	0.0003	0.002	25.1	0.0482	<0.00001	0.00489	0.002	0.02	3.6
W3	06/04/2009																									
W3	21/04/2009	0.0007	0.011	0.0003	0.02	0.0008	0.0003	0.071	0.00005	<0.0001	0.009	0.00013	61.6	0.0004	0.00016	0.014	0.02	0.0002	0.004	22.3	0.0257	<0.00001	0.00204	<0.001	0.02	2.9
W3	30/04/2009	0.00525	0.019	0.0008	0.077	0.001	0.0004	0.038	<0.00004	<0.0001	0.012	0.00036	24.6	0.001	0.00018	0.012	0.3	0.0001	<0.001	8.1	0.145	0.00001	0.00156	0.002	0.03	2.7
W3	02/05/2009	0.00203	0.012	0.0005	0.066	0.0009	0.0004	0.047	<0.00004	<0.0001	0.013	0.00008	38.2	0.0018	0.00035	0.01	0.1	0.0002	0.001	12.6	0.0998	0.00001	0.00217	0.002	0.04	3
W3	04/05/2009	0.003	0.014	<0.001																						
W3	06/05/2009	0.0005	0.003	<0.001																						
W3	09/05/2009	0.0024	0.006	<0.001	0.019	0.0007	0.0003	0.062	<0.0001	<0.0005	0.019	<0.00001	47	0.0008	0.0002	0.008	0.09	<0.0001	0.003	19.7	0.079	<0.0001	0.004	0.0012		2.6
W3	18/05/2009	0.0006	0.006	0.0005	0.014	0.0007	0.0004	0.07	<0.00004	<0.0001	0.018	0.00002	59.7	0.0017	0.00017	0.008	0.04	0.0001	0.002	18.3	0.049	<0.00001	0.00455	0.002	<0.01	3
W3	27/05/2009	0.00164	0.007	0.0003	0.069	0.0008	0.0003	0.113	<0.00004	<0.0001	0.01		59	<0.0004	0.00022	0.016	0.07	0.0004	0.002	18	0.128	<0.00001	0.00491	0.002	0.03	3.2
W3	03/06/2009	0.0011	0.032	0.0004	0.086	0.0008	0.0003	0.073	<0.00004	<0.0001	0.02	0.00574	56.4	0.0006	0.00023	0.044	0.22	0.0005	0.002	17.6	0.0953	<0.00001	0.00502	0.002	<0.01	2.9
W3	07/06/2009	0.00111	0.008	0.0002	0.022	0.001	0.0006	0.078	<0.00004	<0.0001	0.026	0.00007	54.3	<0.0004	0.00022	0.067	0.16	0.0003	0.003	16.3	0.193	<0.00001	0.00958	0.002	<0.01	5.9
W3	11/06/2009	0.00147	0.004	0.0003	0.028	0.0011	0.0003	0.064	<0.00004	<0.0001	0.025	0.00007	54.8	0.0007	0.0002	0.022	0.08	0.0002	0.002	16.8	0.12		0.00562	0.002	<0.01	4.4
W3	18/06/2009	0.00115	0.004	0.0003	0.01	<0.0002	0.0004	0.072	<0.00004	<0.0001	0.018	0.00001	52.5	0.0004	0.00017	0.01	0.06	0.0001	0.002	16.4	0.0575	0.00001	0.00477	0.002	<0.01	2.8
W3	08/08/2009	<0.005	0.007	<0.0005																						
W3	09/08/2009																									
W3	10/08/2009																									
W3	11/08/2009	0.0006	0.002	0.0001	0.013	<0.0002	0.0004	0.075	<0.00004	<0.001	0.015	0.00002	54	0.0011	0.00014	0.003	0.05	0.0004	0.002	17.8	0.136		0.0044	0.002	<0.01	2.5
W3	12/08/2009	<0.005	0.007	<0.0005	0.012	<0.0005	0.0004	0.078	<0.0001	<0.001	<0.05	0.00001	59	<0.001	<0.0005	0.0051	0.037	<0.0002	<0.005	18.3	0.141	<0.00002	0.005	0.002		2.83
W3	05/11/2009	0.0006	0.004	0.0003	0.017	0.0008	0.0003	0.091	<0.00004	<0.001	0.022	0.00002	56.3	<0.0004	0.00026	0.002	0.07	0.0001	0.002	20.2	0.328	<0.00001	0.0037	0.002	<0.01	2.1
W3	09/11/2009	0.0006	0.007	0.0003	0.005	0.0009	0.0003	0.091	<0.00004	<0.001	0.018	0.00001	61.6	<0.0004	0.00027	0.002	0.09	0.0001	0.002	21.7	0.323	<0.00001	0.0034	0.003	<0.01	2
W3	16/11/2009	0.0005	0.003	0.0001	0.015	0.0016	0.0004	0.091	<0.00004	<0.001	0.014	0.00004	57.4	0.001	0.00034	0.004	0.09	0.0001	0.002	21	0.33	<0.00001	0.0033	0.002	<0.01	2
W3	25/11/2009	0.0006	0.008	0.0003	0.007	0.0011	0.0004	0.091	<0.00004	<0.001	0.02	0.00011	59.7	0.0005	0.00032	0.003	0.09	0.0004	0.002	22	0.33	<0.00001	0.003	0.002	<0.01	2
W3	25/11/2009																									
W3	02/12/2009	0.0006	0.008	0.0004	0.007	0.002	0.0002	0.089	<0.00004	<0.001	0.014	<0.00001	59.6	<0.0004	0.00036	0.003	0.13	<0.0001	0.002	22.2	0.363	<0.00001	0.0029	0.001	<0.01	2

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	Br	Cation	CN-T	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-TKN	P-PO4T	P-TDP	P-TRP
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L
W3	29/05/2008	<0.0006	2.68	High DL removed	16.2	0.592		<0.00001	<0.004	0.0005	0.0054	0.00049	0.003	0.0003	310	<6	<5						24				8.4		0.44	<0.05		0.08
W3	03/06/2008														320	<6	<5						23						0.32	<0.05		0.05
W3	05/06/2008	<0.0006		<0.00001		0.621		<0.00001	<0.0001	0.0003	0.0051	0.00117	0.002	0.0002	320	<6	<5						22				7.8		0.47	0.05		
W3	11/06/2008	<0.0006		<0.00001		0.628		<0.00001	<0.0001	0.0005	0.0049	0.00046	0.002	0.0003	320	<6	<5						22				7.4		0.33	0.04		
W3	17/06/2008	0.0008		<0.00001		0.596		<0.00001	<0.0001	0.0003	0.0047	0.00091	0.002	0.0002	320	<6	<5						22				7.6		0.39	0.07		
W3	25/06/2008	<0.0006	4.85	<0.00001	16.7	0.6		<0.00001	<0.0001	0.0007	0.0045	0.0013	0.003	0.0003	310	<6	<5						23				7.2		0.36	<0.05		0.06
W3	03/07/2008	<0.0002	5.71	<0.00001	17.4	0.654	13	<0.00005	<0.001	0.0007	0.0048	0.0006	0.006		320	<6	<5						10				8		0.31	<0.05		0.06
W3	08/07/2008	<0.0006	5.02	<0.00001	16.2	0.631		<0.00001	<0.0001	0.0007	0.0045	0.00088	0.003	0.0003	320	<6	<5						21				8		0.39	<0.05		0.05
W3	15/07/2008	<0.0002	5.76	<0.00001	17.7	0.596	12.1	<0.00005	<0.001	0.0018	0.0048	0.0006	0.004		280	<6	<5						22				8.3		0.42	<0.05		0.06
W3	22/07/2008	<0.0002	5.73	0.00001	16.4	0.598	11.2	<0.00005	<0.001	0.0006	0.0043	0.0006	0.003		300	<6	<5						24						0.29	<0.05		0.06
W3	30/07/2008	<0.0006	5.7	0.00001	16.8	0.639		<0.00001	<0.0001	0.0007	0.0041	0.00066	0.006	0.0002	330	<6	<5						22						0.32	<0.05		0.06
W3	06/08/2008	<0.0002	5.87	0.00002	16.9	0.597	11.1	<0.00005	<0.001	0.0005	0.0045	0.0007	0.004														8		0.33	<0.05		0.06
W3	12/08/2008	<0.0006	6.43	<0.00001	17.3	0.621		0.00001	<0.0001	0.0008	0.0044	0.00094	0.003	0.0002	300	<6	<5						25						0.34	0.09		0.06
W3	21/08/2008	<0.0006	5.95	<0.00001	15.8	0.597		<0.00001	<0.0001	0.0007	0.0038	0.00068	0.002	0.0002	330	<6	<5						21						0.37	<0.05		0.06
W3	25/08/2008																															
W3	08/10/2008	0.0006	5.43	<0.00001	13.9	0.55		0.00005	0.0018	0.001	0.0027	0.00115	0.004	0.0002	270	<6	<5						36				12.1		0.64	<0.05		0.06
W3	17/10/2008	<0.0006	5.76	<0.00001	15.1	0.543		0.00021	0.0014	0.0012	0.0028	0.00048	0.012	0.0002	280	<6	<5						31						0.48	<0.05		0.06
W3	24/10/2008	<0.0006	6.29	<0.00001	17.5	0.585		<0.00001	<0.0001	0.001	0.003	0.00071	0.012	0.0002	300	<6	<5						27				11.1		0.54	<0.05		0.09
W3	28/10/2008	<0.0006	6.74	<0.00001	19.1	0.592		<0.00001	0.0002	0.0007	0.003	0.00067	0.002	0.0001													10.8					
W3	04/11/2008	<0.0002	6.02	<0.00001	16.8	0.611	14.3	<0.00005	<0.001	0.0007	0.0036	0.0006	0.005		290	<6	<5						18				9.4		0.49	<0.05		0.07
W3	12/11/2008	<0.0002	6.02	<0.00001	18	0.611	15.5	<0.00005	<0.001	0.0018	0.0037	0.0008	0.007		310	<6	<5						24				9.4		0.54	<0.05		0.11
W3	18/11/2008	<0.0002	6.27	<0.00001	18.7	0.644	16.5	<0.00005	<0.001	0.0013	0.0037	0.0008	0.003		320	<6	<5						18						0.4	<0.05		0.11
W3	24/11/2008																															
W3	26/11/2008	0.001	5.13	<0.00001	15.9	0.623	15.5	<0.00001	<0.0001	0.0005	0.003	0.00077	0.002	0.0001	160	<6	<5						6						0.27	<0.05		0.04
W3	05/12/2008	0.0011	5.98	<0.00001	16.3	0.657	17.5	<0.00001	<0.0001	0.0006	0.0032	0.00081	0.002	0.0001	310	<6	<5						14						0.39	<0.05		0.05
W3	10/12/2008	0.001	5.8	<0.00001	17	0.628	17.4	<0.00001	<0.0001	0.0008	0.0029	0.00064	0.004	0.0001	300	<6	<5						14						0.39	<0.05		0.05
W3	18/12/2008	<0.0002	6.64	<0.00001	19.7	0.725	19.5	<0.00005	<0.001	0.0011	0.0038	0.0007	0.003		320	<6	<5						16				8.2		0.38	<0.05		0.03
W3	24/12/2008	<0.0002	3.09	<0.00001	12	0.421	11.9	<0.00005	<0.001	0.0008	0.0022	0.0006	0.004		310	<6	<5						18				6.2		0.2	0.05		
W3	02/01/2009	0.0002	6.75	<0.00001	18.3	0.76	19.8	<0.00005	<0.001	0.0013	0.0036	0.0007	0.004		310	<6	<5						15				7.9		0.29	0.05		
W3	09/01/2009	0.0008	6.91	<0.00001	19.6	0.733	23.7	<0.00005	<0.001	0.0014	0.0036	0.0005	0.005		300	<6	<5						20				10		0.31	0.05		
W3	15/01/2009	0.001	6.56	<0.00001	19.3	0.641	25.5	<0.00005	<0.001	0.002	0.0039	0.0005	0.006		280	<6	<5						25						0.37	0.06		
W3	20/01/2009	<0.0006	6.91	<0.00001	20.2	0.834	22.5	<0.00001	<0.0001	0.0011	0.0032	0.00051	0.006	0.0002	310	<6	<5						19						0.58	0.05		
W3	28/01/2009	<0.0006	6.84	<0.00001	20.9	0.815	23	<0.00001	<0.0001	0.001	0.0033	0.00051	0.022	0.0001	310	<6	<5						18						0.36	0.05		
W3	02/02/2009	<0.0006	6.35	<0.00001	19.1	0.762	20.1	<0.00001	<0.0001	0.0008	0.0029	0.00034	0.005	<0.0001	280	<6	<5						18						0.32	0.04		
W3	12/02/2009																															
W3	15/02/2009	<0.0006	5.54	<0.00001	19.7	0.741	25.1	0.00001	<0.0001	0.0006	0.0031	0.00038	0.005	0.0001	310	<6	<5						16						0.24	0.04		
W3	18/02/2009																															
W3	19/02/2009	<0.0006	6.49	<0.00001	20.3	0.785	22.3	<0.00001	<0.0001	0.0009	0.0031	0.0005	0.008	0.0001	340	<6	<5						8						0.42	0.04		
W3	06/03/2009	<0.0006	5.68	<0.00001	19.6	0.61	23.6	<0.00001	<0.0001	0.0008	0.0029	0.00041	0.013	0.0002	260	<6	<5						21						0.69	0.03		
W3	14/03/2009	0.0007	5.55	<0.00001	19	0.642	24.1	<0.00001	<0.0001	0.0009	0.0035	0.00038	0.007	0.0004	270	<6	<5						17						0.46	0.04		
W3	20/03/2009	<0.0006	5.84	<0.00001	20.8	0.668	27.3	<0.00001	<0.0001	0.0007	0.0038	0.00046	0.014	0.0002	270	<6	<5						15						1.22	0.04		
W3	06/04/2009																															
W3	21/04/2009	<0.0006	5.16	<0.00001	14.4	0.482	19.9	0.00004	<0.0001	0.0025	0.0023	0.00046	0.005	0.0002	230	<6	<5						32						0.41	0.03		
W3	30/04/2009	<0.0006	2.71	<0.00001	7	0.179	8.5	<0.00001	<0.0001	0.0034	0.0007	0.00067	0.005	0.0005	80	<6	<5						180				27.7		1.08	0.04		
W3	02/05/2009	<0.0006	3.71	<0.00001	10.4	0.274	12.3	<0.00001	<0.0001	0.0032	0.0015	0.00054	0.008	0.0003	100	<6	<5						150						0.93	0.03		
W3	04/05/2009														115	<6	<5						120									
W3	06/05/2009														199	<6	<5						10						0.19	0.03		
W3	09/05/2009	0.0004	4.93	<0.00001	14.6	0.53	16.3	<0.00005	<0.001	0.0014	0.0026	0.0008	0.004		234	<6	<5						45						0.38	0.04		
W3	18/05/2009	<0.0006	4.97	<0.00001	15.9	0.484	16.8	<0.00001	<0.0001	0.0014	0.0025	0.00054	0.004	0.0002	210	<6	<5						41						0.58	0.03		
W3	27/05/2009	<0.0006	4.65	<0.00001	17.1	0.451	17.2	<0.00001	<0.0001	0.0017	0.0024	0.00069	0.016	<0.0001	220	<6	<5						28						0.32	0.02		
W3	03/06/2009	<0.0006	4.6	<0.00001	15.6	0.503	16.4	<0.00001	<0.0001	0.0039	0.0025	0.00084	0.009	0.0003	220	<6	<5						26						0.48	0.03		
W3	07/06/2009	0.0017	4.57	<0.00001	17.7	0.602	19.6	<0.00001	<0.0001	0.0028	0.0013	0.00066	0.005	0.0002	180	<6	<5						76						0.53	0.03		<0.05
W3	11/06/2009	0.0009	4.5	<0.00001	16.7	0.559	17.2	<0.00001	0.0002	0.0023	0.0021	0.00054	0.012	0.0003	210	<6	<5						27						0.27	0.03		
W3	18/06/2009	<0.0006	4.58	<0.00001	14.8	0.474	14.1	<0.00001	<0.0001	0.001	0.0018	0.00052	0.002	0.0002	210	<6	<5						49				12.8	121	0.57	0.03		0.07
W3	08/08/2009																															<0.005
W3	09/08/2009																															
W3	10/08/2009																															
W3	11/08/2009	<0.0006	5.56	<0.00001	15.4	0.47	16.6	<0.00001	<0.0001	0.0009	0.0019	0.0005	0.001	0.0001	240	<6	<5						24						0.26	0.02		<0.05
W3	12/08/2009	0.0003	6.23	<0.00002	15.8	0.511	19	<0.00005	<0.005	<0.005	0.0023	<0.005	<0.005	<0.0005	240	<0.5	<0.5	<0.5		<0.4												<0.005
W3	05/11/2009	<0.0006	4.98	<0.00001	15.5	0.607	18.6	<0.00001	0.0001	<0.01	0.0019	0.0004	0.002	0.0002	210	<6	<5												0.3	0.05		
W3	09/11/2009	<0.0006	5.73	<0.00001	19.6	0.599	19.9	<0.00001	<0.0001	<0.01	0.0017	0.0004	0.003	<0.0001	210	<6	<5												0.17	0.04		
W3	16/11/2009	<0.0006	5.03	<0.00001	16	0.598	16.9	<0.00001	<0.0001	<0.01	0.0019	0.0006	0.004	0.0001	230	<6	<5												0.42	0.08		
W3	25/11/2009	<0.0006	5.22	<0.00001	16.9	0.594	18.6	<0.00001	<0.0001	<0.01	0.0019	0.0006	0.004	0.0002	220	<6	<5												0.08	0.04		
W3	25/11/2009																															
W3	02/12/2009	<0.0006	5.18	<0.00001	15.3	0.598	18.8	<0.00001	<0.0001	<0.01	0.002	0.0005	0.004	0.0002	220	<6	<5												0.26	0.06		

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W3	29/05/2008					0.5	
W3	03/06/2008	<0.005				0.6	
W3	05/06/2008					0.4	
W3	11/06/2008					0.4	
W3	17/06/2008					0.5	
W3	25/06/2008					0.5	
W3	03/07/2008					0.5	
W3	08/07/2008					0.5	
W3	15/07/2008					0.6	
W3	22/07/2008					0.6	
W3	30/07/2008					0.6	
W3	06/08/2008	0.006167					
W3	12/08/2008					0.7	
W3	21/08/2008					1.4	
W3	25/08/2008						
W3	08/10/2008					0.2	
W3	17/10/2008					<0.1	
W3	24/10/2008					0.4	
W3	28/10/2008	<0.005					
W3	04/11/2008					1.9	
W3	12/11/2008					18	
W3	18/11/2008					3	
W3	24/11/2008						
W3	26/11/2008					<0.1	
W3	05/12/2008					<0.1	
W3	10/12/2008					<0.1	
W3	18/12/2008					1.5	
W3	24/12/2008					<0.1	
W3	02/01/2009					<0.1	
W3	09/01/2009					<0.1	
W3	15/01/2009					<0.1	
W3	20/01/2009					<0.1	
W3	28/01/2009					<0.1	
W3	02/02/2009					<0.1	
W3	12/02/2009						
W3	15/02/2009					0.2	
W3	18/02/2009						
W3	19/02/2009					0.3	
W3	06/03/2009					0.4	
W3	14/03/2009					0.8	
W3	20/03/2009					0.8	
W3	06/04/2009						
W3	21/04/2009					2.8	
W3	30/04/2009	<0.005				9.2	
W3	02/05/2009					2.5	
W3	04/05/2009					6.8	
W3	06/05/2009					18.9	
W3	09/05/2009					4.8	
W3	18/05/2009					0.1	
W3	27/05/2009					2.2	
W3	03/06/2009					0.9	
W3	07/06/2009					4	
W3	11/06/2009					2.8	
W3	18/06/2009	<0.01				3.9	
W3	08/08/2009					0.6	
W3	09/08/2009						0
W3	10/08/2009						
W3	11/08/2009					0.2	
W3	12/08/2009					0.6	
W3	05/11/2009					0.7	
W3	09/11/2009					0.2	
W3	16/11/2009					0.3	
W3	25/11/2009					0.5	
W3	25/11/2009						
W3	02/12/2009					0.3	

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Phase	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
				mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	04/12/2009 12:50	No Discharge	P		291		7.9		526						235	205	11		58.9		0.005	1.13		0.103	0.0002	0.0004	0.094	0.0001	0.0005
W3	09/12/2009	No Discharge	P	<5	356	7.67	8.27	654	539	1.1					259	199	12.5		60.7			1.33		0.018	<0.0002	0.0003	0.096	<0.00004	<0.001
W3	15/12/2009	No Discharge	P	<3	298	7.41	7.7	669	535	1.1					192	194	12.7		59			1.07		0.032	0.0002	<0.0002	0.104	<0.00004	<0.001
W3	01/01/2010	No Discharge	P	7	346	7.94	7.69	496	590	0.47					275	203	16.4		95.2			1.47		0.07	0.001	0.0003	0.109	<0.00004	<0.001
W3	05/01/2010	No Discharge	P	<5	404	7.99	7.96	647	634					272	272	172	19.6		90.7			6.83		0.021	0.0007	0.0004	0.106	<0.00004	<0.001
W3	11/01/2010	No Discharge	P	8	396	7.25	7.89	767	607	1					438	210	17.5		82.4			1.54		0.379	0.0015	0.0005	0.376	<0.00004	<0.001
W3	19/01/2010	No Discharge	P	7	1110	7.05	7.7	1880	1480	1				795	795	596	4.89		220			3.73		0.063	0.0008	0.0018	0.33	<0.00004	<0.001
W3	27/01/2010	No Discharge	P	22	456	7.05	7.59	842	695	1				332		248	25.2		88.6			0.72		0.05	0.0004	0.0021	0.135	<0.00004	<0.001
W3	01/02/2010	No Discharge	P	6	468	6.82	7.56	903	705	1				337		259	18.4		80.5			0.43		0.028	0.0005	0.0018	0.145	<0.00004	<0.001
W3	09/02/2010	No Discharge	P	<5	328	7.35	7.66	591	547	1.2				253		207	10.8		64.3			1.14		0.016	<0.0002	0.0003	0.094	<0.00004	<0.001
W3	16/02/2010	No Discharge	P	<5	366	6.98	7.66	584	564	1.3				246		203	10		62			1.08		0.012	<0.0002	<0.0002	0.09	<0.00004	<0.001
W3	24/02/2010	No Discharge	P	<5	350	6.9	7.87	595	564	1.2				244		202	10.4		61.8					0.01	<0.0002	0.0004	0.09	<0.00004	<0.001
W3	02/03/2010	No Discharge	P	<5	376	6.94	7.77	616	566	1.2				251		207	11.5		68			1.55		0.023	<0.0002	0.0003	0.095	<0.00004	<0.001
W3	10/03/2010	No Discharge	P	<5	354	7.08	7.78	606	551	1.2				268		205	10.9		72.8			1.38		0.012	<0.0002	0.0003	0.094	<0.00004	<0.001
W3	15/03/2010	No Discharge	P	<3	390	7.02	7.81	612	574	1.2				261		211	11.2		65			1.41		0.009	<0.0002	0.0003	0.091	<0.00004	<0.001
W3	24/03/2010	No Discharge	P	<3	368	7.3	7.83	623	566	1.2				264		220	10.9		68.2			1.38		0.008	0.0002	0.0003	0.092	<0.00004	<0.001
W3	31/03/2010	No Discharge	P	<3	368	6.62	7.93	564	531	1.2				221		192	9.68		75.8			1.34		0.046	<0.0002	0.0003	0.089	<0.00004	<0.001
W3	05/04/2010	No Discharge	P	<3	360	7.02	7.96	585	573	1.2				262		201	10.2		68.5			1.41		0.012	<0.0002	0.0002	0.09	<0.00004	<0.001
W3	13/04/2010	No Discharge	P	<5	360	6.72	7.97	574	543					247		220	11		70.3			1.44		0.013	<0.0002	0.0003	0.093	<0.00004	<0.001
W3	19/04/2010	No Discharge	P	<5	296	6.57	7.86	610	447	1.1				214		177	8.66		56.6			1.11		0.082	<0.0002	0.0003	0.076	<0.00004	<0.001
W3	20/04/2010	No Discharge	P	<5	328	6.94	7.97	506	482	1.2				228		193	9.21		60.8			1.14		0.074	<0.0002	0.0003	0.078	<0.00004	<0.001
W3	21/04/2010	No Discharge	P	8	292	7	7.4	306	291	1				151		109	4.96		33.1			0.59		0.258	<0.0002	0.0005	0.064	<0.00004	<0.001
W3	22/04/2010	No Discharge	P	<5	272	6.92	7.58	320	308	1.1				156		115	5.04		31.4			0.62		0.219	<0.0002	0.0004	0.066	<0.00004	<0.001
W3	23/04/2010	No Discharge	P	<5	260	7.29	7.59	280	280	0		108.7		148		109	4.77		30.6					0.133	<0.0002	0.0006	0.063	<0.00004	<0.001
W3	24/04/2010	No Discharge	P	<5	264	7.71	7.69	666	274	1.86				144		106	4.61		29				46.7	0.178	<0.0002	0.0006	0.066	<0.00004	<0.001
W3	25/04/2010	No Discharge	P	<2	272	7.52	7.68	250	282	0		99.3		142		108	4.56		28			0.61	48	0.148	<0.0002	0.0004	0.06	<0.00004	<0.001
W3	26/04/2010	No Discharge	P	<4	260	7.41	7.9	270	268	0		92.9		134	138	100	5.5	0.22	27	0.012	0.006	0.56	38.7	0.15	<0.0005	0.0004	0.06	<0.0001	<0.001
W3	27/04/2010	No Discharge	P	<4	120	7.49	7.8	234	225	0		96.1		118	118	86	5	0.2	2.9	0.022	0.012	0.44	39.2	0.191	<0.0005	0.0004	0.056	<0.0001	<0.001
W3	28/04/2010	No Discharge	P	<4	230	7.58	7.9	248	228			22.4		116	125	89	4.7	0.19	5.9	0.08	<0.03	0.5	37.3	0.143	<0.0005	0.0004	0.053	<0.0001	<0.001
W3	29/04/2010	No Discharge	P	<4	230	7.64	7.8	5	286	0.06		6.9		142	148	110	5.5	0.23	38	<0.03	<0.01	0.58	31.8	0.14	<0.0005	0.0005	0.061	<0.0001	<0.001
W3	30/04/2010	No Discharge	P	<4	260	7.65	8	300	308	0		94.6		167	148	120	5.7	0.23	39	<0.005	<0.05	0.7	33	0.11	<0.0005	0.0004	0.069	<0.0001	<0.001
W3	01/05/2010	No Discharge	P	<4	300	7.07	8	337	360	0		91.9		190	173	140	7.1	0.26	53	0.042	0.006	0.88	23.8	0.087	<0.0005	0.0004	0.071	<0.0001	<0.001
W3	02/05/2010	No Discharge	P	<4	260	7.65	8.3	396	412	0.02		82.8		200	205	150	8.3	0.29	63	0.022	0.005	1.01	35.1	0.057	<0.0005	0.0004	0.076	<0.0001	<0.001
W3	03/05/2010	No Discharge	P	<4	300	7.71	8	400	419	0.03		10.5		198	197	160	8.3	0.31	61	0.022	<0.005	1.03	20	0.082	<0.0005	0.0004	0.072	<0.0001	<0.001
W3	04/05/2010	No Discharge	P	<4	330	7.63	8.1	479	445	0.02		99.6		211	212	170	8.5	0.33	65	0.023	<0.005	1.14	14.7	0.047	<0.0005	0.0004	0.077	<0.0001	<0.001
W3	05/05/2010	No Discharge	P	<4	290	7.69	8.1	483	456	0.04		84.7		229	217	170	8.6	0.32	66	<0.01	0.006	1.05	13.9	0.057	<0.0005	0.0003	0.087	<0.0001	<0.001
W3	06/05/2010	No Discharge	P	<4	310	7.72	8.1	466	470	0.04		14.7		226	231	180	9	0.3	70	0.04	0.006	1.1	13	0.049	<0.0005	0.0003	0.079	<0.0001	<0.001
W3	07/05/2010	No Discharge	P	<4	310	7.77	8	514	475	0.04		67		243	230	180	9.9	0.33	73	0.01	0.007	1.11	18.7	0.044	<0.0005	0.0003	0.084	<0.0001	<0.001
W3	08/05/2010	No Discharge	P	<4	300	7.7	8.1	500	498	0.04		113.8		264	242	190	9.2	0.35	69	0.013	0.006	1.18	11.2	0.045	<0.0005	0.0004	0.092	<0.0001	<0.001
W3	09/05/2010	No Discharge	P	<4	340	7.78	8.1	554	524	0.12		121.3		240	241	200	9.8	0.37	72	0.008	<0.005	1.45	9.4	0.14	<0.0005	0.0003	0.085	<0.0001	<0.001
W3	10/05/2010	No Discharge	P	<4	340	7.8	8.1	559	520	0.11		118.7		268	251	200	10	0.37	70	0.017	0.005	1.46	9.4	0.072	<0.0005	0.0004	0.096	<0.0001	<0.001
W3	11/05/2010	No Discharge	P	<4	330		8.2		522					258	268	200	10	0.24	74	0.043	<0.005	1.35	8.3	0.026	<0.0005	0.0003	0.088	<0.0001	<0.001
W3	12/05/2010	No Discharge	P	<4	290		8.3		461					237	228	180	8.8	0.22	62	<0.05	<0.005	1.09	6.8	0.055	<0.0005	0.0003	0.083	<0.0001	<0.001
W3	13/05/2010	No Discharge	P	<4	310		8.2	476	526	1.5		7.26		252	275	200	10	0.34	78	0.013	0.005	0.91	7.9	0.028	<0.0005	0.0003	0.09	<0.0001	<0.001
W3	14/05/2010	No Discharge	P	<4	280	7.79	8.3	470	453	1.9				212	216	170	8.9	0.33	62	0.059	<0.005	1.06	7.2	0.051	<0.0005	0.0003	0.076	<0.0001	<0.001
W3	14/05/2010	No Discharge	P																										
W3	15/05/2010	No Discharge	P	<4	340	7.8	8.2	535	531	1.5				239	264	200	9.8	0.35	73	0.067	<0.005	1.29	7.3	0.021	<0.0005	0.0003	0.082	<0.0001	<0.001
W3	16/05/2010	No Discharge	P	<4	270	7.78	8.3	453	436	1.8				211	213	140	8	0.3	57	0.06	<0.005	1	6.5	0.075	<0.0005	0.0003	0.073	0.0001	<0.001
W3	17/05/2010	No Discharge	P	<4	340	7.77	8.1	545	519	1.5				251	268	190	10	0.35	84	0.011	<0.005	1.28	7.6	0.018	<0.0005	0.0003	0.086	<0.0001	<0.001
W3	18/05/2010	No Discharge	P	44	330	7.82	8.4	508	493	1.7				263	247	190	9.3	0.35	67	0.05	<0.005	1.21	6.7	0.114	<0.0005	High DL removed	0.089	<0.0005	<0.001
W3	19/05/2010	No Discharge	P	<1	330	7.66	8.4	536	520	1.4				276	268	200	10	0.37	74	0.05	<0.005	1.33	6	0.017	<0.0005	High DL removed	0.09	<0.0005	<0.001
W3	20/05/2010	No Discharge	P	1	340	7.6	8.4	540	526	1.4				287	273	200	10	0.39	87	0.04	<0.005	1.31	6.2	0.026	<0.0005	High DL removed	0.092	<0.0005	<0.001
W3	21/05/2010	No Discharge	P	1	330	7.83	8.2	488	484	2.6				241	233	190	9.3	0.39	63	0.009	<0.005	1.18	4.9	0.03	<0.0005	<0.0004	0.085	<0.0002	<0.001
W3	22/05/2010	No Discharge	P	4	340	7.62	8.2	524	505	2				235	245	200	11	0.41	68	0.02	<0.005	1.24	6.3	0.078	<0.0005	<0.0004	0.089	<0.0002	<0.001
W3	23/05/2010	No Discharge	P	2	350	7.69	8.1	553	526	1.4				236	246	200	11	0.41	67	0.015	<0.005	1.31	6.1	0.023	<0.0005	<0.0004	0.086	<0.0002	<0.001
W3	24/05/2010	No Discharge	P	<1	340	7.64	8.4	562	534	1.4				262	264	210	9.4	0.42	69	0.19	<0.005	1.3	5.5	0.017	<0.0005	<0.0004	0.094	<0.0002	<0.001
W3	25/05/2010	No Discharge	P	<1	310	7.3	8.2	554	532	1.9				282	288	210	9.9	0.39	69	0.19	<0.005	1.23	6.3	0.018	<0.0005	High DL removed	0.087	<0.0005	<0.001
W3	26/05/2010	No Discharge	P	30	310	7.84	8.4	536	509	1.8				249	266	200	9.2	0.39	65	0.042	<0.005	1.19	5.9	0.198	<0.0005	0.0004	0.099	<0.0002	<0.001
W3	27/05/2010	No Discharge	P	2	320	7.58	8.2	568	544	1.4				279	281	210	10	0.4	67	0.021	0.006	1.28	5.9	0.031	<0.0005	High DL removed	0.086	<0.0005	<0.001
W3	28/05/2010	No Discharge	P	2	370	7.56	8.5	539	507	2				261	248	200	10	0.44	68	0.014	<0.005	0.95	5	0.036	<0.0005	0.0004	0.091	<0.0002	<0.001
W3	29/05/2010	No Discharge	P	2	380	7.69	8.5	570	534	1.3				274	262	210	11	0.4	77	0.11	<0.005	1.25	4.7	0.029	<0.0005	0.0004	0.097	<0.0002	<0.001
W3	30/05/2010	No Discharge	P	4	310	7.78	8.4	458	436	3.3				215	213	170	7.2	0.37	55	0.015	0.005	0.87	4.5	0.059	<0.0005	<0.0004	0.08	<0.0002	<0.001
W3	31/05/2010	No Discharge	P	3	370	7.73	8.2	552	530	2.2				254	237	200	9.7	0.39	69	<0.05	0.007	1.14	5.5	0.054	<0.0005	0.0004	0.096	<0.0002	<0.001
W3	01/06/2010	No Discharge	P	4	320	7.5	8.5	558	540	1.4				308	277	210	9.9	0.37	68	0.037	0.006	1.24	5.2	0.111	<0.0005	0.0005	0.096	<0.0002	<0.001
W3	02/06/2010	No Discharge	P	3	330	7.5	8.5	562	540	1.7				286	255	210	10	0.4	68	0.056	0.005	1.2	4.9	0.03	<0.0005	<0.0004	0.09	<0.0002	<0.001

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	04/12/2009 12:50	0.018	0.00002	60.6	0.0005	0.0003	0.008	0.27	0.0001	0.002	21.8	0.394		0.003	0.0013		2	0.0002	4.29	0.00001	16.6	0.619	19.6	0.00005	0.001	0.0005	0.0019
W3	09/12/2009	0.03	<0.00001	57.9	<0.0004	0.00029	0.003	0.098	<0.0001	0.003	22.4	0.383	<0.00001	0.0032	0.002	<0.05	2.2	<0.0006	5.22	<0.00001	16.6	0.707	20.5	<0.00001	<0.0001		0.0022
W3	15/12/2009	0.019	0.0137	61.1	0.0007	0.00027	0.002	0.148	0.0007	0.002	23.5	0.366	<0.00001	0.0028	0.002	0.06	2.3	<0.0006	5.15	<0.00001	16	0.654	19.9	<0.00001	<0.0001		0.0022
W3	01/01/2010	0.018	0.00031	74.6	0.0006	0.00019	0.038	0.155	0.0007	0.002	25.8	0.0322	<0.00001	0.0029	0.002	<0.05	3	<0.0006	5.6	0.00002	19.8	0.665	28.4	<0.00001	<0.0001		0.0022
W3	05/01/2010	0.031		72.6	0.0005	0.00025	0.008	0.022	0.0006	0.002	23.7	0.462	<0.00001	0.0064	0.003	<0.05	4.2	0.0015	5.12	<0.00001	20.8	0.794	29.3	<0.00001	<0.0001		0.0026
W3	11/01/2010	0.012	0.372	105	0.0014	0.00032	0.025	0.324	0.0316	0.002	26.7	0.0304	<0.00001	0.0024	0.004	<0.05	2.8	<0.0006	5.79	0.00003	19.7	0.695	28.2	<0.00001	<0.0001		0.0018
W3	19/01/2010	0.045	0.00296	206	0.0011	0.00098	0.018	1.25	0.0004	0.006	79.4	1.39	<0.00001	0.0089	0.006	0.15	7.3	<0.0006	16.5	<0.00001	56	2.06	69.3	<0.00001	<0.0001		0.006
W3	27/01/2010	0.025	0.00035	81.3	0.0008	0.00086	0.054	1.77	0.0002	0.002	32.6	1.86	<0.00001	0.0032	0.003	0.12	3	<0.0006	6.73	0.00003	24.6	0.785	30.7	<0.00001	<0.0001		0.0021
W3	01/02/2010	0.016	0.00009	86.2	0.0007	0.001	0.012	1.6	0.0002	0.002	32.3	2.37	<0.00001	0.0036	0.003	0.12	2.6	<0.0006	7.08	<0.00001	23.1	0.868	25.3	<0.00001	<0.0001		0.002
W3	09/02/2010	0.017	<0.00001	74.8	0.0004	0.00025	0.002	0.155	<0.0001	0.002	28	0.233	<0.00001	0.0022	0.002	0.05	2.3	<0.0006	5.6	<0.00001	18.6	0.736	24.1	<0.00001	<0.0001		0.0024
W3	16/02/2010	0.016	0.00002	60.3	<0.0004	0.00022	0.002	0.143	<0.0001	0.003	26.2		<0.00001	0.0022	0.001	<0.05	2	<0.0006	5.26	<0.00001	16.8	0.702	22.1	<0.00001	<0.0001		0.0019
W3	24/02/2010	0.023	<0.00001	63.7	<0.0004	0.00018	0.002	0.126	<0.0001	0.003	26.9		<0.00001	0.0023	0.001	<0.05	2.2	<0.0006	5.47	<0.00001	17.7	0.69	25	<0.00001	<0.0001		0.0023
W3	02/03/2010	0.022	0.00001	64.5	<0.0004	0.00021	0.002	0.135	<0.0001	0.003	26.4	0.217	<0.00001	0.0031	<0.001	<0.05	2.3	<0.0006	5.31	<0.00001	18.2	0.742	23.6	<0.00001	<0.0001		0.0028
W3	10/03/2010	0.016		72.8	<0.0004	0.0002	0.002	0.194	0.0001	0.003	29.7	0.203	<0.00001	0.0024	0.001	0.07	2.5	<0.0006	6.37	<0.00001	20.8	0.732	27.3	<0.00001	<0.0001		0.0026
W3	15/03/2010	0.018	0.00003	66.1	<0.0004	0.00018	0.002	0.102	<0.0001	0.002	26.9	0.164	<0.00001	0.0024	0.001	0.05	2.4	<0.0006	5.36	<0.00001	18.8	0.71	23.6	<0.00001	<0.0001		0.0026
W3	24/03/2010	0.022	0.00001	65.3	<0.0004	0.00016	0.002	0.093	<0.0001	0.002	27.6	0.165	<0.00001	0.0024	0.001	0.06	2.6	<0.0006	5.39	<0.00001	18.1	0.697	23.4	<0.00001	0.0001		0.0029
W3	31/03/2010	0.023	0.0105	60.9	0.0004	0.00018	0.005	0.115	0.0022	0.002	24.7	0.171	<0.00001	0.0025	0.001	<0.05	2.6	<0.0006	5.14	<0.00001	16.7	0.659	22.2	<0.00001	<0.0001		0.0023
W3	05/04/2010	0.017	0.00002	65.2	0.0004	0.00016	0.004	0.087	<0.0001	0.003	26.2	0.132	<0.00001	0.0026	0.001	0.06	2.3	<0.0006	5.25	<0.00001	17.7	0.71	23.6	<0.00001	<0.0001		0.0028
W3	13/04/2010	0.023	0.00001	65.9	<0.0004	0.00015	0.002	0.146	0.0002	0.002	26	0.13	<0.00001	0.0027	0.001	<0.05	2.3	<0.0006	5.27	<0.00001	17.5	0.733	24.8	<0.00001	<0.0001		0.0027
W3	19/04/2010	0.016	0.00001	55.4	<0.0004	0.00017	0.008	0.12	0.0003	0.002	20.5	0.146	<0.00001	0.0023	0.001	0.06	2.2	<0.0006	4.58	<0.00001	14.1	0.55	19.5	<0.00001	<0.0001		0.0023
W3	20/04/2010	0.014	<0.00001	57.6	<0.0004	0.00017	0.006	0.112	0.0001	0.002	22.3	0.149	<0.00001	0.0025	0.001	0.06	2.4	<0.0006	4.92	<0.00001	15	0.584	20.6	<0.00001	<0.0001		0.0023
W3	21/04/2010	0.016	0.00003	38.6	0.0009	0.00022	0.017	0.231	0.0002	0.002	14.1	0.0994	0.00002	0.0018	0.003	0.13	2.4	<0.0006	4.25	<0.00001	8.64	0.36	12.3	<0.00001	<0.0001		0.0011
W3	22/04/2010	0.012	0.00003	41.3	0.0008	0.00019	0.015	0.204	0.0002	0.002	15.3	0.0944	0.00002	0.0017	0.003	0.1	2.2	<0.0006	4.51	<0.00001	9.24	0.364	11.4	<0.00001	<0.0001		0.0012
W3	23/04/2010	0.011	0.00003	39.7	0.0008	0.0002	0.014	0.212	0.0001	0.001	14.7	0.0965	0.00002	0.0016	0.003	0.08	2.1	<0.0006	4.56	<0.00001	9.36	0.338	11.4	<0.00001	<0.0001		0.0012
W3	24/04/2010	0.01	0.00078	40.6	0.0009	0.00019	0.016	0.245	0.0004	0.001	14.8	0.0942	0.00001	0.0016	0.003	0.07	2.2	<0.0006	4.76	<0.00001	9.41	0.35	11.8	<0.00001	<0.0001		0.0012
W3	25/04/2010	0.013	0.00002	38.5	0.0006	0.00018	0.027	0.212	0.0014	0.001	14.1	0.0736	0.00003	0.0014	0.003	0.08	1.9	<0.0006	4.52	<0.00001	8.86	0.322	10.8	<0.00001	0.0009		0.0011
W3	26/04/2010	<0.05	0.00006	34.3	<0.001	<0.0005	0.0147	0.239	0.0003	<0.005	11.8	0.071	0.00002	0.001	0.003		1.63	0.0002	4.63	0.00003	7.36	0.278	9	<0.00005	<0.005	<0.005	0.0011
W3	27/04/2010	<0.05	0.00009	30.1	<0.001	<0.0005	0.019	0.292	0.0002	<0.005	10.3	0.066	0.00002	0.001	0.003		1.63	0.0002	4.58	<0.00002	6.39	0.236	7	<0.00005	<0.005	<0.005	0.0009
W3	28/04/2010	<0.05	0.00003	30.5	<0.001	<0.0005	0.0133	0.223	<0.0002	<0.005	9.6	0.067	<0.00002	0.001	0.003		1.48	0.0001	4.13	<0.00002	5.99	0.234	8	<0.00005	<0.005	<0.005	0.0008
W3	29/04/2010	<0.05	0.00003	35.8	<0.001	<0.0005	0.0108	0.208	<0.0002	<0.005	12.7	0.073	<0.00002	0.002	0.002		1.52	0.0002	4.52	<0.00002	8.02	0.299	12	<0.00005	<0.005	<0.005	0.0012
W3	30/04/2010	<0.05	<0.00001	42.9	<0.001	<0.0005	0.0121	0.211	<0.0002	<0.005	14.5	0.106	0.00004	0.002	0.003		1.68	0.0002	5.16	<0.00002	9.58	0.363	11	<0.00005	<0.005	<0.005	0.0015
W3	01/05/2010	<0.05	0.00001	48.4	<0.001	<0.0005	0.0095	0.171	<0.0002	<0.005	16.8	0.095	<0.00002	0.002	0.002	0.025	1.8	0.0002	5.28	<0.00002	11.2	0.408	16	<0.00005	<0.005	<0.005	0.0017
W3	02/05/2010	<0.05	<0.00001	50.8	<0.001	<0.0005	0.0075	0.15	<0.0002	<0.005	17.7	0.094	0.00002	0.002	0.002		1.79	0.0002	5.38	<0.00002	12.3	0.462	14	<0.00005	<0.005	<0.005	0.002
W3	03/05/2010	<0.05	0.00002	50.3	<0.001	<0.0005	0.0078	0.165	0.0002	<0.005	17.5	0.098	0.00005	0.002	0.002		1.72	0.0002	5.22	<0.00002	11.9	0.446	14	<0.00005	<0.005	<0.005	0.002
W3	04/05/2010	<0.05	<0.00001	53.3	<0.001	<0.0005	0.0069	0.134	0.0002	<0.005	18.8	0.087	0.00004	0.002	0.001		1.76	0.0002	5.31	<0.00002	12.8	0.481	17	<0.00005	<0.005	<0.005	0.0022
W3	05/05/2010	<0.05	0.00597	59.1	<0.001	<0.0005	0.0087	0.154	0.0008	<0.005	19.8	0.126	<0.00002	0.003	0.001	0.032	2.07	0.0001	5.76	<0.00002	12.9	0.486	21	<0.00005	<0.005	<0.005	0.0022
W3	06/05/2010	<0.05	0.00002	57.1	<0.001	<0.0005	0.0075	0.136	<0.0002	<0.005	20.2	0.11	0.00004	0.003	0.001	0.02	1.91	0.0002	5.68	<0.00002	14.9	0.506	21	<0.00005	<0.005	<0.005	0.0024
W3	07/05/2010	<0.05	<0.00001	61.5	<0.001	<0.0005	0.0064	0.121	0.0009	<0.005	21.7	0.128	<0.00002	0.003	0.001	0.018	2.06	0.0002	5.57	<0.00002	14.6	0.541	21	<0.00005	<0.005	<0.005	0.0026
W3	08/05/2010	<0.05	0.00004	67.1	<0.001	<0.0005	0.0058	0.123	<0.0002	<0.005	23.5	0.121	<0.00002	0.003	0.001	0.017	2.27	0.0002	5.96	<0.00002	16	0.597	21	<0.00005	<0.005	<0.005	0.003
W3	09/05/2010	<0.05	0.00005	61.5	<0.001	<0.0005	0.0361	0.232	0.0008	<0.005	20.9	0.095	<0.00002	0.003	0.001	0.035	1.99	0.0002	5.35	<0.00002	14.4	0.541	20	<0.00005	<0.005	<0.005	0.0028
W3	10/05/2010	<0.05	0.00001	68.7	<0.001	<0.0005	0.0048	0.155	0.0002	<0.005	23.4	0.099	<0.00002	0.003	0.001	0.013	2.22	0.0002	6	0.00007	16.3	0.619	22	<0.00005	<0.005	<0.005	0.0032
W3	11/05/2010	<0.05	0.00008	67.2	<0.001	<0.0005	0.0046	0.106	<0.0002	<0.005	22	0.092	<0.00002	0.003	0.001	<0.01	2.18	0.0002	6.08	<0.00002	16.3	0.562	21	<0.00005	<0.005	<0.005	0.0027
W3	12/05/2010	<0.05	0.00004	61.3	<0.001	<0.0005	0.0048	0.124	<0.0002	<0.005	20.3	0.117	<0.00002	0.003	0.001	0.011	2.1	0.0002	5.35	<0.00002	15	0.52	18	<0.00005	<0.005	<0.005	0.0025
W3	13/05/2010	<0.05	0.00003	65.8	<0.001	<0.0005	0.0039	0.092	0.0002	<0.005	21.4	0.095	<0.00002	0.003	0.001	0.015	2.17	0.0002	5.39	<0.00002	14.2	0.587	25	<0.00005	<0.005	<0.005	0.003
W3	14/05/2010	<0.05	<0.00001	54.3	<0.001	<0.0005	0.0037	0.114	<0.0002	<0.005	18.5	0.119	0.00003	0.003	0.001		1.78	0.0002	4.86	<0.00002	13.1	0.478	16	<0.00005	<0.005	<0.005	0.0025
W3	14/05/2010																										
W3	15/05/2010	<0.05	0.00002	61.9	<0.001	<0.0005	0.0049	0.084	0.0004	<0.005	20.4	0.102	<0.0002	0.003	<0.001	0.01	1.99	0.0002	5.13	<0.00002	14	0.544	22	<0.00005	<0.005	<0.005	0.0028
W3	16/05/2010	<0.05	<0.00001	55.3	<0.001	<0.0005	0.0058	0.146	<0.0002	<0.005	17.6	0.138	<0.0002	0.003	0.001	0.017	1.82	0.0003	4.57	0.00002	11.9	0.46	18	<0.00005	<0.005	<0.005	0.0023
W3	17/05/2010	<0.05	0.00002	65.5	<0.001	<0.0005	0.0034	0.084	<0.0002	<0.005	21.3	0.12	<0.0002	0.003	<0.001	<0.01	2.07	0.0002	5.34	<0.00002	14.5	0.56	21	<0.00005	<0.005	<0.005	0.003
W3	18/05/2010	<0.05	0.00003	64.8	0.001	<0.0005	0.0065	0.207	<0.0002	<0.005	24.6	0.162	<0.00002	0.003	High DL removed	0.024	2.28	0.0005	5.78	<0.00002	18.3	0.599	23	<0.00005	<0.005	0.007	0.0024
W3	19/05/2010	<0.05	0.00003	67.8	0.001	<0.0005	0.0033	0.08	<0.0002	<0.005	25.8	0.123	<0.00002	0.004	High DL removed	0.016	2.29	0.0002	5.77	<0.00002	19.1	0.625	24	<0.00005	<0.005	<0.005	0.0026
W3	20/05/2010	<0.05	0.00002	70.8	0.001	<0.0005	0.0037	0.092	<0.0002	<0.005	26.9	0.13	<0.00002	0.003	High DL removed	0.015	2.39	<0.001	5.91	<0.00002	19.9	0.648	25	<0.00005	<0.005	<0.005	0.0027
W3	21/05/2010	<0.1	High DL removed	62	High DL removed	<0.0005	0.004	0.086	<0.0002	<0.01	21	0.133	<0.0002	0.003	<0.001		2	<0.0008	4.9	<0.0001	14	0.551	<60	<0.00005	<0.005	<0.01	0.0028
W3	22/05/2010	<0.1	High DL removed	60	High DL removed	<0.0005	0.006	0.197	<0.0002	<0.01	20	0.143	<0.0002	0.003	<0.001		2	<0.0008	5.24	<0.0001	14	0.551	<60	<0.00005	<0.005	<0.01	0.0028
W3	23/05/2010	<0.1	High DL removed	61	High DL removed	<0.0005	0.003	0.098	<0.0002	<0.01	21	0.121	<0.0002	0.003	0.004		2	<0.0008	5.09	<0.0001	14	0.55	<60	<0.00005	<0.005	<0.01	0.0029
W3	24/05/2010	<0.1	High DL removed	67	High DL removed	<0.0005	0.003	0.071	<0.0002	<0.01	23	0.132	<0.0002	0.004	0.001		2	<0.0008	5.33	<0.0001	16	0.617	<60	<0.00005	<0.005	<0.01	0.0031
W3	25/05/2010	<0.1	High DL removed	68	High DL removed	<0.0005	0.003	0.086	<0.0002	<0.01	27	0.153	<0.00002	0.003	High DL removed		2	<0.001	5.74	<0.0001	20	0.623	<60	<0.00005	<0.005	<0.01	0.0026
W3	26/05/2010	<0.1	High DL removed	64	High DL removed	<0.0005	0.009	0.365	<0.0002	<0.01	22	0.358	<0.00002	0.003	0.001		2	<0.0008	5.91	<0.0001	15	0.579	<60	<0.00005	<0.005	<0.01	0.003
W3	27/05/2010	<0.1	High DL removed	67	High DL removed	<0.0005	0.003	0.148	<0.0002	<0.01	27	0.271	<0.00002	0.003	High DL removed		2	<0.001	5.73	<0.0001	21	0.624	<60	<0.00005	<0.005	<0.01	0.0026
W3	28/05/2010	<0.1	High DL removed	66	High DL removed	<0.0005	0.003	0.15	<0.0002	<0.01	23	0.301	<0.00002	0.003	0.001		2	<0.0008	5.47	<0.0001	17	0.597	<60	<0.00005	<0.005	<0.01	0.003
W3	29/05/2010	<0.1	High DL removed	70	High DL removed	<0.0005	0.003	0.178	<0.0002	<0.01	24	0.282	<0.00002	0.003	0.001		2	<0.0008	5.94	<0.0001	17	0.626	<60	<0.00005	<0.005	<0.01	0.0032
W3	30/05/2010	<0.1	High DL removed	55	High DL removed	<0.0005	0.004	0.211	0.0002	<0.01	19	0.344	<0.00002	0.003	0.001		2	<0.0008	5	<0.0001	14	0.493	<60	<0.00005	<0.005	<0.01	0.0024
W3	31/05/2010	<0.1	High DL removed	65	High DL removed	<0.0005	0.003	0.168	<0.0002	<0.01	22	0.316	<0.00002	0.003	<0.001		2	<0.0008	5.49	<0.0001	16	0.573	<60	<0.00005	<0.005	<0.01	0.003
W3	01/06/2010	<0.1	High DL removed	80	High DL removed	<0.0005	0.005	0.26	<0.0002	<0.01	26	0.316	<0.0002	0.004	0.001		3	<0.0008	6.06	<0.0001	19	0.711	<60	<0.00005	<0.005	<0.01	0.0034
W3	02/06/2010	<0.1	High DL removed	75	High DL removed	<0.0005	0.002	0.14	<0.0002	<0.01	24	0.253	<0.0002	0.004	0.001		2	<0.0008	5.58	<0.0001	18	0.677	<60	<0.00005	<0.005	<0.01	0.0032

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	04/12/2009 12:50	0.0008	0.004	0.001	0.004	0.0002	0.0005	0.094	0.0001	0.0005	0.016	0.00001	61.6	0.0005	0.0003	0.002	0.14	0.0001	0.002	22.2	0.391		0.003	0.0008		2
W3	09/12/2009	0.0005	0.003	0.0001	0.007	0.0011	0.0004	0.091	<0.00004	<0.001	0.025	0.00001	63.4	<0.0004	0.00034	0.003	0.12	0.0003	0.002	24.5	0.355	<0.00001	0.003	0.002	<0.01	2.2
W3	15/12/2009	0.0005	0.005	0.0009	0.014	0.0014	0.0003	0.097	<0.00004	<0.001	0.015	0.0125	47.4	<0.0004	0.0003	0.004	0.13	0.0005	0.002	17.8	0.386	<0.00001	0.0026	0.002	0.02	2.2
W3	01/01/2010	0.0007	0.021	0.0002	<0.005	0.0007	0.0002	0.101	<0.00004	<0.001	0.017	<0.00001	72	0.0006	0.00016	0.004	0.03	0.0003	0.002	23.2	0.0261	<0.00001	0.0026	0.002	<0.01	4.3
W3	05/01/2010	0.0004	0.01	0.0001	0.014	0.0021	0.0004	0.104	<0.00004	<0.001	0.026		70.9	<0.0004	0.00023	0.005	0.02	0.0002	0.002	23.1	0.37	<0.00001	0.0056	0.002	<0.01	4.2
W3	11/01/2010	0.0012	0.062	0.0003	0.297	0.0026	0.0005	0.536	<0.00004	<0.001	0.011	0.565	130	0.001	0.00043	0.02	0.16	0.0603	0.002	27.4	0.0294	<0.00001	0.0024	0.004	0.16	2.8
W3	19/01/2010	0.0016	0.014	0.0006	<0.005	0.0015	0.0012	0.307	<0.00004	<0.001	0.045	0.0006	197	0.0016	0.00094	0.01	0.13	0.0007	0.006	73.6	1.29	<0.00001	0.0094	0.006	0.02	7.6
W3	27/01/2010	0.0013	0.008	0.0004	0.005	0.0012	0.0011	0.12	<0.00004	<0.001	0.014	0.00021	79.2	0.0008	0.00072	0.007	0.31	0.0003	0.002	32.7	1.7	<0.00001	0.0032	0.002	0.02	2.9
W3	01/02/2010	0.0013	0.004	0.0009	0.008	0.0011	0.0011	0.131	<0.00004	<0.001	0.015	0.00003	83.5	0.0007	0.00093	0.003	0.75	0.0002	0.002	31.3	1.97	<0.00001	0.0034	0.003	0.02	2.4
W3	09/02/2010	0.0005	0.003	0.0002	<0.005	0.0033	<0.0002	0.089	<0.00004	<0.001	0.016	0.00002	59.8	<0.0004	0.00047	0.002	0.11	0.0002	0.002	25.2	0.213	<0.00001	0.0022	0.002	<0.01	2.2
W3	16/02/2010	0.0004	0.002	0.0003	<0.005	0.0012	0.0002	0.089	<0.00004	<0.001	0.009	<0.00001	57.6	<0.0004	0.00026	0.003	0.126	0.0004	0.003	24.9	0.216	<0.00001	0.0021	0.002	<0.01	2
W3	24/02/2010	0.0004	0.004	0.0001	<0.005	0.0012	0.0003	0.086	<0.00004	<0.001	0.016	<0.00001	57.8	<0.0004	0.00023	0.002	0.1	0.0002	0.003	24.3	0.176	<0.00001	0.0022	0.001	<0.01	2.1
W3	02/03/2010	0.0006	0.015	0.0001	<0.005	0.0009	<0.0002	0.091	<0.00004	<0.001	0.016	0.00001	60.4	0.0004	0.00024	0.003	0.1	0.0003	0.003	24.4	0.221	<0.00001	0.0026	0.001	<0.01	2.1
W3	10/03/2010	0.0004	0.003	0.0002	0.025	0.001	0.0003	0.092	<0.00004	<0.001	0.016		64.5	<0.0004	0.00024	0.004	0.12	0.0018	0.002	26	0.193	<0.00001	0.0024	0.001	<0.01	2.2
W3	15/03/2010	0.0004	0.007	0.0003	<0.005	0.0027	0.0002	0.086	<0.00004	<0.001	0.017	0.00004	62.6	<0.0004	0.00035	0.002	0.08	<0.0001	0.002	25.5	0.152	<0.00001	0.0022	0.001	<0.01	2.3
W3	24/03/2010	0.0004	0.002	0.0002	0.016	0.0035	0.0004	0.092	<0.00004	<0.001	0.02	0.00002	62.5	<0.0004	0.00071	0.002	0.09	<0.0001	0.003	26.1	0.172	<0.00001	0.0024	0.001	<0.01	2.2
W3	31/03/2010	0.0005	0.005	0.0002	<0.005	<0.0002	0.0003	0.07	<0.00004	<0.001	0.019	<0.00001	52.6	0.0006	0.00014	0.002	0.03	<0.0001	0.002	21.7	0.141	<0.00001	0.0022	<0.001	<0.01	2.8
W3	05/04/2010	0.0004	0.008	0.0001	<0.005	0.0027	<0.0002	0.086	<0.00004	<0.001	0.017	0.00002	63.1	0.0006	0.00047	0.003	0.07	<0.0001	0.003	25.3	0.134	<0.00001	0.0024	0.001	<0.01	2.2
W3	13/04/2010	0.0004	0.005	0.0002	0.008	0.0018	0.0002	0.09	<0.00004	<0.001	0.016	0.00001	59.8	<0.0004	0.00026	0.005	0.07	0.0001	0.002	23.8	0.113	<0.00001	0.0025	0.001	<0.01	2
W3	19/04/2010	0.0005	0.013	<0.0001	<0.005	0.0011	<0.0002	0.071	<0.00004	<0.001	0.012	0.00001	53.5	0.0004	0.00018	0.005	0.05	0.0002	0.002	19.6	0.127	<0.00001	0.0022	0.001	<0.01	2.2
W3	20/04/2010	0.0004	0.022	<0.0001	<0.005	0.0009	0.0002	0.076	<0.00004	<0.001	0.013	0.00002	56	0.0004	0.00018	0.005	0.07	0.0002	0.002	21.5	0.142	<0.00001	0.0024	0.001	<0.01	2.2
W3	21/04/2010	0.0008	0.007	0.0005	0.148	0.0015	0.0005	0.058	<0.00004	<0.001	0.012	0.00004	38	0.0005	0.00035	0.025	0.29	0.0005	0.001	13.7	0.0978	0.00002	0.0014	0.003	0.08	2.5
W3	22/04/2010	0.0007	0.005	0.0007	0.054	<0.0002	0.0006	0.059	<0.00004	<0.001	0.009	<0.00001	38.6	0.0004	0.00006	0.012	0.14	<0.0001	0.001	14.4	0.0055	0.00002	0.0014	0.003	0.04	2
W3	23/04/2010	0.0007	0.005	0.0007	0.082	0.0004	0.0005	0.058	<0.00004	<0.001	0.01	<0.00001	36.8	0.0006	0.00013	0.012	0.15	<0.0001	0.001	13.5	0.0289	0.00001	0.0014	0.003	0.04	1.9
W3	24/04/2010	0.0008	0.002	0.001	0.08	0.0004	0.0004	0.056	<0.00004	<0.001	0.01	<0.00001	35.8	0.0006	0.00012	0.012	0.15	<0.0001	0.001	13.1	0.0108	<0.00001	0.0014	0.003	0.03	1.8
W3	25/04/2010	0.0007	0.002	0.0008	0.089	0.0002	0.0004	0.058	<0.00004	<0.001	0.01	<0.00001	35.6	0.0006	0.00014	0.011	0.15	<0.0001	0.001	13	0.0412	0.00002	0.0014	0.003	0.03	1.8
W3	26/04/2010	<0.005	0.006	0.0006	0.092	<0.0005	0.0004	0.056	<0.0001	<0.001	<0.05	0.00002	35.8	<0.001	<0.0005	0.0128	0.184	<0.0002	<0.005	11.7	0.009	0.00002	0.001	0.003		1.74
W3	27/04/2010	<0.005	0.008	0.0006	0.097	<0.0005	0.0005	0.051	<0.0001	<0.001	<0.05	0.00002	31.1	<0.001	<0.0005	0.0113	0.164	<0.0002	<0.005	9.87	0.029	0.00002	0.001	0.003		1.59
W3	28/04/2010	<0.005	0.006	0.0006	0.098	<0.0005	0.0004	0.053	<0.0001	<0.001	<0.05	0.00002	33	<0.001	<0.0005	0.011	0.157	<0.0002	<0.005	10.4	0.022	<0.00002	0.001	0.002		1.64
W3	29/04/2010	<0.005	<0.005	<0.0005	0.071	<0.0005	0.0004	0.057	<0.0001	<0.001	<0.05	0.00002	38.6	<0.001	<0.0005	0.0094	0.15	<0.0002	<0.005	12.4	0.051	<0.00002	0.002	0.002		1.62
W3	30/04/2010	<0.005	<0.005	0.0005	0.068	<0.0005	0.0004	0.06	<0.0001	<0.001	<0.05	0.00002	38.1	<0.001	<0.0005	0.0086	0.132	<0.0002	<0.005	12.7	0.039	<0.00002	0.002	0.002		1.53
W3	01/05/2010	<0.005	<0.005	<0.0005	0.053	<0.0005	0.0004	0.065	<0.0001	<0.001	<0.05	0.00002	44.4	<0.001	<0.0005	0.0074	0.12	<0.0002	<0.005	15.1	0.036	<0.00002	0.002	0.002	0.016	1.66
W3	02/05/2010	<0.005	<0.005	<0.0005	0.038	<0.0005	0.0003	0.07	<0.0001	<0.001	<0.05	0.00001	52.8	<0.001	<0.0005	0.0064	0.108	<0.0002	<0.005	17.7	0.072	<0.00002	0.002	0.002		1.83
W3	03/05/2010	<0.005	<0.005	<0.0005	0.028	<0.0005	0.0004	0.071	<0.0001	<0.001	<0.05	0.00002	50.3	<0.001	<0.0005	0.0058	0.101	<0.0002	<0.005	17.3	0.077	<0.00002	0.002	0.002		1.78
W3	04/05/2010	<0.005	<0.005	<0.0005	0.026	<0.0005	0.0003	0.073	<0.0001	<0.001	<0.05	0.00002	53.9	<0.001	<0.0005	0.0051	0.091	<0.0002	<0.005	18.9	0.074	<0.00002	0.002	0.001		1.83
W3	05/05/2010	<0.005	0.011	<0.0005	0.019	<0.0005	0.0003	0.071	<0.0001	<0.001	<0.05	<0.00001	55.3	<0.001	<0.0005	0.0047	0.08	<0.0002	<0.005	19.1	0.053	<0.00002	0.002	0.001	0.01	1.86
W3	06/05/2010	<0.005	<0.005	<0.0005	0.016	<0.0005	0.0003	0.072	<0.0001	<0.001	<0.05	<0.00001	59.2	<0.001	<0.0005	0.0042	0.076	<0.0002	<0.005	20.2	0.051	<0.00002	0.003	0.001	<0.01	1.98
W3	07/05/2010	<0.005	<0.005	<0.0005	0.015	<0.0005	0.0003	0.074	<0.0001	<0.001	<0.05	<0.00001	58.4	<0.001	<0.0005	0.0038	0.068	<0.0002	<0.005	20.4	0.062	<0.00002	0.003	0.001	<0.01	1.95
W3	08/05/2010	<0.005	<0.005	<0.0005	0.014	<0.0005	0.0003	0.08	<0.0001	<0.001	<0.05	0.00001	61.4	<0.001	<0.0005	0.0035	0.067	<0.0002	<0.005	21.6	0.066	<0.00002	0.003	0.001	<0.01	2.08
W3	09/05/2010	<0.005	0.028	<0.0005	0.011	<0.0005	0.0003	0.08	<0.0001	<0.001	<0.05	0.00001	61.4	<0.001	<0.0005	0.0031	0.06	<0.0002	<0.005	21.2	0.066	<0.00002	0.003	0.001	<0.01	1.99
W3	10/05/2010	<0.005	<0.005	<0.0005	0.009	<0.0005	0.0003	0.082	<0.0001	<0.001	<0.05	0.00002	63.1	<0.001	<0.0005	0.003	0.059	<0.0002	<0.005	22.7	0.07	<0.00002	0.003	0.001	<0.01	2.05
W3	11/05/2010	<0.005	<0.005	<0.0005	0.008	<0.0005	0.0003	0.084	<0.0001	<0.001	<0.05	0.00001	69.5	<0.001	<0.0005	0.0027	0.056	<0.0002	<0.005	23	0.057	0.00007	0.003	0.001	<0.01	2.2
W3	12/05/2010	<0.005	<0.005	<0.0005	0.008	<0.0005	0.0003	0.076	<0.0001	<0.001	<0.05	0.00001	59.7	<0.001	<0.0005	0.003	0.045	<0.0002	<0.005	19.3	0.079	<0.00002	0.003	<0.001	<0.01	1.98
W3	13/05/2010	<0.005	<0.005	<0.0005	0.007	<0.0005	0.0003	0.086	<0.0001	<0.001	<0.05	<0.00001	71.5	<0.001	<0.0005	0.0025	0.048	<0.0002	<0.005	23.5	0.066	0.00002	0.003	<0.001	<0.01	2.27
W3	14/05/2010	<0.005	<0.005	<0.0005	0.007	<0.0005	0.0002	0.072	<0.0001	<0.001	<0.05	<0.00001	56.6	<0.001	<0.0005	0.0031	0.047	<0.0002	<0.005	18.3	0.083	<0.00002	0.003	<0.001		1.92
W3	14/05/2010																									
W3	15/05/2010	<0.005	<0.005	<0.0005	0.013	<0.0005	0.0003	0.085	<0.0001	<0.001	<0.05	0.00002	68.8	<0.001	<0.0005	0.0028	0.069	<0.0002	<0.005	22.3	0.11	<0.0002	0.003	0.002	<0.01	2.23
W3	16/05/2010	<0.005	<0.005	<0.0005	0.007	<0.0005	0.0003	0.07	<0.0001	<0.001	<0.05	<0.00001	55.8	<0.001	<0.0005	0.0026	0.034	<0.0002	<0.005	17.8	0.097	<0.0002	0.003	<0.001	<0.01	1.9
W3	17/05/2010	<0.005	<0.005	<0.0005	0.01	<0.0005	0.0003	0.085	<0.0001	<0.001	<0.05	0.00001	69.7	<0.001	<0.0005	0.0023	0.037	<0.0002	<0.005	22.8	0.107	<0.0002	0.003	0.001	<0.01	2.3
W3	18/05/2010	<0.005	<0.005	<0.0005	0.007	<0.0005	0.0002	0.078	<0.0001	<0.001	<0.05	0.00001	62.6	<0.001	<0.0005	0.0026	0.032	<0.0002	<0.005	22.1	0.034	<0.00002	0.003	<0.001	<0.01	2.05
W3	19/05/2010	<0.005	<0.005	<0.0005	0.004	<0.0005	0.0002	0.082	<0.0001	<0.001	<0.05	0.00002	68.4	<0.001	<0.0005	0.0026	0.033	<0.0002	<0.005	23.5	0.054	<0.00002	0.003	<0.001	<0.01	2.17
W3	20/05/2010	<0.005	<0.005	<0.0005	0.004	<0.0005	0.0003	0.086	<0.0001	<0.001	<0.05	<0.00001	67.7	<0.001	<0.0005	0.0023	0.036	<0.0002	<0.005	25.2	0.056	<0.00002	0.003	<0.001	<0.01	2.17
W3	21/05/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.081	<0.0002	<0.001	<0.1	High DL removed	61	High DL removed	<0.0005	0.002	0.027	<0.0002	<0.01	20	0.077	<0.0002	0.003	<0.001		2
W3	22/05/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.082	<0.0002	<0.001	<0.1	High DL removed	64	High DL removed	<0.0005	0.002	0.022	<0.0002	<0.01	21	0.041	<0.0002	0.003	<0.001		2
W3	23/05/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.085	<0.0002	<0.001	<0.1	High DL removed	64	High DL removed	<0.0005	0.002	0.025	<0.0002	<0.01	21	0.073	<0.0002	0.003	<0.001		2
W3	24/05/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.082	<0.0002	<0.001	<0.1	High DL removed	69	High DL removed	<0.0005	0.002	0.025	<0.0002	<0.01	22	0.085	<0.0002	0.003	<0.001		2
W3	25/05/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	High DL removed	0.093	<0.0005	<0.001	<0.1	High DL removed	71	High DL removed	<0.0005	0.002	0.025	<0.0002	<0.01	27	0.061	<0.00002	0.004	High DL removed		2
W3	26/05/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	High DL removed	0.089	<0.0005	<0.001	<0.1	High DL removed	65	High DL removed	<0.0005	0.002	0.038	<0.0002	<0.01	25	0.202	<0.00002	0.004	High DL removed		2
W3	27/05/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	High DL removed	0.09	<0.0005	<0.001	<0.1	High DL removed	68	High DL removed	<0.0005	0.002	0.042	<0.0002	<0.01	27	0.143	<0.00002	0.004	High DL removed		2
W3	28/05/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.086	<0.0002	<0.001	<0.1	High DL removed	64	High DL removed	<0.0005	0.002	0.026	<0.0002	<0.01	21	0.096	<0.00002	0.003	<0.001		2
W3	29/05/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.09	<0.0002	<0.001	<0.1	High DL removed	69	High DL removed	<0.0005	0.002	0.044	<0.0002	<0.01	22	0.15	<0.00002	0.004	0.001		2
W3	30/05/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.075	<0.0002	<0.001	<0.1	High DL removed	56	High DL removed	<0.0005	0.002	0.035	<0.0002	<0.01	18	0.113	<0.00002	0.003	<0.001		2
W3	31/05/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.086	<0.0002	<0.001	<0.1	High DL removed	59	High DL removed	<0.0005	0.002	0.031	<0.0002	<0.01	22	0.17	<0.00002	0.003	<0.001		2
W3	01/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.085	<0.0002	<0.001	<0.1	High DL removed	71	High DL removed	<0.0005	0.002	0.021	<0.0002	<0.01	24	0.063	<0.0002	0.004	<0.001		2
W3	02/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.087	<0.0002	<0.001	<0.1	High DL removed	66	High DL removed	<0.0005	0.002	0.025	<0.0002	<0.01	22	0.045	<0.0002	0.004	<0.001		2

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	Br	Cation	CN-T	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-TKN	P-PO4T	P-TDP	P-TRP
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L
W3	04/12/2009 12:50	0.0002	5.55	0.00001	16.7	0.598	19.9	0.00005	0.001	0.0009	0.0023	0.0011	0.003		250	6	5	5										95				
W3	09/12/2009	<0.0006	5.64	<0.00001	17.9	0.631	20.2	<0.00001	<0.0001	<0.01	0.002	0.0004	0.003	<0.0001	240	<6	<5												<0.06	0.05		
W3	15/12/2009	<0.0006	4.92	<0.00001	13	0.592	19.6	<0.00001	<0.0001	<0.01	0.0018	0.0004	0.009	0.0002	240	<6	<5												0.13	0.05		
W3	01/01/2010	<0.0006	5.25	<0.00001	22.4	0.62	31.7	<0.00001	<0.0001	<0.01	0.0021	0.0005	0.01	0.0001	250	<6	<5												0.32	0.05		
W3	05/01/2010	0.0011	4.95	<0.00001	20.4	0.728	30.2	<0.00001	<0.0001	<0.01	0.0025	0.0004	0.008	0.0001	210	<6	<5												<0.06	0.05		
W3	11/01/2010	<0.0006	5.63	<0.00001	22.1	0.711	27.4	<0.00001	<0.0001	<0.01	0.0018	0.001	0.091	0.0002	260	<6	<5												0.3	0.05		
W3	19/01/2010	<0.0006	15.7	<0.00001	56.1	1.99	73.2	<0.00001	<0.0001	<0.01	0.0056	0.0012	0.01	0.0004	730	<6	<5												0.84	0.17		
W3	27/01/2010	<0.0006	6.36	<0.00001	23	0.772	29.5	<0.00001	<0.0001	<0.01	0.0022	0.0007	0.006	0.0002	300	<6	<5												1.08	0.08		
W3	01/02/2010	<0.0006	6.61	<0.00001	20.3	0.828	26.8	<0.00001	<0.0001	<0.01	0.0019	0.0007	0.004	0.0004	320	<6	<5												1.26	0.07		
W3	09/02/2010	<0.0006	5.1	<0.00001	17	0.688	21.4	<0.00001	<0.0001	<0.01	0.0022	0.0004	0.003	0.0002	250	<6	<5												0.34	0.05		
W3	16/02/2010	<0.0006	4.99	<0.00001	16.1	0.696	20.6	<0.00001	<0.0001	<0.01	0.0023	0.0003	0.004	0.0002	250	<6	<5												0.43	0.05		
W3	24/02/2010	<0.0006	4.91	<0.00001	16	0.666	20.6	<0.00001	<0.0001	<0.01	0.0023	0.0003	0.004	0.0002	250	<6	<5												0.44	0.08		
W3	02/03/2010	<0.0006	4.98	<0.00001	16.4	0.693	22.6	<0.00001	<0.0001	<0.01	0.0026	0.0004	0.003	0.0001	250	<6	<5												0.38	0.06		
W3	10/03/2010	<0.0006	5.45	<0.00001	18.2	0.674	24.3	0.00002	<0.0001	<0.01	0.0022	0.0003	0.007	<0.0001	250	<6	<5												0.35	0.04		
W3	15/03/2010	<0.0006	5.04	<0.00001	18	0.672	21.7	<0.00001	<0.0001	<0.01	0.0026	0.0003	0.004	0.0001	260	<6	<5												0.17	0.05		
W3	24/03/2010	<0.0006	5.09	<0.00001	17.6	0.713	22.7	<0.00001	<0.0001	<0.01	0.003	0.0003	0.002	0.0002	270	<6	<5												<0.06	0.05		
W3	31/03/2010	<0.0006	4.8	<0.00001	13.4	0.562	25.3	<0.00001	<0.0001	<0.01	0.0021	0.0004	<0.001	0.0001	230	<6	<5												0.08	0.07		
W3	05/04/2010	<0.0006	5.07	<0.00001	17.2	0.704	22.8	<0.00001	<0.0001	<0.01	0.0026	0.0005	0.002	<0.0001	240	<6	<5												0.21	0.07		
W3	13/04/2010	<0.0006	4.68	<0.00001	14.9	0.668	23.4	<0.00001	<0.0001	<0.01	0.0027	0.0003	0.004	<0.0001	270	<6	<5												0.08	0.07		
W3	19/04/2010	<0.0006	4.27	<0.00001	13.3	0.515	18.8	<0.00001	<0.0001	<0.01	0.0022	0.0004	0.003	<0.0001	220	<6	<5												0.08	0.05		
W3	20/04/2010	<0.0006	4.59	<0.00001	14.2	0.566	20.3	<0.00001	<0.0001	<0.01	0.0024	0.0004	0.004	<0.0001	240	<6	<5												0.13	0.06		
W3	21/04/2010	<0.0006	4.09	<0.00001	8.4	0.318	11	<0.00001	<0.0001	0.014	0.0009	0.0008	0.009	0.0005	130	<6	<5												1.67	0.06		
W3	22/04/2010	<0.0006	4.11	<0.00001	8.6	0.342	10.5	<0.00001	<0.0001	<0.01	0.0011	0.0005	0.002	0.0007	140	<6	<5												1.69	0.06		
W3	23/04/2010	<0.0006	4.11	<0.00001	8.6	0.319	10.2	<0.00001	<0.0001	<0.01	0.0011	0.0006	<0.001	0.0007	130	<6	<5												1.89	0.06		
W3	24/04/2010	<0.0006	4.06	<0.00001	8.3	0.307	9.7	<0.00001	<0.0001	<0.01	0.0011	0.0005	<0.001	0.001	130	<6	<5												1.61	0.05		
W3	25/04/2010	<0.0006	4.02	<0.00001	8.3	0.323	9.4	<0.00001	<0.0001	<0.01	0.0011	0.0006	<0.001	0.0007	130	<6	<5												1.68	0.05		
W3	26/04/2010	0.0002	5.12	<0.00002	7.56	0.285	10	<0.00005	<0.005	<0.005	0.001	<0.005	<0.005	0.0007	120	<0.5	<0.5	<0.5		<0.4												0.008
W3	27/04/2010	0.0002	4.28	<0.00002	6.2	0.234	8	<0.00005	<0.005	<0.005	0.0008	<0.005	<0.005	0.0007	100	<0.5	<0.5	<0.5		<0.4												0.008
W3	28/04/2010	0.0002	4.44	<0.00002	6.58	0.251	9	<0.00005	<0.005	<0.005	0.0009	<0.005	<0.005	0.0006	110	<0.5	<0.5	<0.5		<0.4												0.008
W3	29/04/2010	0.0002	4.43	<0.00002	8.19	0.318	11	<0.00005	<0.005	<0.005	0.0012	<0.005	<0.005	0.0006	130	<0.5	<0.5	<0.5		<0.4												<0.005
W3	30/04/2010	0.0002	4.22	<0.00002	8.6	0.33	11	<0.00005	<0.005	<0.005	0.0013	<0.005	<0.005	0.0006	140	<0.5	<0.5	<0.5		<0.4												0.037
W3	01/05/2010	0.0002	4.68	<0.00002	10.3	0.397	15	<0.00005	<0.005	<0.005	0.0016	<0.005	<0.005	<0.0005	170	<0.5	<0.5	<0.5		<0.4												<0.005
W3	02/05/2010	0.0002	5.3	<0.00002	12	0.454	19	<0.00005	<0.005	<0.005	0.002	<0.005	<0.005	<0.0005	190	<0.5	<0.5	<0.5		<0.4												<0.005
W3	03/05/2010	0.0002	4.93	<0.00002	12	0.454	17	<0.00005	<0.005	<0.005	0.0019	<0.005	<0.005	<0.0005	190	<0.5	<0.5	<0.5		<0.4												0.043
W3	04/05/2010	0.0002	5.11	<0.00002	13.2	0.489	19	<0.00005	<0.005	<0.005	0.0022	<0.005	<0.005	<0.0005	210	<0.5	<0.5	<0.5		<0.4												0.042
W3	05/05/2010	0.0002	5.01	<0.00002	13	0.499	20	<0.00005	<0.005	<0.005	0.0023	<0.005	<0.005	<0.0005	210	<0.5	<0.5	<0.5		<0.4												<0.005
W3	06/05/2010	0.0002	5.41	<0.00002	13.6	0.523	22	<0.00005	<0.005	<0.005	0.0025	<0.005	<0.005	<0.0005	220	<0.5	<0.5	<0.5		<0.4												<0.005
W3	07/05/2010	0.0002	5.39	<0.00002	13.9	0.528	22	<0.00005	<0.005	<0.005	0.0025	<0.005	<0.005	<0.0005	220	<0.5	<0.5	<0.5		<0.4												<0.005
W3	08/05/2010	0.0002	5.2	<0.00002	15.2	0.545	24	<0.00005	<0.005	<0.005	0.0027	<0.005	<0.005	<0.0005	230	<0.5	<0.5	<0.5		<0.4												<0.005
W3	09/05/2010	0.0002	5.24	<0.00002	15.3	0.558	22	<0.00005	<0.005	<0.005	0.0029	<0.005	<0.005	<0.0005	240	<0.5	<0.5	<0.5		<0.4												<0.005
W3	10/05/2010	0.0002	5.11	<0.00002	16.1	0.567	25	<0.00005	<0.005	<0.005	0.003	<0.005	<0.005	<0.0005	240	<0.5	<0.5	<0.5		<0.4												<0.005
W3	11/05/2010	0.0002	6.3	<0.00002	16.6	0.607	24	<0.00005	<0.005	<0.005	0.0031	<0.005	<0.005	<0.0005	240	<0.5	<0.5	<0.5		<0.4												<0.005
W3	12/05/2010	0.0002	5.26	<0.00002	13.8	0.511	21	<0.00005	<0.005	<0.005	0.0025	<0.005	<0.005	<0.0005	220	<0.5	<0.5	<0.5		<0.4												<0.005
W3	13/05/2010	0.0002	6.15	<0.00002	17	0.616	26	<0.00005	<0.005	<0.005	0.0031	<0.005	<0.005	<0.0005	250	<0.5	<0.5	<0.5		<0.4												<0.005
W3	14/05/2010	0.0002	5.02	<0.00002	13.2	0.496	21	<0.00005	<0.005	<0.005	0.0025	<0.005	<0.005	<0.0005	210	<0.5	<0.5	<0.5		<0.4												<0.005
W3	14/05/2010																															
W3	15/05/2010	0.0002	6.1	<0.00002	16.1	0.587	25	<0.00005	<0.005	<0.005	0.0028	<0.005	<0.005	<0.0005	240	<0.5	<0.5	<0.5		<0.4												<0.005
W3	16/05/2010	0.0001	5.01	<0.00002	12.8	0.474	20	<0.00005	<0.005	<0.005	0.0023	<0.005	<0.005	<0.0005	170	<0.5	<0.5	<0.5		<0.4												<0.005
W3	17/05/2010	0.0002	5.84	<0.00002	16.6	0.581	26	<0.00005	<0.005	<0.005	0.0029	<0.005	<0.005	<0.0005	230	<0.5	<0.5	<0.5		<0.4												<0.005
W3	18/05/2010	0.0003	5.36	<0.00002	16.4	0.495	23	<0.00005	<0.005	<0.005	0.0026	<0.005	<0.005	<0.0005	220	4.4	<0.5	3.6		<0.4												<0.005
W3	19/05/2010	0.0002	5.69	<0.00002	18.2	0.509	26	<0.00005	<0.005	<0.005	0.0027	<0.005	<0.005	<0.0005	240	5.3	<0.5	4.4		<0.4												<0.005
W3	20/05/2010	0.0003	5.83	<0.00002	19	0.508	27	<0.00005	<0.005	<0.005	0.0028	<0.005	<0.005	<0.0005	240	6.1	<0.5	5.1		<0.4												<0.005
W3	21/05/2010	<0.0008	5.28	<0.0001	15	0.508	<60	<0.00005	<0.005	<0.01	0.0025	<0.005	High DL removed	<0.002	230	<0.5	<0.5	<0.5		<0.4												<0.005
W3	22/05/2010	<0.0008	5.41	<0.0001	16	0.53	<60	<0.00005	<0.005	<0.01	0.0027	<0.005	High DL removed	<0.002	240	<0.5	<0.5	<0.5		<0.4												<0.005
W3	23/05/2010	<0.0008	5.65	<0.0001	16	0.558	<60	<0.00005	<0.005	<0.01	0.0028	<0.005	High DL removed	<0.002	250	<0.5	<0.5	<0.5		<0.4												<0.005
W3	24/05/2010	<0.0008	5.42	<0.0001	16	0.588	<60	<0.00005	<0.005	<0.01	0.003	<0.005	High DL removed	<0.002	240	4.8	<0.5	4		<0.4												<0.005
W3	25/05/2010	<0.001	5.88	<0.0001	20	0.661	<60	<0.00005	<0.005	<0.01	0.0027	<0.005	High DL removed	<0.002	250	<0.5	<0.5	<0.5		<0.4												<0.005
W3	26/05/2010	<0.001	5.32	<0.0001	19	0.609	<60	<0.00005	<0.005	<0.01	0.0024	<0.005	High DL removed	<0.002	230	6.1	<0.5	5.1		<0.4												<0.005
W3	27/05/2010	<0.001	5.84	<0.0001	21	0.606	<60	<0.00005	<0.005	<0.01	0.0027	<0.005	High DL removed	<0.002	260	<0.5	<0.5	<0.5		<0.4												<0.005
W3	28/05/2010	<0.0008	5.61	<0.0001	16	0.592	<60	<0.00005	<0.005	<0.01	0.003	<0.005	High DL removed	<0.002	230	6.7	<0.5	5.6		<0.4												<0.005
W3	29/05/2010	<0.0008	5.75	<0.0001	16	0.634	<60	<0.00005	<0.005	<0.01	0.0031	<0.005	High DL removed	<0.002	230	10	<0.5	8.3		<0.4												<0.005
W3	30/05/2010	<0.0008	4.76	<0.0001	13	0.506	<60	<0.00005	<0.005	<0.01	0.0024	<0.005	High DL removed	<0.002	200	5	<0.5	4.2		<0.4												<0.005
W3	31/05/2010	<0.0008		<0.0001	16	0.561	<60	<0.00005	<0.005	<0.01	0.0027	<0.005	High DL removed	<0.002	250	<0.5	<0.5	<0.5		<0.4												<0.005
W3	01/06/2010	<0.0008	5.69	<0.0001	17	0.605	<60	<0.00005	<0.005	<0.01	0.003	<0.005	High DL removed	<0.002	240	9.8	<0.5	8.2		<0.4												<0.005
W3	02/06/2010	<0.0008	5.28	<0.0001	16	0.599	<60	<0.00005	<0.005	<0.01	0.003	<0.005	High DL removed	<0.002	240	9.2	<0.5	7.6		<0.4												<0.005

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W3	04/12/2009 12:50						
W3	09/12/2009					0.8	
W3	15/12/2009					0.2	
W3	01/01/2010					0.2	
W3	05/01/2010					0.1	
W3	11/01/2010					0.5	
W3	19/01/2010					6.7	
W3	27/01/2010					8.9	
W3	01/02/2010					4.1	
W3	09/02/2010					0.4	
W3	16/02/2010					0.4	
W3	24/02/2010					0.3	
W3	02/03/2010					0.2	
W3	10/03/2010					0.7	
W3	15/03/2010					0.2	
W3	24/03/2010					0.3	
W3	31/03/2010					0.8	
W3	05/04/2010					0.7	
W3	13/04/2010					0.6	
W3	19/04/2010					2.9	
W3	20/04/2010					2.4	
W3	21/04/2010					3.4	
W3	22/04/2010					2.4	
W3	23/04/2010					7.8	
W3	24/04/2010					1.6	-2.1
W3	25/04/2010					1.2	
W3	26/04/2010					1.9	
W3	27/04/2010					1.5	
W3	28/04/2010					1.2	
W3	29/04/2010					1.4	4.9
W3	30/04/2010					1.2	
W3	01/05/2010					1.2	
W3	02/05/2010					1	11
W3	03/05/2010					0.7	
W3	04/05/2010					0.5	
W3	05/05/2010					0.5	6
W3	06/05/2010					0.6	-0.5
W3	07/05/2010					0.5	1.2
W3	08/05/2010					0.8	0
W3	09/05/2010					0.7	-1.9
W3	10/05/2010					0.6	-2.9
W3	11/05/2010					0.4	
W3	12/05/2010					0.9	
W3	13/05/2010					0.5	
W3	14/05/2010					1.1	
W3	14/05/2010	<0.01					
W3	15/05/2010					0.5	
W3	16/05/2010					1.1	
W3	17/05/2010					0.4	
W3	18/05/2010					5.6	
W3	19/05/2010					0.8	
W3	20/05/2010					0.7	
W3	21/05/2010					0.9	
W3	22/05/2010					1.4	
W3	23/05/2010					0.8	
W3	24/05/2010					0.6	
W3	25/05/2010					1	
W3	26/05/2010					7.2	
W3	27/05/2010					1.3	
W3	28/05/2010					1.2	
W3	29/05/2010					1.3	
W3	30/05/2010					2.4	
W3	31/05/2010					1.2	
W3	01/06/2010					2	
W3	02/06/2010					1.3	

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Phase	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
				mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	03/06/2010	No Discharge	P	1	380	7.73	8.5	554	533	1.6				265	256	210	10	0.37	70	0.04	<0.005	1.2	5.4	0.033	<0.0005	<0.0004	0.095	<0.0002	<0.001
W3	04/06/2010	No Discharge	P	3	290	7.5	8.4	501	493	3.3				247	226	190	9	0.35	60	0.058	0.005	1.02	4.9	0.047	<0.0005	<0.0004	0.09	<0.0002	<0.001
W3	05/06/2010	No Discharge	P	<4	350	7.19	8.4	554	529	2.6				264	288	210	9.4	0.38	71	0.08	<0.005	1.16		0.021	<0.0005	<0.0004	0.096	<0.0002	<0.001
W3	06/06/2010	No Discharge	P	<4	320	7.76	8.4	559	519	2.3				258	263	210	9	0.38	64	<0.05	<0.005	1.12		0.019	<0.0005	<0.0004	0.094	<0.0002	<0.001
W3	07/06/2010	No Discharge	P	6	330		8.53		492					236	237	200	9	0.39	64	0.03	<0.005	1.1	7	0.087	<0.0005	0.0004	0.093	<0.0002	<0.001
W3	10/06/2010	No Discharge	P	2	310	7.72	8.4	526	503	4.7				242	234	190	12	0.38	65	0.02	0.006	1.01	5.7	0.055	<0.0005	0.0004	0.096	<0.0002	<0.001
W3	11/06/2010	No Discharge	P	5	320	7.56	8.3	525	501	4.4				235	232	190	9.3	0.36	63	0.038	0.009	1.02	5.7	0.122	<0.0005	0.0004	0.101	<0.0002	<0.001
W3	12/06/2010	No Discharge	P	3	340	7.54	8.6	540	503	4.7				249	240	210	9.1	0.37	69	0.013	0.007	1	5.7	0.054	<0.0005	0.0004	0.1	<0.0002	<0.001
W3	13/06/2010	No Discharge	P	3	350	7.55	8.3	582	549	2.3				263	252	210	10	0.38	69	0.043	0.007	1.06	5.4	0.052	<0.0005	<0.0004	0.105	<0.0002	<0.001
W3	14/06/2010	No Discharge	P	2	330		8.51	593	513	4.3				234	240	210	9.3	0.39	64	0.032	<0.005	1.03	5.6	0.057	<0.0005	<0.0004	0.096	<0.0002	<0.001
W3	15/06/2010	No Discharge	P	2	340	7.03	8.57	640	503	4.6				258	242	210	8.9	0.38	65	0.03	<0.005	1.06	5.6	0.032	<0.0005	<0.0004	0.1	<0.0002	<0.001
W3	16/06/2010	No Discharge	P	20	310	7.32	8.3	639	532	4.4				260	243	210	9.7	0.38	69	0.043	0.006	1.15	5.4	0.56	<0.0005	0.0005	0.106	<0.0002	<0.001
W3	17/06/2010	No Discharge	P	4	310	6.92	8.4	656	518	3.2				230	225	180	10	0.43	67	0.036	<0.005	4.2	8.3	0.1	<0.0005	0.0004	0.093	<0.0002	<0.001
W3	18/06/2010	No Discharge	P	2	340	7.1	8.23	654	523	3.7				229	233	180	10	0.41	69		0.005	4.1	7.8	0.039	<0.0005	<0.0004	0.091	<0.0002	<0.001
W3	19/06/2010	No Discharge	P	1	330	7.21	8.3	658	522	3.6				235	207	180	11	0.42	71	<0.05	0.005	4.5	8.4	0.035	<0.0005	<0.0004	0.091	<0.0002	<0.001
W3	20/06/2010	No Discharge	P	2	350	6.91	8.3	654	523	4.2				213	232	190	10	0.42	64		<0.005	4.4	7.7	0.029	<0.0005	<0.0004	0.086	<0.0002	<0.001
W3	21/06/2010	No Discharge	P	2	330	6.55	8.3	327	520	4.5				254	231	180	9.7	0.41	67		<0.005	4.2	7.6	0.061	<0.0005	<0.0004	0.095	<0.0002	<0.001
W3	22/06/2010	No Discharge	P	2	330	7.81	8.11	524	532	2.86		97.9		235	238	190	9.8	0.41	67	0.018	<0.005	4.2	8.7	0.029	<0.0005	<0.0004	0.093	<0.0002	<0.001
W3	23/06/2010	No Discharge	P	1	340	7.81	8.35	524	528	2.81		99.9		287	226	190	9.8	0.42	67		<0.005	4.2	7.4	0.03	<0.0005	<0.0004	0.095	<0.0002	<0.001
W3	24/06/2010	No Discharge	P	<1	320	7.81	8.27	523	525	3.85		101.5		256	236	180	9.7	0.44	70	0.011	<0.005	4.2	7.6	0.029	<0.0005	<0.0004	0.093	<0.0002	<0.001
W3	25/06/2010	No Discharge	P	<1	290	7.88	8.43	525	519	2.99		99		245	231	190	9.5	0.45	68	<0.005	<0.005	4.5	7.8	0.02	<0.0005	<0.0004	0.085	<0.0002	<0.001
W3	26/06/2010	No Discharge	P	2	300		8.45		531					242	255	210	9.5	0.41	65	0.016	<0.005	2.06	5.8	0.041	<0.0005	<0.0004	0.087	<0.0002	<0.001
W3	26/06/2010	No Discharge	P			7.72		535		2.87		90.7																	
W3	27/06/2010	No Discharge	P	<1	340	7.69	8	537	540	2.24		86.8		259	239	210	9	0.38	65	0.038	<0.005	1.68	5.7	0.027	<0.0005	<0.0004	0.093	<0.0002	<0.001
W3	28/06/2010	No Discharge	P	<1	320	7.7	8.09	536	524	2.37		93.1		241	240	210	9.2	0.37	71	0.031	<0.005	1.54	6.1	0.019	<0.0005	<0.0004	0.089	<0.0002	<0.001
W3	29/06/2010	No Discharge	P	<1	350	7.72	7.92	531	537	3.83		91.9		243	241	210	9	0.38	68	0.031	<0.005	1.48	5.7	0.014	<0.0005	<0.0004	0.09	<0.0002	<0.001
W3	30/06/2010	No Discharge	P	<1	340	7.7	7.92	523	527	2.8		85.4		236	239	210	8.6	0.38	66	0.015	<0.005	1.4	6.9	0.014	<0.0005	<0.0004	0.085	<0.0002	<0.001
W3	01/07/2010	No Discharge	P	1	340	7.86	7.92	498	510	3.97		100.4		232	224	180	8.9	0.4	64	<0.05	<0.005	4.3	9.6	0.045	<0.0005	<0.0004	0.089	<0.0002	<0.001
W3	02/07/2010	No Discharge	P	1	330	7.85	7.98	501	511	4.40		100.3		226	228	180	8.7	0.4	63	<0.05	<0.005	4.3	10.4	0.028	<0.0005	<0.0004	0.084	<0.0002	<0.001
W3	03/07/2010	No Discharge	P	2	340	7.87	7.95	505	515	3.80		97.9		228	227	180	8.8	0.4	64	<0.05	<0.005	4.6	10.1	0.065	<0.0005	<0.0004	0.085	<0.0002	<0.001
W3	04/07/2010	No Discharge	P	<1	340	7.91	8.03	509	525	5.61		100.3		216	229	180	9	0.41	70	<0.05	<0.005	4.8	9.2	0.02	<0.0005	<0.0004	0.078	<0.0002	<0.001
W3	05/07/2010	No Discharge	P	<1	340	7.93	8.01	517	532	3.81		99.3		244	204	180	9.1	0.41	69	<0.05	<0.005	4.8	9.3	0.019	<0.0005	<0.0004	0.089	<0.0002	<0.001
W3	06/07/2010	No Discharge	P	<1	360	7.91	7.95	520	529	3.78		98.5		232	211	180	8.9	0.41	64	0.011	<0.005	4.6	8.9	0.013	<0.0005	<0.0004	0.088	<0.0002	<0.001
W3	07/07/2010	No Discharge	P	1	360	7.94	8.04	517	532	5.90		99.4		237	237	190	9	0.42	63	0.011	<0.005	4.7	8.4	0.015	<0.0005	<0.0004	0.089	<0.0002	<0.001
W3	08/07/2010	No Discharge	P	<1	350	8.02	7.92	521	523	5.99		100.6		236	235	180	9.1	0.42	66	0.014	<0.005	4.7	8.4	0.015	<0.0005	<0.0004	0.09	<0.0002	<0.001
W3	09/07/2010	No Discharge	P	<1	300	7.97	8.17	525	533	4.33		97.4		229	220	170	8.6	0.42	67	<0.03	<0.005	4.8	8.5	0.013	<0.0005	<0.0004	0.088	<0.0002	<0.001
W3	10/07/2010	No Discharge	P	<1	300	7.97	8.27	523	530	4.96		96.2		228	217	180	8.6	0.43	66	<0.03	<0.005	4.8	7.8	0.012	<0.0005	<0.0004	0.087	<0.0002	<0.001
W3	11/07/2010	No Discharge	P	2	300	8.02	8.23	525	530	4.33		96.6		232	228	180	8.7	0.42	65	0.041	0.006	4.7	9.3	0.023	<0.0005	<0.0004	0.084	<0.0002	<0.001
W3	12/07/2010	No Discharge	P	<1	290	8.01	8.09	522	535	5.94		98.5		229	227	190	8.5	0.46	64	0.022	<0.005	4.7	7.8	0.021	<0.0005	<0.0004	0.088	<0.0002	<0.001
W3	13/07/2010	No Discharge	P	<1	320	7.92	8.03	527	534	4.09		91.1		246	226	190	8.5	0.41	64	0.026	<0.005	4.8	8.5	0.014	<0.0005	<0.0004	0.087	<0.0002	<0.001
W3	29/10/2010	No Discharge	P	<1	400	8.12	8.24	641	642	2.94		79.7		260	261	160	20	0.38	94	0.16	0.112	13.7	11.2	0.155	<0.0005	0.0003	0.105	<0.0001	<0.001
W3	31/10/2010	No Discharge	P	<1	380	8.18	8.22	635	636	2.17		62.6		260	262	160	17	0.42	90	0.15	0.097	13.4	11.3	0.106	<0.0005	0.0003	0.105	<0.0001	<0.001
W3	02/11/2010	No Discharge	P	<1	360	7.8	8.28	296.9	592	2.2		71.8		218	268	180	9.3	0.42	81	0.087	0.013	8.6	8.7	0.022	<0.0005	0.0002	0.089	<0.0001	<0.001
W3	04/11/2010	No Discharge	P	<1	370		8.14		583	3				289	257	180	8	0.41	80	0.024	0.007	8.1		0.042	<0.0005	0.0004	0.101	<0.0001	<0.001
W3	07/11/2010	No Discharge	P	<1	380	7.8	8.08	595	590	3.94				285	268	180	7.5	0.45	80	0.017	0.005	8	7.5	0.023	<0.0005	0.0004	0.1	<0.0001	<0.001
W3	11/11/2010 1:45	No Discharge	P	<1	370	7.6	8.18	587	585	0.96				262	260	190	8.7	0.38	77	0.074	0.006	8.2	8.4	0.02	<0.0005	0.0002	0.1	<0.0001	<0.001
W3	16/11/2010 14:00	No Discharge	P	1	380	7.8	8.19	150	589	0.19		104.1		273	260	190	7.8	0.42	86	0.069	0.007	8.2	7.3	0.021	<0.0005	0.0002	0.099	<0.0001	<0.001
W3	19/11/2010	No Discharge	P											259										0.022	<0.0005	0.0003	0.096	<0.0001	<0.001
W3	21/11/2010	No Discharge	P	<1	340		8.19		582					273		190	8	0.44	85	0.077	0.007	8.1		0.021	<0.0005	0.0003	0.101	<0.0001	<0.001
W3	24/11/2010	No Discharge	P	<1	330		8.13		585					265	247	190	7.3	0.45	90	0.034	0.008	8.2		0.022	<0.0005	0.0003	0.096	<0.0001	<0.001
W3	26/11/2010	No Discharge	P	2	370	7.63	8.08	599	590	1.17		98.5		271	259	190	7	0.44	84	0.079	0.008	8.1	7.5	0.22	<0.0005	0.0004	0.106	<0.0001	<0.001
W3	27/11/2010	No Discharge	P	4	380	7.49	8.15	609	593	0.22		101.8		276	266	190	7.2	0.46	84	0.069	0.009	8	9.7	0.09	<0.0005	0.0003	0.103	<0.0001	<0.001
W3	28/11/2010	No Discharge	P	2	370	7.58	8.14	511	623	-0.17		102.3		273	275	180	5.9	0.5	71	0.061	0.009	8	9.9	0.021	<0.0005	0.0003	0.11	<0.0001	<0.001
W3	29/11/2010	No Discharge	P	1	350	7.69	8.13	606	592	0.32		102.5		274	270	190	7.2	0.46	86	0.076	0.009	8.1	9.9	0.021	<0.0005	0.0003	0.1	<0.0001	<0.001
W3	30/11/2010	No Discharge	P	13	310	7.62	8.09	611	594	0.33		102.2		277	274	190	7.1	0.47	85	0.081	0.008	7.8	9.3	0.101	<0.0005	0.0003	0.106	<0.0001	<0.001
W3	01/12/2010	No Discharge	P	2	370	7.32	8.27	614	591	-0.19		112.5		273	269	190	8.2	0.43	92	0.058	0.007	8.1	6.7	0.065	<0.0005	0.0004	0.104	<0.0001	<0.001
W3	02/12/2010	No Discharge	P	1	370	7.58	8.27	516	591	-0.21		111		269	285	190	8	0.46	91	0.062	0.006	8.3	8.2	0.051	<0.0005	0.0004	0.104	<0.0001	<0.001
W3	03/12/2010	No Discharge	P	1	360	7.39	8.22	606	610	-0.22		111.6		276	280	190	8	0.47	86	0.072	0.006	11	8.6	0.044	<0.0005	0.0004	0.106	<0.0001	<0.001
W3	04/12/2010	No Discharge	P	<1	360	7.7	8.23	611	605	-0.12		113.4		275	291	190	7.3	0.45	88	0.085	0.005	8.2	7.8	0.05	<0.0005	0.0004	0.105	<0.0001	<0.001
W3	05/12/2010	No Discharge	P	<1	360	7.64	8.19	608	604	0.56		105.5		287	288	190	7.3	0.46	89	0.081	<0.005	8.2	8.5	0.032	<0.0005	0.0004	0.109	<0.0001	<0.001
W3	06/12/2010	No Discharge	P	<1	390	7.62	8.21	612	602	1.01		120.6		261	288	190	7.4	0.45	88	0.049	0.005	8.2	7.4	0.022	<0.0005	0.0002	0.097	<0.0001	<0.001
W3	07/12/2010	No Discharge	P	21	370	7.56	8.2	642	599	0.39		81.1		269	283	190	7.2	0.47	89	0.066	0.008	8.1	7	0.414	<0.0005	0.0003	0.106	<0.0001	<0.001
W3	08/12/2010	No Discharge	P	1	400	7.5	8.19	610	605	0.9		82.1		281	269	190	7.7	0.42	90	0.016	0.006	8	7.4	0.03	<0.0005	0.0004	0.106	<0.0001	<0.001
W3	10/12/2010	No Discharge	P	1	400	7.6	8.18	615	608	0.12		91.1		304	269	190	9	0.45	87	0.025	0.007	8	7.9	0.028	<0.0005	0.0003	0.112	<0.0001	<0.001
W3	11/12/2010	No Discharge	P	1	390		8.17		602					324	318	190	7.2	0.43	86	0.051	0.006	8	7.6	0.029	<0.0005	0.0003	0.116	<0.0001	<0.001

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	03/06/2010	<0.1	High DL removed	68	High DL removed	<0.0005	0.003	0.12	<0.0002	<0.01	23	0.21	<0.0002	0.004	<0.001		2	<0.0008	5.97	<0.0001	16	0.621	<60	<0.00005	<0.005	<0.01	0.0032
W3	04/06/2010	<0.1	High DL removed	64	High DL removed	<0.0005	0.003	0.17	<0.0002	<0.01	21	0.297	<0.0002	0.003	<0.001		2	<0.0008	6.54	<0.0001	15	0.554	<60	<0.00005	<0.005	<0.01	0.0027
W3	05/06/2010	<0.1	High DL removed	67	High DL removed	<0.0005	0.002	0.103	<0.0002	<0.01	24	0.239		0.004	<0.001		2	<0.0008	5.56	<0.0001	16	0.605	<60	<0.00005	<0.005	<0.01	0.003
W3	06/06/2010	<0.1	High DL removed	65	High DL removed	<0.0005	0.002	0.101	<0.0002	<0.01	23	0.237		0.004	<0.001		2	<0.0008	5.44	<0.0001	16	0.593	<60	<0.00005	<0.005	<0.01	0.0029
W3	07/06/2010	<0.1	High DL removed	58	High DL removed	<0.0005	0.005	0.209	<0.0002	<0.01	22	0.334	<0.0002	0.003	0.001		2	<0.0008	5.36	<0.0001	15	0.579	<60	<0.00005	<0.005	<0.01	0.0029
W3	10/06/2010	<0.1	High DL removed	60	High DL removed	<0.0005	0.004	0.161	<0.0002	<0.01	22	0.338	<0.0002	0.004	0.001		2	<0.0008	5.44	<0.0001	16	0.584	<60	<0.00005	<0.005	<0.01	0.0028
W3	11/06/2010	<0.1	High DL removed	59	High DL removed	<0.0005	0.005	0.206	<0.0002	<0.01	21	0.509	<0.0002	0.004	0.001		2	<0.0008	5.26	<0.0001	15	0.579	<60	<0.00005	<0.005	<0.01	0.0029
W3	12/06/2010	<0.1	High DL removed	62	High DL removed	<0.0005	0.007	0.17	<0.0002	<0.01	23	0.514	<0.0002	0.004	0.001		2	<0.0008	5.55	<0.0001	16	0.607	<60	<0.00005	<0.005	<0.01	0.003
W3	13/06/2010	<0.1	High DL removed	66	High DL removed	<0.0005	0.003	0.155	<0.0002	<0.01	24	0.349	<0.0002	0.004	0.001		2	<0.0008	5.82	<0.0001	17	0.639	<60	<0.00005	<0.005	<0.01	0.0031
W3	14/06/2010	<0.1	High DL removed	58	High DL removed	<0.0005	0.004	0.157	<0.0002	<0.01	22	0.325	<0.0002	0.004	0.001		2	<0.0008	5.24	<0.0001	15	0.586	<60	<0.00005	<0.005	<0.01	0.0029
W3	15/06/2010	<0.1	High DL removed	64	High DL removed	<0.0005	0.003	0.127	0.0002	<0.01	24	0.277	<0.0002	0.004	0.001		2	<0.0008	5.74	<0.0001	17	0.639	<60	<0.00005	<0.005	<0.01	0.0031
W3	16/06/2010	<0.1	High DL removed	65	High DL removed	<0.0005	0.01	0.799	0.0003	<0.01	24	0.284	<0.0002	0.004	0.002		2	<0.0008	6.48	<0.0001	17	0.584	<60	<0.00005	<0.005	0.022	0.0031
W3	17/06/2010	<0.1	High DL removed	59	High DL removed	<0.0005	0.004	0.168	<0.0002	<0.01	20	0.166	<0.0002	0.005	0.001		3	0.0011	5.51	<0.0001	17	0.563	<60	<0.00005	<0.005	<0.01	0.003
W3	18/06/2010	<0.1	High DL removed	60	High DL removed	<0.0005	0.004	0.079	<0.0002	<0.01	19	0.106	<0.0002	0.005	0.001		3	0.0008	5.55	<0.0001	17	0.548	<60	<0.00005	<0.005	<0.01	0.0026
W3	19/06/2010	<0.1	High DL removed	60	High DL removed	<0.0005	0.003	0.065	<0.0002	<0.01	21	0.086	<0.0002	0.005	0.001		3	<0.0008	5.48	<0.0001	18	0.578	<60	<0.00005	<0.005	<0.01	0.0027
W3	20/06/2010	<0.1	High DL removed	55	High DL removed	<0.0005	0.004	0.059	<0.0002	<0.01	19	0.066	<0.0002	0.004	0.001		3	0.0008	5.04	<0.0001	16	0.528	<60	<0.00005	<0.005	<0.01	0.0025
W3	21/06/2010	<0.1	High DL removed	64	High DL removed	<0.0005	0.004	0.103	<0.0002	<0.01	23	0.07	<0.0002	0.005	0.001		3	<0.0008	5.9	<0.0001	20	0.597	<60	<0.00005	<0.005	<0.01	0.0028
W3	22/06/2010	<0.1	High DL removed	63	High DL removed	<0.0005	0.004	0.068	<0.0002	<0.01	19	0.064	<0.0002	0.005	0.001		3	0.0009	6.34	<0.0001	17	0.592	<60	<0.00005	<0.005	<0.01	0.0026
W3	23/06/2010	<0.1	High DL removed	76	High DL removed	<0.0005	0.004	0.07	<0.0002	<0.01	24	0.061	<0.0002	0.005	0.001		3	0.001	7	<0.0001	21	0.604	<60	<0.00005	<0.005	<0.01	0.0029
W3	24/06/2010	<0.1	High DL removed	66	High DL removed	<0.0005	0.004	0.059	<0.0002	<0.01	22	0.059	<0.0002	0.005	0.001		3	0.0009	6.19	<0.0001	20	0.62	<60	<0.00005	<0.005	<0.01	0.0026
W3	25/06/2010	<0.1	High DL removed	62	High DL removed	<0.0005	0.004	0.049	<0.0002	<0.01	22	0.059	<0.0002	0.005	0.001		3	<0.0008	5.82	<0.0001	20	0.561	<60	<0.00005	<0.005	<0.01	0.0026
W3	26/06/2010	<0.1	High DL removed	62	High DL removed	<0.0005	0.003	0.123	<0.0002	<0.01	21	0.138	<0.0002	0.004	<0.001		2	<0.0008	5.44	<0.0001	16	0.565	<60	<0.00005	<0.005	<0.01	0.0027
W3	26/06/2010																										
W3	27/06/2010	<0.1	High DL removed	64	High DL removed	<0.0005	0.003	0.118	<0.0002	<0.01	24	0.155	<0.0002	0.004	0.001		2	<0.0008	6.1	<0.0001	18	0.63	<60	<0.00005	<0.005	<0.01	0.0029
W3	28/06/2010	<0.1	High DL removed	62	High DL removed	<0.0005	0.003	0.109	0.0005	<0.01	21	0.168	<0.0002	0.004	<0.001		2	<0.0008	6.51	<0.0001	15	0.599	<60	<0.00005	<0.005	<0.01	0.0026
W3	29/06/2010	<0.1	High DL removed	61	High DL removed	<0.0005	0.002	0.094	<0.0002	<0.01	22	0.159	<0.0002	0.004	<0.001		2	<0.0008	5.58	<0.0001	16	0.581	<60	<0.00005	<0.005	<0.01	0.0027
W3	30/06/2010	<0.1	High DL removed	60	High DL removed	<0.0005	0.002	0.092	<0.0002	<0.01	21	0.145	<0.0002	0.003	<0.001		2	<0.0008	5.47	<0.0001	15	0.541	<60	<0.00005	<0.005	<0.01	0.0025
W3	01/07/2010	<0.1	High DL removed	61	High DL removed	<0.0005	0.006	0.091	<0.0002	<0.01	19	0.055	<0.0002	0.005	0.001		3	0.0009	5.54	<0.0001	17	0.57	<60	<0.00005	<0.005	<0.01	0.0024
W3	02/07/2010	<0.1	High DL removed	59	High DL removed	<0.0005	0.004	0.069	<0.0002	<0.01	19	0.053	<0.0002	0.005	0.001		3	0.0009	5.41	<0.0001	17	0.537	<60	<0.00005	<0.005	<0.01	0.0024
W3	03/07/2010	<0.1	High DL removed	59	High DL removed	<0.0005	0.005	0.112	<0.0002	<0.01	19	0.064	<0.0002	0.005	0.001		3	0.0009	5.42	<0.0001	17	0.55	<60	<0.00005	<0.005	<0.01	0.0024
W3	04/07/2010	<0.1	High DL removed	57	High DL removed	<0.0005	0.004	0.06	<0.0002	<0.01	18	0.05	<0.0002	0.004	<0.001		3	0.0009	5.27	<0.0001	16	0.492	<60	<0.00005	<0.005	<0.01	0.0022
W3	05/07/2010	<0.1	High DL removed	64	High DL removed	<0.0005	0.004	0.058	<0.0002	<0.01	20	0.054	<0.0002	0.005	0.001		3	0.001	5.73	<0.0001	19	0.574	<60	<0.00005	<0.005	<0.01	0.0026
W3	06/07/2010	<0.1	High DL removed	62	High DL removed	<0.0005	0.004	0.044	<0.0002	<0.01	19	0.054	<0.0002	0.005	<0.001		3	0.001	5.93	<0.0001	19	0.587	<60	<0.00005	<0.005	<0.01	0.0024
W3	07/07/2010	<0.1	High DL removed	62	High DL removed	<0.0005	0.004	0.047	<0.0002	<0.01	20	0.054	<0.0002	0.005	<0.001		3	0.001	5.92	<0.0001	20	0.585	<60	<0.00005	<0.005	<0.01	0.0024
W3	08/07/2010	<0.1	High DL removed	62	High DL removed	<0.0005	0.004	0.048	<0.0002	<0.01	20	0.052	<0.0002	0.005	<0.001		3	0.0013	5.96	<0.0001	20	0.604	<60	<0.00005	<0.005	<0.01	0.0025
W3	09/07/2010	<0.1	High DL removed	61	High DL removed	<0.0005	0.004	0.044	<0.0002	<0.01	19	0.051	<0.0002	0.005	<0.001		3	0.0011	5.78	<0.0001	19	0.573	<60	<0.00005	<0.005	<0.01	0.0023
W3	10/07/2010	<0.1	High DL removed	60	High DL removed	<0.0005	0.004	0.042	<0.0002	<0.01	19	0.054	<0.0002	0.006	<0.001		3	0.0011	5.59	<0.0001	19	0.571	<60	<0.00005	<0.005	<0.01	0.0023
W3	11/07/2010	<0.1	High DL removed	61	High DL removed	<0.0005	0.004	0.052	<0.0002	<0.01	19	0.053	<0.0002	0.005	0.001		3	0.001	5.8	<0.0001	20	0.566	<60	<0.00005	<0.005	<0.01	0.0024
W3	12/07/2010	<0.1	High DL removed	59	High DL removed	<0.0005	0.004	0.045	<0.0002	<0.01	20	0.053	<0.0002	0.005	0.002		3	0.0009	5.54	<0.0001	20	0.579	<60	<0.00005	<0.005	<0.01	0.0026
W3	13/07/2010	<0.1	High DL removed	65	High DL removed	<0.0005	0.005	0.048	<0.0002	<0.01	20	0.054	<0.0002	0.005	0.001		3	0.001	6.23	<0.0001	20	0.585	<60	<0.00005	<0.005	<0.01	0.0025
W3	29/10/2010	<0.05	0.00001	69.9	<0.001	<0.0005	0.0069	0.024	<0.0002	<0.005	20.7	0.107	<0.00002	0.015	<0.001		6.07	0.004	4.8	<0.00002	30.2	1.35	34	<0.00005	<0.005	<0.005	0.0018
W3	31/10/2010	<0.05	0.00002	71.4	<0.001	<0.0005	0.0067	0.02	<0.0002	<0.005	19.9	0.101	<0.00002	0.014	0.001		5.47	0.0039	5.01	<0.00002	28.1	1.26	35	<0.00005	<0.005	<0.005	0.002
W3	02/11/2010	<0.05	<0.00001	54.3	<0.001	<0.0005	0.003	0.036	<0.0002	<0.005	20	0.108	<0.00002	0.006	0.001		3.55	0.0017	4.25	<0.00002	22	0.742	27	<0.00005	<0.005	<0.005	0.0022
W3	04/11/2010	<0.05	<0.00001	73.3	<0.001	<0.0005	0.0035	0.051	<0.0002	<0.005	25.8	0.119	<0.00002	0.007	0.001		4.19	0.0019	6.15	<0.00002	23.8	0.759	30	<0.00005	<0.005	<0.005	0.0028
W3	07/11/2010	<0.05	0.00001	72.7	<0.001	<0.0005	0.0034	0.031	<0.0002	<0.005	25.1	0.116	<0.00002	0.006	0.001		4.02	0.0019	6.1	<0.00002	23.5	0.729	33	<0.00005	<0.005	<0.005	0.0028
W3	11/11/2010 1:45	<0.05	<0.00001	68.6	<0.001	<0.0005	0.0036	0.035	<0.0002	<0.005	22	0.106	0.00003	0.006	0.001		3.64	0.0018	5.62	<0.00002	22.4	0.721	29	<0.00005	<0.005	<0.005	0.0026
W3	16/11/2010 14:00	<0.05	<0.00001	70.3	<0.001	<0.0005	0.0036	0.034	<0.0002	<0.005	23.6	0.111	0.00003	0.006	0.001		3.74	0.0018	5.78	<0.00002	23.8	0.705	28	<0.00005	<0.005	<0.005	0.0027
W3	19/11/2010	<0.05	<0.00001	66.1	<0.001	<0.0005	0.0047	0.036	<0.0002	<0.005	22.8	0.098	<0.00002	0.006	<0.001		3.49	0.0018	5.51	<0.00002	22.2	0.7	28	<0.00005	<0.005	<0.005	0.0027
W3	21/11/2010	<0.05	<0.00001	69.5	<0.001	<0.0005	0.0037	0.034	<0.0002	<0.005	24.2	0.103	<0.00002	0.006	<0.001		3.66	0.0019	5.87	<0.00002	23.2	0.721	29	<0.00005	<0.005	<0.005	0.0028
W3	24/11/2010	<0.05	<0.00001	68.4	<0.001	<0.0005	0.0038	0.039	<0.0002	<0.005	22.9	0.097	<0.00002	0.006	0.001		3.48	0.0018	5.83	<0.00002	21.9	0.688	30	<0.00005	<0.005	<0.005	0.0027
W3	26/11/2010	<0.05	0.00003	70.4	0.001	<0.0005	0.0078	0.349	<0.0002	<0.005	23.2	0.171	<0.00002	0.006	0.002		3.76	0.0019	5.93	<0.00002	20.5	0.721	29	<0.00005	<0.005	0.007	0.003
W3	27/11/2010	<0.05	0.00001	72.1	<0.001	<0.0005	0.0058	0.146	<0.0002	<0.005	23.3	0.134	<0.00002	0.006	0.001		3.75	0.0019	5.88	<0.00002	20.5	0.719	30	<0.00005	<0.005	<0.005	0.0031
W3	28/11/2010	<0.05	<0.00001	72.5	<0.001	<0.0005	0.0074	0.042	<0.0002	<0.005	22.4	0.376	<0.00002	0.007	0.001		4.52	0.0026	5.54	<0.00002	20.9	0.717	31	<0.00005	<0.005	<0.005	0.0031
W3	29/11/2010	<0.05	0.00003	71.3	<0.001	<0.0005	0.0033	0.041	<0.0002	<0.005	23.3	0.107	<0.00002	0.006	0.001		3.69	0.002	5.68	<0.00002	20.3	0.701	29	<0.00005	<0.005	<0.005	0.003
W3	30/11/2010	<0.05	0.00004	71.8	<0.001	<0.0005	0.0054	0.166	<0.0002	<0.005	23.8	0.158	<0.00002	0.006	0.001		3.78	0.0019	5.89	<0.00002	21	0.715	29	<0.00005	<0.005	<0.005	0.003
W3	01/12/2010	<0.05	0.00006	72.1	<0.001	<0.0005	0.0065	0.113	<0.0002	<0.005	22.6	0.131	<0.00002	0.006	0.001		3.62	0.0019	5.61	<0.00002	20.1	0.718	29	<0.00005	<0.005	<0.005	0.0031
W3	02/12/2010	<0.05	0.00018	71.3	<0.001	<0.0005	0.0065	0.096	<0.0002	<0.005	22	0.115	<0.00002	0.006	0.001		3.53	0.0022	5.48	0.00004	19.7	0.712	28	<0.00005	<0.005	<0.005	0.0031
W3	03/12/2010	<0.05	0.00003	73.4	<0.001	<0.0005	0.008	0.075	<0.0002	<0.005	22.4	0.114	<0.00002	0.006	0.001		3.51	0.0022	5.58	0.00002	20	0.705	27	<0.00005	<0.005	<0.005	0.0031
W3	04/12/2010	<0.05	0.00001	72.9	<0.001	<0.0005	0.0044	0.074	<0.0002	<0.005	22.6	0.115	<0.00002	0.006	0.001		3.61	0.0021	5.56	<0.00002	20.1	0.71	29	<0.00005	<0.005	<0.005	0.0032
W3	05/12/2010	<0.05	0.00002	76.7	<0.001	<0.0005	0.0045	0.056	<0.0002	<0.005	23.3	0.112	<0.00002	0.006	0.001		3.71	0.0021	5.8	<0.00002	20.3	0.735	29	<0.00005	<0.005	<0.005	0.0033
W3	06/12/2010	<0.05	<0.00001	67.8	<0.001	<0.0005	0.0038	0.039	<0.0002	<0.005	22.3	0.096	<0.00002	0.005	0.001		3.35	0.0019	5.38	<0.00002	19.7	0.663	29	<0.00005	<0.005	<0.005	0.0029
W3	07/12/2010	<0.05	<0.00001	69	<0.001	<0.0005	0.0108	0.648	<0.0002	<0.005	23.4	0.176	<0.00002	0.006	0.002		3.5	0.0019	6.13	<0.00002	20.2	0.681	31	<0.00005	<0.005	0.023	0.0029
W3	08/12/2010	<0.05	<0.00001	72.7	<0.001	<0.0005	0.0032	0.052	<0.0002	<0.005	24.2	0.108	<0.00002	0.006	<0.001		3.6	0.0019	5.75	<0.00002	21.9	0.716	32	<0.00005	<0.005	<0.005	0.0032
W3	10/12/2010	<0.05	<0.00001	78.2	<0.001	<0.0005	0.0033	0.052	<0.0002	<0.005	26.5	0.12	<0.00002	0.006	0.001		3.85	0.0019	6.19	<0.00002	23.5	0.764	33	<0.00005	<0.005	<0.005	0.0035
W3	11/12/2010	<0.05	<0.00001	83.4	<0.001	<0.0005	0.0035	0.041	<0.0002	<0.005	28.1	0.075	<0.00002	0.007	0.001		4.09	0.002	6.6	<0.00002	25.1	0.803	34	<0.00005	<0.005	<0.005	0.0036

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	03/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.087	<0.0002	<0.001	<0.1	High DL removed	67	High DL removed	<0.0005	0.001	<0.02	<0.0002	<0.01	21	0.039	<0.0002	0.004	<0.001		2
W3	04/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.079	<0.0002	<0.001	<0.1	High DL removed	59	High DL removed	<0.0005	0.002	0.023	<0.0002	<0.01	19	0.1	<0.0002	0.003	<0.001		2
W3	05/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.089	<0.0002	<0.001	<0.1	High DL removed	74	High DL removed	<0.0005	0.002	0.044	<0.0002	<0.01	25	0.203		0.004	<0.001		2
W3	06/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.091	<0.0002	<0.001	<0.1	High DL removed	68	High DL removed	<0.0005	0.001	0.038	<0.0002	<0.01	23	0.195		0.004	<0.001		2
W3	07/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.079	<0.0002	<0.001	<0.1	High DL removed	59	High DL removed	<0.0005	0.002	0.095	<0.0002	<0.01	22	0.009	<0.0002	0.003	<0.001		2
W3	10/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.079	<0.0002	<0.001	<0.1	High DL removed	58	High DL removed	<0.0005	0.002	<0.02	<0.0002	<0.01	21	0.012	<0.0002	0.003	<0.001		2
W3	11/06/2010	<0.005	<0.01	0.004	<0.01	<0.0005	<0.0004	0.082	<0.0002	<0.001	<0.1	High DL removed	58	High DL removed	<0.0005	0.002	<0.02	<0.0002	<0.01	21	<0.001	<0.0002	0.004	<0.001		2
W3	12/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.081	<0.0002	<0.001	<0.1	High DL removed	60	High DL removed	<0.0005	0.001	<0.02	<0.0002	<0.01	22	<0.001	<0.0002	0.004	<0.001		2
W3	13/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.088	<0.0002	<0.001	<0.1	High DL removed	63	High DL removed	<0.0005	0.002	<0.02	<0.0002	<0.01	23	0.069	<0.0002	0.004	<0.001		2
W3	14/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.085	<0.0002	<0.001	<0.1	High DL removed	60	High DL removed	<0.0005	0.002	0.023	<0.0002	<0.01	22	0.153	<0.0002	0.004	<0.001		2
W3	15/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.085	<0.0002	<0.001	<0.1	High DL removed	60	High DL removed	<0.0005	0.002	0.036	<0.0002	<0.01	22	0.158	<0.0002	0.004	<0.001		2
W3	16/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.086	<0.0002	<0.001	<0.1	High DL removed	62	High DL removed	<0.0005	0.002	<0.02	<0.0002	<0.01	21	0.054	<0.0002	0.004	<0.001		2
W3	17/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.083	<0.0002	<0.001	<0.1	High DL removed	57	High DL removed	<0.0005	0.003	<0.02	<0.0002	<0.01	20	0.001	<0.0002	0.005	<0.001		3
W3	18/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.083	<0.0002	<0.001	<0.1	High DL removed	61	High DL removed	<0.0005	0.003	<0.02	<0.0002	<0.01	20	<0.001	<0.0002	0.005	<0.001		3
W3	19/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.083	<0.0002	<0.001	<0.1	High DL removed	55	High DL removed	<0.0005	0.003	<0.02	<0.0002	<0.01	17	0.005	<0.0002	0.005	<0.001		3
W3	20/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.084	<0.0002	<0.001	<0.1	High DL removed	61	High DL removed	<0.0005	0.003	<0.02	<0.0002	<0.01	19	0.055	<0.0002	0.005	<0.001		3
W3	21/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.082	<0.0002	<0.001	<0.1	High DL removed	61	High DL removed	<0.0005	0.003	<0.02	<0.0002	<0.01	19	0.006	<0.0002	0.005	<0.001		3
W3	22/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.084	<0.0002	<0.001	<0.1	High DL removed	63	High DL removed	<0.0005	0.003	<0.02	<0.0002	<0.01	20	0.021	<0.0002	0.005	<0.001		3
W3	23/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.084	<0.0002	<0.001	<0.1	High DL removed	60	High DL removed	<0.0005	0.003	<0.02	<0.0002	<0.01	19	0.024	<0.0002	0.005	<0.001		3
W3	24/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.083	<0.0002	<0.001	<0.1	High DL removed	63	High DL removed	<0.0005	0.003	<0.02	<0.0002	<0.01	19	0.043	<0.0002	0.005	<0.001		3
W3	25/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.088	<0.0002	<0.001	<0.1	High DL removed	60	High DL removed	<0.0005	0.003	<0.02	<0.0002	<0.01	20	0.044	<0.0002	0.005	<0.001		3
W3	26/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.089	<0.0002	<0.001	<0.1	High DL removed	67	High DL removed	<0.0005	0.002	<0.02	<0.0002	<0.01	22	0.117	<0.0002	0.004	<0.001		3
W3	26/06/2010																									
W3	27/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.085	<0.0002	<0.001	<0.1	High DL removed	61	High DL removed	<0.0005	0.002	0.037	<0.0002	<0.01	21	0.073	<0.0002	0.004	<0.001		2
W3	28/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.084	<0.0002	<0.001	<0.1	High DL removed	60	High DL removed	<0.0005	0.002	<0.02	<0.0002	<0.01	22	0.056	<0.0002	0.003	<0.001		2
W3	29/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.085	<0.0002	<0.001	<0.1	High DL removed	61	High DL removed	<0.0005	0.002	0.021	<0.0002	<0.01	22	0.058	<0.0002	0.004	<0.001		2
W3	30/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.086	<0.0002	<0.001	<0.1	High DL removed	61	High DL removed	<0.0005	0.002	<0.02	<0.0002	<0.01	21	0.019	<0.0002	0.004	<0.001		2
W3	01/07/2010	<0.005	<0.01	<0.002	0.013	<0.0005	<0.0004	0.084	<0.0002	<0.001	<0.1	High DL removed	59	High DL removed	<0.0005	0.004	0.029	<0.0002	<0.01	18	0.029	<0.0002	0.005	0.001		3
W3	02/07/2010	<0.005	<0.01	<0.002	0.013	<0.0005	<0.0004	0.083	<0.0002	<0.001	<0.1	High DL removed	60	High DL removed	<0.0005	0.004	0.033	<0.0002	<0.01	19	0.038	<0.0002	0.005	<0.001		3
W3	03/07/2010	<0.005	<0.01	<0.002	0.012	<0.0005	<0.0004	0.083	<0.0002	<0.001	<0.1	High DL removed	60	High DL removed	<0.0005	0.004	0.027	<0.0002	<0.01	19	0.043	<0.0002	0.005	0.001		3
W3	04/07/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.083	<0.0002	<0.001	<0.1	High DL removed	60	High DL removed	<0.0005	0.004	0.028	<0.0002	<0.01	19	0.044	<0.0002	0.005	<0.001		3
W3	05/07/2010	<0.005	<0.01	<0.002	0.01	<0.0005	0.0004	0.078	<0.0002	<0.001	<0.1	High DL removed	54	High DL removed	<0.0005	0.004	0.039	<0.0002	<0.01	17	0.034	<0.0002	0.004	0.001		3
W3	06/07/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.085	<0.0002	<0.001	<0.1	High DL removed	52	High DL removed	<0.0005	0.004	<0.02	<0.0002	<0.01	20	0.039	<0.0002	0.005	<0.001		3
W3	07/07/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.087	<0.0002	<0.001	<0.1	High DL removed	61	High DL removed	<0.0005	0.004	0.022	<0.0002	<0.01	20	0.041	<0.0002	0.005	<0.001		3
W3	08/07/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.087	<0.0002	<0.001	<0.1	High DL removed	62	High DL removed	<0.0005	0.004	0.021	<0.0002	<0.01	19	0.041	<0.0002	0.005	<0.001		3
W3	09/07/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.086	<0.0002	<0.001	<0.1	High DL removed	58	High DL removed	<0.0005	0.004	<0.02	<0.0002	<0.01	18	0.041	<0.0002	0.005	<0.001		3
W3	10/07/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.087	<0.0002	<0.001	<0.1	High DL removed	58	High DL removed	<0.0005	0.004	<0.02	<0.0002	<0.01	18	0.04	<0.0002	0.005	<0.001		3
W3	11/07/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.079	<0.0002	<0.001	<0.1	High DL removed	60	High DL removed	<0.0005	0.003	0.028	<0.0002	<0.01	19	0.04	<0.0002	0.005	0.002		3
W3	12/07/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.081	<0.0002	<0.001	<0.1	High DL removed	60	High DL removed	<0.0005	0.004	<0.02	<0.0002	<0.01	19	0.022	<0.0002	0.005	<0.001		3
W3	13/07/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.081	<0.0002	<0.001	<0.1	High DL removed	61	High DL removed	<0.0005	0.004	<0.02	<0.0002	<0.01	18	0.023	<0.0002	0.005	<0.001		3
W3	29/10/2010	<0.005	<0.005	<0.0005	0.066	<0.0005	0.0004	0.1	<0.0001	<0.001	<0.05	0.00002	69.6	<0.001	<0.0005	0.0041	0.011	<0.0002	<0.005	21.1	0.101	<0.00002	0.015	<0.001		5.99
W3	31/10/2010	<0.005	<0.005	<0.0005	0.063	<0.0005	0.0003	0.099	<0.0001	<0.001	<0.05	0.00004	70.6	<0.001	<0.0005	0.0049	0.014	<0.0002	<0.005	20.8	0.099	<0.00002	0.014	<0.001		5.65
W3	02/11/2010	<0.005	<0.005	<0.0005	0.02	<0.0005	0.0003	0.093	<0.0001	<0.001	<0.05	0.00002	70	<0.001	<0.0005	0.0025	0.027	<0.0002	<0.005	22.7	0.116	<0.00002	0.007	0.001		4.02
W3	04/11/2010	<0.005	<0.005	<0.0005	0.014	<0.0005	0.0003	0.097	<0.0001	<0.001	<0.05	0.00002	66.9	<0.001	<0.0005	0.0027	0.023	<0.0002	<0.005	21.8	0.107	<0.00002	0.007	0.002		3.77
W3	07/11/2010	<0.005	<0.005	<0.0005	0.01	<0.0005	0.0003	0.096	<0.0001	<0.001	<0.05	<0.00001	68.3	<0.001	<0.0005	0.003	0.022	<0.0002	<0.005	23.8	0.114	<0.00002	0.006	0.001		3.97
W3	11/11/2010 1:45	<0.005	<0.005	<0.0005	0.01	<0.0005	0.0003	0.1	<0.0001	<0.001	<0.05	<0.00001	67.6	<0.001	<0.0005	0.0028	0.017	<0.0002	<0.005	22.2	0.106	<0.00002	0.006	0.001		3.79
W3	16/11/2010 14:00	<0.005	<0.005	<0.0005	0.01	<0.0005	0.0003	0.098	<0.0001	<0.001	<0.05	<0.00001	67.8	<0.001	<0.0005	0.0026	0.012	<0.0002	<0.005	22.1	0.101	<0.00002	0.006	<0.001		3.66
W3	19/11/2010	<0.005	<0.005	<0.0005																						
W3	21/11/2010	<0.005	<0.005	<0.0005																						
W3	24/11/2010	<0.005	<0.005	<0.0005	0.006	<0.0005	0.0004	0.092	<0.0001	<0.001	<0.05	0.00002	64.4	<0.001	<0.0005	0.0026	0.008	<0.0002	<0.005	20.9	0.088	<0.00002	0.005	0.001		3.26
W3	26/11/2010	<0.005	<0.005	<0.0005	0.009	<0.0005	0.0003	0.095	<0.0001	<0.001	<0.05	0.00001	67.6	<0.001	<0.0005	0.0027	0.009	<0.0002	<0.005	21.9	0.076	<0.00002	0.006	0.001		3.31
W3	27/11/2010	<0.005	<0.005	<0.0005	0.007	<0.0005	0.0003	0.094	<0.0001	<0.001	<0.05	0.00001	68.8	<0.001	<0.0005	0.0029	0.012	<0.0002	<0.005	22.9	0.092	<0.00002	0.006	0.001		3.43
W3	28/11/2010	<0.005	<0.005	<0.0005	0.006	<0.0005	0.0003	0.096	<0.0001	<0.001	<0.05	<0.00001	71	<0.001	<0.0005	0.0029	0.01	<0.0002	<0.005	23.7	0.099	<0.00002	0.006	0.001		3.5
W3	29/11/2010	<0.005	<0.005	<0.0005	0.006	<0.0005	0.0003	0.095	<0.0001	<0.001	<0.05	<0.00001	70.1	<0.001	<0.0005	0.0028	0.011	<0.0002	<0.005	23.1	0.097	<0.00002	0.006	0.001		3.43
W3	30/11/2010	<0.005	<0.005	<0.0005	0.007	<0.0005	0.0003	0.093	<0.0001	<0.001	<0.05	0.00001	69.2	<0.001	<0.0005	0.003	0.011	<0.0002	<0.005	24.6	0.097	<0.00002	0.006	0.001		3.7
W3	01/12/2010	<0.005	<0.005	<0.0005	0.006	<0.0005	0.0003	0.092	<0.0001	<0.001	<0.05	0.00002	68.6	<0.001	<0.0005	0.0029	0.012	<0.0002	<0.005	23.7	0.095	<0.00002	0.005	0.001		3.55
W3	02/12/2010	<0.005	<0.005	<0.0005	0.018	<0.0005	0.0004	0.097	<0.0001	<0.001	<0.05	0.00009	74.2	<0.001	<0.0005	0.0036	0.041	<0.0002	<0.005	24.3	0.11	<0.00002	0.006	0.001		3.6
W3	03/12/2010	<0.005	<0.005	<0.0005	0.023	<0.0005	0.0003	0.096	<0.0001	<0.001	<0.05	0.0001	72.1	<0.001	<0.0005	0.0042	0.046	<0.0002	<0.005	24.4	0.111	<0.00002	0.006	0.001		3.73
W3	04/12/2010	<0.005	<0.005	<0.0005	0.016	<0.0005	0.0003	0.096	<0.0001	<0.001	<0.05	0.0001	75.5	<0.001	<0.0005	0.0044	0.037	<0.0002	<0.005	24.8	0.108	<0.00002	0.006	0.001		3.76
W3	05/12/2010	<0.005	<0.005	<0.0005	0.016	<0.0005	0.0003	0.096	<0.0001	<0.001	<0.05	0.00029	74.8	<0.001	<0.0005	0.0058	0.042	<0.0002	<0.005	24.5	0.101	<0.00002	0.006	0.001		3.82
W3	06/12/2010	<0.005	<0.005	<0.0005	0.021	<0.0005	0.0003	0.097	<0.0001	<0.001	<0.05	0.0005	76.1	<0.001	<0.0005	0.0076	0.036	<0.0002	<0.005	23.9	0.099	<0.00002	0.005	0.001		3.95
W3	07/12/2010	<0.005	0.005	<0.0005	0.038	<0.0005	0.0003	0.099	<0.0001	<0.001	<0.05	0.00003	73.7	<0.001	<0.0005	0.0042	0.077	<0.0002	<0.005	24	0.106	<0.00002	0.005	0.001		3.63
W3	08/12/2010	<0.005	<0.005	<0.0005	0.011	<0.0005	0.0003	0.095	<0.0001	<0.001	<0.05	<0.00001	68.9	<0.001	<0.0005	0.0044	0.015	<0.0002	<0.005	23.7	0.084	<0.00002	0.005	0.001		3.53
W3	10/12/2010	<0.005	<0.005	<0.0005	0.011	<0.0005	0.0003	0.095	<0.0001	<0.001	<0.05	<0.00001	68.6	<0.001	<0.0005	0.0029	0.021	<0.0002	<0.005	23.6	0.104	<0.00002	0.005	0.001		3.49
W3	11/12/2010	<0.005	<0.005	<0.0005	0.009	<0.0005	0.0004	0.116	<0.0001	<0.001	<0.05	0.00002	80.8	<0.001	<0.0005	0.0038	0.02	<0.0002	<0.005	28.3	0.119	<0.00002	0.007	0.001		4.26

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	Br	Cation	CN-T	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-TKN	P-PO4T	P-TDP	P-TRP
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L
W3	03/06/2010	<0.0008	5.32	<0.0001	15	0.609	<60	<0.00005	<0.005	<0.01	0.0031	<0.005	High DL removed	<0.002	240	7.8	<0.5	6.5		<0.4												<0.005
W3	04/06/2010	<0.0008	4.66	<0.0001	14	0.526	<60	<0.00005	<0.005	<0.01	0.0026	<0.005	High DL removed	<0.002	230	5.2	<0.5	4.4		<0.4												<0.005
W3	05/06/2010	<0.0008	5.84	<0.0001	18	0.627	<60	<0.00005	<0.005	<0.01	0.0031	<0.005	High DL removed	<0.002	240	6.8	<0.5	5.7		<0.4												<0.005
W3	06/06/2010	<0.0008	5.94	<0.0001	16	0.627	<60	<0.00005	<0.005	<0.01	0.0031	<0.005	High DL removed	<0.002	240	6.4	<0.5	5.3		<0.4												<0.005
W3	07/06/2010	<0.0008	5.64	<0.0001	17	0.556	<60	<0.00005	<0.005	<0.01	0.0027	<0.005	High DL removed	<0.002	230	7.9	<0.5	6.6		<0.4												<0.005
W3	10/06/2010	<0.0008	5.43	<0.0001	17	0.547	<60	<0.00005	<0.005	<0.01	0.0026	<0.005	High DL removed	<0.002	220	3.7	<0.5	3.1		0.5												<0.005
W3	11/06/2010	<0.0008	5.37	<0.0001	17	0.542	<60	<0.00005	<0.005	<0.01	0.0028	<0.005	High DL removed	<0.002	220	2.4	<0.5	2		<0.4												<0.005
W3	12/06/2010	<0.0008	5.57	<0.0001	18	0.569	<60	<0.00005	<0.005	<0.01	0.0029	<0.005	High DL removed	<0.002	230	8.9	<0.5	7.4		<0.4												<0.005
W3	13/06/2010	<0.0008	5.88	<0.0001	18	0.599	<60	<0.00005	<0.005	<0.01	0.0029	<0.005	High DL removed	<0.002	250	2.5	<0.5	2.1		<0.4												<0.005
W3	14/06/2010	<0.0008	5.63	<0.0001	18	0.567	<60	<0.00005	<0.005	<0.01	0.0028	<0.005	High DL removed	<0.002	230	8.1	<0.5	6.7		<0.4												<0.005
W3	15/06/2010	<0.0008	5.58	<0.0001	18	0.572	<60	<0.00005	<0.005	<0.01	0.0029	<0.005	High DL removed	<0.002	230	8.8	<0.5	7.3		<0.4												<0.005
W3	16/06/2010	<0.0008	5.21	<0.0001	17	0.605	<60	<0.00005	<0.005	<0.01	0.003	<0.005	High DL removed	<0.002	250	<0.5	<0.5	<0.5		<0.4												<0.005
W3	17/06/2010	<0.0008	5.11	<0.0001	18	0.577	<60	<0.00005	<0.005	<0.01	0.0027	<0.005	High DL removed	<0.002	210	5.3	<0.5	4.4		<0.4												<0.005
W3	18/06/2010	0.0009	5.67	<0.0001	17	0.57	<60	<0.00005	<0.005	<0.01	0.0026	<0.005	High DL removed	<0.002	220	<0.5	<0.5	<0.5		<0.4												<0.005
W3	19/06/2010	<0.0008	4.89	<0.0001	16	0.534	<60	<0.00005	<0.005	<0.01	0.0026	<0.005	High DL removed	<0.002	220	2.7	<0.5	2.3		<0.4												<0.005
W3	20/06/2010	0.0008	5.49	<0.0001	17	0.579	<60	<0.00005	<0.005	<0.01	0.0027	<0.005	High DL removed	<0.002	220	1.8	<0.5	1.5		<0.4												<0.005
W3	21/06/2010	<0.0008	5.52	<0.0001	17	0.574	<60	<0.00005	<0.005	<0.01	0.0026	<0.005	High DL removed	<0.002	220	1.3	<0.5	1.1		<0.4							7.6					<0.005
W3	22/06/2010	<0.0008	5.49	<0.0001	18	0.566	<60	<0.00005	<0.005	<0.01	0.0026	<0.005	High DL removed	<0.002	230	<0.5	<0.5	<0.5		<0.4							9.4					<0.005
W3	23/06/2010	<0.0008	5.28	<0.0001	17	0.563	<60	<0.00005	<0.005	<0.01	0.0026	<0.005	High DL removed	<0.002	220	3	<0.5	2.5		<0.4							7.6					<0.005
W3	24/06/2010	0.0008	5.5	<0.0001	18	0.567	<60	<0.00005	<0.005	<0.01	0.0026	<0.005	High DL removed	<0.002	230	<0.5	<0.5	<0.5		<0.4							7.4					<0.005
W3	25/06/2010	<0.0008	5.69	<0.0001	18	0.601	<60	<0.00005	<0.005	<0.01	0.0026	<0.005	High DL removed	<0.002	220	5.4	<0.5	4.5		<0.4							9.1					<0.005
W3	26/06/2010	0.0013	5.98	<0.0001	17	0.614	<60	<0.00005	<0.005	<0.01	0.0027	<0.005	High DL removed	<0.002	240	6.3	<0.5	5.3		<0.4							5.9					<0.005
W3	26/06/2010																															
W3	27/06/2010	<0.0008	6.34	<0.0001	16	0.596	<60	<0.00005	<0.005	<0.01	0.0025	<0.005	High DL removed	<0.002	250	<0.5	<0.5	<0.5		<0.4												<0.005
W3	28/06/2010	<0.0008	6.35	<0.0001	16	0.594	<60	<0.00005	<0.005	<0.01	0.0025	<0.005	High DL removed	<0.002	250	<0.5	<0.5	<0.5		<0.4												<0.005
W3	29/06/2010	<0.0008	6.36	<0.0001	16	0.602	<60	<0.00005	<0.005	<0.01	0.0025	<0.005	High DL removed	<0.002	260	<0.5	<0.5	<0.5		<0.4												<0.005
W3	30/06/2010	<0.0008	6.44	<0.0001	16	0.596	<60	<0.00005	<0.005	<0.01	0.0024	<0.005	High DL removed	<0.002	250	<0.5	<0.5	<0.5		<0.4												<0.005
W3	01/07/2010	0.0009	5.62	<0.0001	17	0.549	<60	<0.00005	<0.005	<0.01	0.0024	<0.005	High DL removed	<0.002	220	<0.5	<0.5	<0.5		<0.4												<0.005
W3	02/07/2010	0.0009	5.74	<0.0001	18	0.542	<60	<0.00005	<0.005	<0.01	0.0024	<0.005	High DL removed	<0.002	220	<0.5	<0.5	<0.5		<0.4												<0.005
W3	03/07/2010	0.001	5.66	<0.0001	18	0.548	<60	<0.00005	<0.005	<0.01	0.0023	<0.005	High DL removed	<0.002	220	<0.5	<0.5	<0.5		<0.4												<0.005
W3	04/07/2010	0.001	5.7	<0.0001	18	0.548	<60	<0.00005	<0.005	<0.01	0.0024	<0.005	High DL removed	<0.002	220	<0.5	<0.5	<0.5		<0.4												<0.005
W3	05/07/2010	<0.0008	5.97	<0.0001	15	0.486	<60	<0.00005	<0.005	<0.01	0.0019	<0.005	High DL removed	<0.002	220	<0.5	<0.5	<0.5		<0.4												<0.005
W3	06/07/2010	0.0009	4.85	<0.0001	18	0.573	<60	<0.00005	<0.005	<0.01	0.0025	<0.005	High DL removed	<0.002	230	<0.5	<0.5	<0.5		<0.4												<0.005
W3	07/07/2010	0.0011	5.62	<0.0001	19	0.574	<60	<0.00005	<0.005	<0.01	0.0025	<0.005	High DL removed	<0.002	230	<0.5	<0.5	<0.5		<0.4												<0.005
W3	08/07/2010	0.0011	5.56	<0.0001	19	0.572	<60	<0.00005	<0.005	<0.01	0.0025	<0.005	High DL removed	<0.002	230	<0.5	<0.5	<0.5		<0.4												<0.005
W3	09/07/2010	0.001	5.17	<0.0001	18	0.604	<60	<0.00005	<0.005	<0.01	0.0027	<0.005	High DL removed	<0.002	210	<0.5	<0.5	<0.5		<0.4												0.006
W3	10/07/2010	0.0009	5.1	<0.0001	17	0.605	<60	<0.00005	<0.005	<0.01	0.0028	<0.005	High DL removed	<0.002	220	<0.5	<0.5	<0.5		<0.4												0.007
W3	11/07/2010	0.001	5.29	<0.0001	18	0.543	<60	<0.00005	<0.005	<0.01	0.0024	<0.005	High DL removed	<0.002	220	<0.5	<0.5	<0.5		<0.4												<0.005
W3	12/07/2010	0.001	5.3	<0.0001	18	0.564	<60	<0.00005	<0.005	<0.01	0.0025	<0.005	High DL removed	<0.002	230	<0.5	<0.5	<0.5		<0.4												<0.005
W3	13/07/2010	0.001	5.39	<0.0001	17	0.559	<60	<0.00005	<0.005	<0.01	0.0024	<0.005	High DL removed	<0.002	230	<0.5	<0.5	<0.5		<0.4												<0.005
W3	29/10/2010	0.004	5.04	<0.00002	30.5	1.31	37	<0.00005	<0.005	<0.005	0.0017	<0.005	<0.005	<0.0005	190	<0.5	<0.5	<0.5		5.2												<0.005
W3	31/10/2010	0.0039	5.32	<0.00002	29.1	1.23	36	<0.00005	<0.005	<0.005	0.0019	<0.005	<0.005	<0.0005	190	<0.5	<0.5	<0.5		3.7												<0.005
W3	02/11/2010	0.002	6.04	<0.00002	24.4	0.807	31	<0.00005	<0.005	<0.005	0.0024	<0.005	<0.005	<0.0005	220	<0.5	<0.5	<0.5		0.5												<0.005
W3	04/11/2010	0.0019	5.62	<0.00002	22.3	0.779	29	<0.00005	<0.005	<0.005	0.0026	<0.005	<0.005	<0.0005	220	<0.5	<0.5	<0.5		<0.4												0.006
W3	07/11/2010	0.0019	5.73	<0.00002	24.1	0.749	31	<0.00005	<0.005	<0.005	0.0027	<0.005	<0.005	<0.0005	220	<0.5	<0.5	<0.5		<0.4												0.007
W3	11/11/2010 1:45	0.0019	5.94	<0.00002	22.7	0.723	31	<0.00005	<0.005	<0.005	0.0026	<0.005	<0.005	<0.0005	230	<0.5	<0.5	<0.5		<0.4							8.8					<0.005
W3	16/11/2010 14:00	0.0018	5.92	<0.00002	22.3	0.694	31	<0.00005	<0.005	<0.005	0.0026	<0.005	<0.005	<0.0005	230	<0.5	<0.5	<0.5		<0.4							7.1					<0.005
W3	19/11/2010																															
W3	21/11/2010														230	<0.5	<0.5	<0.5		<0.4												<0.005
W3	24/11/2010	0.0018	5.15	<0.00002	18.5	0.68	26	<0.00005	<0.005	<0.005	0.0026	<0.005	<0.005	<0.0005	230	<0.5	<0.5	<0.5		<0.4												<0.005
W3	26/11/2010	0.0018	5.38	<0.00002	19.8	0.701	29	<0.00005	<0.005	<0.005	0.0028	<0.005	<0.005	<0.0005	230	<0.5	<0.5	<0.5		<0.4												<0.005
W3	27/11/2010	0.0019	5.5	<0.00002	20.5	0.69	29	<0.00005	<0.005	<0.005	0.0029	<0.005	<0.005	<0.0005	230	<0.5	<0.5	<0.5		<0.4												<0.005
W3	28/11/2010	0.0019	5.58	<0.00002	21.2	0.695	30	<0.00005	<0.005	<0.005	0.0029	<0.005	<0.005	<0.0005	220	<0.5	<0.5	<0.5		<0.4												<0.005
W3	29/11/2010	0.0019	5.61	<0.00002	20.9	0.694	30	<0.00005	<0.005	<0.005	0.003	<0.005	<0.005	<0.0005	230	<0.5	<0.5	<0.5		<0.4												<0.005
W3	30/11/2010	0.0019	5.55	<0.00002	22.4	0.687	32	<0.00005	<0.005	<0.005	0.0029	<0.005	<0.005	<0.0005	230	<0.5	<0.5	<0.5		<0.4												<0.005
W3	01/12/2010	0.0018	5.46	<0.00002	21.2	0.687	31	<0.00005	<0.005	<0.005	0.0028	<0.005	<0.005	<0.0005	230	<0.5	<0.5	<0.5		<0.01												<0.005
W3	02/12/2010	0.0019	5.81	<0.00002	21.7	0.723	31	<0.00005	<0.005	<0.005	0.0031	<0.005	<0.005	<0.0005	240	<0.5	<0.5	<0.5		<0.01												<0.005
W3	03/12/2010	0.0019	5.79	<0.00002	21.8	0.715	32	<0.00005	<0.005	<0.005	0.003	<0.005	<0.005	<0.0005	240	<0.5	<0.5	<0.5		<0.01												<0.005
W3	04/12/2010	0.002	6.03	<0.00002	22.4	0.714	32	<0.00005	<0.005	<0.005	0.0031	<0.005	<0.005	<0.0005	230	<0.5	<0.5	<0.5		<0.01												<0.005
W3	05/12/2010	0.0019	5.93	<0.00002	22	0.707	32	<0.00005	<0.005	<0.005	0.003	<0.005	<0.005	<0.0005	230	<0.5	<0.5	<0.5		<0.01												<0.005
W3	06/12/2010	0.0019	6.04	<0.00002	21.3	0.722	31	<0.00005	<0.005	<0.005	0.0031	<0.005	0.008	<0.0005	230	<0.5	<0.5	<0.5		<0.01												<0.005
W3	07/12/2010	0.0018	5.87	<0.00002	21.1	0.72	31	<0.00005	<0.005	<0.005	0.0031	<0.005	<0.005	<0.0005	230	<0.5	<0.5	<0.5		<0.01												<0.005
W3	08/12/2010	0.0019	5.5	<0.00002	21.7	0.686	32	<0.00005	<0.005	<0.005	0.0029	<0.005	<0.005	<0.0005	230	<0.5	<0.5	<0.5		<0.01												0.009
W3	10/12/2010	0.002	5.37	<0.00002	20.9	0.688	32	<0.00005	<0.005	<0.005	0.003	<0.005	<0.005	<0.0005	230	<0.5	<0.5	<0.5		<0.01												0.01
W3	11/12/2010	0.0022	6.25	<0.00002	25	0.799	36	<0.00005	<0.005	<0.005	0.0035	<0.005	<0.005	<0.0005	230	<0.5	<0.5	<0.5		<0.01												0.009

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W3	03/06/2010					1.1	
W3	04/06/2010					1.3	
W3	05/06/2010					0.5	
W3	06/06/2010					0.6	
W3	07/06/2010					1.8	
W3	10/06/2010					1	
W3	11/06/2010					2.1	
W3	12/06/2010					2.1	
W3	13/06/2010					1.9	
W3	14/06/2010					1.3	
W3	15/06/2010					0.8	
W3	16/06/2010					8.2	
W3	17/06/2010					1.2	
W3	18/06/2010					0.7	
W3	19/06/2010					0.5	
W3	20/06/2010					0.4	
W3	21/06/2010					0.5	
W3	22/06/2010					0.5	-3.6
W3	23/06/2010	<0.005				0.4	-3.8
W3	24/06/2010					0.4	-4
W3	25/06/2010					0.3	-3.9
W3	26/06/2010					0.6	
W3	26/06/2010						-3.3
W3	27/06/2010					0.5	-3.6
W3	28/06/2010					1.1	-3.8
W3	29/06/2010	<0.005				0.4	-2.7
W3	30/06/2010	<0.005				0.5	-3.5
W3	01/07/2010					0.6	-2.1
W3	02/07/2010					0.4	-3.6
W3	03/07/2010					1.4	-1.2
W3	04/07/2010					0.6	-2.4
W3	05/07/2010					0.3	-1.2
W3	06/07/2010					0.4	-1.6
W3	07/07/2010					0.3	-4.1
W3	08/07/2010	<0.005				0.4	-4.3
W3	09/07/2010					0.4	-4.2
W3	10/07/2010					0.4	-4.2
W3	11/07/2010					0.3	-3.7
W3	12/07/2010					0.3	-4.1
W3	13/07/2010					0.3	-4.1
W3	29/10/2010	0.008					-3.1
W3	31/10/2010					0.3	-3.9
W3	02/11/2010					0.3	
W3	04/11/2010					0.2	10
W3	07/11/2010	<0.005				0.2	-3.9
W3	11/11/2010 1:45	0.006					-4
W3	16/11/2010 14:00	<.005					-3.5
W3	19/11/2010						
W3	21/11/2010					0.2	
W3	24/11/2010					0.2	
W3	26/11/2010					0.3	
W3	27/11/2010					0.4	-3.3
W3	28/11/2010					0.2	-1.5
W3	29/11/2010					2.1	
W3	30/11/2010					0.4	-3.1
W3	01/12/2010					0.2	-3.2
W3	02/12/2010					0.4	-3.1
W3	03/12/2010	<0.005				0.5	-2.7
W3	04/12/2010					0.7	-3
W3	05/12/2010					0.5	-3
W3	06/12/2010					0.3	-3.2
W3	07/12/2010					1.1	5.2
W3	08/12/2010					0.3	-3.2
W3	10/12/2010	<0.005				0.2	-3.2
W3	11/12/2010					0.6	

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Phase	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
				mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	13/12/2010	No Discharge	P	1	400		8.2		609					306	268	190	7.2	0.45	89	<0.005	0.007	8.1	8.1	0.03	<0.0005	0.0004	0.111	<0.0001	<0.001
W3	14/12/2010	No Discharge	P	<1	380		8.18		608					265	307	190	7.7	0.43	90	0.015	0.008	7.9	6.4	0.023	<0.0005	0.0002	0.094	<0.0001	<0.001
W3	19/12/2010	No Discharge	P	2	370		8.03		615					270		190	7.6	0.43	90	0.009	0.009	8		0.062	<0.0005	0.0002	0.094	<0.0001	<0.001
W3	23/12/2010	No Discharge	P	1	400		8.15		618					271	302	190	7.3	0.45	92	<0.05	0.008	8.1		0.021	<0.0005	0.0002	0.097	<0.0001	<0.001
W3	24/12/2010	No Discharge	P	2	400	7.37	8.11	622	621	0.16	13.24	93.7		283	271	190	7.2	0.46	85	<0.05	0.009	8.7	7.5	0.061	<0.0005	0.0003	0.099	<0.0001	<0.001
W3	28/12/2010	No Discharge	P	1	410	7.22	8.08	622	623	0.4	13.15	91.3		289	269	200	7.1	0.48	86	<0.005	0.01	8.9	7.3	0.044	<0.0005	0.0003	0.101	<0.0001	<0.001
W3	30/12/2010	No Discharge	P	<1	400	7.82	8.1	620	623	0.17				302	274	200	6.9	0.48	85	<0.005	0.009	8.9	7.1	0.028	<0.0005	0.0003	0.105	<0.0001	<0.001
W3	01/01/2011	No Discharge	P	1	400	7.6	8.11	621	626	0.55	11.72	81.6		288	273	190	7	0.49	87	<0.005	0.009	8.7	6.9	0.04	<0.0005	0.0004	0.103	<0.0001	<0.001
W3	03/01/2011	No Discharge	P	1	390	7.66	7.99	621	631	0.7	12.01	83.9		262	272	190	7.6	0.44	88	<0.05	<0.005	8.5	6.8	0.026	<0.0005	<0.0001	0.104	<0.0001	<0.001
W3	05/01/2011	No Discharge	P	<1	390	7.71	8	621	630	0.83	12.43	87.2		268	274	200	7.2	0.47	89	<0.05	<0.005	8.4	7.1	0.034	<0.0005	<0.0001	0.106	<0.0001	<0.001
W3	08/01/2011	No Discharge	P	1	350	7.64	7.99	578	588	-0.27	13.15	89.6		263	261	210	6.1	0.4	77	0.009	<0.005	4.1	4.8	0.032	<0.0005	<0.0001	0.098	<0.0001	<0.001
W3	10/01/2011	No Discharge	P			7.31		633		0.13	12.89	88.7		282										0.025	<0.0005	<0.0001	0.107	<0.0001	<0.001
W3	12/01/2011	No Discharge	P											326										0.035	<0.0005	0.0003	0.107	<0.0001	<0.001
W3	13/01/2011	No Discharge	P	2	360		8.07		585					309	252	220	3.8	0.46	78	<0.005	<0.005	3.6	3.8	0.034	<0.0005	0.0002	0.104	<0.0001	<0.001
W3	14/01/2011	No Discharge	P			7.2		590		-0.27	9.7	66.5		91.1										0.739	<0.0005	0.0044	0.02	<0.0001	0.001
W3	17/01/2011	No Discharge	P	6	350	7.38	7.83	557	584	-0.31	8.42	57.3		330	302	210	5.5	0.42	76	0.006	0.006	3.4	4.5	0.114	<0.0005	0.0003	0.116	<0.0001	<0.001
W3	18/01/2011	No Discharge	P			7.21		591		-0.28	9.35	64.2		263										0.086	<0.0005	<0.0001	0.093	<0.0001	<0.001
W3	22/01/2011	No Discharge	P	3	350		7.78		592					280	276	210	4.8	0.41	78	0.11	<0.005	3.2	4.2	0.027	<0.0005	<0.0001	0.101	<0.0001	<0.001
W3	23/01/2011	No Discharge	P			6.67		590		-0.28	12.72	86.7		260										0.019	<0.0005	<0.0001	0.089	<0.0001	<0.001
W3	28/01/2011	No Discharge	P	<1	330	7.47	8.38	473	573	-0.3	11.8	77		256	268	220	5.3	0.43	72	0.019	<0.005	3.2	4	0.029	<0.0005	0.0001	0.095	<0.0001	<0.001
W3	30/01/2011	No Discharge	P	1	330	7.42	8.35	585	580	-0.32	11.85	80.3		256	277	220	4.7	0.43	72	0.014	<0.005	3.2	4.1	0.005	<0.0005	0.0001	0.095	<0.0001	<0.001
W3	01/02/2011	No Discharge	P	2	310	7.44	8.1	588	582	-0.3	11.52	78.2		303	259	220	5.8	0.47		0.022	<0.005	2.92	3.9	0.009	<0.0005	0.0002	0.115	<0.0001	<0.001
W3	03/02/2011	No Discharge	P	2	350	7.48	8.12	587	583	-0.25	11.93	81.4		255	261	220	4.8	0.47	79	<0.005	<0.005	2.97	4.2	0.048	<0.0005	0.0001	0.094	<0.0001	<0.001
W3	04/02/2011	No Discharge	P			7.52		588		-0.26				306										0.084	<0.0005	0.0002	0.115	<0.0001	<0.001
W3	05/02/2011	No Discharge	P	5	400	7.63	8.13	657	649	-0.32	11.99	81.5		322	277	210	7.1	0.49		0.015	0.011	8.4	6.7	0.054	<0.0005	0.0003	0.113	<0.0001	<0.001
W3	06/02/2011	No Discharge	P	75	370	7.31	8.06	600	597	-0.3	12.77	87.4		303	253	220	8.9	0.45	85	0.017	<0.005	3.7	3.8	0.048	<0.0005	0.0001	0.1	<0.0001	<0.001
W3	07/02/2011	No Discharge	P			7.16		591		-0.32	12.05	82.7		291										0.068	<0.0005	0.0003	0.1	<0.0001	<0.001
W3	08/02/2011	No Discharge	P	1	370	6.6	7.84	601	602	-0.32	10.63	72.4		291	249	220	6.2	0.45	82	0.019	<0.005	3.6	3.2	0.068	<0.0005	0.0003	0.1	<0.0001	<0.001
W3	09/02/2011	No Discharge	P	1	370		7.84		602					303	249	220	6.2	0.45	82	0.019	<0.005	3.6	3.2	0.035	<0.0005	0.0002	0.106	<0.0001	<0.001
W3	10/02/2011	No Discharge	P											307										0.056	<0.0005	0.0001	0.109	<0.0001	<0.001
W3	11/02/2011	No Discharge	P	2	320		8.05		586					295	263	210	5.5	0.46	74	0.034	<0.005	3.5	4	0.034	<0.0005	0.0002	0.106	<0.0001	<0.001
W3	12/02/2011	No Discharge	P											322										0.237	<0.0005	0.0001	0.111	<0.0001	<0.001
W3	13/02/2011	No Discharge	P	2	330		7.99		591					310	264	210	6.6	0.46	75	0.043	<0.005	3.6		0.029	<0.0005	0.0001	0.11	<0.0001	<0.001
W3	14/02/2011	No Discharge	P											313										0.037	<0.0005	0.0002	0.113	<0.0001	<0.001
W3	15/02/2011	No Discharge	P	2	350		7.85		599					295	266	220	5.7	0.47	77	0.029	<0.005	3.6	4.5	0.018	<0.0005	0.0003	0.103	<0.0001	<0.001
W3	26/02/2011	No Discharge	P	1	370		7.92		601					273	284	220	5.2	0.46	85	0.03	0.005	3.6	4.6	0.005	<0.0005	0.0002	0.099	<0.0001	<0.001
W3	02/03/2011	No Discharge	P	3	370		7.93		610					278	284	230	5	0.47	82	0.037	0.006	3.6	5.2	0.037	<0.0005	0.0002	0.105	<0.0001	<0.001
W3	03/03/2011	No Discharge	P	3	370		7.89		613					281	288	230	5.7	0.48	79	0.026	0.006	3.6	4.7	0.029	<0.0005	0.0002	0.104	<0.0001	<0.001
W3	05/03/2011	No Discharge	P	2	390		7.89		600					318	303	230	8.2	0.5	83	0.044	0.006	3.5	4.6	0.044	<0.0005	0.0004	0.119	<0.0001	<0.001
W3	08/03/2011	No Discharge	P	2	380		7.88		611					331	305	230	6.1	0.49	81	0.02	0.005	3.5	4.5	0.024	<0.0005	0.0003	0.12	<0.0001	<0.001
W3	22/03/2011	No Discharge	P	110	350		8.32		585					320	298	250	7.5	0.49	81	0.18	0.07	1.39	5.5	1.89	<0.0005	0.0012	0.166	<0.0001	<0.001
W3	27/03/2011	No Discharge	P	4	370		8.28		572					309	288	230	5.9	0.48	83	0.005	0.007	3.8	4.3	0.099	<0.0005	0.0003	0.104	<0.0001	<0.001
W3	29/03/2011	No Discharge	P	10	330		8.13		584					272	258	210	6.1	0.49	75	<0.005	0.008	4.3	4.8	0.093	<0.0005	0.0003	0.101	<0.0001	<0.001
W3	31/03/2011	No Discharge	P	6	350		8.06		588					267	260	210	5.6	0.51	79	0.007	0.006	3.7	5.6	0.147	<0.0005	0.0002	0.101	<0.0001	<0.001
W3	02/04/2011	No Discharge	P	2	350		8.13		599					274	269	220	5.7	0.48	78	0.009	0.007	4.1	5.4	0.145	<0.0005	0.0002	0.1	<0.0001	<0.001
W3	09/04/2011	No Discharge	P	3	360		7.85		593					280	264	210	5.8	0.47	79	<0.005	0.009	4	4.7	0.077	<0.0005	0.0003	0.1	<0.0001	<0.001
W3	15/04/2011	No Discharge	P	21	350		8.1		560					268	257	210	4.4	0.49	77	0.013	0.011	3.5	5.4	0.186	<0.0005	0.0004	0.096	<0.0001	<0.001
W3	21/04/2011	No Discharge	P	2	310		8.22		581					285	272	220	5.9	0.51	84	0.007	0.007	3.9	4.6	0.065	<0.0005	0.0003	0.099	<0.0001	<0.001
W3	27/04/2011	No Discharge	P	3	240		7.85		313					156	143	110	4.6	0.28	39	0.016	0.013	1.42	34	0.127	<0.0005	0.0004	0.063	<0.0001	<0.001
W3	05/05/2011	No Discharge	P	93	270		7.61		270					142	115	95	3.1	0.23	38	0.012	0.01	1.39		10.8	<0.0005	0.004	0.175	0.0003	<0.001
W3	14/05/2011	No Discharge	P	10	290		8.13							186	192	150	4.2	0.37	62	0.011	<0.005	2.4	21.1	0.454	<0.0005	0.0004	0.075	<0.0001	<0.001
W3	24/05/2011	No Discharge	P	<2	320		8.25		521					236	229	190	4.7	0.44	77	0.015	<0.005	2.78	10.5	0.045	<0.0005	0.0003	0.081	<0.0001	<0.001
W3	29/05/2011	No Discharge	P	5	340		8.12		548					232	248	200	4.9	0.49	73	0.016	<0.005	3.1	7	0.076	<0.0005	0.0003	0.085	<0.0001	<0.001
W3	04/06/2011	No Discharge	P	1	330		8.04		574					239	266	210		0.48	74	0.016	<0.005	3	5.7	0.02	<0.0005	0.0003	0.081	<0.0001	<0.001
W3	16/06/2011	No Discharge	P	<1	360		8.21		583					271	285	220				0.007	<0.005	2.52	4.8	0.123	<0.0005	0.0003	0.09	<0.0001	<0.001
W3	27/06/2011	No Discharge	P	3	320		8.2		543					244	260	210			70	0.019	<0.005	1.68	7	0.041	<0.0005	0.0003	0.084	<0.0001	<0.001
W3	01/07/2011	No Discharge	P	2	170		8.05		392					162	189	160			53	0.007	<0.005	1.25	20.6	0.09	<0.0005	0.0004	0.064	<0.0001	<0.001
W3	12/07/2011	No Discharge	P	<1	350		8.09		533					261	267	210			61	0.008	<0.005	1.67	7.3	0.02	<0.0005	0.0002	0.086	<0.0001	<0.001
W3	16/07/2011	No Discharge	P	<1	250		7.91		379					188	183	150	3.1	0.33	41	0.005	<0.005	0.96	20.7	0.09	<0.0005	0.0004	0.07	<0.0001	<0.001
W3	23/07/2011	No Discharge	P	<1	340		7.98		543					259	256	210			66	0.014	<0.005	1.45	8.5	0.021	<0.0005	<0.0001	0.088	<0.0001	<0.001
W3	31/07/2011	No Discharge	P	<1	310		8.24		539					241	266	220			62	0.014	<0.005	1.39	10.2	0.026	<0.0005	0.0002	0.088	<0.0001	<0.001
W3	02/08/2011	No Discharge	P	3	300		8.2		456					208	209	190	3.9	0.41			<0.005	0.9	13.8	0.096	<0.0005	0.0003	0.076	<0.0001	<0.001
W3	07/08/2011	No Discharge	P	<1	230		7.97		371					183	194	150			34	0.019	<0.005	0.73	21	0.051	<0.0005	0.0004	0.075	<0.0001	<0.001
W3	16/08/2011	No Discharge	P	<1	370		8.13		525					234	244	210				0.016	0.109	0.36	<0.5	0.07	<0.0005	0.0004	0.088	<0.0001	<0.001
W3	28/08/2011	No Discharge	P	<1	310		8.01		526					256	268	220			54	0.009	<0.005	1.11	8.4	0.013	<0.0005	0.0003	0.087	<0.0001	<0.001

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	13/12/2010	<0.05	<0.00001	78.9	<0.001	<0.0005	0.0036	0.056	<0.0002	<0.005	26.5	0.117	<0.00002	0.006	0.001		3.81	0.002	6.3	<0.00002	23.8	0.758	33	<0.00005	<0.005	<0.005	0.0034
W3	14/12/2010	<0.05	<0.00001	68.1	<0.001	<0.0005	0.0032	0.055	<0.0002	<0.005	23	0.099	<0.00002	0.005	<0.001		3.31	0.0019	5.55	<0.00002	19.6	0.677	28	<0.00005	<0.005	<0.005	0.0029
W3	19/12/2010	<0.05	0.00021	68.6	<0.001	<0.0005	0.0155	0.153	<0.0002	<0.005	23.9	0.115	<0.00002	0.005	0.001		3.42	0.0019	5.64	<0.00002	20.5	0.676	28	<0.00005	<0.005	<0.005	0.0029
W3	23/12/2010	<0.05	<0.00001	68.3	<0.001	<0.0005	0.0033	0.045	<0.0002	<0.005	24.4	0.1	<0.00002	0.005	0.001		3.44	0.0017	5.67	<0.00002	20.9	0.693	31	<0.00005	<0.005	<0.005	0.003
W3	24/12/2010	<0.05	0.00003	70.7	<0.001	<0.0005	0.0085	0.093	<0.0002	<0.005	25.8	0.114	<0.00002	0.005	0.001		3.73	0.0019	5.73	<0.00002	23.2	0.682	32	<0.00005	<0.005	<0.005	0.003
W3	28/12/2010	<0.05	0.00003	72.9	<0.001	<0.0005	0.0038	0.061	<0.0002	<0.005	25.9	0.106	<0.00002	0.005	0.001		3.64	0.0019	5.85	<0.00002	23.1	0.697	33	<0.00005	<0.005	<0.005	0.0032
W3	30/12/2010	<0.05	0.00002	77	<0.001	<0.0005	0.0039	0.041	<0.0002	<0.005	26.7	0.109	<0.00002	0.006	0.001		3.76	0.0021	6.07	<0.00002	23.7	0.716	32	<0.00005	<0.005	<0.005	0.0033
W3	01/01/2011	<0.05	0.00002	72.5	<0.001	<0.0005	0.0035	0.053	<0.0002	<0.005	25.9	0.108	<0.00002	0.006	0.001		3.76	0.0019	5.78	<0.00002	23.1	0.707	32	<0.00005	<0.005	<0.005	0.0032
W3	03/01/2011	<0.05	<0.00001	67.9	<0.001	<0.0005	0.0032	0.051	<0.0002	<0.005	22.4	0.101	<0.00002	0.006	0.001		3.41	0.0019	5.26	<0.00002	19.8	0.71	29	<0.00005	<0.005	<0.005	0.0031
W3	05/01/2011	<0.05	<0.00001	69.8	<0.001	<0.0005	0.0058	0.064	<0.0002	<0.005	22.8	0.093	<0.00002	0.006	0.001		3.48	0.002	5.39	<0.00002	20.2	0.721	28	<0.00005	<0.005	<0.005	0.0032
W3	08/01/2011	<0.05	<0.00001	65.3	<0.001	<0.0005	0.0056	0.081	<0.0002	<0.005	24.2	0.142	<0.00002	0.004	0.001		2.62	0.001	5.58	<0.00002	19.6	0.681	26	<0.00005	<0.005	<0.005	0.0031
W3	10/01/2011	<0.05	<0.00001	69.8	<0.001	<0.0005	0.0022	0.062	<0.0002	<0.005	26.1	0.164	<0.00002	0.005	0.001		2.69	0.0009	5.9	<0.00002	20.6	0.726	26	<0.00005	<0.005	<0.005	0.0033
W3	12/01/2011	<0.05	0.00003	79.6	<0.001	<0.0005	0.003	0.08	<0.0002	<0.005	31	0.184	<0.00002	0.005	0.001		2.86	0.0009	6.92	<0.00002	24.2	0.72	31	<0.00005	<0.005	<0.005	0.0033
W3	13/01/2011	<0.05	0.00002	75.2	<0.001	<0.0005	0.0024	0.061	<0.0002	<0.005	29.5	0.166	0.00003	0.004	0.001		2.71	0.0008	6.52	0.00003	22.8	0.678	31	<0.00005	<0.005	<0.005	0.0031
W3	14/01/2011	0.088	0.00015	23.7	0.005	0.0014	0.0543	1.46	0.0029	<0.005	7.75	0.122	<0.00002	0.002	0.006		10.6	0.0003	5.89	0.00031	54.6	0.097	14	<0.00005	<0.005	0.024	0.0001
W3	17/01/2011	<0.05	0.0001	81.6	0.001	<0.0005	0.0236	0.214	<0.0002	<0.005	30.6	0.195	<0.00002	0.004	0.002		2.76	0.0009	7.26	<0.00002	23.8	0.713	30	<0.00005	<0.005	<0.005	0.0033
W3	18/01/2011	<0.05	<0.00001	63.1	<0.001	<0.0005	0.0068	0.162	<0.0002	<0.005	25.7	0.184	<0.00002	0.004	0.001		2.33	0.0008	5.87	<0.00002	21.4	0.608	25	<0.00005	<0.005	<0.005	0.0026
W3	22/01/2011	<0.05	0.00002	66.7	<0.001	<0.0005	0.0035	0.077	<0.0002	<0.005	27.4	0.157	<0.00002	0.004	0.001		2.4	0.0007	6.05	<0.00002	22.4	0.669	27	<0.00005	<0.005	<0.005	0.0031
W3	23/01/2011	<0.05	<0.00001	64.3	<0.001	<0.0005	0.0016	0.054	<0.0002	<0.005	24.3	0.127	<0.00002	0.004	<0.001		2.15	0.0007	5.86	<0.00002	20.1	0.59	26	<0.00005	<0.005	<0.005	0.0027
W3	28/01/2011	<0.05	0.00009	63.1	<0.001	<0.0005	0.0029	0.072	<0.0002	<0.005	24	0.134	<0.00002	0.004	0.001		2.02	0.0007	5.6	<0.00002	18.4	0.644	24	<0.00005	<0.005	<0.005	0.0031
W3	30/01/2011	<0.05	0.00003	62.5	<0.001	<0.0005	0.0016	0.022	<0.0002	<0.005	24.3	0.139	<0.00002	0.003	<0.001		2.03	0.0007	5.51	<0.00002	18.2	0.633	25	<0.00005	<0.005	<0.005	0.003
W3	01/02/2011	<0.05	0.00002	74.1	<0.001	<0.0005	0.0025	0.033	<0.0002	<0.005	28.8	0.159	<0.00002	0.004	0.001		2.75	0.0008	6.93	<0.00002	21.2	0.712	30	<0.00005	<0.005	<0.005	0.0033
W3	03/02/2011	<0.05	0.00002	61	<0.001	<0.0005	0.0048	0.088	<0.0002	<0.005	25	0.127	<0.00002	0.004	0.001		2.16	0.0007	5.26	<0.00002	19.2	0.638	24	<0.00005	<0.005	<0.005	0.003
W3	04/02/2011	<0.05	<0.00001	73.4	<0.001	<0.0005	0.0069	0.16	0.0004	<0.005	29.7	0.151	<0.00002	0.004	0.001		2.9	0.0008	6.9	<0.00002	22.3	0.738	30	<0.00005	<0.005	0.006	0.0033
W3	05/02/2011	<0.05	<0.00001	82.6	<0.001	<0.0005	0.0046	0.094	<0.0002	<0.005	28.2	0.118	<0.00002	0.006	0.001		4.36	0.0019	6.73	<0.00002	24.4	0.774	39	<0.00005	<0.005	<0.005	0.0034
W3	06/02/2011	<0.05	0.00001	70.8	<0.001	<0.0005	0.0025	0.08	<0.0002	<0.005	30.7	0.135	<0.00002	0.004	0.001		2.49	0.0008	6.53	<0.00002	26.1	0.664	33	<0.00005	<0.005	<0.005	0.0032
W3	07/02/2011	<0.05	0.00002	68.7	0.001	<0.0005	0.0149	0.132	<0.0002	<0.005	29	0.141	<0.00002	0.004	<0.001		2.39	0.001	6.37	<0.00002	24.4	0.659	31	<0.00005	<0.005	<0.005	0.0031
W3	08/02/2011	<0.05	0.00002	68.7	0.001	<0.0005	0.0149	0.132	<0.0002	<0.005	29	0.141	<0.00002	0.004	<0.001		2.39	0.001	6.37	<0.00002	24.4	0.659	31	<0.00005	<0.005	<0.005	0.0031
W3	09/02/2011	<0.05	0.00002	71.5	<0.001	<0.0005	0.0029	0.064	<0.0002	<0.005	30.2	0.138	<0.00002	0.004	<0.001		2.44	0.0008	6.6	<0.00002	25.4	0.687	30	<0.00005	<0.005	<0.005	0.0033
W3	10/02/2011	0.05	0.00002	73.9	<0.001	<0.0005	0.0033	0.118	<0.0002	<0.005	29.7	0.158	<0.00002	0.004	<0.001		2.55	0.0008	6.54	<0.00002	23.1	0.722	33	<0.00005	<0.005	<0.005	0.0034
W3	11/02/2011	<0.05	0.00003	70.6	<0.001	<0.0005	0.0059	0.07	<0.0002	<0.005	28.8	0.149	0.00002	0.004	0.001		2.38	0.0009	6.29	0.00003	22.6	0.699	28	<0.00005	<0.005	<0.005	0.0033
W3	12/02/2011	0.055	0.00002	76.9	<0.001	<0.0005	0.0036	0.069	<0.0002	<0.005	31.5	0.152	<0.00002	0.004	0.001		2.71	0.0009	6.94	<0.00002	25.2	0.742	28	<0.00005	<0.005	<0.005	0.0035
W3	13/02/2011	0.055	<0.00001	73.8	<0.001	<0.0005	0.0028	0.057	<0.0002	<0.005	30.4	0.148	<0.00002	0.004	0.001		2.54	0.0008	6.65	<0.00002	24	0.721	30	<0.00005	<0.005	<0.005	0.0034
W3	14/02/2011	0.054	0.00002	74.3	<0.001	<0.0005	0.0037	0.075	<0.0002	<0.005	30.9	0.155	<0.00002	0.004	0.001		2.58	0.0009	6.79	<0.00002	24.2	0.734	31	<0.00005	<0.005	<0.005	0.0034
W3	15/02/2011	<0.05	<0.00001	70.1	<0.001	<0.0005	0.0024	0.059	<0.0002	<0.005	29	0.151	<0.00002	0.004	<0.001		2.47	0.0008	6.01	<0.00002	21.5	0.689	27	<0.00005	<0.005	<0.005	0.0034
W3	26/02/2011	<0.05	0.00002	66	<0.001	<0.0005	0.0021	0.01	<0.0002	<0.005	26.2	0.123	<0.00002	0.004	<0.001		2.31	0.0007	5.78	<0.00002	21	0.692	26	<0.00005	<0.005	<0.005	0.0033
W3	02/03/2011	<0.05	0.00006	67.3	<0.001	<0.0005	0.0153	0.076	<0.0002	<0.005	26.7	0.13	<0.00002	0.004	<0.001		2.51	0.0006	6	0.00003	21.5	0.703	27	<0.00005	<0.005	<0.005	0.0033
W3	03/03/2011	<0.05	0.00006	67.4	<0.001	<0.0005	0.0105	0.061	<0.0002	<0.005	27.3	0.129	<0.00002	0.004	<0.001		2.51	0.0006	5.99	<0.00002	21.9	0.703	28	<0.00005	<0.005	<0.005	0.0033
W3	05/03/2011	<0.05	0.00003	78.5	<0.001	<0.0005	0.0099	0.093	<0.0002	<0.005	29.5	0.14	<0.00002	0.006	<0.001		2.62	0.001	6.38	0.00004	21.9	0.8	29	<0.00005	<0.005	<0.005	0.0036
W3	08/03/2011	<0.05	0.00002	80.9	<0.001	<0.0005	0.0057	0.051	<0.0002	<0.005	31.3	0.127	<0.00002	0.005	<0.001		2.78	0.0008	6.53	<0.00002	22.8	0.809	30	<0.00005	<0.005	<0.005	0.0036
W3	22/03/2011	<0.05	0.0002	73	0.003	0.0024	0.0819	3.07	0.001	<0.005	33.4	2.19	<0.00002	0.004	0.007	0.164	2.8	0.0004	9.52	0.00005	22.7	0.777	30	<0.00005	<0.005	0.077	0.0028
W3	27/03/2011	<0.05	0.00011	74.2	<0.001	<0.0005	0.0434	0.19	<0.0002	<0.005	30	0.082	<0.00002	0.004	0.001	0.02	2.57	0.0008	6.34	0.00003	22.5	0.735	30	<0.00005	<0.005	0.006	0.0035
W3	29/03/2011	<0.05	0.00004	65.1	<0.001	<0.0005	0.0114	0.145	<0.0002	<0.005	26.6	0.08	<0.00002	0.004	<0.001	0.021	2.63	0.0006	5.79	<0.00002	20.3	0.679	27	<0.00005	<0.005	<0.005	0.0031
W3	31/03/2011	<0.05	0.00008	64.5	<0.001	<0.0005	0.0127	0.227	<0.0002	<0.005	25.7	0.075	<0.00002	0.004	0.001	0.053	2.65	0.0006	6.09	<0.00002	19.8	0.659	26	<0.00005	<0.005	0.008	0.0031
W3	02/04/2011	<0.05	<0.00001	65.9	<0.001	<0.0005	0.0059	0.194	<0.0002	<0.005	26.5	0.08	<0.00002	0.004	<0.001	0.016	2.4	0.0007	5.93	<0.00002	21.2	0.688	28	<0.00005	<0.005	0.006	0.0034
W3	09/04/2011	<0.05	<0.00001	66	<0.001	<0.0005	0.0098	0.13	<0.0002	<0.005	27.9	0.082	<0.00002	0.004	<0.001	0.018	2.5	0.0007	5.66	<0.00002	20.4	0.703	27	<0.00005	<0.005	<0.005	0.0035
W3	15/04/2011	<0.05	0.0001	62.9	<0.001	<0.0005	0.0156	0.27	<0.0002	<0.005	27	0.117	<0.00002	0.004	0.001	0.032	2.61	0.0006	5.7	<0.00002	19.7	0.67	28	<0.00005	<0.005	0.008	0.0034
W3	21/04/2011	<0.05	0.00002	67.5	0.009	<0.0005	0.0051	0.185	<0.0002	<0.005	28.3	0.13	<0.00002	0.005	0.006	0.018	2.43	0.0007	5.85	<0.00002	20.3	0.695	29	<0.00005	<0.005	<0.005	0.0036
W3	27/04/2011	<0.05	0.00006	37	<0.001	<0.0005	0.0168	0.168	<0.0002	<0.005	15.6	0.081	<0.00002	0.002	0.002	0.082	3.47	0.0004	4.73	<0.00002	10.5	0.355	14	<0.00005	<0.005	<0.005	0.0016
W3	05/05/2011	<0.05	0.00011	31.5	0.017	0.0039	0.0312	13.5	0.0028	0.006	15.4	0.204	<0.00002	0.002	0.016	0.146	3	0.0004	23.2	0.00005	8.75	0.312	10	0.00009	<0.005	0.26	0.0016
W3	14/05/2011	<0.05	0.00003	44.6	<0.001	<0.0005	0.0143	0.611	<0.0002	<0.005	18.2	0.147	<0.00002	0.003	0.002	0.042	1.98	0.0005	5.48	<0.00002	13	0.445	17	<0.00005	<0.005	0.021	0.0023
W3	24/05/2011	<0.05	0.00002	55.3	<0.001	<0.0005	0.0046	0.098	<0.0002	<0.005	23.7	0.077	<0.00002	0.004	0.002	0.011	2.1	0.0004	5.24	<0.00002	17.3	0.575	23	<0.00005	<0.005	<0.005	0.0029
W3	29/05/2011	<0.05	<0.00001	55.5	<0.001	<0.0005	0.006	0.235	<0.0002	<0.005	22.6	0.097	<0.00002	0.004	0.002	0.017	2.14	0.0005	4.9	<0.00002	17	0.595	22	<0.00005	<0.005	<0.005	0.0031
W3	04/06/2011	<0.05	0.00003	56.9	<0.001	<0.0005	0.0022	0.044	<0.0002	<0.005	23.6	0.07	<0.00002	0.004	<0.001	<0.01	2.04	0.0005	4.79	<0.00002	17.4	0.6	24	<0.00005	<0.005	<0.005	0.0032
W3	16/06/2011	<0.05	0.00004	62.9	<0.001	<0.0005	0.0028	0.154	<0.0002	<0.005	27.6	0.078	<0.00002	0.005	0.001	0.017	2.43	0.0006	5.49	<0.00002	20.6	0.653	27	<0.00005	<0.005	0.007	0.0034
W3	27/06/2011	<0.05	0.00003	58.4	<0.001	<0.0005	0.0089	0.099	0.0003	<0.005	23.8	0.09	<0.00002	0.004	0.001	0.016	2.12	0.0004	5.32	<0.00002	18.2	0.586	24	<0.00005	<0.005	<0.005	0.0027
W3	01/07/2011	<0.05	0.00005	37.5	<0.001	<0.0005	0.008	0.142	<0.0002	<0.005	16.7	0.064	<0.00002	0.003	0.002	0.022	1.48	0.0003	4.3	<0.00002	12.5	0.408	14	<0.00005	<0.005	<0.005	0.0018
W3	12/07/2011	<0.05	<0.00001	61.1	<0.001	<0.0005	0.005	0.048	<0.0002	<0.005	26.5	0.078	<0.00002	0.004	0.001	<0.01	2.19	0.0005	5.71	<0.00002	19.9	0.635	23	<0.00005	<0.005	<0.005	0.0034
W3	16/07/2011	<0.05	0.00002	47	<0.001	<0.0005	0.0119	0.183	<0.0002	<0.005	17.1	0.077	<0.00002	0.003	0.002	0.012	1.64	0.0005	5.51	<0.00002	12.4	0.437	16	<0.00005	<0.005	0.006	0.0016
W3	23/07/2011	<0.05	<0.00001	61.3	<0.001	<0.0005	0.0042	0.047	<0.0002	<0.005	25.6	0.079	<0.00002	0.004	0.001	<0.01	2.19	0.0005	5.51	<0.00002	19.1	0.632	22	<0.00005	<0.005	<0.005	0.0032
W3	31/07/2011	<0.05	<0.00001	57	<0.001	<0.0005	0.0028	0.063	<0.0002	<0.005	24.1	0.082	<0.00002	0.004	0.001	<0.01	2.18	0.0005	4.89	<0.00002	18	0.603	20	<0.00005	<0.005	<0.005	0.003
W3	02/08/2011	<0.05	0.00002	50.8	<0.001	<0.0005	0.0096	0.169	0.0005	<0.005	19.9	0.075	<0.00002	0.003	0.027	0.014	1.81	0.0004	4.95	<0.00002	14.9	0.51	16	<0.00005	<0.005	<0.005	0.0024
W3	07/08/2011	<0.05	0.00002	42.2	<0.001	<0.0005	0.0096	0.091	<0.0002	<0.005	18.8	0.057	<0.00002	0.003	0.004	0.017	1.67	0.0004	5.11	<0.00002	13.9	0.425	14	<0.00005	<0.005	<0.005	0.0018
W3	16/08/2011	<0.05	0.00004	57.7	<0.001	<0.0005	0.0047	0.136	<0.0002	<0.005	21.8	0.075	<0.00002	0.004	0.002	<0.01	2.05	0.0004	5.25	<0.00002	15.8	0.586	19	<0.00005	<0.005	<0.005	0.0031
W3	28/08/2011	<0.05	0.00001	61.3	<0.001	<0.0005	0.0029	0.03	<0.0002	<0.005	24.9	0.073	<0.00002	0.004	0.001		2.07	0.0005	5.69	<0.00002	18.1	0.63	20	<0.00005	<0.005	<0.005	0.0032

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	13/12/2010	<0.005	<0.005	<0.0005	0.009	<0.0005	0.0004	0.1	<0.0001	<0.001	<0.05	0.00001	68	<0.001	<0.0005	0.0033	0.021	<0.0002	<0.005	23.9	0.101	<0.00002	0.005	0.001		3.64
W3	14/12/2010	<0.005	<0.005	<0.0005	0.015	<0.0005	0.0003	0.1	<0.0001	<0.001	<0.05	0.00001	79.6	<0.001	<0.0005	0.0042	0.032	<0.0002	<0.005	26.4	0.112	<0.00002	0.006	0.001		3.88
W3	19/12/2010	<0.005	<0.005	<0.0005																						
W3	23/12/2010	<0.005	<0.005	<0.0005	0.006	<0.0005	0.0004	0.102	<0.0001	<0.001	<0.05	0.00001	76.3	<0.001	<0.0005	0.0033	0.01	<0.0002	<0.005	27.2	0.097	<0.00002	0.006	0.001		3.92
W3	24/12/2010	<0.005	<0.005	<0.0005	0.013	<0.0005	0.0003	0.095	<0.0001	<0.001	<0.05	0.00003	68.1	<0.001	<0.0005	0.0046	0.03	<0.0002	<0.005	24.6	0.108	<0.00002	0.005	0.001		3.55
W3	28/12/2010	<0.005	<0.005	<0.0005	0.02	<0.0005	0.0003	0.097	<0.0001	<0.001	<0.05	0.00001	67.9	<0.001	<0.0005	0.0042	0.034	<0.0002	<0.005	24.1	0.103	<0.00002	0.005	0.001		3.53
W3	30/12/2010	<0.005	<0.005	<0.0005	0.019	<0.0005	0.0003	0.096	<0.0001	<0.001	<0.05	0.00001	69.4	<0.001	<0.0005	0.0031	0.019	<0.0002	<0.005	24.6	0.099	<0.00002	0.005	0.001		3.48
W3	01/01/2011	<0.005	<0.005	<0.0005	0.009	<0.0005	0.0003	0.099	<0.0001	<0.001	<0.05	0.00001	69	<0.001	<0.0005	0.0033	0.016	<0.0002	<0.005	24.5	0.095	<0.00002	0.005	0.001		3.48
W3	03/01/2011	<0.005	<0.005	<0.0005	0.006	<0.0005	0.0003	0.105	<0.0001	<0.001	<0.05	<0.00001	71.1	<0.001	<0.0005	0.0028	0.017	<0.0002	<0.005	22.9	0.087	<0.00002	0.006	<0.001		3.42
W3	05/01/2011	<0.005	<0.005	<0.0005	0.016	<0.0005	0.0003	0.104	<0.0001	<0.001	<0.05	0.00003	70.7	<0.001	<0.0005	0.0036	0.038	<0.0002	<0.005	23.6	0.086	<0.00002	0.006	<0.001		3.52
W3	08/01/2011	<0.005	<0.005	<0.0005	0.012	<0.0005	0.0003	0.095	<0.0001	<0.001	<0.05	0.00001	65.1	<0.001	<0.0005	0.0021	0.044	<0.0002	<0.005	23.9	0.128	<0.00002	0.004	<0.001		2.57
W3	10/01/2011	<0.005	<0.005	<0.0005																						
W3	12/01/2011	<0.005	<0.005	<0.0005																						
W3	13/01/2011	<0.005	<0.005	<0.0005	0.005	<0.0005	0.0002	0.095	<0.0001	<0.001	<0.05	0.00002	60.8	<0.001	<0.0005	0.0016	0.016	<0.0002	<0.005	24.3	0.139	<0.00002	0.004	<0.001		2.35
W3	14/01/2011	<0.005	0.064	0.001																						
W3	17/01/2011	<0.005	0.005	<0.0005	0.037	<0.0005	0.0002	0.099	<0.0001	<0.001	<0.05	0.00005	72.4	<0.001	<0.0005	0.0031	0.076	<0.0002	<0.005	29.4	0.171	<0.00002	0.004	<0.001		2.61
W3	18/01/2011	<0.005	<0.005	<0.0005																						
W3	22/01/2011	<0.005	<0.005	<0.0005	<0.003	<0.0005	0.0002	0.098	<0.0001	<0.001	<0.05	0.00002	65.9	<0.001	<0.0005	0.0017	0.01	<0.0002	<0.005	27	0.141	<0.00002	0.004	<0.001		2.46
W3	23/01/2011	<0.005	<0.005	<0.0005																						
W3	28/01/2011	<0.005	<0.005	<0.0005	0.005	<0.0005	0.0002	0.094	<0.0001	<0.001	<0.05	0.00002	63.9	<0.001	<0.0005	0.0014	0.018	<0.0002	<0.005	26.4	0.125	<0.00002	0.003	<0.001		2.26
W3	30/01/2011	<0.005	<0.005	<0.0005	0.011	<0.0005	0.0002	0.1	<0.0001	<0.001	<0.05	0.00002	66.9	<0.001	<0.0005	0.0015	0.021	<0.0002	<0.005	26.7	0.139	<0.00002	0.004	<0.001		2.27
W3	01/02/2011	<0.005	<0.005	<0.0005	0.004	<0.0005	0.0002	0.095	<0.0001	<0.001	<0.05	0.00003	61.8	<0.001	<0.0005	0.0018	0.015	<0.0002	<0.005	25.5	0.138	<0.00002	0.003	<0.001		2.18
W3	03/02/2011	<0.005	<0.005	<0.0005	0.006	<0.0005	0.0002	0.093	<0.0001	<0.001	<0.05	0.00001	62.4	<0.001	<0.0005	0.0017	0.016	<0.0002	<0.005	25.5	0.113	<0.00002	0.004	<0.001		2.23
W3	04/02/2011	<0.005	0.019	<0.0005																						
W3	05/02/2011	<0.005	<0.005	<0.0005	0.058	<0.0005	0.0003	0.097	<0.0001	<0.001	<0.05	0.00005	69.8	<0.001	<0.0005	0.0049	0.035	<0.0002	<0.005	25	0.093	<0.00002	0.005	0.001		3.45
W3	06/02/2011	<0.005	<0.005	<0.0005	0.017	<0.0005	0.0002	0.096	<0.0001	<0.001	<0.05	0.00002	62.2	<0.001	<0.0005	0.0029	0.039	<0.0002	<0.005	23.8	0.108	<0.00002	0.004	<0.001		2.27
W3	07/02/2011	<0.005	<0.005	<0.0005																						
W3	08/02/2011	<0.005	<0.005	<0.0005	0.007	<0.0005	0.0002	0.094	<0.0001	<0.001	<0.05	0.00001	60.7	<0.001	<0.0005	0.0019	0.022	<0.0002	<0.005	23.7	0.109	<0.00002	0.004	<0.001		2.17
W3	09/02/2011	<0.005	<0.005	<0.0005	0.007	<0.0005	0.0002	0.094	<0.0001	<0.001	<0.05	0.00001	60.7	<0.001	<0.0005	0.0019	0.022	<0.0002	<0.005	23.7	0.109	<0.00002	0.004	<0.001		2.17
W3	10/02/2011	<0.005	<0.005	<0.0005																						
W3	11/02/2011	<0.005	<0.005	<0.0005	0.006	<0.0005	0.0002	0.09	<0.0001	<0.001	<0.05	0.00008	63.4	<0.001	<0.0005	0.0026	0.03	<0.0002	<0.005	25.5	0.138	<0.00002	0.004	<0.001		2.25
W3	12/02/2011	<0.005	<0.005	<0.0005																						
W3	13/02/2011	<0.005	<0.005	<0.0005	0.008	<0.0005	0.0002	0.09	<0.0001	<0.001	<0.05	0.00002	61.9	<0.001	<0.0005	0.0025	0.036	<0.0002	<0.005	26.5	0.13	<0.00002	0.004	<0.001		2.19
W3	14/02/2011	<0.005	<0.005	<0.0005																						
W3	15/02/2011	<0.005	<0.005	<0.0005	0.008	<0.0005	0.0002	0.095	<0.0001	<0.001	<0.05	0.00009	62.4	<0.001	<0.0005	0.0043	0.026	<0.0002	<0.005	26.8	0.135	<0.00002	0.004	<0.001		2.4
W3	26/02/2011	<0.005	<0.005	<0.0005	<0.003	<0.0005	0.0002	0.1	<0.0001	<0.001	<0.05	0.00002	68.6	<0.001	<0.0005	0.0017	<0.005	<0.0002	<0.005	27.3	0.097	<0.00002	0.003	<0.001		2.36
W3	02/03/2011	<0.005	0.006	<0.0005	<0.003	<0.0005	0.0002	0.102	<0.0001	<0.001	<0.05	0.00002	67.6	<0.001	<0.0005	0.0027	<0.005	<0.0002	<0.005	27.9	0.089	<0.00002	0.004	<0.001		2.53
W3	03/03/2011	<0.005	0.008	<0.0005	<0.003	<0.0005	0.0002	0.1	<0.0001	<0.001	<0.05	0.00003	69.2	<0.001	<0.0005	0.0027	<0.005	<0.0002	<0.005	27.9	0.107	<0.00002	0.003	<0.001		2.41
W3	05/03/2011	<0.005	0.009	<0.0005	0.024	<0.0005	0.0002	0.102	<0.0001	<0.001	<0.05	0.00007	70.5	<0.001	<0.0005	0.0064	0.045	<0.0002	<0.005	30.9	0.132	<0.00002	0.004	<0.001		3.21
W3	08/03/2011	<0.005	<0.005	<0.0005	0.004	<0.0005	0.0002	0.085	<0.0001	<0.001	<0.05	0.00002	71	<0.001	<0.0005	0.0029	0.011	<0.0002	<0.005	31	0.12	<0.00002	0.003	<0.001		2.67
W3	22/03/2011	0.006	0.02	<0.0005	0.009	<0.0005	0.0003	0.112	<0.0001	<0.001	<0.05	0.00008	69.7	<0.001	0.0006	0.0037	0.045	<0.0002	<0.005	30.2	1.42	<0.00002	0.003	0.002	<0.01	2.47
W3	27/03/2011	<0.005	0.005	<0.0005	0.016	<0.0005	0.0002	0.099	<0.0001	<0.001	<0.05	0.0001	69.1	<0.001	<0.0005	0.0027	0.03	<0.0002	<0.005	28.1	0.075	<0.00002	0.003	<0.001	<0.01	2.4
W3	29/03/2011	<0.005	0.014	<0.0005	0.018	<0.0005	0.0002	0.096	<0.0001	<0.001	<0.05	0.00003	60.8	<0.001	<0.0005	0.0043	0.033	<0.0002	<0.005	25.7	0.071	<0.00002	0.004	<0.001	0.018	2.56
W3	31/03/2011	<0.005	0.06	<0.0005	0.009	<0.0005	0.0002	0.099	<0.0001	<0.001	<0.05	0.00002	63.1	<0.001	<0.0005	0.003	0.013	<0.0002	<0.005	24.8	0.06	<0.00002	0.004	<0.001	0.014	2.33
W3	02/04/2011	<0.005	<0.005	<0.0005	0.005	<0.0005	0.0002	0.092	<0.0001	<0.001	<0.05	<0.00001	65.3	<0.001	<0.0005	0.0021	0.011	<0.0002	<0.005	25.7	0.061	<0.00002	0.004	<0.001	<0.01	2.24
W3	09/04/2011	<0.005	<0.005	<0.0005	0.005	<0.0005	0.0002	0.094	<0.0001	<0.001	<0.05	<0.00001	64	<0.001	<0.0005	0.0024	0.011	<0.0002	<0.005	25.2	0.072	<0.00002	0.004	<0.001	0.01	2.29
W3	15/04/2011	<0.005	0.027	<0.0005	0.005	<0.0005	0.0002	0.091	<0.0001	<0.001	<0.05	0.00008	60.2	<0.001	<0.0005	0.0035	0.013	<0.0002	<0.005	25.8	0.093	<0.00002	0.003	<0.001	0.012	2.34
W3	21/04/2011	<0.005	<0.005	<0.0005	0.004	<0.0005	0.0002	0.099	<0.0001	<0.001	<0.05	0.00003	65.1	<0.001	<0.0005	0.0021	0.012	<0.0002	<0.005	26.6	0.12	<0.00002	0.004	0.001	0.012	2.36
W3	27/04/2011	<0.005	<0.005	<0.0005	0.066	<0.0005	0.0004	0.06	<0.0001	<0.001	<0.05	0.00002	34.8	<0.001	<0.0005	0.0125	0.096	<0.0002	<0.005	13.6	0.064	<0.00002	0.002	0.002	0.038	2.89
W3	05/05/2011	0.024	0.034	0.0041	0.085	<0.0005	0.0004	0.049	<0.0001	<0.001	<0.05	0.00003	27.4	<0.001	<0.0005	0.0127	0.203	<0.0002	<0.005	11.4	0.062	<0.00002	0.001	0.002	0.022	1.84
W3	14/05/2011	<0.005	<0.005	<0.0005	0.043	<0.0005	0.0003	0.069	<0.0001	<0.001	<0.05	0.0001	46.3	<0.001	<0.0005	0.0069	0.068	<0.0002	<0.005	18.7	0.088	<0.00002	0.003	0.002	0.015	1.95
W3	24/05/2011	<0.005	<0.005	<0.0005	0.013	<0.0005	0.0003	0.077	<0.0001	<0.001	<0.05	0.00003	53.7	<0.001	<0.0005	0.003	0.033	<0.0002	<0.005	23.1	0.069	<0.00002	0.003	0.001	<0.01	2.17
W3	29/05/2011	<0.005	<0.005	<0.0005	0.011	<0.0005	0.0003	0.088	<0.0001	<0.001	<0.05	0.00002	58.6	<0.001	<0.0005	0.0026	0.022	<0.0002	<0.005	24.8	0.075	<0.00002	0.004	<0.001	<0.01	2.37
W3	04/06/2011	<0.005	<0.005	<0.0005	0.008	<0.0005	0.0003	0.09	<0.0001	<0.001	<0.05	<0.00001	62.2	<0.001	<0.0005	0.0022	0.024	<0.0002	<0.005	26.8	0.072	<0.00002	0.004	<0.001	<0.01	2.36
W3	16/06/2011	<0.005	0.006	<0.0005	0.008	<0.0005	0.0002	0.084	<0.0001	<0.001	<0.05	0.00001	69.6	<0.001	<0.0005	0.0022	0.017	<0.0002	<0.005	27.1	0.074	<0.00002	0.004	<0.001	<0.01	2.43
W3	27/06/2011	<0.005	0.005	<0.0005	0.019	<0.0005	0.0003	0.09	<0.0001	<0.001	<0.05	0.00002	62.6	<0.001	<0.0005	0.0043	0.038	<0.0002	<0.005	25.1	0.084	<0.00002	0.004	<0.001	0.012	2.25
W3	01/07/2011	<0.005	<0.005	<0.0005	0.03	<0.0005	0.0004	0.071	<0.0001	<0.001	<0.05	0.00002	46.8	<0.001	<0.0005	0.0051	0.063	<0.0002	<0.005	17.5	0.055	<0.00002	0.002	0.002	<0.01	1.51
W3	12/07/2011	<0.005	<0.005	<0.0005	0.017	<0.0005	0.0003	0.09	<0.0001	<0.001	<0.05	0.00002	63.5	<0.001	<0.0005	0.0038	0.038	<0.0002	<0.005	26.4	0.079	<0.00002	0.003	0.002	0.011	2.38
W3	16/07/2011	<0.005	<0.005	<0.0005	0.032	<0.0005	0.0004	0.067	<0.0001	<0.001	<0.05	0.00001	44.7	<0.001	<0.0005	0.0057	0.069	<0.0002	<0.005	17.3	0.051	<0.00002	0.003	0.002	<0.01	1.51
W3	23/07/2011	<0.005	<0.005	<0.0005	0.02	<0.0005	0.0003	0.085	<0.0001	<0.001	<0.05	0.00001	61.4	<0.001	<0.0005	0.0069	0.045	<0.0002	<0.005	24.9	0.086	<0.00002	0.004	0.001	<0.01	2.2
W3	31/07/2011	<0.005	<0.005	<0.0005	0.012	<0.0005	0.0003	0.092	<0.0001	<0.001	<0.05	0.00002	63.7	<0.001	<0.0005	0.003	0.027	<0.0002	<0.005	26.1	0.079	<0.00002	0.004	0.001	0.011	2.35
W3	02/08/2011	<0.005	0.013	<0.0005	0.029	<0.0005	0.0003	0.08	<0.0001	<0.001	<0.05	0.00002	50.1	<0.001	<0.0005	0.0064	0.054	<0.0002	<0.005	20.4	0.065	<0.00002	0.003	0.002	0.011	1.91
W3	07/08/2011	<0.005	<0.005	0.0005	0.054	<0.0005	0.0004	0.073	<0.0001	<0.001	<0.05	0.00002	46.9	<0.001	<0.0005	0.0066	0.092	<0.0002	<0.005	18.6	0.052	<0.00002	0.003	0.003	0.01	1.58
W3	16/08/2011	<0.005	0.013	<0.0005	0.012	<0.0005	0.0003	0.086	<0.0001	<0.001	<0.05	<0.00001	59.9	<0.001	<0.0005	0.0027	0.026	<0.0002	<0.005	23	0.07	<0.00002	0.003	0.001	<0.01	2.12
W3	28/08/2011	<0.005	<0.005	<0.0005	0.007	<0.0005	0.0002	0.087	<0.0001	<0.001	<0.05	<0.00001	64	<0.001	<0.0005	0.0026	0.027	<0.0002	<0.005	26.2	0.07	<0.00002	0.004	0.001		2.33

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	Br	Cation	CN-T	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-TKN	P-PO4T	P-TDP	P-TRP
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L
W3	13/12/2010	0.002	5.32	<0.00002	21.2	0.675	30	<0.00005	<0.005	<0.005	0.003	<0.005	<0.005	<0.0005	230	<0.5	<0.5	<0.5		<0.01												0.009
W3	14/12/2010	0.0021	6.39	<0.00002	24.2	0.754	36	<0.00005	<0.005	<0.005	0.0032	<0.005	<0.005	<0.0005	230	<0.5	<0.5	<0.5		<0.01												<0.005
W3	19/12/2010														240	<0.5	<0.5	<0.5		<0.01												<0.005
W3	23/12/2010	0.002	5.98	<0.00002	24.3	0.737	36	<0.00005	<0.005	<0.005	0.0034	<0.005	<0.005	<0.0005	230	<0.5	<0.5	<0.5		<0.01												<0.005
W3	24/12/2010	0.0019	5.36	<0.00002	22.2	0.692	32	<0.00005	<0.005	<0.005	0.003	<0.005	<0.005	<0.0005	240	<0.5	<0.5	<0.5		<0.01												<0.005
W3	28/12/2010	0.0019	5.34	<0.00002	21.8	0.707	32	<0.00005	<0.005	<0.005	0.0031	<0.005	<0.005	<0.0005	240	<0.5	<0.5	<0.5		<0.01							7.2					<0.005
W3	30/12/2010	0.002	5.33	<0.00002	22.4	0.723	32	<0.00005	<0.005	<0.005	0.0031	<0.005	<0.005	<0.0005	240	<0.5	<0.5	<0.5		<0.01												<0.005
W3	01/01/2011	0.002	5.42	<0.00002	22.1	0.706	33	<0.00005	<0.005	<0.005	0.003	<0.005	<0.005	<0.0005	240	<0.5	<0.5	<0.5		<0.01												<0.005
W3	03/01/2011	0.002	5.6	<0.00002	20.5	0.745	31	<0.00005	<0.005	<0.005	0.0031	<0.005	<0.005	<0.0005	230	<0.5	<0.5	<0.5		<0.05												0.006
W3	05/01/2011	0.002	5.6	<0.00002	21.1	0.738	32	<0.00005	<0.005	<0.005	0.0031	<0.005	<0.005	<0.0005	240	<0.5	<0.5	<0.5		<0.05												0.006
W3	08/01/2011	0.001	5.63	<0.00002	19.4	0.683	27	<0.00005	<0.005	<0.005	0.0028	<0.005	<0.005	<0.0005	250	<0.5	<0.5	<0.5		<0.05												0.006
W3	10/01/2011																															
W3	12/01/2011																															
W3	13/01/2011	0.0007	5.36	<0.00002	21.1	0.664	27	<0.00005	<0.005	<0.005	0.0029	<0.005	<0.005	<0.0005	260	<0.5	<0.5	<0.5		<0.1			5									<0.005
W3	14/01/2011																															
W3	17/01/2011	0.0007	6.28	<0.00002	22.8	0.647	31	<0.00005	<0.005	<0.005	0.0029	<0.005	<0.005	<0.0005	260	<0.5	<0.5	<0.5		<0.05							4.5					0.006
W3	18/01/2011																															
W3	22/01/2011	0.0007	6.03	<0.00002	22.2	0.668	29	<0.00005	<0.005	<0.005	0.0031	<0.005	<0.005	<0.0005	260	<0.5	<0.5	<0.5		<0.2												<0.005
W3	23/01/2011																															
W3	28/01/2011	0.0007	5.9	<0.00002	20.5	0.612	29	<0.00005	<0.005	<0.005	0.0027	<0.005	<0.005	<0.0005	260	3.8	<0.5	3.2		<0.1												0.006
W3	30/01/2011	0.0007	6.17	<0.00002	20.3	0.653	29	<0.00005	<0.005	<0.005	0.003	<0.005	<0.005	<0.0005	270	3.1	<0.5	2.6		<0.05												0.006
W3	01/02/2011	0.0007	5.34	<0.00002	19.3	0.635	26	<0.00005	<0.005	<0.005	0.0029	<0.005	<0.005	<0.0005	270	<0.5	<0.5	<0.5		<0.4												<0.005
W3	03/02/2011	0.0007	5.42	<0.00002	19.7	0.615	27	<0.00005	<0.005	<0.005	0.0029	<0.005	<0.005	<0.0005	270	<0.5	<0.5	<0.5		<0.4												
W3	04/02/2011																															
W3	05/02/2011	0.0017	5.33	<0.00002	22.2	0.724	33	<0.00005	<0.005	<0.005	0.0031	<0.005	0.013	<0.0005	250	<0.5	<0.5	<0.5		<0.4												<0.005
W3	06/02/2011	0.0008	5.3	<0.00002	20.5	0.708	25	<0.00005	<0.005	<0.005	0.0032	<0.005	<0.005	<0.0005	270	<0.5	<0.5	<0.5		<0.4												0.006
W3	07/02/2011																															
W3	08/02/2011	0.0008	5.16	<0.00002	20	0.68	25	<0.00005	<0.005	<0.005	0.003	<0.005	<0.005	<0.0005	270	<0.5	<0.5	<0.5		<0.4							3.7					0.006
W3	09/02/2011	0.0008	5.16	<0.00002	20	0.68	25	<0.00005	<0.005	<0.005	0.003	<0.005	<0.005	<0.0005	270	<0.5	<0.5	<0.5		<0.4							3.7					0.006
W3	10/02/2011																															
W3	11/02/2011	0.0008	5.32	<0.00002	19.4	0.645	26	<0.00005	<0.005	<0.005	0.0032	<0.005	<0.005	<0.0005	260	<0.5	<0.5	<0.5														<0.005
W3	12/02/2011																															
W3	13/02/2011	0.0008	5.32	<0.00002	19.7	0.65	25	<0.00005	<0.005	<0.005	0.0032	<0.005	<0.005	<0.0005	260	<0.5	<0.5	<0.5		<0.4												<0.005
W3	14/02/2011																															
W3	15/02/2011	0.0008	5.31	0.00003	19.8	0.664	27	<0.00005	<0.005	<0.005	0.0033	<0.005	<0.005	<0.0005	270	<0.5	<0.5	<0.5		<0.4												<0.005
W3	26/02/2011	0.0007	5.99	<0.00002	20.2	0.694	29	<0.00005	<0.005	<0.005	0.0031	<0.005	<0.005	<0.0005	270	<0.5	<0.5	<0.5		<0.4												<0.005
W3	02/03/2011	0.0007	5.87	<0.00002	20.7	0.693	29	<0.00005	<0.005	<0.005	0.0033	<0.005	<0.005	<0.0005	280	<0.5	<0.5	<0.5		<0.4												<0.005
W3	03/03/2011	0.0007	6.09	<0.00002	20.9	0.7	29	<0.00005	<0.005	<0.005	0.0031	<0.005	0.011	<0.0005	280	<0.5	<0.5	<0.5		<0.4												<0.005
W3	05/03/2011	0.0007	6.03	0.00002	22.4	0.731	34	<0.00005	<0.005	<0.005	0.0035	<0.005	0.01	<0.0005	280	<0.5	<0.5	<0.5		<0.4												<0.005
W3	08/03/2011	0.0008	6.51	<0.00002	23.4	0.661	33	<0.00005	<0.005	<0.005	0.0034	<0.005	<0.005	<0.0005	280	<0.5	<0.5	<0.5		<0.4												<0.005
W3	22/03/2011	0.0003	6.22	<0.00002	21.4	0.715	30	<0.00005	<0.005	<0.005	0.0024	<0.005	<0.005	<0.0005	300	3.3	<0.5	2.8		<0.4												<0.005
W3	27/03/2011	0.0007	5.92	<0.00002	20.9	0.691	30	<0.00005	<0.005	<0.005	0.0032	<0.005	<0.005	<0.0005	280	<0.5	<0.5	<0.5		<0.4												<0.005
W3	29/03/2011	0.0007	5.47	<0.00002	19.8	0.645	27	<0.00005	<0.005	<0.005	0.003	<0.005	0.034	<0.0005	260	<0.5	<0.5	<0.5		<0.4												<0.005
W3	31/03/2011	0.0007	5.53	<0.00002	18.2	0.681	26	<0.00005	<0.005	<0.005	0.0032	<0.005	0.008	<0.0005	260	<0.5	<0.5	<0.5		<0.4												0.009
W3	02/04/2011	0.0007	6.1	<0.00002	20.5	0.633	29	<0.00005	<0.005	<0.005	0.0032	<0.005	<0.005	<0.0005	270	<0.5	<0.5	<0.5		<0.4												<0.005
W3	09/04/2011	0.0007	5.93	<0.00002	17.8	0.658	29	<0.00005	<0.005	<0.005	0.0031	<0.005	<0.005	<0.0005	260	<0.5	<0.5	<0.5		<0.4												0.008
W3	15/04/2011	0.0006	5.3	<0.00002	18.4	0.656	27	<0.00005	<0.005	<0.005	0.0031	<0.005	0.023	<0.0005	250	<0.5	<0.5	<0.5		<0.4												<0.005
W3	21/04/2011	0.0007	5.74	<0.00002	19.2	0.713	28	<0.00005	<0.005	<0.005	0.0034	<0.005	<0.005	<0.0005	270	<0.5	<0.5	<0.5														
W3	27/04/2011	0.0004	4.71	<0.00002	9.25	0.331	13	<0.00005	<0.005	<0.005	0.0013	<0.005	<0.005	<0.0005	140	<0.5	<0.5	<0.5									35					
W3	05/05/2011	0.0003	3.67	<0.00002	7.72	0.26	11	<0.00005	<0.005	<0.005	0.0011	<0.005	0.006	0.0006	120	<0.5	<0.5	<0.5														
W3	14/05/2011	0.0005	5.09	<0.00002	13.8	0.438	19	<0.00005	<0.005	<0.005	0.0022	<0.005	<0.005	<0.0005	180	<0.5	<0.5	<0.5														
W3	24/05/2011	0.0005	5.01	<0.00002	16.4	0.565	26	<0.00005	<0.005	<0.005	0.0027	<0.005	<0.005	<0.0005	240	<0.5	<0.5	<0.5														
W3	29/05/2011	0.0005	5.16	<0.00002	18.6	0.632	27	<0.00005	<0.005	<0.005	0.0032	<0.005	<0.005	<0.0005	250	<0.5	<0.5	<0.5														
W3	04/06/2011	0.0005	5.58	<0.00002	20	0.671	28	<0.00005	<0.005	<0.005	0.0032	<0.005	<0.005	<0.0005	260	<0.5	<0.5	<0.5														
W3	16/06/2011	0.0005	6.59	<0.00002	20.7	0.639	30	<0.00005	<0.005	<0.005	0.0035	<0.005	<0.005	<0.0005	270	<0.5	<0.5	<0.5														
W3	27/06/2011	0.0005	5.63	<0.00002	19.1	0.667	24	<0.00005	<0.005	<0.005	0.0032	<0.005	<0.005	<0.0005	260	<0.5	<0.5	<0.5														
W3	01/07/2011	0.0004	5.61	<0.00002	12.9	0.453	17	<0.00005	<0.005	<0.005	0.0016	<0.005	<0.005	<0.0005	190	<0.5	<0.5	<0.5														
W3	12/07/2011	0.0005	5.99	<0.00002	19.9	0.608	26	<0.00005	<0.005	<0.005	0.0027	<0.005	0.007	<0.0005	260	<0.5	<0.5	<0.5														
W3	16/07/2011	0.0004	5.56	<0.00002	12.4	0.426	14	<0.00005	<0.005	<0.005	0.0018	<0.005	<0.005	<0.0005	190	<0.5	<0.5	<0.5														
W3	23/07/2011	0.0005	5.35	<0.00002	18.9	0.674	22	<0.00005	<0.005	<0.005	0.0032	<0.005	<0.005	<0.0005	260	<0.5	<0.5	<0.5														
W3	31/07/2011	0.0005	5.85	<0.00002	19.5	0.657	24	<0.00005	<0.005	<0.005	0.0033	<0.005	<0.005	<0.0005	260	<0.5	<0.5	<0.5														
W3	02/08/2011	0.0004	5.01	<0.00002	15.3	0.538	17	<0.00005	<0.005	<0.005	0.0024	<0.005	<0.005	<0.0005	230	<0.5	<0.5	<0.5														
W3	07/08/2011	0.0004	5.84	<0.00002	13.5	0.456	15	<0.00005	<0.005	<0.005	0.0019	<0.005	0.008	<0.0005	180	<0.5	<0.5	<0.5														
W3	16/08/2011	0.0004	5.67	<0.00002	17.5	0.593	22	<0.00005	<0.005	<0.005	0.0027	<0.005	<0.005	<0.0005	260	<0.5	<0.5	<0.5														
W3	28/08/2011	0.0004	6.08	<0.00002	19.2	0.631	23	<0.00005	<0.005	<0.005	0.0027	<0.005	<0.005	<0.0005	260	<0.5	<0.5	<0.5														

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W3	13/12/2010					0.3	
W3	14/12/2010					0.4	
W3	19/12/2010					0.8	
W3	23/12/2010					0.7	
W3	24/12/2010					0.3	-2.9
W3	28/12/2010	0.01				0.5	-2.6
W3	30/12/2010					0.5	-3.1
W3	01/01/2011					0.3	-3.2
W3	03/01/2011					0.5	-2.7
W3	05/01/2011					0.4	-0.8
W3	08/01/2011					0.5	-1.1
W3	10/01/2011	<0.005					-3.4
W3	12/01/2011						
W3	13/01/2011					0.4	
W3	14/01/2011						-3.4
W3	17/01/2011	0.006				1.5	-2.8
W3	18/01/2011						-2.9
W3	22/01/2011					0.5	
W3	23/01/2011						
W3	28/01/2011	<0.005				0.4	-3.5
W3	30/01/2011					0.4	-3.5
W3	01/02/2011					0.8	-3.4
W3	03/02/2011					0.6	-3.2
W3	04/02/2011						-3
W3	05/02/2011					1.4	-3.5
W3	06/02/2011					0.4	-3.4
W3	07/02/2011						-3.5
W3	08/02/2011					0.5	-3.6
W3	09/02/2011					0.5	
W3	10/02/2011						
W3	11/02/2011					0.5	
W3	12/02/2011						
W3	13/02/2011					0.3	
W3	14/02/2011						
W3	15/02/2011					1.1	
W3	26/02/2011					0.4	
W3	02/03/2011					0.8	
W3	03/03/2011					0.6	
W3	05/03/2011					2	
W3	08/03/2011					0.4	
W3	22/03/2011					11.7	
W3	27/03/2011					1.1	
W3	29/03/2011					2.8	
W3	31/03/2011					1.7	
W3	02/04/2011					1.4	
W3	09/04/2011					1	
W3	15/04/2011					1.5	
W3	21/04/2011						
W3	27/04/2011						
W3	05/05/2011						
W3	14/05/2011						
W3	24/05/2011						
W3	29/05/2011						
W3	04/06/2011						
W3	16/06/2011						
W3	27/06/2011						
W3	01/07/2011						
W3	12/07/2011						
W3	16/07/2011						
W3	23/07/2011						
W3	31/07/2011						
W3	02/08/2011						
W3	07/08/2011						
W3	16/08/2011						
W3	28/08/2011						

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Phase	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
				mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	30/08/2011	No Discharge	P	<1	330		8.05		532					225	258	220				0.007	<0.005	0.91	8.1	0.026	<0.0005	0.0003	0.074	<0.0001	<0.001
W3	07/09/2011	No Discharge	P	<1	340	7.76	8.29	496.3	538	3.9	11.07	84.5		230	252	220	4.3			0.008	<0.005	1.08	7.9	0.012	<0.0005	0.0002	0.082	<0.0001	<0.001
W3	12/09/2011	No Discharge	P	<1	350	7.66	8.13	502.5	538	1.1	15.85	112.1		252	306	220	4.7			0.017	<0.005	1.1	7.1	0.012	<0.0005	0.0002	0.085	<0.0001	<0.001
W3	19/09/2011	No Discharge	P	<4	340	7.75	8.11	494.5	530	2.2	11.93	87		243	247	220	4.6		57	0.009	<0.005	1.09	6.5	0.19	<0.0005	0.0003	0.083	<0.0001	<0.001
W3	24/09/2011	No Discharge	P	<4	330	7.71	8.17	496.2	524	1.9	11.36	82		225	253	220	4.3		54	0.015	<0.005	1.04	7.4	0.012	<0.0005	0.0002	0.079	<0.0001	<0.001
W3	06/10/2011	No Discharge	P	<4	280	7.6	8.27	563.8	522	0.1	10.33	70.5		251	265	220	4.4		59	0.015	<0.005	1.17	6.9	0.014	<0.0005	0.0002	0.086	<0.0001	<0.001
W3	17/10/2011	No Discharge	P	<4	270	7.68	8	523.4	498	1.3	11.07	78.6		218	226	200	5		52	0.01	<0.005	1.89	8.3	0.037	<0.0005	0.0003	0.08	<0.0001	<0.001
W3	24/10/2011	No Discharge	P	<1	300	7.46	8.23	562	531	0.1	10.34	70.9		204	249	220	4.4		55	0.019	<0.005	1.09	6.4	0.028	<0.0005	0.0002	0.084	<0.0001	<0.001
W3	30/10/2011	No Discharge	P	<4	320	7.5	8.21		530	0.2	9.52	76.8		219	242	220	3.7			0.009	<0.005	1.04	6.1	0.011	<0.0005	0.0002	0.076	<0.0001	<0.001
W3	13/11/2011	No Discharge	P	<1.0	294	7.53	8.35	396.4	498	0.7	13.14	91.2		223	207	201	5			0.0089	<0.005	2.23	8.84	0.017	<0.0005	0.0003	0.078	<0.0001	<0.001
W3	22/11/2011	No Discharge	P	<1.0	316		7.97		545					242	258	227	4.3			0.0106	<0.005	1.19	5.18	0.019	<0.0005	0.0002	0.087	<0.0001	<0.001
W3	28/11/2011	No Discharge	P	<1.0	316		8.13		531					244	262	223	4.4	0.54	57.4	0.0167	<0.005	1.2	5.7	0.012	<0.0005	0.0002	0.085	<0.0001	<0.001
W3	05/12/2011	No Discharge	P	<4.0	298		7.87		537					226	241	221	4		58.3	0.0178	<0.005	0.932	5.37	0.014	<0.0005	0.0002	0.078	<0.0001	<0.001
W3	13/12/2011	No Discharge	P	<1.0	316		8.12		532					244	246	221	4.1			0.0102	<0.005	1.12		0.037	<0.0005	0.0002	0.083	<0.0001	<0.001
W3	18/12/2011	No Discharge	P	<1.0	310		8.05		531					336	254	222	3.9	0.53	54.1	0.316	<0.005	1.17	5.2	0.009	<0.0005	0.0002	0.083	<0.0001	<0.001
W3	27/12/2011	No Discharge	P	<1.0	296		8.19		537					244	260	224	3.9			0.0231	<0.005	1.15	5.35	0.012	<0.0005	0.0002	0.081	<0.0001	<0.001
W3	02/01/2012 14:01	No Discharge	P	<4.0	298	7.45	8.22	140	535	0.00	10.1	69.1		221	239	225	<0.5			0.021	<0.005	<0.020		0.013	<0.0005	0.0002	0.075	<0.0001	<0.001
W3	09/01/2012	No Discharge	P	<1.0	300	7.28	8.1		537	0.00	16.61	113.9		235	259	223	3.8			0.0154	<0.005	1.26		0.012	<0.0005	0.0003	0.078	<0.0001	<0.001
W3	15/01/2012 14:30	No Discharge	P	2.7	314	7.48	8.01	66.8	540	0.00		104.3		278	246	223	4.1			0.0132	<0.005	1.32	4.94	0.017	<0.0005	0.0003	0.095	<0.0001	<0.001
W3	22/01/2012 13:14	No Discharge	P	6	326	6.02	8.13	197	548	0.00	1.54	10.7		251	262	226	3.8	0.55	58.7	<0.0050	<0.005	1.37	4.59	0.163	<0.0005	0.0003	0.089	<0.0001	<0.001
W3	31/01/2012	No Discharge	P	<4.0	310	6.04	8.12	216.7	550	0.00	10.7	73.9		252	253	228	4.3	0.55	62.2	0.0074	<0.005	1.25	4.48	0.023	<0.0005	0.0002	0.082	<0.0001	<0.001
W3	07/02/2012 13:30	No Discharge	P	<4.0	306	6.34	8.44	218.1	548	0.00	12.16	83.2		238	246	230	4.1	0.55	60.7	<0.0050	<0.005	1.13	4.49	0.015	<0.0005	0.0002	0.083	<0.0001	<0.001
W3	14/02/2012 8:00	No Discharge	P	<4.0	304	7.43	8.34	200.9	534	0.10	11.68	80.3		224	247	229	4			0.0065	<0.005	1.27	5.19	0.073	<0.0005	0.0003	0.076	<0.0001	<0.001
W3	20/02/2012 12:08	No Discharge	P	<4.0	304	7.46	7.99	253.6	538	0.00	12.33	84.8		244	237	226	3.8	0.58	60.4	0.0204	<0.005	1.23	4.53	0.034	<0.0005	0.0002	0.086	<0.0001	<0.001
W3	25/02/2012	No Discharge	P	<4.0	320	7.51	8.12	218.9	538	0.00	10.26	70.4		248	250	218	5.4	0.55	54.8	0.0089	<0.005	1.32	5.3	0.049	<0.0005	0.0002	0.083	<0.0001	<0.001
W3	05/03/2012 12:10	No Discharge	P	3.9	320	7.39	8.32	190.9	548	0	11.35	77.7		249	247	219	3.9	0.56	62.3	0.0102	<0.005	1.28	4.58	0.029	<0.0005	0.0002	0.088	<0.0001	<0.001
W3	12/03/2012 14:00	No Discharge	P	5.1	288	7.42	8.11	222	546	0.1	11.31	77.7		251	260	229	4	0.49	57.3	0.0142	<0.005	1.3		0.076	<0.0005	0.0002	0.086	<0.0001	<0.001
W3	19/03/2012 10:30	No Discharge	P	4.2	324	7.57	8.16	231.1	554	0.1	11.68	80.6		248	243	228	4.2	0.56	64.8	<0.0050	<0.005	1.19	5.13	0.09	<0.0005	0.0003	0.088	<0.0001	<0.001
W3	24/03/2012	No Discharge	P	2.7	314		8.23		546					258	272	230	3.9	0.55	61	0.0063	<0.005	1.14	4.7	0.006	<0.0005	0.0003	0.091	<0.0001	<0.001
W3	27/03/2012	No Discharge	P	2.3	312		8.26		544					246	256	227	3.7	0.55	62.5	0.01	<0.005	1.91	12	0.045	<0.0005	0.0003	0.086	<0.0001	<0.001
W3	28/03/2012 15:30	No Discharge	P	2.3	332		8.32		547					256	250	227	3.4	0.57	56.5	0.0176	<0.05	1.29		0.039	<0.0005	0.0003	0.09	<0.0001	<0.001
W3	02/04/2012 15:30	No Discharge	P	9.6	322	7.29	8.32	77.9	542	0.2		15.38		242	235	227	3.4	0.57	59.4	0.0061	<0.005	1.2	4.24	0.08	<0.0005	0.0003	0.09	<0.0001	<0.001
W3	09/04/2012 17:00	No Discharge	P	13	292	7.58	8.15	179.4	470	0.2	12.14	83.4		213	215	198	3.3	0.51	47.2	0.0112	0.007	1.13	5.09	0.75	<0.0005	0.0006	0.089	<0.0001	<0.001
W3	13/04/2012 18:25	No Discharge	P	80.4	266	7.64	8.25	245.4	449	0	11.23	77		197	200	178	3.7	0.42	48.1	0.16	0.005	1.55	7.74	1.55	<0.00050	0.00093	0.105	<0.00010	<0.0010
W3	14/04/2012 10:35	No Discharge	P	19	292	6.77	8.04	274.4	512	0	12.6	86.4		228	234	207	4.5	0.51	50.5	0.015	<0.0050	1.93	8	0.452	<0.00050	0.00056	0.0899	<0.00010	<0.0010
W3	15/04/2012 9:15	No Discharge	P	18.9	290	7.61	8.16	260	509	0.1	11.59	79.5		231	226	204	4.2	0.48	48.9	0.0057	<0.0050	1.89	8.4	0.463	<0.00050	0.00053	0.091	<0.00010	<0.0010
W3	16/05/2012 15:30	No Discharge	P	4.4	282	7.99	8.35	246.7	422	2.3	15.19	110.8	39.4	196	196	180	3.2	0.42	45.1	0.0068	<0.0050	0.876	13.3	0.0877	<0.00050	0.00041	0.0723	<0.00010	<0.0010
W3	24/05/2012	No Discharge	P	<1.0	284	7.9	8.25	299	473	4.6	14	109.2	8.2	228	219	202	3.3	0.5	47.8	0.021	<0.0050	0.799	10.3	0.0321	<0.00050	0.00021	0.0737	<0.00010	<0.0010
W3	02/06/2012	No Discharge	P	<1.0	300	7.86	8.17	295.1	516	3.3	11.95	89.6	27.4	217	244	219	3	0.51	50.7	0.079	<0.0050	0.722	6.9	0.0078	<0.00050	0.00024	0.0758	<0.00010	<0.0010
W3	08/06/2012	No Discharge	P	<1.0	298	7.83	8.31	309	501	5.5	11.18	88.9	-3.6	249	233	214	3.5	0.53	52.1	0.073	<0.0050	0.619	7.2	0.0149	<0.00050	0.00025	0.0832	<0.00010	<0.0010
W3	17/06/2012 12:00	No Discharge	P	<1.0	324	7.71	8.24	316.5	469	3.2	11.87	88.6	54.3	213	223	198	2.9	0.47	46.1	0.1	<0.0050	0.603	9.54	0.0336	<0.00050	0.00033	0.0726	<0.00010	<0.0010
W3	19/06/2012 10:10	No Discharge	P	<1.0	284	7.72	8.41	325.8	488	3.2	11.64	87	32.2	241	233	213	3.1	0.48	47.3	0.094	<0.0050	0.633	8.17	0.0163	<0.00050	0.00029	0.0836	<0.00010	<0.0010
W3	22/06/2012 17:17	No Discharge	P	<1.0	314	7.82	8.13	321.2	504	5.9	10.81	86.5		238	234	215	3.3	0.53	52	0.016	<0.0050	0.678	6.98	0.0083	<0.00050	0.00029	0.0841	<0.00010	<0.0010
W3	28/06/2012 10:50	No Discharge	P	<1.0	294	7.71	8.19	299	522	2.9	11.32	84.2	25.6	239	247	223	3.3	0.53	50.9	0.039	<0.0050	0.663	5.99	0.0121	<0.00050	0.00027	0.0837	<0.00010	<0.0010
W3	05/07/2012 8:15	No Discharge	P	<1.0	302	7.54	8.42	477.2	488	1.9	11.97	87.1	49.1	214	222	216	2.8	0.49	44.1	0.013	<0.0050	0.552	8.39	0.0232	<0.00050	0.00026	0.0719	<0.00010	<0.0010
W3	09/07/2012 11:34	No Discharge	P	<1.0	302	7.28	8.47	296.4	525	2.9	12.72	94.6	32.9	239	236	231	3.7	0.53	52.2	0.013	<0.0050	0.558	5.2	0.0105	<0.00050	0.00026	0.0848	<0.00010	<0.0010
W3	18/07/2012 7:25	No Discharge	P	1.8	300	7.47	8.32	270.1	522	2.6	9.99	73.7	51.4	239	244	226	3	0.52	46.8	0.083	<0.0050	0.411	5.71	0.0066	<0.00050	0.00026	0.082	<0.00010	<0.0010
W3	24/07/2012 10:50	No Discharge	P	<1.0	314	7.78	7.96	274.5	511	3.4	11.31	86	48.5	236	240	220	2.9	0.54	45.3	0.056	<0.0050	0.512	5.61	0.0091	<0.00050	0.00026	0.0833	<0.00010	<0.0010
W3	30/07/2012 8:10	No Discharge	P	<1.0	304	7.85	8.28	252.3	511	2.4	12.02	88.6	42.1	233	237	226	3.2	0.58	50.2	0.024	<0.0050	0.537	6.21	0.0055	<0.00050	0.00028	0.0832	<0.00010	<0.0010
W3	07/08/2012 15:00	No Discharge	P	<1.0	306	7.89	8.33	309.4	510	5	11.42	89.5	-25.7	247	237	227	3.3	0.6	45.7	0.011	0.0052	0.521	5.86	0.017	<0.00050	0.00025	0.0824	<0.00010	<0.0010
W3	16/08/2012 9:30	No Discharge	P	<1.0	314	7.6	8.39	276.3	505	2.6	10.49	77.1	111.2	239	238	224	3	0.54	45.9	0.013	<0.0050	0.508	5.09	0.0068	<0.00050	0.00026	0.0825	<0.00010	<0.0010
W3	23/08/2012 8:30	No Discharge	P	<1.0	326	7.61	8.25	271.3	513	2.8	10	74.7	18.7	241	235	224	3.3	0.55	46.1	0.012	<0.050	0.51	4.66	0.0049	<0.00050	0.00026	0.0863	<0.00010	<0.0010
W3	30/08/2012 17:18	No Discharge	P	<1.0	290	7.99	8.33	264.2	502	4	11.77	90	-25.2	236	238	221	2.8	0.57	45.6	0.0072	<0.0050	0.491	5.17	0.0036	<0.00050	0.00023	0.0853	<0.00010	<0.0010
W3	03/09/2012 8:05	No Discharge	P	<1.0	296	7.7	8.25	254	501	1.5	11.41	91.5	16.4	236	237	222	2.7	0.56	46.2	0.0069	<0.0050	0.483	5.99	0.0046	<0.00050	0.00027	0.0816	<0.00010	<0.0010
W3	05/09/2012 7:15	No Discharge	M	<1.0	314		8.3		502					236	225	226	3.2	0.55	48	0.017	<0.0050	0.519	5.72	0.0047	<0.00050	0.00024	0.0816	<0.00010	<0.0010
W3	05/09/2012 7:15	No Discharge	P			6.45		278.3		2.3	11.14	81.2	14.3																
W3	09/09/2012 16:15	No Discharge	P	2.1	250	7.6	8.22	225.8	426	2.5	11.7	86	72.7	192	191	186	2.7	0.45	32.1	0.073	<0.0050	0.338	10.1	0.0428	<0.00050	0.00032	0.0674	<0.00010	<0.0010
W3	17/09/2012 9:53	No Discharge	P	<1.0	302	7.71	8.18	266.5	493	1.3	11.33	8.7	65.4	214	233	215	2.9	0.51	42	0.082	<0.0050	0.488	6.89	0.0117	<0.00050	0.00024	0.077	<0.00010	<0.0010
W3	19/09/2012 7:40	No Discharge	P	<1.0	296	7.6	8.18	263.9	488	1.2	10.81	76.8	78.2	219	231	216	3.2	0.49	45.5	0.11	<0.0050	0.507	6.64	0.0052	<0.00050	0.00024	0.0802	<0.00010	<0.0010
W3	24/09/2012 9:05	No Discharge	P	<1.0	284	7.83	8.33	269.6	500	1.7	12.5	91	58.2	227	231	217	2.9	0.52	43.1	0.017	<0.0050	0.541	6.72	0.0048	<0.00050	0.00025	0.0811	<0.00010	<0.0010
W3	03/10/2012 13:00	No Discharge	P	<1.0	308	8.89	8.33	260.2	501	0.4	12.36	85.4	49.2	226	231	223	3.1	0.53	46.7	0.0225	<0.0050	0.445	5.68	0.0047	<0.00050	0.00023	0.0781	<0.00010	<0.0010
W3	12/10/2012 7:40	No Discharge	P	<1.0	306	8.18	8.03	249.3	472	0.1	12.32	84.6	54.7	229		211	2.9	0.5	42	0.015	<0.0050	0.502	8.28	0.0073	<0.00050	0.00028	0.0797	<0.00010	<0.0010
W3	16/10/2012 8:30	No Discharge	P	<1.0	302	7.8	8.23	259.7	490	0.7	13.75	97	44.2	228	224	214	3	0.47	45.6	0.012	<0.0050	0.53	5.99	0.0068	<0.00050	0.00025	0.0798	<0.00010	<0.0010
W3	19/10/2012 7:30	No Discharge	P	<1.0	328	8.02	8.09	257.7	489	0.1	11.55	79.8	39	249	236	219	3.1	0.54	46.2	0.015	0.0153	0.863	5.86	0.0052	<0.00050	0.00022	0.0807	<0.00010	<0.0010
W3	25/10/2012 9:25	No Discharge	P	3.4	322	7.9	8.04		524	0.3				243	238	228	3.2	0.52	47.5	0.0087	<0.0050	0.624	5.09	0.0555	<0.00050	0.00032	0.0836	<0.00010	<0.0010

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	30/08/2011	<0.05	0.00004	54.2	<0.001	<0.0005	0.0025	0.052	<0.0002	<0.005	21.8	0.064	<0.00002	0.004	0.001	<0.01	2.05	0.0004	4.95	<0.00002	15.6	0.559	22	<0.00005	<0.005	<0.005	0.0025
W3	07/09/2011	<0.05	0.00001	54.6	<0.001	<0.0005	0.0022	0.03	<0.0002	<0.005	22.8	0.065	<0.00002	0.004	0.001	<0.01	2.07	0.0004	4.87	<0.00002	17.4	0.592	20	<0.00005	<0.005	<0.005	0.0029
W3	12/09/2011	<0.05	0.00001	57.7	<0.001	<0.0005	0.0024	0.029	<0.0002	<0.005	26.3	0.069	<0.00002	0.004	0.001	<0.01	2.26	0.0004	5.42	<0.00002	19.8	0.622	21	<0.00005	<0.005	<0.005	0.0032
W3	19/09/2011	<0.05	0.00003	56.9	<0.001	<0.0005	0.0088	0.335	<0.0002	<0.005	24.6	0.111	<0.00002	0.004	0.001	0.025	2.21	0.0005	5.56	<0.00002	18.2	0.576	20	<0.00005	<0.005	0.008	0.0028
W3	24/09/2011	<0.05	<0.00001	52.7	<0.001	<0.0005	0.0022	0.034	<0.0002	<0.005	22.6	0.056	<0.00002	0.004	0.001	<0.01	2	0.0004	4.96	<0.00002	17.2	0.562	18	<0.00005	<0.005	<0.005	0.0027
W3	06/10/2011	<0.05	0.00001	59.3	<0.001	<0.0005	0.0026	0.037	<0.0002	<0.005	24.9	0.06	<0.00002	0.004	0.001	0.012	2.15	0.0004	5.42	<0.00002	18.5	0.64	19	<0.00005	<0.005	<0.005	0.0031
W3	17/10/2011	<0.05	0.00004	54.5	<0.001	<0.0005	0.0082	0.079	<0.0002	<0.005	19.9	0.031	<0.00002	0.006	0.001	<0.01	3	0.0007	5.53	<0.00002	18.3	0.573	18	<0.00005	<0.005	<0.005	0.0025
W3	24/10/2011	<0.05	0.00008	42.9	<0.001	<0.0005	0.0028	0.054	<0.0002	<0.005	23.6	0.051	<0.00002	0.004	<0.001	<0.01	2.12	0.0004	3.96	<0.00002	18.4	0.627	18	<0.00005	<0.005	<0.005	0.0031
W3	30/10/2011	<0.05	<0.00001	50	<0.001	<0.0005	0.0025	0.029	<0.0002	<0.005	22.8	0.052	<0.00002	0.004	<0.001	0.011	2.09	0.0004	4.76	<0.00002	17.9	0.577	18	<0.00005	<0.005	<0.005	0.0027
W3	13/11/2011	<0.05	<0.00001	55.6	<0.001	<0.0005	0.0038	0.037	<0.0002	<0.005	20.5	0.028	<0.000020	0.006	<0.001	<0.01	2.77	0.0006	5.58	<0.00002	18.2	0.614	17.8	<0.00005	<0.005	<0.005	0.0026
W3	22/11/2011	<0.05	<0.00001	57	<0.001	<0.0005	0.0017	0.031	<0.0002	<0.005	24.2	0.059	<0.000020	0.004	<0.001	0.011	2.37	0.0005	5.81	<0.00002	17.9	0.587	21.3	<0.00005	<0.005	<0.005	0.0027
W3	28/11/2011	<0.05	<0.00001	57.3	<0.001	<0.0005	0.0024	0.036	<0.0002	<0.005	24.6	0.06	<0.000020	0.004	0.001	<0.01	2.22	0.0004	5.57	<0.00002	18.9	0.637	18.9	<0.00005	<0.005	<0.005	0.0032
W3	05/12/2011	<0.05	<0.00001	52.8	<0.001	<0.0005	0.0021	0.035	<0.0002	<0.005	22.9	0.051	<0.000020	0.004	0.001	<0.01	2.02	0.0005	5.32	<0.00002	17.5	0.564	17.6	<0.00005	<0.005	<0.005	0.003
W3	13/12/2011	<0.05	<0.00001	58.4	<0.001	<0.0005	0.0018	0.026	<0.0002	<0.005	23.9	0.049	<0.000010	0.004	0.001	<0.01	2.11	0.0004	6.09	<0.00002	18	0.614	18.8	<0.00005	<0.005	<0.005	0.0033
W3	18/12/2011	<0.05	0.00001	89.3	0.001	<0.0005	0.0024	0.038	<0.0002	<0.005	27.5	0.046	<0.000010	0.004	0.002	<0.01	2.16	0.0007	8.65	<0.00002	20.2	0.633	19.1	<0.00005	<0.005	<0.005	0.0032
W3	27/12/2011	<0.05	<0.00001	56.2	<0.001	<0.0005	0.0017	0.028	<0.0002	<0.005	25.3	0.049	<0.000010	0.004	0.001	<0.01	2.13	0.0005	5.8	<0.00002	18.8	0.59	19.1	<0.00005	<0.005	<0.005	0.0029
W3	02/01/2012 14:01	<0.05	<0.00001	51.5	<0.001	<0.0005	0.0018	0.026	<0.0002	<0.005	22.3	0.039	<0.000010	0.004	<0.001	<0.01	1.81	0.0005	5.62	<0.00002	16.8	0.56	17.4	<0.00005	<0.005	<0.005	0.0028
W3	09/01/2012	<0.05	<0.00001	54.9	<0.001	<0.0005	0.0018	0.034	<0.0002	<0.005	23.9	0.042	<0.000010	0.004	0.001	0.015	2.03	0.0005	5.74	<0.00002	18.2	0.599	19.7	<0.00005	<0.005	<0.005	0.0029
W3	15/01/2012 14:30	<0.05	0.00003	65.1	<0.001	<0.0005	0.0039	0.041	<0.0002	<0.005	27.9	0.046	<0.000010	0.005	0.001	0.041	2.59	0.0006	6.41	<0.00002	20.8	0.681	22.5	<0.00005	<0.005	<0.005	0.0032
W3	22/01/2012 13:14	<0.05	0.00001	58	<0.001	<0.0005	0.0051	0.24	<0.0002	<0.005	25.7	0.087	<0.000010	0.004	0.001	0.019	2.4	0.0005	6.05	<0.00002	19.3	0.655	19.6	<0.00005	<0.005	0.008	0.0035
W3	31/01/2012	<0.05	0.00002	59.6	<0.001	<0.0005	0.0036	0.051	0.0006	<0.005	24.9	0.073	<0.000010	0.004	0.001	0.015	2.3	0.0005	5.84	<0.00002	18.8	0.607	20.5	<0.00005	<0.005	<0.005	0.0033
W3	07/02/2012 13:30	<0.05	<0.00001	55	<0.001	<0.0005	0.0016	0.03	<0.0002	<0.005	24.5	0.048	<0.000010	0.004	<0.001	<0.01	2.14	0.0005	5.79	<0.00002	18.4	0.629	19.9	<0.00005	<0.005	<0.005	0.0031
W3	14/02/2012 8:00	<0.05	<0.00001	51.7	<0.001	<0.0005	0.0023	0.138	<0.0002	<0.005	23.1	0.049	<0.000010	0.004	<0.001	<0.01	1.99	0.0005	5.3	<0.00002	17	0.574	16.3	<0.00005	<0.005	<0.005	0.0029
W3	20/02/2012 12:08	<0.05	<0.00001	56	<0.001	<0.0005	0.0019	0.061	<0.0002	<0.005	25.3	0.041	<0.000010	0.004	<0.001	0.011	2.19	0.0006	5.88	<0.00002	18.8	0.639	20.2	<0.00005	<0.005	<0.005	0.0034
W3	25/02/2012	<0.05	0.00002	57.2	<0.001	<0.0005	0.0065	0.081	<0.0002	<0.005	25.5	0.042	<0.000010	0.004	<0.001	0.017	2.23	0.0006	5.84	<0.00002	19.1	0.653	19.7	<0.00005	<0.005	<0.005	0.0033
W3	05/03/2012 12:10	<0.05	<0.00001	58.5	<0.001	<0.0005	0.0018	0.07	<0.0002	<0.005	25	0.052	<0.000010	0.004	<0.001	0.01	2.1	0.0006	5.96	<0.00002	18.4	0.661	19.5	<0.00005	<0.005	<0.005	0.0033
W3	12/03/2012 14:00	<0.05	<0.00001	58.5	<0.001	<0.0005	0.0019	0.109	<0.0002	<0.005	25.4	0.05	0.000205	0.004	<0.001	<0.01	2.11	0.0006	6.28	<0.00002	18.3	0.626	19	<0.00005	<0.005	<0.005	0.0031
W3	19/03/2012 10:30	<0.05	<0.00001	56	<0.001	<0.0005	0.0028	0.146	<0.0002	<0.005	26.3	0.057	<0.000010	0.004	<0.001	0.012	2.19	0.0005	5.95	<0.00002	19.2	0.641	18.7	<0.00005	<0.005	<0.005	0.0034
W3	24/03/2012	<0.05	<0.00001	57.4	<0.001	<0.0005	0.0021	0.068	<0.0002	<0.005	27.9	0.045	<0.000010	0.005	<0.001	<0.01	2.28	0.0006	6.06	<0.00002	20.6	0.676	21.9	<0.00005	<0.005	<0.005	0.0032
W3	27/03/2012	<0.05	0.00005	55.3	<0.001	<0.0005	0.0032	0.081	<0.0002	<0.005	26.2	0.045	<0.000010	0.004	<0.001	0.019	2.14	0.0005	5.55	<0.00002	19	0.637	18.4	<0.00005	<0.005	<0.005	0.0032
W3	28/03/2012 15:30	<0.05	0.00001	57.5	<0.001	<0.0005	0.0018	0.06	<0.0002	<0.005	27.3	0.049	<0.000010	0.004	<0.001	<0.01	2.32	0.0006	6.05	<0.00002	19.8	0.68	20.9	<0.00005	<0.005	<0.005	0.0033
W3	02/04/2012 15:30	<0.05	0.00001	52.1	<0.001	<0.0005	0.0027	0.144	<0.0002	<0.005	27.1	0.06	<0.000010	0.005	<0.001	0.014	2.24	0.0006	5.13	<0.00002	19.1	0.674	20.6	<0.00005	<0.005	<0.005	0.0033
W3	09/04/2012 17:00	<0.05	0.00002	48.6	<0.001	<0.0005	0.0095	0.937	0.0003	<0.005	22.2	0.082	<0.000010	0.004	0.001	0.041	2.35	0.0004	6.2	<0.00002	16.1	0.54	15.1	<0.00005	<0.005	0.046	0.0027
W3	13/04/2012 18:25	<0.05	0.000038	45.7	0.0023	0.00104	0.0207	2.28	0.00068	<0.0050	20.1	0.355	<0.000010	0.0044	0.0033	0.096	3.28	0.00044	7.73	<0.000020	15	0.537	15.3	<0.000050	<0.0050	0.0729	0.00261
W3	14/04/2012 10:35	<0.05	0.000016	56	<0.0010	<0.00050	0.00711	0.664	<0.00020	<0.0050	21.5	0.101	<0.000010	0.0053	0.0014	0.03	3.04	0.00051	6.15	<0.000020	17.4	0.603	16	<0.000050	<0.0050	0.0235	0.00318
W3	15/04/2012 9:15	<0.05	0.000016	56.5	<0.0010	<0.00050	0.00657	0.685	<0.00020	<0.0050	21.7	0.106	<0.000010	0.0057	0.0014	0.031	2.9	0.00062	6.29	<0.000020	17.4	0.627	16.8	<0.000050	<0.0050	0.0237	0.00325
W3	16/05/2012 15:30	<0.05	0.000012	45.2	<0.0010	<0.00050	0.00859	0.146	<0.00020	<0.0050	20.2	0.0433	<0.000010	0.004	0.0016	0.015	2.1	0.00049	5.06	<0.000020	15	0.516	14.6	<0.000050	<0.0050	<0.0050	0.00219
W3	24/05/2012	<0.05	0.000013	51.7	<0.0010	<0.00050	0.00531	0.0648	<0.00020	<0.0050	24.1	0.0463	<0.000010	0.0037	0.0012	0.015	2.13	0.00057	5.76	<0.000020	17.4	0.546	17.3	<0.000050	<0.0050	<0.0050	0.00231
W3	02/06/2012	<0.05	<0.000010	49.3	<0.0010	<0.00050	0.00241	0.02	<0.00020	<0.0050	22.9	0.0491	<0.000010	0.0041	<0.0010	<0.01	2.08	0.00041	4.88	<0.000020	16.7	0.583	16.7	<0.000050	<0.0050	<0.0050	0.00262
W3	08/06/2012	<0.05	<0.000010	56.4	<0.0010	<0.00050	0.00306	0.0302	<0.00020	<0.0050	26.3	0.06	<0.000010	0.0045	0.0011	<0.01	2.15	0.00037	5.25	<0.000020	18.8	0.665	17.9	<0.000050	<0.0050	<0.0050	0.00294
W3	17/06/2012 12:00	<0.05	0.000023	49.2	<0.0010	<0.00050	0.00431	0.0909	<0.00020	<0.0050	21.9	0.0563	<0.000010	0.0037	0.0013	<0.01	1.9	0.00042	5.13	<0.000020	15.5	0.549	13.6	<0.000050	<0.0050	<0.0050	0.0024
W3	19/06/2012 10:10	<0.05	0.000017	55.7	<0.0010	<0.00050	0.211	0.0437	<0.00020	<0.0050	24.8	0.145	<0.000010	0.0042	0.0015	<0.01	2.13	0.00034	5.76	<0.000020	17.9	0.632	16.4	<0.000050	<0.0050	<0.0050	0.00274
W3	22/06/2012 17:17	<0.05	<0.000010	54.1	<0.0010	<0.00050	0.00281	0.0234	<0.00020	<0.0050	25	0.0645	<0.000010	0.0047	<0.0010	<0.01	2.2	0.00047	5.54	<0.000020	18.1	0.649	18.4	<0.000050	<0.0050	<0.0050	0.00299
W3	28/06/2012 10:50	<0.05	<0.000010	54.5	<0.0010	<0.00050	0.00256	0.033	<0.00020	<0.0050	25.1	0.0687	<0.000010	0.0045	<0.0010	<0.01	2.09	0.00051	5.65	<0.000020	18.3	0.63	17.2	<0.000050	<0.0050	<0.0050	0.00281
W3	05/07/2012 8:15	<0.05	<0.000010	47.7	<0.0010	<0.00050	0.0033	0.0532	<0.00020	<0.0050	23.1	0.0582	<0.000010	0.0039	0.0013	<0.01	1.81	0.00046	5.07	<0.000020	16.6	0.547	14.2	<0.000050	<0.0050	<0.0050	0.00242
W3	09/07/2012 11:34	<0.05	0.00001	53.7	<0.0010	<0.00050	0.00248	0.0284	<0.00020	<0.0050	25.5	0.0462	<0.000010	0.0047	<0.0010	<0.01	2.1	0.00042	5.41	<0.000020	18.5	0.641	17.8	<0.000050	<0.0050	<0.0050	0.00282
W3	18/07/2012 7:25	<0.05	<0.000010	55.6	<0.0010	<0.00050	0.00218	0.0202	<0.00020	<0.0050	24.3	0.0575	<0.000010	0.0054	<0.0010	<0.01	2.09	0.00042	6.02	<0.000020	17.9	0.621	16.6	<0.000050	<0.0050	<0.0050	0.00272
W3	24/07/2012 10:50	<0.05	<0.000010	53.5	<0.0010	<0.00050	0.00241	0.0205	<0.00020	<0.0050	24.9	0.0593	<0.000010	0.0046	<0.0010	<0.01	2.13	0.00043	5.76	<0.000020	18.5	0.631	17.4	<0.000050	<0.0050	<0.0050	0.00291
W3	30/07/2012 8:10	<0.05	<0.000010	53.1	<0.0010	<0.00050	0.00206	0.0172	<0.00020	<0.0050	24.4	0.0561	<0.000010	0.0045	<0.0010	<0.01	2.11	0.00047	5.93	<0.000020	18.3	0.613	16.9	<0.000050	<0.0050	<0.0050	0.00294
W3	07/08/2012 15:00	<0.05	<0.000010	55.3	<0.0010	<0.00050	0.00211	0.0265	<0.00020	<0.0050	26.4	0.0585	<0.000010	0.0047	0.001	0.011	2.24	0.00039	6.23	<0.000020	19.6	0.602	16.9	<0.000050	<0.0050	<0.0050	0.00261
W3	16/08/2012 9:30	<0.05	<0.000010	55.1	<0.0010	<0.00050	0.00201	0.0186	<0.00020	<0.0050	24.5	0.053	<0.000010	0.0046	<0.0010	<0.01	2.11	0.00044	5.97	<0.000020	18.3	0.618	16.8	<0.000050	<0.0050	<0.0050	0.00268
W3	23/08/2012 8:30	<0.05	<0.000010	54.5	<0.0010	<0.00050	0.00244	0.0203	<0.00020	<0.0050	25.5	0.052	<0.000010	0.0048	<0.0010	<0.01	2.22	0.0004	6.17	<0.000020	19.2	0.639	17.2	<0.000050	<0.0050	<0.0050	0.00269
W3	30/08/2012 17:18	<0.05	<0.000010	53.6	<0.0010	<0.00050	0.00296	0.018	<0.00020	<0.0050	24.8	0.0524	<0.000010	0.0049	<0.0010	<0.01	2.3	0.00042	6.01	<0.000020	18.6	0.637	17.8	<0.000050	<0.0050	<0.0050	0.00275
W3	03/09/2012 8:05	<0.05	<0.000010	52.9	<0.0010	<0.00050	0.00269	0.022	<0.00020	<0.0050	25.3	0.0562	<0.000010	0.0046	0.0013	<0.01	2.44	0.00039	5.68	<0.000020	19.6	0.623	16.9	<0.000050	<0.0050	<0.0050	0.00276
W3	05/09/2012 7:15	<0.05	<0.000010	54.6	<0.0010	<0.00050	0.00227	0.0244	<0.00020	<0.0050	24.1	0.0533	<0.000010	0.0046	<0.0010	<0.01	2.15	0.00041	5.93	<0.000020	17.9	0.615	16.5	<0.000050	<0.0050	<0.0050	0.00265
W3	05/09/2012 7:15																										
W3	09/09/2012 16:15	<0.05	<0.000010	44.4	<0.0010	<0.00050	0.00457	0.0999	<0.00020	<0.0050	19.8	0.0575	<0.000010	0.0037	0.0018	<0.01	1.84	0.00028	4.99	<0.000020	14.7	0.48	10.9	<0.000050	<0.0050	<0.0050	0.00186
W3	17/09/2012 9:53	<0.05	<0.000010	47	<0.0010	<0.00050	0.00279	0.022	<0.00020	<0.0050	23.5	0.0501	<0.000010	0.0042	0.0014	<0.01	2.09	0.00037	5.12	<0.000020	17.2	0.556	15.6	<0.000050	<0.0050	<0.0050	0.00245
W3	19/09/2012 7:40	<0.05	<0.000010	50	<0.0010	<0.00050	0.00369	0.0274	<0.00020	<0.0050	22.9	0.0477	<0.000010	0.0045	0.0012	<0.01	2.13	0.00045	4.64	<0.000020	17.2	0.613	15.1	<0.000050	<0.0050	<0.0050	0.00259
W3	24/09/2012 9:05	<0.05	<0.000010	52.5	<0.0010	<0.00050	0.00223	0.0241	<0.00020	<0.0050	23.4	0.047	<0.000010	0.0047	<0.0010	<0.01	2.11	0.00048	6.07	<0.000020	17.5	0.582	14.6	<0.000050	<0.0050	<0.0050	0.00252
W3	03/10/2012 13:00	<0.05	<0.000010	51.4	<0.0010	<0.00050	0.00224	0.0224	<0.00020	<0.0050	23.7	0.0452	<0.000010	0.0047	0.0011	<0.01	2.1	0.00043	5.86	<0.000020	17.9	0.605	16	<0.000050	<0.0050	<0.0050	0.00267
W3	12/10/2012 7:40	<0.05	<0.000010	51.8	<0.0010	<0.00050	0.00274	0.0334	<0.00020	<0.0050	24.2	0.0461	<0.000010	0.0045	0.0014	<0.01	2.05	0.00048	5.83	<0.000020	17.8	0.591	15.7	<0.000050	<0.0050	<0.0050	0.00261
W3	16/10/2012 8:30	<0.05	<0.000010	51.6	<0.0010	<0.00050	0.00227	0.0268	<0.00020	<0.0050	24.2	0.0458	<0.000010	0.0046	0.0012	<0.01	2.06	0.00039	5.82	<0.000020	17.9	0.596	15.8	<0.000050	<0.0050	<0.0050	0.00267
W3	19/10/2012 7:30	<0.05	<0.000010	60.4	<0.0010	<0.00050	0.00204	0.0346	<0.00020	<0.0050	23.8	0.0574	<0.000010	0.0045	0.001	<0.01	2.05	0.00049	6.71	<0.000020	17.4	0.607	15.4	<0.000050	<0.0050	<0.0050	0.00268
W3	25/10/2012 9:25	<0.05	<0.000010	54.7	<0.0010	<0.00050	0.00313	0.121	<0.00020	<0.0050	25.8	0.0653	<0.000010	0.0046	0.0014	0.019	2.26	0.00036	6.05	<0.000020	18.6	0.617	15.9	<0.000050	<0.0050	<0.0050	0.00297

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	30/08/2011	<0.005	0.006	<0.0005	0.01	<0.0005	0.0002	0.085	<0.0001	<0.001	<0.05	<0.00001	61.5	<0.001	<0.0005	0.0023	0.025	<0.0002	<0.005	25.4	0.068	<0.00002	0.004	0.001	<0.01	2.25
W3	07/09/2011	<0.005	<0.005	<0.0005	0.009	<0.0005	0.0003	0.091	<0.0001	<0.001	<0.05	<0.00001	60.2	<0.001	<0.0005	0.0025	0.031	<0.0002	<0.005	24.6	0.069	<0.00002	0.004	0.001	<0.01	2.27
W3	12/09/2011	<0.005	<0.005	<0.0005	0.007	<0.0005	0.0002	0.093	<0.0001	<0.001	<0.05	<0.00001	77.4	<0.001	<0.0005	0.0023	0.03	<0.0002	<0.005	27.4	0.071	<0.00002	0.004	0.001	<0.01	2.48
W3	19/09/2011	<0.005	<0.005	<0.0005	0.013	<0.0005	0.0002	0.087	<0.0001	<0.001	<0.05	0.00002	58.9	<0.001	<0.0005	0.0033	0.039	<0.0002	<0.005	24.3	0.066	<0.00002	0.004	0.001	<0.01	2.2
W3	24/09/2011	<0.005	<0.005	<0.0005	0.012	<0.0005	0.0002	0.083	<0.0001	<0.001	<0.05	<0.00001	62	<0.001	<0.0005	0.0022	0.019	<0.0002	<0.005	23.8	0.06	<0.00002	0.004	<0.001	<0.01	2.4
W3	06/10/2011	<0.005	<0.005	<0.0005	0.009	<0.0005	0.0003	0.086	<0.0001	<0.001	<0.05	0.00004	63	<0.001	<0.0005	0.0023	0.032	0.0005	<0.005	26.1	0.069	<0.00002	0.004	0.002	<0.01	2.37
W3	17/10/2011	<0.005	<0.005	<0.0005	0.007	<0.0005	0.0003	0.081	<0.0001	<0.001	<0.05	0.00002	56.6	<0.001	<0.0005	0.0045	0.015	<0.0002	<0.005	20.6	0.026	<0.00002	0.007	0.001	<0.01	2.98
W3	24/10/2011	<0.005	0.01	<0.0005	0.006	<0.0005	0.0002	0.083	<0.0001	<0.001	<0.05	0.00001	58.3	<0.001	<0.0005	0.0021	0.015	<0.0002	<0.005	25	0.048	<0.00002	0.004	<0.001	<0.01	2.37
W3	30/10/2011	<0.005	<0.005	<0.0005	0.004	<0.0005	0.0002	0.082	<0.0001	<0.001	<0.05	<0.00001	55.9	<0.001	<0.0005	0.0019	0.013	<0.0002	<0.005	24.8	0.055	<0.00002	0.004	0.001	<0.01	2.32
W3	13/11/2011	<0.005	0.011	<0.0005	0.0103	<0.00050	0.0003	0.0805	<0.00010	<0.0010	<0.05	<0.000010	49.8	<0.0010	<0.00050	0.00396	0.0097	<0.00020	<0.0050	20.2	0.0242	<0.000020	0.0053	0.0011	<0.01	3.08
W3	22/11/2011	<0.005	<0.005	<0.0005	0.0068	<0.00050	0.00021	0.0873	<0.00010	<0.0010	<0.05	<0.000010	60.9	<0.0010	<0.00050	0.00189	0.0208	<0.00020	<0.0050	25.7	0.0569	<0.000020	0.0041	<0.0010	<0.01	2.11
W3	28/11/2011	<0.005	<0.005	<0.0005	0.0072	<0.00050	0.00025	0.0839	<0.00010	<0.0010	<0.05	0.000011	60.8	<0.0010	<0.00050	0.00234	0.0159	<0.00020	<0.0050	26.8	0.0611	<0.000020	0.0043	0.001	0.01	2.46
W3	05/12/2011	<0.005	<0.005	<0.0005	0.0048	<0.00050	0.00021	0.0855	<0.00010	<0.0010	<0.05	<0.000010	56.6	<0.0010	<0.00050	0.00182	0.01	<0.00020	<0.0050	24.2	0.0486	<0.000020	0.0045	<0.0010	<0.01	2.17
W3	13/12/2011	<0.005	<0.005	<0.0005	0.0047	<0.00050	0.00022	0.0822	<0.00010	<0.0010	<0.05	<0.000010	56.7	<0.0010	<0.00050	0.00177	0.0114	<0.00020	<0.0050	25.2	0.0475	<0.000010	0.0042	<0.0010	<0.01	2.21
W3	18/12/2011	<0.005	<0.005	<0.0005	0.0031	<0.00050	0.00022	0.0822	<0.00010	<0.0010	<0.05	<0.000010	59.3	<0.0010	<0.00050	0.00167	0.0102	<0.00020	<0.0050	25.8	0.0433	<0.000010	0.0041	<0.0010	<0.01	2.23
W3	27/12/2011	<0.005	<0.005	<0.0005	0.0032	<0.00050	0.00026	0.0872	<0.00010	<0.0010	<0.05	<0.000010	61.3	<0.0010	<0.00050	0.00171	0.0111	<0.00020	<0.0050	26	0.0473	<0.000010	0.0043	<0.0010	<0.01	2.24
W3	02/01/2012 14:01	<0.005	<0.005	<0.0005	0.0034	<0.00050	0.00022	0.0835	<0.00010	<0.0010	<0.05	<0.000010	54.3	<0.0010	<0.00050	0.00164	0.0067	<0.00020	<0.0050	25.1	0.0405	<0.000010	0.0043	<0.0010	<0.01	2.18
W3	09/01/2012	<0.005	<0.005	<0.0005	0.015	<0.00050	0.0002	0.0838	<0.00010	<0.0010	<0.05	<0.000010	60.6	<0.0010	<0.00050	0.00198	0.0223	<0.00020	<0.0050	26.1	0.0448	<0.000010	0.0043	<0.0010	<0.01	2.25
W3	15/01/2012 14:30	<0.005	<0.005	<0.0005	0.0049	<0.00050	0.00021	0.0864	<0.00010	<0.0010	<0.05	<0.000010	55.7	<0.0010	<0.00050	0.00169	0.0082	<0.00020	<0.0050	25.9	0.0373	<0.000010	0.0043	<0.0010	<0.01	2.15
W3	22/01/2012 13:14	<0.005	<0.005	<0.0005	0.0056	<0.00050	0.00026	0.0868	<0.00010	<0.0010	<0.05	<0.000010	60.2	<0.0010	<0.00050	0.0022	0.0092	<0.00020	<0.0050	27.1	0.0428	<0.000010	0.0044	<0.0010	<0.01	2.54
W3	31/01/2012	<0.005	<0.005	<0.0005	0.0038	<0.00050	0.00022	0.0828	<0.00010	<0.0010	<0.05	0.000011	57.9	<0.0010	<0.00050	0.00211	0.0052	<0.00020	<0.0050	26.4	0.0548	<0.000010	0.0043	<0.0010	<0.01	2.3
W3	07/02/2012 13:30	<0.005	<0.005	<0.0005	0.0051	<0.00050	0.00021	0.0831	<0.00010	<0.0010	<0.05	<0.000010	55.8	<0.0010	<0.00050	0.00159	0.0103	<0.00020	<0.0050	25.9	0.0403	<0.000010	0.0043	<0.0010	<0.01	2.19
W3	14/02/2012 8:00	<0.005	<0.005	<0.0005	0.0034	<0.00050	0.00023	0.0843	<0.00010	<0.0010	<0.05	<0.000010	56.9	<0.0010	<0.00050	0.00149	0.0118	<0.00020	<0.0050	25.5	0.0446	<0.000010	0.0044	<0.0010	<0.01	2.19
W3	20/02/2012 12:08	<0.005	<0.005	<0.0005	0.0039	<0.00050	0.00028	0.0809	<0.00010	<0.0010	<0.05	<0.000010	53.8	<0.0010	<0.00050	0.00163	0.0063	<0.00020	<0.0050	24.9	0.0344	<0.000010	0.0043	<0.0010	<0.01	2.07
W3	25/02/2012	<0.005	<0.005	<0.0005	0.0159	<0.00050	0.00024	0.0802	<0.00010	<0.0010	<0.05	0.000061	56.9	<0.0010	<0.00050	0.0122	0.029	<0.00020	<0.0050	26.1	0.0381	<0.000010	0.0044	<0.0010	0.028	2.27
W3	05/03/2012 12:10	<0.005	<0.005	<0.0005	0.003	<0.00050	0.00023	0.0851	<0.00010	<0.0010	<0.05	<0.000010	56.1	<0.0010	<0.00050	0.00142	0.0091	<0.00020	<0.0050	26	0.0432	<0.000010	0.0044	<0.0010	<0.01	2.25
W3	12/03/2012 14:00	<0.005	<0.005	<0.0005	0.0036	<0.00050	0.00019	0.0888	<0.00010	<0.0010	<0.05	<0.000010	59.6	<0.0010	<0.00050	0.00142	0.0093	<0.00020	<0.0050	27	0.0447	<0.000010	0.0047	<0.0010	<0.01	2.31
W3	19/03/2012 10:30	<0.005	<0.005	<0.0005	0.0032	<0.00050	0.00023	0.0866	<0.00010	<0.0010	<0.05	0.00001	54.1	<0.0010	<0.00050	0.00167	0.0094	<0.00020	<0.0050	26.2	0.049	<0.000010	0.0045	<0.0010	<0.01	2.19
W3	24/03/2012	<0.005	<0.005	<0.0005	<0.0030	<0.00050	0.00027	0.087	<0.00010	<0.0010	<0.05	<0.000010	63.5	<0.0010	<0.00050	0.00171	0.0102	<0.00020	<0.0050	27.6	0.044	<0.000010	0.0043	<0.0010	<0.01	2.28
W3	27/03/2012	<0.005	<0.005	<0.0005	0.0116	<0.00050	0.00024	0.0868	<0.00010	<0.0010	<0.05	0.000065	59	<0.0010	<0.00050	0.00299	0.0091	<0.00020	<0.0050	26.3	0.0411	<0.000010	0.0042	<0.0010	0.02	2.23
W3	28/03/2012 15:30	<0.005	<0.005	<0.0005	<0.0030	<0.00050	0.00019	0.0872	<0.00010	<0.0010	<0.05	<0.000010	56.4	<0.0010	<0.00050	0.0014	0.0061	<0.00020	<0.0050	26.5	0.0436	<0.000010	0.0043	<0.0010	<0.01	2.16
W3	02/04/2012 15:30	<0.005	<0.005	<0.0005	<0.0030	<0.00050	0.00025	0.0844	<0.00010	<0.0010	<0.05	<0.000010	52.6	<0.0010	<0.00050	0.00172	0.0092	<0.00020	<0.0050	25.1	0.0441	<0.000010	0.0045	<0.0010	<0.01	2.02
W3	09/04/2012 17:00	<0.005	<0.005	0.0007	0.0036	<0.00050	0.00025	0.0793	<0.00010	<0.0010	<0.05	<0.000010	49.2	<0.0010	<0.00050	0.00316	0.0152	<0.00020	<0.0050	22.5	0.0457	<0.000010	0.004	<0.0010	0.02	2.24
W3	13/04/2012 18:25	<0.0050	0.0079	<0.00050	0.0062	<0.00050	0.00033	0.0767	<0.00010	<0.0010	<0.05	<0.000010	46.9	<0.0010	<0.00050	0.00593	0.0203	<0.00020	<0.0050	20	0.0266	<0.000010	0.0045	<0.0010	0.018	3.21
W3	14/04/2012 10:35	<0.0050	<0.0050	<0.00050	0.0037	<0.00050	0.00031	0.0848	<0.00010	<0.0010	<0.05	<0.000010	56.2	<0.0010	<0.00050	0.00365	0.0163	<0.00020	<0.0050	22.7	0.0494	<0.000010	0.0053	<0.0010	0.011	2.92
W3	15/04/2012 9:15	<0.0050	<0.0050	<0.00050	0.0056	<0.00050	0.00033	0.0828	<0.00010	<0.0010	<0.05	<0.000010	53.9	<0.0010	<0.00050	0.00397	0.028	<0.00020	<0.0050	22.2	0.0706	<0.000010	0.0056	<0.0010	0.011	2.9
W3	16/05/2012 15:30	<0.0050	<0.0050	<0.00050	0.0228	<0.00050	0.00031	0.0717	<0.00010	<0.0010	<0.05	0.000013	45.4	<0.0010	<0.00050	0.00768	0.0625	<0.00020	<0.0050	20	0.0373	<0.000010	0.0036	0.0014	<0.01	1.97
W3	24/05/2012	<0.0050	<0.0050	<0.00050	0.0114	<0.00050	0.00028	0.0785	<0.00010	<0.0010	<0.05	0.000017	50.5	<0.0010	<0.00050	0.00418	0.0341	<0.00020	<0.0050	22.6	0.0463	<0.000010	0.0042	0.001	0.025	2.11
W3	02/06/2012	<0.0050	<0.0050	<0.00050	0.0071	<0.00050	0.00028	0.0828	<0.00010	<0.0010	<0.05	<0.000010	54.7	<0.0010	<0.00050	0.00274	0.0199	<0.00020	<0.0050	26	0.0544	<0.000010	0.0047	0.0011	<0.01	2.23
W3	08/06/2012	<0.0050	<0.0050	<0.00050	0.0061	<0.00050	0.00024	0.0789	<0.00010	<0.0010	<0.05	<0.000010	53.4	<0.0010	<0.00050	0.00294	0.0158	<0.00020	<0.0050	24.1	0.0568	<0.000010	0.0042	0.001	<0.01	2.14
W3	17/06/2012 12:00	<0.0050	<0.0050	<0.00050	0.0114	<0.00050	0.00032	0.0786	<0.00010	<0.0010	<0.05	0.000013	51.5	<0.0010	<0.00050	0.0038	0.0368	<0.00020	<0.0050	23	0.0567	<0.000010	0.004	0.0013	<0.01	2.01
W3	19/06/2012 10:10	<0.0050	<0.0050	<0.00050	0.0078	<0.00050	0.00026	0.0804	<0.00010	<0.0010	<0.05	<0.000010	53.8	<0.0010	<0.00050	0.00311	0.0257	<0.00020	<0.0050	23.9	0.0607	<0.000010	0.0041	0.0011	<0.01	2.1
W3	22/06/2012 17:17	<0.0050	<0.0050	<0.00050	0.0057	<0.00050	0.00026	0.0851	<0.00010	<0.0010	<0.05	<0.000010	53.1	<0.0010	<0.00050	0.00276	0.0178	<0.00020	<0.0050	24.6	0.061	<0.000010	0.0044	<0.0010	<0.01	2.11
W3	28/06/2012 10:50	<0.0050	<0.0050	<0.00050	0.0046	<0.00050	0.00024	0.0838	<0.00010	<0.0010	<0.05	<0.000010	56.1	<0.0010	<0.00050	0.00227	0.0173	<0.00020	<0.0050	25.9	0.0689	<0.000010	0.0046	<0.0010	<0.01	2.16
W3	05/07/2012 8:15	<0.0050	<0.0050	<0.00050	0.0063	<0.00050	0.00025	0.0885	<0.00010	<0.0010	<0.05	<0.000010	53	<0.0010	<0.00050	0.00232	0.0218	<0.00020	<0.0050	21.8	0.0573	<0.000010	0.0039	0.0011	<0.01	1.97
W3	09/07/2012 11:34	<0.0050	<0.0050	<0.00050	0.004	<0.00050	0.00027	0.0808	<0.00010	<0.0010	<0.05	<0.000010	53.8	<0.0010	<0.00050	0.0021	0.0138	<0.00020	<0.0050	24.7	0.0423	<0.000010	0.0046	<0.0010	<0.01	2.06
W3	18/07/2012 7:25	<0.0050	<0.0050	<0.00050	0.0057	<0.00050	0.00025	0.0835	<0.00010	<0.0010	<0.05	<0.000010	55.9	<0.0010	<0.00050	0.00219	0.0162	<0.00020	<0.0050	25.3	0.0607	<0.000010	0.0046	<0.0010	<0.01	2.1
W3	24/07/2012 10:50	<0.0050	<0.0050	<0.00050	0.0066	<0.00050	0.00026	0.084	<0.00010	<0.0010	<0.05	<0.000010	54.4	<0.0010	<0.00050	0.00217	0.0143	<0.00020	<0.0050	25.3	0.0581	<0.000010	0.0047	<0.0010	<0.01	2.15
W3	30/07/2012 8:10	<0.0050	<0.0050	<0.00050	0.0039	<0.00050	0.00024	0.0841	<0.00010	<0.0010	<0.05	<0.000010	53	<0.0010	<0.00050	0.00212	0.0159	<0.00020	<0.0050	25.5	0.0629	<0.000010	0.0046	<0.0010	<0.01	2.08
W3	07/08/2012 15:00	<0.0050	<0.0050	<0.00050	0.0107	<0.00050	0.00022	0.0829	<0.00010	<0.0010	<0.05	<0.000010	54.9	<0.0010	<0.00050	0.00195	0.0172	<0.00020	<0.0050	24.2	0.0535	<0.000010	0.0045	<0.0010	<0.01	2.11
W3	16/08/2012 9:30	<0.0050	<0.0050	<0.00050	0.0037	<0.00050	0.00025	0.0824	<0.00010	<0.0010	<0.05	<0.000010	54.8	<0.0010	<0.00050	0.00196	0.0166	<0.00020	<0.0050	24.6	0.0594	<0.000010	0.0046	<0.0010	<0.01	2.06
W3	23/08/2012 8:30	<0.0050	<0.0050	<0.00050	0.0088	<0.00050	0.00023	0.0837	<0.00010	<0.0010	<0.05	<0.000010	52.4	<0.0010	<0.00050	0.00198	0.0168	<0.00020	<0.0050	25.3	0.0498	<0.000010	0.0047	<0.0010	<0.01	2.2
W3	30/08/2012 17:18	<0.0050	<0.0050	<0.00050	0.0046	<0.00050	0.00026	0.0831	<0.00010	<0.0010	<0.05	<0.000010	54.1	<0.0010	<0.00050	0.00235	0.0194	<0.00020	<0.0050	25.1	0.0535	<0.000010	0.0048	<0.0010	<0.01	2.27
W3	03/09/2012 8:05	<0.0050	<0.0050	<0.00050	0.0035	<0.00050	0.00024	0.0814	<0.00010	<0.0010	<0.05	<0.000010	53	<0.0010	<0.00050	0.00206	0.0184	<0.00020	<0.0050	25.3	0.0533	<0.000010	0.0047	<0.0010	<0.01	2.23
W3	05/09/2012 7:15	<0.0050	<0.0050	<0.00050	0.0042	<0.00050	0.00026	0.0793	<0.00010	<0.0010	<0.05	<0.000010	51.1	<0.0010	<0.00050	0.00236	0.0217	<0.00020	<0.0050	23.7	0.0509	<0.000010	0.0047	<0.0010	<0.01	2.09
W3	05/09/2012 7:15																									
W3	09/09/2012 16:15	<0.0050	<0.0050	<0.00050	0.0156	<0.00050	0.00026	0.0706	<0.00010	<0.0010	<0.05	<0.000010	44.5	<0.0010	<0.00050	0.00437	0.048	<0.00020	<0.0050	19.5	0.0495	<0.000010	0.0038	0.0014	<0.01	1.97
W3	17/09/2012 9:53	<0.0050	<0.0050	<0.00050	0.0092	<0.00050	0.00041	0.0846	<0.00010	<0.0010	<0.05	<0.000010	53.4	<0.0010	<0.00050	0.00284	0.0202	<0.00020	<0.0050	24.1	0.0486	<0.000010	0.0045	0.0012	<0.01	2.13
W3	19/09/2012 7:40	<0.0050	<0.0050	<0.00050	0.0047	<0.00050	0.00028	0.0801	<0.00010	<0.0010	<0.05	<0.000010	53.8	<0.0010	<0.00050	0.00251	0.0228	<0.00020	<0.0050	23.6	0.0481	<0.000010	0.0045	0.0011	<0.01	2.2
W3	24/09/2012 9:05	<0.0050	<0.0050	<0.00050	0.0035	<0.00050	0.00022	0.0823	<0.00010	<0.0010	<0.05	<0.000010	54.1	<0.0010	<0.00050	0.00222	0.0215	<0.00020	<0.0050	23.3	0.0462	<0.000010	0.0045	0.0011	<0.01	2.17
W3	03/10/2012 13:00	<0.0050	<0.0050	<0.00050	0.005	<0.00050	0.00021	0.0803	<0.00010	<0.0010	<0.05	<0.000010	51.7	<0.0010	<0.00050	0.00233	0.0213	<0.00020	<0.0050	24.8	0.0452	<0.000010	0.0049	0.0011	<0.01	2
W3	12/10/2012 7:40	<0.0050	<0.0050	<0.00050																		<0.000010				
W3	16/10/2012 8:30	<0.0050	<0.0050	<0.00050	0.0041	<0.00050	0.00024	0.0797	<0.00010	<0.0010	<0.05	<0.000010	51.4	<0.0010	<0.00050	0.00242	0.0211	<0.00020	<0.0050	23.2	0.0426	<0.000010	0.0045	0.0011	<0.01	2.04
W3	19/10/2012 7:30	<0.0050	<0.0050	<0.00050	0.0048	<0.00050	0.00026	0.0807	<0.00010	<0.0010	<0.05	<0.000010	52.6	<0.0010	<0.00050	0.00205	0.0311	<0.00020	<0.0050	25.4	0.0604	<0.000010	0.0048	0.0011	<0.01	2.31
W3	25/10/2012 9:25	<0.0050	<0.0050	<0.00050	0.004	<0.00050	0.00022	0.0869	<0.00010	<0.0010	<0.05	<0.000010	54.3	<0.0010	<0.00050	0.00197	0.0233	<0.00020	<0.0050	24.9	0.0514	<0.000010	0.0046	0.0011	<0.01	2.15

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	Br	Cation	CN-T	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-TKN	P-PO4T	P-TDP	P-TRP
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L
W3	30/08/2011	0.0004	5.61	<0.00002	19.2	0.627	21	<0.00005	<0.005	<0.005	0.0029	<0.005	<0.005	<0.0005	270	<0.5	<0.5	<0.5														
W3	07/09/2011	0.0005	5.58	<0.00002	19	0.642	22	<0.00005	<0.005	<0.005	0.0031	<0.005	<0.005	<0.0005	270	<0.5	<0.5	<0.5														
W3	12/09/2011	0.0005	7.32	<0.00002	20.7	0.688	24	<0.00005	<0.005	<0.005	0.0031	<0.005	<0.005	<0.0005	270	<0.5	<0.5	<0.5									6.9					
W3	19/09/2011	0.0005	5.45	<0.00002	18.5	0.607	20	<0.00005	<0.005	<0.005	0.003	<0.005	<0.005	<0.0005	260	<0.5	<0.5	<0.5														
W3	24/09/2011	0.0004	5.95	<0.00002	17.9	0.617	21	<0.00005	<0.005	<0.005	0.0029	<0.005	<0.005	<0.0005	270	<0.5	<0.5	<0.5														
W3	06/10/2011	0.0005	6.09	<0.00002	20.3	0.638	22	<0.00005	<0.005	<0.005	0.0031	<0.005	0.012	<0.0005	270	<0.5	<0.5	<0.5									7.1					
W3	17/10/2011	0.0006	6.02	<0.00002	19.2	0.613	19	<0.00005	<0.005	<0.005	0.0027	<0.005	<0.005	<0.0005	250	<0.5	<0.5	<0.5														
W3	24/10/2011	0.0005	5.79	<0.00002	19.6	0.603	21	<0.00005	<0.005	<0.005	0.0028	<0.005	<0.005	<0.0005	270	<0.5	<0.5	<0.5														
W3	30/10/2011	0.0005	6.32	<0.00002	19.6	0.63	20	<0.00005	<0.005	<0.005	0.003	<0.005	<0.005	<0.0005	270	<0.5	<0.5	<0.5														
W3	13/11/2011	0.00081	4.42	<0.000020	18.1	0.562	18.6	<0.000050	<0.0050	<0.0050	0.00271	<0.0050	<0.0050	<0.00050	240	2.71	<0.50	2.26														
W3	22/11/2011	0.00048	7.08	<0.000020	20.1	0.634	20.6	<0.000050	<0.0050	<0.0050	0.0028	<0.0050	<0.0050	<0.00050	277	<0.50	<0.50	<0.50									5.85					
W3	28/11/2011	0.00052	6.01	<0.000020	20.8	0.642	20.9	<0.000050	<0.0050	<0.0050	0.00323	<0.0050	<0.0050	<0.00050	273	<0.50	<0.50	<0.50														
W3	05/12/2011	0.00054	5.93	<0.000020	18.7	0.608	19	<0.000050	<0.0050	<0.0050	0.0032	<0.0050	<0.0050	<0.00050	269	<0.50	<0.50	<0.50														
W3	13/12/2011	0.00052	5.71	<0.000020	19.2	0.61	20.7	<0.000050	<0.0050	<0.0050	0.00303	<0.0050	<0.0050	<0.00050	270	<0.50	<0.50	<0.50														
W3	18/12/2011	0.00048	5.87	<0.000020	19.6	0.59	20.5	<0.000050	<0.0050	<0.0050	0.00288	<0.0050	<0.0050	<0.00050	271	<0.50	<0.50	<0.50														
W3	27/12/2011	0.00054	6.46	<0.000020	20.2	0.643	20.8	<0.000050	<0.0050	<0.0050	0.00331	<0.0050	<0.0050	<0.00050	262	5.68	<0.50	4.73														
W3	02/01/2012 14:01	0.00055	6	<0.000020	19.3	0.627	21.6	<0.000050	<0.0050	<0.0050	0.00314	<0.0050	<0.0050	<0.00050	275	<0.50	<0.50	<0.50														
W3	09/01/2012	0.0006	6.01	<0.000020	19.6	0.611	21.3	<0.000050	<0.0050	<0.0050	0.00341	<0.0050	<0.0050	<0.00050	273	<0.50	<0.50	<0.50														
W3	15/01/2012 14:30	0.00065	5.58	<0.000020	19.7	0.655	19.8	<0.000050	<0.0050	<0.0050	0.00337	<0.0050	<0.0050	<0.00050	272	<0.50	<0.50	<0.50									4.97					
W3	22/01/2012 13:14	0.0006	6.32	<0.000020	20.4	0.655	23.8	<0.000050	<0.0050	<0.0050	0.00306	<0.0050	<0.0050	<0.00050	276	<0.50	<0.50	<0.50														
W3	31/01/2012	0.00058	5.97	<0.000020	19.8	0.635	20.8	<0.000050	<0.0050	<0.0050	0.00306	<0.0050	<0.0050	<0.00050	279	<0.50	<0.50	<0.50														
W3	07/02/2012 13:30	0.00055	5.74	<0.000020	19.3	0.636	20.6	<0.000050	<0.0050	<0.0050	0.00317	<0.0050	<0.0050	<0.00050	268	6.36	<0.50	5.3														
W3	14/02/2012 8:00	0.00055	6.03	<0.000020	18.7	0.618	21.9	<0.000050	<0.0050	<0.0050	0.00303	<0.0050	0.0054	<0.00050	274	2.44	<0.50	2.03														
W3	20/02/2012 12:08	0.00056	5.64	<0.000020	18.5	0.61	19.9	<0.000050	<0.0050	<0.0050	0.00308	<0.0050	<0.0050	<0.00050	276	<0.50	<0.50	<0.50														
W3	25/02/2012	0.0006	5.94	<0.000020	19.4	0.611	21.2	<0.000050	<0.0050	<0.0050	0.00307	<0.0050	0.0058	<0.00050	266	<0.50	<0.50	<0.50														<0.0050
W3	05/03/2012 12:10	0.00059	5.54	<0.000020	19	0.629	21.7	<0.000050	<0.0050	<0.0050	0.00324	<0.0050	<0.0050	<0.00050	264	1.74	<0.50	1.45														
W3	12/03/2012 14:00	0.00059	6.19	<0.000020	19.5	0.678	21.4	<0.000050	<0.0050	<0.0050	0.00325	<0.0050	<0.0050	<0.00050	279	<0.50	<0.50	<0.50														<0.0050
W3	19/03/2012 10:30	0.00056	6.02	<0.000020	19.1	0.621	21.4	<0.000050	<0.0050	<0.0050	0.00309	<0.0050	<0.0050	<0.00050	279	<0.50	<0.50	<0.50														
W3	24/03/2012	0.00064	6.63	<0.000020	19.9	0.649	20.8	<0.000050	<0.0050	<0.0050	0.00315	<0.0050	<0.0050	<0.00050	281	<0.50	<0.50	<0.50														
W3	27/03/2012	0.00061	5.99	<0.000020	19.1	0.621	20.6	<0.000050	<0.0050	<0.0050	0.0033	<0.0050	<0.0050	<0.00050	276	<0.50	<0.50	<0.50														
W3	28/03/2012 15:30	0.0006	6.27	<0.000020	18.7	0.636	21	<0.000050	<0.0050	<0.0050	0.00302	<0.0050	<0.0050	<0.00050	273	1.7	<0.50	1.42														
W3	02/04/2012 15:30	0.00061	5.46	<0.000020	17.8	0.633	20.8	<0.000050	<0.0050	<0.0050	0.00304	<0.0050	<0.0050	<0.00050	273	1.73	<0.50	1.44												0.0129		
W3	09/04/2012 17:00	0.00047	5.45	<0.000020	16.3	0.565	16.9	<0.000050	<0.0050	<0.0050	0.00253	<0.0050	<0.0050	<0.00050	241	<0.50	<0.50	<0.50												0.0371		
W3	13/04/2012 18:25	0.00061	4.93	<0.000020	15.3	0.554	15.2	<0.000050	<0.0050	<0.0050	0.00247	<0.0050	<0.0050	<0.00050	218	<0.50	<0.50	<0.50												0.137		
W3	14/04/2012 10:35	0.00071	5.6	<0.000020	18.2	0.616	19.3	<0.000050	<0.0050	<0.0050	0.00294	<0.0050	<0.0050	<0.00050	253	<0.50	<0.50	<0.50												0.0291		
W3	15/04/2012 9:15	0.00075	5.4	<0.000020	18	0.615	18.5	<0.000050	<0.0050	<0.0050	0.00299	<0.0050	<0.0050	<0.00050	249	<0.50	<0.50	<0.50												0.0299		
W3	16/05/2012 15:30	0.00055	5.48	<0.000020	14.9	0.51	15.9	<0.000050	<0.0050	<0.0050	0.00226	<0.0050	<0.0050	<0.00050	216	1.82	<0.50	1.52												0.013		
W3	24/05/2012	0.00049	5.32	<0.000020	16.7	0.58	17.1	<0.000050	<0.0050	<0.0050	0.00266	<0.0050	<0.0050	<0.00050	247	<0.50	<0.50	<0.50												0.0061		
W3	02/06/2012	0.0004	5.17	<0.000020	18.9	0.625	18.2	<0.000050	<0.0050	<0.0050	0.00291	<0.0050	<0.0050	<0.00050	267	<0.50	<0.50	<0.50												0.0054		
W3	08/06/2012	0.00051	5.53	<0.000020	18	0.589	19.7	<0.000050	<0.0050	<0.0050	0.00297	<0.0050	<0.0050	<0.00050	259	1.13	<0.50	0.94												0.0055		
W3	17/06/2012 12:00	0.00041	5.66	<0.000020	16.8	0.587	16.8	<0.000050	<0.0050	<0.0050	0.00253	<0.0050	<0.0050	<0.00050	242	<0.50	<0.50	<0.50												0.0077		
W3	19/06/2012 10:10	0.00049	5.71	<0.000020	17.3	0.603	17.1	<0.000050	<0.0050	<0.0050	0.0026	<0.0050	<0.0050	<0.00050	251	4.42	<0.50	3.68									8.24			0.0056		
W3	22/06/2012 17:17	0.00047	5.35	<0.000020	17.7	0.613	16.9	<0.000050	<0.0050	<0.0050	0.003	<0.0050	<0.0050	<0.00050	262	<0.50	<0.50	<0.50												0.0063		
W3	28/06/2012 10:50	0.00051	5.75	<0.000020	19.1	0.642	18.2	<0.000050	<0.0050	<0.0050	0.00294	<0.0050	<0.0050	<0.00050	273	<0.50	<0.50	<0.50												0.0056		
W3	05/07/2012 8:15	0.00044	5.93	<0.000020	15.5	0.578	18.1	<0.000050	<0.0050	<0.0050	0.0025	<0.0050	<0.0050	<0.00050	254	4.79	<0.50	3.99												0.0096		
W3	09/07/2012 11:34	0.00053	6.11	<0.000020	18.3	0.622	19.4	<0.000050	<0.0050	<0.0050	0.00276	<0.0050	<0.0050	<0.00050	268	6.6	<0.50	5.5												0.0083		
W3	18/07/2012 7:25	0.00039	5.97	<0.000020	18.8	0.627	17.6	<0.000050	<0.0050	<0.0050	0.00277	<0.0050	<0.0050	<0.00050	272	1.9	<0.50	1.58												0.0072		
W3	24/07/2012 10:50	0.00042	5.89	<0.000020	18.7	0.637	17.4	<0.000050	<0.0050	<0.0050	0.00283	<0.0050	<0.0050	<0.00050	269	<0.50	<0.50	<0.50												0.0059		
W3	30/07/2012 8:10	0.00047	5.8	<0.000020	18.8	0.614	17	<0.000050	<0.0050	<0.0050	0.0029	<0.0050	<0.0050	<0.00050	276	<0.50	<0.50	<0.50												0.0056		
W3	07/08/2012 15:00	0.00044	6.05	<0.000020	18.2	0.619	17.7	<0.000050	<0.0050	<0.0050	0.00268	<0.0050	<0.0050	<0.00050	272	2.56	<0.50	2.13														
W3	16/08/2012 9:30	0.00044	5.95	<0.000020	18.2	0.633	17.9	<0.000050	<0.0050	<0.0050	0.00268	<0.0050	<0.0050	<0.00050	266	3.65	<0.50	3.04														
W3	23/08/2012 8:30	0.00048	5.92	<0.000020	18.5	0.619	18.2	<0.000050	<0.0050	<0.0050	0.00266	<0.0050	<0.0050	<0.00050	274	<0.50	<0.50	<0.50									5.01			0.0051		
W3	30/08/2012 17:18	0.00044	5.83	<0.000020	18.8	0.631	17.1	<0.000050	<0.0050	<0.0050	0.0028	<0.0050	<0.0050	<0.00050	266	1.64	<0.50	1.37									6.02					
W3	03/09/2012 8:05	0.00048	5.8	<0.000020	18.8	0.611	17.1	<0.000050	<0.0050	<0.0050	0.00268	<0.0050	<0.0050	<0.00050	270	<0.50	<0.50	<0.50														
W3	05/09/2012 7:15	0.00041	5.76	<0.000020	18	0.599	16.9	<0.000050	<0.0050	<0.0050	0.00252	<0.0050	<0.0050	<0.00050	275	<0.50	<0.50	<0.50									6.51			<0.0050		
W3	05/09/2012 7:15																															
W3	09/09/2012 16:15	0.00034	5.22	<0.000020	14.7	0.51	12.1	<0.000050	<0.0050	<0.0050	0.00201	<0.0050	<0.0050	<0.00050	226	<0.50	<0.50	<0.50														
W3	17/09/2012 9:53	0.00042	6.07	<0.000020	18	0.598	15.9	<0.000050	<0.0050	<0.0050	0.00241	<0.0050	0.0184	<0.00050	263	<0.50	<0.50	<0.50														
W3	19/09/2012 7:40	0.00043	5.72	<0.000020	17.7	0.6	14.8	<0.000050	<0.0050	<0.0050	0.00253	<0.0050	<0.0050	<0.00050	263	<0.50	<0.50	<0.50														
W3	24/09/2012 9:05	0.00035	6.18	<0.000020	17.2	0.604	15.9	<0.000050	<0.0050	<0.0050	0.00246	<0.0050	<0.0050	<0.00050	261	1.97	<0.50	1.64														
W3	03/10/2012 13:00	0.00037	6.05	<0.000020	18.3	0.613	16.1	<0.000050	<0.0050	<0.0050	0.00254	<0.0050	<0.0050	<0.00050	267	2.69	<0.50	2.24														
W3	12/10/2012 7:40														257	<0.50	<0.50	<0.50														
W3	16/10/2012 8:30	0.00041	5.86	<0.000020	17.3	0.587	15.4	<0.000050	<0.0050	<0.0050	0.00263	<0.0050	<0.0050	<0.00050	261	<0.50	<0.50	<0.50									6.84					
W3	19/10/2012 7:30	0.00044	6.09	<0.000020	18.4	0.619	17.4	<0.000050	<0.0050	<0.0050	0.00304	<0.0050	<0.0050	<0.00050	268	<0.50	<0.50	<0.50														
W3	25/10/2012 9:25	0.00051	6.11	<0.000020	18	0.634	17.2	<0.000050	<0.0050	<0.0050	0.00292	<0.0050	<0.0050	<0.00050	278	<0.50	<0.50	<0.50														

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W3	30/08/2011						
W3	07/09/2011						
W3	12/09/2011						
W3	19/09/2011						
W3	24/09/2011						
W3	06/10/2011						
W3	17/10/2011						
W3	24/10/2011						
W3	30/10/2011						
W3	13/11/2011						
W3	22/11/2011						
W3	28/11/2011						
W3	05/12/2011						
W3	13/12/2011						
W3	18/12/2011						
W3	27/12/2011						
W3	02/01/2012 14:01			278.6			
W3	09/01/2012			305.6			
W3	15/01/2012 14:30			109.5			
W3	22/01/2012 13:14			376.4			
W3	31/01/2012			414.2			
W3	07/02/2012 13:30			410.2			
W3	14/02/2012 8:00			381.2			
W3	20/02/2012 12:08			485			
W3	25/02/2012			415.9			
W3	05/03/2012 12:10			368.9			
W3	12/03/2012 14:00			424.7			
W3	19/03/2012 10:30			441.1			
W3	24/03/2012						
W3	27/03/2012						
W3	28/03/2012 15:30						
W3	02/04/2012 15:30			131.1			
W3	09/04/2012 17:00			330.1			
W3	13/04/2012 18:25			469.9			
W3	14/04/2012 10:35			525.4			
W3	15/04/2012 9:15			496.5			
W3	16/05/2012 15:30			435.7			
W3	24/05/2012			491.2			
W3	02/06/2012			509.1			
W3	08/06/2012			494.2			
W3	17/06/2012 12:00			542.3			
W3	19/06/2012 10:10			559			
W3	22/06/2012 17:17			506.1			
W3	28/06/2012 10:50			516.7			
W3	05/07/2012 8:15			87.4			
W3	09/07/2012 11:34			513.8			
W3	18/07/2012 7:25			471.4			
W3	24/07/2012 10:50			467.3			
W3	30/07/2012 8:10			443.8			
W3	07/08/2012 15:00			500.8			
W3	16/08/2012 9:30			483.3			
W3	23/08/2012 8:30			471.2			
W3	30/08/2012 17:18			441.7			
W3	03/09/2012 8:05			461.4			
W3	05/09/2012 7:15						
W3	05/09/2012 7:15			492.1			
W3	09/09/2012 16:15			395.3			
W3	17/09/2012 9:53			478.5			
W3	19/09/2012 7:40			483.2			
W3	24/09/2012 9:05			485.7			
W3	03/10/2012 13:00			489.9			
W3	12/10/2012 7:40			475.6			
W3	16/10/2012 8:30			485.2			
W3	19/10/2012 7:30			491.6			
W3	25/10/2012 9:25			506			

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Phase	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
				mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	02/11/2012 16:00	No Discharge	P	<1.0	316		7.98		517					245	236	221	3.1	0.52	47.4	0.0091	<0.0050	1.06	4.97	0.022	<0.00050	0.00043	0.0835	<0.00010	<0.0010
W3	09/11/2012 11:00	No Discharge	P	<1.0	302	7.4	8.1	253.9	513	0			57.6	240	242	221	3.1	0.57	48.5	0.022	<0.0050	0.862	8.4	0.00434	0.00005	0.000241	0.0863	<0.000010	<0.0000050
W3	18/11/2012 9:00	No Discharge	P	<1.0	288	7.29	8.15	270.2	518	0.3			112.5	242	247	227	3.7	0.52	50	0.0068	<0.0050	0.654	4.85	0.0058	<0.00050	0.00028	0.0833	<0.00010	<0.0010
W3	24/11/2012 15:00	No Discharge	P	<1.0	292	7.42	8.16	238.2	524	-0.1	4.83	34.6	103.1	258	234	227	3.2	0.53	48.7	0.013	<0.0050	0.681	5.01	0.016	<0.00050	0.00021	0.0867	<0.00010	<0.0010
W3	04/12/2012 10:00	No Discharge	P	<1.0	328	7.53	8.3	275	549	0	8.11	55.6	56	264	248	238	3.4	0.56	55.8	0.019	<0.0050	0.664	4.92	0.0203	<0.00050	0.00025	0.0891	<0.00010	<0.0010
W3	08/12/2012 8:45	No Discharge	P			6.74		259.8		-0.1	3.78	26	152.7																
W3	11/12/2012 10:50	No Discharge	P	<1.0	300	7.41	8.26	173.9	529	0	9.36	64.4	94.8	254	255	231	2.9	0.56	49	0.01	<0.0050	0.647	4.48	0.0121	<0.00050	0.00024	0.0858	<0.00010	<0.0010
W3	18/12/2012 10:27	No Discharge	P	<1.0	308	7.46	8.04	127.9	525	0	9.5	65.2	53.8	255	239	225	3	0.5	52.4	0.0085	<0.0050	0.647	4.64	0.012	<0.00050	0.00028	0.086	<0.00010	<0.0010
W3	27/12/2012 15:30	No Discharge	P	<1.0	274	7.34	8.18	334.1	524	-0.1	8.53	55.9	62.1	238	236	226	3.1	0.53	50.9	0.016	<0.0050	0.671	4.09	0.0102	<0.00050	0.00023	0.0849	<0.00010	<0.0010
W3	04/01/2013	No Discharge	P	<1.0	304	7.49	7.92	332	518	0	8.73	59.9	74.5	236	240	222	2.9	0.55	54.5	0.062	<0.0050	0.554	4.67	0.0076	<0.00050	0.00019	0.0842	<0.00010	<0.0010
W3	09/01/2013	No Discharge	P	<4.0	318	7.43	7.96	231.8	524	0	10.39	71.1	95	235	245	223	3.1	0.55	50.4	0.053	<0.0050	0.599	4.67	0.0184	<0.00050	0.00012	0.0794	<0.00010	<0.0010
W3	17/01/2013	No Discharge	P	<1.0	308	7.4	7.94	227.3	525	0.1	12.93	103.4	158.9	238	251	225	2.7	0.55	51.8	0.025	<0.0050	0.717	4.23	0.0224	<0.00050	0.00019	0.0795	<0.00010	<0.0010
W3	22/01/2013	No Discharge	P	<1.0	290	7.6	8.33	244.5	527	0	10.76	74.6	49.1	243	243	229	2.7	0.55	50.2	0.017	<0.0050	0.699	4.22	0.0059	<0.00050	0.00026	0.0809	<0.00010	<0.0010
W3	28/01/2013	No Discharge	P	<1.0	322	7.43	8.06	368	531	0	10.73	73.5	90.8	239	245	229	3.1	0.57	55.1	0.045	<0.0050	0.706	4.36	0.0134	<0.0010	<0.00020	0.0817	<0.00020	<0.0020
W3	07/02/2013	No Discharge	P	<1.0	306		8.02		526					248	245	227	2.9	0.56	50.7	0.029	<0.0050	0.717	4.7	0.0167	<0.00050	0.00027	0.0811	<0.00010	<0.0010
W3	12/02/2013	No Discharge	P	<1.0	266		7.92		529					247	238	225	3	0.55	54.6	0.026	<0.0050	0.73	4.06	0.0064	<0.00050	0.00023	0.085	<0.00010	<0.0010
W3	19/02/2013	No Discharge	P	<1.0	318		8.06		530					243	246	229	3.1	0.54	48.9	0.13	<0.0050	0.703	4.03	0.0065	<0.00050	0.00022	0.0822	<0.00010	<0.0010
W3	26/02/2013	No Discharge	P	<1.0	302		8.07		533					262	245	228	2.8	0.55	52.4	0.021	<0.0050	0.747	4.79	0.016	<0.00050	0.00024	0.0857	<0.00010	<0.0010
W3	04/03/2013	No Discharge	P	<1.0	308	7.6	8.28	259.3	526	0.1	9.9	68	-382.3	251	249	229	2.5	0.56	48.9	0.093	<0.0050	0.737	4.15	0.0055	<0.00050	0.00019	0.0852	<0.00010	<0.0010
W3	11/03/2013	No Discharge	P	<1.0	282	7.54	8.31	207.8	521	0.1	11.05	77.7	-387.1	250	234	227	3.3	0.55	58	0.11	<0.0050	0.723	3.91	0.0129	<0.00050	0.00023	0.0826	<0.00010	<0.0010
W3	18/03/2013	No Discharge	P	<1.0	310	7.57	8.2	268.2	533	0	9.26	67.2	-391.8	242	243	228	2.8	0.51	55.5	0.035	<0.0050	0.67	4.83	0.0139	<0.00050	0.00021	0.0851	<0.00010	<0.0010
W3	31/03/2013	No Discharge	P	2.3	314	7.61	8.16	252.9	522	0.1	8.96	62.2	-409.0	237	241	224	3	0.57	53.5	0.026	<0.050	0.79	4.68	0.0793	<0.00050	0.00029	0.0803	<0.00010	<0.0010
W3	01/04/2013 11:00	No Discharge	P	1.2	296	7.51	7.95	252.9	519	0.1	10.69	73.4		241	242	223	3.2	0.56	51.7	0.081	<0.0050	0.73	4.51	0.0462	<0.00050	0.00031	0.0821	<0.00010	<0.0010
W3	06/04/2013 9:10	No Discharge	P	<1.0	282		8.19		524					240	244	229	2.8	0.59	52.1	0.056	<0.050	<0.20	3.69	0.0146	<0.00050	0.00029	0.0814	<0.00010	<0.0010
W3	12/04/2013 7:30	No Discharge	P	<1.0	274	7.59	8.32	266.5	521	0.1	11.86	81.2	-399.4	248	240	227	2.5	0.57	42.1	0.098	<0.0050	0.704	4.58	0.0312	<0.00050	0.00027	0.0844	<0.00010	<0.0010
W3	15/04/2013 17:15	No Discharge	P	<1.0	314	7.8	8.24	463	528	1.2				247	238	221	3	0.57	52.9	0.094	<0.0050	0.704	4.72	0.0395	<0.00050	0.00023	0.0866	<0.00010	<0.0010
W3	23/05/2013	No Discharge	P	20.2	126	8.29	7.65	74.7	138	3.3	12.42	93.6	11.8	59.6	61.2	47.8	4.7	0.13	<0.50	0.041	0.0336	0.805	16.3	1.1	<0.00050	0.00059	0.0506	<0.00010	<0.0010
W3	28/05/2013 7:50	No Discharge	P	8.6	160	7.74	7.97	139.2	214	6.4	11.23	92.2	44.6	81.9	81.7	67	5.9	0.22	22.8	0.07	0.0487	2.08	14.8	0.538	<0.00050	0.0005	0.0504	<0.00010	<0.0010
W3	06/06/2013	No Discharge	P	36.6	272	7.31	8.38	264.8	443	5.1	10.2	80.2	58.4	227	206	193	3.3	0.47	43.5	0.02	<0.0050	0.611	9.12	0.273	<0.00050	0.00034	0.0881	<0.00010	<0.0010
W3	14/06/2013	No Discharge	P	14.5	286	10.12	8.23	274.1	467	5.2	9.16	72.8	31.4	209	213	204	3.6	0.5	45.3	0.019	<0.0050	0.509	8.71	0.143	<0.00050	0.00032	0.0776	<0.00010	<0.0010
W3	17/06/2013	No Discharge	P	<1.0	320	8.2	8.3	460	472	7.6				241	217	209	3.4	0.46	45.7	0.03	<0.0050	0.51	6.73	0.128	<0.00050	0.00039	0.0879	<0.00010	<0.0010
W3	19/06/2013 7:30	No Discharge	P	1.1	304	8	8.29	468	484	2.5				229	222	211	3.4	0.53		0.0076	<0.0050	0.534	6.42	0.043	<0.00050	0.00032	0.0766	<0.00010	<0.0010
W3	24/06/2013	No Discharge	P	4.8	340	8.3	8.34	468	490	7.5				246	220	228	3.5	0.51	44.1	0.013	<0.0050	0.513	5.37	0.0135	<0.00050	0.00026	0.084	<0.00010	<0.0010
W3	01/07/2013	No Discharge	P	<1.0	276	7.77	8.37		496	4.4	9.35	72.2	53.4	231	223	216	3.6	0.51	45.7	0.026	<0.0050	0.428	5.48	0.0102	<0.00050	0.00032	0.0776	<0.00010	<0.0010
W3	10/07/2013 14:15	No Discharge	P	<1.0	300	8.00	8.21	447	479	4.7				229	208	209	3.6	0.52	46	0.022	<0.0050	0.371	5.65	0.0099	<0.00050	0.00031	0.0799	<0.00010	<0.0010
W3	11/07/2013	No Discharge	P	<1.0	304	7.84	8.2	292	471	4.5	11.22	87.2	128.0	234	210	210	3.5	0.52	46.8	0.046	<0.0050	0.386	5.62	0.012	<0.00050	0.00027	0.0825	<0.00010	<0.0010
W3	19/07/2013	No Discharge	P	<1.0	290	7.83	8.35	272.3	496	3.7	11.04	83.6	102.3	249	222	221	3.9	0.54	46.2	0.019	<0.0050	0.38	5.67	0.0274	<0.00050	0.00037	0.0885	<0.00010	<0.0010
W3	23/07/2013	No Discharge	P	<1.0	242	8.40	8.28	412	410	2.8				209	190	184	2.9	0.45	33.3	0.013	<0.050	0.26	11.5	0.0352	<0.00050	0.00047	0.0745	<0.00010	<0.0010
W3	30/07/2013 14:30	No Discharge	P	<1.0	288	7.86	8.35	296.4	474	5.6	12.11	98.3	119.4	241	229	209	2.9	0.54	41.5	0.085	<0.0050	0.334	7.06	0.0184	<0.00050	0.00032	0.0831	<0.00010	<0.0010
W3	08/08/2013 8:50	No Discharge	P	<1.0	320	7.74	8.27	285.7	494	3.2	11.24	84.1	114.5	258	232	217	3.6	0.55	47	0.012	<0.050	0.34	5.33	0.0125	<0.00050	0.00032	0.0851	<0.00010	<0.0010
W3	14/08/2013 16:10	No Discharge	P	<1.0	344	8.20	8.31	524	490	5.4				255	235	224	3.3	0.54	42.2	0.54	<0.0050	0.336	5.39	0.0337	<0.00050	0.0003	0.0888	<0.00010	<0.0010
W3	19/08/2013 14:50	No Discharge	P	<1.0	270	7.81	8.23	299.6	499	4.5	10.60	89.6	47.4	246	238	221	3.7	0.53	45.6	0.021	<0.0050	0.332	4.89	0.0227	<0.00050	0.00032	0.0827	<0.00010	<0.0010
W3	21/08/2013 8:40	No Discharge	M	<1.0	282		8.35		497					248	234	221	3.5	0.53	47.2	0.019	<0.0050	0.293	5.2	0.0145	<0.00050	0.00031	0.0838	<0.00010	<0.0010
W3	21/08/2013 8:40	No Discharge	P			7.75		286.8		3.9	11.12	88.8	16.4																
W3	26/08/2013 9:00	No Discharge	P	<1.0	308	7.23	8.28	274	495	2.6	11.50	91.6	138.9	239	230	211	4	0.51	43	0.013	<0.0050	0.318	5.05	0.006	<0.00050	0.00025	0.0778	<0.00010	<0.0010
W3	02/09/2013 12:55	No Discharge	P	<1.0	314	7.57	8.04	283.2	489	3	11.48	92.5	58.1	245	219	213	3.9	0.54	41.8	0.033	<0.0050	0.287	5.52	0.0107	<0.00050	0.00029	0.0811	<0.00010	<0.0010
W3	12/09/2013 12:15	No Discharge	P	<1.0	272	7.81	8.14	293.2	491	3	10.35	83.4	86.4	251	241	214	4.6	0.53	45	0.0067	<0.0050	0.295	5.27	0.0083	<0.00050	0.00028	0.0816	<0.00010	<0.0010
W3	17/09/2013 11:00	No Discharge	P	<1.0	266	6.99	8.13	183.6	486	1.9	11.97	87.1	77.8	244	226	216	4.4	0.57	44.5	0.018	<0.0050	0.264	5.87	0.01	<0.00050	0.00034	0.0797	<0.00010	<0.0010
W3	28/09/2013 11:50	No Discharge	P	<1.0	300	7.53	8.16	251.3	443	1.5	12.67	91.6	49.8	222	214	195	4.4	0.47	43.1	0.042	<0.0050	0.246	9.3	0.0105	<0.00050	0.00033	0.0783	<0.00010	<0.0010
W3	03/10/2013 15:00	No Discharge	P	<1.0	350	7.46	8.18	264.4	478	1.5	85.10		100.6	234	217	209	4.9	0.52	43.5	0.019	<0.0050	0.273	6.66	0.0062	<0.00050	0.00028	0.0809	<0.00010	<0.0010
W3	08/10/2013 17:15	No Discharge	P	<1.0	288	7.80	8.25	245.9	488	1.1	13.15	93.4	66.1	242	232	215	4.2	0.52	42.9	0.02	<0.0050	0.304	6.59	0.0076	<0.00050	0.00027	0.0836	<0.00010	<0.0010
W3	16/10/2013 8:30	No Discharge	P	<1.0	318	7.63	8.45	241.8	487	0.2	11.09	74.5	49.1	250	222	218	4.7	0.54	44.3	0.011	<0.0050	0.31	7.21	0.0114	<0.00050	0.00026	0.0873	<0.00010	<0.0010
W3	21/10/2013 7:00	No Discharge	P	<1.0	296	7.57	8.25	255.5	496	0	10.68	71.9	14.2	236	232	210	4.8	0.55	44.2	0.022	<0.0050	0.313	5.88	0.0147	<0.00050	0.00025	0.0707	<0.00010	<0.0010
W3	28/10/2013 14:40	No Discharge	P	1	286	7.50	8.27	262.9	496	0.4	12.48	86.7	88.9	268	240	211	4.9	0.55	46.7	0.014	<0.0050	0.314	5.44	0.0124	<0.00050	0.00034	0.0842	<0.00010	<0.0010
W3	05/11/2013 7:00	No Discharge	P	<1.0	286	7.47	8.23	261.1	507	0	11.65	79.6	58.3	231	228	222	5	0.55	43.9	0.011	<0.0050	0.333	5.17	0.0209	<0.00050	0.00025	0.077	<0.00010	<0.0010
W3	14/11/2013 9:30	No Discharge	P	<1.0	288	6.70	8.33	230.3	514	0	9.65	66	203.1	248	233	223	4.8	0.57	47	0.011	<0.0050	0.32	5.53	0.0133	<0.00050	0.00023	0.0781	<0.00010	<0.0010
W3	18/11/2013 10:30	No Discharge	P	<1.0	284	7.41	8.28	274.4	520	0	10.49	72.2	-207.4	261	268	226	5	0.55	49.2	0.012	<0.0050	0.336	5.11	0.009	<0.00050	0.00023	0.0826	<0.00010	<0.0010
W3	30/11/2013 16:50	No Discharge	P	<1.0	302	7.39	8.04	270.9	521	0	9.60	65.9	-56.4	272	257		5.1	0.51	50.1	0.012	<0.0050	0.298	4.26	0.0116	<0.00050	0.00025	0.0883	<0.00010	<0.0010
W3	05/12/2013 16:30	No Discharge	P	<1.0	302	7.27	8.01	248.1	523	0	12.16	83	215.3	266	236	230	5.3	0.52	46.8	0.021	<0.0050	0.312	4.88	0.0069	<0.00050	0.00023	0.0809	<0.00010	<0.0010
W3	09/12/2013 14:00	No Discharge	P	<1.0	282	7.96	8.24	235.3	523	0.1	10.31	70.8	-19.0	256	234	227	5.3	0.55	49.4	0.016	<0.0050	0.304	4.48	0.0104	<0.00050	0.00023	0.0867	<0.00010	<0.0010
W3	16/12/2013 16:00	No Discharge	P	<1.0	294	6.56	8.21	269	519	0	12.22	83.8	70.1	229	243	222	5.1	0.55	48.5	0.011	<0.0050	0.314	5.02	0.0084	<0.00050	0.00023	0.0802	<0.00010	<0.0010
W3	23/12/2013 11:00	No Discharge	P	<1.0	312	7.61	8.21	264.8	515	0	13.15	90.1	147.4	245	251	227	5.7	0.58	48.3	0.02	<0.0050	0.321	4.37	0.0097	<0.00050	0.00028	0.0806	<0.00010	<0.0010
W3	02/01/2014 14:00	No Discharge	P	<1.0	306	7.66	8.12	247.3	518	0	10.55	72.3	189.4	250	234	218	5.5	0.53	53.6	0.016	<0.0050	0.324	4.67	0.0074	<0.00050	0.00034	0.0817	<0.00010	<0.0010
W3	07/01/2014 9:40	No Discharge	P	<1.0	292	7.69	8.24	229.8	515	0.1	12.08	83	99.1	254	241	217	5.7	0.59	49.5	0.014	<0.0050	0.324	2.51	0.011	<0.00050	0.00033	0.0816	<0.00010	<0.0010
W3	16/01/2014 14:40	No Discharge	P	<1.0	294	7.58	7.97	238.7	518	0	12.01	82.2	105.8	234	226	225	5.6	0.59	49.6	0.011	<0.0050	0.315	4.15	0.0084	<0.00050	0.00023	0.078	<0.00010	<0.0010

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	02/11/2012 16:00	<0.05	<0.000010	54.6	<0.0010	<0.00050	0.00199	0.0568	<0.00020	<0.0050	26.4	0.0638	<0.000010	0.0045	0.0013	0.011	2.19	0.0004	5.9	<0.000020	18.5	0.633	16.9	<0.000050	<0.0050	<0.0050	0.00294
W3	09/11/2012 11:00	<0.05	<0.0000050	55.2	0.0001	0.00006	0.00166	0.0194	<0.0000050	0.00305	24.7	0.0446		0.00392	0.000836		2.21	0.000406	6.09	<0.0000050	17.4	0.619	18.3	<0.0000020	<0.00020	<0.00050	0.00275
W3	18/11/2012 9:00	<0.05	<0.000010	55.5	<0.0010	<0.00050	0.00159	0.0206	<0.00020	<0.0050	25	0.0387	<0.000010	0.0044	<0.0010	<0.01	2.37	0.00056	6.43	<0.000020	18	0.602	18.5	<0.000050	<0.0050	<0.0050	0.00255
W3	24/11/2012 15:00	<0.05	<0.000010	58.1	<0.0010	<0.00050	0.00226	0.0491	<0.00020	<0.0050	27.4	0.0502	<0.000010	0.0049	0.0012	<0.01	2.29	0.0004	6.37	<0.000020	19.1	0.676	18	<0.000050	<0.0050	<0.0050	0.00301
W3	04/12/2012 10:00	<0.05	<0.000010	58.4	<0.0010	<0.00050	0.00268	0.06	0.00024	<0.0050	28.6	0.0828	<0.000010	0.0048	0.0012	<0.01	2.39	0.00047	6.51	<0.000020	20.2	0.7	17.9	<0.000050	<0.0050	<0.0050	0.00322
W3	08/12/2012 8:45																										
W3	11/12/2012 10:50	<0.05	<0.000010	55.5	<0.0010	<0.00050	0.0021	0.0316	<0.00020	<0.0050	28.1	0.074	<0.000010	0.0048	0.0011	<0.01	2.17	0.00046	6.4	<0.000020	19.2	0.671	16.7	<0.000050	<0.0050	<0.0050	0.00308
W3	18/12/2012 10:27	<0.05	<0.000010	56.4	<0.0010	<0.00050	0.00242	0.0378	<0.00020	<0.0050	27.8	0.0668	<0.000010	0.0046	<0.0010	0.013	2.26	0.00039	6.01	<0.000020	19.1	0.653	16.5	<0.000050	<0.0050	<0.0050	0.00302
W3	27/12/2012 15:30	<0.05	<0.000010	52.7	<0.0010	<0.00050	0.00234	0.045	<0.00020	<0.0050	25.8	0.0823	<0.000010	0.0046	<0.0010	0.014	2.16	0.00039	5.84	<0.000020	18.4	0.671	17.4	<0.000050	<0.0050	<0.0050	0.0029
W3	04/01/2013	<0.05	<0.000010	52.2	<0.0010	<0.00050	0.00193	0.0323	<0.00020	<0.0050	25.7	0.0663	<0.000010	0.0045	<0.0010	<0.01	2.17	0.00046	5.62	<0.000020	17.5	0.66	16.7	<0.000050	<0.0050	<0.0050	0.00298
W3	09/01/2013	<0.05	<0.000010	52.2	<0.0010	<0.00050	0.00202	0.0458	<0.00020	<0.0050	25.3	0.069	<0.000010	0.0045	<0.0010	<0.01	2.05	0.00044	5.99	<0.000020	17.5	0.611	15.9	<0.000050	<0.0050	<0.0050	0.00278
W3	17/01/2013	<0.05	<0.000010	52.4	<0.0010	<0.00050	0.00223	0.0533	<0.00020	<0.0050	26.1	0.0758	<0.000010	0.0042	<0.0010	<0.01	2.06	0.00033	5.77	<0.000020	17.5	0.633	16.6	<0.000050	<0.0050	<0.0050	0.00285
W3	22/01/2013	<0.05	<0.000010	53.9	<0.0010	<0.00050	0.00159	0.0241	<0.00020	<0.0050	26.4	0.0502	<0.000010	0.0044	<0.0010	<0.01	2.26	0.00051	5.96	<0.000020	18	0.639	15.8	<0.000050	<0.0050	<0.0050	0.00324
W3	28/01/2013	<0.1	<0.000025	50.3	High DL removed	<0.0010	0.00186	0.026	<0.00040	<0.01	27.6	0.0495	<0.000010	0.0047	<0.0020	<0.02	2.27	0.00052	5.69	<0.000040	19.3	0.683	1870	<0.00010	<0.01	<0.01	0.00292
W3	07/02/2013	<0.05	<0.000010	52.4	<0.0010	<0.00050	0.00231	0.0361	<0.00020	<0.0050	28.5	0.0569	<0.000010	0.0046	0.001	<0.01	2.22	0.00039	5.57	<0.000020	19.6	0.631	17.3	<0.000050	<0.0050	<0.0050	0.00309
W3	12/02/2013	<0.05	<0.000010	55.1	<0.0010	<0.00050	0.00164	0.0173	<0.00020	<0.0050	26.7	0.0509	<0.000010	0.0044	<0.0010	<0.01	2.21	0.00048	6.28	<0.000020	18.4	0.661	18.9	<0.000050	<0.0050	<0.0050	0.00277
W3	19/02/2013	<0.05	<0.000010	53.6	<0.0010	<0.00050	0.00154	0.0176	<0.00020	<0.0050	26.5	0.0505	<0.000010	0.0047	<0.0010	<0.01	2.16	0.00047	6.02	<0.000020	18.3	0.66	17.3	<0.000050	<0.0050	<0.0050	0.00295
W3	26/02/2013	<0.05	<0.000010	57.7	<0.0010	<0.00050	0.00188	0.0337	<0.00020	<0.0050	28.7	0.0531	<0.000010	0.005	<0.0010	0.013	2.16	0.00046	5.9	<0.000020	19.5	0.703	16.5	<0.000050	<0.0050	<0.0050	0.00321
W3	04/03/2013	<0.05	<0.000010	56.9	<0.0010	<0.00050	0.00149	0.0148	<0.00020	<0.0050	26.5	0.0516	<0.000010	0.0047	<0.0010	<0.01	2.18	0.00052	6.14	<0.000020	18.1	0.718	17.9	<0.000050	<0.0050	<0.0050	0.00307
W3	11/03/2013	<0.05	<0.000010	54.8	<0.0010	<0.00050	0.00175	0.0436	<0.00020	<0.0050	27.5	0.0518	<0.000010	0.0044	<0.0010	<0.01	2.23	0.00034	6.18	<0.000020	18.1	0.647	16.5	<0.000050	<0.0050	<0.0050	0.00322
W3	18/03/2013	<0.05	<0.000010	53.1	<0.0010	<0.00050	0.00169	0.0337	<0.00020	<0.0050	26.5	0.0566	<0.000010	0.005	<0.0010	0.013	2.11	0.00061	5.77	<0.000020	17.5	0.684	15.5	<0.000050	<0.0050	<0.0050	0.00332
W3	31/03/2013	<0.05	<0.000010	52.5	<0.0010	<0.00050	0.00336	0.15	<0.00020	<0.0050	25.8	0.0768	<0.000010	0.0044	0.0011	<0.01	2.07	0.00034	6.12	<0.000020	17.3	0.632	17	<0.000050	<0.0050	<0.0050	0.00279
W3	01/04/2013 11:00	<0.05	<0.000010	52.9	<0.0010	<0.00050	0.00263	0.0751	<0.00020	<0.0050	26.4	0.0713	<0.000010	0.0044	<0.0010	0.014	2.12	0.00044	6.81	<0.000020	17.8	0.644	18.1	<0.000050	<0.0050	<0.0050	0.00283
W3	06/04/2013 9:10	<0.05	0.000011	52	<0.0010	<0.00050	0.00172	0.0281	<0.00020	<0.0050	26.7	0.0525	<0.000010	0.0048	<0.0010	<0.01	2.12	0.00057	5.88	<0.000020	18.2	0.658	16.8	<0.000050	<0.0050	<0.0050	0.00295
W3	12/04/2013 7:30	<0.05	0.000014	53.5	<0.0010	<0.00050	0.00309	0.0589	<0.00020	<0.0050	27.8	0.0549	<0.000010	0.0048	<0.0010	0.014	2.22	0.00044	6.09	<0.000020	18.8	0.668	18.8	<0.000050	<0.0050	<0.0050	0.00302
W3	15/04/2013 17:15	<0.05	<0.000010	53.9	<0.0010	<0.00050	0.0025	0.0672	<0.00020	<0.0050	27.3	0.0536	<0.000010	0.0051	<0.0010	<0.01	2.15	0.00051	5.73	<0.000020	18.5	0.674	16.6	<0.000050	<0.0050	<0.0050	0.00312
W3	23/05/2013	<0.05	0.00002	15.7	0.0013	0.00058	0.054	1.48	0.00042	<0.0050	4.97	0.0861	<0.000010	0.0019	0.0021	0.057	2.04	0.00022	4.4	<0.000020	5.81	0.22	<3.0	<0.000050	<0.0050	0.0427	0.00032
W3	28/05/2013 7:50	<0.05	0.000014	20.5	<0.0010	<0.00050	0.035	0.721	0.00022	<0.0050	7.44	0.0526	<0.000010	0.0045	0.0015	0.032	3.65	0.00041	3.02	<0.000020	9.28	0.587	6.8	<0.000050	<0.0050	0.019	0.00043
W3	06/06/2013	<0.05	<0.000010	52.2	<0.0010	<0.00050	0.0087	0.408	<0.00020	<0.0050	23.6	0.0907	<0.000010	0.0048	0.0015	0.03	2.43	0.00034	6.78	<0.000020	16.8	0.656	13	<0.000050	<0.0050	0.011	0.00241
W3	14/06/2013	<0.05	<0.000010	47.1	<0.0010	<0.00050	0.00616	0.204	<0.00020	<0.0050	22.3	0.0545	<0.000010	0.0045	0.0017	0.011	2.04	0.00027	5.64	0.000059	15.6	0.584	15.1	<0.000050	<0.0050	0.0061	0.0024
W3	17/06/2013	<0.05	<0.000010	55.6	<0.0010	<0.00050	0.00492	0.23	<0.00020	<0.0050	24.8	0.0807	<0.000010	0.0055	0.0015	0.019	2.35	0.00046	6.25	<0.000020	17.8	0.662	14.4	<0.000050	<0.0050	0.0066	0.00279
W3	19/06/2013 7:30	<0.05	<0.000010	52.2	<0.0010	<0.00050	0.0043	0.0778	0.00026	<0.0050	23.9	0.0374	<0.000010	0.0051	<0.0010	<0.01	2.27	0.00024	5.25	<0.000020	17	0.65	14.3	<0.000050	<0.0050	<0.0050	0.00276
W3	24/06/2013	<0.05	<0.000010	54.7	<0.0010	<0.00050	0.00283	0.0272	<0.00020	<0.0050	26.5	0.0399	<0.000010	0.0051	<0.0010	0.014	2.3	0.00033	6.63	<0.000020	17.2	0.66	13.9	<0.000050	<0.0050	<0.0050	0.00272
W3	01/07/2013	<0.05	<0.000010	53.7	<0.0010	<0.00050	0.00277	0.0273	<0.00020	<0.0050	23.6	0.0452	<0.000010	0.0054	0.0011	<0.01	2.11	0.00034	6.3	<0.000020	17.4	0.619	14.7	<0.000050	<0.0050	<0.0050	0.00263
W3	10/07/2013 14:15	<0.05	<0.000010	51.2	<0.0010	<0.00050	0.00321	0.0301	<0.00020	<0.0050	24.4	0.0553	<0.000010	0.005	0.0014	<0.01	2.26	0.00031	5.49	<0.000020	17	0.655	15.3	<0.000050	<0.0050	<0.0050	0.00255
W3	11/07/2013	<0.05	<0.000010	54.4	<0.0010	<0.00050	0.00295	0.044	<0.00020	<0.0050	23.7	0.0574	<0.000010	0.0049	0.001	<0.01	2.2	0.00033	5.93	<0.000020	16.2	0.673	13.6	<0.000050	<0.0050	<0.0050	0.00257
W3	19/07/2013	<0.05	<0.000010	55.3	<0.0010	<0.00050	0.00298	0.0481	<0.00020	<0.0050	27	0.0403	<0.000010	0.0053	0.0013	0.011	2.34	0.00044	5.77	0.000067	19	0.686	16.1	<0.000050	<0.0050	<0.0050	0.00284
W3	23/07/2013	<0.05	<0.000010	46.2	<0.0010	<0.00050	0.00614	0.0824	<0.00020	<0.0050	22.8	0.039	<0.000010	0.0039	0.0019	0.014	1.83	0.00044	6.21	<0.000020	16.6	0.533	11.5	<0.000050	<0.0050	<0.0050	0.00232
W3	30/07/2013 14:30	<0.05	<0.000010	55.5	<0.0010	<0.00050	0.00309	0.0412	<0.00020	<0.0050	24.9	0.0495	<0.000010	0.0046	0.0012	0.011	2.13	0.00036	6.55	<0.000020	16.9	0.669	15.3	<0.000050	<0.0050	<0.0050	0.00252
W3	08/08/2013 8:50	<0.05	<0.000010	57.5	<0.0010	<0.00050	0.00275	0.0265	<0.00020	<0.0050	27.8	0.052	<0.000010	0.0051	0.0011	0.012	2.25	0.0003	6.11	<0.000020	19.6	0.659	15.5	<0.000050	<0.0050	<0.0050	0.00249
W3	14/08/2013 16:10	<0.05	<0.000010	56.8	<0.0010	<0.00050	0.00261	0.0284	<0.00020	<0.0050	27.4	0.0652	<0.000010	0.0054	0.0014	<0.01	2.33	0.00034	6.03	<0.000020	19	0.679	16.9	<0.000050	<0.0050	<0.0050	0.00308
W3	19/08/2013 14:50	<0.05	<0.000010	54	<0.0010	<0.00050	0.00239	0.0261	<0.00020	<0.0050	27	0.0545	<0.000010	0.0055	0.0011	<0.01	2.22	0.00045	6.27	<0.000020	18	0.673	13.4	<0.000050	<0.0050	<0.0050	0.00279
W3	21/08/2013 8:40	<0.05	<0.000010	55.1	<0.0010	<0.00050	0.00225	0.0233	<0.00020	<0.0050	26.8	0.048	<0.000010	0.0051	<0.0010	0.011	2.24	0.00046	6.49	<0.000020	17.8	0.643	15.3	<0.000050	<0.0050	<0.0050	0.00271
W3	21/08/2013 8:40																										
W3	26/08/2013 9:00	<0.05	<0.000010	53	<0.0010	<0.00050	0.00217	0.024	<0.00020	<0.0050	25.9	0.0431	<0.000010	0.0042	<0.0010	<0.01	2.28	0.00036	6.03	<0.000020	18.3	0.61	16.6	<0.000050	<0.0050	<0.0050	0.00234
W3	02/09/2013 12:55	<0.05	<0.000010	55.6	<0.0010	<0.00050	0.00252	0.0292	<0.00020	<0.0050	25.8	0.0449	<0.000010	0.0052	0.0011	<0.01	2.13	0.00038	6.34	<0.000020	17.9	0.638	15.8	<0.000050	<0.0050	<0.0050	0.00252
W3	12/09/2013 12:15	<0.05	<0.000010	56.3	<0.0010	<0.00050	0.00258	0.0262	<0.00020	<0.0050	26.8	0.0398	<0.000010	0.0052	0.0011	<0.01	2.38	0.00035	6.37	<0.000020	18.7	0.654	15.5	<0.000050	<0.0050	<0.0050	0.00246
W3	17/09/2013 11:00	<0.05	<0.000010	54.5	<0.0010	<0.00050	0.00262	0.0315	<0.00020	<0.0050	26.3	0.0411	<0.000010	0.0052	0.0012	<0.01	2.35	0.00019	5.79	<0.000020	18.4	0.622	14.3	<0.000050	<0.0050	<0.0050	0.00243
W3	28/09/2013 11:50	<0.05	0.000011	49.8	<0.0010	<0.00050	0.00364	0.0636	<0.00020	<0.0050	23.8	0.041	<0.000010	0.0046	0.0016	0.168	2.19	0.00034	6.45	0.000032	16.9	0.607	12.5	<0.000050	<0.0050	<0.0050	0.00225
W3	03/10/2013 15:00	<0.05	<0.000010	53.6	<0.0010	<0.00050	0.00265	0.0255	<0.00020	<0.0050	24.3	0.0432	<0.000010	0.005	0.0012	<0.01	2.13	0.00037	6.38	<0.000020	16.4	0.641	14.3	<0.000050	<0.0050	<0.0050	0.0024
W3	08/10/2013 17:15	<0.05	<0.000010	52.9	<0.0010	<0.00050	0.00264	0.0264	<0.00020	<0.0050	26.8	0.0489	<0.000010	0.0053	0.0013	<0.01	2.23	0.00041	6.26	<0.000020	18.6	0.695	15.9	<0.000050	<0.0050	<0.0050	0.00258
W3	16/10/2013 8:30	<0.05	<0.000010	55.2	<0.0010	<0.00050	0.00296	0.0328	<0.00020	<0.0050	27.2	0.0541	<0.000010	0.0053	0.0012	0.011	2.25	0.00046	6.59	<0.000020	18.2	0.697	17.1	<0.000050	<0.0050	<0.0050	0.00271
W3	21/10/2013 7:00	<0.05	<0.000010	54	<0.0010	<0.00050	0.00232	0.0353	<0.00020	<0.0050	24.6	0.057	<0.000010	0.0052	0.001	<0.01	2.16	0.00039	6.06	<0.000020	17.3	0.667	14.5	<0.000050	<0.0050	<0.0050	0.00267
W3	28/10/2013 14:40	<0.05	<0.000010	59.5	<0.0010	<0.00050	0.00225	0.0369	<0.00020	<0.0050	29.1	0.0427	<0.000010	0.0052	0.0011	<0.01	2.36	0.00032	6	<0.000020	19.9	0.666	17.3	<0.000050	<0.0050	<0.0050	0.0027
W3	05/11/2013 7:00	<0.05	<0.000010	50.5	<0.0010	<0.00050	0.00224	0.0429	<0.00020	<0.0050	25.5	0.0436	<0.000010	0.0049	0.001	<0.01	2.09	0.0004	6.06	<0.000020	17.1	0.619	11.2	<0.000050	<0.0050	<0.0050	0.00254
W3	14/11/2013 9:30	<0.05	0.00001	55.8	<0.0010	<0.00050	0.00209	0.0423	<0.00020	<0.0050	26.4	0.0443	<0.000010	0.0047	<0.0010	<0.01	2.07	0.00038	5.84	<0.000020	18	0.621	16.4	<0.000050	<0.0050	<0.0050	0.00262
W3	18/11/2013 10:30	<0.05	<0.000010	58.3	<0.0010	<0.00050	0.00189	0.0342	<0.00020	<0.0050	28	0.0523	<0.000010	0.0049	<0.0010	0.01	2.43	0.00038	6.55	<0.000020	19.3	0.692	17.2	<0.000050	<0.0050	<0.0050	0.00252
W3	30/11/2013 16:50	<0.05	<0.000010	61.4	<0.0010	<0.00050	0.00216	0.0531	<0.00020	<0.0050	28.8	0.0738	<0.000010	0.0049	0.001		2.29	0.00029	6.77	<0.000020	19.5	0.695	18	<0.000050	<0.0050	<0.0050	0.0027
W3	05/12/2013 16:30	<0.05	<0.000010	59.7	<0.0010	<0.00050	0.00198	0.0502	<0.00020	<0.0050	28.4	0.0737	<0.000010	0.0045	<0.0010	<0.01	2.58	0.00042	6.36	<0.000020	19	0.673	17.4	<0.000050	<0.0050	<0.0050	0.00264
W3	09/12/2013 14:00	<0.05	<0.000010	55.6	<0.0010	<0.00050	0.00219	0.038	<0.00020	<0.0050	28.5	0.0697	<0.000010	0.0048	<0.0010	0.016	2.26	0.00035	6.24	<0.000020	19.2	0.67	17.6	<0.000050	<0.0050	<0.0050	0.00279
W3	16/12/2013 16:00	<0.05	<0.000010	51.7	<0.0010	<0.00050	0.00156	0.0224	<0.00020	<0.0050	24.3	0.0449	<0.000010	0.0045	<0.0010	<0.01	2.21	0.00041	6.09	<0.000020	16.8	0.632	16	<0.000050	<0.0050	<0.0050	0.00253
W3	23/12/2013 11:00	<0.05	<0.000010	54.2	<0.0010	<0.00050	0.0023	0.0305	<0.00020	<0.0050	26.6	0.0464	<0.000010	0.0049	0.0011	<0.01	2.23	0.00045	6	<0.000020	17.8	0.688	16.9	<0.000050	<0.0050	<0.0050	0.0028
W3	02/01/2014 14:00	<0.05	<0.000010	54.6	<0.0010	<0.00050	0.00178	0.0233	<0.00020	<0.0050	27.5	0.0452	<0.000010	0.0048	<0.0010	<0.01	2.31	0.00039	6.28	0.000068	18.3	0.651	18.1	<0.000050	<0.0050	<0.0050	0.00265
W3	07/01/2014 9:40	<0.05	<0.000010	55.7	<0.0010	<0.00050	0.0023	0.0294	<0.00020	<0.0050	28	0.0403	<0.000010	0.0049	<0.0010	0.024	2.29	0.00039	6.81	0.00005	18.7	0.661	17.5	<0.000050	<0.0050	<0.0050	0.00304
W3	16/01/2014 14:40	<0.05	<0.000010	50.4	<0.0010	<0.00050	0.00196	0.0168	<0.00020	<0.0050	26.2	0.032	<0.000010	0.0048	<0.0010	<0.01	2.1	0.00038	5.57	<0.000020	17.4	0.629	13.4	<0.000050	<0.0050	<0.0050	0.00288

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	02/11/2012 16:00	<0.0050	<0.0050	<0.00050	0.0034	<0.00050	0.00024	0.0837	<0.00010	<0.0010	<0.05	<0.000010	53.3	<0.0010	<0.00050	0.00189	0.0215	<0.00020	<0.0050	25	0.0584	<0.000010	0.0042	0.0011	<0.01	2.2
W3	09/11/2012 11:00	0.00021	0.00037	<0.00010	0.0053	0.000058	0.000276	0.0831	<0.000010	<0.0000050	<0.05	0.000005	53.8	<0.00010	0.000059	0.00175	0.0167	0.000009	0.00299	26	0.0454	<0.000010	0.00417	0.00082		2.26
W3	18/11/2012 9:00	<0.0050	<0.0050	<0.00050	0.0032	<0.00050	0.00024	0.0863	<0.00010	<0.0010	<0.05	<0.000010	56.8	<0.0010	<0.00050	0.00172	0.0144	<0.00020	<0.0050	25.4	0.04	<0.000010	0.0046	<0.0010	<0.01	2.4
W3	24/11/2012 15:00	<0.0050	<0.0050	<0.00050	0.0048	<0.00050	0.00023	0.0827	<0.00010	<0.0010	<0.05	<0.000010	52.4	<0.0010	<0.00050	0.00226	0.0193	<0.00020	<0.0050	25.1	0.0399	<0.000010	0.0046	<0.0010	<0.01	2.07
W3	04/12/2012 10:00	<0.0050	0.0055	<0.00050	0.0063	<0.00050	0.00024	0.0855	<0.00010	<0.0010	<0.05	<0.000010	55.4	<0.0010	<0.00050	0.00253	0.0324	<0.00020	<0.0050	26.6	0.0763	<0.000010	0.0046	<0.0010	<0.01	2.34
W3	08/12/2012 8:45																									
W3	11/12/2012 10:50	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00021	0.0858	<0.00010	<0.0010	<0.05	<0.000010	54.8	<0.0010	<0.00050	0.00175	0.0129	<0.00020	<0.0050	28.7	0.0711	<0.000010	0.0046	<0.0010	<0.01	2.2
W3	18/12/2012 10:27	<0.0050	<0.0050	<0.00050	0.0047	<0.00050	0.00025	0.0834	<0.00010	<0.0010	<0.05	<0.000010	53.4	<0.0010	<0.00050	0.00215	0.0195	<0.00020	<0.0050	25.7	0.0639	<0.000010	0.0043	<0.0010	<0.01	2.16
W3	27/12/2012 15:30	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.0002	0.0849	<0.00010	<0.0010	<0.05	<0.000010	51.8	<0.0010	<0.00050	0.00155	0.0242	<0.00020	<0.0050	26	0.0783	<0.000010	0.0044	<0.0010	<0.01	2.19
W3	04/01/2013	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00022	0.0829	<0.00010	<0.0010	<0.05	<0.000010	53.5	<0.0010	<0.00050	0.00155	0.0182	<0.00020	<0.0050	25.9	0.0597	<0.000010	0.0041	<0.0010	<0.01	2.08
W3	09/01/2013	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.0002	0.0809	<0.00010	<0.0010	<0.05	<0.000010	54.2	<0.0010	<0.00050	0.00159	0.0204	<0.00020	<0.0050	26.6	0.0704	<0.000010	0.0044	<0.0010	<0.01	2.13
W3	17/01/2013	<0.0050	0.0076	<0.00050	0.0061	<0.00050	0.0003	0.0817	<0.00010	<0.0010	<0.05	<0.000010	55.3	<0.0010	<0.00050	0.00187	0.0236	<0.00020	<0.0050	27.5	0.0693	<0.000010	0.0044	<0.0010	<0.01	2.13
W3	22/01/2013	<0.0050	<0.0050	<0.00050	0.0036	<0.00050	0.00025	0.0801	<0.00010	<0.0010	<0.05	<0.000010	53.6	<0.0010	<0.00050	0.00147	0.0141	<0.00020	<0.0050	26.6	0.047	<0.000010	0.0043	<0.0010	<0.01	2.56
W3	28/01/2013	<0.01	<0.01	<0.0010	0.0033	<0.00050	0.00021	0.083	<0.00010	<0.0010	<0.05	<0.000010	54.4	<0.0010	<0.00050	0.00162	0.0115	<0.00020	<0.0050	26.5	0.0446	<0.000010	0.0047	<0.0010	<0.01	2.19
W3	07/02/2013	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00021	0.0856	<0.00010	<0.0010	<0.05	<0.000010	55.7	<0.0010	<0.00050	0.00223	0.0091	<0.00020	<0.0050	25.8	0.065	<0.000010	0.0045	<0.0010	<0.01	2.21
W3	12/02/2013	<0.0050	<0.0050	<0.00050	0.0032	<0.00050	0.00024	0.0825	<0.00010	<0.0010	<0.05	<0.000010	53.9	<0.0010	<0.00050	0.00184	0.0099	<0.00020	<0.0050	25.1	0.0478	<0.000010	0.0047	<0.0010	<0.01	2.07
W3	19/02/2013	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00024	0.0831	<0.00010	<0.0010	<0.05	<0.000010	53.1	<0.0010	<0.00050	0.00167	0.0082	<0.00020	<0.0050	27.4	0.048	<0.000010	0.0047	<0.0010	<0.01	2.21
W3	26/02/2013	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00023	0.082	<0.00010	<0.0010	<0.05	<0.000010	55.3	<0.0010	<0.00050	0.00157	0.0094	<0.00020	<0.0050	26.1	0.0466	<0.000010	0.0047	<0.0010	<0.01	2.12
W3	04/03/2013	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00028	0.0862	<0.00010	<0.0010	<0.05	<0.000010	55.1	<0.0010	<0.00050	0.00151	0.0136	<0.00020	<0.0050	27	0.0479	<0.000010	0.0048	<0.0010	<0.01	2.19
W3	11/03/2013	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00024	0.085	<0.00010	<0.0010	<0.05	<0.000010	50	<0.0010	<0.00050	0.00163	0.012	<0.00020	<0.0050	26.4	0.0463	<0.000010	0.0048	<0.0010	<0.01	2.14
W3	18/03/2013	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00025	0.0809	<0.00010	<0.0010	<0.05	<0.000010	55.1	<0.0010	<0.00050	0.00155	0.0059	<0.00020	<0.0050	25.6	0.0496	<0.000010	0.0047	<0.0010	<0.01	2.31
W3	31/03/2013	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00021	0.0842	<0.00010	<0.0010	<0.05	<0.000010	53.8	<0.0010	<0.00050	0.0017	0.0067	<0.00020	<0.0050	26	0.0684	<0.000010	0.0045	<0.0010	<0.01	2.2
W3	01/04/2013 11:00	<0.0050	<0.0050	<0.00050	0.007	<0.00050	0.00025	0.0842	<0.00010	<0.0010	<0.05	<0.000010	54	<0.0010	<0.00050	0.00188	0.009	<0.00020	<0.0050	26	0.0601	<0.000010	0.0047	<0.0010	0.011	2.22
W3	06/04/2013 9:10	<0.0050	<0.0050	<0.00050	0.0046	<0.00050	0.0003	0.0821	<0.00010	<0.0010	<0.05	<0.000010	54.4	<0.0010	<0.00050	0.00189	0.0125	<0.00020	<0.0050	26.4	0.0492	<0.000010	0.0048	<0.0010	<0.01	2.08
W3	12/04/2013 7:30	<0.0050	<0.0050	<0.00050	0.0033	<0.00050	0.00027	0.082	<0.00010	<0.0010	<0.05	0.000017	53.2	<0.0010	<0.00050	0.0017	0.0077	<0.00020	<0.0050	26.1	0.0539	<0.000010	0.0047	<0.0010	<0.01	2.14
W3	15/04/2013 17:15	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00024	0.0824	<0.00010	<0.0010	<0.05	<0.000010	52.1	<0.0010	<0.00050	0.00195	0.0069	<0.00020	<0.0050	26.2	0.0444	<0.000010	0.0049	<0.0010	<0.01	2.18
W3	23/05/2013	<0.0050	0.0056	<0.00050	0.0504	<0.00050	0.00027	0.0367	<0.00010	<0.0010	<0.05	0.00001	16.4	<0.0010	<0.00050	0.0289	0.146	<0.00020	0.0051	4.92	0.0203	<0.000010	0.0015	0.0011	0.022	2.36
W3	28/05/2013 7:50	<0.0050	<0.0050	0.0016	0.0345	<0.00050	0.00025	0.0456	<0.00010	<0.0010	<0.05	0.000011	21.5	<0.0010	<0.00050	0.0231	0.11	<0.00020	<0.0050	6.79	0.031	<0.000010	0.0043	0.001	0.013	3.5
W3	06/06/2013	<0.0050	<0.0050	<0.00050	0.0097	<0.00050	0.0003	0.0766	<0.00010	<0.0010	<0.05	<0.000010	47.4	<0.0010	<0.00050	0.00451	0.0342	<0.00020	<0.0050	21.4	0.0374	<0.000010	0.0046	0.0011	<0.01	2.3
W3	14/06/2013	<0.0050	0.0052	0.00081	0.0082	<0.00050	0.00026	0.0779	<0.00010	<0.0010	<0.05	<0.000010	49.6	<0.0010	<0.00050	0.00365	0.022	<0.00020	<0.0050	21.8	0.0367	<0.000010	0.0045	0.0011	<0.01	2.11
W3	17/06/2013	<0.0050	<0.0050	<0.00050	0.0065	<0.00050	0.00026	0.0796	<0.00010	<0.0010	<0.05	<0.000010	49.4	<0.0010	<0.00050	0.00301	0.0429	<0.00020	<0.0050	22.7	0.0562	<0.000010	0.0047	<0.0010	0.012	2.15
W3	19/06/2013 7:30	<0.0050	<0.0050	<0.00050	0.0055	<0.00050	0.00025	0.0788	<0.00010	<0.0010	<0.05	<0.000010	50.8	<0.0010	<0.00050	0.00275	0.0148	<0.00020	<0.0050	23.1	0.0319	<0.000010	0.0047	<0.0010	<0.01	2.11
W3	24/06/2013	<0.0050	<0.0050	<0.00050	0.0039	<0.00050	0.00023	0.0792	<0.00010	<0.0010	<0.05	<0.000010	49.6	<0.0010	<0.00050	0.00237	0.0117	<0.00020	<0.0050	23.4	0.0358	<0.000010	0.0052	<0.0010	<0.01	2.16
W3	01/07/2013	<0.0050	<0.0050	<0.00050	0.0049	<0.00050	0.00027	0.0789	<0.00010	<0.0010	<0.05	<0.000010	51	<0.0010	<0.00050	0.00248	0.0136	<0.00020	<0.0050	23.2	0.0415	<0.000010	0.0051	<0.0010	<0.01	2.09
W3	10/07/2013 14:15	<0.0050	<0.0050	<0.00050	0.0047	<0.00050	0.00025	0.0745	<0.00010	<0.0010	<0.05	<0.000010	47.6	<0.0010	<0.00050	0.00244	0.0197	<0.00020	<0.0050	21.7	0.0482	<0.000010	0.0049	0.001	<0.01	1.85
W3	11/07/2013	<0.0050	<0.0050	<0.00050	0.0054	<0.00050	0.00025	0.0752	<0.00010	<0.0010	<0.05	<0.000010	47.9	<0.0010	<0.00050	0.00254	0.0222	<0.00020	<0.0050	21.9	0.0515	<0.000010	0.0049	<0.0010	<0.01	1.9
W3	19/07/2013	<0.0050	<0.0050	<0.00050	0.0043	<0.00050	0.00022	0.0824	<0.00010	<0.0010	<0.05	<0.000010	51.1	<0.0010	<0.00050	0.00225	0.0149	<0.00020	<0.0050	22.8	0.0358	<0.000010	0.0049	<0.0010	<0.01	2.14
W3	23/07/2013	<0.0050	<0.0050	<0.00050	0.0133	<0.00050	0.00031	0.0698	<0.00010	<0.0010	<0.05	<0.000010	43.3	<0.0010	<0.00050	0.00479	0.0461	<0.00020	<0.0050	19.7	0.0331	<0.000010	0.0038	0.0016	<0.01	1.66
W3	30/07/2013 14:30	<0.0050	<0.0050	<0.00050	0.0108	<0.00050	0.00027	0.0831	<0.00010	<0.0010	<0.05	<0.000010	52.2	<0.0010	<0.00050	0.00349	0.029	<0.00020	<0.0050	24	0.0457	<0.000010	0.0049	0.0011	<0.01	2.13
W3	08/08/2013 8:50	<0.0050	<0.0050	<0.00050	0.0055	<0.00050	0.00026	0.0789	<0.00010	<0.0010	<0.05	<0.000010	52.3	<0.0010	<0.00050	0.0022	0.018	<0.00020	<0.0050	24.7	0.0468	<0.000010	0.0049	<0.0010	<0.01	2.12
W3	14/08/2013 16:10	<0.0050	<0.0050	<0.00050	0.0082	<0.0010	0.00029	0.0804	<0.00020	<0.0020	<0.1	<0.000020	53.2	High DL removed	<0.0010	0.00372	0.022	High DL removed	<0.01	24.9	0.056	<0.000010	0.0053	High DL removed	<0.02	2.37
W3	19/08/2013 14:50	<0.0050	<0.0050	<0.00050	0.0107	<0.00050	0.00032	0.0821	<0.00010	<0.0010	<0.05	<0.000010	54.7	<0.0010	<0.00050	0.00228	0.0177	<0.00020	<0.0050	24.7	0.0535	<0.000010	0.005	0.0011	<0.01	2.15
W3	21/08/2013 8:40	<0.0050	<0.0050	<0.00050	0.0033	<0.00050	0.00025	0.0807	<0.00010	<0.0010	<0.05	<0.000010	52.9	<0.0010	<0.00050	0.00194	0.0172	<0.00020	<0.0050	24.7	0.0428	<0.000010	0.0053	<0.0010	<0.01	2.18
W3	21/08/2013 8:40																									
W3	26/08/2013 9:00	<0.0050	<0.0050	<0.00050	0.0036	<0.00050	0.00023	0.0833	<0.00010	<0.0010	<0.05	<0.000010	51.4	<0.0010	<0.00050	0.0022	0.0195	<0.00020	<0.0050	24.8	0.0415	<0.000010	0.0053	0.0015	<0.01	2.23
W3	02/09/2013 12:55	<0.0050	<0.0050	<0.00050	0.0043	<0.00050	0.00027	0.0785	<0.00010	<0.0010	<0.05	<0.000010	48.1	<0.0010	<0.00050	0.00243	0.0185	<0.00020	<0.0050	23.9	0.041	<0.000010	0.0048	<0.0010	<0.01	2.11
W3	12/09/2013 12:15	<0.0050	<0.0050	<0.00050	0.0038	<0.00050	0.00027	0.0823	<0.00010	<0.0010	<0.05	<0.000010	55.2	<0.0010	<0.00050	0.00236	0.0183	<0.00020	<0.0050	25	0.0377	<0.000010	0.0051	<0.0010	<0.01	2.35
W3	17/09/2013 11:00	<0.0050	<0.0050	<0.00050	0.0034	<0.00050	0.00026	0.0779	<0.00010	<0.0010	<0.05	<0.000010	51.3	<0.0010	<0.00050	0.00239	0.023	<0.00020	<0.0050	23.7	0.0391	<0.000010	0.0049	0.0011	<0.01	2.16
W3	28/09/2013 11:50	<0.0050	<0.0050	<0.00050	0.0068	<0.00050	0.00026	0.0764	<0.00010	<0.0010	<0.05	<0.000010	49	<0.0010	<0.00050	0.00308	0.0269	<0.00020	<0.0050	22.2	0.0357	<0.000010	0.0042	0.0014	<0.01	1.92
W3	03/10/2013 15:00	<0.0050	<0.0050	<0.00050	0.0045	<0.00050	0.00027	0.0785	<0.00010	<0.0010	<0.05	<0.000010	47.4	<0.0010	<0.00050	0.00254	0.0212	<0.00020	<0.0050	24	0.0423	<0.000010	0.0049	0.0012	<0.01	2.15
W3	08/10/2013 17:15	<0.0050	<0.0050	<0.00050	0.0044	<0.00050	0.00025	0.0772	<0.00010	<0.0010	<0.05	<0.000010	52.1	<0.0010	<0.00050	0.00243	0.0224	<0.00020	<0.0050	24.7	0.0436	<0.000010	0.0044	0.0011	<0.01	2.21
W3	16/10/2013 8:30	<0.0050	<0.0050	<0.00050	0.0056	<0.00050	0.00025	0.0769	<0.00010	<0.0010	<0.05	<0.000010	49.9	<0.0010	<0.00050	0.00235	0.023	<0.00020	<0.0050	23.7	0.0456	<0.000010	0.0048	<0.0010	<0.01	2.09
W3	21/10/2013 7:00	<0.0050	<0.0050	<0.00050	0.0037	<0.00050	0.00026	0.0789	<0.00010	<0.0010	<0.05	<0.000010	52.7	<0.0010	<0.00050	0.0021	0.0202	<0.00020	<0.0050	24.3	0.0563	<0.000010	0.005	<0.0010	<0.01	2.14
W3	28/10/2013 14:40	<0.0050	<0.0050	<0.00050	0.0063	<0.00050	0.00047	0.0766	<0.00010	<0.0010	<0.05	<0.000010	53.6	<0.0010	<0.00050	0.00215	0.0196	<0.00020	<0.0050	25.7	0.035	<0.000010	0.0048	0.0011	<0.01	2.15
W3	05/11/2013 7:00	<0.0050	<0.0050	<0.00050	0.0032	<0.00050	0.00024	0.0784	<0.00010	<0.0010	<0.05	<0.000010	52.6	<0.0010	<0.00050	0.00215	0.0169	<0.00020	<0.0050	23.4	0.0389	<0.000010	0.0047	0.001	<0.01	2.09
W3	14/11/2013 9:30	<0.0050	<0.0050	<0.00050	0.0032	<0.00050	0.00026	0.0836	<0.00010	<0.0010	<0.05	<0.000010	52.3	<0.0010	<0.00050	0.00188	0.016	<0.00020	<0.0050	24.9	0.0397	<0.000010	0.0047	0.001	<0.01	2.09
W3	18/11/2013 10:30	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00023	0.085	<0.00010	<0.0010	<0.05	<0.000010	61	<0.0010	<0.00050	0.0018	0.0226	<0.00020	<0.0050	28	0.0484	<0.000010	0.0048	<0.0010	0.013	2.41
W3	30/11/2013 16:50	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00024	0.0852	<0.00010	<0.0010	<0.05	<0.000010	56.9	<0.0010	<0.00050	0.00177	0.0311	<0.00020	<0.0050	27.8	0.0681	<0.000010	0.0044	<0.0010		2.41
W3	05/12/2013 16:30	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00023	0.0829	<0.00010	<0.0010	<0.05	<0.000010	54	<0.0010	<0.00050	0.00155	0.0315	<0.00020	<0.0050	24.6	0.0675	<0.000010	0.0047	<0.0010	<0.01	2.19
W3	09/12/2013 14:00	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00023	0.085	<0.00010	<0.0010	<0.05	<0.000010	52.4	<0.0010	<0.00050	0.00173	0.0237	<0.00020	<0.0050	25.1	0.0595	<0.000010	0.0045	<0.0010	<0.01	2.14
W3	16/12/2013 16:00	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00023	0.0831	<0.00010	<0.0010	<0.05	<0.000010	54.2	<0.0010	<0.00050	0.00285	0.016	<0.00020	<0.0050	26.1	0.0432	<0.000010	0.0048	<0.0010	<0.01	2.15
W3	23/12/2013 11:00	<0.0050	<0.0050	<0.00050	0.0063	<0.00050	0.00024	0.0877	<0.00010	<0.0010	<0.05	<0.000010	55.2	<0.0010	<0.00050	0.00178	0.0124	<0.00020	<0.0050	27.5	0.0406	<0.000010	0.0052	<0.0010	<0.01	2.39
W3	02/01/2014 14:00	<0.0050	<0.0050	<0.00050	0.0053	<0.00050	0.00023	0.0815	<0.00010	<0.0010	<0.05	<0.000010	52.7	<0.0010	<0.00050	0.00229	0.0168	<0.00020	<0.0050	24.8	0.0465	<0.000010	0.0048	<0.0010	<0.01	2.02
W3	07/01/2014 9:40	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00022	0.0813	<0.00010	<0.0010	<0.05	<0.000010	52.9	<0.0010	<0.00050	0.00169	0.0096	<0.00020	<0.0050	26.5	0.0353	<0.000010	0.0048	<0.0010	<0.01	2.24
W3	16/01/2014 14:40	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00024	0.0826	<0.00010	<0.0010	<0.05	<0.000010	51.1	<0.0010	<0.00050	0.00152	0.008	<0.00020	<0.0050	23.9	0.0305	<0.000010	0.0047	<0.0010	<0.01	1.96

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	Br	Cation	CN-T	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-TKN	P-PO4T	P-TDP	P-TRP
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L
W3	02/11/2012 16:00	0.00047	6.23	<0.000020	18.2	0.619	16.1	<0.000050	<0.0050	<0.0050	0.00288	<0.0050	<0.0050	<0.00050	270	<0.50	<0.50	<0.50												0.0079		
W3	09/11/2012 11:00	0.000496	5.96	<0.0000050	18.9	0.611	18.4	<0.0000020	<0.00020	<0.00050	0.0029	<0.00020	0.00067	<0.00010	269	<0.50	<0.50	<0.50														
W3	18/11/2012 9:00	0.00039	6.67	<0.000020	18.6	0.619	19.5	<0.000050	<0.0050	<0.0050	0.0027	<0.0050	<0.0050	<0.00050	277	<0.50	<0.50	<0.50														
W3	24/11/2012 15:00	0.00046	5.97	<0.000020	17.7	0.629	17.3	<0.000050	<0.0050	<0.0050	0.00294	<0.0050	<0.0050	<0.00050	277	<0.50	<0.50	<0.50														
W3	04/12/2012 10:00	0.00042	6.2	<0.000020	19.2	0.675	18.6	<0.000050	<0.0050	<0.0050	0.00306	<0.0050	<0.0050	<0.00050	290	<0.50	<0.50	<0.50														
W3	08/12/2012 8:45																															
W3	11/12/2012 10:50	0.00048	7	<0.000020	19.9	0.644	18	<0.000050	<0.0050	<0.0050	0.00295	<0.0050	<0.0050	<0.00050	282	<0.50	<0.50	<0.50														
W3	18/12/2012 10:27	0.00044	5.95	<0.000020	18.2	0.628	18.1	<0.000050	<0.0050	<0.0050	0.00274	<0.0050	<0.0050	<0.00050	275	<0.50	<0.50	<0.50									6.33					
W3	27/12/2012 15:30	0.00048	6.63	<0.000020	18.7	0.649	19.3	<0.000050	<0.0050	<0.0050	0.00284	<0.0050	<0.0050	<0.00050	276	<0.50	<0.50	<0.50														
W3	04/01/2013	0.00042	6.02	<0.000020	17.8	0.639	17.4	<0.000050	<0.0050	<0.0050	0.00274	<0.0050	<0.0050	<0.00050	271	<0.50	<0.50	<0.50														
W3	09/01/2013	0.00042	6.18	<0.000020	18.1	0.642	18.2	<0.000050	<0.0050	<0.0050	0.00281	<0.0050	<0.0050	<0.00050	272	<0.50	<0.50	<0.50														
W3	17/01/2013	0.0004	6.35	<0.000020	18.4	0.655	19.3	<0.000050	<0.0050	<0.0050	0.00289	<0.0050	<0.0050	<0.00050	274	<0.50	<0.50	<0.50														
W3	22/01/2013	0.00037	5.95	<0.000020	17.7	0.643	18.5	<0.000050	<0.0050	<0.0050	0.00332	<0.0050	<0.0050	<0.00050	274	2.77	<0.50	2.31														
W3	28/01/2013	0.00044	6.1	<0.000020	18.4	0.672	18.4	<0.000050	<0.0050	<0.0050	0.00297	<0.0050	<0.0050	<0.00050	279	<0.50	<0.50	<0.50														
W3	07/02/2013	0.00047	6.48	<0.000020	17.6	0.677	18.8	<0.000050	<0.0050	<0.0050	0.00285	<0.0050	<0.0050	<0.00050	277	<0.50	<0.50	<0.50														
W3	12/02/2013	0.00053	5.42	<0.000020	17.3	0.669	17.3	<0.000050	<0.0050	<0.0050	0.00289	<0.0050	<0.0050	<0.00050	275	<0.50	<0.50	<0.50														
W3	19/02/2013	0.00046	5.83	<0.000020	19.1	0.654	18.2	<0.000050	<0.0050	<0.0050	0.00299	<0.0050	<0.0050	<0.00050	280	<0.50	<0.50	<0.50														
W3	26/02/2013	0.00056	5.86	<0.000020	17.9	0.696	17.4	<0.000050	<0.0050	<0.0050	0.00308	<0.0050	<0.0050	<0.00050	278	<0.50	<0.50	<0.50														
W3	04/03/2013	0.0005	6.33	<0.000020	18.7	0.687	18.1	<0.000050	<0.0050	<0.0050	0.00298	<0.0050	<0.0050	<0.00050	279	<0.50	<0.50	<0.50												0.0062		
W3	11/03/2013	0.00046	5.68	<0.000020	18.2	0.675	17.2	<0.000050	<0.0050	<0.0050	0.00307	<0.0050	<0.0050	<0.00050	274	1.32	<0.50	1.1														
W3	18/03/2013	0.00047	6.33	<0.000020	17.8	0.648	18.5	<0.000050	<0.0050	<0.0050	0.00336	<0.0050	<0.0050	<0.00050	279	<0.50	<0.50	<0.50														
W3	31/03/2013	0.00049	6.25	<0.000020	17.8	0.673	18	<0.000050	<0.0050	<0.0050	0.0028	<0.0050	<0.0050	<0.00050	274	<0.50	<0.50	<0.50												0.0094		
W3	01/04/2013 11:00	0.00051	6.3	<0.000020	17.8	0.678	18.2	<0.000050	<0.0050	<0.0050	0.00291	<0.0050	<0.0050	<0.00050	272	<0.50	<0.50	<0.50												0.0116		
W3	06/04/2013 9:10	0.00045	6.11	<0.000020	18.1	0.678	17.5	<0.000050	<0.0050	<0.0050	0.00313	<0.0050	<0.0050	<0.00050	279	<0.50	<0.50	<0.50														
W3	12/04/2013 7:30	0.00049	6.02	<0.000020	17.7	0.66	17.8	<0.000050	<0.0050	<0.0050	0.00299	<0.0050	<0.0050	<0.00050	273	2.09	<0.50	1.74														
W3	15/04/2013 17:15	0.00048	6.14	<0.000020	18.2	0.66	17.8	<0.000050	<0.0050	<0.0050	0.00279	<0.0050	<0.0050	<0.00050	269	<0.50	<0.50	<0.50														
W3	23/05/2013	0.00024	2.36	<0.000020	5.79	0.218	4.2	<0.000050	<0.0050	<0.0050	0.00027	<0.0050	<0.0050	<0.00050	58.3	<0.50	<0.50	<0.50														
W3	28/05/2013 7:50	0.0004	2.15	<0.000020	8.9	0.598	7.5	<0.000050	<0.0050	<0.0050	0.00041	<0.0050	<0.0050	<0.00050	81.7	<0.50	<0.50	<0.50														
W3	06/06/2013	0.00043	5.39	<0.000020	15.8	0.612	13.9	<0.000050	<0.0050	<0.0050	0.00225	<0.0050	<0.0050	<0.00050	229	3.66	<0.50	3.05														
W3	14/06/2013	0.0004	5.72	<0.000020	15.9	0.608	13.6	<0.000050	<0.0050	<0.0050	0.00245	<0.0050	<0.0050	<0.00050	250	<0.50	<0.50	<0.50														
W3	17/06/2013	0.00036	5.89	<0.000020	16.4	0.614	16	<0.000050	<0.0050	<0.0050	0.00247	<0.0050	<0.0050	<0.00050	254	0.83	<0.50	0.69														
W3	19/06/2013 7:30	0.00039	5.95	<0.000020	16.9	0.624	17.8	<0.000050	<0.0050	<0.0050	0.00259	<0.0050	<0.0050	<0.00050	258	<0.50	<0.50	<0.50														
W3	24/06/2013	0.0004	5.66	<0.000020	16.5	0.627	16.5	<0.000050	<0.0050	<0.0050	0.00265	<0.0050	<0.0050	<0.00050	272	3	<0.50	2.5														
W3	01/07/2013	0.00035	5.89	<0.000020	16.8	0.621	16.8	<0.000050	<0.0050	<0.0050	0.00259	<0.0050	<0.0050	<0.00050	255	4.25	<0.50	3.54														
W3	10/07/2013 14:15	0.00034	5.93	<0.000020	15.3	0.576	15.7	<0.000050	<0.0050	<0.0050	0.00229	<0.0050	<0.0050	<0.00050	255	<0.50	<0.50	<0.50														
W3	11/07/2013	0.00038	5.97	<0.000020	15.8	0.609	16.1	<0.000050	<0.0050	<0.0050	0.00235	<0.0050	<0.0050	<0.00050	256	<0.50	<0.50	<0.50														
W3	19/07/2013	0.00042	5.85	<0.000020	16.5	0.633	16.5	<0.000050	<0.0050	<0.0050	0.00254	<0.0050	<0.0050	<0.00050	263	3.08	<0.50	2.57														
W3	23/07/2013	0.00035	5.75	<0.000020	13.5	0.489	12	<0.000050	<0.0050	<0.0050	0.00187	<0.0050	<0.0050	<0.00050	225	<0.50	<0.50	<0.50														
W3	30/07/2013 14:30	0.00039	6.2	<0.000020	15.8	0.624	14.6	<0.000050	<0.0050	<0.0050	0.0028	<0.0050	<0.0050	<0.00050	250	2.7	<0.50	2.25														
W3	08/08/2013 8:50	0.00036	6.3	<0.000020	17	0.641	15.4	<0.000050	<0.0050	<0.0050	0.00249	<0.0050	<0.0050	<0.00050	264	<0.50	<0.50	<0.50														
W3	14/08/2013 16:10	0.00039	5.8	<0.000040	17.5	0.642	1760	<0.00010	<0.01	<0.01	0.00259	<0.01	High DL removed	<0.0010	259	6.88	<0.50	5.73														
W3	19/08/2013 14:50	0.00049	6.02	<0.000020	17.1	0.639	15.9	<0.000050	<0.0050	<0.0050	0.00247	<0.0050	<0.0050	<0.00050	270	<0.50	<0.50	<0.50														
W3	21/08/2013 8:40	0.0004	6.32	<0.000020	17.2	0.651	15.7	<0.000050	<0.0050	<0.0050	0.00253	<0.0050	<0.0050	<0.00050	262	3.47	<0.50	2.89														
W3	21/08/2013 8:40																															
W3	26/08/2013 9:00	0.00034	6.4	<0.000020	17.2	0.647	15.4	<0.000050	<0.0050	<0.0050	0.00249	<0.0050	<0.0050	<0.00050	258	<0.50	<0.50	<0.50														
W3	02/09/2013 12:55	0.00038	5.83	<0.000020	17.1	0.606	14.8	<0.000050	<0.0050	<0.0050	0.00237	<0.0050	<0.0050	<0.00050	260	<0.50	<0.50	<0.50														
W3	12/09/2013 12:15	0.00036	6.47	<0.000020	18.3	0.636	16.2	<0.000050	<0.0050	<0.0050	0.00243	<0.0050	<0.0050	<0.00050	261	<0.50	<0.50	<0.50														
W3	17/09/2013 11:00	0.00034	6.05	<0.000020	16.5	0.602	15.5	<0.000050	<0.0050	<0.0050	0.00227	<0.0050	<0.0050	<0.00050	264	<0.50	<0.50	<0.50														
W3	28/09/2013 11:50	0.00035	6.07	<0.000020	15.7	0.569	13.3	<0.000050	<0.0050	<0.0050	0.00209	<0.0050	<0.0050	<0.00050	238	<0.50	<0.50	<0.50														
W3	03/10/2013 15:00	0.00034	5.75	<0.000020	17.3	0.621	14.8	<0.000050	<0.0050	<0.0050	0.00236	<0.0050	<0.0050	<0.00050	255	<0.50	<0.50	<0.50														
W3	08/10/2013 17:15	0.0004	5.77	<0.000020	17	0.616	15.2	<0.000050	<0.0050	<0.0050	0.00222	<0.0050	<0.0050	<0.00050	262	<0.50	<0.50	<0.50														
W3	16/10/2013 8:30	0.00035	5.71	<0.000020	16	0.623	14.5	<0.000050	<0.0050	<0.0050	0.00235	<0.0050	<0.0050	<0.00050	253	6.26	<0.50	5.22														
W3	21/10/2013 7:00	0.00034	6.12	<0.000020	17.2	0.62	15.4	<0.000050	<0.0050	<0.0050	0.00239	<0.0050	<0.0050	<0.00050	256	<0.50	<0.50	<0.50														
W3	28/10/2013 14:40	0.00041	6.61	<0.000020	17.6	0.637	14.8	<0.000050	<0.0050	<0.0050	0.00246	<0.0050	<0.0050	<0.00050	258	<0.50	<0.50	<0.50														
W3	05/11/2013 7:00	0.00034	6.05	<0.000020	16.1	0.631	14.9	<0.000050	<0.0050	<0.0050	0.00241	<0.0050	<0.0050	<0.00050	271	<0.50	<0.50	<0.50														
W3	14/11/2013 9:30	0.00036	6.03	<0.000020	17.1	0.671	16.3	<0.000050	<0.0050	<0.0050	0.00258	<0.0050	<0.0050	<0.00050	267	2.54	<0.50	2.12														
W3	18/11/2013 10:30	0.0004	6.56	<0.000020	20.1	0.694	17.4	<0.000050	<0.0050	<0.0050	0.00256	<0.0050	<0.0050	<0.00050	276	<0.50	<0.50	<0.50														
W3	30/11/2013 16:50	0.00037	6.36	<0.000020	19.4	0.66	18.4	<0.000050	<0.0050	<0.0050	0.00268	<0.0050	<0.0050	<0.00050																		
W3	05/12/2013 16:30	0.00043	6.34	<0.000020	17.7	0.655	16.4	<0.000050	<0.0050	<0.0050	0.00249	<0.0050	<0.0050	<0.00050	280	<0.50	<0.50	<0.50														
W3	09/12/2013 14:00	0.00043	5.94	<0.000020	17.6	0.666	16.1	<0.000050	<0.0050	<0.0050	0.00251	<0.0050	<0.0050	<0.00050	277	<0.50	<0.50	<0.50														
W3	16/12/2013 16:00	0.00039	6.5	<0.000020	17.9	0.659	16.7	<0.000050	<0.0050	<0.0050	0.00259	<0.0050	<0.0050	<0.00050	271	<0.50	<0.50	<0.50														
W3	23/12/2013 11:00	0.00039	6.26	<0.000020	18.7	0.701	17.8	<0.000050	<0.0050	<0.0050	0.00267	<0.0050	<0.0050	<0.00050	277	<0.50	<0.50	<0.50														
W3	02/01/2014 14:00	0.00041	6.1	<0.000020	17.3	0.618	15.2	<0.000050	<0.0050	<0.0050	0.00272	<0.0050	<0.0050	<0.00050	266	<0.50	<0.50	<0.50														
W3	07/01/2014 9:40	0.00043	6.14	<0.000020	18.2	0.669	16.6	<0.000050	<0.0050	<0.0050	0.00277	<0.0050	<0.0050	<0.00050	265	<0.50	<0.50	<0.50														
W3	16/01/2014 14:40	0.00039	5.92	<0.000020	16.1	0.638	15.8	<0.000050	<0.0050	<0.0050	0.00277	<0.0050	<0.0050	<0.00050	275	<0.50	<0.50	<0.50														

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W3	02/11/2012 16:00						
W3	09/11/2012 11:00			485.4			
W3	18/11/2012 9:00			511.8			
W3	24/11/2012 15:00			454.6			
W3	04/12/2012 10:00			527			
W3	08/12/2012 8:45			496.8			
W3	11/12/2012 10:50			318.7			
W3	18/12/2012 10:27			254.1			
W3	27/12/2012 15:30			641.1			
W3	04/01/2013			638.7			
W3	09/01/2013			444.5			
W3	17/01/2013			433.5			
W3	22/01/2013			465.4			
W3	28/01/2013			703.6			
W3	07/02/2013						
W3	12/02/2013						
W3	19/02/2013						
W3	26/02/2013						
W3	04/03/2013			479.4			
W3	11/03/2013			399.3			
W3	18/03/2013			512.5			
W3	31/03/2013			483.2			
W3	01/04/2013 11:00			482.1			
W3	06/04/2013 9:10						
W3	12/04/2013 7:30			508.4			
W3	15/04/2013 17:15						
W3	23/05/2013			127.4			
W3	28/05/2013 7:50			216			
W3	06/06/2013			427.1			
W3	14/06/2013			440.5			
W3	17/06/2013						
W3	19/06/2013 7:30						
W3	24/06/2013						
W3	01/07/2013			472.9			
W3	10/07/2013 14:15						
W3	11/07/2013			479.3			
W3	19/07/2013			460.8			
W3	23/07/2013						
W3	30/07/2013 14:30			470.3			
W3	08/08/2013 8:50			489.8			
W3	14/08/2013 16:10						
W3	19/08/2013 14:50			493.4			
W3	21/08/2013 8:40						
W3	21/08/2013 8:40			495.7			
W3	26/08/2013 9:00			442.4			
W3	02/09/2013 12:55			487.9			
W3	12/09/2013 12:15			505.2			
W3	17/09/2013 11:00			350.8			
W3	28/09/2013 11:50			456.2			
W3	03/10/2013 15:00			479.3			
W3	08/10/2013 17:15			449.2			
W3	16/10/2013 8:30			459.6			
W3	21/10/2013 7:00			489.7			
W3	28/10/2013 14:40			495.2			
W3	05/11/2013 7:00			500			
W3	14/11/2013 9:30			440.7			
W3	18/11/2013 10:30			523.5			
W3	30/11/2013 16:50			517.9			
W3	05/12/2013 16:30			478.3			
W3	09/12/2013 14:00			458.6			
W3	16/12/2013 16:00			514.4			
W3	23/12/2013 11:00			506.4			
W3	02/01/2014 14:00			473.9			
W3	07/01/2014 9:40			439.1			
W3	16/01/2014 14:40			456.2			

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Phase	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
				mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	22/01/2014 10:50	No Discharge	P	3.9	308	7.65	8.28	238.5	519	0.1	12.18	83.7	91.9	240	241	221	5.4	0.59	49.4	0.01	<0.0050	0.324	4.48	0.0058	<0.00050	0.0002	0.0792	<0.00010	<0.0010
W3	27/01/2014 13:45	No Discharge	P	<1.0	248	7.63	8.09	267.5	442	0.1	12.58	86.3	104.5	211	204	182	10	0.36	37	0.014	<0.0050	0.281	8.64	0.0061	<0.00050	0.00042	0.0664	<0.00010	<0.0010
W3	03/02/2014 11:00	No Discharge	P	<1.0	274	7.86	8.2	257.6	513	0	12.98	89.1	209.2	244	242	226	5.6	0.63	50.7	0.013	<0.0050	0.313	4.57	0.0073	<0.00050	0.00022	0.0823	<0.00010	<0.0010
W3	13/02/2014 15:30	No Discharge	P	<1.0	296	7.56	8.16	516	533	0	11.37	77.9	115.1	239	232	226	5.2	0.58	49.9	0.017	<0.0050	0.326	4.96	0.0064	<0.00050	0.00024	0.0819	<0.00010	<0.0010
W3	18/02/2014 11:00	No Discharge	P	<1.0	282	7.71	8.09	263.8	526	0	10.07	69.1	78.9	250	234	227	5.7	0.58	50.4	0.024	<0.0050	0.303	3.77	0.012	<0.00050	0.00027	0.0823	<0.00010	<0.0010
W3	20/02/2014 10:10	No Discharge	P	<1.0	300	7.78	8.25	205.5	523	0	8.14	55.8	159.5	286	246	221	6.6	0.59	51.4	0.013	<0.0050	0.312	4.62	0.0111	<0.00050	0.00026	0.0776	<0.00010	<0.0010
W3	21/02/2014 11:30	No Discharge	P			7.76		148.7		0	11.27	77.3	162.2																
W3	22/02/2014 8:00	No Discharge	P			8.32		40.3		0	3.14	24.3	307.9																
W3	23/02/2014 8:45	No Discharge	P			7.83		252.3		0	12.33	84.1	137.4																
W3	24/02/2014 9:30	No Discharge	P			7.83		258.7		0	10.98	75.3	157.6																
W3	25/02/2014 8:45	No Discharge	M			7.89		247.4		0	11.13	76.6	194.6																
W3	25/02/2014 14:00	No Discharge	P	<1.0	244	7.93	8.18	248.8	484	0	11.3	77.4	127.8	226	223	204	8.1	0.46	39.5	0.03	<0.0050	0.261	6.41	0.0232	<0.00050	0.00032	0.0741	<0.00010	<0.0010
W3	27/02/2014 8:30	No Discharge	M			7.93		252.9		0.1	10.52	72.3	116.6																
W3	28/02/2014 9:30	No Discharge	M			8.12		255.7		0.2	12.28	84.4	157.8																
W3	01/03/2014 9:15	No Discharge	P			7.96		250.5		0.1	11.08	76.1	47.2																
W3	02/03/2014 9:25	No Discharge	P			7.99		248.2		0.1	11.71	81.2	59.2																
W3	03/03/2014 9:50	No Discharge	P			7.98		264.1		0.1	12.12	83.9	117.1																
W3	04/03/2014 9:35	No Discharge	P			7.99		266.3		0.1	12.01	82.4	124.3																
W3	05/03/2014 7:50	No Discharge	P			8.06		272.8		0	11.33	77.8	204.1																
W3	06/03/2014 8:25	No Discharge	P			8.17		256.4		0.1	12.43	85.3	63.7																
W3	07/03/2014 9:40	No Discharge	P			8.11		250.2		0	11.99	82.1	103.8																
W3	08/03/2014 9:35	No Discharge	P	1.8	282	8.02	8.24	247.7	482	0	10.6	72.7	134	231	217	209	8	0.43	40.6	0.015	<0.0050	0.255	7.28	0.0545	<0.00050	0.00038	0.0763	<0.00010	<0.0010
W3	09/03/2014 9:15	No Discharge	P			8.2		250.9		0.2	11.09	77.7	95																
W3	10/03/2014 7:30	No Discharge	P	1.4	274	8	8.2	258.6	479	0.1	11.47	78.7	143.6	234	232	208	8.2	0.43	41.1	0.02	<0.0050	0.255	7	0.0416	<0.00050	0.00035	0.0791	<0.00010	<0.0010
W3	11/03/2014 9:10	No Discharge	P			8.2		252.7		0.2	12.52	87.2	78.8																
W3	12/03/2014 7:30	No Discharge	P			8.15		251.5		0.4	12.14	83.9	45.9																
W3	13/03/2014 9:10	No Discharge	P			7.32		263.2		0.4	11.74	80.1	247.3																
W3	14/03/2014 8:20	No Discharge	P			7.68		255.6		0.5	11.02	77	157.6																
W3	15/03/2014 8:50	No Discharge	P			7.82		255.9		0.5	11.58	80.8	109.3																
W3	16/03/2014 9:30	No Discharge	P			7.72		256		0.4	11.65	80.2	91.6																
W3	17/03/2014 9:30	No Discharge	P	11.1	282	7.77	8.31	257.4	477	0.6	11.47	80	80.4	220	222	203	8.2	0.47	40.7	0.067	<0.0050	0.241	7.45	0.271	<0.00050	0.00046	0.0791	<0.00010	<0.0010
W3	18/03/2014 14:40	No Discharge	P			7.85		258.2		0.6	14.23	99.2	69.2																
W3	19/03/2014 10:20	No Discharge	P			7.77		258.4		0.7	17.3	121	62.2																
W3	20/03/2014 17:15	No Discharge	P			7.7		258.7		0.8	16.96	118.7	73.1																
W3	21/03/2014 9:40	No Discharge	P			7.69		261		0.6	13.85	96.7	106.8																
W3	22/03/2014 9:15	No Discharge	P			7.76		262.4		0.7	18.95	131.1	77.1																
W3	23/03/2014 9:30	No Discharge	P			7.8		261.5		0.6	16.23	113.2	66.3																
W3	24/03/2014 9:50	No Discharge	P			7.85		260.9		0.5	13.77	96.9	75.1																
W3	25/03/2014 8:40	No Discharge	P			7.9		260.9		0.5	17.67	124.1	71.4																
W3	26/03/2014 8:15	No Discharge	P			8		590		1.9																			
W3	27/03/2014 8:15	No Discharge	P	4.3	286	7.74	8.3	227.9	480	0.5	15.28	105.1	72.1	216	224	201	7.9	0.47	40.4	0.022	<0.0050	0.226	6.94	0.14	<0.00050	0.00026	0.0768	<0.00010	<0.0010
W3	28/03/2014 9:00	No Discharge	P			7.83		227.7		0.5	14.47	100.9	80.1																
W3	29/03/2014 7:45	No Discharge	P			7.8		227.9		0.5	13.99	96.9	86.8																
W3	30/03/2014 9:15	No Discharge	P			7.77		228.2		0.6	14.2	99.5	62.3																
W3	31/03/2014 7:30	No Discharge	P			7.79		228.6		0.7	12.89	89.7	69.9																
W3	01/04/2014 8:00	No Discharge	P			7.53		236.1		0.8	14.63	102.6	150.1																
W3	02/04/2014 8:30	No Discharge	M			7.72		235.1		0.6	13.74	95.6	90.9																
W3	02/04/2014 13:30	No Discharge	P	5.8	292	7.71	8.29	235.6	488	0.6	14.82	103.2	81.6	244	220	210	8.3	0.46	40.2	0.019	<0.0050	0.212	8.16	0.163	<0.00050	0.0004	0.0825	<0.00010	<0.0010
W3	27/05/2014 8:15	No Discharge	P			7.26		231.6		2.8	12.71	94.1	93.7																
W3	28/05/2014 14:45	No Discharge	M			8.2		252.9		4.6	11.33	87.3	122																
W3	29/05/2014 8:15	No Discharge	P			8.15		284.8		2.1	12.01	87.2	101.2																
W3	30/05/2014 8:00	No Discharge	P			8.21		248.7		2.2	11.55	84.1	114.2																
W3	31/05/2014 8:45	No Discharge	P			8.17		251.2		2.8	11.82	87.5	117.6																
W3	04/06/2014 13:25	No Discharge	P	<1.0	300	7.27	8.41	291.7	491	3.8	10.65	81	75.4	227	225	213	5.1	0.55	44.3	0.025	<0.0050	0.272	8.26	0.0291	<0.00050	0.00032	0.0762	<0.00010	<0.0010
W3	06/06/2014 9:30	No Discharge	P			7.98		277.2		2.2	12.55	92.5	103.1																
W3	08/06/2014 10:20	No Discharge	M																										
W3	11/06/2014 10:45	No Discharge	M			8.22		300.1		2.8	11.57	85.5	138.8																
W3	11/06/2014 23:45	No Discharge	P	<1.0	288	8.22	8.28	300.1	502	2.8	11.57	85.5	138.8	242	229	219	5.1	0.57	44.2	0.022	<0.0050	0.253	5.43	0.0081	<0.00050	0.00026	0.0742	<0.00010	<0.0010
W3	17/06/2014 9:00	No Discharge	M			7.91		290.8		2.8	11.34	86.3	66.7																
W3	17/06/2014 9:45	No Discharge	P	<1.0	302	7.91	8.3	290.8	504	2.8	11.34	86.3	66.7	222	228	220	5.2	0.57	42.8	0.1	<0.0050	0.243	4.49	0.0131	<0.00050	0.00024	0.0752	<0.00010	<0.0010
W3	24/06/2014 6:45	No Discharge	P	<1.0	298	8.25	8.37	311.1	504	3	11.86	88.3	75.1	229	237	224	5	0.55	45	0.019	<0.0050	0.205	5.13	0.0052	<0.00050	0.00026	0.0752	<0.00010	<0.0010
W3	24/06/2014 9:30	No Discharge	M			8.25		311.1		3	11.86	88.3	75.1																
W3	30/06/2014 8:45	No Discharge	P	<1.0	298	8.21	8.29	289.2	512	3.1	10.63	78.4	81.7	243	235	218	5.2	0.58	42.8	0.021	<0.0050	0.202	5.95	0.0043	<0.00050	0.00024	0.0777	<0.00010	<0.0010
W3	30/06/2014 8:45	No Discharge	M																										
W3	09/07/2014 11:20	No Discharge	P	<1.0	278	8.3	8.54	307.3	507	3.6	11.79	89.1	72.2	235	237	221	5	0.58	47.6	0.021	<0.0050	0.201	5.51	0.011	<0.00050	0.00028	0.0763	<0.00010	<0.0010

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	22/01/2014 10:50	<0.05	<0.000010	51.4	<0.0010	<0.00050	0.00189	0.0141	<0.00020	<0.0050	27.1	0.0288	<0.000010	0.0048	<0.0010	<0.01	2.09	0.00044	5.56	<0.000020	18	0.65	13.7	<0.000050	<0.0050	<0.0050	0.00274
W3	27/01/2014 13:45	<0.05	<0.000010	55.7	<0.0010	<0.00050	0.00649	0.0087	<0.00020	<0.0050	17.4	0.0657	<0.000010	0.0055	<0.0010	<0.01	3.06	0.00037	5.4	<0.000020	14.2	0.558	8.9	<0.000050	<0.0050	<0.0050	0.00215
W3	03/02/2014 11:00	<0.05	<0.000010	53.8	<0.0010	<0.00050	0.0016	0.0174	<0.00020	<0.0050	26.7	0.0328	<0.000010	0.0053	<0.0010	<0.01	2.24	0.00043	5.61	<0.000020	17.9	0.681	16.7	<0.000050	<0.0050	<0.0050	0.00289
W3	13/02/2014 15:30	<0.05	<0.000010	51.5	<0.0010	<0.00050	0.00196	0.0236	<0.00020	<0.0050	26.9	0.0359		0.0052	<0.0010	<0.01	2.16	0.00056	5.65	<0.000020	18.2	0.692	17.6	<0.000050	<0.0050	<0.0050	0.00283
W3	18/02/2014 11:00	<0.05	<0.000010	55	<0.0010	<0.00050	0.00194	0.0306	<0.00020	<0.0050	27.5	0.0366	<0.000010	0.0052	<0.0010	<0.01	2.02	0.00048	6.14	0.000032	17.4	0.677	14.5	<0.000050	<0.0050	<0.0050	0.00281
W3	20/02/2014 10:10	<0.05	<0.000010	72.2	<0.0010	<0.00050	0.0016	0.036	<0.00020	<0.0050	25.7	0.0359	<0.000010	0.0052	<0.0010	<0.01	1.99	0.00046	8.03	<0.000020	16.9	0.673	15.2	<0.000050	<0.0050	<0.0050	0.00274
W3	21/02/2014 11:30																										
W3	22/02/2014 8:00																										
W3	23/02/2014 8:45																										
W3	24/02/2014 9:30																										
W3	25/02/2014 8:45																										
W3	25/02/2014 14:00	<0.05	<0.000010	54.5	<0.0010	<0.00050	0.00487	0.062	<0.00020	<0.0050	21.9	0.0434	<0.000010	0.0048	<0.0010	<0.01	2.57	0.00033	5.45	<0.000020	15.4	0.59	14.6	<0.000050	<0.0050	<0.0050	0.00217
W3	27/02/2014 8:30																										
W3	28/02/2014 9:30																										
W3	01/03/2014 9:15																										
W3	02/03/2014 9:25																										
W3	03/03/2014 9:50																										
W3	04/03/2014 9:35																										
W3	05/03/2014 7:50																										
W3	06/03/2014 8:25																										
W3	07/03/2014 9:40																										
W3	08/03/2014 9:35	<0.05	<0.000010	54.7	<0.0010	<0.00050	0.00461	0.111	<0.00020	<0.0050	22.9	0.0637	<0.000010	0.0053	0.0012	<0.01	2.86	0.00034	5.38	<0.000020	16.7	0.631	12.7	<0.000050	<0.0050	<0.0050	0.00277
W3	09/03/2014 9:15																										
W3	10/03/2014 7:30	<0.05	<0.000010	54.7	<0.0010	<0.00050	0.00515	0.093	<0.00020	<0.0050	23.8	0.0717	<0.000010	0.0055	0.0011	0.013	2.88	0.00044	5.41	<0.000020	17	0.651	11.7	<0.000050	<0.0050	<0.0050	0.00284
W3	11/03/2014 9:10																										
W3	12/03/2014 7:30																										
W3	13/03/2014 9:10																										
W3	14/03/2014 8:20																										
W3	15/03/2014 8:50																										
W3	16/03/2014 9:30																										
W3	17/03/2014 9:30	<0.05	<0.000010	51.9	<0.0010	<0.00050	0.00582	0.411	<0.00020	<0.0050	22	0.104	<0.000010	0.005	0.0015	0.022	2.58	0.00037	5.88	<0.000020	15.5	0.589	14.4	<0.000050	<0.0050	0.0108	0.00252
W3	18/03/2014 14:40																										
W3	19/03/2014 10:20																										
W3	20/03/2014 17:15																										
W3	21/03/2014 9:40																										
W3	22/03/2014 9:15																										
W3	23/03/2014 9:30																										
W3	24/03/2014 9:50																										
W3	25/03/2014 8:40																										
W3	26/03/2014 8:15																										
W3	27/03/2014 8:15	<0.05	0.000011	51.8	<0.0010	<0.00050	0.00445	0.25	<0.00020	<0.0050	21.1	0.0546	<0.000010	0.0048	0.0013	0.013	2.31	0.00027	5.63	<0.000020	14.5	0.592	11.1	<0.000050	<0.0050	0.0065	0.00236
W3	28/03/2014 9:00																										
W3	29/03/2014 7:45																										
W3	30/03/2014 9:15																										
W3	31/03/2014 7:30																										
W3	01/04/2014 8:00																										
W3	02/04/2014 8:30																										
W3	02/04/2014 13:30	<0.05	<0.000010	57.5	<0.0010	<0.00050	0.00506	0.273	<0.00020	<0.0050	24.4	0.0625	<0.000010	0.0057	0.0012	0.018	2.68	0.00044	6.24	<0.000020	17	0.653	14.6	<0.000050	<0.0050	0.0069	0.00248
W3	27/05/2014 8:15																										
W3	28/05/2014 14:45																										
W3	29/05/2014 8:15																										
W3	30/05/2014 8:00																										
W3	31/05/2014 8:45																										
W3	04/06/2014 13:25	<0.05	<0.000010	50.1	<0.0010	<0.00050	0.0046	0.061	<0.00020	<0.0050	24.7	0.0385	<0.000010	0.0049	0.0013	<0.01	2.28	0.00041	5.62	<0.000020	17.1	0.691	13.6	<0.000050	<0.0050	<0.0050	0.00248
W3	06/06/2014 9:30																										
W3	08/06/2014 10:20																										
W3	11/06/2014 10:45																										
W3	11/06/2014 23:45	<0.05	<0.000010	52	<0.0010	<0.00050	0.0032	0.025	<0.00020	<0.0050	27.4	0.0325	<0.000010	0.005	0.0012	<0.01	2.27	0.00037	5.68	<0.000020	18.2	0.699	16.8	<0.000050	<0.0050	<0.0050	0.00271
W3	17/06/2014 9:00																										
W3	17/06/2014 9:45	<0.05	<0.000010	48.5	<0.0010	<0.00050	0.00292	0.027	<0.00020	<0.0050	24.6	0.0389	<0.000010	0.0051	<0.0010	<0.01	2.21	0.00042	5.24	0.000047	17.1	0.668	16.2	<0.000050	<0.0050	<0.0050	0.00272
W3	24/06/2014 6:45	<0.05	<0.000010	51.2	<0.0010	<0.00050	0.00261	0.016	<0.00020	<0.0050	24.5	0.0359	<0.000010	0.0049	<0.0010	<0.01	2.15	0.00039	5.73	<0.000020	16.7	0.672	14.7	<0.000050	<0.0050	<0.0050	0.0026
W3	24/06/2014 9:30																										
W3	30/06/2014 8:45	<0.05	<0.000010	54.4	<0.0010	<0.00050	0.0026	0.014	<0.00020	<0.0050	25.9	0.0382	<0.000010	0.0052	<0.0010	<0.01	2.1	0.00038	5.84	<0.000020	17.1	0.697	15.8	<0.000050	<0.0050	<0.0050	0.00268
W3	30/06/2014 8:45																										
W3	09/07/2014 11:20	<0.05	<0.000010	51.2	<0.0010	<0.00050	0.00271	0.022	<0.00020	<0.0050	26	0.0401	<0.000010	0.005	<0.0010	<0.01	2.18	0.0004	5.63	<0.000020	17.6	0.717	15.3	<0.000050	<0.0050	<0.0050	0.00261

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	22/01/2014 10:50	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00025	0.0829	<0.00010	<0.0010	<0.05	<0.000010	53.2	<0.0010	<0.00050	0.00158	0.0073	<0.00020	<0.0050	26.3	0.0291	<0.000010	0.0049	<0.0010	<0.01	1.98
W3	27/01/2014 13:45	<0.0050	<0.0050	<0.00050	0.0035	<0.00050	0.00039	0.0645	<0.00010	<0.0010	<0.05	0.000036	54.2	<0.0010	<0.00050	0.00593	0.0062	<0.00020	<0.0050	16.7	0.0448	<0.000010	0.005	<0.0010	<0.01	3.23
W3	03/02/2014 11:00	<0.0050	<0.0050	<0.00050	0.0031	<0.00050	0.00025	0.0807	<0.00010	<0.0010	<0.05	<0.000010	53.4	<0.0010	<0.00050	0.00181	0.0134	<0.00020	<0.0050	26.4	0.031	<0.000010	0.0049	<0.0010	<0.01	2.17
W3	13/02/2014 15:30	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00025	0.0796	<0.00010	<0.0010	<0.05	<0.000010	48.3	<0.0010	<0.00050	0.00171	0.0138	<0.00020	<0.0050	26.9	0.0346		0.0051	<0.0010	<0.01	2.07
W3	18/02/2014 11:00	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00022	0.0804	<0.00010	<0.0010	<0.05	<0.000010	49.2	<0.0010	<0.00050	0.00168	0.015	<0.00020	<0.0050	26.9	0.0346	<0.000010	0.005	<0.0010	<0.01	2.08
W3	20/02/2014 10:10	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00022	0.0794	<0.00010	<0.0010	<0.05	<0.000010	53.2	<0.0010	<0.00050	0.00166	0.0152	<0.00020	<0.0050	27.5	0.034	<0.000010	0.0052	<0.0010	<0.01	2.21
W3	21/02/2014 11:30																									
W3	22/02/2014 8:00																									
W3	23/02/2014 8:45																									
W3	24/02/2014 9:30																									
W3	25/02/2014 8:45																									
W3	25/02/2014 14:00	<0.0050	<0.0050	<0.00050	0.0031	<0.00050	0.00032	0.0751	<0.00010	<0.0010	<0.05	<0.000010	53.7	<0.0010	<0.00050	0.00395	0.0187	<0.00020	<0.0050	21.5	0.0354	<0.000010	0.0053	<0.0010	<0.01	2.73
W3	27/02/2014 8:30																									
W3	28/02/2014 9:30																									
W3	01/03/2014 9:15																									
W3	02/03/2014 9:25																									
W3	03/03/2014 9:50																									
W3	04/03/2014 9:35																									
W3	05/03/2014 7:50																									
W3	06/03/2014 8:25																									
W3	07/03/2014 9:40																									
W3	08/03/2014 9:35	<0.0050	<0.0050	<0.00050	0.0033	<0.00050	0.00031	0.076	<0.00010	<0.0010	<0.05	<0.000010	52.4	<0.0010	<0.00050	0.00339	0.0177	<0.00020	<0.0050	21	0.0492	<0.000010	0.0054	<0.0010	0.011	2.61
W3	09/03/2014 9:15																									
W3	10/03/2014 7:30	<0.0050	<0.0050	<0.00050	0.0035	<0.00050	0.0003	0.0747	<0.00010	<0.0010	<0.05	<0.000010	58.4	<0.0010	<0.00050	0.00344	0.0163	<0.00020	<0.0050	21.1	0.0603	<0.000010	0.0053	<0.0010	<0.01	2.32
W3	11/03/2014 9:10																									
W3	12/03/2014 7:30																									
W3	13/03/2014 9:10																									
W3	14/03/2014 8:20																									
W3	15/03/2014 8:50																									
W3	16/03/2014 9:30																									
W3	17/03/2014 9:30	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00029	0.0763	<0.00010	<0.0010	<0.05	<0.000010	53.4	<0.0010	<0.00050	0.00318	0.0155	<0.00020	<0.0050	21.6	0.0434	<0.000010	0.0054	<0.0010	<0.01	2.59
W3	18/03/2014 14:40																									
W3	19/03/2014 10:20																									
W3	20/03/2014 17:15																									
W3	21/03/2014 9:40																									
W3	22/03/2014 9:15																									
W3	23/03/2014 9:30																									
W3	24/03/2014 9:50																									
W3	25/03/2014 8:40																									
W3	26/03/2014 8:15																									
W3	27/03/2014 8:15	<0.0050	<0.0050	<0.00050	0.0034	<0.00050	0.00034	0.0797	<0.00010	<0.0010	<0.05	<0.000010	53.2	<0.0010	<0.00050	0.00345	0.0173	<0.00020	<0.0050	22.1	0.036	<0.000010	0.0056	0.001	<0.01	2.64
W3	28/03/2014 9:00																									
W3	29/03/2014 7:45																									
W3	30/03/2014 9:15																									
W3	31/03/2014 7:30																									
W3	01/04/2014 8:00																									
W3	02/04/2014 8:30																									
W3	02/04/2014 13:30	<0.0050	<0.0050	<0.00050	0.0032	<0.00050	0.00034	0.075	<0.00010	<0.0010	<0.05	<0.000010	52.7	<0.0010	<0.00050	0.00337	0.0175	<0.00020	<0.0050	21.4	0.0373	<0.000010	0.0053	<0.0010	<0.01	2.56
W3	27/05/2014 8:15																									
W3	28/05/2014 14:45													<0.0010												
W3	29/05/2014 8:15																									
W3	30/05/2014 8:00																									
W3	31/05/2014 8:45																									
W3	04/06/2014 13:25	<0.0050	<0.0050	<0.00050	0.0235	<0.00050	0.00027	0.0744	<0.00010	<0.0010	<0.05	0.000011	50.3	<0.0010	<0.00050	0.00474	0.0414	<0.00020	<0.0050	24.1	0.034	<0.000010	0.005	<0.0010	<0.01	2.2
W3	06/06/2014 9:30																									
W3	08/06/2014 10:20													<0.0010												
W3	11/06/2014 10:45													<0.0010												
W3	11/06/2014 23:45	<0.0050	<0.0050	<0.00050	0.0042	<0.00050	0.00026	0.0746	<0.00010	<0.0010	<0.05	<0.000010	50.1	<0.0010	<0.00050	0.00337	0.0178	<0.00020	<0.0050	25.3	0.0312	<0.000010	0.005	<0.0010	<0.01	2.28
W3	17/06/2014 9:00													<0.0010												
W3	17/06/2014 9:45	<0.0050	<0.0050	<0.00050	0.0052	<0.00050	0.00025	0.0744	<0.00010	<0.0010	<0.05	<0.000010	49.2	<0.0010	<0.00050	0.00308	0.0113	<0.00020	<0.0050	25.6	0.0328	<0.000010	0.0051	<0.0010	<0.01	2.16
W3	24/06/2014 6:45	<0.0050	<0.0050	<0.00050	0.0042	<0.00050	0.00029	0.0782	<0.00010	<0.0010	<0.05	0.00001	53	<0.0010	<0.00050	0.00251	0.0115	<0.00020	<0.0050	25.5	0.0362	<0.000010	0.0049	0.001	0.01	2.21
W3	24/06/2014 9:30													<0.0010												
W3	30/06/2014 8:45	<0.0050	<0.0050	<0.00050	0.0036	<0.00050	0.00022	0.0758	<0.00010	<0.0010	<0.05	<0.000010	51	<0.0010	<0.00050	0.00273	0.0127	<0.00020	<0.0050	26.2	0.0384	<0.000010	0.0051	<0.0010	<0.01	2.25
W3	30/06/2014 8:45													<0.0010												
W3	09/07/2014 11:20	<0.0050	<0.0050	<0.00050	0.0041	<0.00050	0.00026	0.0818	<0.00010	<0.0010	<0.05	0.00001	51.5	<0.0010	<0.00050	0.00262	0.0155	<0.00020	<0.0050	26.3	0.0412	<0.000010	0.005	<0.0010	<0.01	2.3

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	Br	Cation	CN-T	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-TKN	P-PO4T	P-TDP	P-TRP
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L
W3	22/01/2014 10:50	0.00042	6.1	<0.000020	17.9	0.688	17	<0.000050	<0.0050	<0.0050	0.0024	<0.0050	<0.0050	<0.00050	269	<0.50	<0.50	<0.50														
W3	27/01/2014 13:45	0.00034	5.1	<0.000020	13.9	0.536	10.9	<0.000050	<0.0050	<0.0050	0.00176	<0.0050	<0.0050	<0.00050	222	<0.50	<0.50	<0.50														
W3	03/02/2014 11:00	0.00042	5.96	<0.000020	17.6	0.667	17.2	<0.000050	<0.0050	<0.0050	0.00273	<0.0050	<0.0050	<0.00050	276	<0.50	<0.50	<0.50														
W3	13/02/2014 15:30	0.00053	4.89	<0.000020	18.4	0.687	15.6	<0.000050	<0.0050	<0.0050	0.00274	<0.0050	<0.0050	<0.00050	276	<0.50	<0.50	<0.50														
W3	18/02/2014 11:00	0.00036	5.78	<0.000020	18.4	0.642	16.2	<0.000050	<0.0050	<0.0050	0.00291	<0.0050	<0.0050	<0.00050	277	<0.50	<0.50	<0.50														
W3	20/02/2014 10:10	0.00039	5.91	<0.000020	18.8	0.684	17.3	<0.000050	<0.0050	<0.0050	0.00291	<0.0050	<0.0050	<0.00050	269	<0.50	<0.50	<0.50														
W3	21/02/2014 11:30																															
W3	22/02/2014 8:00																															
W3	23/02/2014 8:45																															
W3	24/02/2014 9:30																															
W3	25/02/2014 8:45																															
W3	25/02/2014 14:00	0.00037	5.58	<0.000020	15.4	0.628	13	<0.000050	<0.0050	<0.0050	0.00235	<0.0050	<0.0050	<0.00050	249	<0.50	<0.50	<0.50														
W3	27/02/2014 8:30																															
W3	28/02/2014 9:30																															
W3	01/03/2014 9:15																															
W3	02/03/2014 9:25																															
W3	03/03/2014 9:50																															
W3	04/03/2014 9:35																															
W3	05/03/2014 7:50																															
W3	06/03/2014 8:25																															
W3	07/03/2014 9:40																															
W3	08/03/2014 9:35	0.00037	5.53	<0.000020	15.3	0.621	14.5	<0.000050	<0.0050	<0.0050	0.00236	<0.0050	<0.0050	<0.00050	255	<0.50	<0.50	<0.50														
W3	09/03/2014 9:15																															
W3	10/03/2014 7:30	0.00038	5.54	<0.000020	15	0.626	12.7	<0.000050	<0.0050	<0.0050	0.00231	<0.0050	<0.0050	<0.00050	254	<0.50	<0.50	<0.50														
W3	11/03/2014 9:10																															
W3	12/03/2014 7:30																															
W3	13/03/2014 9:10																															
W3	14/03/2014 8:20																															
W3	15/03/2014 8:50																															
W3	16/03/2014 9:30																															
W3	17/03/2014 9:30	0.00036	5.72	<0.000020	15.4	0.625	13.8	<0.000050	<0.0050	<0.0050	0.00248	<0.0050	<0.0050	<0.00050	245	1.16	<0.50	0.97														
W3	18/03/2014 14:40																															
W3	19/03/2014 10:20																															
W3	20/03/2014 17:15																															
W3	21/03/2014 9:40																															
W3	22/03/2014 9:15																															
W3	23/03/2014 9:30																															
W3	24/03/2014 9:50																															
W3	25/03/2014 8:40																															
W3	26/03/2014 8:15																															
W3	27/03/2014 8:15	0.00031	5.82	<0.000020	15.2	0.642	13.9	<0.000050	<0.0050	<0.0050	0.00257	<0.0050	<0.0050	<0.00050	244	0.86	<0.50	0.72														
W3	28/03/2014 9:00																															
W3	29/03/2014 7:45																															
W3	30/03/2014 9:15																															
W3	31/03/2014 7:30																															
W3	01/04/2014 8:00																															
W3	02/04/2014 8:30																															
W3	02/04/2014 13:30	0.00034	5.6	<0.000020	15.3	0.617	14.6	<0.000050	<0.0050	<0.0050	0.00233	<0.0050	<0.0050	<0.00050	256	<0.50	<0.50	<0.50														
W3	27/05/2014 8:15																															
W3	28/05/2014 14:45																							<0.0010	<0.0010							
W3	29/05/2014 8:15																															
W3	30/05/2014 8:00																															
W3	31/05/2014 8:45																															
W3	04/06/2014 13:25	0.00036	5.74	<0.000020	16.5	0.683	14.5	<0.000050	<0.0050	<0.0050	0.00256	<0.0050	<0.0050	0.00082	253	3.86	<0.50	3.22														
W3	06/06/2014 9:30																															
W3	08/06/2014 10:20																							<0.0010	<0.0010							
W3	11/06/2014 10:45																							<0.0010	<0.0010							
W3	11/06/2014 23:45	0.00043	5.6	<0.000020	17.5	0.708	15.4	<0.000050	<0.0050	<0.0050	0.0024	<0.0050	<0.0050	<0.00050	268	<0.50	<0.50	<0.50														
W3	17/06/2014 9:00																							<0.0010	<0.0010							
W3	17/06/2014 9:45	0.00037	5.5	<0.000020	17.7	0.666	15.4	<0.000050	<0.0050	<0.0050	0.00268	<0.0050	<0.0050	<0.00050	265	1.74	<0.50	1.45														
W3	24/06/2014 6:45	0.00037	5.54	<0.000020	16.8	0.699	15.3	<0.000050	<0.0050	<0.0050	0.00264	<0.0050	<0.0050	<0.00050	267	3.47	<0.50	2.89														
W3	24/06/2014 9:30																							<0.0010	<0.0010							
W3	30/06/2014 8:45	0.00034	5.22	<0.000020	17.6	0.704	15.4	<0.000050	<0.0050	<0.0050	0.00258	<0.0050	<0.0050	<0.00050	266	<0.50	<0.50	<0.50														
W3	30/06/2014 8:45																							<0.0010	<0.0010							
W3	09/07/2014 11:20	0.00038	5.38	<0.000020	16.9	0.692	16.1	<0.000050	<0.0050	<0.0050	0.00251	<0.0050	<0.0050	<0.00050	269	<0.50	<0.50	<0.50														

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W3	22/01/2014 10:50			455.6			
W3	27/01/2014 13:45			810.1			
W3	03/02/2014 11:00			493			
W3	13/02/2014 15:30						
W3	18/02/2014 11:00			504.2			
W3	20/02/2014 10:10			313			
W3	21/02/2014 11:30			294.1			
W3	22/02/2014 8:00			80.4			
W3	23/02/2014 8:45			482.7			
W3	24/02/2014 9:30			494.6			
W3	25/02/2014 8:45			473.3			
W3	25/02/2014 14:00			476.5			
W3	27/02/2014 8:30			483.4			
W3	28/02/2014 9:30			486.6			
W3	01/03/2014 9:15			478			
W3	02/03/2014 9:25			475.8			
W3	03/03/2014 9:50			505.7			
W3	04/03/2014 9:35			509.1			
W3	05/03/2014 7:50			521.6			
W3	06/03/2014 8:25			480			
W3	07/03/2014 9:40			478.6			
W3	08/03/2014 9:35			473.6			
W3	09/03/2014 9:15			477.3			
W3	10/03/2014 7:30			494.1			
W3	11/03/2014 9:10			482			
W3	12/03/2014 7:30			474.9			
W3	13/03/2014 9:10			497.3			
W3	14/03/2014 8:20			479.2			
W3	15/03/2014 8:50			480.1			
W3	16/03/2014 9:30			480.8			
W3	17/03/2014 9:30			482.2			
W3	18/03/2014 14:40			485.4			
W3	19/03/2014 10:20			482.1			
W3	20/03/2014 17:15			481.3			
W3	21/03/2014 9:40			489.5			
W3	22/03/2014 9:15			490.1			
W3	23/03/2014 9:30			489.9			
W3	24/03/2014 9:50			491.1			
W3	25/03/2014 8:40			491.1			
W3	26/03/2014 8:15						
W3	27/03/2014 8:15			428.8			
W3	28/03/2014 9:00			428.7			
W3	29/03/2014 7:45			426.2			
W3	30/03/2014 9:15			427.9			
W3	31/03/2014 7:30			426.7			
W3	01/04/2014 8:00			440.1			
W3	02/04/2014 8:30			440.4			
W3	02/04/2014 13:30			440.8			
W3	27/05/2014 8:15			402.1			
W3	28/05/2014 14:45			415.1			
W3	29/05/2014 8:15			506			
W3	30/05/2014 8:00			440			
W3	31/05/2014 8:45			436			
W3	04/06/2014 13:25			490.2			
W3	06/06/2014 9:30			492.6			
W3	08/06/2014 10:20						
W3	11/06/2014 10:45			521.6			
W3	11/06/2014 23:45			521.6			
W3	17/06/2014 9:00			503.6			
W3	17/06/2014 9:45			503.6			
W3	24/06/2014 6:45			535.7			
W3	24/06/2014 9:30			535.7			
W3	30/06/2014 8:45			500.9			
W3	30/06/2014 8:45						
W3	09/07/2014 11:20			519.7			

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Phase	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
				mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	09/07/2014 11:20	No Discharge	M			8.3		307.3		3.6	11.79	89.1	72.2																
W3	10/07/2014 13:25	No Discharge	M			8.23		313.3		6.3	11.17	88.7	156.7																
W3	15/07/2014 14:15	No Discharge	M			7.97		302.9		4.2	10.87	83.4	102.5																
W3	15/07/2014 14:50	No Discharge	P	<1.0	296	7.97	8.19	302.9	515	4.2	10.87	83.4	102.5	255	246	228	4.6	0.56	46.2	0.034	<0.0050	0.203	4.54	0.0187	<0.00050	0.00024	0.0781	<0.00010	<0.0010
W3	21/07/2014 11:05	No Discharge	P	<1.0	300	7.52	8.4	387.3	509	3.4	11.8	88.8	196.7	242	235	226	5	0.56	42.9	0.015	<0.0050	0.18	5.64	0.0291	<0.00050	0.00028	0.0774	<0.00010	<0.0010
W3	21/07/2014 11:05	No Discharge	M			7.52		387.3		3.4	11.8	88.8	196.7																
W3	23/07/2014 8:05	No Discharge	M			7.73		234.9		2.2	11.9	86.1	103.9																
W3	31/07/2014 9:50	No Discharge	P	<1.0	294	7.91	8.25	280.4	516	2.1	12.19	88.6	57.3	238	238	226	4.8	0.57	45.7	0.0087	<0.0050	0.2	5.13	0.0054	<0.00050	0.00026	0.0797	<0.00010	<0.0010
W3	31/07/2014 9:50	No Discharge	M																										
W3	04/08/2014 7:30	No Discharge	P	<1.0	276	7.92	8.2	320.5	520	2.4	11.63	85.1	73.2	241	242	229	4.5	0.56	46.8	0.0099	<0.0050	0.208	5.49	0.0076	<0.00050	0.00026	0.0802	<0.00010	<0.0010
W3	04/08/2014 7:30	No Discharge	M			7.92		320.5		2.4	11.63	85.1	73.2																
W3	14/08/2014 9:20	No Discharge	P	1.1	306	7.92	8.31	283.5	526	1.6	11.9	85	74.8	247	244	229	4.9	0.55	49.4	0.018	<0.0050	0.196	4.14	0.0111	<0.00050	0.00023	0.0766	<0.00010	<0.0010
W3	14/08/2014 9:20	No Discharge	M																										
W3	18/08/2014 9:00	No Discharge	P	<1.0	302	7.77	8.31	317.2	522	2.1	12.04	87.5	112.2	244	234	230	4.6	0.52	49.6	0.014	<0.0050	0.178	5.5	0.0105	<0.00050	0.00023	0.0792	<0.00010	<0.0010
W3	19/08/2014 9:20	No Discharge	M			7.93		303		2.4	11.76	86	96.5																
W3	26/08/2014 11:10	No Discharge	P	<1.0	300	7.93	8.22	290.4	525	2.3	12.49	91	139.2	244	242	221	4.7	0.56	52.5	0.053	<0.0050	0.186	6.1	0.0081	<0.00050	0.00027	0.0818	<0.00010	<0.0010
W3	26/08/2014 11:10	No Discharge	M			7.93		290.4		2.3	12.49	91	139.2																
W3	04/09/2014 10:45	No Discharge	P	283	306	7.78	8.22	263	526	0.2	14.58	100.4	152.4	254	247	228	4.4	0.54	52.4	0.014	<0.0050	0.194	5.19	0.0052	<0.00050	0.00023	0.0769	<0.00010	<0.0010
W3	04/09/2014 10:45	No Discharge	M			7.78		263		0.2	14.58	100.4	152.4																
W3	12/09/2014 9:20	No Discharge	P	1.5	352	7.87	8.28	284.8	534	0.7	11.29	78.9	136.1	256	252	230	4.8	0.54	54.4	0.025	<0.0050	0.209	5.46	0.0129	<0.00050	0.00051	0.0883	<0.00010	<0.0010
W3	12/09/2014 9:20	No Discharge	M			7.87		248.8		0.7	11.29	78.9	136.1																
W3	15/09/2014 9:45	No Discharge	P	1	344	7.82	8.26	207.4	540	0.7	10.89	76.2	120.6	271	249	229	4.8	0.57	56	0.02	<0.0050	0.201	4.23	0.0069	<0.00050	0.0002	0.0791	<0.00010	<0.0010
W3	15/09/2014 9:45	No Discharge	M			7.82		207.4		0.7	10.89	76.2	120.6																
W3	22/09/2014 10:55	No Discharge	P	4.1	312	7.68	8.36	271.8	522	1.1	11.44	80.8	126.8	253	238	216	4.7	0.58	57	0.019	<0.0050	0.163	5.24	0.0457	<0.00050	0.00027	0.0832	<0.00010	<0.0010
W3	22/09/2014 16:45	No Discharge	M			7.84		262.4		1.7	11.76	84.7	164.7																
W3	05/10/2014 12:10	No Discharge	P	13.4	302	7.89	8.23	263.2	533	0	11.69	80.3	15.2	269	254	226	4.8	0.54	60	0.016	<0.0050	0.245	4.08	0.166	<0.00050	0.00025	0.087	<0.00010	<0.0010
W3	05/10/2014 12:10	No Discharge	M			7.89		263.2		0	11.69	80.3	15.2																
W3	08/10/2014 14:10	No Discharge	P	<1.0	324	7.72	8.27	251.9	520	-1.1	12.42	82.7	222.4	242	238	215	4.9	0.52	60.4	0.025	<0.0050	0.255	5.54	0.0219	<0.00050	0.00026	0.0785	<0.00010	<0.0010
W3	08/10/2014 14:10	No Discharge	M			7.72		251.9		-1.1	12.42	82.7	222.4																
W3	13/10/2014 13:15	No Discharge	P	<1.0	314	7.86	8.26	313.7	534	-0.2	11.84	80.8	115.1	264	255	217	5.4	0.52	63.5	0.011	<0.0050	0.255	4.99	0.0243	<0.00050	0.00029	0.0843	<0.00010	<0.0010
W3	13/10/2014 13:15	No Discharge	M			7.86		313.7		-0.2	11.84	80.8	115.1																
W3	20/10/2014 10:40	No Discharge	P	<1.0	322	7.69	8.37	337.3	531	-0.6	11.96	80.3	231.3	255	264	228	4.7	0.54	81.8	0.022	<0.0050	0.279	3.96	0.0131	<0.00050	0.00023	0.0764	<0.00010	<0.0010
W3	27/10/2014 10:20	No Discharge	P	1	304	7.87	8.11	273.8	539	-1.5	12.94	84.7	111.1	269	256	220	4.9	0.56	65.2	0.043	<0.0050	0.283	4.39	0.0303	<0.00050	0.00022	0.0846	<0.00010	<0.0010
W3	27/10/2014 10:20	No Discharge	M	<1.0	316	7.87	7.99	273.8	539	-1.5	12.94	84.7	111.1	241	270	215	5.9	0.56	64.4	0.019	<0.0050	0.279	4.97	0.0104	<0.00050	0.00024	0.0824	<0.00010	<0.0010
W3	05/11/2014 14:30	No Discharge	P	<1.0	324	7.44	8.29	282.7	547	-1.5	12.90	85	173.4	267	257	223	5.7	0.55	55.8	0.018	<0.0050	0.316	4.65	0.015	<0.00050	0.00026	0.0843	<0.00010	<0.0010
W3	10/11/2014 9:40	No Discharge	P	<1.0	312	7.61	8.24	299.9	551	-1.5	13.61	88.7	121.3	251	268	222	6.7	0.58	67.6	0.0099	<0.0050	0.332	4.91	0.0229	<0.00050	0.00024	0.0839	<0.00010	<0.0010
W3	17/11/2014 13:40	No Discharge	P	2.3	338	7.33	7.95	287.5	545	-1.8	11.32	73.8	197.9	236	251	204	6.1	0.47	73.8	0.014	<0.0050	1.24	6.12	0.0211	<0.00050	0.00027	0.0813	<0.00010	<0.0010
W3	24/11/2014 14:05	No Discharge	P	1.2	334	7.80	8.15	298.4	532	0.6	13.61	91.6	225.9	249	243	197	6.4	0.14	77.4	0.031	<0.0050	1.16	5.51	0.0127	<0.00050	0.00028	0.0821	<0.00010	<0.0010
W3	02/12/2014 9:10	No Discharge	P			7.81		322.3		1.4	11.42	82.9	188.0																
W3	03/12/2014 8:10	No Discharge	P	1.5	302	8.14	8.07	335.2	527	0.6	14.34	98.5	177.20	236	235	189	5.9	0.44	77.3	0.019	<0.0050	1.29	6.11	0.0141	<0.00050	0.00028	0.0863	<0.00010	<0.0010
W3	04/12/2014 7:30	No Discharge	M			7.39		277.3		-1.2	13.64	89.7	150.1																
W3	05/12/2014 8:00	No Discharge	M			7.66		278.7		-1.3	12.84	84.4	127.1																
W3	06/12/2014 8:45	No Discharge	M			7.76		291.9		-1.2	13.43	88.4	194.1																
W3	07/12/2014 8:05	No Discharge	M			7.71		299.3		-1.2	13.75	91.4	-26.2																
W3	19/12/2014 9:00	No Discharge	P	1.3	316	7.98	8.3	275.9	531	-1.7	13.93	91.6	168.8	253	247	197	6.6	0.47	74.9	0.013	<0.0050	1.19	5.77	0.0132	<0.00050	0.00029	0.0897	<0.00010	<0.0010
W3	20/12/2014 8:50	No Discharge	P	2.3	318	7.78	8.06	278.8	527	-1.9	15.42	100.6	220.4	262	254	184	6.1	0.47	78.1	0.016	<0.0050	1.21	5.03	0.029	<0.00050	0.00029	0.0798	<0.00010	<0.0010
W3	21/12/2014 9:25	No Discharge	M			7.99		282.3		-1.6	14.31	94.3	112.9																
W3	22/12/2014 14:05	No Discharge	P	1.1	302	7.86	8.19	276.7	539	-1.9	12.23	79.7	143.5	255	261	212	5.3	0.49	71.8	0.017	<0.0050	0.647	2.53	0.0181	<0.00050	0.00028	0.0886	<0.00010	<0.0010
W3	02/01/2015 11:05	No Discharge	P	3.6	312	7.68	8.11	296.8	560	-2	11.95	76.9	77.9	254	247	222	4.8	0.54	76.4	0.029	<0.0050	0.407	4.09	0.0712	<0.00050	0.00025	0.084	<0.00010	<0.0010
W3	06/01/2015 9:10	No Discharge	P		334	7.82	8.04	291.6	580	-2.1	7.38	49.1	86.7	270	275	228	5.3	0.56	73.1	0.034	<0.0050	0.524	4.37	0.0278	<0.00050	0.00027	0.0899	<0.00010	<0.0010
W3	13/01/2015 8:30	No Discharge	P	1.5	330	7.46	8.26	274.9	552	-2.2	12.50	80.3	59.8	263	250	210	5	0.55	73	0.02	<0.0050	0.499	3.12	0.019	<0.00050	0.00024	0.0861	<0.00010	<0.0010
W3	21/01/2015 13:15	No Discharge	P	1.7	320	8.01	8.28	297.9	551	-0.1	14.02	95.8	102.1	264	261	220	5	0.54	65.6	0.017	<0.0050	0.499	3.64	0.0121	<0.00050	0.00023	0.0852	<0.00010	<0.0010
W3	29/01/2015 8:35	No Discharge	P	1.2	320	8.2	8.29	296.9	551	-1.2	11.63	77.2	119.9	265	251	213	5.3	0.59	71.7	0.016	<0.0050	0.506	3.22	0.0185	<0.00050	0.00024	0.0941	<0.00010	<0.0010
W3	03/02/2015 10:30	No Discharge	P	2.9	352	7.31	8.19	421.9	565	-2.4	10.81	69.1	123.2	274	257	223	5.2	0.53	70.1	0.046	<0.0050	0.528	4.65	0.0693	<0.00050	0.00042	0.1	<0.00010	<0.0010
W3	11/02/2015 14:10	No Discharge	P	<1.0	336	7.72	7.91	324.1	564	2.6	5.48	41.1	127.4	270	259	220	5.2	0.5	69.4	0.043	<0.0050	0.201	3.77	0.0069	<0.00050	0.00023	0.0979	<0.00010	<0.0010
W3	18/02/2015 14:00	No Discharge	P	<1.0	340	7.85	7.88	329.4	567	3.1	3.22	24.7	102.5	269	260	215	5.8	0.5	72.7	0.061	<0.0050	0.135	4.39	0.0042	<0.00050	0.00022	0.098	<0.00010	<0.0010
W3	26/02/2015 8:25	No Discharge	P	<1.0	304	7.85	8.08	302.7	551	0.4	5.44	37.6	124.6	250	248	218	5.5	0.43	68.7	0.068	0.0052	0.084	4.92	0.0058	<0.00050	0.00021	0.107	<0.00010	<0.0010
W3	03/03/2015 10:00	No Discharge	P	<1.0	286	7.59	7.88	288.1	546	0	2.9	20	109.6	254	253	216	5.5	0.46	67.4	0.066	<0.0050	0.096	4.61	0.0213	<0.00050	0.00021	0.0958	<0.00010	<0.0010
W3	09/03/2015 7:00	No Discharge	P	<1.0	326	7.68	8.06	291.3	564	0	10.32	70.6	177.6	265	256	222	5.1	0.55	73.7	0.011	<0.0050	0.542	3.91	0.0079	<0.00050	0.00023	0.0809	<0.00010	<0.0010
W3	16/03/2015 6:30	No Discharge	P	<1.0	352	7.14	8.11	290.7	548	0.3	4.43	31.5	123.9	256	251	216	5.2	0.53	66.9	0.058	<0.0050	0.115	4.15	0.0113	<0.00050	0.00021	0.0996	<0.00010	<0.0010
W3	25/03/2015 14:30	No Discharge	P	<1.0	304	7.4	8.09	300.5	526	1	3.62	26.2	63.1	250	247	201	5.7	0.46	64.4	0.081	<0.0050	0.143	4.41	0.0051	<0.00050	0.00022	0.0958	<0.00010	<0.0010
W3	30/03/2015 10:30	No Discharge	P	<1.0	302	7.4	8.45	283.5	527	0.3	3.77	25.9	162.7	240	243	209	5.4	0.43	63.6	0.056	<0.0050	0.145	4.79	0.0696	<0.00050	0.00023	0.0905	<0.00010	<0.0010
W3	04/06/2015 9:00	No Discharge	P	<1.0	318	7.79	8.15	303.8	530	2.4	12.61	92.6	81.2	249	244	211	5.4	0.51	61.6	0.012	<0.0050	0.385	3.83	0.0074	<0.00050	0.00025	0.0772	<0.00010	<0.0010
W3	09/06/2015 15:30	No Discharge	P	<1.0	300	7.77	8.19	336.2	530	4.9	11.08	86.6	155.6	253	262	209	5.7	0.54	66.6	0.024	<0.0050	0.355	3.88	0.004	<0.00050	0.00025	0.0782	<0.00010	<0.0010
W3	15/06/2015 13:40	No Discharge	P	12.6	318	7.84	8.21	231.6	533	5.4	10.85	86.1	128.7	305	247	217	5.3	0.54	65.6	0.025	<0.0050	0.365	4.4	0.567	<0.00050	0.00053	0.103	<0.00010	<0.0010

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	09/07/2014 11:20																										
W3	10/07/2014 13:25																										
W3	15/07/2014 14:15																										
W3	15/07/2014 14:50	<0.05	<0.000010	53.2	<0.0010	<0.00050	0.0024	0.027	<0.00020	<0.0050	29.6	0.0446	<0.000010	0.0053	<0.0010	0.013	2.21	0.00042	6.06	<0.000020	17.3	0.733	18.4	<0.000050	<0.0050	<0.0050	0.00259
W3	21/07/2014 11:05	<0.05	0.000012	52.4	<0.0010	<0.00050	0.0048	0.066	<0.00020	<0.0050	27	0.05	<0.000010	0.0049	<0.0010	0.017	2.13	0.00041	6.18	<0.000020	18.7	0.697	15.7	<0.000050	<0.0050	<0.0050	0.00265
W3	21/07/2014 11:05																										
W3	23/07/2014 8:05																										
W3	31/07/2014 9:50	<0.05	<0.000010	52.6	<0.0010	<0.00050	0.00267	0.021	<0.00020	<0.0050	26	0.0466	<0.000010	0.0051	<0.0010	<0.01	2.19	0.00036	5.97	<0.000020	17.4	0.693	16.7	<0.000050	<0.0050	<0.0050	0.00265
W3	31/07/2014 9:50																										
W3	04/08/2014 7:30	<0.05	<0.000010	53	<0.0010	<0.00050	0.00247	0.022	<0.00020	<0.0050	26.3	0.0417	<0.000010	0.0051	<0.0010	<0.01	2.16	0.00037	6.04	<0.000020	17.6	0.706	16.5	<0.000050	<0.0050	<0.0050	0.00275
W3	04/08/2014 7:30																										
W3	14/08/2014 9:20	<0.05	<0.000010	54.5	<0.0010	<0.00050	0.00768	0.03	<0.00020	<0.0050	26.8	0.0416	<0.000010	0.0052	<0.0010	<0.01	2.19	0.00035	5.86	<0.000020	17.6	0.693	17.3	<0.000050	<0.0050	<0.0050	0.00264
W3	14/08/2014 9:20																										
W3	18/08/2014 9:00	<0.05	<0.000010	54.3	<0.0010	<0.00050	0.00247	0.027	<0.00020	<0.0050	26.3	0.036	<0.000010	0.0048	<0.0010	<0.01	2.24	0.00033	6.03	<0.000020	17.3	0.705	17.4	<0.000050	<0.0050	<0.0050	0.00263
W3	19/08/2014 9:20																										
W3	26/08/2014 11:10	<0.05	<0.000010	54.1	<0.0010	<0.00050	0.00257	0.027	<0.00020	<0.0050	26.4	0.0387	<0.000010	0.0051	<0.0010	<0.01	2.14	0.00038	5.8	<0.000020	17.5	0.724	17.1	<0.000050	<0.0050	<0.0050	0.00265
W3	26/08/2014 11:10																										
W3	04/09/2014 10:45	<0.05	<0.000010	54.1	<0.0010	<0.00050	0.00233	0.021	<0.00020	<0.0050	28.9	0.0414	<0.000010	0.0047	0.0012	<0.01	2.07	0.00039	5.48	<0.000020	18.5	0.668	17.7	<0.000050	<0.0050	<0.0050	0.00258
W3	04/09/2014 10:45																										
W3	12/09/2014 9:20	<0.05	<0.000010	57.5	<0.0010	<0.00050	0.00293	0.033	<0.00020	<0.0050	27.4	0.0455	<0.000010	0.0051	<0.0010	<0.01	2.24	0.00031	6.38	<0.000020	18.1	0.748	16.4	<0.000050	<0.0050	<0.0050	0.00273
W3	12/09/2014 9:20																										
W3	15/09/2014 9:45	<0.05	<0.000010	59.7	<0.0010	<0.00050	0.00237	0.022	<0.00020	<0.0050	29.6	0.0421	<0.000010	0.0047	<0.0010	0.01	2.39	0.00033	6.33	<0.000020	19.1	0.671	19.1	<0.000050	<0.0050	<0.0050	0.00241
W3	15/09/2014 9:45																										
W3	22/09/2014 10:55	<0.05	<0.000010	55.8	<0.0010	<0.00050	0.00265	0.096	<0.00020	<0.0050	27.5	0.0655	<0.000010	0.005	<0.0010	0.013	2.34	0.00036	5.94	0.000035	17.4	0.693	19	<0.000050	<0.0050	<0.0050	0.00256
W3	22/09/2014 16:45																										
W3	05/10/2014 12:10	<0.05	0.000011	60.4	<0.0010	<0.00050	0.00528	0.306	<0.00020	<0.0050	28.7	0.0716	<0.000010	0.0049	0.0013	0.04	2.41	0.0004	6.89	<0.000020	18.2	0.719	20.8	<0.000050	<0.0050	0.0099	0.00259
W3	05/10/2014 12:10																										
W3	08/10/2014 14:10	<0.05	<0.000010	52.5	<0.0010	<0.00050	0.00278	0.051	<0.00020	<0.0050	26.9	0.045	<0.000010	0.0047	<0.0010	<0.01	2.08	0.00033	5.35	<0.000020	16.9	0.689	19.6	<0.000050	<0.0050	<0.0050	0.00259
W3	08/10/2014 14:10																										
W3	13/10/2014 13:15	<0.05	<0.000010	60.9	<0.0010	<0.00050	0.00234	0.025	<0.00020	<0.0050	27.2	0.0424	<0.000010	0.005	<0.0010	<0.01	2.39	0.00041	6.85	<0.000020	18.2	0.725	25.4	<0.000050	<0.0050	<0.0050	0.00272
W3	13/10/2014 13:15																										
W3	20/10/2014 10:40	<0.05	<0.000010	57.7	<0.0010	<0.00050	0.00219	0.028	<0.00020	<0.0050	27	0.0467	<0.000010	0.0048	<0.0010	<0.01	2.19	0.00031	6.13	<0.000020	17.5	0.695	22.9	<0.000050	<0.0050	<0.0050	0.00263
W3	27/10/2014 10:20	<0.05	<0.000010	57.1	0.0015	<0.00050	0.00625	0.061	<0.00020	<0.0050	30.6	0.046	<0.000010	0.0048	0.0014	0.025	2.19	0.00043	6.06	<0.000020	18	0.714	21.8	<0.000050	<0.0050	<0.0050	0.00278
W3	27/10/2014 10:20	<0.05	<0.000010	52.1	<0.0010	<0.00050	0.00232	0.024	<0.00020	<0.0050	27	0.0515	<0.000010	0.0049	<0.0010	<0.01	2.22	0.00038	5.21	<0.000020	17.6	0.709	22.5	<0.000050	<0.0050	<0.0050	0.00269
W3	05/11/2014 14:30	<0.05	<0.000010	60.7	<0.0010	<0.00050	0.00217	0.031	<0.00020	<0.0050	28.1	0.0511	<0.000010	0.0048	<0.0010	<0.01	2.25	0.00035	7.4	<0.000020	18.7	0.716	23.1	<0.000050	<0.0050	<0.0050	0.0027
W3	10/11/2014 9:40	<0.05	<0.000010	55.3	<0.0010	<0.00050	0.00275	0.045	<0.00020	<0.0050	27.5	0.0519	<0.000010	0.0047	<0.0010	<0.01	2.27	0.00037	6.05	<0.000020	17.7	0.705	20.2	<0.000050	<0.0050	<0.0050	0.0028
W3	17/11/2014 13:40	<0.05	0.000011	58.7	<0.0010	<0.00050	0.00457	0.048	<0.00020	<0.0050	21.6	0.0573	<0.000010	0.0053	0.0011	<0.01	2.98	0.0004	4.76	<0.000020	17.4	0.746	21.9	<0.000050	<0.0050	<0.0050	0.00217
W3	24/11/2014 14:05	<0.05	<0.000010	59.9	<0.0010	<0.00050	0.0036	0.027	<0.00020	<0.0050	24.1	0.0346	<0.000010	0.0052	<0.0010	<0.01	3.05	0.00045	5.35	<0.000020	18.4	0.734	26.4	<0.000050	<0.0050	<0.0050	0.00219
W3	02/12/2014 9:10																										
W3	03/12/2014 8:10	<0.05	<0.000010	56.9	<0.0010	<0.00050	0.00342	0.037	<0.00020	<0.0050	22.7	0.0436	<0.000010	0.0052	0.001	<0.01	3	0.00047	4.58	<0.000020	17.4	0.729	26	<0.000050	<0.0050	<0.0050	0.00224
W3	04/12/2014 7:30																										
W3	05/12/2014 8:00																										
W3	06/12/2014 8:45																										
W3	07/12/2014 8:05																										
W3	19/12/2014 9:00	<0.05	0.000013	61.4	<0.0010	<0.00050	0.00355	0.027	<0.00020	<0.0050	24.3	0.0402	<0.000010	0.006	0.0011	<0.01	3.54	0.00047	5.01	<0.000020	18.8	0.977	24.9	<0.000050	<0.0050	<0.0050	0.00256
W3	20/12/2014 8:50	<0.05	<0.000010	62.7	<0.0010	<0.00050	0.0036	0.059	<0.00020	<0.0050	25.6	0.0385	<0.000010	0.0049	0.0011	0.014	3.54	0.00036	6.1	<0.000020	19.4	0.843	23.9	<0.000050	<0.0050	<0.0050	0.00221
W3	21/12/2014 9:25																										
W3	22/12/2014 14:05	<0.05	<0.000010	58.6	<0.0010	<0.00050	0.00253	0.032	<0.00020	<0.0050	26.4	0.0439	<0.000010	0.0053	<0.0010	<0.01	2.88	0.00039	6.31	<0.000020	18	0.876	22.6	<0.000050	<0.0050	<0.0050	0.00276
W3	02/01/2015 11:05	<0.05	<0.000010	57.2	<0.0010	<0.00050	0.00313	0.107	<0.00020	<0.0050	27	0.0726	<0.000010	0.0048	0.0012	0.015	2.24	0.00041	5.99	<0.000020	17.8	0.746	18.9	<0.000050	<0.0050	<0.0050	0.00277
W3	06/01/2015 9:10	<0.05	0.000011	58.1	<0.0010	<0.00050	0.00244	0.053	<0.00020	<0.0050	30.4	0.0458	<0.000010	0.0051	<0.0010	0.02	2.39	0.00047	5.86	<0.000020	18.9	0.791	25.9	<0.000050	<0.0050	<0.0050	0.00272
W3	13/01/2015 8:30	<0.05	<0.000010	60.2	<0.0010	<0.00050	0.00226	0.044	<0.00020	<0.0050	27.3	0.0419	<0.000010	0.0048	<0.0010	0.011	2.21	0.00043	6.59	<0.000020	17.4	0.758	24.1	<0.000050	<0.0050	<0.0050	0.00266
W3	21/01/2015 13:15	<0.05	<0.000010	57.6	<0.0010	<0.00050	0.00188	0.028	<0.00020	<0.0050	29.2	0.038	<0.000010	0.005	<0.0010	<0.01	2.38	0.0004	6.26	<0.000020	18.8	0.759	25.9	<0.000050	<0.0050	<0.0050	0.00262
W3	29/01/2015 8:35	<0.05	<0.000010	57.9	<0.0010	<0.00050	0.0023	0.039	<0.00020	<0.0050	29.3	0.0532	<0.000010	0.0051	<0.0010	0.011	2.55	0.0004	6.24	<0.000020	18.7	0.797	26	<0.000050	<0.0050	<0.0050	0.00307
W3	03/02/2015 10:30	<0.05	0.000011	59.8	<0.0010	<0.00050	0.00337	0.214	<0.00020	<0.0050	30.2	0.0753	<0.000010	0.0056	0.0016	0.017	2.47	0.00058	6.76	<0.000020	19.6	0.82	25.8	<0.000050	<0.0050	<0.0050	0.00353
W3	11/02/2015 14:10	<0.05	0.000015	63.3	<0.0010	<0.00050	0.0033	0.042	<0.00020	<0.0050	27.1	0.299	<0.000010	0.004	0.0011	0.013	2.41	0.00019	6.8	<0.000020	17.5	0.721	25.9	<0.000050	<0.0050	<0.0050	0.00263
W3	18/02/2015 14:00	<0.05	0.000011	61.2	<0.0010	<0.00050	0.00213	0.041	<0.00020	<0.0050	28.3	0.354	<0.000010	0.0036	0.0011	<0.01	2.21	0.00013	6.58	<0.000020	17.3	0.729	22.6	<0.000050	<0.0050	<0.0050	0.00233
W3	26/02/2015 8:25	<0.05	0.000014	57.5	<0.0010	<0.00050	0.0018	0.044	<0.00020	<0.0050	26	0.385	<0.000010	0.0037	0.0012	<0.01	2.07	0.00011	6.15	<0.000020	17.1	0.774	22.8	<0.000050	<0.0050	<0.0050	0.00245
W3	03/03/2015 10:00	<0.05	0.000013	59.2	<0.0010	<0.00050	0.00382	0.072	<0.00020	<0.0050	25.9	0.38	<0.000010	0.0034	0.0012	0.014	2.21	<0.00010	6.06	<0.000020	17.8	0.682	24.7	<0.000050	<0.0050	<0.0050	0.00201
W3	09/03/2015 7:00	<0.05	<0.000010	56.6	<0.0010	<0.00050	0.00331	0.015	<0.00020	<0.0050	30	0.0175	<0.000010	0.0046	<0.0010	0.011	2.31	0.00036	6.16	<0.000020	18.3	0.786	26.3	<0.000050	<0.0050	<0.0050	0.00274
W3	16/03/2015 6:30	<0.05	0.000028	60.2	<0.0010	<0.00050	0.00338	0.063	<0.00020	<0.0050	25.6	0.418	<0.000010	0.0032	0.0011	<0.01	2.07	<0.00010	6.42	0.000029	17	0.708	21.2	<0.000050	<0.0050	<0.0050	0.00194
W3	25/03/2015 14:30	<0.05	0.000011	56.5	<0.0010	<0.00050	0.00169	0.05	<0.00020	<0.0050	26.4	0.403	<0.000010	0.0036	0.0011	0.011	1.97	<0.00010	6.05	<0.000020	17	0.671	21.5	<0.000050	<0.0050	<0.0050	0.00192
W3	30/03/2015 10:30	<0.05	0.000014	55.6	<0.0010	<0.00050	0.00463	0.103	<0.00020	<0.0050	24.6	0.38	<0.000010	0.0035	0.0012	0.011	1.97	0.0001	5.91	<0.000020	15.1	0.63	23.1	<0.000050	<0.0050	<0.0050	0.00181
W3	04/06/2015 9:00	<0.05	<0.000010	57.6	<0.0010	<0.00050	0.00299	0.018	<0.00020	<0.0050	25.4	0.0631	<0.000010	0.0046	<0.0010	0.01	2.66	0.00033	6.59	<0.000020	18.4	0.818	23.5	<0.000050	<0.0050	<0.0050	0.00241
W3	09/06/2015 15:30	<0.05	<0.000010	54.9	<0.0010	<0.00050	0.00286	0.013	<0.00020	<0.0050	28.1	0.0568	<0.000010	0.0048	<0.0010	<0.01	2.42	0.00034	5.79	<0.000020	18.8	0.784	22.7	<0.000050	<0.0050	<0.0050	0.0024
W3	15/06/2015 13:40	<0.05	0.000018	67	0.0011	<0.00050	0.0202	0.877	0.00028	<0.0050	33.4	0.25	<0.000010	0.0058	0.0018	0.041	3.05	0.00037	8.29	<0.000020	21.8	0.921	24.5	<0.000050	<0.0050	0.0272	0.00324

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	09/07/2014 11:20													<0.0010												
W3	10/07/2014 13:25																									
W3	15/07/2014 14:15													<0.0010												
W3	15/07/2014 14:50	<0.0050	<0.0050	<0.00050	0.0101	<0.00050	0.00024	0.0776	<0.00010	<0.0010	<0.05	<0.000010	53.9	<0.0010	<0.00050	0.00248	0.0209	<0.00020	<0.0050	27	0.0399	<0.000010	0.0052	<0.0010	<0.01	2.15
W3	21/07/2014 11:05	<0.0050	<0.0050	<0.00050	0.0073	<0.00050	0.00033	0.0802	<0.00010	<0.0010	<0.05	<0.000010	52.5	<0.0010	<0.00050	0.00312	0.0136	<0.00020	<0.0050	25.3	0.0449	<0.000010	0.0047	<0.0010	<0.01	2.2
W3	21/07/2014 11:05													<0.0010												
W3	23/07/2014 8:05																									
W3	31/07/2014 9:50	<0.0050	<0.0050	<0.00050	0.0076	<0.00050	0.0003	0.0777	<0.00010	<0.0010	<0.05	<0.000010	51.8	<0.0010	<0.00050	0.00305	0.0189	<0.00020	<0.0050	26.5	0.0569	<0.000010	0.0051	0.0011	<0.01	2.2
W3	31/07/2014 9:50													<0.0010												
W3	04/08/2014 7:30	<0.0050	<0.0050	<0.00050	0.0086	<0.00050	0.00032	0.0842	<0.00010	<0.0010	<0.05	<0.000010	50.6	<0.0010	<0.00050	0.0028	0.0248	<0.00020	<0.0050	28	0.0482	<0.000010	0.0055	0.0011	<0.01	2.31
W3	04/08/2014 7:30													<0.0010												
W3	14/08/2014 9:20	<0.0050	<0.0050	<0.00050	0.0045	<0.00050	0.00026	0.079	<0.00010	<0.0010	<0.05	<0.000010	54.7	<0.0010	<0.00050	0.00245	0.0141	<0.00020	<0.0050	26.1	0.0392	<0.000010	0.0055	<0.0010	<0.01	2.02
W3	14/08/2014 9:20													<0.0010												
W3	18/08/2014 9:00	<0.0050	<0.0050	<0.00050	0.0075	<0.00050	0.00027	0.0826	<0.00010	<0.0010	<0.05	<0.000010	49.9	<0.0010	<0.00050	0.00245	0.0221	<0.00020	<0.0050	26.6	0.0342	<0.000010	0.005	<0.0010	0.01	2.25
W3	19/08/2014 9:20													<0.0010												
W3	26/08/2014 11:10	<0.0050	<0.0050	<0.00050	0.0041	<0.00050	0.00027	0.0804	<0.00010	<0.0010	<0.05	<0.000010	52.6	<0.0010	<0.00050	0.00228	0.018	<0.00020	<0.0050	26.9	0.0378	<0.000010	0.0052	<0.0010	<0.01	2.16
W3	26/08/2014 11:10													<0.0010												
W3	04/09/2014 10:45	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00025	0.0829	<0.00010	<0.0010	<0.05	<0.000010	54.7	<0.0010	<0.00050	0.00223	0.0176	<0.00020	<0.0050	26.9	0.0409	<0.000010	0.005	<0.0010	0.011	2.18
W3	04/09/2014 10:45													<0.0010												
W3	12/09/2014 9:20	<0.0050	<0.0050	<0.00050	0.0032	<0.00050	0.00023	0.0832	<0.00010	<0.0010	<0.05	<0.000010	57.3	<0.0010	<0.00050	0.00243	0.0178	<0.00020	<0.0050	26.4	0.0424	<0.000010	0.005	<0.0010	<0.01	2.19
W3	12/09/2014 9:20													<0.0010												
W3	15/09/2014 9:45	<0.0050	<0.0050	<0.00050	0.0059	<0.00050	0.00024	0.0793	<0.00010	<0.0010	<0.05	<0.000010	54.9	<0.0010	<0.00050	0.00239	0.0166	<0.00020	<0.0050	27.2	0.0412	<0.000010	0.0051	<0.0010	0.014	2.41
W3	15/09/2014 9:45													<0.0010												
W3	22/09/2014 10:55	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00024	0.0848	<0.00010	<0.0010	<0.05	<0.000010	53.1	<0.0010	<0.00050	0.00222	0.0127	<0.00020	<0.0050	25.5	0.065	<0.000010	0.0049	<0.0010	<0.01	2.28
W3	22/09/2014 16:45													<0.0010												
W3	05/10/2014 12:10	<0.0050	<0.0050	<0.00050	0.0043	<0.00050	0.00025	0.0773	<0.00010	<0.0010	<0.05	<0.000010	56.9	<0.0010	<0.00050	0.00226	0.0113	<0.00020	<0.0050	27.1	0.0367	<0.000010	0.0047	0.0011	0.01	2.24
W3	05/10/2014 12:10													<0.0010												
W3	08/10/2014 14:10	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00023	0.0779	<0.00010	<0.0010	<0.05	<0.000010	53.2	<0.0010	<0.00050	0.00215	0.0099	<0.00020	<0.0050	25.6	0.0391	<0.000010	0.0047	<0.0010	<0.01	2.04
W3	08/10/2014 14:10													<0.0010												
W3	13/10/2014 13:15	<0.0050	<0.0050	<0.00050	0.0031	<0.00050	0.00024	0.0801	<0.00010	<0.0010	<0.05	<0.000010	58.2	<0.0010	<0.00050	0.00213	0.0097	<0.00020	<0.0050	26.6	0.0383	<0.000010	0.0046	0.0012	<0.01	2.45
W3	13/10/2014 13:15													<0.0010												
W3	20/10/2014 10:40	<0.0050	<0.0050	<0.00050	0.0131	<0.00050	0.00027	0.081	<0.00010	<0.0010	<0.05	<0.000010	59.8	<0.0010	<0.00050	0.00226	0.0298	<0.00020	<0.0050	27.8	0.0442	<0.000010	0.0049	<0.0010	0.012	2.35
W3	27/10/2014 10:20	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00023	0.0809	<0.00010	<0.0010	<0.05	<0.000010	56.6	<0.0010	<0.00050	0.0021	0.0103	<0.00020	<0.0050	27.8	0.0415	<0.000010	0.0048	<0.0010	<0.01	2.16
W3	27/10/2014 10:20	<0.0050	<0.0050	<0.00050	0.0053	<0.00050	0.00025	0.0814	<0.00010	<0.0010	<0.05	<0.000010	61.5	<0.0010	<0.00050	0.00237	0.0154	<0.00020	<0.0050	28.4	0.0394	<0.000010	0.0049	<0.0010	<0.01	2.33
W3	05/11/2014 14:30	<0.0050	<0.0050	<0.00050	0.0037	<0.00050	0.00023	0.0816	<0.00010	<0.0010	<0.05	<0.000010	56.5	<0.0010	<0.00050	0.00172	0.0117	<0.00020	<0.0050	28.2	0.0446	<0.000010	0.0047	<0.0010	<0.01	2.22
W3	10/11/2014 9:40	<0.0050	<0.0050	<0.00050	0.0045	<0.00050	0.00023	0.0834	<0.00010	<0.0010	<0.05	<0.000010	61.2	<0.0010	<0.00050	0.00186	0.0112	<0.00020	<0.0050	28	0.0456	<0.000010	0.0051	<0.0010	<0.01	2.27
W3	17/11/2014 13:40	<0.0050	0.0649	<0.00050	0.0052	<0.00050	0.00027	0.0838	<0.00010	<0.0010	<0.05	0.000011	62.4	<0.0010	<0.00050	0.00347	0.0133	<0.00020	<0.0050	23.1	0.0509	<0.000010	0.0053	0.0011	0.013	3.17
W3	24/11/2014 14:05	<0.0050	0.0144	<0.00050	0.0082	<0.00050	0.00025	0.0813	<0.00010	<0.0010	<0.05	<0.000010	58.4	<0.0010	<0.00050	0.00334	0.0173	<0.00020	<0.0050	23.5	0.0267	<0.000010	0.0054	<0.0010	<0.01	3.16
W3	02/12/2014 9:10																									
W3	03/12/2014 8:10	<0.0050	<0.0050	<0.00050	0.006	<0.00050	0.00026	0.0795	<0.00010	<0.0010	<0.05	<0.000010	58.2	<0.0010	<0.00050	0.00322	0.0145	<0.00020	<0.0050	21.8	0.0318	<0.000010	0.005	<0.0010	<0.01	3.1
W3	04/12/2014 7:30																									
W3	05/12/2014 8:00																									
W3	06/12/2014 8:45																									
W3	07/12/2014 8:05																									
W3	19/12/2014 9:00	<0.0050	0.048	<0.00050	0.0041	<0.00050	0.00027	0.08	<0.00010	<0.0010	<0.05	<0.000010	61.3	<0.0010	<0.00050	0.00324	0.0104	<0.00020	<0.0050	22.9	0.0305	<0.000010	0.0052	<0.0010	0.011	3.41
W3	20/12/2014 8:50	<0.0050	0.0105	<0.00050	<0.0030	<0.00050	0.00027	0.0795	<0.00010	<0.0010	<0.05	<0.000010	62.5	<0.0010	<0.00050	0.00322	0.01	<0.00020	<0.0050	23.8	0.0295	<0.000010	0.0051	<0.0010	<0.01	3.4
W3	21/12/2014 9:25																									
W3	22/12/2014 14:05	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00025	0.093	<0.00010	<0.0010	<0.05	<0.000010	61.5	<0.0010	<0.00050	0.00227	0.0078	<0.00020	<0.0050	26.2	0.0328	<0.000010	0.0054	<0.0010	<0.01	2.9
W3	02/01/2015 11:05	<0.0050	<0.0050	<0.00050	0.0078	<0.00050	0.00025	0.0849	<0.00010	<0.0010	<0.05	<0.000010	56.7	<0.0010	<0.00050	0.00224	0.0226	<0.00020	<0.0050	25.7	0.0555	<0.000010	0.0051	<0.0010	0.01	2.15
W3	06/01/2015 9:10	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00023	0.0858	<0.00010	<0.0010	<0.05	<0.000010	62.9	<0.0010	<0.00050	0.002	0.0087	<0.00020	<0.0050	28.8	0.0404	<0.000010	0.0051	<0.0010	0.01	2.67
W3	13/01/2015 8:30	<0.0050	<0.0050	<0.00050	0.0032	<0.00050	0.00026	0.0928	<0.00010	<0.0010	<0.05	<0.000010	54.9	<0.0010	<0.00050	0.00191	0.01	<0.00020	<0.0050	27.3	0.0338	<0.000010	0.0054	<0.0010	<0.01	2.38
W3	21/01/2015 13:15	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00023	0.0847	<0.00010	<0.0010	<0.05	<0.000010	57	<0.0010	<0.00050	0.00162	0.0075	<0.00020	<0.0050	28.9	0.0313	<0.000010	0.005	<0.0010	<0.01	2.32
W3	29/01/2015 8:35	<0.0050	<0.0050	<0.00050	0.0063	<0.00050	0.00022	0.0856	<0.00010	<0.0010	<0.05	<0.000010	54.1	<0.0010	<0.00050	0.00179	0.0088	<0.00020	<0.0050	28.3	0.0395	<0.000010	0.005	<0.0010	<0.01	2.34
W3	03/02/2015 10:30	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00022	0.0856	<0.00010	<0.0010	<0.05	<0.000010	58.1	<0.0010	<0.00050	0.0019	0.0128	<0.00020	<0.0050	27.1	0.0546	<0.000010	0.0049	0.001	<0.01	2.28
W3	11/02/2015 14:10	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00024	0.0958	<0.00010	<0.0010	<0.05	0.000012	58.5	<0.0010	<0.00050	0.00324	0.0286	<0.00020	<0.0050	27.4	0.292	<0.000010	0.0041	0.001	<0.01	2.37
W3	18/02/2015 14:00	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00023	0.095	<0.00010	<0.0010	<0.05	0.000012	58.9	<0.0010	<0.00050	0.00177	0.036	<0.00020	<0.0050	27.5	0.351	<0.000010	0.0037	0.0013	<0.01	2.22
W3	26/02/2015 8:25	<0.0050	<0.0050	<0.00050	0.0038	<0.00050	0.00024	0.104	<0.00010	<0.0010	<0.05	0.000013	55.2	<0.0010	<0.00050	0.00204	0.0389	<0.00020	<0.0050	26.8	0.398	<0.000010	0.0036	0.0022	0.011	2.2
W3	03/03/2015 10:00	<0.0050	0.0317	<0.00050	0.0173	<0.00050	0.00022	0.0961	<0.00010	<0.0010	<0.05	0.000016	56.3	<0.0010	<0.00050	0.00582	0.0662	<0.00020	<0.0050	27.3	0.392	<0.000010	0.0033	0.0012	0.017	2.02
W3	09/03/2015 7:00	<0.0050	<0.0050	<0.00050	0.0032	<0.00050	0.0002	0.0806	<0.00010	<0.0010	<0.05	<0.000010	56.6	<0.0010	<0.00050	0.002	0.0074	<0.00020	<0.0050	27.9	0.0156	<0.000010	0.0047	<0.0010	<0.01	2.29
W3	16/03/2015 6:30	<0.0050	0.0205	<0.00050	<0.0030	<0.00050	0.00021	0.0971	<0.00010	<0.0010	<0.05	0.000011	59	<0.0010	<0.00050	0.00168	0.0439	<0.00020	<0.0050	25.2	0.414	<0.000010	0.0032	0.0011	<0.01	2.08
W3	25/03/2015 14:30	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.0002	0.0968	<0.00010	<0.0010	<0.05	<0.000010	56.5	<0.0010	<0.00050	0.00148	0.0429	<0.00020	<0.0050	25.6	0.391	<0.000010	0.0035	0.0014	<0.01	1.94
W3	30/03/2015 10:30	<0.0050	0.157	<0.00050	0.0049	<0.00050	0.00022	0.0929	<0.00010	<0.0010	<0.05	0.000013	56.7	<0.0010	<0.00050	0.00213	0.0412	<0.00020	<0.0050	24.7	0.378	<0.000010	0.0034	0.0015	<0.01	1.93
W3	04/06/2015 9:00	<0.0050	0.0513	<0.00050	0.0039	<0.00050	0.00023	0.0778	<0.00010	<0.0010	<0.05	<0.000010	56	<0.0010	<0.00050	0.00295	0.0114	<0.00020	<0.0050	25.3	0.0595	<0.000010	0.0048	<0.0010	<0.01	2.6
W3	09/06/2015 15:30	<0.0050	<0.0050	<0.00050	0.0036	<0.00050	0.00025	0.0752	<0.00010	<0.0010	<0.05	<0.000010	57	<0.0010	<0.00050	0.00283	0.0117	<0.00020	<0.0050	29.1	0.0556	<0.000010	0.0048	<0.0010	<0.01	2.39
W3	15/06/2015 13:40	<0.0050	<0.0050	<0.00050	0.0046	<0.00050	0.00024	0.075	<0.00010	<0.0010	<0.05	<0.000010	54.4	<0.0010	<0.00050	0.00253	0.0114	<0.00020	<0.0050	26.9	0.0551	<0.000010	0.0047	<0.0010	<0.01	2.35

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	Br	Cation	CN-T	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-TKN	P-PO4T	P-TDP	P-TRP
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L
W3	09/07/2014 11:20																							<0.0010	<0.0010							
W3	10/07/2014 13:25																															
W3	15/07/2014 14:15																							<0.0010	<0.0010							
W3	15/07/2014 14:50	0.0004	6.32	<0.000020	17.7	0.671	16.2	<0.000050	<0.0050	<0.0050	0.00267	<0.0050	<0.0050	<0.00050	278	<0.50	<0.50	<0.50														
W3	21/07/2014 11:05	0.00035	5.93	<0.000020	16.7	0.679	12.1	<0.000050	<0.0050	<0.0050	0.00253	<0.0050	<0.0050	<0.00050	267	4.33	<0.50	3.61														
W3	21/07/2014 11:05																							<0.0010	<0.0010							
W3	23/07/2014 8:05																															
W3	31/07/2014 9:50	0.00043	5.73	<0.000020	17.4	0.686	17.9	<0.000050	<0.0050	<0.0050	0.00253	<0.0050	<0.0050	<0.00050	276	<0.50	<0.50	<0.50														
W3	31/07/2014 9:50																							<0.0010	<0.0010							
W3	04/08/2014 7:30	0.00039	5.87	<0.000020	18.2	0.758	19.7	<0.000050	<0.0050	<0.0050	0.00262	<0.0050	<0.0050	<0.00050	279	<0.50	<0.50	<0.50														
W3	04/08/2014 7:30																							<0.0010	<0.0010							
W3	14/08/2014 9:20	0.0004	6.01	<0.000020	17	0.742	15.7	<0.000050	<0.0050	<0.0050	0.00248	<0.0050	<0.0050	<0.00050	276	1.85	<0.50	1.54														
W3	14/08/2014 9:20																							<0.0010	<0.0010							
W3	18/08/2014 9:00	0.00039	5.02	0.000037	17.1	0.707	17.2	<0.000050	<0.0050	<0.0050	0.00263	<0.0050	<0.0050	<0.00050	276	1.99	<0.50	1.66														
W3	19/08/2014 9:20																							<0.0010	<0.0010							
W3	26/08/2014 11:10	0.00035	5.34	<0.000020	17.5	0.724	17.6	<0.000050	<0.0050	<0.0050	0.00267	<0.0050	<0.0050	<0.00050	270	<0.50	<0.50	<0.50														
W3	26/08/2014 11:10																							<0.0010	<0.0010							
W3	04/09/2014 10:45	0.00037	5.88	<0.000020	17.4	0.713	18.3	<0.000050	<0.0050	<0.0050	0.0026	<0.0050	<0.0050	<0.00050	278	<0.50	<0.50	<0.50														
W3	04/09/2014 10:45																							<0.0010	<0.0010							
W3	12/09/2014 9:20	0.00041	6.22	<0.000020	17	0.703	18.1	<0.000050	<0.0050	<0.0050	0.0026	<0.0050	<0.0050	<0.00050	281	<0.50	<0.50	<0.50														
W3	12/09/2014 9:20																							<0.0010	<0.0010							
W3	15/09/2014 9:45	0.00031	6.16	0.000024	18.7	0.727	17.1	<0.000050	<0.0050	<0.0050	0.00237	<0.0050	<0.0050	<0.00050	280	<0.50	<0.50	<0.50														
W3	15/09/2014 9:45																							<0.0010	<0.0010							
W3	22/09/2014 10:55	0.0003	5.31	<0.000020	16.9	0.699	18.9	<0.000050	<0.0050	<0.0050	0.00254	<0.0050	<0.0050	<0.00050	258	2.95	<0.50	2.46														
W3	22/09/2014 16:45																							<0.0010	<0.0010							
W3	05/10/2014 12:10	0.00033	6.19	<0.000020	17.7	0.689	21	<0.000050	<0.0050	<0.0050	0.00252	<0.0050	<0.0050	<0.00050	276	<0.50	<0.50	<0.50														
W3	05/10/2014 12:10																							<0.0010	<0.0010							
W3	08/10/2014 14:10	0.00033	5.44	<0.000020	16.3	0.683	20.8	<0.000050	<0.0050	<0.0050	0.00243	<0.0050	<0.0050	<0.00050	262	<0.50	<0.50	<0.50														
W3	08/10/2014 14:10																							<0.0010	<0.0010							
W3	13/10/2014 13:15	0.0003	6.38	<0.000020	17.8	0.703	20.7	<0.000050	<0.0050	<0.0050	0.00272	<0.0050	<0.0050	<0.00050	265	<0.50	<0.50	<0.50														
W3	13/10/2014 13:15																							<0.0010	<0.0010							
W3	20/10/2014 10:40	0.00035	6.39	<0.000020	18.3	0.736	22.4	<0.000050	<0.0050	<0.0050	0.00253	<0.0050	<0.0050	<0.00050	272	3.07	<0.50	2.56														
W3	27/10/2014 10:20	0.00038	5.9	<0.000020	17.9	0.707	20.2	<0.000050	<0.0050	<0.0050	0.00259	<0.0050	<0.0050	<0.00050	268	<0.50	<0.50	<0.50														
W3	27/10/2014 10:20	0.00033	6.13	<0.000020	17.8	0.755	23.4	<0.000050	<0.0050	<0.0050	0.00257	<0.0050	<0.0050	<0.00050	262	<0.50	<0.50	<0.50														
W3	05/11/2014 14:30	0.00032	5.85	<0.000020	18.3	0.71	23.5	<0.000050	<0.0050	<0.0050	0.00265	<0.0050	<0.0050	<0.00050	273	<0.50	<0.50	<0.50														
W3	10/11/2014 9:40	0.00034	6.25	<0.000020	17.9	0.736	22.1	<0.000050	<0.0050	<0.0050	0.0027	<0.0050	<0.0050	<0.00050	270	<0.50	<0.50	<0.50														
W3	17/11/2014 13:40	0.00043	5.44	<0.000020	17.9	0.742	25.9	<0.000050	<0.0050	<0.0050	0.00232	<0.0050	<0.0050	<0.00050	249	<0.50	<0.50	<0.50														
W3	24/11/2014 14:05	0.00043	5.45	<0.000020	17.4	0.7	27.2	<0.000050	<0.0050	<0.0050	0.0022	<0.0050	<0.0050	<0.00050	240	<0.50	<0.50	<0.50														
W3	02/12/2014 9:10																															
W3	03/12/2014 8:10	0.00037	4.82	<0.000020	17	0.709	26.5	<0.000050	<0.0050	<0.0050	0.00214	<0.0050	<0.0050	<0.00050	230	<0.50	<0.50	<0.50														
W3	04/12/2014 7:30																															
W3	05/12/2014 8:00																															
W3	06/12/2014 8:45																															
W3	07/12/2014 8:05																															
W3	19/12/2014 9:00	0.00037	5.38	<0.000020	17.7	0.864	28.1	<0.000050	<0.0050	<0.0050	0.00224	<0.0050	<0.0050	<0.00050	240	<0.50	<0.50	<0.50														
W3	20/12/2014 8:50	0.00039	5.44	<0.000020	17.9	0.829	28.8	<0.000050	<0.0050	<0.0050	0.00225	<0.0050	<0.0050	<0.00050	224	<0.50	<0.50	<0.50														
W3	21/12/2014 9:25																															
W3	22/12/2014 14:05	0.00039	6.4	<0.000020	17.9	0.882	25.1	<0.000050	<0.0050	<0.0050	0.00282	<0.0050	<0.0050	<0.00050	259	<0.50	<0.50	<0.50														
W3	02/01/2015 11:05	0.00038	6.51	<0.000020	16.8	0.752	22.8	<0.000050	<0.0050	<0.0050	0.00275	<0.0050	<0.0050	<0.00050	271	<0.50	<0.50	<0.50														
W3	06/01/2015 9:10	0.00042	6.8	<0.000020	18.7	0.768	27.6	<0.000050	<0.0050	<0.0050	0.0028	<0.0050	<0.0050	<0.00050	278	<0.50	<0.50	<0.50														
W3	13/01/2015 8:30	0.00035	5.92	<0.000020	18.1	0.83	23.4	<0.000050	<0.0050	<0.0050	0.00305	<0.0050	<0.0050	<0.00050	257	<0.50	<0.50	<0.50														
W3	21/01/2015 13:15	0.00039	6.07	<0.000020	18.5	0.75	25.9	<0.000050	<0.0050	<0.0050	0.00251	<0.0050	<0.0050	<0.00050	268	<0.50	<0.50	<0.50														
W3	29/01/2015 8:35	0.00035	5.83	<0.000020	17.9	0.735	23	<0.000050	<0.0050	<0.0050	0.00262	<0.0050	<0.0050	<0.00050	260	<0.50	<0.50	<0.50														
W3	03/02/2015 10:30	0.00042	6.13	<0.000020	18.8	0.762	24.9	<0.000050	<0.0050	<0.0050	0.00275	<0.0050	<0.0050	<0.00050	272	<0.50	<0.50	<0.50														
W3	11/02/2015 14:10	0.00021	6.22	<0.000020	18	0.716	24.7	<0.000050	<0.0050	<0.0050	0.00255	<0.0050	<0.0050	<0.00050	268	<0.50	<0.50	<0.50														
W3	18/02/2015 14:00	0.00016	6.05	<0.000020	16.7	0.715	24.5	<0.000050	<0.0050	<0.0050	0.00241	<0.0050	<0.0050	<0.00050	263	<0.50	<0.50	<0.50														
W3	26/02/2015 8:25	<0.00010	5.73	<0.000020	17.4	0.754	21.5	<0.000050	<0.0050	<0.0050	0.00225	<0.0050	<0.0050	<0.00050	266	<0.50	<0.50	<0.50														
W3	03/03/2015 10:00	<0.00010	6.01	<0.000020	17.1	0.664	22.8	<0.000050	<0.0050	<0.0050	0.00198	<0.0050	0.0056	<0.00050	263	<0.50	<0.50	<0.50														
W3	09/03/2015 7:00	0.00041	6.05	<0.000020	17.9	0.735	24.1	<0.000050	<0.0050	<0.0050	0.00271	<0.0050	<0.0050	<0.00050	271	<0.50	<0.50	<0.50														
W3	16/03/2015 6:30	<0.00010	6.24	<0.000020	16.4	0.678	22.7	<0.000050	<0.0050	<0.0050	0.0019	<0.0050	0.006	<0.00050	263	<0.50	<0.50	<0.50														
W3	25/03/2015 14:30	<0.00010	6.05	<0.000020	16	0.678	23	<0.000050	<0.0050	<0.0050	0.00198	<0.0050	<0.0050	<0.00050	245	<0.50	<0.50	<0.50														
W3	30/03/2015 10:30	0.00011	5.93	<0.000020	15.6	0.638	22.1	<0.000050	<0.0050	<0.0050	0.00184	<0.0050	<0.0050	<0.00050	244	5.63	<0.50	4.69														
W3	04/06/2015 9:00	0.00035	6.32	<0.000020	16.7	0.832	22.4	<0.000050	<0.0050	<0.0050	0.00249	<0.0050	<0.0050	<0.00050	257	<0.50	<0.50	<0.50														
W3	09/06/2015 15:30	0.00036	5.9	<0.000020	18.2	0.768	21.1	<0.000050	<0.0050	<0.0050	0.00247	<0.0050	<0.0050	<0.00050	255	<0.50	<0.50	<0.50														
W3	15/06/2015 13:40	0.00035	5.97	<0.000020	18	0.753	22	<0.000050	<0.0050	<0.0050	0.00253	<0.0050	<0.0050	<0.00050	265	<0.50	<0.50	<0.50														

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W3	09/07/2014 11:20			519.7			
W3	10/07/2014 13:25			500.8			
W3	15/07/2014 14:15			501.5			
W3	15/07/2014 14:50			501.5			
W3	21/07/2014 11:05			653.2			
W3	21/07/2014 11:05			653.2			
W3	23/07/2014 8:05			420.3			
W3	31/07/2014 9:50			498.7			
W3	31/07/2014 9:50						
W3	04/08/2014 7:30			564.6			
W3	04/08/2014 7:30			564.6			
W3	14/08/2014 9:20			511.9			
W3	14/08/2014 9:20						
W3	18/08/2014 9:00			563.8			
W3	19/08/2014 9:20			533.1			
W3	26/08/2014 11:10			513			
W3	26/08/2014 11:10			513			
W3	04/09/2014 10:45			500.6			
W3	04/09/2014 10:45			500.6			
W3	12/09/2014 9:20			531.3			
W3	12/09/2014 9:20			531.3			
W3	15/09/2014 9:45			385.1			
W3	15/09/2014 9:45			385.1			
W3	22/09/2014 10:55			500.6			
W3	22/09/2014 16:45			472.2			
W3	05/10/2014 12:10			503.4			
W3	05/10/2014 12:10			503.4			
W3	08/10/2014 14:10			502			
W3	08/10/2014 14:10			502			
W3	13/10/2014 13:15			603.9			
W3	13/10/2014 13:15			603.9			
W3	20/10/2014 10:40			659.1			
W3	27/10/2014 10:20			554			
W3	27/10/2014 10:20			554			
W3	05/11/2014 14:30			572.7			
W3	10/11/2014 9:40			607.9			
W3	17/11/2014 13:40			588.2			
W3	24/11/2014 14:05			587			
W3	02/12/2014 9:10			587.9			
W3	03/12/2014 8:10			661.9			
W3	04/12/2014 7:30			555.6			
W3	05/12/2014 8:00			561.9			
W3	06/12/2014 8:45			586			
W3	07/12/2014 8:05			600.2			
W3	19/12/2014 9:00			561.8			
W3	20/12/2014 8:50			574.1			
W3	21/12/2014 9:25			572.7			
W3	22/12/2014 14:05			568.3			
W3	02/01/2015 11:05			613.6			
W3	06/01/2015 9:10			604.1			
W3	13/01/2015 8:30			580.3			
W3	21/01/2015 13:15			572			
W3	29/01/2015 8:35			595.6			
W3	03/02/2015 10:30			882.7			
W3	11/02/2015 14:10			566.8			
W3	18/02/2015 14:00			546.5			
W3	26/02/2015 8:25			571.6			
W3	03/03/2015 10:00			552.4			
W3	09/03/2015 7:00			558.6			
W3	16/03/2015 6:30			543.6			
W3	25/03/2015 14:30			640.2			
W3	30/03/2015 10:30			531.8			
W3	04/06/2015 9:00			533.7			
W3	09/06/2015 15:30			531.7			
W3	15/06/2015 13:40			531.2			

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Phase	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
				mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	22/06/2015 11:45	No Discharge	P	<1.0	312	7.9	8.32	341.7	544	5.6	12.24	96.8	160.7	258	251	223	5.6	0.56	63	0.022	<0.0050	0.31	4.23	0.0045	<0.00050	0.00026	0.0765	<0.00010	<0.0010
W3	29/06/2015 16:25	No Discharge	P	<1.0	310	7.97	8.32	339.7	535	6.6	10.67	85.1	141.3	241	253	222	5.2	0.52	64.4	0.021	<0.0050	0.252	5.68	0.0079	<0.00050	0.00022	0.0743	<0.00010	<0.0010
W3	07/07/2015 13:15	No Discharge	P	8.3	323		8.31		537					245	255	215	5.4	0.54	62.9	0.03	<0.0050	0.275	3.17	0.0139	<0.00050	0.00027	0.0712	<0.00010	<0.0010
W3	14/07/2015 9:00	No Discharge	P	<1.0	284	7.76	8.16	243.8	527	1.9	13.01	94.9	98.5	246	268	217	5	0.53	61.2	0.023	<0.0050	0.274	2.75	0.0066	<0.00050	0.00023	0.0738	<0.00010	<0.0010
W3	20/07/2015 8:30	No Discharge	P	<1.0	304	7.94	8.26	299.1	542	3.1	10.68	80.5	167.3	274	271	228	5.2	0.55	60	0.03	<0.0050	0.279	4.97	0.0127	<0.00050	0.00028	0.0785	<0.00010	<0.0010
W3	29/07/2015 13:35	No Discharge	P	<1.0	318	7.92	8.22	311.6	545	4.2	12.11	93.1	122.4	270	255	222	5.3	0.48	72.9	0.62	<0.0050	0.21	3.9	0.0055	<0.00050	0.00029	0.0913	<0.00010	<0.0010
W3	05/08/2015 10:35	No Discharge	P	<1.0	324	7.95	8.34	307.3	527	1.1	15.17	106.9	62.8	246	245	224	5	0.56	59.5	0.018	<0.0050	0.231	3.6	0.0099	<0.00050	0.00027	0.0755	<0.00010	<0.0010
W3	14/08/2015 10:10	No Discharge	P	<1.0	324	7.8	8.18	308.9	537	2.9	11.57	85.7	91.4	257	249	226	5.1	0.54	54.1	0.027	<0.0050	0.207	5.2	0.0103	<0.00050	0.00028	0.074	<0.00010	<0.0010
W3	18/08/2015 8:55	No Discharge	M	<1.0	292		8.32		530					379	262	225	5	0.56	55.4	0.027	<0.0050	0.217	4.6	0.0047	<0.00050	0.00032	0.101	<0.00010	<0.0010
W3	24/08/2015 10:25	No Discharge	P	<1.0	320	7.83	8.04	310.9	537	3.2	10.64	79.5	121.6	240	282	230	6	0.56	56.6	0.033	<0.0050	0.2	4.4	0.0032	<0.00050	0.00025	0.0766	<0.00010	<0.0010
W3	31/08/2015 7:50	No Discharge	P	4.6	306	7.77	8.19	281.1	499	1.7	11.58	84.2	146.9	261	269	211	4.8	0.54	49.4	0.03	<0.0050	0.189	6	0.0824	<0.00050	0.00033	0.0795	<0.00010	<0.0010
W3	08/09/2015 9:45	No Discharge	P	16.6	312	7.8	8.27	213	525	1.3	11.36	80.5	53	250	243	220	4.6	0.57	51	0.014	<0.0050	0.184	4.9	0.11	<0.00050	0.00029	0.0778	<0.00010	<0.0010
W3	15/09/2015 11:20	No Discharge	P	<1.0	316	7.83	8.34	297.1	524	2.5	11.06	81.4	84.1	248	248	220	4.8	0.56	49.9	0.22	<0.0050	0.165	5.2	0.0108	<0.00050	0.00029	0.0759	<0.00010	<0.0010
W3	23/09/2015 15:00	No Discharge	P	<1.0	298	7.79	8.43	296.1	516	2	11.6	83.9	64.8	261	263	217	4.4	0.54	55.5	0.024	<0.0050	0.184	5.2	0.0188	<0.00050	0.00026	0.0727	<0.00010	<0.0010
W3	30/09/2015 16:35	No Discharge	P	<1.0	288	7.88	8.42	305.1	525	2.5	11.57	84.6	53.1	251	267	224	4.4	0.56	50.1	0.018	<0.0050	0.183	4.6	0.0064	<0.00050	0.0003	0.0771	<0.00010	<0.0010
W3	05/10/2015 8:15	No Discharge	P	<1.0	342	7.8	8.38	272.4	527	0.1	12.74	87.5	57.9	257	249	225	5.4	0.56	57.5	0.019	<0.0050	0.207	4.2	0.0051	<0.00050	0.00025	0.0772	<0.00010	<0.0010
W3	13/10/2015 11:00	No Discharge	P	<1.0	300	7.81	8.28	281.7	515	0.5	9.55	66.4		252	230	222	4.6	0.54	49.5	0.028	<0.0050	0.187	4.98	0.0076	<0.00050	0.00021	0.0759	<0.00010	<0.0010
W3	22/10/2015 10:50	No Discharge	P	<1.0	292	7.85	8.16	264.9	523	1.1	11.05	78	103.9	265	260	224	4.8	0.55	48	0.023	<0.0050	0.213	4.28	0.008	<0.00050	0.00028	0.0724	<0.00010	<0.0010
W3	28/10/2015 13:30	No Discharge	P	<1.0	308	7.78	8.12	274.9	525	0	10.34	70.8	31.3	257	247	222	4.7	0.58	49.2	0.026	<0.0050	0.209	4.23	0.0136	<0.00050	0.00026	0.0764	<0.00010	<0.0010
W3	02/11/2015 10:50	No Discharge	P	<1.0	314	7.57	8.15	281.4	537	0	11.95	81.8	19.1	279	263	229	4.7	0.54	52.5	0.02	<0.0050	0.24	4.36	0.0067	<0.00050	0.00017	0.0776	<0.00010	<0.0010
W3	09/11/2015 13:30	No Discharge	P	<1.0	290	7.86	8.2	277.7	530	0	11.11	76.4	10.9	259	273	229	4.9	0.57	53.7	0.019	<0.0050	0.232	5.01	0.0126	<0.00050	0.00023	0.0742	<0.00010	<0.0010
W3	16/11/2015 11:15	No Discharge	P	<1.0	334	7.63	8.42	287.6	535	0	11.03	75.9	59.0	266	270	223	4.6	0.56	57.1	0.016	<0.0050	0.236	3.53	0.0121	<0.00050	0.0003	0.0749	<0.00010	<0.0010
W3	23/11/2015 14:05	No Discharge	P	<1.0	318	7.56	8.23	291.1	531	0	11.51	79.1	84.0	250	264	213	4.4	0.54	49.2	0.015	<0.0050	0.235	4.19	0.0091	<0.00050	0.00024	0.0782	<0.00010	<0.0010
W3	03/12/2015 16:00	No Discharge	F			7.67		281.8		0.1	12.14	83.6	53.5																
W3	06/12/2015 15:35	No Discharge	P	<1.0	284	7.78	8.25	275	534	0.1	13.08	89.9	27.9	234	237	216	5.1	0.55	52.7	0.017	<0.0050	0.248	2.57	0.0609	<0.00050	0.00031	0.0742	<0.00010	<0.0010
W3	08/12/2015 11:15	No Discharge	P	<1.0	286	8.22	8.46	281.8	528	0.7	12.1	83.2	22.5	246	250	236	4.7	0.52	50	0.012	<0.0050	0.238	3.44	0.0289	<0.00050	0.00017	0.0702	<0.00010	<0.0010
W3	19/12/2015 10:15	No Discharge	P	5.6	292	7.6	8.1	278.5	535	0	10.71	73.3		223	252	238	4.9	0.56	49	0.013	<0.0050	0.246	4.13	0.0152	<0.00050	0.00023	0.0651	<0.00010	<0.0010
W3	26/12/2015 15:35	No Discharge	P	6.1	354	7.48	8.22	283.4	554	0	9.5	66.2	30.6	254	259	243	5.9	0.52	58	0.021	<0.0050	0.238	4.19	0.0372	<0.00050	0.00022	0.0683	<0.00010	<0.0010
W3	01/01/2016 15:20	No Discharge	P	<1.0	298	7.71	8.17	287.9	544	0.1	11.77	83.6	34.7	250	273	240	5.8	0.56	54.6	0.03	<0.0050	0.224	3.12	0.0061	<0.00050	0.00023	0.083	<0.00010	<0.0010
W3	08/01/2016 8:45	No Discharge	P	1	318	7.45	8.22	313.9	552	0.2	10.96	77.2	7.9	270	249	249	6.1	0.57	58.9	0.028	<0.0050	0.215	3.77	0.0161	<0.00050	0.00027	0.0839	<0.00010	<0.0010
W3	14/01/2016 15:05	No Discharge	P	3.1	306	7.79	8.16	315.4	540	0.3	11.53	81.7	-5.7	225	250	240	5.3	0.56	52.7	0.017	<0.0050	0.229	3.49	0.0774	<0.00050	0.00026	0.0692	<0.00010	<0.0010
W3	19/01/2016 15:35	No Discharge	P	1.1	302	7.48	8.23	255.1	540	0.2	4.95	34.7	4.6	256	254	240	5.3	0.57	51.7	0.032	<0.0050	0.241	4.32	0.0088	<0.00050	0.00031	0.0701	<0.00010	<0.0010
W3	25/01/2016 15:55	No Discharge	P	1.1	280	7.77	8.1	273.2	541	0.4	11.52	79.8	21.1	248	253	237	5.4	0.56	50.5	0.022	<0.0050	0.237	4.99	0.0266	<0.00050	0.00029	0.0797	<0.00010	<0.0010
W3	01/02/2016 10:40	No Discharge	P	1.1	292	7.64	8.43	287.6	534	0.2	8.82	60.4	3.4	253	257	236	5.6	0.56	50.8	0.02	<0.0050	0.254	3.31	0.0134	<0.00050	0.00031	0.0795	<0.00010	<0.0010
W3	14/02/2016 17:20	No Discharge	P	4.1	282	7.6	8.01	293.3	535	0.4	9.17	64.3	31	262	247	236	5.3	0.55	49.8	0.019	<0.0050	0.24	3.55	0.082	<0.00050	0.00037	0.0815	<0.00010	<0.0010
W3	20/02/2016 15:30	No Discharge	P	17.7	310	7.7	8.35	257.8	531	0	10.02	68.7	49.2	263	266	237	5.3	0.54	48.6	0.023	<0.0050	0.234	4.8	0.021	<0.00050	0.00024	0.0783	<0.00010	<0.0010
W3	28/02/2016 15:50	No Discharge	P	4.7	300	7.35	8.21	282.5	536	0.2	10.47	72.3	5.6	253	258	237	5.4	0.55	52.2	0.017	<0.0050	0.225	4.8	0.0432	<0.00050	0.00031	0.0799	<0.00010	<0.0010
W3	01/03/2016 15:10	No Discharge	P	2.6	296	7.51	8.39	282.6	538	0.1	10.5	72.2	35.7	263	258	237	5.8	0.56	47.6	0.046	<0.0050	0.23	5.13	0.0368	<0.00050	0.00037	0.0814	<0.00010	<0.0010
W3	08/03/2016 10:25	No Discharge	P	5.1	290	7.26	8.11	281.1	538	0.1	10.38	71.4	49.6	290	251	237	5.7	0.51	48.1	0.028	<0.0050	0.218	3.96	0.12	<0.00050	0.00029	0.0863	<0.00010	<0.0010
W3	19/03/2016 7:20	No Discharge	P	2.8	310	7.46	8.23	294.3	530	0.3	11.59	80.2	56.2	258	258	233	5.5	0.54	48.7	0.023	<0.0050	0.231	3.85	0.011	<0.00050	0.00028	0.0786	<0.00010	<0.0010
W3	24/03/2016 7:15	No Discharge	P	2.5	298	7.38	8.12	282.5	531	0.3	10.3	72.4	38.8	234	276	234	5.9	0.59	52.2	0.034	<0.0050	0.201	3.01	0.119	<0.00050	0.00031	0.0757	<0.00010	<0.0010
W3	30/03/2016 15:10	No Discharge	P	30.0	278	7.49	7.84	257.2	488	0.2	11.1	76.5	35.3		238	213	5.21		47.2	0.0235	<0.0010	0.212	4.88	0.509	<0.00010	0.00056	0.0807	0.000021	<0.000050
W3	04/04/2016 14:30	No Discharge	P	6.7	305	2	8.14	282.7	545	0.3	10.56	73.5	54.4		268	230	5.59		51.9	0.0096	<0.0010	0.217	4.44	0.161	0.00013	0.00036	0.0782	<0.000020	<0.000050
W3	07/05/2016 8:35	No Discharge	M			7.65		277.3		1.4	10.8	77.1	110.3																
W3	08/05/2016 8:20	No Discharge	M			7.83		270.9		0.8	12.79	89.5	134.2																
W3	09/05/2016 8:15	No Discharge	M			7.75		272.4		1	13.01	91.5	132.7																
W3	10/05/2016 8:30	No Discharge	M			7.69		264.5		1.3	12.42	88.4	131.2																
W3	11/05/2016 8:25	No Discharge	M			8.3		517		2.3																			
W3	12/05/2016 8:30	No Discharge	P	<3.0	271		8.24		482	1.1	13.01	92			245	204	4.98		42.6	0.0064	<0.0010	0.168	12.6	0.0231	<0.00010	0.00029	0.0638	<0.000020	<0.000050
W3	13/05/2016 8:05	No Discharge	M			7.78		251.1		1	12.5	88.1	80.8																
W3	14/05/2016 7:30	No Discharge	M			7.79		268.4		1.2	12.04	85.2	96.6																
W3	12/06/2016 7:40	No Discharge	M			7.83		284		3.1	11.58	86.6	109.9																
W3	27/06/2016 8:05	No Discharge	M			7.82		278		5.2	11.18	88	81.7																
W3	28/06/2016 8:05	No Discharge	P	<3.0	287	7.84	8.13	296.5	485	3.7	11.73	89	65.3		246	220	5.29		47.6	0.0050	0.0012	0.286	5.69	0.0042	<0.00010	0.00023	0.0705	<0.000020	<0.000050
W3	29/06/2016 7:25	No Discharge	M			7.84		297.8		3.3	11.95	89.8	72.3																
W3	05/07/2016 16:15	No Discharge	P	<3.0	296	7.65	8.39	279.2	511	10.9	10.44	95.6	121.3		245	232	5.03		49.2	<0.0050	<0.0010	0.185	5.11	0.0045	<0.00010	0.00026	0.0735	<0.000020	<0.000050
W3	01/11/2016 15:10	No Discharge	P	<3.0	293	7.86	8.46	273.8	490	0.5	13.78	95.8	113.6		225	229	4.72		56.1	0.0099	<0.0010	0.453	5.05	0.0113	<0.00010	0.00024	0.0626	<0.000020	<0.000050
W3	08/11/2016 8:35	No Discharge	P	<3.0	299	7.60	8.25	272.1	499	0	12.10	82.9	89.9		247	227	4.49		54.8	0.0109	<0.0010	0.389	4.87	0.0135	<0.00010	0.00026	0.0739	<0.000020	<0.000050
W3	15/11/2016 9:45	No Discharge	P	3.7	301	7.88	8.13	250.2	516	0	10.40	71.8	74.7		233	236	4.76		56.4	0.0096	<0.0010	0.379	4.86	0.0090	<0.00010	0.00027	0.0737	<0.000020	<0.000050
W3	22/11/2016 13:35	No Discharge	P	3.5	307	7.52	7.88	267.7	525	0	8.8	60.4	113.3		254	233	4.67		56.8	0.0107	<0.0010	0.361	5.02	0.0053	<0.00010	0.00028	0.0801	<0.000020	<0.000050
W3	29/11/2016 10:55	No Discharge	P	<3.0	315	7.56	8.14	286.8	531	0.1	11.27	78.1	115.6		267	237	4.81		56.7	0.0139	<0.0010	0.324	5.40	0.0055	<0.00010	0.00027	0.0834	<0.000020	<0.000050
W3	06/12/2016 11:05	No Discharge	P	<3.0	308	7.72	8.35	282.5	534	0.1	12.57	86.2	34.8		251	238	4.58		56.3	0.0089	<0.0010	0.363	4.33	0.0218	<0.00010	0.00026	0.0730	<0.000020	<0.000050
W3	13/12/2016 15:50	No Discharge	P	<3.0	309	7.57	8.05	286.4	534	0	9.17	63.1	62.9		253	237	4.69		56.6	0.0145	<0.0010	0.359	4.61	0.0055	<0.00010	0.00024	0.0771	<0.000020	<0.000050
W3	20/12/2016 9:10	No Discharge	P	6.5	314	7.42	8.00	280.1	543	0.1	9.77	67.2	34.6		255	245	4.72		55.9	0.0232	<0.0010	0.308	5.16	0.0150	<0.00010	0.00024	0.0819	<0.000020	<0.000050
W3	27/12/2016 11:00	No Discharge	P	<3.0	312	7.45	7.81	265	532	0	11.19	77.2	160.8		263	233	4.67		56.6	0.0095	<0.0010	0.353	4.69	0.0084	0.00012	0.00025	0.0759	<0.000020	<0.000050

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	22/06/2015 11:45	<0.05	<0.000010	56.8	<0.0010	<0.00050	0.00236	0.016	<0.00020	<0.0050	28.1	0.0583	<0.000010	0.005	<0.0010	<0.01	2.45	0.00038	6.32	<0.000020	18.3	0.774	23.5	<0.000050	<0.0050	<0.0050	0.0026
W3	29/06/2015 16:25	<0.05	<0.000010	53.4	<0.0010	<0.00050	0.00295	0.018	<0.00020	<0.0050	26.2	0.0553	<0.000010	0.0044	<0.0010	<0.01	2.18	0.00031	5.8	<0.000020	17.7	0.691	19.5	<0.000050	<0.0050	<0.0050	0.00259
W3	07/07/2015 13:15	<0.05	<0.000010	54.6	<0.0010	<0.00050	0.00268	0.021	<0.00020	<0.0050	26.4	0.0541	<0.000010	0.0048	<0.0010	<0.01	2.14	0.00031	5.87	<0.000020	17.1	0.695	20.2	<0.000050	<0.0050	<0.0050	0.00236
W3	14/07/2015 9:00	<0.05	0.000013	54.1	<0.0010	<0.00050	0.00258	0.021	<0.00020	<0.0050	27	0.0529	<0.000010	0.0049	<0.0010	0.01	2.33	0.00031	6.09	<0.000020	18.1	0.763	21	<0.000050	<0.0050	<0.0050	0.00253
W3	20/07/2015 8:30	<0.05	<0.000010	60.6	<0.0010	<0.00050	0.0024	0.033	<0.00020	<0.0050	29.7	0.0527	<0.000010	0.0047	<0.0010	<0.01	2.33	0.00031	6.96	<0.000020	19.4	0.754	20.2	<0.000050	<0.0050	<0.0050	0.00255
W3	29/07/2015 13:35	<0.05	<0.000010	60.6	<0.0010	<0.00050	0.00253	0.021	<0.00020	<0.0050	28.9	0.0475	<0.000010	0.0054	<0.0010	0.01	2.55	0.00041	6.51	<0.000020	19.9	0.826	23.6	<0.000050	<0.0050	<0.0050	0.0027
W3	05/08/2015 10:35	<0.05	<0.000010	55.2	<0.0010	<0.00050	0.0021	0.025	<0.00020	<0.0050	26.3	0.0408	<0.000010	0.0045	<0.0010	<0.01	2.13	0.00031	6.55	0.000023	18.1	0.727	24.4	<0.000050	<0.0050	<0.0050	0.00244
W3	14/08/2015 10:10	<0.05	<0.000010	57.2	<0.0010	<0.00050	0.00285	0.032	<0.00020	<0.0050	27.7	0.0425	<0.000010	0.0047	<0.0010	<0.01	2.19	0.00033	6.4	<0.000020	20	0.723	15.9	<0.000050	<0.0050	<0.0050	0.00247
W3	18/08/2015 8:55	<0.05	<0.000010	84.3	<0.0010	<0.00050	0.00327	0.025	<0.00020	<0.0050	41	0.055	<0.000010	0.006	<0.0010	<0.01	3.37	0.00048	9.32	<0.000020	27.7	0.944	28.8	<0.000050	<0.0050	<0.0050	0.00303
W3	24/08/2015 10:25	<0.05	<0.000010	51.7	<0.0010	<0.00050	0.00219	0.025	<0.00020	<0.0050	26.9	0.042	<0.000010	0.0047	<0.0010	<0.01	2.26	0.00029	5.37	<0.000020	18	0.729	18.8	<0.000050	<0.0050	<0.0050	0.00263
W3	31/08/2015 7:50	<0.05	<0.000010	59.7	<0.0010	<0.00050	0.00531	0.203	<0.00020	<0.0050	27.2	0.0646	<0.000010	0.0048	0.0012	0.023	2.5	0.0004	7.08	<0.000020	18	0.691	16.6	<0.000050	<0.0050	<0.0050	0.00244
W3	08/09/2015 9:45	<0.05	0.000014	54.6	<0.0010	<0.00050	0.00579	0.258	<0.00020	<0.0050	27.7	0.0611	<0.000010	0.0051	0.0011	0.021	2.27	0.00033	6.42	<0.000020	18	0.7	14	<0.000050	<0.0050	0.0062	0.00253
W3	15/09/2015 11:20	<0.05	<0.000010	54.3	<0.0010	<0.00050	0.003	0.029	<0.00020	<0.0050	27.2	0.0441	<0.000010	0.0043	<0.0010	0.013	2.11	0.00033	6.28	<0.000020	18.3	0.694	17.6	<0.000050	<0.0050	<0.0050	0.00233
W3	23/09/2015 15:00	<0.05	<0.000010	57.6	<0.0010	<0.00050	0.00256	0.027	<0.00020	<0.0050	28.4	0.0436	<0.000010	0.005	<0.0010	0.011	2.24	0.00031	6.74	<0.000020	20.1	0.75	18.3	<0.000050	<0.0050	<0.0050	0.0026
W3	30/09/2015 16:35	0.054	<0.000010	54.9	<0.0010	<0.00050	0.00257	0.027	<0.00020	<0.0050	27.6	0.0432	<0.000010	0.0048	<0.0010	0.015	2.31	0.00029	6.56	<0.000020	18.9	0.702	19.5	<0.000050	<0.0050	<0.0050	0.0022
W3	05/10/2015 8:15	<0.05	<0.000010	57.7	<0.0010	<0.00050	0.00212	0.028	<0.00020	<0.0050	27.4	0.0416	<0.000010	0.0048	<0.0010	<0.01	2.22	0.00033	6.64	<0.000020	18.7	0.725	20.1	<0.000050	<0.0050	<0.0050	0.00268
W3	13/10/2015 11:00	<0.05	<0.000010	54.1	<0.0010	<0.00050	0.00266	0.036	<0.00020	<0.0050	28.4	0.0497	<0.000010	0.0046	<0.0010	<0.01	2.32	0.00037	6.1	<0.000020	19.1	0.728	12.2	<0.000050	<0.0050	<0.0050	0.00258
W3	22/10/2015 10:50	<0.05	<0.000010	59.8	<0.0010	<0.00050	0.00246	0.03	<0.00020	<0.0050	28.1	0.0441	<0.000010	0.0045	<0.0010	<0.01	2.2	0.00025	7.03	<0.000020	19.6	0.667	16.2	<0.000050	<0.0050	<0.0050	0.00247
W3	28/10/2015 13:30	<0.05	<0.000010	55.5	<0.0010	<0.00050	0.00246	0.037	<0.00020	<0.0050	28.7	0.063	<0.000010	0.0052	<0.0010	0.012	2.28	0.00035	6.76	<0.000020	19.3	0.726	18.6	<0.000050	<0.0050	<0.0050	0.00275
W3	02/11/2015 10:50	<0.05	<0.000010	63.3	<0.0010	<0.00050	0.00205	0.026	<0.00020	<0.0050	29.5	0.0487	<0.000010	0.0046	<0.0010	0.01	2.61	0.00034	7.84	<0.000020	19.7	0.729	20.5	<0.000050	<0.0050	<0.0050	0.00253
W3	09/11/2015 13:30	<0.05	<0.000010	57.9	<0.0010	<0.00050	0.00251	0.034	<0.00020	<0.0050	27.9	0.0503	<0.000010	0.0048	<0.0010	<0.01	2.13	0.00031	6.79	<0.000020	18.9	0.711	18.4	<0.000050	<0.0050	<0.0050	0.00255
W3	16/11/2015 11:15	<0.05	<0.000010	60.2	<0.0010	<0.00050	0.00311	0.037	<0.00020	<0.0050	28.1	0.0534	<0.000010	0.0046	<0.0010	0.017	2.59	0.00037	7.31	<0.000020	18.5	0.703	20	<0.000050	<0.0050	<0.0050	0.00258
W3	23/11/2015 14:05	<0.05	<0.000010	55.5	<0.0010	<0.00050	0.00203	0.034	<0.00020	<0.0050	27.1	0.0653	<0.000010	0.0049	<0.0010	0.01	2.14	0.0003	7.06	<0.000020	18.5	0.737	18.1	<0.000050	<0.0050	<0.0050	0.00268
W3	03/12/2015 16:00																										
W3	06/12/2015 15:35	<0.05	<0.000010	49.1	<0.0010	<0.00050	0.00203	0.029	<0.00020	<0.0050	27	0.0387	<0.000010	0.0046	0.0029	<0.01	2.25	0.00038	5.67	<0.000020	18.6	0.725	16.2	<0.000050	<0.0050	<0.0050	0.00275
W3	08/12/2015 11:15	<0.05	<0.000010	53	<0.0010	<0.00050	0.00208	0.03	<0.00020	<0.0050	27.6	0.0414	<0.000010	0.0042	0.0015	0.016	2.15	0.00038	6.09	0.000022	17.1	0.661	17.8	<0.000050	<0.0050	<0.0050	0.00237
W3	19/12/2015 10:15	<0.05	<0.000010	48	<0.0010	<0.00050	0.00229	0.026	<0.00020	<0.0050	24.9	0.0352	<0.000010	0.0039	<0.0010	<0.01	1.96	0.00025	5.86	<0.000020	16.3	0.622	18.4	<0.000050	<0.0050	<0.0050	0.00232
W3	26/12/2015 15:35	<0.05	0.000011	49.8	<0.0010	<0.00050	0.00326	0.066	<0.00020	<0.0050	31.5	0.0801	<0.000010	0.004	0.001	0.023	2.45	0.00035	5.95	<0.000020	20.9	0.693	21.9	<0.000050	<0.0050	<0.0050	0.00244
W3	01/01/2016 15:20	<0.05	<0.000010	56.5	<0.0010	<0.00050	0.00226	0.036	<0.00020	<0.0050	26.4	0.0991	<0.000010	0.0048	<0.0010	0.011	2.26	0.00029	6.69	<0.000020	18.2	0.729	17.7	<0.000050	<0.0050	<0.0050	0.00281
W3	08/01/2016 8:45	<0.05	<0.000010	57.1	<0.0010	<0.00050	0.00321	0.108	<0.00020	<0.0050	30.8	0.168	<0.000010	0.0045	0.0011	0.017	2.39	0.00036	6.61	<0.000020	20.6	0.748	19.9	<0.000050	<0.0050	<0.0050	0.00266
W3	14/01/2016 15:05	<0.05	<0.000010	48.4	<0.0010	<0.00050	0.00366	0.188	<0.00020	<0.0050	25.3	0.111	<0.000010	0.0037	<0.0010	0.014	2.12	0.00028	5.72	<0.000020	16.5	0.626	15.1	<0.000050	<0.0050	<0.0050	0.00234
W3	19/01/2016 15:35	<0.05	<0.000010	55.3	<0.0010	<0.00050	0.00196	0.039	<0.00020	<0.0050	28.7	0.0583	<0.000010	0.0045	0.0011	0.013	2.35	0.00035	6.48	<0.000020	18.4	0.672	19.7	<0.000050	<0.0050	<0.0050	0.00255
W3	25/01/2016 15:55	<0.05	<0.000010	53.2	<0.0010	<0.00050	0.00218	0.056	<0.00020	<0.0050	28	0.0551	<0.000010	0.0045	<0.0010	0.016	2.42	0.00026	7.51	<0.000020	18.1	0.705	19.4	<0.000050	<0.0050	<0.0050	0.00248
W3	01/02/2016 10:40	<0.05	<0.000010	54.6	<0.0010	<0.00050	0.00325	0.064	<0.00020	<0.0050	28.3	0.0789	<0.000010	0.0045	<0.0010	<0.01	2.14	0.00037	6.68	<0.000020	18.6	0.736	16	<0.000050	<0.0050	<0.0050	0.00258
W3	14/02/2016 17:20	<0.05	0.000015	55.4	<0.0010	<0.00050	0.0113	0.204	0.00021	<0.0050	29.9	0.0729	<0.000010	0.0043	<0.0010	0.034	2.44	0.00029	7.37	<0.000020	19.5	0.734	22.7	<0.000050	<0.0050	0.0055	0.00235
W3	20/02/2016 15:30	<0.05	<0.000010	54.3	<0.0010	<0.00050	0.00214	0.075	<0.00020	<0.0050	31	0.0995	<0.000010	0.0042	<0.0010	<0.01	2.29	0.00028	6.85	<0.000020	20.3	0.731	15.2	<0.000050	<0.0050	<0.0050	0.00263
W3	28/02/2016 15:50	<0.05	<0.000010	54.5	<0.0010	<0.00050	0.00292	0.135	<0.00020	<0.0050	28.3	0.0983	<0.000010	0.0048	<0.0010	<0.01	2.15	0.00033	6.26	<0.000020	18.2	0.713	12.4	<0.000050	<0.0050	<0.0050	0.00273
W3	01/03/2016 15:10	<0.05	<0.000010	55.5	<0.0010	<0.00050	0.00215	0.091	<0.00020	<0.0050	30.2	0.0791	<0.000010	0.0048	<0.0010	<0.01	2.24	0.0003	6.61	<0.000020	19.6	0.712	16.4	<0.000050	<0.0050	<0.0050	0.00268
W3	08/03/2016 10:25	<0.05	0.000012	62.4	<0.0010	<0.00050	0.00403	0.329	<0.00020	<0.0050	32.6	0.12	<0.000010	0.0049	0.0011	0.018	2.41	0.00038	7.15	<0.000020	21.7	0.771	14.1	<0.000050	<0.0050	0.0055	0.00329
W3	19/03/2016 7:20	<0.05	<0.000010	56.4	<0.0010	<0.00050	0.00185	0.053	<0.00020	<0.0050	28.4	0.0693	<0.000010	0.0047	<0.0010	0.01	2.25	0.00032	6.49	<0.000020	18.2	0.76	17.8	<0.000050	<0.0050	<0.0050	0.0028
W3	24/03/2016 7:15	<0.05	<0.000010	50.3	<0.0010	<0.00050	0.00449	0.268	<0.00020	<0.0050	26.4	0.0933	<0.000010	0.0041	<0.0010	0.026	2.09	0.0003	6.82	<0.000020	16.6	0.681	18.3	<0.000050	<0.0050	0.0064	0.00246
W3	30/03/2016 15:10	0.022	0.0000141	50.5	0.00083	0.00036	0.0144	0.711	0.000210	0.0033	25.7	0.143	<0.0000050	0.00439	0.00147	<0.050	2.62	0.000317	6.51	<0.000010	16.0	0.641	14.9	<0.000010	<0.00010	0.0214	0.00259
W3	04/04/2016 14:30	0.021	0.0000073	56.5	0.00032	0.00018	0.00489	0.264	0.000074	0.0033	29.2	0.119	<0.0000050	0.00470	0.00109	<0.050	2.34	0.000300	6.34	<0.000010	18.5	0.700	16.8	<0.000010	<0.00010	0.00787	0.00300
W3	07/05/2016 8:35																										
W3	08/05/2016 8:20																										
W3	09/05/2016 8:15																										
W3	10/05/2016 8:30																										
W3	11/05/2016 8:25																										
W3	12/05/2016 8:30	0.021	<0.0000050	54.6	0.00024	<0.00010	0.00724	0.052	<0.000050	0.0026	24.7	0.0286	<0.0000050	0.00399	0.00150	<0.050	2.16	0.000335	6.00	0.000013	16.2	0.609	15.6	<0.000010	<0.00010	0.00078	0.00227
W3	13/05/2016 8:05																										
W3	14/05/2016 7:30																										
W3	12/06/2016 7:40																										
W3	27/06/2016 8:05																										
W3	28/06/2016 8:05	0.025	<0.0000050	56.2	0.00015	<0.00010	0.00345	0.017	<0.000050	0.0031	24.3	0.0224	<0.0000050	0.00476	0.00096	<0.050	2.31	0.000318	5.63	<0.000010	15.7	0.659	16.4	<0.000010	<0.00010	<0.00030	0.00249
W3	29/06/2016 7:25																										
W3	05/07/2016 16:15	0.027	<0.0000050	58.4	0.00010	<0.00010	0.00294	0.010	<0.000050	0.0034	28.5	0.0275	<0.0000050	0.00515	0.00105	<0.050	2.64	0.000402	5.94	<0.000010	18.8	0.729	17.7	<0.000010	<0.00010	<0.00030	0.00271
W3	01/11/2016 15:10	0.025	<0.0000050	53.8	<0.00010	<0.00010	0.00407	0.024	<0.000050	0.0030	24.3	0.0434	<0.0000050	0.00489	0.00088	<0.050	2.11	0.000350	5.93	<0.000010	16.0	0.689	18.4	<0.000010	<0.00010	0.00046	0.00250
W3	08/11/2016 8:35	0.024	0.0000057	52.7	0.00012	<0.00010	0.00329	0.030	<0.000050	0.0029	28.2	0.0504	<0.0000050	0.00496	0.00099	<0.050	2.27	0.000342	6.08	<0.000010	18.5	0.697	19.1	<0.000010	<0.00010	0.00062	0.00243
W3	15/11/2016 9:45	0.024	0.0000061	52.2	0.00011	<0.00010	0.00286	0.026	<0.000050	0.0035	25.4	0.0484	<0.0000050	0.00488	0.00095	<0.050	2.23	0.000377	6.22	<0.000010	17.6	0.711	19.2	<0.000010	<0.00010	0.00033	0.00286
W3	22/11/2016 13:35	0.025	0.0000071	57.7	<0.00010	<0.00010	0.00274	0.020	<0.000050	0.0035	28.6	0.0640	<0.0000050	0.00511	0.00100	<0.050	2.42	0.000418	6.49	<0.000010	19.4	0.746	20.9	<0.000010	<0.00010	<0.00030	0.00256
W3	29/11/2016 10:55	0.025	0.0000079	59.1	<0.00030	0.00011	0.00350	0.042	<0.000050	0.0036	31.2	0.125	<0.0000050	0.00504	0.00113	<0.050	2.57	0.000488	6.79	<0.000010	20.3	0.786	21.8	<0.000010	<0.00010	<0.00030	0.00259
W3	06/12/2016 11:05	0.026	0.0000053	55.5	0.00011	<0.00010	0.00560	0.046	<0.000050	0.0032	28.9	0.0558	<0.0000050	0.00518	0.00094	<0.050	2.26	0.000335	6.49	<0.000010	19.4	0.763	20.1	<0.000010	0.00022	0.00083	0.00288
W3	13/12/2016 15:50	0.025	<0.0000050	55.2	<0.00010	<0.00010	0.00217	0.031	<0.000050	0.0035	28.1	0.0803	<0.0000050	0.00500	0.00090	<0.050	2.25	0.000315	6.56	<0.000010	18.5	0.739	21.0	<0.000010	<0.00010	<0.00030	0.00280
W3	20/12/2016 9:10	0.022	0.0000113	60.1	0.00013	0.00016	0.00832	0.072	0.000052	0.0032	29.6	0.220	<0.0000050	0.00471	0.00116	<0.050	2.34	0.000315	6.21	<0.000010	18.6	0.729	19.6	<0.000010	0.00033	0.00061	0.00244
W3	27/12/2016 11:00	0.024	<0.0000050	56.3	0.00012	<0.00010	0.00301	0.030	<0.000050	0.0034	28.0	0.0643	<0.0000050	0.00512	0.00086	<0.050	2.25	0.000319	6.53	<0.000010	17.8	0.770	20.6	<0.000010	<0.00010	0.00035	0.00290

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	22/06/2015 11:45	<0.0050	<0.0050	<0.00050	0.0041	<0.00050	0.00026	0.0792	<0.00010	<0.0010	<0.05	<0.000010	57.4	<0.0010	<0.00050	0.00228	0.017	<0.00020	<0.0050	26	0.0555	<0.000010	0.005	<0.0010	0.011	2.45
W3	29/06/2015 16:25	<0.0050	<0.0050	<0.00050	0.0063	<0.00050	0.00025	0.0818	<0.00010	<0.0010	<0.05	<0.000010	59.5	<0.0010	<0.00050	0.00261	0.0155	<0.00020	<0.0050	25.3	0.057	<0.000010	0.0049	<0.0010	0.012	2.35
W3	07/07/2015 13:15	<0.0050	<0.0050	<0.00050	0.004	<0.00050	0.00025	0.0787	<0.00010	<0.0010	<0.05	<0.000010	55.4	<0.0010	<0.00050	0.00265	0.0155	<0.00020	<0.0050	28.4	0.0533	<0.000010	0.0052	<0.0010	<0.01	2.38
W3	14/07/2015 9:00	<0.0050	<0.0050	<0.00050	0.0083	<0.00050	0.00027	0.0754	<0.00010	<0.0010	<0.05	<0.000010	57.7	<0.0010	<0.00050	0.00234	0.0192	<0.00020	<0.0050	30.1	0.051	<0.000010	0.0044	<0.0010	<0.01	2.25
W3	20/07/2015 8:30	<0.0050	<0.0050	<0.00050	0.0097	<0.00050	0.00026	0.0795	<0.00010	<0.0010	<0.05	<0.000010	58.2	<0.0010	<0.00050	0.00256	0.0194	<0.00020	<0.0050	30.6	0.0513	<0.000010	0.0053	<0.0010	<0.01	2.43
W3	29/07/2015 13:35	<0.0050	<0.0050	<0.00050	0.0124	<0.00050	0.00026	0.0741	<0.00010	<0.0010	<0.05	0.000029	55.9	<0.0010	<0.00050	0.0021	0.0219	<0.00020	<0.0050	28.1	0.041	<0.000010	0.0055	<0.0010	<0.01	2.07
W3	05/08/2015 10:35	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00024	0.076	<0.00010	<0.0010	<0.05	<0.000010	54.8	<0.0010	<0.00050	0.0021	0.0172	<0.00020	<0.0050	26.4	0.0378	<0.000010	0.0049	<0.0010	<0.01	2.11
W3	14/08/2015 10:10	<0.0050	<0.0050	<0.00050	0.0088	<0.00050	0.00033	0.0805	<0.00010	<0.0010	<0.05	<0.000010	56.2	<0.0010	<0.00050	0.00261	0.019	<0.00020	<0.0050	26.4	0.0406	<0.000010	0.0049	<0.0010	0.01	2.18
W3	18/08/2015 8:55	<0.0050	<0.0050	<0.00050	0.0088	<0.00050	0.0003	0.0768	<0.00010	<0.0010	<0.05	<0.000010	55.7	<0.0010	<0.00050	0.00224	0.0356	<0.00020	<0.0050	29.7	0.04	<0.000010	0.0054	<0.0010	<0.01	2.21
W3	24/08/2015 10:25	<0.0050	<0.0050	<0.00050	0.0035	<0.00050	0.00032	0.0805	<0.00010	<0.0010	<0.05	<0.000010	62.2	<0.0010	<0.00050	0.00239	0.0202	<0.00020	<0.0050	30.7	0.0433	<0.000010	0.0049	<0.0010	0.012	2.64
W3	31/08/2015 7:50	<0.0050	<0.0050	<0.00050	0.01	<0.00050	0.00033	0.0756	<0.00010	<0.0010	<0.05	<0.000010	58.5	<0.0010	<0.00050	0.00432	0.0282	<0.00020	<0.0050	29.9	0.0469	<0.000010	0.0042	<0.0010	<0.01	2.58
W3	08/09/2015 9:45	<0.0050	<0.0050	<0.00050	0.0067	<0.00050	0.00031	0.07	<0.00010	<0.0010	<0.05	<0.000010	52	<0.0010	<0.00050	0.00238	0.024	<0.00020	<0.0050	27.5	0.0386	<0.000010	0.0045	<0.0010	<0.01	2.19
W3	15/09/2015 11:20	<0.0050	<0.0050	<0.00050	0.0079	<0.00050	0.00025	0.0723	<0.00010	<0.0010	<0.05	<0.000010	50.5	<0.0010	<0.00050	0.00361	0.027	<0.00020	<0.0050	29.6	0.0432	<0.000010	0.0049	<0.0010	0.02	2.46
W3	23/09/2015 15:00	<0.0050	<0.0050	<0.00050	0.0185	<0.00050	0.00023	0.0789	<0.00010	<0.0010	<0.05	<0.000010	57.2	<0.0010	<0.00050	0.00293	0.0257	<0.00020	<0.0050	29.2	0.0442	<0.000010	0.0048	0.001	<0.01	2.26
W3	30/09/2015 16:35	<0.0050	<0.0050	<0.00050	0.0058	<0.00050	0.00022	0.0715	<0.00010	<0.0010	<0.05	<0.000010	61.2	<0.0010	<0.00050	0.0025	0.0221	<0.00020	<0.0050	27.8	0.042	<0.000010	0.0048	<0.0010	<0.01	2.22
W3	05/10/2015 8:15	<0.0050	<0.0050	<0.00050	0.0089	<0.00050	0.00031	0.0741	<0.00010	<0.0010	<0.05	<0.000010	54	<0.0010	<0.00050	0.00224	0.0214	<0.00020	<0.0050	27.8	0.0378	<0.000010	0.005	<0.0010	0.014	1.96
W3	13/10/2015 11:00	<0.0050	<0.0050	<0.00050	0.0069	<0.00050	0.00034	0.0692	<0.00010	<0.0010	<0.05	<0.000010	50.1	<0.0010	<0.00050	0.00243	0.0317	<0.00020	<0.0050	25.5	0.0668	<0.000010	0.0046	<0.0010	0.016	1.98
W3	22/10/2015 10:50	<0.0050	<0.0050	<0.00050	0.0046	<0.00050	0.00024	0.0738	<0.00010	<0.0010	0.058	<0.000010	57	<0.0010	<0.00050	0.00255	0.0216	<0.00020	<0.0050	28.7	0.0409	<0.000010	0.0048	<0.0010	<0.01	2.2
W3	28/10/2015 13:30	<0.0050	<0.0050	<0.00050	0.0119	<0.00050	0.00024	0.0721	<0.00010	<0.0010	<0.05	<0.000010	55.4	<0.0010	<0.00050	0.00233	0.0175	<0.00020	<0.0050	26.4	0.0532	<0.000010	0.0049	<0.0010	0.013	2.13
W3	02/11/2015 10:50	<0.0050	<0.0050	<0.00050	0.0058	<0.00050	0.0003	0.0747	<0.00010	<0.0010	<0.05	<0.000010	57.5	<0.0010	<0.00050	0.00198	0.0163	<0.00020	<0.0050	28.9	0.0396	<0.000010	0.0052	<0.0010	0.012	2.2
W3	09/11/2015 13:30	<0.0050	<0.0050	<0.00050	0.0067	<0.00050	0.00026	0.0741	<0.00010	<0.0010	<0.05	<0.000010	57.7	<0.0010	<0.00050	0.00246	0.0183	<0.00020	<0.0050	31.4	0.0442	<0.000010	0.0052	<0.0010	0.016	2.35
W3	16/11/2015 11:15	<0.0050	<0.0050	<0.00050	0.0068	<0.00050	0.00023	0.0778	<0.00010	<0.0010	<0.05	<0.000010	58.4	<0.0010	<0.00050	0.00224	0.0177	<0.00020	<0.0050	30.2	0.0479	<0.000010	0.0045	<0.0010	<0.01	2.46
W3	23/11/2015 14:05	<0.0050	<0.0050	<0.00050	0.0061	<0.00050	0.00027	0.076	<0.00010	<0.0010	<0.05	<0.000010	56.8	<0.0010	<0.00050	0.00267	0.024	<0.00020	<0.0050	29.7	0.0618	<0.000010	0.0048	<0.0010	<0.01	2.13
W3	03/12/2015 16:00																									
W3	06/12/2015 15:35	<0.0050	<0.0050	<0.00050	0.057	<0.00050	0.00029	0.0748	<0.00010	<0.0010	<0.05	<0.000010	49	<0.0010	<0.00050	0.00394	0.0182	<0.00020	<0.0050	27.8	0.0364	<0.000010	0.0047	<0.0010	<0.01	2.21
W3	08/12/2015 11:15	<0.0050	<0.0050	<0.00050	0.0161	<0.00050	0.00021	0.0756	<0.00010	<0.0010	<0.05	<0.000010	53.5	<0.0010	<0.00050	0.00504	0.0196	<0.00020	<0.0050	28.4	0.0336	<0.000010	0.005	<0.0010	0.012	2.15
W3	19/12/2015 10:15	<0.0050	0.0083	<0.00050	0.0057	<0.00050	0.00028	0.0726	<0.00010	<0.0010	<0.05	<0.000010	54.4	<0.0010	<0.00050	0.00461	0.0147	0.00032	<0.0050	28.2	0.0351	<0.000010	0.0046	<0.0010	<0.01	2.14
W3	26/12/2015 15:35	<0.0050	0.0094	<0.00050	0.0303	<0.00050	0.00022	0.0784	<0.00010	<0.0010	<0.05	<0.000010	55.9	<0.0010	<0.00050	0.00236	0.0152	<0.00020	<0.0050	29	0.0643	<0.000010	0.0048	<0.0010	<0.01	2.37
W3	01/01/2016 15:20	<0.0050	<0.0050	<0.00050	0.0104	<0.00050	0.00033	0.0756	<0.00010	<0.0010	<0.05	<0.000010	60	<0.0010	<0.00050	0.0022	0.0328	<0.00020	<0.0050	30	0.104	<0.000010	0.0045	<0.0010	<0.01	2.34
W3	08/01/2016 8:45	<0.0050	<0.0050	<0.00050	0.0097	<0.00050	0.00029	0.0814	<0.00010	<0.0010	<0.05	<0.000010	56	<0.0010	<0.00050	0.00198	0.0714	<0.00020	<0.0050	26.6	0.143	<0.000010	0.0039	0.0013	<0.01	2.27
W3	14/01/2016 15:05	<0.0050	0.0068	<0.00050	0.0104	<0.00050	0.00033	0.0748	<0.00010	<0.0010	<0.05	<0.000010	53.3	<0.0010	<0.00050	0.00161	0.0739	<0.00020	<0.0050	28.3	0.0866	<0.000010	0.0041	<0.0010	<0.01	2.15
W3	19/01/2016 15:35	<0.0050	<0.0050	<0.00050	0.009	<0.00050	0.00034	0.0777	<0.00010	<0.0010	<0.05	0.000012	56.1	<0.0010	<0.00050	0.00184	0.0335	<0.00020	<0.0050	27.6	0.0543	<0.000010	0.0048	<0.0010	0.011	2.38
W3	25/01/2016 15:55	<0.0050	<0.0050	<0.00050	0.0093	<0.00050	0.00028	0.0782	<0.00010	<0.0010	<0.05	0.000016	55.9	<0.0010	<0.00050	0.00165	0.0394	<0.00020	<0.0050	27.7	0.0551	<0.000010	0.0048	0.0016	0.017	2.22
W3	01/02/2016 10:40	<0.0050	<0.0050	<0.00050	0.0102	<0.00050	0.00027	0.0754	<0.00010	<0.0010	<0.05	<0.000010	55.6	<0.0010	<0.00050	0.00189	0.0466	<0.00020	<0.0050	28.7	0.0748	<0.000010	0.0046	<0.0010	<0.01	2.08
W3	14/02/2016 17:20	<0.0050	<0.0050	<0.00050	0.0061	<0.00050	0.00034	0.0747	<0.00010	<0.0010	<0.05	<0.000010	53.1	<0.0010	<0.00050	0.00197	0.0366	<0.00020	<0.0050	27.8	0.057	<0.000010	0.0045	<0.0010	0.011	2.15
W3	20/02/2016 15:30	<0.0050	<0.0050	<0.00050	0.0071	<0.00050	0.00035	0.0789	<0.00010	<0.0010	<0.05	<0.000010	57	<0.0010	<0.00050	0.00172	0.0416	<0.00020	<0.0050	30	0.0918	<0.000010	0.004	<0.0010	0.011	2.42
W3	28/02/2016 15:50	<0.0050	<0.0050	<0.00050	0.0235	<0.00050	0.00029	0.081	<0.00010	<0.0010	<0.05	0.000013	54.5	<0.0010	<0.00050	0.0019	0.0418	<0.00020	<0.0050	29.7	0.082	<0.000010	0.0048	<0.0010	0.015	2.15
W3	01/03/2016 15:10	<0.0050	<0.0050	<0.00050	0.0065	<0.00050	0.00036	0.0796	<0.00010	<0.0010	<0.05	<0.000010	55.5	<0.0010	<0.00050	0.00167	0.0349	<0.00020	<0.0050	29.1	0.0654	<0.000010	0.0067	<0.0010	0.016	2.22
W3	08/03/2016 10:25	<0.0050	<0.0050	<0.00050	0.031	<0.00050	0.00038	0.075	<0.00010	<0.0010	<0.05	<0.000010	53.9	<0.0010	<0.00050	0.00194	0.0459	<0.00020	<0.0050	28.3	0.0794	<0.000010	0.0043	<0.0010	0.011	2.17
W3	19/03/2016 7:20	<0.0050	<0.0050	<0.00050	0.0488	<0.00050	0.00046	0.0771	<0.00010	<0.0010	<0.05	<0.000010	54.3	<0.0010	<0.00050	0.00184	0.0393	<0.00020	<0.0050	29.6	0.0689	<0.000010	0.0043	<0.0010	<0.01	2.33
W3	24/03/2016 7:15	<0.0050	0.0095	<0.00050	0.0397	<0.00050	0.00031	0.0797	<0.00010	<0.0010	<0.05	<0.000010	62.3	<0.0010	<0.00050	0.00232	0.0606	<0.00020	<0.0050	29.3	0.0788	<0.000010	0.0047	0.0011	<0.01	2.44
W3	30/03/2016 15:10	0.00203	0.0034	<0.00030	0.0029	<0.00010	0.00031	0.0740	<0.000020	<0.000050	0.020	0.0000063	52.2	<0.00010	<0.00010	0.00486	0.032	<0.000050	0.0028	26.1	0.0989	<0.0000050	0.00416	0.00079	<0.050	2.48
W3	04/04/2016 14:30	0.00100	<0.0030	<0.00030	0.0034	<0.00010	0.00027	0.0761	<0.000020	<0.000050	0.019	<0.0000050	58.3	<0.00010	<0.00010	0.00212	0.029	<0.000050	0.0032	29.8	0.0913	<0.0000050	0.00470	0.00093	<0.050	2.30
W3	07/05/2016 8:35																									
W3	08/05/2016 8:20																									
W3	09/05/2016 8:15																									
W3	10/05/2016 8:30																									
W3	11/05/2016 8:25																									
W3	12/05/2016 8:30	<0.00050	<0.0030	<0.00030	0.0166	<0.00010	0.00032	0.0659	<0.000020	<0.000050	0.020	<0.0000050	56.6	0.00021	<0.00010	0.00682	0.043	<0.000050	0.0025	25.3	0.0244	<0.0000050	0.00357	0.00129	<0.050	2.26
W3	13/05/2016 8:05																									
W3	14/05/2016 7:30																									
W3	12/06/2016 7:40																									
W3	27/06/2016 8:05																									
W3	28/06/2016 8:05	<0.00050	<0.0030	<0.00030	0.0031	<0.00010	0.00023	0.0715	<0.000020	<0.000050	0.024	<0.0000050	58.0	<0.00010	<0.00010	0.00343	0.010	<0.000050	0.0028	24.6	0.0214	<0.0000050	0.00435	0.00086	<0.050	2.34
W3	29/06/2016 7:25																									
W3	05/07/2016 16:15	0.00058	<0.0030	<0.00030	0.0022	<0.00010	0.00026	0.0727	<0.000020	<0.000050	0.025	<0.0000050	55.7	<0.00010	<0.00010	0.00275	<0.010	<0.000050	0.0031	25.6	0.0256	<0.0000050	0.00495	0.00087	<0.050	2.37
W3	01/11/2016 15:10	<0.00050	<0.0030	<0.00030	0.0028	<0.00010	0.00025	0.0680	<0.000020	<0.000050	0.023	<0.0000050	49.0	<0.00010	<0.00010	0.00281	0.012	<0.000050	0.0030	24.9	0.0413	<0.0000050	0.00471	0.00080	<0.050	2.14
W3	08/11/2016 8:35	<0.00050	<0.0030	<0.00030	0.0027	<0.00010	0.00023	0.0698	<0.000020	<0.000050	0.024	<0.0000050	53.4	<0.00010	<0.00010	0.00276	0.011	<0.000050	0.0030	27.5	0.0414	<0.0000050	0.00476	0.00091	<0.050	2.29
W3	15/11/2016 9:45	0.00053	<0.0030	<0.00030	0.0013	<0.00010	0.00022	0.0722	<0.000020	<0.000050	0.023	<0.0000050	52.0	<0.00010	<0.00010	0.00243	0.011	<0.000050	0.0035	25.0	0.0406	<0.0000050	0.00473	0.00085	<0.050	2.23
W3	22/11/2016 13:35	<0.00050	<0.0030	<0.00030	0.0018	<0.00010	0.00024	0.0769	<0.000020	<0.000050	0.024	0.0000073	56.6	<0.00010	<0.00010	0.00241	0.014	<0.000050	0.0035	27.3	0.0594	<0.0000050	0.00471	0.00094	<0.050	2.27
W3	29/11/2016 10:55	<0.00050	<0.0030	<0.00030	0.0018	<0.00010	0.00024	0.0751	<0.000020	<0.000050	0.024	0.0000075	56.4	<0.00010	<0.00010	0.00262	0.034	<0.000050	0.0028	30.6	0.103	<0.0000050	0.00455	0.00087	<0.050	2.50
W3	06/12/2016 11:05	<0.00050	<0.0030	<0.00030	0.0021	<0.00010	0.00021	0.0718	<0.000020	<0.000050	0.024	<0.0000050	53.9	<0.00010	<0.00010	0.00443	0.013	<0.000050	0.0032	28.3	0.0436	<0.0000050	0.00488	0.00081	<0.050	2.23
W3	13/12/2016 15:50	<0.00050	<0.0030	<0.00030	0.0013	<0.00010	0.00024	0.0755	<0.000020	<0.000050	0.024	0.0000066	55.0	<0.00010	<0.00010	0.00196	0.022	<0.000050	0.0036	28.1	0.0731	<0.0000050	0.00458	0.00076	<0.050	2.25
W3	20/12/2016 9:10	<0.00050	0.0030	<0.00030	0.0021	<0.00010	0.00026	0.0810	<0.000020	<0.000050	0.023	0.0000077	57.8	<0.00010	0.00014	0.00240	0.073	<0.000050	0.0028	26.8	0.202	<0.0000050	0.00439	0.00097	<0.050	2.26
W3	27/12/2016 11:00	<0.00050	<0.0030	<0.00030	0.0019	<0.00010	0.00025	0.0815	<0.000020	<0.000050	0.023	<0.0000050	56.4	<0.00010	<0.00010	0.00202	0.019	<0.000050	0.0031	29.8	0.0641	<0.0000050	0.00446	0.00089	<0.050	2.46

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	Br	Cation	CN-T	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-TKN	P-PO4T	P-TDP	P-TRP
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L
W3	22/06/2015 11:45	0.00034	6.72	<0.000020	17.2	0.792	24.7	<0.000050	<0.0050	<0.0050	0.00235	<0.0050	<0.0050	<0.00050	268	1.81	<0.50	1.51														
W3	29/06/2015 16:25	0.00042	6.38	<0.000020	16.9	0.808	21.5	<0.000050	<0.0050	<0.0050	0.00251	<0.0050	<0.0050	<0.00050	268	1.31	<0.50	1.09														
W3	07/07/2015 13:15	0.00032	6.02	<0.000020	19.2	0.772	20.7	<0.000050	<0.0050	<0.0050	0.00255	<0.0050	<0.0050	<0.00050	260	1.07	<0.50	0.89														
W3	14/07/2015 9:00	0.00026	6.54	<0.000020	19.3	0.733	25	<0.000050	<0.0050	<0.0050	0.0028	<0.0050	<0.0050	<0.00050	265	<0.50	<0.50	<0.50														
W3	20/07/2015 8:30	0.00037	6.91	<0.000020	19.5	0.803	22.1	<0.000050	<0.0050	<0.0050	0.0031	<0.0050	<0.0050	<0.00050	278	<0.50	<0.50	<0.50														
W3	29/07/2015 13:35	0.00028	6.23	<0.000020	18	0.735	18.1	<0.000050	<0.0050	<0.0050	0.00251	<0.0050	<0.0050	<0.00050	271	<0.50	<0.50	<0.50														
W3	05/08/2015 10:35	0.00032	6.6	<0.000020	17.6	0.714	20.9	<0.000050	<0.0050	<0.0050	0.0025	<0.0050	<0.0050	<0.00050	268	2.63	<0.50	2.19														
W3	14/08/2015 10:10	0.0003	6.56	<0.000020	18.1	0.675	22.5	<0.000050	<0.0050	<0.0050	0.0024	<0.0050	<0.0050	<0.00050	276	<0.50	<0.50	<0.50														
W3	18/08/2015 8:55	0.00027	6.25	<0.000020	18.6	0.741	18	<0.000050	<0.0050	<0.0050	0.00261	<0.0050	<0.0050	<0.00050	269	2.26	<0.50	1.88														
W3	24/08/2015 10:25	0.0003	5.9	<0.000020	20.4	0.757	20.9	<0.000050	<0.0050	<0.0050	0.00276	<0.0050	<0.0050	<0.00050	281	<0.50	<0.50	<0.50														
W3	31/08/2015 7:50	0.00027	6.84	<0.000020	19.9	0.691	19.4	<0.000050	<0.0050	<0.0050	0.00232	<0.0050	<0.0050	<0.00050	258	<0.50	<0.50	<0.50														
W3	08/09/2015 9:45	0.00027	6.02	<0.000020	17.9	0.672	18.3	<0.000050	<0.0050	<0.0050	0.00245	<0.0050	<0.0050	<0.00050	268	<0.50	<0.50	<0.50														
W3	15/09/2015 11:20	0.00022	5.89	<0.000020	19.9	0.758	20.8	<0.000050	<0.0050	<0.0050	0.00236	<0.0050	<0.0050	<0.00050	263	2.66	<0.50	2.22														
W3	23/09/2015 15:00	0.00025	6.98	<0.000020	19.9	0.736	16.5	<0.000050	<0.0050	<0.0050	0.00258	<0.0050	<0.0050	<0.00050	254	5.56	<0.50	4.63														
W3	30/09/2015 16:35	0.00027	7.16	<0.000020	18.3	0.67	23.5	<0.000050	<0.0050	<0.0050	0.00232	<0.0050	<0.0050	<0.00050	264	4.68	<0.50	3.9														
W3	05/10/2015 8:15	0.00037	6.6	<0.000020	17.9	0.687	15.2	<0.000050	<0.0050	<0.0050	0.00264	<0.0050	<0.0050	<0.00050	267	3.97	<0.50	3.31														
W3	13/10/2015 11:00	0.00029	5.46	<0.000020	17.4	0.675	14.6	<0.000050	<0.0050	<0.0050	0.00246	<0.0050	<0.0050	<0.00050	271	<0.50	<0.50	<0.50														
W3	22/10/2015 10:50	0.00034	6.6	<0.000020	19	0.728	15.8	<0.000050	<0.0050	<0.0050	0.00235	<0.0050	<0.0050	<0.00050	273	<0.50	<0.50	<0.50														
W3	28/10/2015 13:30	0.00032	6.79	<0.000020	18.7	0.683	16.2	<0.000050	<0.0050	<0.0050	0.00262	<0.0050	<0.0050	<0.00050	271	<0.50	<0.50	<0.50														
W3	02/11/2015 10:50	0.00035	7.13	<0.000020	18.8	0.705	21	<0.000050	<0.0050	<0.0050	0.00251	<0.0050	<0.0050	<0.00050	280	<0.50	<0.50	<0.50														
W3	09/11/2015 13:30	0.00026	7.24	<0.000020	19.4	0.704	20.4	<0.000050	<0.0050	<0.0050	0.00252	<0.0050	<0.0050	<0.00050	280	<0.50	<0.50	<0.50														
W3	16/11/2015 11:15	0.0003	6.48	<0.000020	20	0.734	15.5	<0.000050	<0.0050	<0.0050	0.00291	<0.0050	<0.0050	<0.00050	261	5.54	<0.50	4.62														
W3	23/11/2015 14:05	0.00033	6.93	<0.000020	19.8	0.708	16.2	<0.000050	<0.0050	<0.0050	0.00265	<0.0050	<0.0050	<0.00050	260	<0.50	<0.50	<0.50														
W3	03/12/2015 16:00																															
W3	06/12/2015 15:35	0.00028	5.14	<0.000020	19.1	0.723	14.8	<0.000050	<0.0050	<0.0050	0.00262	<0.0050	<0.0050	<0.00050	264	<0.50	<0.50	<0.50														
W3	08/12/2015 11:15	0.00048	6.23	<0.000020	18.7	0.697	16.5	<0.000050	<0.0050	<0.0050	0.00283	<0.0050	<0.0050	<0.00050	275	6.34	<0.50	5.28														
W3	19/12/2015 10:15	0.00036	6.44	<0.000020	19.4	0.671	16	<0.000050	<0.0050	<0.0050	0.00258	<0.0050	<0.0050	<0.00050	291	<0.50	<0.50	<0.50														
W3	26/12/2015 15:35	0.00049	7.12	<0.000020	19.9	0.756	19.2	<0.000050	<0.0050	<0.0050	0.00259	<0.0050	<0.0050	<0.00050	297	<0.50	<0.50	<0.50														
W3	01/01/2016 15:20	0.00034	7.02	<0.000020	19.8	0.746	16.1	<0.000050	<0.0050	<0.0050	0.00242	<0.0050	<0.0050	<0.00050	293	<0.50	<0.50	<0.50														
W3	08/01/2016 8:45	0.00025	6.69	<0.000020	18	0.683	17.7	<0.000050	<0.0050	<0.0050	0.00235	<0.0050	<0.0050	<0.00050	304	<0.50	<0.50	<0.50														
W3	14/01/2016 15:05	0.00036	6.53	0.00002	19	0.652	17.5	<0.000050	<0.0050	<0.0050	0.00266	<0.0050	<0.0050	<0.00050	292	<0.50	<0.50	<0.50														
W3	19/01/2016 15:35	0.00032	7.11	<0.000020	18.2	0.709	19.4	<0.000050	<0.0050	<0.0050	0.00257	<0.0050	<0.0050	<0.00050	293	<0.50	<0.50	<0.50														
W3	25/01/2016 15:55	0.0003	6.9	<0.000020	17.9	0.735	16.4	<0.000050	<0.0050	<0.0050	0.00247	<0.0050	<0.0050	<0.00050	289	<0.50	<0.50	<0.50														
W3	01/02/2016 10:40	0.00034	6.49	<0.000020	18.5	0.739	14.5	<0.000050	<0.0050	<0.0050	0.00263	<0.0050	<0.0050	<0.00050	276	6	<0.50	5														
W3	14/02/2016 17:20	0.00029	6.61	<0.000020	17.9	0.678	16.1	<0.000050	<0.0050	<0.0050	0.00269	<0.0050	<0.0050	<0.00050	288	<0.50	<0.50	<0.50														
W3	20/02/2016 15:30	0.00028	6.95	<0.000020	19.1	0.706	22.8	<0.000050	<0.0050	<0.0050	0.00237	<0.0050	<0.0050	<0.00050	283	3.06	<0.50	2.55														
W3	28/02/2016 15:50	0.00037	6.21	<0.000020	19	0.713	14.3	<0.000050	<0.0050	<0.0050	0.00251	<0.0050	<0.0050	<0.00050	289	<0.50	<0.50	<0.50														
W3	01/03/2016 15:10	0.00033	6.5	<0.000020	18.5	0.703	17.4	<0.000050	<0.0050	<0.0050	0.00271	<0.0050	<0.0050	<0.00050	279	4.76	<0.50	3.97														
W3	08/03/2016 10:25	0.00029	6.48	<0.000020	18.2	0.693	16	<0.000050	<0.0050	<0.0050	0.00228	<0.0050	<0.0050	<0.00050	289	<0.50	<0.50	<0.50														
W3	19/03/2016 7:20	0.00036	6.5	<0.000020	19.3	0.733	17.3	<0.000050	<0.0050	<0.0050	0.00279	<0.0050	<0.0050	<0.00050	284	<0.50	<0.50	<0.50														
W3	24/03/2016 7:15	0.00036	6.8	<0.000020	18.9	0.732	18.3	<0.000050	<0.0050	<0.0050	0.00265	<0.0050	<0.0050	<0.00050	285	<0.50	<0.50	<0.50														
W3	30/03/2016 15:10	0.000299	5.66	<0.000010	16.3	0.637	15.1	<0.000010	<0.00010	<0.00030	0.00248	<0.00050	<0.0010	<0.00030	213	<1.0	<1.0		5.39		5.53							1.3				
W3	04/04/2016 14:30	0.000350	6.18	<0.000010	18.1	0.701	17.2	<0.000010	<0.00010	<0.00030	0.00290	<0.00050	<0.0010	<0.00030	230	<1.0	<1.0		5.85		6.21							3.0				
W3	07/05/2016 8:35																															
W3	08/05/2016 8:20																															
W3	09/05/2016 8:15																															
W3	10/05/2016 8:30																															
W3	11/05/2016 8:25																															
W3	12/05/2016 8:30	0.000325	6.05	<0.000010	15.8	0.597	15.3	<0.000010	<0.00010	0.00059	0.00212	<0.00050	0.0039	<0.00030	204	<1.0	<1.0		5.12		5.65							5.0				
W3	13/05/2016 8:05																															
W3	14/05/2016 7:30																															
W3	12/06/2016 7:40																															
W3	27/06/2016 8:05																															
W3	28/06/2016 8:05	0.000342	5.72	<0.000010	16.1	0.628	16.2	<0.000010	<0.00010	<0.00030	0.00235	<0.00050	<0.0010	<0.00030	220	<1.0	<1.0		5.56		5.68							1.0				
W3	29/06/2016 7:25																															
W3	05/07/2016 16:15	0.000408	5.69	<0.000010	18.1	0.716	16.7	<0.000010	<0.00010	<0.00030	0.00257	<0.00050	<0.0010	<0.00030	225	7.8	<1.0		5.82		5.74							-0.7				
W3	01/11/2016 15:10	0.000346	5.83	<0.000010	16.4	0.662	18.1	<0.000010	<0.00010	<0.00030	0.00247	<0.00050	<0.0010	<0.00030	217	12.0	<1.0		5.91		5.26							-5.8				
W3	08/11/2016 8:35	0.000381	6.09	<0.000010	18.5	0.698	18.7	<0.000010	<0.00010	<0.00030	0.00242	<0.00050	<0.0010	<0.00030	227	<1.0	<1.0		5.84		5.80							-0.4				
W3	15/11/2016 9:45	0.000431	6.18	<0.000010	17.3	0.696	18.8	<0.000010	<0.00010	<0.00030	0.00271	<0.00050	<0.0010	<0.00030	236	<1.0	<1.0		6.05		5.46							-5.1				
W3	22/11/2016 13:35	0.000357	6.20	<0.000010	17.9	0.731	19.6	<0.000010	<0.00010	<0.00030	0.00242	<0.00050	<0.0010	<0.00030	233	<1.0	<1.0		6.00		5.91							-0.7				
W3	29/11/2016 10:55	0.000382	6.68	<0.000010	20.0	0.717	21.3	<0.000010	<0.00010	<0.00030	0.00248	<0.00050	<0.0010	<0.00030	237	<1.0	<1.0		6.07		6.27							1.6				
W3	06/12/2016 11:05	0.000313	6.05	<0.000010	18.8	0.736	18.8	<0.000010	0.00016	<0.00030	0.00269	<0.00050	0.0011	<0.00030	229	8.8	<1.0		6.08		5.90							-1.5				
W3	13/12/2016 15:50	0.000338	6.54	<0.000010	18.3	0.717	20.8	<0.000010	<0.00010	<0.00030	0.00261	<0.00050	<0.0010	<0.00030	237	<1.0	<1.0		6.07		5.91							-1.3				
W3	20/12/2016 9:10	0.000389	6.24	<0.000010	18.1	0.712	19.9	<0.000010	<0.00010	<0.00030	0.00241	<0.00050	0.0013	<0.00030	245	<1.0	<1.0		6.22		5.94							-2.2				
W3	27/12/2016 11:00	0.000324	6.05	<0.000010	20.3	0.716	19.2	<0.000010	<0.00010	<0.00030	0.00233	<0.00050	<0.0010	<0.00030	233	<1.0	<1.0		5.99		6.21							1.8				

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W3	22/06/2015 11:45			539.8			
W3	29/06/2015 16:25			539.9			
W3	07/07/2015 13:15						
W3	14/07/2015 9:00			437.1			
W3	20/07/2015 8:30			516.6			
W3	29/07/2015 13:35			516.4			
W3	05/08/2015 10:35			569			
W3	14/08/2015 10:10			540.6			
W3	18/08/2015 8:55						
W3	24/08/2015 10:25			534.5			
W3	31/08/2015 7:50			505.3			
W3	08/09/2015 9:45			389.7			
W3	15/09/2015 11:20			525			
W3	23/09/2015 15:00			528.6			
W3	30/09/2015 16:35			534.5			
W3	05/10/2015 8:15			520.1			
W3	13/10/2015 11:00			529.2			
W3	22/10/2015 10:50			487.9			
W3	28/10/2015 13:30			525.4			
W3	02/11/2015 10:50			538.7			
W3	09/11/2015 13:30			531.6			
W3	16/11/2015 11:15			551.5			
W3	23/11/2015 14:05			557.6			
W3	03/12/2015 16:00			536.3			
W3	06/12/2015 15:35			523.8			
W3	08/12/2015 11:15			537.2			
W3	19/12/2015 10:15			533.9			
W3	26/12/2015 15:35			542.9			
W3	01/01/2016 15:20			550.5			
W3	08/01/2016 8:45			596.5			
W3	14/01/2016 15:05			601.1			
W3	19/01/2016 15:35			483.8			
W3	25/01/2016 15:55			515.6			
W3	01/02/2016 10:40			547.3			
W3	14/02/2016 17:20			554.9			
W3	20/02/2016 15:30			491.3			
W3	28/02/2016 15:50			537.6			
W3	01/03/2016 15:10			539			
W3	08/03/2016 10:25			535.1			
W3	19/03/2016 7:20			556.4			
W3	24/03/2016 7:15			537.2			
W3	30/03/2016 15:10			489.9			
W3	04/04/2016 14:30			533.7			
W3	07/05/2016 8:35			504.3			
W3	08/05/2016 8:20			505.2			
W3	09/05/2016 8:15			502.3			
W3	10/05/2016 8:30			482.9			
W3	11/05/2016 8:25						
W3	12/05/2016 8:30			470.1			
W3	13/05/2016 8:05			469.4			
W3	14/05/2016 7:30			492.8			
W3	12/06/2016 7:40			487.4			
W3	27/06/2016 8:05			447.5			
W3	28/06/2016 8:05			499.4			
W3	29/06/2016 7:25			508.3			
W3	05/07/2016 16:15			522.4			
W3	01/11/2016 15:10			513.7			
W3	08/11/2016 8:35			521.4			
W3	15/11/2016 9:45			451.4			
W3	22/11/2016 13:35			512.6			
W3	29/11/2016 10:55			547.8			
W3	06/12/2016 11:05			540			
W3	13/12/2016 15:50			548.9			
W3	20/12/2016 9:10			531.2			
W3	27/12/2016 11:00			508.5			

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Phase	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
				mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	26/08/2008	Discharge	P																					1.64	<0.0002	0.0016	0.113	0.00006	
W3	26/08/2008	Discharge	P																					1.1	<0.0002	0.0013	0.101	0.00007	
W3	27/08/2008	Discharge	P	70	292		8.09		403							154	3.42		36.6	0.17	0.07	0.47	21.8	2.14	<0.0002	0.0014	0.121	0.00009	
W3	28/08/2008	Discharge	P	40	290		7.99		393							161	3.51		34.8	0.3	0.05	0.24	25.8	1.46	<0.0002	0.001	0.098	0.00005	
W3	29/08/2008	Discharge	P	98	288		8.03		376							131	3.47		33.8		0.04	0.16		1.79	<0.0002	0.0012	0.109	0.0001	
W3	30/08/2008	Discharge	P	58	284		7.95		380							156	3.26		33.1		0.06	0.27		1.65	<0.0002	0.001	0.104	0.00006	
W3	01/09/2008	Discharge	P	18	270		8.04		383							156	3.14		34.7	0.23	0.07	0.34		0.523	<0.0002	0.0006	0.084	<0.00004	
W3	03/09/2008	Discharge	P	8	300		8.07		374							171	3.18		34.6	0.22	0.06	0.28		0.382	<0.0002	0.0006	0.082	<0.00004	
W3	04/09/2008	Discharge	P	10	128		7.97		397							170	3.24		34.4		0.06	0.17		0.462	<0.0002	0.0009	0.081	<0.00004	
W3	05/09/2008	Discharge	P	30	306		8		391							164	3.14		35		0.07	0.19		0.717	<0.0002	0.0006	0.083	0.00006	
W3	06/09/2008	Discharge	P	8	304		8.02		400							170	3.15		34.2		0.07	0.28		0.254	<0.0002	0.0008	0.074	0.00006	
W3	07/09/2008	Discharge	P	27	300		7.95		386							162	3.23		35.9		0.07	0.17		0.709	<0.0002	0.0009	0.09	0.00008	
W3	10/09/2008	Discharge	P	25	330		7.89		388							177	3.27		32	0.38	<0.01	0.08		1.04	<0.0002	0.0012	0.099	<0.00004	<0.0001
W3	17/09/2008	Discharge	P	23	376		7.94		424							189	3.75		31.8	0.36	<0.01	0.07	25.4	0.771	<0.0002	0.0007	0.088	<0.00004	<0.0001
W3	22/09/2008	Discharge	P	24	338		7.99		416							191	3.82		29.7	0.37	<0.01	0.04		0.921	<0.0002	0.001	0.105	0.00004	<0.0001
W3	24/09/2008	Discharge	P	32	376		7.96		445					194		174	3.33		49.6		0.12	1.96		2.2	<0.0002	0.0013	0.117	0.0001	<0.0005
W3	30/09/2008	Discharge	P	7	362		7.78		467						219	203	3.26		42.3	0.3	0.08	0.91	14.5	0.3	<0.0002	0.0006	0.104	<0.0001	<0.0005
W3	26/06/2009 20:00	Discharge	P	<4	270		8.2		475					227	225					0.011	<0.005	0.69	9.8	0.017	<0.0005	0.0004	0.079	<0.0001	<0.001
W3	28/06/2009	Discharge	P			7.87		289		4.41		97.7																	
W3	29/06/2009	Discharge	P	<4	290	7.84	8.2	321	478	9.46		100		238	227	180	3	0.44	50	0.013	0.008	0.79	9.9	0.169	<0.0005	0.0004	0.093	<0.0001	<0.001
W3	30/06/2009	Discharge	P			8.17		419		13.29		105																	
W3	30/06/2009 9:00	Discharge	P																										
W3	01/07/2009	Discharge	P	18	270	8.17	8.2	421	423	12.35		103.1																	
W3	02/07/2009	Discharge	P	<4	260	8.14	8.1	423	426	14.5		103.7																	
W3	03/07/2009	Discharge	P	5	290	8.11	8.2	427	427	13.53		103.3																	
W3	04/07/2009 9:00	Discharge	P			8.13		428		12.87		103.5																	
W3	05/07/2009 16:00	Discharge	P	4	270	8.22	8.2	433	430	12.95		107.7		191	193	150	3.6	0.44	55	0.062	0.059	3.3		0.192	<0.0005	0.0005	0.087	<0.0001	<0.001
W3	06/07/2009	Discharge	P			7.98		431		14.3		103.9																	
W3	07/07/2009	Discharge	P			8.24		439		12.8		105.6																	
W3	08/07/2009	Discharge	P			8.13		444		13.96		106.4																	
W3	08/07/2009 10:00	Discharge	P	<4																									
W3	09/07/2009	Discharge	P			8.48		435		8.95		129.8																	
W3	09/07/2009 9:00	Discharge	P	6																									
W3	10/07/2009	Discharge	P			8.22		448		14.13		111.8																	
W3	10/07/2009 9:00	Discharge	P	4																									
W3	11/07/2009	Discharge	P			8.17		447		14.56		108.7																	
W3	11/07/2009 11:00	Discharge	P	7																									
W3	12/07/2009	Discharge	P			8.39		413		11.07		110.5																	
W3	12/07/2009 9:00	Discharge	P	<4	330		8.3		444					192	193	160	3.4	0.47	52	0.101	0.079	3.1	15.9	0.144	<0.0005	0.0005	0.088	<0.0001	<0.001
W3	13/07/2009	Discharge	P			8.03		448		12.97		111.8																	
W3	14/07/2009	Discharge	P			8.26		426		12.05		115.7																	
W3	15/07/2009	Discharge	P	6	270	8.26	8.2	432	426	9.95		117																	
W3	16/07/2009	Discharge	P	13	260	8.49	8.2	432	428	9.22		112.8		195	182	150	3.6	0.49	53	0.12	0.086	3.2		0.191	<0.0005	0.0004	0.093	<0.0001	<0.001
W3	17/07/2009	Discharge	P	<4	260	8.26	8.2	433	426	10.88		118.4		205	183	160	3.6	0.5	53	0.112	0.084	2.6		0.288	<0.0005	0.0005	0.095	<0.0001	<0.001
W3	18/07/2009	Discharge	P	8	250	8.29	8.2	333	403	12.58		108		185	177	160	3.1	0.46	47	<0.005	0.024	1.91		0.181	<0.0005	0.0005	0.088	<0.0001	<0.001
W3	19/07/2009	Discharge	P			8.38		427		6.25		114																	
W3	20/07/2009	Discharge	P			8.29		481		6.8		121.5																	
W3	21/07/2009	Discharge	P			8.5		343		12.85		116		146	137					0.62	0.11	5.3		0.78	0.0009	0.001	0.136	<0.0001	<0.001
W3	22/07/2009 11:00	Discharge	P	20	200	8.96	8	338	336	12.33		114.3																	
W3	22/07/2009 13:00	Discharge	P	23	200		8		335																				
W3	23/07/2009	Discharge	P			8.58		340		12.69		116.7																	
W3	24/07/2009	Discharge	P			8.4		384		12.93		123.6																	
W3	24/07/2009 14:00	Discharge	P	19	240		8.1		381																				
W3	25/07/2009	Discharge	P			8.47		391		12.22		120.5																	
W3	25/07/2009 10:00	Discharge	P	15	250		8		387					187	155	120	8.1	0.39	50	0.471	0.107	4.5		0.771	0.0005	0.0009	0.129	<0.0001	<0.001
W3	26/07/2009	Discharge	P	41	220		8		331																				
W3	26/07/2009	Discharge	P	16	240	8.28	8.1	393	388	12.97		120.5																	
W3	27/07/2009	Discharge	P	31	190	8.21	7.8	337	331	12.79		150.3																	
W3	28/07/2009	Discharge	P	50	222	7.83	7.85	337	330	11.4		141.5			140	86	5.78		45										
W3	29/07/2009	Discharge	P	7	290	7.93	8.2	471	460	8.49		78.1																	
W3	30/07/2009	Discharge	P	22	230	7.8	7.9	409	364	8.83																			
W3	31/07/2009	Discharge	P	<4	260		8.1		454																				
W3	01/08/2009	Discharge	P	<4	270		8.2		434					191	208	150	7	0.44	47	0.187	0.103	2.2		0.231	<0.0005	0.0004	0.103	<0.0001	<0.001
W3	01/08/2009	Discharge	P			7.98		448		15.02																			
W3	02/08/2009	Discharge	P			8.1		443		12.72																			

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	26/08/2008	0.022	0.00005	48.8	0.0038	0.00145	0.048	2.54	0.001	0.003	13.4	0.391	0.00001	0.00645	0.011	0.15	6.28	<0.0006	7.76	<0.00001	16.2	0.353		0.00002	<0.0001	0.058	0.0014
W3	26/08/2008	0.022	0.00004	49.8	0.0027	0.00112	0.046	1.89	0.0006	0.003	13.8	0.42	<0.00001	0.00658	0.008	0.08	6.58	<0.0006	6.9	<0.00001	16.2	0.367		0.00002	<0.0001	0.05	0.0013
W3	27/08/2008	0.024	0.00006	60.8	0.0032	0.0015	0.078	4.53	0.0008	0.004	16.5	0.525	0.00001	0.00682	0.012	0.12	7.01	0.0007	9.5	<0.00001	18.1	0.421		0.00002	0.0004	0.0712	0.0016
W3	28/08/2008	0.021	0.00009	53.3	0.0021	0.00132	0.14	3.35	0.0006	0.003	13.4	0.461	0.00001	0.00667	0.008	0.09	8.04	<0.0006	7.93	<0.00001	17.9	0.435		0.00004	<0.0001	0.0578	0.0013
W3	29/08/2008	0.024	0.0001	50.9	0.0043	0.00179	0.119	4.67	0.0009	0.004	13.7	0.518	<0.00001	0.00595	0.012	0.12	9.61	0.0006	8.01	<0.00001	17.4	0.435		0.00003	<0.0001	0.059	0.0012
W3	30/08/2008	0.02	0.00008	50.7	0.0029	0.00146	0.121	3.84	0.0008	0.003	14	0.541	0.00001	0.00618	0.01	0.11	8.57	<0.0006	8.14	<0.00001	17.6	0.45		0.00002	<0.0001	0.0586	0.0012
W3	01/09/2008	0.019	0.00003	51.2	0.0019	0.00074	0.059	1.56	0.0003	0.002	13.9	0.528	0.00001	0.00694	0.005	0.06	7.18	<0.0006	6.13	<0.00001	16.5	0.437		<0.00001	<0.0001	0.0273	0.0013
W3	03/09/2008	0.02	0.00003	53.2	0.0018	0.00062	0.063	0.94	0.0003	0.002	14.4	0.442	0.00001	0.00699	<0.001	0.05	6.9	<0.0006	6.01	<0.00001	15.8	0.472		<0.00001	<0.0001	0.0192	0.0015
W3	04/09/2008	0.02	0.00006	47	0.0016	0.00083	0.097	0.99	0.0003	0.002	13.2	0.454	0.00001	0.00621	<0.001	0.04	7	<0.0006	5.66	<0.00001	16.1	0.44		<0.00001	<0.0001	0.0174	0.0013
W3	05/09/2008	0.02	0.00004	45.7	0.0024	0.00089	0.098	1.43	0.0008	0.003	12.7	0.406	0.00001	0.00578	0.001	0.05	7.07	<0.0006	6.13	<0.00001	15.2	0.438		<0.00001	<0.0001	0.0383	0.0012
W3	06/09/2008	0.018	0.00003	45.6	0.0016	0.00059	0.061	0.69	0.0003	0.002	12.8	0.374	0.00001	0.00588	<0.001	0.02	6.19	<0.0006	5.09	<0.00001	14.6	0.423		<0.00001	<0.0001	0.0122	0.0012
W3	07/09/2008	0.021	0.00005	45.1	0.0021	0.00112	0.115	1.78	0.0006	0.002	13.1	0.553	0.00001	0.00555	0.001	0.06	7.82	<0.0006	6.08	<0.00001	16.6	0.423		<0.00001	<0.0001	0.0277	0.0011
W3	10/09/2008	0.022	0.00007	48.9	0.0024	0.0011	0.144	1.92	0.0006	0.003	13.3	0.616	0.00001	0.00591	0.004	0.07	8.4	<0.0006	6.85	0.00014	17.5	0.472		0.00001	<0.0001	0.0459	0.0011
W3	17/09/2008	0.019	0.00009	48.9	0.0024	0.00107	0.149	1.89	0.0006	0.002	14	0.629	<0.00001	0.00536	0.004	0.07	8.34	<0.0006	6.61	0.00019	17.3	0.462		<0.00001	0.0003	0.0305	0.0012
W3	22/09/2008	0.026	0.00009	50.3	0.0022	0.00136	0.166	1.84	0.0005	0.003	15.1	0.844	<0.00001	0.00627	0.003	0.05	7.47	0.0008	9	0.00008	16	0.488		0.00002	0.0003	0.0348	0.0013
W3	24/09/2008	0.032	0.00012	53	0.0022	0.0017	0.259	3.49	0.0009	0.004	15.1	0.79	<0.0001	0.013	0.0056	0.07	7.9	0.0031	11.3	0.00016	18.3	0.658		<0.00005	<0.001	0.0569	0.0017
W3	30/09/2008	0.022	0.00005	57.8	0.0008	0.0006	0.056	0.69	0.0002	0.003	18.7	0.503	<0.0001	0.006	0.0027	<0.05	4.1	0.0012	6.82	0.00003	16.8	0.618	13.5	<0.00005	<0.001	0.0136	0.0027
W3	26/06/2009 20:00	<0.05	0.00001	60.4	<0.001	<0.0005	0.0077	0.062	<0.0002	<0.005	18.6	0.056	0.00002	0.006	0.001		3.17	0.0006	6.45	<0.00002	16.4	0.497	17	<0.00005	<0.005	<0.005	0.0024
W3	28/06/2009																										
W3	29/06/2009	<0.05	0.00003	63.3	<0.001	<0.0005	0.0138	0.219	<0.0002	<0.005	19.5	0.07	0.00002	0.006	0.002		3.63	0.0007	7.24	<0.00002	17	0.585	18	<0.00005	<0.005	<0.005	0.0027
W3	30/06/2009																										
W3	30/06/2009 9:00																										
W3	01/07/2009																										
W3	02/07/2009																										
W3	03/07/2009																										
W3	04/07/2009 9:00																										
W3	05/07/2009 16:00	<0.05	0.00006	52.1	<0.001	<0.0005	0.0737	0.373	0.0005	<0.005	14.7	0.171	<0.00002	0.011	0.001		5.75	0.002	4.78	<0.00002	15.5	0.605	24	<0.00005	<0.005	0.013	0.0013
W3	06/07/2009																										
W3	07/07/2009																										
W3	08/07/2009																										
W3	08/07/2009 10:00																										
W3	09/07/2009																										
W3	09/07/2009 9:00																										
W3	10/07/2009																										
W3	10/07/2009 9:00																										
W3	11/07/2009																										
W3	11/07/2009 11:00																										
W3	12/07/2009																										
W3	12/07/2009 9:00	<0.05	0.00006	51.8	<0.001	<0.0005	0.0723	0.392	0.0005	<0.005	15.2	0.285	<0.00002	0.011	0.002		5.42	0.002	5.76	<0.00002	15.7	0.575	20	<0.00005	<0.005	0.005	0.0013
W3	13/07/2009																										
W3	14/07/2009																										
W3	15/07/2009																										
W3	16/07/2009	<0.05	0.0001	53.1	<0.001	<0.0005	0.0899	0.397	0.0004	<0.005	15.2	0.362	<0.00002	0.012	0.002		6.09	0.0019	5.38	<0.00002	16.3	0.604	22	<0.00005	<0.005	0.009	0.0014
W3	17/07/2009	<0.05	0.00006	55.6	<0.001	<0.0005	0.103	0.573	0.0007	<0.005	16.2	0.42	0.00007	0.012	0.002		6.38	0.002	6.1	<0.00002	17.2	0.616	22	<0.00005	<0.005	0.011	0.0015
W3	18/07/2009	<0.05	0.00003	49.4	<0.001	<0.0005	0.031	0.354	<0.0002	<0.005	15	0.028	0.00007	0.008	0.002		4.23	0.0012	5.82	<0.00002	14.2	0.51	21	<0.00005	<0.005	0.011	0.0015
W3	19/07/2009																										
W3	20/07/2009																										
W3	21/07/2009	<0.05	0.00009	41.6	0.002	<0.0005	0.0431	0.965	0.0017	<0.005	10.3	0.12	<0.00002	0.015	0.002		3.37	0.002	5.77	<0.00002	10.5	0.637	20	<0.00005	<0.005	0.058	0.0014
W3	22/07/2009 11:00																										
W3	22/07/2009 13:00																										
W3	23/07/2009																										
W3	24/07/2009																										
W3	24/07/2009 14:00																										
W3	25/07/2009																										
W3	25/07/2009 10:00	<0.05	0.00003	52.2	0.001	0.0006	0.0652	1.03	0.0011	<0.005	13.7	0.311	<0.00002	0.015	0.002		5.15	0.0023	6.96	<0.00002	15.1	0.62	14	<0.00005	<0.005	0.044	0.0015
W3	26/07/2009																										
W3	26/07/2009																										
W3	27/07/2009																										
W3	28/07/2009																										
W3	29/07/2009																										
W3	30/07/2009																										
W3	31/07/2009																										
W3	01/08/2009	<0.05	0.00005	51.5	<0.001	<0.0005	0.0478	0.347	0.0016	<0.005	15.1	0.434	<0.00002	0.013	0.002		5.42	0.0019	4.91	<0.00002	16.6	0.605	25	<0.00005	<0.005	0.009	0.0012
W3	01/08/2009																										
W3	02/08/2009																										

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	26/08/2008	0.00693	0.013	0.0006																						
W3	26/08/2008	0.00551	0.009	0.0006																						
W3	27/08/2008	0.00745	0.016	0.0005	0.01	<0.0002	0.0006	0.082	<0.00004		0.024	0.00002	56.1	0.0024	0.00028	0.028	0.19	<0.0001	0.003	15.1	0.21	0.00001	0.00727	0.003	0.02	6.28
W3	28/08/2008	0.00575	0.014	0.0005	0.045	0.0034	0.0007	0.078	<0.00004		0.023	0.00003	53.1	0.0013	0.00128	0.029	0.44	0.0002	0.003	13.4	0.406	<0.00001	0.00625	0.003	0.01	7.65
W3	29/08/2008	0.00772	0.022	0.0005																						
W3	30/08/2008	0.00662	0.016	0.0005																						
W3	01/09/2008	0.00335	0.012	0.0004	0.025	0.0014	0.0009	0.076	<0.00004		0.021	<0.00001	46.9	0.0009	0.00073	0.014	0.62	0.0001	0.002	13	0.538	<0.00001	0.00647	<0.001	0.01	7.07
W3	03/09/2008	0.00269	0.008	0.0004																						
W3	04/09/2008	0.00336	0.012	0.0004																						
W3	05/09/2008	0.00431	0.012	0.0005																						
W3	06/09/2008	0.00255	0.011	0.0003																						
W3	07/09/2008	0.00434	0.01	0.0004																						
W3	10/09/2008	0.00524	0.011	0.0005	0.04	0.0008	0.0009	0.083	<0.00004		0.021	0.00002	46.5	0.0006	0.00068	0.022	0.58	0.0002	0.002	13	0.63	<0.00001	0.00477	0.003	<0.01	8.04
W3	17/09/2008	0.00475	0.012	0.0005	0.058	0.0008	0.0008	0.074	<0.00004		0.025	0.00002	47.6	0.0022	0.00089	0.023	0.44	0.0001	0.002	13.4	0.668	<0.00001	0.00422	0.002	<0.01	8.06
W3	22/09/2008	0.00562	0.014	0.0005	0.049	0.0004	0.0008	0.089	<0.00004		0.023	0.00008	49.8	0.0007	0.00069	0.029	0.64	0.0004	0.002	14.7	0.77	<0.00001	0.00531	0.006	<0.01	7.14
W3	24/09/2008	0.0089	0.031	0.001																						
W3	30/09/2008	0.0022	0.014	<0.001	0.017	0.001	0.0006	0.087	<0.0001	<0.0005	0.02	0.00003	57	0.0008	0.0004	0.022	0.17	<0.0001	0.002	18.7	0.489	<0.0001	0.006	0.0018		4.3
W3	26/06/2009 20:00	<0.005	<0.005	<0.0005	0.003	<0.0005	0.0003	0.072	<0.0001	<0.001	<0.05	<0.00001	59.3	<0.001	<0.0005	0.0067	0.025	<0.0002	<0.005	18.7	0.047	<0.00002	0.006	0.001		3.03
W3	28/06/2009																									
W3	29/06/2009	<0.005	<0.005	<0.0005	0.004	<0.0005	0.0003	0.075	<0.0001	<0.001	<0.05	<0.00001	59.5	<0.001	<0.0005	0.0095	0.024	<0.0002	<0.005	18.9	0.037	<0.00002	0.006	0.001		3.32
W3	30/06/2009																									
W3	30/06/2009 9:00																									
W3	01/07/2009																									
W3	02/07/2009																									
W3	03/07/2009																									
W3	04/07/2009 9:00																									
W3	05/07/2009 16:00	<0.005	0.006	<0.0005	0.031	<0.0005	0.0004	0.077	<0.0001	<0.001	<0.05	0.00004	54	<0.001	<0.0005	0.0622	0.132	<0.0002	<0.005	14.2	0.141	<0.00002	0.011	0.001		5.8
W3	06/07/2009																									
W3	07/07/2009																									
W3	08/07/2009																									
W3	08/07/2009 10:00																									
W3	09/07/2009																									
W3	09/07/2009 9:00																									
W3	10/07/2009																									
W3	10/07/2009 9:00																									
W3	11/07/2009																									
W3	11/07/2009 11:00																									
W3	12/07/2009																									
W3	12/07/2009 9:00	<0.005	0.006	<0.0005	0.034	<0.0005	0.0005	0.081	<0.0001	<0.001	<0.05	0.00006	52.6	<0.001	<0.0005	0.0586	0.142	<0.0002	<0.005	14.9	0.254	<0.00002	0.011	0.001		5.38
W3	13/07/2009																									
W3	14/07/2009																									
W3	15/07/2009																									
W3	16/07/2009	<0.005	0.006	<0.0005	0.03	<0.0005	0.0004	0.077	<0.0001	<0.001	<0.05	0.00006	50	<0.001	<0.0005	0.0613	0.116	<0.0002	<0.005	14	0.264	<0.00002	0.011	0.002		5.63
W3	17/07/2009	<0.005	0.007	<0.0005	0.03	<0.0005	0.0005	0.08	<0.0001	<0.001	<0.05	0.00005	49.9	<0.001	<0.0005	0.0615	0.118	<0.0002	<0.005	14.1	0.327	<0.00002	0.011	0.002		5.6
W3	18/07/2009	<0.005	<0.005	<0.0005	0.021	<0.0005	0.0005	0.079	<0.0001	<0.001	<0.05	<0.00001	47.9	<0.001	<0.0005	0.0222	0.076	<0.0002	<0.005	14.1	0.004	<0.00002	0.008	0.001		4.06
W3	19/07/2009																									
W3	20/07/2009																									
W3	21/07/2009	<0.005	0.009	0.002	0.042	0.0007	0.0008	0.108	<0.0001	<0.001	<0.05	0.00002	38.7	<0.001	<0.0005	0.0205	0.101	0.0005	<0.005	9.93	0.08	0.00006	0.014	0.001		3.03
W3	22/07/2009 11:00																									
W3	22/07/2009 13:00																									
W3	23/07/2009																									
W3	24/07/2009																									
W3	24/07/2009 14:00																									
W3	25/07/2009																									
W3	25/07/2009 10:00	<0.005	0.009	0.001	0.03	0.0006	0.0007	0.108	<0.0001	<0.001	<0.05	0.00004	43.2	<0.001	<0.0005	0.0237	0.069	<0.0002	<0.005	11.3	0.252	0.00002	0.015	0.001		4.37
W3	26/07/2009																									
W3	26/07/2009																									
W3	27/07/2009																									
W3	28/07/2009																									
W3	29/07/2009																									
W3	30/07/2009																									
W3	31/07/2009																									
W3	01/08/2009	<0.005	0.005	<0.0005	0.076	<0.0005	0.0005	0.099	<0.0001	<0.001	<0.05	0.00004	58.4	<0.001	<0.0005	0.0277	0.086	<0.0002	<0.005	15.2	0.422	0.00003	0.013	0.001		5.69
W3	01/08/2009																									
W3	02/08/2009																									

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	Br	Cation	CN-T	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-TKN	P-PO4T	P-TDP	P-TRP
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L
W3	26/08/2008																															
W3	26/08/2008																															
W3	27/08/2008	0.0008	5.5	<0.00001	17	0.41		0.00001	<0.0001	0.0012	0.0016	0.00202	0.002	0.0004	190	<6	<5						60				22		1.15	0.09		0.05
W3	28/08/2008	0.0012	5.01	<0.00001	18.3	0.452		<0.00001	<0.0001	0.004	0.0014	0.00228	0.004	0.0004	200	<6	<5						70				27.3		1.57	0.06		0.05
W3	29/08/2008														160	<6	<5						80									
W3	30/08/2008														190	<6	<5						100									
W3	01/09/2008	<0.0006	4.93	<0.00001	16.6	0.448		<0.00001	<0.0001	0.0021	0.0012	0.00206	0.003	0.0004	190	<6	<5						100							<0.05		
W3	03/09/2008														210	<6	<5						90						1.38	0.06		0.09
W3	04/09/2008														210	<6	<5						110									
W3	05/09/2008														200	<6	<5						130									
W3	06/09/2008														210	<6	<5						120									
W3	07/09/2008														200	<6	<5						140									
W3	10/09/2008	0.0012	4.75	<0.00001	16.9	0.439		<0.00001	0.0001	0.0037	0.0011	0.0026	0.004	0.0004	220	<6	<5						100						1.65	0.06		0.06
W3	17/09/2008	0.0037	5.14	<0.00001	16.2	0.43		<0.00001	<0.0001	0.0036	0.0012	0.00301	0.006	0.0005	230	<6	<5						110				26.6		1.89	0.06		0.08
W3	22/09/2008	0.0008	5.1	<0.00001	15.5	0.481		0.00001	<0.0001	0.0037	0.0013	0.00328	0.024	0.0005	230	<6	<5						100						1.78	0.3		0.08
W3	24/09/2008						16.1								210	<6	<5						100									
W3	30/09/2008	0.0013	5.66	<0.00001	17.8	0.591	13.2	<0.00005	<0.001	0.0018	0.0027	0.0016	0.005		250	<6	<5						48				14.3		0.75			0.08
W3	26/06/2009 20:00	0.0005	6.18	<0.00002	16.6	0.489	19	<0.00005	<0.005	<0.005	0.0025	<0.005	<0.005	<0.0005																		<0.005
W3	28/06/2009																															
W3	29/06/2009	0.0006	6.13	<0.00002	16.6	0.52	19	<0.00005	<0.005	<0.005	0.0024	<0.005	<0.005	<0.0005	220	<0.5	<0.5	<0.5		<0.4												<0.005
W3	30/06/2009																															
W3	30/06/2009 9:00																															<0.005
W3	01/07/2009																															
W3	02/07/2009																															
W3	03/07/2009																															
W3	04/07/2009 9:00																															<0.005
W3	05/07/2009 16:00	0.002	4.48	<0.00002	16.1	0.556	16	<0.00005	<0.005	<0.005	0.0013	<0.005	<0.005	<0.0005	180	<0.5	<0.5	<0.5		<0.4												<0.005
W3	06/07/2009																															<0.005
W3	07/07/2009																															
W3	08/07/2009																															
W3	08/07/2009 10:00																															
W3	09/07/2009																															
W3	09/07/2009 9:00																															
W3	10/07/2009																															
W3	10/07/2009 9:00																															
W3	11/07/2009																															
W3	11/07/2009 11:00																															
W3	12/07/2009																															
W3	12/07/2009 9:00	0.0018	5.04	<0.00002	15.6	0.58	20	<0.00005	<0.005	<0.005	0.0013	<0.005	<0.005	<0.0005	200	<0.5	<0.5	<0.5		<0.4												<0.005
W3	13/07/2009																															
W3	14/07/2009																															
W3	15/07/2009																															
W3	16/07/2009	0.0019	4.96	<0.00002	15.4	0.557	19	<0.00005	<0.005	<0.005	0.0013	<0.005	<0.005	<0.0005	190	<0.5	<0.5	<0.5		<0.4												<0.005
W3	17/07/2009	0.0019	4.95	<0.00002	15.7	0.564	18	<0.00005	<0.005	<0.005	0.0014	<0.005	<0.005	<0.0005	190	<0.5	<0.5	<0.5		<0.4												<0.005
W3	18/07/2009	0.0013	5.35	<0.00002	13.7	0.482	17	<0.00005	<0.005	<0.005	0.0014	<0.005	<0.005	<0.0005	190	<0.5	<0.5	<0.5		<0.4												<0.005
W3	19/07/2009																															
W3	20/07/2009																															
W3	21/07/2009	0.002	3.34	<0.00002	10.6	0.568	15	<0.00005	<0.005	0.008	0.0013	<0.005	<0.005	0.0006																		0.005
W3	22/07/2009 11:00																															
W3	22/07/2009 13:00																															
W3	23/07/2009																															
W3	24/07/2009																															
W3	24/07/2009 14:00																															
W3	25/07/2009																															
W3	25/07/2009 10:00	0.0021	4.03	<0.00002	12.8	0.598	17	<0.00005	<0.005	<0.005	0.0011	<0.005	<0.005	<0.0005	140	<0.5	<0.5	<0.5		<0.4												<0.005
W3	26/07/2009																															
W3	26/07/2009																															
W3	27/07/2009																															
W3	28/07/2009														100	<6	<5						46									
W3	29/07/2009																															
W3	30/07/2009																															
W3	31/07/2009																															
W3	01/08/2009	0.002	4.72	<0.00002	17	0.601	19	<0.00005	<0.005	<0.005	0.0012	<0.005	<0.005	<0.0005	180	<0.5	<0.5	<0.5		<0.4												<0.005
W3	01/08/2009																															
W3	02/08/2009																															

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W3	26/08/2008						
W3	26/08/2008						
W3	27/08/2008					2.9	
W3	28/08/2008					8.8	
W3	29/08/2008					8.2	
W3	30/08/2008					13	
W3	01/09/2008				0.02	7.9	
W3	03/09/2008				0.022	6.9	
W3	04/09/2008					10	
W3	05/09/2008					11	
W3	06/09/2008					8	
W3	07/09/2008					16	
W3	10/09/2008					18	
W3	17/09/2008					28	
W3	22/09/2008					18	
W3	24/09/2008					36	
W3	30/09/2008					5.8	
W3	26/06/2009 20:00					0.6	
W3	28/06/2009						1.3
W3	29/06/2009					0.7	5.4
W3	30/06/2009						4.5
W3	30/06/2009 9:00						
W3	01/07/2009					4.7	8.4
W3	02/07/2009					2.3	3.5
W3	03/07/2009					3.1	4.1
W3	04/07/2009 9:00						12
W3	05/07/2009 16:00					3.6	4.4
W3	06/07/2009						2.5
W3	07/07/2009						4.8
W3	08/07/2009						11.9
W3	08/07/2009 10:00						
W3	09/07/2009						0.9
W3	09/07/2009 9:00						
W3	10/07/2009						3.7
W3	10/07/2009 9:00						
W3	11/07/2009						3
W3	11/07/2009 11:00						
W3	12/07/2009						1.3
W3	12/07/2009 9:00					3.6	
W3	13/07/2009						4.2
W3	14/07/2009						3.5
W3	15/07/2009					7.2	5.8
W3	16/07/2009					4.7	5.6
W3	17/07/2009					9.3	5.9
W3	18/07/2009					4.9	41.4
W3	19/07/2009						1.5
W3	20/07/2009						0
W3	21/07/2009						28.4
W3	22/07/2009 11:00					22	33.6
W3	22/07/2009 13:00					24.3	
W3	23/07/2009						34
W3	24/07/2009						22.9
W3	24/07/2009 14:00					19.4	
W3	25/07/2009						20
W3	25/07/2009 10:00					21.6	
W3	26/07/2009					62.6	
W3	26/07/2009					18.3	21.3
W3	27/07/2009					52.9	51.8
W3	28/07/2009					39	69
W3	29/07/2009					0.7	1
W3	30/07/2009					15.6	36.4
W3	31/07/2009					1.2	
W3	01/08/2009					3.5	
W3	01/08/2009						3.3
W3	02/08/2009						2.4

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Phase	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
				mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	02/08/2009	Discharge	P	<4	240		8.1		426																				
W3	03/08/2009	Discharge	P	<4	240		8		435																				
W3	03/08/2009	Discharge	P			7.98		442		12.06																			
W3	04/08/2009	Discharge	P	<4	260	8.06	8.2	434	426	12.35																			
W3	05/08/2009	Discharge	P	4	240	8.16	8.2	437	432	11.59																			
W3	14/08/2009	Discharge	P	6	270	8	8.1	414	407	12.55		115.8																	
W3	15/08/2009	Discharge	P	<4	230	7.87	8	414	408	12.61		99		160	169	100	17	0.29	48	0.309	0.154	5.1		0.194	0.0006	0.0005	0.12	<0.0001	<0.001
W3	16/08/2009	Discharge	P	<4	250	7.83	8.1	413	408	12.51		100.5																	
W3	17/08/2009	Discharge	P	<4	250	7.93	8.1	413	408	12.3		107.3																	
W3	18/08/2009	Discharge	P	<4	260	7.85	8.2	430	422	10.66		89.1																	
W3	19/08/2009	Discharge	P	5	260	7.96	8	397	406	12.34				164	170	100	17	0.25	42	0.235	0.194	5.5		0.177	0.0007	0.0005	0.123	<0.0001	<0.001
W3	20/08/2009	Discharge	P	<4	260	8.09	8.1	411	409	11.69						100	17	0.26	43	0.27	0.176	5.2							
W3	21/08/2009	Discharge	P	5	260	8.03	8.1	411	407	11.79						100	17	0.26	44	0.246	0.185	5.4							
W3	22/08/2009	Discharge	P	7	250	7.98	8	414	411	11.9				173	169	100	17	0.26	45	0.264	0.191	5.6		0.306	0.0007	0.0005	0.127	<0.0001	<0.001
W3	23/08/2009	Discharge	P	7	250	7.98	8.1	419	414	11.74						100	19	0.26	45	0.273	<0.005	0.19							
W3	24/08/2009	Discharge	P	6	240	7.96	8.2	412	417	11.68		90.4				100	20	0.25	45	0.257	0.219	5.4							
W3	25/08/2009	Discharge	P	6	280	7.88	7.7	414	416	11.35		76.7											7.9						
W3	26/08/2009	Discharge	P	5	270	7.96	7.8	417	417	11.8		110.9																	
W3	27/08/2009	Discharge	P	4	270	7.92	8	420	420	11.4		101.1																	
W3	28/08/2009	Discharge	P	6	280	7.86	8	425	427	11.45		99.3																	
W3	29/08/2009	Discharge	P	5	290	7.86	7.9	427	429	11.31		98.5																	
W3	30/08/2009	Discharge	P	6	280	7.89	8	430	431	11.4		98.7		199	177	88	30	0.21	51	0.266	0.29	6.7		0.534	0.0008	0.0003	0.147	<0.0001	<0.001
W3	31/08/2009	Discharge	P	5	280	7.86	8	431	436	11.11		99.7																	
W3	01/09/2009	Discharge	P	<4	280	7.85	8	434	437	11.51		100.7																	
W3	02/09/2009	Discharge	P	<4	280	7.89	8	436	439	11.17		100.6																	
W3	03/09/2009	Discharge	P	<4	280	7.88	8	438	444	10.86		100.9																	
W3	04/09/2009	Discharge	P	<4	270	8.06	8	439	441	10.62		101																	
W3	05/09/2009	Discharge	P	<4	280	7.96	8	439	442	10.9		102.4																	
W3	06/09/2009	Discharge	P	4	290	7.97	7.9	438	442	10.73		102.1		182	168	86	31	0.23	53	0.265	0.321	6.2		0.253	0.0008	0.0004	0.142	<0.0001	<0.001
W3	07/09/2009	Discharge	P	<4	280	7.99	8	438	440	10.84		101.4																	
W3	08/09/2009	Discharge	P	4	290	8.09	7.9	439	448	10.85		102.4																	
W3	09/09/2009	Discharge	P	<4	270	8.15	8	442	444	10.35		104.4																	
W3	10/09/2009	Discharge	P	<4	280	8.1	8	443	446	9.97		103.4																	
W3	11/09/2009	Discharge	P	4	270	8.14	8	445	448	9.95		102.9																	
W3	12/09/2009	Discharge	P	<4	280	8.33	8	449	446	9.89		106.3																	
W3	13/09/2009	Discharge	P	5	300	8.16	8	451	432	9.54		103.7		183	187	87				0.216	0.347	7		0.391	0.0009	0.0004	0.146	<0.0001	<0.001
W3	14/09/2009	Discharge	P	<4	290	8.2	8	452	455	9.63		106																	
W3	15/09/2009	Discharge	P	<4	250	8.03	7.6	455	450	9.42		105.9																	
W3	16/09/2009	Discharge	P	<4	290	8.24	7.6	456	451	9.42		102.3																	
W3	17/09/2009	Discharge	P	<4	270	8.05	7.9	456	457	9.31		103																	
W3	18/09/2009	Discharge	P	<4	300	8.27	8	456	461	9.13		102.6																	
W3	19/09/2009	Discharge	P	<4	260	8.16	8	456	461	9.13		103.7																	
W3	20/09/2009	Discharge	P	<4	260	8.28	8	458	462	8.84		105.4		202	184					0.118	0.253	6.9		0.391	0.0007	0.0004	0.15	<0.0001	<0.001
W3	21/09/2009	Discharge	P	<4	280	8.25	7.8	458	460	8.97		103.9																	
W3	22/09/2009	Discharge	P	5	270	8.46	8	460	461	8.75		105.8																	
W3	23/09/2009	Discharge	P	5	250	8.18	7.9	457	462	8.62		108.8																	
W3	24/09/2009	Discharge	P	4	270	8.07	7.8	459	457	8.21		106																	
W3	25/09/2009	Discharge	P	<4	270	8.09	8	462	463	8.73		105.5																	
W3	26/09/2009	Discharge	P	<4	290	8.17	8	460	467	8.08		108.8		190	186					0.105	0.162	8.1		0.243	0.0007	0.0004	0.131	<0.0001	<0.001
W3	27/09/2009	Discharge	P	4	320	8.02	8	462	469	7.66		109.6																	
W3	28/09/2009	Discharge	P	4	270	8.06	8.1	463	470	7.14		108.5																	
W3	29/09/2009	Discharge	P	4	280	8.18	8.1	479	461	6.63		84.3																	
W3	30/09/2009	Discharge	P	5	300	8.04	8.1	480	479	6.3		42.5																	
W3	01/10/2009	Discharge	P	7	330	7.96	8.1	491	486	5.19																			
W3	02/10/2009	Discharge	P	<4	320	7.88	8	491	483	5.05		102.8																	
W3	03/10/2009	Discharge	P	<4	270	7.78	8	483	480	5.69		114																	
W3	04/10/2009	Discharge	P	<4	300	7.9	8	489	480	5.23		110		197	187					0.123	0.1	8.2		0.258	0.0008	0.0004	0.145	<0.0001	<0.001
W3	05/10/2009	Discharge	P	<4	300	7.8	8	487	484	4.9		111.5																	
W3	06/10/2009	Discharge	P	<4	320	7.93	8.1	490	482	5.22		117.6																	
W3	07/10/2009	Discharge	P	<4	310	7.79	8.1	488	471	4.66		116																	
W3	08/10/2009	Discharge	P	<4	310	7.97	8	464	491	4.25		105.2			228	95	6.1		252			18.7		0.628	0.0004	0.0012	0.136	<0.00004	<0.001
W3	09/10/2009	Discharge	P	<4	310	7.85	8	477	493	4.36		110.1																	
W3	10/10/2009	Discharge	P	<4	330	7.81	8	502	495	3.88		92.6																	
W3	11/10/2009	Discharge	P	<4	310	7.99	7.7	505	489	3.68		96.3		206	201					0.174	0.099	8.6		0.275	0.0007	0.0004	0.145	<0.0001	<0.001
W3	12/10/2009	Discharge	P	<4	300	8.11	8	502	495	3.64																			

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	02/08/2009																										
W3	03/08/2009																										
W3	03/08/2009																										
W3	04/08/2009																										
W3	05/08/2009																										
W3	14/08/2009																										
W3	15/08/2009	<0.05	0.00004	45.2	<0.001	<0.0005	0.0164	0.178	0.0005	<0.005	11.5	0.226	<0.00002	0.014	0.001		3.78	0.0018	3.7	<0.00002	14.4	0.626	22	<0.00005	<0.005	0.01	0.0006
W3	16/08/2009																										
W3	17/08/2009																										
W3	18/08/2009																										
W3	19/08/2009	<0.05	0.00001	46	<0.001	<0.0005	0.0138	0.16	<0.0002	<0.005	12	0.217	<0.00002	0.015	0.001		3.6	0.0019	3.84	<0.00002	14.5	0.634	22	<0.00005	<0.005	<0.005	0.0007
W3	20/08/2009																										
W3	21/08/2009																										
W3	22/08/2009	<0.05	0.00004	48.1	<0.001	<0.0005	0.0186	0.364	0.0006	<0.005	12.9	0.239	0.00003	0.015	0.002		3.71	0.0019	4.25	<0.00002	15.1	0.662	20	<0.00005	<0.005	0.005	0.0007
W3	23/08/2009																										
W3	24/08/2009																										
W3	25/08/2009																										
W3	26/08/2009																										
W3	27/08/2009																										
W3	28/08/2009																										
W3	29/08/2009																										
W3	30/08/2009	<0.05	0.0001	55.1	<0.001	<0.0005	0.0173	0.15	0.0007	<0.005	14.9	0.293	<0.00002	0.015	0.002		3.87	0.002	4.15	<0.00002	20.6	0.742	23	<0.00005	<0.005	<0.005	0.0005
W3	31/08/2009																										
W3	01/09/2009																										
W3	02/09/2009																										
W3	03/09/2009																										
W3	04/09/2009																										
W3	05/09/2009																										
W3	06/09/2009	<0.05	0.00004	51.5	<0.001	<0.0005	0.008	0.099	0.0005	<0.005	13	0.284	<0.00002	0.014	0.001		3.54	0.0018	3.52	<0.00002	18.5	0.708	24	<0.00005	<0.005	<0.005	0.0003
W3	07/09/2009																										
W3	08/09/2009																										
W3	09/09/2009																										
W3	10/09/2009																										
W3	11/09/2009																										
W3	12/09/2009																										
W3	13/09/2009	<0.05	0.00007	51.5	<0.001	<0.0005	0.0054	0.083	0.0005	<0.005	13.2	0.298	<0.00002	0.016	0.001		3.47	0.0019	3.59	<0.00002	18.1	0.75	20	<0.00005	<0.005	<0.005	0.0003
W3	14/09/2009																										
W3	15/09/2009																										
W3	16/09/2009																										
W3	17/09/2009																										
W3	18/09/2009																										
W3	19/09/2009																										
W3	20/09/2009	<0.05	0.0002	56.4	<0.001	<0.0005	0.0066	0.07	<0.0002	<0.005	14.8	0.303	0.00003	0.016	0.001		3.79	0.0019	3.97	<0.00002	19.5	0.714	29	<0.00005	<0.005	<0.005	0.0004
W3	21/09/2009																										
W3	22/09/2009																										
W3	23/09/2009																										
W3	24/09/2009																										
W3	25/09/2009																										
W3	26/09/2009	<0.05	0.00009	53.7	<0.001	<0.0005	0.0061	0.057	0.0005	<0.005	13.6	0.283	0.00002	0.016	0.003		3.14	0.002	3.64	<0.00002	17.8	0.702	25	<0.00005	<0.005	<0.005	0.0005
W3	27/09/2009																										
W3	28/09/2009																										
W3	29/09/2009																										
W3	30/09/2009																										
W3	01/10/2009																										
W3	02/10/2009																										
W3	03/10/2009																										
W3	04/10/2009	<0.05	0.00006	56.3	<0.001	<0.0005	0.0071	0.08	0.0005	<0.005	13.7	0.295	0.00003	0.018	0.001		3.42	0.0021	3.69	<0.00002	17.1	0.799	29	<0.00005	<0.005	<0.005	0.0005
W3	05/10/2009																										
W3	06/10/2009																										
W3	07/10/2009																										
W3	08/10/2009	0.109	0.00083	70.8	0.001	0.00045	0.14	0.57	0.0013	0.019	18.8	0.146	<0.00001	0.102	0.002	<0.05	58	0.0324	4.1	0.00004	103	2.04	81	<0.00001	<0.0001	0.0153	<0.0004
W3	09/10/2009																										
W3	10/10/2009																										
W3	11/10/2009	<0.05	0.00003	58.6	<0.001	<0.0005	0.0056	0.214	<0.0002	<0.005	14.5	0.325	0.00004	0.018	0.001		3.58	0.0024	4.2	<0.00002	17.7	0.863	24	<0.00005	<0.005	0.006	0.0005
W3	12/10/2009																										

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	02/08/2009																									
W3	03/08/2009																									
W3	03/08/2009																									
W3	04/08/2009																									
W3	05/08/2009																									
W3	14/08/2009																									
W3	15/08/2009	<0.005	<0.005	<0.0005	0.06	0.0006	0.0005	0.11	<0.0001	<0.001	<0.05	0.00001	47	<0.001	<0.0005	0.0062	0.014	<0.0002	<0.005	12.6	0.199	<0.00002	0.015	0.001		3.92
W3	16/08/2009																									
W3	17/08/2009																									
W3	18/08/2009																									
W3	19/08/2009	<0.005	0.007	<0.0005	0.078	0.0007	0.0005	0.117	<0.0001	<0.001	<0.05	0.00002	47.6	<0.001	<0.0005	0.0057	0.017	<0.0002	<0.005	12.4	0.184	<0.00002	0.015	0.001		3.78
W3	20/08/2009																									
W3	21/08/2009																									
W3	22/08/2009	<0.005	<0.005	<0.0005	0.062	0.0007	0.0005	0.122	<0.0001	<0.001	<0.05	0.00002	47.6	<0.001	<0.0005	0.0057	0.021	<0.0002	<0.005	12.1	0.211	<0.00002	0.015	<0.001		3.66
W3	23/08/2009																									
W3	24/08/2009																									
W3	25/08/2009																									
W3	26/08/2009																									
W3	27/08/2009																									
W3	28/08/2009																									
W3	29/08/2009																									
W3	30/08/2009	<0.005	0.011	<0.0005	0.109	0.0007	0.0003	0.131	<0.0001	<0.001	<0.05	<0.00001	49.1	<0.001	<0.0005	0.0073	0.007	<0.0002	<0.005	13.2	0.252	<0.00002	0.013	<0.001		3.46
W3	31/08/2009																									
W3	01/09/2009																									
W3	02/09/2009																									
W3	03/09/2009																									
W3	04/09/2009																									
W3	05/09/2009																									
W3	06/09/2009	<0.005	<0.005	<0.0005	0.074	0.0008	0.0004	0.131	<0.0001	<0.001	<0.05	0.00001	47.3	<0.001	<0.0005	0.0019	0.007	<0.0002	<0.005	12.2	0.25	0.00002	0.014	<0.001		3.23
W3	07/09/2009																									
W3	08/09/2009																									
W3	09/09/2009																									
W3	10/09/2009																									
W3	11/09/2009																									
W3	12/09/2009																									
W3	13/09/2009	<0.005	0.006	<0.0005	0.072	0.0008	0.0003	0.129	<0.0001	<0.001	<0.05	<0.00001	53.3	<0.001	<0.0005	0.0012	0.007	<0.0002	<0.005	13	0.275	0.00003	0.015	<0.001		3.4
W3	14/09/2009																									
W3	15/09/2009																									
W3	16/09/2009																									
W3	17/09/2009																									
W3	18/09/2009																									
W3	19/09/2009																									
W3	20/09/2009	<0.005	0.008	<0.0005	0.082	0.0008	0.0004	0.133	<0.0001	<0.001	<0.05	0.00012	52.3	<0.001	<0.0005	0.0035	0.011	<0.0002	<0.005	13	0.292	0.00004	0.016	0.001		3.38
W3	21/09/2009																									
W3	22/09/2009																									
W3	23/09/2009																									
W3	24/09/2009																									
W3	25/09/2009																									
W3	26/09/2009	<0.005	<0.005	<0.0005	0.054	0.0007	0.0003	0.134	<0.0001	<0.001	<0.05	0.00002	52.3	<0.001	<0.0005	0.0014	0.006	<0.0002	<0.005	13.3	0.284	0.00004	0.017	0.001		3.33
W3	27/09/2009																									
W3	28/09/2009																									
W3	29/09/2009																									
W3	30/09/2009																									
W3	01/10/2009																									
W3	02/10/2009																									
W3	03/10/2009																									
W3	04/10/2009	<0.005	<0.005	<0.0005	0.063	0.0008	0.0004	0.131	<0.0001	<0.001	<0.05	0.00003	52.8	<0.001	<0.0005	0.0013	0.006	<0.0002	<0.005	13.5	0.276	0.0001	0.018	0.001		3.32
W3	05/10/2009																									
W3	06/10/2009																									
W3	07/10/2009																									
W3	08/10/2009	0.0014	0.008	<0.0001	0.02	0.0006	0.0011	0.12	<0.00004	<0.001	0.091	0.00021	63.5	<0.0004	0.00029	0.014	<0.01	<0.0001	0.016	17	0.13	<0.00001	0.103	0.002	0.02	50
W3	09/10/2009																									
W3	10/10/2009																									
W3	11/10/2009	<0.005	<0.005	<0.0005	0.062	0.0007	0.0003	0.128	<0.0001	<0.001	<0.05	0.00002	57	<0.001	<0.0005	0.0014	0.01	<0.0002	<0.005	14.4	0.301	<0.0002	0.018	0.001		3.48
W3	12/10/2009																									

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	Br	Cation	CN-T	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-TKN	P-PO4T	P-TDP	P-TRP
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L
W3	02/08/2009																															
W3	03/08/2009																															
W3	03/08/2009																															
W3	04/08/2009																															
W3	05/08/2009																															
W3	14/08/2009																															
W3	15/08/2009	0.0019	3.39	<0.00002	15.5	0.617	18	<0.00005	<0.005	<0.005	0.0007	<0.005	<0.005	<0.0005	120	<0.5	<0.5	<0.5		<0.4												<0.005
W3	16/08/2009																															
W3	17/08/2009																															
W3	18/08/2009																															
W3	19/08/2009	0.0019	3.74	<0.00002	15.3	0.623	20	<0.00005	<0.005	<0.005	0.0006	<0.005	<0.005	<0.0005	130	<0.5	<0.5	<0.5		<0.4												<0.005
W3	20/08/2009														130	<0.5	<0.5	<0.5		<0.4												<0.005
W3	21/08/2009														130	<0.5	<0.5	<0.5		<0.4												<0.005
W3	22/08/2009	0.0019	3.65	<0.00002	14.6	0.64	19	<0.00005	<0.005	<0.005	0.0006	<0.005	<0.005	<0.0005	130	<0.5	<0.5	<0.5		<0.4												<0.005
W3	23/08/2009														120	<0.5	<0.5	<0.5		<0.4												<0.005
W3	24/08/2009														120	<0.5	<0.5	<0.5		<0.4												<0.005
W3	25/08/2009																										8.7					
W3	26/08/2009																															
W3	27/08/2009																															
W3	28/08/2009																															
W3	29/08/2009																															
W3	30/08/2009	0.0018	3.53	<0.00002	18.8	0.669	22	<0.00005	<0.005	<0.005	0.0004	<0.005	<0.005	<0.0005	110	<0.5	<0.5	<0.5		<0.4												<0.005
W3	31/08/2009																															
W3	01/09/2009																															
W3	02/09/2009																															
W3	03/09/2009																															
W3	04/09/2009																															
W3	05/09/2009																															
W3	06/09/2009	0.0018	3.37	<0.00002	17.4	0.669	20	<0.00005	<0.005	<0.005	0.0003	<0.005	<0.005	<0.0005	100	<0.5	<0.5	<0.5		<0.4												<0.005
W3	07/09/2009																															
W3	08/09/2009																															
W3	09/09/2009																															
W3	10/09/2009																															
W3	11/09/2009																															
W3	12/09/2009																															
W3	13/09/2009	0.002	3.51	<0.00002	18.3	0.686	21	<0.00005	<0.005	<0.005	0.0003	<0.005	<0.005	<0.0005	110	<0.5	<0.5	<0.5														<0.005
W3	14/09/2009																															
W3	15/09/2009																															
W3	16/09/2009																															
W3	17/09/2009																															
W3	18/09/2009																															
W3	19/09/2009																															
W3	20/09/2009	0.0022	3.16	<0.00002	18.4	0.747	25	<0.00005	<0.005	<0.005	0.0004	<0.005	0.006	<0.0005																		<0.005
W3	21/09/2009																															
W3	22/09/2009																															
W3	23/09/2009																															
W3	24/09/2009																															
W3	25/09/2009																															
W3	26/09/2009	0.002	3.55	<0.00002	17.3	0.757	24	<0.00005	<0.005	<0.005	0.0004	<0.005	<0.005	<0.0005																		<0.005
W3	27/09/2009																															
W3	28/09/2009																															
W3	29/09/2009																															
W3	30/09/2009																															
W3	01/10/2009																															
W3	02/10/2009																															
W3	03/10/2009																															
W3	04/10/2009	0.0021	3.16	<0.00002	17	0.797	25	<0.00005	<0.005	<0.005	0.0005	<0.005	<0.005	<0.0005																		<0.005
W3	05/10/2009																															
W3	06/10/2009																															
W3	07/10/2009																															
W3	08/10/2009	0.0348	2.28	<0.00001	94.4	2.08	84	<0.00001	<0.0001	0.0004	<0.0004	0.0004	<0.001	<0.0001	100	<6	<5												3.97	0.04		
W3	09/10/2009																															
W3	10/10/2009																															
W3	11/10/2009	0.0021	3.57	<0.00002	18.3	0.804	27	<0.00005	<0.005	<0.005	0.0004	<0.005	<0.005	<0.0005																		<0.005
W3	12/10/2009																															

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W3	02/08/2009					3.3	
W3	03/08/2009					3.8	
W3	03/08/2009						1.4
W3	04/08/2009					1.9	1.4
W3	05/08/2009					2.3	0.6
W3	14/08/2009					2.2	3.4
W3	15/08/2009					3.4	1.5
W3	16/08/2009					2.1	1.7
W3	17/08/2009					2.3	2
W3	18/08/2009					1.6	0.3
W3	19/08/2009					3.7	2.4
W3	20/08/2009					5.4	3.2
W3	21/08/2009					6.4	6
W3	22/08/2009					6.2	6.3
W3	23/08/2009					6.1	6.9
W3	24/08/2009	0.01				6.1	4.1
W3	25/08/2009					5.9	4
W3	26/08/2009					5	3.4
W3	27/08/2009					4.5	4
W3	28/08/2009					6.9	5
W3	29/08/2009					4.2	4.6
W3	30/08/2009	0.01				6.5	4.5
W3	31/08/2009					4.3	2.8
W3	01/09/2009					3.5	4.1
W3	02/09/2009					3.2	7.6
W3	03/09/2009					2.5	2.3
W3	04/09/2009					2.7	1.2
W3	05/09/2009					2.4	2.4
W3	06/09/2009					2.9	2.1
W3	07/09/2009					3.3	5.4
W3	08/09/2009					3.1	4.6
W3	09/09/2009					3.2	2.4
W3	10/09/2009					2.4	1.9
W3	11/09/2009					2.3	2.2
W3	12/09/2009					2.1	0.2
W3	13/09/2009					2.4	0.5
W3	14/09/2009					1.3	0
W3	15/09/2009					1.4	0
W3	16/09/2009					1.5	0
W3	17/09/2009					2.3	0.9
W3	18/09/2009					1.3	0
W3	19/09/2009					1.6	0
W3	20/09/2009					1.7	0.2
W3	21/09/2009					1.2	0
W3	22/09/2009					3	0.7
W3	23/09/2009					2.5	2.6
W3	24/09/2009					2.7	1.3
W3	25/09/2009					2.9	0.7
W3	26/09/2009					1.7	0
W3	27/09/2009					1.2	0.8
W3	28/09/2009					1.2	0.3
W3	29/09/2009					1.8	3.4
W3	30/09/2009					1.7	4
W3	01/10/2009					3.5	3.1
W3	02/10/2009					1.3	1.8
W3	03/10/2009					2.6	2.6
W3	04/10/2009					1.6	1.2
W3	05/10/2009					2.4	1.5
W3	06/10/2009					1.4	2.2
W3	07/10/2009					1.5	2.1
W3	08/10/2009					1.4	1.3
W3	09/10/2009					1.2	1.9
W3	10/10/2009					1	1.4
W3	11/10/2009					0.8	2.1
W3	12/10/2009					1.6	1.5

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Phase	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
				mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	13/10/2009	Discharge	P	<4	280	8.03	8	507	496	3.25		116.5																	
W3	14/10/2009	Discharge	P	<4	270	8.07	8	512	499	2.67		128.9																	
W3	15/10/2009	Discharge	P	<4	270	8.13	8	517	503	2.69		131.9																	
W3	16/10/2009	Discharge	P	<4	250	7.8	8.1	517	504	2.97		139																	
W3	17/10/2009	Discharge	P	<4	270	7.97	8	521	507	2.57		143.6																	
W3	18/10/2009	Discharge	P	<4	260	8.05	8	503	509	2.92		148																	
W3	19/10/2009	Discharge	P	<4	270	8.04	8	523	509	2.79		138.1																	
W3	20/10/2009	Discharge	P	<4	270	8.01	8.1	498	512	2.31		141.1		223	216	110		0.33		0.224	0.092	8.8		0.119	0.0007	0.0003	0.138	<0.0001	<0.001
W3	21/10/2009	Discharge	P	<4	280	7.92	8	498	500	2.57		131.9																	
W3	22/10/2009	Discharge	P	<4	280	7.98	8	504	502	2.59		109.1																	
W3	23/10/2009	Discharge	P	<4	290	7.99	8	516	505	2.81		96.7																	
W3	24/10/2009	Discharge	P	<4	270	8.05	8	520	481	2.11		97																	
W3	25/10/2009	Discharge	P	<4	260	8.12	8	503	508	2.7		105.7		234	218	110				0.206	0.08	8.5	8.2	0.093	0.0007	0.0004	0.14	<0.0001	<0.001
W3	25/10/2009	Discharge	P			8.12		503		2.7		105.7																	
W3	26/10/2009	Discharge	P	<4	290	7.82	8.1	515	509	2.68		91.9																	
W3	27/10/2009	Discharge	P	<4	310	7.7	8.1	524	512	2.26		89.2		231	212	120				0.211	0.08	8.5		0.101	0.0006	0.0003	0.135	<0.0001	<0.001
W3	28/10/2009	Discharge	P	<4	300	7.9	8.1	522	503	2.32		90.2																	
W3	29/10/2009	Discharge	P	<4	310	8.09	8.1	527	507	2		93.8																	
W3	30/10/2009	Discharge	P	5	290	8.01	8.1	525	507	2.1		91.5																	
W3	14/07/2010	Discharge	P	<1	390	8.05	7.94	521	521	4.25		91.9		236	229	190	8.9	0.44	63	0.041	0.008	4.6	7.3	0.029	<0.0005	<0.0004	0.086	<0.0002	<0.001
W3	15/07/2010	Discharge	P	3	350	7.98	8.1	528	547	13.49		101.6		220	227	120	23	0.37	75	0.33	0.137	9.4	9.6	0.16	<0.0005	0.0004	0.092	<0.0002	<0.001
W3	16/07/2010	Discharge	P	2	330	8.02	8.11	521	518	13.67		103.8		212	205	130	24	0.36	71	0.26	0.145	9.2	9.7	5.28	<0.0005	0.0004	0.086	<0.0002	<0.001
W3	17/07/2010	Discharge	P	4	310	7.88	8.14	522	535	12.5		98		389	208	130	24	0.36	68	0.099	0.135	8.6	9.8	0.357	<0.0005	0.0007	0.151	<0.0002	<0.001
W3	18/07/2010	Discharge	P	<1	360	8.01	8.07	524	540	13.39		104.3		191	198	130	25	0.36	70		0.15	9.2	9.7	0.109	<0.0005	<0.0004	0.084	<0.0002	<0.001
W3	19/07/2010	Discharge	P	<1	340	8.07	8.08	524	541	13.81		97.2		198	195	130	25	0.35	71		0.16	9.1	9.3	0.112	<0.0005	0.0006	0.087	<0.0002	<0.001
W3	20/07/2010	Discharge	P	<1	340	8.02	8.15	526	542	14.19		96.2		182	202	120	26	0.37	71	0.1	0.148	8.9	9.8	0.101	<0.0005	<0.0004	0.078	<0.0002	<0.001
W3	21/07/2010	Discharge	P	<1	340	7.78	8.13	527	545	13.82		85		179	208	120	26	0.4	72	0.096	0.144	9.1	9.9	0.117	<0.0005	<0.0004	0.082	<0.0002	<0.001
W3	22/07/2010	Discharge	P	<1	330	7.89	8.1	516	534	13.45		69.8		189	204	120	24	0.38	69	0.096	0.126	8.8	12	0.142	<0.0005	<0.0004	0.097	<0.0002	<0.001
W3	23/07/2010	Discharge	P	1	340	7.79	8.01	494	499	12.09		53.6		193		130	22	0.39	66	0.1	0.111	7.9	10.5	0.184	<0.0005	0.0012	0.095	<0.0002	<0.001
W3	24/07/2010	Discharge	P	<1	310	7.84	8.01	515	527	11.94		106.3		197	202	130	23	0.39	70	0.067	0.119	8.5	9.8	0.145	<0.0005	0.0007	0.096	<0.0002	<0.001
W3	25/07/2010	Discharge	P	1	360	7.79	8.04	518	527	11.97		86.6		209	205	130	24	0.48	72	0.074	0.129	8.8	9.6	0.17	<0.0005	0.0006	0.097	<0.0002	<0.001
W3	26/07/2010	Discharge	P	<1	360	7.91	8.12	320	533	12.22		79.1		190	201	130	24	0.39	72	0.15	0.129	9.1	10.3	0.125	<0.0005	<0.0004	0.084	<0.0002	<0.001
W3	27/07/2010	Discharge	P	<1	330	7.88	7.98	510	538	14.12		48.8		203	204	120	26	0.35	70	0.043	0.15	9.4	8.7	0.16	<0.0005	0.0004	0.101	<0.0002	<0.001
W3	28/07/2010	Discharge	P	1	320	7.74	8.15	529	546	12.11		74.1		203	198	130	26	0.37	69	0.1	0.114	9	9.1	0.151	<0.0005	<0.0004	0.092	<0.0002	<0.001
W3	29/07/2010	Discharge	P	<1	330	7.82	8.02	537	544	13.72		77.4		194	211	130	27	0.36	71	<0.005	0.124	10.4	7.5	0.124	<0.0005	<0.0004	0.089	<0.0002	<0.001
W3	30/07/2010	Discharge	P	<1	330	7.8	7.95	535	542	12.73		74.4		192	209	130	26	0.36	73	0.048	0.117	10.5	8.5	0.123	<0.0005	<0.0004	0.088	<0.0002	<0.001
W3	31/07/2010	Discharge	P	<1	340	7.81	8.09	536	550	13.1		74.9		198	210	130	27	0.36	69	0.043	0.127	10.1	9.1	0.14	<0.0005	<0.0004	0.101	<0.0002	<0.001
W3	01/08/2010	Discharge	P	<1	330	7.84	8.13	529	550	11.8		75.8		207	214	130	25	0.39	70	0.052	0.102	9.6	8.9	0.124	<0.0005	<0.0004	0.097	<0.0002	<0.001
W3	02/08/2010	Discharge	P	<1	340	7.83	8.11	516	553	12.6		76.7		198	213	130	25	0.39	70	0.066	0.11	10	7.9	0.13	<0.0005	<0.0004	0.099	<0.0002	<0.001
W3	03/08/2010	Discharge	P	<1	330	7.84	7.96	541		12.46		77.1		218	208					0.045				0.115	<0.0005	<0.0004	0.096	<0.0002	<0.001
W3	04/08/2010	Discharge	P	<1	350	7.85	8.09	544	551	14.27		77.6		205	217	130	0.6	0.29	5.9	<0.005	<0.005	0.07	10	0.111	<0.0005	<0.0004	0.094	<0.0002	<0.001
W3	05/08/2010	Discharge	P	1	360	7.87	8.09	543	549	13.78		77.5		202	215	130	25	0.38	74	0.033	0.091	10.4	10	0.109	<0.0005	<0.0004	0.092	<0.0002	<0.001
W3	06/08/2010	Discharge	P	<1	340	7.85	8.17	544	553	13.33		76.7		196	205	130	25	0.36	76	<0.05	0.091	10.2	9.2	0.101	<0.0005	<0.0004	0.086	<0.0002	<0.001
W3	07/08/2010	Discharge	P	<1	360	7.96	8.03	544	553	12.3		76.9		208	245	130	24	0.36	75	0.033	0.096	10.4	8.9	0.106	<0.0005	<0.0004	0.09	<0.0002	<0.001
W3	08/08/2010	Discharge	P	<1	370	7.89	8.05	547	557	12.42		76.8		211	206	130	26	0.38	73	0.07	0.105	10.6	9.5	0.105	<0.0005	<0.0004	0.094	<0.0002	<0.001
W3	09/08/2010	Discharge	P	1	320	7.87	8.22	554	566	13.3		83.1		247	219	130	27	0.38	80	0.053	0.086	10.5	9.2	0.138	<0.0005	<0.0004	0.107	<0.0002	<0.001
W3	10/08/2010	Discharge	P	<1	370	7.9	8.15	564	585	12.35		41.4		239	221	130	29	0.37	78	0.07	0.018	10.2	9	0.107	<0.0005	<0.0004	0.106	<0.0002	<0.001
W3	11/08/2010	Discharge	P	<1	320	7.94	8.04	562	570	13.39		76.8		226	219	130	30	0.37	77	0.092	0.019	1.05	9	0.099	<0.0005	0.0005	0.108	<0.0002	<0.001
W3	12/08/2010	Discharge	P	3	360	7.97	8.11	564	577	12.23		78.3		247	220	130	26	0.39	78	0.13	0.026	11.1	9.6	0.13	<0.0005	<0.0004	0.105	<0.0002	<0.001
W3	13/08/2010	Discharge	P	<1	330	7.84	7.81	557	570	13.07		84.1		213	221	130	24	0.4	84	0.14	0.089	11.1	9.9	0.077	<0.0005	0.0005	0.097	<0.0002	<0.001
W3	14/08/2010	Discharge	P	<1	340	7.86	7.98	564	580	13.32		82.9		207	224	130	26	0.39	83	0.12	0.116	11.4	8.7	0.119	<0.0005	0.0005	0.112	<0.0002	<0.001
W3	15/08/2010	Discharge	P	<1	360	7.84	8.16	570	581	13.97		87		223	223	130	26	0.4	87	0.079	0.134	11.7	9	0.108	<0.0005	0.0006	0.108	<0.0002	<0.001
W3	16/08/2010	Discharge	P	1	330	7.93	8.2	571	590	13.99		84.4		233	219	130	26	0.38	86	0.059	0.163	11.8	9.5	0.12	<0.0005	0.0006	0.114	<0.0002	<0.001
W3	17/08/2010	Discharge	P	1	340	7.87	8.2	567	584	14.73		82.6		223	218	130	24	0.42	86	0.084	0.171	12.3	10.2	0.131	<0.0005	0.0007	0.112	<0.0002	<0.001
W3	18/08/2010	Discharge	P	3	360	7.95	8.15	554	579	12.69		82.8		221	226	120	24	0.42	84	0.15	0.111	11.8	9.8	0.151	<0.0005	0.0005	0.102	<0.0002	<0.001
W3	19/08/2010	Discharge	P	3	380	7.87	8.15	553	574	11.68		83.3		226	206	120	24	0.44	84	0.14	0.118	11.7	3.5	0.114	<0.0005	<0.0004	0.105	<0.0002	<0.001
W3	20/08/2010	Discharge	P	2	350	7.59	8.25	546	575	11.17		89.5		218	205	120	25	0.39	81	0.2	0.118	11.6	3.4	0.119	<0.0005	0.0004	0.101	<0.0002	<0.001
W3	21/08/2010	Discharge	P	1	350	7.88	8.22	554	573	11.23		85.3		222	218	120	27	0.4	81	0.096	0.123	11.1	5.6	0.099	<0.0005	<0.0004	0.102	<0.0002	<0.001
W3	22/08/2010	Discharge	P	2	380	8.04	8.28	558		11.34		85.6		224	223	120	28	0.4	93	0.076	0.113	11.2	3	0.108	<0.0005	0.0005	0.105	<0.0002	<0.001
W3	23/08/2010	Discharge	P	<1	370	7.99	8.17	554	565	12.2		86.6		245	204	130	30	0.39	84	0.035	0.063	10.3	9.4	0.148	<0.0005	0.0004	0.096	<0.0002	<0.001
W3	24/08/2010	Discharge	P	<1	360	7.95	8.13	567	578	11.21		85.4		215	218	120	26	0.39	89	0.083	0.158	12.5	9.4	0.184	<0.0005	0.0005	0.105	<0.0002	<0.001
W3	25/08/2010	Discharge	P	1	370	7.9	8.03	567	587	11.2		84.1		221	207	120	27	0.34	120	0.14	0.133	12.5	8.7	0.169	<0.0005	0.0005	0.101	<0.0002	<0.001
W3	26/08/2010	Discharge	P	<1	350	8.05	8.08	570	583	10.83		84.6		217	215	110	29	0.31	96	0.21	0.122	12.1	8.5	0.188	<0.0005	0.0005	0.107	<0.0002	<0.001
W3	27/08/2010	Discharge	P	1	360	8.09	8.15	569	586	11.47		81.4		212	222	120	29	0.32	95	0.16	0.12	11.8	9.4	0.187	<0.0005	0.0005	0.096	<0.0002	<0.001
W3	28/08/2010	Discharge	P	1	350	8.09	8.12	572	589	10.75		79.9		231	221	120	29	0.32	95	0.2	0.137	12.4	8.9	0.221	<0.0005	0.0006	0.104	<0.0002	<0.001

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	13/10/2009																										
W3	14/10/2009																										
W3	15/10/2009																										
W3	16/10/2009																										
W3	17/10/2009																										
W3	18/10/2009																										
W3	19/10/2009																										
W3	20/10/2009	<0.05	0.00004	63.8	<0.001	<0.0005	0.0091	0.098	<0.0002	<0.005	15.4	0.314	<0.00002	0.018	<0.001		3.71	0.0021	4.04	<0.00002	17.8	0.903	28	<0.00005	<0.005	<0.005	0.0007
W3	21/10/2009																										
W3	22/10/2009																										
W3	23/10/2009																										
W3	24/10/2009																										
W3	25/10/2009	<0.05	0.00003	65.5	<0.001	<0.0005	0.0094	0.09	<0.0002	<0.005	17.2	0.336	<0.00002	0.018	0.001		3.85	0.002	4.08	<0.00002	20.1	0.903	24	<0.00005	<0.005	<0.005	0.0007
W3	25/10/2009																										
W3	26/10/2009																										
W3	27/10/2009	<0.05	0.00002	64.3	<0.001	<0.0005	0.0102	0.11	<0.0002	<0.005	17.1	0.317	0.00002	0.017	0.001		3.76	0.0023	4.17	<0.00002	19.8	0.862	26	<0.00005	<0.005	<0.005	0.0008
W3	28/10/2009																										
W3	29/10/2009																										
W3	30/10/2009																										
W3	14/07/2010	<0.1	High DL removed	61	High DL removed	<0.0005	0.004	0.051	<0.0002	<0.01	20	0.055	<0.0002	0.005	<0.001		3	0.001	5.57	<0.0001	19	0.559	<60	<0.00005	<0.005	<0.01	0.0024
W3	15/07/2010	<0.1	High DL removed	60	High DL removed	<0.0005	0.073	0.134	<0.0002	<0.01	17	0.043	<0.0002	0.014	0.003		5	0.0027	4.48	<0.0001	24	1.03	<60	<0.00005	<0.005	<0.01	0.001
W3	16/07/2010	<0.1	High DL removed	57	0.016	<0.0005	0.006	0.162	<0.0002	<0.01	17	0.032	<0.0002	0.014			5	0.0022	4.35	<0.0001	24	0.981	<60	<0.00005	<0.005	<0.01	0.001
W3	17/07/2010	<0.1	High DL removed	105	High DL removed	<0.0005	0.024	0.33	0.0002	<0.01	31	0.108	<0.0002	0.022	0.003		8	0.0037	7.59	<0.0001	42	1.65	<60	<0.00005	<0.005	<0.01	0.0017
W3	18/07/2010	<0.1	High DL removed	52	High DL removed	<0.0005	0.005	0.034	<0.0002	<0.01	15	0.021	<0.0002	0.012	<0.001		4	0.0022	4.21	<0.0001	25	0.939	<60	<0.00005	<0.005	<0.01	0.0009
W3	19/07/2010	<0.1	High DL removed	54	High DL removed	<0.0005	0.005	0.029	<0.0002	<0.01	15	0.019	<0.0002	0.013	<0.001		5	0.0024	4.34	<0.0001	26	0.968	<60	<0.00005	<0.005	<0.01	0.0009
W3	20/07/2010	<0.1	High DL removed	51	High DL removed	<0.0005	0.004	<0.02	<0.0002	<0.01	14	0.02	<0.0002	0.012	0.001		4	0.0023	4.05	<0.0001	23	0.831	<60	<0.00005	<0.005	<0.01	0.0008
W3	21/07/2010	<0.1	High DL removed	50	High DL removed	<0.0005	0.004	0.021	<0.0002	<0.01	13	0.022	<0.0002	0.012	<0.001		4	0.0024	4.05	<0.0001	22	0.858	<60	<0.00005	<0.005	<0.01	0.0008
W3	22/07/2010	<0.1	High DL removed	52	High DL removed	<0.0005	0.005	0.025	<0.0002	<0.01	14	0.027	<0.0002	0.014	<0.001		4	0.0025	4.31	<0.0001	24	0.958	<60	<0.00005	<0.005	<0.01	0.001
W3	23/07/2010	<0.1	High DL removed	52	High DL removed	<0.0005	0.005	0.063	<0.0002	<0.01	16	0.029	<0.0002	0.011	0.005		4	0.0022	4.39	<0.0001	22	0.818	<60	<0.00005	<0.005	<0.01	0.0009
W3	24/07/2010	<0.1	High DL removed	53	High DL removed	<0.0005	0.004	0.033	<0.0002	<0.01	16	0.021	<0.0002	0.011	0.004		5	0.0025	4.32	<0.0001	23	0.81	<60	<0.00005	<0.005	<0.01	0.0009
W3	25/07/2010	<0.1	High DL removed	55	High DL removed	<0.0005	0.006	0.066	<0.0002	<0.01	17	0.03	<0.0002	0.012	0.005		5	0.0025	4.67	<0.0001	24	0.838	<60	<0.00005	<0.005	<0.01	0.0009
W3	26/07/2010	<0.1	High DL removed	51	High DL removed	<0.0005	0.006	0.037	<0.0002	<0.01	15	0.017	<0.0002	0.011	0.003		4	0.0025	3.95	<0.0001	22	0.801	<60	<0.00005	<0.005	<0.01	0.0008
W3	27/07/2010	<0.1	High DL removed	54	High DL removed	<0.0005	0.005	0.028	<0.0002	<0.01	16	0.022	<0.0002	0.013	0.004		5	0.0027	4.53	<0.0001	24	0.868	<60	<0.00005	<0.005	<0.01	0.0007
W3	28/07/2010	<0.1	High DL removed	54	High DL removed	<0.0005	0.005	0.034	<0.0002	<0.01	16	0.036	<0.0002	0.013	0.003		5	0.0027	4.25	<0.0001	23	0.872	<60	<0.00005	<0.005	<0.01	0.0008
W3	29/07/2010	<0.1	High DL removed	52	High DL removed	<0.0005	0.005	0.021	<0.0002	<0.01	15	0.02	<0.0002	0.013	0.004		5	0.0027	4	<0.0001	23	0.849	<60	<0.00005	<0.005	<0.01	0.0007
W3	30/07/2010	<0.1	High DL removed	52	High DL removed	<0.0005	0.005	<0.02	<0.0002	<0.01	15	0.021	<0.0002	0.013	0.003		5	0.0027	4.01	<0.0001	22	0.852	<60	<0.00005	<0.005	<0.01	0.0007
W3	31/07/2010	<0.1	High DL removed	53	High DL removed	<0.0005	0.005	<0.02	<0.0002	<0.01	16	0.023	<0.0002	0.015	0.003		5	0.0029	4.21	<0.0001	24	0.959	<60	<0.00005	<0.005	<0.01	0.0007
W3	01/08/2010	<0.1	High DL removed	56	High DL removed	<0.0005	0.005	0.026	<0.0002	<0.01	16	0.023	<0.0002	0.014	0.003		5	0.0029	4.51	<0.0001	24	0.873	<60	<0.00005	<0.005	<0.01	0.0008
W3	02/08/2010	<0.1	High DL removed	53	High DL removed	<0.0005	0.005	0.023	<0.0002	<0.01	16	0.023	<0.0002	0.014	0.003		5	0.0028	4.26	<0.0001	24	0.895	<60	<0.00005	<0.005	<0.01	0.0009
W3	03/08/2010	<0.1	High DL removed	60	High DL removed	<0.0005	0.005	<0.02	<0.0002	<0.01	17	0.021	<0.0002	0.014	0.004		5	0.003	4.62	<0.0001	24	0.928	<60	<0.00005	<0.005	<0.01	0.0009
W3	04/08/2010	<0.1	High DL removed	55	High DL removed	<0.0005	0.006	0.032	<0.0002	<0.01	16	0.023	<0.0002	0.013	0.002		5	0.0027	4.35	<0.0001	25	0.882	<60	<0.00005	<0.005	<0.01	0.0009
W3	05/08/2010	<0.1	High DL removed	55	High DL removed	<0.0005	0.007	0.035	<0.0002	<0.01	16	0.021	<0.0002	0.013	0.003		5	0.0026	4.33	<0.0001	25	0.865	<60	<0.00005	<0.005	<0.01	0.0008
W3	06/08/2010	<0.1	High DL removed	54	High DL removed	<0.0005	0.004	0.023	<0.0002	<0.01	15	0.02	<0.0002	0.013	0.001		5	0.0027	4.13	<0.0001	22	0.85	<60	<0.00005	<0.005	<0.01	0.0008
W3	07/08/2010	<0.1	High DL removed	56	High DL removed	<0.0005	0.005	<0.02	<0.0002	<0.01	16	0.023	<0.0002	0.013	0.001		5	0.003	4.35	<0.0001	23	0.914	<60	<0.00005	<0.005	<0.01	0.0008
W3	08/08/2010	<0.1	High DL removed	58	High DL removed	<0.0005	0.005	0.02	<0.0002	<0.01	16	0.023	<0.0002	0.014	0.001		5	0.003	4.45	<0.0001	23	0.941	<60	<0.00005	<0.005	<0.01	0.0009
W3	09/08/2010	<0.1	High DL removed	68	High DL removed	<0.0005	0.005	0.041	<0.0002	<0.01	19	0.03	<0.0002	0.015	0.003		6	0.0044	6.33	<0.0001	29	1.07	<60	<0.00005	<0.005	<0.01	0.0011
W3	10/08/2010	<0.1	High DL removed	64	High DL removed	<0.0005	0.005	0.031	<0.0002	<0.01	19	0.036	<0.0002	0.015	0.001		6	0.0033	4.91	<0.0001	30	0.987	<60	<0.00005	<0.005	<0.01	0.0009
W3	11/08/2010	<0.1	High DL removed	62	High DL removed	<0.0005	0.004	0.02	<0.0002	<0.01	17	0.038	<0.0002	0.014	0.001		6	0.003	4.84	<0.0001	29	0.984	<60	<0.00005	<0.005	<0.01	0.001
W3	12/08/2010	<0.1	High DL removed	67	High DL removed	<0.0005	0.006	0.032	<0.0002	<0.01	20	0.05	<0.0002	0.015	0.001		6	0.0039	4.92	<0.0001	30	1.09	<60	<0.00005	<0.005	<0.01	0.001
W3	13/08/2010	<0.1	High DL removed	57	High DL removed	<0.0005	0.002	<0.02	<0.0002	<0.01	17	0.026	<0.0002	0.014	<0.001		5	0.0031	4.41	<0.0001	26	0.931	<60	<0.00005	<0.005	<0.01	0.0011
W3	14/08/2010	<0.1	High DL removed	57	High DL removed	<0.0005	0.005	0.032	<0.0002	<0.01	16	0.04	<0.0002	0.016	0.001		5	0.0038	4	<0.0001	24	1.16	<60	<0.00005	<0.005	<0.01	0.001
W3	15/08/2010	<0.1	High DL removed	61	High DL removed	<0.0005	0.005	0.023	<0.0002	<0.01	17	0.045	<0.0002	0.016	0.001		5	0.0038	4.34	<0.0001	29	1.15	<60	<0.00005	<0.005	<0.01	0.001
W3	16/08/2010	<0.1	High DL removed	63	High DL removed	<0.0005	0.007	0.033	<0.0002	<0.01	18	0.047	<0.0002	0.017	<0.001		5	0.0041	4.67	<0.0001	30	1.21	<60	<0.00005	<0.005	<0.01	0.001
W3	17/08/2010	<0.1	High DL removed	61	High DL removed	<0.0005	0.006	0.023	<0.0002	<0.01	17	0.043	<0.0002	0.017	<0.001		5	0.0042	4.49	<0.0001	29	1.23	<60	<0.00005	<0.005	<0.01	0.0011
W3	18/08/2010	<0.1	High DL removed	60	High DL removed	<0.0005	0.008	0.107	<0.0002	<0.01	17	0.05	<0.0002	0.017	0.001		5	0.0043	4.47	<0.0001	26	1.18	<60	<0.00005	<0.005	<0.01	0.0009
W3	19/08/2010	<0.1	High DL removed	61	High DL removed	<0.0005	0.006	0.056	<0.0002	<0.01	17	0.052	<0.00002	0.017	0.001		5	0.0046	4.86	<0.0001	28	1.29	<60	<0.00005	<0.005	<0.01	0.001
W3	20/08/2010	<0.1	High DL removed	59	High DL removed	<0.0005	0.006	0.037	<0.0002	<0.01	17	0.043	<0.0002	0.016	0.001		5	0.004	4.52	<0.0001	26	1.17	<60	<0.00005	<0.005	<0.01	0.0009
W3	21/08/2010	<0.1	High DL removed	60	High DL removed	<0.0005	0.006	0.029	<0.0002	<0.01	17	0.042	<0.00002	0.016	0.001		5	0.004	4.79	<0.0001	27	1.16	<60	<0.00005	<0.005	<0.01	0.0009
W3	22/08/2010	<0.1	High DL removed	62	High DL removed	<0.0005	0.006	0.034	<0.0002	<0.01	17	0.041	<0.0002	0.016	0.001		5	0.0043	4.35	<0.0001	26	1.18	<60	<0.00005	<0.005	<0.01	0.0009
W3	23/08/2010	<0.1	High DL removed	72	High DL removed	<0.0005	0.006	0.031	<0.0002	<0.01	16	0.03	<0.0002	0.014	0.001		5	0.0041	5.27	<0.0001	25	0.914	<60	<0.00005	<0.005	<0.01	0.0009
W3	24/08/2010	<0.1	High DL removed	59	High DL removed	<0.0005	0.007	0.028	0.0002	<0.01	16	0.046	<0.0002	0.017	0.001		5	0.0044	4.12	<0.0001	26	1.23	<60	<0.00005	<0.005	<0.01	0.0009
W3	25/08/2010	<0.1	High DL removed	59	High DL removed	<0.0005	0.007	0.023	<0.0002	<0.01	18	0.049	<0.0002	0.016	0.001		5	0.0043	4.2	<0.0001	31	1.21	<60	<0.00005	<0.005	<0.01	0.0008
W3	26/08/2010	<0.1	High DL removed	58	High DL removed	<0.0005	0.007	0.033	<0.0002	<0.01	17	0.055	<0.0002	0.017	0.003		5	0.0043	4.22	<0.0001	26	1.26	<60	<0.00005	<0.005	<0.01	0.0009
W3	27/08/2010	<0.1	High DL removed	57	High DL removed	<0.0005	0.007	0.021	<0.0002	<0.01	17	0.049	<0.0002	0.016	0.001		5	0.0041	4.14	<0.0001	26	1.12	<60	<0.00005	<0.005	<0.01	0.0008
W3	28/08/2010	<0.1	High DL removed	64	High DL removed	<0.0005	0.008	0.031	<0.0002	<0.01	18	0.054	<0.0002	0.017	<0.001		5	0.0048	4.71	<0.0001	27	1.22	<60	<0.00005	<0.005	<0.01	0.0009

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	13/10/2009																									
W3	14/10/2009																									
W3	15/10/2009																									
W3	16/10/2009																									
W3	17/10/2009																									
W3	18/10/2009																									
W3	19/10/2009																									
W3	20/10/2009	<0.005	<0.005	<0.0005	0.032	0.0006	0.0003	0.13	<0.0001	<0.001	<0.05	0.00002	61.4	<0.001	<0.0005	0.0026	0.008	<0.0002	<0.005	15.2	0.296	0.00008	0.017	<0.001		3.65
W3	21/10/2009																									
W3	22/10/2009																									
W3	23/10/2009																									
W3	24/10/2009																									
W3	25/10/2009	<0.005	<0.005	<0.0005	0.029	0.0007	0.0003	0.13	<0.0001	<0.001	<0.05	0.00004	62.6	<0.001	<0.0005	0.0023	0.018	<0.0002	<0.005	14.9	0.309	<0.00002	0.017	<0.001		3.51
W3	25/10/2009																									
W3	26/10/2009																									
W3	27/10/2009	<0.005	0.006	<0.0005	0.021	0.0006	0.0003	0.128	<0.0001	<0.001	<0.05	0.00003	60.9	<0.001	<0.0005	0.0027	0.02	<0.0002	<0.005	14.5	0.298	0.00009	0.016	0.001		3.53
W3	28/10/2009																									
W3	29/10/2009																									
W3	30/10/2009																									
W3	14/07/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.081	<0.0002	<0.001	<0.1	High DL removed	60	High DL removed	<0.0005	0.004	<0.02	<0.0002	<0.01	19	0.013	<0.0002	0.005	<0.001		3
W3	15/07/2010	<0.005	<0.01	<0.002	0.065	<0.0005	0.0005	0.089	<0.0002	<0.001	<0.1	High DL removed	65	High DL removed	<0.0005	0.003	<0.02	<0.0002	<0.01	16	0.014	<0.0002	0.014	<0.001		5
W3	16/07/2010	<0.005	<0.01	<0.002	0.093	<0.0005	0.0005	0.085	<0.0002	<0.001	<0.1	High DL removed	56	High DL removed	<0.0005	0.003	<0.02	<0.0002	<0.01	16	0.015	<0.0002	0.014	<0.001		5
W3	17/07/2010	<0.005	<0.01	<0.002	0.081	<0.0005	0.0005	0.086	<0.0002	<0.001	<0.1	High DL removed	56	High DL removed	<0.0005	0.003	<0.02	<0.0002	<0.01	16	0.023	<0.0002	0.013	<0.001		5
W3	18/07/2010	<0.005	<0.01	<0.002	0.097	<0.0005	0.0004	0.086	<0.0002	<0.001	<0.1	High DL removed	54	High DL removed	<0.0005	0.003	<0.02	<0.0002	<0.01	16	0.015	<0.0002	0.013	<0.001		5
W3	19/07/2010	<0.005	<0.01	<0.002	0.102	<0.0005	<0.0004	0.085	<0.0002	<0.001	<0.1	High DL removed	53	High DL removed	<0.0005	0.004	<0.02	<0.0002	<0.01	15	0.014	<0.0002	0.013	<0.001		5
W3	20/07/2010	<0.005	0.054	<0.002	0.1	<0.0005	0.0005	0.092	<0.0002	<0.001	<0.1	High DL removed	56	High DL removed	<0.0005	0.003	<0.02	<0.0002	<0.01	15	0.014	<0.0002	0.014	<0.001		5
W3	21/07/2010	<0.005	<0.01	<0.002	0.108	<0.0005	0.0005	0.094	<0.0002	<0.001	<0.1	High DL removed	58	High DL removed	<0.0005	0.003	<0.02	<0.0002	<0.01	15	0.014	<0.0002	0.014	<0.001		5
W3	22/07/2010	<0.005	<0.01	<0.002	0.108	<0.0005	0.0005	0.093	<0.0002	<0.001	<0.1	High DL removed	57	High DL removed	<0.0005	0.004	<0.02	<0.0002	<0.01	15	0.015	<0.0002	0.014	<0.001		5
W3	23/07/2010	<0.005	<0.01	<0.002																						
W3	24/07/2010	<0.005	<0.01	<0.002	0.077	<0.0005	<0.0004	0.092	<0.0002	<0.001	<0.1	High DL removed	55	High DL removed	<0.0005	0.002	<0.02	<0.0002	<0.01	16	0.019	<0.0002	0.013	0.001		5
W3	25/07/2010	<0.005	<0.01	<0.002	0.073	<0.0005	0.0004	0.094	<0.0002	<0.001	<0.1	High DL removed	55	High DL removed	<0.0005	0.002	<0.02	<0.0002	<0.01	16	0.024	<0.0002	0.013	0.001		5
W3	26/07/2010	<0.005	<0.01	<0.002	0.077	<0.0005	<0.0004	0.093	<0.0002	<0.001	<0.1	High DL removed	54	High DL removed	<0.0005	0.002	<0.02	<0.0002	<0.01	16	0.015	0.0003	0.013	<0.001		5
W3	27/07/2010	<0.005	<0.01	<0.002	0.094	<0.0005	<0.0004	0.097	<0.0002	<0.001	<0.1	High DL removed	55	High DL removed	<0.0005	0.002	<0.02	<0.0002	<0.01	16	0.018	<0.0002	0.014	<0.001		5
W3	28/07/2010	<0.005	<0.01	<0.002	0.089	<0.0005	<0.0004	0.091	<0.0002	<0.001	<0.1	High DL removed	54	High DL removed	<0.0005	0.002	<0.02	<0.0002	<0.01	16	0.033	<0.0002	0.013	<0.001		5
W3	29/07/2010	<0.005	<0.01	<0.002	0.093	<0.0005	<0.0004	0.099	<0.0002	<0.001	<0.1	High DL removed	58	High DL removed	<0.0005	0.002	<0.02	<0.0002	<0.01	16	0.019	<0.0002	0.015	<0.001		5
W3	30/07/2010	<0.005	<0.01	<0.002	0.099	<0.0005	<0.0004	0.099	<0.0002	<0.001	<0.1	High DL removed	57	High DL removed	<0.0005	0.002	<0.02	<0.0002	<0.01	16	0.02	<0.0002	0.014	<0.001		5
W3	31/07/2010	<0.005	<0.01	<0.002	0.093	<0.0005	0.0004	0.098	<0.0002	<0.001	<0.1	High DL removed	57	High DL removed	<0.0005	0.002	<0.02	<0.0002	<0.01	17	0.021	<0.0002	0.014	<0.001		5
W3	01/08/2010	<0.005	<0.01	<0.002	0.101	<0.0005	<0.0004	0.098	<0.0002	<0.001	<0.1	High DL removed	58	High DL removed	<0.0005	0.003	<0.02	<0.0002	<0.01	17	0.008	<0.0002	0.014	<0.001		5
W3	02/08/2010	<0.005	<0.01	<0.002	0.082	<0.0005	<0.0004	0.098	<0.0002	<0.001	<0.1	High DL removed	58	High DL removed	<0.0005	0.002	<0.02	<0.0002	<0.01	17	0.019	<0.0002	0.014	0.001		5
W3	03/08/2010	<0.005	<0.01	<0.002	0.063	<0.0005	<0.0004	0.091	<0.0002	<0.001	<0.1	High DL removed	57	High DL removed	<0.0005	0.002	<0.02	<0.0002	<0.01	16	0.019	<0.0002	0.014	0.001		5
W3	04/08/2010	<0.005	<0.01	<0.002	0.079	<0.0005	0.0004	0.095	<0.0002	<0.001	<0.1	High DL removed	59	High DL removed	<0.0005	0.004	<0.02	<0.0002	<0.01	17	0.022	<0.0002	0.014	0.001		5
W3	05/08/2010	<0.005	<0.01	<0.002	0.076	<0.0005	0.0004	0.094	<0.0002	<0.001	<0.1	High DL removed	59	High DL removed	<0.0005	0.004	<0.02	<0.0002	<0.01	17	0.021	<0.0002	0.014	<0.001		5
W3	06/08/2010	<0.005	<0.01	<0.002	0.073	<0.0005	0.0004	0.096	<0.0002	<0.001	<0.1	High DL removed	55	High DL removed	<0.0005	0.004	<0.02	<0.0002	<0.01	16	0.021	<0.0002	0.014	<0.001		5
W3	07/08/2010	<0.005	<0.01	<0.002	0.076	<0.0005	0.0005	0.097	<0.0002	<0.001	<0.1	High DL removed	71	High DL removed	<0.0005	0.004	<0.02	<0.0002	<0.01	17	0.022	<0.0002	0.014	<0.001		5
W3	08/08/2010	<0.005	<0.01	<0.002	0.073	<0.0005	0.0004	0.093	<0.0002	<0.001	<0.1	High DL removed	55	High DL removed	<0.0005	0.004	<0.02	<0.0002	<0.01	17	0.022	<0.0002	0.014	<0.001		5
W3	09/08/2010	<0.005	<0.01	<0.002	0.086	<0.0005	0.0004	0.099	<0.0002	<0.001	<0.1	High DL removed	60	High DL removed	<0.0005	0.003	<0.02	<0.0002	<0.01	17	0.023	<0.0002	0.014	<0.001		5
W3	10/08/2010	<0.005	0.168	<0.002	0.057	<0.0005	<0.0004	0.101	<0.0002	<0.001	<0.1	High DL removed	60	High DL removed	<0.0005	0.003	<0.02	<0.0002	<0.01	17	0.029	<0.0002	0.014	0.001		6
W3	11/08/2010	<0.005	0.095	<0.002	0.072	<0.0005	<0.0004	0.1	<0.0002	<0.001	<0.1	High DL removed	60	High DL removed	<0.0005	0.003	<0.02	<0.0002	<0.01	17	0.035	<0.0002	0.014	0.001		6
W3	12/08/2010	<0.005	0.069	<0.002	0.072	<0.0005	0.0005	0.097	<0.0002	<0.001	<0.1	High DL removed	60	High DL removed	<0.0005	0.004	<0.02	<0.0002	<0.01	17	0.039	<0.0002	0.015	0.001		5
W3	13/08/2010	<0.005	0.027	<0.002	0.074	<0.0005	0.0004	0.102	<0.0002	<0.001	<0.1	High DL removed	60	High DL removed	<0.0005	0.002	<0.02	<0.0002	<0.01	17	0.011	<0.0002	0.015	<0.001		5
W3	14/08/2010	<0.005	0.028	<0.002	0.072	<0.0005	0.0005	0.108	<0.0002	<0.001	<0.1	High DL removed	60	High DL removed	<0.0005	0.004	<0.02	<0.0002	<0.01	18	0.039	<0.0002	0.016	<0.001		5
W3	15/08/2010	<0.005	0.016	<0.002	0.071	<0.0005	0.0005	0.101	<0.0002	<0.001	<0.1	0.0001	61	High DL removed	<0.0005	0.004	<0.02	<0.0002	<0.01	17	0.041	<0.0002	0.016	<0.001		5
W3	16/08/2010	<0.005	0.018	<0.002	0.077	<0.0005	0.0005	0.107	<0.0002	<0.001	<0.1	High DL removed	60	High DL removed	<0.0005	0.004	<0.02	<0.0002	<0.01	17	0.039	<0.0002	0.016	<0.001		5
W3	17/08/2010	<0.005	<0.01	<0.002	0.079	<0.0005	0.0005	0.106	<0.0002	<0.001	<0.1	High DL removed	60	High DL removed	<0.0005	0.002	<0.02	<0.0002	<0.01	17	0.037	<0.0002	0.017	<0.001		5
W3	18/08/2010	<0.005	<0.01	<0.002	0.064	<0.0005	0.0005	0.097	<0.0002	<0.001	<0.1	High DL removed	65	High DL removed	<0.0005	0.005	<0.02	<0.0002	<0.01	16	0.045	<0.0002	0.016	<0.001		5
W3	19/08/2010	<0.005	<0.01	<0.002	0.061	<0.0005	0.0005	0.096	<0.0002	<0.001	<0.1	High DL removed	57	High DL removed	<0.0005	0.004	<0.02	<0.0002	<0.01	16	0.048	<0.0002	0.017	<0.001		5
W3	20/08/2010	<0.005	<0.01	<0.002	0.062	<0.0005	0.0005	0.094	<0.0002	<0.001	<0.1	High DL removed	57	High DL removed	<0.0005	0.004	<0.02	<0.0002	<0.01	15	0.041	<0.0002	0.015	0.001		4
W3	21/08/2010	<0.005	<0.01	<0.002	0.062	<0.0005	0.0005	0.105	<0.0002	<0.001	<0.1	High DL removed	60	High DL removed	<0.0005	0.004	<0.02	<0.0002	<0.01	17	0.041	<0.0002	0.016	<0.001		5
W3	22/08/2010	<0.005	<0.01	<0.002	0.062	<0.0005	0.0004	0.099	<0.0002	<0.001	<0.1	High DL removed	62	High DL removed	<0.0005	0.004	<0.02	<0.0002	<0.01	17	0.039	<0.0002	0.016	<0.001		5
W3	23/08/2010	<0.005	<0.01	<0.002	0.087	<0.0005	<0.0004	0.093	<0.0002	<0.001	<0.1	High DL removed	56	High DL removed	<0.0005	0.004	<0.02	<0.0002	<0.01	16	0.026	<0.00002	0.014	<0.001		5
W3	24/08/2010	<0.005	<0.01	<0.002	0.094	<0.0005	0.0005	0.102	<0.0002	<0.001	<0.1	High DL removed	60	High DL removed	<0.0005	0.005	<0.02	<0.0002	<0.01	17	0.041	<0.00002	0.017	<0.001		5
W3	25/08/2010	<0.005	<0.01	<0.002	0.075	<0.0005	0.0005	0.092	<0.0002	<0.001	<0.1	High DL removed	57	High DL removed	<0.0005	0.004	<0.02	<0.0002	<0.01	15	0.046	<0.0002	0.015	<0.001		5
W3	26/08/2010	<0.005	0.021	<0.002	0.078	<0.0005	0.0005	0.1	<0.0002	<0.001	<0.1	High DL removed	58	High DL removed	<0.0005	0.004	<0.02	<0.0002	<0.01	17	0.05	<0.0002	0.017	<0.001		5
W3	27/08/2010	<0.005	0.013	<0.002	0.097	<0.0005	0.0004	0.104	<0.0002	<0.001	<0.1	High DL removed	61	High DL removed	<0.0005	0.004	<0.02	<0.0002	<0.01	17	0.041	<0.0002	0.017	<0.001		5
W3	28/08/2010	<0.005	<0.01	<0.002	0.091	<0.0005	0.0005	0.104	<0.0002	<0.001	<0.1	High DL removed	61	High DL removed	<0.0005	0.004	<0.02	<0.0002	<0.01	17	0.043	<0.0002	0.017	<0.001		5

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	Br	Cation	CN-T	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-TKN	P-PO4T	P-TDP	P-TRP
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L
W3	13/10/2009																															
W3	14/10/2009																															
W3	15/10/2009																															
W3	16/10/2009																															
W3	17/10/2009																															
W3	18/10/2009																															
W3	19/10/2009																															
W3	20/10/2009	0.0023	3.41	<0.00002	18.6	0.893	26	<0.00005	<0.005	<0.005	0.0007	<0.005	<0.005	<0.0005	140	<0.5	<0.5	<0.5		1.7												<0.005
W3	21/10/2009																															
W3	22/10/2009																															
W3	23/10/2009																															
W3	24/10/2009																															
W3	25/10/2009	0.0021	3.77	<0.00002	18	0.839	25	<0.00005	<0.005	<0.005	0.0007	<0.005	<0.005	<0.0005	140	<0.5	<0.5	<0.5									8.8					<0.005
W3	25/10/2009																															
W3	26/10/2009																															
W3	27/10/2009	0.0021	3.85	<0.00002	17.6	0.824	25	<0.00005	<0.005	<0.005	0.0007	<0.005	<0.005	<0.0005	140	<0.5	<0.5	<0.5														<0.005
W3	28/10/2009																															
W3	29/10/2009																															
W3	30/10/2009																															
W3	14/07/2010	0.001	5.32	<0.0001	18	0.553	<60	<0.00005	<0.005	<0.01	0.0024	<0.005	High DL removed	<0.002	230	<0.5	<0.5	<0.5		<0.4												<0.005
W3	15/07/2010	0.0032	4.88	<0.0001	24	1.03	<60	<0.00005	<0.005	<0.01	0.0011	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		4.8												<0.005
W3	16/07/2010	0.0025	4.25	<0.0001	24	0.997	<60	<0.00005	<0.005	<0.01	0.001	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		5.3												<0.005
W3	17/07/2010	0.0025	4.31	<0.0001	24	0.994	<60	<0.00005	<0.005	<0.01	0.0011	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		5.1												<0.005
W3	18/07/2010	0.0025	4.45	<0.0001	26	0.994	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		5.7												<0.005
W3	19/07/2010	0.0024	4.36	<0.0001	25	0.964	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		5.9												<0.005
W3	20/07/2010	0.0025	4.19	<0.0001	24	0.998	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		5.8												<0.005
W3	21/07/2010	0.0026	4.36	<0.0001	24	0.991	<60	<0.00005	<0.005	<0.01	0.001	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		6.3												<0.005
W3	22/07/2010	0.0025	4.33	<0.0001	23	0.937	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		5.9												<0.005
W3	23/07/2010														150	<0.5	<0.5	<0.5		8												<0.005
W3	24/07/2010	0.0025	4.66	<0.0001	26	0.857	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		7.7												<0.005
W3	25/07/2010	0.0026	4.33	<0.0001	24	0.85	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		8.2												<0.005
W3	26/07/2010	0.0026	4.47	<0.0001	27	0.859	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		6.8												<0.005
W3	27/07/2010	0.0028	4.63	<0.0001	28	0.911	<60	<0.00005	<0.005	<0.01	0.0007	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		8.2												<0.005
W3	28/07/2010	0.0026	4.46	<0.0001	26	0.869	<60	<0.00005	<0.005	<0.01	0.0007	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		8.2												<0.005
W3	29/07/2010	0.003	4.79	<0.0001	29	0.938	<60	<0.00005	<0.005	<0.01	0.0007	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		11.2												<0.005
W3	30/07/2010	0.003	4.75	<0.0001	28	0.942	<60	<0.00005	<0.005	<0.01	0.0007	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		11.7												<0.005
W3	31/07/2010	0.003	4.69	<0.0001	28	0.947	<60	<0.00005	<0.005	<0.01	0.0007	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		13.2												<0.005
W3	01/08/2010	0.0028	4.84	<0.0001	28	0.907	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		12.7												<0.005
W3	02/08/2010	0.003	4.82	<0.0001	28	0.919	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		8.7												<0.005
W3	03/08/2010	0.003	4.39	<0.0001	24	0.897	<60	<0.00005	<0.005	<0.01	0.0007	<0.005	High DL removed	<0.002																		
W3	04/08/2010	0.0031	4.49	<0.0001	25	0.934	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		<0.4												<0.005
W3	05/08/2010	0.0031	4.58	<0.0001	25	0.936	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		15.3												<0.005
W3	06/08/2010	0.0032	4.24	<0.0001	25	0.96	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		17.4												<0.005
W3	07/08/2010	0.0041	5.54	<0.0001	25	0.965	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		5												<0.005
W3	08/08/2010	0.0032	4.26	<0.0001	26	0.944	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		15.3												<0.005
W3	09/08/2010	0.0034	4.73	<0.0001	28	1.01	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		10												<0.005
W3	10/08/2010	0.0031	4.77	<0.0001	29	0.956	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	0.143	<0.002	160	<0.5	<0.5	<0.5		7.6												<0.005
W3	11/08/2010	0.0031	4.72	<0.0001	29	0.976	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	0.084	<0.002	160	<0.5	<0.5	<0.5		4.7												<0.005
W3	12/08/2010	0.0036	4.36	<0.0001	26	1.02	<60	<0.00005	<0.005	<0.01	0.001	<0.005	0.061	<0.002	160	<0.5	<0.5	<0.5		7.1												<0.005
W3	13/08/2010	0.0033	4.82	<0.0001	27	0.972	<60	<0.00005	<0.005	<0.01	0.0012	<0.005	0.022	<0.002	160	<0.5	<0.5	<0.5		4.4												<0.005
W3	14/08/2010	0.0038	4.75	<0.0001	29	1.1	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	0.027	<0.002	160	<0.5	<0.5	<0.5		9.5												<0.005
W3	15/08/2010	0.0041	4.36	<0.0001	26	1.14	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	0.015	<0.002	150	<0.5	<0.5	<0.5		6.4												<0.005
W3	16/08/2010	0.0042	4.47	<0.0001	28	1.21	<60	<0.00005	<0.005	<0.01	0.001	<0.005	0.013	<0.002	150	<0.5	<0.5	<0.5		4.9												<0.005
W3	17/08/2010	0.0044	4.39	<0.0001	28	1.23	<60	<0.00005	<0.005	<0.01	0.001	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		4.3												<0.005
W3	18/08/2010	0.0051	4.57	<0.0001	25	1.22	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		10.7												<0.005
W3	19/08/2010	0.0046	4.06	<0.0001	25	1.24	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		12.3												<0.005
W3	20/08/2010	0.0043	4.08	<0.0001	24	1.2	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		12												<0.005
W3	21/08/2010	0.004	4.67	<0.0001	28	1.16	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		2.2												<0.005
W3	22/08/2010	0.0043	4.53	<0.0001	26	1.17	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		9.8												<0.005
W3	23/08/2010	0.0033	4.49	<0.0001	26	0.925	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		6.6												<0.005
W3	24/08/2010	0.0044	4.62	<0.0001	28	1.25	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		6.6												<0.005
W3	25/08/2010	0.0049	4.31	<0.0001	24	1.18	<60	<0.00005	<0.005	<0.01	0.0007	<0.005	High DL removed	<0.002	140	<0.5	<0.5	<0.5		4.2												<0.005
W3	26/08/2010	0.0045	4.27	<0.0001	27	1.27	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	0.017	<0.002	140	<0.5	<0.5	<0.5		4.9												<0.005
W3	27/08/2010	0.0042	4.25	<0.0001	29	1.26	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	140	<0.5	<0.5	<0.5		4.4												<0.005
W3	28/08/2010	0.0044	4.22	<0.0001	29	1.3	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	140	<0.5	<0.5	<0.5		4.3												<0.005

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W3	13/10/2009					2.3	1.9
W3	14/10/2009					1.5	3
W3	15/10/2009					1.7	1.9
W3	16/10/2009					1.7	2.6
W3	17/10/2009					2.2	2.9
W3	18/10/2009					2.3	2.9
W3	19/10/2009					2	3
W3	20/10/2009					0.6	3
W3	21/10/2009					1.7	2.6
W3	22/10/2009					1.6	3.5
W3	23/10/2009					1.2	2.2
W3	24/10/2009					1.8	2.4
W3	25/10/2009	0.24				1.9	
W3	25/10/2009						2.4
W3	26/10/2009					1.8	2.2
W3	27/10/2009					1.7	3.1
W3	28/10/2009					1.3	2.4
W3	29/10/2009					1.5	2
W3	30/10/2009					1.5	1.9
W3	14/07/2010					0.4	-3.9
W3	15/07/2010					0.9	-3.3
W3	16/07/2010					0.8	-3.5
W3	17/07/2010					0.5	-3.2
W3	18/07/2010						-3.9
W3	19/07/2010						-4
W3	20/07/2010	<0.005				0.3	-4.1
W3	21/07/2010					0.3	-4.1
W3	22/07/2010					0.5	-4
W3	23/07/2010					0.5	-3.7
W3	24/07/2010					0.4	-4.1
W3	25/07/2010					1.3	-3.6
W3	26/07/2010	0.008				0.4	-4.1
W3	27/07/2010					0.3	0.2
W3	28/07/2010					0.4	-0.9
W3	29/07/2010					0.4	-2
W3	30/07/2010					0.3	-1.3
W3	31/07/2010					0.4	-2.1
W3	01/08/2010					0.3	-0.8
W3	02/08/2010	<0.005				0.4	-2.7
W3	03/08/2010						-0.8
W3	04/08/2010					1.8	-4.3
W3	05/08/2010					0.4	-4.4
W3	06/08/2010					0.4	-4.2
W3	07/08/2010						-4.2
W3	08/08/2010					0.3	-4.2
W3	09/08/2010					0.6	-4.3
W3	10/08/2010					0.3	-4.3
W3	11/08/2010	<0.005				0.5	-4.1
W3	12/08/2010					0.4	-4.2
W3	13/08/2010					0.4	-4.1
W3	14/08/2010					0.4	-4.2
W3	15/08/2010					0.4	-4.2
W3	16/08/2010					0.4	-4.1
W3	17/08/2010					0.3	-4.2
W3	18/08/2010					2	-3.1
W3	19/08/2010					0.8	-3.7
W3	20/08/2010					0.7	-4.1
W3	21/08/2010					0.6	-4.1
W3	22/08/2010					0.6	-4.1
W3	23/08/2010					0.6	-3.4
W3	24/08/2010					0.7	0.2
W3	25/08/2010	0.01				0.7	-0.5
W3	26/08/2010					0.4	1.1
W3	27/08/2010					0.4	-3.5
W3	28/08/2010					0.5	-3.1

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Phase	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
				mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	29/08/2010	Discharge	P	1	390	8	7.94	572	591	11.15		76.4		227	218	120	29	0.33	94	0.14	0.129	12.4	9.6	0.216	<0.0005	0.0006	0.108	<0.0002	<0.001
W3	30/08/2010	Discharge	P	1	370	8	8.11	574	579	10.92		71.5		229	225	120	29	0.37	94	0.2	0.119	11.8	8.5	0.233	<0.0005	0.0006	0.113	<0.0002	<0.001
W3	31/08/2010	Discharge	P	1	370	8	7.99	557	594	11.36		66.1		225	225	120	29	0.36	90	0.068	0.116	11.7	9.3	0.226	<0.0005	0.0006	0.113	<0.0002	<0.001
W3	01/09/2010	Discharge	P	5	380	7.98	8.06	577	600	11.69		62.4		219	222	120	29	0.42	85	0.12	0.129	13	8.8	0.202	0.001	0.0006	0.106	<0.0002	<0.001
W3	02/09/2010	Discharge	P	<1	360	7.77	8.11	557	579	10.04		68.6		231	226	140	23	0.44	80	0.08	0.07	10.3	8.9	0.142	0.001	0.0005	0.106	<0.0002	<0.001
W3	03/09/2010	Discharge	P	<1	370	7.91	8.07	576	599	11.13		77.8		226	223	120	28	0.43	89	0.1	0.128	12.9	8.7	0.177	0.001	0.0005	0.109	<0.0002	<0.001
W3	05/09/2010	Discharge	P	<1	370	7.91	8.03	577	585	10.33		76.8		228	218	120	26	0.42	88	0.083	0.13	13	8.9	0.18	<0.0005	0.0005	0.106	<0.0002	<0.001
W3	07/09/2010	Discharge	P	<1	440	7.83	8.1	551	564	8.88		76.8		217	232	150	16	0.44	73	0.075	0.025	8.6	8.9	0.097	<0.0005	<0.0004	0.093	<0.0002	<0.001
W3	08/09/2010	Discharge	P	1	510	8.14		581	598	11.07		79.9		222	218	120	26	0.4	88	0.19	0.123	12.7	11.8	0.212	<0.0005	0.0005	0.112	<0.0002	<0.001
W3	09/09/2010	Discharge	P	1	500	7.98	7.98	582	609	10.75		81.3		223	230	120	25	0.4	86	0.14	0.116	13.1	9	0.21	<0.0005	0.0004	0.111	<0.0002	<0.001
W3	11/09/2010	Discharge	P	<1	510	7.89	8.05	592	616	9.93		84.2		232	229	110	26	0.39	88	0.19	0.136	14.1	7.7	0.198	0.0005	<0.0004	0.118	<0.0002	<0.001
W3	12/09/2010	Discharge	P	1	440	7.94	8	590	605	10.6		82.5		217	236	120	27	0.37	91	0.2	0.129	13.5	8.7	0.18	<0.0005	0.0005	0.105	<0.0002	<0.001
W3	13/09/2010	Discharge	P	1	390	7.93	8.2	596	609	11.02		82.8		223	227	120	27	0.39	95	0.084	0.142	14	8.5	0.175	<0.0005	<0.0004	0.111	<0.0002	<0.001
W3	15/09/2010	Discharge	P	<1	380	7.82	8.18	598	611	9.29		86.8		206	231	120	27	0.18	86	0.11	0.137	13.6	8.4	0.127	<0.0005	<0.0004	0.099	<0.0002	<0.001
W3	17/09/2010	Discharge	P	<1	410	7.91	8.21	578	592	9.14		93.1		255	240	130	18	0.52	83	0.13	0.117	13.8	10	0.173	<0.0005	0.0005	0.116	<0.0002	<0.001
W3	19/09/2010	Discharge	P	<1	390	7.99	8.02	581	599	8.42		107.1		222	238	130	19	0.51	86	0.12	0.115	14	9.7	0.126	<0.0005	<0.0004	0.107	<0.0002	<0.001
W3	21/09/2010	Discharge	P	<1	400	7.98	8.05	590	595	7.64		49.3		227	258	130	19	0.48	92	0.12	0.119	13.9	10.7	0.128	<0.0005	0.0005	0.107	<0.0002	<0.001
W3	23/09/2010	Discharge	P	<1	400	7.97	8.05	596	599	6.71		91.3		235	230	130	20	0.49	87	0.17	0.124	14.1	10.4	0.163	<0.0005	0.0005	0.111	<0.0002	<0.001
W3	25/09/2010	Discharge	P	<1	390	7.94	8.02	602	617	6.25		93.5		227	237	130	21	0.47	100	0.19	0.134	14.8	9.8	0.147	<0.0005	0.0005	0.105	<0.0001	<0.001
W3	27/09/2010	Discharge	P	<1	400	7.91	7.97	610	625	5.63		95.1		219	233	130	23	0.45	100	0.2	0.117	14.7	8.7	0.15	<0.0005	0.0002	0.103	<0.0001	<0.001
W3	29/09/2010	Discharge	P	3	400	7.96	8.14	607	618	5.59		98.6		237	227	130	20	0.47	87	0.2	0.12	15.1	9.7	0.195	<0.0005	0.0003	0.102	<0.0001	<0.001
W3	01/10/2010	Discharge	P	5	400		8.04		625					233	233	130	22	0.46	90	0.25	0.11	14.9	9.4	0.17	<0.0005	0.0002	0.108	<0.0001	<0.001
W3	03/10/2010	Discharge	P	3	390		8.06		613					240	234	140	22	0.43	86	0.14	0.1	13.2	9.9	0.128	<0.0005	0.0003	0.097	<0.0001	<0.001
W3	05/10/2010	Discharge	P	<1	380	7.95	8.1	587	598	4.74		98.6		234	231	140	22	0.42	89	0.024	0.076	12.7	10.4	0.134	<0.0005	0.0004	0.1	<0.0001	<0.001
W3	07/10/2010	Discharge	P	2	390	8.08	8.21	594	592	4.81		102.1		233	232	150	22	0.44	83	0.038	0.074	12.4	9.3	0.138	<0.0005	0.0003	0.1	<0.0001	<0.001
W3	09/10/2010	Discharge	P	1	390	8.03	8.21	601	602	3.82		98.1		253	275	140	22	0.44	86	0.08	0.088	13.4	8.1	0.13	<0.0005	0.0001	0.11	<0.0001	<0.001
W3	11/10/2010	Discharge	P	4	410	7.9	8.03	610	601	3.68		105.3		224	239	140	21	0.48	82	0.16	0.079	13.1	8.4	0.083	<0.0005	0.0003	0.098	<0.0001	<0.001
W3	12/10/2010	Discharge	P	2	400	8.05	8.06	604	604	3.75		104.7		271	238	160	20	0.48	83	0.13	0.056	10.9	9.3	0.126	<0.0005	0.0003	0.107	<0.0001	<0.001
W3	13/10/2010	Discharge	P	<1	400	8.08	8.1	623	615	4.1		108		250	267	150	21	0.47	99	0.089	0.087	13.9	9.6	0.119	<0.0005	0.0004	0.103	<0.0001	<0.001
W3	15/10/2010	Discharge	P	<1	380	8.01	8.08	636	635	3.53		107.4		242	269	140	24	0.44	97	0.2	0.093	14.1	9.3	0.095	<0.0005	0.0003	0.1	<0.0001	<0.001
W3	17/10/2010	Discharge	P	<1	430		8.15		663					249	257	140	26	0.49	110	0.37	0.112	14.8	8.1	0.082	<0.0005	0.0004	0.095	<0.0001	<0.001
W3	19/10/2010	Discharge	P	<1	420		8.22		640					260	248	140	25	0.45	91	0.2	0.094	13.8	8.6	0.085	<0.0005	0.0003	0.097	<0.0001	<0.001
W3	20/10/2010	Discharge	P	<1	460		8.19		695					294		150	24	0.44	120	0.22	0.107	14		0.087	<0.0005	0.0004	0.108	<0.0001	<0.001
W3	21/10/2010	Discharge	P	<1	460	8.02	8.23		694	3.23		115.9		312	270	150	24	0.44	110	0.24	0.1	14.1	8.5	0.118	<0.0005	0.0004	0.113	<0.0001	<0.001
W3	22/10/2010	Discharge	P	<1	460		8.27		698					261	268	150	24	0.42	110	0.27	0.109	15.2	8	0.083	<0.0005	0.0003	0.103	<0.0001	<0.001
W3	23/10/2010	Discharge	P	<1	450		8.11		690					284	270	140	24	0.43	110	0.27	0.111	15.1	8	0.087	<0.0005	0.0004	0.106	<0.0001	<0.001
W3	25/10/2010	Discharge	P	<4	430		8.1		669					273	266	150	23	0.38	110	0.27				0.108	<0.0005	0.0004	0.113	<0.0001	<0.001
W3	26/10/2010	Discharge	P	<1	430		8.08		670					286	265	150	22	0.46	110	0.25	0.108	14.2	7.9	0.117	<0.0005	0.0005	0.11	<0.0001	<0.001
W3	27/10/2010	Discharge	P	<1	430	8.08	8.14	677	652	3.31		94.6		280	259	150	22	0.45	110	0.25	0.112	14.2	7.9	0.103	<0.0005	0.0003	0.108	<0.0001	<0.001
W3	16/04/2012 17:15	Discharge	P	985	276	7.78	8.08	248.9	463	0	11.97	81.9		263	206	177	4.9	0.41	46.1	0.014	0.0075	3.43	12.7	16.6	0.00057	0.00616	0.393	0.00059	<0.0010
W3	17/04/2012 17:53	Discharge	P			7.87		264.4		1.2	12.36	87.5																	
W3	18/04/2012 10:15	Discharge	P			7.93		288.8		1.8	13.41	95.5																	
W3	19/04/2012 13:40	Discharge	P					291.5		2.3	12.58	91.9																	
W3	20/04/2012 15:56	Discharge	P			7.79		285.9		2.2	12.3	89.6																	
W3	21/04/2012 16:19	Discharge	P			7.88		287.4		2.2	13.03	94.9																	
W3	22/04/2012 14:50	Discharge	P	6.8	316	7.78	8.11	279.9	478	2.3	13.4	97.7		207	222	176	5.1	0.33	52.2	0.014	0.0073	4.17	14.9	0.142	<0.00050	0.00042	0.0783	<0.00010	<0.0010
W3	23/04/2012 14:32	Discharge	P			7.74		274.9		2.4	14.32	104.6																	
W3	24/04/2012 8:06	Discharge	P	4.7	308	7.75	8.23	271.4	479	1.7	14.38	103.2		208	220	182	5.3	0.35	47.1	0.0093	0.0067	4.12	14.7	0.19	<0.00050	0.00042	0.0788	<0.00010	<0.0010
W3	25/04/2012 11:10	Discharge	P			7.68		278.1		2.2	12.98	94.6																	
W3	26/04/2012	Discharge	P	4.1	312	7.76	8.11	7.76	475	2	12.78	92.5	192.8	215	217	174	4.8	0.35	48.2	0.013	0.0073	3.97	14.8	0.16	<0.00050	0.00042	0.0827	<0.00010	<0.0010
W3	27/04/2012 13:20	Discharge	P			7.99		265.5		2.2	12.51	91.1	139.8																
W3	28/04/2012 8:30	Discharge	P			7.73		247.9		1.9	12.75	92	118.3																
W3	29/04/2012 8:45	Discharge	P			7.3		267.8		1.8	13.41	96.8	130.6																
W3	30/04/2012 10:35	Discharge	P			7.65		272.7		2.2	12.05	87.6	100.6																
W3	01/05/2012 14:10	Discharge	P			7.82		263.5		2.8	11.84	87.5	68.5																
W3	02/05/2012 15:00	Discharge	P			7.84		267.5		2.4	12.04	88.2	82.2																
W3	03/05/2012 10:15	Discharge	P			7.75		280.2		2.3	12.06	87.9	82.8																
W3	07/05/2012	Discharge	P	6.2	278	7.86	8.1	242.3	452	3.4	9.11	69.1	73.5	197	204	185	4	0.4	45.5	0.0097	<0.0050	1.26	10.4	0.186	<0.00050	0.0004	0.0734	<0.00010	<0.0010
W3	10/05/2012 16:50	Discharge	P			7.93		269.8		3.4	13	97.8	71																
W3	21/04/2013 14:00	Discharge	P			8.39		225.3		0		101.4	-401.1																
W3	22/04/2013 8:05	Discharge	P			8.17		231.6		0.2			-420.1																
W3	23/04/2013 8:05	Discharge	P			9.06		263		1.2		105.6	-95.5																
W3	26/04/2013 9:15	Discharge	P			7.76		264.8		1.1		111.7	-103.3																
W3	27/04/2013 8:15	Discharge	P			9		253.8		0.3		100.7	-101.5																
W3	28/04/2013 9:30	Discharge	P			8.52		249.2		0.9		102.9	-96.8																

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	29/08/2010	<0.1	High DL removed	62	High DL removed	<0.0005	0.007	<0.02	<0.0002	<0.01	18	0.047	<0.0002	0.017	0.001		5	0.0047	4.47	<0.0001	28	1.25	<60	<0.00005	<0.005	<0.01	0.0009
W3	30/08/2010	<0.1	High DL removed	63	High DL removed	<0.0005	0.008	0.028	<0.0002	<0.01	17	0.048	<0.0002	0.018	<0.001		5	0.0047	4.54	<0.0001	26	1.29	<60	<0.00005	<0.005	<0.01	0.0009
W3	31/08/2010	<0.1	High DL removed	61	High DL removed	<0.0005	0.008	0.025	<0.0002	<0.01	18	0.046	<0.0002	0.017	0.001		6	0.0043	4.43	<0.0001	27	1.25	<60	<0.00005	<0.005	<0.01	0.0009
W3	01/09/2010	<0.1	High DL removed	59	High DL removed	<0.0005	0.007	0.023	<0.0002	<0.01	17	0.043	<0.0002	0.017	0.001		6	0.0043	4.32	<0.0001	27	1.18	<60	<0.00005	<0.005	<0.01	0.0008
W3	02/09/2010	<0.1	High DL removed	62	High DL removed	<0.0005	0.005	0.037	<0.0002	<0.01	18	0.067	<0.0002	0.012	0.002		5	0.0033	4.9	<0.0001	24	1.05	<60	<0.00005	<0.005	<0.01	0.0012
W3	03/09/2010	<0.1	High DL removed	61	High DL removed	<0.0005	0.006	<0.02	<0.0002	<0.01	18	0.047	<0.0002	0.017	0.001		5	0.0043	4.48	<0.0001	27	1.2	<60	<0.00005	<0.005	<0.01	0.0008
W3	05/09/2010	<0.1	High DL removed	62	High DL removed	<0.0005	0.006	<0.02	<0.0002	<0.01	18	0.049	<0.0002	0.016	<0.001		6	0.0045	4.63	<0.0001	27	1.18	<60	<0.00005	<0.005	<0.01	0.0009
W3	07/09/2010	<0.1	High DL removed	58	High DL removed	<0.0005	0.003	0.031	<0.0002	<0.01	18	0.07	<0.0002	0.01	0.001		4	0.0024	4.85	<0.0001	22	0.882	<60	<0.00005	<0.005	<0.01	0.0016
W3	08/09/2010	<0.1	High DL removed	60	High DL removed	<0.0005	0.006	0.023	<0.0002	<0.01	17	0.06	<0.0002	0.018	<0.001		5	0.0045	4.21	<0.0001	27	1.35	<60	<0.00005	<0.005	<0.01	0.001
W3	09/09/2010	<0.1	High DL removed	61	High DL removed	<0.0005	0.006	0.024	<0.0002	<0.01	17	0.061	<0.0002	0.018	0.001		5	0.0048	4.4	<0.0001	26	1.36	<60	<0.00005	<0.005	<0.01	0.0009
W3	11/09/2010	<0.1	High DL removed	63	High DL removed	<0.0005	0.006	0.039	<0.0002	<0.01	18	0.081	<0.0002	0.02	0.001		5	0.0053	4.48	<0.0001	27	1.53	<60	<0.00005	<0.005	<0.01	0.0009
W3	12/09/2010	<0.1	High DL removed	60	High DL removed	<0.0005	0.007	0.042	0.0002	<0.01	16	0.07	<0.0002	0.019	0.001		5	0.0048	4.28	<0.0001	27	1.31	<60	<0.00005	<0.005	<0.01	0.0008
W3	13/09/2010	<0.1	High DL removed	61	High DL removed	<0.0005	0.021	0.025	0.0935	<0.01	17	0.076	0.0004	0.018	0.01		5	0.0048	4.26	<0.0001	26	1.37	<60	0.00011	0.092	<0.01	0.0008
W3	15/09/2010	<0.1	High DL removed	56	High DL removed	<0.0005	0.004	<0.02	<0.0002	<0.01	16	0.066	<0.0002	0.015	<0.001		5	0.0041	3.97	<0.0001	24	1.14	<60	<0.00005	<0.005	<0.01	0.0007
W3	17/09/2010	<0.1	High DL removed	69	High DL removed	<0.0005	0.007	0.022	<0.0002	<0.01	20	0.082	<0.0002	0.019	0.001		6	0.0048	5.02	<0.0001	29	1.37	<60	<0.00005	<0.005	<0.01	0.0019
W3	19/09/2010	<0.1	0.0001	61	High DL removed	<0.0005	0.006	<0.02	<0.0002	<0.01	17	0.07	<0.0002	0.017	0.001		5	0.0045	4.11	<0.0001	24	1.35	<60	<0.00005	<0.005	<0.01	0.0017
W3	21/09/2010	<0.1	High DL removed	61	High DL removed	<0.0005	0.007	<0.02	<0.0002	<0.01	18	0.081	<0.0002	0.018	0.001		5	0.0047	4.23	<0.0001	26	1.39	<60	<0.00005	<0.005	<0.01	0.0017
W3	23/09/2010	<0.1	High DL removed	64	High DL removed	<0.0005	0.008	0.021	<0.0002	<0.01	18	0.087	<0.0002	0.019	0.001		5	0.0049	4.37	<0.0001	26	1.47	<60	<0.00005	<0.005	<0.01	0.0018
W3	25/09/2010	<0.05	0.00002	62.2	<0.001	<0.0005	0.0072	0.016	<0.0002	<0.005	17.3	0.084	<0.00002	0.018	<0.001		5.37	0.0045	4.34	<0.00002	24.4	1.44	34	<0.00005	<0.005	<0.005	0.0017
W3	27/09/2010	<0.05	<0.00001	58.7	<0.001	<0.0005	0.007	0.016	<0.0002	<0.005	17.7	0.084	<0.00002	0.017	<0.001		5.15	0.0043	4.01	<0.00002	25.1	1.41	33	<0.00005	<0.005	<0.005	0.0014
W3	29/09/2010	<0.05	0.00002	65.2	<0.001	<0.0005	0.0075	0.067	<0.0002	<0.005	18	0.091	<0.00002	0.018	0.001		5.32	0.0049	4.41	<0.00002	30	1.54	36	<0.00005	<0.005	<0.005	0.0015
W3	01/10/2010	<0.05	0.00002	63.8	<0.001	<0.0005	0.0069	0.024	<0.0002	<0.005	17.9	0.091	<0.00002	0.019	<0.001		5.43	0.0046	4.28	<0.00002	29.4	1.61	35	<0.00005	<0.005	<0.005	0.0015
W3	03/10/2010	<0.05	0.00002	65.2	<0.001	<0.0005	0.0065	0.067	<0.0002	<0.005	18.7	0.106	<0.00002	0.015	0.001		5.08	0.0045	4.74	<0.00002	28	1.26	36	<0.00005	<0.005	<0.005	0.0013
W3	05/10/2010	<0.05	0.00002	63.7	<0.001	<0.0005	0.0061	0.022	<0.0002	<0.005	18.2	0.08	<0.00002	0.014	0.001		6.13	0.0042	4.93	<0.00002	23.7	1.08	27	<0.00005	<0.005	<0.005	0.0015
W3	07/10/2010	<0.05	0.00001	63.2	<0.001	<0.0005	0.0063	0.033	<0.0002	<0.005	18.3	0.081	0.00004	0.013	0.001		6.02	0.0038	4.91	<0.00002	23.5	1.05	28	<0.00005	<0.005	<0.005	0.0015
W3	09/10/2010	<0.05	0.00003	68.7	<0.001	<0.0005	0.0073	0.016	<0.0002	<0.005	19.7	0.09	<0.00002	0.016	0.001		6.13	0.0043	4.78	<0.00002	28.4	1.28	36	<0.00005	<0.005	<0.005	0.0015
W3	11/10/2010	<0.05	<0.00001	60.4	<0.001	<0.0005	0.0049	0.102	<0.0002	<0.005	17.7	0.226	<0.00002	0.012	<0.001		4.77	0.0031	4.44	<0.00002	24.6	1.06	28	<0.00005	<0.005	<0.005	0.0015
W3	12/10/2010	<0.05	0.00003	72.1	<0.001	<0.0005	0.0075	0.057	<0.0002	<0.005	22	0.111	<0.00002	0.011	0.001		5.53	0.0031	5.59	<0.00002	25.7	1.06	32	<0.00005	<0.005	<0.005	0.0023
W3	13/10/2010	<0.05	<0.00001	68.5	<0.001	<0.0005	0.0107	0.031	<0.0002	<0.005	19.1	0.091	0.00003	0.016	0.003		5.9	0.004	4.64	<0.00002	29.1	1.34	37	<0.00005	<0.005	<0.005	0.0016
W3	15/10/2010	<0.05	0.00001	66	<0.001	<0.0005	0.0056	0.014	<0.0002	<0.005	18.7	0.091	<0.00002	0.016	<0.001		5.73	0.004	4.46	<0.00002	29.5	1.35	37	<0.00005	<0.005	<0.005	0.0013
W3	17/10/2010	<0.05	0.00002	67.6	<0.001	<0.0005	0.0061	0.015	<0.0002	<0.005	19.6	0.097	<0.00002	0.016	<0.001		5.46	0.0046	4.74	<0.00002	31.3	1.54	36	<0.00005	<0.005	<0.005	0.0015
W3	19/10/2010	<0.05	0.00002	69.7	<0.001	<0.0005	0.0061	0.014	<0.0002	<0.005	20.8	0.101	<0.00002	0.015	0.001		6.08	0.004	5.19	<0.00002	32.4	1.36	41	<0.00005	<0.005	<0.005	0.0013
W3	20/10/2010	<0.05	0.00002	79.1	<0.001	<0.0005	0.0057	0.015	<0.0002	<0.005	23.4	0.102	<0.00002	0.016	<0.001		5.83	0.0041	5.2	<0.00002	33.7	1.76	51	<0.00005	<0.005	<0.005	0.0016
W3	21/10/2010	<0.05	0.00002	85.2	<0.001	<0.0005	0.006	0.017	<0.0002	<0.005	24.2	0.103	<0.00002	0.017	0.001		6.37	0.0044	5.5	<0.00002	32.2	1.67	48	<0.00005	<0.005	<0.005	0.0017
W3	22/10/2010	<0.05	0.00002	72.1	<0.001	<0.0005	0.0049	0.013	<0.0002	<0.005	19.6	0.093	<0.00002	0.017	<0.001		5.12	0.0041	4.71	<0.00002	30.3	1.66	43	<0.00005	<0.005	<0.005	0.0016
W3	23/10/2010	<0.05	0.00002	77.7	<0.001	<0.0005	0.0054	0.011	<0.0002	0.005	21.8	0.102	<0.00002	0.017	<0.001		5.58	0.0041	4.95	<0.00002	33	1.69	47	<0.00005	<0.005	<0.005	0.0016
W3	25/10/2010	<0.05	0.00001	73500	<0.001	<0.0005	0.0064	0.012	<0.0002	0.005	21700	0.111	<0.00002	0.018	<0.001		6.42	0.0046	5.29	<0.00002	35.3	1.7	47	<0.00005	<0.005	<0.005	0.0018
W3	26/10/2010	<0.05	0.00004	77.2	<0.001	<0.0005	0.0068	0.021	<0.0002	<0.005	22.7	0.107	<0.00002	0.017	0.001		6.24	0.0043	4.98	<0.00002	32.2	1.6	41	<0.00005	<0.005	<0.005	0.0016
W3	27/10/2010	<0.05	0.00001	76.4	<0.001	<0.0005	0.0059	0.018	<0.0002	<0.005	21.7	0.105	<0.00002	0.017	0.001		5.96	0.0041	4.97	<0.00002	31.6	1.56	43	<0.00005	<0.005	<0.005	0.0016
W3	16/04/2012 17:15	<0.05	0.000433	64.1	0.0247	0.0108	0.212	26.8	0.00746	0.0134	25.1	5.02	<0.000010	0.0095	0.0295	0.71	5.88	0.00125	36.3	0.00018	15.2	0.626	14.4	0.000137	<0.0050	0.617	0.00353
W3	17/04/2012 17:53																										
W3	18/04/2012 10:15																										
W3	19/04/2012 13:40																										
W3	20/04/2012 15:56																										
W3	21/04/2012 16:19																										
W3	22/04/2012 14:50	<0.05	0.00001	53	<0.0010	<0.00050	0.0239	0.221	<0.00020	<0.0050	18	0.0523	<0.000010	0.0053	0.0012	0.022	3.3	0.00117	5.22	<0.000020	16	0.583	16.4	<0.000050	<0.0050	0.0068	0.002
W3	23/04/2012 14:32																										
W3	24/04/2012 8:06	<0.05	0.000024	53.4	<0.0010	<0.00050	0.0255	0.261	0.00069	<0.0050	18	0.056	<0.000010	0.0051	0.0012	0.023	3.27	0.00138	5.56	<0.000020	15.7	0.567	14.7	<0.000050	<0.0050	0.0098	0.00187
W3	25/04/2012 11:10																										
W3	26/04/2012	<0.05	0.000029	55.6	<0.0010	<0.00050	0.0256	0.24	0.00022	<0.0050	18.5	0.0506	<0.000010	0.0054	0.0012	0.019	3.44	0.00155	5.4	<0.000020	16.5	0.613	16.5	<0.000050	<0.0050	0.0073	0.00191
W3	27/04/2012 13:20																										
W3	28/04/2012 8:30																										
W3	29/04/2012 8:45																										
W3	30/04/2012 10:35																										
W3	01/05/2012 14:10																										
W3	02/05/2012 15:00																										
W3	03/05/2012 10:15																										
W3	07/05/2012	<0.05	0.000013	49.6	<0.0010	<0.00050	0.00801	0.271	<0.00020	<0.0050	17.9	0.0592	<0.000010	0.0042	0.0012	0.018	2.44	0.00043	5.67	<0.000020	14.6	0.509	13	<0.000050	<0.0050	0.0085	0.00254
W3	10/05/2012 16:50																										
W3	21/04/2013 14:00																										
W3	22/04/2013 8:05																										
W3	23/04/2013 8:05																										
W3	26/04/2013 9:15																										
W3	27/04/2013 8:15																										
W3	28/04/2013 9:30																										

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	29/08/2010	<0.005	<0.01	<0.002	0.108	<0.0005	0.0006	0.097	<0.0002	<0.001	<0.1	High DL removed	60	High DL removed	<0.0005	0.003	<0.02	<0.0002	<0.01	16	0.04	<0.0002	0.016	<0.001		5
W3	30/08/2010	<0.005	<0.01	<0.002	0.121	<0.0005	0.0005	0.104	<0.0002	<0.001	<0.1	High DL removed	62	High DL removed	<0.0005	0.003	<0.02	<0.0002	<0.01	17	0.036	<0.0002	0.017	<0.001		5
W3	31/08/2010	<0.005	0.011	<0.002	0.112	<0.0005	0.0005	0.097	<0.0002	<0.001	<0.1	High DL removed	62	High DL removed	<0.0005	0.003	<0.02	<0.0002	<0.01	17	0.035	<0.0002	0.016	<0.001		5
W3	01/09/2010	<0.005	<0.01	<0.002	0.097	<0.0005	0.0005	0.1	<0.0002	<0.001	<0.1	High DL removed	61	High DL removed	<0.0005	0.004	<0.02	<0.0002	<0.01	17	0.039	<0.0002	0.016	<0.001		5
W3	02/09/2010	<0.005	<0.01	<0.002	0.075	0.0009	0.0004	0.096	<0.0002	<0.001	<0.1	High DL removed	61	High DL removed	<0.0005	0.003	<0.02	<0.0002	<0.01	18	0.064	<0.0002	0.012	0.001		5
W3	03/09/2010	<0.005	<0.01	<0.002	0.088	0.001	0.0005	0.101	<0.0002	<0.001	<0.1	High DL removed	61	High DL removed	<0.0005	0.004	<0.02	<0.0002	<0.01	17	0.044	<0.0002	0.016	<0.001		5
W3	05/09/2010	<0.005	<0.01	<0.002	0.073	0.001	0.0006	0.1	<0.0002	<0.001	<0.1	High DL removed	60	High DL removed	<0.0005	0.004	<0.02	<0.0002	<0.01	16	0.043	<0.0002	0.016	<0.001		5
W3	07/09/2010	<0.005	<0.01	<0.002	0.094	<0.0005	<0.0004	0.098	<0.0002	<0.001	<0.1	High DL removed	61	High DL removed	<0.0005	0.003	0.023	<0.0002	<0.01	19	0.072	<0.0002	0.01	0.001		4
W3	08/09/2010	<0.005	<0.01	<0.002	0.093	<0.0005	0.0006	0.108	<0.0002	<0.001	<0.1	High DL removed	58	High DL removed	<0.0005	0.004	<0.02	<0.0002	<0.01	18	0.055	<0.0002	0.018	<0.001		5
W3	09/09/2010	<0.005	<0.01	<0.002	0.086	<0.0005	0.0006	0.102	<0.0002	<0.001	<0.1	High DL removed	63	High DL removed	<0.0005	0.004	<0.02	<0.0002	<0.01	18	0.056	<0.0002	0.017	<0.001		5
W3	11/09/2010	<0.005	<0.01	<0.002	0.071	<0.0005	0.0005	0.106	<0.0002	<0.001	<0.1	High DL removed	63	High DL removed	<0.0005	0.004	<0.02	<0.0002	<0.01	18	0.072	<0.0002	0.019	<0.001		5
W3	12/09/2010	<0.005	<0.01	<0.002	0.072	<0.0005	0.0005	0.104	<0.0002	<0.001	<0.1	High DL removed	65	High DL removed	<0.0005	0.003	<0.02	<0.0002	<0.01	18	0.068	<0.0002	0.018	<0.001		5
W3	13/09/2010	<0.005	0.049	<0.002	0.079	<0.0005	0.0005	0.112	<0.0002	<0.001	<0.1	High DL removed	63	High DL removed	<0.0005	0.004	<0.02	<0.0002	<0.01	17	0.077	<0.0002	0.019	<0.001		5
W3	15/09/2010	<0.005	<0.01	<0.002	0.067	<0.0005	0.0005	0.112	<0.0002	<0.001	<0.1	High DL removed	63	High DL removed	<0.0005	0.003	<0.02	<0.0002	<0.01	18	0.075	<0.0002	0.018	0.001		6
W3	17/09/2010	<0.005	<0.01	<0.002	0.083	<0.0005	0.0005	0.106	<0.0002	<0.001	<0.1	High DL removed	66	High DL removed	<0.0005	0.004	<0.02	<0.0002	<0.01	18	0.073	<0.0002	0.018	<0.001		5
W3	19/09/2010	<0.005	<0.01	<0.002	0.074	<0.0005	0.0005	0.106	<0.0002	<0.001	<0.1	High DL removed	65	High DL removed	<0.0005	0.004	<0.02	<0.0002	<0.01	18	0.071	<0.0002	0.018	<0.001		5
W3	21/09/2010	<0.005	<0.01	<0.002	0.073	<0.0005	<0.0004	0.105	<0.0002	<0.001	<0.1	High DL removed	74	High DL removed	<0.0005	0.004	<0.02	<0.0002	<0.01	18	0.073	<0.0002	0.018	0.005		5
W3	23/09/2010	<0.005	<0.01	<0.002	0.078	<0.0005	<0.0004	0.106	<0.0002	<0.001	<0.1	High DL removed	62	High DL removed	<0.0005	0.005	<0.02	<0.0002	<0.01	18	0.077	<0.0002	0.018	<0.001		6
W3	25/09/2010	<0.005	<0.005	<0.0005	0.073	<0.0005	0.0004	0.106	<0.0001	<0.001	0.055	0.00001	63.9	<0.001	<0.0005	0.0051	0.006	<0.0002	<0.005	18.9	0.086	0.00006	0.019	<0.001		5.79
W3	27/09/2010	<0.005	<0.005	<0.0005	0.069	<0.0005	0.0005	0.105	<0.0001	<0.001	<0.05	0.00002	62.3	<0.001	<0.0005	0.0046	0.005	<0.0002	<0.005	18.8	0.088	<0.00002	0.019	<0.001		5.58
W3	29/09/2010	<0.005	<0.005	<0.0005	0.071	<0.0005	0.0004	0.103	<0.0001	<0.001	0.05	0.00001	62.6	<0.001	<0.0005	0.0046	0.007	<0.0002	<0.005	17.2	0.094	<0.00002	0.018	<0.001		5.36
W3	01/10/2010	<0.005	<0.005	<0.0005	0.061	<0.0005	0.0004	0.092	<0.0001	<0.001	<0.05	0.00001	64.2	<0.001	<0.0005	0.0046	0.005	<0.0002	<0.005	17.6	0.093	0.00004	0.016	<0.001		5.6
W3	03/10/2010	<0.005	<0.005	<0.0005	0.042	<0.0005	0.0004	0.099	<0.0001	<0.001	<0.05	0.00001	63.7	<0.001	<0.0005	0.0034	0.016	<0.0002	<0.005	18.1	0.09	<0.00002	0.015	<0.001		5.15
W3	05/10/2010	<0.005	0.007	<0.0005	0.074	<0.0005	0.0004	0.099	<0.0001	<0.001	<0.05	0.00002	63.4	<0.001	<0.0005	0.0041	0.008	<0.0002	<0.005	17.7	0.078	<0.00002	0.014	<0.001		6.19
W3	07/10/2010	<0.005	<0.005	<0.0005	0.063	<0.0005	0.0004	0.097	<0.0001	<0.001	<0.05	0.00002	63.9	<0.001	<0.0005	0.004	0.007	<0.0002	<0.005	17.5	0.069	<0.00002	0.013	<0.001		5.94
W3	09/10/2010	<0.005	0.005	<0.0005	0.059	<0.0005	0.0004	0.098	<0.0001	<0.001	<0.05	0.00003	81.6	<0.001	<0.0005	0.0043	0.008	<0.0002	<0.005	17.4	0.081	<0.00002	0.015	<0.001		5.74
W3	11/10/2010	<0.005	<0.005	<0.0005	0.049	<0.0005	0.0004	0.101	<0.0001	<0.001	<0.05	0.00002	65.4	<0.001	<0.0005	0.0037	0.049	<0.0002	<0.005	18.4	0.217	<0.00002	0.013	<0.001		5.04
W3	12/10/2010	<0.005	<0.005	<0.0005	0.036	<0.0005	0.0004	0.096	<0.0001	<0.001	<0.05	0.00001	65.2	<0.001	<0.0005	0.003	0.011	<0.0002	<0.005	18.2	0.081	<0.00002	0.01	0.001		5.04
W3	13/10/2010	<0.005	<0.005	<0.0005	0.068	<0.0005	0.0004	0.105	<0.0001	<0.001	<0.05	<0.00001	73.9	<0.001	<0.0005	0.0047	0.009	<0.0002	<0.005	20	0.09	0.00004	0.017	0.001		5.84
W3	15/10/2010	<0.005	<0.005	<0.0005	0.057	<0.0005	0.0004	0.097	<0.0001	<0.001	<0.05	<0.00001	74.1	<0.001	<0.0005	0.0044	0.01	<0.0002	<0.005	20.4	0.095	0.00004	0.017	0.001		5.92
W3	17/10/2010	<0.005	0.046	<0.0005	0.05	<0.0005	0.0004	0.102	<0.0001	<0.001	0.054	0.00001	70.4	<0.001	<0.0005	0.0047	0.011	<0.0002	<0.005	19.7	0.092	<0.00002	0.016	<0.001		5.69
W3	19/10/2010	<0.005	0.006	<0.0005	0.048	<0.0005	0.0003	0.098	<0.0001	<0.001	<0.05	<0.00001	67.9	<0.001	<0.0005	0.0039	0.008	<0.0002	<0.005	19.1	0.089	<0.00002	0.015	<0.001		5.7
W3	20/10/2010	<0.005	0.005	<0.0005																						
W3	21/10/2010	<0.005	0.005	<0.0005	0.064	<0.0005	0.0004	0.104	<0.0001	<0.001	<0.05	<0.00001	73.4	<0.001	<0.0005	0.0028	<0.005	<0.0002	<0.005	21.1	0.095	<0.00002	0.016	0.001		5.53
W3	22/10/2010	<0.005	<0.005	<0.0005	0.059	<0.0005	0.0004	0.103	<0.0001	<0.001	<0.05	<0.00001	73.6	<0.001	<0.0005	0.0026	<0.005	<0.0002	<0.005	20.6	0.093	<0.00002	0.016	<0.001		5.31
W3	23/10/2010	<0.005	<0.005	<0.0005	0.057	<0.0005	0.0004	0.102	<0.0001	<0.001	<0.05	<0.00001	74.2	<0.001	<0.0005	0.0026	<0.005	<0.0002	<0.005	20.5	0.094	<0.00002	0.016	<0.001		5.34
W3	25/10/2010	<0.005	<0.005	<0.0005	0.069	<0.0005	0.0004	0.1	<0.0001	<0.001	<0.05	<0.00001	71900	<0.001	<0.0005	0.0031	<0.005	<0.0002	<0.005	21000	0.091	<0.00002	0.016	<0.001		5.49
W3	26/10/2010	<0.005	<0.005	<0.0005	0.081	<0.0005	0.0004	0.101	<0.0001	<0.001	<0.05	<0.00001	71.9	<0.001	<0.0005	0.0027	0.007	<0.0002	<0.005	20.8	0.088	<0.00002	0.015	<0.001		5.39
W3	27/10/2010	<0.005	<0.005	<0.0005	0.08	<0.0005	0.0004	0.098	<0.0001	<0.001	<0.05	0.00001	70.1	<0.001	<0.0005	0.0029	0.005	<0.0002	<0.005	20.4	0.093	<0.00002	0.015	<0.001		5.39
W3	16/04/2012 17:15	0.0466	0.0859	0.0016	0.0061	<0.00050	0.00036	0.08	<0.00010	<0.0010	<0.05	<0.000010	51.1	<0.0010	<0.00050	0.0108	0.0246	<0.00020	<0.0050	19.1	0.0054	<0.000010	0.0053	<0.0010	0.017	3.78
W3	17/04/2012 17:53																									
W3	18/04/2012 10:15																									
W3	19/04/2012 13:40																									
W3	20/04/2012 15:56																									
W3	21/04/2012 16:19																									
W3	22/04/2012 14:50	<0.0050	<0.0050	<0.00050	0.0129	<0.00050	0.0004	0.0809	<0.00010	<0.0010	<0.05	0.000015	57.9	<0.0010	<0.00050	0.0209	0.0478	<0.00020	<0.0050	18.8	0.0286	<0.000010	0.0053	0.0011	0.012	3.5
W3	23/04/2012 14:32																									
W3	24/04/2012 8:06	<0.0050	<0.0050	<0.00050	0.0138	<0.00050	0.00038	0.0781	<0.00010	<0.0010	<0.05	0.000021	57.8	<0.0010	<0.00050	0.021	0.0487	<0.00020	<0.0050	18.4	0.0279	<0.000010	0.0051	0.0011	0.012	3.42
W3	25/04/2012 11:10																									
W3	26/04/2012	<0.0050	<0.0050	<0.00050	0.0243	<0.00050	0.0004	0.0836	<0.00010	<0.0010	<0.05	0.000021	56	<0.0010	<0.00050	0.0235	0.0593	<0.00020	<0.0050	18.7	0.0321	<0.000010	0.0051	0.0011	0.013	3.43
W3	27/04/2012 13:20																									
W3	28/04/2012 8:30																									
W3	29/04/2012 8:45																									
W3	30/04/2012 10:35																									
W3	01/05/2012 14:10																									
W3	02/05/2012 15:00																									
W3	03/05/2012 10:15																									
W3	07/05/2012	<0.0050	<0.0050	<0.00050	0.0161	<0.00050	0.00033	0.0772	<0.00010	<0.0010	<0.05	0.000015	49.8	<0.0010	<0.00050	0.00756	0.0457	<0.00020	<0.0050	19.3	0.0481	<0.000010	0.0045	0.0011	<0.01	2.63
W3	10/05/2012 16:50																									
W3	21/04/2013 14:00																									
W3	22/04/2013 8:05																									
W3	23/04/2013 8:05																									
W3	26/04/2013 9:15																									
W3	27/04/2013 8:15																									
W3	28/04/2013 9:30																									

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	Br	Cation	CN-T	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-TKN	P-PO4T	P-TDP	P-TRP
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L
W3	29/08/2010	0.0047	4.37	<0.0001	26	1.18	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		4.8												<0.005
W3	30/08/2010	0.0045	4.27	<0.0001	29	1.27	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		5.9												<0.005
W3	31/08/2010	0.0042	4.33	<0.0001	29	1.15	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		4.9												<0.005
W3	01/09/2010	0.0046	4.37	<0.0001	27	1.23	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		5.4												<0.005
W3	02/09/2010	0.0034	4.65	<0.0001	24	1.07	<60	<0.00005	<0.005	<0.01	0.0012	<0.005	High DL removed	<0.002	170	<0.5	<0.5	<0.5		3.2												<0.005
W3	03/09/2010	0.0045	4.32	<0.0001	27	1.24	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		5.5												<0.005
W3	05/09/2010	0.0046	4.38	<0.0001	26	1.23	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		5												<0.005
W3	07/09/2010	0.0026	5.15	<0.0001	23	0.912	<60	<0.00005	<0.005	<0.01	0.0016	<0.005	High DL removed	<0.002	190	<0.5	<0.5	<0.5		1.7												<0.005
W3	08/09/2010	0.0053	3.97	<0.0001	29	1.34	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		5.5												<0.005
W3	09/09/2010	0.0047	4.64	<0.0001	28	1.34	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	140	<0.5	<0.5	<0.5		5.4												<0.005
W3	11/09/2010	0.0051	4.56	<0.0001	28	1.48	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	140	<0.5	<0.5	<0.5		5.9												<0.005
W3	12/09/2010	0.005	4.7	<0.0001	28	1.42	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	140	<0.5	<0.5	<0.5		6.3							9.3					<0.005
W3	13/09/2010	0.0051	4.44	<0.0001	30	1.46	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	140	<0.5	<0.5	<0.5		7												<0.005
W3	15/09/2010	0.0048	4.45	<0.0001	31	1.36	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		6.5												<0.005
W3	17/09/2010	0.0049	4.56	<0.0001	26	1.37	<60	<0.00005	<0.005	<0.01	0.0018	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		6.5												<0.005
W3	19/09/2010	0.0049	4.46	<0.0001	27	1.43	<60	<0.00005	<0.005	<0.01	0.0017	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		6.6												<0.005
W3	21/09/2010	0.0056	5.27	<0.0001	28	1.35	<60	<0.00005	<0.005	<0.01	0.0016	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		6.9												<0.005
W3	23/09/2010	0.0048	4.43	<0.0001	29	1.38	<60	<0.00005	<0.005	<0.01	0.0017	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		7												<0.005
W3	25/09/2010	0.005	4.44	<0.00002	31	1.47	38	<0.00005	<0.005	<0.005	0.0016	<0.005	<0.005	<0.0005	160	<0.5	<0.5	<0.5		5												<0.005
W3	27/09/2010	0.0046	4.14	<0.00002	28.5	1.51	36	<0.00005	<0.005	<0.005	0.0015	<0.005	<0.005	<0.0005	160	<0.5	<0.5	<0.5		5.8												<0.005
W3	29/09/2010	0.0049	4.39	<0.00002	28.4	1.49	36	<0.00005	<0.005	<0.005	0.0014	<0.005	<0.005	<0.0005	160	<0.5	<0.5	<0.5		6.1												<0.005
W3	01/10/2010	0.0049	4.37	<0.00002	29.2	1.33	36	<0.00005	<0.005	<0.005	0.0012	<0.005	<0.005	<0.0005	150	<0.5	<0.5	<0.5		5.9												<0.005
W3	03/10/2010	0.0041	4.6	<0.00002	27.3	1.27	35	<0.00005	<0.005	<0.005	0.0013	<0.005	<0.005	<0.0005	170	<0.5	<0.5	<0.5		4.8												<0.005
W3	05/10/2010	0.0039	4.7	<0.00002	24.3	1.12	31	<0.00005	<0.005	<0.005	0.0013	<0.005	<0.005	<0.0005	180	<0.5	<0.5	<0.5		6.2												<0.005
W3	07/10/2010	0.0037	4.74	<0.00002	23.6	1.06	31	<0.00005	<0.005	<0.005	0.0014	<0.005	<0.005	<0.0005	180	<0.5	<0.5	<0.5		5.7												<0.005
W3	09/10/2010	0.0051	5.88	<0.00002	24.1	1.2	32	<0.00005	<0.005	<0.005	0.0014	<0.005	<0.005	<0.0005	170	<0.5	<0.5	<0.5		5.7												0.018
W3	11/10/2010	0.0035	4.67	<0.00002	22.9	1.16	30	<0.00005	<0.005	<0.005	0.0018	<0.005	<0.005	<0.0005	170	<0.5	<0.5	<0.5		6												<0.005
W3	12/10/2010	0.0028	5	<0.00002	21.2	1.01	28	<0.00005	<0.005	<0.005	0.0021	<0.005	<0.005	<0.0005	190	<0.5	<0.5	<0.5		3.9							9.6					<0.005
W3	13/10/2010	0.0045	5.02	<0.00002	27.8	1.4	36	<0.00005	<0.005	<0.005	0.0019	<0.005	<0.005	<0.0005	180	<0.5	<0.5	<0.5		6.6												<0.005
W3	15/10/2010	0.0045	5.18	<0.00002	29.6	1.42	39	<0.00005	<0.005	<0.005	0.0016	<0.005	<0.005	<0.0005	170	<0.5	<0.5	<0.5		6.3												<0.005
W3	17/10/2010	0.0045	4.4	<0.00002	29.1	1.6	38	<0.00005	<0.005	<0.005	0.0015	<0.005	0.006	<0.0005	170	<0.5	<0.5	<0.5		6.5												0.024
W3	19/10/2010	0.0041	4.57	<0.00002	27.4	1.34	34	<0.00005	<0.005	<0.005	0.0013	<0.005	<0.005	<0.0005	180	<0.5	<0.5	<0.5		5.8												0.024
W3	20/10/2010														180	<0.5	<0.5	<0.5		6.6												0.027
W3	21/10/2010	0.0041	4.43	<0.00002	28.1	1.64	42	<0.00005	<0.005	<0.005	0.0016	<0.005	<0.005	<0.0005	180	<0.5	<0.5	<0.5		6.6												0.023
W3	22/10/2010	0.0041	4.46	<0.00002	27.9	1.62	43	<0.00005	<0.005	<0.005	0.0015	<0.005	<0.005	<0.0005	180	<0.5	<0.5	<0.5		7.3												0.05
W3	23/10/2010	0.0041	4.48	<0.00002	27.9	1.61	42	<0.00005	<0.005	<0.005	0.0016	<0.005	<0.005	<0.0005	180	<0.5	<0.5	<0.5		7.5												0.048
W3	25/10/2010	0.0041	4.49	<0.00002	26.8	1.48	39	<0.00005	<0.005	<0.005	0.0015	<0.005	<0.005	<0.0005	180	<0.5	<0.5	<0.5		6.9												
W3	26/10/2010	0.0041	4.65	<0.00002	27.6	1.54	40	<0.00005	<0.005	<0.005	0.0016	<0.005	<0.005	<0.0005	180	<0.5	<0.5	<0.5		6.6												<0.005
W3	27/10/2010	0.004	4.49	<0.00002	27.9	1.47	39	<0.00005	<0.005	<0.005	0.0016	<0.005	<0.005	<0.0005	180	<0.5	<0.5	<0.5		6.6												<0.005
W3	16/04/2012 17:15	0.00118	4.95	<0.000020	16.1	0.551	17.4	<0.000050	<0.0050	<0.0050	0.00222	<0.0050	<0.0050	<0.00050	217	<0.50	<0.50	<0.50												0.936		
W3	17/04/2012 17:53																															
W3	18/04/2012 10:15																															
W3	19/04/2012 13:40																															
W3	20/04/2012 15:56																															
W3	21/04/2012 16:19																															
W3	22/04/2012 14:50	0.00166	5.61	<0.000020	16.8	0.612	18.8	<0.000050	<0.0050	<0.0050	0.00177	<0.0050	<0.0050	<0.00050	215	<0.50	<0.50	<0.50												0.0175		
W3	23/04/2012 14:32																															
W3	24/04/2012 8:06	0.00162	5.53	<0.000020	16.4	0.587	18.3	<0.000050	<0.0050	<0.0050	0.00174	<0.0050	<0.0050	<0.00050	221	<0.50	<0.50	<0.50									14.8			0.0195		
W3	25/04/2012 11:10																															
W3	26/04/2012	0.00159	5.31	<0.000020	16.7	0.626	17.1	<0.000050	<0.0050	<0.0050	0.00186	<0.0050	<0.0050	<0.00050	212	<0.50	<0.50	<0.50									15.4			0.0194		
W3	27/04/2012 13:20																															
W3	28/04/2012 8:30																															
W3	29/04/2012 8:45																															
W3	30/04/2012 10:35																															
W3	01/05/2012 14:10																															
W3	02/05/2012 15:00																															
W3	03/05/2012 10:15																															
W3	07/05/2012	0.00063	5.6	<0.000020	15.7	0.561	16	<0.000050	<0.0050	<0.0050	0.00242	<0.0050	<0.0050	<0.00050	225	<0.50	<0.50	<0.50												0.0165		
W3	10/05/2012 16:50																															
W3	21/04/2013 14:00																															
W3	22/04/2013 8:05																															
W3	23/04/2013 8:05																															
W3	26/04/2013 9:15																															
W3	27/04/2013 8:15																															
W3	28/04/2013 9:30																															

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W3	29/08/2010					0.5	-0.4
W3	30/08/2010					0.5	-1.3
W3	31/08/2010					0.4	-1.6
W3	01/09/2010					0.5	-3.7
W3	02/09/2010					0.4	-3.7
W3	03/09/2010	0.005				0.4	-3.9
W3	05/09/2010					0.3	-3.9
W3	07/09/2010					1.1	-4
W3	08/09/2010	<0.005				0.7	-3.7
W3	09/09/2010					0.4	-3.5
W3	11/09/2010					0.6	-1.5
W3	12/09/2010	<0.005				0.6	1.6
W3	13/09/2010					0.4	-1.7
W3	15/09/2010	<0.005				0.3	-2.8
W3	17/09/2010					0.3	-3.7
W3	19/09/2010					0.3	-3.4
W3	21/09/2010					0.3	-3.7
W3	23/09/2010	0.01				0.3	-3.4
W3	25/09/2010					0.3	-3.6
W3	27/09/2010					0.3	-3.6
W3	29/09/2010	0.008				0.3	-3.8
W3	01/10/2010					0.5	
W3	03/10/2010					0.6	
W3	05/10/2010					0.35	-3.6
W3	07/10/2010	<0.005				0.4	-3.4
W3	09/10/2010					0.3	-3.7
W3	11/10/2010					0.2	-3.6
W3	12/10/2010	<0.005				1.1	-3.2
W3	13/10/2010					0.3	-3.7
W3	15/10/2010					0.2	-3.8
W3	17/10/2010					0.2	
W3	19/10/2010					0.2	
W3	20/10/2010					0.2	
W3	21/10/2010					0.3	
W3	22/10/2010	<0.005				0.2	
W3	23/10/2010					0.4	
W3	25/10/2010					0.2	
W3	26/10/2010					0.2	
W3	27/10/2010					0.2	-3.9
W3	16/04/2012 17:15			476.5			
W3	17/04/2012 17:53			481.4			
W3	18/04/2012 10:15			519.1			
W3	19/04/2012 13:40			514.4			
W3	20/04/2012 15:56			586.5			
W3	21/04/2012 16:19			508.4			
W3	22/04/2012 14:50			495.3			
W3	23/04/2012 14:32			495.9			
W3	24/04/2012 8:06			488.9			
W3	25/04/2012 11:10			192.7			
W3	26/04/2012			484.3			
W3	27/04/2012 13:20			470.5			
W3	28/04/2012 8:30			454			
W3	29/04/2012 8:45			480.3			
W3	30/04/2012 10:35			477.4			
W3	01/05/2012 14:10			437.3			
W3	02/05/2012 15:00			471.9			
W3	03/05/2012 10:15			495.2			
W3	07/05/2012			399.5			
W3	10/05/2012 16:50			459.3			
W3	21/04/2013 14:00			431.4			
W3	22/04/2013 8:05			439.3			
W3	23/04/2013 8:05			486.7			
W3	26/04/2013 9:15			487.1			
W3	27/04/2013 8:15			481.3			
W3	28/04/2013 9:30			462.2			

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Phase	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
				mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	29/04/2013 8:05	Discharge	P			8.2		229.2		0.9		104.3	-51.6																
W3	30/04/2013 8:05	Discharge	M			8.17		227.9		1.1		103.3	-101.2																
W3	30/04/2013 20:30	Discharge	P	5.3	292	8.61	8.28	226.6	450	1.2		122.3	2.9	213	207	182	5.7	0.31	41.9	0.02	0.0074	2.61	7.99	0.167	<0.00050	0.00035	0.0769	<0.00010	<0.0010
W3	01/05/2013 15:30	Discharge	P			7.99		228.1		1.2		86.3	-89.6																
W3	02/05/2013 8:00	Discharge	P	<4.0	240	8	8.27	224.2	446	1.1			-96.5	228		177				0.019	0.0078	2.58		0.169	<0.00050	0.00033	0.0832	<0.00010	<0.0010
W3	04/05/2013 9:35	Discharge	P			7.86		205.1		1.4		101	-17.7																
W3	05/05/2013 9:50	Discharge	P			7.85		205.6		1.3		104.3	-20																
W3	06/05/2013 7:30	Discharge	P			8.17		202.6		1.1		104.1	17.6																
W3	07/05/2013 9:40	Discharge	P			8.04		230		1.2	12.9	91	39																
W3	08/05/2013 7:50	Discharge	P			7.91		225		1.1	12.92	91.1	2.4																
W3	09/05/2013 8:45	Discharge	P	8.3	250	7.93	8.09	211.8	402	1.2	12.76	91.5	53.5	188	183	152	9.7	0.27	38.2	0.032	0.0167	10.8	14.8	0.297	<0.00050	0.00038	0.0748	<0.00010	<0.0010
W3	10/05/2013 8:45	Discharge	P			7.97		195		1.2	13.05	92.3	9																
W3	11/05/2013 9:00	Discharge	P			8		206.4		1.2	13.08	91.9	3.5																
W3	12/05/2013 9:15	Discharge	P			7.5		91.1		1.2	13.08	91.7	-0.3																
W3	13/05/2013 8:40	Discharge	P			7.35		112.9		0.9	12.43	87.5	67																
W3	14/05/2013 10:50	Discharge	P	21.2	138	5.03	7.74	75.6	143	1.6	11.6	82.5	133.2	74		54.9				0.083	0.0195	0.785		2.26	<0.00050	0.00112	0.0685	<0.00010	<0.0010
W3	15/05/2013 11:10	Discharge	P			8		144.6		1.5	11.58	82.9	95.2																
W3	16/05/2013 9:00	Discharge	P			7.75		79.5		0.1		89.9	54.7																
W3	17/05/2013 7:25	Discharge	P			8.2		87.1		0.8		86.7	14.9																
W3	18/05/2013 8:30	Discharge	P			7.99		129.6		1.9	12.49	88.7	51.8																
W3	19/05/2013 10:40	Discharge	P			8.3		161.7		1.3		88.6	45.7																
W3	20/05/2013 7:45	Discharge	P			7.46		70.2		1.7	12.46	90.1	29.2																
W3	21/05/2013 8:40	Discharge	P	30	124	7.27	7.71	66.7	128	2.1	12.44	90.3	38.7	62.3	56.5	45.9	4.3	0.12	<0.50	0.034	0.0223	0.808	17.4	1.22	<0.00050	0.00077	0.0566	<0.00010	<0.0010
W3	22/05/2013	Discharge	P	19.6	126	8.1	7.72		136	3.5				62	60.3	49.5	4.7	0.12	<0.50	0.034	0.029	0.691		1.14	<0.00050	0.00066	0.052	<0.00010	<0.0010
W3	03/04/2014 7:30	Discharge	P			7.75		236.1		0.7	14.91	104	90.5																
W3	04/04/2014 8:05	Discharge	P			7.8		217.7		1.4	17.08	121.3	116.6																
W3	05/04/2014 8:25	Discharge	P			7.91		220.4		1.5	11.64	83.2	137.2																
W3	06/04/2014 8:15	Discharge	P			7.86		232		0.4	12.6	87.6	86.1																
W3	07/04/2014 6:45	Discharge	P	14.2	268	7.91	7.94	222.2	437	1.8	12.91	92.9	118.2	209	209	172	10	0.31	34	0.066	0.0097	0.601	12	0.305	<0.00050	0.00045	0.0793	<0.00010	<0.0010
W3	08/04/2014 7:20	Discharge	P			7.82		216.3		1.9	12.69	91.6	104.3																
W3	09/04/2014 7:45	Discharge	P			7.85		229.1		1.8	12.8	92.3	116.1																
W3	10/04/2014 8:50	Discharge	P			7.9		246.1		1.7	12.94	92.7	220.5																
W3	11/04/2014 8:30	Discharge	P			7.97		246.5		1.6	13.26	94.8	104																
W3	12/04/2014 13:05	Discharge	P			8.02		250.1		2	12.95	93.6	103																
W3	13/04/2014 8:30	Discharge	P			7.92		250.5		1.8	13.07	94.1	80.6																
W3	14/04/2014 8:40	Discharge	P			7.95		254.8		1.1	12.37	87.4	91.8																
W3	15/04/2014 8:30	Discharge	P			7.96		259.2		0.8	12.39	86.8	78.1																
W3	16/04/2014 8:30	Discharge	P			7.97		256.5		1.9	12.79	92.2	109.6																
W3	17/04/2014 8:45	Discharge	P	13	272		8.21		463					201	208	185	11	0.31	37.1	0.13	0.0124	0.95	9.23	0.48	<0.00050	0.00045	0.0768	<0.00010	<0.0010
W3	18/04/2014 9:15	Discharge	P			8.01		251.3		2	12.65	91.4	101.9																
W3	19/04/2014 8:30	Discharge	P			7.93		251.3		0.9	12.41	87	90.9																
W3	20/04/2014 8:40	Discharge	P			7.98		250.3		1.7	12.97	93.5	105.7																
W3	21/04/2014 8:00	Discharge	M			7.99		234.5		1.9	12.98	93.7	142.2																
W3	21/04/2014 8:00	Discharge	P			8.13		271.3		2	13.4	97	242.6																
W3	21/04/2014 13:30	Discharge	P	13	264		8.21		439					190	196	176	11	0.32	34.7	0.11	0.0117	0.977	9.74	0.514	<0.00050	0.00045	0.0751	<0.00010	<0.0010
W3	22/04/2014 8:00	Discharge	P			8.1		301.8		1.7	12.84	92.3	125.9																
W3	23/04/2014 9:40	Discharge	P			7.82		143.1		0.8	12.35	86.6	133.4																
W3	24/04/2014 10:00	Discharge	P			7.96		221.8		1.7	12.7	91.9	172																
W3	25/04/2014 9:30	Discharge	P			7.95		207.1		1.9	13.1	94.5	114.2																
W3	26/04/2014 8:45	Discharge	P			7.95		226		1.8	12.88	92.8	151.4																
W3	27/04/2014 8:45	Discharge	P			7.86		212		1.8	12.16	87.8	127.1																
W3	28/04/2014 8:30	Discharge	P	12.9	214		8.15		322					138	131	116	6.9	0.29	30.6	0.13	0.0138	1.66	11.8	0.699	<0.00050	0.00062	0.0644	<0.00010	<0.0010
W3	29/04/2014 8:15	Discharge	P			8.25		208.7		2	15.82	115.7	101.4																
W3	30/04/2014 8:00	Discharge	P			8.22		183.8		2.3	12.87	93.9	207.7																
W3	01/05/2014 8:10	Discharge	P			8.44		183.6		2.5	13.03	95.5	139.4																
W3	02/05/2014 8:15	Discharge	P			8.21		135.2		2.6	13	95.6	224.5																
W3	03/05/2014 8:00	Discharge	P			8.27		211.2		3	12.76	94.7	98.6																
W3	04/05/2014 8:00	Discharge	P			8		128		2.9	12.74	94.5	116.5																
W3	05/05/2014 6:45	Discharge	P	6.5	218	8.16	8.13	181.4	334	2.4	12.13	88.7	75.9	153	148	136	5	0.3	28.9	0.041	0.0062	0.743	15.8	0.248	<0.00050	0.0004	0.0671	<0.00010	<0.0010
W3	06/05/2014 7:25	Discharge	P			7.97		200.2		2.6	13.35	98.1	131.1																
W3	07/05/2014 7:50	Discharge	P			8.19		127.6		4.1	11.87	90.8	81.2																
W3	08/05/2014 8:20	Discharge	P			8.08		123.3		4.8	12.3	95	61.2																
W3	09/05/2014 9:00	Discharge	P			8.16		131.5		5.6	12.02	95.8	79.5																
W3	10/05/2014 10:15	Discharge	P			8.21		151.7		5.6	13.43	105.4	159.2																
W3	11/05/2014 8:35	Discharge	P	5.9		8.15	8.05	155.9		5.7	12.1	96.3	80.9	107						0.088	0.034	1.8		0.257	<0.00050	0.00046	0.0526	<0.00010	<0.0010

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	29/04/2013 8:05																										
W3	30/04/2013 8:05																										
W3	30/04/2013 20:30	<0.05	<0.000010	55	<0.0010	<0.00050	0.0197	0.284	<0.00020	<0.0050	18.4	0.0521	<0.000010	0.0041	<0.0010	0.017	2.87	0.00069	4.67	<0.000020	15.5	0.556	14	<0.000050	<0.0050	0.0066	0.00167
W3	01/05/2013 15:30																										
W3	02/05/2013 8:00	<0.05	<0.000010	57.6	<0.0010	<0.00050	0.0205	0.282	<0.00020	<0.0050	20.3	0.0525	<0.000010	0.0044	<0.0010	0.016	3.17	0.00067	4.37	<0.000020	17.6	0.587	14.6	<0.000050	<0.0050	0.0104	0.00193
W3	04/05/2013 9:35																										
W3	05/05/2013 9:50																										
W3	06/05/2013 7:30																										
W3	07/05/2013 9:40																										
W3	08/05/2013 7:50																										
W3	09/05/2013 8:45	<0.05	0.000012	48.5	<0.0010	<0.00050	0.0265	0.489	<0.00020	<0.0050	16.1	0.0897	<0.000010	0.0035	0.0012	0.041	2.98	0.00073	4.78	<0.000020	13.3	0.497	14.6	<0.000050	<0.0050	0.0152	0.00145
W3	10/05/2013 8:45																										
W3	11/05/2013 9:00																										
W3	12/05/2013 9:15																										
W3	13/05/2013 8:40																										
W3	14/05/2013 10:50	<0.05	0.000035	19.7	0.0026	0.00122	0.0822	3.32	0.00087	<0.0050	6.03	0.126	0.00001	0.0018	0.0032	0.078	2.28	0.00041	7.61	0.000021	4.95	0.194	<3.0	<0.000050	<0.0050	0.0953	0.00051
W3	15/05/2013 11:10																										
W3	16/05/2013 9:00																										
W3	17/05/2013 7:25																										
W3	18/05/2013 8:30																										
W3	19/05/2013 10:40																										
W3	20/05/2013 7:45																										
W3	21/05/2013 8:40	<0.05	0.000031	16.4	0.0014	0.00076	0.0533	1.92	0.00083	<0.0050	5.2	0.111	<0.000010	0.0015	0.0022	0.072	2.03	0.00015	4.74	0.000022	5.05	0.168	<3.0	<0.000050	<0.0050	0.045	0.00042
W3	22/05/2013	<0.05	0.000017	16.5	0.0012	0.00061	0.0578	1.58	0.00043	<0.0050	5.05	0.0835	<0.000010	0.0017	0.0021	0.062	1.92	0.00034	4.67	<0.000020	5.54	0.178	<3.0	<0.000050	<0.0050	0.0397	0.00034
W3	03/04/2014 7:30																										
W3	04/04/2014 8:05																										
W3	05/04/2014 8:25																										
W3	06/04/2014 8:15																										
W3	07/04/2014 6:45	<0.05	0.000013	54.2	<0.0010	<0.00050	0.0176	0.563	<0.00020	<0.0050	17.9	0.105	<0.000010	0.0042	0.0016	0.027	3.11	0.00053	5.99	<0.000020	13.8	0.578	11.4	<0.000050	<0.0050	0.0158	0.00147
W3	08/04/2014 7:20																										
W3	09/04/2014 7:45																										
W3	10/04/2014 8:50																										
W3	11/04/2014 8:30																										
W3	12/04/2014 13:05																										
W3	13/04/2014 8:30																										
W3	14/04/2014 8:40																										
W3	15/04/2014 8:30																										
W3	16/04/2014 8:30																										
W3	17/04/2014 8:45	<0.05	0.000019	51.3	<0.0010	<0.00050	0.0445	0.833	0.00023	<0.0050	17.8	0.147	<0.000010	0.0043	0.0013	0.025	3.11	0.00066	5.71	<0.000020	14	0.6	10.3	<0.000050	<0.0050	0.0303	0.0013
W3	18/04/2014 9:15																										
W3	19/04/2014 8:30																										
W3	20/04/2014 8:40																										
W3	21/04/2014 8:00																										
W3	21/04/2014 8:00																										
W3	21/04/2014 13:30	<0.05	0.000015	48.6	<0.0010	<0.00050	0.0481	0.79	0.00021	<0.0050	16.8	0.151	<0.000010	0.0043	0.0014	0.026	3.23	0.00076	5.62	<0.000020	13.7	0.576	9.9	<0.000050	<0.0050	0.0261	0.00121
W3	22/04/2014 8:00																										
W3	23/04/2014 9:40																										
W3	24/04/2014 10:00																										
W3	25/04/2014 9:30																										
W3	26/04/2014 8:45																										
W3	27/04/2014 8:45																										
W3	28/04/2014 8:30	<0.05	0.000014	35.7	<0.0010	<0.00050	0.0476	0.994	0.00027	<0.0050	12	0.0995	<0.000010	0.0056	0.0018	0.04	4.16	0.00085	4.98	<0.000020	13.2	0.64	10.3	<0.000050	<0.0050	0.0323	0.00082
W3	29/04/2014 8:15																										
W3	30/04/2014 8:00																										
W3	01/05/2014 8:10																										
W3	02/05/2014 8:15																										
W3	03/05/2014 8:00																										
W3	04/05/2014 8:00																										
W3	05/05/2014 6:45	<0.05	0.000014	37	<0.0010	<0.00050	0.0184	0.359	<0.00020	<0.0050	14.7	0.0555	<0.000010	0.0046	0.0016	0.022	2.71	0.00027	4.75	<0.000020	11.4	0.608	8.1	<0.000050	<0.0050	0.0113	0.00157
W3	06/05/2014 7:25																										
W3	07/05/2014 7:50																										
W3	08/05/2014 8:20																										
W3	09/05/2014 9:00																										
W3	10/05/2014 10:15																										
W3	11/05/2014 8:35	<0.05	0.000016	28.2	<0.0010	<0.00050	0.0408	0.525	<0.00020	<0.0050	8.8	0.1	<0.000010	0.0036	0.0016	0.036	3.46	0.0007	3.3	<0.000020	8.25	0.574	9.5	<0.000050	<0.0050	0.0114	0.00064

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	29/04/2013 8:05																									
W3	30/04/2013 8:05																									
W3	30/04/2013 20:30	<0.0050	<0.0050	<0.00050	0.005	<0.00050	0.00031	0.0739	<0.00010	<0.0010	<0.05	<0.000010	53.8	<0.0010	<0.00050	0.0137	0.0226	<0.00020	<0.0050	17.7	0.0081	<0.000010	0.004	<0.0010	<0.01	2.87
W3	01/05/2013 15:30																									
W3	02/05/2013 8:00	<0.0050	<0.0050	<0.00050																						
W3	04/05/2013 9:35																									
W3	05/05/2013 9:50																									
W3	06/05/2013 7:30																									
W3	07/05/2013 9:40																									
W3	08/05/2013 7:50																									
W3	09/05/2013 8:45	<0.0050	<0.0050	<0.00050	0.0153	<0.00050	0.00031	0.0694	<0.00010	<0.0010	<0.05	<0.000010	47.8	<0.0010	<0.00050	0.0186	0.0855	<0.00020	<0.0050	15.5	0.0439	<0.000010	0.0033	<0.0010	0.012	2.97
W3	10/05/2013 8:45																									
W3	11/05/2013 9:00																									
W3	12/05/2013 9:15																									
W3	13/05/2013 8:40																									
W3	14/05/2013 10:50	0.0071	0.0104	0.00085																						
W3	15/05/2013 11:10																									
W3	16/05/2013 9:00																									
W3	17/05/2013 7:25																									
W3	18/05/2013 8:30																									
W3	19/05/2013 10:40																									
W3	20/05/2013 7:45																									
W3	21/05/2013 8:40	<0.0050	0.0068	0.00051	0.057	<0.0020	<0.00040	0.0321	<0.00040	<0.0040	<0.2	High DL removed	15.4	High DL removed	<0.0020	0.0315	0.189	High DL removed	<0.02	4.38	0.0194	<0.000010	<0.0040	High DL removed	<0.04	1.55
W3	22/05/2013	<0.0050	0.0062	<0.00050	0.0583	<0.00050	0.00028	0.0362	<0.00010	<0.0010	<0.05	0.000013	16	<0.0010	<0.00050	0.0313	0.157	<0.00020	<0.0050	4.97	0.0197	<0.000010	0.0015	0.001	0.021	1.81
W3	03/04/2014 7:30																									
W3	04/04/2014 8:05																									
W3	05/04/2014 8:25																									
W3	06/04/2014 8:15																									
W3	07/04/2014 6:45	<0.0050	0.0058	<0.00050	0.0034	<0.00050	0.00041	0.0708	<0.00010	<0.0010	<0.05	<0.000010	55	<0.0010	<0.00050	0.0104	0.0287	<0.00020	<0.0050	17.3	0.0082	0.000014	0.0045	0.0011	<0.01	3.08
W3	08/04/2014 7:20																									
W3	09/04/2014 7:45																									
W3	10/04/2014 8:50																									
W3	11/04/2014 8:30																									
W3	12/04/2014 13:05																									
W3	13/04/2014 8:30																									
W3	14/04/2014 8:40																									
W3	15/04/2014 8:30																									
W3	16/04/2014 8:30																									
W3	17/04/2014 8:45	<0.0050	0.0059	<0.00050	0.0056	<0.00050	0.00038	0.076	<0.00010	<0.0010	<0.05	0.000013	54.5	<0.0010	<0.00050	0.0183	0.049	<0.00020	<0.0050	17.5	0.0929	<0.000010	0.0044	<0.0010	<0.01	3.37
W3	18/04/2014 9:15																									
W3	19/04/2014 8:30																									
W3	20/04/2014 8:40																									
W3	21/04/2014 8:00																									
W3	21/04/2014 8:00																									
W3	21/04/2014 13:30	<0.0050	0.0055	<0.00050	0.0055	<0.00050	0.00035	0.0724	<0.00010	<0.0010	<0.05	0.000015	51.3	<0.0010	<0.00050	0.0216	0.0443	<0.00020	<0.0050	16.5	0.107	<0.000010	0.0046	<0.0010	<0.01	3.34
W3	22/04/2014 8:00																									
W3	23/04/2014 9:40																									
W3	24/04/2014 10:00																									
W3	25/04/2014 9:30																									
W3	26/04/2014 8:45																									
W3	27/04/2014 8:45																									
W3	28/04/2014 8:30	<0.0050	0.0063	<0.00050	0.016	<0.00050	0.00033	0.0554	<0.00010	<0.0010	<0.05	0.000011	34.5	<0.0010	<0.00050	0.0227	0.0714	<0.00020	<0.0050	10.9	0.0587	<0.000010	0.0052	<0.0010	0.012	3.83
W3	29/04/2014 8:15																									
W3	30/04/2014 8:00																									
W3	01/05/2014 8:10																									
W3	02/05/2014 8:15																									
W3	03/05/2014 8:00																									
W3	04/05/2014 8:00																									
W3	05/05/2014 6:45	<0.0050	<0.0050	<0.00050	0.0209	<0.00050	0.00031	0.06	<0.00010	<0.0010	<0.05	0.000012	36.7	<0.0010	<0.00050	0.014	0.0765	<0.00020	<0.0050	13.6	0.0296	<0.000010	0.0041	0.0012	0.013	2.68
W3	06/05/2014 7:25																									
W3	07/05/2014 7:50																									
W3	08/05/2014 8:20																									
W3	09/05/2014 9:00																									
W3	10/05/2014 10:15																									
W3	11/05/2014 8:35	<0.0050	0.0108	<0.00050																						

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	Br	Cation	CN-T	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-TKN	P-PO4T	P-TDP	P-TRP
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L
W3	29/04/2013 8:05																															
W3	30/04/2013 8:05																															
W3	30/04/2013 20:30	0.00075	4.15	<0.000020	15.5	0.568	14.5	<0.000050	<0.0050	<0.0050	0.00173	<0.0050	<0.0050	<0.00050	222	<0.50	<0.50	<0.50									8.18					
W3	01/05/2013 15:30																															
W3	02/05/2013 8:00														216	<0.50	<0.50	<0.50														
W3	04/05/2013 9:35																															
W3	05/05/2013 9:50																															
W3	06/05/2013 7:30																															
W3	07/05/2013 9:40																															
W3	08/05/2013 7:50																															
W3	09/05/2013 8:45	0.00063	4.03	<0.000020	13.3	0.496	12	<0.000050	<0.0050	<0.0050	0.00139	<0.0050	<0.0050	<0.00050	185	<0.50	<0.50	<0.50														
W3	10/05/2013 8:45																															
W3	11/05/2013 9:00																															
W3	12/05/2013 9:15																															
W3	13/05/2013 8:40																															
W3	14/05/2013 10:50														67	<0.50	<0.50	<0.50														
W3	15/05/2013 11:10																															
W3	16/05/2013 9:00																															
W3	17/05/2013 7:25																															
W3	18/05/2013 8:30																															
W3	19/05/2013 10:40																															
W3	20/05/2013 7:45																															
W3	21/05/2013 8:40	<0.00040	2.25	<0.000080	5.32	0.165	1940	<0.00020	<0.02	<0.02	<0.00040	<0.02	High DL removed	<0.0020	56	<0.50	<0.50	<0.50														
W3	22/05/2013	0.00024	2.33	<0.000020	5.5	0.172	3.1	<0.000050	<0.0050	<0.0050	0.00029	<0.0050	<0.0050	<0.00050	60.4	<0.50	<0.50	<0.50														
W3	03/04/2014 7:30																															
W3	04/04/2014 8:05																															
W3	05/04/2014 8:25																															
W3	06/04/2014 8:15																															
W3	07/04/2014 6:45	0.00047	4.81	<0.000020	13.9	0.564	11.9	<0.000050	<0.0050	<0.0050	0.00143	<0.0050	<0.0050	<0.00050	210	<0.50	<0.50	<0.50														
W3	08/04/2014 7:20																															
W3	09/04/2014 7:45																															
W3	10/04/2014 8:50																															
W3	11/04/2014 8:30																															
W3	12/04/2014 13:05																															
W3	13/04/2014 8:30																															
W3	14/04/2014 8:40																															
W3	15/04/2014 8:30																															
W3	16/04/2014 8:30																															
W3	17/04/2014 8:45	0.00052	5.12	<0.000020	14.2	0.644	13.1	<0.000050	<0.0050	<0.0050	0.00136	<0.0050	<0.0050	<0.00050	226	<0.50	<0.50	<0.50														
W3	18/04/2014 9:15																															
W3	19/04/2014 8:30																															
W3	20/04/2014 8:40																															
W3	21/04/2014 8:00																															
W3	21/04/2014 8:00																															
W3	21/04/2014 13:30	0.0006	4.85	<0.000020	13.9	0.631	12	<0.000050	<0.0050	<0.0050	0.00128	<0.0050	<0.0050	<0.00050	215	<0.50	<0.50	<0.50														
W3	22/04/2014 8:00																															
W3	23/04/2014 9:40																															
W3	24/04/2014 10:00																															
W3	25/04/2014 9:30																															
W3	26/04/2014 8:45																															
W3	27/04/2014 8:45																															
W3	28/04/2014 8:30	0.00077	3.47	<0.000020	12.7	0.65	11	<0.000050	<0.0050	<0.0050	0.00077	<0.0050	<0.0050	<0.00050	141	<0.50	<0.50	<0.50														
W3	29/04/2014 8:15																															
W3	30/04/2014 8:00																															
W3	01/05/2014 8:10																															
W3	02/05/2014 8:15																															
W3	03/05/2014 8:00																															
W3	04/05/2014 8:00																															
W3	05/05/2014 6:45	0.00044	4.27	<0.000020	10.9	0.554	9.9	<0.000050	<0.0050	<0.0050	0.00132	<0.0050	<0.0050	<0.00050	167	<0.50	<0.50	<0.50														
W3	06/05/2014 7:25																															
W3	07/05/2014 7:50																															
W3	08/05/2014 8:20																															
W3	09/05/2014 9:00																															
W3	10/05/2014 10:15																															
W3	11/05/2014 8:35																															

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W3	29/04/2013 8:05			424.1			
W3	30/04/2013 8:05			419.6			
W3	30/04/2013 20:30			410.5			
W3	01/05/2013 15:30			417.1			
W3	02/05/2013 8:00			413.6			
W3	04/05/2013 9:35			375.6			
W3	05/05/2013 9:50			376.1			
W3	06/05/2013 7:30			372.6			
W3	07/05/2013 9:40			423.4			
W3	08/05/2013 7:50			415			
W3	09/05/2013 8:45			398.2			
W3	10/05/2013 8:45			360.3			
W3	11/05/2013 9:00			379.2			
W3	12/05/2013 9:15			159.8			
W3	13/05/2013 8:40			223.7			
W3	14/05/2013 10:50			137.1			
W3	15/05/2013 11:10			262.4			
W3	16/05/2013 9:00			14.8			
W3	17/05/2013 7:25			162.2			
W3	18/05/2013 8:30			230.5			
W3	19/05/2013 10:40			294.6			
W3	20/05/2013 7:45			126.6			
W3	21/05/2013 8:40			118.3			
W3	22/05/2013						
W3	03/04/2014 7:30			440.7			
W3	04/04/2014 8:05			396.9			
W3	05/04/2014 8:25			399.8			
W3	06/04/2014 8:15			437.1			
W3	07/04/2014 6:45			399.6			
W3	08/04/2014 7:20			385.5			
W3	09/04/2014 7:45			401.3			
W3	10/04/2014 8:50			443.8			
W3	11/04/2014 8:30			444.2			
W3	12/04/2014 13:05			447.2			
W3	13/04/2014 8:30			449.9			
W3	14/04/2014 8:40			467.5			
W3	15/04/2014 8:30			481.7			
W3	16/04/2014 8:30			459.3			
W3	17/04/2014 8:45						
W3	18/04/2014 9:15			448.9			
W3	19/04/2014 8:30			466.5			
W3	20/04/2014 8:40			449.6			
W3	21/04/2014 8:00			415.9			
W3	21/04/2014 8:00			483			
W3	21/04/2014 13:30						
W3	22/04/2014 8:00			542.9			
W3	23/04/2014 9:40			267.2			
W3	24/04/2014 10:00			396.6			
W3	25/04/2014 9:30			367.7			
W3	26/04/2014 8:45			405.7			
W3	27/04/2014 8:45			380.6			
W3	28/04/2014 8:30						
W3	29/04/2014 8:15			372			
W3	30/04/2014 8:00			323.6			
W3	01/05/2014 8:10			321.2			
W3	02/05/2014 8:15			236			
W3	03/05/2014 8:00			355.7			
W3	04/05/2014 8:00			220.9			
W3	05/05/2014 6:45			324.8			
W3	06/05/2014 7:25			350.2			
W3	07/05/2014 7:50			211.6			
W3	08/05/2014 8:20			202			
W3	09/05/2014 9:00			208.5			
W3	10/05/2014 10:15			242.2			
W3	11/05/2014 8:35			249.4			

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Phase	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
				mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	12/05/2014 8:45	Discharge	P			8.25		252.1		2.8	14.24	105.1	100.9																
W3	13/05/2014 9:40	Discharge	P			8.02		202.6		4.3	12.36	95.4	82.1																
W3	14/05/2014 9:35	Discharge	P	15.6	208	8.16	7.96	186.6	290	6.2	11.58	94.1	118.5	133	123	99.2	4.9	0.26	32.9	0.15	0.0314	1.75	17.1	0.543	<0.00050	0.00067	0.0628	<0.00010	<0.0010
W3	15/05/2014 8:45	Discharge	P			8.16		185.8		6.5	11.61	95.3	103.9																
W3	16/05/2014 9:40	Discharge	P			7.2		321		7.3																			
W3	17/05/2014 8:30	Discharge	P	9.3	230	7.22	7.98	264.3	317	6.2	11.35	91.6	121.8	128		113				0.051	0.0304	1.85		0.312	<0.00050	0.00045	0.0624	<0.00010	<0.0010
W3	18/05/2014 9:05	Discharge	P			7.34		219.7		6.4	11.59	94.1	103.7																
W3	19/05/2014 9:45	Discharge	P			7.34		244.6		6.6	10.86	88.5	92.3																
W3	20/05/2014 8:30	Discharge	P			7.26		209.4		5.1	12.2	95.9	121.1																
W3	21/05/2014 7:35	Discharge	P			7.23		209.8		5.6	11.6	92.5	116.3																
W3	22/05/2014 7:30	Discharge	P	14	224	7.4	7.82	208.5	309	5.6	11.6	92.3	96	136	135	95.4	5.3	0.27	40.7	0.17	0.0351	3.22	17.9	1.02	<0.00050	0.00086	0.0808	<0.00010	<0.0010
W3	23/05/2014 7:45	Discharge	P			7.5		224.6		6.4	11.33	89.8	84																
W3	24/05/2014 7:45	Discharge	P			7.52		226.3		5.7	11.51	91.8	128.2																
W3	25/05/2014 8:15	Discharge	P			7.4		235.8		6.5	11.3	92	120.7																
W3	26/05/2014 8:15	Discharge	P	14.6	224	7.5	7.96	242.5	361	6.9	11.37	93.4	131.5	158	155	113	5.3	0.61	44	0.18	0.0287	2.69	15.7	0.524	<0.00050	0.0008	0.0859	<0.00010	<0.0010
W3	08/12/2014 8:15	Discharge	M			7.72		292.3		-0.8	13.53	91.5	166.1																
W3	09/12/2014 7:00	Discharge	P	6.4	308	7.98	8.03	287.5	496	1.1	13.56	96.8	42.6	227	215	152	7.5	0.44	89.2	0.09	0.0207	2.89	7.1	0.102	<0.00050	0.00043	0.0808	<0.00010	<0.0010
W3	10/12/2014 7:25	Discharge	M			7.79		278.8		1.3	12.92	91.7	72.2																
W3	11/12/2014 8:15	Discharge	M			7.66		278.7		1.3	13.73	97.3	126.5																
W3	12/12/2014 8:20	Discharge	M			7.93		281.9		1.3	13.04	96.7	248.3																
W3	13/12/2014 8:40	Discharge	M			7.83		284.8		1.2	13.79	97.7	131.2																
W3	14/12/2014 8:00	Discharge	M			7.85		292.3		1.2	15.92	113	211.7																
W3	15/12/2014 8:50	Discharge	P	1.5	312	7.82	7.96	285.7	500	1.3		87.2	211.0	213	210	143	7.5	0.43	88.9	0.074	0.0209	2.99	6.63	0.0291	<0.00050	0.00031	0.0744	<0.00010	<0.0010
W3	16/12/2014 9:30	Discharge	P	1.7	308	7.83	7.87	249.6	501	1.2	11.73	83	131.4	208	219	142	7.4	0.43	92.7	0.068	0.019	3.16	6.43	0.0283	<0.00050	0.0003	0.0735	<0.00010	<0.0010
W3	04/04/2015 7:15	Discharge	P			7.6		270.1		0	10.12	69.7	75.7																
W3	05/04/2015 7:20	Discharge	P			7.93		271		1.8	16.67	119.8	110																
W3	06/04/2015 7:15	Discharge	P	2.8	292	7.84	8.11	278.4	497	2.4	12.7	93.6	122	197	201	151	7.6	0.39	79.7	0.076	0.0157	2.76	6.87	0.06	<0.00050	0.00048	0.0704	<0.00010	<0.0010
W3	07/04/2015 7:00	Discharge	P			7.89		280.4		2.5	12.22	89.7	169.8																
W3	08/04/2015 7:00	Discharge	P			7.89		275		2.7	11.97	88.2	152.5																
W3	09/04/2015 7:40	Discharge	P			7.88		282.8		2.6	12.01	88.6	161.5																
W3	10/04/2015 7:45	Discharge	P			7.79		290.9		2.5	12.79	94.2	167.4																
W3	11/04/2015 7:40	Discharge	P			7.91		272.9		0.6	11.66	81.3	114.6																
W3	13/04/2015 7:50	Discharge	F			7.89		270.9		0.1	12.89	88.6	124.7																
W3	14/04/2015 7:45	Discharge	M			7.79		279.7		2.5	12.36	90.8	172.6																
W3	14/04/2015 16:00	Discharge	P	4.3	272	7.83	8.22	261.9	501	2.8	12.37	81.7	205.3	211	201	154	9.1	0.38	82.9	0.064	0.0133	2.93	5.6	0.128	<0.00050	0.00041	0.0713	<0.00010	<0.0010
W3	15/04/2015 7:45	Discharge	P			7.82		282.4		2.7	12.22	89.9	225.8																
W3	16/04/2015 7:10	Discharge	P			7.72		295.2		2.5	13.26	97.3	171.8	230										0.12	<0.00050	0.00038	0.0751	<0.00010	<0.0010
W3	17/04/2015 7:20	Discharge	P			7.96		293.6		2.6	16.27	119.3	165.1	215										0.13	<0.00050	0.00038	0.0704	<0.00010	<0.0010
W3	18/04/2015 7:35	Discharge	P			7.88		330.8		1.9	12.54	91.4	141.7	267										0.0391	<0.00050	0.00035	0.0813	<0.00010	<0.0010
W3	19/04/2015 7:35	Discharge	P			7.84		230.3		2.6	14.65	108.1	170.7	164										0.138	<0.00050	0.00031	0.0585	<0.00010	<0.0010
W3	20/04/2015 8:10	Discharge	P			7.95		186.6		2.4	11.69	88.2	184.3	125										0.142	<0.00050	0.00032	0.0475	<0.00010	<0.0010
W3	21/04/2015 7:30	Discharge	P	9.4	192	7.86	8.13	224	391	2.6	13.24	97.3	203.8	158	142	114	8	0.27	58.1	0.059	0.0474	2.55	9.08	0.276	<0.00050	0.00049	0.0648	<0.00010	<0.0010
W3	22/04/2015 6:55	Discharge	P			7.84		231.1		2.5	13.92	101.6	165.1	156										0.35	<0.00050	0.00038	0.0609	<0.00010	<0.0010
W3	23/04/2015 7:15	Discharge	P			7.81		227		2.6	13.69	99.8	185.7																
W3	24/04/2015 7:30	Discharge	P			7.85		219.3		2.7	13.2	97.6	179.9																
W3	25/04/2015 7:30	Discharge	P			7.91		215.2		2.5	12.81	94.1	113.8																
W3	26/04/2015 7:25	Discharge	P			7.91		210.5		2.7	12.39	91.2	145.2																
W3	27/04/2015 7:40	Discharge	P	4.2	240	7.91	8.14	204.5	355	2.7	12.64	93.3	132.4	142	138	106	6.9	0.28	49.6	0.066	0.0345	2.59	8.74	0.15	<0.00050	0.00035	0.0541	<0.00010	<0.0010
W3	28/04/2015 7:20	Discharge	P			7.87		203.2		2.8	10.72	82.6	142.8																
W3	29/04/2015 7:20	Discharge	P			7.95		197.3		2.7	12.69	94.2	153.8																
W3	30/04/2015 7:15	Discharge	P			7.9		185.6		2.7	12.63	93.1	177.4																
W3	01/05/2015 7:20	Discharge	P			7.89		169.6		3	12.54	93.3	183.2																
W3	02/05/2015 7:20	Discharge	P			7.87		157.9		3.3	12.54	94																	
W3	03/05/2015 7:40	Discharge	P			6.94		162.3		3.1	13.09	97.6	-66.5																
W3	04/05/2015 7:40	Discharge	P			7.85		152		3.7	12.85	97.6	103.4																
W3	05/05/2015 7:20	Discharge	P			7.63		149.3		4	12.39	94.7	73.4																
W3	06/05/2015 6:15	Discharge	P			7.65		253.3		1.5	12.67	90.7	100.3																
W3	07/05/2015 7:25	Discharge	P			7.67		291.2		2.2	12.43	90.7	90.1																
W3	08/05/2015 7:50	Discharge	P			7.67		325.4		2.5	12.59	92.7	149.7																
W3	09/05/2015 7:45	Discharge	P			7.44		315.5		2.6	13.35	96.3	111.4																
W3	10/05/2015 7:55	Discharge	P	<1.0	334	7.54	8.16	314.7	558	2.6	13.73	101.3	53.6	223	241	184	11	0.41	82.3	0.1	0.0086	2.79	7.22	0.0199	<0.00050	0.00033	0.074	<0.00010	<0.0010
W3	11/05/2015 7:40	Discharge	P			7.45		205.4		8.5	11.65	99.7	92.6																
W3	12/05/2015 7:40	Discharge	P			7.97		204.9		8.6	10.68	91.8	91.7																
W3	13/05/2015 7:50	Discharge	P			7.64		182.3		9.3	10.63	91.9	81.4																
W3	14/05/2015 7:15	Discharge	P	10.9	200	7.76	8.06	213.9	303	9.9	9.63	85.2	96.9	119	131	98.6	5.9	0.23	36.2	0.049	0.0408	1.49	10.6	0.059	<0.00050	0.00043	0.0461	<0.00010	<0.0010

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	12/05/2014 8:45																										
W3	13/05/2014 9:40																										
W3	14/05/2014 9:35	<0.05	0.00003	35.3	<0.0010	<0.00050	0.0401	1.12	0.00027	<0.0050	10.8	0.181	<0.000010	0.004	0.0019	0.05	3.3	0.00057	4.72	<0.000020	10.1	0.569	10.9	<0.000050	<0.0050	0.0325	0.00073
W3	15/05/2014 8:45																										
W3	16/05/2014 9:40																										
W3	17/05/2014 8:30	<0.05	0.000025	34.1	<0.0010	<0.00050	0.0335	0.651	<0.00020	<0.0050	10.5	0.193	<0.000010	0.0039	0.0016	0.032	3.15	0.00069	3.93	0.000024	10.5	0.585	11.9	<0.000050	<0.0050	0.0134	0.00077
W3	18/05/2014 9:05																										
W3	19/05/2014 9:45																										
W3	20/05/2014 8:30																										
W3	21/05/2014 7:35																										
W3	22/05/2014 7:30	<0.05	0.000028	36.1	0.0013	0.00063	0.0699	1.77	0.00051	<0.0050	11.1	0.251	<0.000010	0.0054	0.0024	0.053	3.83	0.00091	5.8	<0.000020	10.7	0.737	11.7	<0.000050	<0.0050	0.0395	0.0008
W3	23/05/2014 7:45																										
W3	24/05/2014 7:45																										
W3	25/05/2014 8:15																										
W3	26/05/2014 8:15	<0.05	0.000028	41.7	<0.0010	0.00051	0.0539	1.16	0.00035	<0.0050	13.1	0.322	<0.000010	0.0057	0.0018	0.046	4.34	0.00095	4.95	<0.000020	12.6	0.883	18.8	<0.000050	<0.0050	0.0222	0.00096
W3	08/12/2014 8:15																										
W3	09/12/2014 7:00	0.053	<0.000010	57.8	<0.0010	<0.00050	0.0103	0.195	<0.00020	<0.0050	20	0.0932	<0.000010	0.0089	0.001	0.026	7.04	0.00123	2.28	<0.000020	19.4	1.32	27.6	<0.000050	<0.0050	<0.0050	0.00175
W3	10/12/2014 7:25																										
W3	11/12/2014 8:15																										
W3	12/12/2014 8:20																										
W3	13/12/2014 8:40																										
W3	14/12/2014 8:00																										
W3	15/12/2014 8:50	0.053	<0.000010	56.2	<0.0010	<0.00050	0.00881	0.061	<0.00020	<0.0050	17.6	0.0279	<0.000010	0.0096	<0.0010	0.024	6.88	0.00105	1.81	<0.000020	19.2	1.48	32.2	<0.000050	<0.0050	<0.0050	0.00158
W3	16/12/2014 9:30	0.055	<0.000010	54.9	<0.0010	<0.00050	0.00804	0.063	<0.00020	<0.0050	17.3	0.0284	<0.000010	0.0084	<0.0010	0.025	6.39	0.00097	1.9	<0.000020	18	1.39	29.3	<0.000050	<0.0050	<0.0050	0.00159
W3	04/04/2015 7:15																										
W3	05/04/2015 7:20																										
W3	06/04/2015 7:15	0.055	0.000036	50.9	<0.0010	<0.00050	0.0106	0.102	<0.00020	<0.0050	16.9	0.0752	<0.000010	0.0078	<0.0010	0.023	5.47	0.00094	2.26	<0.000020	18.4	1.19	23.9	<0.000050	<0.0050	<0.0050	0.00154
W3	07/04/2015 7:00																										
W3	08/04/2015 7:00																										
W3	09/04/2015 7:40																										
W3	10/04/2015 7:45																										
W3	11/04/2015 7:40																										
W3	13/04/2015 7:50																										
W3	14/04/2015 7:45																										
W3	14/04/2015 16:00	0.056	0.000012	55.7	<0.0010	<0.00050	0.0153	0.199	0.00058	<0.0050	17.6	0.0424	<0.000010	0.0074	<0.0010	0.028	5.97	0.00109	2.63	<0.000020	20	1.23	25.2	<0.000050	<0.0050	0.0068	0.00141
W3	15/04/2015 7:45																										
W3	16/04/2015 7:10	0.052	<0.000010	59.4	<0.0010	<0.00050	0.0138	0.252	<0.00020	<0.0050	19.8	0.0496	<0.000010	0.0079	<0.0010	0.033	6.17	0.00114	3.15	0.000031	22.6	1.29	26.3	<0.000050	<0.0050	0.0062	0.00169
W3	17/04/2015 7:20	<0.05	<0.000010	56.2	<0.0010	<0.00050	0.0131	0.267	<0.00020	<0.0050	18	0.0449	<0.000010	0.0074	<0.0010	0.031	5.6	0.00125	3.19	<0.000020	20.9	1.17	28.4	<0.000050	<0.0050	0.0104	0.00159
W3	18/04/2015 7:35	<0.05	<0.000010	67.4	<0.0010	<0.00050	0.00968	0.114	<0.00020	<0.0050	24	0.025	<0.000010	0.0064	<0.0010	0.025	5.17	0.00147	4.47	<0.000020	21.7	1.16	27.5	<0.000050	<0.0050	<0.0050	0.00223
W3	19/04/2015 7:35	0.059	<0.000010	42.8	<0.0010	<0.00050	0.0144	0.274	<0.00020	<0.0050	13.7	0.0579	<0.000010	0.0063	<0.0010	0.027	5.02	0.0011	2.7	<0.000020	19.7	0.924	21.3	<0.000050	<0.0050	0.0079	0.00117
W3	20/04/2015 8:10	0.059	<0.000010	33	<0.0010	<0.00050	0.0166	0.27	<0.00020	<0.0050	10.3	0.0456	<0.000010	0.0058	<0.0010	0.034	4.36	0.00064	2.27	0.000047	18.8	0.727	16	<0.000050	<0.0050	0.007	0.00082
W3	21/04/2015 7:30	0.078	0.000013	41.9	<0.0010	<0.00050	0.0185	0.452	0.00021	<0.0050	12.9	0.0846	<0.000010	0.0068	<0.0010	0.041	5.62	0.00115	3.19	<0.000020	19.9	0.921	22.2	<0.000050	<0.0050	0.013	0.00109
W3	22/04/2015 6:55	<0.05	0.000015	41.2	<0.0010	<0.00050	0.0236	0.576	0.00021	<0.0050	12.9	0.12	<0.000010	0.0064	<0.0010	0.038	5.16	0.00062	3.14	<0.000020	19	0.867	16.6	<0.000050	<0.0050	0.0184	0.00107
W3	23/04/2015 7:15																										
W3	24/04/2015 7:30																										
W3	25/04/2015 7:30																										
W3	26/04/2015 7:25																										
W3	27/04/2015 7:40	<0.05	0.000015	36.7	<0.0010	<0.00050	0.0232	0.239	<0.00020	<0.0050	12.3	0.0634	<0.000010	0.0052	<0.0010	0.034	4.33	0.00081	2.85	<0.000020	16.6	0.77	15.4	<0.000050	<0.0050	0.0062	0.00095
W3	28/04/2015 7:20																										
W3	29/04/2015 7:20																										
W3	30/04/2015 7:15																										
W3	01/05/2015 7:20																										
W3	02/05/2015 7:20																										
W3	03/05/2015 7:40																										
W3	04/05/2015 7:40																										
W3	05/05/2015 7:20																										
W3	06/05/2015 6:15																										
W3	07/05/2015 7:25																										
W3	08/05/2015 7:50																										
W3	09/05/2015 7:45																										
W3	10/05/2015 7:55	<0.05	<0.000010	56.9	<0.0010	<0.00050	0.00994	0.061	<0.00020	<0.0050	19.8	0.0354	<0.000010	0.0059	<0.0010	0.016	4.31	0.00112	3.72	<0.000020	17.6	1.01	25.1	<0.000050	<0.0050	<0.0050	0.00178
W3	11/05/2015 7:40																										
W3	12/05/2015 7:40																										
W3	13/05/2015 7:50																										
W3	14/05/2015 7:15	<0.05	0.000011	31.5	<0.0010	<0.00050	0.0212	0.275	<0.00020	<0.0050	9.66	0.0832	<0.000010	0.0035	<0.0010	0.022	3.01	0.00061	2.54	<0.000020	12.9	0.494	11.9	<0.000050	<0.0050	<0.0050	0.00064

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	12/05/2014 8:45																									
W3	13/05/2014 9:40																									
W3	14/05/2014 9:35	<0.0050	0.0069	<0.00050	0.0294	<0.00050	0.00038	0.0518	<0.00010	<0.0010	<0.05	0.000018	33.5	<0.0010	<0.00050	0.0254	0.152	<0.00020	<0.0050	9.67	0.108	<0.000010	0.0037	0.001	0.018	3.24
W3	15/05/2014 8:45																									
W3	16/05/2014 9:40																									
W3	17/05/2014 8:30	<0.0050	<0.0050	<0.00050																						
W3	18/05/2014 9:05																									
W3	19/05/2014 9:45																									
W3	20/05/2014 8:30																									
W3	21/05/2014 7:35																									
W3	22/05/2014 7:30	<0.0050	0.0117	<0.00050	0.0329	<0.00050	0.00056	0.0677	<0.00010	<0.0010	<0.05	0.000017	36.5	<0.0010	<0.00050	0.0262	0.257	0.00021	<0.0050	10.7	0.208	<0.000010	0.0057	0.0012	0.019	3.86
W3	23/05/2014 7:45																									
W3	24/05/2014 7:45																									
W3	25/05/2014 8:15																									
W3	26/05/2014 8:15	<0.0050	0.0074	<0.00050	0.0219	<0.00050	0.00055	0.0728	<0.00010	<0.0010	<0.05	0.000019	41.3	<0.0010	<0.00050	0.0232	0.265	<0.00020	<0.0050	12.6	0.273	<0.000010	0.0053	0.0011	0.017	4.1
W3	08/12/2014 8:15																									
W3	09/12/2014 7:00	<0.0050	<0.0050	<0.00050	0.0055	<0.00050	0.00043	0.0752	<0.00010	<0.0010	0.056	<0.000010	56.7	<0.0010	<0.00050	0.00689	0.0116	<0.00020	<0.0050	17.9	0.0217	<0.000010	0.0083	<0.0010	0.025	6.45
W3	10/12/2014 7:25																									
W3	11/12/2014 8:15																									
W3	12/12/2014 8:20																									
W3	13/12/2014 8:40																									
W3	14/12/2014 8:00																									
W3	15/12/2014 8:50	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00037	0.0703	<0.00010	<0.0010	0.05	<0.000010	55.7	<0.0010	<0.00050	0.0072	0.0103	<0.00020	<0.0050	17.1	0.0098	<0.000010	0.009	<0.0010	0.02	6.71
W3	16/12/2014 9:30	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00037	0.0725	<0.00010	<0.0010	0.05	<0.000010	57.7	<0.0010	<0.00050	0.00699	0.0214	<0.00020	<0.0050	18.1	0.0117	<0.000010	0.0087	<0.0010	0.021	6.97
W3	04/04/2015 7:15																									
W3	05/04/2015 7:20																									
W3	06/04/2015 7:15	<0.0050	0.0137	<0.00050	0.0041	<0.00050	0.00034	0.0708	<0.00010	<0.0010	0.056	<0.000010	53.5	<0.0010	<0.00050	0.00687	0.0105	<0.00020	<0.0050	16.3	0.0585	<0.000010	0.0079	<0.0010	0.019	5.96
W3	07/04/2015 7:00																									
W3	08/04/2015 7:00																									
W3	09/04/2015 7:40																									
W3	10/04/2015 7:45																									
W3	11/04/2015 7:40																									
W3	13/04/2015 7:50																									
W3	14/04/2015 7:45																									
W3	14/04/2015 16:00	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00034	0.0688	<0.00010	<0.0010	0.051	<0.000010	52.8	<0.0010	<0.00050	0.00728	0.0097	<0.00020	<0.0050	16.8	0.0109	<0.000010	0.0076	<0.0010	0.02	5.91
W3	15/04/2015 7:45																									
W3	16/04/2015 7:10	<0.0050	<0.0050	<0.00050																						
W3	17/04/2015 7:20	<0.0050	<0.0050	<0.00050																						
W3	18/04/2015 7:35	<0.0050	<0.0050	<0.00050																						
W3	19/04/2015 7:35	<0.0050	<0.0050	<0.00050																						
W3	20/04/2015 8:10	<0.0050	<0.0050	<0.00050																						
W3	21/04/2015 7:30	<0.0050	<0.0050	<0.00050	0.0053	<0.00050	0.00026	0.055	<0.00010	<0.0010	0.054	<0.000010	36.5	<0.0010	<0.00050	0.0103	0.017	<0.00020	<0.0050	12.4	0.0223	<0.000010	0.0066	<0.0010	0.014	5.09
W3	22/04/2015 6:55	<0.0050	<0.0050	<0.00050																						
W3	23/04/2015 7:15																									
W3	24/04/2015 7:30																									
W3	25/04/2015 7:30																									
W3	26/04/2015 7:25																									
W3	27/04/2015 7:40	<0.0050	<0.0050	<0.00050	0.0082	<0.00050	0.00027	0.052	<0.00010	<0.0010	<0.05	<0.000010	36	<0.0010	<0.00050	0.0151	0.0434	<0.00020	<0.0050	11.8	0.0347	<0.000010	0.0051	<0.0010	0.019	4.21
W3	28/04/2015 7:20																									
W3	29/04/2015 7:20																									
W3	30/04/2015 7:15																									
W3	01/05/2015 7:20																									
W3	02/05/2015 7:20																									
W3	03/05/2015 7:40																									
W3	04/05/2015 7:40																									
W3	05/05/2015 7:20																									
W3	06/05/2015 6:15																									
W3	07/05/2015 7:25																									
W3	08/05/2015 7:50																									
W3	09/05/2015 7:45																									
W3	10/05/2015 7:55	<0.0050	0.016	<0.00050	0.0109	<0.00050	0.00032	0.0772	<0.00010	<0.0010	<0.05	<0.000010	62.7	<0.0010	<0.00050	0.00865	0.0345	<0.00020	<0.0050	20.6	0.0241	<0.000010	0.0057	<0.0010	0.012	5.05
W3	11/05/2015 7:40																									
W3	12/05/2015 7:40																									
W3	13/05/2015 7:50																									
W3	14/05/2015 7:15	<0.0050	<0.0050	<0.00050	0.0116	<0.00050	0.00032	0.0484	<0.00010	<0.0010	<0.05	<0.000010	35.3	<0.0010	<0.00050	0.0177	0.14	<0.00020	<0.0050	10.5	0.0523	<0.000010	0.0036	<0.0010	0.012	3.37

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	Br	Cation	CN-T	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-TKN	P-PO4T	P-TDP	P-TRP
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L
W3	12/05/2014 8:45																															
W3	13/05/2014 9:40																															
W3	14/05/2014 9:35	0.00067	3.41	<0.000020	9.57	0.566	11.7	<0.000050	<0.0050	<0.0050	0.00066	<0.0050	<0.0050	<0.00050	121	<0.50	<0.50	<0.50														
W3	15/05/2014 8:45																															
W3	16/05/2014 9:40																															
W3	17/05/2014 8:30														138	<0.50	<0.50	<0.50														
W3	18/05/2014 9:05																															
W3	19/05/2014 9:45																															
W3	20/05/2014 8:30																															
W3	21/05/2014 7:35																															
W3	22/05/2014 7:30	0.00089	3.56	<0.000020	11	0.751	12.8	<0.000050	<0.0050	<0.0050	0.00077	<0.0050	<0.0050	<0.00050	116	<0.50	<0.50	<0.50						<0.0010	<0.0010							
W3	23/05/2014 7:45																															
W3	24/05/2014 7:45																															
W3	25/05/2014 8:15																															
W3	26/05/2014 8:15	0.0009	3.76	<0.000020	11.6	0.843	15.7	<0.000050	<0.0050	<0.0050	0.00083	<0.0050	<0.0050	<0.00050	138	<0.50	<0.50	<0.50														
W3	08/12/2014 8:15																															
W3	09/12/2014 7:00	0.00095	2.13	<0.000020	18.7	1.28	32.7	<0.000050	<0.0050	<0.0050	0.00152	<0.0050	<0.0050	<0.00050	185	<0.50	<0.50	<0.50														
W3	10/12/2014 7:25																															
W3	11/12/2014 8:15																															
W3	12/12/2014 8:20																															
W3	13/12/2014 8:40																															
W3	14/12/2014 8:00																															
W3	15/12/2014 8:50	0.00093	1.79	<0.000020	17.8	1.32	30.4	<0.000050	<0.0050	<0.0050	0.00148	<0.0050	<0.0050	<0.00050	174	<0.50	<0.50	<0.50														
W3	16/12/2014 9:30	0.00089	2.05	<0.000020	19.5	1.32	33.1	<0.000050	<0.0050	<0.0050	0.00148	<0.0050	0.008	<0.00050	173	<0.50	<0.50	<0.50														
W3	04/04/2015 7:15																															
W3	05/04/2015 7:20																															
W3	06/04/2015 7:15	0.00087	2.32	<0.000020	18	1.23	25.2	<0.000050	<0.0050	<0.0050	0.00149	<0.0050	<0.0050	<0.00050	184	<0.50	<0.50	<0.50														
W3	07/04/2015 7:00																															
W3	08/04/2015 7:00																															
W3	09/04/2015 7:40																															
W3	10/04/2015 7:45																															
W3	11/04/2015 7:40																															
W3	13/04/2015 7:50																															
W3	14/04/2015 7:45																															
W3	14/04/2015 16:00	0.00108	2.47	<0.000020	18.9	1.22	25.7	<0.000050	<0.0050	<0.0050	0.00134	<0.0050	<0.0050	<0.00050	187	<0.50	<0.50	<0.50														
W3	15/04/2015 7:45																															
W3	16/04/2015 7:10																															
W3	17/04/2015 7:20																															
W3	18/04/2015 7:35																															
W3	19/04/2015 7:35																															
W3	20/04/2015 8:10																															
W3	21/04/2015 7:30	0.00074	2.16	<0.000020	19.7	0.833	20.1	<0.000050	<0.0050	<0.0050	0.001	<0.0050	<0.0050	<0.00050	140	<0.50	<0.50	<0.50														
W3	22/04/2015 6:55																															
W3	23/04/2015 7:15																															
W3	24/04/2015 7:30																															
W3	25/04/2015 7:30																															
W3	26/04/2015 7:25																															
W3	27/04/2015 7:40	0.00065	2.62	<0.000020	15.5	0.747	18.9	<0.000050	<0.0050	<0.0050	0.00091	<0.0050	<0.0050	<0.00050	130	<0.50	<0.50	<0.50														
W3	28/04/2015 7:20																															
W3	29/04/2015 7:20																															
W3	30/04/2015 7:15																															
W3	01/05/2015 7:20																															
W3	02/05/2015 7:20																															
W3	03/05/2015 7:40																															
W3	04/05/2015 7:40																															
W3	05/05/2015 7:20																															
W3	06/05/2015 6:15																															
W3	07/05/2015 7:25																															
W3	08/05/2015 7:50																															
W3	09/05/2015 7:45																															
W3	10/05/2015 7:55	0.00106	4.27	<0.000020	19.1	1.09	26.2	<0.000050	<0.0050	<0.0050	0.00181	<0.0050	<0.0050	<0.00050	224	<0.50	<0.50	<0.50														
W3	11/05/2015 7:40																															
W3	12/05/2015 7:40																															
W3	13/05/2015 7:50																															
W3	14/05/2015 7:15	0.00066	2.75	<0.000020	13.5	0.549	11	<0.000050	<0.0050	<0.0050	0.00075	<0.0050	<0.0050	<0.00050	120	<0.50	<0.50	<0.50														

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W3	12/05/2014 8:45			404.6			
W3	13/05/2014 9:40			334.9			
W3	14/05/2014 9:35			289.7			
W3	15/05/2014 8:45			287.2			
W3	16/05/2014 9:40						
W3	17/05/2014 8:30			413.2			
W3	18/05/2014 9:05			332.6			
W3	19/05/2014 9:45			376.4			
W3	20/05/2014 8:30			327.8			
W3	21/05/2014 7:35			333.2			
W3	22/05/2014 7:30			330.6			
W3	23/05/2014 7:45			358.6			
W3	24/05/2014 7:45			357.7			
W3	25/05/2014 8:15			365.2			
W3	26/05/2014 8:15			370.3			
W3	08/12/2014 8:15			579.9			
W3	09/12/2014 7:00			529			
W3	10/12/2014 7:25			507.6			
W3	11/12/2014 8:15			510.2			
W3	12/12/2014 8:20			515.2			
W3	13/12/2014 8:40			522.8			
W3	14/12/2014 8:00			537			
W3	15/12/2014 8:50			522			
W3	16/12/2014 9:30			466.2			
W3	04/04/2015 7:15			517.7			
W3	05/04/2015 7:20			486.4			
W3	06/04/2015 7:15			490.5			
W3	07/04/2015 7:00			491.7			
W3	08/04/2015 7:00			476.2			
W3	09/04/2015 7:40			492.2			
W3	10/04/2015 7:45			493.7			
W3	11/04/2015 7:40			511			
W3	13/04/2015 7:50			516.2			
W3	14/04/2015 7:45			490.5			
W3	14/04/2015 16:00			471.2			
W3	15/04/2015 7:45			492.5			
W3	16/04/2015 7:10			517.7			
W3	17/04/2015 7:20			514.6			
W3	18/04/2015 7:35			590.7			
W3	19/04/2015 7:35			402.4			
W3	20/04/2015 8:10			326.9			
W3	21/04/2015 7:30			391.9			
W3	22/04/2015 6:55			405.9			
W3	23/04/2015 7:15			397.3			
W3	24/04/2015 7:30			381.6			
W3	25/04/2015 7:30			377.4			
W3	26/04/2015 7:25			367.2			
W3	27/04/2015 7:40			357.1			
W3	28/04/2015 7:20			353.2			
W3	29/04/2015 7:20			343.6			
W3	30/04/2015 7:15			322.1			
W3	01/05/2015 7:20			294.1			
W3	02/05/2015 7:20			274.8			
W3	03/05/2015 7:40			278.4			
W3	04/05/2015 7:40			256.5			
W3	05/05/2015 7:20			249.3			
W3	06/05/2015 6:15			458.4			
W3	07/05/2015 7:25			517.4			
W3	08/05/2015 7:50			572.3			
W3	09/05/2015 7:45			551.2			
W3	10/05/2015 7:55			549.1			
W3	11/05/2015 7:40			299.9			
W3	12/05/2015 7:40			298.4			
W3	13/05/2015 7:50			257.1			
W3	14/05/2015 7:15			300.8			

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Phase	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
				mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	15/05/2015 6:50	Discharge	P	12.3	188	7.61	8.07	215.4	307	10	9.55	85.1	125.4	124	126	99.8	6	0.23	35.4	0.026	0.0427	1.49	9.22	0.0611	<0.00050	0.00041	0.0499	<0.00010	<0.0010
W3	16/05/2015 7:30	Discharge	P			7.7		231.8		10.6	10.27	90.7	187.6																
W3	17/05/2015 7:25	Discharge	P			7.72		248.9		9	10.45	90.6	141.5																
W3	18/05/2015 7:25	Discharge	P			7.92		256.9		10.1	10.31	91.7	85.4																
W3	19/05/2015 8:20	Discharge	P			7.98		251.9		10.9	9.69	87.7	99																
W3	20/05/2015 7:15	Discharge	P	5.4	240	7.81	8.07	258.9	349	11.1	8.63	78.3	76.1	149	144	123	6.5	0.27	38.7	0.059	0.042	1.62	9.3	0.113	<0.00050	0.00049	0.0582	<0.00010	<0.0010
W3	21/05/2015 7:25	Discharge	P			7.64		260.4		11.5	8.9	84.6	80.2																
W3	22/05/2015 7:00	Discharge	P			7.67		297.2		3.1	11.9	89.6	145.4																
W3	23/05/2015 7:10	Discharge	P			7.73		323		3.5	12.71	96.3	105.2																
W3	24/05/2015 7:10	Discharge	P			7.61		333.9		3.5	12.64	95.5	141.3																
W3	25/05/2015 7:10	Discharge	P			7.69		319.1		3.5	12.29	93.2	100.1																
W3	26/05/2015 7:00	Discharge	P			7.75		320.1		3.7	12.41	94.2	132.7																
W3	27/05/2015 7:15	Discharge	P			7.64		318		4	11.96	91.3	139.8																
W3	28/05/2015 7:05	Discharge	P			7.66		312.4		3.9	11.94	94.62	125.8																
W3	29/05/2015 7:15	Discharge	P	1.4	314	7.65	8.13	310.7	524	4.1	11.91	91.3	114	252	203	177	9.4	0.38	68.8	0.088	0.021	2.19	6.21	0.025	<0.00050	0.00035	0.0862	<0.00010	<0.0010
W3	30/05/2015 7:15	Discharge	P			7.66		303.3		3.1	11.8	88.1	148.5																
W3	31/05/2015 14:10	Discharge	P	2	300	7.78	8.24	307.1	509	4.5	11.37	88.2	165.3	243	216	174	10	0.36	74.8	0.068	0.0219	2.14	8.08	0.0328	<0.00050	0.00041	0.0891	<0.00010	<0.0010
W3	09/04/2016 17:15	Discharge	M			7.6		269.7		0	9.91	67.5	135.2																
W3	10/04/2016 15:30	Discharge	M			7.32		265.5		0.4	9.8	68.2	135.3																
W3	11/04/2016 7:50	Discharge	M			7.37		250.6		1.1	10.23	72.4	127.3																
W3	12/04/2016 8:35	Discharge	P	7.3	257	7.5	7.99	224.7	455	1.3	13.05	92.6	108.8		221	175	8.61		47.4	0.168	0.0109	0.583	20.3	0.371	<0.00010	0.00052	0.0776	0.000024	<0.000050
W3	13/04/2016 8:05	Discharge	M			7.32		229.3		1.2	13.57	96.2	143.2																
W3	14/04/2016 8:30	Discharge	M			7.29		233.1		1.4	12.37	88.1	116.6																
W3	15/04/2016 8:10	Discharge	M			7.39		251.5		1.5	12.32	87.9	96.1																
W3	16/04/2016 8:20	Discharge	M			7.61		254.1		1.5	12.58	90	91.4																
W3	17/04/2016 8:00	Discharge	M			7.54		245.9		1.5	13.22	94.4	100.8																
W3	18/04/2016 8:20	Discharge	M			7.44		238.4		0.5	12.57	87.4	117.8																
W3	19/04/2016 8:30	Discharge	P	<3.0	276	7.65	8.28	264.9	489	1.6	12.85	92.2	75.5		229	192	9.42		51.2	0.123	0.0072	0.750	9.27	0.0676	<0.00010	0.00033	0.0650	<0.000020	<0.000050
W3	20/04/2016 7:20	Discharge	M			7.4		265.6		1.6	12.85	92.1	77.3																
W3	21/04/2016 8:00	Discharge	M			7.59		257.9		0.9	14.12	99.5	101.6																
W3	22/04/2016 8:10	Discharge	M			7.59		265.2		1.9	12.56	90.6	106.9																
W3	23/04/2016 8:00	Discharge	M			7.85		262		1.7	12.34	88.8	74.6																
W3	24/04/2016 7:50	Discharge	M			7.71		268		1.9	12.43	89.7	56.5																
W3	25/04/2016 7:50	Discharge	M			7.6		264.2		1.8	12.99	93.9	98.1																
W3	26/04/2016 7:30	Discharge	P	<3.0	270	7.63	8.08	266.3	474	1.7	13.63	100.7	73.2		223	187	9.11		48.9	0.0961	0.0055	0.772	8.47	0.0553	<0.00010	0.00032	0.0660	<0.000020	<0.000050
W3	27/04/2016 8:55	Discharge	M			7.72		266.4		1.8	12.31	89.2	120.3																
W3	28/04/2016 7:45	Discharge	M			7.82		263.2		1.7	13.78	98.7	126.7																
W3	29/04/2016 8:00	Discharge	M			7.61		260.2		0.9	12.98	91.2	90.6																
W3	30/04/2016 7:55	Discharge	M			7.73		262.5		1	12.73	89.8	95.2																
W3	02/05/2016 8:30	Discharge	P	5.3	268	7.73	8.32	266.1	478	1.9	11.98	86.6	80.4		221	193	8.32		47.2	0.0415	0.0040	0.710	7.82	0.0464	<0.00010	0.00027	0.0662	<0.000020	<0.000050
W3	03/05/2016 7:30	Discharge	F			7.88		264.2		1.7	12.61	90.5	91.2																
W3	04/05/2016 7:20	Discharge	M			7.83		259.6		1.5	12.97	92.6	85.9																
W3	05/05/2016 7:50	Discharge	M			7.77		232.7		1.5	12.53	89.5	134.7																
W3	06/05/2016 8:10	Discharge	M			7.71		267.4		0.9	11.59	81.5	113.8																
W3	15/05/2016 8:25	Discharge	M			7.71		274.2		1.5	11.75	83.9	100.3																
W3	16/05/2016 7:45	Discharge	M			8.01		242.3		4.5	0.09	0.7	146.7																
W3	17/05/2016 8:00	Discharge	P	4.0	218	7.51	8.15	328.4	370	4.1	11.96	91.6	193.6		187	144	5.39		38.8	0.0095	0.0045	1.70	14.4	0.0304	<0.00010	0.00035	0.0563	<0.000020	<0.000050
W3	18/05/2016 7:20	Discharge	M			7.7		231.7		4.2	12.12	93.2	176.6																
W3	19/05/2016 7:40	Discharge	M			7.99		234.8		1.5	12.63	90.2	65.6																
W3	19/05/2016 11:35	Discharge	P	<3.0	241	7.8	7.98	244.1	409	2.8	12.22	90.4	110.5		211	184	4.59		37.9	0.0096	<0.0010	0.190	17.0	0.0298	<0.00010	0.00038	0.0590	<0.000020	<0.000050
W3	20/05/2016 7:50	Discharge	M			7.71		241.2		1.3	12.18	86.5	73.3																
W3	21/05/2016 7:55	Discharge	M			7.7		253.4		1.4	12.1	86.2	105.1																
W3	22/05/2016 7:50	Discharge	M			7.72		245.7		4.5	10.88	84.2	117.2																
W3	23/05/2016 7:50	Discharge	M			7.89		268.5		1.9	12.11	87.4	128.6																
W3	24/05/2016 8:05	Discharge	P	<3.0	223	7.76	7.99	240.2	383	5.4	10.83	85.8	124		191	148	5.49		38.9	0.0134	0.0103	1.75	7.62	0.0271	<0.00010	0.00029	0.0573	<0.000020	<0.000050
W3	25/05/2016 10:15	Discharge	P	<3.0	225	7.76	8.28	210.5	392	5.4	10.96	86.9	117.3		189	151	5.57		39.4	0.0141	0.0086	1.78	11.1	0.0305	<0.00010	0.00028	0.0561	<0.000020	<0.000050
W3	26/05/2016 7:50	Discharge	M			7.68		234.7		5.6	10.87	86.5	140.1																
W3	27/05/2016 7:50	Discharge	M			7.66		235.7		5.2	10.96	86.4	130.4																
W3	28/05/2016 7:50	Discharge	M			7.76		242.5		5	11.16	87.6	92																
W3	29/05/2016 7:50	Discharge	M			7.8		233.8		4.3	10.7	82.4	109.7																
W3	30/05/2016 7:15	Discharge	M			7.7		246		4.7	11	85.6	106.2																
W3	31/05/2016 8:15	Discharge	P	<3.0	242	7.87	8.09	234.6	403	4.2	11.15	85.6	132.7		204	167	5.75		42.1	0.0120	0.0044	1.50	9.70	0.0147	<0.00010	0.00030	0.0613	<0.000020	<0.000050
W3	01/06/2016 7:35	Discharge	M			9		449		5.7																			
W3	02/06/2016 7:35	Discharge	M			7.87		252.1		3.9	10.08	76.5	150.9																
W3	03/06/2016 8:20	Discharge	M			7.86		253.6		4.7	11.51	89.6	150.9																

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	15/05/2015 6:50	<0.05	0.00001	32.3	<0.0010	<0.00050	0.022	0.254	<0.00020	<0.0050	10.5	0.0927	<0.000010	0.0034	0.0016	0.027	3.15	0.00053	2.41	<0.000020	13.6	0.535	13.1	<0.000050	<0.0050	<0.0050	0.00071
W3	16/05/2015 7:30																										
W3	17/05/2015 7:25																										
W3	18/05/2015 7:25																										
W3	19/05/2015 8:20																										
W3	20/05/2015 7:15	<0.05	0.000015	39	<0.0010	<0.00050	0.0236	0.433	<0.00020	<0.0050	12.5	0.152	<0.000010	0.0042	0.0012	0.04	3.43	0.00061	2.44	0.000021	15.5	0.653	14.2	<0.000050	<0.0050	0.0066	0.00089
W3	21/05/2015 7:25																										
W3	22/05/2015 7:00																										
W3	23/05/2015 7:10																										
W3	24/05/2015 7:10																										
W3	25/05/2015 7:10																										
W3	26/05/2015 7:00																										
W3	27/05/2015 7:15																										
W3	28/05/2015 7:05																										
W3	29/05/2015 7:15	<0.05	<0.000010	64.9	<0.0010	<0.00050	0.0123	0.131	<0.00020	<0.0050	21.9	0.114	<0.000010	0.0062	<0.0010	0.019	5.11	0.00117	4.45	<0.000020	20.3	1.13	26.4	<0.000050	<0.0050	<0.0050	0.00185
W3	30/05/2015 7:15																										
W3	31/05/2015 14:10	0.05	0.000014	61.6	<0.0010	<0.00050	0.0129	0.134	<0.00020	<0.0050	21.7	0.135	<0.000010	0.0063	<0.0010	0.03	5.39	0.00087	4.12	<0.000020	21.7	1.15	28.1	<0.000050	<0.0050	<0.0050	0.00185
W3	09/04/2016 17:15																										
W3	10/04/2016 15:30																										
W3	11/04/2016 7:50																										
W3	12/04/2016 8:35	0.025	0.0000277	53.1	0.00068	0.00037	0.0201	0.574	0.000205	0.0017	18.5	0.318	0.0000099	0.00329	0.00199	0.055	2.91	0.000346	4.62	<0.000010	14.0	0.586	16.0	<0.000010	<0.00010	0.0162	0.00161
W3	13/04/2016 8:05																										
W3	14/04/2016 8:30																										
W3	15/04/2016 8:10																										
W3	16/04/2016 8:20																										
W3	17/04/2016 8:00																										
W3	18/04/2016 8:20																										
W3	19/04/2016 8:30	0.035	<0.0000050	56.5	0.00017	<0.00010	0.0115	0.148	<0.000050	0.0020	19.5	0.0814	<0.0000050	0.00351	0.00108	<0.050	2.91	0.000330	3.74	<0.000010	15.0	0.630	16.9	<0.000010	<0.00010	0.00278	0.00164
W3	20/04/2016 7:20																										
W3	21/04/2016 8:00																										
W3	22/04/2016 8:10																										
W3	23/04/2016 8:00																										
W3	24/04/2016 7:50																										
W3	25/04/2016 7:50																										
W3	26/04/2016 7:30	0.033	<0.0000050	56.5	0.00016	<0.00010	0.0121	0.120	0.000053	0.0019	18.8	0.0644	<0.0000050	0.00357	0.00100	<0.050	3.17	0.000365	3.62	<0.000010	15.9	0.621	16.1	<0.000010	<0.00010	0.00228	0.00165
W3	27/04/2016 8:55																										
W3	28/04/2016 7:45																										
W3	29/04/2016 8:00																										
W3	30/04/2016 7:55																										
W3	02/05/2016 8:30	0.037	<0.0000050	55.4	0.00016	<0.00010	0.00888	0.092	<0.000050	0.0020	20.3	0.0398	<0.0000050	0.00423	0.00104	<0.050	2.93	0.000353	4.03	<0.000010	16.1	0.645	16.0	<0.000010	<0.00010	0.00187	0.00182
W3	03/05/2016 7:30																										
W3	04/05/2016 7:20																										
W3	05/05/2016 7:50																										
W3	06/05/2016 8:10																										
W3	15/05/2016 8:25																										
W3	16/05/2016 7:45																										
W3	17/05/2016 8:00	0.029	<0.0000050	45.5	0.00025	<0.00010	0.0145	0.087	<0.000050	0.0013	15.9	0.0330	0.0000116	0.00344	0.00132	<0.050	2.46	0.000613	4.07	<0.000010	12.7	0.486	12.6	<0.000010	<0.00010	0.00141	0.00128
W3	18/05/2016 7:20																										
W3	19/05/2016 7:40																										
W3	19/05/2016 11:35	0.022	<0.0000050	47.3	0.00032	<0.00010	0.0161	0.067	<0.000050	0.0022	20.2	0.0289	0.0000088	0.00355	0.00177	<0.050	1.96	0.000298	5.48	<0.000010	13.6	0.523	12.1	<0.000010	<0.00010	0.00098	0.00190
W3	20/05/2016 7:50																										
W3	21/05/2016 7:55																										
W3	22/05/2016 7:50																										
W3	23/05/2016 7:50																										
W3	24/05/2016 8:05	0.033	<0.0000050	46.4	0.00017	<0.00010	0.0140	0.074	<0.000050	0.0017	15.9	0.0413	<0.0000050	0.00360	0.00106	<0.050	2.58	0.000676	3.77	<0.000010	13.9	0.517	14.8	<0.000010	<0.00010	0.00094	0.00125
W3	25/05/2016 10:15	0.029	<0.0000050	45.1	0.00032	<0.00010	0.0144	0.081	<0.000050	0.0018	15.4	0.0359	<0.0000050	0.00346	0.00104	<0.050	2.53	0.000726	3.66	<0.000010	13.2	0.496	14.2	<0.000010	<0.00010	0.00090	0.00122
W3	26/05/2016 7:50																										
W3	27/05/2016 7:50																										
W3	28/05/2016 7:50																										
W3	29/05/2016 7:50																										
W3	30/05/2016 7:15																										
W3	31/05/2016 8:15	0.032	<0.0000050	50.7	<0.00020	<0.00010	0.0116	0.051	<0.000050	0.0018	17.9	0.0319	<0.0000050	0.00404	0.00113	<0.050	2.52	0.000700	4.27	<0.000010	14.7	0.560	14.5	<0.000010	<0.00010	0.00053	0.00158
W3	01/06/2016 7:35																										
W3	02/06/2016 7:35																										
W3	03/06/2016 8:20																										

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	15/05/2015 6:50	<0.0050	<0.0050	<0.00050	0.0103	<0.00050	0.00032	0.0469	<0.00010	<0.0010	<0.05	<0.000010	32.8	<0.0010	<0.00050	0.0169	0.131	<0.00020	<0.0050	10.7	0.0582	<0.000010	0.0035	<0.0010	0.015	3.09
W3	16/05/2015 7:30																									
W3	17/05/2015 7:25																									
W3	18/05/2015 7:25																									
W3	19/05/2015 8:20																									
W3	20/05/2015 7:15	<0.0050	<0.0050	<0.00050	0.0086	<0.00050	0.00038	0.0512	<0.00010	<0.0010	<0.05	0.000012	38.5	<0.0010	<0.00050	0.0152	0.173	<0.00020	<0.0050	11.6	0.112	<0.000010	0.0037	<0.0010	0.015	3.39
W3	21/05/2015 7:25																									
W3	22/05/2015 7:00																									
W3	23/05/2015 7:10																									
W3	24/05/2015 7:10																									
W3	25/05/2015 7:10																									
W3	26/05/2015 7:00																									
W3	27/05/2015 7:15																									
W3	28/05/2015 7:05																									
W3	29/05/2015 7:15	<0.0050	<0.0050	<0.00050	0.0203	<0.00050	0.00031	0.0733	<0.00010	<0.0010	<0.05	<0.000010	50.4	<0.0010	<0.00050	0.00982	0.0681	<0.00020	<0.0050	18.7	0.0913	<0.000010	0.0056	<0.0010	0.013	4.39
W3	30/05/2015 7:15																									
W3	31/05/2015 14:10	<0.0050	<0.0050	<0.00050	0.0073	<0.00050	0.00034	0.0719	<0.00010	<0.0010	<0.05	0.000012	55.9	<0.0010	<0.00050	0.00989	0.0772	<0.00020	<0.0050	18.5	0.107	<0.000010	0.0057	<0.0010	0.013	4.52
W3	09/04/2016 17:15																									
W3	10/04/2016 15:30																									
W3	11/04/2016 7:50																									
W3	12/04/2016 8:35	0.00150	0.0035	<0.00030	0.0395	0.00011	0.00038	0.0736	<0.000020	<0.000050	0.025	0.0000186	56.7	0.00020	0.00015	0.0154	0.083	<0.000050	0.0016	19.2	0.242	0.0000080	0.00314	0.00146	<0.050	2.97
W3	13/04/2016 8:05																									
W3	14/04/2016 8:30																									
W3	15/04/2016 8:10																									
W3	16/04/2016 8:20																									
W3	17/04/2016 8:00																									
W3	18/04/2016 8:20																									
W3	19/04/2016 8:30	<0.00050	<0.0030	<0.00030	0.0083	<0.00010	0.00025	0.0693	<0.000020	<0.000050	0.032	0.0000063	58.6	0.00010	<0.00010	0.00904	0.036	<0.000050	0.0015	19.9	0.0545	<0.0000050	0.00325	0.00058	<0.050	2.91
W3	20/04/2016 7:20																									
W3	21/04/2016 8:00																									
W3	22/04/2016 8:10																									
W3	23/04/2016 8:00																									
W3	24/04/2016 7:50																									
W3	25/04/2016 7:50																									
W3	26/04/2016 7:30	<0.00050	<0.0030	<0.00030	0.0063	<0.00010	0.00025	0.0652	<0.000020	<0.000050	0.032	<0.0000050	58.0	<0.00010	<0.00010	0.00909	0.023	<0.000050	0.0018	19.0	0.0175	<0.0000050	0.00326	0.00087	<0.050	3.03
W3	27/04/2016 8:55																									
W3	28/04/2016 7:45																									
W3	29/04/2016 8:00																									
W3	30/04/2016 7:55																									
W3	02/05/2016 8:30	<0.00050	<0.0030	<0.00030	0.0119	<0.00010	0.00024	0.0646	<0.000020	<0.000050	0.035	<0.0000050	55.5	<0.00010	<0.00010	0.00816	0.034	<0.000050	0.0021	20.1	0.0168	<0.0000050	0.00390	0.00093	<0.050	2.87
W3	03/05/2016 7:30																									
W3	04/05/2016 7:20																									
W3	05/05/2016 7:50																									
W3	06/05/2016 8:10																									
W3	15/05/2016 8:25																									
W3	16/05/2016 7:45																									
W3	17/05/2016 8:00	0.00056	<0.0030	<0.00030	0.0191	<0.00010	0.00031	0.0574	<0.000020	<0.000050	0.029	0.0000056	47.7	0.00021	<0.00010	0.0132	0.056	<0.000050	0.0013	16.4	0.0179	<0.0000050	0.00321	0.00121	<0.050	2.49
W3	18/05/2016 7:20																									
W3	19/05/2016 7:40																									
W3	19/05/2016 11:35	0.00067	0.0038	0.00034	0.0204	<0.00010	0.00034	0.0606	<0.000020	<0.000050	0.021	<0.0000050	49.7	0.00028	<0.00010	0.00910	0.051	<0.000050	0.0022	21.2	0.0299	0.0000064	0.00335	0.00169	<0.050	2.04
W3	20/05/2016 7:50																									
W3	21/05/2016 7:55																									
W3	22/05/2016 7:50																									
W3	23/05/2016 7:50																									
W3	24/05/2016 8:05	<0.00050	<0.0030	<0.00030	0.0095	<0.00010	0.00025	0.0579	<0.000020	<0.000050	0.031	<0.0000050	48.9	0.00013	<0.00010	0.0131	0.041	<0.000050	0.0016	16.7	0.0181	<0.0000050	0.00326	0.00092	<0.050	2.71
W3	25/05/2016 10:15	<0.00050	<0.0030	<0.00030	0.0090	<0.00010	0.00031	0.0596	<0.000020	<0.000050	0.029	<0.0000050	48.3	<0.00010	<0.00010	0.0131	0.040	<0.000050	0.0016	16.5	0.0158	<0.0000050	0.00326	0.00101	<0.050	2.68
W3	26/05/2016 7:50																									
W3	27/05/2016 7:50																									
W3	28/05/2016 7:50																									
W3	29/05/2016 7:50																									
W3	30/05/2016 7:15																									
W3	31/05/2016 8:15	<0.00050	<0.0030	<0.00030	0.0068	<0.00010	0.00024	0.0602	<0.000020	<0.000050	0.033	<0.0000050	51.7	<0.00010	<0.00010	0.0108	0.034	<0.000050	0.0021	18.1	0.0189	<0.0000050	0.00359	0.00100	<0.050	2.57
W3	01/06/2016 7:35																									
W3	02/06/2016 7:35																									
W3	03/06/2016 8:20																									

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	Br	Cation	CN-T	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-TKN	P-PO4T	P-TDP	P-TRP
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L
W3	15/05/2015 6:50	0.00063	2.49	<0.000020	13.9	0.521	11	<0.000050	<0.0050	<0.0050	0.00072	<0.0050	<0.0050	<0.00050	122	<0.50	<0.50	<0.50														
W3	16/05/2015 7:30																															
W3	17/05/2015 7:25																															
W3	18/05/2015 7:25																															
W3	19/05/2015 8:20																															
W3	20/05/2015 7:15	0.00057	2.16	<0.000020	13.9	0.587	11.4	<0.000050	<0.0050	<0.0050	0.00079	<0.0050	<0.0050	<0.00050	150	<0.50	<0.50	<0.50														
W3	21/05/2015 7:25																															
W3	22/05/2015 7:00																															
W3	23/05/2015 7:10																															
W3	24/05/2015 7:10																															
W3	25/05/2015 7:10																															
W3	26/05/2015 7:00																															
W3	27/05/2015 7:15																															
W3	28/05/2015 7:05																															
W3	29/05/2015 7:15	0.00088	3	<0.000020	17.3	0.96	23.1	<0.000050	<0.0050	<0.0050	0.00161	<0.0050	<0.0050	<0.00050	216	<0.50	<0.50	<0.50														
W3	30/05/2015 7:15																															
W3	31/05/2015 14:10	0.00087	3.7	<0.000020	17.9	0.991	24.2	<0.000050	<0.0050	<0.0050	0.00162	<0.0050	<0.0050	<0.00050	213	<0.50	<0.50	<0.50														
W3	09/04/2016 17:15																															
W3	10/04/2016 15:30																															
W3	11/04/2016 7:50																															
W3	12/04/2016 8:35	0.000385	4.08	<0.000010	14.1	0.594	15.9	<0.000010	<0.00010	0.00121	0.00158	<0.00050	0.0027	<0.00030	175	<1.0	<1.0		4.78		5.13							3.6				
W3	13/04/2016 8:05																															
W3	14/04/2016 8:30																															
W3	15/04/2016 8:10																															
W3	16/04/2016 8:20																															
W3	17/04/2016 8:00																															
W3	18/04/2016 8:20																															
W3	19/04/2016 8:30	0.000382	3.72	<0.000010	15.4	0.608	17.2	<0.000010	<0.00010	<0.00030	0.00160	<0.00050	0.0013	<0.00030	192	<1.0	<1.0		5.22		5.32							0.9				
W3	20/04/2016 7:20																															
W3	21/04/2016 8:00																															
W3	22/04/2016 8:10																															
W3	23/04/2016 8:00																															
W3	24/04/2016 7:50																															
W3	25/04/2016 7:50																															
W3	26/04/2016 7:30	0.000393	3.56	<0.000010	15.9	0.608	16.2	<0.000010	<0.00010	<0.00030	0.00157	<0.00050	<0.0010	<0.00030	187	<1.0	<1.0		5.06		5.24							1.7				
W3	27/04/2016 8:55																															
W3	28/04/2016 7:45																															
W3	29/04/2016 8:00																															
W3	30/04/2016 7:55																															
W3	02/05/2016 8:30	0.000353	3.92	<0.000010	15.2	0.647	15.7	<0.000010	<0.00010	0.00088	0.00178	<0.00050	0.0017	<0.00030	187	6.4	<1.0		5.13		5.16							0.3				
W3	03/05/2016 7:30																															
W3	04/05/2016 7:20																															
W3	05/05/2016 7:50																															
W3	06/05/2016 8:10																															
W3	15/05/2016 8:25																															
W3	16/05/2016 7:45																															
W3	17/05/2016 8:00	0.000694	4.16	<0.000010	12.7	0.503	13.0	<0.000010	<0.00010	0.00048	0.00126	<0.00050	0.0078	<0.00030	144	<1.0	<1.0		3.96		4.36							4.8				
W3	18/05/2016 7:20																															
W3	19/05/2016 7:40																															
W3	19/05/2016 11:35	0.000295	5.69	<0.000010	14.1	0.535	12.6	<0.000010	<0.00010	0.00052	0.00185	<0.00050	0.0012	0.00038	184	<1.0	<1.0		4.61		4.89							2.9				
W3	20/05/2016 7:50																															
W3	21/05/2016 7:55																															
W3	22/05/2016 7:50																															
W3	23/05/2016 7:50																															
W3	24/05/2016 8:05	0.000688	3.82	<0.000010	14.0	0.512	14.6	<0.000010	<0.00010	<0.00030	0.00121	<0.00050	0.0033	<0.00030	148	<1.0	<1.0		4.05		4.49							5.2				
W3	25/05/2016 10:15	0.000725	3.81	<0.000010	14.1	0.502	14.7	<0.000010	<0.00010	<0.00030	0.00117	<0.00050	0.0011	<0.00030	151	<1.0	<1.0		4.12		4.46							4.0				
W3	26/05/2016 7:50																															
W3	27/05/2016 7:50																															
W3	28/05/2016 7:50																															
W3	29/05/2016 7:50																															
W3	30/05/2016 7:15																															
W3	31/05/2016 8:15	0.000661	4.21	<0.000010	15.0	0.561	14.2	<0.000010	<0.00010	<0.00030	0.00153	<0.00050	0.0015	<0.00030	167	<1.0	<1.0		4.47		4.79							3.4				
W3	01/06/2016 7:35																															
W3	02/06/2016 7:35																															
W3	03/06/2016 8:20																															

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W3	15/05/2015 6:50			301.8			
W3	16/05/2015 7:30			322.1			
W3	17/05/2015 7:25			357			
W3	18/05/2015 7:25			359.2			
W3	19/05/2015 8:20			344.9			
W3	20/05/2015 7:15			352.4			
W3	21/05/2015 7:25			350.9			
W3	22/05/2015 7:00			510			
W3	23/05/2015 7:10			550.4			
W3	24/05/2015 7:10			567.8			
W3	25/05/2015 7:10			524.7			
W3	26/05/2015 7:00			539.7			
W3	27/05/2015 7:15			530.5			
W3	28/05/2015 7:05			523.7			
W3	29/05/2015 7:15			516.5			
W3	30/05/2015 7:15			520.9			
W3	31/05/2015 14:10			506.8			
W3	09/04/2016 17:15			517.6			
W3	10/04/2016 15:30			500.8			
W3	11/04/2016 7:50			450.5			
W3	12/04/2016 8:35			447.1			
W3	13/04/2016 8:05			420.1			
W3	14/04/2016 8:30			425.7			
W3	15/04/2016 8:10			456.3			
W3	16/04/2016 8:20			460.3			
W3	17/04/2016 8:00			453.1			
W3	18/04/2016 8:20			449.4			
W3	19/04/2016 8:30			478.1			
W3	20/04/2016 7:20			480.3			
W3	21/04/2016 8:00			477.8			
W3	22/04/2016 8:10			478.3			
W3	23/04/2016 8:00			471.7			
W3	24/04/2016 7:50			479.4			
W3	25/04/2016 7:50			473.6			
W3	26/04/2016 7:30			476.5			
W3	27/04/2016 8:55			475.3			
W3	28/04/2016 7:45			472.1			
W3	29/04/2016 8:00			482.5			
W3	30/04/2016 7:55			484.5			
W3	02/05/2016 8:30			470.8			
W3	03/05/2016 7:30			476.2			
W3	04/05/2016 7:20			471.9			
W3	05/05/2016 7:50			437.3			
W3	06/05/2016 8:10			498.1			
W3	15/05/2016 8:25			498			
W3	16/05/2016 7:45			398.2			
W3	17/05/2016 8:00			371.2			
W3	18/05/2016 7:20			385.3			
W3	19/05/2016 7:40			426.4			
W3	19/05/2016 11:35			424.2			
W3	20/05/2016 7:50			439.4			
W3	21/05/2016 7:55			462			
W3	22/05/2016 7:50			403.5			
W3	23/05/2016 7:50			480.4			
W3	24/05/2016 8:05			394.1			
W3	25/05/2016 10:15			346.8			
W3	26/05/2016 7:50			371			
W3	27/05/2016 7:50			378.7			
W3	28/05/2016 7:50			390.4			
W3	29/05/2016 7:50			387.2			
W3	30/05/2016 7:15			402.3			
W3	31/05/2016 8:15			409.7			
W3	01/06/2016 7:35						
W3	02/06/2016 7:35			422.7			
W3	03/06/2016 8:20			414.1			

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Phase	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
				mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	04/06/2016 8:00	Discharge	M			7.82		254.7		4.9	10.47	81.8	119.6																
W3	05/06/2016 8:15	Discharge	M			7.83		256.7		4.7	12.05	93.6	114.6																
W3	06/06/2016 8:10	Discharge	M			7.73		258.5		4.7	10.46	81.5	89.8																
W3	07/06/2016 7:50	Discharge	P	<3.0	228	7.86	8.15	245.5	380	5.2	10.9	85.7	128.7		195	149	5.67		41.1	0.0154	0.0093	1.69	11.6	0.0114	<0.00010	0.00029	0.0599	<0.000020	<0.000050
W3	08/06/2016 7:55	Discharge	M			7.66		240.7		5.4	10.56	83.9	217.6																
W3	09/06/2016 7:42	Discharge	M			7.73		241		5.4	10.51	83.9	135.1																
W3	10/06/2016 7:47	Discharge	M			7.75		248.5		5.2	11.31	89.1	116.7																
W3	11/06/2016 9:16	Discharge	M			7.76		254.7		5.5	10.82	86	76.8																
W3	13/06/2016 8:30	Discharge	M			7.83		286.5		2.6	11.46	84.5	109.8																
W3	14/06/2016 8:15	Discharge	P	<3.0	238		8.06		415						203	164	5.48		41.9	0.0114	0.0062	1.42	9.61	0.0082	<0.00010	0.00030	0.0598	<0.000020	<0.000050
W3	14/06/2016 8:15	Discharge	M			7.84		261.3		5.6	11.4	90.9	116.6																
W3	15/06/2016 7:50	Discharge	M			7.78		261.1		5.7	11.75	94.1	139.9																
W3	16/06/2016 8:00	Discharge	M			7.8		253		6.7	10.64	87.1	107.5																
W3	17/06/2016 7:50	Discharge	M			7.8		266.6		5.6	10.75	85.7	114.6																
W3	18/06/2016 7:50	Discharge	M			7.71		272		5	10.94	87.9	107.4																
W3	19/06/2016 8:00	Discharge	M			7.74		278.3		4.9	11.12	86.8	74.6																
W3	20/06/2016 7:50	Discharge	M			7.79		293.5		3.4	11.54	86.7	89.2																
W3	21/06/2016 7:50	Discharge	P	<3.0	261	7.74	8.03	283.2	444	6	11	86.5	89		221	189	5.26		43.6	0.0072	0.0019	1.05	8.09	0.0090	0.00010	0.00028	0.0697	<0.000020	<0.000050
W3	22/06/2016 8:30	Discharge	M			7.82		293.9		3.6	11.45	86.7	86.1																
W3	23/06/2016 9:05	Discharge	P	<3.0	254	7.81	8.07	280.3	439	5.8	10.74	86.2	157.3		217	180	5.21		43.2	<0.0050	0.0038	1.25	8.02	0.0109	<0.00010	0.00031	0.0658	<0.000020	<0.000050
W3	24/06/2016 7:50	Discharge	M			7.82		291.2		3.6	12.38	93.6	68.4																
W3	25/06/2016 7:50	Discharge	M			7.8		275.8		8.4	10.61	86.1	97.1																
W3	26/06/2016 7:55	Discharge	M			7.81		279.6		5.5	11.72	93	89.2																
W3	08/07/2016 8:05	Discharge	M			7.94		274.7		6.8	10.44	85.7	92																
W3	09/07/2016 7:55	Discharge	M			7.77		280.2		7	10.34	85.4	132.5																
W3	10/07/2016 8:20	Discharge	M			7.79		286.3		6.5	13.53	110.6	123.5																
W3	11/07/2016 8:00	Discharge	M			7.83		265.5		6.2	10.77	87.1	109.3																
W3	12/07/2016 7:55	Discharge	P	<3.0	283	7.87	8.01	299.6	496	4.3	10.74	82.7	100.5		242	214	5.17		46.6	<0.0050	<0.0010	0.291	6.16	0.0076	<0.00010	0.00028	0.0699	<0.000020	<0.000050
W3	13/07/2016 8:30	Discharge	M			7.81		284.7		7	10.44	86.1	113.9																
W3	14/07/2016 8:10	Discharge	M			7.77		273.9		8.6	9.99	85.6	141.5																
W3	15/07/2016 8:45	Discharge	M			7.8		306.2		4.8	11.18	87.2	97																
W3	16/07/2016 7:50	Discharge	M			7.81		302.2		4.7	11.08	86.2	91.8																
W3	17/07/2016 7:50	Discharge	M			7.79		291.1		7.1	11.35	94	112.3																
W3	18/07/2016 8:35	Discharge	M			7.85		310.9		5.3	11.43	90.5	101.8																
W3	19/07/2016 9:10	Discharge	P	<3.0	261	7.84	8.20	293.4	454	6.4	10.58	86.1	61.5		224	190	5.12		44.8	<0.0050	<0.0010	0.948	7.91	0.0081	<0.00010	0.00027	0.0635	<0.000020	<0.000050
W3	20/07/2016 8:00	Discharge	M			7.82		289		5.9	11.84	96.2	102.8																
W3	21/07/2016 7:55	Discharge	M			7.66		288		5.6	11.18	89.2	77.5																
W3	22/07/2016 7:50	Discharge	M			7.66		13.45		6	13.38	107.6	108.5																
W3	23/07/2016 7:50	Discharge	M			7.51		281.4		7.6	10.44	87.5	98.6																
W3	24/07/2016 8:00	Discharge	M			7.61		280.6		8.6	9.44	80.9	112.5																
W3	25/07/2016 8:00	Discharge	M			7.65		276.2		8.8	9.26	79.8	126.9																
W3	26/07/2016 15:05	Discharge	P	4.7	240	7.66	7.98	286.2	408	8.3	10.46	89.2	114.9		202	164	5.18		42.7	0.0622	0.0429	1.29	11.0	0.0097	<0.00010	0.00040	0.0661	<0.000020	<0.000050
W3	27/07/2016 7:50	Discharge	M			7.72		269.5		9.4	11.62	101.6	82.7																
W3	28/07/2016 8:20	Discharge	M			7.59		275.6		9.6	9.41	82.8	102.7																
W3	29/07/2016 7:27	Discharge	M			7.68		282.3		8.3	9.77	83.1	95.8																
W3	30/07/2016 7:51	Discharge	M			7.55		278.5		9.2	10.27	89.4	127.8																
W3	31/07/2016 8:10	Discharge	M			7.61		281.2		8.3	10.13	86.2	97.4																
W3	01/08/2016 7:42	Discharge	M			7.68		288.7		6.9	10.53	86.7	78.5																
W3	02/08/2016 7:40	Discharge	P	<3.0	247	7.62	8.05	291.2	426	7.8	10.03	84.4	101.9		206	169	5.15		45.4	0.0088	0.0042	1.57	9.21	0.0112	<0.00010	0.00032	0.0679	<0.000020	<0.000050
W3	03/08/2016 8:05	Discharge	M			7.6		298.8		8.2	9.91	84.4	98.7																
W3	04/08/2016 8:10	Discharge	M			7.64		291.4		8.1	10.45	88.5	96.4																
W3	05/08/2016 8:10	Discharge	M			7.85		299.4		8.7	9.42	81.1	119.4																
W3	06/08/2016 8:05	Discharge	M			7.85		301.6		7.2	10.92	90	132.3																
W3	07/08/2016 8:00	Discharge	M			7.89		303.9		9.7	9.25	81.8	111.5																
W3	08/08/2016 8:05	Discharge	M			7.55		314.7		10.2	9.2	82.4	103.9																
W3	09/08/2016 7:45	Discharge	P	<3.0	263	7.6	8.16	309.5	444	8.7	9.35	80.5	182.8		215	180	5.06		47.9	0.0103	<0.0010	1.97	10.0	0.0202	<0.00010	0.00035	0.0746	<0.000020	<0.000050
W3	10/08/2016 7:59	Discharge	M			7.37		296.2		11.1	9.36	85.2	235																
W3	11/08/2016 7:30	Discharge	M			8.3		426		10.7																			
W3	12/08/2016 7:15	Discharge	M			8.3		459		9.8																			
W3	13/08/2016 7:25	Discharge	M			7.72		313.4		9.6	9.06	79.6	113.8																
W3	14/08/2016 7:55	Discharge	M			8.2		456		9.5																			
W3	15/08/2016 8:15	Discharge	P	<3.0	272	7.78	8.09	308.3	451	7.8	9.43	79.3	93.9		220	185	5.26		51.0	0.0072	<0.0010	2.03	9.17	0.0146	<0.00010	0.00029	0.0725	<0.000020	<0.000050
W3	16/08/2016 8:00	Discharge	M			7.78		306.9		7.5	9.71	81.3	107.3																
W3	17/08/2016 8:25	Discharge	P	<3.0	271	7.79	7.93	310.1	449	7.9	9.71	94.7	110.9		227	183	5.26		51.3	0.0066	<0.0010	2.03	8.78	0.0177	<0.00010	0.00031	0.0686	<0.000020	<0.000050
W3	18/08/2016 8:15	Discharge	M			7.92		308.9		7.7	9.88	82.9	103.1																

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	04/06/2016 8:00																										
W3	05/06/2016 8:15																										
W3	06/06/2016 8:10																										
W3	07/06/2016 7:50	0.031	0.0000050	49.5	0.00015	<0.00010	0.0122	0.054	<0.000050	0.0014	16.9	0.0297	<0.0000050	0.00355	0.00119	<0.050	3.02	0.000666	3.96	<0.000010	14.1	0.510	13.8	<0.000010	<0.00010	<0.00030	0.00130
W3	08/06/2016 7:55																										
W3	09/06/2016 7:42																										
W3	10/06/2016 7:47																										
W3	11/06/2016 9:16																										
W3	13/06/2016 8:30																										
W3	14/06/2016 8:15	0.030	<0.0000050	49.1	0.00014	<0.00010	0.00966	0.039	<0.000050	0.0021	18.6	0.0207	<0.0000050	0.00395	0.00102	<0.050	2.72	0.000534	4.34	<0.000010	14.0	0.569	15.0	<0.000010	<0.00010	<0.00030	0.00158
W3	14/06/2016 8:15																										
W3	15/06/2016 7:50																										
W3	16/06/2016 8:00																										
W3	17/06/2016 7:50																										
W3	18/06/2016 7:50																										
W3	19/06/2016 8:00																										
W3	20/06/2016 7:50																										
W3	21/06/2016 7:50	0.034	<0.0000050	53.6	0.00013	<0.00010	0.00705	0.025	<0.000050	0.0017	21.3	0.0194	<0.0000050	0.00450	0.00115	<0.050	2.81	0.000505	4.90	<0.000010	16.8	0.614	15.0	<0.000010	<0.00010	0.00034	0.00193
W3	22/06/2016 8:30																										
W3	23/06/2016 9:05	0.032	<0.0000050	53.5	0.00014	<0.00010	0.00750	0.030	<0.000050	0.0023	20.9	0.0185	<0.0000050	0.00458	0.00122	<0.050	2.91	0.000520	4.69	<0.000010	15.9	0.606	15.5	<0.000010	<0.00010	<0.00030	0.00183
W3	24/06/2016 7:50																										
W3	25/06/2016 7:50																										
W3	26/06/2016 7:55																										
W3	08/07/2016 8:05																										
W3	09/07/2016 7:55																										
W3	10/07/2016 8:20																										
W3	11/07/2016 8:00																										
W3	12/07/2016 7:55	0.027	<0.0000050	56.1	0.00014	<0.00010	0.00394	0.017	<0.000050	0.0027	24.4	0.0256	<0.0000050	0.00491	0.00105	<0.050	2.56	0.000333	5.49	<0.000010	18.0	0.673	16.6	<0.000010	<0.00010	0.00033	0.00220
W3	13/07/2016 8:30																										
W3	14/07/2016 8:10																										
W3	15/07/2016 8:45																										
W3	16/07/2016 7:50																										
W3	17/07/2016 7:50																										
W3	18/07/2016 8:35																										
W3	19/07/2016 9:10	0.029	<0.0000050	51.4	0.00012	<0.00010	0.00585	0.022	<0.000050	0.0023	20.6	0.0166	<0.0000050	0.00453	0.00105	<0.050	2.45	0.000489	4.85	<0.000010	15.2	0.588	15.0	<0.000010	<0.00010	<0.00030	0.00175
W3	20/07/2016 8:00																										
W3	21/07/2016 7:55																										
W3	22/07/2016 7:50																										
W3	23/07/2016 7:50																										
W3	24/07/2016 8:00																										
W3	25/07/2016 8:00																										
W3	26/07/2016 15:05	0.034	<0.0000050	50.2	0.00017	<0.00010	0.0122	0.034	<0.000050	0.0017	17.4	0.0134	<0.0000050	0.00415	0.00138	<0.050	2.57	0.000673	4.26	<0.000010	15.3	0.551	14.0	<0.000010	<0.00010	0.00035	0.00143
W3	27/07/2016 7:50																										
W3	28/07/2016 8:20																										
W3	29/07/2016 7:27																										
W3	30/07/2016 7:51																										
W3	31/07/2016 8:10																										
W3	01/08/2016 7:42																										
W3	02/08/2016 7:40	0.033	<0.0000050	52.4	0.00012	<0.00010	0.00957	0.026	<0.000050	0.0020	18.8	0.0141	<0.0000050	0.00469	0.00104	<0.050	2.73	0.000643	4.57	<0.000010	15.1	0.598	15.5	<0.000010	<0.00010	0.00034	0.00153
W3	03/08/2016 8:05																										
W3	04/08/2016 8:10																										
W3	05/08/2016 8:10																										
W3	06/08/2016 8:05																										
W3	07/08/2016 8:00																										
W3	08/08/2016 8:05																										
W3	09/08/2016 7:45	0.037	<0.0000050	53.9	0.00015	<0.00010	0.00950	0.041	<0.000050	0.0020	18.5	0.0230	<0.0000050	0.00468	0.00100	<0.050	2.79	0.000752	4.48	<0.000010	16.3	0.621	16.3	<0.000010	<0.00010	0.00086	0.00154
W3	10/08/2016 7:59																										
W3	11/08/2016 7:30																										
W3	12/08/2016 7:15																										
W3	13/08/2016 7:25																										
W3	14/08/2016 7:55																										
W3	15/08/2016 8:15	0.041	<0.0000050	57.1	0.00014	<0.00010	0.00864	0.034	<0.000050	0.0022	20.2	0.0256	<0.0000050	0.00476	0.00095	<0.050	2.95	0.000633	4.84	<0.000010	16.1	0.632	18.0	<0.000010	<0.00010	0.00070	0.00166
W3	16/08/2016 8:00																										
W3	17/08/2016 8:25	0.034	<0.0000050	57.1	0.00019	<0.00010	0.00821	0.039	<0.000050	0.0020	20.3	0.0252	<0.0000050	0.00458	0.00101	<0.050	2.89	0.000651	4.94	<0.000010	15.4	0.606	17.6	<0.000010	<0.00010	0.00060	0.00160
W3	18/08/2016 8:15																										

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	04/06/2016 8:00																									
W3	05/06/2016 8:15																									
W3	06/06/2016 8:10																									
W3	07/06/2016 7:50	<0.00050	<0.0030	<0.00030	0.0069	<0.00010	0.00027	0.0583	<0.000020	<0.000050	0.032	<0.0000050	50.6	0.00012	<0.00010	0.0115	0.044	<0.000050	0.0015	16.7	0.0175	<0.0000050	0.00347	0.00109	<0.050	2.86
W3	08/06/2016 7:55																									
W3	09/06/2016 7:42																									
W3	10/06/2016 7:47																									
W3	11/06/2016 9:16																									
W3	13/06/2016 8:30																									
W3	14/06/2016 8:15	<0.00050	<0.0030	<0.00030	0.0053	<0.00010	0.00024	0.0617	<0.000020	<0.000050	0.031	<0.0000050	50.3	0.00010	<0.00010	0.00924	0.030	<0.000050	0.0018	18.9	0.0122	<0.0000050	0.00371	0.00091	<0.050	2.68
W3	14/06/2016 8:15																									
W3	15/06/2016 7:50																									
W3	16/06/2016 8:00																									
W3	17/06/2016 7:50																									
W3	18/06/2016 7:50																									
W3	19/06/2016 8:00																									
W3	20/06/2016 7:50																									
W3	21/06/2016 7:50	<0.00050	<0.0030	<0.00030	0.0070	<0.00010	0.00028	0.0696	<0.000020	<0.000050	0.033	<0.0000050	54.2	0.00012	<0.00010	0.00684	0.026	<0.000050	0.0019	20.9	0.0170	<0.0000050	0.00414	0.00117	<0.050	2.58
W3	22/06/2016 8:30																									
W3	23/06/2016 9:05	<0.00050	<0.0030	<0.00030	0.0045	<0.00010	0.00027	0.0663	<0.000020	<0.000050	0.030	<0.0000050	53.4	<0.00010	<0.00010	0.00687	0.021	<0.000050	0.0022	20.3	0.0139	<0.0000050	0.00416	0.00102	<0.050	2.72
W3	24/06/2016 7:50																									
W3	25/06/2016 7:50																									
W3	26/06/2016 7:55																									
W3	08/07/2016 8:05																									
W3	09/07/2016 7:55																									
W3	10/07/2016 8:20																									
W3	11/07/2016 8:00																									
W3	12/07/2016 7:55	<0.00050	<0.0030	<0.00030	0.0027	<0.00010	0.00026	0.0700	<0.000020	<0.000050	0.025	<0.0000050	57.4	<0.00010	<0.00010	0.00355	0.010	<0.000050	0.0026	24.1	0.0221	<0.0000050	0.00476	0.00095	<0.050	2.35
W3	13/07/2016 8:30																									
W3	14/07/2016 8:10																									
W3	15/07/2016 8:45																									
W3	16/07/2016 7:50																									
W3	17/07/2016 7:50																									
W3	18/07/2016 8:35																									
W3	19/07/2016 9:10	<0.00050	<0.0030	<0.00030	0.0030	<0.00010	0.00028	0.0654	<0.000020	<0.000050	0.029	<0.0000050	54.1	<0.00010	<0.00010	0.00560	0.014	<0.000050	0.0023	21.5	0.0137	<0.0000050	0.00441	0.00097	<0.050	2.51
W3	20/07/2016 8:00																									
W3	21/07/2016 7:55																									
W3	22/07/2016 7:50																									
W3	23/07/2016 7:50																									
W3	24/07/2016 8:00																									
W3	25/07/2016 8:00																									
W3	26/07/2016 15:05	0.00058	<0.0030	<0.00030	0.0540	<0.00010	0.00038	0.0701	<0.000020	<0.000050	0.032	0.0000055	51.4	0.00017	<0.00010	0.0139	0.095	0.000082	0.0015	17.9	0.0362	<0.0000050	0.00349	0.00132	<0.050	2.62
W3	27/07/2016 7:50																									
W3	28/07/2016 8:20																									
W3	29/07/2016 7:27																									
W3	30/07/2016 7:51																									
W3	31/07/2016 8:10																									
W3	01/08/2016 7:42																									
W3	02/08/2016 7:40	<0.00050	<0.0030	<0.00030	0.0050	<0.00010	0.00028	0.0665	<0.000020	<0.000050	0.030	<0.0000050	51.9	<0.00010	<0.00010	0.00886	0.018	<0.000050	0.0020	18.6	0.0122	<0.0000050	0.00406	0.00096	<0.050	2.69
W3	03/08/2016 8:05																									
W3	04/08/2016 8:10																									
W3	05/08/2016 8:10																									
W3	06/08/2016 8:05																									
W3	07/08/2016 8:00																									
W3	08/08/2016 8:05																									
W3	09/08/2016 7:45	0.00054	<0.0030	<0.00030	0.0049	<0.00010	0.00035	0.0769	<0.000020	<0.000050	0.035	0.0000066	54.7	0.00011	<0.00010	0.00893	0.018	<0.000050	0.0019	19.1	0.0136	<0.0000050	0.00434	0.00095	<0.050	2.98
W3	10/08/2016 7:59																									
W3	11/08/2016 7:30																									
W3	12/08/2016 7:15																									
W3	13/08/2016 7:25																									
W3	14/08/2016 7:55																									
W3	15/08/2016 8:15	<0.00050	<0.0030	<0.00030	0.0049	<0.00010	0.00034	0.0779	<0.000020	<0.000050	0.039	<0.0000050	55.9	0.00012	<0.00010	0.00889	0.017	<0.000050	0.0023	19.6	0.0193	<0.0000050	0.00427	0.00098	<0.050	2.86
W3	16/08/2016 8:00																									
W3	17/08/2016 8:25	<0.00050	<0.0030	<0.00030	0.0042	<0.00010	0.00030	0.0637	<0.000020	<0.000050	0.033	<0.0000050	57.3	0.00011	<0.00010	0.00735	0.017	<0.000050	0.0021	20.5	0.0170	<0.0000050	0.00414	0.00089	<0.050	2.89
W3	18/08/2016 8:15																									

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	Br	Cation	CN-T	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-TKN	P-PO4T	P-TDP	P-TRP
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L
W3	04/06/2016 8:00																															
W3	05/06/2016 8:15																															
W3	06/06/2016 8:10																															
W3	07/06/2016 7:50	0.000672	3.99	<0.000010	14.0	0.529	13.8	<0.000010	<0.00010	<0.00030	0.00131	<0.00050	0.0012	<0.00030	149	<1.0	<1.0		4.11		4.59							5.5				
W3	08/06/2016 7:55																															
W3	09/06/2016 7:42																															
W3	10/06/2016 7:47																															
W3	11/06/2016 9:16																															
W3	13/06/2016 8:30																															
W3	14/06/2016 8:15	0.000677	4.39	<0.000010	14.1	0.548	15.1	<0.000010	<0.00010	<0.00030	0.00149	<0.00050	<0.0010	<0.00030	164	<1.0	<1.0		4.40		4.74							3.7				
W3	14/06/2016 8:15																															
W3	15/06/2016 7:50																															
W3	16/06/2016 8:00																															
W3	17/06/2016 7:50																															
W3	18/06/2016 7:50																															
W3	19/06/2016 8:00																															
W3	20/06/2016 7:50																															
W3	21/06/2016 7:50	0.000537	4.86	<0.000010	16.9	0.594	14.7	<0.000010	<0.00010	<0.00030	0.00181	<0.00050	0.0010	<0.00030	189	<1.0	<1.0		4.90		5.23							3.2				
W3	22/06/2016 8:30																															
W3	23/06/2016 9:05	0.000607	4.61	<0.000010	15.2	0.574	15.2	<0.000010	<0.00010	<0.00030	0.00169	<0.00050	<0.0010	<0.00030	180	<1.0	<1.0		4.74		5.07							3.4				
W3	24/06/2016 7:50																															
W3	25/06/2016 7:50																															
W3	26/06/2016 7:55																															
W3	08/07/2016 8:05																															
W3	09/07/2016 7:55																															
W3	10/07/2016 8:20																															
W3	11/07/2016 8:00																															
W3	12/07/2016 7:55	0.000298	5.62	<0.000010	17.5	0.674	16.3	<0.000010	<0.00010	<0.00030	0.00212	<0.00050	<0.0010	<0.00030	214	<1.0	<1.0		5.42		5.66							2.2				
W3	13/07/2016 8:30																															
W3	14/07/2016 8:10																															
W3	15/07/2016 8:45																															
W3	16/07/2016 7:50																															
W3	17/07/2016 7:50																															
W3	18/07/2016 8:35																															
W3	19/07/2016 9:10	0.000513	5.06	<0.000010	15.1	0.601	15.4	<0.000010	<0.00010	<0.00030	0.00170	<0.00050	<0.0010	<0.00030	190	<1.0	<1.0		4.94		5.20							2.5				
W3	20/07/2016 8:00																															
W3	21/07/2016 7:55																															
W3	22/07/2016 7:50																															
W3	23/07/2016 7:50																															
W3	24/07/2016 8:00																															
W3	25/07/2016 8:00																															
W3	26/07/2016 15:05	0.000681	4.44	<0.000010	15.5	0.543	14.0	<0.000010	<0.00010	0.00207	0.00133	<0.00050	0.0052	<0.00030	164	<1.0	<1.0		4.41		4.80							4.2				
W3	27/07/2016 7:50																															
W3	28/07/2016 8:20																															
W3	29/07/2016 7:27																															
W3	30/07/2016 7:51																															
W3	31/07/2016 8:10																															
W3	01/08/2016 7:42																															
W3	02/08/2016 7:40	0.000669	4.51	<0.000010	14.6	0.575	15.4	<0.000010	<0.00010	<0.00030	0.00142	<0.00050	0.0012	<0.00030	169	<1.0	<1.0		4.58		4.82							2.7				
W3	03/08/2016 8:05																															
W3	04/08/2016 8:10																															
W3	05/08/2016 8:10																															
W3	06/08/2016 8:05																															
W3	07/08/2016 8:00																															
W3	08/08/2016 8:05																															
W3	09/08/2016 7:45	0.000760	4.52	<0.000010	16.6	0.605	16.8	<0.000010	<0.00010	<0.00030	0.00149	<0.00050	0.0014	<0.00030	180	<1.0	<1.0		4.88		5.10							2.3				
W3	10/08/2016 7:59																															
W3	11/08/2016 7:30																															
W3	12/08/2016 7:15																															
W3	13/08/2016 7:25																															
W3	14/08/2016 7:55																															
W3	15/08/2016 8:15	0.000657	4.74	<0.000010	17.2	0.617	16.9	<0.000010	<0.00010	<0.00030	0.00154	<0.00050	0.0015	<0.00030	185	<1.0	<1.0		5.05		5.22							1.7				
W3	16/08/2016 8:00																															
W3	17/08/2016 8:25	0.000713	4.94	<0.000010	14.6	0.595	17.4	<0.000010	<0.00010	<0.00030	0.00153	<0.00050	0.0032	<0.00030	183	<1.0	<1.0		5.03		5.25							2.2				
W3	18/08/2016 8:15																															

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W3	04/06/2016 8:00			413.6			
W3	05/06/2016 8:15			420.3			
W3	06/06/2016 8:10			421.1			
W3	07/06/2016 7:50			394.7			
W3	08/06/2016 7:55			384.8			
W3	09/06/2016 7:42			385.1			
W3	10/06/2016 7:47			399.8			
W3	11/06/2016 9:16			406.2			
W3	13/06/2016 8:30			501.2			
W3	14/06/2016 8:15						
W3	14/06/2016 8:15			415.2			
W3	15/06/2016 7:50			412.9			
W3	16/06/2016 8:00			389			
W3	17/06/2016 7:50			423.8			
W3	18/06/2016 7:50			427.8			
W3	19/06/2016 8:00			450			
W3	20/06/2016 7:50			499.3			
W3	21/06/2016 7:50			456.9			
W3	22/06/2016 8:30			530			
W3	23/06/2016 9:05	<0.0100		442.6			
W3	24/06/2016 7:50			493.2			
W3	25/06/2016 7:50			429.1			
W3	26/06/2016 7:55			447.4			
W3	08/07/2016 8:05			420.6			
W3	09/07/2016 7:55			427.2			
W3	10/07/2016 8:20			446.5			
W3	11/07/2016 8:00			445.4			
W3	12/07/2016 7:55			492.4			
W3	13/07/2016 8:30			433.8			
W3	14/07/2016 8:10			399.1			
W3	15/07/2016 8:45			493.8			
W3	16/07/2016 7:50			494.5			
W3	17/07/2016 7:50			442.7			
W3	18/07/2016 8:35			499.3			
W3	19/07/2016 9:10			454.6			
W3	20/07/2016 8:00			454.7			
W3	21/07/2016 7:55			457.2			
W3	22/07/2016 7:50			457.6			
W3	23/07/2016 7:50			421.3			
W3	24/07/2016 8:00			408.6			
W3	25/07/2016 8:00			399.4			
W3	26/07/2016 15:05			414.9			
W3	27/07/2016 7:50			385			
W3	28/07/2016 8:20			390.5			
W3	29/07/2016 7:27			415.3			
W3	30/07/2016 7:51			398.9			
W3	31/07/2016 8:10			413.2			
W3	01/08/2016 7:42			440.7			
W3	02/08/2016 7:40			433.4			
W3	03/08/2016 8:05			439.2			
W3	04/08/2016 8:10			430.1			
W3	05/08/2016 8:10			435.5			
W3	06/08/2016 8:05			457			
W3	07/08/2016 8:00			431.7			
W3	08/08/2016 8:05			438.9			
W3	09/08/2016 7:45			449.8			
W3	10/08/2016 7:59			403.6			
W3	11/08/2016 7:30						
W3	12/08/2016 7:15						
W3	13/08/2016 7:25			443.6			
W3	14/08/2016 7:55						
W3	15/08/2016 8:15			459.3			
W3	16/08/2016 8:00			460.9			
W3	17/08/2016 8:25			460.9			
W3	18/08/2016 8:15			461.7			

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Phase	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
				mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	19/08/2016 7:20	Discharge	M			7.8		313.3		8.7	9.54	82	117.7																
W3	20/08/2016 7:30	Discharge	M			7.84		315.9		9.9	9.23	81.5	110																
W3	21/08/2016 7:35	Discharge	M			7.78		312.4		9.1	9.36	81.3	108.9																
W3	22/08/2016 7:30	Discharge	M			7.82		312.8		8.1	9.61	81.6	109.4																
W3	23/08/2016 9:10	Discharge	P	<3.0	267	7.81	8.13	317.5	449	9	9.54	82.6	110.4		215	178	5.31		53.1	0.0060	<0.0010	2.51	9.55	0.0144	<0.00010	0.00035	0.0651	<0.000020	<0.000050
W3	24/08/2016 7:35	Discharge	M			7.81		311.6		7.7	10.47	89.5	111.6																
W3	25/08/2016 8:20	Discharge	M			7.34		321.6		8.8	10.41	90.1	137																
W3	26/08/2016 8:30	Discharge	M			7.34		324		10.1	9.32	83.4	137.5																
W3	27/08/2016 8:15	Discharge	M			7.23		324.5		10.9	11.15	101.5	121.9																
W3	28/08/2016 7:27	Discharge	M			7.17		340.1		11.2	9.62	87.8	142.1																
W3	29/08/2016 8:25	Discharge	M			7.27		333.4		9.7	10.03	88.4	162																
W3	30/08/2016 8:15	Discharge	P	<3.0	282	7.31	8.31	333.2	453	10	9.33	82.8	134.2		225	173	5.45		58.3	0.0055	0.0066	3.73	10.2	0.0179	<0.00010	0.00033	0.0699	<0.000020	<0.000050
W3	31/08/2016 8:00	Discharge	M			7.16		330.9		10.1	11.05	98.9	159.8																
W3	01/09/2016 8:15	Discharge	M			7.48		333.8		10.1	10.24	91.4	143.7																
W3	02/09/2016 8:20	Discharge	M			7.45		339.4		10.2	9.82	88.7	136.3																
W3	03/09/2016 7:50	Discharge	M			7.52		341.8		10.8	8.94	80.1	88.7																
W3	04/09/2016 8:05	Discharge	M			7.3		135.6		11.2	9.57	87.3	132.1																
W3	05/09/2016 7:55	Discharge	M			7.15		138.5		11.8	9.23	85.3	134.9																
W3	06/09/2016 11:40	Discharge	P	<3.0	166	7.43	8.10	220.6	277	12.7	9.13	85.9	150		126	97.9	3.25		35.6	0.0114	0.0122	2.83	6.71	0.0146	<0.00010	0.00025	0.0450	<0.000020	<0.000050
W3	07/09/2016 7:16	Discharge	M			7.11		155.3		11.9	9.43	87.3	105.2																
W3	08/09/2016 7:14	Discharge	M			7.77		2.1		10	13.01	115.4	111.4																
W3	09/09/2016 7:47	Discharge	M			7.9		200.6		11.3	10.65	97.3	154																
W3	10/09/2016 7:56	Discharge	M			7.82		192.6		10.9	9.29	84.1	122.9																
W3	11/09/2016 8:14	Discharge	M			7.69		192.6		10.5	9.53	85.5	135.8																
W3	12/09/2016 8:08	Discharge	M			7.93		185.8		11.1	9.67	88	110.3																
W3	13/09/2016 7:18	Discharge	P	<3.0	180	7.82	7.86	218.6	294	11.1	9.45	85.9	95.7		131	114	3.23		36.7	0.0163	0.0122	2.88	7.30	0.0130	<0.00010	0.00022	0.0390	<0.000020	<0.000050
W3	14/09/2016 8:03	Discharge	M			7.77		186.5		10.1	10.01	88.9	117.1																
W3	15/09/2016 7:40	Discharge	M			6.82		174.6		9.9	9.97	88.3	255.5																
W3	16/09/2016 7:35	Discharge	M			7.13		207.4		10.7	10.8	96.7	109.2																
W3	17/09/2016 7:35	Discharge	M			7.77		174.5		10.1	9.54	84.9	99.7																
W3	18/09/2016 7:35	Discharge	M			7.01		208		10.5	9.98	89.6	165.7																
W3	19/09/2016 7:45	Discharge	M			7.67		191.2		10	9.44	84	115.9																
W3	20/09/2016 7:45	Discharge	P	<3.0	154	7.81	7.87	190	264	9.2	10.14	88.2	102.8		117	91.2	2.97		32.8	0.0109	0.0106	2.61	5.94	0.0110	<0.00010	0.00022	0.0378	<0.000020	<0.000050
W3	21/09/2016 7:15	Discharge	M			7.86		171.4		9.2	10.39	90.2	102.5																
W3	22/09/2016 8:00	Discharge	M			7.9		174.9		9.4	9.63	84.4	96.7																
W3	23/09/2016 8:10	Discharge	M			8.12		176.8		8.3	9.16	78.2	137.8																
W3	24/09/2016 8:20	Discharge	M			7.54		175.5		8	10.41	88	121.1																
W3	25/09/2016 8:00	Discharge	M			7.26		182.1		7.8	10.74	90.3	169.8																
W3	26/09/2016 8:05	Discharge	M			7.09		181.7		7.7	10.66	89.5	133.4																
W3	27/09/2016 8:10	Discharge	P	<3.0	158	7.53	7.99	188.1	250	7.7	10.83	91.1	145.9		114	98.8	2.87		31.9	0.0053	0.0047	2.51	5.32	0.0145	<0.00010	0.00020	0.0376	<0.000020	<0.000050
W3	28/09/2016 8:00	Discharge	M			7.38		180.1		7.1	11.17	92.2	120.5																
W3	29/09/2016 8:05	Discharge	M			7.69		181.6		6.9	11.83	97.3	141.9																
W3	30/09/2016 8:00	Discharge	M			7.71		179.3		6.1	11.12	89.5	138.7																
W3	01/10/2016 8:15	Discharge	M			7.47		163.8		5.9	11.47	92.1	150.3																
W3	02/10/2016 8:15	Discharge	M			7.32		164		3.5	11.55	87.3	118.1																
W3	03/10/2016 8:05	Discharge	M			7.32		160		5.3	11.53	91.1	136.5																
W3	03/10/2016 10:20	Discharge	P	<3.0	142	7.69	7.96	163.8	228	6.5	11.99	90.3	159.1		101	93.0	2.45		26.9	0.0094	0.0038	2.04	4.60	0.0067	<0.00010	0.00016	0.0347	<0.000020	<0.000050
W3	04/10/2016 8:05	Discharge	P	<3.0	218	7.68	8.15	216.6	353	3.5	12.98	98.2	87.2		164	143	3.91		43.6	0.0117	0.0021	2.77	6.65	0.0063	<0.00010	0.00023	0.0532	<0.000020	<0.000050
W3	05/10/2016 6:58	Discharge	M			7.9		97.2		3.5	12.37	93.2	114.6																
W3	06/10/2016 7:35	Discharge	M			7.46		150.9		3.7	11.04	83.7	116.5																
W3	07/10/2016 7:35	Discharge	M			7.7		150.4		3.4	12.47	93.7	94.5																
W3	08/10/2016 7:40	Discharge	M			7.59		150.3		2.9	12.54	93.2	107.4																
W3	09/10/2016 7:50	Discharge	M			7.71		151		2.6	12.82	94.3	103.8																
W3	10/10/2016 7:40	Discharge	M			7.71		258.4		1.8	12.3	88.8	93.2																
W3	11/10/2016 7:45	Discharge	P	<3.0	282	7.67	8.22	251.1	457	1.8	12.24	88.3	101.7		206	184	5.39		60.4	0.0091	0.0011	3.89	8.90	0.0166	<0.00010	0.00029	0.0656	<0.000020	<0.000050
W3	12/10/2016 9:25	Discharge	M			7.83		259.3		2.5	12.04	88.3	146.7																
W3	13/10/2016 8:15	Discharge	M			7.84		275.1		2.6	12.92	94.5	97.7																
W3	14/10/2016 7:40	Discharge	M			7.64		278.6		2.9	14.46	107.2	101.5																
W3	15/10/2016 7:40	Discharge	M			7.56		285.7		3.1	12.29	91.6	92.9																
W3	16/10/2016 7:50	Discharge	M			7.59		289.2		2.7	11.27	83.1	100.7																
W3	17/10/2016 7:45	Discharge	M			7.71		288.9		2.8	17.26	127.7	95.7																
W3	18/10/2016 8:50	Discharge	P	<3.0	297	7.79	8.20	296.4	472	3.3	11.87	88.9	119.5		229	180	6.02		65.7	0.0292	0.0131	4.61	10.2	0.0171	<0.00010	0.00036	0.0729	<0.000020	<0.000050
W3	19/10/2016 7:00	Discharge	M			7.64		273.7		3.1	12.22	91.1	99.3																
W3	20/10/2016 8:20	Discharge	M			8.03		296.3		3.4	12.57	94.5	85.2																
W3	21/10/2016 8:00	Discharge	M			7.64		291.8		3.2	11.44	86	99.6																

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	19/08/2016 7:20																										
W3	20/08/2016 7:30																										
W3	21/08/2016 7:35																										
W3	22/08/2016 7:30																										
W3	23/08/2016 9:10	0.040	<0.0000050	56.7	0.00013	<0.00010	0.00871	0.038	<0.000050	0.0022	19.2	0.0201	<0.0000050	0.00487	0.00092	<0.050	2.98	0.000870	4.62	<0.000010	14.4	0.625	18.0	<0.000010	<0.00010	0.00052	0.00147
W3	24/08/2016 7:35																										
W3	25/08/2016 8:20																										
W3	26/08/2016 8:30																										
W3	27/08/2016 8:15																										
W3	28/08/2016 7:27																										
W3	29/08/2016 8:25																										
W3	30/08/2016 8:15	0.039	<0.0000050	57.0	0.00014	<0.00010	0.0117	0.044	<0.000050	0.0019	18.6	0.0213	<0.0000050	0.00464	0.00092	<0.050	3.03	0.00106	4.28	<0.000010	15.8	0.636	20.6	<0.000010	<0.00010	0.00061	0.00137
W3	31/08/2016 8:00																										
W3	01/09/2016 8:15																										
W3	02/09/2016 8:20																										
W3	03/09/2016 7:50																										
W3	04/09/2016 8:05																										
W3	05/09/2016 7:55																										
W3	06/09/2016 11:40	0.034	<0.0000050	32.7	0.00010	<0.00010	0.00828	0.035	<0.000050	<0.0010	10.1	0.0230	<0.0000050	0.00296	0.00050	<0.050	2.04	0.000723	2.30	<0.000010	9.56	0.420	13.0	<0.000010	<0.00010	0.00062	0.000728
W3	07/09/2016 7:16																										
W3	08/09/2016 7:14																										
W3	09/09/2016 7:47																										
W3	10/09/2016 7:56																										
W3	11/09/2016 8:14																										
W3	12/09/2016 8:08																										
W3	13/09/2016 7:18	0.033	<0.0000050	37.4	<0.00010	<0.00010	0.00720	0.041	0.000081	<0.0010	10.6	0.0331	<0.0000050	0.00274	0.00054	<0.050	1.97	0.000721	2.51	<0.000010	9.55	0.399	12.4	<0.000010	<0.00010	0.00054	0.000801
W3	14/09/2016 8:03																										
W3	15/09/2016 7:40																										
W3	16/09/2016 7:35																										
W3	17/09/2016 7:35																										
W3	18/09/2016 7:35																										
W3	19/09/2016 7:45																										
W3	20/09/2016 7:45	0.029	<0.0000050	30.8	<0.00010	<0.00010	0.00744	0.029	<0.000050	<0.0010	9.33	0.0298	<0.0000050	0.00245	0.00056	<0.050	1.77	0.000637	2.07	<0.000010	9.69	0.349	10.1	<0.000010	<0.00010	0.00046	0.000708
W3	21/09/2016 7:15																										
W3	22/09/2016 8:00																										
W3	23/09/2016 8:10																										
W3	24/09/2016 8:20																										
W3	25/09/2016 8:00																										
W3	26/09/2016 8:05																										
W3	27/09/2016 8:10	0.030	<0.0000050	29.7	<0.00010	<0.00010	0.00629	0.030	0.000067	0.0010	10.1	0.0256	<0.0000050	0.00229	0.00056	<0.050	1.73	0.000619	2.29	<0.000010	12.4	0.338	11.3	<0.000010	<0.00010	0.00047	0.000711
W3	28/09/2016 8:00																										
W3	29/09/2016 8:05																										
W3	30/09/2016 8:00																										
W3	01/10/2016 8:15																										
W3	02/10/2016 8:15																										
W3	03/10/2016 8:05																										
W3	03/10/2016 10:20	0.030	<0.0000050	27.1	<0.00010	<0.00010	0.00483	0.019	<0.000050	<0.0010	9.11	0.0238	<0.0000050	0.00216	<0.00050	<0.050	1.63	0.000507	2.30	<0.000010	11.7	0.302	9.85	<0.000010	<0.00010	<0.00030	0.000654
W3	04/10/2016 8:05	0.032	<0.0000050	44.9	<0.00010	<0.00010	0.00667	0.023	<0.000050	<0.0010	15.1	0.0292	<0.0000050	0.00338	0.00070	<0.050	2.36	0.000725	3.76	<0.000010	14.5	0.493	16.1	<0.000010	<0.00010	<0.00030	0.00141
W3	05/10/2016 6:58																										
W3	06/10/2016 7:35																										
W3	07/10/2016 7:35																										
W3	08/10/2016 7:40																										
W3	09/10/2016 7:50																										
W3	10/10/2016 7:40																										
W3	11/10/2016 7:45	0.032	<0.0000050	57.3	0.00014	<0.00010	0.00942	0.042	<0.000050	0.0016	18.6	0.0356	<0.0000050	0.00426	0.00102	<0.050	2.83	0.00110	4.48	<0.000010	14.9	0.657	21.1	<0.000010	<0.00010	0.00074	0.00181
W3	12/10/2016 9:25																										
W3	13/10/2016 8:15																										
W3	14/10/2016 7:40																										
W3	15/10/2016 7:40																										
W3	16/10/2016 7:50																										
W3	17/10/2016 7:45																										
W3	18/10/2016 8:50	0.030	<0.0000050	59.0	0.00016	<0.00010	0.0134	0.071	0.000052	<0.0010	18.4	0.0358	<0.0000050	0.00398	0.00088	<0.050	2.96	0.00127	4.01	<0.000010	14.3	0.661	21.6	<0.000010	<0.00010	0.00073	0.00159
W3	19/10/2016 7:00																										
W3	20/10/2016 8:20																										
W3	21/10/2016 8:00																										

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	19/08/2016 7:20																									
W3	20/08/2016 7:30																									
W3	21/08/2016 7:35																									
W3	22/08/2016 7:30																									
W3	23/08/2016 9:10	0.00053	<0.0030	<0.00030	0.0050	<0.00010	0.00031	0.0597	<0.000020	<0.000050	0.037	<0.0000050	55.3	<0.00010	<0.00010	0.00752	0.018	<0.000050	0.0021	18.6	0.0128	<0.0000050	0.00433	0.00077	<0.050	2.90
W3	24/08/2016 7:35																									
W3	25/08/2016 8:20																									
W3	26/08/2016 8:30																									
W3	27/08/2016 8:15																									
W3	28/08/2016 7:27																									
W3	29/08/2016 8:25																									
W3	30/08/2016 8:15	<0.00050	<0.0030	<0.00030	0.0088	<0.00010	0.00030	0.0692	<0.000020	<0.000050	0.038	<0.0000050	60.7	<0.00010	<0.00010	0.0112	0.024	<0.000050	0.0018	17.8	0.0113	<0.0000050	0.00462	0.00084	<0.050	3.14
W3	31/08/2016 8:00																									
W3	01/09/2016 8:15																									
W3	02/09/2016 8:20																									
W3	03/09/2016 7:50																									
W3	04/09/2016 8:05																									
W3	05/09/2016 7:55																									
W3	06/09/2016 11:40	<0.00050	<0.0030	<0.00030	0.0051	<0.00010	0.00021	0.0434	<0.000020	<0.000050	0.031	<0.0000050	34.1	<0.00010	<0.00010	0.00731	0.021	<0.000050	<0.0010	10.0	0.00702	<0.0000050	0.00259	<0.00050	<0.050	1.92
W3	07/09/2016 7:16																									
W3	08/09/2016 7:14																									
W3	09/09/2016 7:47																									
W3	10/09/2016 7:56																									
W3	11/09/2016 8:14																									
W3	12/09/2016 8:08																									
W3	13/09/2016 7:18	<0.00050	<0.0030	<0.00030	0.0035	<0.00010	0.00023	0.0455	<0.000020	<0.000050	0.032	<0.0000050	35.7	<0.00010	<0.00010	0.00753	0.013	<0.000050	<0.0010	10.3	0.0105	<0.0000050	0.00271	0.00055	<0.050	1.92
W3	14/09/2016 8:03																									
W3	15/09/2016 7:40																									
W3	16/09/2016 7:35																									
W3	17/09/2016 7:35																									
W3	18/09/2016 7:35																									
W3	19/09/2016 7:45																									
W3	20/09/2016 7:45	<0.00050	<0.0030	<0.00030	0.0023	<0.00010	0.00019	0.0387	<0.000020	<0.000050	0.027	<0.0000050	30.9	<0.00010	<0.00010	0.00648	0.011	<0.000050	<0.0010	9.65	0.00766	<0.0000050	0.00232	<0.00050	<0.050	1.79
W3	21/09/2016 7:15																									
W3	22/09/2016 8:00																									
W3	23/09/2016 8:10																									
W3	24/09/2016 8:20																									
W3	25/09/2016 8:00																									
W3	26/09/2016 8:05																									
W3	27/09/2016 8:10	<0.00050	<0.0030	<0.00030	0.0023	<0.00010	0.00017	0.0377	<0.000020	<0.000050	0.028	<0.0000050	29.2	<0.00010	<0.00010	0.00571	0.011	<0.000050	<0.0010	9.86	0.00839	<0.0000050	0.00208	<0.00050	<0.050	1.72
W3	28/09/2016 8:00																									
W3	29/09/2016 8:05																									
W3	30/09/2016 8:00																									
W3	01/10/2016 8:15																									
W3	02/10/2016 8:15																									
W3	03/10/2016 8:05																									
W3	03/10/2016 10:20	<0.00050	<0.0030	<0.00030	0.0024	<0.00010	0.00015	0.0335	<0.000020	<0.000050	0.028	<0.0000050	26.1	<0.00010	<0.00010	0.00436	0.011	<0.000050	<0.0010	8.81	0.0128	<0.0000050	0.00190	<0.00050	<0.050	1.59
W3	04/10/2016 8:05	<0.00050	<0.0030	<0.00030	0.0049	<0.00010	0.00020	0.0506	<0.000020	<0.000050	0.028	<0.0000050	40.7	0.00011	<0.00010	0.00646	0.017	<0.000050	0.0013	15.1	0.0159	<0.0000050	0.00300	0.00065	<0.050	2.25
W3	05/10/2016 6:58																									
W3	06/10/2016 7:35																									
W3	07/10/2016 7:35																									
W3	08/10/2016 7:40																									
W3	09/10/2016 7:50																									
W3	10/10/2016 7:40																									
W3	11/10/2016 7:45	<0.00050	<0.0030	<0.00030	0.0026	<0.00010	0.00027	0.0623	<0.000020	<0.000050	0.030	<0.0000050	54.9	<0.00010	<0.00010	0.00826	0.018	<0.000050	0.0016	16.8	0.0177	<0.0000050	0.00395	0.00090	<0.050	2.64
W3	12/10/2016 9:25																									
W3	13/10/2016 8:15																									
W3	14/10/2016 7:40																									
W3	15/10/2016 7:40																									
W3	16/10/2016 7:50																									
W3	17/10/2016 7:45																									
W3	18/10/2016 8:50	<0.00050	<0.0030	<0.00030	0.0017	<0.00010	0.00030	0.0768	<0.000020	<0.000050	0.030	<0.0000050	59.8	<0.00010	<0.00010	0.0118	0.036	<0.000050	<0.0010	19.3	0.0245	<0.0000050	0.00370	0.00070	<0.050	3.15
W3	19/10/2016 7:00																									
W3	20/10/2016 8:20																									
W3	21/10/2016 8:00																									

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	Br	Cation	CN-T	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-TKN	P-PO4T	P-TDP	P-TRP
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L
W3	19/08/2016 7:20																															
W3	20/08/2016 7:30																															
W3	21/08/2016 7:35																															
W3	22/08/2016 7:30																															
W3	23/08/2016 9:10	0.000856	4.53	<0.000010	13.7	0.616	17.7	<0.000010	<0.00010	<0.00030	0.00136	<0.00050	<0.0010	<0.00030	178	<1.0	<1.0		5.00		4.96							-0.3				
W3	24/08/2016 7:35																															
W3	25/08/2016 8:20																															
W3	26/08/2016 8:30																															
W3	27/08/2016 8:15																															
W3	28/08/2016 7:27																															
W3	29/08/2016 8:25																															
W3	30/08/2016 8:15	0.00112	4.03	<0.000010	15.9	0.652	18.8	<0.000010	<0.00010	0.00053	0.00134	<0.00050	0.0013	<0.00030	170	2.8	<1.0		5.08		5.27							1.8				
W3	31/08/2016 8:00																															
W3	01/09/2016 8:15																															
W3	02/09/2016 8:20																															
W3	03/09/2016 7:50																															
W3	04/09/2016 8:05																															
W3	05/09/2016 7:55																															
W3	06/09/2016 11:40	0.000740	2.29	<0.000010	9.37	0.377	11.9	<0.000010	<0.00010	<0.00030	0.000648	<0.00050	<0.0010	<0.00030	97.9	<1.0	<1.0		2.99		2.98							-0.2				
W3	07/09/2016 7:16																															
W3	08/09/2016 7:14																															
W3	09/09/2016 7:47																															
W3	10/09/2016 7:56																															
W3	11/09/2016 8:14																															
W3	12/09/2016 8:08																															
W3	13/09/2016 7:18	0.000844	2.46	<0.000010	10.7	0.394	12.0	<0.000010	<0.00010	<0.00030	0.000706	<0.00050	<0.0010	<0.00030	114	<1.0	<1.0		3.35		3.14							-3.1				
W3	14/09/2016 8:03																															
W3	15/09/2016 7:40																															
W3	16/09/2016 7:35																															
W3	17/09/2016 7:35																															
W3	18/09/2016 7:35																															
W3	19/09/2016 7:45																															
W3	20/09/2016 7:45	0.000599	2.12	<0.000010	9.92	0.346	9.99	<0.000010	<0.00010	<0.00030	0.000704	<0.00050	<0.0010	<0.00030	91.2	<1.0	<1.0		2.78		2.81							0.7				
W3	21/09/2016 7:15																															
W3	22/09/2016 8:00																															
W3	23/09/2016 8:10																															
W3	24/09/2016 8:20																															
W3	25/09/2016 8:00																															
W3	26/09/2016 8:05																															
W3	27/09/2016 8:10	0.000653	2.27	<0.000010	12.2	0.330	11.1	<0.000010	<0.00010	<0.00030	0.000660	<0.00050	<0.0010	<0.00030	98.8	<1.0	<1.0		2.90		2.84							-0.9				
W3	28/09/2016 8:00																															
W3	29/09/2016 8:05																															
W3	30/09/2016 8:00																															
W3	01/10/2016 8:15																															
W3	02/10/2016 8:15																															
W3	03/10/2016 8:05																															
W3	03/10/2016 10:20	0.000469	2.20	<0.000010	11.4	0.287	9.32	<0.000010	<0.00010	<0.00030	0.000576	<0.00050	0.0012	<0.00030	93.0	<1.0	<1.0		2.63		2.57							-1.3				
W3	04/10/2016 8:05	0.000800	3.45	<0.000010	14.1	0.461	14.8	<0.000010	<0.00010	0.00038	0.00131	<0.00050	<0.0010	<0.00030	143	<1.0	<1.0		4.07		3.94							-1.6				
W3	05/10/2016 6:58																															
W3	06/10/2016 7:35																															
W3	07/10/2016 7:35																															
W3	08/10/2016 7:40																															
W3	09/10/2016 7:50																															
W3	10/10/2016 7:40																															
W3	11/10/2016 7:45	0.00106	4.19	<0.000010	13.6	0.632	20.0	<0.000010	<0.00010	<0.00030	0.00170	<0.00050	<0.0010	<0.00030	184	<1.0	<1.0		5.37		4.78							-5.8				
W3	12/10/2016 9:25																															
W3	13/10/2016 8:15																															
W3	14/10/2016 7:40																															
W3	15/10/2016 7:40																															
W3	16/10/2016 7:50																															
W3	17/10/2016 7:45																															
W3	18/10/2016 8:50	0.00119	4.08	<0.000010	15.1	0.660	21.5	<0.000010	<0.00010	<0.00030	0.00152	<0.00050	<0.0010	<0.00030	180	<1.0	<1.0		5.46		5.31							-1.4				
W3	19/10/2016 7:00																															
W3	20/10/2016 8:20																															
W3	21/10/2016 8:00																															

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W3	19/08/2016 7:20			455.4			
W3	20/08/2016 7:30			443.9			
W3	21/08/2016 7:35			448.1			
W3	22/08/2016 7:30			462.3			
W3	23/08/2016 9:10			457.5			
W3	24/08/2016 7:35			464.9			
W3	25/08/2016 8:20			465.4			
W3	26/08/2016 8:30			453.2			
W3	27/08/2016 8:15			457.4			
W3	28/08/2016 7:27			461.7			
W3	29/08/2016 8:25			470.8			
W3	30/08/2016 8:15			457.6			
W3	31/08/2016 8:00			463.1			
W3	01/09/2016 8:15			467			
W3	02/09/2016 8:20			472.8			
W3	03/09/2016 7:50			469.4			
W3	04/09/2016 8:05			184.1			
W3	05/09/2016 7:55			185.1			
W3	06/09/2016 11:40			288.4			
W3	07/09/2016 7:16			207.2			
W3	08/09/2016 7:14			3			
W3	09/09/2016 7:47			271.5			
W3	10/09/2016 7:56			263.7			
W3	11/09/2016 8:14			266.6			
W3	12/09/2016 8:08			252.8			
W3	13/09/2016 7:18			297.6			
W3	14/09/2016 8:03			260.7			
W3	15/09/2016 7:40			245.2			
W3	16/09/2016 7:35			285.2			
W3	17/09/2016 7:35			245.5			
W3	18/09/2016 7:35			287.8			
W3	19/09/2016 7:45			268.2			
W3	20/09/2016 7:45			271.8			
W3	21/09/2016 7:15			243.5			
W3	22/09/2016 8:00			249.1			
W3	23/09/2016 8:10			260.5			
W3	24/09/2016 8:20			260			
W3	25/09/2016 8:00			270.9			
W3	26/09/2016 8:05			272.1			
W3	27/09/2016 8:10			280.6			
W3	28/09/2016 8:00			273.8			
W3	29/09/2016 8:05			278.4			
W3	30/09/2016 8:00			282			
W3	01/10/2016 8:15			257.6			
W3	02/10/2016 8:15			278.2			
W3	03/10/2016 8:05			256.2			
W3	03/10/2016 10:20			253.3			
W3	04/10/2016 8:05			367.4			
W3	05/10/2016 6:58			166.6			
W3	06/10/2016 7:35			254.5			
W3	07/10/2016 7:35			256			
W3	08/10/2016 7:40			260.1			
W3	09/10/2016 7:50			264.1			
W3	10/10/2016 7:40			463.6			
W3	11/10/2016 7:45			468.3			
W3	12/10/2016 9:25			460.7			
W3	13/10/2016 8:15			481.9			
W3	14/10/2016 7:40			483.9			
W3	15/10/2016 7:40			491.5			
W3	16/10/2016 7:50			503.9			
W3	17/10/2016 7:45			502			
W3	18/10/2016 8:50			505.8			
W3	19/10/2016 7:00			466.2			
W3	20/10/2016 8:20			505.6			
W3	21/10/2016 8:00			499.5			

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Phase	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
				mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	22/10/2016 8:15	Discharge	M			7.77		291.8		3.1	12.01	89.8	96.3																
W3	23/10/2016 15:50	Discharge	P	<3.0	297	7.72	8.27	264.8	466	2.7	12.31	90.9	100.3		231	180	6.10		65.8	0.0299	0.0158	4.49	10.4	0.0141	<0.00010	0.00034	0.0728	<0.000020	<0.000050
W3	23/10/2016 15:50	Discharge	M			7.65		289.4		2.6	11.87	87.8	108.5																
W3	24/10/2016 8:00	Discharge	M			7.72		290.1		2.5	12.22	89.7	106.6																
W3	25/10/2016 8:20	Discharge	P	<3.0	303	7.83	8.23	276.7	494	1.9	11.92	86.3	98.5		237	184	6.15		65.2	0.0318	0.0155	4.43	10.2	0.0088	0.00020	0.00030	0.0744	<0.000020	<0.000050
MC1	24/04/2010	No Discharge	P	<5	126		7.5		98					52		45	0.92		4.3					0.124	<0.0002	0.0005	0.028	<0.00004	<0.001
MC1	26/04/2010	No Discharge	P	6	56	7.33	7.7	94.5	93	1.2				48.7	47.7	45	1.6	0.12	<0.5	0.1	<0.005	0.1	21.4	0.181	<0.0005	0.0005	0.028	<0.0001	<0.001
MC1	28/04/2010	No Discharge	P	19	70	7.68	7.7	79	77	0.04		2.3		43.5	41	38	1.2	0.11	<0.5	0.1	High DL removed	<0.1	20.8	0.655	<0.0005	0.0007	0.037	<0.0001	<0.001
MC1	30/04/2010	No Discharge	P	14	76		7.7		86					50.8	42.6	42	1.3	0.12	<5	0.046	High DL removed	<0.2	28.4	0.663	<0.0005	0.0008	0.039	<0.0001	<0.001
MC1	02/05/2010	No Discharge	P	<4	68		8		126					64.4	63.5	60	1.7	0.15	<0.5	0.039	<0.005	0.03	23.2	0.195	<0.0005	0.0006	0.038	<0.0001	<0.001
MC1	04/05/2010	No Discharge	P	8	130		7.9		147					75.5	71.6	70	1.5	0.19	3.6	<0.01	<0.005	<0.02	16.3	0.222	<0.0005	0.0007	0.043	<0.0001	<0.001
MC1	06/05/2010	No Discharge	P	<4	140		8		166					84.7	80.6	79	1.5	0.2	6.2	<0.01	<0.005	<0.02	12.7	0.159	<0.0005	0.0006	0.042	<0.0001	<0.001
MC1	08/05/2010	No Discharge	P	4	130		8.1		180					94.8	86.6	87	1.3	0.22	11	0.011	<0.005	<0.02	12.9	0.101	<0.0005	0.0006	0.047	<0.0001	<0.001
MC1	11/05/2010	No Discharge	P	8	110		8		203					91.2	99.9	94	1.2	0.17	12	0.063	<0.005	<0.02	11.4	0.102	<0.0005	0.0005	0.045	<0.0001	<0.001
MC1	13/05/2010	No Discharge	P	<4	120		8.1		211					103	105	98	1	0.19	13	0.04	<0.005	<0.02	10.5	0.064	<0.0005	0.0004	0.046	<0.0001	<0.001
MC1	15/05/2010	No Discharge	P	<4	160	7.83	8.1	240	227	1.1				108	113	110	1.5	0.25	13	0.069	<0.005	<0.02	9.5	0.031	<0.0005	0.0005	0.046	<0.0001	<0.001
MC1	18/05/2010	No Discharge	P	5	150	7.68	8.2	234	224	1.7				115	113	110	1	0.28	15	0.05	<0.005	<0.02	8	0.06	<0.0005	<0.001	0.049	<0.0005	<0.001
MC1	20/05/2010	No Discharge	P	2	160	8	8.2	241	228	1				113	118	110	1.1	0.28	14	0.03	<0.005	0.04	8	0.033	<0.0005	<0.001	0.046	<0.0005	<0.001
MC1	21/05/2010	No Discharge	P	3	160	7.88	8.1	252	241	1.4				116	116	120	3.4	0.32	15	0.006	<0.005	0.04	8	0.056	<0.0005	0.0005	0.053	<0.0002	<0.001
MC1	22/05/2010	No Discharge	P	2	170	7.91	8.2	253	240	1.5				113	117	120	1.4	0.32	14	<0.005	<0.005	0.06	10.1	0.047	<0.0005	<0.0004	0.052	<0.0002	<0.001
MC1	24/05/2010	No Discharge	P	9	150	7.58	8	244	238	1.8				116	111	110	0.8	0.31	15	0.017	<0.005	0.06	9.1	0.234	<0.0005	0.0007	0.059	<0.0002	<0.001
MC1	26/05/2010	No Discharge	P	6	150	7.54	8	276	265	1				139	141	120	1.6	0.32	17	High DL removed	<0.005	0.08	7.8	0.214	<0.0005	<0.001	0.058	<0.0005	<0.001
MC1	28/05/2010	No Discharge	P	8	180	8.02	8.3	277	266	1.4				136	131	130	1.4	0.38	16	0.007	<0.005	0.09	7	0.281	<0.0005	0.0007	0.062	<0.0002	<0.001
MC1	30/05/2010	No Discharge	P	4	180	8.06	8.3	289	276	2.2				141	134	130	1.4	0.36	17	0.012	<0.005	0.11	7.2	0.103	<0.0005	0.0005	0.061	<0.0002	<0.001
MC1	01/06/2010	No Discharge	P	2	170		8.3		286					154	140	140	1.8	0.33	17	<0.005	<0.005	0.14	7	0.073	<0.0005	0.0005	0.06	<0.0002	<0.001
MC1	03/06/2010	No Discharge	P	2	180	7.86	8.3	308	296	1.8				148	130	140	2	0.34	19	0.016	<0.005	0.15	6.9	0.056	<0.0005	0.0005	0.062	<0.0002	<0.001
MC1	05/06/2010	No Discharge	P	<4	180	7.87	8.3	309	292	1.4				149	146	140	1.4	0.36	19	High DL removed	<0.005	0.19		0.051	<0.0005	0.0005	0.066	<0.0002	<0.001
MC1	11/06/2010	No Discharge	P	2	190	7.9	8.3	305	295	4.2				136	138	130	1.8	0.38	20	0.038	<0.005	0.19	7.3	0.056	<0.0005	0.0005	0.066	<0.0002	<0.001
MC1	13/06/2010	No Discharge	P	2	180	7.72	8.2	334	304	3.4				150	143	140	1.7	0.38	20	0.036	<0.005	0.22	8.8	0.035	<0.0005	0.0006	0.068	<0.0002	<0.001
MC1	14/06/2010	No Discharge	P	1	180	7.45	8.3	369	301	5.6				147	143	130	2.8	0.39	28	0.04	<0.005	0.19	7.9	0.033	<0.0005	0.0005	0.067	<0.0002	<0.001
MC1	15/06/2010	No Discharge	P	1	190	7.4	8.27	393	307	4.2				154	144	140	1.8	0.38	22	0.041	<0.005	0.2	7.4	0.179	<0.0005	0.0005	0.07	<0.0002	<0.001
MC1	16/06/2010	No Discharge	P	<1	170	7.28	8.3	407	308	4.3				148	141	150	1.4	0.12	22	0.016	<0.005	0.21	8.1	0.026	<0.0005	0.0004	0.065	<0.0002	<0.001
MC1	17/06/2010	No Discharge	P	3	180	7.33	8.4	426	318	3.1				149	143	140	2.5	0.39	24	0.043	<0.005	0.37	6.6	0.052	<0.0005	0.0004	0.067	<0.0002	<0.001
MC1	19/06/2010	No Discharge	P	16	180	7.42	8.1	405	300	3.9				148	139	140	1.8	0.34	21	High DL removed	<0.005	0.52	9.5	0.404	<0.0005	0.0007	0.076	<0.0002	<0.001
MC1	21/06/2010	No Discharge	P	3	200	7.55	8.3	416	306	5				162	141	140	2	0.36	23		<0.005	0.64	8	0.076	<0.0005	0.0005	0.068	<0.0002	<0.001
MC1	23/06/2010	No Discharge	P	14	170	8.04	8.17	263	268	3.89		111.7		138	118	120	1.3	0.32	17		<0.005	0.43	9.7	0.366	<0.0005	0.0006	0.065	<0.0002	<0.001
MC1	25/06/2010	No Discharge	P	6	150	8.09	8.31	283	283	3.86		109.3		140	132	130	1.8	0.35	19	0.014	<0.005	0.55	9.9	0.132	<0.0005	0.0005	0.064	<0.0002	<0.001
MC1	27/06/2010	No Discharge	P	2	180	8.12	8.07	287	289	4.35		107.4		131	134	140	1.3	0.34	18	0.014	<0.005	0.29	9.5	0.059	<0.0005	0.0005	0.061	<0.0002	<0.001
MC1	04/07/2010	No Discharge	P	32	190	8.04	8.04	238	248	5.63		105.5		115	111	110	1.5	0.28	16	0.074	<0.005	0.34	17	0.704	<0.0005	0.0009	0.069	<0.0002	<0.001
MC1	11/07/2010	No Discharge	P	2	210	8.25	8.12	328	327	6.74		99.3		151	148	150	2.3	0.34	29	<0.005	<0.005	0.82	11.4	0.057	<0.0005	0.0004	0.066	<0.0002	<0.001
MC1	07/11/2010	No Discharge	P	<1	250	7.85	8.13	427	426	-0.22				201	198	160	4.1	0.37	39	0.029	<0.005	2.25	8.8	0.024	<0.0005	0.0004	0.076	<0.0001	<0.001
MC1	22/05/2011	No Discharge	P	120	98		7.88		166					86	77.2	75	1.4	0.22	6.9	0.02	0.012	0.16	13.9	3.15	<0.0005	0.0022	0.104	0.0001	<0.001
MC1	25/05/2011	No Discharge	P	100	130		7.98		191					113	96.7	88	1.9	0.25	16	0.23	0.009	0.17	16.5	2.91	<0.0005	0.0021	0.101	0.0001	<0.001
MC1	26/06/2011	No Discharge	P	220	160		8.01		235					114	122	110			12	0.033	0.008	0.16	16.7	2.04	<0.0005	0.0016	0.105	<0.0001	<0.001
MC1	03/07/2011	No Discharge	P	96	160		8.12		235					120	118	110			11	0.013	<0.005	0.16	19.8	1.43	<0.0005	0.0013	0.092	<0.0001	<0.001
MC1	11/07/2011	No Discharge	P	77	160		7.96		260					137	136	120			13	<0.005	0.009	0.19	15.1	1.11	<0.0005	0.0012	0.083	<0.0001	<0.001
MC1	19/07/2011	No Discharge	P	180	180		7.93		231					132	114	110			9.9	0.024	0.007	0.12	20.3	4.55	<0.0005	0.0027	0.158	0.0001	<0.001
MC1	26/07/2011	No Discharge	P	35	190		8.12		267					147	131	130			9.9	0.052	0.007	0.17	30.5	3.13	<0.0005	0.002	0.123	<0.0001	<0.001
MC1	02/08/2011	No Discharge	P	660	130		7.75		147					127	73.1	70	2.1	0.19			0.007	0.15	22.7	14.9	0.0005	0.0073	0.324	0.0005	<0.001
MC1	13/08/2011	No Discharge	P	130	190		8.03		227					117	112	110				0.012	0.007	0.11	18.1	2.79	<0.0005	0.002	0.109	0.0001	<0.001
MC1	19/08/2011	No Discharge	P	280	210		8.08		225					134	109	100				0.009	0.026	0.08	18.1	6.85	<0.0005	0.0043	0.195	0.0003	<0.001
MC1	29/08/2011	No Discharge	P	42	180		8.02		240					112	117	120				0.006	<0.005	0.1	18.3	0.388	<0.0005	0.001	0.072	<0.0001	<0.001
MC1	08/09/2011	No Discharge	P	17	180	7.98	8.2	239.5	258	2.6	12.96	95.5		124	131	120	1.6			0.008	<0.005	0.11	15.6	0.292	<0.0005	0.001	0.067	<0.0001	<0.001
MC1	12/09/2011	No Discharge	P	20	170	7.98	8.17	242.7	259	2.7	12.66	93.6		125	126	120	1.9		9.6	0.015	<0.005	0.17	13.8	0.305	<0.0005	0.0009	0.067	<0.0001	<0.001
MC1	19/09/2011	No Discharge	P	22	180	7.35	8.13	244.1	258	1.5	13.9	99.1		138	130	120	2		10	0.006	<0.005	0.11	12.6	0.386	<0.0005	0.001	0.064	<0.0001	<0.001
MC1	27/09/2011	No Discharge	P	43	190	7.93	8.17	290.4	258	1.4	13.39	95.5		122	140	120	1.9		10	0.033	<0.005	0.12	20	0.797	<0.0005	0.0011	0.07	<0.0001	<0.001
MC1	06/10/2011	No Discharge	P	15	170	7.85	8.07	302	275	0	13.09	699.4		129	145	130	1.4			0.022	<0.005	0.17	10.7	0.378	<0.0005	0.0009	0.068	<0.0001	<0.001
MC1	11/10/2011	No Discharge	P	3	170		8.26	290.7	289	0	7.83	85.2		131	143	140	1.7		13	0.008	High DL removed	High DL removed	13.4	0.092	<0.0005	0.0008	0.063	<0.0001	<0.001
MC1	06/04/2012 10:00	No Discharge	P	<1.0	300	7.78	8.19	198.8	470	0	13.35	91.3		220	221	217	2.7	0.5	24.8	0.0094	<0.005	<0.020	9.51	0.016	<0.0005	0.0005	0.088	<0.0001	<0.001
MC1	13/04/2012 16:20	No Discharge	P	<1.0	218		8.27		368					163	176	165	1.8	0.42	25.9	0.076	<0.0050	0.031	8.9	0.0104	<0.00050	0.00045	0.0611	<0.00010	<0.0010
MC1	14/04/2012 15:25	No Discharge	P	1.7	190	7.98	8.2	181.6	340	0	13.2	90.5		157	160	154	1.9	0.4	24.2	0.0089	<0.0050	<0.020	9.75	0.0655	<0.00050	0.00051	0.0595	<0.00010	<0.0010
MC1	15/04/2012 14:35	No Discharge	P	2.9	170	8.03	8.13	152.4	284	0	12.58	86.2		133	134	127	1.8	0.36	18.2	0.013	<0.0050	<0.020	11.7	0.0172	<0.00050	0.00047	0.0504	<0.00010	<0.0010
MC1	12/05/2012 15:00	No Discharge	P	430	120	7.66	7.83	88.1	156	0.1	14.06	96.4	70.4	94.7	76.8	71.4	1.4	0.19	4.39	0.0328	<0.0050	0.124	16	8.89	<0.00050	0.0039	0.209	0.00028	<0.0010
MC1	19/05/2012 16:30	No Discharge	P	544	140	7.67	7.94	103.5	187	0.8	12.98	90	17.4	115	90.9	86.8	1.7	0.21	6.6	0.031	0.015	0.132	11.7	8.83	<0.00050	0.00485	0.237	0.00034	<0.0010
MC1	25/05/2012 14:40	No Discharge	P	631	146	7.64	7.97	118.7	212	0.5	13.26	92	55.4	136	102	101	1.8	0.23	9.44	0.12	0.0244	0.123	13.1	14.1	<0.00050	0.00693	0.299	0.0005	<0.0010

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	22/10/2016 8:15																										
W3	23/10/2016 15:50	0.033	<0.0000050	60.6	0.00014	<0.00010	0.0125	0.072	0.000050	0.0014	18.8	0.0477	<0.0000050	0.00401	0.00076	<0.050	3.05	0.00128	4.12	<0.000010	13.8	0.675	21.5	<0.000010	<0.00010	0.00054	0.00154
W3	23/10/2016 15:50																										
W3	24/10/2016 8:00																										
W3	25/10/2016 8:20	0.032	0.0000074	62.2	0.00022	<0.00010	0.0125	0.075	0.000306	0.0016	19.3	0.0471	<0.0000050	0.00418	0.00078	<0.050	3.26	0.00127	4.33	<0.000010	15.2	0.689	23.0	<0.000010	<0.00010	0.00031	0.00157
MC1	24/04/2010	<0.005	0.00001	14.9	0.0007	0.00012	0.007	0.253	0.0002	<0.001	4.72	0.008	0.00001	0.0004	0.001	0.09	1.8	High DL removed	3.42	<0.00001	2.95	0.107	1.6	<0.00001	<0.0001		<0.0004
MC1	26/04/2010	<0.05	0.00003	12.8	<0.001	<0.0005	0.0064	0.396	0.0002	<0.005	4.08	0.024	<0.00002	<0.001	0.002		1.34	<0.0001	3.69	<0.00002	2.68	0.096	<3	<0.00005	<0.005	0.005	0.0001
MC1	28/04/2010	<0.05	0.00009	11.8	0.002	<0.0005	0.0082	1.06	0.0006	<0.005	3.42	0.051	<0.00002	<0.001	0.003		1.24	<0.0001	4.42	<0.00002	2.12	0.083	<3	<0.00005	<0.005	0.028	0.0001
MC1	30/04/2010	<0.05	<0.00001	13.7	0.002	<0.0005	0.0091	1.14	0.0004	<0.005	4.04	0.037	0.00003	<0.001	0.003		1.23	0.0001	4.79	<0.00002	2.75	0.098	<3	<0.00005	<0.005	0.025	0.0002
MC1	02/05/2010	<0.05	0.00001	17.1	0.001	<0.0005	0.0059	0.574	0.0003	<0.005	5.27	0.032	0.00002	<0.001	0.002		1.16	0.0001	4.36	<0.00002	3.54	0.129	<3	<0.00005	<0.005	0.009	0.0002
MC1	04/05/2010	<0.05	0.00004	19.9	<0.001	<0.0005	0.0087	0.627	0.0004	<0.005	6.3	0.045	<0.00002	<0.001	0.003	0.051	1.22	<0.0001	4.94	<0.00002	4.69	0.151	<3	<0.00005	<0.005	0.008	0.0002
MC1	06/05/2010	<0.05	0.00003	22.4	<0.001	<0.0005	0.0102	0.582	0.0003	<0.005	7.01	0.02	0.00006	<0.001	0.002	0.034	1.21	0.0001	5.22	<0.00002	4.84	0.177	<3	<0.00005	<0.005	0.007	0.0004
MC1	08/05/2010	<0.05	0.00005	24.7	<0.001	<0.0005	0.0045	0.443	0.0003	<0.005	8.03	0.017	<0.00002	<0.001	0.001		1.22	0.0001	5.32	<0.00002	5.28	0.192	4	<0.00005	<0.005	<0.005	0.0005
MC1	11/05/2010	<0.05	0.00001	24.1	<0.001	<0.0005	0.0035	0.311	0.0002	<0.005	7.52	0.018	<0.00002	<0.001	0.001	0.028	1.11	0.0001	4.87	<0.00002	4.47	0.206	4	<0.00005	<0.005	0.005	0.0006
MC1	13/05/2010	<0.05	0.00007	27.4	<0.001	<0.0005	0.005	0.233	<0.0002	<0.005	8.43	0.013	<0.00002	<0.001	0.001	0.022	1.23	0.0001	5.07	<0.00002	5.64	0.212	<3	<0.00005	<0.005	<0.005	0.0006
MC1	15/05/2010	0.053	0.00001	28.6	<0.001	<0.0005	0.0024	0.175	<0.0002	<0.005	8.77	0.015	<0.0002	0.001	0.001	0.02	1.18	0.0001	4.83	<0.00002	5.63	0.233	4	<0.00005	<0.005	<0.005	0.0007
MC1	18/05/2010	<0.05	0.00002	29.3	0.001	<0.0005	0.0042	0.209	<0.0002	<0.005	10.1	0.037	<0.00002	0.001	<0.003	0.019	1.25	0.0004	5.13	<0.00002	6.98	0.249	4	<0.00005	<0.005	<0.005	0.0007
MC1	20/05/2010	<0.05	<0.00001	29	0.001	<0.0005	0.0022	0.172	<0.0002	<0.005	9.99	0.028	<0.00002	0.001	<0.003	0.021	1.19	High DL removed	4.82	<0.00002	6.91	0.239	4	<0.00005	<0.005	<0.005	0.0006
MC1	21/05/2010	<0.1	High DL removed	30	<0.002	<0.0005	0.002	0.204	<0.0002	<0.01	10	0.032	<0.0002	0.001	0.001		1	High DL removed	5.03	<0.0001	6	0.269	<60	<0.00005	<0.005	<0.01	0.0009
MC1	22/05/2010	<0.1	High DL removed	29	<0.002	<0.0005	0.003	0.179	<0.0002	<0.01	10	0.031	<0.0002	0.001	0.007		1	High DL removed	4.79	<0.0001	6	0.255	<60	<0.00005	<0.005	<0.01	0.0008
MC1	24/05/2010	<0.1	High DL removed	31	<0.002	<0.0005	0.003	0.465	<0.0002	<0.01	10	0.097	<0.0002	0.001	0.001		1	High DL removed	4.83	<0.0001	6	0.27	<60	<0.00005	<0.005	<0.01	0.0009
MC1	26/05/2010	<0.1	High DL removed	34	<0.002	<0.0005	0.004	0.404	0.0002	<0.01	13	0.077	<0.00002	0.001	<0.003		1	High DL removed	5.66	<0.0001	9	0.31	<60	<0.00005	<0.005	<0.01	0.0009
MC1	28/05/2010	<0.1	High DL removed	35	<0.002	<0.0005	0.005	0.533	0.0002	<0.01	12	0.082	<0.00002	0.002	0.002		1	High DL removed	5.77	<0.0001	8	0.326	<60	<0.00005	<0.005	0.011	0.0013
MC1	30/05/2010	<0.1	High DL removed	36	<0.002	<0.0005	0.005	0.312	<0.0002	<0.01	12	0.113	<0.00002	0.002	0.001		1	High DL removed	5.54	<0.0001	8	0.343	<60	<0.00005	<0.005	<0.01	0.0013
MC1	01/06/2010	<0.1	High DL removed	40	<0.002	<0.0005	0.004	0.242	<0.0002	<0.01	13	0.097	<0.0002	0.002	0.001		2	High DL removed	5.39	<0.0001	9	0.382	<60	<0.00005	<0.005	<0.01	0.0014
MC1	03/06/2010	<0.1	High DL removed	38	<0.002	<0.0005	0.002	0.19	<0.0002	<0.01	13	0.075	<0.0002	0.002	0.001		1	High DL removed	5.62	<0.0001	8	0.362	<60	<0.00005	<0.005	<0.01	0.0014
MC1	05/06/2010	<0.1	High DL removed	38	<0.002	<0.0005	0.003	0.176	<0.0002	<0.01	13	0.073		0.002	0.001		1	High DL removed	5.56	<0.0001	8	0.372	<60	<0.00005	<0.005	<0.01	0.0014
MC1	11/06/2010	<0.1	High DL removed	34	<0.002	<0.0005	0.004	0.168	<0.0002	<0.01	12	0.084	<0.0002	0.002	0.001		1	High DL removed	5.34	<0.0001	8	0.36	<60	<0.00005	<0.005	<0.01	0.0014
MC1	13/06/2010	<0.1	High DL removed	38	<0.002	<0.0005	0.003	0.132	<0.0002	<0.01	14	0.04	<0.0002	0.002	0.001		1	High DL removed	5.74	<0.0001	9	0.391	<60	<0.00005	<0.005	<0.01	0.0015
MC1	14/06/2010	<0.1	High DL removed	37	<0.002	<0.0005	0.002	0.12	<0.0002	<0.01	13	0.028	<0.0002	0.002	0.001		1	High DL removed	5.8	<0.0001	8	0.382	<60	<0.00005	<0.005	<0.01	0.0015
MC1	15/06/2010	<0.1	High DL removed	39	<0.002	<0.0005	0.017	0.37	0.0002	<0.01	14	0.031	<0.0002	0.002	0.002		2	High DL removed	6.19	<0.0001	9	0.408	<60	<0.00005	<0.005	0.011	0.0015
MC1	16/06/2010	<0.1	High DL removed	37	<0.002	<0.0005	0.002	0.091	<0.0002	<0.01	13	0.016	<0.0002	0.002	<0.001		1	High DL removed	5.75	<0.0001	9	0.368	<60	<0.00005	<0.005	<0.01	0.0014
MC1	17/06/2010	<0.1	High DL removed	37	<0.002	<0.0005	0.002	0.147	<0.0002	<0.01	14	0.024	<0.0002	0.002	0.001		1	High DL removed	5.64	<0.0001	9	0.366	<60	<0.00005	<0.005	<0.01	0.0015
MC1	19/06/2010	<0.1	High DL removed	38	<0.002	<0.0005	0.004	0.736	0.0002	<0.01	13	0.106	<0.0002	0.002	0.002		1	High DL removed	6.72	<0.0001	9	0.373	<60	<0.00005	<0.005	0.014	0.0013
MC1	21/06/2010	<0.1	High DL removed	40	<0.002	<0.0005	0.003	0.197	<0.0002	<0.01	15	0.023	<0.0002	0.002	0.001		2	High DL removed	6.38	<0.0001	10	0.383	<60	<0.00005	<0.005	<0.01	0.0013
MC1	23/06/2010	<0.1	High DL removed	34	<0.002	<0.0005	0.004	0.666	<0.0002	<0.01	13	0.065	<0.0002	0.002	0.002		1	High DL removed	6.93	<0.0001	9	0.321	<60	<0.00005	<0.005	0.014	0.001
MC1	25/06/2010	<0.1	High DL removed	36	<0.002	<0.0005	0.003	0.311	<0.0002	<0.01	12	0.031	<0.0002	0.002	0.002		1	High DL removed	6.66	<0.0001	9	0.359	<60	<0.00005	<0.005	<0.01	0.0011
MC1	27/06/2010	<0.1	High DL removed	35	<0.002	<0.0005	0.002	0.172	0.0012	<0.01	11	0.016	<0.0002	0.002	0.001		1	High DL removed	6.91	<0.0001	7	0.366	<60	<0.00005	<0.005	<0.01	0.001
MC1	04/07/2010	<0.1	High DL removed	30	<0.002	0.0006	0.008	1.19	0.0003	<0.01	10	0.098	<0.0002	0.001	0.003		<1	High DL removed	7.05	<0.0001	7	0.291	<60	<0.00005	<0.005	0.027	0.0007
MC1	11/07/2010	<0.1	High DL removed	39	<0.002	<0.0005	0.003	0.155	<0.0002	<0.01	13	0.016	<0.0002	0.002	0.001		1	High DL removed	6.39	<0.0001	10	0.389	<60	<0.00005	<0.005	<0.01	0.0011
MC1	07/11/2010	<0.05	<0.00001	52	<0.001	<0.0005	0.0026	0.1	<0.0002	<0.005	17.4	0.018	0.00003	0.003	0.001		2.4	0.0007	6.5	<0.00002	13.8	0.645	15	<0.00005	<0.005	<0.005	0.0016
MC1	22/05/2011	<0.05	0.00007	21.8	0.006	0.0023	0.011	6.36	0.0015	<0.005	7.68	0.296	<0.00002	0.001	0.007	0.166	1.25	0.0002	9.86	0.00003	4.55	0.201	<3	<0.00005	<0.005	0.114	0.0007
MC1	25/05/2011	<0.05	0.00011	28.6	0.006	0.0021	0.0118	5.52	0.0013	<0.005	9.97	0.192	<0.00002	0.002	0.007	0.149	1.46	0.0003	11.1	0.00002	5.84	0.262	4	<0.00005	<0.005	0.114	0.001
MC1	26/06/2011	<0.05	0.00007	30.1	0.004	0.0018	0.0083	3.71	0.0012	<0.005	9.57	0.111	<0.00002	0.001	0.006	0.129	0.97	0.0001	8.89	<0.00002	6.07	0.244	3	<0.00005	<0.005	0.07	0.0008
MC1	03/07/2011	<0.05	0.00005	31.4	0.003	0.0012	0.0091	2.54	0.0009	<0.005	10.1	0.085	<0.00002	0.001	0.005	0.101	0.9	0.0002	8.05	<0.00002	6.2	0.257	4	<0.00005	<0.005	0.051	0.0008
MC1	11/07/2011	<0.05	0.00005	35.6	0.002	0.0009	0.0254	2.1	0.0009	<0.005	11.7	0.067	<0.00002	0.001	0.004	0.069	1.04	0.0002	8.52	<0.00002	7.51	0.297	4	<0.00005	<0.005	0.042	0.001
MC1	19/07/2011	<0.05	0.00011	34.4	0.009	0.003	0.0121	6.4	0.0021	<0.005	11.2	0.19	<0.00005	0.002	0.01		1.32	0.0003	15	0.00004	6.1	0.291	4	0.00005	<0.005	0.189	0.001
MC1	26/07/2011	<0.05	0.00007	38.8	0.005	0.0019	0.0109	5.27	0.0013	<0.005	12.1	0.131	<0.00002	0.002	0.007	0.139	1.18	0.0002	12.6	0.00003	7.29	0.3	4	<0.00005	<0.005	0.112	0.0011
MC1	02/08/2011	<0.05	0.00033	30	0.033	0.0112	0.0417	23.9	0.0065	0.01	12.5	0.624	<0.00002	0.001	0.033	0.769	1.93	0.0005	31.5	0.00011	5.23	0.241	<3	0.00013	<0.005	0.584	0.0017
MC1	13/08/2011	<0.05	0.00007	30.9	0.006	0.0022	0.0111	4.97	0.0012	<0.005	9.63	0.166	<0.00002	0.001	0.008	0.157	0.91	0.0002	11.4	0.00003	5.23	0.232	<3	<0.00005	<0.005	0.118	0.0008
MC1	19/08/2011	<0.05	0.00016	34.8	0.016	0.0051	0.0205	12	0.0033	0.006	11.5	0.308	<0.00002	0.001	0.016	0.263	1.23	0.0004	19	0.00005	5.43	0.253	3	0.00006	<0.005	0.285	0.0014
MC1	29/08/2011	<0.05	0.00003	29.8	0.001	0.0007	0.0034	1.51	0.0003	<0.005	9.1	0.111	<0.00002	<0.001	0.003	0.047	0.67	0.0001	6.34	<0.00002	5.36	0.246	3	<0.00005	<0.005	0.015	0.0006
MC1	08/09/2011	<0.05	0.00002	32.2	0.001	<0.0005	0.0029	1.17	<0.0002	<0.005	10.5	0.122	<0.00002	0.001	0.003	0.039	0.8	0.0001	6.71	<0.00002	6.01	0.262	4	<0.00005	<0.005	0.014	0.0007
MC1	12/09/2011	<0.05	0.00045	33	<0.001	<0.0005	0.0024	1.16	<0.0002	<0.005	10.4	0.128	<0.00002	0.001	0.002	0.039	0.82	0.0001	7.17	<0.00002	5.91	0.264	4	<0.00005	<0.005	0.013	0.0007
MC1	19/09/2011	<0.05	0.00001	36.3	0.001	<0.0005	0.0036	1.33	<0.0002	<0.005	11.5	0.132	<0.00002	0.001	0.002	0.044	0.97	0.0002	7.36	0.00003	6.76	0.268	5	<0.00005	<0.005	0.018	0.0007
MC1	27/09/2011	<0.05	0.00002	31.7	0.002	0.0008	0.0047	1.93	0.0005	<0.005	10.4	0.139	<0.00002	<0.001	0.003	0.064	0.78	0.0001	7.42	<0.00002	5.77	0.246	3	<0.00005	<0.005	0.036	0.0007
MC1	06/10/2011	<0.05	0.00002	34.5	<0.001	<0.0005	0.0023	1	0.0002	<0.005	10.3	0.091	<0.00002	0.001	0.002	0.031	0.81	0.0001	7.24	<0.00002	5.69	0.268	4	<0.00005	<0.005	0.014	0.0008
MC1	11/10/2011	<0.05	0.00005	33.1	<0.001	<0.0005	0.0103	0.565	<0.0002	<0.005	11.7	0.114	<0.00002	0.001	0.002	0.03	0.97	0.0002	6.15	<0.00002	6.88	0.289	5	<0.00005	<0.005	<0.005	0.0009
MC1	06/04/2012 10:00	<0.05	0.00002	54	<0.001	<0.0005	0.0039	0.062	<0.0002	<0.005	20.6	0.004	<0.000010	<0.001	<0.001	0.022	2.99	0.0002	8.17	<0.00002	14	0.48	10.6	<0.00005	<0.005	<0.005	0.001
MC1	13/04/2012 16:20	<0.05	0.000018	40.4	<0.0010	<0.00050	0.00214	0.0621	<0.00020	<0.0050	15.2	0.0148	<0.000010	<0.0010	<0.0010	0.024	2.27	0.00019	6.6	<0.000020	10.1	0.389	8.9	<0.000050	<0.0050	<0.0050	0.00098
MC1	14/04/2012 15:25	<0.05	0.000103	38.9	<0.0010	<0.00050	0.00652	0.145	<0.00020	<0.0050	14.5	0.0191	<0.000010	<0.0010	<0.0010	0.039	2.5	0.00016	6.29	<0.000020	9.51	0.376	7.4	<0.000050	<0.0050	<0.0050	0.00087
MC1	15/04/2012 14:35	<0.05	0.000016	33.1	<0.0010	<0.00050	0.00323	0.105	<0.00020	<0.0050	12.2	0.0212	<0.000010	<0.0010	<0.0010	0.043	2.53	0.00015	5.66	<0.000020	7.85	0.315	6.1	<0.000050	<0.0050	<0.0050	0.00066
MC1	12/05/2012 15:00	<0.05	0.000141	22.6	0.018	0.00569	0.0203	14.2	0.00369	0.0057	9.28	0.452	0.000015	0.0011	0.0159	0.398	1.84	0.0003	19.5	0.000066	4.48	0.186	<3.0	0.000076	<0.0050	0.359	0.00105
MC1	19/05/2012 16:30	<0.05	0.000199	28.2	0.018	0.00683	0.0258	14.8	0.00429	0.0059	10.7	0.574	<0.000010	0.0011	0.0195	0.497	1.72	0.00031	19.5	0.000064	5.04	0.233	<3.0	0.000081	<0.0050	0.323	0.00145
MC1	25/05/2012 14:40	<0.05	0.00025	32.3	0.026	0.00884	0.0329	22.3	0.00584	0.0089	13.4	0.882	<0.000010	0.0016	0.0258	0.688	2.21	0.00043	26.2	0.000095	5.93	0.297	1510	0.000126	<0.0050	0.585	0.00185

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W3	22/10/2016 8:15																									
W3	23/10/2016 15:50	<0.00050	<0.0030	<0.00030	0.0020	<0.00010	0.00033	0.0742	<0.000020	<0.000050	0.032	0.0000058	60.5	<0.00010	<0.00010	0.0117	0.038	<0.000050	0.0013	19.3	0.0330	<0.0000050	0.00375	0.00076	<0.050	3.17
W3	23/10/2016 15:50																									
W3	24/10/2016 8:00																									
W3	25/10/2016 8:20	<0.00050	0.0031	<0.00030	0.0027	<0.00010	0.00031	0.0755	<0.000020	<0.000050	0.031	<0.0000050	62.0	0.00011	<0.00010	0.0119	0.051	<0.000050	0.0016	20.0	0.0360	<0.0000050	0.00401	0.00082	<0.050	3.39
MC1	24/04/2010	0.0007	0.002	0.0004	0.052	<0.0002	0.0004	0.024	0.00004	<0.001	<0.004	<0.00001	13.6	High DL removed	0.00008	0.005	0.17	0.0002	<0.001	4.3	0.0004	<0.00001	0.0003	0.001	0.04	1.6
MC1	26/04/2010	<0.005	0.007	<0.0005	0.059	<0.0005	0.0004	0.025	<0.0001	<0.001	<0.05	0.00002	12.7	High DL removed	<0.0005	0.0044	0.213	<0.0002	<0.005	3.87	<0.001	<0.00002	<0.001	0.001		1.32
MC1	28/04/2010	<0.005	0.01	<0.0005	0.07	<0.0005	0.0004	0.025	<0.0001	<0.001	<0.05	<0.00001	11.2	High DL removed	<0.0005	0.0037	0.23	<0.0002	<0.005	3.19	<0.001	<0.00002	<0.001	0.001		1.15
MC1	30/04/2010	<0.005	0.009	<0.0005	0.064	<0.0005	0.0004	0.026	<0.0001	<0.001	<0.05	0.00002	11.5	High DL removed	<0.0005	0.0056	0.309	<0.0002	<0.005	3.41	0.001	<0.00002	<0.001	0.001		0.98
MC1	02/05/2010	<0.005	<0.005	<0.0005	0.039	<0.0005	0.0005	0.033	<0.0001	<0.001	<0.05	0.00005	16.9	High DL removed	<0.0005	0.0039	0.27	<0.0002	<0.005	5.15	<0.001	<0.00002	<0.001	0.001		1.18
MC1	04/05/2010	<0.005	0.008	<0.0005	0.029	<0.0005	0.0005	0.034	<0.0001	<0.001	<0.05	0.00001	19.4	High DL removed	<0.0005	0.0032	0.263	<0.0002	<0.005	5.6	<0.001	<0.00002	<0.001	0.001	0.024	1.14
MC1	06/05/2010	<0.005	<0.005	<0.0005	0.021	<0.0005	0.0005	0.038	<0.0001	<0.001	<0.05	0.00001	21.5	High DL removed	<0.0005	0.003	0.291	<0.0002	<0.005	6.55	<0.001	<0.00002	<0.001	0.004	0.018	1.11
MC1	08/05/2010	<0.005	<0.005	<0.0005	0.019	<0.0005	0.0005	0.039	<0.0001	<0.001	<0.05	0.00006	22.9	High DL removed	<0.0005	0.004	0.247	<0.0002	<0.005	7.12	<0.001	<0.00002	<0.001	0.002		1.14
MC1	11/05/2010	<0.005	<0.005	<0.0005	0.013	<0.0005	0.0005	0.045	<0.0001	<0.001	<0.05	<0.00001	26.4	High DL removed	<0.0005	0.0022	0.14	<0.0002	<0.005	8.26	<0.001	<0.00002	0.001	0.001	0.013	1.17
MC1	13/05/2010	<0.005	<0.005	<0.0005	0.013	<0.0005	0.0005	0.046	<0.0001	<0.001	<0.05	0.00002	27.7	High DL removed	<0.0005	0.0037	0.121	<0.0002	<0.005	8.68	<0.001	<0.00002	<0.001	0.001	0.011	1.25
MC1	15/05/2010	<0.005	<0.005	<0.0005	0.011	<0.0005	0.0005	0.047	<0.0001	<0.001	<0.05	0.00001	30	High DL removed	<0.0005	0.0019	0.108	<0.0002	<0.005	9.28	<0.001	<0.0002	0.001	0.001	<0.01	1.26
MC1	18/05/2010	<0.005	<0.005	<0.0005	0.007	<0.0005	0.0003	0.045	<0.0001	<0.001	<0.05	<0.00001	29.1	High DL removed	<0.0005	0.0018	0.073	<0.0002	<0.005	9.89	<0.001	<0.00002	0.001	<0.001	<0.01	1.18
MC1	20/05/2010	<0.005	<0.005	<0.0005	0.008	<0.0005	0.0004	0.046	<0.0001	<0.001	<0.05	<0.00001	30.1	High DL removed	<0.0005	0.0019	0.098	<0.0002	<0.005	10.5	<0.001	<0.00002	0.001	<0.001	0.011	1.16
MC1	21/05/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	0.0005	0.049	<0.0002	<0.001	<0.1	High DL removed	31	High DL removed	<0.0005	0.002	0.09	<0.0002	<0.01	10	<0.001	<0.0002	0.001	0.001		1
MC1	22/05/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	0.0005	0.049	<0.0002	<0.001	<0.1	High DL removed	31	High DL removed	<0.0005	0.002	0.083	<0.0002	<0.01	10	<0.001	<0.0002	0.001	0.001		1
MC1	24/05/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	0.0005	0.047	<0.0002	<0.001	<0.1	High DL removed	30	High DL removed	<0.0005	0.002	0.077	<0.0002	<0.01	9	0.001	<0.0002	0.001	0.001		1
MC1	26/05/2010	<0.005	<0.01	<0.002	0.012	<0.0005	High DL removed	0.055	<0.0005	<0.001	<0.1	High DL removed	35	High DL removed	<0.0005	0.002	0.062	<0.0002	<0.01	13	0.001	<0.00002	0.002	High DL removed		1
MC1	28/05/2010	<0.005	<0.01	<0.002	0.011	<0.0005	0.0005	0.055	<0.0002	<0.001	<0.1	High DL removed	34	High DL removed	<0.0005	0.002	0.049	<0.0002	<0.01	11	0.001	<0.00002	0.002	0.001		1
MC1	30/05/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	0.0005	0.057	<0.0002	<0.001	<0.1	High DL removed	35	High DL removed	<0.0005	0.002	0.052	<0.0002	<0.01	11	0.011	<0.00002	0.002	0.001		1
MC1	01/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	0.0004	0.055	<0.0002	<0.001	<0.1	High DL removed	36	High DL removed	<0.0005	0.003	0.04	<0.0002	<0.01	12	0.002	<0.0002	0.002	0.001		2
MC1	03/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	0.0004	0.055	<0.0002	<0.001	<0.1	High DL removed	35	High DL removed	<0.0005	0.001	0.039	<0.0002	<0.01	11	0.004	<0.0002	0.002	<0.001		1
MC1	05/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	0.0004	0.058	<0.0002	<0.001	<0.1	High DL removed	38	High DL removed	<0.0005	0.002	0.045	<0.0002	<0.01	12	0.023		0.002	0.001		1
MC1	11/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	0.0004	0.058	<0.0002	<0.001	<0.1	High DL removed	35	High DL removed	<0.0005	0.002	0.024	<0.0002	<0.01	12	0.002	<0.0002	0.002	<0.001		1
MC1	13/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.059	<0.0002	<0.001	<0.1	High DL removed	37	High DL removed	<0.0005	0.001	0.031	<0.0002	<0.01	12	<0.001	<0.0002	0.002	<0.001		1
MC1	14/06/2010	<0.005	<0.01	<0.002	0.013	<0.0005	0.0004	0.058	<0.0002	<0.001	<0.1	High DL removed	36	High DL removed	<0.0005	0.001	0.044	<0.0002	<0.01	13	0.004	<0.0002	0.002	<0.001		1
MC1	15/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	0.0004	0.058	<0.0002	<0.001	<0.1	High DL removed	37	High DL removed	<0.0005	0.002	0.034	<0.0002	<0.01	13	0.007	<0.0002	0.002	0.001		1
MC1	16/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	0.0004	0.059	<0.0002	<0.001	<0.1	High DL removed	37	High DL removed	<0.0005	0.001	0.035	<0.0002	<0.01	12	0.004	<0.0002	0.002	<0.001		1
MC1	17/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.058	<0.0002	<0.001	<0.1	High DL removed	37	High DL removed	<0.0005	0.001	0.027	<0.0002	<0.01	12	<0.001	<0.0002	0.002	<0.001		1
MC1	19/06/2010	<0.005	<0.01	<0.002	0.012	<0.0005	0.0004	0.061	<0.0002	<0.001	<0.1	High DL removed	36	High DL removed	<0.0005	0.002	0.048	<0.0002	<0.01	12	<0.001	<0.0002	0.002	0.001		1
MC1	21/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	0.0004	0.06	<0.0002	<0.001	<0.1	High DL removed	37	High DL removed	<0.0005	0.002	0.035	<0.0002	<0.01	12	<0.001	<0.0002	0.002	<0.001		1
MC1	23/06/2010	<0.005	<0.01	<0.002	0.014	<0.0005	0.0005	0.054	<0.0002	<0.001	<0.1	High DL removed	31	High DL removed	<0.0005	0.002	0.059	<0.0002	<0.01	10	<0.001	<0.0002	0.002	0.001		1
MC1	25/06/2010	<0.005	<0.01	<0.002	0.012	<0.0005	0.0005	0.059	<0.0002	<0.001	<0.1	High DL removed	34	High DL removed	<0.0005	0.002	0.054	<0.0002	<0.01	11	0.003	<0.0002	0.002	0.001		1
MC1	27/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	0.0005	0.056	<0.0002	<0.001	<0.1	High DL removed	34	High DL removed	<0.0005	0.002	0.045	<0.0002	<0.01	12	0.003	<0.0002	0.002	0.001		1
MC1	04/07/2010	<0.005	<0.01	<0.002	0.02	<0.0005	<0.0004	0.055	<0.0002	<0.001	<0.1	High DL removed	29	High DL removed	<0.0005	0.003	0.111	<0.0002	<0.01	10	0.004	<0.0002	0.001	0.002		<1
MC1	11/07/2010	<0.005	<0.01	<0.002	0.01	<0.0005	0.0005	0.065	<0.0002	<0.001	<0.1	High DL removed	40	High DL removed	<0.0005	0.002	0.055	<0.0002	<0.01	12	0.005	<0.0002	0.002	0.001		1
MC1	07/11/2010	<0.005	<0.005	<0.0005	0.01	<0.0005	0.0004	0.079	<0.0001	<0.001	<0.05	<0.00001	51.7	High DL removed	<0.0005	0.0015	0.071	<0.0002	<0.005	16.8	0.017	<0.00002	0.004	<0.001		2.46
MC1	22/05/2011	0.012	0.011	0.0006	0.026	<0.0005	0.0008	0.046	<0.0001	<0.001	<0.05	0.00001	20.1	High DL removed	<0.0005	0.0026	1.11	<0.0002	<0.005	6.57	0.125	<0.00002	0.001	0.002	0.031	1.02
MC1	25/05/2011	0.01	0.011	0.0009	0.025	<0.0005	0.0007	0.049	<0.0001	<0.001	<0.05	0.00002	25.4	High DL removed	<0.0005	0.0023	0.753	<0.0002	<0.005	8.09	0.059	<0.00002	0.001	0.002	0.023	1.05
MC1	26/06/2011	0.009	0.01	0.0007	0.031	<0.0005	0.0007	0.064	<0.0001	<0.001	<0.05	0.00004	31.8	High DL removed	<0.0005	0.0044	0.31	<0.0002	<0.005	10.2	0.022	<0.00002	0.002	0.002	0.021	0.93
MC1	03/07/2011	0.006	0.009	0.0006	0.026	<0.0005	0.0007	0.06	<0.0001	<0.001	<0.05	<0.00001	30.3	High DL removed	<0.0005	0.0031	0.291	<0.0002	<0.005	10.2	0.017	<0.00002	0.001	0.002	0.019	0.84
MC1	11/07/2011	<0.005	0.012	0.0005	0.028	<0.0005	0.0007	0.065	<0.0001	<0.001	<0.05	0.00002	36.5	High DL removed	<0.0005	0.003	0.33	<0.0002	<0.005	10.9	0.024	<0.00002	0.001	0.002	0.02	0.96
MC1	19/07/2011	0.015	0.015	0.0016	0.029	<0.0005	0.0008	0.059	<0.0001	<0.001	<0.05	<0.00001	30.7	High DL removed	<0.0005	0.0034	0.469	<0.0002	<0.005	9.1	0.033	<0.00005	0.001	0.002		0.66
MC1	26/07/2011	0.01	0.011	0.001	0.024	<0.0005	0.0009	0.063	<0.0001	<0.001	<0.05	<0.00001	34.6	High DL removed	<0.0005	0.0035	0.455	<0.0002	<0.005	10.8	0.043	<0.00002	0.001	0.002	0.019	0.86
MC1	02/08/2011	0.053	0.056	0.0028	0.053	<0.0005	0.0008	0.051	<0.0001	<0.001	<0.05	0.00002	19.7	High DL removed	<0.0005	0.005	0.621	<0.0002	<0.005	5.81	0.058	<0.00002	<0.001	0.002	0.022	0.43
MC1	13/08/2011	0.01	0.015	0.0009	0.034	<0.0005	0.0008	0.062	<0.0001	<0.001	<0.05	0.00001	29.9	High DL removed	<0.0005	0.0021	0.518	<0.0002	<0.005	9.06	0.065	<0.00002	0.001	0.002	0.02	0.61
MC1	19/08/2011	0.025	0.031	0.0015	0.028	<0.0005	0.0009	0.059	<0.0001	<0.001	<0.05	<0.00001	29.6	High DL removed	<0.0005	0.0023	0.485	<0.0002	<0.005	8.56	0.087	<0.00002	<0.001	0.002	0.02	0.56
MC1	29/08/2011	<0.005	<0.005	0.0005	0.028	<0.0005	0.0009	0.059	<0.0001	<0.001	<0.05	0.00001	31.5	High DL removed	<0.0005	0.0021	0.678	<0.0002	<0.005	9.31	0.08	<0.00002	<0.001	0.002	0.022	0.67
MC1	08/09/2011	<0.005	<0.005	<0.0005	0.03	<0.0005	0.0009	0.066	<0.0001	<0.001	<0.05	0.00001	34.8	High DL removed	<0.0005	0.0022	0.7	<0.0002	<0.005	10.7	0.106	<0.00002	0.001	0.002	0.023	0.79
MC1	12/09/2011	<0.005	0.008	<0.0005	0.028	<0.0005	0.0008	0.06	<0.0001	<0.001	<0.05	0.00002	32.8	High DL removed	<0.0005	0.0018	0.574	<0.0002	<0.005	10.8	0.112	<0.00002	0.001	0.002	0.019	0.81
MC1	19/09/2011	<0.005	<0.005	<0.0005	0.021	<0.0005	0.0007	0.063	<0.0001	<0.001	<0.05	0.00002	34.6	High DL removed	<0.0005	0.0018	0.564	<0.0002	<0.005	10.7	0.117	<0.00002	0.001	0.002	0.02	0.79
MC1	27/09/2011	<0.005	<0.005	<0.0005	0.033	<0.0005	0.0008	0.057	<0.0001	<0.001	<0.05	0.00001	37.9	High DL removed	<0.0005	0.0023	0.693	<0.0002	<0.005	11	0.091	<0.00002	0.001	0.002	0.023	0.76
MC1	06/10/2011	<0.005	<0.005	<0.0005	0.018	<0.0005	0.0006	0.064	<0.0001	<0.001	<0.05	<0.00001	37.8	High DL removed	<0.0005	0.0017	0.437	<0.0002	<0.005	12.3	0.076	<0.00002	0.001	0.002	0.019	0.84
MC1	11/10/2011	<0.005	0.005	<0.0005	0.023	<0.0005	0.0007	0.067	<0.0001	<0.001	<0.05	0.00004	37.6	High DL removed	<0.0005	0.0024	0.505	<0.0002	<0.005	11.8	0.105	<0.00002	0.001	0.002	0.021	0.87
MC1	06/04/2012 10:00	<0.005	<0.005	<0.0005	0.0043	<0.00050	0.0004	0.0889	<0.00010	<0.0010	<0.05	0.00002	53.8	High DL removed	<0.00050	0.00197	0.0318	<0.00020	<0.0050	21.1	0.0031	<0.000010	<0.0010	<0.0010	0.019	2.99
MC1	13/04/2012 16:20	<0.0050	<0.0050	<0.00050	0.0057	<0.00050	0.00042	0.0673	<0.00010	<0.0010	<0.05	0.000023	42.9	High DL removed	<0.00050	0.00248	0.0588	<0.00020	<0.0050	16.8	0.0162	<0.000010	<0.0010	<0.0010	0.025	2.38
MC1	14/04/2012 15:25	<0.0050	<0.0050	<0.00050	0.007	<0.00050	0.0004	0.06	<0.00010	<0.0010	<0.05	0.000023	38.7	High DL removed	<0.00050	0.00292	0.0541	<0.00020	<0.0050	15.2	0.0167	<0.000010	<0.0010	<0.0010	0.038	2.42
MC1	15/04/2012 14:35	<0.0050	<0.0050	<0.00050	0.0041	<0.00050	0.00038	0.0505	<0.00010	<0.0010	<0.05	0.000016	33.1	High DL removed	<0.00050	0.00281	0.0622	<0.00020	<0.0050	12.4	0.0199	<0.000010	<0.0010	<0.0010	0.04	2.37
MC1	12/05/2012 15:00	0.0299	0.028	0.00153	0.0343	<0.00050	0.00078	0.0528	<0.00010	<0.0010	<0.05	0.000013	20.4	High DL removed	<0.00050	0.00269	0.761	<0.00020	<0.0050	6.28	0.163	<0.000010	<0.0010	0.0016	0.031	1.04
MC1	19/05/2012 16:30	0.0324	0.0344	0.00148	0.0431	<0.00050	0.00087	0.057	<0.00010	<0.0010	<0.05	0.000016	23.7	High DL removed	<0.00050	0.00312	0.826	0.00048	<0.0050	7.7	0.157	<0.000010	0.0012	0.002	0.032	0.96
MC1	25/05/2012 14:40	0.0445	0.0548	0.00261	0.0229	<0.00050	0.0008	0.0616	<0.00010	<0.0010	<0.05	0.000017	26.3	High DL removed	<0.00050	0.00189	0.796	<0.00020	<0.0050	8.72	0.226	<0.000010	0.0013	0.0025	0.023	0.982

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	Br	Cation	CN-T	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-TKN	P-PO4T	P-TDP	P-TRP
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L
W3	22/10/2016 8:15																															
W3	23/10/2016 15:50	0.00133	4.12	<0.000010	14.1	0.669	21.3	<0.000010	<0.00010	<0.00030	0.00147	<0.00050	0.0011	<0.00030	180	<1.0	<1.0		5.45		5.31							-1.3				
W3	23/10/2016 15:50																															
W3	24/10/2016 8:00																															
W3	25/10/2016 8:20	0.00133	4.32	<0.000010	15.6	0.680	22.7	<0.000010	<0.00010	<0.00030	0.00150	<0.00050	<0.0010	<0.00030	184	<1.0	<1.0		5.53		5.51							-0.2				
MC1	24/04/2010	High DL removed	3.03	<0.00001	2.8	0.103	1.4	<0.00001	<0.0001	<0.01	<0.0004	0.0004	<0.001	0.0004	50	<6	<5												1.21	0.04		
MC1	26/04/2010	<0.0001	3.51	<0.00002	2.58	0.091	<3	<0.00005	<0.005	<0.005	0.0001	<0.005	<0.005	<0.0005	54	<0.5	<0.5	<0.5		<0.4												0.009
MC1	28/04/2010	<0.0001	3.12	<0.00002	2.12	0.076	<3	<0.00005	<0.005	<0.005	0.0001	<0.005	<0.005	<0.0005	46	<0.5	<0.5	<0.5		<0.4												0.009
MC1	30/04/2010	<0.0001	2.96	<0.00002	2.41	0.084	<3	<0.00005	<0.005	<0.005	0.0001	<0.005	<0.005	<0.0005	52	<0.5	<0.5	<0.5		<0.4												0.029
MC1	02/05/2010	<0.0001	4.05	<0.00002	3.53	0.122	<3	<0.00005	<0.005	<0.005	0.0002	<0.005	<0.005	<0.0005	73	<0.5	<0.5	<0.5		<0.4												<0.005
MC1	04/05/2010	<0.0001	4.33	<0.00002	3.69	0.145	<3	<0.00005	<0.005	<0.005	0.0002	<0.005	<0.005	<0.0005	86	<0.5	<0.5	<0.5		<0.4												<0.005
MC1	06/05/2010	<0.0001	4.72	<0.00002	4.37	0.166	3	<0.00005	<0.005	<0.005	0.0003	<0.005	<0.005	<0.0005	97	<0.5	<0.5	<0.5		<0.4												<0.005
MC1	08/05/2010	0.0001	4.77	<0.00002	4.91	0.178	3	<0.00005	<0.005	<0.005	0.0004	<0.005	<0.005	<0.0005	110	<0.5	<0.5	<0.5		<0.4												<0.005
MC1	11/05/2010	0.0001	5.25	<0.00002	5.55	0.211	4	<0.00005	<0.005	<0.005	0.0006	<0.005	<0.005	<0.0005	120	<0.5	<0.5	<0.5		<0.4												<0.005
MC1	13/05/2010	0.0001	5.21	<0.00002	5.8	0.216	4	<0.00005	<0.005	<0.005	0.0006	<0.005	<0.005	<0.0005	120	<0.5	<0.5	<0.5		<0.4												<0.005
MC1	15/05/2010	0.0001	5.32	<0.00002	6.22	0.237	5	<0.00005	<0.005	<0.005	0.0007	<0.005	<0.005	<0.0005	130	<0.5	<0.5	<0.5		<0.4												<0.005
MC1	18/05/2010	0.0002	4.99	<0.00002	6.89	0.217	5	<0.00005	<0.005	<0.005	0.0007	<0.005	<0.005	<0.0005	130	<0.5	<0.5	<0.5		<0.4												<0.005
MC1	20/05/2010	0.0002	5.2	<0.00002	7.22	0.207	5	<0.00005	<0.005	<0.005	0.0007	<0.005	<0.005	<0.0005	130	<0.5	<0.5	<0.5		<0.4												<0.005
MC1	21/05/2010	High DL removed	5.15	High DL removed	7	0.243	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	<0.01	<0.002	140	<0.5	<0.5	<0.5		<0.4												<0.005
MC1	22/05/2010	High DL removed	5.2	High DL removed	7	0.245	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	<0.01	<0.002	140	<0.5	<0.5	<0.5		<0.4												<0.005
MC1	24/05/2010	High DL removed	4.61	High DL removed	6	0.252	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	<0.01	<0.002	140	<0.5	<0.5	<0.5		<0.4												<0.005
MC1	26/05/2010	High DL removed	5.48	High DL removed	9	0.316	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	<0.01	<0.002	150	<0.5	<0.5	<0.5		<0.4												<0.005
MC1	28/05/2010	High DL removed	5.39	High DL removed	7	0.319	<60	<0.00005	<0.005	<0.01	0.0012	<0.005	<0.01	<0.002	150	2.3	<0.5	1.9		<0.4												<0.005
MC1	30/05/2010	High DL removed	5.4	High DL removed	7	0.331	<60	<0.00005	<0.005	<0.01	0.0013	<0.005	<0.01	<0.002	160	3	<0.5	2.5		<0.4												<0.005
MC1	01/06/2010	High DL removed	5.34	High DL removed	8	0.33	<60	<0.00005	<0.005	<0.01	0.0012	<0.005	<0.01	<0.002	160	<0.5	<0.5	<0.5		<0.4												<0.005
MC1	03/06/2010	High DL removed	4.7	High DL removed	7	0.326	<60	<0.00005	<0.005	<0.01	0.0013	<0.005	<0.01	<0.002	160	2.3	<0.5	2		<0.4												<0.005
MC1	05/06/2010	High DL removed	5.46	High DL removed	8	0.359	<60	<0.00005	<0.005	<0.01	0.0014	<0.005	<0.01	<0.002	170	0.9	<0.5	0.8		<0.4												<0.005
MC1	11/06/2010	High DL removed	5.59	High DL removed	9	0.343	<60	<0.00005	<0.005	<0.01	0.0014	<0.005	<0.01	<0.002	160	<0.5	<0.5	<0.5		<0.4												<0.005
MC1	13/06/2010	High DL removed	5.72	High DL removed	9	0.357	<60	<0.00005	<0.005	<0.01	0.0014	<0.005	<0.01	<0.002	170	<0.5	<0.5	<0.5		<0.4												<0.005
MC1	14/06/2010	High DL removed	5.65	High DL removed	10	0.359	<60	<0.00005	<0.005	<0.01	0.0015	<0.005	<0.01	<0.002	160	<0.5	<0.5	<0.5		<0.4												<0.005
MC1	15/06/2010	High DL removed	5.85	High DL removed	10	0.357	<60	<0.00005	<0.005	<0.01	0.0014	<0.005	<0.01	<0.002	170	<0.5	<0.5	<0.5		<0.4												<0.005
MC1	16/06/2010	High DL removed	5.36	High DL removed	9	0.378	<60	<0.00005	<0.005	<0.01	0.0014	<0.005	<0.01	<0.002	170	2.6	<0.5	2.2		<0.4												<0.005
MC1	17/06/2010	High DL removed	5.31	High DL removed	8	0.367	<60	<0.00005	<0.005	<0.01	0.0014	<0.005	<0.01	<0.002	170	2.1	<0.5	1.8		<0.4												<0.005
MC1	19/06/2010	High DL removed	5.74	High DL removed	8	0.358	<60	<0.00005	<0.005	<0.01	0.0012	<0.005	<0.01	<0.002	170	<0.5	<0.5	<0.5		<0.4												<0.005
MC1	21/06/2010	High DL removed	5.75	High DL removed	8	0.366	<60	<0.00005	<0.005	<0.01	0.0012	<0.005	<0.01	<0.002	170	2.3	<0.5	1.9		<0.4							8.5					<0.005
MC1	23/06/2010	High DL removed	5.47	High DL removed	7	0.305	<60	<0.00005	<0.005	<0.01	0.001	<0.005	<0.01	<0.002	150	<0.5	<0.5	<0.5		<0.4							10					<0.005
MC1	25/06/2010	High DL removed	6.12	High DL removed	8	0.352	<60	<0.00005	<0.005	<0.01	0.001	<0.005	<0.01	<0.002	160	1.5	<0.5	1.3		<0.4							9.9					<0.005
MC1	27/06/2010	High DL removed	6.63	High DL removed	8	0.347	<60	<0.00005	<0.005	<0.01	0.001	<0.005	<0.01	<0.002	170	<0.5	<0.5	<0.5		<0.4												<0.005
MC1	04/07/2010	High DL removed	5.71	High DL removed	7	0.296	<60	<0.00005	<0.005	<0.01	0.0007	<0.005	<0.01	<0.002	140	<0.5	<0.5	<0.5		<0.4												<0.005
MC1	11/07/2010	High DL removed	5.98	High DL removed	9	0.391	<60	<0.00005	<0.005	<0.01	0.0012	<0.005	<0.01	<0.002	180	<0.5	<0.5	<0.5		<0.4												0.009
MC1	07/11/2010	0.0007	6.5	<0.00002	14.5	0.721	16	<0.00005	<0.005	<0.005	0.0016	<0.005	<0.005	<0.0005	200	<0.5	<0.5	<0.5		<0.4												<0.005
MC1	22/05/2011	0.0001	4.28	<0.00002	4.37	0.179	4	<0.00005	<0.005	<0.005	0.0005	<0.005	<0.005	<0.0005	92	<0.5	<0.5	<0.5														
MC1	25/05/2011	0.0001	5.18	<0.00002	5.36	0.227	4	<0.00005	<0.005	<0.005	0.0007	<0.005	<0.005	<0.0005	110	<0.5	<0.5	<0.5														
MC1	26/06/2011	0.0002	6.23	<0.00002	7.02	0.26	4	<0.00005	<0.005	<0.005	0.0008	<0.005	0.012	<0.0005	130	<0.5	<0.5	<0.5														
MC1	03/07/2011	0.0001	6.28	<0.00002	6.94	0.249	5	<0.00005	<0.005	<0.005	0.0007	<0.005	<0.005	<0.0005	130	<0.5	<0.5	<0.5														
MC1	11/07/2011	0.0001	6.99	<0.00002	7.28	0.277	5	<0.00005	<0.005	<0.005	0.0007	<0.005	<0.005	<0.0005	150	<0.5	<0.5	<0.5														
MC1	19/07/2011	0.0002	6.43	<0.00002	5.86	0.233	4	<0.00005	<0.005	<0.005	0.0007	<0.005	0.006	<0.0005	130	<0.5	<0.5	<0.5														
MC1	26/07/2011	0.0002	6.56	<0.00002	6.88	0.279	5	<0.00005	<0.005	<0.005	0.0009	<0.005	<0.005	<0.0005	150	<0.5	<0.5	<0.5														
MC1	02/08/2011	0.0001	5.79	<0.00002	4.26	0.149	<3	<0.00005	<0.005	<0.005	0.0004	<0.005	<0.005	<0.0005	86	<0.5	<0.5	<0.5														
MC1	13/08/2011	0.0001	6.69	<0.00002	5.56	0.223	3	<0.00005	<0.005	<0.005	0.0006	<0.005	<0.005	<0.0005	130	<0.5	<0.5	<0.5														
MC1	19/08/2011	0.0002	6.88	<0.00002	5.2	0.207	<3	<0.00005	<0.005	<0.005	0.0007	<0.005	<0.005	<0.0005	130	<0.5	<0.5	<0.5														
MC1	29/08/2011	0.0001	6.94	<0.00002	5.62	0.237	3	<0.00005	<0.005	<0.005	0.0006	<0.005	<0.005	<0.0005	140	<0.5	<0.5	<0.5														
MC1	08/09/2011	0.0001	7.11	<0.00002	6.29	0.278	4	<0.00005	<0.005	<0.005	0.0007	<0.005	<0.005	<0.0005	150	<0.5	<0.5	<0.5														
MC1	12/09/2011	0.0001	6.58	<0.00002	6.32	0.273	3	<0.00005	<0.005	<0.005	0.0007	<0.005	<0.005	<0.0005	150	<0.5	<0.5	<0.5														
MC1	19/09/2011	0.0001	6.84	<0.00002	6.32	0.268	4	<0.00005	<0.005	<0.005	0.0007	<0.005	<0.005	<0.0005	150	<0.5	<0.5	<0.5														
MC1	27/09/2011	0.0001	6.98	<0.00002	6.29	0.249	5	<0.00005	<0.005	<0.005	0.0007	<0.005	<0.005	<0.0005	150	<0.5	<0.5	<0.5														
MC1	06/10/2011	0.0001	7.35	<0.00002	7.01	0.303	5	<0.00005	<0.005	<0.005	0.0008	<0.005	<0.005	<0.0005	160	<0.5	<0.5	<0.5														
MC1	11/10/2011	0.0001	7.26	<0.00002	6.88	0.315	5	<0.00005	<0.005	<0.005	0.0009	<0.005	0.005	<0.0005	170	<0.5	<0.5	<0.5														
MC1	06/04/2012 10:00	0.00023	9.12	<0.000020	14	0.487	12.8	<0.000050	<0.0050	<0.0050	0.00093	<0.0050	<0.0050	<0.00050	265	<0.50	<0.50	<0.50												0.0204		
MC1	13/04/2012 16:20	0.00019	6.89	<0.000020	11.2	0.424	9.3	<0.000050	<0.0050	<0.0050	0.001	<0.0050	<0.0050	<0.00050	201	<0.50	<0.50	<0.50												0.0334		
MC1	14/04/2012 15:25	0.00017	6.4	<0.000020	9.94	0.379	8.6	<0.000050	<0.0050	<0.0050	0.00082	<0.0050	<0.0050	<0.00050	188	<0.50	<0.50	<0.50												0.0372		
MC1	15/04/2012 14:35	0.00015	5.8	<0.000020	7.99	0.31	6.4	<0.000050	<0.0050	<0.0050	0.00061	<0.0050	<0.0050	<0.00050	154	<0.50	<0.50	<0.50												0.0413		
MC1	12/05/2012 15:00	0.0001	4.58	<0.000020	4.14	0.155	<3.0	<0.000050	<0.0050	<0.0050	0.00049	<0.0050	<0.0050	<0.00050	87.1	<0.50	<0.50	<0.50												0.451		
MC1	19/05/2012 16:30	0.00013	4.99	<0.000020	4.95	0.193	<3.0	<0.000050	<0.0050	<0.0050	0.00071	<0.0050	0.0098	<0.00050	106	<0.50	<0.50	<0.50												0.58		
MC1	25/05/2012 14:40	0.00019	4.68	<0.000020	5.57	0.218	3.4	<0.000050	<0.0050	<0.0050	0.00083	<0.0050	<0.0050	<0.00050	124	<0.50	<0.50	<0.50												0.603		

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W3	22/10/2016 8:15			495.3			
W3	23/10/2016 15:50			430.7			
W3	23/10/2016 15:50	<0.0100		506.3			
W3	24/10/2016 8:00			509.1			
W3	25/10/2016 8:20			493.3			
MC1	24/04/2010					1.5	
MC1	26/04/2010					2.7	
MC1	28/04/2010					6.8	8
MC1	30/04/2010					9.1	
MC1	02/05/2010					3.9	
MC1	04/05/2010					4.1	
MC1	06/05/2010					1.8	
MC1	08/05/2010					1.2	
MC1	11/05/2010					1.3	
MC1	13/05/2010					0.8	
MC1	15/05/2010					1.1	
MC1	18/05/2010					2.1	
MC1	20/05/2010					1.6	
MC1	21/05/2010					1.2	
MC1	22/05/2010					1.5	
MC1	24/05/2010					4.1	
MC1	26/05/2010					11.1	
MC1	28/05/2010					14.9	
MC1	30/05/2010					3.9	
MC1	01/06/2010					2	
MC1	03/06/2010					1.9	
MC1	05/06/2010					1.7	
MC1	11/06/2010					1.3	
MC1	13/06/2010					0.7	
MC1	14/06/2010					0.8	
MC1	15/06/2010					1	
MC1	16/06/2010					0.6	
MC1	17/06/2010					1.2	
MC1	19/06/2010					7.1	
MC1	21/06/2010					1.4	
MC1	23/06/2010					6.4	4
MC1	25/06/2010					2.9	-0.9
MC1	27/06/2010					0.8	-2.6
MC1	04/07/2010					11.1	9.6
MC1	11/07/2010					0.9	0.1
MC1	07/11/2010					0.5	-3.5
MC1	22/05/2011						
MC1	25/05/2011						
MC1	26/06/2011						
MC1	03/07/2011						
MC1	11/07/2011						
MC1	19/07/2011						
MC1	26/07/2011						
MC1	02/08/2011						
MC1	13/08/2011						
MC1	19/08/2011						
MC1	29/08/2011						
MC1	08/09/2011						
MC1	12/09/2011						
MC1	19/09/2011						
MC1	27/09/2011						
MC1	06/10/2011						
MC1	11/10/2011						
MC1	06/04/2012 10:00			380.7			
MC1	13/04/2012 16:20						
MC1	14/04/2012 15:25			347.7			
MC1	15/04/2012 14:35			291.9			
MC1	12/05/2012 15:00			168.3			
MC1	19/05/2012 16:30			196.5			
MC1	25/05/2012 14:40			223.4			

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Phase	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
				mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MC1	02/06/2012	No Discharge	P	75.3	164	7.95	8.09	152.8	268	2.3	13.09	95.4		130	132	124	1.3	0.29	12.2	0.063	0.0107	0.192	9.16	1.77	<0.00050	0.00132	0.0931	<0.00010	<0.0010
MC1	09/06/2012	No Discharge	P	148	158	7.88	8.08	148.4	247	5.5	11.95	94.3	-36.9	132	122	119	2	0.29	10.4	0.11	0.0058	0.135	11.3	4.48	<0.00050	0.00245	0.133	0.00016	<0.0010
MC1	15/06/2012 10:50	No Discharge	P	465	160	7.78	8.04	144.3	210	3.6	12.22	92.5	7.8	131	103	96.7	1.4	0.23	8.53	0.049	<0.0050	0.109	15.9	9.99	<0.00050	0.00474	0.249	0.00035	<0.0010
MC1	22/06/2012 16:20	No Discharge	P	143	174	8.03	8.1	163.7	244	7.5	10.76	69.8		127	115	116	1.5	0.28	9.59	0.027	0.0139	0.158	15	2.86	<0.00050	0.00207	0.116	0.00013	<0.0010
MC1	29/06/2012 16:00	No Discharge	P	43.6	188	7.97	8.21	183.9	297	6.2	11.53	93.3		135	146	139	1.5	0.31	13.1	0.093	0.0055	0.22	11.7	0.921	<0.00050	0.00131	0.0833	<0.00010	<0.0010
MC1	08/07/2012 17:00	No Discharge	P	51.8	184	7.99	8.28	181.7	290	6.4	11.55	93.8	-19.3	144	136	138	1.6	0.3	11.9	0.018	<0.0050	0.166	12.8	1.24	<0.00050	0.00136	0.0921	<0.00010	<0.0010
MC1	15/07/2012 14:00	No Discharge	P	45.3	192	8.15	8.11	187.3	296	7.1	12.29	101.6	-25.9	142	150	143	1.6	0.31	13	0.017	<0.0050	0.163	12.9	1.29	<0.00050	0.00126	0.0902	<0.00010	<0.0010
MC1	22/07/2012 8:10	No Discharge	P	33.7	196	7.93	8.06	190.5	305	6.9	11.14	91.5		162	144	145	1.5	0.33	11.9	0.067	<0.0050	0.169	12.3	0.892	<0.00050	0.00132	0.0926	<0.00010	<0.0010
MC1	29/07/2012 10:30	No Discharge	P	39.3	210	8.01	8.13	178.9	307	7.1	11.46	94.6	28.1	151	152	154	1.8	0.33	11	0.084	0.008	0.155	12.4	1.01	<0.00050	0.00139	0.0897	<0.00010	<0.0010
MC1	30/07/2012 13:15	No Discharge	P	34.3	206	8.01	8.27	174.3	309	6.6	12.19	99.3	-0.9	150	153	154	1.3	0.36	13.8	0.026	0.0062	0.162	12	0.884	<0.00050	0.00119	0.0852	<0.00010	<0.0010
MC1	08/08/2012 16:25	No Discharge	P	36.5	202	7.92	8.31	201.8	317	6.7	12.53	102.8	-66	159	156	157	1.6	0.37	11.9	0.014	0.0064	0.156	12.3	1.03	<0.00050	0.00115	0.0888	<0.00010	<0.0010
MC1	17/08/2012 10:45	No Discharge	P	28.3	204	7.65	8.33	184.5	321	5.2	11.74	92.3	23.3	165	156	158	1.5	0.34	12.1	0.0085	<0.0050	0.161	10.8	0.817	<0.00050	0.00137	0.0894	<0.00010	<0.0010
MC1	27/08/2012 9:00	No Discharge	P	34.5	200	7.98	8.39	179.4	315	5.4	11.67	92.2	46.3	145	174	158	1.8	0.33	11.7	0.0084	<0.0050	0.106	11.9	0.692	<0.00050	0.00116	0.0847	<0.00010	<0.0010
MC1	03/09/2012 17:20	No Discharge	P	76	158	8.16	8.25	155.4	312	4.3	12.12	93.4	-3.5	171	154	155	1.3	0.32	10.5	0.0088	<0.0050	0.067	12.5	0.327	<0.00050	0.00145	0.095	<0.00010	<0.0010
MC1	13/09/2012 16:50	No Discharge	P	88.7	178	7.83	8.17	145.8	275	2.2	13.7	95.1	78.4	141	137	131	1.8	0.26	11.2	0.008	<0.0050	0.102	16.7	0.791	<0.00050	0.00116	0.0876	<0.00010	<0.0010
MC1	19/09/2012 15:12	No Discharge	P	20.9	200	7.89	8.08	167.5	299	2.4	12.5	91.5	33.9	146	152	144	1.8	0.31	13.8	0.059	<0.0050	0.104	15.2	0.413	<0.00050	0.00101	0.0711	<0.00010	<0.0010
MC1	24/09/2012 14:52	No Discharge	P	10.3	208	7.91	8.25	170	313	3.6	12.86	97.2	45.9	155	153	150	1.4	0.28	12.1	0.12	<0.0050	0.078	14.7	0.0809	<0.00050	0.00086	0.0715	<0.00010	<0.0010
MC1	04/10/2012 15:30	No Discharge	P	130	206	7.44	8.07	114.8	299	0	15.93	95.23	62.2	169		141	1.5	0.28	13.1	0.074	<0.0050	0.15	13	0.957	<0.00050	0.00174	0.118	<0.00010	<0.0010
MC1	12/10/2012 13:20	No Discharge	P	7.1	230	7.74	8.04	159.3	306	0	14.25	97.4	94.8	179		149	2.2	0.29	15.3	0.018	<0.0050	0.122	14.5	0.0823	<0.00050	0.00089	0.0797	<0.00010	<0.0010
MC1	20/10/2012 14:20	No Discharge	P	1	214	8.6	8.13	161.4	318	0	17.38	119.9	78.9	153	160	155	1.6	0.25	15.7	0.023	0.0064	0.174	12.2	0.0238	<0.00050	0.00057	0.0652	<0.00010	<0.0010
MC1	06/04/2013 15:00	No Discharge	P	<1.0	526	7.99	8.28	347	770	0	12.93	89.9	-399.3	397	368	344	6	0.68	96.2	0.083	High DL removed	<0.20	25.6	0.0213	<0.00050	0.00085	0.17	<0.00010	<0.0010
MC1	12/04/2013 16:13	No Discharge	P	<1.0	376	8	8.25	534	555	0.1				261	254	242	4.1	0.59	61.7	High DL removed	<0.0050	<0.020	17.9	0.0191	<0.00050	0.00059	0.101	<0.00010	<0.0010
MC1	18/04/2013 14:00	No Discharge	P	<1.0	382	8.13	8.2	314	595	0.1			-407.2	274	244	264	4.3	0.63	60.9	0.36	<0.0050	<0.020	15	0.0108	<0.00050	0.00056	0.0996	<0.00010	<0.0010
MC1	24/05/2013 17:00	No Discharge	P	220	134	9.67	7.78	73.3	151	0.1	13.75	94.5	-60	86.2	69	63.4	3.3	0.18	7.58	0.056	0.024	0.558	12.1	5.11	<0.00050	0.00256	0.137	0.00015	<0.0010
MC1	31/05/2013 15:40	No Discharge	P	660	180	7.91	7.94	143.5	233	4.1	12.39	95.3	33.9	184	101	91.8	4.7	0.28	18.7	0.064	0.0342	1.26	12.5	13	0.0005	0.00659	0.336	0.00041	<0.0010
MC1	08/06/2013 16:10	No Discharge	P	564	172	7.57	8	132.6	230	3.6	11.46	86.6	59.9	184	107	108	1.8	0.29	9.88	0.14	0.0158	0.104	12.6	14.7	0.00067	0.00794	0.351	0.00046	<0.0010
MC1	16/06/2013 13:40	No Discharge	P	194	186	8.5	8.15	261	266	4.5				146	127	125	2.3	0.29	11.1	0.069	0.0076	0.153	13.5	4.86	<0.00050	0.00293	0.153	0.00015	<0.0010
MC1	20/06/2013 10:45	No Discharge	P	109	200	8.6	8.14	280	290	7.4				157	136	136	1.7	0.35	13.6	0.072	0.0061	0.17	10.6	2.92	<0.00050	0.00209	0.121	0.00013	<0.0010
MC1	25/06/2013 11:15	No Discharge	P	73.4	184	8.08	8.05		306	5.5	12.98	102.9	78.6	164	144	143	1.7	0.36	15.6	0.057	<0.0050	0.192	9.85	1.88	<0.00050	0.00159	0.107	<0.00010	<0.0010
MC1	02/07/2013 13:05	No Discharge	P	121	186	7.94	8.19		268	5.9	11.41	91.4	72.9	174	131	125	1.5	0.3	11.9	0.13	0.0084	0.154	12.5	8.93	<0.00050	0.00481	0.231	0.00031	<0.0010
MC1	11/07/2013 13:55	No Discharge	P	255	198	8.09	8.06	177	279	5.8	11.88	94.7	124.7	169	127	133	1.7	0.32	14	0.069	0.0066	0.15	12	5.17	<0.00050	0.00327	0.19	0.00021	<0.0010
MC1	19/07/2013 10:30	No Discharge	P	62	206	8.10	8.27	194.5	319	6.2	11.51	93.1	86.0	167	155	154	1.6	0.36	14.6	0.046	0.0057	0.162	10.1	1.81	<0.00050	0.00175	0.112	<0.00010	<0.0010
MC1	24/07/2013 11:20	No Discharge	P	169	184	8.00	8.15	152.7	272	5.7	11.97	95.2	127.5	168	135	129	1.5	0.3	9.93	0.064	High DL removed	<0.20	14.7	7.34	<0.00050	0.00385	0.199	0.00023	<0.0010
MC1	30/07/2013 13:30	No Discharge	P	75	178	8.09	8.16	181.6	281	6.9	12.43	102.3	90.4	159	139	133	1.6	0.31	11.6	0.11	<0.0050	0.132	14.9	2.11	<0.00050	0.0019	0.11	<0.00010	<0.0010
MC1	10/08/2013 15:20	No Discharge	P	37.3	238	8.09	8.19	205.2	315	7	11.28	92.8	47.3	182	148	154	1.6	0.35	12.6	0.037	High DL removed	0.24	11.3	1.2	<0.00050	0.00149	0.0935	<0.00010	<0.0010
MC1	15/08/2013 13:30	No Discharge	P	38.6	214	8.60	8.34	338	320	8.7				181	156	159	1.7	0.34	14	0.042	0.0066	0.155	11.8	0.998	<0.00050	0.00143	0.0961	<0.00010	<0.0010
MC1	22/08/2013 13:40	No Discharge	P	60.1	214	8.04	8.2	200.1	318	5.5	12.28	104.7	143.8	172	151	154	1.8	0.33	12.7	0.037	<0.0050	0.142	11.7	2.14	<0.00050	0.0019	0.11	<0.00010	<0.0010
MC1	27/08/2013 11:45	No Discharge	P	90.5	244	7.78	8.11	178.7	301	4.2	11.92	97.6	167.4	174	146	146	1.6	0.29	10.2	0.038	<0.0050	0.119	14	2.6	<0.00050	0.00193	0.114	0.00011	<0.0010
MC1	06/09/2013 16:15	No Discharge	P	52.2	190	7.90	8.05	188.8	314	4.3	11.66	96.2	115.2	181	154	151	2.2	0.32	11.7	0.02	<0.0050	0.101	12	1.24	<0.00050	0.00153	0.098	<0.00010	<0.0010
MC1	09/09/2013 13:55	No Discharge	P	32.6	206	7.94	8.13	192.9	318	4.4	10.58	87.4	141.8	162	166	153	2.2	0.32	15.8	0.022	<0.0050	0.079	13.2	0.807	<0.00050	0.00127	0.0875	<0.00010	<0.0010
MC1	18/09/2013 11:35	No Discharge	P	181	168	7.66	8.13	162.1	286	1.5	16.01	113.1	195.1	152	145	139	2	0.28	12.2	0.037	<0.0050	0.075	14.5	3.61	<0.00050	0.00249	0.132	<0.00010	<0.0010
MC1	24/09/2013 11:00	No Discharge	P	93.2	160	7.60	8.18	161.2	290	1.6	13.61	95.3	228.8	154	147	135	2	0.28	14.5	0.032	<0.0050	0.085	14.9	1.77	<0.00050	0.00153	0.0945	<0.00010	<0.0010
MC1	03/10/2013 11:30	No Discharge	P	79.6	278	7.64	8.16	160.9	303	0.2	13.59	91.3	140.7	179	152	142	2.3	0.27	14.6	0.049	<0.0050	0.117	13	2.24	<0.00050	0.00179	0.105	<0.00010	<0.0010
MC1	11/10/2013 12:20	No Discharge	P	11.8	228	7.78	8.18	164.3	323	0.1	15.57	101.6	75.7	168	166	154	2	0.27	16.6	0.038	<0.0050	0.096	14.2	0.266	<0.00050	0.00091	0.0736	<0.00010	<0.0010
MC1	18/10/2013 10:30	No Discharge	P	3.3	234	7.65	8.28	162.5	316	-0.1	13.82	92.5	150.4	159	157	153	2.2	0.3	16.8	0.028	<0.0050	0.161	11.5	0.0895	<0.00050	0.00074	0.0698	<0.00010	<0.0010
MC1	22/10/2013 10:00	No Discharge	P	4.6	232	7.75	8.2	186.3	361	0.1	16.04	98	93.9	187	192	173	1.8	0.35	17.9	0.06	High DL removed	<0.20	11.9	0.129	<0.00050	0.0007	0.0757	<0.00010	<0.0010
MC1	31/10/2013 15:45	No Discharge	P	15.1	200	7.60	8.19	167.9	323	-0.1	14.87	100.9	119.5	166	160	154	1.8	0.32	16.1	0.02	<0.0050	0.174	10.7	0.327	<0.00050	0.00069	0.0696	<0.00010	<0.0010
MC1	08/11/2013 15:15	No Discharge	P	1.2	210	7.95	8.19	102.4	361	0.1	9.12	60.9	118.3	189	172	172	1.9	0.37	19.4	0.023	<0.0050	0.199	9.54	0.0399	<0.00050	0.00048	0.0764	<0.00010	<0.0010
MC1	14/11/2013 15:00	No Discharge	P	1.7	216	7.82	8.34	173.3	386	0	13.89	93.5	176.0	218	183	180	2	0.39	21.8	0.022	<0.0050	0.229	10.2	0.0501	<0.00050	0.00059	0.08	<0.00010	<0.0010
MC1	18/11/2013 15:20	No Discharge	P	5	238	7.96	8.3	192.5	389	0	14.31	98	-232.7	206	209	183	2.3	0.39	24.8	0.025	<0.0050	0.32	10.2	0.124	<0.00050	0.00043	0.0757	<0.00010	<0.0010
MC1	01/12/2013 14:15	No Discharge	P	29.2	244	8.70	8.14	196.1	463	0	0.67	4.6	-7.5	227	219	210	2.9	0.41	27.6	0.021	<0.0050	0.291	8.7	0.428	<0.00050	0.00057	0.102	<0.00010	<0.0010
MC1	18/03/2014 11:20	No Discharge	P	<1.0	746	8.35	8.49	557	1050	-0.1	15.69	107.5	151.5	521	529	508	14	1.1	104	0.076	<0.0050	0.064	23.5	0.0259	<0.00050	0.00117	0.187	<0.00010	<0.0010
MC1	25/03/2014 12:50	No Discharge	P	<1.0	572	8.26	8.45	460.4	862	0	18.33	126.6	125.9	433	433	408	9.5	0.96	77.7	0.02	<0.0050	0.021	15.1	0.0149	<0.00050	0.00095	0.162	<0.00010	<0.0010
MC1	28/05/2014 12:00	No Discharge	P	95.8	171	8.35	8.21	171	242	2.3	13.46	98.2	103.2	118	108	110	1.9	0.29	16.3	0.038	0.0066	0.192	13.3	1.67	<0.00050	0.00151	0.0894	<0.00010	<0.0010
MC1	08/06/2014 13:50	No Discharge	P	17.2	174	7.53	8.28	161	286	3.7	12.99	98.6	71.8	138	134	133	1.8	0.35	14.7	0.033	<0.0050	0.162	9.86	0.452	<0.00050	0.00088	0.0685	<0.00010	<0.0010
MC1	14/06/2014 15:00	No Discharge	P	10.7	166	8.13	8.11	182.3	290	4.9	12.19	95.4	162	153	137	138	2.1	0.36	15.1	0.034	0.0053	0.166	9.71	0.291	<0.00050	0.00088	0.0687	<0.00010	<0.0010
MC1	17/06/2014 13:30	No Discharge	P	5.9	208	8.14	8.27	180.9	301	4.4	11.77	90.8	140.9	151	139	143	1.8	0.37	15.1	0.046	<0.0050	0.15	7.96	0.175	<0.00050	0.00071	0.0633	<0.00010	<0.0010
MC1	26/06/2014 16:45	No Discharge	P	11.8	184	8.32	8.3	201.2	318		12.3	96.5	201	157	144	151	1.1	0.4	16.2	0.04	<0.0050	0.125	8.19	0.295	<0.00050	0.00076	0.0704	<0.00010	<0.0010
MC1	01/07/2014 15:50	No Discharge	P	2.5	212	8.36	8.23	209.1	322	6.3	11.86	95.8	213.1	161	160	154	1.8	0.41	17.9	0.034	<0.0050	0.127	7.47	0.0891	<0.00050	0.00063	0.0651	<0.00010	<0.0010
MC1	10/07/2014 11:20	No Discharge	P	2.3	178	8.47	8.34	207.8	326	6.3	11.63	94.3	199.2	157	158	154	1.8	0.42	18.4	0.024	<0.0050	0.111	8.15	0.0887	<0.00050	0.00068	0.0659	<0.00010	<0.0010
MC1	17/07/2014 15:45	No Discharge	P	11.5	204	7.78	8.25	205	340	6.1	12.03	97.2	155.3	167	165	158	1.7	0.42	17.6	0.012	<0.0050	0.105	8.44	0.0488	<0.00050	0.00065	0.0644	<0.00010	<0.0010
MC1	23/07/2014 15:25	No Discharge	P	22.4	176	8	8.26	190.6	303	5.7	11.96	95.6	101.6	153	145	148	2.4	0.37	14.5	0.024	<0.0050	0.096	11.4	0.591	<0.00050	0.00093	0.0764	<0.00010	<0.0010
MC1	02/08/2014 15:20	No Discharge	P	11.6	258	8.21	8.26	214.9	317	6.2	12.22	97.7	129.6	159	155	153	1.6	0.36	13.5	0.013	<0.0050	0.092	10.5	0.315	<0.00050	0.00095	0.0766	<0.00010	<0.0010
MC1	14/08/2014 13:30	No Discharge	P	3.5	196	8.2	8.37	207.1	346	4.8	12.21	95.2	141.3	189	158	169	2	0.4	16.7	0.015	<0.0050	0.102	9.36	0.0876	<0.00050	0.00077	0.0729	<0.00010	<0.0010
MC1	18/08/2014 16:25	No Discharge	P	3.7	214	8.26	8.31	225.2	346	5.8	11.65	93.4	147.1	179	165	169	2	0.37	14.9	0.017	<0.0050	0.077	10.7	0.113	<0.00050	0.00072	0.0686	<0.00010	<0.0010

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MC1	02/06/2012	<0.05	0.000024	33.3	0.0036	0.00115	0.00529	3.1	0.00093	<0.0050	11.4	0.137	<0.000010	0.0016	0.0042	0.096	1.32	0.00016	8.83	<0.000020	6.99	0.286	3.3	<0.000050	<0.0050	0.0754	0.00109
MC1	09/06/2012	<0.05	0.000067	33.4	0.0084	0.00256	0.0287	7.16	0.00182	<0.0050	11.9	0.25	<0.000010	0.0015	0.0081	0.207	1.44	0.00027	13.1	0.000035	6.96	0.302	<3.0	<0.000050	<0.0050	0.177	0.00112
MC1	15/06/2012 10:50	<0.05	0.000233	32.6	0.0192	0.00663	0.0234	15.2	0.00404	0.0063	12.1	0.529	<0.000010	0.0015	0.0188	0.512	1.65	0.00049	22.4	0.000074	6.08	0.285	<3.0	0.000089	<0.0050	0.358	0.00134
MC1	22/06/2012 16:20	<0.05	0.000077	32.5	0.0062	0.0018	0.00739	5	0.00116	<0.0050	11	0.133	<0.000010	0.0014	0.0069	0.139	1.16	0.00023	12	0.000021	6.72	0.261	<3.0	<0.000050	<0.0050	0.115	0.00105
MC1	29/06/2012 16:00	<0.05	0.000035	34.7	0.0021	0.00068	0.00357	1.91	0.00041	<0.0050	11.9	0.0741	<0.000010	0.0016	0.0028	0.051	1.08	0.00019	7.59	<0.000020	7.25	0.318	3.7	<0.000050	<0.0050	0.0387	0.00114
MC1	08/07/2012 17:00	<0.05	0.000049	36.8	0.0027	0.00081	0.00403	2.43	0.00049	<0.0050	12.7	0.0869	<0.000010	0.0015	0.0033	0.082	1.05	0.00014	8.67	<0.000020	7.75	0.331	4.5	<0.000050	<0.0050	0.0485	0.001
MC1	15/07/2012 14:00	<0.05	0.000025	36.3	0.0029	0.00082	0.00449	2.5	0.00049	<0.0050	12.5	0.0971	<0.000010	0.0014	0.0036	0.08	1.07	0.00017	8.32	<0.000020	7.61	0.327	3.1	<0.000050	<0.0050	0.0554	0.00101
MC1	22/07/2012 8:10	<0.05	0.000021	41.9	0.0024	0.00064	0.00362	2.09	0.00037	<0.0050	13.9	0.0795	<0.000010	0.0017	0.0033	0.065	1.16	0.00021	8.48	<0.000020	8.62	0.362	4.5	<0.000050	<0.0050	0.0391	0.00122
MC1	29/07/2012 10:30	<0.05	0.000016	38.6	0.0026	0.00068	0.00384	2.26	0.00041	<0.0050	13.3	0.0839	<0.000010	0.0016	0.0031	0.064	1.12	0.00023	8.16	<0.000020	7.96	0.349	<3.0	<0.000050	<0.0050	0.0433	0.00111
MC1	30/07/2012 13:15	<0.05	0.000015	38.3	0.0018	0.00064	0.00448	2.03	0.00041	<0.0050	13.2	0.0795	<0.000010	0.0015	0.0028	0.064	1.47	0.00017	8.02	<0.000020	8.04	0.344	4.1	<0.000050	<0.0050	0.035	0.00115
MC1	08/08/2012 16:25	<0.05	0.000019	40.1	0.0021	0.00069	0.00301	2.18	0.00036	<0.0050	14.2	0.0996	<0.000010	0.0015	0.0028	0.068	1.11	0.00015	8.63	<0.000020	8.58	0.346	<3.0	<0.000050	<0.0050	0.0357	0.00109
MC1	17/08/2012 10:45	<0.05	<0.000010	42.5	0.0018	0.00066	0.0027	2.17	0.00032	<0.0050	14.3	0.0979	<0.000010	0.0017	0.0025	0.062	1.19	0.00011	8.51	<0.000020	8.61	0.374	4.2	<0.000050	<0.0050	0.0323	0.00121
MC1	27/08/2012 9:00	<0.05	0.000025	36.9	0.0016	0.00067	0.00362	2.01	0.00035	<0.0050	12.9	0.114	<0.000010	0.0013	0.0044	0.052	1.09	0.00012	6.97	<0.000020	7.72	0.348	<3.0	<0.000050	<0.0050	0.0262	0.00105
MC1	03/09/2012 17:20	<0.05	0.000015	43.6	<0.0010	0.00065	0.00335	1.8	0.00031	<0.0050	15.2	0.148	<0.000010	0.0013	0.0027	0.068	1.18	0.00016	7.57	<0.000020	9.04	0.392	4.7	<0.000050	<0.0050	0.0145	0.00121
MC1	13/09/2012 16:50	<0.05	0.000016	36.6	0.0017	0.00117	0.00461	2.43	0.00061	<0.0050	11.9	0.176	<0.000010	<0.0010	0.0041	0.099	0.791	0.00013	7.19	<0.000020	6.9	0.302	3.4	<0.000050	<0.0050	0.027	0.00085
MC1	19/09/2012 15:12	<0.05	<0.000010	38.3	0.0012	<0.00050	0.00238	1.34	<0.00020	<0.0050	12.2	0.0968	<0.000010	0.0011	0.0024	0.045	0.945	0.0001	7.25	<0.000020	7.17	0.303	5.3	<0.000050	<0.0050	0.0197	0.00087
MC1	24/09/2012 14:52	<0.05	<0.000010	40.5	<0.0010	<0.00050	0.00225	0.935	<0.00020	<0.0050	13.1	0.0892	<0.000010	0.0013	0.0021	0.033	1.03	0.00018	7.23	<0.000020	8.06	0.327	4.7	<0.000050	<0.0050	<0.0050	0.00097
MC1	04/10/2012 15:30	<0.05	0.000034	42.8	0.002	0.00146	0.00609	2.86	0.00086	<0.0050	15.1	0.305	<0.000010	0.001	0.0047	0.149	1.06	0.00018	8.72	<0.000020	8.43	0.393	3.9	<0.000050	<0.0050	0.0268	0.00124
MC1	12/10/2012 13:20	<0.05	0.000011	44.4	<0.0010	<0.00050	0.0026	0.652	<0.00020	<0.0050	16.7	0.0975	<0.000010	0.0013	0.0023	0.041	1.06	0.00021	8.12	<0.000020	9.74	0.393	7.3	<0.000050	<0.0050	<0.0050	0.00117
MC1	20/10/2012 14:20	<0.05	<0.000010	39.1	<0.0010	<0.00050	0.00146	0.525	<0.00020	<0.0050	13.5	0.068	<0.000010	0.0012	0.0016	0.024	0.917	0.00018	6.6	<0.000020	7.98	0.339	3.4	<0.000050	<0.0050	<0.0050	0.00101
MC1	06/04/2013 15:00	<0.05	0.000024	92.2	<0.0010	<0.00050	0.0062	0.0779	<0.00020	<0.0050	40.5	0.0088	<0.000010	<0.0010	0.0019	0.07	9.06	0.0003	18.2	<0.000020	33.7	0.79	30.2	<0.000050	<0.0050	<0.0050	0.00183
MC1	12/04/2013 16:13	<0.05	0.000028	61.7	<0.0010	<0.00050	0.00479	0.0623	<0.00020	<0.0050	26	0.0102	<0.000010	<0.0010	0.0011	0.049	6.39	0.00015	13.2	<0.000020	21	0.495	18.4	<0.000050	<0.0050	<0.0050	0.0008
MC1	18/04/2013 14:00	<0.05	0.000025	63.7	<0.0010	<0.00050	0.00353	0.0468	<0.00020	<0.0050	27.8	0.0086	<0.000010	<0.0010	0.001	0.035	5.1	0.00018	13.1	<0.000020	20.4	0.533	17.4	<0.000050	<0.0050	<0.0050	0.00079
MC1	24/05/2013 17:00	<0.05	0.000057	21.1	0.0089	0.00333	0.0326	7.74	0.00216	<0.0050	8.13	0.333	<0.000010	0.0019	0.0091	0.279	2.15	0.00017	12.5	0.000033	5.94	0.214	<3.0	<0.000050	<0.0050	0.192	0.00072
MC1	31/05/2013 15:40	<0.05	0.000202	46.5	0.0235	0.00891	0.0488	23.2	0.00544	0.0096	16.4	0.886	<0.000010	0.0035	0.0263	0.788	3.54	0.00076	32.2	0.000072	10.1	0.477	7.1	0.000101	<0.0050	0.525	0.00189
MC1	08/06/2013 16:10	<0.05	0.000209	45.4	0.029	0.0108	0.0357	22.6	0.00652	0.0109	17.1	0.562	0.000024	0.0021	0.0304	0.668	2.57	0.0007	31.4	0.000054	7.84	0.371	4.5	0.000126	<0.0050	0.56	0.00255
MC1	16/06/2013 13:40	<0.05	0.000063	37.2	0.0096	0.00344	0.0167	7.9	0.0021	<0.0050	12.9	0.217	<0.000010	0.0017	0.0107	0.253	1.69	0.00029	15	0.00003	8.02	0.322	6	<0.000050	<0.0050	0.194	0.00162
MC1	20/06/2013 10:45	<0.05	0.000054	40.3	0.0056	0.00203	0.00808	4.76	0.00128	<0.0050	13.6	0.148	<0.000010	0.0019	0.0068	0.133	1.64	0.00019	12.6	0.000043	8.26	0.336	3.6	<0.000050	<0.0050	0.126	0.00161
MC1	25/06/2013 11:15	<0.05	0.000033	42.1	0.0041	0.00132	0.00581	3.07	0.0008	<0.0050	14.4	0.108	<0.000010	0.0021	0.0048	0.101	1.6	0.00022	10.4	<0.000020	9.25	0.378	6.1	<0.000050	<0.0050	0.0721	0.0016
MC1	02/07/2013 13:05	<0.05	0.000147	45.6	0.0181	0.00599	0.0201	15.1	0.00374	0.0068	14.7	0.313	0.000023	0.0018	0.0188	0.419	1.86	0.00046	24	0.000045	7.91	0.357	3.9	0.00008	<0.0050	0.348	0.00189
MC1	11/07/2013 13:55	<0.05	0.000096	44	0.0108	0.00403	0.0144	8.83	0.00239	<0.0050	14.3	0.227	<0.000010	0.0017	0.0129	0.284	1.56	0.00027	15.2	0.000031	8.39	0.391	3.6	<0.000050	<0.0050	0.197	0.00188
MC1	19/07/2013 10:30	<0.05	0.000041	42	0.0038	0.00138	0.00573	3.19	0.00075	<0.0050	15	0.11	<0.000010	0.0017	0.0053	0.115	1.53	0.00021	9.76	0.000079	9.89	0.435	4.8	<0.000050	<0.0050	0.0827	0.00158
MC1	24/07/2013 11:20	<0.05	0.000113	42.9	0.0129	0.00475	0.0156	11.4	0.00274	0.0053	14.7	0.275	<0.000010	0.0015	0.0142	0.365	1.5	0.00024	19.7	0.000028	8.33	0.34	3.9	0.000061	<0.0050	0.274	0.00152
MC1	30/07/2013 13:30	<0.05	0.000036	41.6	0.0043	0.00147	0.00595	3.61	0.00084	<0.0050	13.3	0.11	<0.000010	0.0015	0.0054	0.12	1.18	0.00016	11.7	<0.000020	7.81	0.342	4.3	<0.000050	<0.0050	0.0832	0.00119
MC1	10/08/2013 15:20	<0.05	0.000013	46.4	0.0026	0.0009	0.00395	2.44	0.00046	<0.0050	16.1	0.101	<0.000010	0.0017	0.0037	0.097	1.29	0.00019	9.24	<0.000020	9.75	0.383	5.4	<0.000050	<0.0050	0.0491	0.00131
MC1	15/08/2013 13:30	<0.05	0.000016	46.5	0.0025	0.00077	0.00361	2.01	0.00038	<0.0050	15.8	0.093	<0.000010	0.0019	0.0037	0.064	1.37	0.00022	9.03	<0.000020	9.81	0.411	5	<0.000050	<0.0050	0.0419	0.00151
MC1	22/08/2013 13:40	<0.05	0.000034	44.2	0.0044	0.00154	0.00639	3.85	0.00084	<0.0050	15	0.155	<0.000010	0.0018	0.0055	0.135	1.45	0.0002	11.5	0.000035	9.28	0.387	3.6	<0.000050	<0.0050	0.088	0.00136
MC1	27/08/2013 11:45	<0.05	0.000036	44.9	0.0055	0.00181	0.00651	4.75	0.00098	<0.0050	15.1	0.173	<0.000010	0.0016	0.0059	0.143	1.27	0.00017	12	<0.000020	9.06	0.362	4.7	<0.000050	<0.0050	0.102	0.00119
MC1	06/09/2013 16:15	<0.05	0.000019	46.8	0.0028	0.00099	0.00403	2.8	0.00048	<0.0050	15.5	0.142	<0.000010	0.0014	0.0042	0.087	1.31	0.00021	9.91	<0.000020	9.32	0.383	5.3	<0.000050	<0.0050	0.0491	0.0012
MC1	09/09/2013 13:55	<0.05	<0.000010	41.1	0.0019	0.00071	0.00441	1.93	0.00036	<0.0050	14.5	0.107	<0.000010	0.002	0.0031	0.071	1.53	0.0002	8.07	<0.000020	9.12	0.416	6.1	<0.000050	<0.0050	0.0345	0.00107
MC1	18/09/2013 11:35	<0.05	0.000068	38.7	0.0077	0.0027	0.00928	5.99	0.00161	<0.0050	13.4	0.248	<0.000010	0.0012	0.0091	0.2	1.23	0.00021	12.5	<0.000020	7.43	0.307	3.1	<0.000050	<0.0050	0.142	0.00111
MC1	24/09/2013 11:00	<0.05	0.000028	40	0.0034	0.00138	0.00503	3.25	0.00072	<0.0050	13.1	0.163	<0.000010	0.0011	0.0048	0.111	0.976	<0.00010	10.1	<0.000020	7.95	0.319	4.6	<0.000050	<0.0050	0.0712	0.00101
MC1	03/10/2013 11:30	<0.05	0.000035	46.6	0.0042	0.00153	0.00524	4.26	0.00093	<0.0050	15.2	0.202	<0.000010	0.0011	0.006	0.165	1.17	0.00013	12.8	<0.000020	8.34	0.354	10.8	<0.000050	<0.0050	0.105	0.00102
MC1	11/10/2013 12:20	<0.05	<0.000010	43.1	<0.0010	<0.00050	0.00224	1.02	<0.00020	<0.0050	14.6	0.109	<0.000010	0.0012	0.0022	0.037	0.948	0.00017	7.38	<0.000020	8.56	0.349	6.6	<0.000050	<0.0050	0.0139	0.00111
MC1	18/10/2013 10:30	<0.05	<0.000010	40.5	<0.0010	<0.00050	0.00191	0.748	<0.00020	<0.0050	14.1	0.0895	<0.000010	0.0014	0.0017	0.033	1.03	0.00015	7.39	<0.000020	8.57	0.364	6.7	<0.000050	<0.0050	<0.0050	0.00113
MC1	22/10/2013 10:00	<0.05	<0.000010	48.2	<0.0010	<0.00050	0.00196	0.695	<0.00020	<0.0050	16.2	0.0815	<0.000010	0.0014	0.002	0.026	1.14	0.00013	8.03	<0.000020	9.6	0.399	8.1	<0.000050	<0.0050	0.0071	0.00126
MC1	31/10/2013 15:45	<0.05	<0.000010	42.4	<0.0010	<0.00050	0.00195	0.858	<0.00020	<0.0050	14.6	0.0811	<0.000010	0.0012	0.0019	0.035	1.05	0.0001	7.33	<0.000020	8.21	0.351	5.8	<0.000050	<0.0050	0.0155	0.00104
MC1	08/11/2013 15:15	<0.05	<0.000010	49.3	<0.0010	<0.00050	0.00171	0.276	<0.00020	<0.0050	16	0.0775	<0.000010	0.0016	0.0012	0.017	1.28	<0.00010	8.09	<0.000020	9.21	0.423	4.9	<0.000050	<0.0050	<0.0050	0.00126
MC1	14/11/2013 15:00	<0.05	<0.000010	55.4	<0.0010	<0.00050	0.00302	0.328	<0.00020	<0.0050	19.3	0.0853	<0.000010	0.0016	0.002	0.029	1.38	0.00028	7.44	<0.000020	11.9	0.468	7.5	<0.000050	<0.0050	<0.0050	0.00154
MC1	18/11/2013 15:20	<0.05	<0.000010	52.5	<0.0010	<0.00050	0.0046	0.419	<0.00020	<0.0050	18.2	0.0553	<0.000010	0.0016	0.0019	0.015	1.27	0.00019	6.78	<0.000020	11.5	0.45	8.8	<0.000050	<0.0050	<0.0050	0.00138
MC1	01/12/2013 14:15	<0.05	0.000014	57.8	0.0011	<0.00050	0.00962	0.8	0.00021	<0.0050	20	0.098	<0.000010	0.0015	0.002	0.029	1.74	0.00022	9.49	<0.000020	13.2	0.534	12.3	<0.000050	<0.0050	0.0276	0.00159
MC1	18/03/2014 11:20	<0.05	0.000024	120	<0.0010	<0.00050	0.0154	0.126	<0.00020	0.0059	53.5	0.0615	<0.000010	0.002	0.0016	0.076	9	0.00092	19.4	<0.000020	39.6	1.1	32.2	<0.000050	<0.0050	<0.0050	0.00397
MC1	25/03/2014 12:50	<0.05	0.000027	103	<0.0010	<0.00050	0.00535	0.074	<0.00020	0.0052	42.9	0.0402	<0.000010	0.002	0.0013	0.034	5.94	0.0006	16	<0.000020	29.9	0.984	27.3	<0.000050	<0.0050	<0.0050	0.00318
MC1	28/05/2014 12:00	<0.05	0.000035	30.5	0.0035	0.00136	0.00905	3.21	0.00088	<0.0050	10.2	0.122	<0.000010	0.0013	0.005	0.101	1.48	0.00018	7.91	0.000022	6.91	0.327	4	<0.000050	<0.0050	0.0626	0.00103
MC1	08/06/2014 13:50	<0.05	<0.000010	34.4	0.001	<0.00050	0.00385	0.966	0.00027	<0.0050	12.7	0.0491	<0.000010	0.0017	0.0022	0.038	1.35	0.0002	6.13	<0.000020	8.69	0.36	<3.0	<0.000050	<0.0050	0.0207	0.00119
MC1	14/06/2014 15:00	<0.05	<0.000010	39	<0.0010	<0.00050	0.0033	0.729	<0.00020	<0.0050	13.6	0.0397	<0.000010	0.0017	0.0018	0.026	1.36	0.00017	6.7	<0.000020	9.29	0.388	8.2	<0.000050	<0.0050	0.0112	0.00136
MC1	17/06/2014 13:30	<0.05	<0.000010	38.3	<0.0010	<0.00050	0.00235	0.515	<0.00020	<0.0050	13.3	0.0328	<0.000010	0.0017	0.0016	0.026	1.32	0.00018	6.26	0.000262	8.91	0.373	4.7	<0.000050	<0.0050	0.0077	0.00133
MC1	26/06/2014 16:45	<0.05	<0.000010	40.5	<0.0010	<0.00050	0.00259	0.702	<0.00020	<0.0050	13.6	0.0411	<0.000010	0.0016	0.0016	0.023	1.32	0.00013	6.56	<0.000020	8.81	0.407	7.2	<0.000050	<0.0050	0.0124	0.00138
MC1	01/07/2014 15:50	<0.05	<0.000010	39.9	<0.0010	<0.00050	0.00229	0.306	<0.00020	<0.0050	14.8	0.0235	<0.000010	0.0019	0.0014	0.017	1.41	0.00018	6.11	<0.000020	9.7	0.401	10.4	<0.000050	<0.0050	<0.0050	0.00147
MC1	10/07/2014 11:20	<0.05	<0.000010	39.7	<0.0010	<0.00050	0.00185	0.303	<0.00020	<0.0050	13.9	0.023	<0.000010	0.0017	0.0013	0.016	1.29	<0.00010	5.76	<0.000020	9.11	0.41	5	<0.000050	<0.0050	<0.0050	0.00127
MC1	17/07/2014 15:45	<0.05	0.000018	41.8	<0.0010	<0.00050	0.0022	0.261	<0.00020	<0.0050	15.3	0.0266	<0.000010	0.0017	0.0011	0.022	1.22	0.00018	6.24	<0.000020	9.71	0.429	7	<0.000050	<0.0050	<0.0050	0.0014
MC1	23/07/2014 15:25	<0.05	0.000013	38.3	0.0014	<0.00050	0.00325	1.2	0.00027	<0.0050	13.9	0.0611	<0.000010	0.0015	0.0023	0.047	1.24	0.00012	6.92	<0.000020	9.51	0.403	6.4	<0.000050	<0.0050	0.0221	0.0011
MC1	02/08/2014 15:20	<0.05	0.000011	40.4	<0.0010	<0.00050	0.00309	0.764	<0.00020	<0.0050	14.1	0.0424	<0.000010	0.0014	0.0018	0.028	1.22	<0.00010	6.81	<0.000020	9.57	0.398	6.3	<0.000050	<0.0050	0.0114	0.0012
MC1	14/08/2014 13:30	<0.05	<0.000010	47.1	<0.0010	<0.00050	0.00295	0.395	<0.00020	<0.0050	17.3	0.0338	<0.000010	0.0019	0.0013	0.031	1.52	0.00011	7.3	<0.000020	10.4	0.454	4.7	<0.000050	<0.0050	<0.0050	0.00149
MC1	18/08/2014 16:25	<0.05	<0.000010	44.4	<0.0010	<0.00050	0.00227	0.426	<0.00020	<0.0050	16.4	0.0377	<0.000010	0.0018	0.0014	0.024	1.53	0.00011	6.64	<0.000020	9.78	0.421	5.6	<0.000050	<0.0050	0.0052	0.00137

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MC1	02/06/2012	0.0062	0.0066	0.00056	0.0199	<0.00050	0.00072	0.062	<0.00010	<0.0010	<0.05	0.000016	34	High DL removed	<0.00050	0.00359	0.441	<0.00020	<0.0050	11.4	0.0432	<0.000010	0.0015	0.0015	0.021	2.24
MC1	09/06/2012	0.0137	0.0143	0.00091	0.0242	<0.00050	0.00085	0.0624	<0.00010	<0.0010	<0.05	<0.000010	32.1	High DL removed	<0.00050	0.00209	0.519	<0.00020	<0.0050	10.2	0.037	<0.000010	0.0013	0.0017	0.021	1.03
MC1	15/06/2012 10:50	0.0309	0.0331	0.00175	0.0244	<0.00050	0.00075	0.0566	<0.00010	<0.0010	<0.05	0.000011	27.2	High DL removed	<0.00050	0.0021	0.444	<0.00020	<0.0050	8.52	0.0521	<0.000010	0.0011	0.0019	0.02	0.757
MC1	22/06/2012 16:20	0.0101	0.0097	0.00081	0.0256	<0.00050	0.00072	0.0644	<0.00010	<0.0010	<0.05	0.00001	29.5	High DL removed	<0.00050	0.00211	0.39	<0.00020	<0.0050	10.1	0.0312	<0.000010	0.0013	0.0018	0.018	0.875
MC1	29/06/2012 16:00	<0.0050	<0.0050	<0.00050	0.0309	<0.00050	0.00078	0.0685	<0.00010	<0.0010	<0.05	0.000016	37.9	High DL removed	<0.00050	0.00426	0.458	<0.00020	<0.0050	12.4	0.0233	<0.000010	0.0016	0.0015	0.024	1.08
MC1	08/07/2012 17:00	0.0051	<0.0050	0.00058	0.0217	<0.00050	0.00088	0.0662	<0.00010	<0.0010	<0.05	0.000013	35.5	High DL removed	<0.00050	0.00207	0.538	<0.00020	<0.0050	11.5	0.0247	<0.000010	0.0015	0.0016	0.024	0.902
MC1	15/07/2012 14:00	<0.0050	0.0061	0.00052	0.0207	<0.00050	0.00087	0.0757	<0.00010	<0.0010	<0.05	<0.000010	38.8	High DL removed	<0.00050	0.0017	0.567	<0.00020	<0.0050	12.8	0.0294	<0.000010	0.0019	0.0017	0.023	1.02
MC1	22/07/2012 8:10	<0.0050	<0.0050	<0.00050	0.0198	<0.00050	0.00087	0.0714	<0.00010	<0.0010	<0.05	0.00001	36.5	High DL removed	<0.00050	0.00168	0.509	<0.00020	<0.0050	12.7	0.0288	<0.000010	0.0017	0.0015	0.022	1.05
MC1	29/07/2012 10:30	<0.0050	0.0051	0.0005	0.0232	<0.00050	0.00095	0.0745	<0.00010	<0.0010	<0.05	<0.000010	38.9	High DL removed	<0.00050	0.00189	0.61	<0.00020	<0.0050	13.4	0.035	<0.000010	0.0017	0.0017	0.025	0.998
MC1	30/07/2012 13:15	<0.0050	0.0055	<0.00050	0.0296	<0.00050	0.00094	0.0744	<0.00010	<0.0010	<0.05	<0.000010	39.3	High DL removed	<0.00050	0.00347	0.611	<0.00020	<0.0050	13.4	0.0366	<0.000010	0.0016	0.0015	0.022	1.03
MC1	08/08/2012 16:25	<0.0050	<0.0050	<0.00050	0.0238	<0.00050	0.00092	0.0756	<0.00010	<0.0010	<0.05	<0.000010	40.1	High DL removed	<0.00050	0.0016	0.594	<0.00020	<0.0050	13.5	0.0545	<0.000010	0.0017	0.0016	0.024	1.1
MC1	17/08/2012 10:45	<0.0050	<0.0050	<0.00050	0.0172	<0.00050	0.00092	0.0741	<0.00010	<0.0010	<0.05	<0.000010	40.1	High DL removed	<0.00050	0.00132	0.648	<0.00020	<0.0050	13.6	0.0539	<0.000010	0.0016	0.0014	0.023	1.05
MC1	27/08/2012 9:00	<0.0050	<0.0050	<0.00050	0.0189	<0.00050	0.00092	0.0747	<0.00010	<0.0010	<0.05	<0.000010	46.9	High DL removed	<0.00050	0.00149	0.801	<0.00020	<0.0050	13.7	0.068	<0.000010	0.0015	0.0017	0.023	1.1
MC1	03/09/2012 17:20	<0.0050	<0.0050	<0.00050	0.0173	<0.00050	0.00097	0.0729	<0.00010	<0.0010	<0.05	<0.000010	39.3	High DL removed	<0.00050	0.00147	0.78	<0.00020	<0.0050	13.5	0.0646	<0.000010	0.0015	0.0017	0.026	1.11
MC1	13/09/2012 16:50	<0.0050	<0.0050	0.00057	0.0196	<0.00050	0.00079	0.0659	<0.00010	<0.0010	<0.05	<0.000010	35.6	High DL removed	<0.00050	0.00175	0.601	<0.00020	<0.0050	11.7	0.074	<0.000010	0.0012	0.0019	0.02	0.796
MC1	19/09/2012 15:12	<0.0050	<0.0050	<0.00050	0.0173	<0.00050	0.00086	0.069	<0.00010	<0.0010	<0.05	<0.000010	39.4	High DL removed	<0.00050	0.0019	0.684	<0.00020	<0.0050	13.1	0.0751	<0.000010	0.0013	0.0018	0.024	0.948
MC1	24/09/2012 14:52	<0.0050	<0.0050	<0.00050	0.02	<0.00050	0.00082	0.0707	<0.00010	<0.0010	<0.05	<0.000010	40.6	High DL removed	<0.00050	0.0023	0.644	<0.00020	<0.0050	12.7	0.0663	<0.000010	0.0013	0.0019	0.026	1.07
MC1	04/10/2012 15:30	0.0058	0.0086	0.00062																		<0.000010				
MC1	12/10/2012 13:20	<0.0050	<0.0050	<0.00050																		<0.000010				
MC1	20/10/2012 14:20	<0.0050	<0.0050	<0.00050	0.011	<0.00050	0.00063	0.0679	<0.00010	<0.0010	<0.05	<0.000010	41.5	High DL removed	<0.00050	0.00148	0.436	<0.00020	<0.0050	13.6	0.0672	<0.000010	0.0013	0.0016	0.019	0.96
MC1	06/04/2013 15:00	<0.0050	<0.0050	<0.00050	0.0146	<0.00050	0.00109	0.148	<0.00010	<0.0010	<0.05	0.000027	86.4	High DL removed	<0.00050	0.00694	0.0619	<0.00020	<0.0050	36.9	0.0074	<0.000010	<0.0010	0.0016	0.061	8.17
MC1	12/04/2013 16:13	<0.0050	<0.0050	<0.00050	0.0104	<0.00050	0.0006	0.1	<0.00010	<0.0010	<0.05	0.00005	59.3	High DL removed	<0.00050	0.00439	0.0463	<0.00020	<0.0050	25.8	0.0099	<0.000010	<0.0010	0.0012	0.041	6.35
MC1	18/04/2013 14:00	<0.0050	<0.0050	<0.00050	0.0052	<0.00050	0.00055	0.0933	<0.00010	<0.0010	<0.05	0.000013	56	High DL removed	<0.00050	0.00278	0.0383	<0.00020	<0.0050	25.3	0.0073	<0.000010	<0.0010	<0.0010	0.026	4.89
MC1	24/05/2013 17:00	0.0159	0.0181	0.00096	0.0239	<0.00050	0.00058	0.0433	<0.00010	<0.0010	<0.05	<0.000010	17.6	High DL removed	<0.00050	0.00992	0.401	<0.00020	<0.0050	6.07	0.153	<0.000010	0.0016	0.0011	0.022	1.65
MC1	31/05/2013 15:40	0.0407	0.047	0.00231	0.0172	<0.00050	0.00075	0.0613	<0.00010	<0.0010	<0.05	<0.000010	26.6	High DL removed	<0.00050	0.00789	0.559	<0.00020	<0.0050	8.48	0.207	<0.000010	0.003	0.0013	0.021	2.21
MC1	08/06/2013 16:10	0.0479	0.0538	0.00329	0.0168	<0.00050	0.00124	0.0558	<0.00010	<0.0010	<0.05	<0.000010	28.6	High DL removed	<0.00050	0.0021	0.637	<0.00020	<0.0050	8.59	0.102	<0.000010	0.0016	0.0014	0.022	1.03
MC1	16/06/2013 13:40	0.017	0.0185	0.00159	0.0164	<0.00050	0.00087	0.0619	<0.00010	<0.0010	<0.05	<0.000010	33	High DL removed	<0.00050	0.00181	0.387	<0.00020	<0.0050	10.8	0.0655	<0.000010	0.0016	0.0015	0.02	1.16
MC1	20/06/2013 10:45	0.0098	0.011	0.00077	0.0117	<0.00050	0.00083	0.0658	<0.00010	<0.0010	<0.05	<0.000010	36.5	High DL removed	<0.00050	0.00151	0.269	<0.00020	<0.0050	10.9	0.0548	<0.000010	0.0023	0.0012	0.014	1.28
MC1	25/06/2013 11:15	0.0064	0.0073	0.00059	0.0126	<0.00050	0.00072	0.0646	<0.00010	<0.0010	<0.05	<0.000010	36.2	High DL removed	<0.00050	0.00146	0.201	<0.00020	<0.0050	13	0.039	<0.000010	0.0018	0.0012	0.017	1.27
MC1	02/07/2013 13:05	0.0308	0.0308	0.0022	0.0376	<0.00050	0.00095	0.0644	<0.00010	<0.0010	<0.05	<0.000010	34.2	High DL removed	<0.00050	0.00266	0.403	<0.00020	<0.0050	11.1	0.053	<0.000010	0.0017	0.0016	0.023	1.02
MC1	11/07/2013 13:55	0.0192	0.0195	0.00146	0.0225	<0.00050	0.00088	0.0606	<0.00010	<0.0010	<0.05	<0.000010	33	High DL removed	<0.00050	0.00163	0.405	<0.00020	<0.0050	10.9	0.0475	<0.000010	0.0016	0.0014	0.019	0.924
MC1	19/07/2013 10:30	0.0074	0.0068	0.00071	0.0237	<0.00050	0.00079	0.0701	<0.00010	<0.0010	<0.05	<0.000010	40.4	High DL removed	<0.00050	0.00158	0.359	<0.00020	<0.0050	13.2	0.0315	<0.000010	0.0018	0.0013	0.019	1.23
MC1	24/07/2013 11:20	0.0223	0.0242	0.00164	0.0239	<0.00050	0.00082	0.066	<0.00010	<0.0010	<0.05	<0.000010	35.2	High DL removed	<0.00050	0.00216	0.512	<0.00020	<0.0050	11.3	0.0505	<0.000010	0.0014	0.0017	0.023	0.833
MC1	30/07/2013 13:30	0.008	0.0071	0.00071	0.0245	<0.00050	0.00091	0.068	<0.00010	<0.0010	<0.05	<0.000010	36.6	High DL removed	<0.00050	0.00213	0.575	<0.00020	<0.0050	11.6	0.0388	<0.000010	0.0015	0.0018	0.024	1.03
MC1	10/08/2013 15:20	0.0053	<0.0050	0.00065	0.0194	<0.00050	0.00086	0.0695	<0.00010	<0.0010	<0.05	<0.000010	38.2	High DL removed	<0.00050	0.00161	0.397	<0.00020	<0.0050	12.7	0.0448	<0.000010	0.0017	0.0014	0.021	1.04
MC1	15/08/2013 13:30	<0.0050	<0.0050	<0.00050	0.0158	<0.00050	0.0008	0.0728	<0.00010	<0.0010	<0.05	<0.000010	40.7	High DL removed	<0.00050	0.00151	0.352	<0.00020	<0.0050	13.2	0.0484	<0.000010	0.0018	0.0014	0.019	1.26
MC1	22/08/2013 13:40	0.0083	0.0084	0.00083	0.0185	<0.00050	0.00085	0.0673	<0.00010	<0.0010	<0.05	<0.000010	38.4	High DL removed	<0.00050	0.00154	0.357	<0.00020	<0.0050	13.3	0.0606	<0.000010	0.0014	0.0015	0.018	1.04
MC1	27/08/2013 11:45	0.009	0.0085	0.00076	0.0228	<0.00050	0.00083	0.0712	<0.00010	<0.0010	<0.05	<0.000010	37.6	High DL removed	<0.00050	0.00149	0.526	<0.00020	<0.0050	12.6	0.0632	<0.000010	0.0014	0.0015	0.024	0.984
MC1	06/09/2013 16:15	0.0052	<0.0050	0.0006	0.0181	<0.00050	0.00097	0.0709	<0.00010	<0.0010	<0.05	<0.000010	40.1	0.0021	<0.00050	0.00181	0.631	<0.00020	<0.0050	13	0.0704	<0.000010	0.0014	0.0018	0.024	1.09
MC1	09/09/2013 13:55	<0.0050	<0.0050	0.00052	0.0172	<0.00050	0.00093	0.0759	<0.00010	<0.0010	<0.05	<0.000010	43.3	High DL removed	<0.00050	0.00178	0.585	<0.00020	<0.0050	14	0.0724	<0.000010	0.0017	0.0018	0.022	1.17
MC1	18/09/2013 11:35	0.0138	0.0134	0.00117	0.0223	<0.00050	0.00085	0.065	<0.00010	<0.0010	<0.05	<0.000010	38.1	High DL removed	<0.00050	0.00178	0.482	<0.00020	<0.0050	12	0.0958	<0.000010	0.0012	0.0017	0.021	0.933
MC1	24/09/2013 11:00	0.0062	0.0061	0.00087	0.019	<0.00050	0.00079	0.0626	<0.00010	<0.0010	<0.05	<0.000010	38.4	High DL removed	<0.00050	0.0017	0.533	<0.00020	<0.0050	12.4	0.0815	<0.000010	0.0011	0.0017	0.022	0.827
MC1	03/10/2013 11:30	0.0075	0.0078	0.00062	0.017	<0.00050	0.00079	0.0636	<0.00010	<0.0010	<0.05	<0.000010	39.8	High DL removed	<0.00050	0.00174	0.615	<0.00020	<0.0050	12.8	0.092	<0.000010	0.0012	0.0018	0.026	0.913
MC1	11/10/2013 12:20	<0.0050	<0.0050	<0.00050	0.0164	<0.00050	0.00076	0.0659	<0.00010	<0.0010	<0.05	<0.000010	43.1	High DL removed	<0.00050	0.00183	0.547	<0.00020	<0.0050	14.1	0.0927	<0.000010	0.0011	0.0025	0.026	0.927
MC1	18/10/2013 10:30	<0.0050	<0.0050	<0.00050	0.0115	<0.00050	0.00067	0.0641	<0.00010	<0.0010	<0.05	<0.000010	40.5	High DL removed	<0.00050	0.00148	0.571	<0.00020	<0.0050	13.5	0.0787	<0.000010	0.0013	0.0014	0.021	0.972
MC1	22/10/2013 10:00	<0.0050	<0.0050	<0.00050	0.0104	<0.00050	0.00072	0.0745	<0.00010	<0.0010	<0.05	<0.000010	50.4	High DL removed	<0.00050	0.0017	0.477	<0.00020	<0.0050	16.1	0.0751	<0.000010	0.0014	0.0015	0.024	1.18
MC1	31/10/2013 15:45	<0.0050	<0.0050	<0.00050	0.0093	<0.00050	0.00053	0.0652	<0.00010	<0.0010	<0.05	<0.000010	40.8	High DL removed	<0.00050	0.00126	0.255	<0.00020	<0.0050	14.1	0.0627	<0.000010	0.0013	0.0013	0.015	1.07
MC1	08/11/2013 15:15	<0.0050	<0.0050	<0.00050	0.0066	<0.00050	0.00047	0.0725	<0.00010	<0.0010	<0.05	<0.000010	43.4	High DL removed	<0.00050	0.00137	0.179	<0.00020	<0.0050	15.5	0.0741	<0.000010	0.0014	0.0013	0.011	1.2
MC1	14/11/2013 15:00	<0.0050	<0.0050	<0.00050	0.0078	<0.00050	0.0005	0.0764	<0.00010	<0.0010	<0.05	<0.000010	46.6	High DL removed	<0.00050	0.00158	0.171	<0.00020	<0.0050	16.1	0.0738	<0.000010	0.0015	0.0014	0.014	1.23
MC1	18/11/2013 15:20	<0.0050	<0.0050	<0.00050	0.0067	<0.00050	0.00047	0.0751	<0.00010	<0.0010	<0.05	<0.000010	53.5	High DL removed	<0.00050	0.00194	0.15	<0.00020	<0.0050	18.4	0.0514	<0.000010	0.0015	0.0012	0.015	1.44
MC1	01/12/2013 14:15	<0.0050	<0.0050	<0.00050	0.005	<0.00050	0.00038	0.0945	<0.00010	<0.0010	<0.05	<0.000010	56.3	High DL removed	<0.00050	0.00205	0.105	<0.00020	<0.0050	19	0.0751	<0.000010	0.0013	0.0011	<0.01	1.64
MC1	18/03/2014 11:20	<0.0050	<0.0050	<0.00050	0.009	<0.00050	0.00125	0.22	<0.00010	<0.0010	<0.05	0.000028	125	High DL removed	<0.00050	0.00792	0.0555	<0.00020	0.0058	52.6	0.0648	<0.000010	0.002	0.0016	0.069	9.14
MC1	25/03/2014 12:50	<0.0050	<0.0050	<0.00050	0.0065	<0.00050	0.00095	0.165	<0.00010	<0.0010	<0.05	0.000026	102	High DL removed	<0.00050	0.00475	0.0464	<0.00020	0.0054	43.2	0.0389	0.000012	0.0019	0.0011	0.031	6.08
MC1	28/05/2014 12:00	0.0068	0.0099	0.00065	0.014	<0.00050	0.00066	0.0546	<0.00010	<0.0010	<0.05	<0.000010	27.3	High DL removed	<0.00050	0.00276	0.375	<0.00020	<0.0050	9.58	0.0337	<0.000010	0.0015	0.0014	0.016	1.31
MC1	08/06/2014 13:50	<0.0050	0.005	<0.00050	0.0182	<0.00050	0.00061	0.0593	<0.00010	<0.0010	<0.05	0.00003	34.4	High DL removed	<0.00050	0.00245	0.199	<0.00020	<0.0050	11.7	0.0236	<0.000010	0.0016	0.0012	0.014	1.3
MC1	14/06/2014 15:00	<0.0050	<0.0050	<0.00050	0.0106	<0.00050	0.00063	0.0603	<0.00010	<0.0010	<0.05	<0.000010	35.2	High DL removed	<0.00050	0.00199	0.183	<0.00020	<0.0050	11.9	0.0239	<0.000010	0.0016	0.0013	0.015	1.25
MC1	17/06/2014 13:30	<0.0050	<0.0050	<0.00050	0.0123	<0.00050	0.00057	0.0602	<0.00010	<0.0010	<0.05	<0.000010	35.1	High DL removed	<0.00050	0.00195	0.186	<0.00020	<0.0050	12.4	0.0235	<0.000010	0.0019	0.0012	0.015	1.27
MC1	26/06/2014 16:45	<0.0050	<0.0050	<0.00050	0.0086	<0.00050	0.00059	0.0615	<0.00010	<0.0010	<0.05	<0.000010	37.9	High DL removed	<0.00050	0.00149	0.126	<0.00020	<0.0050	12.1	0.0197	<0.000010	0.0017	<0.0010	0.013	1.32
MC1	01/07/2014 15:50	<0.0050	0.0066	<0.00050	0.0087	<0.00050	0.00058	0.0656	<0.00010	<0.0010	<0.05	<0.000010	40.8	High DL removed	<0.00050	0.00182	0.142	<0.00020	<0.0050	14.1	0.0175	<0.000010	0.0019	0.001	0.014	1.45
MC1	10/07/2014 11:20	<0.0050	<0.0050	<0.00050	0.0082	<0.00050	0.0006	0.0662	<0.00010	<0.0010	<0.05	<0.000010	40.4	High DL removed	<0.00050	0.0016	0.141	<0.00020	<0.0050	13.9	0.0177	<0.000010	0.0018	0.001	0.014	1.34
MC1	17/07/2014 15:45	<0.0050	0.0134	<0.00050	0.0093	<0.00050	0.00063	0.0632	<0.00010	<0.0010	<0.05	<0.000010	40.9	High DL removed	<0.00050	0.00194	0.201	<0.00020	<0.0050	15.3	0.0207	<0.000010	0.0019	0.0013	0.018	1.27
MC1	23/07/2014 15:25	<0.0050	<0.0050	<0.00050	0.0108	<0.00050	0.00056	0.061	<0.00010	<0.0010	<0.05	<0.000010	36.8	High DL removed	<0.00050	0.00199	0.232	<0.00020	<0.0050	13	0.0174	<0.000010	0.0015	0.0013	0.014	1.03
MC1	02/08/2014 15:20	<0.0050	0.0072	<0.00050	0.012	<0.00050	0.00075	0.0685	<0.00010	<0.0010	<0.05	<0.000010	38	High DL removed	<0.00050	0.00195	0.226	<0.00020	<0.0050	14.6	0.0195	<0.000010	0.0016	0.0013	0.014	1.17
MC1	14/08/2014 13:30	<0.0050	<0.0050	<0.00050	0.0063	<0.00050	0.00061	0.0598	<0.00010	<0.0010	<0.05	<0.000010	40.2	High DL removed	<0.00050	0.00167	0.219	<0.00020	<0.0050	13.9	0.0237	<0.000010	0.0017	0.0012	0.019	1.12
MC1	18/08/2014 16:25	<0.0050	<0.0050	<0.00050	0.01	<0.00050	0.00071	0.0707	<0.00010	<0.0010	<0.05	<0.000010	40.4	High DL removed	<0.00050	0.0023	0.253	<0.00020	<0.0050	15.6	0.0222	<0.000010	0.0016	0.001	0.015	1.37

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	Br	Cation	CN-T	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-TKN	P-PO4T	P-TDP	P-TRP
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L
MC1	02/06/2012	0.00015	5.93	<0.000020	7.47	0.286	4.7	<0.000050	<0.0050	<0.0050	0.00098	<0.0050	<0.0050	<0.00050	152	<0.50	<0.50	<0.50												0.0982		
MC1	09/06/2012	0.00015	6.1	<0.000020	6.73	0.255	4.4	<0.000050	<0.0050	<0.0050	0.00091	<0.0050	<0.0050	<0.00050	145	<0.50	<0.50	<0.50												0.2		
MC1	15/06/2012 10:50	0.00011	5.89	<0.000020	5.89	0.21	3.2	<0.000050	<0.0050	<0.0050	0.0006	<0.0050	<0.0050	<0.00050	118	<0.50	<0.50	<0.50												0.0617		
MC1	22/06/2012 16:20	0.00011	5.8	<0.000020	6.62	0.264	3.6	<0.000050	<0.0050	<0.0050	0.00082	<0.0050	<0.0050	<0.00050	142	<0.50	<0.50	<0.50												0.188		
MC1	29/06/2012 16:00	0.00013	6.49	<0.000020	7.93	0.328	4.8	<0.000050	<0.0050	<0.0050	0.00107	<0.0050	<0.0050	<0.00050	170	<0.50	<0.50	<0.50												0.0677		
MC1	08/07/2012 17:00	0.00017	6.88	<0.000020	7.35	0.305	4.5	<0.000050	<0.0050	<0.0050	0.00091	<0.0050	<0.0050	<0.00050	168	<0.50	<0.50	<0.50												0.105		
MC1	15/07/2012 14:00	0.00013	6.92	<0.000020	8.21	0.352	4.8	<0.000050	<0.0050	<0.0050	0.00109	<0.0050	<0.0050	<0.00050	174	<0.50	<0.50	<0.50												0.0928		
MC1	22/07/2012 8:10	0.00012	6.54	<0.000020	8.07	0.341	4.8	<0.000050	<0.0050	<0.0050	0.00109	<0.0050	<0.0050	<0.00050	177	<0.50	<0.50	<0.50												0.053		
MC1	29/07/2012 10:30	0.00015	7.09	<0.000020	8.31	0.346	4.8	<0.000050	<0.0050	<0.0050	0.0011	<0.0050	<0.0050	<0.00050	187	<0.50	<0.50	<0.50												0.0707		
MC1	30/07/2012 13:15	0.00014	6.75	<0.000020	8.12	0.35	4.3	<0.000050	<0.0050	<0.0050	0.00114	<0.0050	<0.0050	<0.00050	188	<0.50	<0.50	<0.50												0.059		
MC1	08/08/2012 16:25	0.00017	7.03	<0.000020	8.47	0.369	5	<0.000050	<0.0050	<0.0050	0.00116	<0.0050	<0.0050	<0.00050	190	0.85	<0.50	0.71														
MC1	17/08/2012 10:45	0.00013	6.79	<0.000020	8.07	0.373	5	<0.000050	<0.0050	<0.0050	0.00113	<0.0050	<0.0050	<0.00050	190	1.27	<0.50	1.06														
MC1	27/08/2012 9:00	<0.00010	7.74	<0.000020	8.28	0.359	4.4	<0.000050	<0.0050	<0.0050	0.0011	<0.0050	<0.0050	<0.00050	186	3.01	<0.50	2.51														
MC1	03/09/2012 17:20	0.00016	6.93	<0.000020	8.21	0.354	4.5	<0.000050	<0.0050	<0.0050	0.00104	<0.0050	<0.0050	<0.00050	189	<0.50	<0.50	<0.50														
MC1	13/09/2012 16:50	<0.00010	6.59	<0.000020	7.22	0.291	4.4	<0.000050	<0.0050	<0.0050	0.00079	<0.0050	<0.0050	<0.00050	160	<0.50	<0.50	<0.50									18					
MC1	19/09/2012 15:12	0.00013	6.88	<0.000020	7.93	0.327	4.9	<0.000050	<0.0050	<0.0050	0.00094	<0.0050	<0.0050	<0.00050	176	<0.50	<0.50	<0.50														
MC1	24/09/2012 14:52	0.00013	7.3	<0.000020	7.66	0.334	4.6	<0.000050	<0.0050	<0.0050	0.00091	<0.0050	<0.0050	<0.00050	183	<0.50	<0.50	<0.50														
MC1	04/10/2012 15:30														173	<0.50	<0.50	<0.50														
MC1	12/10/2012 13:20														181	<0.50	<0.50	<0.50														
MC1	20/10/2012 14:20	0.00013	7.09	<0.000020	8.02	0.344	5.4	<0.000050	<0.0050	<0.0050	0.00103	<0.0050	<0.0050	<0.00050	190	<0.50	<0.50	<0.50														
MC1	06/04/2013 15:00	0.00027	17.6	0.000024	30.8	0.682	30.2	<0.000050	<0.0050	<0.0050	0.0017	<0.0050	<0.0050	<0.00050	420	<0.50	<0.50	<0.50														
MC1	12/04/2013 16:13	0.00013	13.3	<0.000020	20.8	0.498	19.1	<0.000050	<0.0050	<0.0050	0.00074	<0.0050	0.0066	<0.00050	295	<0.50	<0.50	<0.50														
MC1	18/04/2013 14:00	0.00017	11.6	<0.000020	18.9	0.494	16.1	<0.000050	<0.0050	<0.0050	0.00076	<0.0050	<0.0050	<0.00050	323	<0.50	<0.50	<0.50														
MC1	24/05/2013 17:00	0.00012	3	<0.000020	5.41	0.169	3.5	<0.000050	<0.0050	<0.0050	0.00036	<0.0050	<0.0050	<0.00050	77.4	<0.50	<0.50	<0.50														
MC1	31/05/2013 15:40	0.00033	3.59	<0.000020	7.98	0.312	6	<0.000050	<0.0050	<0.0050	0.0007	<0.0050	<0.0050	<0.00050	112	<0.50	<0.50	<0.50														
MC1	08/06/2013 16:10	0.00013	4.79	<0.000020	6.24	0.226	3.3	<0.000050	<0.0050	<0.0050	0.00111	<0.0050	<0.0050	<0.00050	131	<0.50	<0.50	<0.50														
MC1	16/06/2013 13:40	0.00014	5.95	<0.000020	7.46	0.279	4.5	<0.000050	<0.0050	<0.0050	0.00119	<0.0050	<0.0050	<0.00050	153	<0.50	<0.50	<0.50														
MC1	20/06/2013 10:45	0.00017	6.16	<0.000020	7.18	0.312	5.4	<0.000050	<0.0050	<0.0050	0.00139	<0.0050	<0.0050	<0.00050	165	<0.50	<0.50	<0.50														
MC1	25/06/2013 11:15	0.00014	6.02	<0.000020	8.67	0.335	6.4	<0.000050	<0.0050	<0.0050	0.00147	<0.0050	<0.0050	<0.00050	175	<0.50	<0.50	<0.50														
MC1	02/07/2013 13:05	0.00016	6.14	<0.000020	8.08	0.259	4.2	<0.000050	<0.0050	<0.0050	0.00117	<0.0050	<0.0050	<0.00050	153	<0.50	<0.50	<0.50														
MC1	11/07/2013 13:55	0.00014	6.43	<0.000020	7.36	0.275	5	<0.000050	<0.0050	<0.0050	0.00114	<0.0050	<0.0050	<0.00050	162	<0.50	<0.50	<0.50														
MC1	19/07/2013 10:30	0.00013	6.5	<0.000020	8.58	0.363	5.9	<0.000050	<0.0050	<0.0050	0.00132	<0.0050	<0.0050	<0.00050	188	<0.50	<0.50	<0.50														
MC1	24/07/2013 11:20	0.00014	6.7	<0.000020	7.59	0.274	4	<0.000050	<0.0050	<0.0050	0.00094	<0.0050	<0.0050	<0.00050	157	<0.50	<0.50	<0.50														
MC1	30/07/2013 13:30	0.00014	6.5	<0.000020	7.35	0.28	5.4	<0.000050	<0.0050	<0.0050	0.00109	<0.0050	<0.0050	<0.00050	162	<0.50	<0.50	<0.50														
MC1	10/08/2013 15:20	0.00013	6.58	<0.000020	8.14	0.345	5.6	<0.000050	<0.0050	<0.0050	0.00118	<0.0050	<0.0050	<0.00050	188	<0.50	<0.50	<0.50														
MC1	15/08/2013 13:30	0.00013	7.19	<0.000020	8.48	0.366	5.4	<0.000050	<0.0050	<0.0050	0.00125	<0.0050	<0.0050	<0.00050	191	1.38	<0.50	1.15														
MC1	22/08/2013 13:40	0.00014	6.56	<0.000020	8.49	0.345	4.4	<0.000050	<0.0050	<0.0050	0.0012	<0.0050	<0.0050	<0.00050	188	<0.50	<0.50	<0.50														
MC1	27/08/2013 11:45	0.00012	7.55	<0.000020	7.58	0.332	4.3	<0.000050	<0.0050	<0.0050	0.00101	<0.0050	<0.0050	<0.00050	178	<0.50	<0.50	<0.50														
MC1	06/09/2013 16:15	0.00013	7.02	<0.000020	8.05	0.35	4.4	<0.000050	<0.0050	<0.0050	0.00106	<0.0050	<0.0050	<0.00050	184	<0.50	<0.50	<0.50														
MC1	09/09/2013 13:55	0.00014	7.66	<0.000020	8.89	0.387	5.5	<0.000050	<0.0050	<0.0050	0.00118	<0.0050	<0.0050	<0.00050	187	<0.50	<0.50	<0.50														
MC1	18/09/2013 11:35	0.00011	7.17	<0.000020	7.54	0.3	4.8	<0.000050	<0.0050	<0.0050	0.00089	<0.0050	<0.0050	<0.00050	169	<0.50	<0.50	<0.50														
MC1	24/09/2013 11:00	0.00012	7.27	<0.000020	7.51	0.292	5.1	<0.000050	<0.0050	<0.0050	0.00087	<0.0050	<0.0050	<0.00050	165	<0.50	<0.50	<0.50														
MC1	03/10/2013 11:30	0.00013	7.31	<0.000020	7.82	0.32	4.9	<0.000050	<0.0050	<0.0050	0.00092	<0.0050	<0.0050	<0.00050	173	<0.50	<0.50	<0.50														
MC1	11/10/2013 12:20	0.00013	6.36	<0.000020	8.57	0.337	6.1	<0.000050	<0.0050	<0.0050	0.00097	<0.0050	<0.0050	<0.00050	187	<0.50	<0.50	<0.50														
MC1	18/10/2013 10:30	0.00011	6.58	<0.000020	8.09	0.333	5.5	<0.000050	<0.0050	<0.0050	0.00106	<0.0050	<0.0050	<0.00050	186	<0.50	<0.50	<0.50														
MC1	22/10/2013 10:00	0.00012	7.35	<0.000020	9.78	0.39	7.2	<0.000050	<0.0050	<0.0050	0.00128	<0.0050	<0.0050	<0.00050	211	<0.50	<0.50	<0.50														
MC1	31/10/2013 15:45	0.00015	6.92	<0.000020	8.55	0.366	5.5	<0.000050	<0.0050	<0.0050	0.00113	<0.0050	<0.0050	<0.00050	188	<0.50	<0.50	<0.50														
MC1	08/11/2013 15:15	0.00015	7.01	<0.000020	9.48	0.403	6.2	<0.000050	<0.0050	<0.0050	0.00119	<0.0050	<0.0050	<0.00050	210	<0.50	<0.50	<0.50														
MC1	14/11/2013 15:00	0.00017	6.79	<0.000020	9.89	0.453	7	<0.000050	<0.0050	<0.0050	0.00137	<0.0050	<0.0050	<0.00050	215	2.28	<0.50	1.9														
MC1	18/11/2013 15:20	0.00015	7.23	<0.000020	12	0.465	8.8	<0.000050	<0.0050	<0.0050	0.00136	<0.0050	<0.0050	<0.00050	223	<0.50	<0.50	<0.50														
MC1	01/12/2013 14:15	0.0002	8.02	<0.000020	12.3	0.515	10.6	<0.000050	<0.0050	<0.0050	0.00158	<0.0050	<0.0050	<0.00050	256	<0.50	<0.50	<0.50														
MC1	18/03/2014 11:20	0.00082	21	<0.000020	39.5	1.19	36.3	<0.000050	<0.0050	<0.0050	0.00396	<0.0050	<0.0050	<0.00050	584	17.6	<0.50	14.7														
MC1	25/03/2014 12:50	0.00055	16.1	<0.000020	31.2	1.04	25.7	<0.000050	<0.0050	<0.0050	0.00324	<0.0050	<0.0050	<0.00050	477	10.6	<0.50	8.87														
MC1	28/05/2014 12:00	0.00015	4.83	<0.000020	6.68	0.316	4.8	<0.000050	<0.0050	<0.0050	0.00084	<0.0050	<0.0050	<0.00050	134	<0.50	<0.50	<0.50														
MC1	08/06/2014 13:50	0.00016	5.82	<0.000020	8.12	0.342	5.9	<0.000050	<0.0050	<0.0050	0.00112	<0.0050	<0.0050	<0.00050	162	<0.50	<0.50	<0.50														
MC1	14/06/2014 15:00	0.00014	5.43	<0.000020	8.32	0.368	5.2	<0.000050	<0.0050	<0.0050	0.00117	<0.0050	<0.0050	<0.00050	169	<0.50	<0.50	<0.50														
MC1	17/06/2014 13:30	0.00011	5.44	<0.000020	8.51	0.362	6.2	<0.000050	<0.0050	<0.0050	0.00132	<0.0050	<0.0050	<0.00050	174	<0.50	<0.50	<0.50														
MC1	26/06/2014 16:45	0.00012	5.67	<0.000020	8.32	0.38	6	<0.000050	<0.0050	<0.0050	0.0013	<0.0050	<0.0050	<0.00050	182	0.92	<0.50	0.77														
MC1	01/07/2014 15:50	0.00011	6.3	<0.000020	9.3	0.411	6.5	<0.000050	<0.0050	<0.0050	0.00141	<0.0050	<0.0050	<0.00050	188	<0.50	<0.50	<0.50														
MC1	10/07/2014 11:20	0.00011	5.73	<0.000020	8.82	0.422	5.2	<0.000050	<0.0050	<0.0050	0.00129	<0.0050	<0.0050	<0.00050	184	1.86	<0.50	1.55														
MC1	17/07/2014 15:45	0.0001	5.54	<0.000020	10.8	0.416	3.8	<0.000050	<0.0050	<0.0050	0.0014	<0.0050	<0.0050	<0.00050	193	<0.50	<0.50	<0.50														
MC1	23/07/2014 15:25	0.00013	6	<0.000020	8.52	0.374	<3.0	<0.000050	<0.0050	<0.0050	0.00104	<0.0050	<0.0050	<0.00050	181	<0.50	<0.50	<0.50														
MC1	02/08/2014 15:20	0.00013	5.97	<0.000020	9.35		7040		<0.0050	<0.0050	0.00106	<0.0050	<0.0050	<0.00050	187	<0.50	<0.50	<0.50														
MC1	14/08/2014 13:30	0.00011	6.26	<0.000020	8.91	0.433	5.1	<0.000050	<0.0050	<0.0050	0.00114	<0.0050	<0.0050	<0.00050	200	2.84	<0.50	2.37														
MC1	18/08/2014 16:25	<0.00010	5.77	<0.000020	9.77	0.422	3.9	<0.000050	<0.0050	<0.0050	0.00131	<0.0050	<0.0050	<0.00050	203	1.18	<0.50	0.98														

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
MC1	02/06/2012			269.9			
MC1	09/06/2012			236.7			
MC1	15/06/2012 10:50			243.8			
MC1	22/06/2012 16:20			246.1			
MC1	29/06/2012 16:00			286.7			
MC1	08/07/2012 17:00			281.9			
MC1	15/07/2012 14:00			284.3			
MC1	22/07/2012 8:10			291.1			
MC1	29/07/2012 10:30			271.7			
MC1	30/07/2012 13:15			268.9			
MC1	08/08/2012 16:25			309.9			
MC1	17/08/2012 10:45			297.1			
MC1	27/08/2012 9:00			286.9			
MC1	03/09/2012 17:20			256.6			
MC1	13/09/2012 16:50			258.1			
MC1	19/09/2012 15:12			294.8			
MC1	24/09/2012 14:52			287.3			
MC1	04/10/2012 15:30			219			
MC1	12/10/2012 13:20			303.6			
MC1	20/10/2012 14:20			309.1			
MC1	06/04/2013 15:00			665.1			
MC1	12/04/2013 16:13						
MC1	18/04/2013 14:00			526.3			
MC1	24/05/2013 17:00			139.6			
MC1	31/05/2013 15:40			239			
MC1	08/06/2013 16:10			223.9			
MC1	16/06/2013 13:40						
MC1	20/06/2013 10:45						
MC1	25/06/2013 11:15			277.5			
MC1	02/07/2013 13:05			256.2			
MC1	11/07/2013 13:55			280.7			
MC1	19/07/2013 10:30			303.1			
MC1	24/07/2013 11:20			243.4			
MC1	30/07/2013 13:30			277.6			
MC1	10/08/2013 15:20			313			
MC1	15/08/2013 13:30						
MC1	22/08/2013 13:40			313.4			
MC1	27/08/2013 11:45			296.4			
MC1	06/09/2013 16:15			312			
MC1	09/09/2013 13:55			318.2			
MC1	18/09/2013 11:35			294.4			
MC1	24/09/2013 11:00			291.3			
MC1	03/10/2013 11:30			306			
MC1	11/10/2013 12:20			316.4			
MC1	18/10/2013 10:30			311.9			
MC1	22/10/2013 10:00			359.6			
MC1	31/10/2013 15:45			322			
MC1	08/11/2013 15:15			184.6			
MC1	14/11/2013 15:00			332.5			
MC1	18/11/2013 15:20			363.8			
MC1	01/12/2013 14:15			375.4			
MC1	18/03/2014 11:20			1069			
MC1	25/03/2014 12:50			882.4			
MC1	28/05/2014 12:00			301.4			
MC1	08/06/2014 13:50			271.8			
MC1	14/06/2014 15:00			296			
MC1	17/06/2014 13:30			298.3			
MC1	26/06/2014 16:45			326.1			
MC1	01/07/2014 15:50			326.3			
MC1	10/07/2014 11:20			323.5			
MC1	17/07/2014 15:45			320.9			
MC1	23/07/2014 15:25			301.8			
MC1	02/08/2014 15:20			335.7			
MC1	14/08/2014 13:30			337.1			
MC1	18/08/2014 16:25			355			

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Phase	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
				mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MC1	26/08/2014 10:30	No Discharge	P	9.3	210	8.21	8.25	152.9	346	4.6	12.66	98.2	179.6	183	161	163	1.7	0.39	15.3	0.023	<0.0050	0.07	9.03	0.199	<0.00050	0.00092	0.079	<0.00010	<0.0010
MC1	01/09/2014 16:55	No Discharge	P	1.2	202	8.24	8.38	192.8	344	2.4	13.41	98.2	138	157	169	169	1.7	0.37	15.2	0.039	<0.0050	0.044	8.87	0.0318	<0.00050	0.00056	0.0635	<0.00010	<0.0010
MC1	11/09/2014 16:45	No Discharge	P	2.7	228	8.15	8.31	199.1	334	2.6	14.83	109.3	193.5	161	164	166	2	0.37	14.7	0.013	<0.0050	0.022	9.31	0.0186	<0.00050	0.00088	0.0648	<0.00010	<0.0010
MC1	16/09/2014 12:00	No Discharge	P	11.4	212	8.15	8.22	134.1	334	3	12.69	94.3	176.5	164	161	160	2	0.38	16.8	0.034	<0.0050	<0.020	9.71	0.02	<0.00050	0.00068	0.0648	<0.00010	<0.0010
MC1	22/09/2014 15:50	No Discharge	P	55.9	194	8.11	8.32	137.7	318	2	12.87	93	186.4	167	142	151	1.9	0.37	14.1	0.016	<0.0050	<0.020	10.4	0.975	<0.00050	0.00146	0.0846	<0.00010	<0.0010
MC1	30/09/2014 16:55	No Discharge	P	175	198	8.05	8.13	157	303	-0.7	19.57	97.9	177.8	150	141	142	2.1	0.33	15.9	0.018	<0.0050	0.062	11	0.638	<0.00050	0.00101	0.0752	<0.00010	<0.0010
MC1	07/10/2014 15:40	No Discharge	P	18.9	210	8.14	8.19	159.5	329	-1.3	15.06	99.1	179.5	171	158	159	1.9	0.34	16.6	0.026	<0.0050	0.085	10.6	0.128	<0.00050	0.00069	0.0647	<0.00010	<0.0010
MC1	14/10/2014 16:20	No Discharge	P	12.3	200	7.79	8.2	166	320	-1.4	14.41	94.5	214.6	167	156	157	1.8	0.32	16.3	0.016	<0.0050	0.108	9.88	0.224	<0.00050	0.00072	0.0625	<0.00010	<0.0010
MC1	25/10/2014 15:55	No Discharge	P	3.7	198	8.14	8.14	169.1	338	-1.5	14.66	96.2	143.0	171	167	156	1.5	0.38	17.6	0.035	<0.0050	0.138	8.48	0.0796	<0.00050	0.00059	0.0631	<0.00010	<0.0010
MC1	31/10/2014 16:30	No Discharge	P	2.3	254	7.63	8.2	190.6	372	-1.6	12.91	84.4	267.7	192	188	180	2.7	0.39	21.3	0.024	<0.0050	0.176	8.88	0.0415	<0.00050	0.00041	0.0696	<0.00010	<0.0010
MC1	06/11/2014 16:55	No Discharge	P	<1.0	224	7.80	8.12	188.1	378	-1.7	14.65	95.5	227.5	184	185	183	2.3	0.41	21.6	0.0059	<0.0050	0.168	8.41	0.0181	<0.00050	0.00037	0.0695	<0.00010	<0.0010
MC1	11/11/2014 15:00	No Discharge	P	<1.0	220	7.47	8.13	210.4	386	-1.8	13.00	84.6	205.2	181	200	180	2.5	0.43	25.3	0.012	<0.0050	0.182	7.66	0.0172	<0.00050	0.00039	0.075	<0.00010	<0.0010
MC1	22/11/2014 15:30	No Discharge	P	86.5	346	7.71	8.14	282.9	530	-1.8	12.85	84.7	182.6	280	274	246	4.1	0.38	42.1	0.024	<0.0050	0.287	11.1	0.566	<0.00050	0.00075	0.119	<0.00010	<0.0010
MC1	28/11/2014 14:50	No Discharge	P	<1.0	258	7.44	7.82	246.6	1380	-1.9	21.44	139.9	213.2	236	211	212	3.8	0.43	46.4	0.007	<0.0050	0.332	6.81	0.0107	<0.00050	0.00034	0.0911	<0.00010	<0.0010
MC1	05/12/2014 15:50	No Discharge	P	<1.0	316	8.07	8.08	196.2	511	-1.9	4.35	28.5	243.2	254	254	219	5.1	0.43	49.1	0.016	<0.0050	0.459	8.2	0.0196	<0.00050	0.00031	0.103	<0.00010	<0.0010
MC1	14/03/2015 15:00	No Discharge	P	2.8	368		8.36		618					295	295	291	4.7	0.64	56	0.036	<0.0050	0.339	7.81	0.0741	<0.00050	0.00054	0.11	<0.00010	<0.0010
MC1	15/03/2015 15:00	No Discharge	F			7.91		288.6		-0.1	0.9	6.2	180.5																
MC1	17/03/2015 14:30	No Discharge	F																										
MC1	02/04/2015 16:00	No Discharge	P	7.4	318	8.16	8.23	265.9	515	0	13.42	93.3	165.1	266	242	224	3.9	0.54	51.4	0.033	<0.0050	0.123	5.76	0.206	<0.00050	0.00055	0.0915	<0.00010	<0.0010
MC1	06/06/2015 13:30	No Discharge	M			7.94		176.8		3	13.15	97.8	128.6																
MC1	06/06/2015 13:30	No Discharge	P	12.9	150		8.17		306					146	150	139	1.8	0.36	18.3	0.025	<0.0050	0.16	6.3	0.26	<0.00050	0.00068	0.0627	<0.00010	<0.0010
MC1	10/06/2015 17:20	No Discharge	P	7.4	194	7.96	8.22	195.3	320	4.5	12.43	96.1	124	163	154	141	2.2	0.4	20.5	0.033	<0.0050	0.144	7.55	0.18	<0.00050	0.00061	0.0638	<0.00010	<0.0010
MC1	20/06/2015 16:15	No Discharge	P	7.3	206	8	8.14	219.9	345	6	12	96.5	160.9	161	157	154	1.8	0.45	24.8	0.0056	<0.0050	0.191	5.81	0.15	<0.00050	0.0006	0.0675	<0.00010	<0.0010
MC1	25/06/2015 11:10	No Discharge	P	4	218	7.96	8.21	219.3	353	5.8	11.82	94.7	156.8	180	178	161	2	0.43	24.4	0.013	<0.0050	0.157	5.33	0.11	<0.00050	0.00064	0.068	<0.00010	<0.0010
MC1	02/07/2015 15:50	No Discharge	P	10.6	220	8.01	8.26	206.9	343	5.1	98.1	94.27	113.4	171	167	157	2.4	0.42	21.7	0.037	<0.0050	0.134	8.13	0.267	<0.00050	0.00067	0.068	<0.00010	<0.0010
MC1	09/07/2015 11:10	No Discharge	P	7.5	208	8.2	8.23	211.9	337	5.6	11.99	95.4	139.3	165	157	162	1.8	0.42	19.7	0.04	<0.0050	0.111	9.43	0.134	<0.00050	0.00058	0.0598	<0.00010	<0.0010
MC1	17/07/2015 11:05	No Discharge	P	4.1	208	8.19	8.21	210	347	5.4	11.1	88.5	145.2	184	165	165	1.7	0.41	19.5	0.018	<0.0050	0.143	7.72	0.104	<0.00050	0.00063	0.0701	<0.00010	<0.0010
MC1	23/07/2015 11:10	No Discharge	P	16.2	206	8.05	8.3	217.3	362	3.7	11.56	86.9	130.1	171	180	167	2.1	0.38	22.4	0.019	<0.0050	0.106	6.64	0.0893	<0.00050	0.00061	0.0662	<0.00010	<0.0010
MC1	27/07/2015 11:35	No Discharge	P	2.3	186	8.05	8.25	221.3	357	6	11.79		150.1	181	175	165	1.9	0.5	21.6	0.067	<0.0050	0.126	6.1	0.0357	<0.00050	0.00056	0.0652	<0.00010	<0.0010
MC1	04/08/2015 14:35	No Discharge	P	2.2	226	8.21	8.23	123	360	5.3	12.2	96.5	91	182	173	169	2	0.47	20	0.025	<0.0050	0.115	7.9	0.0254	<0.00050	0.00054	0.0628	<0.00010	<0.0010
MC1	13/08/2015 14:15	No Discharge	P	8.3	208	8.13	8.26	204.5	342	-0.7	20.58	136.1	134.5	158	164	164	1.5	0.41	16.1	0.0091	<0.0050	0.082	8.8	0.129	<0.00050	0.00064	0.0538	<0.00010	<0.0010
MC1	22/08/2015 10:51	No Discharge	P	4	194	8.05	8.29	202.8	345	3.7	12.53	94.9	147	157	163	169	1.8	0.41	18.2	0.029	<0.0050	0.069	9.1	0.0281	0.00082	0.00063	0.0651	<0.00010	<0.0010
MC1	25/08/2015 14:20	No Discharge	P	45.9	206	8.21	8.1	202.7	337	4.4	13.04	100.5	155.3	171	184	160	1.5	0.4	17.9	0.04	<0.0050	0.071	8.3	0.0617	<0.00050	0.00063	0.0685	<0.00010	<0.0010
MC1	01/09/2015 11:50	No Discharge	P	22.9	214	8	8.28	171.7	304	2.5	13.38	98.3	129.9	152	144	143	1.7	0.35	15.1	0.02	<0.0050	0.045	13	0.406	<0.00050	0.00077	0.0651	<0.00010	<0.0010
MC1	08/09/2015 15:15	No Discharge	P	2.6	188	8.13	8.29	188.3	323	2.4	13.28	97.4	157.3	164	166	153	2.1	0.38	16.5	0.013	<0.0050	0.035	11	0.115	<0.00050	0.00057	0.0631	<0.00010	<0.0010
MC1	18/09/2015 13:40	No Discharge	P	1.1	212	8.25	8.31	187.7	329	2.1	12.95	94.9	161.9	169	162	153	1.9	0.37	19.1	0.017	<0.0050	0.035	9.5	0.0191	<0.00050	0.00054	0.0568	<0.00010	<0.0010
MC1	25/09/2015 14:55	No Discharge	P	5	210	7.98	8.21	181.4	329	0.7	13.57	94.8	125.3	169	169	158	1.7	0.38	18.1	0.037	<0.0050	0.081	10	0.0482	<0.00050	0.00073	0.0602	<0.00010	<0.0010
MC1	29/09/2015 15:55	No Discharge	P	1.9	208	8.01	8.17	195.4	310	2.9	12.77	94.7	98.9	168	164	155	2	0.38	16.6	0.04	<0.0050	0.072	11	0.0391	<0.00050	0.00059	0.0617	<0.00010	<0.0010
MC1	08/10/2015 11:45	No Discharge	P	3.1	218	7.78	8.22		365	-0.2	13.49	91.9	180.2	185	163	169	2.1	0.39	20.9	0.04	<0.0050	0.133	8.54	0.0138	<0.00050	0.00041	0.0667	<0.00010	<0.0010
MC1	13/10/2015 16:55	No Discharge	P	9.2	206		8.23		319					167	164	147	1.9	0.37	15.2	0.028	<0.0050	0.087	9.66	0.0325	<0.00050	0.00053	0.0651	<0.00010	<0.0010
MC1	24/10/2015 16:00	No Discharge	P	3.6	218	8.11	8.16	158.2	334	-0.1	13.6	92.9	65.6	159	165	154	2	0.38	17.2	0.027	<0.0050	0.118	8.73	0.041	<0.00050	0.0005	0.0561	<0.00010	<0.0010
MC1	28/10/2015 15:50	No Discharge	P	<1.0	238	7.89	8.15	197.8	379	-0.1	10.76	73.5	156.7	192	185	176	2.5	0.42	22	0.026	<0.0050	0.145	9.09	0.0139	<0.00050	0.00045	0.0711	<0.00010	<0.0010
MC1	06/11/2015 16:15	No Discharge	P	<1.0	214	7.86	8.25	209	395	0.1	12.88	88.5	42.4	201	195	183	2	0.42	25.2	0.019	<0.0050	0.184	8.13	0.0077	<0.00050	0.00038	0.0741	<0.00010	<0.0010
MC1	11/11/2015 13:20	No Discharge	P	<1.0	246	7.68	8.49	222.8	422	0.1	11.42	78.5	149.2	195	192	202	2.4	0.43	25	0.048	<0.0050	0.188	7.33	0.0144	<0.00050	0.00035	0.0814	<0.00010	<0.0010
MC1	16/11/2015 14:55	No Discharge	P	4.1	274	7.58	8.36	231.2	439	0	11.04	76.2	71.0	225	229	201	2.5	0.43	28.7	0.022	<0.0050	0.203	6.35	0.0342	<0.00050	0.00041	0.0814	<0.00010	<0.0010
MC1	25/11/2015 15:20	No Discharge	P	4.2	274	7.67	8.11	250.3	442	0.9	9.53	67.1	81.6	214	220	195	2.2	0.4	28.3	0.015	<0.0050	0.217	7.4	0.0739	<0.00050	0.00042	0.0846	<0.00010	<0.0010
MC1	04/12/2015 14:40	No Discharge	P	5	294	7.53	8.39	264	503	0.1	7.71	54.4	106.5	272	266	222	3	0.44	31.4	0.016	<0.0050	0.169	7.15	0.152	<0.00050	0.00047	0.118	<0.00010	<0.0010
MC1	09/12/2015 14:45	No Discharge	P	4	262	8.2	7.97	261.5	465	0.3	9.71	67	10.4	221	237	220	2.8	0.45	35	0.025	<0.0050	0.211	5.97	0.0127	<0.00050	0.00035	0.0924	<0.00010	<0.0010
MC1	19/12/2015 11:40	No Discharge	P	2.1	312	8.1	7.96	257.2	539	-0.1	9.9	67.7		282	276	260	3	0.51	32.3	0.026	<0.0050	0.299	8.61	0.0107	<0.00050	0.00043	0.116	<0.00010	<0.0010
MC1	22/12/2015 14:50	No Discharge	P	10.9	288	8.8	8.54	249.7	525	-0.1	10.45	71.5	-505.6	244	277	264	3.1	0.51	30.8	0.023	<0.0050	0.27	7.72	0.128	<0.00050	0.0004	0.101	<0.00010	<0.0010
MC1	02/01/2016 14:15	No Discharge	P	6.1	408	7.91	8.28	373.2	687	0.4	12	84.5	110.1	395	340	345	4.5	0.63	44	0.0093	<0.0050	0.234	10.4	0.0747	<0.00050	0.00063	0.151	<0.00010	<0.0010
MC1	01/04/2016 16:00	No Discharge	P	<3.0	227	8	8.27	209.7	407	0.1	16.59	113.7	118.2		195	180	2.61		35.5	<0.0050	<0.0010	<0.0050	10.5	0.0169	<0.00010	0.00043	0.0608	<0.000020	<0.000050
MC1	02/04/2016 16:00	No Discharge	P	<3.0	227		8.27		407						195	180	2.61		35.5	<0.0050	<0.0010	<0.0050		0.0169	<0.00010	0.00043	0.0608	<0.000020	<0.000050
MC1	07/05/2016 14:05	No Discharge	P	48.7	131	7.92	8.08	126.3	240	0	12.1	82.8	125.1		120	108	1.68		14.3	0.0099	<0.0010	0.0184	12.6	0.906	0.00017	0.00105	0.0700	0.000024	<0.000050
MC1	09/05/2016 11:00	No Discharge	M			7.89		130.1		0	14.83	101.4	123.5																
MC1	13/05/2016 11:30	No Discharge	P	82.7	138	7.92	8.15	130.8	265	0.2	13.84	95.1	92.7		126	118	1.47		13.8	0.0097	<0.0010	0.0276	13.7	1.32	0.00012	0.00131	0.0791	0.000054	<0.000050
MC1	03/07/2016 9:50	No Discharge	P	10.0	197	8.19	8.23	216.8	353	5.2	11.72	92.6	106.8		183	168	1.66		19.5	<0.0050	<0.0010	0.0564	8.01	0.156	<0.00010	0.00064	0.0645	<0.000020	<0.000050
MC1	27/10/2016 15:55	No Discharge	P			7.73		220.6		-0.1	13.88	95	140.8																
MC1	27/10/2016 15:55	No Discharge	M	7.4	235		8.28		414						195	191	3.05		32.3	0.0106	<0.0010	0.896	8.56	0.0206	<0.00010	0.00047	0.0776	<0.000020	<0.000050
MC1	01/11/2016 14:30	No Discharge	P	<3.0	294	7.86	8.41	211.4	586	-0.1	14.97	102.3	98.2		187	197	61.8		35.7	0.0101	<0.0010	0.333	8.06	0.0124	0.00010	0.00038	0.0630	<0.000020	<0.000050
MC1	13/11/2016 10:47	No Discharge	P	4.8	225	8.01	8.24	214.3	389	-0.1	14.34	98	79.7		189	197	2.32		25.5	0.0066	<0.0010	0.254	7.68	0.0116	0.00012	0.00042	0.0722	<0.000020	<0.000050
MC1	20/11/2016 10:10	No Discharge	P	<3.0	340	8.05	8.33	326.1	579	0.1	14.60	100.3	79.6		298	290	3.51		38.7	0.0113	<0.0010	0.405	11.3	0.0235	0.00057	0.00061	0.115	<0.000020	<0.000050
MC1	26/06/2009 20:00	Discharge	P	4	190		8.2		305					147	147					<0.005	<0.005	0.2	11.4	0.024	<0.0005	0.0005	0.063	<0.0001	<0.001
MC1	18/07/2010	Discharge	P	22	230	8.13	8.11	342	354	7.06		107.2		149	162	130	9	0.28	31		0.02	3.1	13.9	0.314	<0.0005	0.0006	0.08	<0.0002	<0.001
MC1	25/07/2010	Discharge	P	22	230	8	8.01	319	324	7.06		77.5		151	138	120	7.7	0.34	29	0.02	0.013	2.7	13.8	0.432	<0.0005	0.0009	0.084	<0.0002	<0.001

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MC1	26/08/2014 10:30	<0.05	<0.000010	46.3	<0.0010	<0.00050	0.0024	0.624	<0.00020	<0.0050	16.3	0.0522	<0.000010	0.0018	0.0021	0.039	1.49	0.0002	7.23	<0.000020	10.2	0.455	6.4	<0.000050	<0.0050	0.0073	0.00138
MC1	01/09/2014 16:55	<0.05	<0.000010	39.1	<0.0010	<0.00050	0.00144	0.321	<0.00020	<0.0050	14.3	0.032	<0.000010	0.0016	0.0014	0.014	1.23	0.00015	5.35	<0.000020	9.3	0.408	<3.0	<0.000050	<0.0050	<0.0050	0.00122
MC1	11/09/2014 16:45	<0.05	<0.000010	41.6	<0.0010	<0.00050	0.00153	0.24	<0.00020	<0.0050	13.8	0.0256	<0.000010	0.0014	0.0011	0.017	1.2	0.00012	6.56	<0.000020	9.14	0.406	5	<0.000050	<0.0050	<0.0050	0.00121
MC1	16/09/2014 12:00	<0.05	<0.000010	41.4	<0.0010	<0.00050	0.00158	0.238	<0.00020	<0.0050	14.7	0.0155	<0.000010	0.0016	0.0012	0.019	1.33	<0.00010	6.32	<0.000020	9.43	0.407	4.9	<0.000050	<0.0050	<0.0050	0.0012
MC1	22/09/2014 15:50	<0.05	0.000019	42.7	0.0021	0.00085	0.00438	2.17	0.00048	<0.0050	14.7	0.171	<0.000010	0.0014	0.0029	0.077	1.52	0.00018	8.53	0.000021	9.15	0.392	3.7	<0.000050	<0.0050	0.0359	0.00121
MC1	30/09/2014 16:55	<0.05	0.000014	37.2	0.0017	0.00061	0.00363	1.42	0.00036	<0.0050	13.8	0.12	<0.000010	0.0013	0.0027	0.065	1.09	0.00012	6.9	0.000023	8.48	0.353	5.5	<0.000050	<0.0050	0.0257	0.00112
MC1	07/10/2014 15:40	<0.05	<0.000010	43.8	<0.0010	<0.00050	0.0018	0.457	<0.00020	<0.0050	15.1	0.0562	<0.000010	0.0014	0.0014	0.021	1.12	0.00016	7.21	<0.000020	9.2	0.395	5.5	<0.000050	<0.0050	0.0069	0.00117
MC1	14/10/2014 16:20	<0.05	<0.000010	42.2	<0.0010	<0.00050	0.00201	0.613	<0.00020	<0.0050	14.9	0.061	<0.000010	0.0014	0.0017	0.035	1.21	0.00021	7.31	<0.000020	8.91	0.384	7.5	<0.000050	<0.0050	0.0091	0.00119
MC1	25/10/2014 15:55	<0.05	<0.000010	42.5	<0.0010	<0.00050	0.0017	0.412	<0.00020	<0.0050	15.8	0.0562	<0.000010	0.0014	0.0012	0.015	1.12	0.00012	6.58	<0.000020	9.25	0.405	3.3	<0.000050	<0.0050	<0.0050	0.00133
MC1	31/10/2014 16:30	<0.05	<0.000010	48.6	<0.0010	<0.00050	0.00166	0.243	<0.00020	<0.0050	17.1	0.0467	<0.000010	0.0011	0.0012	0.021	1.27	<0.00010	7.28	<0.000020	10.4	0.449	8.6	<0.000050	<0.0050	<0.0050	0.00139
MC1	06/11/2014 16:55	<0.05	<0.000010	46.7	<0.0010	<0.00050	0.00142	0.159	<0.00020	<0.0050	16.4	0.0412	<0.000010	0.0014	0.0012	0.016	1.23	0.00015	6.99	<0.000020	10.4	0.434	8.8	<0.000050	<0.0050	<0.0050	0.00136
MC1	11/11/2014 15:00	<0.05	<0.000010	44.2	<0.0010	<0.00050	0.00153	0.142	<0.00020	<0.0050	17.3	0.0485	<0.000010	0.0014	0.0012	0.015	1.4	0.00012	6	<0.000020	10.8	0.478	6.4	<0.000050	<0.0050	<0.0050	0.00146
MC1	22/11/2014 15:30	<0.05	0.000014	70.4	0.0012	<0.00050	0.00587	1.09	0.00029	<0.0050	25.2	0.0931	<0.000010	0.0018	0.0035	0.054	2.23	0.00029	10.2	<0.000020	16.1	0.674	19.4	<0.000050	<0.0050	0.0287	0.00231
MC1	28/11/2014 14:50	<0.05	<0.000010	56	<0.0010	<0.00050	0.00201	0.093	<0.00020	<0.0050	23.2	0.0798	<0.000010	0.0018	<0.0010	0.01	2.11	0.00026	7.19	<0.000020	15.3	0.561	16	<0.000050	<0.0050	<0.0050	0.0015
MC1	05/12/2014 15:50	<0.05	<0.000010	63.3	<0.0010	<0.00050	0.00223	0.124	<0.00020	<0.0050	23.4	0.0635	<0.000010	0.0019	<0.0010	0.021	2.04	0.00016	7.84	<0.000020	15.6	0.606	19.1	<0.000050	<0.0050	<0.0050	0.00155
MC1	14/03/2015 15:00	<0.05	0.000011	74.6	<0.0010	<0.00050	0.00793	0.233	<0.00020	<0.0050	26.5	0.0963	<0.000010	0.0026	0.0016	0.026	2.93	0.00038	9.65	<0.000020	19	0.828	18.5	0.00011	<0.0050	<0.0050	0.00302
MC1	15/03/2015 15:00																										
MC1	17/03/2015 14:30																										
MC1	02/04/2015 16:00	<0.05	<0.000010	64.5	<0.0010	<0.00050	0.0161	0.406	<0.00020	<0.0050	25.5	0.096	<0.000010	0.0018	<0.0010	0.03	2.81	0.00023	8.52	<0.000020	17.7	0.62	15.8	<0.000050	<0.0050	0.0116	0.00221
MC1	06/06/2015 13:30																										
MC1	06/06/2015 13:30	<0.05	<0.000010	37.3	<0.0010	<0.00050	0.00305	0.53	<0.00020	<0.0050	12.9	0.0289	<0.000010	0.0017	0.0013	0.025	1.52	0.0001	5.79	<0.000020	9.38	0.421	7.1	<0.000050	<0.0050	0.0143	0.00132
MC1	10/06/2015 17:20	<0.05	<0.000010	41.1	<0.0010	<0.00050	0.00228	0.361	<0.00020	<0.0050	14.6	0.0206	<0.000010	0.0018	0.0012	0.024	1.74	0.00014	6.32	<0.000020	10.1	0.446	5.8	<0.000050	<0.0050	0.0083	0.00144
MC1	20/06/2015 16:15	<0.05	<0.000010	42	<0.0010	<0.00050	0.00326	0.323	0.00085	<0.0050	13.7	0.0188	<0.000010	0.002	0.0014	0.014	1.58	0.00014	6.11	0.000035	11.5	0.486	6.3	<0.000050	<0.0050	0.0054	0.00164
MC1	25/06/2015 11:10	<0.05	<0.000010	46.4	<0.0010	<0.00050	0.00212	0.297	<0.00020	<0.0050	15.5	0.0157	<0.000010	0.0018	0.0014	0.013	1.85	<0.00010	6.85	<0.000020	10.3	0.504	8.6	<0.000050	<0.0050	0.0063	0.00156
MC1	02/07/2015 15:50	<0.05	<0.000010	44.1	<0.0010	<0.00050	0.00258	0.557	<0.00020	<0.0050	14.7	0.03	<0.000010	0.0018	0.0014	0.024	1.54	0.00016	7.26	<0.000020	9.81	0.454	8.3	<0.000050	<0.0050	0.0116	0.00149
MC1	09/07/2015 11:10	<0.05	<0.000010	41.2	<0.0010	<0.00050	0.00198	0.381	<0.00020	<0.0050	15	0.019	<0.000010	0.0016	0.0011	0.011	1.42	0.00014	7.13	<0.000020	9	0.392	7.6	<0.000050	<0.0050	0.0058	0.00141
MC1	17/07/2015 11:05	<0.05	<0.000010	45.8	<0.0010	<0.00050	0.00198	0.313	<0.00020	<0.0050	16.9	0.0221	<0.000010	0.0021	0.0011	0.033	1.53	0.00014	7.29	<0.000020	10.5	0.501	9.2	<0.000050	<0.0050	<0.0050	0.00148
MC1	23/07/2015 11:10	<0.05	<0.000010	44.4	<0.0010	<0.00050	0.00146	0.298	<0.00020	<0.0050	14.5	0.0197	<0.000010	0.0017	0.0011	0.016	1.42	0.0001	6.82	<0.000020	10.2	0.475	6.5	<0.000050	<0.0050	<0.0050	0.00146
MC1	27/07/2015 11:35	<0.05	<0.000010	46.5	<0.0010	<0.00050	0.00146	0.206	<0.00020	<0.0050	15.8	0.0131	<0.000010	0.0017	<0.0010	0.021	1.56	<0.00010	7.2	<0.000020	10.1	0.487	8.4	<0.000050	<0.0050	<0.0050	0.00157
MC1	04/08/2015 14:35	<0.05	<0.000010	44.3	<0.0010	<0.00050	0.00126	0.212	<0.00020	<0.0050	17.3	0.0146	<0.000010	0.0018	<0.0010	0.013	1.37	<0.00010	6.28	<0.000020	11.3	0.495	9.8	<0.000050	<0.0050	<0.0050	0.00131
MC1	13/08/2015 14:15	<0.05	<0.000010	39.4	<0.0010	<0.00050	0.00194	0.346	<0.00020	<0.0050	14.5	0.0259	<0.000010	0.0016	0.0011	0.026	1.17	0.00012	6.09	<0.000020	9.02	0.394	5.4	<0.000050	<0.0050	0.005	0.0012
MC1	22/08/2015 10:51	<0.05	0.000018	40.7	<0.0010	<0.00050	0.0016	0.196	<0.00020	<0.0050	13.5	0.0191	<0.000010	0.0016	0.0011	0.019	1.31	<0.00010	6.88	0.000024	8.37	0.433	5.9	<0.000050	<0.0050	<0.0050	0.00121
MC1	25/08/2015 14:20	<0.05	<0.000010	41.7	<0.0010	<0.00050	0.00215	0.306	<0.00020	<0.0050	16.2	0.0243	<0.000010	0.0016	0.0011	0.028	1.4	0.00017	6.09	<0.000020	10.6	0.472	5.9	<0.000050	<0.0050	<0.0050	0.00141
MC1	01/09/2015 11:50	<0.05	<0.000010	39.4	<0.0010	<0.00050	0.00318	0.874	0.00021	<0.0050	13	0.0552	<0.000010	0.0013	0.0018	0.045	1.1	<0.00010	7.07	<0.000020	8.49	0.381	6.3	<0.000050	<0.0050	0.0156	0.00103
MC1	08/09/2015 15:15	<0.05	<0.000010	40.9	<0.0010	<0.00050	0.00204	0.345	<0.00020	<0.0050	15	0.0243	<0.000010	0.0014	0.0014	0.028	1.17	<0.00010	6.6	<0.000020	9.65	0.423	<3.0	<0.000050	<0.0050	<0.0050	0.0012
MC1	18/09/2015 13:40	<0.05	<0.000010	42.7	<0.0010	<0.00050	0.00181	0.183	<0.00020	<0.0050	15.1	0.0183	<0.000010	0.0014	0.0013	0.011	1.25	0.00017	6.65	<0.000020	9.56	0.394	5.9	<0.000050	<0.0050	<0.0050	0.00116
MC1	25/09/2015 14:55	<0.05	<0.000010	41.2	<0.0010	<0.00050	0.0017	0.272	<0.00020	<0.0050	16	0.0264	<0.000010	0.0013	0.0012	0.024	1.18	0.00011	6.6	<0.000020	9.75	0.397	6.6	<0.000050	<0.0050	<0.0050	0.00103
MC1	29/09/2015 15:55	<0.05	<0.000010	42.6	<0.0010	<0.00050	0.00239	0.269	<0.00020	<0.0050	15	0.0233	<0.000010	0.0015	0.0012	0.024	1.32	0.0001	6.91	<0.000020	10.1	0.415	5.8	<0.000050	<0.0050	<0.0050	0.00109
MC1	08/10/2015 11:45	<0.05	<0.000010	45.4	<0.0010	<0.00050	0.00164	0.145	<0.00020	<0.0050	17.4	0.0178	<0.000010	0.0014	<0.0010	0.017	1.41	0.00011	6.38	<0.000020	10.1	0.447	5.5	<0.000050	<0.0050	<0.0050	0.0015
MC1	13/10/2015 16:55	<0.05	<0.000010	44.2	<0.0010	<0.00050	0.0016	0.208	<0.00020	<0.0050	13.8	0.0278	<0.000010	0.0013	0.001	0.02	1.15	0.0001	7.72	<0.000020	8.83	0.426	5.6	<0.000050	<0.0050	<0.0050	0.0012
MC1	24/10/2015 16:00	<0.05	<0.000010	40.7	<0.0010	<0.00050	0.00217	0.229	<0.00020	<0.0050	13.9	0.0287	<0.000010	0.0014	0.0012	0.02	1.1	0.00017	6.58	<0.000020	9.13	0.397	3.6	<0.000050	<0.0050	<0.0050	0.0012
MC1	28/10/2015 15:50	<0.05	<0.000010	47.6	<0.0010	<0.00050	0.00156	0.124	<0.00020	<0.0050	17.7	0.0233	<0.000010	0.0015	<0.0010	0.012	1.36	0.00012	7.53	<0.000020	10.7	0.468	8.4	<0.000050	<0.0050	<0.0050	0.00141
MC1	06/11/2015 16:15	<0.05	<0.000010	50.1	<0.0010	<0.00050	0.00156	0.087	<0.00020	<0.0050	18.3	0.0195	<0.000010	0.0013	<0.0010	0.015	1.48	0.00011	7.51	<0.000020	11.8	0.504	8.3	<0.000050	<0.0050	<0.0050	0.00135
MC1	11/11/2015 13:20	<0.05	<0.000010	49.3	<0.0010	<0.00050	0.00175	0.103	<0.00020	<0.0050	17.6	0.0225	<0.000010	0.0014	<0.0010	0.014	1.43	0.00014	6.89	<0.000020	11.3	0.531	8.5	<0.000050	<0.0050	<0.0050	0.00148
MC1	16/11/2015 14:55	<0.05	<0.000010	58.7	<0.0010	<0.00050	0.0125	0.164	<0.00020	<0.0050	19.1	0.027	<0.000010	0.0013	0.0011	0.02	1.61	0.00012	8.5	<0.000020	11.8	0.535	9.5	<0.000050	<0.0050	<0.0050	0.00149
MC1	25/11/2015 15:20	<0.05	<0.000010	53.1	<0.0010	<0.00050	0.00714	0.305	<0.00020	<0.0050	19.8	0.0357	<0.000010	0.0012	0.0014	0.014	1.65	0.00014	7.89	<0.000020	12.5	0.527	8.8	<0.000050	<0.0050	<0.0050	0.0013
MC1	04/12/2015 14:40	<0.05	0.000013	65.9	<0.0010	<0.00050	0.00656	0.346	<0.00020	<0.0050	26	0.0706	<0.000010	0.0016	0.0014	0.04	2.29	0.0002	8.9	<0.000020	16.5	0.771	13.5	<0.000050	<0.0050	0.005	0.00221
MC1	09/12/2015 14:45	<0.05	<0.000010	56.9	<0.0010	<0.00050	0.00195	0.089	<0.00020	<0.0050	19	0.0462	<0.000010	0.0014	<0.0010	0.047	1.84	0.00016	8.15	<0.000020	12.7	0.582	10.6	<0.000050	<0.0050	<0.0050	0.00163
MC1	19/12/2015 11:40	<0.05	<0.000010	72.5	<0.0010	<0.00050	0.00235	0.091	<0.00020	<0.0050	24.4	0.0426	<0.000010	0.0015	<0.0010	0.018	2.47	0.00016	10.9	<0.000020	15.7	0.759	13	<0.000050	<0.0050	<0.0050	0.00172
MC1	22/12/2015 14:50	<0.05	0.000018	62.7	<0.0010	<0.00050	0.00354	0.375	<0.00020	<0.0050	21.3	0.051	<0.000010	0.0013	0.0012	0.016	2	0.00023	8.5	<0.000020	13.8	0.656	9.5	<0.000050	<0.0050	0.0074	0.0015
MC1	02/01/2016 14:15	<0.05	0.000034	94.9	<0.0010	<0.00050	0.0202	0.264	<0.00020	<0.0050	38.5	0.129	<0.000010	0.002	0.0019	0.055	4.59	0.00033	13.6	<0.000020	23.8	1.1	18.9	<0.000050	<0.0050	<0.0050	0.00282
MC1	01/04/2016 16:00	<0.010	0.0000130	44.0	0.00020	<0.00010	0.00474	0.078	<0.000050	0.0017	17.9	0.0349	<0.0000050	0.000971	0.00056	<0.050	2.70	0.000177	7.00	<0.000010	11.9	0.489	11.7	<0.000010	<0.00010	0.00054	0.00127
MC1	02/04/2016 16:00	<0.010	0.0000130	44.0	0.00020	<0.00010	0.00474	0.078	<0.000050	0.0017	17.9	0.0349	<0.0000050	0.000971	0.00056	<0.050	2.70	0.000177	7.00	<0.000010	11.9	0.489	11.7	<0.000010	<0.00010	0.00054	0.00127
MC1	07/05/2016 14:05	<0.010	0.0000217	31.0	0.00163	0.00068	0.00592	1.16	0.000324	0.0017	10.2	0.137	0.0000069	0.00124	0.00273	0.068	1.34	0.000148	6.04	<0.000010	8.20	0.284	4.98	<0.000010	<0.00010	0.0382	0.000879
MC1	09/05/2016 11:00																										
MC1	13/05/2016 11:30	<0.010	0.0000292	33.2	0.00245	0.00107	0.00609	2.24	0.000590	0.0015	10.8	0.169	0.0000119	0.00184	0.00374	0.114	1.35	0.000200	7.51	0.000011	6.75	0.290	4.94	0.000010	<0.00010	0.0510	0.000941
MC1	03/07/2016 9:50	<0.010	<0.0000050	45.6	0.00048	0.00013	<0.0025	0.289	0.000097	0.0015	15.2	0.0156	<0.0000050	0.00181	0.00114	<0.050	1.42	0.000116	6.36	<0.000010	9.84	0.423	6.71	<0.000010	<0.00010	0.00653	0.00163
MC1	27/10/2016 15:55																										
MC1	27/10/2016 15:55	0.015	<0.0000050	50.6	0.00027	<0.00010	0.00236	0.123	<0.000050	<0.0010	18.4	0.0144	<0.0000050	0.00189	0.00089	<0.050	1.97	0.000324	5.92	<0.000010	12.2	0.524	11.0	<0.000010	<0.00010	0.00110	0.00155
MC1	01/11/2016 14:30	0.011	0.0000068	49.3	0.00017	<0.00010	0.00176	0.092	<0.000050	0.0014	15.4	0.0113	<0.0000050	0.00163	0.00081	<0.050	1.55	0.000179	6.28	<0.000010	10.2	0.499	9.13	<0.000010	<0.00010	0.00053	0.00155
MC1	13/11/2016 10:47	<0.010	<0.0000050	48.3	0.00022	<0.00010	0.00183	0.091	<0.000050	0.0017	17.8	0.0105	<0.0000050	0.00164	0.00093	<0.050	1.71	0.000164	6.78	<0.000010	12.2	0.503	9.76	<0.000010	<0.00010	0.00054	0.00158
MC1	20/11/2016 10:10	0.025	0.0000074	75.3	0.00040	<0.00010	0.00403	0.112	<0.000050	0.0026	27.2	0.0200	<0.0000050	0.00226	0.00145	<0.050	2.76	0.000280	10.1	<0.000010	18.8	0.773	14.1	<0.000010	<0.00010	0.00116	0.00228
MC1	26/06/2009 20:00	<0.05	<0.00001	38.3	<0.001	<0.0005	0.0034	0.101	<0.0002	<0.005	12.5	0.006	0.00003	0.002	0.001		1.38	0.0002	5.57	<0.00002	8.76	0.339	6	<0.00005	<0.005	<0.005	0.0013
MC1	18/07/2010	<0.1	High DL removed	39	<0.002	<0.0005	0.004	0.668	<0.0002	<0.01	12	0.051	<0.0002	0.005	0.002		2	High DL removed	6.6	<0.0001	13	0.444	<60	<0.00005	<0.005	0.016	0.0008
MC1	25/07/2010	<0.1	High DL removed	39	<0.002	<0.0005	0.005	0.712	0.0002	<0.01	13	0.05	<0.0002	0.004	0.006		2	0.0009	7.02	<0.0001	12	0.42	<60	<0.00005	<0.005	0.015	0.0007

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MC1	26/08/2014 10:30	<0.0050	<0.0050	<0.00050	0.0085	<0.00050	0.00067	0.0666	<0.00010	<0.0010	<0.05	<0.000010	40.1	High DL removed	<0.00050	0.00159	0.198	<0.00020	<0.0050	14.8	0.0234	<0.000010	0.0017	0.0012	0.016	1.31
MC1	01/09/2014 16:55	<0.0050	<0.0050	<0.00050	0.0084	<0.00050	0.00058	0.065	<0.00010	<0.0010	<0.05	<0.000010	42.9	High DL removed	<0.00050	0.00131	0.22	<0.00020	<0.0050	15	0.0302	<0.000010	0.0016	0.0011	0.015	1.41
MC1	11/09/2014 16:45	<0.0050	<0.0050	<0.00050	0.0065	<0.00050	0.00058	0.0648	<0.00010	<0.0010	<0.05	<0.000010	41.9	High DL removed	<0.00050	0.00148	0.202	<0.00020	<0.0050	14.3	0.0245	<0.000010	0.0015	0.0012	<0.01	1.3
MC1	16/09/2014 12:00	<0.0050	<0.0050	<0.00050	0.0074	<0.00050	0.00056	0.067	<0.00010	<0.0010	<0.05	<0.000010	40.6	High DL removed	<0.00050	0.00128	0.161	<0.00020	<0.0050	14.6	0.0141	<0.000010	0.0016	0.0011	0.015	1.42
MC1	22/09/2014 15:50	<0.0050	<0.0050	<0.00050	0.0092	<0.00050	0.0006	0.0623	<0.00010	<0.0010	<0.05	<0.000010	35	High DL removed	<0.00050	0.00152	0.206	<0.00020	<0.0050	13.2	0.0282	<0.000010	0.0014	0.0021	0.015	1.37
MC1	30/09/2014 16:55	<0.0050	<0.0050	<0.00050	0.0081	<0.00050	0.00058	0.0562	<0.00010	<0.0010	<0.05	<0.000010	35.3	High DL removed	<0.00050	0.0016	0.192	<0.00020	<0.0050	12.9	0.0343	<0.000010	0.0013	0.0013	0.014	0.987
MC1	07/10/2014 15:40	<0.0050	<0.0050	<0.00050	0.0084	<0.00050	0.00055	0.0578	<0.00010	<0.0010	<0.05	<0.000010	40.4	High DL removed	<0.00050	0.00151	0.361	<0.00020	<0.0050	13.9	0.0404	<0.000010	0.0012	0.0012	0.017	1.04
MC1	14/10/2014 16:20	<0.0050	<0.0050	<0.00050	0.0078	<0.00050	0.00055	0.0564	<0.00010	<0.0010	<0.05	<0.000010	40.1	High DL removed	<0.00050	0.00156	0.189	<0.00020	<0.0050	13.7	0.0342	<0.000010	0.0013	0.0011	0.014	1.15
MC1	25/10/2014 15:55	<0.0050	<0.0050	<0.00050	0.0068	<0.00050	0.00052	0.0615	<0.00010	<0.0010	<0.05	<0.000010	42.6	High DL removed	<0.00050	0.00138	0.214	<0.00020	<0.0050	14.6	0.0425	<0.000010	0.0014	0.0011	0.014	1.11
MC1	31/10/2014 16:30	<0.0050	<0.0050	<0.00050	0.0098	<0.00050	0.00044	0.074	<0.00010	<0.0010	<0.05	<0.000010	46.9	High DL removed	<0.00050	0.00151	0.123	<0.00020	<0.0050	17.1	0.0439	<0.000010	0.0015	0.0011	0.014	1.39
MC1	06/11/2014 16:55	<0.0050	<0.0050	<0.00050	0.0067	<0.00050	0.00041	0.0704	<0.00010	<0.0010	<0.05	<0.000010	46.5	High DL removed	<0.00050	0.00127	0.104	<0.00020	<0.0050	16.6	0.039	<0.000010	0.0014	<0.0010	0.011	1.31
MC1	11/11/2014 15:00	<0.0050	<0.0050	<0.00050	0.0062	<0.00050	0.00036	0.0786	<0.00010	<0.0010	<0.05	<0.000010	51.8	High DL removed	<0.00050	0.00145	0.098	<0.00020	<0.0050	17.2	0.0474	<0.000010	0.0015	0.001	0.016	1.38
MC1	22/11/2014 15:30	<0.0050	<0.0050	<0.00050	0.0079	<0.00050	0.00046	0.107	<0.00010	<0.0010	<0.05	<0.000010	69.2	High DL removed	<0.00050	0.00218	0.101	<0.00020	<0.0050	24.6	0.0263	<0.000010	0.0019	0.0011	0.016	2.28
MC1	28/11/2014 14:50	<0.0050	0.0322	<0.00050	0.0087	<0.00050	0.00032	0.0895	<0.00010	<0.0010	<0.05	<0.000010	51.3	High DL removed	<0.00050	0.00185	0.0886	<0.00020	<0.0050	20.1	0.0656	<0.000010	0.0018	<0.0010	<0.01	1.77
MC1	05/12/2014 15:50	<0.0050	<0.0050	<0.00050	0.0062	<0.00050	0.00034	0.108	<0.00010	<0.0010	<0.05	<0.000010	65.3	High DL removed	<0.00050	0.00175	0.0617	<0.00020	<0.0050	22.1	0.0656	<0.000010	0.0021	0.001	0.013	2.02
MC1	14/03/2015 15:00	<0.0050	0.0277	<0.00050	0.0052	<0.00050	0.00051	0.107	<0.00010	<0.0010	<0.05	0.00001	73.3	High DL removed	<0.00050	0.00326	0.0714	<0.00020	<0.0050	27.2	0.0872	<0.000010	0.0023	<0.0010	0.041	3.2
MC1	15/03/2015 15:00																									
MC1	17/03/2015 14:30																									
MC1	02/04/2015 16:00	<0.0050	<0.0050	<0.00050	0.0036	<0.00050	0.00044	0.0915	<0.00010	<0.0010	<0.05	<0.000010	58.3	High DL removed	<0.00050	0.00214	0.0639	<0.00020	<0.0050	23.5	0.0742	<0.000010	0.002	<0.0010	0.012	2.58
MC1	06/06/2015 13:30																									
MC1	06/06/2015 13:30	<0.0050	<0.0050	<0.00050	0.0079	<0.00050	0.00051	0.0604	<0.00010	<0.0010	<0.05	<0.000010	38.4	High DL removed	<0.00050	0.00177	0.0881	<0.00020	<0.0050	13.2	0.0112	<0.000010	0.0018	<0.0010	0.013	1.6
MC1	10/06/2015 17:20	<0.0050	<0.0050	<0.00050	0.0081	<0.00050	0.00047	0.0597	<0.00010	<0.0010	<0.05	<0.000010	38.3	High DL removed	<0.00050	0.0016	0.0772	<0.00020	<0.0050	14.2	0.0089	<0.000010	0.0018	<0.0010	0.013	1.6
MC1	20/06/2015 16:15	<0.0050	0.0054	<0.00050	0.006	<0.00050	0.00049	0.0614	<0.00010	<0.0010	<0.05	<0.000010	40	High DL removed	<0.00050	0.00146	0.0643	<0.00020	<0.0050	13.9	0.0077	<0.000010	0.0019	<0.0010	0.012	1.51
MC1	25/06/2015 11:10	<0.0050	<0.0050	<0.00050	0.0155	<0.00050	0.00053	0.0671	<0.00010	<0.0010	<0.05	<0.000010	46.1	High DL removed	<0.00050	0.00151	0.0808	<0.00020	<0.0050	15.3	0.0086	<0.000010	0.002	<0.0010	0.017	1.9
MC1	02/07/2015 15:50	<0.0050	<0.0050	<0.00050	0.008	<0.00050	0.00054	0.0621	<0.00010	<0.0010	<0.05	<0.000010	42.4	High DL removed	<0.00050	0.00158	0.0802	<0.00020	<0.0050	14.8	0.0103	<0.000010	0.0018	<0.0010	0.014	1.47
MC1	09/07/2015 11:10	<0.0050	<0.0050	<0.00050	0.0091	<0.00050	0.00054	0.0644	<0.00010	<0.0010	<0.05	<0.000010	38.7	High DL removed	<0.00050	0.00158	0.096	<0.00020	<0.0050	14.6	0.0088	<0.000010	0.0017	<0.0010	0.015	1.34
MC1	17/07/2015 11:05	<0.0050	<0.0050	<0.00050	0.0148	<0.00050	0.0005	0.0618	<0.00010	<0.0010	<0.05	<0.000010	41.6	High DL removed	<0.00050	0.00153	0.151	<0.00020	<0.0050	14.8	0.0095	<0.000010	0.0017	0.001	0.02	1.34
MC1	23/07/2015 11:10	<0.0050	<0.0050	<0.00050	0.0489	<0.00050	0.00066	0.0628	<0.00010	<0.0010	<0.05	<0.000010	48.4	High DL removed	<0.00050	0.0014	0.149	<0.00020	<0.0050	14.4	0.0103	<0.000010	0.0017	<0.0010	0.017	1.37
MC1	27/07/2015 11:35	<0.0050	0.0051	<0.00050	0.012	<0.00050	0.00061	0.0646	<0.00010	<0.0010	<0.05	<0.000010	44.6	High DL removed	<0.00050	0.00128	0.143	<0.00020	<0.0050	15.5	0.0086	<0.000010	0.0017	<0.0010	0.017	1.51
MC1	04/08/2015 14:35	<0.0050	<0.0050	<0.00050	0.0105	<0.00050	0.00052	0.0629	<0.00010	<0.0010	<0.05	<0.000010	43.9	High DL removed	<0.00050	0.00135	0.126	<0.00020	<0.0050	15.4	0.0094	<0.000010	0.0018	<0.0010	0.015	1.34
MC1	13/08/2015 14:15	<0.0050	<0.0050	<0.00050	0.0122	<0.00050	0.00054	0.0622	<0.00010	<0.0010	<0.05	<0.000010	42.9	High DL removed	<0.00050	0.00157	0.141	<0.00020	<0.0050	13.9	0.0098	<0.000010	0.0016	0.001	<0.01	1.12
MC1	22/08/2015 10:51	<0.0050	<0.0050	<0.00050	0.0093	<0.00050	0.00064	0.0643	<0.00010	<0.0010	<0.05	<0.000010	40.5	High DL removed	<0.00050	0.00145	0.164	<0.00020	<0.0050	15.1	0.0108	<0.000010	0.0016	0.001	0.017	1.38
MC1	25/08/2015 14:20	<0.0050	<0.0050	<0.00050	0.0109	<0.00050	0.0006	0.0645	<0.00010	<0.0010	<0.05	<0.000010	47.1	High DL removed	<0.00050	0.00158	0.148	<0.00020	<0.0050	16.2	0.0105	<0.000010	0.0015	0.0012	0.018	1.45
MC1	01/09/2015 11:50	<0.0050	<0.0050	<0.00050	0.012	<0.00050	0.0005	0.0578	<0.00010	<0.0010	<0.05	<0.000010	36.8	High DL removed	<0.00050	0.00193	0.206	<0.00020	<0.0050	12.6	0.0156	<0.000010	0.0012	0.0013	0.011	1.02
MC1	08/09/2015 15:15	<0.0050	<0.0050	<0.00050	0.0165	<0.00050	0.00058	0.059	<0.00010	<0.0010	<0.05	<0.000010	42.4	High DL removed	<0.00050	0.00191	0.174	<0.00020	<0.0050	14.6	0.015	<0.000010	0.0014	0.0011	0.022	1.13
MC1	18/09/2015 13:40	<0.0050	<0.0050	<0.00050	0.018	<0.00050	0.00047	0.0566	<0.00010	<0.0010	<0.05	<0.000010	41.3	High DL removed	<0.00050	0.0018	0.153	<0.00020	<0.0050	14.3	0.015	<0.000010	0.0014	0.0012	0.017	1.1
MC1	25/09/2015 14:55	<0.0050	<0.0050	<0.00050	0.0129	<0.00050	0.00061	0.059	<0.00010	<0.0010	<0.05	<0.000010	41.5	High DL removed	<0.00050	0.00183	0.153	<0.00020	<0.0050	15.8	0.0174	<0.000010	0.0014	0.0011	0.031	1.25
MC1	29/09/2015 15:55	<0.0050	<0.0050	<0.00050	0.0107	<0.00050	0.00057	0.0619	<0.00010	<0.0010	<0.05	<0.000010	41.3	High DL removed	<0.00050	0.00195	0.159	<0.00020	<0.0050	14.7	0.0155	<0.000010	0.0014	0.0011	0.019	1.18
MC1	08/10/2015 11:45	<0.0050	<0.0050	<0.00050	0.0108	<0.00050	0.00045	0.0613	<0.00010	<0.0010	<0.05	<0.000010	41.2	High DL removed	<0.00050	0.00142	0.0953	<0.00020	<0.0050	14.7	0.0159	<0.000010	0.0013	<0.0010	0.019	1.11
MC1	13/10/2015 16:55	<0.0050	<0.0050	<0.00050	0.0175	<0.00050	0.00056	0.0577	<0.00010	<0.0010	<0.05	0.000012	40.9	High DL removed	<0.00050	0.0019	0.145	<0.00020	<0.0050	14.9	0.0173	<0.000010	0.0013	0.0014	0.015	1.11
MC1	24/10/2015 16:00	<0.0050	<0.0050	<0.00050	0.0093	<0.00050	0.00053	0.0598	<0.00010	<0.0010	<0.05	<0.000010	43	High DL removed	<0.00050	0.00233	0.124	<0.00020	<0.0050	13.9	0.0207	<0.000010	0.0016	0.0012	0.013	1.09
MC1	28/10/2015 15:50	<0.0050	<0.0050	<0.00050	0.0078	<0.00050	0.00047	0.0658	<0.00010	<0.0010	<0.05	<0.000010	46.4	High DL removed	<0.00050	0.00145	0.108	<0.00020	<0.0050	16.8	0.0204	<0.000010	0.0014	0.001	0.012	1.3
MC1	06/11/2015 16:15	<0.0050	<0.0050	<0.00050	0.0085	<0.00050	0.00038	0.0696	<0.00010	<0.0010	<0.05	<0.000010	48.2	High DL removed	<0.00050	0.00151	0.0799	<0.00020	<0.0050	18.1	0.0186	<0.000010	0.0012	0.0011	0.012	1.41
MC1	11/11/2015 13:20	<0.0050	<0.0050	<0.00050	0.009	<0.00050	0.00033	0.0774	<0.00010	<0.0010	<0.05	<0.000010	48.1	High DL removed	<0.00050	0.00349	0.0695	<0.00020	<0.0050	17.5	0.0193	<0.000010	0.0012	<0.0010	<0.01	1.37
MC1	16/11/2015 14:55	<0.0050	<0.0050	<0.00050	0.0077	<0.00050	0.00037	0.0822	<0.00010	<0.0010	<0.05	<0.000010	58.3	High DL removed	<0.00050	0.00245	0.0638	<0.00020	<0.0050	20.3	0.0226	<0.000010	0.0012	<0.0010	0.016	1.82
MC1	25/11/2015 15:20	<0.0050	<0.0050	<0.00050	0.0075	<0.00050	0.00037	0.0883	<0.00010	<0.0010	<0.05	<0.000010	54.1	High DL removed	<0.00050	0.0023	0.0657	<0.00020	<0.0050	20.6	0.0218	<0.000010	0.0011	<0.0010	<0.01	1.63
MC1	04/12/2015 14:40	<0.0050	<0.0050	<0.00050	0.0304	<0.00050	0.00054	0.0995	<0.00010	<0.0010	<0.05	<0.000010	65	High DL removed	<0.00050	0.00341	0.0658	<0.00020	<0.0050	25.1	0.0481	<0.000010	0.0014	<0.0010	0.011	2.41
MC1	09/12/2015 14:45	<0.0050	<0.0050	<0.00050	0.0077	<0.00050	0.00035	0.09	<0.00010	<0.0010	<0.05	<0.000010	58.8	High DL removed	<0.00050	0.00149	0.0671	<0.00020	<0.0050	21.8	0.0442	<0.000010	0.0013	<0.0010	0.018	1.82
MC1	19/12/2015 11:40	<0.0050	<0.0050	<0.00050	0.0077	<0.00050	0.00042	0.107	<0.00010	<0.0010	<0.05	<0.000010	68.8	High DL removed	<0.00050	0.00265	0.0685	0.00022	<0.0050	25.2	0.041	<0.000010	0.0015	0.0011	0.013	2.37
MC1	22/12/2015 14:50	<0.0050	0.0065	<0.00050	0.0116	<0.00050	0.00031	0.106	<0.00010	<0.0010	<0.05	0.000011	70.4	High DL removed	<0.00050	0.00363	0.0785	<0.00020	<0.0050	24.6	0.032	<0.000010	0.0013	<0.0010	0.011	2.1
MC1	02/01/2016 14:15	<0.0050	<0.0050	<0.00050	0.0112	<0.00050	0.00062	0.121	<0.00010	<0.0010	<0.05	0.000028	87.5	High DL removed	<0.00050	0.00523	0.117	<0.00020	<0.0050	29.4	0.106	<0.000010	0.0014	0.0013	0.024	3.74
MC1	01/04/2016 16:00	<0.00050	<0.0030	<0.00030	0.0040	<0.00010	0.00042	0.0638	<0.000020	<0.000050	<0.010	0.0000117	47.1	0.00013	<0.00010	0.00342	0.050	<0.000050	0.0018	18.8	0.0359	0.0000066	0.000950	0.00055	<0.050	2.76
MC1	02/04/2016 16:00	<0.00050	<0.0030	<0.00030	0.0040	<0.00010	0.00042	0.0638	<0.000020	<0.000050	<0.010	0.0000117	47.1	0.00013	<0.00010	0.00342	0.050	<0.000050	0.0018	18.8	0.0359	0.0000066	0.000950	0.00055	<0.050	2.76
MC1	07/05/2016 14:05	0.00359	0.0041	<0.00030	0.0093	<0.00010	0.00059	0.0479	0.000021	<0.000050	<0.010	0.0000064	31.3	0.00020	0.00014	0.00263	0.150	<0.000050	<0.0010	10.1	0.0655	0.0000062	0.00115	0.00122	<0.050	1.25
MC1	09/05/2016 11:00																									
MC1	13/05/2016 11:30	0.00475	0.0052	0.00037	0.0109	<0.00010	0.00057	0.0508	<0.000020	<0.000050	<0.010	<0.0000050	33.2	0.00026	0.00014	0.00241	0.162	<0.000050	<0.0010	10.6	0.0638	<0.0000050	0.00132	0.00122	<0.050	1.19
MC1	03/07/2016 9:50	0.00127	<0.0030	<0.00030	0.0081	<0.00010	0.00054	0.0659	<0.000020	<0.000050	<0.010	<0.0000050	47.5	0.00018	<0.00010	0.00221	0.067	<0.000050	0.0014	15.7	0.00670	<0.0000050	0.00179	0.00095	<0.050	1.44
MC1	27/10/2016 15:55																									
MC1	27/10/2016 15:55	0.00063	<0.0030	<0.00030	0.0032	<0.00010	0.00042	0.0685	<0.000020	<0.000050	0.016	<0.0000050	49.8	0.00015	<0.00010	0.00210	0.076	<0.000050	0.0013	17.1	0.0109	<0.0000050	0.00182	0.00088	<0.050	2.01
MC1	01/11/2016 14:30	0.00054	0.0074	<0.00030	0.0041	<0.00010	0.00042	0.0696	<0.000020	<0.000050	0.011	0.0000064	47.8	0.00018	<0.00010	0.00175	0.072	<0.000050	0.0016	16.3	0.0108	<0.0000050	0.00165	0.00073	<0.050	1.62
MC1	13/11/2016 10:47	0.00059	<0.0030	<0.00030	0.0032	<0.00010	0.00039	0.0733	<0.000020	<0.000050	<0.010	<0.0000050	47.8	0.00017	<0.00010	0.00156	0.060	<0.000050	0.0016	16.9	0.00806	<0.0000050	0.00156	0.00083	<0.050	1.70
MC1	20/11/2016 10:10	0.00076	<0.0030	<0.00030	0.0043	0.00034	0.00053	0.114	<0.000020	<0.000050	0.014	<0.0000050	75.1	0.00025	<0.00010	0.00253	0.057	<0.000050	0.0023	26.8	0.0174	<0.0000050	0.00198	0.00119	<0.050	2.58
MC1	26/06/2009 20:00	<0.005	<0.005	<0.0005	0.008	<0.0005	0.0004	0.058	<0.0001	<0.001	<0.05	<0.00001	38.1	High DL removed	<0.0005	0.0029	0.057	<0.0002	<0.005	12.6	0.003	<0.00002	0.002	0.001		1.36
MC1	18/07/2010	<0.005	<0.01	<0.002	0.022	<0.0005	0.0004	0.069	<0.0002	<0.001	<0.1	High DL removed	46	High DL removed	<0.0005	0.002	0.096	<0.0002	<0.01	12	0.003	<0.0002	0.005	0.001		2
MC1	25/07/2010	<0.005	<0.01	<0.002	0.02	<0.0005	0.0005	0.069	<0.0002	<0.001	<0.1	High DL removed	37	High DL removed	<0.0005	0.002	0.106	<0.0002	<0.01	11	0.007	<0.0002	0.004	0.001		2

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	Br	Cation	CN-T	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-TKN	P-PO4T	P-TDP	P-TRP
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L
MC1	26/08/2014 10:30	<0.00010	5.56	<0.000020	9.12	0.44	5.5	<0.000050	<0.0050	<0.0050	0.00129	<0.0050	<0.0050	<0.00050	198	<0.50	<0.50	<0.50														
MC1	01/09/2014 16:55	0.00011	6.39	<0.000020	9.08	0.43	6.4	<0.000050	<0.0050	<0.0050	0.00124	<0.0050	<0.0050	<0.00050	200	3.04	<0.50	2.53														
MC1	11/09/2014 16:45	<0.00010	6.05	<0.000020	9.12	0.388	14.6	<0.000050	<0.0050	<0.0050	0.00117	<0.0050	<0.0050	<0.00050	201	0.96	<0.50	0.8														
MC1	16/09/2014 12:00	<0.00010	6.14	<0.000020	9.36	0.423	5.6	<0.000050	<0.0050	<0.0050	0.00113	<0.0050	<0.0050	<0.00050	196	<0.50	<0.50	<0.50														
MC1	22/09/2014 15:50	<0.00010	5.24	<0.000020	8.46	0.383	5.2	<0.000050	<0.0050	<0.0050	0.00112	<0.0050	<0.0050	<0.00050	182	1.13	<0.50	0.94														
MC1	30/09/2014 16:55	<0.00010	5.55	<0.000020	8.2	0.343	4.8	<0.000050	<0.0050	<0.0050	0.00102	<0.0050	<0.0050	<0.00050	174	<0.50	<0.50	<0.50														
MC1	07/10/2014 15:40	0.00018	6.44	<0.000020	8.45	0.364	6.1	<0.000050	<0.0050	<0.0050	0.00114	<0.0050	<0.0050	<0.00050	194	<0.50	<0.50	<0.50														
MC1	14/10/2014 16:20	0.0001	6.69	<0.000020	8.79	0.37	7.1	<0.000050	<0.0050	<0.0050	0.00114	<0.0050	<0.0050	<0.00050	191	<0.50	<0.50	<0.50														
MC1	25/10/2014 15:55	0.00011	6.64	<0.000020	8.92	0.383	5.9	<0.000050	<0.0050	<0.0050	0.00128	<0.0050	<0.0050	<0.00050	190	<0.50	<0.50	<0.50														
MC1	31/10/2014 16:30	0.00014	6.89	<0.000020	10.4	0.458	9.7	<0.000050	<0.0050	<0.0050	0.00144	<0.0050	0.0083	<0.00050	220	<0.50	<0.50	<0.50														
MC1	06/11/2014 16:55	0.00013	6.57	<0.000020	10.5	0.463	7.8	<0.000050	<0.0050	<0.0050	0.00141	<0.0050	<0.0050	<0.00050	224	<0.50	<0.50	<0.50														
MC1	11/11/2014 15:00	0.00015	7.07	<0.000020	10.9	0.488	7.3	<0.000050	<0.0050	<0.0050	0.00146	<0.0050	<0.0050	<0.00050	220	<0.50	<0.50	<0.50														
MC1	22/11/2014 15:30	0.0002	9.5	<0.000020	15.7	0.666	17.3	<0.000050	<0.0050	<0.0050	0.00214	<0.0050	<0.0050	<0.00050	300	<0.50	<0.50	<0.50														
MC1	28/11/2014 14:50	0.00013	6.39	<0.000020	12.8	0.571	12.7	<0.000050	<0.0050	<0.0050	0.00152	<0.0050	<0.0050	<0.00050	259	<0.50	<0.50	<0.50														
MC1	05/12/2014 15:50	0.00018	8.13	<0.000020	14.6	0.659	19.8	<0.000050	<0.0050	<0.0050	0.0017	<0.0050	<0.0050	<0.00050	268	<0.50	<0.50	<0.50														
MC1	14/03/2015 15:00	0.00034	9.76	<0.000020	18.7	0.817	20	<0.000050	<0.0050	<0.0050	0.00282	<0.0050	0.0334	<0.00050	348	3.61	<0.50	3.01														
MC1	15/03/2015 15:00																															
MC1	17/03/2015 14:30																															
MC1	02/04/2015 16:00	0.00029	8.17	<0.000020	16.4	0.717	15.6	<0.000050	<0.0050	<0.0050	0.00214	<0.0050	<0.0050	<0.00050	273	<0.50	<0.50	<0.50														
MC1	06/06/2015 13:30																															
MC1	06/06/2015 13:30	0.00012	5.94	<0.000020	9.24	0.442	7.6	<0.000050	<0.0050	<0.0050	0.00133	<0.0050	<0.0050	<0.00050	170	<0.50	<0.50	<0.50														
MC1	10/06/2015 17:20	0.00013	5.46	<0.000020	9.53	0.437	7.3	<0.000050	<0.0050	<0.0050	0.00138	<0.0050	<0.0050	<0.00050	172	<0.50	<0.50	<0.50														
MC1	20/06/2015 16:15	0.00011	5.72	<0.000020	10.1	0.473	7.6	<0.000050	<0.0050	<0.0050	0.00152	<0.0050	<0.0050	<0.00050	188	<0.50	<0.50	<0.50														
MC1	25/06/2015 11:10	0.00017	6.19	<0.000020	10.5	0.517	9.1	<0.000050	<0.0050	<0.0050	0.00157	<0.0050	<0.0050	<0.00050	197	<0.50	<0.50	<0.50														
MC1	02/07/2015 15:50	0.0001	6.25	<0.000020	9.37	0.457	7.8	<0.000050	<0.0050	<0.0050	0.00145	<0.0050	<0.0050	<0.00050	191	<0.50	<0.50	<0.50														
MC1	09/07/2015 11:10	0.00012	7.18	<0.000020	9.67	0.437	7.1	<0.000050	<0.0050	<0.0050	0.00155	<0.0050	<0.0050	<0.00050	197	<0.50	<0.50	<0.50														
MC1	17/07/2015 11:05	<0.00010	6.3	<0.000020	9.42	0.442	5.6	<0.000050	<0.0050	<0.0050	0.00135	<0.0050	<0.0050	<0.00050	202	<0.50	<0.50	<0.50														
MC1	23/07/2015 11:10	0.00012	7.66	<0.000020	9.49	0.448	5.5	<0.000050	<0.0050	<0.0050	0.00139	<0.0050	<0.0050	<0.00050	204	<0.50	<0.50	<0.50														
MC1	27/07/2015 11:35	<0.00010	6.55	<0.000020	10.7	0.471	6.5	<0.000050	<0.0050	<0.0050	0.00135	<0.0050	<0.0050	<0.00050	201	<0.50	<0.50	<0.50														
MC1	04/08/2015 14:35	0.0001	6.7	<0.000020	10.6	0.478	5.3	<0.000050	<0.0050	<0.0050	0.00148	<0.0050	<0.0050	<0.00050	206	<0.50	<0.50	<0.50														
MC1	13/08/2015 14:15	0.00013	6.53	<0.000020	9.14	0.422	7.4	<0.000050	<0.0050	<0.0050	0.0011	<0.0050	<0.0050	<0.00050	200	<0.50	<0.50	<0.50														
MC1	22/08/2015 10:51	0.00014	5.54	<0.000020	10.1	0.452	7.7	<0.000050	<0.0050	<0.0050	0.00133	<0.0050	<0.0050	<0.00050	206	<0.50	<0.50	<0.50														
MC1	25/08/2015 14:20	<0.00010	7.12	<0.000020	10.4	0.447	7	<0.000050	<0.0050	<0.0050	0.00136	<0.0050	<0.0050	<0.00050	195	<0.50	<0.50	<0.50														
MC1	01/09/2015 11:50	0.00014	6.16	<0.000020	8.3	0.357	6.6	<0.000050	<0.0050	<0.0050	0.00088	<0.0050	<0.0050	<0.00050	174	<0.50	<0.50	<0.50														
MC1	08/09/2015 15:15	<0.00010	6.64	<0.000020	9.73	0.378	7.8	<0.000050	<0.0050	<0.0050	0.00117	<0.0050	<0.0050	<0.00050	187	<0.50	<0.50	<0.50														
MC1	18/09/2015 13:40	<0.00010	6.6	<0.000020	9.27	0.402	6.1	<0.000050	<0.0050	<0.0050	0.00112	<0.0050	<0.0050	<0.00050	185	1.08	<0.50	0.9														
MC1	25/09/2015 14:55	0.00012	6.42	<0.000020	10.3	0.403	7	<0.000050	<0.0050	<0.0050	0.00118	<0.0050	<0.0050	<0.00050	193	<0.50	<0.50	<0.50														
MC1	29/09/2015 15:55	0.00017	6.47	<0.000020	9.62	0.403	7.1	<0.000050	<0.0050	<0.0050	0.00106	<0.0050	<0.0050	<0.00050	190	<0.50	<0.50	<0.50														
MC1	08/10/2015 11:45	<0.00010	5.77	<0.000020	9.82	0.437	5.6	<0.000050	<0.0050	<0.0050	0.00134	<0.0050	<0.0050	<0.00050	206	<0.50	<0.50	<0.50														
MC1	13/10/2015 16:55	<0.00010	7.61	<0.000020	9.14	0.398	<3.0	<0.000050	<0.0050	<0.0050	0.00116	<0.0050	<0.0050	<0.00050	180	<0.50	<0.50	<0.50														
MC1	24/10/2015 16:00	0.00011	6.92	<0.000020	9.61	0.423	5	<0.000050	<0.0050	<0.0050	0.00121	<0.0050	<0.0050	<0.00050	188	<0.50	<0.50	<0.50														
MC1	28/10/2015 15:50	<0.00010	7	<0.000020	10.8	0.437	9.3	<0.000050	<0.0050	<0.0050	0.00129	<0.0050	<0.0050	<0.00050	214	<0.50	<0.50	<0.50														
MC1	06/11/2015 16:15	<0.00010	6.97	<0.000020	11.4	0.476	7.8	<0.000050	<0.0050	<0.0050	0.00139	<0.0050	<0.0050	<0.00050	224	<0.50	<0.50	<0.50														
MC1	11/11/2015 13:20	0.00014	5.84	<0.000020	12	0.519	6.9	<0.000050	<0.0050	<0.0050	0.00178	<0.0050	<0.0050	<0.00050	234	6.24	<0.50	5.2														
MC1	16/11/2015 14:55	0.00013	7.88	<0.000020	12.6	0.563	8.4	<0.000050	<0.0050	<0.0050	0.00145	<0.0050	<0.0050	<0.00050	237	3.94	<0.50	3.28														
MC1	25/11/2015 15:20	0.00015	8.35	<0.000020	12.9	0.564	7.5	<0.000050	<0.0050	<0.0050	0.00141	<0.0050	<0.0050	<0.00050	238	<0.50	<0.50	<0.50														
MC1	04/12/2015 14:40	0.00015	9.94	<0.000020	16	0.65	9.1	<0.000050	<0.0050	<0.0050	0.00187	<0.0050	<0.0050	<0.00050	262	4.63	<0.50	3.86														
MC1	09/12/2015 14:45	0.00012	8.74	<0.000020	13.3	0.598	7	<0.000050	<0.0050	<0.0050	0.00155	<0.0050	<0.0050	<0.00050	268	<0.50	<0.50	<0.50														
MC1	19/12/2015 11:40	0.00016	9.92	<0.000020	16	0.704	12.2	<0.000050	<0.0050	<0.0050	0.00173	<0.0050	<0.0050	<0.00050	317	<0.50	<0.50	<0.50														
MC1	22/12/2015 14:50	0.00021	9.25	<0.000020	15.4	0.664	9.8	<0.000050	<0.0050	<0.0050	0.00155	<0.0050	<0.0050	<0.00050	300	10.9	<0.50	9.05														
MC1	02/01/2016 14:15	0.00031	10.4	<0.000020	18.8	0.801	12.9	<0.000050	<0.0050	<0.0050	0.00227	<0.0050	<0.0050	<0.00050	421	<0.50	<0.50	<0.50														
MC1	01/04/2016 16:00	0.000205	7.29	<0.000010	12.3	0.510	12.0	<0.000010	<0.00010	<0.00030	0.00126	<0.00050	0.0011	<0.00030	180	<1.0	<1.0		4.41		4.51							1.2				
MC1	02/04/2016 16:00	0.000205	7.29	<0.000010	12.3	0.510	12.0	<0.000010	<0.00010	<0.00030	0.00126	<0.00050	0.0011	<0.00030	180	<1.0	<1.0															
MC1	07/05/2016 14:05	0.000125	4.74	<0.000010	7.10	0.273	5.04	<0.000010	<0.00010	0.00045	0.000813	0.00080	0.0014	<0.00030	108	<1.0	<1.0		2.51		2.75							4.5				
MC1	09/05/2016 11:00																															
MC1	13/05/2016 11:30	0.000139	5.05	<0.000010	6.92	0.283	4.84	<0.000010	<0.00010	0.00052	0.000821	0.00077	<0.0010	<0.00030	118	<1.0	<1.0		2.68		2.87							3.4				
MC1	03/07/2016 9:50	0.000108	6.20	<0.000010	10.0	0.442	6.83	<0.000010	<0.00010	<0.00030	0.00160	0.00076	0.0075	<0.00030	168	<1.0	<1.0		3.81		4.14							4.1				
MC1	27/10/2016 15:55																															
MC1	27/10/2016 15:55	0.000319	5.78	<0.000010	11.6	0.490	11.0	<0.000010	<0.00010	<0.00030	0.00141	0.00055	<0.0010	<0.00030	191	<1.0	<1.0		4.64		4.45							-2.1				
MC1	01/11/2016 14:30	0.000186	5.95	<0.000010	10.6	0.491	8.65	<0.000010	<0.00010	<0.00030	0.00150	<0.00050	0.0081	<0.00030	189	8.2	<1.0		6.45		4.24							-20.7				
MC1	13/11/2016 10:47	0.000172	6.40	<0.000010	11.4	0.494	9.17	<0.000010	<0.00010	<0.00030	0.00153	<0.00050	<0.0010	<0.00030	197	<1.0	<1.0		4.54		4.32							-2.5				
MC1	20/11/2016 10:10	0.000241	9.62	<0.000010	17.8	0.744	12.4	<0.000010	<0.00010	0.00030	0.00205	0.00060	<0.0010	<0.00030	283	6.6	<1.0		6.73		6.80							0.5				
MC1	26/06/2009 20:00	0.0002	6.21	<0.00002	8.76	0.328	7	<0.00005	<0.005	<0.005	0.0013	<0.005	<0.005	<0.0005																		0.005
MC1	18/07/2010	0.001	7.14	High DL removed	12	0.434	<60	<0.00005	<0.005	<0.01	0.0007	<0.005	<0.01	<0.002	150	<0.5	<0.5	<0.5		1.6												<0.005
MC1	25/07/2010	0.0009	5.67	High DL removed	11	0.402	<60	<0.00005	<0.005	<0.01	0.0006	<0.005	<0.01	<0.002	150	<0.5	<0.5	<0.5		2.2												<0.005

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
MC1	26/08/2014 10:30			250.5			
MC1	01/09/2014 16:55			338.9			
MC1	11/09/2014 16:45			347.5			
MC1	16/09/2014 12:00			231.2			
MC1	22/09/2014 15:50			310.5			
MC1	30/09/2014 16:55			308.1			
MC1	07/10/2014 15:40			320.8			
MC1	14/10/2014 16:20			334.9			
MC1	25/10/2014 15:55			342.4			
MC1	31/10/2014 16:30			387.8			
MC1	06/11/2014 16:55			392.8			
MC1	11/11/2014 15:00			430.4			
MC1	22/11/2014 15:30			580.1			
MC1	28/11/2014 14:50			506.6			
MC1	05/12/2014 15:50			404.5			
MC1	14/03/2015 15:00						
MC1	15/03/2015 15:00			553.4			
MC1	17/03/2015 14:30						
MC1	02/04/2015 16:00			509.4			
MC1	06/06/2015 13:30			304.6			
MC1	06/06/2015 13:30						
MC1	10/06/2015 17:20			321.2			
MC1	20/06/2015 16:15			345.6			
MC1	25/06/2015 11:10			345.3			
MC1	02/07/2015 15:50			334			
MC1	09/07/2015 11:10			336.8			
MC1	17/07/2015 11:05			337.7			
MC1	23/07/2015 11:10			366.3			
MC1	27/07/2015 11:35			348.1			
MC1	04/08/2015 14:35			196.4			
MC1	13/08/2015 14:15			404.2			
MC1	22/08/2015 10:51			342.3			
MC1	25/08/2015 14:20			334.8			
MC1	01/09/2015 11:50			300.5			
MC1	08/09/2015 15:15			331.6			
MC1	18/09/2015 13:40			335.4			
MC1	25/09/2015 14:55			338.8			
MC1	29/09/2015 15:55			338.4			
MC1	08/10/2015 11:45			360			
MC1	13/10/2015 16:55						
MC1	24/10/2015 16:00			303.4			
MC1	28/10/2015 15:50			379.5			
MC1	06/11/2015 16:15			400.9			
MC1	11/11/2015 13:20			427.5			
MC1	16/11/2015 14:55			443.4			
MC1	25/11/2015 15:20			455.6			
MC1	04/12/2015 14:40			508.3			
MC1	09/12/2015 14:45			497.1			
MC1	19/12/2015 11:40			493.5			
MC1	22/12/2015 14:50			477.7			
MC1	02/01/2016 14:15			702.3			
MC1	01/04/2016 16:00			401			
MC1	02/04/2016 16:00						
MC1	07/05/2016 14:05			241.6			
MC1	09/05/2016 11:00			248.7			
MC1	13/05/2016 11:30			249			
MC1	03/07/2016 9:50			348.8			
MC1	27/10/2016 15:55			423.3			
MC1	27/10/2016 15:55						
MC1	01/11/2016 14:30			406.1			
MC1	13/11/2016 10:47			411.3			
MC1	20/11/2016 10:10			621.9			
MC1	26/06/2009 20:00					0.8	
MC1	18/07/2010						3.9
MC1	25/07/2010					5.4	3.4

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Phase	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
				mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MC1	02/08/2010	Discharge	P	9	270	7.96	8.17	412	425	9.56		78		166	179	140	13	0.35	42	0.041	0.032	4.9	11.1	0.17	<0.0005	0.0004	0.09	<0.0002	<0.001
MC1	08/08/2010	Discharge	P	11	270	8.06	8.17	417	418	8.54		81.7		180	176	130	14	0.34	48	0.2	0.009	5.2	11.5	0.201	<0.0005	0.0006	0.088	<0.0002	<0.001
MC1	15/08/2010	Discharge	P	16	270	7.96	8.23	436	433	9.14		89.9		172	186	130	13	0.36	51	0.06	0.012	6.4	11.7	0.237	<0.0005	0.0007	0.092	<0.0002	<0.001
MC1	22/08/2010	Discharge	P	33	240	8.27	8.26	360		7.3		89.6		157	153	120	11	0.32	40	0.022	0.011	4	7.1	0.475	<0.0005	0.0009	0.093	<0.0002	<0.001
MC1	04/09/2010	Discharge	P	13	290	8.02	8.12	416	416	6.95		81.1		172	174	140	14	0.34	49	0.04	0.011	6.1	12	0.208	0.0008	0.0006	0.092	<0.0002	<0.001
MC1	10/09/2010	Discharge	P	31	270	8.13	8.11	396	406	6.52		82.6		180	162	120	12		42	0.1	0.014	5.4	13.9	0.482	<0.0005	0.0008	0.099	<0.0002	<0.001
MC1	17/09/2010	Discharge	P	8	280	8.04	8.25	421	434	4.11		98.3		197	185	130	9.3	0.39	46	0.017	0.013	6.7	13	0.198	<0.0005	0.0005	0.093	<0.0002	<0.001
MC1	08/10/2010	Discharge	P	6	290	8.19	8.18	454	448	0.14		104.2		207	188	140	11	0.32	53	<0.005	0.012	7.3	11	0.136	<0.0005	0.0002	0.098	<0.0001	<0.001
MC1	16/04/2012 14:46	Discharge	P	1.4	154	8.04	8.05	130.3	240	0	13.85	94.7		113	115	109	1.8	0.31	13.1	0.0058	<0.0050	<0.020	13.4	0.0232	<0.00050	0.00046	0.0448	<0.00010	<0.0010
MC1	17/04/2012 17:20	Discharge	P			8.15		127.1		0	14.28	97.8																	
MC1	18/04/2012 17:45	Discharge	P			8.03		115.2		0	14.81	101.4																	
MC1	19/04/2012 9:00	Discharge	P			7.89		106.1		0	13.71	93																	
MC1	20/04/2012 7:44	Discharge	P			7.74		88.5		0	12.87	88.1																	
MC1	21/04/2012 9:30	Discharge	P			7.53				0	13.7	93.6																	
MC1	22/04/2012 9:41	Discharge	P			7.62		64.8		0	14.62	100.1																	
MC1	23/04/2012 13:52	Discharge	P	10.6	128	7.65	7.78	80	145	0.1	15.6	106.7		69.4	68.6	61.2	1.9	0.15	<0.50	0.017	<0.0050	0.496	28.9	0.201	<0.00050	0.00052	0.0354	<0.00010	<0.0010
MC1	24/04/2012 15:00	Discharge	P			7.74		83.5		0	13.56	92.8																	
MC1	26/04/2012 15:45	Discharge	P			7.72		80.8		0	13.74	94.1	176.6																
MC1	27/04/2012 14:35	Discharge	P			7.69		78		0	13.5	92.5	151.5																
MC1	28/04/2012 14:40	Discharge	P			7.57		75.2		0.1	13.53	92.7	83.4																
MC1	29/04/2012 13:38	Discharge	P			7.56		71.6		0.1	13.84	94.8	89.7																
MC1	30/04/2012	Discharge	P	52.5	106	7.5	7.82	78.7	150	0.1	17.7	87.1	46.3	69.7	71.6	59.8	1.2	0.16	3.23	0.01	<0.0050	0.642	18.8	1.45	<0.00050	0.00094	0.0688	<0.00010	<0.0010
MC1	01/05/2012 10:25	Discharge	P			7.47		74.1		0	12.89	88.4	70.3																
MC1	02/05/2012 14:00	Discharge	P			7.52		75.5		0	12.87	88.2	64.2																
MC1	03/05/2012 9:50	Discharge	P			7.4		77.8		0	13.19	90.4	89.6																
MC1	06/05/2012 8:00	Discharge	P	55.8	148	7.31	7.97	127.3	211	0	11.05	75.7	105.1	96.4	98.9	85	2.2	0.21	16.5	0.018	0.0183	0.953	15	2.04	<0.00050	0.00132	0.0924	<0.00010	<0.0010
MC1	10/05/2012 15:19	Discharge	P			7.89		104.6		0.1	14.22	97.5	77.7																
MC1	25/04/2013 11:25	Discharge	P	<1.0	268	8.6	8.31	238.1	452	0		99.8	-189.5	212	203	192	4.4	0.51	43.9	0.015	0.0123	0.843	13	0.0104	<0.00050	0.00046	0.0738	<0.00010	<0.0010
MC1	05/05/2013 14:15	Discharge	P	2.4	158	7.57	8	108.5	230	0		106	17.6	120	105	98.1	2.7	0.23	16.8	0.034	<0.0050	0.586	13	0.0497	<0.00050	0.0004	0.0456	<0.00010	<0.0010
MC1	07/05/2013 16:00	Discharge	P	4.3	168	8.17	7.95	104.5	197	0	13.52	92.3	55	95.1	92	81.7	3.4	0.18	7.54	0.018	0.006	0.408	18.5	0.0905	<0.00050	0.00031	0.0404	<0.00010	<0.0010
MC1	19/05/2013 17:15	Discharge	P	58	138	8.1	8.05	86.9	179	0	13.27	91	96.2	87	85.3	73.7	3.6	0.17	9.32	0.028	<0.0050	0.43	15.9	1.37	<0.00050	0.00114	0.0699	<0.00010	<0.0010
MC1	08/04/2014 11:00	Discharge	P	<1.0	320	8.15	8.36	230.3	482	0	13.19	90.3	92.7	220	215	198	9.3	0.47	41.2	0.015	<0.0050	0.075	14.6	0.0382	<0.00050	0.00047	0.076	<0.00010	<0.0010
MC1	17/04/2014 16:10	Discharge	P	<1.0	222	8.21	8.2	185.5	370	0	13.58	92.9	143.8	160	167	155	6.7	0.34	28.4	0.033	<0.0050	0.241	8.24	0.0262	<0.00050	0.00041	0.0576	<0.00010	<0.0010
MC1	22/04/2014 16:00	Discharge	P	3	114	8.07	7.87	91.6	142	-0.1	13.85	94.7	196.4	69.4	69	61.7	2.9	0.16	<0.50	0.019	<0.0050	0.065	19.5	0.0763	<0.00050	0.00039	0.0342	<0.00010	<0.0010
MC1	01/05/2014 16:30	Discharge	P	29.9	112	8.14	7.65	73	116	0	13.91	95.1	107.7	60.8	53.3	48.1	1.9	0.13	<0.50	0.023	<0.0050	0.246	21	0.729	<0.00050	0.00087	0.0443	<0.00010	<0.0010
MC1	06/05/2014 12:25	Discharge	P	73.3	160	8.23	7.98	104.8	203	0	14.15	97	116.5	95.3	89.1	76.3	3.3	0.2	19.9	0.049	0.0077	0.944	17.7	1.81	<0.00050	0.00148	0.0827	<0.00010	<0.0010
MC1	17/05/2014 18:00	Discharge	P	310	176	7.31	8.17	160.1	269	4.2	11.98	91.9	109.6	165	119	108	3.8	0.28	24.1	0.093	0.0193	0.965	11.3	8.63	<0.00050	0.00537	0.265	0.00033	<0.0010
MC1	19/05/2014 16:40	Discharge	P	385	190	7.44	8.14	166.3	267	2.9	12.42	92.2	111.6	163	118	105	3.4	0.27	22.7	0.084	0.0206	1.02	12.7	9.38	<0.00050	0.00556	0.264	0.00032	<0.0010
MC1	14/12/2014 11:45	Discharge	P	<1.0	312	7.67	7.91	259.8	507	-1.9	14.62	94.8	196.9	233	225	152	7.2	0.45	87.7	0.026	0.0163	2.59	8.78	0.0153	<0.00050	0.00035	0.0988	<0.00010	<0.0010
MC1	10/04/2015 15:45	Discharge	P	8.4	254	8.29	8.18	215.8	413	0	14.4	98.7	190.4	182	179	136	5.9	0.41	59.7	0.016	0.0097	1.46	7.87	0.111	<0.00050	0.00044	0.0817	<0.00010	<0.0010
MC1	17/04/2015 15:45	Discharge	P	3.7	262	8.16	8.17	231.1	449	-0.1	14.05	96.1	210.2	198	194	148	8.1	0.37	61.2	0.01	0.0133	2.12	6.68	0.242	<0.00050	0.00052	0.0963	<0.00010	<0.0010
MC1	23/04/2015 14:50	Discharge	P	5.2	190	8.04	7.86	159	301	0	14.63	100.2	222.2	132	127	96.6	5.1	0.27	39.5	0.032	0.0236	1.38	10.4	0.129	<0.00050	0.00059	0.067	<0.00010	<0.0010
MC1	01/05/2015 15:15	Discharge	P	91.5	132	7.77	7.85	87.2	163	0	13.78	94.5	187	84.9	76.6	63.1	3.1	0.17	5.87	0.041	High DL removed	0.5	17.7	1.92	<0.00050	0.00151	0.0778	<0.00010	<0.0010
MC1	09/05/2015 16:10	Discharge	P	586	128	7.65	7.99	102.9	203	0.1	14.79	101.5	130.6	128	91.5	80.7	2.8	0.22	16.7	0.07	0.0052	0.414	12.5	5.47	<0.00050	0.00394	0.213	0.00029	<0.0010
MC1	14/05/2015 16:00	Discharge	P	727	160	7.73	8.03	154.8	247	6	11.4	91.5	117.1	136	104	93	3.8	0.26	22.2	0.11	0.0111	0.715	10.7	6.87	<0.00050	0.00424	0.217	0.00029	<0.0010
MC1	21/05/2015 11:30	Discharge	P	146	210	7.96	8.09	205.2	314	6.4	11.93	95.3	150.8	148	146	120	4.7	0.29	28.4	0.05	0.0167	1	10.1	2.54	<0.00050	0.00186	0.119	<0.00010	<0.0010
MC1	28/05/2015 16:20	Discharge	P	33.4	232	7.82	8.23	224.4	369	5	11.94	93.6	143.5	168	152	145	4.5	0.36	34.5	0.026	<0.0050	0.845	6.65	0.476	<0.00050	0.00069	0.0867	<0.00010	<0.0010
MC1	10/04/2016 11:10	Discharge	P	<3.0	96.6	7.62	7.88	91.4	177	0	12.1	82.9	147.9		91.3	80.3	1.18		8.53	0.0060	<0.0010	<0.0050	31.2	0.0457	<0.00010	0.00044	0.0385	<0.000020	<0.000050
MC1	16/04/2016 15:00	Discharge	P	4.7	86.6	7.44	7.91	81	158	0	14.52	99.4	144.3		81.5	69.3	1.46		9.44	0.0066	<0.0010	0.0112	30.4	0.129	<0.00010	0.00044	0.0386	<0.000020	<0.000050
MC1	21/04/2016 11:15	Discharge	P	7.3	112	7.9	7.97	108.1	209	0	16.27	111.2	99.4		103	90.6	1.78		13.0	0.0088	<0.0010	<0.0050	24.8	0.0350	0.00018	0.00047	0.0437	<0.000020	<0.000050
MC1	28/04/2016 10:35	Discharge	P	4.0	147	7.94	8.08	140.2	266	0	16.16	110.7	151.3		133	115	2.84		19.2	0.0362	<0.0010	0.0953	16.7	0.0445	0.00013	0.00061	0.0541	<0.000020	0.000055
MC1	17/05/2016 11:00	Discharge	P	10.7	133	7.87	8.09	128.9	239	0.3	14.41	99.6	171.3		124	107	1.77		15.1	0.0089	<0.0010	0.172	15.2	0.490	0.00010	0.00096	0.0596	<0.000020	<0.000050
MC1	19/05/2016 10:25	Discharge	P	128	114	7.82	7.85	110	204	0.2	14.37	99	94.9		104	96.9	1.27		11.2	0.0130	0.0012	0.0427	18.3	2.41	0.00016	0.00193	0.0940	0.000091	<0.000050
MC1	24/05/2016 10:55	Discharge	P	30.7	157	7.89	8.06	148.9	276	0.4	13.66	94.6	147.4		143	128	1.92		17.1	0.0067	0.0023	0.317	12.0	0.810	0.00013	0.00110	0.0677	0.000026	<0.000050
MC1	03/06/2016 10:30	Discharge	P	28.0	179	8.08	8.25	175.2	310	1.7	13.12	94.1	103.1		158	146	2.21		21.4	0.0124	0.0053	0.336	9.54	0.512	0.00018	0.00082	0.0728	0.000028	<0.000050
MC1	07/06/2016 10:50	Discharge	P	98.0	167	8.01	8.06	167.3	290	2.1	13.01	94.6	92.3		153	135	1.91		19.1	0.0127	0.0027	0.259	11.5	0.853	0.00016	0.00111	0.0756	0.000042	<0.000050
MC1	16/06/2016 10:55	Discharge	P	27.3	181	8.09	8.13	193.2	315	3.8	13	98.6	128.2		166	147	2.08		20.7	0.0101	<0.0010	0.320	10.5	0.533	0.00019	0.00087	0.0726	0.000023	<0.000050
MC1	22/06/2016 11:15	Discharge	P	8.7	190	8.12	8.22	213.9	338	5.2	12.18	96.1	110.9		176	159	1.87		19.9	<0.0050	<0.0010	0.157	8.22	0.194	0.00016	0.00062	0.0650	<0.000020	<0.000050
MC1	07/07/2016 13:35	Discharge	P	6.7	196	8.13	8.34	224.5	345	6.1	11.9	96.1	122.5		177	172	1.53		18.5	<0.0050	<0.0010	0.0502	8.88	0.0231	<0.00010	0.00056	0.0653	<0.000020	<0.000050
MC1	17/07/2016 11:15	Discharge	P	27.3	203	8.15	8.32	247.3	364	7.8	12.19	102.7	97.5		192	169	1.98		21.1	0.0067	<0.0010	0.179	9.37	0.449	0.00010	0.00077	0.0750	<0.000020	<0.000050
MC1	20/07/2016 10:30	Discharge	P	12.0	207	8.24	8.25	245.3	368	7.3	12.04	100	98.8		187	177	1.99		21.3	0.0077	<0.0010	0.157	9.07	0.271	<0.00010	0.00077	0.0769	<0.000020	<0.000050
MC1	25/07/2016 11:05	Discharge	P	453	169	7.78	7.99	187.3	291	5.9	10.92	87.7	117.1		156	146	1.29		14.8	0.0278	0.0014	0.144	14.8	7.40	0.00029	0.00501	0.215	0.000226	0.000058
MC1	02/08/2016 11:40	Discharge	P	19.3	200	7.99	8.18	230.7	351	6.4	11.9	96.6	121.5		190	166	1.99		20.3	0.0072	<0.0010	0.214	11.1	0.0572	0.00011	0.00063	0.0714	<0.000020	<0.000050
MC1	11/08/2016 11:10	Discharge	P	34.1	262	7.89	8.18	194.8	374	6.1	11.46	92.5	112.2		185	166	2.39		22.8	0.0102	<0.0010	0.575	13.4	0.783	<0.00010	0.00117	0.0849	0.000027	<0.000050
MC1	16/08/2016 11:00	Discharge	P	10.0	215	7.99	8.34	228	359	5.5	11.76	93.6	104.9		195	185	2.11		21.4	0.0081	<0.0010	0.295	11.3	0.160	<0.00010	0.00069	0.0716	<0.000020	<0.000050

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MC1	02/08/2010	<0.1	High DL removed	44	<0.002	<0.0005	0.004	0.306	<0.0002	<0.01	13	0.03	<0.0002	0.007	0.004		3	0.0014	5.59	<0.0001	15	0.564	<60	<0.00005	<0.005	<0.01	0.0008
MC1	08/08/2010	<0.1	High DL removed	48	<0.002	<0.0005	0.006	0.433	<0.0002	<0.01	15	0.04	<0.0002	0.007	0.002		3	0.0015	5.85	<0.0001	15	0.606	<60	<0.00005	<0.005	<0.01	0.0009
MC1	15/08/2010	<0.1	High DL removed	46	<0.002	<0.0005	0.004	0.5	<0.0002	<0.01	14	0.046	<0.0002	0.008	0.002		3	0.002	5.55	<0.0001	17	0.639	<60	<0.00005	<0.005	<0.01	0.0009
MC1	22/08/2010	<0.1	High DL removed	42	<0.002	0.0005	0.006	1.02	0.0003	<0.01	13	0.074	<0.0002	0.006	0.003		2	0.0014	6.21	<0.0001	13	0.553	<60	<0.00005	<0.005	0.021	0.0007
MC1	04/09/2010	<0.1	High DL removed	46	<0.002	<0.0005	0.004	0.487	<0.0002	<0.01	14	0.04	<0.0002	0.008	0.002		3	0.002	5.81	<0.0001	15	0.682	<60	<0.00005	<0.005	<0.01	0.0008
MC1	10/09/2010	<0.1	High DL removed	48	<0.002	<0.0005	0.006	0.953	0.0003	<0.01	15	0.084	<0.0002	0.007	0.003		3	0.002	6.56	<0.0001	16	0.701	<60	<0.00005	<0.005	0.019	0.0007
MC1	17/09/2010	<0.1	High DL removed	52	<0.002	<0.0005	0.003	0.387	<0.0002	<0.01	17	0.043	<0.0002	0.008	0.002		3	0.0022	6.45	<0.0001	17	0.742	<60	<0.00005	<0.005	<0.01	0.0011
MC1	08/10/2010	0.05	0.00002	54.4	<0.001	<0.0005	0.0037	0.323	<0.0002	<0.005	17.3	0.046	<0.00002	0.009	0.001		3.57	0.0022	5.95	<0.00002	19.1	0.842	24	<0.00005	<0.005	<0.005	0.0013
MC1	16/04/2012 14:46	<0.05	0.000018	28.2	<0.0010	<0.00050	0.00369	0.106	<0.00020	<0.0050	10.3	0.0266	<0.000010	<0.0010	<0.0010	0.05	2.55	0.00012	5.14	<0.000020	6.65	0.269	4.5	<0.000050	<0.0050	<0.0050	0.00056
MC1	17/04/2012 17:20																										
MC1	18/04/2012 17:45																										
MC1	19/04/2012 9:00																										
MC1	20/04/2012 7:44																										
MC1	21/04/2012 9:30																										
MC1	22/04/2012 9:41																										
MC1	23/04/2012 13:52	<0.05	0.000031	18.4	<0.0010	<0.00050	0.00793	0.483	<0.00020	<0.0050	5.69	0.0258	<0.000010	0.0011	0.0012	0.05	1.89	0.00023	3.99	<0.000020	3.96	0.145	<3.0	<0.000050	<0.0050	0.0079	0.00032
MC1	24/04/2012 15:00																										
MC1	26/04/2012 15:45																										
MC1	27/04/2012 14:35																										
MC1	28/04/2012 14:40																										
MC1	29/04/2012 13:38																										
MC1	30/04/2012	<0.05	0.000042	17.8	0.0026	0.00096	0.00758	2.43	0.00065	<0.0050	6.16	0.0855	<0.000010	0.0012	0.003	0.072	1.62	0.00027	5.74	<0.000020	4.43	0.146	3.2	<0.000050	<0.0050	0.0563	0.00049
MC1	01/05/2012 10:25																										
MC1	02/05/2012 14:00																										
MC1	03/05/2012 9:50																										
MC1	06/05/2012 8:00	<0.05	0.000043	24.3	0.0037	0.00135	0.0124	3.37	0.00084	<0.0050	8.71	0.144	<0.000010	0.0018	0.0042	0.099	1.76	0.0004	7.91	0.000024	6.38	0.211	4.8	<0.000050	<0.0050	0.0902	0.00077
MC1	10/05/2012 15:19																										
MC1	25/04/2013 11:25	<0.05	0.000021	50	<0.0010	<0.00050	0.00456	0.051	<0.00020	<0.0050	21.2	0.0171	<0.000010	0.0011	<0.0010	0.034	3.95	0.00039	8.33	<0.000020	15.2	0.45	1600	<0.000050	<0.0050	<0.0050	0.00078
MC1	05/05/2013 14:15	<0.05	0.000017	29.9	<0.0010	<0.00050	0.00709	0.175	<0.00020	<0.0050	11	0.0173	<0.000010	0.0016	<0.0010	0.052	2.89	0.00028	4.32	<0.000020	8.63	0.292	5.6	<0.000050	<0.0050	<0.0050	0.00051
MC1	07/05/2013 16:00	<0.05	0.00003	24.3	<0.0010	<0.00050	0.0081	0.24	<0.00020	<0.0050	8.35	0.0292	<0.000010	0.0012	<0.0010	0.069	2.26	0.00013	3.99	<0.000020	6.24	0.221	4	<0.000050	<0.0050	<0.0050	0.00037
MC1	19/05/2013 17:15	<0.05	0.000022	22.1	0.0027	0.0011	0.0159	2.41	0.00059	<0.0050	7.71	0.152	<0.000010	0.0012	0.0034	0.099	1.54	0.00027	6.21	<0.000020	5.47	0.198	3.3	<0.000050	<0.0050	0.0527	0.00059
MC1	08/04/2014 11:00	<0.05	0.00002	52.5	<0.0010	<0.00050	0.00642	0.085	<0.00020	<0.0050	21.6	0.0132	<0.000010	0.0019	0.001	0.042	3.95	0.00037	7.94	<0.000020	16.3	0.48	14.9	<0.000050	<0.0050	<0.0050	0.00112
MC1	17/04/2014 16:10	<0.05	0.000013	39.1	<0.0010	<0.00050	0.00544	0.128	<0.00020	<0.0050	15.2	0.0091	<0.000010	0.002	<0.0010	0.022	2.51	0.0008	4.99	<0.000020	11.3	0.417	8.9	<0.000050	<0.0050	<0.0050	0.00089
MC1	22/04/2014 16:00	<0.05	0.000026	17.7	<0.0010	<0.00050	0.0109	0.208	<0.00020	<0.0050	6.14	0.0308	<0.000010	<0.0010	0.0013	0.073	1.98	0.00021	3.58	<0.000020	4.42	0.163	<3.0	<0.000050	<0.0050	<0.0050	0.00025
MC1	01/05/2014 16:30	<0.05	0.000024	15.6	0.0017	0.00072	0.0122	1.42	0.00037	<0.0050	5.29	0.0933	<0.000010	0.0011	0.003	0.079	1.7	0.00031	4.5	<0.000020	4.14	0.142	<3.0	<0.000050	<0.0050	0.0312	0.00025
MC1	06/05/2014 12:25	<0.05	0.000037	24	0.0033	0.00151	0.0154	3.03	0.00086	<0.0050	8.59	0.182	<0.000050	0.0017	0.0048	0.146	1.86	0.00028	6.66	<0.000020	6.42	0.271	5.6	<0.000050	<0.0050	0.0765	0.00068
MC1	17/05/2014 18:00	<0.05	0.000187	41.5	0.0163	0.00739	0.0414	14.9	0.00456	0.0063	14.8	0.563	<0.000010	0.0024	0.0205	0.629	3.15	0.00056	20.5	0.000063	8.82	0.454	9.2	0.000075	<0.0050	0.348	0.00182
MC1	19/05/2014 16:40	<0.05	0.000153	41.4	0.0176	0.00777	0.0426	16.7	0.00479	0.0072	14.4	0.585	<0.000010	0.0025	0.0223	0.655	3.14	0.00069	21.8	0.00006	8.75	0.463	7.6	0.000075	<0.0050	0.385	0.00173
MC1	14/12/2014 11:45	<0.05	<0.000010	60.8	<0.0010	<0.00050	0.00485	0.069	<0.00020	<0.0050	19.8	0.0383	<0.000010	0.0074	<0.0010	0.025	5.49	0.00085	3.31	<0.000020	18.7	0.997	26.5	<0.000050	<0.0050	<0.0050	0.00174
MC1	10/04/2015 15:45	<0.05	0.000011	45.4	<0.0010	<0.00050	0.00782	0.238	<0.00020	<0.0050	16.7	0.127	<0.000010	0.005	0.0012	0.019	4.25	0.00053	3.68	<0.000020	16.1	0.706	19.2	<0.000050	<0.0050	0.0059	0.00148
MC1	17/04/2015 15:45	<0.05	0.000011	49.8	<0.0010	<0.00050	0.00919	0.289	<0.00020	<0.0050	17.8	0.128	<0.000010	0.0053	<0.0010	0.03	4.55	0.00075	4.14	<0.000020	17.2	0.792	22	<0.000050	<0.0050	0.0061	0.00172
MC1	23/04/2015 14:50	<0.05	<0.000010	34.1	<0.0010	<0.00050	0.00788	0.385	<0.00020	<0.0050	11.3	0.0715	<0.000010	0.0039	<0.0010	0.027	3.54	0.00047	4.3	<0.000020	13.9	0.514	7.1	<0.000050	<0.0050	<0.0050	0.00091
MC1	01/05/2015 15:15	<0.05	0.000041	21.8	0.004	0.00146	0.019	3.24	0.00094	<0.0050	7.38	0.194	<0.000010	0.0014	0.0048	0.136	2.01	0.00027	7.13	<0.000020	6.06	0.271	4.3	<0.000050	<0.0050	0.0865	0.00057
MC1	09/05/2015 16:10	<0.05	0.000138	32.2	0.0117	0.00511	0.0326	11.1	0.00356	<0.0050	11.5	0.796	<0.000010	0.0015	0.0135	0.521	2.2	0.00053	14.5	0.000021	6.65	0.359	4.7	<0.000050	<0.0050	0.22	0.00119
MC1	14/05/2015 16:00	<0.05	0.000137	33.9	0.0141	0.00637	0.0363	11.7	0.00375	0.0054	12.4	0.612	<0.000010	0.0022	0.0187	0.672	2.68	0.0005	15.7	0.000027	9.58	0.428	10.5	0.000056	<0.0050	0.31	0.0014
MC1	21/05/2015 11:30	<0.05	0.000064	37.3	0.0051	0.00192	0.0182	4.09	0.00125	<0.0050	13.3	0.18	<0.000010	0.0029	0.006	0.181	2.87	0.00045	8.09	<0.000020	12.5	0.503	12.4	<0.000050	<0.0050	0.112	0.00127
MC1	28/05/2015 16:20	<0.05	0.000016	43.3	0.001	<0.00050	0.00499	0.934	0.0003	<0.0050	14.4	0.057	<0.000010	0.0027	0.002	0.051	2.41	0.00033	5.91	<0.000020	11.5	0.55	11.9	<0.000050	<0.0050	0.0189	0.00159
MC1	10/04/2016 11:10	<0.010	0.0000119	23.4	0.00038	<0.00010	0.00854	0.147	<0.000050	<0.0010	8.04	0.00836	0.0000135	0.000702	0.00139	<0.050	1.84	0.000146	5.05	<0.000010	5.40	0.197	3.09	<0.000010	<0.00010	0.00097	0.000329
MC1	16/04/2016 15:00	<0.010	0.0000124	20.8	0.00058	0.00015	0.00907	0.269	<0.000050	<0.0010	6.82	0.0150	0.0000085	0.000816	0.00169	<0.050	1.33	0.000118	4.30	<0.000010	4.37	0.168	3.32	<0.000010	<0.00010	0.00428	0.000327
MC1	21/04/2016 11:15	<0.010	0.0000078	25.7	0.00042	0.00011	0.00653	0.163	<0.000050	<0.0010	8.82	0.0120	0.0000138	0.000947	0.00152	<0.050	1.35	0.000134	4.52	<0.000010	6.08	0.227	4.79	<0.000010	<0.00010	0.00099	0.000535
MC1	28/04/2016 10:35	<0.010	0.0000083	34.0	0.00035	0.00019	0.00436	0.323	<0.000050	<0.0010	11.4	0.0505	0.0000094	0.00144	0.00131	<0.050	1.63	0.000177	4.94	<0.000010	8.12	0.304	6.63	<0.000010	<0.00010	0.00201	0.000898
MC1	17/05/2016 11:00	<0.010	0.0000098	31.7	0.00114	0.00044	0.00429	1.12	0.000255	<0.0010	10.2	0.0935	0.0000123	0.00136	0.00222	<0.050	1.17	0.000158	5.94	<0.000010	7.04	0.272	5.18	<0.000010	<0.00010	0.0185	0.000875
MC1	19/05/2016 10:25	<0.010	0.0000430	29.6	0.00444	0.00182	0.00954	4.10	0.00111	0.0024	9.71	0.229	0.0000145	0.00121	0.00620	0.210	1.18	0.000188	9.43	0.000019	6.42	0.248	3.92	0.000019	<0.00010	0.0855	0.000811
MC1	24/05/2016 10:55	<0.010	0.0000134	35.3	0.00200	0.00062	0.00495	1.45	0.000336	0.0016	11.9	0.145	<0.0000050	0.00172	0.00260	0.068	1.30	0.000251	6.41	<0.000010	8.38	0.325	6.55	<0.000010	<0.00010	0.0294	0.00119
MC1	03/06/2016 10:30	<0.010	0.0000078	38.8	0.00116	0.00044	0.00391	0.980	0.000289	0.0016	13.1	0.0888	<0.0000050	0.00200	0.00210	<0.050	1.67	0.000195	6.09	0.000011	9.23	0.362	6.76	<0.000010	<0.00010	0.0202	0.00142
MC1	07/06/2016 10:50	<0.010	0.0000173	39.5	0.00177	0.00064	0.00474	1.51	0.000409	0.0015	13.0	0.0947	<0.0000050	0.00188	0.00267	0.062	1.60	0.000213	7.03	<0.000010	8.81	0.358	6.41	<0.000010	<0.00010	0.0333	0.00140
MC1	16/06/2016 10:55	0.010	0.0000062	41.8	0.00121	0.00040	0.00407	0.926	0.000242	0.0016	14.0	0.0626	<0.0000050	0.00197	0.00205	0.050	1.65	0.000186	6.44	<0.000010	9.56	0.383	7.33	<0.000010	<0.00010	0.0216	0.00142
MC1	22/06/2016 11:15	<0.010	<0.0000050	43.9	0.00053	0.00017	0.00257	0.364	0.000082	0.0015	14.6	0.0233	<0.0000050	0.00187	0.00132	<0.050	1.63	0.000143	6.06	<0.000010	9.88	0.414	6.95	<0.000010	<0.00010	0.00893	0.00148
MC1	07/07/2016 13:35	<0.010	<0.0000050	44.7	0.00024	<0.00010	0.00187	0.104	0.000050	0.0020	14.8	0.00849	<0.0000050	0.00175	0.00109	<0.050	1.36	0.000172	5.99	<0.000010	10.1	0.433	6.28	<0.000010	<0.00010	0.00093	0.00155
MC1	17/07/2016 11:15	<0.010	0.0000104	46.2	0.00089	0.00028	0.00294	0.701	0.000197	0.0013	15.9	0.0248	<0.0000050	0.00191	0.00175	<0.050	1.52	0.000146	6.94	<0.000010	9.54	0.443	7.05	<0.000010	<0.00010	0.0197	0.00151
MC1	20/07/2016 10:30	<0.010	0.0000064	47.6	0.00065	0.00021	0.00265	0.417	0.000118	0.0016	16.1	0.0198	<0.0000050	0.00213	0.00154	<0.050	1.50	0.000173	6.67	<0.000010	11.4	0.487	7.54	<0.000010	<0.00010	0.0122	0.00168
MC1	25/07/2016 11:05	<0.010	0.0000978	43.0	0.0140	0.00507	0.0234	11.9	0.00298	0.0053	15.7	0.682	<0.000050	0.00161	0.0143	0.383	2.05	0.000395	19.8	0.000051	9.60	0.418	5.35	0.000060	0.00014	0.257	0.00149
MC1	02/08/2016 11:40	0.011	<0.0000050	45.1	0.00034	<0.00010	0.00249	0.204	0.000085	0.0017	14.5	0.0180	<0.0000050	0.00206	0.00122	<0.050	1.26	0.000180	6.04	<0.000010	10.3	0.455	6.67	<0.000010	<0.00010	0.00240	0.00135
MC1	11/08/2016 11:10	0.010	0.0000184	47.4	0.00161	0.00065	0.00553	1.45	0.000336	0.0017	14.7	0.103	<0.0000050	0.00170	0.00260	0.069	1.41	0.000265	7.42	<0.000010	9.64	0.405	7.83	<0.000010	<0.00010	0.0314	0.00109
MC1	16/08/2016 11:00	0.010	0.0000082	51.1	0.00052	0.00017	0.00270	0.393	0.000075	0.0015	16.6	0.0306	<0.0000050	0.00194	0.00185	<0.050	1.53	0.000196	6.94	<0.000010	10.3	0.455	7.62	<0.000010	<0.00010	0.00717	0.00135

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MC1	02/08/2010	<0.005	<0.01	<0.002	0.025	<0.0005	0.0005	0.089	<0.0002	<0.001	<0.1	High DL removed	47	High DL removed	<0.0005	0.002	0.056	<0.0002	<0.01	15	0.005	<0.0002	0.007	0.001		3
MC1	08/08/2010	<0.005	<0.01	<0.002	0.017	<0.0005	0.0005	0.084	<0.0002	<0.001	<0.1	High DL removed	45	High DL removed	<0.0005	0.002	0.066	<0.0002	<0.01	15	0.009	<0.0002	0.007	0.001		3
MC1	15/08/2010	<0.005	<0.01	<0.002	0.026	<0.0005	0.0005	0.091	<0.0002	<0.001	<0.1	0.0002	50	High DL removed	<0.0005	0.003	0.089	<0.0002	<0.01	15	0.009	<0.0002	0.008	0.001		3
MC1	22/08/2010	<0.005	<0.01	<0.002	0.025	<0.0005	0.0005	0.085	<0.0002	<0.001	<0.1	High DL removed	40	High DL removed	<0.0005	0.002	0.142	<0.0002	<0.01	13	0.01	<0.0002	0.007	0.001		2
MC1	04/09/2010	<0.005	<0.01	<0.002	0.022	0.0008	0.0005	0.081	<0.0002	<0.001	<0.1	High DL removed	47	High DL removed	<0.0005	0.002	0.124	<0.0002	<0.01	14	0.014	<0.0002	0.008	0.001		3
MC1	10/09/2010	<0.005	<0.01	<0.002	0.025	<0.0005	0.0007	0.081	<0.0002	<0.001	<0.1	High DL removed	43	High DL removed	<0.0005	0.002	0.142	<0.0002	<0.01	13	0.014	<0.0002	0.008	0.001		3
MC1	17/09/2010	<0.005	<0.01	<0.002	0.025	<0.0005	0.0005	0.084	<0.0002	<0.001	<0.1	High DL removed	50	High DL removed	<0.0005	0.002	0.123	<0.0002	<0.01	15	0.018	<0.0002	0.008	0.001		3
MC1	08/10/2010	<0.005	<0.005	<0.0005	0.021	<0.0005	0.0004	0.08	<0.0001	<0.001	<0.05	0.00001	51.5	High DL removed	<0.0005	0.0019	0.08	<0.0002	<0.005	14.5	0.024	<0.00002	0.008	<0.001		3.27
MC1	16/04/2012 14:46	<0.0050	<0.0050	<0.00050	0.0141	<0.00050	0.0004	0.0454	<0.00010	<0.0010	<0.05	0.000023	28.7	High DL removed	<0.00050	0.00416	0.0892	<0.00020	<0.0050	10.6	0.0265	<0.000010	<0.0010	<0.0010	0.053	2.42
MC1	17/04/2012 17:20																									
MC1	18/04/2012 17:45																									
MC1	19/04/2012 9:00																									
MC1	20/04/2012 7:44																									
MC1	21/04/2012 9:30																									
MC1	22/04/2012 9:41																									
MC1	23/04/2012 13:52	<0.0050	<0.0050	<0.00050	0.0393	<0.00050	0.00042	0.035	<0.00010	<0.0010	<0.05	0.000017	18.2	High DL removed	<0.00050	0.00654	0.242	<0.00020	<0.0050	5.63	0.0203	<0.000010	<0.0010	0.0011	0.03	1.78
MC1	24/04/2012 15:00																									
MC1	26/04/2012 15:45																									
MC1	27/04/2012 14:35																									
MC1	28/04/2012 14:40																									
MC1	29/04/2012 13:38																									
MC1	30/04/2012	0.0051	<0.0050	0.0006	0.0337	<0.00050	0.00056	0.0471	<0.00010	<0.0010	<0.05	0.000021	18.9	High DL removed	<0.00050	0.00525	0.369	<0.00020	<0.0050	5.94	0.0587	<0.000010	0.0011	0.0013	0.024	1.58
MC1	01/05/2012 10:25																									
MC1	02/05/2012 14:00																									
MC1	03/05/2012 9:50																									
MC1	06/05/2012 8:00	0.0074	0.0088	0.00112	0.0296	<0.00050	0.0006	0.0615	<0.00010	<0.0010	<0.05	0.00002	26	High DL removed	<0.00050	0.00687	0.389	<0.00020	<0.0050	8.22	0.0898	<0.000010	0.0017	0.0014	0.029	1.64
MC1	10/05/2012 15:19																									
MC1	25/04/2013 11:25	<0.0050	<0.0050	<0.00050	0.004	<0.00050	0.00042	0.0725	<0.00010	<0.0010	<0.05	0.000015	46.3	High DL removed	<0.00050	0.00371	0.0366	<0.00020	<0.0050	21.1	0.0149	<0.000010	0.001	<0.0010	0.025	3.99
MC1	05/05/2013 14:15	<0.0050	<0.0050	<0.00050	0.021	<0.00050	0.00034	0.0408	<0.00010	<0.0010	<0.05	0.000023	26.5	High DL removed	<0.00050	0.00609	0.0856	<0.00020	<0.0050	9.34	0.0156	<0.000010	0.0013	<0.0010	0.065	2.39
MC1	07/05/2013 16:00	<0.0050	<0.0050	<0.00050	0.0132	<0.00050	0.00037	0.0385	<0.00010	<0.0010	<0.05	0.00002	23.6	High DL removed	<0.00050	0.00612	0.0946	<0.00020	<0.0050	8.03	0.0219	<0.000010	0.0012	<0.0010	0.036	2.22
MC1	19/05/2013 17:15	<0.0050	0.0058	0.00053	0.0322	<0.00050	0.00055	0.049	<0.00010	<0.0010	<0.05	<0.000010	22.5	High DL removed	<0.00050	0.00794	0.362	<0.00020	<0.0050	7.05	0.102	<0.000010	0.0012	0.0014	0.02	1.49
MC1	08/04/2014 11:00	<0.0050	<0.0050	<0.00050	0.0051	<0.00050	0.00046	0.0757	<0.00010	<0.0010	<0.05	0.000018	53	High DL removed	<0.00050	0.00519	0.0275	<0.00020	<0.0050	20.1	0.0106	<0.000010	0.0017	<0.0010	0.027	4.22
MC1	17/04/2014 16:10	<0.0050	<0.0050	<0.00050	0.0034	<0.00050	0.00034	0.0612	<0.00010	<0.0010	<0.05	0.000012	41.8	High DL removed	<0.00050	0.00498	0.0324	<0.00020	<0.0050	15.3	0.0085	<0.000010	0.0021	<0.0010	0.012	2.68
MC1	22/04/2014 16:00	<0.0050	0.0058	<0.00050	0.025	<0.00050	0.00036	0.0327	<0.00010	<0.0010	<0.05	0.00002	17.8	High DL removed	<0.00050	0.00771	0.0855	<0.00020	<0.0050	5.95	0.0265	<0.000010	<0.0010	<0.0010	0.038	1.95
MC1	01/05/2014 16:30	<0.0050	0.0078	<0.00050	0.0453	<0.00050	0.00046	0.0308	<0.00010	<0.0010	<0.05	0.000013	14	High DL removed	<0.00050	0.00793	0.223	<0.00020	<0.0050	4.48	0.053	<0.000010	<0.0010	0.0015	0.027	1.59
MC1	06/05/2014 12:25	0.006	0.0105	0.0006	0.0316	<0.00050	0.00055	0.0486	<0.00010	<0.0010	<0.05	<0.000010	23.1	High DL removed	<0.00050	0.00764	0.3	<0.00020	<0.0050	7.65	0.102	<0.000050	0.0019	0.0016	0.024	1.65
MC1	17/05/2014 18:00	0.0299	0.0397	0.00148	0.0168	<0.00050	0.00077	0.0655	<0.00010	<0.0010	<0.05	0.000029	31.2	High DL removed	<0.00050	0.00812	0.358	<0.00020	<0.0050	10	0.0887	<0.000010	0.0025	0.0013	0.028	2.06
MC1	19/05/2014 16:40	0.0325	0.0407	0.00172	0.026	<0.00050	0.00064	0.0626	<0.00010	<0.0010	<0.05	<0.000010	30.9	High DL removed	<0.00050	0.00765	0.403	<0.00020	<0.0050	9.9	0.0577	<0.000010	0.0024	0.0012	0.021	1.88
MC1	14/12/2014 11:45	<0.0050	<0.0050	<0.00050	0.0033	<0.00050	0.00039	0.0925	<0.00010	<0.0010	<0.05	<0.000010	58.2	High DL removed	<0.00050	0.0041	0.0481	<0.00020	<0.0050	19.3	0.0342	<0.000010	0.0067	<0.0010	0.014	5.33
MC1	10/04/2015 15:45	<0.0050	0.0062	<0.00050	0.0058	<0.00050	0.00042	0.0755	<0.00010	<0.0010	<0.05	<0.000010	46.5	High DL removed	<0.00050	0.00414	0.0695	<0.00020	<0.0050	15.2	0.117	<0.000010	0.005	<0.0010	0.012	4.23
MC1	17/04/2015 15:45	<0.0050	<0.0050	<0.00050	0.0072	<0.00050	0.00042	0.0888	<0.00010	<0.0010	<0.05	<0.000010	50.3	High DL removed	<0.00050	0.00433	0.0629	<0.00020	<0.0050	16.6	0.106	<0.000010	0.0052	<0.0010	0.012	4.66
MC1	23/04/2015 14:50	<0.0050	<0.0050	<0.00050	0.0153	<0.00050	0.0005	0.0651	<0.00010	<0.0010	<0.05	<0.000010	33.3	High DL removed	<0.00050	0.00649	0.182	<0.00020	<0.0050	10.6	0.0675	<0.000010	0.0041	<0.0010	0.025	3.45
MC1	01/05/2015 15:15	0.0073	0.0095	0.00091	0.0445	<0.00050	0.00052	0.0428	<0.00010	<0.0010	<0.05	<0.000010	20.4	High DL removed	<0.00050	0.00756	0.236	<0.00020	<0.0050	6.24	0.0715	<0.000010	0.0014	0.0012	0.027	1.77
MC1	09/05/2015 16:10	0.0211	0.0271	0.00206	0.0262	<0.00050	0.00056	0.0451	<0.00010	<0.0010	<0.05	<0.000010	23.5	High DL removed	<0.00050	0.00414	0.217	<0.00020	<0.0050	7.98	0.0945	<0.000010	0.0013	0.0012	0.025	1.64
MC1	14/05/2015 16:00	0.026	0.032	0.00146	0.0133	<0.00050	0.00056	0.0532	<0.00010	<0.0010	<0.05	<0.000010	26.7	High DL removed	<0.00050	0.00628	0.173	<0.00020	<0.0050	9.14	0.017	<0.000010	0.0022	<0.0010	0.016	2.12
MC1	21/05/2015 11:30	0.0096	0.0108	0.00087	0.0105	<0.00050	0.00054	0.0634	<0.00010	<0.0010	<0.05	<0.000010	37.8	High DL removed	<0.00050	0.00554	0.172	<0.00020	<0.0050	12.5	0.0088	<0.000010	0.0029	<0.0010	0.013	2.65
MC1	28/05/2015 16:20	<0.0050	<0.0050	<0.00050	0.0196	<0.00050	0.00043	0.0671	<0.00010	<0.0010	<0.05	<0.000010	39.3	High DL removed	<0.00050	0.00262	0.0854	<0.00020	<0.0050	13.1	0.0093	<0.000010	0.0026	<0.0010	0.011	2.13
MC1	10/04/2016 11:10	0.00069	<0.0030	<0.00030	0.0383	<0.00010	0.00043	0.0381	<0.000020	<0.000050	<0.010	0.0000113	23.4	0.00035	<0.00010	0.00840	0.131	<0.000050	<0.0010	7.96	0.00712	0.0000114	0.000654	0.00127	<0.050	1.79
MC1	16/04/2016 15:00	0.00077	<0.0030	0.00032	0.0523	<0.00010	0.00045	0.0387	<0.000020	<0.000050	<0.010	<0.0000050	21.2	0.00035	<0.00010	0.00838	0.158	<0.000050	<0.0010	6.93	0.0115	0.0000083	0.000730	0.00144	<0.050	1.35
MC1	21/04/2016 11:15	0.00075	<0.0030	<0.00030	0.0253	<0.00010	0.00044	0.0441	<0.000020	<0.000050	<0.010	0.0000060	26.4	0.00031	<0.00010	0.00593	0.143	<0.000050	<0.0010	9.04	0.0104	0.0000108	0.000924	0.00138	<0.050	1.37
MC1	28/04/2016 10:35	0.00101	<0.0030	<0.00030	0.0134	<0.00010	0.00058	0.0547	<0.000020	<0.000050	<0.010	<0.0000050	33.5	0.00027	0.00016	0.00403	0.212	<0.000050	<0.0010	11.9	0.0464	0.0000062	0.00127	0.00121	<0.050	1.72
MC1	17/05/2016 11:00	0.00270	0.0039	0.00035	0.0161	<0.00010	0.00065	0.0505	<0.000020	<0.000050	<0.010	0.0000052	32.5	0.00030	0.00015	0.00302	0.270	<0.000050	<0.0010	10.4	0.0538	<0.0000050	0.00129	0.00146	<0.050	1.10
MC1	19/05/2016 10:25	0.00854	0.0116	0.00063	0.0170	<0.00010	0.00067	0.0444	<0.000020	<0.000050	<0.010	0.0000058	26.9	0.00034	0.00016	0.00288	0.343	<0.000050	<0.0010	8.85	0.0481	<0.0000050	0.00100	0.00159	<0.050	0.92
MC1	24/05/2016 10:55	0.00322	0.0032	0.00031	0.0110	<0.00010	0.00057	0.0560	<0.000020	<0.000050	<0.010	<0.0000050	36.9	0.00022	0.00013	0.00272	0.189	<0.000050	0.0011	12.4	0.0854	<0.0000050	0.00169	0.00130	<0.050	1.26
MC1	03/06/2016 10:30	0.00262	<0.0030	<0.00030	0.0075	0.00010	0.00056	0.0645	<0.000020	<0.000050	<0.010	<0.0000050	41.2	0.00020	<0.00010	0.00223	0.099	<0.000050	0.0012	13.5	0.0453	<0.0000050	0.00192	0.00105	<0.050	1.57
MC1	07/06/2016 10:50	0.00350	0.0039	0.00030	0.0105	<0.00010	0.00057	0.0596	<0.000020	<0.000050	<0.010	<0.0000050	40.4	0.00021	<0.00010	0.00232	0.113	<0.000050	<0.0010	12.7	0.0275	<0.0000050	0.00172	0.00120	<0.050	1.38
MC1	16/06/2016 10:55	0.00245	<0.0030	<0.00030	0.0110	0.00010	0.00056	0.0635	<0.000020	<0.000050	<0.010	<0.0000050	42.7	0.00021	<0.00010	0.00285	0.101	0.000070	0.0013	14.3	0.0112	<0.0000050	0.00193	0.00100	<0.050	1.53
MC1	22/06/2016 11:15	0.00148	<0.0030	<0.00030	0.0066	<0.00010	0.00054	0.0648	<0.000020	<0.000050	<0.010	<0.0000050	45.5	0.00016	<0.00010	0.00188	0.075	<0.000050	0.0014	15.1	0.00634	<0.0000050	0.00182	0.00094	<0.050	1.60
MC1	07/07/2016 13:35	0.00102	<0.0030	<0.00030	0.0093	<0.00010	0.00053	0.0671	<0.000020	<0.000050	<0.010	<0.0000050	45.9	0.00023	<0.00010	0.00238	0.065	0.000063	0.0017	15.1	0.00553	<0.0000050	0.00171	0.00097	<0.050	1.36
MC1	17/07/2016 11:15	0.00209	<0.0030	<0.00030	0.0074	<0.00010	0.00055	0.0720	<0.000020	<0.000050	0.010	<0.0000050	49.7	0.00015	<0.00010	0.00203	0.067	<0.000050	0.0013	16.6	0.00598	<0.0000050	0.00190	0.00101	<0.050	1.47
MC1	20/07/2016 10:30	0.00167	<0.0030	<0.00030	0.0073	<0.00010	0.00061	0.0711	<0.000020	<0.000050	<0.010	<0.0000050	48.2	0.00018	<0.00010	0.00194	0.067	<0.000050	0.0015	16.2	0.00558	<0.0000050	0.00192	0.00091	<0.050	1.44
MC1	25/07/2016 11:05	0.0237	0.0268	0.00096	0.0185	<0.00010	0.00066	0.0647	<0.000020	<0.000050	<0.010	<0.0000050	40.6	0.00034	0.00014	0.00282	0.198	<0.000050	0.0012	13.2	0.0637	<0.0000050	0.00146	0.00148	<0.050	1.16
MC1	02/08/2016 11:40	0.00113	<0.0030	<0.00030	0.0080	<0.00010	0.00057	0.0683	<0.000020	<0.000050	<0.010	<0.0000050	49.6	0.00021	<0.00010	0.00214	0.092	<0.000050	0.0016	16.1	0.00778	<0.0000050	0.00178	0.00108	<0.050	1.43
MC1	11/08/2016 11:10	0.00334	0.0037	<0.00030	0.0092	<0.00010	0.00058	0.0694	<0.000020	<0.000050	<0.010	<0.0000050	49.2	0.00024	<0.00010	0.00281	0.142	<0.000050	0.0014	15.0	0.0103	<0.0000050	0.00167	0.00126	<0.050	1.39
MC1	16/08/2016 11:00	0.00129	<0.0030	<0.00030	0.0072	<0.00010	0.00060	0.0665	<0.000020	<0.000050	<0.010	<0.0000050	50.8	0.00022	<0.00010	0.00215	0.128	<0.000050	0.0014	16.5	0.0107	<0.0000050	0.00170	0.00111	<0.050	1.47

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	Br	Cation	CN-T	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-TKN	P-PO4T	P-TDP	P-TRP
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L
MC1	02/08/2010	0.0014	6.05	High DL removed	18	0.579	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	<0.01	<0.002	170	<0.5	<0.5	<0.5		3.9												<0.005
MC1	08/08/2010	0.0016	5.43	High DL removed	17	0.597	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	<0.01	<0.002	160	<0.5	<0.5	<0.5		3.5												<0.005
MC1	15/08/2010	0.0021	5.52	High DL removed	17	0.672	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	<0.01	<0.002	160	<0.5	<0.5	<0.5		3.6												<0.005
MC1	22/08/2010	0.0015	5.52	High DL removed	13	0.599	<60	<0.00005	<0.005	<0.01	0.0007	<0.005	<0.01	<0.002	150	<0.5	<0.5	<0.5		2.3												0.008
MC1	04/09/2010	0.0021	5.56	High DL removed	16	0.7	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	<0.01	<0.002	170	<0.5	<0.5	<0.5		2.2												<0.005
MC1	10/09/2010	0.0022	5.27	High DL removed	16	0.668	<60	<0.00005	<0.005	<0.01	0.0007	<0.005	<0.01	<0.002	150	<0.5	<0.5	<0.5		2.1												<0.005
MC1	17/09/2010	0.0022	5.73	High DL removed	16	0.736	<60	<0.00005	<0.005	<0.01	0.001	<0.005	<0.01	<0.002	160	<0.5	<0.5	<0.5		2.4												<0.005
MC1	08/10/2010	0.002	5.61	<0.00002	15.3	0.726	19	<0.00005	<0.005	<0.005	0.0011	<0.005	<0.005	<0.0005	170	<0.5	<0.5	<0.5		3.1												<0.005
MC1	16/04/2012 14:46	0.00017	5.3	<0.000020	6.77	0.259	5.1	<0.000050	<0.0050	<0.0050	0.00049	<0.0050	<0.0050	<0.00050	133	<0.50	<0.50	<0.50												0.0497		
MC1	17/04/2012 17:20																															
MC1	18/04/2012 17:45																															
MC1	19/04/2012 9:00																															
MC1	20/04/2012 7:44																															
MC1	21/04/2012 9:30																															
MC1	22/04/2012 9:41																															
MC1	23/04/2012 13:52	0.00026	3.44	<0.000020	3.97	0.148	3.3	<0.000050	<0.0050	<0.0050	0.00031	<0.0050	<0.0050	<0.00050	74.7	<0.50	<0.50	<0.50												0.0593		
MC1	24/04/2012 15:00																															
MC1	26/04/2012 15:45																															
MC1	27/04/2012 14:35																															
MC1	28/04/2012 14:40																															
MC1	29/04/2012 13:38																															
MC1	30/04/2012	0.00028	3.61	<0.000020	4.53	0.144	3.7	<0.000050	<0.0050	<0.0050	0.00039	<0.0050	<0.0050	<0.00050	72.9	<0.50	<0.50	<0.50												0.093		
MC1	01/05/2012 10:25																															
MC1	02/05/2012 14:00																															
MC1	03/05/2012 9:50																															
MC1	06/05/2012 8:00	0.0004	4.36	<0.000020	6.3	0.211	6.1	<0.000050	<0.0050	<0.0050	0.00066	<0.0050	<0.0050	<0.00050	104	<0.50	<0.50	<0.50												0.099		
MC1	10/05/2012 15:19																															
MC1	25/04/2013 11:25	0.00038	7.89	<0.000020	15.2	0.434	15	<0.000050	<0.0050	<0.0050	0.00068	<0.0050	<0.0050	<0.00050	231	1.84	<0.50	1.53														
MC1	05/05/2013 14:15	0.0002	3.97	<0.000020	7.45	0.254	7	<0.000050	<0.0050	<0.0050	0.00042	<0.0050	<0.0050	<0.00050	120	<0.50	<0.50	<0.50														
MC1	07/05/2013 16:00	0.00017	3.65	<0.000020	6.02	0.212	4.8	<0.000050	<0.0050	<0.0050	0.00035	<0.0050	<0.0050	<0.00050	99.7	<0.50	<0.50	<0.50														
MC1	19/05/2013 17:15	0.00015	3.61	<0.000020	5.35	0.199	4.2	<0.000050	<0.0050	<0.0050	0.00052	<0.0050	<0.0050	<0.00050	89.9	<0.50	<0.50	<0.50														
MC1	08/04/2014 11:00	0.00035	7.69	<0.000020	15.5	0.435	14.9	<0.000050	<0.0050	<0.0050	0.0011	<0.0050	<0.0050	<0.00050	236	2.42	<0.50	2.02														
MC1	17/04/2014 16:10	0.00031	5.25	<0.000020	11.4	0.42	9.2	<0.000050	<0.0050	<0.0050	0.00092	<0.0050	<0.0050	<0.00050	189	<0.50	<0.50	<0.50														
MC1	22/04/2014 16:00	0.00013	3.34	<0.000020	4.13	0.157	3.2	<0.000050	<0.0050	<0.0050	0.0002	<0.0050	<0.0050	<0.00050	75.2	<0.50	<0.50	<0.50														
MC1	01/05/2014 16:30	0.00013	2.81	<0.000020	3.79	0.131	<3.0	<0.000050	<0.0050	<0.0050	0.00019	<0.0050	<0.0050	<0.00050	58.6	<0.50	<0.50	<0.50														
MC1	06/05/2014 12:25	0.00031	3.74	<0.000020	6.5	0.251	4.5	<0.000050	<0.0050	<0.0050	0.00055	<0.0050	<0.0050	<0.00050	93.1	<0.50	<0.50	<0.50														
MC1	17/05/2014 18:00	0.00042	4.17	<0.000020	8.1	0.376	7.3	<0.000050	<0.0050	<0.0050	0.00094	<0.0050	<0.0050	<0.00050	131	<0.50	<0.50	<0.50														
MC1	19/05/2014 16:40	0.0004	4.29	<0.000020	7.71	0.362	7.3	<0.000050	<0.0050	<0.0050	0.00086	<0.0050	<0.0050	<0.00050	128	<0.50	<0.50	<0.50														
MC1	14/12/2014 11:45	0.00071	3.24	<0.000020	18.1	0.911	29	<0.000050	<0.0050	<0.0050	0.00158	<0.0050	<0.0050	<0.00050	186	<0.50	<0.50	<0.50														
MC1	10/04/2015 15:45	0.00047	3.93	<0.000020	14.2	0.649	21.8	<0.000050	<0.0050	<0.0050	0.00143	<0.0050	<0.0050	<0.00050	166	<0.50	<0.50	<0.50														
MC1	17/04/2015 15:45	0.00067	4.3	<0.000020	16.7	0.778	21.2	<0.000050	<0.0050	<0.0050	0.00164	<0.0050	<0.0050	<0.00050	181	<0.50	<0.50	<0.50														
MC1	23/04/2015 14:50	0.00048	3.77	<0.000020	13.6	0.521	15	<0.000050	<0.0050	<0.0050	0.00094	<0.0050	<0.0050	<0.00050	118	<0.50	<0.50	<0.50														
MC1	01/05/2015 15:15	0.00021	4.04	<0.000020	5.6	0.237	5.2	<0.000050	<0.0050	<0.0050	0.00039	<0.0050	<0.0050	<0.00050	76.9	<0.50	<0.50	<0.50														
MC1	09/05/2015 16:10	0.00024	4.26	<0.000020	6.34	0.246	5.4	<0.000050	<0.0050	<0.0050	0.00055	<0.0050	<0.0050	<0.00050	98.4	<0.50	<0.50	<0.50														
MC1	14/05/2015 16:00	0.00028	3.66	<0.000020	9.36	0.343	7	<0.000050	<0.0050	<0.0050	0.00073	<0.0050	<0.0050	<0.00050	114	<0.50	<0.50	<0.50														
MC1	21/05/2015 11:30	0.00034	3.71	<0.000020	12.3	0.445	11.8	<0.000050	<0.0050	<0.0050	0.00091	<0.0050	<0.0050	<0.00050	147	<0.50	<0.50	<0.50														
MC1	28/05/2015 16:20	0.00037	4.03	<0.000020	10.9	0.513	11.4	<0.000050	<0.0050	<0.0050	0.00139	<0.0050	<0.0050	<0.00050	177	<0.50	<0.50	<0.50														
MC1	10/04/2016 11:10	0.000123	5.01	<0.000010	5.35	0.194	3.06	<0.000010	<0.00010	0.00072	0.000305	0.00051	0.0023	0.00033	80.3	<1.0	<1.0	<2.0	1.82		2.12							7.6				
MC1	16/04/2016 15:00	0.000133	4.22	<0.000010	4.35	0.168	3.37	<0.000010	<0.00010	0.00082	0.000303	0.00057	0.0026	0.00039	69.3	<1.0	<1.0		1.62		1.87							7.0				
MC1	21/04/2016 11:15	0.000150	4.54	<0.000010	5.87	0.225	4.80	<0.000010	<0.00010	0.00060	0.000515	0.00064	0.0011	0.00033	90.6	<1.0	<1.0		2.13		2.37							5.2				
MC1	28/04/2016 10:35	0.000181	5.01	<0.000010	8.19	0.297	3.65	<0.000010	<0.00010	0.00057	0.000821	0.00083	0.0010	<0.00030	115	<1.0	<1.0		2.79		3.07							4.8				
MC1	17/05/2016 11:00	0.000162	5.12	<0.000010	7.04	0.271	5.27	<0.000010	<0.00010	0.00084	0.000821	0.00100	0.0044	<0.00030	107	<1.0	<1.0		2.51		2.83							6.0				
MC1	19/05/2016 10:25	0.000140	5.15	<0.000010	6.35	0.225	3.87	<0.000010	<0.00010	0.00089	0.000590	0.00107	0.0052	0.00034	96.9	<1.0	<1.0		2.21		2.40							4.1				
MC1	24/05/2016 10:55	0.000217	5.10	<0.000010	8.73	0.330	6.52	<0.000010	<0.00010	0.00050	0.00110	0.00086	<0.0010	<0.00030	128	<1.0	<1.0		2.98		3.29							4.9				
MC1	03/06/2016 10:30	0.000206	5.35	<0.000010	10.2	0.365	7.01	<0.000010	<0.00010	0.00038	0.00140	0.00095	0.0014	<0.00030	146	<1.0	<1.0		3.45		3.65							2.9				
MC1	07/06/2016 10:50	0.000156	5.40	<0.000010	9.01	0.352	6.61	<0.000010	<0.00010	0.00049	0.00127	0.00089	<0.0010	<0.00030	135	<1.0	<1.0		3.17		3.50							4.9				
MC1	16/06/2016 10:55	0.000198	5.62	<0.000010	10.0	0.391	7.56	<0.000010	<0.00010	0.00062	0.00138	0.00082	<0.0010	<0.00030	147	<1.0	<1.0		3.44		3.80							4.9				
MC1	22/06/2016 11:15	0.000152	5.94	<0.000010	9.91	0.418	7.16	<0.000010	<0.00010	0.00036	0.00147	0.00078	0.0012	<0.00030	159	<1.0	<1.0		3.66		3.99							4.3				
MC1	07/07/2016 13:35	0.000139	6.10	<0.000010	9.97	0.437	6.35	<0.000010	<0.00010	0.00040	0.00157	0.00076	0.0021	<0.00030	167	5.0	<1.0		3.87		4.01							1.8				
MC1	17/07/2016 11:15	0.000106	6.42	<0.000010	10.4	0.476	7.17	<0.000010	<0.00010	<0.00030	0.00151	0.00079	<0.0010	<0.00030	165	3.6	<1.0		3.88		4.34							5.6				
MC1	20/07/2016 10:30	0.000144	6.27	<0.000010	11.3	0.482	7.32	<0.000010	<0.00010	<0.00030	0.00162	0.00082	<0.0010	<0.00030	177	<1.0	<1.0		4.04		4.27							2.7				
MC1	25/07/2016 11:05	0.000149	6.18	<0.000010	9.12	0.378	5.34	<0.000010	<0.00010	0.00099	0.00105	0.00121	0.0024	<0.00030	146	<1.0	<1.0		3.28		3.56							4.1				
MC1	02/08/2016 11:40	0.000161	6.57	<0.000010	9.92	0.452	6.79	<0.000010	<0.00010	<0.00030	0.00128	0.00079	<0.0010	<0.00030	166	<1.0	<1.0		3.81		4.27							5.7				
MC1	11/08/2016 11:10	0.000252	6.17	<0.000010	9.78	0.390	8.13	<0.000010	<0.00010	0.00047	0.00101	0.00076	<0.0010	<0.00030	166	<1.0	<1.0		3.91		4.16							3.1				
MC1	16/08/2016 11:00	0.000160	6.63	<0.000010	9.97	0.446	7.57	<0.000010	<0.00010	0.00038	0.00126	0.00075	<0.0010	<0.00030	179	6.2	<1.0		4.22		4.37							1.8				

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
MC1	02/08/2010					1.2	-0.5
MC1	08/08/2010					1.8	-0.6
MC1	15/08/2010					4	0.7
MC1	22/08/2010					3.1	6.5
MC1	04/09/2010					2.3	4.2
MC1	10/09/2010					6.2	8.6
MC1	17/09/2010					2.7	-0.6
MC1	08/10/2010					2.6	-1.7
MC1	16/04/2012 14:46			249.5			
MC1	17/04/2012 17:20			243.2			
MC1	18/04/2012 17:45			220.4			
MC1	19/04/2012 9:00			203.2			
MC1	20/04/2012 7:44			168.4			
MC1	21/04/2012 9:30			155.2			
MC1	22/04/2012 9:41			124			
MC1	23/04/2012 13:52			152.8			
MC1	24/04/2012 15:00			159.6			
MC1	26/04/2012 15:45			154.3			
MC1	27/04/2012 14:35			148.8			
MC1	28/04/2012 14:40			143.5			
MC1	29/04/2012 13:38			136.8			
MC1	30/04/2012			150.4			
MC1	01/05/2012 10:25			141.5			
MC1	02/05/2012 14:00			144.2			
MC1	03/05/2012 9:50			187.7			
MC1	06/05/2012 8:00			243.7			
MC1	10/05/2012 15:19			199.7			
MC1	25/04/2013 11:25			456.6			
MC1	05/05/2013 14:15			207.9			
MC1	07/05/2013 16:00			200.5			
MC1	19/05/2013 17:15			166.2			
MC1	08/04/2014 11:00			441.1			
MC1	17/04/2014 16:10			364.9			
MC1	22/04/2014 16:00			175.9			
MC1	01/05/2014 16:30			139.8			
MC1	06/05/2014 12:25			199.1			
MC1	17/05/2014 18:00			299			
MC1	19/05/2014 16:40			287.4			
MC1	14/12/2014 11:45			535.2			
MC1	10/04/2015 15:45			412.8			
MC1	17/04/2015 15:45			443.1			
MC1	23/04/2015 14:50			304.4			
MC1	01/05/2015 15:15			166.8			
MC1	09/05/2015 16:10			196.6			
MC1	14/05/2015 16:00			243.1			
MC1	21/05/2015 11:30			318.4			
MC1	28/05/2015 16:20			363.2			
MC1	10/04/2016 11:10			175.1			
MC1	16/04/2016 15:00			154.8			
MC1	21/04/2016 11:15			207.1			
MC1	28/04/2016 10:35			268.6			
MC1	17/05/2016 11:00			243.5			
MC1	19/05/2016 10:25			208.9			
MC1	24/05/2016 10:55			280.5			
MC1	03/06/2016 10:30			315.5			
MC1	07/06/2016 10:50			297			
MC1	16/06/2016 10:55			325			
MC1	22/06/2016 11:15			343.4			
MC1	07/07/2016 13:35			351.1			
MC1	17/07/2016 11:15			368			
MC1	20/07/2016 10:30			370.7			
MC1	25/07/2016 11:05			295			
MC1	02/08/2016 11:40			358.1			
MC1	11/08/2016 11:10			305.6			
MC1	16/08/2016 11:00			363.2			

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Phase	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
				mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MC1	26/08/2016 11:30	Discharge	P	51.3	210	7.86	8.28	242.1	365	6.8	11.97	98.3	113.1		187	178	2.39		22.5	0.0061	<0.0010	0.325	11.1	0.275	0.00012	0.00090	0.0792	<0.000020	<0.000050
MC1	30/08/2016 11:40	Discharge	P	15.3	211	7.63	8.31	217	354	4.8	12.94	100.9	148.7		187	175	2.35		23.4	<0.0050	<0.0010	0.617	13.2	0.0459	<0.00010	0.00059	0.0659	<0.000020	<0.000050
MC1	05/09/2016 11:20	Discharge	P	47.6	171	7.92	8.24	191.9	289	5.4	12.64	100.1	128.8		155	142	1.84		18.2	<0.0050	<0.0010	0.413	10.9	0.0776	<0.00010	0.00065	0.0664	<0.000020	<0.000050
MC1	12/09/2016 13:48	Discharge	P	33.7	178	8.11	8.27	193.6	305	6.1	11.85	95.6	141.6		149	145	2.20		22.4	0.0056	0.0012	0.861	9.82	0.127	<0.00010	0.00063	0.0663	<0.000020	<0.000050
MC1	20/09/2016 14:22	Discharge	P	22.0	170	8.05	8.10	181	296	3.8	13.62	104	118.8		149	132	2.23		22.6	0.0084	<0.0010	0.955	10.1	0.0931	<0.00010	0.00058	0.0622	<0.000020	<0.000050
MC1	26/09/2016 11:30	Discharge	P	13.8	173	7.63	8.27	176.6	298	1.9	13.43	97	140.9		143	144	2.00		21.0	0.0089	<0.0010	0.849	9.44	0.0348	<0.00010	0.00057	0.0589	<0.000020	<0.000050
MC1	04/10/2016 11:15	Discharge	P	<3.0	182	7.85	8.27	168.3	295	-0.1	15.16	103.8	95.9		149	151	2.18		22.7	0.0120	0.0011	0.960	8.83	0.0167	<0.00010	0.00048	0.0590	<0.000020	<0.000050
MC1	10/10/2016 11:30	Discharge	P	4.7	186	7.77	8.21	170.2	313	-0.1	13.73	93.9	122.7		147	152	2.52		25.5	0.0095	<0.0010	1.06	7.69	0.0384	<0.00010	0.00043	0.0574	<0.000020	<0.000050
MC1	18/10/2016 14:50	Discharge	P	11.4	258	7.78	8.34	236.8	422	0.5	14.05	97.4	111.7		209	183	4.30		46.1	0.0101	0.0025	2.55	9.06	0.134	<0.00010	0.00054	0.0796	<0.000020	<0.000050
W2	05/04/2006	No Discharge	P	120.0	122	8.1	8.11		173								0.81	0.31		0.0067	<0.0010	0.0169		5.890	0.00046	0.00557	0.143	<0.00050	<0.00050
W2	06/04/2006	No Discharge	P	102.0	158	8.50	8.10		161								0.65	0.33		0.0093	0.0011	0.023		7.2800	0.00052	0.00632	0.1600	<0.00050	<0.00050
W2	07/04/2006	No Discharge	P	106.0	354		8.20		507								2.60	0.57		0.006	0.0012	0.1160	18	1.870	0.00022	0.00238	0.131	<0.00050	<0.00050
W2	08/04/2006	No Discharge	P	4.1	342	8.10	8.25		519							261	1.50	0.75	43.6	0.01	0.0012	0.076		0.1490	<0.00010	0.00086	0.0886	<0.00050	<0.00050
W2	09/04/2006	No Discharge	P	<3.0	394	8.30	8.34		576							273	1.79	0.80	63.1	0.0133	0.0010	0.0426		0.031	<0.00010	0.00076	0.097	<0.00050	<0.00050
W2	10/04/2006	No Discharge	P	<3.0	337	8.50	8.34		507							245	1.57	0.65	55.8	0.016	0.0011	0.016		0.0277	<0.00010	0.00064	0.0822	<0.00050	<0.00050
W2	11/04/2006	No Discharge	P	<3.0	309	8.50	8.34		471							224	1.37	0.62	47.8	0.0087	<0.0010	0.0134		0.026	<0.00010	0.00057	0.076	<0.00050	<0.00050
W2	12/04/2006	No Discharge	P	<3.0	293	8.40	8.23		462							210	1.32	0.587	44.4	<0.0050	<0.0010	0.0088		0.0222	<0.00010	0.00053	0.0703	<0.00050	<0.00050
W2	13/04/2006	No Discharge	P	<3.0	296	8.40	8.33		468							218	1.32	0.578	44.5	<0.0050	<0.0010	<0.0050		0.0249	<0.00010	0.00052	0.0712	<0.00050	<0.00050
W2	14/04/2006	No Discharge	P	<3.0	196	8.4	8.37		465							218	1.29	0.565	44.4	<0.0050	<0.0010	0.0102		0.0214	<0.00010	0.00053	0.0709	<0.00050	<0.00050
W2	15/04/2006	No Discharge	P	<3.0	303	8.6	8.38		478							222	1.32	0.569	44.9	<0.0050	<0.0010	<0.0050		0.0177	<0.00010	0.00053	0.0734	<0.00050	<0.00050
W2	16/04/2006	No Discharge	P	22.4	304	8.4	8.37		496							235	1.48	0.579	46.3	0.0173	<0.0010	<0.0050		0.222	<0.00010	0.00056	0.0815	<0.00050	<0.00050
W2	17/04/2006	No Discharge	P	<3.0	393	8.5	8.39		602							286	2	0.73	58.2		<0.0010		11.1	0.017	<0.00010	0.00065	0.0951	<0.00050	<0.00050
W2	18/04/2006	No Discharge	P	<3.0	334	8.4	8.20		520							246	1	0.64	49.3	<0.005	<0.0010	<0.0050		0.013	<0.00010	0.00061	0.0839	<0.00050	<0.00050
W2	19/04/2006	No Discharge	P	<3.0	292	8.5	8.34		458							222	1	0.57	39.5	<0.005	<0.0010	<0.0050		0.017	<0.00010	0.00059	0.0749	<0.00050	<0.00050
W2	20/04/2006	No Discharge	P	<3.0	278	8.5	8.35		442							235	1	0.59	38	<0.005	<0.0010	<0.0050		0.025	<0.00010	0.00053	0.0748	<0.00050	<0.00050
W2	21/04/2006	No Discharge	P	<3.0	281	8.45	8.33		423							203	1	0.55	36.3	<0.005	<0.0010	<0.0050		0.027	<0.00010	0.00054	0.0716	<0.00050	<0.00050
W2	22/04/2006	No Discharge	P	<3.0	222	8.45	8.31		348							165	1	0.45	27	<0.005	<0.0010	<0.0050		0.028	<0.00010	0.00047	0.0592	<0.00050	<0.00050
W2	23/04/2006	No Discharge	P	3.7	170	8.45	8.24		268							135	1	0.33	18.7	<0.005		<0.0050		0.046	<0.00010	0.00043	0.0455	<0.00050	<0.00050
W2	24/04/2006	No Discharge	P	4.2	140	8.55	8.15		212							103	1	0.28	13.4		<0.0010	<0.0050	14	0.071	<0.00010	0.00044	0.0389	<0.00050	<0.00050
W2	25/04/2006	No Discharge	P	22.1	128	8.5	7.75		151							77	1	0.19	8.41		<0.0010	<0.0050		0.314	<0.00010	0.00052	0.0360	<0.00050	<0.00050
W2	26/04/2006	No Discharge	P	14.1	139	8.6	7.82		161							78	1	0.19	9.62		<0.0010	<0.0050		0.549	<0.00010	0.00060	0.0422	<0.00050	<0.00050
W2	27/04/2006	No Discharge	P	20.6	146	8.1	7.89		165							75.2	1.13	0.18	10.1		<0.0010	<0.0050		0.357	<0.00020	0.00056	0.041	<0.00050	<0.00050
W2	28/04/2006	No Discharge	P	20.6	73	8.1	7.88		149							71.2	1.07	0.17	8.73		<0.0010	<0.0050		0.424	<0.00010	0.00054	0.038	<0.00050	<0.00050
W2	29/04/2006	No Discharge	P	17.6	144	8.3	7.93		156							76.7	1.05	0.18	8.69		<0.0010	<0.0050		0.295	<0.00010	0.00058	0.039	<0.00050	<0.00050
W2	30/04/2006	No Discharge	P	17.6	148	8.5	7.97		161							74.5	1.01	0.18	8.72		<0.0010	<0.0050		0.222	<0.00010	0.00055	0.040	<0.00050	<0.00050
W2	01/05/2006	No Discharge	P	23.1	161	8.3	7.99		169							79.8	0.98	0.19	9.28		<0.0010	<0.0050		0.503	<0.00010	0.00065	0.046	<0.00050	<0.00050
W2	02/05/2006	No Discharge	P	51.4	129	8.3	7.95		139								0.81	0.16			0.0015	<0.0050		0.808	<0.00010	0.00071	0.048	<0.00050	<0.00050
W2	03/05/2006	No Discharge	P	116.0	102	8.2	7.86		117								0.73	0.14			<0.0010	<0.0050		1.640	<0.00010	0.00116	0.064	<0.00050	<0.00050
W2	05/05/2006	No Discharge	P	141.0	86		7.63		76								<0.50	0.11			<0.0010	<0.0050		1.830	<0.00010	0.00120	0.063	<0.00050	<0.00050
W2	06/05/2006	No Discharge	P	110.0	88		7.60		74								<0.50	0.11			<0.0010	<0.0050		1.630	0.00014	0.00121	0.060	<0.00050	<0.00050
W2	08/05/2006	No Discharge	P	40.9	94		7.65		81								<0.50	0.11			<0.0010	<0.0050	25	0.667	<0.00010	0.00067	0.0396	<0.00050	<0.00050
W2	10/05/2006	No Discharge	P	98.3	101		7.65		83.4							34.5	<0.5	0.112	3.4		0.0013	0.0082		1.13	0.00015	0.0009	0.0552	<0.0005	<0.0005
W2	14/05/2006 17:30	No Discharge	P	232	103		7.61		81.3							32.1	<0.5	0.136	3.21	0.05	0.0012	0.0083	21.6	4.65	0.00024	0.00242	0.123	<0.0005	<0.0005
W2	17/05/2006 13:00	No Discharge	P	59.6	115		7.69		116							63.1	0.57	0.158	5.43		0.0016	0.0171		0.621	<0.0001	0.00093	0.0496	<0.0005	<0.0005
W2	20/05/2006 13:00	No Discharge	P	28.1	115		7.81		136							70.6	0.54	0.179	7.6		<0.001	0.0237		0.415	<0.0001	0.0008	0.0472	<0.0005	<0.0005
W2	23/05/2006 14:00	No Discharge	P	22.1	129		7.93		166							72.2	0.55	0.211	10.7	0.0147	<0.001	0.0368	18.5	0.307	<0.0001	0.00078	0.0488	<0.0005	<0.0005
W2	26/05/2006 14:00	No Discharge	P	11.4	145		7.71		193							94.3	0.54	0.227	13.2		0.0016	0.0463		0.362	0.00017	0.00076	0.0523	<0.0005	<0.0005
W2	29/05/2006 13:00	No Discharge	P	79.9	119		7.66		148							82	<0.5	0.192	8.76		0.0014	0.0415		1.71	0.00021	0.00147	0.0728	<0.0005	<0.0005
W2	02/06/2006 11:00	No Discharge	P	257	140		7.19		159							91.8	<0.5	0.21	9.14	0.04	0.0024	0.0567	18.4	5.13	0.00038	0.00296	0.142	<0.0005	<0.0005
W2	07/06/2006 15:32	No Discharge	P	47.1	142		7.92		179							83.4	<0.5	0.209	10.6	0.038	0.0013	0.0716	20.9	0.997	0.00015	0.00114	0.0605	<0.0005	<0.0005
W2	15/06/2006	No Discharge	P																	0.01									
W2	15/06/2006	No Discharge	P	2	166		8.11		248						139	117			19			0.1	12.6	0.084	<0.0002	0.0006	0.057	<0.0001	<0.0005
W2	23/06/2006	No Discharge	P	<2	222		7.92		300						154	132			20.9	0.01		0.05	7.7	0.031	<0.0002	0.0003	0.063	<0.0001	<0.0005
W2	28/06/2006	No Discharge	P	7	170		8.05		286						142	133				0.003		0.05	10.7	0.223	<0.0002	0.0006	0.062	<0.0001	<0.0005
W2	07/07/2006	No Discharge	P	<2	204		7.91		259						140	135			21.7			0.076	9.6	0.04	<0.001	<0.001	0.065	<0.0005	<0.002
W2	12/07/2006	No Discharge	P	<2			7.93		298						143	132			21.3	0.008		0.09	9.6	0.022	<0.0002	0.0004	0.062	<0.0001	<0.0005
W2	31/07/2006 13:30	No Discharge	P																	0.003									
W2	31/07/2006 13:30	No Discharge	P	<2			7.82		309						153	142			22.5			0.07	8.8	0.035	<0.0002	0.0005	0.064	<0.0001	<0.0005
W2	02/08/2006	No Discharge	P	<2			7.86		319						10	152			20.9	0.006		0.06	9	0.016	<0.0002	0.0006	0.066	<0.0001	<0.0005
W2	23/08/2006	No Discharge	P																	<0.002									
W2	23/08/2006	No Discharge	P		216		8.03		316						154	148			22.3			<0.03	7.7	0.01	<0.0004	<0.0004	0.063	<0.0002	<0.001
W2	30/08/2006	No Discharge	P	<2	220		7.87		317						154	150			13.9	0.005		<0.03	7.9	0.013	<0.0002	0.0004	0.06	<0.0001	<0.0005
W2	06/09/2006	No Discharge	P	2			7.93		322						161	149			21.3	0.004		<0.03	8.5	0.012	<0.0002	0.0004	0.06	<0.0001	<0.0005
W2	13/09/2006	No Discharge	P	<2			7.99		320						167	156			22	0.008		0.003	8.1	0.015	<0.0002	0.0004	0.062	<0.0001	<0.0005
W2	20/09/2006	No Discharge	P	<2			7.87		317						164	150			22.3	0.006		<0.03	7.8	0.012	<0.0002	0.0004	0.06	<0.0001	<0.0005

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MC1	26/08/2016 11:30	0.013	0.0000081	48.7	0.00077	0.00027	0.00341	0.673	0.000144	0.0017	16.0	0.0629	<0.0000050	0.00193	0.00177	<0.050	1.64	0.000204	6.82	<0.000010	10.5	0.466	8.08	<0.000010	<0.00010	0.0121	0.00131
MC1	30/08/2016 11:40	0.011	<0.0000050	45.9	0.00033	<0.00010	0.00273	0.249	<0.000050	0.0014	15.6	0.0205	<0.0000050	0.00198	0.00130	<0.050	1.43	0.000238	6.40	<0.000010	10.8	0.441	8.14	<0.000010	<0.00010	0.00175	0.00109
MC1	05/09/2016 11:20	0.012	0.0000058	38.3	0.00041	0.00012	0.00306	0.300	<0.000050	0.0013	13.1	0.0245	<0.0000050	0.00166	0.00141	<0.050	1.47	0.000145	5.68	<0.000010	9.43	0.325	7.02	<0.000010	<0.00010	0.00344	0.000697
MC1	12/09/2016 13:48	0.015	0.0000075	39.9	0.00045	0.00018	0.00348	0.389	0.000137	<0.0010	12.3	0.0440	<0.0000050	0.00195	0.00133	<0.050	1.40	0.000261	5.16	<0.000010	9.34	0.379	7.60	<0.000010	<0.00010	0.00524	0.000784
MC1	20/09/2016 14:22	0.015	0.0000073	39.6	0.00040	0.00020	0.00375	0.415	0.000093	<0.0010	13.0	0.0544	<0.0000050	0.00171	0.00145	<0.050	1.38	0.000248	4.91	<0.000010	9.38	0.387	7.52	<0.000010	<0.00010	0.00375	0.000834
MC1	26/09/2016 11:30	0.013	<0.0000050	37.5	0.00029	0.00011	0.00298	0.228	0.000072	0.0020	13.6	0.0338	<0.0000050	0.00172	0.00125	<0.050	1.27	0.000260	4.88	<0.000010	10.3	0.373	7.66	<0.000010	<0.00010	0.00139	0.000856
MC1	04/10/2016 11:15	0.015	<0.0000050	41.7	0.00021	<0.00010	0.00231	0.163	<0.000050	<0.0010	13.4	0.0248	<0.0000050	0.00177	0.00094	<0.050	1.47	0.000262	5.51	<0.000010	10.4	0.388	8.46	<0.000010	<0.00010	0.00076	0.000979
MC1	10/10/2016 11:30	0.016	<0.0000050	39.3	0.00026	<0.00010	0.00258	0.170	<0.000050	0.0010	13.7	0.0170	<0.0000050	0.00167	0.00094	<0.050	1.50	0.000276	5.04	<0.000010	10.9	0.400	8.84	<0.000010	<0.00010	0.00179	0.000899
MC1	18/10/2016 14:50	0.019	0.0000065	54.3	0.00043	0.00015	0.00443	0.332	0.000067	0.0017	18.8	0.0365	<0.0000050	0.00259	0.00111	<0.050	2.16	0.000679	5.52	<0.000010	13.3	0.561	15.7	<0.000010	<0.00010	0.00583	0.00155
W2	05/04/2006	<0.010	0.000139	31.1	0.0107	0.00385	0.0197	8.800	0.00333	0.0053	10.6	0.1930		0.00239	0.0102	0.3300	4.4	<0.0010	14.3	0.00007	2.8	0.191		<0.00010	0.00042	0.266	0.00184
W2	06/04/2006	<0.010	0.000167	32.3	0.01270	0.00428	0.02100	10.400	0.003940	0.0059	11.0	0.2100		0.002260	0.01190	<0.30	4.7	<0.0010	18.90	0.000092	3.0	0.190		<0.00010	0.00049	0.379	0.001850
W2	07/04/2006	<0.010	0.000057	69.4	0.00383	0.00147	0.0084	<0.030	0.00114	0.0057	29.7	0.1060		0.00183	0.0044	<0.30	<2.0	<0.0010	5.56	0.000025	18.6	0.599		<0.00010	<0.00010	<0.010	0.00342
W2	08/04/2006	<0.010	<0.000050	66.0	0.00085	0.00018	0.00150	0.206	0.000088	<0.0050	28.3	0.0485		0.001340	0.00054	<0.30	4.6	<0.0010	10.80	<0.000010	17.7	0.565		<0.00010	<0.00010	<0.010	0.002720
W2	09/04/2006	<0.010	<0.000050	69.7	<0.00050	0.00011	0.0013	0.073	<0.000050	<0.0050	32.5	0.0447		0.00149	<0.00050	<0.30	4.8	<0.0010	10.9	<0.000010	22.9	0.601		<0.00010	<0.00010	<0.010	0.00301
W2	10/04/2006	<0.010	<0.000050	61.1	<0.00050	0.00010	0.00126	0.076	<0.000050	<0.0050	28.8	0.0387		0.001410	<0.00050	<0.30	4	<0.0010	9.37	<0.000010	19.3	0.514		<0.00010	<0.00010	<0.010	0.002280
W2	11/04/2006	<0.010	<0.000050	56.1	<0.00050	<0.00010	0.0012	0.069	<0.000050	<0.0050	26.7	0.0394		0.00147	<0.00050	<0.30	3.6	<0.0010	8.56	<0.000010	17.3	0.483		<0.00010	<0.00010	<0.010	0.00206
W2	12/04/2006	<0.010	<0.000050	48.6	<0.00050	<0.00010	0.00125	0.057	<0.000050	<0.0050	22.2	0.0410		0.00152	<0.00050	<0.30	3.6	<0.0010	7.57	<0.000010	15.7	0.461		<0.00010	<0.00010	<0.010	0.00194
W2	13/04/2006	<0.010	<0.000050	49.8	<0.00050	0.00010	0.00146	0.073	<0.000050	<0.0050	22.2	0.0453		0.00178	0.00059	<0.30	3.4	<0.0010	7.59	<0.000010	15.6	0.470		<0.00010	<0.00010	<0.010	0.00192
W2	14/04/2006	<0.010	<0.000050	49.4	<0.00050	<0.00010	0.00139	0.054	<0.000050	<0.0050	22.2	0.0384		0.00156	<0.00050	<0.30	3.7	<0.0010	8.20	<0.000010	15.3	0.474		<0.00010	<0.00010	<0.010	0.00192
W2	15/04/2006	<0.010	<0.000050	51.1	<0.00050	<0.00010	0.00162	0.057	<0.000050	<0.0050	22.3	0.0431		0.00157	0.00052	<0.30	3.7	<0.0010	8.41	<0.000010	15.3	0.497		<0.00010	<0.00010	<0.010	0.00198
W2	16/04/2006	<0.010	<0.000050	54.6	<0.00050	0.00026	0.00453	0.262	0.000137	<0.0050	23.2	0.0468		0.00163	0.00081	<0.30	3.6	<0.0010	8.60	<0.000010	15.5	0.525		<0.00010	<0.00010	<0.010	0.00215
W2	17/04/2006	<0.010	<0.000050	70.0	<0.00050	<0.00010	0.00190	0.085	<0.000050	<0.0050	31.3	0.0428		0.00201	0.00057	<0.30	4.4	<0.0010	10.80	<0.000010	20.4	0.662		<0.00010	<0.00010	<0.010	0.00277
W2	18/04/2006	<0.010	<0.000050	61.7	<0.00050	<0.00010	0.00152	0.091	<0.000050	<0.0050	29.0	0.0369		0.00164	<0.00050	<0.30	4.1	<0.0010	9.73	<0.000010	17.8	0.587		<0.00010	0.00031	<0.010	0.00235
W2	19/04/2006	<0.010	<0.000050	55.0	<0.00050	0.00011	0.00146	0.087	<0.000050	<0.0050	24.4	0.0442		0.00136	0.00051	<0.30	3.8	<0.0010	8.38	<0.000010	15.1	0.514		<0.00010	<0.00010	<0.010	0.00211
W2	20/04/2006	<0.010	<0.000050	52.5	<0.00050	0.00012	0.00185	0.104	0.000060	<0.0050	23.5	0.0481		0.00137	0.00054	<0.30	3.7	<0.0010	8.08	<0.000010	14.8	0.523		<0.00010	<0.00010	<0.010	0.00197
W2	21/04/2006	<0.010	<0.000050	51.0	<0.00050	0.00013	0.00175	0.083	<0.000050	<0.0050	23.0	0.0490		0.00125	0.00056	<0.30	4.0	<0.0010	7.85	<0.000010	14.5	0.488		<0.00010	<0.00010	<0.010	0.00170
W2	22/04/2006	<0.010	<0.000050	38.3	<0.00050	0.00013	0.00184	0.082	<0.000050	<0.0050	18.3	0.0459		0.00115	0.00058	<0.30	3.3	<0.0010	6.54	<0.000010	11.2	0.389		<0.00010	<0.00010	<0.010	0.00125
W2	23/04/2006	<0.010	<0.000050	30.6	<0.00050	0.00014	0.00137	0.112	<0.000050	<0.0050	13.8	0.0471		0.00088	0.00057	<0.30	3.0	<0.0010	5.30	<0.000010	8.1	0.273		<0.00010	<0.00010	<0.010	0.00079
W2	24/04/2006	<0.010	<0.000050	25.5	<0.00050	0.00016	0.00164	0.126	<0.000050	<0.0050	11.1	0.0425		0.00077	0.00073	<0.30	3.1	<0.0010	4.67	<0.000010	6.2	0.218		<0.00010	<0.00010	<0.010	0.00048
W2	25/04/2006	<0.010	<0.000050	19.1	<0.00050	0.00035	0.00501	0.492	0.000166	<0.0050	7.4	0.0767		0.00064	0.00118	<0.30	2.8	<0.0010	4.03	0.000012	3.8	0.136		<0.00010	<0.00010	0.012	0.00030
W2	26/04/2006	<0.010	<0.000050	20.1	0.00071	0.00040	0.00833	0.691	0.000251	<0.0050	7.4	0.0653		0.00079	0.00170	<0.30	3.3	<0.0010	4.59	0.000016	4.0	0.149		<0.00010	<0.00010	0.021	0.00031
W2	27/04/2006	<0.010	<0.000050	20.6	0.00056	0.00039	0.0064	0.582	0.000294	<0.0050	7.5	0.0628		0.00067	0.0014	<0.30	2.7	<0.0010	4.55	0.000012	4.6	0.145		<0.00010	0.0001	0.014	0.00033
W2	28/04/2006	<0.010	<0.000050	19.0	0.00054	0.00035	0.0070	0.596	0.000193	<0.0050	7.0	0.0492		0.000612	0.0015	<0.30	2.6	<0.0010	4.64	0.000014	4.4	0.128		<0.00010	<0.00010	0.016	0.00026
W2	29/04/2006	<0.010	<0.000050	21.1	0.00058	0.00032	0.0064	0.434	0.000131	<0.0050	7.5	0.0648		0.000511	0.0015	<0.30	2.6	<0.0010	4.69	<0.000010	4.4	0.146		<0.00010	<0.00010	0.012	0.00031
W2	30/04/2006	<0.010	<0.000050	21.7	<0.00050	0.00032	0.0055	0.400	0.000125	<0.0050	7.7	0.0682		0.000607	0.0013	<0.30	2.5	<0.0010	4.67	0.000024	4.2	0.153		<0.00010	<0.00010	0.01	0.00033
W2	01/05/2006	<0.010	<0.000050	22.5	0.00101	0.00041	0.0069	0.690	0.000179	<0.0050	8.2	0.0501		0.00073	0.0018	<0.30	2.5	<0.0010	5.3	0.000014	4.2	0.171		<0.00010	<0.00010	0.018	0.00036
W2	02/05/2006	<0.010	<0.000050	18.4	0.0015	0.00069	0.0086	1.310	0.000362	<0.0050	6.7	0.0921		0.000586	0.0025	<0.30	2.3	<0.0010	5.4	0.000015	3.2	0.135		<0.00010	<0.00010	0.034	0.00030
W2	03/05/2006	<0.010	<0.000050	16.9	0.00297	0.0014	0.0106	2.710	0.000816	<0.0050	5.8	0.1960		0.000524	0.0042	<0.30	2.3	<0.0010	6.33	0.000018	2.6	0.126		<0.00010	<0.00010	0.072	0.00036
W2	05/05/2006	<0.010	0.000051	11.9	0.00334	0.00171	0.0119	3.010	0.000926	<0.0050	4.1	0.1890		0.000382	0.0048	<0.30	2.1	<0.0010	5.61	0.000018	<2.0	0.0854		<0.00010	<0.00010	0.072	0.00029
W2	06/05/2006	<0.010	<0.000050	12.3	0.00295	0.00144	0.0222	2.880	0.000845	<0.0050	4.1	0.1650		0.000375	0.0044	<0.30	2	<0.0010	5.32	0.000025	<2.0	0.0827		<0.00010	<0.00010	0.07	0.00030
W2	08/05/2006	<0.010	<0.000050	12.4	0.00135	0.00062	0.00803	1.140	0.000329	<0.0050	4.0	0.0706		0.00039	0.00274	<0.30	<2.0	<0.0010	3.68	0.000014	<2.0	0.082		<0.00010	<0.00010	0.032	0.00020
W2	10/05/2006	<0.01	<0.00005	14.3	0.00218	0.00103	0.0323	1.76	0.00053	<0.005	5.34	0.174		0.000699	0.00343	<0.3	<2	<0.001	4.84	0.000029	2.4	0.0969		<0.0001	<0.0001	0.042	0.000197
W2	14/05/2006 17:30	<0.01	0.000096	15.4	0.00862	0.00336	0.0191	7.23	0.0022	<0.005	5.65	0.266		0.000593	0.00948	<0.3	<2	<0.001	11.7	0.000037	2.3	0.111		<0.0001	<0.0001	0.157	0.000689
W2	17/05/2006 13:00	<0.01	<0.00005	17.2	0.00142	0.00088	0.00806	1.74	0.000478	<0.005	5.81	0.101		0.000502	0.00334	<0.3	<2	<0.001	4.55	<0.00001	3.6	0.111		<0.0001	<0.0001	0.023	0.000358
W2	20/05/2006 13:00	<0.01	<0.00005	18.6	0.00104	0.00062	0.00753	1.22	0.00034	<0.005	6.51	0.0821		0.000702	0.00285	<0.3	<2	<0.001	4.31	0.000012	4.2	0.133		<0.0001	<0.0001	0.014	0.000391
W2	23/05/2006 14:00	<0.01	<0.00005	22.1	0.00082	0.00044	0.00653	0.917	0.000261	<0.005	8.01	0.0678		0.000907	0.00241	<0.3	<2	<0.001	4.55	<0.00001	5.2	0.157		<0.0001	<0.0001	0.011	0.000523
W2	26/05/2006 14:00	<0.01	<0.00005	26.3	0.00102	0.00035	0.00546	0.707	0.00019	<0.005	9.47	0.0573		0.00107	0.0023	<0.3	<2	<0.001	4.71	<0.00001	6.1	0.212		<0.0001	0.00019	0.014	0.000727
W2	29/05/2006 13:00	<0.01	<0.00005	22.1	0.00361	0.00131	0.0121	2.89	0.000846	<0.005	7.77	0.139		0.000943	0.00535	<0.3	<2	<0.001	6.97	0.000031	5	0.17		<0.0001	0.00027	0.063	0.000565
W2	02/06/2006 11:00	<0.01	0.000135	26.7	0.0104	0.00364	0.0214	8.09	0.00264	<0.005	9.99	0.294		0.00119	0.0115	<0.3	<2	<0.001	13.1	0.000066	5.7	0.206		<0.0001	<0.0001	0.195	0.000992
W2	07/06/2006 15:32	<0.01	<0.00005	23.6	0.00238	0.00079	0.0104	1.75	0.000457	<0.005	7.78	0.0631		0.00104	0.00385	<0.3	<2	<0.001	6.22	0.000015	4.8	0.179		<0.0001	0.00013	0.039	0.000546
W2	15/06/2006																										
W2	15/06/2006	0.006	<0.00001	32.7	0.0007	<0.0001	0.004	0.2	<0.0001	0.002	10.7	0.008		0.001	0.0017		1.1	0.0002	5.21	<0.0001	7.4	0.306	5.7	<0.00005	<0.001	0.0041	0.001
W2	23/06/2006	0.004	<0.00001	37.8	<0.0005	<0.0001	0.003	<0.1	<0.0001	0.002	11.6	0.02		0.001	0.0013		1.2	<0.0002	5.13	0.0002	7.9	0.344	6.6	<0.00005	<0.001	0.0016	0.0011
W2	28/06/2006	0.007	<0.00001	36.4	<0.0005	0.0001	0.003	0.4	0.0001	0.001	11.5	0.018		0.001	0.0011		1.1	<0.0002	5.83	<0.0001	7.7	0.29	6.2	<0.00005	<0.001	0.0192	0.0014
W2	07/07/2006	0.01	<0.00005	39.6	<0.002	<0.0005	<0.005	<0.1	<0.0005	<0.005	12	0.013		<0.005	0.003		1.2	<0.001	5.67	<0.0001	9.1	0.37	6.9	<0.0002	<0.005	<0.002	<0.002
W2	12/07/2006	0.006	<0.00001	39.8	<0.0005	<0.0001	0.002	<0.1	<0.0001	0.002	11.7	0.014		<0.001	0.0012		1.3	<0.0002	5.62	<0.0001	8.7	0.355	7.2	<0.00005	<0.001	0.0009	0.0014
W2	31/07/2006 13:30																										
W2	31/07/2006 13:30	0.006	<0.00001	39.7	<0.0005	<0.0001	0.002	<0.1	<0.0001	0.002	13.3	0.014		0.001	0.0011		1.2	<0.0002	6.11	<0.0001	8.6	0.357	7.4	<0.00005	<0.001	0.0018	0.0015
W2	02/08/2006	0.006	<0.00001	39.5	<0.0005	<0.0001	0.002	<0.1	<0.0001	0.002	12.4	0.013		0.001	0.0012		1.3	0.0002	5.66	0.0002	9.7	0.401	7.6	<0.00005	<0.001	0.0008	0.0015
W2	23/08/2006																										
W2	23/08/2006	0.009	<0.00002	39.5	0.001	<0.0002	0.002	<0.2	<0.0002	0.003	12	0.02		<0.002	0.001		1.6	<0.0004	5.19	<0.0001	9.4	0.388	6.8	<0.0001	<0.002	<0.0010	0.002
W2	30/08/2006	0.006	<0.00001	39.9	<0.0005	<0.0001	0.002	<0.1	<0.0001	0.002	12.8	0.011		0.001	0.0013		1.2	0.0003	5.73	<0.0001	9.2	0.405	6.6	<0.00005	<0.001	0.0009	0.0016
W2	06/09/2006	0.006	<0.00001	41	<0.0005	<0.0001	0.004	<0.1	0.0001	0.002	13	0.018		0.001	0.0013		1.3	0.0003	5.65	<0.0001	9.5	0.399	7.7	<0.00005	<0.001	0.0008	0.0018
W2	13/09/2006	0.007	<0.00001	42.2	<0.0005	<0.0001	0.002	<0.1	<0.0001	0.002	13.5	0.015		0.001	0.0013		1.3	<0.0002	5.97	<0.0001	9.8	0.409	7.5	<0.00005	<0.001	0.0008	0.0018
W2	20/09/2006	0.006	<0.00001	40.2	<0.0005	<0.0001	0.002	<0.1	<0.0001	0.002	14	0.019		0.001	0.0016		1.3	0.0004	5.66	<0.0001	8.6	0.398	7.1	<0.00005	<0.001	0.0008	0.0016

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MC1	26/08/2016 11:30	0.00188	<0.0030	<0.00030	0.0079	<0.00010	0.00067	0.0789	<0.000020	<0.000050	0.013	<0.0000050	48.8	0.00027	<0.00010	0.00257	0.120	<0.000050	0.0016	15.8	0.0115	<0.0000050	0.00183	0.00124	<0.050	1.67
MC1	30/08/2016 11:40	0.00103	<0.0030	<0.00030	0.0086	<0.00010	0.00058	0.0677	<0.000020	<0.000050	0.011	<0.0000050	49.8	0.00027	<0.00010	0.00272	0.146	<0.000050	0.0014	15.1	0.0135	<0.0000050	0.00193	0.00129	<0.050	1.46
MC1	05/09/2016 11:20	0.00109	<0.0030	<0.00030	0.0085	<0.00010	0.00049	0.0634	<0.000020	<0.000050	0.014	<0.0000050	40.1	0.00012	<0.00010	0.00243	0.134	<0.000050	0.0014	13.2	0.00888	<0.0000050	0.00176	0.00116	<0.050	1.40
MC1	12/09/2016 13:48	0.00121	<0.0030	<0.00030	0.0066	<0.00010	0.00052	0.0647	<0.000020	<0.000050	0.015	<0.0000050	39.5	0.00016	<0.00010	0.00278	0.107	<0.000050	<0.0010	12.3	0.0107	<0.0000050	0.00176	0.00107	<0.050	1.40
MC1	20/09/2016 14:22	0.00120	<0.0030	<0.00030	0.0072	<0.00010	0.00043	0.0561	<0.000020	<0.000050	0.014	<0.0000050	38.6	0.00020	<0.00010	0.00268	0.107	<0.000050	<0.0010	12.9	0.0153	<0.0000050	0.00173	0.00105	<0.050	1.39
MC1	26/09/2016 11:30	0.00085	<0.0030	0.00032	0.0056	<0.00010	0.00041	0.0564	<0.000020	<0.000050	0.012	<0.0000050	36.4	0.00015	<0.00010	0.00259	0.105	<0.000050	0.0014	12.8	0.0165	<0.0000050	0.00166	0.00107	<0.050	1.21
MC1	04/10/2016 11:15	0.00060	<0.0030	<0.00030	0.0048	<0.00010	0.00040	0.0559	<0.000020	<0.000050	0.013	<0.0000050	38.0	0.00023	<0.00010	0.00215	0.107	<0.000050	0.0012	13.1	0.0187	<0.0000050	0.00161	0.00089	<0.050	1.41
MC1	10/10/2016 11:30	0.00066	<0.0030	<0.00030	0.0036	<0.00010	0.00036	0.0561	<0.000020	<0.000050	0.014	<0.0000050	37.9	0.00016	<0.00010	0.00206	0.079	<0.000050	<0.0010	12.6	0.00741	<0.0000050	0.00157	0.00077	<0.050	1.38
MC1	18/10/2016 14:50	0.00097	<0.0030	<0.00030	0.0032	<0.00010	0.00041	0.0762	<0.000020	<0.000050	0.019	<0.0000050	53.1	<0.00010	<0.00010	0.00366	0.062	<0.000050	0.0016	18.5	0.0126	<0.0000050	0.00241	0.00075	<0.050	2.15
W2	05/04/2006	0.0199	0.0258																							
W2	06/04/2006	0.0236	0.0324																							
W2	07/04/2006	0.0068	0.0113		0.0549	0.00011	0.00106	0.108	<0.00050	<0.00050	<0.010	<0.00005	68.8	<0.00050	0.00017	0.0032	0.106	<0.000050	<0.0050	31.4	0.0429		0.00173	0.0010	<0.30	6.7
W2	08/04/2006	<0.0010	0.0020																							
W2	09/04/2006	<0.0010	0.0028																							
W2	10/04/2006	<0.0010	0.0015																							
W2	11/04/2006	<0.0010	0.0018																							
W2	12/04/2006	<0.0010	0.0015																							
W2	13/04/2006	<0.0010	0.0025																							
W2	14/04/2006	<0.0010	0.0014																							
W2	15/04/2006	<0.0010	0.0023																							
W2	16/04/2006	0.0010	0.0033																							
W2	17/04/2006	<0.0010	0.0019		0.0082	<0.00010	0.00063	0.093	<0.00050	<0.00050	<0.010	<0.00005	70.1	<0.00050	<0.00010	0.0017	0.063	<0.000050	<0.0050	31.4	0.0420		0.002	<0.00050	<0.30	4.4
W2	18/04/2006	<0.0010	0.0010																							
W2	19/04/2006	<0.0010	0.0015																							
W2	20/04/2006	<0.0010	0.0021																							
W2	21/04/2006	<0.0010	0.0048																							
W2	22/04/2006	<0.0010	0.0026																							
W2	23/04/2006	<0.0010	0.0024																							
W2	24/04/2006	<0.0010	0.0026		0.0119	<0.00010	0.00038	0.037	<0.00050	<0.00050	<0.010	<0.00005	25.4	<0.00050	0.00011	0.0013	0.054	<0.000050	<0.0050	10.9	0.0378		0.000729	0.0006	<0.30	3.1
W2	25/04/2006	0.0012	0.0091																							
W2	26/04/2006	0.0018	0.0124																							
W2	27/04/2006	0.0015	0.0052																							
W2	28/04/2006	0.0015	<0.0050																							
W2	29/04/2006	0.0011	0.0089																							
W2	30/04/2006	0.001	0.0082																							
W2	01/05/2006	0.0017	0.0048																							
W2	02/05/2006	0.0028	0.0059																							
W2	03/05/2006	0.0055	0.0101																							
W2	05/05/2006	0.0062	0.0105																							
W2	06/05/2006	0.006	0.0099																							
W2	08/05/2006	0.0026	0.0062		0.0654	<0.00010	0.00038	0.026	<0.00050	<0.00050	<0.010	<0.00005	12.2	<0.00050	0.00015	0.0054	0.194	0.000091	<0.0050	3.8	0.0209		0.000307	0.0014	<0.30	<2.0
W2	10/05/2006	0.0039	0.0073																							
W2	14/05/2006 17:30	0.0147	0.0223		0.0626	<0.0001	0.00055	0.0308	<0.0005	<0.0005	<0.01	<0.00005	12.8	<0.0005	0.00026	0.00582	0.425	0.000064	<0.005	3.79	0.0594		0.000441	0.00165	<0.3	<2
W2	17/05/2006 13:00	0.0034	0.0049																							
W2	20/05/2006 13:00	0.0026	0.0032																							
W2	23/05/2006 14:00	0.0022	0.0039		0.0234	<0.0001	0.00054	0.0401	<0.0005	<0.0005	<0.01	<0.00005	23.1	<0.0005	<0.0001	0.00494	0.253	<0.00005	<0.005	8.14	0.00274		0.000977	0.0017	<0.3	<2
W2	26/05/2006 14:00	0.0021	<0.005																							
W2	29/05/2006 13:00	0.0065	0.0084																							
W2	02/06/2006 11:00	0.0173	0.022		0.0318	0.00013	0.00074	0.0425	<0.0005	<0.0005	<0.01	<0.00005	23	<0.0005	0.00018	0.0038	0.463	0.000063	<0.005	7.73	0.0399		0.000913	0.00183	<0.3	<2
W2	07/06/2006 15:32	0.0045	0.0054																							
W2	15/06/2006																									
W2	15/06/2006	0.0014	0.001	<0.001	0.009	<0.0002	0.0006	0.057	<0.0001	<0.0005	0.003	<0.00001	36.3	<0.0005	<0.0001	0.002	0.04	<0.0001	0.001	11.7	<0.005		0.001	0.001		0.4
W2	23/06/2006	0.0008	0.002	<0.001	0.01	<0.0002	0.0004	0.064	<0.0001	<0.0005	0.002	<0.00001	40.8	0.0006	<0.0001	0.002	0.05	<0.0001	0.001	12.6	0.016		0.001	0.0014		1.4
W2	28/06/2006	0.0016	0.002	<0.001	0.008	<0.0002	0.0006	0.058	<0.0001	<0.0005	0.004	<0.00001	33	0.0007	<0.0001	0.003	0.03	<0.0001	<0.001	11.4	<0.005		0.001	0.0011		1.1
W2	07/07/2006	<0.0005	<0.005	<0.005	<0.005	<0.0002	0.0006	0.065	<0.0001	0.0007	0.006	<0.00001	34.7	0.0012	<0.0001	0.002	0.02	<0.0001	0.002	12.9	0.008		0.001	0.0016		1.1
W2	12/07/2006	0.0006	0.002	<0.001	<0.005	<0.0002	0.0005	0.063	<0.0001	0.0007	0.006	<0.00001	36.1	0.0012	<0.0001	0.002	0.02	<0.0001	0.002	12.9	0.01		0.002	0.0006		1.4
W2	31/07/2006 13:30																									
W2	31/07/2006 13:30	0.0007	0.002	<0.001	0.007	<0.0002	0.0004	0.068	<0.0001	<0.0005	0.006	<0.00001	39	<0.0005	<0.0001	<0.001	0.04	<0.0001	0.001	13.5	0.011		<0.001	0.0005		1.4
W2	02/08/2006	0.0007	<0.001	<0.001	<0.005	<0.0002	0.0005	0.065	<0.0001	<0.0005	0.006	<0.00001	3.8	0.0006	<0.0001	0.002	0.02	<0.0001	0.002	0.9	0.008		<0.001	0.0007		0.8
W2	23/08/2006																									
W2	23/08/2006	0.0007	0.005	<0.002	0.007	<0.0002	0.0004	0.063	<0.0001	<0.0005	0.006	<0.00001	39.3	0.0007	0.0001	0.002	0.05	<0.0001	0.002	13.4	0.02		0.001	0.0009		1.2
W2	30/08/2006	0.0009	<0.001	<0.001	0.007	<0.0002	0.0005	0.06	<0.0001	<0.0005	0.006	<0.00001	40	0.0009	<0.0001	0.002	0.06	<0.0001	0.002	13.1	0.013		0.001	0.0005		1.4
W2	06/09/2006	0.0007	0.001	<0.001	<0.005	<0.0002	0.0005	0.06	<0.0001	<0.0005	0.005	<0.00001	42.2	0.0006	<0.0001	0.003	0.05	<0.0001	0.002	13.6	0.018		0.001	0.001		1.4
W2	13/09/2006	0.0007	0.002	<0.001	0.005	<0.0002	0.0004	0.057	<0.0001	<0.0005	0.007	<0.00001	40.7	0.001	<0.0001	0.002	0.06	<0.0001	0.002	13.8	0.012		0.001	0.0009		1.3
W2	20/09/2006	0.0006	0.001	<0.001	<0.005	<0.0002	0.0004	0.059	<0.0001	<0.0005	0.005	<0.00001	42.4	0.0007	<0.0001	0.002	0.06	<0.0001	0.003	14.1	0.02		0.001	<0.0005		1.4

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	Br	Cation	CN-T	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-TKN	P-PO4T	P-TDP	P-TRP
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L
MC1	26/08/2016 11:30	0.000186	6.27	<0.000010	10.8	0.451	7.77	<0.000010	<0.00010	0.00046	0.00123	0.00082	<0.0010	<0.00030	178	<1.0	<1.0		4.11		4.26							1.8				
MC1	30/08/2016 11:40	0.000255	6.12	<0.000010	10.9	0.446	7.69	<0.000010	<0.00010	0.00039	0.00108	0.00071	0.0011	<0.00030	171	3.4	<1.0		4.09		4.25							1.9				
MC1	05/09/2016 11:20	0.000161	5.72	<0.000010	9.14	0.370	6.24	<0.000010	<0.00010	0.00043	0.000777	0.00067	0.0016	<0.00030	142	<1.0	<1.0		3.30		3.53							3.4				
MC1	12/09/2016 13:48	0.000241	5.02	<0.000010	9.07	0.380	7.37	<0.000010	<0.00010	0.00039	0.000722	0.00063	<0.0010	<0.00030	145	<1.0	<1.0		3.49		3.42							-1.0				
MC1	20/09/2016 14:22	0.000238	4.83	<0.000010	9.24	0.371	7.27	<0.000010	<0.00010	0.00036	0.000786	0.00056	<0.0010	<0.00030	132	<1.0	<1.0		3.24		3.43							2.9				
MC1	26/09/2016 11:30	0.000216	4.84	<0.000010	9.62	0.361	7.27	<0.000010	<0.00010	<0.00030	0.000823	0.00053	<0.0010	<0.00030	144	<1.0	<1.0		3.43		3.32							-1.6				
MC1	04/10/2016 11:15	0.000268	4.92	<0.000010	10.0	0.365	7.54	<0.000010	<0.00010	<0.00030	0.000911	<0.00050	<0.0010	<0.00030	151	<1.0	<1.0		3.62		3.45							-2.4				
MC1	10/10/2016 11:30	0.000297	4.81	<0.000010	10.0	0.381	8.53	<0.000010	<0.00010	<0.00030	0.000850	<0.00050	0.0021	<0.00030	152	<1.0	<1.0		3.72		3.41							-4.4				
MC1	18/10/2016 14:50	0.000660	5.10	<0.000010	13.1	0.549	15.0	<0.000010	<0.00010	<0.00030	0.00148	<0.00050	<0.0010	<0.00030	178	5.4	<1.0		4.92		4.80							-1.2				
W2	05/04/2006															86				<0.050												
W2	06/04/2006															84				<0.050												
W2	07/04/2006	<0.0010	11.6	<0.000010	20.2	0.6		<0.00010	<0.00010	<0.010	0.00368	<0.0010	0.0015			239				<0.050		0.0176				59.4	21.7					
W2	08/04/2006															261				<0.050												
W2	09/04/2006															273				<0.050												
W2	10/04/2006															245				<0.050												
W2	11/04/2006															224				<0.050												
W2	12/04/2006															210				<0.050												
W2	13/04/2006															218				<0.050												
W2	14/04/2006															218				<0.050												
W2	15/04/2006															222				<0.050												
W2	16/04/2006															235				<0.050												
W2	17/04/2006	<0.0010	10.8	<0.000010	20.2	0.7		<0.00010	<0.00010	<0.010	0.00273	<0.0010	0.0012			286				<0.050		0.0102				67.3	12.5					
W2	18/04/2006															246				<0.050												
W2	19/04/2006															222				<0.050												
W2	20/04/2006															235				<0.050												
W2	21/04/2006															203				<0.050												
W2	22/04/2006															165				<0.050												
W2	23/04/2006															135				<0.050												
W2	24/04/2006	<0.0010	4.54	<0.000010	6.1	0.2		<0.00010	<0.00010	<0.010	0.00048	<0.0010	0.0018			103				<0.050		0.0129				18.5	16.4					
W2	25/04/2006															77				<0.050												
W2	26/04/2006															78				<0.050												
W2	27/04/2006															75				<0.050												
W2	28/04/2006															71				<0.050												
W2	29/04/2006															77				<0.050												
W2	30/04/2006															75				<0.050												
W2	01/05/2006															80				<0.050		0.0236										
W2	02/05/2006															65				<0.050												
W2	03/05/2006															50				<0.050												
W2	05/05/2006															32				<0.050												
W2	06/05/2006															27				<0.050												
W2	08/05/2006	<0.0010	2.69	<0.000010	<2.0	0.1		<0.00010	<0.00010	<0.010	0.00012	<0.0010	0.0024			34				<0.050		0.027				4.33	32.7					
W2	10/05/2006																			<0.05												
W2	14/05/2006 17:30	<0.001	3.11	<0.00001	2.1	0.0801		<0.0001	<0.0001	<0.01	0.00015	<0.001	<0.001							<0.05		0.0232				4.03	34.2					
W2	17/05/2006 13:00																			<0.05												
W2	20/05/2006 13:00																			<0.05												
W2	23/05/2006 14:00	<0.001	4.14	<0.00001	4.7	0.162		<0.0001	<0.0001	<0.01	0.00048	<0.001	<0.001							<0.05		0.0149				13.5	20					
W2	26/05/2006 14:00																			<0.05												
W2	29/05/2006 13:00																			<0.05												
W2	02/06/2006 11:00	<0.001	4.19	<0.00001	5.4	0.162		<0.0001	<0.0001	<0.01	0.000477	0.0015	0.0012							<0.05		0.0184				13.8	29.5					
W2	07/06/2006 15:32																			<0.05		<0.005				14.4	23.9					
W2	15/06/2006																															
W2	15/06/2006	<0.0002	5.8	<0.0001	8.4	0.288	6.4	<0.00005	<0.001	0.0006	0.0009	0.0012	<0.001		143	<6	<5					<0.001				31	12					
W2	23/06/2006	0.0002	5.54	<0.0001	8.2	0.344	7.2	<0.00005	<0.001	0.0006	0.0012	0.001	0.004		161	<6	<5					<0.001				32.6	9.7					
W2	28/06/2006	<0.0002	5.49	<0.0001	7.9	0.304	6.6	<0.00005	<0.001	0.0006	0.0012	0.0011	<0.001		162	<6	<5					0.001				33.9	13.4					
W2	07/07/2006	<0.0002	6.5	<0.0001	8.3	0.358	7.8	<0.00005	<0.001	0.0009	0.0012	0.0034	0.002		165	<6	<5					0.001				35.4	9.2					
W2	12/07/2006	<0.0002	5.69	<0.0001	8.9	0.37	7.9	<0.00005	<0.001	0.0007	0.0009	0.0019	0.001		160	<6	<5					0.001				36.3	10					
W2	31/07/2006 13:30																															
W2	31/07/2006 13:30	<0.0002	6.03	<0.0001	8.9	0.256	7.5	<0.00005	<0.001	0.0006	0.0015	0.0003	<0.001		173	<6	<5					0.001				36.8	8.7					
W2	02/08/2006	<0.0002	3.79	<0.0001	9.1	0.289	7.8	<0.00005	<0.001	<0.0005	0.0015	0.0015	<0.001		185	<6	<5					0.001				36.5	8.5					
W2	23/08/2006																															
W2	23/08/2006	<0.0002	5.81	<0.0001	9	0.39	7.1	<0.00005	<0.001	0.0006	0.0015	0.0014	0.003		180	<6	<5					0.17				37.3	8.1					
W2	30/08/2006	<0.0002	5.77	<0.0001	9.3	0.37	6.8	<0.00005	<0.001	<0.0005	0.0016	0.0016	<0.001		183	<6	<5					<0.001				38.2	8.6					
W2	06/09/2006	<0.0002	5.75	<0.0001	9.8	0.407	7.3	<0.00005	<0.001	0.0005	0.0016	0.0019	0.001		182	<6	<5					<0.001				37.6	8.2					
W2	13/09/2006	<0.0002	5.27	<0.0001	9.6	0.372	7.2	<0.00005	<0.001	0.0007	0.0016	0.0015	0.001		190	<6	<5					0.001				37.8	8.7					
W2	20/09/2006	<0.0002	5.76	<0.0001	8.9	0.366	7.7	<0.00005	<0.001	<0.0005	0.0018	0.0015	0.002		183	<6	<5					0.001				37.6	8.3					

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
MC1	26/08/2016 11:30			370.8			
MC1	30/08/2016 11:40			353.1			
MC1	05/09/2016 11:20			306.6			
MC1	12/09/2016 13:48			302.6			
MC1	20/09/2016 14:22			304			
MC1	26/09/2016 11:30			315.7			
MC1	04/10/2016 11:15			323.1			
MC1	10/10/2016 11:30			326.4			
MC1	18/10/2016 14:50			445.7			
W2	05/04/2006		2.9				
W2	06/04/2006		2.9				
W2	07/04/2006	<0.0050	49.1				
W2	08/04/2006		43.6				
W2	09/04/2006		63.1				
W2	10/04/2006		55.8				
W2	11/04/2006		47.8				
W2	12/04/2006		44.4				
W2	13/04/2006		44.5				
W2	14/04/2006		44.4				
W2	15/04/2006		44.9				
W2	16/04/2006		46.3				
W2	17/04/2006		58.2				
W2	18/04/2006		49.3				
W2	19/04/2006		39.5				
W2	20/04/2006		38				
W2	21/04/2006		36.3				
W2	22/04/2006		27				
W2	23/04/2006		18.7				
W2	24/04/2006		13.4				
W2	25/04/2006		8.41				
W2	26/04/2006		9.62				
W2	27/04/2006		10.1				
W2	28/04/2006		8.7				
W2	29/04/2006		8.7				
W2	30/04/2006		8.7				
W2	01/05/2006		9.3				
W2	02/05/2006		7.9				
W2	03/05/2006		5.4				
W2	05/05/2006		2.9				
W2	06/05/2006		2.6				
W2	08/05/2006		2.85				
W2	10/05/2006						
W2	14/05/2006 17:30						
W2	17/05/2006 13:00						
W2	20/05/2006 13:00						
W2	23/05/2006 14:00						
W2	26/05/2006 14:00						
W2	29/05/2006 13:00						
W2	02/06/2006 11:00						
W2	07/06/2006 15:32						
W2	15/06/2006						
W2	15/06/2006						
W2	23/06/2006						
W2	28/06/2006						
W2	07/07/2006						
W2	12/07/2006						
W2	31/07/2006 13:30						
W2	31/07/2006 13:30						
W2	02/08/2006						
W2	23/08/2006						
W2	23/08/2006						
W2	30/08/2006						
W2	06/09/2006						
W2	13/09/2006						
W2	20/09/2006						

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Phase	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
				mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W2	28/09/2006	No Discharge	P	<2	124		7.64		329						161	151			20.9	0.008		<0.03	7.7	0.02	<0.0004	0.0005	0.062	<0.0002	<0.001
W2	04/10/2006	No Discharge	P	<2			8.32		321						160	152			23.7	0.053		0.04	8.2	0.01	<0.0004	0.0005	0.06	<0.0002	<0.001
W2	12/10/2006	No Discharge	P	<2	202		7.54		319						158	146			20.9	0.006		0.04	8.1	0.055	<0.0002	0.0003	0.06	<0.0001	<0.0005
W2	18/10/2006	No Discharge	P	<1	187		8.2		443						160	194	1.3			High DL removed	<0.005	0.08	8.2	0.007	<0.0002	0.0003	0.065	<0.0001	<0.0005
W2	28/10/2006	No Discharge	P	<2	298		7.77		323						163	151	1.42		22	0.01	<0.03	0.06	7.7	0.08	<0.0002	0.0004	0.071	<0.0001	<0.0005
W2	17/04/2007	No Discharge	P	101	320		8.34		400						216	197	2.7		32		High DL removed	<0.1	21	3.55	<0.0002	0.0022	0.127	<0.0001	<0.0005
W2	26/04/2007	No Discharge	P	98	136		7.44		89						52	44	1.4		3.4	High DL removed	High DL removed	<0.1	27	2.88	<0.0004	0.001	0.078	<0.0002	<0.001
W2	19/05/2007	No Discharge	P	<2	172		8.03		240						116	104	0.9		15.1	High DL removed	<0.05	0.6	13.6	0.079	<0.0004	0.0005	0.048	<0.0002	<0.001
W2	30/05/2007	No Discharge	P	<2	186		8.1		264					127		116	1		19.6	High DL removed	<0.05	0.8	10.2	0.041	<0.0002	0.0003	0.056	<0.0001	<0.0005
W2	20/06/2007	No Discharge	P	<2	188		7.95		283						149	137	1.1		21.4	High DL removed	<0.05	0.9	10.4	0.065	<0.0002	0.0004	0.063	<0.0001	<0.0005
W2	27/06/2007	No Discharge	P																					0.036	<0.0002	0.0005	0.062	<0.0001	<0.0005
W2	04/07/2007	No Discharge	P											124										4.15	0.0002	0.0023	0.134	0.0002	<0.0005
W2	18/07/2007	No Discharge	P	4	210		7.96		310						161	154	1.3		21.2	High DL removed	<0.05	0.5	10.4	0.253	<0.0002	0.0008	0.074	<0.0001	<0.0005
W2	15/08/2007	No Discharge	P	<2	238		8.18		306						160	166	1.2		21	High DL removed	<0.05	0.3	10	0.071	<0.0002	0.0005	0.069	<0.0001	<0.0005
W2	18/09/2007	No Discharge	P	10	200		8.18		266						129	144	0.99		12	High DL removed	<0.02	0.04	13.4	0.09	<0.0002	0.0006	0.055	<0.0001	<0.0005
W2	17/10/2007	No Discharge	P	<2	192		8.17		275						139	132	1.21			High DL removed	<0.02	0.34	11.9	0.125	<0.0002	0.0005	0.058	<0.0001	<0.0005
W2	22/04/2008	No Discharge	P	<2	256		8.3		341						162	169	1.35		26.8	High DL removed	<0.02	<0.02		0.01	<0.0002	0.0009	0.057	<0.00004	
W2	13/05/2008	No Discharge	P	5	128		7.94		159						70	77	0.82		8.43	High DL removed	<0.02	<0.02		0.11	<0.0002	0.0012	0.038	<0.00004	
W2	20/05/2008	No Discharge	P	5	170		7.98		192						89	89	0.91		10.2	High DL removed	0.03	0.02		0.17	<0.0002	<0.0002	0.043	<0.00004	
W2	03/06/2008	No Discharge	P	<2	154		8.04		253					120		116	1.01		15.1	High DL removed	0.03	0.04		0.01	<0.0002	0.0007	0.047	0.00004	
W2	08/07/2008	No Discharge	P	<2	232		8.15		292							138	1.14		20.8	High DL removed	<0.01	0.06	9.8	0.01	<0.0002	0.0004	0.058	<0.00004	
W2	23/07/2008	No Discharge	P	10	178		8.03		221						120	92	0.79		10.6	High DL removed	0.03	0.15		0.385	<0.0002	0.0007	0.056	<0.0001	<0.0005
W2	07/08/2008	No Discharge	P												153								9.4						
W2	08/10/2008	No Discharge	P	3	162		8.03		223							113	1.12		12.3	0.07	<0.01	0.15	15.6	0.118	<0.0002	0.0006	0.046	<0.00004	<0.0001
W2	29/10/2008	No Discharge	P												169								11.3						
W2	18/11/2008	No Discharge	P	<2	250	8.23	7.88	378	321	0.8						150	1.73		23.2	High DL removed				0.062	<0.0002	0.0002	0.064	<0.0001	<0.0005
W2	22/04/2009	No Discharge	P	100	222	8.2	7.92	313	291	0.3					151	134	1.4		21.5					2.62	<0.0002	0.0018	0.109	0.00009	<0.0001
W2	30/04/2009	No Discharge	P	72	64	7.4	7.07	62.4	54	0.5		295			30	23	0.54		1.02				20.8	2.04	<0.0002	0.001	0.06	<0.00004	<0.0001
W2	05/05/2009	No Discharge	P	87	52		7.03		54						35	24	0.5		1.4					1.93	<0.0002	0.0011	0.06	0.00008	<0.0001
W2	27/05/2009	No Discharge	P	8	176	7.98	7.98	257	252	13.7					117	110	0.87		17.9					0.11	<0.0002	0.0005	0.058	<0.00004	<0.0001
W2	17/06/2009	No Discharge	P	<2	138	8.17	7.98	284	280	6.7					129	122	1.22		18				10.7	0.025	<0.0002	0.0003	0.055	<0.00004	<0.0001
W2	08/08/2009	No Discharge	P	<4	200		8.2		319					194						<0.005	<0.005	0.38		0.14	<0.0005	0.0006	0.086	<0.0001	<0.001
W2	09/08/2009	No Discharge	P			7.85		325		7.17		93.6																	
W2	10/08/2009	No Discharge	P			7.8		289		9.6																			
W2	11/08/2009	No Discharge	P	<2	234		8.05		302						138	140	1.91		24					0.05	<0.0002	0.0007	0.056	<0.00004	<0.001
W2	12/08/2009	No Discharge	P	<4	220		8.1		316					157	148	140	2.2	0.32	19	<0.005	<0.005	0.33		0.047	<0.0005	0.0003	0.069	<0.0001	<0.001
W2	05/11/2009	No Discharge	P			7.65		353		1.3																			
W2	06/11/2009	No Discharge	P	<2	230		7.88		313						149	134	6.01		25			0.95		0.03	<0.0002	0.0004	0.066	<0.00004	<0.001
W2	07/04/2010	No Discharge	P	34	382	7.81	8.26	597	580	1				280		250	5		52					1.26	<0.0002	0.0011	0.129	0.00005	<0.001
W2	19/04/2010	No Discharge	P	49	174	7.69	7.83	306	189	1.1				90		92	1.49		10			0.02		1.08	<0.0002	0.0009	0.057	<0.00004	<0.001
W2	20/04/2010	No Discharge	P	12	148	7.76	7.72	333	134	1				66		64	1.26		6.5			0.04		0.224	<0.0002	0.0004	0.032	<0.00004	<0.001
W2	21/04/2010	No Discharge	P	19	130	6.88	7.2	87.7	86	1				46		38	0.97		4.5			0.02		0.625	<0.0002	0.0006	0.032	0.00005	<0.001
W2	22/04/2010	No Discharge	P	8	130	6.93	7.47	97.1	98	1				52		43	1.01		3.7			0.06		0.09	<0.0002	0.0003	0.029	<0.00004	<0.001
W2	23/04/2010	No Discharge	P	<5	114	7.64	7.48	104	96	0		152.7		53		45	0.95		4					0.189	<0.0002	0.0005	0.03	<0.00004	<0.001
W2	24/04/2010	No Discharge	P	3	120	7.53	7.44	104	97			111.3		53		45	0.97		3.9				27.2	0.176	<0.0002	0.0006	0.032	<0.00004	<0.001
W2	25/04/2010	No Discharge	P	15	110	7.78	7.5	95	89	0		81.1		46		41	0.77		3.5				27.5	0.504	<0.0002	0.0006	0.034	<0.00004	<0.001
W2	26/04/2010	No Discharge	P	21	60	7.23	7.7	91	83	0.01		151.6		47.5	47.6	42	1.8	0.12	<0.5	0.045	<0.03	<0.1	21.3	0.651	<0.0005	0.0007	0.039	<0.0001	<0.001
W2	27/04/2010	No Discharge	P	31	70	7.63	7.7	78	77	0		122.2		44.7	40.6	38	1.5	0.11	<0.5	0.025	0.009	0.08	21.8	1.03	<0.0005	0.0009	0.047	<0.0001	<0.001
W2	28/04/2010	No Discharge	P	41	70	7.87	7.7	74	73	0		17		43.5	39.1	36	1	0.1	<0.5	0.55	<0.03	<0.1	20.2	1.46	<0.0005	0.0011	0.053	<0.0001	<0.001
W2	29/04/2010	No Discharge	P	37	74	7.87	7.5	81	78	-0.02		11.5		46.3	40.9	39	1.1	0.11	<0.5	0.026	0.02	<0.04	18.3	0.972	<0.0005	0.001	0.05	<0.0001	<0.001
W2	30/04/2010	No Discharge	P	71	70	7.9	7.5	88	79	0.18		54		48.9	38.5	39	1.7	0.12	<0.5	<0.005	High DL removed	<0.2	22.5	2.42	<0.0005	0.0018	0.082	0.0001	<0.001
W2	01/05/2010	No Discharge	P	38	98	7.11	7.9	107	102	0		89.2		56.2	49.8	48	1.6	0.14	<0.5	0.035	0.006	0.03	23.1	1.17	<0.0005	0.0011	0.056	<0.0001	<0.001
W2	02/05/2010	No Discharge	P	27	94	7.88	7.8	125	129	0		45.6		64.6	60.3	58	1.4	0.15	<0.5	0.022	0.006	0.09	22	0.874	<0.0005	0.0013	0.052	<0.0001	<0.001
W2	03/05/2010	No Discharge	P	25	68	7.98	7.8	130	122	0.35		17.5		57.9	58.3	58	1.5	0.17	<0.5	0.024	0.006	<0.02	18.1	0.686	<0.0005	0.0008	0.053	<0.0001	<0.001
W2	04/05/2010	No Discharge	P	11	72	7.89	7.9	143	133	0		101.2		66.5	63.5	64	1.6	0.17	<0.5	0.028	High DL removed	<0.2	16.2	0.363	<0.0005	0.0007	0.044	<0.0001	<0.001
W2	05/05/2010	No Discharge	P	6	100	7.95	7.6	156	144	0		74.8		73.8	73	69	1.3	0.18	3.3	<0.01	<0.005	<0.02	16.3	0.227	<0.0005	0.0006	0.04	<0.0001	<0.001
W2	06/05/2010	No Discharge	P	5	130	8.09	8	167	155	0		132.3		79.4	77.7	74	1.1	0.17	5.5	0.05	<0.005	0.03	14.2	0.178	<0.0005	0.0007	0.043	<0.0001	<0.001
W2	07/05/2010	No Discharge	P	<4	120	8.13	8.1	172	160	0		64.8		81.4	78.7	78	1.2	0.19	7.9	0.01	<0.005	0.02	13.7	0.147	<0.0005	0.0005	0.041	<0.0001	<0.001
W2	08/05/2010	No Discharge	P	5	120	8.04	8.1	181	169	0		127.2		86.4	84.1	81	1.1	0.2	8.1	0.018	<0.005	0.02	13	0.152	<0.0005	0.0005	0.043	<0.0001	<0.001
W2	09/05/2010	No Discharge	P	<4	140	8.01	8	192	159	0.08		142.1		94.1	87.2	81	<0.5	0.2	2.7	0.01	0.007	0.12	10.2	0.137	<0.0005	0.0006	0.046	<0.0001	<0.001
W2	10/05/2010	No Discharge	P	<4	130	8.18	7.9	205	192	0.04		142.5		98.5	93.8	89	1.9	0.23	13	0.034	0.009	0.11	11	0.097	<0.0005	0.0005	0.048	<0.0001	<0.001
W2	11/05/2010	No Discharge	P	<4	110		8		199					101	99.5	93	3.9	0.17	13	0.12	<0.005	0.04	10.6	0.061	<0.0005	0.0005	0.045	<0.0001	<0.001
W2	12/05/2010	No Discharge	P	<4	150		8.1		209					108	104	98	1.4	0.16	14	0.02	<0.005	0.03	10.5	0.059	<0.0005	0.0004	0.047	<0.0001	<0.001
W2	13/05/2010	No Discharge	P	<4	110		8		209					98.9	103	98	1.3	0.22	14	0.016	<0.005	0.08	9.5	0.053	<0.0005	0.0004	0.047	<0.0001	<0.001
W2	14/05/2010	No Discharge	P	<4	170	7.8	8.1	246	236	1.4				111	112	110	1.7	0.24	17	0.12	<0.005	0.05	9.9	0.089	<0.0005	0.0005	0.051	<0.0001	<0.001

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W2	28/09/2006	0.008	<0.00002	41.3	<0.001	<0.0002	0.003	<0.2	<0.0002	0.002	13	0.01		<0.002	0.002		1.2	<0.0004	5.43	<0.0001	8.8	0.371	6.4	<0.0001	<0.002	<0.001	0.002
W2	04/10/2006	0.007	<0.00002	38	0.001	<0.0002	0.002	<0.2	<0.0002	0.002	12	0.01		<0.002	0.0024		1.2	0.0008	5.31	<0.0001	8.6	0.368	7	<0.0001	<0.002	0.001	0.002
W2	12/10/2006	0.006	<0.00001	40.4	<0.0005	<0.0001	0.002	0.1	<0.0001	0.002	13.5	0.022		0.001	0.0013		1.2	<0.0002	4.5	<0.0001	8.1	0.385	6.9	<0.00005	<0.001	0.0034	0.0015
W2	18/10/2006	0.005	<0.00001	41.2	<0.0005	<0.0001	0.002	<0.1	0.0001	0.002	13.7	0.025		0.001	0.0014	0.08	1.3	<0.0002	5.81	<0.0001	8.6	0.445	7.7	<0.00005	<0.001	<0.0005	0.0019
W2	28/10/2006	0.006	<0.00001	43.6	<0.0005	<0.0001	0.002	0.1	<0.0001	0.003	13.5	0.035	<0.00005	0.001	0.0013		1.6	<0.0002	5.92	<0.0001	10.2	0.43	7.5	<0.00005	<0.001	0.004	0.0021
W2	17/04/2007	0.008	0.00007	56.5	0.0059	0.0024	0.012	5.1	0.0014	0.006	22.9	0.189	<0.0001	0.001	0.0066	0.17	5.5	0.0004	14	<0.0001	15.3	0.555	11.7	<0.00005	<0.001	0.129	0.0017
W2	26/04/2007	0.004	0.00005	17	0.0049	0.002	0.009	3.7	0.001	0.002	4.8	0.2	<0.0001	<0.002	0.0061	0.2	2.6	<0.0004	8.92	<0.0001	3.5	0.12	1	<0.0001	<0.002	0.116	<0.001
W2	19/05/2007	0.007	<0.00002	30.6	<0.001	<0.0002	0.003	0.2	<0.0002	<0.002	10	0.02	<0.0001	<0.002	0.002	0.05	1	<0.0004	5.21	<0.0001	6	0.252	5.2	<0.0001	<0.002	<0.001	0.001
W2	30/05/2007	0.007	<0.00001	33	<0.0005	0.0001	0.003	<0.1	<0.0001	0.001	10.9	0.006	<0.0001	0.001	0.0007	<0.05	1.5	<0.0002	4.35	<0.0001	7.6	0.302	6.2	<0.00005	<0.001	0.0019	0.0014
W2	20/06/2007	0.008	<0.00001	39.2	0.0008	0.0001	0.003	0.1	<0.0001	0.002	11.7	0.007	<0.0001	0.001	0.0013	<0.05	1.3	<0.0002	5.2	<0.0001	8.4	0.339	6.8	<0.00005	<0.001	0.003	0.0015
W2	27/06/2007	0.007	0.00002	38.2	<0.0005	0.0001	0.002	<0.1	<0.0001	0.002	12.2	0.006	<0.0001	0.002	0.0011		1.3	<0.0002	5.01	<0.0001	8.9	0.347	6.8	<0.00005	<0.001	0.0017	0.0016
W2	04/07/2007	0.008	0.00006	32.6	0.0074	0.0027	0.011	6.1	0.0016	0.005	10.3	0.167	<0.0001	0.001	0.0087		1.4	<0.0002	11	<0.0001	7.3	0.258	3.8	<0.00005	<0.001	0.146	0.0011
W2	18/07/2007	0.007	0.00001	41.6	0.0007	0.0002	0.003	0.4	0.0001	0.002	13.5	0.018	<0.0001	0.001	0.0008		1.5	<0.0002	5.97	<0.0001	9.5	0.426	6.7	<0.00005	<0.001	0.0107	0.0016
W2	15/08/2007	0.006	<0.00001	43.4	<0.0005	<0.0001	0.002	<0.2	<0.0001	0.002	13	0.01	<0.0001	0.001	0.0013	<0.05	1	<0.0002	6.21	<0.0001	9.6	0.373	6.6	<0.00005	<0.001	0.0029	0.0017
W2	18/09/2007	0.005	<0.00001	33.3	0.0007	0.0002	0.002	0.3	<0.0001	0.002	10.1	0.021	<0.0001	0.001	0.0018	<0.05	1.2	<0.0002	6.4	<0.0001	7.6	0.298	3.8	<0.00005	<0.001	0.0038	0.001
W2	17/10/2007	0.005	0.00001	36.8	0.0007	0.0002	0.002	0.3	<0.0001	0.002	11	0.023	<0.0001	<0.001	0.0015		1	<0.0002	6.03	<0.0001	7.2	0.31	4.7	<0.00005	<0.001	0.0026	0.0011
W2	22/04/2008	<0.005	<0.00007	42.6	<0.0005	0.0001	0.002	0.03	<0.0001	0.002	17.6	0.0244	<0.00001	0.00089	<0.001	0.05	3.04	0.0008	3.91	<0.0001	11.4	0.457		0.00004	<0.0001	0.0004	0.0013
W2	13/05/2008	<0.005	<0.00007	20.4	0.0009	0.00018	0.003	0.46	<0.0001	0.001	6.51	0.0211	<0.00001	0.00066	0.004	0.04	1.22	<0.0006	2.46	<0.0001	5	0.166		<0.00001	<0.0001	0.0054	0.0006
W2	20/05/2008	<0.005	<0.00007	24.2	0.0014	0.00023	0.002	0.44	0.0001	0.001	7.73	0.0223	<0.00001	0.00072	0.004	0.04	1.25	0.0006	2.33	<0.0001	6.4	0.196		<0.00001	<0.0001	0.0064	0.0007
W2	03/06/2008	0.006	<0.00007	31.2	0.0024	0.00008	0.005	0.12	0.0008	0.001	10.2	0.0076	<0.00001	0.00097	<0.001	0.02	1.24	0.0007	2.33	<0.0001	8	0.267		<0.00001	0.0006	0.0013	0.0012
W2	08/07/2008	<0.005	<0.00008	41	0.0009	0.00009	0.002	0.05	0.0001	0.002	12.4	0.0058	<0.00001	0.00108	0.001	0.01	1.4	0.0008	4.58	<0.00001	8.8	0.361		<0.00001	<0.0001	0.0009	0.0014
W2	23/07/2008	0.241	0.00002	30.8	0.001	0.0003	0.004	0.61	0.0006	0.001	9.4	0.032	<0.0001	<0.001	0.0042		1	0.0004	6.11	0.00005	11.7	0.259	4	<0.00005	<0.001	0.0174	0.0009
W2	07/08/2008																										
W2	08/10/2008	<0.005	<0.00001	35.3	0.0013	0.00023	0.01	0.38	0.0001	0.001	10.2	0.034	<0.00001	0.00099	0.002	<0.01	1.2	<0.0006	6.55	<0.00001		0.258		<0.00001	<0.0001	0.006	0.0007
W2	29/10/2008																										
W2	18/11/2008	0.008	0.00003	41.5	<0.0005	<0.0001	0.014	0.1	<0.0001	0.003	12.4	0.021	<0.0001	0.001	0.0014		1.4	<0.0002	5.26	0.00005	9.6	0.417	7.5	<0.00005	<0.001	0.0026	0.0016
W2	22/04/2009	<0.005	0.00006	42.9	0.0052	0.00175	0.016	4.08	0.0018	0.004	16.3	0.113	0.00001	0.00072	0.004	0.18	3.7	<0.0006	10.7	<0.00001	9.83	0.354	7.7	0.00003	<0.0001	0.102	0.0008
W2	30/04/2009	<0.005	0.00007	10	0.0043	0.00146	0.022	3.45	0.0012	0.002	3.44	0.155	0.00002	0.00024	0.004	0.19	2.3	<0.0006	5.45	0.00004	1.73	0.058	0.6	0.00002	<0.0001	0.0733	<0.0004
W2	05/05/2009	<0.005	0.00006	11.4	0.0046	0.00152	0.018	2.98	0.0011	0.002	3.34	0.135	0.00001	0.00028	0.005	0.162	1.6	<0.0006	4.86	<0.00001	1.7	0.062	0.6	0.00002	<0.0001	0.0673	<0.0004
W2	27/05/2009	<0.005	0.00094	32.4	0.0012	0.00018	0.008	0.26	0.0004	0.001	10.6	0.0215	<0.00001	0.00173	0.002	<0.05	1.5	<0.0006	4.52	<0.00001	8.08	0.296	5.9	<0.00001	<0.0001	0.0059	0.0013
W2	17/06/2009	<0.005	0.00001	35.2	0.0005	0.00009	0.004	0.06	<0.0001	0.001	11.1	0.0042	<0.00001	0.00162	0.001	0.014	1.4	<0.0006	4.49	0.00068	8.25	0.326	6.3	<0.00001	<0.0001	0.0022	0.0011
W2	08/08/2009	<0.05	0.00062	51.6	<0.001	<0.0005	0.0127	0.371	0.0006	<0.005	15.9	0.026	<0.00002	0.003	0.002		2.47	0.0003	7.8	<0.00002	11.6	0.505	11	<0.00005	<0.005	0.005	0.0015
W2	09/08/2009																										
W2	10/08/2009																										
W2	11/08/2009	0.009	<0.00001	39.5	0.001	0.00013	0.004	0.204	0.0003	0.002	12.5	0.014		0.0021	0.002	<0.01	1.6	<0.0006	6	<0.00001	9.12	0.326	6.5	<0.00001	<0.0001	0.0026	0.0014
W2	12/08/2009	<0.05	0.00003	41.7	<0.001	<0.0005	0.0113	0.124	0.0005	<0.005	12.9	0.012	0.00002	0.002	0.001		1.67	0.0003	6.07	<0.00002	9.29	0.412	5	<0.00005	<0.005	<0.005	0.0014
W2	05/11/2009																										
W2	06/11/2009	0.012	<0.00001	44.9	<0.0004	0.00011	0.002	0.04	<0.0001	0.002	14.1	0.0124	<0.00001	0.0024	0.002	<0.05	1.6	<0.0006	5.87	<0.00001	11.2	0.476	8.7	<0.00001	<0.0001		0.0013
W2	07/04/2010	0.005	0.00003	70.3	0.0028	0.00118	0.018	1.91	0.0007	0.004	29.2	0.0888	<0.00001	0.0009	0.003	0.11	4.1	<0.0006	11.7	0.00001	18.9	0.674	17.8	0.00001	<0.0001		0.0018
W2	19/04/2010	0.007	0.00004	25.5	0.002	0.00086	0.014	1.33	0.0005	0.002	8.52	0.103	0.00001	0.0006	0.003	0.18	2.8	<0.0006	6.24	<0.00001	5.46	0.215	3.5	<0.00001	<0.0001		<0.0004
W2	20/04/2010	<0.005	0.00012	18.6	0.0006	0.00024	0.008	0.312	0.0002	<0.001	5.5	0.0483	0.00001	0.0005	0.001	0.15	2.5	<0.0006	4.01	<0.00001	3.77	0.139	2.2	<0.00001	<0.0001		<0.0004
W2	21/04/2010	0.008	0.00003	13.8	0.0009	0.00036	0.007	0.572	0.0002	0.001	4.13	0.0521	0.00002	0.0004	0.002	0.13	2.2	<0.0006	3.38	<0.00001	2.58	0.096	1.4	<0.00001	<0.0001		<0.0004
W2	22/04/2010	<0.005	0.00003	14.9	0.0005	0.00018	0.006	0.217	0.0001	<0.001	4.37	0.0316	0.00002	0.0004	0.001	0.12	2.1	<0.0006	3.12	<0.00001	2.67	0.105	1.4	<0.00001	<0.0001		<0.0004
W2	23/04/2010	<0.005	0.00002	15.7	0.0006	0.0002	0.006	0.334	0.0002	<0.001	4.66	0.0318	0.00001	0.0004	0.001	0.13	1.9	<0.0006	3.57	<0.00001	2.99	0.105	1.5	<0.00001	<0.0001		<0.0004
W2	24/04/2010	<0.005	<0.00001	16.2	0.0007	0.0002	0.006	0.344	0.0002	<0.001	4.74	0.0316	0.00002	0.0004	0.002	0.08	1.9	<0.0006	3.67	<0.00001	3.1	0.11	1.6	<0.00001	<0.0001		<0.0004
W2	25/04/2010	0.005	0.00001	13.9	0.001	0.00045	0.007	0.826	0.0004	<0.001	4.28	0.0485	0.00002	0.0003	0.002	0.14	1.6	<0.0006	3.8	<0.00001	2.65	0.098	1.3	<0.00001	<0.0001		<0.0004
W2	26/04/2010	<0.05	0.00003	12.8	0.001	0.0006	0.0107	1.15	0.0005	<0.005	3.74	0.069	<0.00002	<0.001	0.002		1.42	<0.0001	4.42	<0.00002	2.24	0.092	<3	<0.00005	<0.005	0.025	0.0002
W2	27/04/2010	<0.05	0.00005	12	0.002	0.0009	0.0129	1.89	0.0007	<0.005	3.59	0.095	<0.00002	<0.001	0.003		1.45	0.0001	5.32	<0.00002	2.17	0.085	<3	<0.00005	<0.005	0.04	0.0002
W2	28/04/2010	<0.05	0.00006	11.9	0.003	0.001	0.012	2.45	0.0008	<0.005	3.37	0.099	<0.00002	<0.001	0.004		1.38	<0.0001	5.77	0.00002	1.98	0.083	<3	<0.00005	<0.005	0.062	0.0002
W2	29/04/2010	<0.05	0.00025	12.4	0.002	0.0008	0.0101	1.98	0.0006	<0.005	3.7	0.084	0.00003	<0.001	0.004		1.29	<0.0001	4.93	<0.00002	2.34	0.09	<3	<0.00005	<0.005	0.03	0.0002
W2	30/04/2010	<0.05	0.00003	12.7	0.005	0.002	0.0126	4.45	0.0014	<0.005	4.15	0.159	0.00004	<0.001	0.006		1.33	0.0001	7.42	<0.00002	2.29	0.093	<3	<0.00005	<0.005	0.074	0.0003
W2	01/05/2010	<0.05	0.00003	15	0.003	0.0008	0.0071	2.17	0.0007	<0.005	4.53	0.087	<0.00002	<0.001	0.003	0.075	1.26	<0.0001	5.78	<0.00002	2.8	0.109	<3	<0.00005	<0.005	0.038	0.0002
W2	02/05/2010	<0.05	0.00006	17.5	0.002	0.0007	0.007	1.77	0.0006	<0.005	5.06	0.08	0.00003	<0.001	0.003		1.3	0.0001	5.4	<0.00002	3.31	0.135	<3	<0.00005	<0.005	0.03	0.0003
W2	03/05/2010	<0.05	<0.00001	15.5	0.002	0.0006	0.0067	1.45	0.0005	<0.005	4.64	0.076	0.00005	<0.001	0.005		1.04	0.0001	4.8	<0.00002	2.96	0.119	<3	<0.00005	<0.005	0.026	0.0002
W2	04/05/2010	<0.05	<0.00001	18	0.001	<0.0005	0.0049	0.934	0.0003	<0.005	5.26	0.051	0.00006	<0.001	0.002		1.06	0.0001	4.75	<0.00002	3.55	0.14	<3	<0.00005	<0.005	0.01	0.0003
W2	05/05/2010	<0.05	<0.00001	19.8	0.001	<0.0005	0.0047	0.716	0.0003	<0.005	5.91	0.026	0.00006	<0.001	0.002	0.032	1.14	0.0001	4.82	<0.00002	4.08	0.155	4	<0.00005	<0.005	0.008	0.0003
W2	06/05/2010	<0.05	0.00002	21.1	0.001	<0.0005	0.007	0.666	0.0002	<0.005	6.47	0.02	0.00005	<0.001	0.002	0.033	1.2	0.0001	5.01	<0.00002	4.46	0.171	<3	<0.00005	<0.005	<0.005	0.0003
W2	07/05/2010	<0.05	<0.00001	21.5	<0.001	<0.0005	0.0048	0.521	0.0009	<0.005	6.71	0.017	<0.00002	<0.001	0.002	0.031	1.14	<0.0001	4.61	0.00002	4.44	0.17	<3	<0.00005	<0.005	0.006	0.0004
W2	08/05/2010	<0.05	0.00004	22.9	<0.001	<0.0005	0.0034	0.468	<0.0002	<0.005	7.09	0.016	<0.00002	<0.001	0.002	0.032	1.16	0.0001	4.71	<0.00002	4.7	0.178	<3	<0.00005	<0.005	0.006	0.0004
W2	09/05/2010	<0.05	0.00005	24.9	<0.001	<0.0005	0.0089	0.431	0.0003	<0.005	7.75	0.013	<0.00002	<0.001	0.002	0.027	1.22	0.0001	4.86	<0.00002	5.05	0.199	<3	<0.00005	<0.005	<0.005	0.0005
W2	10/05/2010	<0.05	0.00012	26.1	<0.001	<0.0005	0.0069	0.37	0.0003	<0.005	8.07	0.011	<0.00002	0.001	0.001	0.03	1.25	0.0001	5.04	0.00004	5.32	0.217	4	<0.00005	<0.005	<0.005	0.0006
W2	11/05/2010	<0.05	0.00003	27.2	<0.001	<0.0005	0.004	0.259	<0.0002	<0.005	7.92	0.009	<0.00002	0.001	0.001	0.018	1.27	<0.0001	4.94	<0.00002	5.33	0.214	4	<0.00005	<0.005	<0.005	0.0006
W2	12/05/2010	<0.05	0.00008	29	<0.001	<0.0005	0.008	0.24	0.0002	<0.005	8.63	0.007	<0.00002	0.001	0.001	0.018	1.36	0.0001	5.31	<0.00002	5.92	0.23	<3	<0.00005	<0.005	<0.005	0.0006
W2	13/05/2010	<0.05	0.00006	26.6	<0.001	<0.0005	0.0066	0.181	0.0003	<0.005	7.89	0.007	<0.00002	0.001	0.001	0.018	1.17	<0.0001	4.55	<0.00002	4.83	0.234	4	<0.00005	<0.005	<0.005	0.0007
W2	14/05/2010	<0.05	0.00019	29.4	<0.001	<0.0005	0.0127	0.174	0.0003	<0.005	9.19	0.015	0.00006	0.001	0.002		1.46	0.0001	5.35	<0.00002	6.34	0.254	<3	<0.00005	<0.005	<0.005	0.0008

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W2	28/09/2006	0.0007	0.004	<0.002	0.008	<0.0002	0.0004	0.061	<0.0001	<0.0005	0.004	<0.00001	42.1	0.0005	<0.0001	0.002	0.04	<0.0001	0.002	13.5	0.013		0.001	0.0006		1.4
W2	04/10/2006	0.0008	<0.002	<0.002	<0.005	<0.0002	<0.0002	0.059	<0.0001	<0.0005	0.004	<0.00001	41.8	0.0005	<0.0001	<0.001	0.05	<0.0001	0.002	13.5	0.012		0.001	0.0008		1.4
W2	12/10/2006	0.0007	<0.001	<0.001	0.006	<0.0002	0.0004	0.058	<0.0001	<0.0005	0.005	<0.00001	41.6	<0.0005	<0.0001	0.002	0.03	<0.0001	0.002	13.2	0.018		0.001	0.0008		1.3
W2	18/10/2006	0.0005	0.002	<0.001	0.006	<0.0002	0.0003	0.064	<0.0001	<0.0005	0.005	<0.00001	42.7	0.0005	0.0001	0.002	0.02	<0.0001	0.002	13.1	0.025		<0.001	0.0011		1.4
W2	28/10/2006	0.0006	0.003	<0.001	0.007	<0.0002	0.0004	0.067	<0.0001	<0.0005	0.006	0.00003	42	0.0069	<0.0001	0.002	0.02	<0.0001	0.002	14	0.028	<0.0001	0.001	0.0009		1.4
W2	17/04/2007	0.0123	0.025	0.002	0.032	<0.0002	0.0008	0.071	<0.0001	<0.0005	0.005	0.00002	51	0.0017	0.0002	0.002	0.05	<0.0001	0.003	21.5	0.046		0.001	0.0011		5.2
W2	26/04/2007	0.0084	0.023	<0.002	0.058	<0.0002	0.0004	0.028	<0.0001	<0.0005	0.003	0.00002	14.5	<0.0005	0.0002	0.003	0.14	0.0003	<0.001	3.9	0.045	<0.0001	<0.001	0.0014	0.09	2.3
W2	19/05/2007	0.001	0.007	<0.002	0.008	<0.0002	0.0005	0.048	<0.0001	<0.0005	0.005	<0.00001	29.4	0.0011	<0.0001	0.003	0.13	<0.0001	0.001	10.4	0.01	<0.0001	0.001	0.0008		1.3
W2	30/05/2007	0.0008	0.006	<0.001	<0.005	<0.0002	0.0004	0.053	<0.0001	<0.0005	0.004	<0.00001	32.6	0.0008	<0.0001	0.004	0.03	<0.0001	0.002	10.8	<0.005	<0.0001	0.001	<0.0005		1.4
W2	20/06/2007	0.0012	0.004	<0.001	0.016	<0.0002	0.0005	0.061	<0.0001	<0.0005	0.008	<0.00001	39.6	<0.0005	<0.0001	0.003	0.05	<0.0001	0.001	12.1	0.006	<0.0001	0.001	<0.0005		1.4
W2	27/06/2007	0.0009	0.003	<0.001																						
W2	04/07/2007	0.015	0.03	0.002																						
W2	18/07/2007	0.0018	0.003	<0.001	0.013	<0.0002	0.0006	0.065	<0.0001	<0.0005	0.006	<0.00001	41.9	<0.0005	<0.0001	0.004	0.06	<0.0001	0.002	13.8	0.007	<0.0001	0.001	<0.0005		1.2
W2	15/08/2007	0.0012	0.006	<0.001	0.009	<0.0002	0.0005	0.067	<0.0001	<0.0005	0.007	<0.00001	42.4	0.0005	<0.0001	0.003	0.08	<0.0001	0.002	13.2	0.008	<0.0001	0.001	0.0014		1.3
W2	18/09/2007	0.0011	0.006	<0.001	0.016	<0.0002	0.0005	0.055	<0.0001	<0.0005	0.004	<0.00001	34.5	0.0006	<0.0001	0.002	0.17	<0.0001	0.002	10.5	0.015	<0.0001	<0.001	0.0014		1
W2	17/10/2007	0.001	0.007	<0.001	0.008	0.001	0.0004	0.054	<0.0001	<0.0005	0.005	<0.00001	37.1	0.0007	<0.0001	0.001	0.1	<0.0001	0.002	11.3	0.016		<0.001	<0.0005		1.1
W2	22/04/2008	0.00022	0.006	0.0003	<0.02	0.0008	0.0002	0.056	<0.00004		<0.005	High DL removed	38.4	<0.0006	0.00014	0.002	<0.02	<0.0001	0.002	16.1	0.022	<0.00001	0.00073	<0.001	0.04	2.87
W2	13/05/2008	0.00104	0.002	0.0002	<0.02	0.0006	0.0011	0.035	<0.00004		<0.005	High DL removed	18.5	<0.0006	0.00009	0.002	0.12	<0.0001	<0.001	5.71	0.0093	<0.00001	0.00055	0.002	<0.01	0.45
W2	20/05/2008	0.00117	0.004	0.0002	0.03	0.0007		0.038	<0.00004		<0.005	High DL removed	23.7	0.0014	0.00009	0.003	0.11	<0.0001	0.001	7.22	0.0055	<0.00001	0.00091	0.002	<0.01	1.32
W2	03/06/2008	0.00081	0.003	0.0003																						
W2	08/07/2008	0.00047	0.011	0.0004	<0.01	0.0007	0.0007	0.056	<0.00004		<0.004	High DL removed	39.4	0.0012	0.00006	0.002	0.02	0.0002	0.002	12.1	0.0049	<0.00001	0.00099	0.001	<0.01	1.28
W2	23/07/2008	0.0021	0.008	<0.001	0.018	0.0014	0.0006	0.049	<0.0001	<0.0005	0.005	<0.00001	31	<0.0005	0.0002	0.004	0.11	0.0001	0.001	9.4	<0.005	<0.0001	0.001	0.0013		0.8
W2	07/08/2008				0.005	0.0009	0.0003	0.063	<0.0001	0.0011	0.007	<0.00001	40.8	<0.0005	0.0002	0.002	0.04	0.0001	0.002	12.3	0.007	<0.0001	0.001	0.0007		1.3
W2	08/10/2008	0.00102	0.008	0.0005	0.011	0.0003	0.0005	0.05	<0.00004		0.005	0.00001	28.5	0.0009	0.00011	0.006	0.112	<0.0001	0.001	8.47	0.0176	<0.00001	0.00096	0.002	<0.01	1
W2	29/10/2008				0.005	0.001	0.0004	0.054	<0.00004		0.006	<0.00001	43.9	0.0008	0.00007	0.004	0.06	<0.0001	0.002	14.4	0.0091	<0.00001	0.00098	0.001	0.01	1.5
W2	18/11/2008	0.0006	0.008	<0.001	0.016	0.0009	0.0003	0.067	<0.0001	<0.0005	0.006	0.00002	39.4	<0.0005	<0.0001	0.005	0.05	<0.0001	0.002	12.5	0.016	<0.0001	0.001	0.0012		1.5
W2	22/04/2009	0.00751	0.015	0.0008	0.055	0.0016	0.0005	0.049	<0.00004	<0.0001	<0.004	0.00004	36.6	0.0005	0.00031	0.006	0.08	0.0003	0.002	14.5	0.0344	<0.00001	0.00072	<0.001	0.11	3.2
W2	30/04/2009	0.00554	0.07	0.0006	0.076	0.0009	0.0003	0.016	<0.00004	<0.0001	0.005		8.18	0.0008	0.00016	0.01	0.14	0.0003	<0.001	2.25	0.0263	0.00001	0.00018	<0.001	0.09	2
W2	05/05/2009	0.00584	0.016	0.0006	0.102	0.0011	0.0003	0.02	<0.00004	<0.0001	<0.004	0.00008	9.87	0.0012	0.00021	0.006	0.28	0.0002	<0.001	2.55	0.0301	<0.00001	0.00029	0.001	0.04	1.5
W2	27/05/2009	0.00116	0.007	0.0005	0.013	0.0013	0.0004	0.051	<0.00004	<0.0001	<0.004	0.00025	30.4	0.0015	0.00011	0.01	0.1	0.0003	0.001	9.89	0.003	<0.00001	0.00145	0.001	<0.01	1.4
W2	17/06/2009	0.00066	0.004	0.0004	0.013	<0.0002	0.0004	0.051	<0.00004	<0.0001	<0.004	<0.00001	34	<0.0004	0.00011	0.003	0.04	<0.0001	0.001	10.8	0.0033	<0.00001	0.00142	0.001	0.01	1.4
W2	08/08/2009	<0.005	0.007	<0.0005																						
W2	09/08/2009																									
W2	10/08/2009																									
W2	11/08/2009	0.0009	0.002	0.0002	0.008	<0.0002	0.0004	0.053	<0.00004	<0.001	<0.004	<0.00001	36.6	0.0009	0.00007	0.001	0.05	0.0009	0.001	11.4	0.0046		0.0019	0.001	0.01	1.4
W2	12/08/2009	<0.005	<0.005	<0.0005	0.007	<0.0005	0.0004	0.06	<0.0001	<0.001	<0.05	<0.00001	39.9	High DL removed	<0.0005	0.0028	0.042	<0.0002	<0.005	11.9	0.005	<0.00002	0.002	<0.001		1.65
W2	05/11/2009																									
W2	06/11/2009	0.0005	0.006	0.0002	0.009	0.0007	0.0004	0.065	<0.00004	<0.001	0.011	0.00002	39.5	<0.0004	0.00011	0.002	0.03	0.0001	0.002	12.2	0.0086	0.00008	0.0022	0.002	<0.01	1.5
W2	07/04/2010	0.0044	0.008	0.0006	<0.005	0.0021	0.0004	0.097	<0.00004	<0.001	0.006	0.00005	66.7	0.0006	0.00032	0.008	0.04	0.0002	0.003	27.5	0.0337	<0.00001	0.0014	0.001	<0.01	4
W2	19/04/2010	0.0032	0.008	0.0003	0.012	0.0024	0.0004	0.035	<0.00004	<0.001	<0.004	0.00001	23.4	<0.0004	0.00041	0.005	0.06	0.0002	0.001	7.8	0.0468	<0.00001	0.0006	0.001	0.08	2.5
W2	20/04/2010	0.0008	0.013	0.0002	0.05	0.0039	0.0004	0.028	<0.00004	<0.001	<0.004	0.00026	17.9	0.0004	0.00046	0.009	0.14	0.0002	<0.001	5.2	0.0363	<0.00001	0.0005	0.001	0.08	2.3
W2	21/04/2010	0.0014	0.006	0.0004	0.07	0.0041	0.0005	0.024	<0.00004	<0.001	0.006	<0.00001	12.3	<0.0004	0.00055	0.009	0.15	0.0004	<0.001	3.6	0.0268	0.00002	0.0002	0.001	0.06	1.9
W2	22/04/2010	0.0006	0.005	0.0003	0.039	<0.0002	0.0004	0.025	<0.00004	<0.001	<0.004	<0.00001	14	<0.0004	0.00002	0.005	0.14	<0.0001	<0.001	4.1	0.002	0.00002	0.0002	0.002	0.05	1.9
W2	23/04/2010	0.0008	0.007	0.0003	0.047	0.0002	0.0004	0.026	<0.00004	<0.001	<0.004	0.00002	14.3	<0.0004	0.00007	0.005	0.15	0.0002	<0.001	4.2	0.0011	0.00001	0.0003	0.001	0.05	1.8
W2	24/04/2010	0.0008	0.008	0.0003	0.048	<0.0002	0.0004	0.026	<0.00004	<0.001	<0.004	<0.00001	14.2	<0.0004	0.00007	0.004	0.19	<0.0001	<0.001	4.2	0.0014	0.00001	0.0004	0.001	0.04	1.7
W2	25/04/2010	0.0017	0.008	0.0003	0.057	0.0002	0.0004	0.025	<0.00004	<0.001	<0.004	<0.00001	12.4	<0.0004	0.00006	0.004	0.21	<0.0001	<0.001	3.7	0.0009	0.00001	0.0003	0.001	0.03	1.4
W2	26/04/2010	<0.005	0.008	<0.0005	0.063	<0.0005	0.0004	0.027	<0.0001	<0.001	<0.05	<0.00001	13.2	High DL removed	<0.0005	0.004	0.23	<0.0002	<0.005	3.53	<0.001	<0.00002	<0.001	0.001		1.38
W2	27/04/2010	<0.005	0.01	<0.0005	0.075	<0.0005	0.0005	0.025	<0.0001	<0.001	<0.05	<0.00001	11.3	High DL removed	<0.0005	0.0038	0.322	<0.0002	<0.005	2.97	<0.001	<0.00002	<0.001	0.001		1.25
W2	28/04/2010	0.005	0.009	0.0006	0.1	<0.0005	0.0005	0.025	<0.0001	<0.001	<0.05	0.00003	10.9	High DL removed	<0.0005	0.0047	0.374	<0.0002	<0.005	2.88	0.001	<0.00002	<0.001	0.001		1.21
W2	29/04/2010	<0.005	0.01	0.0006	0.103	<0.0005	0.0005	0.027	<0.0001	<0.001	<0.05	0.00017	11.4	High DL removed	<0.0005	0.0046	0.505	<0.0002	<0.005	3.02	0.002	<0.00002	<0.001	0.002		1.13
W2	30/04/2010	0.008	0.013	0.0007	0.094	<0.0005	0.0006	0.03	<0.0001	<0.001	<0.05	<0.00001	10.5	High DL removed	<0.0005	0.0037	0.481	<0.0002	<0.005	2.97	0.001	<0.00002	<0.001	0.002		0.96
W2	01/05/2010	<0.005	0.007	<0.0005	0.064	<0.0005	0.0005	0.031	<0.0001	<0.001	<0.05	0.00002	13.6	High DL removed	<0.0005	0.0035	0.38	<0.0002	<0.005	3.87	0.001	<0.00002	<0.001	0.002	0.025	1.02
W2	02/05/2010	<0.005	0.008	<0.0005	0.053	<0.0005	0.0005	0.034	<0.0001	<0.001	<0.05	<0.00001	16.3	High DL removed	<0.0005	0.0031	0.37	<0.0002	<0.005	4.74	<0.001	<0.00002	<0.001	0.001		1.11
W2	03/05/2010	<0.005	0.008	<0.0005	0.043	<0.0005	0.0006	0.034	<0.0001	<0.001	<0.05	0.00001	15.8	High DL removed	<0.0005	0.0028	0.385	<0.0002	<0.005	4.61	0.001	<0.00002	<0.001	0.001		1.02
W2	04/05/2010	<0.005	<0.005	<0.0005	0.032	<0.0005	0.0005	0.034	<0.0001	<0.001	<0.05	0.00002	17.2	High DL removed	<0.0005	0.0029	0.352	<0.0002	<0.005	5	<0.001	<0.00002	<0.001	0.001		1.02
W2	05/05/2010	<0.005	<0.005	<0.0005	0.026	<0.0005	0.0006	0.036	<0.0001	<0.001	<0.05	<0.00001	19.9	High DL removed	<0.0005	0.0029	0.312	<0.0002	<0.005	5.67	<0.001	<0.00002	<0.001	0.001	0.022	1.11
W2	06/05/2010	<0.005	<0.005	<0.0005	0.024	<0.0005	0.0005	0.036	<0.0001	<0.001	<0.05	<0.00001	21.1	High DL removed	<0.0005	0.0026	0.324	<0.0002	<0.005	6.1	<0.001	<0.00002	<0.001	0.001	0.019	1.09
W2	07/05/2010	<0.005	<0.005	<0.0005	0.021	<0.0005	0.0005	0.038	<0.0001	<0.001	<0.05	0.00001	21.1	High DL removed	<0.0005	0.0026	0.273	<0.0002	<0.005	6.32	<0.001	<0.00002	<0.001	0.004	0.016	1.09
W2	08/05/2010	<0.005	<0.005	<0.0005	0.019	<0.0005	0.0004	0.041	<0.0001	<0.001	<0.05	<0.00001	22.4	High DL removed	<0.0005	0.0025	0.235	<0.0002	<0.005	6.85	<0.001	<0.00002	<0.001	0.001	0.017	1.14
W2	09/05/2010	<0.005	<0.005	<0.0005	0.016	<0.0005	0.0005	0.039	<0.0001	<0.001	<0.05	<0.00001	23.3	High DL removed	<0.0005	0.0028	0.214	<0.0002	<0.005	7.05	<0.001	<0.00002	<0.001	0.001	0.014	1.12
W2	10/05/2010	<0.005	<0.005	<0.0005	0.016	<0.0005	0.0004	0.042	<0.0001	<0.001	<0.05	0.00004	24.7	High DL removed	<0.0005	0.003	0.199	<0.0002	<0.005	7.81	<0.001	<0.00002	0.001	0.001	0.012	1.18
W2	11/05/2010	<0.005	<0.005	<0.0005	0.014	<0.0005	0.0005	0.044	<0.0001	<0.001	<0.05	<0.00001	26.6	High DL removed	<0.0005	0.0022	0.148	<0.0002	<0.005	8.04	<0.001	0.00006	0.001	0.001	0.011	1.2
W2	12/05/2010	<0.005	0.005	<0.0005	0.014	<0.0005	0.0005	0.046	<0.0001	<0.001	<0.05	0.00001	27.8	High DL removed	<0.0005	0.0023	0.129	<0.0002	<0.005	8.44	<0.001	<0.00002	0.001	0.001	0.01	1.25
W2	13/05/2010	<0.005	0.006	<0.0005	0.012	<0.0005	0.0004	0.044	<0.0001	<0.001	<0.05	0.00001	27.4	High DL removed	<0.0005	0.0022	0.086	<0.0002	<0.005	8.35	<0.001	<0.00002	0.001	0.001	<0.01	1.23
W2	14/05/2010	<0.005	0.014	<0.0005	0.018	<0.0005	0.0004	0.048	<0.0001	<0.001	<0.05	0.00005	29.9	High DL removed	<0.0005	0.0061	0.066	<0.0002	<0.005	8.93	<0.001	<0.00002	0.001	0.001		1.33

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	Br	Cation	CN-T	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-TKN	P-PO4T	P-TDP	P-TRP
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L
W2	28/09/2006	<0.0002	6.13	<0.0001	9.5	0.39	6.7	<0.00005	<0.001	0.0006	0.0015	0.0016	0.002		184	<6	<5					0.001				36.7	8.4					
W2	04/10/2006	<0.0002	6.02	<0.0001	8.7	0.378	7.6	<0.00005	<0.001	0.0008	0.0015	0.0012	<0.001		185	<6	<5					<0.001				37.8	7.8					
W2	12/10/2006	<0.0002	6.05	<0.0001	8.3	0.39	7	<0.00005	<0.001	0.0008	0.0015	0.0009	<0.001		178	<6	<5					<0.001				37.3	8.2					
W2	18/10/2006	<0.0002	5.82	<0.0001	9.7	0.42	7.8	<0.00005	<0.001	0.0005	0.0018	0.0009	0.002		236	<6	<5						18			47.6	7.5		0.24	0.04		
W2	28/10/2006	<0.0002	6.07	<0.0001	8.8	0.407	8.2	<0.00005	<0.001	0.0009	0.0017	0.0021	0.002		184	<6	<5					<0.001	25			39.1	7.9					
W2	17/04/2007	0.0004	9.97	<0.0001	14.7	0.483	11.4	<0.00005	<0.001	0.0028	0.0014	0.0043	0.008		241	<6	<5						>60						0.95	0.1	0.07	
W2	26/04/2007	<0.0002	3.46	<0.0001	3.2	0.099	1.4	<0.00005	<0.001	<0.0005	<0.0005	0.0007	0.009		54	<6	<5						>60						1.35	0.03		
W2	19/05/2007	<0.0002	5.29	<0.0001	6.3	0.248	5	<0.00005	<0.001	0.001	0.001	0.0014	0.001		127	<6	<5						70						0.44	0.04	<0.02	
W2	30/05/2007	<0.0002	4.33	<0.0001	7.5	0.29	6.1	<0.00005	<0.001	0.001	0.0013	0.001	0.002		141	<6	<5						36						0.61	0.03		
W2	20/06/2007	<0.0002	5.05	<0.0001	9	0.351	7	<0.00005	<0.001	0.001	0.0014	0.0014	0.002		167	<6	<5						35						0.25	0.04	<0.02	
W2	27/06/2007																															
W2	04/07/2007																															
W2	18/07/2007	<0.0002	6.2	<0.0001	9	0.368	6.5	<0.00005	<0.001	0.0009	0.0015	0.001	0.003		188	<6	<5						50						0.35	0.06	<0.02	0.05
W2	15/08/2007	<0.0002	6.06	<0.0001	9.8	0.371	6.6	<0.00005	<0.001	0.0008	0.0016	0.0018	0.005		202	<6	<5						36						0.3	0.07	<0.02	
W2	18/09/2007	0.0002	5.98	<0.0001	7.5	0.308	3.9	<0.00005	<0.001	0.0008	0.001	0.0009	0.007		175	<6	<5						47						0.42	0.07	<0.02	
W2	17/10/2007	<0.0002	6.22	<0.0001	7.3	0.317	4.9	<0.00005	<0.001	0.0007	0.0011	0.0009	0.001		160	<6	<5						30						0.37	<0.05	<0.02	0.03
W2	22/04/2008	<0.0006	3.67	<0.001	11.1	0.419		<0.00001	<0.004	0.0008	0.0012	0.00026	0.003	0.0001	206	<6	<5						42						0.34	<0.05		0.11
W2	13/05/2008	<0.0006	2.02	<0.0010	4.47	0.154		<0.00001	<0.004	0.0007	<0.0006	0.00057	0.002	0.0002	93	<6	<5						120				17		0.64	0.06		0.06
W2	20/05/2008	<0.0006	2.01	<0.0010	6.15	0.203		<0.00001	<0.004	0.0009	0.0007	0.00064	0.003	0.0002	100	<6	<5						80						0.51	<0.05		0.05
W2	03/06/2008														140	<6	<5						35						0.3	<0.05		0.04
W2	08/07/2008	<0.0006	4.49	<0.00001	8.54	0.344		<0.00001	<0.0001	0.0007	0.0014	0.0006	0.003	0.0004	170	<6	<5						36				9.8		0.5	<0.05		0.05
W2	23/07/2008	<0.0002	5.58	<0.00001	7.6	0.262	3.7	<0.00005	<0.001	0.0007	0.0008	0.0008	0.004		100	<6	<5						80						0.6	<0.05		0.05
W2	07/08/2008	<0.0002	5.48	0.00032	9.7	0.374	6.8	<0.00005	<0.001	<0.0005	0.0016	0.001	0.004														9.5				<0.05	
W2	08/10/2008	<0.0006	5.6	0.00006	5.5	0.248		0.00001	0.0002	0.0013	0.0007	0.00069	0.002	0.0003	140	<6	<5						55				14.5		0.49	<0.05		0.06
W2	29/10/2008	<0.0006	6.72	<0.00001	9.6	0.344		<0.00001	0.0006	0.0014	0.0011	0.00055	0.007	0.0002																		
W2	18/11/2008	<0.0002	5.69	<0.00001	10.6	0.407	7.4	<0.00005	<0.001	0.0011	0.0017	0.0005	0.006		180	<6	<5						23				9.5		0.59	<0.05		0.1
W2	22/04/2009	<0.0006	5.91	<0.00001	9.7	0.32	7.8	0.00002	<0.0001	0.0047	0.0005	0.00053	0.005	0.0003	160	<6	<5						76						0.8	0.1		
W2	30/04/2009	<0.0006	1.87	<0.00001	1.6	0.046	0.6	<0.00001	<0.0001	0.0028	<0.0004	0.00043	0.02	0.0002	30	<6	<5						140				21		1	0.07		
W2	05/05/2009	<0.0006	1.99	<0.00001	1.6	0.052	0.7	<0.00001	<0.0001	0.0043	<0.0004	0.00068	0.006	0.0003	30	<6	<5						160									
W2	27/05/2009	<0.0006	4.16	<0.00001	7.5	0.253	5.5	<0.00001	<0.0001	0.0011	0.0012	0.0007	0.004	<0.0001	130	<6	<5						43						0.37	0.02		
W2	17/06/2009	<0.0006	4.29	<0.00001	8.1	0.33	6.1	<0.00001	<0.0001	0.0005	0.0008	0.00051	0.001	0.0002	150	<6	<5						52				10.9	121	0.56	0.03		0.1
W2	08/08/2009																															<0.005
W2	09/08/2009																															
W2	10/08/2009																															
W2	11/08/2009	<0.0006	5.46	<0.00001	8.4	0.319	8.1	<0.00001	<0.0001	0.0007	0.0011	0.0005	0.001	0.0002	170	<6	<5						46						0.3	0.03		<0.05
W2	12/08/2009	0.0002	5.94	<0.00002	8.72	0.377	7	<0.00005	<0.005	<0.005	0.0013	<0.005	<0.005	<0.0005	180	<0.5	<0.5	<0.5		<0.4												<0.005
W2	05/11/2009																															
W2	06/11/2009	<0.0006	5.13	<0.00001	9.2	0.448	8.3	<0.00001	<0.0001	<0.01	0.0012	0.0004	0.002	0.0002	160	<6	<5												0.28	0.06		
W2	07/04/2010	<0.0006	9	<0.00001	18.8	0.642	17.3	<0.00001	<0.0001	<0.01	0.0016	0.0004	0.004	0.0003	300	<6	<5												0.45	0.12		
W2	19/04/2010	<0.0006	4.24	<0.00001	5.2	0.193	3.4	<0.00001	<0.0001	<0.01	<0.0004	0.0003	0.005	0.0001	100	<6	<5												1	0.1		
W2	20/04/2010	<0.0006	3.53	<0.00001	3.6	0.132	2.2	<0.00001	<0.0001	<0.01	<0.0004	0.0005	0.006	0.0001	80	<6	<5												1.05	0.09		
W2	21/04/2010	<0.0006	2.58	<0.00001	2.4	0.083	1.5	<0.00001	<0.0001	<0.01	<0.0004	0.0004	0.007	0.0002	50	<6	<5												1.13	0.07		
W2	22/04/2010	<0.0006	2.8	<0.00001	2.6	0.096	1.2	<0.00001	<0.0001	<0.01	<0.0004	0.0004	0.008	0.0003	50	<6	<5												1.28	0.05		
W2	23/04/2010	<0.0006	2.98	<0.00001	2.7	0.099	1.3	<0.00001	<0.0001	<0.01	<0.0004	0.0004	<0.001	0.0002	50	<6	<5												1.2	0.05		
W2	24/04/2010	<0.0006	3.07	<0.00001	2.7	0.101	1.3	<0.00001	<0.0001	<0.01	<0.0004	0.0005	0.002	0.0003	60	<6	<5												1.02	0.04		
W2	25/04/2010	<0.0006	2.77	<0.00001	2.4	0.093	1.2	<0.00001	<0.0001	<0.01	<0.0004	0.0006	<0.001	0.0003	50	<6	<5												1.03	0.04		
W2	26/04/2010	<0.0001	3.43	<0.00002	2.32	0.09	<3	<0.00005	<0.005	<0.005	0.0001	<0.005	<0.005	<0.0005	51	<0.5	<0.5	<0.5		<0.4												0.008
W2	27/04/2010	<0.0001	3.06	<0.00002	2.02	0.076	<3	<0.00005	<0.005	<0.005	0.0001	<0.005	<0.005	<0.0005	46	<0.5	<0.5	<0.5		<0.4												0.009
W2	28/04/2010	<0.0001	3.1	<0.00002	2.1	0.072	<3	<0.00005	<0.005	<0.005	<0.0001	<0.005	<0.005	<0.0005	44	<0.5	<0.5	<0.5		<0.4												0.008
W2	29/04/2010	<0.0001	3.12	<0.00002	2.18	0.081	<3	<0.00005	<0.005	<0.005	0.0001	<0.005	<0.005	<0.0005	47	<0.5	<0.5	<0.5		<0.4												<0.005
W2	30/04/2010	<0.0001	2.83	<0.00002	2.16	0.075	<3	<0.00005	<0.005	<0.005	0.0001	<0.005	<0.005	<0.0005	48	<0.5	<0.5	<0.5		<0.4												0.028
W2	01/05/2010	<0.0001	3.31	<0.00002	2.66	0.099	<3	<0.00005	<0.005	<0.005	0.0001	<0.005	<0.005	<0.0005	59	<0.5	<0.5	<0.5		<0.4												<0.005
W2	02/05/2010	<0.0001	3.76	<0.00002	3.17	0.118	<3	<0.00005	<0.005	<0.005	0.0002	<0.005	<0.005	<0.0005	71	<0.5	<0.5	<0.5		<0.4												<0.005
W2	03/05/2010	<0.0001	3.47	<0.00002	3.17	0.117	<3	<0.00005	<0.005	<0.005	0.0002	<0.005	<0.005	<0.0005	71	<0.5	<0.5	<0.5		<0.4												0.031
W2	04/05/2010	<0.0001	3.79	<0.00002	3.45	0.131	<3	<0.00005	<0.005	<0.005	0.0002	<0.005	<0.005	<0.0005	79	<0.5	<0.5	<0.5		<0.4												0.033
W2	05/05/2010	<0.0001	4.26	<0.00002	3.74	0.148	<3	<0.00005	<0.005	<0.005	0.0003	<0.005	<0.005	<0.0005	84	<0.5	<0.5	<0.5		<0.4												<0.005
W2	06/05/2010	0.0001	4.61	<0.00002	4.01	0.161	4	<0.00005	<0.005	<0.005	0.0004	<0.005	<0.005	<0.0005	90	<0.5	<0.5	<0.5		<0.4												<0.005
W2	07/05/2010	<0.0001	4.36	<0.00002	4.23	0.163	3	<0.00005	<0.005	<0.005	0.0004	<0.005	<0.005	<0.0005	95	<0.5	<0.5	<0.5		<0.4												<0.005
W2	08/05/2010	<0.0001	4.37	<0.00002	4.62	0.174	4	<0.00005	<0.005	<0.005	0.0004	<0.005	<0.005	<0.0005	99	<0.5	<0.5	<0.5		<0.4												<0.005
W2	09/05/2010	<0.0001	4.46	<0.00002	4.74	0.186	<3	<0.00005	<0.005	<0.005	0.0005	<0.005	<0.005	<0.0005	99	<0.5	<0.5	<0.5		<0.4												<0.005
W2	10/05/2010	0.0001	4.44	<0.00002	5.24	0.199	5	<0.00005	<0.005	<0.005	0.0006	<0.005	<0.005	<0.0005	110	<0.5	<0.5	<0.5		<0.4												<0.005
W2	11/05/2010	0.0001	5.23	<0.00002	5.38	0.219	4	<0.00005	<0.005	<0.005	0.0006	<0.005	<0.005	<0.0005	110	<0.5	<0.5	<0.5		<0.4												<0.005
W2	12/05/2010	0.0001	5.33	<0.00002	5.68	0.224	4	<0.00005	<0.005	<0.005	0.0007	<0.005	<0.005	<0.0005	120	<0.5	<0.5	<0.5		<0.4												<0.005
W2	13/05/2010	0.0001	4.97	<0.00002	5.69	0.226	4	<0.00005	<0.005	<0.005	0.0007	<0.005	<0.005	<0.0005	120	<0.5	<0.5	<0.5		<0.4												<0.005
W2	14/05/2010	0.0001	5.19	<0.00002	6.04	0.258	6	<0.00005	<0.005	<0.005	0.0009	<0.005	<0.005	<0.0005	130	<0.5	<0.5	<0.5		<0.4												<0.005

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W2	28/09/2006						
W2	04/10/2006						
W2	12/10/2006						
W2	18/10/2006					0.5	
W2	28/10/2006					1.2	
W2	17/04/2007					100	
W2	26/04/2007					19	
W2	19/05/2007					0.6	
W2	30/05/2007					0.3	
W2	20/06/2007					0.7	
W2	27/06/2007						
W2	04/07/2007						
W2	18/07/2007					2	
W2	15/08/2007					0.8	
W2	18/09/2007					1.2	
W2	17/10/2007		15.2			1.8	
W2	22/04/2008					0.4	
W2	13/05/2008					2.5	
W2	20/05/2008					0.8	
W2	03/06/2008					0.7	
W2	08/07/2008					0.5	
W2	23/07/2008					1.5	
W2	07/08/2008						
W2	08/10/2008					0.6	
W2	29/10/2008						
W2	18/11/2008					1	
W2	22/04/2009					63	
W2	30/04/2009	<0.005				4	
W2	05/05/2009					9.3	
W2	27/05/2009					<0.1	
W2	17/06/2009	<0.01				0.8	
W2	08/08/2009					1.6	
W2	09/08/2009						0
W2	10/08/2009						
W2	11/08/2009					0.7	
W2	12/08/2009					0.7	
W2	05/11/2009						
W2	06/11/2009					0.4	
W2	07/04/2010					51	
W2	19/04/2010					28	
W2	20/04/2010					5.6	
W2	21/04/2010					5.5	
W2	22/04/2010					4.6	
W2	23/04/2010					4.1	0.8
W2	24/04/2010					2.5	6
W2	25/04/2010					2	6.6
W2	26/04/2010					6.9	11.4
W2	27/04/2010					15	22.8
W2	28/04/2010					28.6	30.5
W2	29/04/2010					36.7	37.3
W2	30/04/2010					72.4	68.8
W2	01/05/2010					25.3	27
W2	02/05/2010					22.2	19.1
W2	03/05/2010					21.9	18.9
W2	04/05/2010					10.6	8
W2	05/05/2010					4.9	2.5
W2	06/05/2010					3.6	1.5
W2	07/05/2010					3	0.8
W2	08/05/2010					2.9	0.5
W2	09/05/2010					2.5	-0.5
W2	10/05/2010					0.8	0.9
W2	11/05/2010					0.7	
W2	12/05/2010					0.6	
W2	13/05/2010					0.5	
W2	14/05/2010					0.6	

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Phase	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
				mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W2	15/05/2010	No Discharge	P	<4	170	7.93	8.2	243	232	1.5				108	113	110	1.6	0.23	15	0.065	<0.005	0.04	8.7	0.035	<0.0005	0.0004	0.046	<0.0001	<0.001
W2	16/05/2010	No Discharge	P	<4	160	7.97	8.1	235	229	2.8				110	113	110	1.4	0.24	14	0.084	<0.005	0.03	9.7	0.036	<0.0005	0.0004	0.045	<0.0001	<0.001
W2	17/05/2010	No Discharge	P	<4	170	7.87	7.8	251	235	1.2				113	119	100	1.5	0.24	15	0.028	<0.005	0.05	9.5	0.027	<0.0005	0.0004	0.048	<0.0001	<0.001
W2	18/05/2010	No Discharge	P	1	160	7.86	8.2	245	242	4.5				118	122	110	1.2	0.27	15	0.07	<0.005	0.03	9.2	0.033	<0.0005	<0.001	0.05	<0.0005	<0.001
W2	19/05/2010	No Discharge	P	<1	150	7.76	8.2	239	231	2.4				122	118	110	1.2	0.28	16	0.04	<0.005	0.05	8.9	0.029	<0.0005	<0.001	0.051	<0.0005	<0.001
W2	20/05/2010	No Discharge	P	<1	160	7.26	8.1	126.5	230	4.4				119	118	110	1.2	0.26	16	0.03	<0.005	0.03	8.2	0.093	<0.0005	<0.001	0.051	<0.0005	<0.001
W2	21/05/2010	No Discharge	P	<1	160	7.67	8.1	237	239	2.6				121	117	110	1.7	0.29	16	0.011	<0.005	0.05	7.2	0.036	<0.0005	0.0004	0.052	<0.0002	<0.001
W2	22/05/2010	No Discharge	P	7	170	7.85	8.2	230	240	2.7				106	117	110	1.6	0.31	16	0.006	<0.005	0.05	7.9	0.022	<0.0005	<0.0004	0.049	<0.0002	<0.001
W2	23/05/2010	No Discharge	P	2	160	7.91	8.1	248	238	3				113	113	110	1.8	0.3	16	<0.005	<0.005	0.05	7.8	0.026	<0.0005	<0.0004	0.05	<0.0002	<0.001
W2	24/05/2010	No Discharge	P	<1	160	7.84	8.1	254	243	2.5				115	114	110	1	0.31	15	0.08	<0.005	0.05	10.2	0.033	<0.0005	0.0004	0.051	<0.0002	<0.001
W2	25/05/2010	No Discharge	P	1	140	7.62	8.3	263	260	5.6				144	135	120	1.7	0.29	17	0.07	<0.005	0.04	8.1	0.047	<0.0005	<0.001	0.056	<0.0005	<0.001
W2	26/05/2010	No Discharge	P	37	150	7.87	7.9	226	258	2.6				128	129	120	1.7	0.29	17	0.18	<0.005	0.08	7.2	0.056	<0.0005	<0.001	0.05	<0.0005	<0.001
W2	27/05/2010	No Discharge	P	6	160	7.98	8.2	271	260	2.7				130	144	120	1.2	0.3	17	0.025	<0.005	0.09	7.3	0.11	<0.0005	0.0004	0.058	<0.0002	<0.001
W2	28/05/2010	No Discharge	P	20	160	7.97	8.3	272	263	3.4				125	132	120	1.6	0.37	17	0.008	<0.005	0.08	6.2	0.122	<0.0005	<0.0004	0.056	<0.0002	<0.001
W2	29/05/2010	No Discharge	P	44	180	7.97	8.2	279	270	3.7				134	126	130	2	0.32	19	0.21	<0.005	0.1	6	0.382	<0.0005	0.0005	0.064	<0.0002	<0.001
W2	30/05/2010	No Discharge	P	1	190	7.95	8.4	285	280	2.7				140	135	130	1.6	0.35	19	0.007	<0.005	0.09	6.4	0.028	<0.0005	<0.0004	0.058	<0.0002	<0.001
W2	31/05/2010	No Discharge	P	<1	170	7.95	8.3	287	277	3.8				135	127	130	1.5	0.31	18	High DL removed	<0.005	0.12	6.7	0.025	<0.0005	<0.0004	0.057	<0.0002	<0.001
W2	01/06/2010	No Discharge	P	2	160	7.67	8.3	266	286	5.8				149	138	130	1.9	0.28	23	0.025	<0.005	0.16	6.4	0.045	<0.0005	<0.0004	0.059	<0.0002	<0.001
W2	02/06/2010	No Discharge	P	2	160	7.68	8.3	288	284	4.1				145	133	130	1.6	0.29	19	High DL removed	<0.005	0.13	5.2	0.027	<0.0005	<0.0004	0.057	<0.0002	<0.001
W2	03/06/2010	No Discharge	P	21	190	7.52	8.3	146	293	4.4				143	132	140	1.9	0.29	20	<0.005	<0.005	0.14	6.4	0.214	<0.0005	0.0004	0.063	<0.0002	<0.001
W2	04/06/2010	No Discharge	P	1	160	7.4	8.3	301	298	6.2				150	141	140	2.1	0.29	21	0.042	<0.005	0.13	6.4	0.042	<0.0005	<0.0004	0.073	<0.0002	<0.001
W2	05/06/2010	No Discharge	P	<4	180	7.85	8.3	309	296	4.7				153	151	140	1.9	0.3	21	0.26	<0.005	0.13		0.028	<0.0005	<0.0004	0.07	<0.0002	<0.001
W2	06/06/2010	No Discharge	P	<4	190	7.92	8.3	259	299	5.2				156	151	150	1.6	0.3	21	0.19	<0.005	0.12		0.032	<0.0005	<0.0004	0.072	<0.0002	<0.001
W2	10/06/2010	No Discharge	P	<1	180	7.82	8.2	311	298	6.8				140	142	130	5.3	0.31	24	0.022	<0.005	0.05	6.9	0.037	<0.0005	<0.0004	0.067	<0.0002	<0.001
W2	11/06/2010	No Discharge	P	<1	190	7.88	8.1	311	306	7.9				135	140	140	2.1	0.31	24	0.012	<0.005	0.04	7.1	0.023	<0.0005	<0.0004	0.07	<0.0002	<0.001
W2	12/06/2010	No Discharge	P	<1	190	7.89	8.4	318	304	5.5				147	144	140	2.1	0.31	23	0.016	<0.005	0.03	7.2	0.016	<0.0005	<0.0004	0.074	<0.0002	<0.001
W2	13/06/2010	No Discharge	P	1	200	7.92	8.2	334	316	6				150	148	140	2.4	0.29	25	0.051	<0.005	<0.02	7.2	0.029	<0.0005	<0.0004	0.078	<0.0002	<0.001
W2	14/06/2010	No Discharge	P	<1	190	6.63	8.3	333	310	6.5				141	146	140	3.4	0.3	63	0.039	<0.005	0.06	6.6	0.019	<0.0005	<0.0004	0.071	<0.0002	<0.001
W2	15/06/2010	No Discharge	P	<1	180	7.42	8.46	364	306	7.2				156	144	150	2.1	0.29	26	0.023	<0.005	0.08	6.9	0.012	<0.0005	<0.0004	0.076	<0.0002	<0.001
W2	16/06/2010	No Discharge	P	<1	180	7.32	8.2	414	320	6.5				154	144	150	2.2	0.28	26	0.043	<0.005	0.07	6.9	0.021	<0.0005	<0.0004	0.074	<0.0002	<0.001
W2	17/06/2010	No Discharge	P	<1	170	7.1	8.2	420	320	4.6				154	147	150	2.1	0.28	28	0.026	<0.005	0.1	7.4	0.012	<0.0005	<0.0004	0.074	<0.0002	<0.001
W2	18/06/2010	No Discharge	P	<1	180	7.13	8.13	414	351	6.1				144	143	160	2.2	0.3	26		<0.005	0.17	6.9	<0.01	<0.0005	<0.0004	0.068	<0.0002	<0.001
W2	19/06/2010	No Discharge	P	<1	170	7.31	8.3	418	514	5.3				145	138	170	10	0.46	64	<0.005	0.013	6.7	9.7	0.027	<0.0005	<0.0004	0.069	<0.0002	<0.001
W2	20/06/2010	No Discharge	P	<1	190	7.19	8.2	401	302	5.7				140	139	140	2.3	0.32	22		<0.005	0.41	8.6	0.012	<0.0005	<0.0004	0.064	<0.0002	<0.001
W2	21/06/2010	No Discharge	P	<1	200	7.19	8.4	405	312	6.4				152	144	140	1.9	0.31	25		<0.005	0.36	8	0.035	<0.0005	<0.0004	0.067	<0.0002	<0.001
W2	22/06/2010	No Discharge	P	4	180	8	8.24	289	297	4.54		107.3		136	134	130	1.7	0.32	15	0.009	<0.005	0.43	9.1	0.056	<0.0005	0.0005	0.062	<0.0002	<0.001
W2	23/06/2010	No Discharge	P	1	170	7.9	8.24	272	277	4.76		113.9		141	123	130	1.5	0.31	19	0.4	<0.005	0.36	9.2	0.035	<0.0005	0.0004	0.061	<0.0002	<0.001
W2	24/06/2010	No Discharge	P	<1	160	7.95	8.21	281	281	5.02		111		144	133	130	1.9	0.31	20	<0.005	<0.005	0.38	9.2	0.02	<0.0005	0.0005	0.062	<0.0002	<0.001
W2	25/06/2010	No Discharge	P	<1	170	7.76	8.32	287	291	4.97		104.1		132	136	130	1.8	0.33	20	0.01	<0.005	0.38	9.1	0.014	<0.0005	0.0004	0.059	<0.0002	<0.001
W2	26/06/2010	No Discharge	P			7.78		298		5.47		106																	
W2	26/06/2010	No Discharge	P	<1	160		8.39		299					136	139	140	1.7	0.32	23	0.017	<0.005	0.39	8.4	0.01	<0.0005	<0.0004	0.062	<0.0002	<0.001
W2	27/06/2010	No Discharge	P	<1	190	7.53	8.03	304	308	5.29		103.3		136	140	140	1.7	0.29	24	0.011	<0.005	0.26	7.7	0.012	<0.0005	<0.0004	0.063	<0.0002	<0.001
W2	28/06/2010	No Discharge	P	<1	190	7.49	7.94	305	304	5.47		102.6		139	139	140	1.9	0.28	23	0.019	<0.005	0.15	8.3	<0.01	<0.0005	<0.0004	0.066	<0.0002	<0.001
W2	29/06/2010	No Discharge	P	<1	200	7.89	7.96	304	309	7.14		105.5		140	145	140	1.7	0.29	23	0.018	<0.005	0.12	8.1	<0.01	<0.0005	<0.0004	0.065	<0.0002	<0.001
W2	30/06/2010	No Discharge	P	<1	190	7.94	8.02	311	306	6.64		101.3		142	141	140	1.6	0.29	23	0.018	<0.005	0.04	8.2	0.017	<0.0005	<0.0004	0.068	<0.0002	<0.001
W2	01/07/2010	No Discharge	P	87	190	8.13	7.86	213	220	5.59		108.6		113	105	100	0.9	0.25	9.1	High DL removed	<0.005	0.1	20.3	1.92	<0.0005	0.0017	0.092	<0.0002	<0.001
W2	02/07/2010	No Discharge	P	66	180	7.13	7.85	220	226	6.33		106.5		115	102	110	1	0.24	9.5	High DL removed	<0.005	0.16	19.7	1.31	<0.0005	0.0011	0.084	<0.0002	<0.001
W2	03/07/2010	No Discharge	P	26	180	8.11	8.05	232	240	6.05		104.9		107	119	110	1	0.25	12	High DL removed	<0.005	0.18	19.3	0.543	<0.0005	0.0008	0.066	<0.0002	<0.001
W2	04/07/2010	No Discharge	P	17	170	8.16	7.98	242	252	6.62		105.0		123	118	120	1.1	0.26	14	High DL removed	<0.005	0.27	17	0.367	<0.0005	0.0006	0.064	<0.0002	<0.001
W2	05/07/2010	No Discharge	P	8	180	8.14	7.98	237	267	5.80		104.6		135	124	120	1.2	0.28	15	High DL removed	<0.005	0.34	15.8	0.189	<0.0005	0.0006	0.067	<0.0002	<0.001
W2	06/07/2010	No Discharge	P	4	190	8.07	8.03	273	284	5.63		103.8		127	132	130	1.4	0.28	18	0.018	<0.005	0.38	14	0.066	<0.0005	0.0005	0.063	<0.0002	<0.001
W2	07/07/2010	No Discharge	P	6	190	8.11	8.07	286	300	8.84		101.8		141	142	140	1.7	0.3	22	0.014	<0.005	0.45	12.2	0.115	<0.0005	0.0006	0.073	<0.0002	<0.001
W2	08/07/2010	No Discharge	P	3	200	8.15	8.11	302	310	7.96		102.7		141	144	140	1.9	0.3	23	0.011	<0.005	0.49	11.8	0.037	<0.0005	0.0005	0.07	<0.0002	<0.001
W2	09/07/2010	No Discharge	P	2	170	8.02	8.03	309	316	6.14		101.1		146	138	130	1.8	0.29	24	<0.03	<0.005	0.53	11	0.029	<0.0005	<0.0004	0.073	<0.0002	<0.001
W2	10/07/2010	No Discharge	P	2	170	8.15	8.11	314	321	6.80		99.0		152	140	150	1.7	0.3	26	<0.03	<0.005	0.53	10.7	0.033	<0.0005	<0.0004	0.07	<0.0002	<0.001
W2	11/07/2010	No Discharge	P	2	170	8.03	8.22	320	325	6.37		94.7		151	144	150	2.1	0.29	28	0.036	<0.005	0.4	9.6	0.032	<0.0005	<0.0004	0.072	<0.0002	<0.001
W2	12/07/2010	No Discharge	P	<1	170	8.11	8.06	323	332	7.70		100.2		146	149	150	2.4	0.35	26	0.063	<0.005	0.53	10	0.031	<0.0005	<0.0004	0.069	<0.0002	<0.001
W2	13/07/2010	No Discharge	P	<1	180	7.82	8.06	323	330	6.11		95.5		153	150	160	2.3	0.28	26	0.02	<0.005	0.51	9.7	0.021	<0.0005	0.0005	0.069	<0.0002	<0.001
W2	28/10/2010	No Discharge	P	11	350	8.27	8.14	549	528	-0.19		85		244	228	150	14	0.41	75	0.076	0.015	8.9	9.1	0.129	<0.0005	0.0005	0.104	<0.0001	<0.001
W2	29/10/2010	No Discharge	P	4	310	8.26	8.33	525	522	0.08		76.9		222	223	150	13	0.38	71	0.076	0.01	8.4	10.6	0.121	<0.0005	0.0004	0.098	<0.0001	<0.001
W2	30/10/2010	No Discharge	P	1	300	8.26	8.29	505	503	0.08		70.5		221	219	150	11	0.33	68	0.022	0.006	7.6	10.6	0.055	<0.0005	0.0003	0.089	<0.0001	<0.001
W2	31/10/2010	No Discharge	P	1	290	8.03	8.23	483	480	-0.21		54		211	218	150	9.9	0.3	56	0.047	<0.005	5.7	11.5	0.032	<0.0005	0.0003	0.09	<0.0001	<0.001
W2	01/11/2010	No Discharge	P	2	310	7.41	8.25	236.2	461	0.1		82.4		212	242	150	11	0.37	62	0.031	<0.005	7.2	9.4	0.07	<0.0005	0.0003	0.091	<0.0001	<0.001
W2	02/11/2010	No Discharge	P	<1	290	7.64	8.29	229	486	0.5		74.4		215	221	150	10	0.34	62	0.029	<0.005	5.9	9	0.027	<0.0005	0.0003	0.087	<0.0001	<0.001
W2	07/11/2010	No Discharge	P	<1	260	7.06	8.11	430	424	-0.21				212	194	160	5.4	0.33	43	0.022	<0.005	2.84	8.8	0.018	<0.0005	0.0003	0.084	<0.0001	<0.001

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W2	15/05/2010	<0.05	<0.00001	28.9	<0.001	<0.0005	0.0031	0.123	<0.0002	<0.005	8.66	0.006	<0.0002	0.001	0.001	0.016	1.18	0.0001	4.77	<0.00002	5.54	0.246	5	<0.00005	<0.005	<0.005	0.0008
W2	16/05/2010	<0.05	<0.00001	29.4	<0.001	<0.0005	0.0029	0.143	<0.0002	<0.005	8.94	0.005	<0.0002	0.001	0.001	0.012	1.2	0.0002	4.86	0.00002	5.7	0.243	5	<0.00005	<0.005	<0.005	0.0008
W2	17/05/2010	<0.05	0.00002	30.3	<0.001	<0.0005	0.0032	0.106	<0.0002	<0.005	9.15	0.006	<0.0002	0.001	0.001	0.013	1.2	0.0002	4.72	<0.00002	5.78	0.262	3	<0.00005	<0.005	<0.005	0.0009
W2	18/05/2010	<0.05	0.00002	30.6	0.001	<0.0005	0.0024	0.099	<0.0002	<0.005	10.1	0.006	<0.00002	0.001	<0.003	0.017	1.31	0.0002	4.81	<0.00002	7.18	0.272	5	<0.00005	<0.005	<0.005	0.0007
W2	19/05/2010	<0.05	0.00001	31.8	0.001	<0.0005	0.003	0.111	<0.0002	<0.005	10.4	0.007	<0.00002	0.001	<0.003	0.017	1.34	0.0004	4.96	<0.00002	7.32	0.272	5	<0.00005	<0.005	<0.005	0.0008
W2	20/05/2010	<0.05	<0.00001	30.5	0.001	<0.0005	0.0032	0.176	<0.0002	<0.005	10.5	0.012	<0.00002	0.001	<0.003	0.021	1.3	0.0002	4.98	<0.00002	7.19	0.268	4	<0.00005	<0.005	0.005	0.0007
W2	21/05/2010	<0.1	<0.0001	32	<0.002	<0.0005	0.003	0.123	<0.0002	<0.01	10	0.007	<0.0002	0.001	0.001		1	<0.0008	4.69	<0.0001	7	0.286	<60	<0.00005	<0.005	<0.01	0.0009
W2	22/05/2010	<0.1	<0.0001	28	<0.002	<0.0005	0.002	0.109	<0.0002	<0.01	9	0.005	<0.0002	0.001	<0.001		1	<0.0008	4.54	<0.0001	6	0.252	<60	<0.00005	<0.005	<0.01	0.0009
W2	23/05/2010	<0.1	<0.0001	30	<0.002	<0.0005	0.002	0.127	<0.0002	<0.01	9	0.007	<0.0002	0.001	<0.001		1	<0.0008	4.62	<0.0001	6	0.264	<60	<0.00005	<0.005	<0.01	0.0009
W2	24/05/2010	<0.1	<0.0001	30	<0.002	<0.0005	0.002	0.127	<0.0002	<0.01	10	0.007	<0.0002	0.001	0.001		1	<0.0008	4.35	<0.0001	6	0.274	<60	<0.00005	<0.005	<0.01	0.0009
W2	25/05/2010	<0.1	<0.0001	37	<0.002	<0.0005	0.004	0.111	<0.0002	<0.01	13	0.007	<0.00002	0.001	<0.003		2	<0.001	5.47	<0.0001	9	0.32	<60	<0.00005	<0.005	<0.01	0.001
W2	26/05/2010	<0.1	<0.0001	32	<0.002	<0.0005	0.003	0.159	<0.0002	<0.01	12	0.008	<0.00002	0.001	<0.003		1	<0.001	4.84	<0.0001	8	0.293	<60	<0.00005	<0.005	<0.01	0.0008
W2	27/05/2010	<0.1	<0.0001	34	<0.002	<0.0005	0.002	0.24	<0.0002	<0.01	11	0.012	<0.00002	0.001	<0.001		1	<0.0008	5.39	<0.0001	7	0.311	<60	<0.00005	<0.005	<0.01	0.0011
W2	28/05/2010	<0.1	<0.0001	33	<0.002	<0.0005	0.003	0.258	<0.0002	<0.01	11	0.015	<0.00002	0.002	0.001		1	<0.0008	5.13	<0.0001	7	0.302	<60	<0.00005	<0.005	<0.01	0.0011
W2	29/05/2010	<0.1	<0.0001	35	<0.002	<0.0005	0.008	0.64	0.0002	<0.01	11	0.028	<0.00002	0.002	0.002		1	<0.0008	5.64	<0.0001	7	0.325	<60	<0.00005	<0.005	0.018	0.0012
W2	30/05/2010	<0.1	<0.0001	37	<0.002	<0.0005	0.002	0.088	<0.0002	<0.01	12	0.007	<0.00002	0.002	0.001		1	<0.0008	5.06	<0.0001	8	0.339	<60	<0.00005	<0.005	<0.01	0.0012
W2	31/05/2010	<0.1	<0.0001	36	<0.002	<0.0005	0.002	0.084	<0.0002	<0.01	11	0.007	<0.00002	0.002	<0.001		1	<0.0008	5	<0.0001	7	0.322	<60	<0.00005	<0.005	<0.01	0.0012
W2	01/06/2010	<0.1	<0.0001	40	<0.002	<0.0005	0.003	0.105	<0.0002	<0.01	12	0.009	<0.0002	0.002	0.001		2	<0.0008	5.07	<0.0001	8	0.38	<60	<0.00005	<0.005	<0.01	0.0014
W2	02/06/2010	<0.1	<0.0001	39	<0.002	<0.0005	0.002	0.083	<0.0002	<0.01	12	0.007	<0.0002	0.002	0.001		1	<0.0008	4.93	<0.0001	8	0.374	<60	<0.00005	<0.005	<0.01	0.0013
W2	03/06/2010	<0.1	<0.0001	38	<0.002	<0.0005	0.004	0.308	<0.0002	<0.01	12	0.019	<0.0002	0.002	0.001		2	<0.0008	5.49	<0.0001	8	0.351	<60	<0.00005	<0.005	<0.01	0.0014
W2	04/06/2010	<0.1	<0.0001	40	<0.002	<0.0005	0.005	0.076	<0.0002	<0.01	12	0.019	<0.0002	0.002	<0.001		2	<0.0008	5.4	<0.0001	8	0.363	<60	<0.00005	<0.005	<0.01	0.0014
W2	05/06/2010	<0.1	<0.0001	41	<0.002	<0.0005	0.005	0.06	<0.0002	<0.01	13	0.012		0.002	0.001		2	<0.0008	5.32	<0.0001	9	0.372	<60	<0.00005	<0.005	<0.01	0.0015
W2	06/06/2010	<0.1	<0.0001	41	<0.002	<0.0005	0.004	0.066	<0.0002	<0.01	13	0.011		0.002	0.001		2	<0.0008	5.42	<0.0001	9	0.392	<60	<0.00005	<0.005	<0.01	0.0015
W2	10/06/2010	<0.1	<0.0001	36	<0.002	<0.0005	0.006	0.068	<0.0002	<0.01	12	0.014	<0.0002	0.002	0.001		2	<0.0008	5.11	<0.0001	8	0.365	<60	<0.00005	<0.005	<0.01	0.0014
W2	11/06/2010	<0.1	<0.0001	35	<0.002	<0.0005	0.003	0.038	<0.0002	<0.01	12	0.013	<0.0002	0.002	<0.001		2	<0.0008	4.89	<0.0001	8	0.372	<60	<0.00005	<0.005	<0.01	0.0014
W2	12/06/2010	<0.1	<0.0001	38	<0.002	<0.0005	0.003	0.037	<0.0002	<0.01	12	0.013	<0.0002	0.002	0.001		2	<0.0008	5.2	0.0001	8	0.393	<60	<0.00005	<0.005	<0.01	0.0015
W2	13/06/2010	<0.1	<0.0001	39	<0.002	<0.0005	0.008	0.056	<0.0002	<0.01	13	0.015	<0.0002	0.002	0.001		2	<0.0008	5.23	<0.0001	9	0.419	<60	<0.00005	<0.005	<0.01	0.0016
W2	14/06/2010	<0.1	<0.0001	36	<0.002	<0.0005	0.002	0.029	<0.0002	<0.01	12	0.011	<0.0002	0.002	<0.001		2	<0.0008	4.94	<0.0001	8	0.392	<60	<0.00005	<0.005	<0.01	0.0015
W2	15/06/2010	<0.1	<0.0001	41	<0.002	<0.0005	0.002	0.031	0.0004	<0.01	13	0.012	<0.0002	0.002	0.001		2	<0.0008	5.41	<0.0001	9	0.43	<60	<0.00005	<0.005	<0.01	0.0016
W2	16/06/2010	<0.1	<0.0001	40	<0.002	<0.0005	0.002	0.052	<0.0002	<0.01	13	0.011	<0.0002	0.002	<0.001		2	<0.0008	5.29	<0.0001	9	0.405	<60	<0.00005	<0.005	<0.01	0.0015
W2	17/06/2010	<0.1	<0.0001	40	<0.002	<0.0005	0.003	0.03	<0.0002	<0.01	13	0.014	<0.0002	0.001	0.001		2	<0.0008	5.48	<0.0001	9	0.397	<60	<0.00005	<0.005	<0.01	0.0014
W2	18/06/2010	<0.1	<0.0001	38	<0.002	<0.0005	0.002	0.025	<0.0002	<0.01	12	0.008	<0.0002	0.002	<0.001		1	<0.0008	5.11	<0.0001	8	0.37	<60	<0.00005	<0.005	<0.01	0.0014
W2	19/06/2010	<0.1	<0.0001	37	<0.002	<0.0005	0.002	0.077	<0.0002	<0.01	13	0.01	<0.0002	0.002	0.001		1	<0.0008	5.14	<0.0001	9	0.372	<60	<0.00005	<0.005	<0.01	0.0016
W2	20/06/2010	<0.1	<0.0001	37	<0.002	<0.0005	0.003	0.052	<0.0002	<0.01	12	0.006	<0.0002	0.002	0.001		1	<0.0008	5.48	<0.0001	8	0.352	<60	<0.00005	<0.005	<0.01	0.0013
W2	21/06/2010	<0.1	<0.0001	38	<0.002	<0.0005	0.002	0.039	<0.0002	<0.01	14	0.007	<0.0002	0.002	0.002		2	<0.0008	5.09	<0.0001	10	0.38	<60	<0.00005	<0.005	<0.01	0.0014
W2	22/06/2010	<0.1	<0.0001	37	<0.002	<0.0005	0.003	0.188	<0.0002	<0.01	11	0.016	<0.0002	0.002	0.001		1	<0.0008	6.4	<0.0001	8	0.359	<60	<0.00005	<0.005	<0.01	0.0012
W2	23/06/2010	<0.1	<0.0001	35	<0.002	<0.0005	0.003	0.111	<0.0002	<0.01	13	0.007	<0.0002	0.002	0.001		1	<0.0008	5.73	<0.0001	9	0.345	<60	<0.00005	<0.005	<0.01	0.0012
W2	24/06/2010	<0.1	<0.0001	37	<0.002	<0.0005	0.003	0.073	<0.0002	<0.01	12	0.006	<0.0002	0.002	0.001		1	<0.0008	6.19	<0.0001	9	0.371	<60	<0.00005	<0.005	<0.01	0.0011
W2	25/06/2010	<0.1	<0.0001	35	<0.002	<0.0005	0.002	0.048	<0.0002	<0.01	11	0.005	<0.0002	0.002	<0.001		1	<0.0008	5.52	<0.0001	8	0.35	<60	<0.00005	<0.005	<0.01	0.0012
W2	26/06/2010																										
W2	26/06/2010	<0.1	<0.0001	36	<0.002	<0.0005	0.002	0.036	<0.0002	<0.01	11	0.006	<0.0002	0.002	<0.001		1	<0.0008	5.16	<0.0001	8	0.354	<60	<0.00005	<0.005	<0.01	0.0012
W2	27/06/2010	<0.1	<0.0001	37	<0.002	<0.0005	0.002	0.033	0.0032	<0.01	11	0.008	<0.0002	0.002	0.001		1	<0.0008	5.97	<0.0001	8	0.378	<60	<0.00005	<0.005	<0.01	0.0012
W2	28/06/2010	<0.1	<0.0001	38	<0.002	<0.0005	0.003	0.262	0.0008	<0.01	11	0.011	<0.0002	0.002	0.001		1	<0.0008	6.12	0.0001	8	0.387	<60	<0.00005	<0.005	<0.01	0.0012
W2	29/06/2010	<0.1	<0.0001	36	<0.002	<0.0005	0.002	0.028	<0.0002	<0.01	12	0.008	<0.0002	0.002	<0.001		1	<0.0008	5.15	<0.0001	9	0.366	<60	<0.00005	<0.005	<0.01	0.0013
W2	30/06/2010	<0.1	<0.0001	38	<0.002	<0.0005	0.003	0.049	<0.0002	<0.01	12	0.012	<0.0002	0.002	<0.001		2	<0.0008	5.2	<0.0001	8	0.369	<60	<0.00005	<0.005	<0.01	0.0012
W2	01/07/2010	<0.1	<0.0001	29	0.004	0.0017	0.016	3.29	0.0013	<0.01	10	0.279	<0.0002	0.001	0.006		1	<0.0008	9.27	<0.0001	7	0.267	<60	<0.00005	<0.005	0.067	0.0007
W2	02/07/2010	<0.1	<0.0001	30	0.002	0.0009	0.009	1.88	0.0006	<0.01	10	0.137	<0.0002	0.001	0.004		1	<0.0008	8.13	<0.0001	7	0.271	<60	<0.00005	<0.005	0.052	0.0006
W2	03/07/2010	<0.1	<0.0001	27	<0.002	<0.0005	0.006	0.818	0.0003	<0.01	10	0.067	<0.0002	0.001	0.003		<1	<0.0008	6.03	<0.0001	7	0.274	<60	<0.00005	<0.005	0.021	0.0006
W2	04/07/2010	<0.1	<0.0001	33	<0.002	<0.0005	0.005	0.657	<0.0002	<0.01	10	0.045	<0.0002	0.001	0.002		<1	<0.0008	6.85	<0.0001	7	0.294	<60	<0.00005	<0.005	0.016	0.0007
W2	05/07/2010	<0.1	<0.0001	35	<0.002	<0.0005	0.005	0.378	<0.0002	<0.01	12	0.028	<0.0002	0.002	0.002		1	<0.0008	6.56	<0.0001	8	0.326	<60	<0.00005	<0.005	<0.01	0.0009
W2	06/07/2010	<0.1	<0.0001	34	<0.002	<0.0005	0.003	0.168	<0.0002	<0.01	11	0.016	<0.0002	0.002	0.001		1	<0.0008	6.24	<0.0001	8	0.331	<60	<0.00005	<0.005	<0.01	0.0008
W2	07/07/2010	<0.1	<0.0001	37	<0.002	<0.0005	0.003	0.213	<0.0002	<0.01	12	0.019	<0.0002	0.002	0.001		1	<0.0008	6.53	<0.0001	9	0.377	<60	<0.00005	<0.005	<0.01	0.0011
W2	08/07/2010	<0.1	<0.0001	37	<0.002	<0.0005	0.003	0.084	<0.0002	<0.01	12	0.011	<0.0002	0.002	0.001		1	<0.0008	6.26	<0.0001	9	0.379	<60	<0.00005	<0.005	<0.01	0.0011
W2	09/07/2010	<0.1	<0.0001	39	<0.002	<0.0005	0.003	0.072	<0.0002	<0.01	12	0.012	<0.0002	0.002	0.001		1	<0.0008	6.23	<0.0001	9	0.391	<60	<0.00005	<0.005	<0.01	0.0012
W2	10/07/2010	<0.1	<0.0001	40	<0.002	<0.0005	0.003	0.071	<0.0002	<0.01	13	0.013	<0.0002	0.002	0.001		2	<0.0008	6.2	<0.0001	10	0.4	<60	<0.00005	<0.005	<0.01	0.0012
W2	11/07/2010	<0.1	<0.0001	40	<0.002	<0.0005	0.003	0.06	<0.0002	<0.01	12	0.014	<0.0002	0.002	0.001		2	<0.0008	6.14	<0.0001	10	0.408	<60	<0.00005	<0.005	<0.01	0.0014
W2	12/07/2010	<0.1	<0.0001	38	<0.002	<0.0005	0.002	0.06	<0.0002	<0.01	12	0.011	<0.0002	0.002	0.002		1	<0.0008	5.86	<0.0001	10	0.395	<60	<0.00005	<0.005	<0.01	0.0014
W2	13/07/2010	<0.1	<0.0001	40	<0.002	<0.0005	0.003	0.055	<0.0002	<0.01	13	0.01	<0.0002	0.002	0.001		1	<0.0008	6.29	<0.0001	10	0.401	<60	<0.00005	<0.005	<0.01	0.0013
W2	28/10/2010	<0.05	0.00003	65.3	<0.001	<0.0005	0.0039	0.26	<0.0002	<0.005	19.7	0.029	<0.00002	0.01	0.001		3.9	0.0025	6.09	<0.00002	23.6	1.04	31	<0.00005	<0.005	<0.005	0.0017
W2	29/10/2010	<0.05	0.00002	58	<0.001	<0.0005	0.0032	0.156	<0.0002	<0.005	18.6	0.022	<0.00002	0.009	0.006		3.72	0.0022	5.33	<0.00002	22.7	1	25	<0.00005	<0.005	<0.005	0.0017
W2	30/10/2010	<0.05	<0.00001	59.2	<0.001	<0.0005	0.0025	0.101	<0.0002	<0.005	17.7	0.015	<0.00002	0.008	<0.001		3.46	0.0021	5.72	<0.00002	20.7	0.875	24	<0.00005	<0.005	<0.005	0.0016
W2	31/10/2010	<0.05	0.00003	56.3	<0.001	<0.0005	0.004	0.087	<0.0002	<0.005	17.2	0.024	0.00003	0.005	0.002		2.8	0.0017	5.84	<0.00002	18.3	0.758	20	<0.00005	<0.005	<0.005	0.0018
W2	01/11/2010	<0.05	0.00001	55	<0.001	<0.0005	0.0025	0.111	<0.0002	<0.005	18	0.016	<0.00002	0.007	<0.001		3.25	0.002	5.35	<0.00002	20	0.85	22	<0.00005	<0.005	<0.005	0.0018
W2	02/11/2010	<0.05	<0.00001	58.3	<0.001	<0.0005	0.0023	0.088	<0.0002	<0.005	16.8	0.019	<0.00002	0.005	0.001		2.9	0.0019	5.73	<0.00002	18.6	0.772	22	<0.00005	<0.005	<0.005	0.0017
W2	07/11/2010	<0.05	<0.00001	54.5	<0.001	<0.0005	0.0017	0.057	<0.0002	<0.005	18.4	0.017	<0.00002	0.003	<0.001		2.45	0.0008	6.62	<0.00002	14.6	0.646	17	<0.00005	<0.005	<0.005	0.002

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W2	15/05/2010	<0.005	<0.005	<0.0005	0.01	<0.0005	0.0004	0.049	<0.0001	<0.001	<0.05	<0.00001	30.5	High DL removed	<0.0005	0.0022	0.06	<0.0002	<0.005	8.96	<0.001	<0.0002	0.001	0.001	<0.01	1.28
W2	16/05/2010	<0.005	<0.005	<0.0005	0.015	<0.0005	0.0004	0.048	<0.0001	<0.001	<0.05	0.00001	30.5	High DL removed	<0.0005	0.002	0.065	<0.0002	<0.005	9.05	<0.001	<0.0002	0.001	0.001	<0.01	1.28
W2	17/05/2010	<0.005	<0.005	<0.0005	0.011	<0.0005	0.0004	0.049	<0.0001	<0.001	<0.05	<0.00001	32	High DL removed	<0.0005	0.0027	0.052	<0.0002	<0.005	9.45	<0.001	<0.0002	0.001	0.001	<0.01	1.38
W2	18/05/2010	<0.005	<0.005	<0.0005	0.008	<0.0005	0.0003	0.048	<0.0001	<0.001	<0.05	0.00001	32.1	High DL removed	<0.0005	0.0019	0.047	<0.0002	<0.005	10.2	<0.001	<0.00002	0.001	<0.001	<0.01	1.32
W2	19/05/2010	<0.005	<0.005	<0.0005	0.007	<0.0005	0.0003	0.045	<0.0001	<0.001	<0.05	<0.00001	30.5	High DL removed	<0.0005	0.0019	0.057	<0.0002	<0.005	10.1	<0.001	<0.00002	0.001	<0.001	<0.01	1.22
W2	20/05/2010	<0.005	<0.005	<0.0005	0.007	<0.0005	0.0004	0.045	<0.0001	<0.001	<0.05	<0.00001	30.2	High DL removed	<0.0005	0.0019	0.061	<0.0002	<0.005	10.4	<0.001	<0.00002	0.001	<0.001	<0.01	1.19
W2	21/05/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.049	<0.0002	<0.001	<0.1	High DL removed	31	High DL removed	<0.0005	0.002	0.057	<0.0002	<0.01	9	<0.001	<0.0002	0.001	<0.001		1
W2	22/05/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.048	<0.0002	<0.001	<0.1	High DL removed	31	High DL removed	<0.0005	0.002	0.06	<0.0002	<0.01	10	<0.001	<0.0002	0.001	0.001		1
W2	23/05/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.048	<0.0002	<0.001	<0.1	High DL removed	30	High DL removed	<0.0005	0.002	0.066	<0.0002	<0.01	9	<0.001	<0.0002	0.001	0.001		1
W2	24/05/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	0.0004	0.048	<0.0002	<0.001	<0.1	High DL removed	31	High DL removed	<0.0005	0.002	0.061	<0.0002	<0.01	9	<0.001	<0.0002	0.001	<0.001		1
W2	25/05/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	High DL removed	0.055	<0.0005	<0.001	<0.1	<0.0001	34	High DL removed	<0.0005	0.002	0.043	<0.0002	<0.01	12	<0.001	<0.00002	0.001	High DL removed		1
W2	26/05/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	High DL removed	0.051	<0.0005	<0.001	<0.1	<0.0001	33	High DL removed	<0.0005	0.002	0.049	<0.0002	<0.01	11	<0.001	<0.00002	0.001	High DL removed		1
W2	27/05/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	High DL removed	0.055	<0.0005	<0.001	<0.1	<0.0001	36	High DL removed	<0.0005	0.002	0.037	<0.0002	<0.01	13	<0.001	<0.00002	0.002	High DL removed		1
W2	28/05/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.055	<0.0002	<0.001	<0.1	High DL removed	35	High DL removed	<0.0005	0.002	0.032	<0.0002	<0.01	11	<0.001	<0.00002	0.002	<0.001		1
W2	29/05/2010	<0.005	<0.01	<0.002	0.011	<0.0005	<0.0004	0.056	<0.0002	<0.001	<0.1	High DL removed	34	High DL removed	<0.0005	0.002	0.051	<0.0002	<0.01	10	<0.001	<0.00002	0.002	<0.001		1
W2	30/05/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.058	<0.0002	<0.001	<0.1	High DL removed	36	High DL removed	<0.0005	0.002	0.028	<0.0002	<0.01	11	0.001	<0.00002	0.002	0.002		1
W2	31/05/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.054	<0.0002	<0.001	<0.1	High DL removed	33	High DL removed	<0.0005	0.002	0.031	<0.0002	<0.01	11	0.001	<0.00002	0.002	<0.001		1
W2	01/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.056	<0.0002	<0.001	<0.1	High DL removed	37	High DL removed	<0.0005	0.002	0.026	<0.0002	<0.01	11	0.002	<0.0002	0.002	<0.001		1
W2	02/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.055	<0.0002	<0.001	<0.1	High DL removed	36	High DL removed	<0.0005	0.002	0.026	<0.0002	<0.01	11	<0.001	<0.0002	0.002	<0.001		1
W2	03/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.058	<0.0002	<0.001	<0.1	High DL removed	36	High DL removed	<0.0005	0.002	<0.02	<0.0002	<0.01	10	0.002	<0.0002	0.002	<0.001		1
W2	04/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.065	<0.0002	<0.001	<0.1	High DL removed	38	High DL removed	<0.0005	0.002	0.022	<0.0002	<0.01	11	0.01	<0.0002	0.002	<0.001		2
W2	05/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.065	<0.0002	<0.001	<0.1	High DL removed	41	High DL removed	<0.0005	0.002	0.024	<0.0002	<0.01	12	0.009		0.002	<0.001		2
W2	06/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.066	<0.0002	<0.001	<0.1	High DL removed	41	High DL removed	<0.0005	0.002	<0.02	<0.0002	<0.01	12	0.007		0.002	<0.001		2
W2	10/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.062	<0.0002	<0.001	<0.1	High DL removed	37	High DL removed	<0.0005	0.002	<0.02	<0.0002	<0.01	12	<0.001	<0.0002	0.002	<0.001		2
W2	11/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.063	<0.0002	<0.001	<0.1	High DL removed	36	High DL removed	<0.0005	0.002	<0.02	<0.0002	<0.01	12	<0.001	<0.0002	0.002	<0.001		2
W2	12/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.066	<0.0002	<0.001	<0.1	High DL removed	38	High DL removed	<0.0005	0.002	<0.02	<0.0002	<0.01	12	<0.001	<0.0002	0.002	<0.001		2
W2	13/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.067	<0.0002	<0.001	<0.1	High DL removed	39	High DL removed	<0.0005	0.002	<0.02	<0.0002	<0.01	12	<0.001	<0.0002	0.001	<0.001		2
W2	14/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.063	<0.0002	<0.001	<0.1	High DL removed	38	High DL removed	<0.0005	0.002	<0.02	<0.0002	<0.01	12	0.003	<0.0002	0.002	<0.001		2
W2	15/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.065	<0.0002	<0.001	<0.1	High DL removed	38	High DL removed	<0.0005	0.002	<0.02	<0.0002	<0.01	12	0.007	<0.0002	0.001	<0.001		2
W2	16/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.069	<0.0002	<0.001	<0.1	High DL removed	39	High DL removed	<0.0005	0.002	<0.02	<0.0002	<0.01	11	0.004	<0.0002	0.001	0.001		2
W2	17/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.066	<0.0002	<0.001	<0.1	High DL removed	39	High DL removed	<0.0005	0.002	<0.02	<0.0002	<0.01	12	<0.001	<0.0002	0.001	<0.001		2
W2	18/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.066	<0.0002	<0.001	<0.1	High DL removed	38	High DL removed	<0.0005	0.002	<0.02	<0.0002	<0.01	12	<0.001	<0.0002	0.002	<0.001		2
W2	19/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.061	<0.0002	<0.001	<0.1	High DL removed	36	High DL removed	<0.0005	0.002	0.02	<0.0002	<0.01	12	<0.001	<0.0002	0.002	<0.001		1
W2	20/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.061	<0.0002	<0.001	<0.1	<0.0001	37	High DL removed	<0.0005	0.002	0.024	<0.0002	<0.01	12	0.003	<0.0002	0.002	<0.001		1
W2	21/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.062	<0.0002	<0.001	<0.1	<0.0001	38	High DL removed	<0.0005	0.002	<0.02	<0.0002	<0.01	12	0.002	<0.0002	0.002	<0.001		1
W2	22/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.058	<0.0002	<0.001	<0.1	High DL removed	35	High DL removed	<0.0005	0.002	0.032	<0.0002	<0.01	11	<0.001	<0.0002	0.002	0.001		1
W2	23/06/2010	<0.005	<0.01	<0.002	0.011	<0.0005	<0.0004	0.056	<0.0002	<0.001	<0.1	High DL removed	32	High DL removed	<0.0005	0.002	0.037	<0.0002	<0.01	10	0.002	<0.0002	0.002	0.001		1
W2	24/06/2010	<0.005	<0.01	<0.002	0.01	<0.0005	<0.0004	0.056	<0.0002	<0.001	<0.1	High DL removed	35	High DL removed	<0.0005	0.002	0.032	<0.0002	<0.01	11	0.003	<0.0002	0.002	0.001		1
W2	25/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.062	<0.0002	<0.001	<0.1	High DL removed	35	High DL removed	<0.0005	0.002	0.028	<0.0002	<0.01	12	0.002	<0.0002	0.002	0.001		1
W2	26/06/2010																									
W2	26/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.064	<0.0002	<0.001	<0.1	High DL removed	36	High DL removed	<0.0005	0.002	0.023	<0.0002	<0.01	12	0.004	<0.0002	0.002	<0.001		1
W2	27/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.063	<0.0002	<0.001	<0.1	High DL removed	38	High DL removed	<0.0005	0.002	<0.02	<0.0002	<0.01	11	0.004	<0.0002	0.002	<0.001		1
W2	28/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.064	<0.0002	<0.001	<0.1	High DL removed	37	High DL removed	<0.0005	0.002	<0.02	<0.0002	<0.01	11	0.002	<0.0002	0.002	<0.001		2
W2	29/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.064	<0.0002	<0.001	<0.1	High DL removed	40	High DL removed	<0.0005	0.002	0.035	<0.0002	<0.01	11	0.003	<0.0002	0.002	<0.001		1
W2	30/06/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.066	<0.0002	<0.001	<0.1	High DL removed	38	High DL removed	<0.0005	0.002	<0.02	<0.0002	<0.01	11	<0.001	<0.0002	0.002	<0.001		2
W2	01/07/2010	0.007	0.013	<0.002	0.026	<0.0005	0.0005	0.049	<0.0002	<0.001	<0.1	High DL removed	28	High DL removed	<0.0005	0.003	0.161	<0.0002	<0.01	9	0.002	<0.0002	0.001	0.002		<1
W2	02/07/2010	<0.005	<0.01	<0.002	0.023	<0.0005	0.0005	0.055	<0.0002	<0.001	<0.1	High DL removed	29	High DL removed	<0.0005	0.002	0.143	<0.0002	<0.01	7	0.002	<0.0002	0.001	0.001		<1
W2	03/07/2010	<0.005	<0.01	<0.002	0.02	<0.0005	0.0005	0.054	<0.0002	<0.001	<0.1	High DL removed	32	High DL removed	<0.0005	0.003	0.126	<0.0002	<0.01	9	0.001	<0.0002	0.001	0.002		<1
W2	04/07/2010	<0.005	<0.01	<0.002	0.019	<0.0005	0.0005	0.054	<0.0002	<0.001	<0.1	High DL removed	31	High DL removed	<0.0005	0.003	0.093	<0.0002	<0.01	10	0.003	<0.0002	0.001	0.001		<1
W2	05/07/2010	<0.005	<0.01	<0.002	0.018	<0.0005	0.0004	0.058	<0.0002	<0.001	<0.1	High DL removed	33	High DL removed	<0.0005	0.003	0.082	<0.0002	<0.01	10	0.003	<0.0002	0.002	0.002		1
W2	06/07/2010	<0.005	<0.01	<0.002	0.011	<0.0005	0.0005	0.061	<0.0002	<0.001	<0.1	High DL removed	34	High DL removed	<0.0005	0.003	0.058	<0.0002	<0.01	11	0.002	<0.0002	0.002	0.001		1
W2	07/07/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	0.0005	0.067	<0.0002	<0.001	<0.1	High DL removed	37	High DL removed	<0.0005	0.002	0.037	<0.0002	<0.01	12	0.004	<0.0002	0.002	0.001		1
W2	08/07/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	0.0004	0.067	<0.0002	<0.001	<0.1	High DL removed	38	High DL removed	<0.0005	0.003	0.033	<0.0002	<0.01	12	0.004	<0.0002	0.002	0.001		1
W2	09/07/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	0.0004	0.063	<0.0002	<0.001	<0.1	High DL removed	37	High DL removed	<0.0005	0.002	0.028	<0.0002	<0.01	11	0.004	<0.0002	0.002	0.001		1
W2	10/07/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.065	<0.0002	<0.001	<0.1	High DL removed	38	High DL removed	<0.0005	0.002	0.025	<0.0002	<0.01	11	0.005	<0.0002	0.002	<0.001		1
W2	11/07/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.065	<0.0002	<0.001	<0.1	High DL removed	38	High DL removed	<0.0005	0.002	0.022	<0.0002	<0.01	12	0.004	<0.0002	0.002	0.001		1
W2	12/07/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.065	<0.0002	<0.001	<0.1	High DL removed	39	High DL removed	<0.0005	0.002	0.023	<0.0002	<0.01	12	0.003	<0.0002	0.002	0.001		1
W2	13/07/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.068	<0.0002	<0.001	<0.1	High DL removed	40	High DL removed	<0.0005	0.002	0.025	<0.0002	<0.01	12	0.004	<0.0002	0.002	0.001		1
W2	28/10/2010	<0.005	<0.005	<0.0005	0.021	<0.0005	0.0004	0.091	<0.0001	<0.001	<0.05	<0.00001	60.1	High DL removed	<0.0005	0.0016	0.024	<0.0002	<0.005	18.8	0.011	<0.00002	0.009	<0.001		3.53
W2	29/10/2010	<0.005	<0.005	<0.0005	0.019	<0.0005	0.0004	0.09	<0.0001	<0.001	<0.05	0.00002	59.6	High DL removed	<0.0005	0.0025	0.052	<0.0002	<0.005	17.9	0.014	<0.00002	0.008	<0.001		3.61
W2	30/10/2010	<0.005	<0.005	<0.0005	0.014	<0.0005	0.0004	0.086	<0.0001	<0.001	<0.05	0.00001	58.3	High DL removed	<0.0005	0.0021	0.034	<0.0002	<0.005	17.9	0.011	<0.00002	0.008	<0.001		3.49
W2	31/10/2010	<0.005	<0.005	<0.0005	0.008	<0.0005	0.0003	0.088	<0.0001	<0.001	<0.05	<0.00001	56.5	High DL removed	<0.0005	0.002	0.031	<0.0002	<0.005	18.6	0.022	0.00003	0.005	<0.001		2.98
W2	01/11/2010	<0.005	<0.005	<0.0005	0.023	<0.0005	0.0004	0.089	<0.0001	<0.001	<0.05	0.00003	64.7	High DL removed	<0.0005	0.0027	0.047	<0.0002	<0.005	19.5	0.019	0.00004	0.008	0.001		3.76
W2	02/11/2010	<0.005	<0.005	<0.0005	0.008	<0.0005	0.0003	0.087	<0.0001	<0.001	<0.05	<0.00001	58.4	High DL removed	<0.0005	0.0018	0.03	<0.0002	<0.005	18.3	0.015	0.00003	0.006	<0.001		3.06
W2	07/11/2010	<0.005	<0.005	<0.0005	0.007	<0.0005	0.0003	0.08	<0.0001	<0.001	<0.05	<0.00001	51.2	High DL removed	<0.0005	0.0016	0.04	<0.0002	<0.005	16.1	0.015	<0.00002	0.003	<0.001		2.29

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	Br	Cation	CN-T	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-TKN	P-PO4T	P-TDP	P-TRP
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L
W2	15/05/2010	0.0001	5.24	<0.00002	6.09	0.252	5	<0.00005	<0.005	<0.005	0.0007	<0.005	<0.005	<0.0005	130	<0.5	<0.5	<0.5		<0.4												<0.005
W2	16/05/2010	0.0001	5.03	<0.00002	6.09	0.251	5	<0.00005	<0.005	<0.005	0.0008	<0.005	<0.005	<0.0005	130	<0.5	<0.5	<0.5		<0.4												<0.005
W2	17/05/2010	0.0001	4.97	<0.00002	6.46	0.266	6	<0.00005	<0.005	<0.005	0.0009	<0.005	<0.005	<0.0005	130	<0.5	<0.5	<0.5		<0.4												<0.005
W2	18/05/2010	0.0002	4.99	<0.00002	7.19	0.248	6	<0.00005	<0.005	<0.005	0.0008	<0.005	<0.005	<0.0005	140	<0.5	<0.5	<0.5		<0.4												<0.005
W2	19/05/2010	0.0002	4.97	<0.00002	7.15	0.226	5	<0.00005	<0.005	<0.005	0.0007	<0.005	<0.005	<0.0005	130	<0.5	<0.5	<0.5		<0.4												<0.005
W2	20/05/2010	0.0002	4.99	<0.00002	7.21	0.223	5	<0.00005	<0.005	<0.005	0.0008	<0.005	<0.005	<0.0005	130	<0.5	<0.5	<0.5		<0.4												<0.005
W2	21/05/2010	<0.0008	4.95	<0.0001	7	0.251	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	140	<0.5	<0.5	<0.5		<0.4												<0.005
W2	22/05/2010	<0.0008	4.82	<0.0001	7	0.252	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	140	<0.5	<0.5	<0.5		<0.4												<0.005
W2	23/05/2010	<0.0008	4.78	<0.0001	7	0.256	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	140	<0.5	<0.5	<0.5		<0.4												<0.005
W2	24/05/2010	<0.0008	4.52	<0.0001	6	0.265	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	140	<0.5	<0.5	<0.5		<0.4												<0.005
W2	25/05/2010	<0.001	5.17	<0.0001	9	0.31	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		<0.4												<0.005
W2	26/05/2010	<0.001	4.79	<0.0001	8	0.297	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	140	<0.5	<0.5	<0.5		<0.4												<0.005
W2	27/05/2010	<0.001	5.26	<0.0001	9	0.325	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		<0.4												<0.005
W2	28/05/2010	<0.0008	5.13	<0.0001	7	0.311	<60	<0.00005	<0.005	<0.01	0.0011	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		<0.4												<0.005
W2	29/05/2010	<0.0008	4.79	<0.0001	7	0.324	<60	<0.00005	<0.005	<0.01	0.0012	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		<0.4												<0.005
W2	30/05/2010	<0.0008	5.09	<0.0001	7	0.338	<60	<0.00005	<0.005	<0.01	0.0013	<0.005	High DL removed	<0.002	150	3.4	<0.5	2.9		<0.4												<0.005
W2	31/05/2010	<0.0008		<0.0001	8	0.314	<60	<0.00005	<0.005	<0.01	0.0011	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		<0.4												<0.005
W2	01/06/2010	<0.0008	5.23	<0.0001	8	0.338	<60	<0.00005	<0.005	<0.01	0.0013	<0.005	High DL removed	<0.002	160	2.5	<0.5	2.1		<0.4												<0.005
W2	02/06/2010	<0.0008	4.99	<0.0001	7	0.326	<60	<0.00005	<0.005	<0.01	0.0013	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		<0.4												<0.005
W2	03/06/2010	<0.0008	4.53	<0.0001	7	0.322	<60	<0.00005	<0.005	<0.01	0.0013	<0.005	High DL removed	<0.002	160	1.2	<0.5	1		<0.4												<0.005
W2	04/06/2010	<0.0008	5.26	<0.0001	8	0.344	<60	<0.00005	<0.005	<0.01	0.0014	<0.005	High DL removed	<0.002	170	<0.5	<0.5	<0.5		<0.4												<0.005
W2	05/06/2010	<0.0008	5.27	<0.0001	8	0.371	<60	<0.00005	<0.005	<0.01	0.0014	<0.005	High DL removed	<0.002	170	<0.5	<0.5	<0.5		<0.4												<0.005
W2	06/06/2010	<0.0008	4.9	<0.0001	8	0.373	<60	<0.00005	<0.005	<0.01	0.0015	<0.005	High DL removed	<0.002	180	<0.5	<0.5	<0.5		<0.4												<0.005
W2	10/06/2010	<0.0008	5.46	<0.0001	9	0.361	<60	<0.00005	<0.005	<0.01	0.0013	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		<0.4												<0.005
W2	11/06/2010	<0.0008	5.31	<0.0001	9	0.363	<60	<0.00005	<0.005	<0.01	0.0015	<0.005	High DL removed	<0.002	170	<0.5	<0.5	<0.5		<0.4												<0.005
W2	12/06/2010	<0.0008	5.34	<0.0001	9	0.372	<60	<0.00005	<0.005	<0.01	0.0015	<0.005	High DL removed	<0.002	170	2	<0.5	1.7		<0.4												<0.005
W2	13/06/2010	<0.0008	5.4	<0.0001	10	0.385	<60	<0.00005	<0.005	<0.01	0.0015	<0.005	High DL removed	<0.002	170	<0.5	<0.5	<0.5		<0.4												<0.005
W2	14/06/2010	<0.0008	5.35	<0.0001	10	0.373	<60	<0.00005	<0.005	<0.01	0.0015	<0.005	High DL removed	<0.002	170	<0.5	<0.5	<0.5		<0.4												<0.005
W2	15/06/2010	<0.0008	5.21	<0.0001	9	0.379	<60	<0.00005	<0.005	<0.01	0.0015	<0.005	High DL removed	<0.002	170	3.9	<0.5	3.2		<0.4												<0.005
W2	16/06/2010	<0.0008	4.92	<0.0001	9	0.416	<60	<0.00005	<0.005	<0.01	0.0015	<0.005	High DL removed	<0.002	180	<0.5	<0.5	<0.5		<0.4												<0.005
W2	17/06/2010	<0.0008	5.3	<0.0001	9	0.388	<60	<0.00005	<0.005	<0.01	0.0014	<0.005	High DL removed	<0.002	180	<0.5	<0.5	<0.5		<0.4												<0.005
W2	18/06/2010	<0.0008	5.13	<0.0001	8	0.38	<60	<0.00005	<0.005	<0.01	0.0014	<0.005	High DL removed	<0.002	200	<0.5	<0.5	<0.5		<0.4												<0.005
W2	19/06/2010	<0.0008	4.95	<0.0001	8	0.347	<60	<0.00005	<0.005	<0.01	0.0014	<0.005	High DL removed	<0.002	210	1.2	<0.5	1		<0.4												<0.005
W2	20/06/2010	<0.0008	5.36	<0.0001	8	0.36	<60	<0.00005	<0.005	<0.01	0.0013	<0.005	High DL removed	<0.002	170	<0.5	<0.5	<0.5		<0.4												<0.005
W2	21/06/2010	<0.0008	5.36	<0.0001	8	0.375	<60	<0.00005	<0.005	<0.01	0.0013	<0.005	High DL removed	<0.002	170	2.8	<0.5	2.4		<0.4							7.3					<0.005
W2	22/06/2010	<0.0008	5.31	<0.0001	8	0.342	<60	<0.00005	<0.005	<0.01	0.0011	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		<0.4							9.3					<0.005
W2	23/06/2010	<0.0008	5.25	<0.0001	7	0.319	<60	<0.00005	<0.005	<0.01	0.0011	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		<0.4							9.2					<0.005
W2	24/06/2010	<0.0008	5.51	<0.0001	8	0.333	<60	<0.00005	<0.005	<0.01	0.0011	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		<0.4							9.2					<0.005
W2	25/06/2010	<0.0008	5.67	<0.0001	9	0.372	<60	<0.00005	<0.005	<0.01	0.0011	<0.005	High DL removed	<0.002	160	1.4	<0.5	1.2		<0.4							9.3					<0.005
W2	26/06/2010																															
W2	26/06/2010	<0.0008	5.58	<0.0001	9	0.386	<60	<0.00005	<0.005	<0.01	0.0012	<0.005	High DL removed	<0.002	160	2.7	<0.5	2.3		<0.4							8.5					<0.005
W2	27/06/2010	<0.0008	6.12	<0.0001	8	0.376	<60	<0.00005	<0.005	<0.01	0.0012	<0.005	High DL removed	<0.002	170	<0.5	<0.5	<0.5		<0.4												<0.005
W2	28/06/2010	<0.0008	5.9	<0.0001	8	0.377	<60	<0.00005	<0.005	<0.01	0.0012	<0.005	High DL removed	<0.002	170	<0.5	<0.5	<0.5		<0.4												<0.005
W2	29/06/2010	<0.0008	5.48	<0.0001	8	0.383	<60	<0.00005	<0.005	<0.01	0.0012	<0.005	High DL removed	<0.002	170	<0.5	<0.5	<0.5		<0.4												<0.005
W2	30/06/2010	<0.0008	6.05	<0.0001	9	0.385	<60	<0.00005	<0.005	<0.01	0.0012	<0.005	High DL removed	<0.002	180	<0.5	<0.5	<0.5		<0.4												<0.005
W2	01/07/2010	<0.0008	5.95	<0.0001	7	0.246	<60	<0.00005	<0.005	<0.01	0.0005	<0.005	High DL removed	<0.002	120	<0.5	<0.5	<0.5		<0.4												<0.005
W2	02/07/2010	<0.0008	5.95	<0.0001	5	0.249	<60	<0.00005	<0.005	<0.01	0.0005	<0.005	High DL removed	<0.002	130	<0.5	<0.5	<0.5		<0.4												<0.005
W2	03/07/2010	<0.0008	6.33	<0.0001	7	0.267	<60	<0.00005	<0.005	<0.01	0.0006	<0.005	High DL removed	<0.002	140	<0.5	<0.5	<0.5		<0.4												<0.005
W2	04/07/2010	<0.0008	6.08	<0.0001	7	0.279	<60	<0.00005	<0.005	<0.01	0.0007	<0.005	High DL removed	<0.002	140	<0.5	<0.5	<0.5		<0.4												<0.005
W2	05/07/2010	<0.0008	6.08	<0.0001	8	0.305	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		<0.4												<0.005
W2	06/07/2010	<0.0008	6.06	<0.0001	8	0.321	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		<0.4												0.009
W2	07/07/2010	<0.0008	6.1	<0.0001	9	0.358	<60	<0.00005	<0.005	<0.01	0.001	<0.005	High DL removed	<0.002	170	<0.5	<0.5	<0.5		<0.4												0.009
W2	08/07/2010	<0.0008	6.02	<0.0001	9	0.371	<60	<0.00005	<0.005	<0.01	0.0012	<0.005	High DL removed	<0.002	170	<0.5	<0.5	<0.5		<0.4												0.009
W2	09/07/2010	<0.0008	5.58	<0.0001	8	0.359	<60	<0.00005	<0.005	<0.01	0.0012	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		<0.4												0.009
W2	10/07/2010	<0.0008	5.54	<0.0001	9	0.376	<60	<0.00005	<0.005	<0.01	0.0013	<0.005	High DL removed	<0.002	180	<0.5	<0.5	<0.5		<0.4												0.009
W2	11/07/2010	<0.0008	5.48	<0.0001	9	0.382	<60	<0.00005	<0.005	<0.01	0.0013	<0.005	High DL removed	<0.002	180	<0.5	<0.5	<0.5		<0.4												<0.005
W2	12/07/2010	<0.0008	5.67	<0.0001	9	0.381	<60	<0.00005	<0.005	<0.01	0.0013	<0.005	High DL removed	<0.002	190	<0.5	<0.5	<0.5		<0.4												0.007
W2	13/07/2010	<0.0008	5.81	<0.0001	9	0.394	<60	<0.00005	<0.005	<0.01	0.0013	<0.005	High DL removed	<0.002	190	<0.5	<0.5	<0.5		<0.4												0.005
W2	28/10/2010	0.0024	5.46	<0.00002	20.7	0.961	27	<0.00005	<0.005	<0.005	0.0016	<0.005	<0.005	<0.0005	180	<0.5	<0.5	<0.5		3.2												<0.005
W2	29/10/2010	0.0024	5.63	<0.00002	21.3	0.936	26	<0.00005	<0.005	<0.005	0.0016	<0.005	<0.005	<0.0005	180	1.2	<0.5	1		2.5												<0.005
W2	30/10/2010	0.0021	5.88	<0.00002	20.4	0.862	25	<0.00005	<0.005	<0.005	0.0016	<0.005	<0.005	<0.0005	180	<0.5	<0.5	<0.5		2												<0.005
W2	31/10/2010	0.0016	6.15	<0.00002	19.4	0.766	23	<0.00005	<0.005	<0.005	0.0018	<0.005	<0.005	<0.0005	180	<0.5	<0.5	<0.5		1												<0.005
W2	01/11/2010	0.0023	6.5	<0.00002	22.3	0.892	26	<0.00005	<0.005	<0.005	0.0017	<0.005	<0.005	<0.0005	190	<0.5	<0.5	<0.5		1.4												<0.005
W2	02/11/2010	0.0017	6.07	<0.00002	19.5	0.772	22	<0.00005	<0.005	<0.005	0.0018	<0.005	<0.005	<0.0005	190	<0.5	<0.5	<0.5		1.1												<0.005
W2	07/11/2010	0.0008	6.07	<0.00002	14.3	0.672	16	<0.00005	<0.005	<0.005	0.0019	<0.005	<0.005	<0.0005	190	<0.5	<0.5	<0.5		<0.4												0.006

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W2	15/05/2010					0.9	
W2	16/05/2010					0.6	
W2	17/05/2010					0.6	
W2	18/05/2010					0.8	
W2	19/05/2010					11.1	
W2	20/05/2010					0.9	
W2	21/05/2010					0.6	
W2	22/05/2010					0.7	
W2	23/05/2010					1.2	
W2	24/05/2010					1	
W2	25/05/2010					0.9	
W2	26/05/2010					3.8	
W2	27/05/2010					5.8	
W2	28/05/2010					10.2	
W2	29/05/2010					3.7	
W2	30/05/2010					1.3	
W2	31/05/2010					1	
W2	01/06/2010					1.3	
W2	02/06/2010					0.7	
W2	03/06/2010					1.9	
W2	04/06/2010					0.7	
W2	05/06/2010					0.9	
W2	06/06/2010					0.4	
W2	10/06/2010					0.3	
W2	11/06/2010					0.3	
W2	12/06/2010					0.2	
W2	13/06/2010					0.5	
W2	14/06/2010					0.2	
W2	15/06/2010					0.3	
W2	16/06/2010					0.2	
W2	17/06/2010					0.2	
W2	18/06/2010					0.2	
W2	19/06/2010					0.9	
W2	20/06/2010					0.6	
W2	21/06/2010					0.2	
W2	22/06/2010					1.6	-1.2
W2	23/06/2010					0.9	-3
W2	24/06/2010					0.5	3.1
W2	25/06/2010					0.4	-4
W2	26/06/2010						-4.2
W2	26/06/2010					0.3	
W2	27/06/2010					0.1	-3.3
W2	28/06/2010					0.2	-4.3
W2	29/06/2010					0.2	-0.3
W2	30/06/2010					0.6	0
W2	01/07/2010					46.3	45.4
W2	02/07/2010					17.6	17.5
W2	03/07/2010					10.2	7.5
W2	04/07/2010					6.9	4.2
W2	05/07/2010					3.7	0.2
W2	06/07/2010					2	-1.1
W2	07/07/2010					1.2	-3.2
W2	08/07/2010					1	-3.5
W2	09/07/2010					<0.1	-3.6
W2	10/07/2010					0.7	-3.8
W2	11/07/2010					0.6	-3.9
W2	12/07/2010					0.5	-3.6
W2	13/07/2010					0.4	-4
W2	28/10/2010					2.6	-0.2
W2	29/10/2010						-2.7
W2	30/10/2010						-3.2
W2	31/10/2010					0.5	-3.5
W2	01/11/2010					0.8	
W2	02/11/2010					0.6	
W2	07/11/2010					0.2	-3.7

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Phase	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
				mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W2	16/11/2010 13:00	No Discharge	P	3	260	7.28	8.07	350	408	-0.24		95		202	184	150	6.9	0.34	47	0.071	<0.005	2.7	7.9	0.049	<0.0005	0.0003	0.084	<0.0001	<0.001
W2	29/11/2010	No Discharge	P	1	240	8.05	8.06	420	414	-0.24		105.7		195	187	150	5.9	0.32	48	0.083	0.005	2.27	10.1	0.017	<0.0005	0.0002	0.083	<0.0001	<0.001
W2	06/12/2010	No Discharge	P	5	310		8.06	520	489	1.11		104.6		222	237	190	7.6	0.33	59	0.11	0.027	2.5	9.1	0.142	<0.0005	0.0003	0.096	<0.0001	<0.001
W2	10/12/2010	No Discharge	P	2	310	7.25	7.99	476	463	0.21		72.1		219	210	170	4.8	0.33	52	0.044	0.013	2.11	9.2	0.057	<0.0005	0.0003	0.093	<0.0001	<0.001
W2	14/12/2010	No Discharge	P	4	360		8.14		595					280	287	230	9.7	0.42	66	0.061	0.031	2.36	10.5	0.055	<0.0005	0.0003	0.118	<0.0001	<0.001
W2	04/04/2011	No Discharge	P	4	310		8.39		533					254	236	230	4.9	0.5	52	0.011	<0.005	0.25	10.1	0.123	<0.0005	0.0006	0.111	<0.0001	<0.001
W2	11/04/2011	No Discharge	P	18	270		8.28		437					209	201	190	3.1	0.48	41	0.018	0.01	0.19	7.3	0.892	<0.0005	0.0009	0.097	<0.0001	<0.001
W2	21/04/2011	No Discharge	P	6	180		8.24		301					153	141	140	2.5	0.36	25	0.008	<0.005	0.06	15	0.237	<0.0005	0.0005	0.062	<0.0001	<0.001
W2	27/04/2011	No Discharge	P	5	98		7.62		114					61.5	57.2	51	2.9	0.15	<5	0.008	<0.005	<0.02	19	0.161	<0.0005	0.0004	0.031	<0.0001	<0.001
W2	05/05/2011	No Discharge	P	110	78		7.32		79					49.2	40.3	36	2.1	0.1	<0.5	0.018	0.007	<0.02		2.06	<0.0005	0.0014	0.071	0.0001	<0.001
W2	10/05/2011	No Discharge	P	73	96		7.6		93					51	47.5	46	2	0.13	<0.5	0.006	<0.005	0.03	22.5	1.42	<0.0005	0.001	0.053	<0.0001	<0.001
W2	15/05/2011	No Discharge	P	140	98		7.84							81.2	70.2	65	1.6	0.18	<0.5	0.027	0.012	0.1	20	4.11	<0.0005	0.0023	0.116	0.0001	<0.001
W2	23/05/2011	No Discharge	P	26	140		8.03		195					92.4	88.6	88	1.4	0.22	8.6	0.269	0.008	0.14	14.9	1.04	<0.0005	0.0013	0.066	<0.0001	<0.001
W2	30/05/2011	No Discharge	P	18	150		8.07		243					110	117	110	1.6	0.29	15	0.015	<0.005	0.28	10.9	0.524	<0.0005	0.0007	0.063	<0.0001	<0.001
W2	07/06/2011	No Discharge	P	370	140		7.74		177					109	87.2	80		0.24	7.1	0.038	0.017	0.16	17.6	6.04	<0.0005	0.0034	0.2	0.0003	<0.001
W2	13/06/2011	No Discharge	P	76	160		8.08		247					129	118	110					0.009	0.26	14.3	3.67	<0.0005	0.0022	0.111	0.0001	<0.001
W2	16/06/2011	No Discharge	P	190	170		8.01		239					140	120	110				0.033	0.006	0.24	<0.5	7.22	<0.0005	0.0036	0.165	0.0002	<0.001
W2	20/06/2011	No Discharge	P	250	170		7.9		242					150	115	110					0.021	0.21	15.9	8.07	<0.0005	0.004	0.2	0.0003	<0.001
W2	27/06/2011	No Discharge	P	66	160		7.97		248					125	126	120			13	0.023	0.007	0.16	16	1.77	<0.0005	0.0014	0.092	<0.0001	<0.001
W2	03/07/2011	No Discharge	P	61	150		8.17		236					111	121	110			11	0.015	0.006	0.16	20.3	1.2	<0.0005	0.0011	0.084	<0.0001	<0.001
W2	09/07/2011	No Discharge	P	76	160		8.03		246					137	128	110			11	0.012	0.007	0.17	16	1.88	<0.0005	0.0015	0.096	<0.0001	<0.001
W2	19/07/2011	No Discharge	P	150	170		8.02		228					126	111	110			7	0.023	0.009	0.14	20.1	3.13	<0.0005	0.0023	0.137	0.0001	<0.001
W2	26/07/2011	No Discharge	P	43	190		8.12		267					130	126	130			15	0.047	0.007	0.18	17	1.71	<0.0005	0.0016	0.088	<0.0001	<0.001
W2	02/08/2011	No Discharge	P	710	130		7.86		149					149	76.3	72	2	0.19			0.01	0.04	22.4	18.5	0.0007	0.0094	0.43	0.0007	<0.001
W2	16/08/2011	No Discharge	P	120	180		7.97		227					116	106	110				0.018	0.008	0.12	<0.5	2.29	<0.0005	0.0023	0.107	0.0001	<0.001
W2	29/08/2011	No Discharge	P	47	180		8.06		241					123	118	120				0.006	<0.005	0.11	17.7	0.939	<0.0005	0.0014	0.083	<0.0001	<0.001
W2	08/09/2011	No Discharge	P	13	180	8.03	8.23	239.7	257	2.9	13.22	98		122	132	120	1.6			0.008	<0.005	0.12	15.4	0.299	<0.0005	0.001	0.066	<0.0001	<0.001
W2	12/09/2011	No Discharge	P	29	170	8.04	8.11	239.4	256	2.2	19.17	139.5		137	138	120	1.9			0.11	<0.005	0.11	13.9	0.647	<0.0005	0.0012	0.076	<0.0001	<0.001
W2	19/09/2011	No Discharge	P	29	180	8.06	8.17	237.2	253	2	14.88	101.4		121	127	120	1.9		9.2	0.008	<0.005	0.12	12.9	0.703	<0.0005	0.0012	0.068	<0.0001	<0.001
W2	27/09/2011	No Discharge	P	33	210	8.07	8.17	236.1	254	1.6	13.89	99.3		119	143	120	1.9		8.4	0.015	<0.005	0.12	12.8	0.785	<0.0005	0.0011	0.066	<0.0001	<0.001
W2	06/10/2011	No Discharge	P	<4	180	7.92	8.08	311.4	291	0	12.61	86.3		142	146	140	2		15	0.013	<0.005	0.22	13.3	0.184	<0.0005	0.0007	0.062	<0.0001	<0.001
W2	11/10/2011	No Discharge	P	13	160	7.79	8.01	285	270	0.5	12.83	89.2		129	144	130	1.3			0.037	<0.005	0.17	12.7	0.299	<0.0005	0.0008	0.061	<0.0001	<0.001
W2	19/10/2011	No Discharge	P	<4	180	7.81	8.13	307	293	0	14.06	96.2		145	153	140	1.4		13	0.021	<0.005	0.4	10.8	0.089	<0.0005	0.0007	0.061	<0.0001	<0.001
W2	26/10/2011	No Discharge	P	15	180	8.01	8.14	314.8	297	0	13.57	93.2		148	147	140	1.4			0.018	<0.005	0.26	10.2	0.342	<0.0005	0.0009	0.07	<0.0001	<0.001
W2	30/10/2011	No Discharge	P	7	170	7.8	8.18	324.6	311	0	13.72	93.9		108	147	150	1.3			0.014	<0.005	0.28	10.3	0.12	<0.0005	0.0004	0.062	<0.0001	<0.001
W2	03/11/2011	No Discharge	P	4	150	7.7	8.17	243.4	308	0	12.67	86.6		148	154	150	1.6			<0.005	<0.005	0.27		0.107	<0.0005	0.0006	0.063	<0.0001	<0.001
W2	08/11/2011	No Discharge	P	25.8	206	7.61	8.2	260.3	313	0	14.67	100.4		166	177	150	1.4			0.0264	<0.005	0.3	10.6	0.461	<0.0005	0.0008	0.07	<0.0001	<0.001
W2	13/11/2011	No Discharge	P	6.3	210	8	8.32	282.2	342	0	14.8	101.1		163	149	158	2			0.0168	<0.005	0.478	9.72	0.112	<0.0005	0.0005	0.072	<0.0001	<0.001
W2	22/11/2011	No Discharge	P	<1.0	208		7.98		371					177	183	169	2.2			0.0055	<0.005	0.807	8.08	0.027	<0.0005	0.0004	0.074	<0.0001	<0.001
W2	28/11/2011	No Discharge	P	6.8	238		8.14		375					175	175	171	2.5	0.33	26.9	0.0121	<0.005	0.344	9.69	0.174	<0.0005	0.0004	0.076	<0.0001	<0.001
W2	06/04/2012 11:00	No Discharge	P	4.3	286	7.99	8.23	214.7	442	0	14.42	98.9		210	206	199	3.2	0.39	37.6	0.0067	<0.005	0.048	9.96	0.236	<0.0005	0.0006	0.096	<0.0001	<0.001
W2	12/04/2012	No Discharge	P	2	260	7.78	8.23	194.5	408	0.2	12.9	88.3		177	195	185	2.3	0.43	29.9	<0.0050	<0.005	<0.020	9.34	0.097	<0.0005	0.0004	0.069	<0.0001	<0.001
W2	14/04/2012 14:17	No Discharge	P	7.1	196	7.95	8.19	184.4	344	0	14.04	96.3		158	162	156	2.2	0.39	23.2	0.0081	<0.0050	<0.020	12.9	0.218	<0.00050	0.00061	0.0657	<0.00010	<0.0010
W2	15/04/2012 13:35	No Discharge	P	31.2	170	8.13	8.14	154.5	286	0	13.29	91		137	134	131	1.8	0.35	18	0.0082	0.005	<0.020	12.2	1.01	<0.00050	0.00099	0.0716	<0.00010	<0.0010
W2	12/05/2012 18:30	No Discharge	P	619	146	7.9	7.74	91.3	150	2.2	13.8	100.3	20.8	116	75.6	70.3	1.3	0.2	3.88	0.0599	0.038	0.108	14.1	14.5	0.00053	0.00705	0.339	0.00048	<0.0010
W2	18/05/2012 15:50	No Discharge	P	276	146	8.11	8.04	112.8	203	2.8	12.44	91.9	125.1	105	95	95.8	1.5	0.21	6.52	0.055	0.0188	0.123	14.1	6.45	<0.00050	0.00365	0.163	0.00024	<0.0010
W2	20/05/2012 12:30	No Discharge	P	207	144	7.84	7.98	118.4	187	2.3			6	108	97	88.7	1.9	0.2	4.68	0.045	0.0162	0.119	12.5	4.64	<0.00050	0.00305	0.134	0.00015	<0.0010
W2	25/05/2012 12:15	No Discharge	P	897	140	7.76	7.91	127.5	211	2.9	12.99	95.9	36.9	176	101	95.8	2.4	0.24	7.04	0.2	0.037	0.134	11.7	21	0.00072	0.0105	0.42	0.00076	<0.0010
W2	02/06/2012	No Discharge	P	301	164	8.04	8.1	152.7	262	3.2	12.68	94.7	39.8	142	123	123	1.7	0.28	10.7	0.11	0.0439	0.173	9.71	7.71	<0.00050	0.00437	0.164	0.00026	<0.0010
W2	06/06/2012	No Discharge	P	272	134	7.74	8.09	193.2	257	5.3	12.01	94.7	42.6	144	119	123	2.2	0.29	10.1	0.046	0.0185	0.157	13.2	5.64	<0.00050	0.00331	0.155	0.00014	<0.0010
W2	09/06/2012	No Discharge	P	540	160	7.77	8	153.6	243	5.3	12.67	100	11.1	182	121	115	2.2	0.28	9.89	0.11	0.0089	0.143	11.2	15.5	0.00067	0.00786	0.305	0.00052	<0.0010
W2	13/06/2012 8:20	No Discharge	P	2600	160	7.78	8.02	146.2	234	4.3	12.45	96	42.6	239	115	108	1.9	0.26	9.81	0.051	0.0135	0.163	14.2	30.7	0.0009	0.0151	0.666	0.00114	<0.0010
W2	15/06/2012 9:45	No Discharge	P	1410	170	7.89	8.02	146	208	4.6	12.71	98.6	25.5	186	105	96	2.1	0.24	8.45	0.23	0.0071	0.113	16.4	23.8	0.00085	0.0121	0.494	0.00075	<0.0010
W2	19/06/2012 7:40	No Discharge	P	1030	160	7.75	8.15	169	234	5.6	12.24	97.7	55.2	193	120	110	2.1	0.26	9.37	0.2	0.0376	0.15	15.2	20.2	0.0007	0.00913	0.462	0.00068	<0.0010
W2	22/06/2012 14:00	No Discharge	P	385	188	8.1	8.12	174.3	247	9.2	10.91	95.2		142	117	118	1.7	0.28	10	0.042	0.0067	0.17	15.2	6.31	<0.00050	0.00453	0.205	0.00029	<0.0010
W2	29/06/2012 8:10	No Discharge	P	157	192	7.93	8.22	185.2	287	7.2	11.73	97.1	26.4	140	141	137	2.2	0.3	11.8	0.077	0.0114	0.207	12.3	3.82	<0.00050	0.00263	0.141	0.00014	<0.0010
W2	08/07/2012 9:09	No Discharge	P	150	180	8.03	8.19	164.1	283	6	11.72	94.2	34.6	143	136	134	1.9	0.29	9.1	0.041	0.0055	0.164	15.6	3.75	<0.00050	0.00247	0.133	0.00013	<0.0010
W2	11/07/2012 10:24	No Discharge	P	1010	184	8.02	8.04	168.8	277	5.8	11.58	92.7	40.6	194	131	134	1.5	0.28	9.74	0.035	<0.0050	0.155	13.9	16.9	0.00069	0.00854	0.407	0.0006	<0.0010
W2	17/07/2012 14:25	No Discharge	P	557	194	8.17	8.13	198	296	9.4	11.57	101.1		176	151	142	1.3	0.3	11.6	0.11	0.0065	0.137	15.9	8.28	<0.00050	0.00502	0.285	0.00033	<0.0010
W2	24/07/2012 9:00	No Discharge	P	1150	202	8.04	8.2	180.3	291	8.1	11.46	97	48.2	221	147	141	1.4	0.32	9.01	0.17	0.0074	0.121	14	16.7	0.00068	0.00942	0.526	0.0008	<0.0010
W2	31/07/2012 16:40	No Discharge	P	165	194	8.01	8.22	190.6	304	8.3	10.85	92.4	11.9	160	149	152	1.5	0.34	10.2	0.021	0.0086	0.215	12.3	5.11	<0.00050	0.00314	0.164	0.00017	<0.0010
W2	07/08/2012 9:20	No Discharge	P	2100	204	8.01	8.12	199	309	7.3	11.35	94.5	31.7	176	154	151	1.6	0.32	11.7	0.11	High DL removed	<0.20	11.8	5.17	<0.00050	0.00332	0.185	0.00019	<0.0010
W2	10/08/2012 13:00	No Discharge	P	228	214	8.24	8.27	204.1	308	8.1	11.95	101.5	-66.2	177	148	154	1.2	0.33	9.48	0.025	0.0089	0.191	12.6	4	<0.0013	0.00297	0.148	<0.00025	<0.0025
W2	13/08/2012 16:50	No Discharge	P	224	196	8	8.32	204.1	288	9.4	12.24	107.2	10.2	156	148	147	1.6	0.3	9.09	0.14	<0.050	0.2	11.9	5.16	<0.00050	0.00348	0.174	0.00017	<0.0010
W2	16/08/2012 16:00	No Discharge	P	124	214	8.03	8.28	203.1	312	8.7	12.4	106.3	-11.1	163	155	154	9	0.32	10.3	0.012	<0.0050	0.164	11.7	3.14	<0.00050	0.00228	0.138	<0.00010	<0.0010

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W2	16/11/2010 13:00	<0.05	0.00005	52.9	<0.001	<0.0005	0.0043	0.096	<0.0002	<0.005	16.9	0.032	0.00004	0.002	0.001		2.11	0.0007	6.55	<0.00002	15.5	0.579	17	<0.00005	<0.005	<0.005	0.0021
W2	29/11/2010	<0.05	0.00003	52	<0.001	<0.0005	0.0028	0.038	<0.0002	<0.005	15.9	0.019	<0.00002	0.002	0.002		2.16	0.0006	5.94	<0.00002	12.6	0.588	15	<0.00005	<0.005	<0.005	0.0024
W2	06/12/2010	<0.05	0.00016	59.2	0.002	<0.0005	0.0763	0.357	0.0002	<0.005	18.1	0.041	<0.00002	0.002	0.003		3.28	0.0006	7.16	0.00005	14.4	0.643	19	<0.00005	<0.005	0.007	0.0023
W2	10/12/2010	<0.05	0.00007	58.1	<0.001	<0.0005	0.0106	0.125	<0.0002	<0.005	18	0.021	0.00003	0.002	0.001		2.31	0.0005	6.88	<0.00002	14.6	0.628	15	<0.00005	<0.005	<0.005	0.0026
W2	14/12/2010	<0.05	0.00004	73.5	<0.001	<0.0005	0.0159	0.167	<0.0002	<0.005	23.4	0.025	<0.00002	0.003	0.001		3.22	0.0007	8.86	<0.00002	18	0.829	20	<0.00005	<0.005	<0.005	0.0032
W2	04/04/2011	<0.05	0.00001	64.3	<0.001	<0.0005	0.0195	0.205	<0.0002	<0.005	22.8	0.035	<0.00002	0.002	<0.001	0.047	3.81	0.0003	8.73	<0.00002	17	0.627	19	<0.00005	<0.005	0.005	0.0026
W2	11/04/2011	<0.05	0.00004	50.9	0.002	0.0007	0.0124	1.21	0.0004	<0.005	19.8	0.059	<0.00002	0.002	0.002	0.053	3.09	0.0003	8.47	<0.00002	13.2	0.541	14	<0.00005	<0.005	0.034	0.0019
W2	21/04/2011	<0.05	0.00004	37.9	<0.001	<0.0005	0.0101	0.429	0.0002	<0.005	14.2	0.038	<0.00002	0.001	0.001	0.046	2.86	0.0002	7.03	<0.00002	8.94	0.376	7	<0.00005	<0.005	0.01	0.0011
W2	27/04/2011	<0.05	0.00008	16	<0.001	<0.0005	0.0108	0.304	<0.0002	<0.005	5.25	0.042	<0.00002	<0.001	0.001	0.09	2.44	0.0001	3.83	<0.00002	3.16	0.126	<3	<0.00005	<0.005	0.006	0.0002
W2	05/05/2011	<0.05	0.00006	13	0.004	0.0017	0.0115	3.29	0.0011	<0.005	4.07	0.161	<0.00002	<0.001	0.005	0.134	1.74	0.0002	6.51	<0.00002	1.96	0.087	<3	<0.00005	<0.005	0.079	0.0003
W2	10/05/2011	<0.05	0.00003	13.4	0.003	0.0011	0.0075	2.22	0.0006	<0.005	4.24	0.115	<0.00002	<0.001	0.004	0.099	1.36	<0.0001	5.64	<0.00002	2.46	0.095	<3	<0.00005	<0.005	0.057	0.0003
W2	15/05/2011	<0.05	0.00008	20.8	0.008	0.0029	0.0157	6.93	0.0019	<0.005	7.08	0.243	<0.00002	0.001	0.008	0.181	1.68	0.0002	11.3	0.00003	3.88	0.169	<3	0.00005	<0.005	0.131	0.0007
W2	23/05/2011	<0.05	0.00006	23.9	0.002	0.0008	0.0072	2.43	0.0006	<0.005	7.96	0.127	<0.00002	0.001	0.004	0.075	1.24	0.0002	6.08	<0.00002	5.19	0.226	<3	<0.00005	<0.005	0.036	0.0007
W2	30/05/2011	<0.05	0.00001	28.5	0.001	<0.0005	0.005	1.06	0.0003	<0.005	9.3	0.036	<0.00002	0.002	0.002	0.037	1.32	0.0002	5.72	<0.00002	6.23	0.283	4	<0.00005	<0.005	0.02	0.001
W2	07/06/2011	<0.05	0.00014	28.7	0.013	0.0053	0.0228	11.3	0.0036	<0.005	9.08	0.307	<0.00002	0.001	0.016	0.28	1.32	0.0003	15.4	0.00005	5.16	0.228	3	0.00005	<0.005	0.19	0.0014
W2	13/06/2011	<0.05	0.00009	32.7	0.008	0.0023	0.0097	5.19	0.0015	<0.005	11.5	0.102	<0.00002	0.002	0.008	0.128	1.55	0.0003	12.2	0.00004	8.43	0.289	5	<0.00005	<0.005	0.146	0.0014
W2	16/06/2011	<0.05	0.00019	35.5	0.015	0.0043	0.0171	11.1	0.003	0.005	12.6	0.178	<0.00002	0.002	0.013	0.283	1.83	0.0004	18.7	0.00007	7.88	0.28	6	0.00008	<0.005	0.269	0.0016
W2	20/06/2011	<0.05	0.00014	38.3	0.016	0.005	0.0201	13.1	0.0034	0.006	13.2	0.216	<0.00002	0.002	0.017	0.315	1.77	0.0003	20.7	0.00006	7.29	0.317	4	0.00007	<0.005	0.289	0.0016
W2	27/06/2011	<0.05	0.00013	32.8	0.003	0.0012	0.0126	2.99	0.0009	<0.005	10.5	0.068	<0.00002	0.001	0.005	0.133	1.14	0.0001	8.8	<0.00002	7.03	0.272	4	<0.00005	<0.005	0.067	0.0009
W2	03/07/2011	<0.05	0.00004	29.3	0.002	0.001	0.0067	2.21	0.0007	<0.005	9.09	0.068	<0.00002	0.001	0.004	0.078	0.86	0.0002	7.2	<0.00002	5.7	0.241	4	<0.00005	<0.005	0.038	0.0009
W2	09/07/2011	<0.05	0.00003	35.9	0.004	0.0013	0.0074	3.39	0.0008	<0.005	11.5	0.08	<0.00002	0.001	0.005	0.097	1.11	0.0003	10.1	<0.00002	7.26	0.285	5	<0.00005	<0.005	0.067	0.0011
W2	19/07/2011	<0.05	0.00009	34.3	0.006	0.0023	0.0096	5.1	0.0016	<0.005	9.85	0.194	<0.00005	0.001	0.008		1.11	0.0003	13.2	0.00003	5.6	0.269	4	<0.00005	<0.005	0.117	0.0011
W2	26/07/2011	<0.05	0.00005	34.5	0.003	0.0013	0.0129	3.17	0.0008	<0.005	10.6	0.103	<0.00002	0.001	0.005	0.086	1.01	0.0002	9	<0.00002	6.75	0.268	3	<0.00005	<0.005	0.056	0.001
W2	02/08/2011	<0.05	0.00048	36.6	0.038	0.0147	0.0551	31.7	0.009	0.013	14	1.34	<0.00002	0.002	0.041	0.992	2.22	0.0006	36.4	0.00013	5.27	0.288	<3	0.00016	<0.005	0.697	0.0023
W2	16/08/2011	<0.05	0.00007	31.4	0.005	0.002	0.0095	4.74	0.0012	<0.005	9.08	0.205	<0.00002	0.001	0.007	0.129	0.9	0.0002	10.5	0.00003	5.01	0.228	3	<0.00005	<0.005	0.083	0.0009
W2	29/08/2011	<0.05	0.00005	33.9	0.002	0.001	0.0038	2.45	0.0005	<0.005	9.41	0.155	<0.00002	0.001	0.004	0.06	0.81	0.0002	8.03	<0.00002	5.44	0.257	3	<0.00005	<0.005	0.036	0.0008
W2	08/09/2011	<0.05	0.00002	32.6	<0.001	<0.0005	0.0023	1.29	<0.0002	<0.005	9.87	0.141	<0.00002	0.001	0.002	0.037	0.81	0.0001	6.57	<0.00002	5.75	0.253	4	<0.00005	<0.005	0.012	0.0007
W2	12/09/2011	<0.05	0.00005	36.6	0.002	0.0007	0.0031	1.96	0.0004	<0.005	11	0.164	<0.00002	0.001	0.003	0.056	0.87	0.0001	8.12	<0.00002	6.41	0.261	3	<0.00005	<0.005	0.022	0.0009
W2	19/09/2011	<0.05	0.00002	31.4	0.002	0.0007	0.0037	1.85	0.0004	<0.005	10.4	0.14	<0.00002	<0.001	0.003	0.052	0.91	<0.0001	7.44	<0.00002	5.97	0.244	4	<0.00005	<0.005	0.024	0.0007
W2	27/09/2011	<0.05	0.00003	31.8	0.002	0.0007	0.0059	1.82	0.0004	<0.005	9.64	0.14	<0.00002	<0.001	0.003	0.051	0.8	0.0001	7.14	<0.00002	5.42	0.226	<3	<0.00005	<0.005	0.026	0.0007
W2	06/10/2011	<0.05	0.00004	38.3	<0.001	<0.0005	0.0032	0.76	<0.0002	<0.005	11.2	0.096	<0.00002	0.001	0.002	0.03	0.89	0.0001	6.67	<0.00002	6.46	0.288	4	<0.00005	<0.005	0.008	0.0009
W2	11/10/2011	<0.05	0.00002	34.5	<0.001	<0.0005	0.0027	1.05	<0.0002	<0.005	10.5	0.106	<0.00002	<0.001	0.002	0.03	0.8	0.0001	6.41	<0.00002	5.92	0.264	4	<0.00005	<0.005	0.011	0.0008
W2	19/10/2011	<0.05	0.00002	39.1	<0.001	<0.0005	0.0033	0.657	<0.0002	<0.005	11.4	0.117	<0.00002	0.001	0.002	0.031	0.93	0.0002	7.18	<0.00002	6.85	0.294	4	<0.00005	<0.005	<0.005	0.0009
W2	26/10/2011	<0.05	0.00018	39.2	<0.001	<0.0005	0.0042	0.883	0.0065	<0.005	12.1	0.123	<0.00002	0.001	0.002	0.037	1.08	0.0001	7.3	<0.00002	7.26	0.297	6	<0.00005	<0.005	0.012	0.0012
W2	30/10/2011	<0.05	0.00002	26.7	<0.001	<0.0005	0.0025	0.378	<0.0002	<0.005	10.1	0.076	<0.00002	0.001	0.001	0.02	0.86	0.0001	4.54	<0.00002	5.98	0.301	4	<0.00005	<0.005	<0.005	0.001
W2	03/11/2011	<0.05	<0.00001	39.8	<0.001	<0.0005	0.0017	0.496	<0.0002	<0.005	11.8	0.093	<0.00002	0.001	0.001	0.012	1.08	0.0002	6.21	<0.00002	7.15	0.338	4	<0.00005	<0.005	<0.005	0.001
W2	08/11/2011	<0.05	0.00003	44.9	0.002	<0.0005	0.125	1.27	0.0003	<0.005	13.1	0.126	<0.000020	0.001	0.003	0.035	1.15	0.0002	7.99	0.00008	7.64	0.361	4.5	<0.00005	<0.005	0.018	0.0012
W2	13/11/2011	<0.05	<0.00001	43.2	<0.001	<0.0005	0.0047	0.451	<0.0002	<0.005	13.4	0.077	<0.000020	0.002	0.001	0.021	1.17	0.0002	7.13	<0.00002	8.45	0.385	6.5	<0.00005	<0.005	<0.005	0.0013
W2	22/11/2011	<0.05	0.00002	47	<0.001	<0.0005	0.0018	0.135	<0.0002	<0.005	14.6	0.018	<0.000020	0.001	0.001	<0.01	1.46	0.0002	6.95	<0.00002	8.94	0.425	9.7	<0.00005	<0.005	<0.005	0.0015
W2	28/11/2011	<0.05	0.00002	46.3	<0.001	<0.0005	0.0051	0.398	<0.0002	<0.005	14.5	0.029	<0.000020	0.001	0.001	0.016	1.48	0.0002	6.63	<0.00002	9.28	0.447	7.9	<0.00005	<0.005	0.008	0.0017
W2	06/04/2012 11:00	<0.05	0.00002	53.7	<0.001	<0.0005	0.0113	0.365	0.0002	<0.005	18.5	0.029	<0.000010	<0.001	0.001	0.047	3.92	0.0002	8.19	<0.00002	12.9	0.444	11.4	<0.00005	<0.005	0.011	0.0014
W2	12/04/2012	<0.05	0.00002	43.9	<0.001	<0.0005	0.0055	0.158	<0.0002	<0.005	16.3	0.014	<0.000010	<0.001	<0.001	0.03	2.65	0.0002	6.86	<0.00002	10.6	0.385	8.4	<0.00005	<0.005	<0.005	0.001
W2	14/04/2012 14:17	<0.05	0.000013	39.4	<0.0010	<0.00050	0.0044	0.413	<0.00020	<0.0050	14.4	0.0223	<0.000010	<0.0010	<0.0010	0.049	3.01	0.00015	6.61	<0.000020	9.59	0.349	7.6	<0.000050	<0.0050	0.0097	0.00093
W2	15/04/2012 13:35	<0.05	0.000028	34.3	0.002	0.00079	0.0114	1.64	0.00046	<0.0050	12.5	0.0582	<0.000010	<0.0010	0.0028	0.085	2.92	0.0001	7.51	<0.000020	7.95	0.302	6	<0.000050	<0.0050	0.0466	0.00069
W2	12/05/2012 18:30	<0.05	0.000271	27.8	0.0283	0.0102	0.0339	23.9	0.00685	0.0095	11.3	0.694	<0.000010	0.0013	0.0257	0.642	2.53	0.0004	29.7	0.000124	4.59	0.216	<3.0	0.000145	<0.0050	0.532	0.00187
W2	18/05/2012 15:50	<0.05	0.000127	26.7	0.0125	0.00442	0.0155	10.6	0.00293	<0.0050	9.3	0.34	<0.000010	0.0012	0.0122	0.29	1.69	0.00036	15.7	0.000051	4.91	0.196	<3.0	0.00007	<0.0050	0.226	0.00115
W2	20/05/2012 12:30	<0.05	0.000105	27.9	0.0094	0.00333	0.0129	8.03	0.00214	<0.0050	9.31	0.275	<0.000010	0.0011	0.0099	0.211	1.51	0.00026	13.5	0.000048	5.03	0.201	3	0.000052	<0.0050	0.179	0.0011
W2	25/05/2012 12:15	<0.05	0.00054	41.5	0.0395	0.0143	0.0504	34.6	0.00998	0.0145	17.7	0.98	<0.000010	0.0019	0.0382	0.849	3.4	0.00059	44.4	0.00017	6.52	0.304	3.3	0.000213	<0.0050	0.711	0.00278
W2	02/06/2012	<0.05	0.000166	35.8	0.0133	0.00485	0.0169	11.8	0.00338	0.0061	12.8	0.319	<0.000010	0.0015	0.014	0.279	2.21	0.00032	19.9	0.00007	6.81	0.266	3.5	0.000096	<0.0050	0.269	0.00159
W2	06/06/2012	<0.05	0.000163	37.1	0.0096	0.00365	0.0134	8.83	0.00243	<0.0050	12.4	0.263	<0.000010	0.0014	0.0104	0.26	1.9	0.00027	15.9	0.000046	6.79	0.281	<3.0	0.00006	<0.0050	0.204	0.00132
W2	09/06/2012	<0.05	0.000309	45.2	0.0268	0.00946	0.0324	24.7	0.00637	0.0112	16.9	0.598	<0.000010	0.0021	0.027	0.636	2.99	0.00032	33.3	0.000136	7.75	0.339	<3.0	0.000177	<0.0050	0.597	0.002
W2	13/06/2012 8:20	<0.05	0.000717	56.3	0.0582	0.0235	0.0782	51.5	0.0155	0.0223	23.9	1.49	<0.000010	0.0027	0.0629	1.65	3.67	0.00094	51.1	0.00029	7.59	0.426	<3.0	0.000247	<0.0050	0.961	0.00344
W2	15/06/2012 9:45	<0.05	0.000608	44.7	0.0451	0.0164	0.0554	37.7	0.0108	0.0164	18.1	0.971	<0.000010	0.0019	0.0438	1.22	3.39	0.00074	44.6	0.000197	6.9	0.347	<3.0	0.00022	<0.0050	0.815	0.00261
W2	19/06/2012 7:40	<0.05	0.000546	48.1	0.036	0.0128	0.0442	30.5	0.00856	0.0134	17.6	0.811	<0.000010	0.002	0.0345	0.898	3.04	0.00056	41.5	0.00015	7.67	0.387	<3.0	0.000196	<0.0050	0.669	0.00253
W2	22/06/2012 14:00	<0.05	0.00022	36.8	0.0123	0.00521	0.0184	11.8	0.0034	0.0059	12.1	0.335	<0.000010	0.0014	0.0142	0.335	1.68	0.00045	18	0.000068	6.55	0.271	<3.0	0.000066	<0.0050	0.215	0.00172
W2	29/06/2012 8:10	<0.05	0.000103	36.7	0.007	0.00249	0.0102	6.45	0.00175	<0.0050	11.7	0.155	0.000013	0.0015	0.0078	0.158	1.51	0.00016	12.9	0.000021	6.92	0.297	3.2	<0.000050	<0.0050	0.142	0.00153
W2	08/07/2012 9:09	<0.05	0.000101	37	0.0069	0.00248	0.00945	6.3	0.00151	<0.0050	12.2	0.159	<0.000010	0.0015	0.0071	0.158	1.34	0.00015	12.4	0.000034	7.1	0.299	<3.0	<0.000050	<0.0050	0.13	0.00131
W2	11/07/2012 10:24	<0.05	0.000441	49.7	0.0314	0.0115	0.0387	28.1	0.00766	0.0126	17	0.699	<0.000010	0.002	0.0308	0.775	2.57	0.00066	35.6	0.000136	7.53	0.37	<3.0	0.000162	<0.0050	0.561	0.00249
W2	17/07/2012 14:25	<0.05	0.000287	45.7	0.0149	0.0062	0.0241	14	0.00436	0.0066	15	0.419	<0.000010	0.0015	0.0172	0.456	2.05	0.00028	20.9	0.000104	7.59	0.362	<3.0	0.000086	<0.0050	0.268	0.00211
W2	24/07/2012 9:00	<0.05	0.000553	56.9	0.0306	0.0143	0.0476	30	0.00965	0.0118	19.3	0.983	<0.000010	0.0015	0.0378	1.11	2.45	0.00047	33.1	0.000155	8.11	0.44	<3.0	0.000144	<0.0050	0.503	0.00295
W2	31/07/2012 16:40	<0.05	0.000073	41.8	0.009	0.003	0.0113	8.45	0.00202	<0.0050	13.6	0.191	0.000026	0.0017	0.0089	0.205	1.7	0.00016	15.5	0.000038	7.6	0.342	<3.0	0.000059	<0.0050	0.162	0.00174
W2	07/08/2012 9:20	<0.05	0.00009	45.4	0.0091	0.00354	0.0124	8.58	0.00222	<0.0050	15.3	0.226	<0.000010	0.0019	0.0103	0.221	1.82	0.00028	15.8	0.000038	8.42	0.367	4.4	0.000064	<0.0050	0.162	0.00199
W2	10/08/2012 13:00	<0.13	0.000063	46.3	0.0079	0.0031	0.011	7.74	0.00178	<0.013	15	0.242	<0.000010	<0.0025	0.0092	0.221	1.61	<0.00025	14.4	High DL removed	8.25	0.358	1810	<0.00013	<0.013	0.151	0.00166
W2	13/08/2012 16:50	<0.05	0.000077	39.8	0.0095	0.00346	0.0125	9.47	0.00233	<0.0050	13.7	0.252	<0.000010	0.0015	0.01	0.27	1.57	0.00033	15.5	0.000051	7.63	0.342	<3.0	0.000056	<0.0050	0.177	0.00157
W2	16/08/2012 16:00	<0.05	0.000041	42.3	0.0056	0.00203	0.00786	5.75	0.00131	<0.0050	14	0.153	<0.000010	0.0016	0.0064	0.151	1.46	0.00018	12.3	<0.000020	8.1	0.355	3	<0.000050	<0.0050	0.108	0.00153

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W2	16/11/2010 13:00	<0.005	0.005	<0.0005	0.007	<0.0005	0.0002	0.08	<0.0001	<0.001	<0.05	<0.00001	49.4	High DL removed	<0.0005	0.0018	0.02	<0.0002	<0.005	14.8	0.022	<0.00002	0.002	0.001		1.97
W2	29/11/2010	<0.005	0.006	<0.0005	0.004	<0.0005	0.0003	0.077	<0.0001	<0.001	<0.05	0.00001	49.4	High DL removed	<0.0005	0.0017	0.019	<0.0002	<0.005	15.5	0.017	<0.00002	0.002	0.001		1.97
W2	06/12/2010	<0.005	0.01	<0.0005	0.037	<0.0005	0.0004	0.097	<0.0001	<0.001	<0.05		63.8	High DL removed	<0.0005	0.0135	0.114	<0.0002	<0.005	18.8	0.039	<0.00002	0.002	0.004		3.59
W2	10/12/2010	<0.005	0.015	<0.0005	0.007	<0.0005	0.0003	0.086	<0.0001	<0.001	<0.05	0.00004	55.5	High DL removed	<0.0005	0.003	0.025	<0.0002	<0.005	17.4	0.013	<0.00002	0.002	0.001		2.26
W2	14/12/2010	<0.005	0.015	<0.0005	0.007	<0.0005	0.0005	0.122	<0.0001	<0.001	<0.05	0.00003	72	High DL removed	<0.0005	0.0043	0.042	<0.0002	<0.005	26.1	0.021	<0.00002	0.003	0.002		3.53
W2	04/04/2011	<0.005	<0.005	<0.0005	0.008	<0.0005	0.0006	0.101	<0.0001	<0.001	<0.05	0.00001	57.8	High DL removed	<0.0005	0.0073	0.023	<0.0002	<0.005	22.2	0.028	<0.00002	0.002	<0.001	0.04	3.58
W2	11/04/2011	<0.005	<0.005	<0.0005	0.01	<0.0005	0.0004	0.078	<0.0001	<0.001	<0.05	0.00002	48.6	High DL removed	<0.0005	0.0057	0.036	<0.0002	<0.005	19.3	0.029	<0.00002	0.002	<0.001	0.029	2.85
W2	21/04/2011	<0.005	0.005	<0.0005	0.009	<0.0005	0.0004	0.055	<0.0001	<0.001	<0.05	0.00002	35.5	High DL removed	<0.0005	0.0046	0.088	<0.0002	<0.005	12.7	0.028	<0.00002	0.001	0.002	0.024	2.66
W2	27/04/2011	<0.005	<0.005	<0.0005	0.027	<0.0005	0.0004	0.028	<0.0001	<0.001	<0.05	0.00002	15.1	High DL removed	<0.0005	0.0065	0.194	<0.0002	<0.005	4.72	0.03	<0.00002	<0.001	0.001	0.053	2.1
W2	05/05/2011	0.007	0.011	0.0009	0.061	<0.0005	0.0005	0.031	<0.0001	<0.001	<0.05	0.00002	11.1	High DL removed	<0.0005	0.0056	0.303	<0.0002	<0.005	3.06	0.061	<0.00002	<0.001	0.002	0.031	1.46
W2	10/05/2011	<0.005	0.007	0.0006	0.063	<0.0005	0.0006	0.035	<0.0001	<0.001	<0.05	0.00002	13	High DL removed	<0.0005	0.007	0.462	<0.0002	<0.005	3.69	0.058	<0.00002	<0.001	0.002	0.029	1.18
W2	15/05/2011	0.013	0.016	0.0009	0.03	<0.0005	0.0008	0.045	<0.0001	<0.001	<0.05	0.00001	18.9	High DL removed	<0.0005	0.0031	0.73	<0.0002	<0.005	5.59	0.071	<0.00002	<0.001	0.002	0.023	1.11
W2	23/05/2011	<0.005	0.008	<0.0005	0.02	<0.0005	0.0007	0.052	<0.0001	<0.001	<0.05	<0.00001	23.4	High DL removed	<0.0005	0.0019	0.681	<0.0002	<0.005	7.33	0.049	<0.00002	0.001	0.002	0.021	1.13
W2	30/05/2011	<0.005	<0.005	<0.0005	0.017	<0.0005	0.0005	0.055	<0.0001	<0.001	<0.05	<0.00001	30.8	High DL removed	<0.0005	0.0026	0.222	<0.0002	<0.005	9.71	0.005	<0.00002	0.002	0.001	0.017	1.33
W2	07/06/2011	0.026	0.03	0.0012	0.029	<0.0005	0.0008	0.048	<0.0001	<0.001	<0.05	0.00001	23.4	High DL removed	<0.0005	0.0031	0.503	<0.0002	<0.005	6.97	0.026	<0.00002	0.001	0.002	0.021	0.84
W2	13/06/2011	0.012	0.016	0.0011	0.041	<0.0005	0.0006	0.06	<0.0001	<0.001	<0.05	0.00013	30.1	High DL removed	<0.0005	0.0049	0.225	<0.0002	<0.005	10.4	0.01	<0.00002	0.002	0.002	0.019	1.14
W2	16/06/2011	0.023	0.03	0.0014	0.031	<0.0005	0.0007	0.053	<0.0001	<0.001	<0.05	0.00002	32.2	High DL removed	<0.0005	0.0025	0.28	<0.0002	<0.005	9.62	0.018	<0.00002	0.001	0.002	0.017	1.03
W2	20/06/2011	0.026	0.031	0.0016	0.041	<0.0005	0.0006	0.06	<0.0001	<0.001	<0.05	0.00006	30.5	High DL removed	<0.0005	0.0029	0.207	<0.0002	<0.005	9.55	0.014	<0.00002	0.001	0.002	0.016	0.97
W2	27/06/2011	0.007	0.011	0.0006	0.031	<0.0005	0.0007	0.062	<0.0001	<0.001	<0.05	0.00002	33.5	High DL removed	<0.0005	0.0042	0.249	<0.0002	<0.005	10.3	0.007	<0.00002	0.002	0.002	0.022	0.99
W2	03/07/2011	0.005	0.007	0.0005	0.033	<0.0005	0.0007	0.06	<0.0001	<0.001	<0.05	<0.00001	31.7	High DL removed	<0.0005	0.0028	0.324	<0.0002	<0.005	10.1	0.009	<0.00002	0.001	0.002	0.021	0.87
W2	09/07/2011	0.007	0.008	0.0007	0.034	<0.0005	0.0007	0.063	<0.0001	<0.001	<0.05	0.00006	35.1	High DL removed	<0.0005	0.0033	0.353	<0.0002	<0.005	9.9	0.017	<0.00002	0.001	0.002	0.021	0.88
W2	19/07/2011	0.012	0.012	0.0014	0.041	<0.0005	0.0009	0.062	<0.0001	<0.001	<0.05	<0.00001	29.9	High DL removed	<0.0005	0.0026	0.499	<0.0002	<0.005	8.72	0.034	<0.00005	0.001	0.002		0.68
W2	26/07/2011	0.006	0.008	0.0012	0.025	<0.0005	0.001	0.061	<0.0001	<0.001	<0.05	<0.00001	33.8	High DL removed	<0.0005	0.0042	0.475	<0.0002	<0.005	10	0.047	<0.00002	0.001	0.002	0.021	0.85
W2	02/08/2011	0.068	0.068	0.0033	0.078	<0.0005	0.0009	0.051	<0.0001	<0.001	<0.05	0.00002	21.1	High DL removed	<0.0005	0.007	0.695	<0.0002	<0.005	5.7	0.064	<0.00002	<0.001	0.002	0.027	0.52
W2	16/08/2011	0.009	0.014	0.0007	0.043	<0.0005	0.001	0.064	<0.0001	<0.001	<0.05	0.00001	27.8	High DL removed	<0.0005	0.0067	0.603	0.0004	<0.005	8.99	0.108	<0.00002	<0.001	0.002	0.027	0.7
W2	29/08/2011	<0.005	<0.005	0.0006	0.027	<0.0005	0.0009	0.061	<0.0001	<0.001	<0.05	0.00001	32.4	High DL removed	<0.0005	0.0019	0.682	<0.0002	<0.005	9.08	0.108	<0.00002	<0.001	0.002	0.021	0.7
W2	08/09/2011	<0.005	<0.005	<0.0005	0.054	<0.0005	0.001	0.064	<0.0001	<0.001	<0.05	0.00001	35.8	High DL removed	<0.0005	0.0051	0.811	<0.0002	<0.005	10.3	0.132	<0.00002	0.001	0.002	0.026	0.83
W2	12/09/2011	<0.005	<0.005	<0.0005	0.024	<0.0005	0.0009	0.066	<0.0001	<0.001	<0.05	0.00001	37.2	High DL removed	<0.0005	0.0018	0.671	<0.0002	<0.005	10.8	0.138	<0.00002	0.001	0.002	0.021	0.91
W2	19/09/2011	<0.005	<0.005	<0.0005	0.027	<0.0005	0.0008	0.061	<0.0001	<0.001	<0.05	0.00001	34.6	High DL removed	<0.0005	0.0026	0.59	<0.0002	<0.005	9.8	0.129	<0.00002	<0.001	0.002	0.02	0.82
W2	27/09/2011	<0.005	0.007	<0.0005	0.05	<0.0005	0.0008	0.06	<0.0001	<0.001	<0.05	0.00002	39.1	High DL removed	<0.0005	0.004	0.745	<0.0002	<0.005	11.1	0.112	<0.00002	<0.001	0.002	0.029	0.89
W2	06/10/2011	<0.005	<0.005	<0.0005	0.025	<0.0005	0.0007	0.06	<0.0001	<0.001	<0.05	0.00001	39	High DL removed	<0.0005	0.0021	0.455	<0.0002	<0.005	11.7	0.096	<0.00002	0.001	0.002	0.018	0.93
W2	11/10/2011	<0.005	<0.005	0.0006	0.021	<0.0005	0.0007	0.062	<0.0001	<0.001	<0.05	0.00003	38.2	High DL removed	<0.0005	0.0024	0.458	<0.0002	<0.005	11.7	0.095	<0.00002	<0.001	0.002	0.021	0.89
W2	19/10/2011	<0.005	<0.005	<0.0005	0.012	<0.0005	0.0006	0.061	<0.0001	<0.001	<0.05	<0.00001	42.8	High DL removed	<0.0005	0.0014	0.43	<0.0002	<0.005	11.2	0.11	<0.00002	0.001	0.001	0.031	0.93
W2	26/10/2011	<0.005	0.008	<0.0005	0.011	<0.0005	0.0006	0.063	<0.0001	<0.001	<0.05	0.00001	40	High DL removed	<0.0005	0.0015	0.298	<0.0002	<0.005	11.5	0.098	<0.00002	0.001	0.001	0.014	0.93
W2	30/10/2011	<0.005	<0.005	<0.0005	0.012	<0.0005	0.0005	0.065	<0.0001	<0.001	<0.05	0.00001	39.1	High DL removed	<0.0005	0.0019	0.218	0.0002	<0.005	11.9	0.082	<0.00002	0.001	0.001	0.015	1.03
W2	03/11/2011	<0.005	<0.005	<0.0005	0.013	<0.0005	0.0005	0.065	<0.0001	<0.001	<0.05	0.00001	40.6	High DL removed	<0.0005	0.0018	0.228	<0.0002	<0.005	12.7	0.09	<0.00002	0.001	0.001	0.013	1.21
W2	08/11/2011	<0.005	<0.005	<0.0005	0.0215	<0.00050	0.0005	0.07	<0.00010	<0.0010	<0.05	0.00006	47	High DL removed	<0.00050	0.0124	0.218	0.0002	<0.0050	14.6	0.123	<0.000020	0.0013	0.0018	0.018	1.29
W2	13/11/2011	<0.005	<0.005	<0.0005	0.0123	<0.00050	0.00045	0.0706	<0.00010	<0.0010	<0.05	<0.000010	37.4	High DL removed	<0.00050	0.00171	0.166	<0.00020	<0.0050	13.5	0.0726	<0.000020	0.0017	0.0014	0.013	1.27
W2	22/11/2011	<0.005	<0.005	<0.0005	0.0075	<0.00050	0.00036	0.0726	<0.00010	<0.0010	<0.05	<0.000010	48.1	High DL removed	<0.00050	0.00206	0.0771	<0.00020	<0.0050	15.3	0.0164	<0.000020	0.0013	0.0011	<0.01	1.28
W2	28/11/2011	<0.005	0.006	<0.0005	0.0303	<0.00050	0.00041	0.0776	<0.00010	<0.0010	<0.05	0.000037	44	High DL removed	<0.00050	0.00283	0.0907	<0.00020	<0.0050	15.7	0.0193	<0.000020	0.0014	0.0012	0.012	1.62
W2	06/04/2012 11:00	<0.005	<0.005	<0.0005	0.0066	<0.00050	0.0005	0.0895	<0.00010	<0.0010	<0.05	0.000017	52.3	High DL removed	<0.00050	0.00597	0.0265	<0.00020	<0.0050	18.4	0.0207	<0.000010	<0.0010	<0.0010	0.042	3.74
W2	12/04/2012	<0.005	<0.005	<0.0005	0.013	<0.00050	0.00037	0.0777	<0.00010	<0.0010	<0.05	0.000047	48.6	High DL removed	<0.00050	0.00468	0.0439	<0.00020	<0.0050	18	0.0131	<0.000010	<0.0010	0.0011	0.027	3.09
W2	14/04/2012 14:17	<0.0050	<0.0050	<0.00050	0.006	<0.00050	0.00042	0.0625	<0.00010	<0.0010	<0.05	0.000012	39.9	High DL removed	<0.00050	0.0028	0.0506	<0.00020	<0.0050	15.1	0.0138	<0.000010	<0.0010	<0.0010	0.037	2.87
W2	15/04/2012 13:35	<0.0050	<0.0050	<0.00050	0.0067	<0.00050	0.00046	0.0551	<0.00010	<0.0010	<0.05	<0.000010	33.5	High DL removed	<0.00050	0.00358	0.0561	<0.00020	<0.0050	12.2	0.015	<0.000010	<0.0010	<0.0010	0.052	2.76
W2	12/05/2012 18:30	0.0494	0.0523	0.00236	0.032	<0.00050	0.00084	0.0493	<0.00010	<0.0010	<0.05	0.00002	20.7	High DL removed	<0.00050	0.00259	0.905	<0.00020	<0.0050	5.8	0.17	<0.000010	<0.0010	0.0017	0.025	1.07
W2	18/05/2012 15:50	0.0214	0.0929	0.00126	0.0406	<0.00050	0.00081	0.0539	<0.00010	<0.0010	<0.05	0.000012	24.8	High DL removed	<0.00050	0.00239	0.852	<0.00020	<0.0050	8.03	0.112	<0.000010	<0.0010	0.0017	0.028	1.05
W2	20/05/2012 12:30	0.0165	0.0175	0.00107	0.0201	<0.00050	0.00076	0.0539	<0.00010	<0.0010	<0.05	<0.000010	25.8	High DL removed	<0.00050	0.0023	0.597	<0.00020	<0.0050	7.92	0.0422	<0.000010	0.0011	0.0019	0.022	1.02
W2	25/05/2012 12:15	0.0661	0.0848	0.00269	0.0297	<0.00050	0.00082	0.0518	<0.00010	<0.0010	<0.05	0.000012	26.7	High DL removed	<0.00050	0.00193	0.628	<0.00020	<0.0050	8.42	0.19	<0.000010	0.0012	0.0016	0.023	1.06
W2	02/06/2012	0.0231	0.0312	0.00141	0.0307	<0.00050	0.00069	0.0532	<0.00010	<0.0010	<0.05	0.000011	33	High DL removed	<0.00050	0.00192	0.369	<0.00020	<0.0050	9.9	0.0897	<0.000010	0.0013	0.0015	0.023	1.1
W2	06/06/2012	0.0172	0.0222	0.00099	0.0179	<0.00050	0.00064	0.0551	<0.00010	<0.0010	<0.05	<0.000010	31.2	High DL removed	<0.00050	0.00194	0.346	<0.00020	<0.0050	10	0.0497	<0.000010	0.0015	0.0018	0.018	1.1
W2	09/06/2012	0.0462	0.0604	0.00314	0.0397	<0.00050	0.00076	0.0529	<0.00010	<0.0010	<0.05	0.000012	32.8	High DL removed	<0.00050	0.00299	0.421	<0.00020	<0.0050	9.58	0.0884	<0.000010	0.0013	0.0018	0.031	1.11
W2	13/06/2012 8:20	0.102	0.136	0.00393	0.0336	<0.00050	0.00073	0.051	<0.00010	<0.0010	<0.05	<0.000010	30.6	High DL removed	<0.00050	0.00202	0.332	<0.00020	<0.0050	9.33	0.0886	<0.000010	0.0013	0.0016	0.019	0.996
W2	15/06/2012 9:45	0.0748	0.0964	0.0032	0.0327	<0.00050	0.00077	0.0528	<0.00010	<0.0010	<0.05	0.000011	28.5	High DL removed	<0.00050	0.00222	0.432	<0.00020	<0.0050	8.19	0.105	<0.000010	0.0011	0.0019	0.02	0.8
W2	19/06/2012 7:40	0.0619	0.0718	0.0027	0.037	<0.00050	0.0007	0.0588	<0.00010	<0.0010	<0.05	0.000012	32.6	High DL removed	<0.00050	0.0021	0.437	<0.00020	<0.0050	9.27	0.0756	<0.000010	0.0012	0.0019	0.02	0.897
W2	22/06/2012 14:00	0.0231	0.0298	0.00136	0.0318	<0.00050	0.00069	0.065	<0.00010	<0.0010	<0.05	<0.000010	30.8	High DL removed	<0.00050	0.00199	0.349	<0.00020	<0.0050	9.67	0.0681	<0.000010	0.0016	0.0017	0.018	0.899
W2	29/06/2012 8:10	0.0127	0.0163	0.00082	0.0301	<0.00050	0.00077	0.0673	<0.00010	<0.0010	<0.05	0.000013	37.3	High DL removed	<0.00050	0.00228	0.374	<0.00020	<0.0050	11.6	0.0477	<0.000010	0.0016	0.0016	0.019	1.12
W2	08/07/2012 9:09	0.0119	0.0156	0.00076	0.0312	<0.00050	0.0009	0.067	<0.00010	<0.0010	<0.05	0.000012	35.9	High DL removed	<0.00050	0.00181	0.489	<0.00020	<0.0050	11.2	0.0504	<0.000010	0.0015	0.0017	0.026	0.945
W2	11/07/2012 10:24	0.0507	0.0658	0.00277	0.0482	<0.00050	0.00085	0.0683	<0.00010	<0.0010	<0.05	0.000015	35.6	High DL removed	<0.00050	0.00183	0.49	<0.00020	<0.0050	10.2	0.111	<0.000010	0.0013	0.0017	0.023	0.891
W2	17/07/2012 14:25	0.0272	0.0357	0.00174	0.0505	<0.00050	0.00087	0.0762	<0.00010	<0.0010	<0.05	0.000016	40.7	High DL removed	<0.00050	0.00193	0.48	<0.00020	<0.0050	11.9	0.0845	<0.000010	0.0017	0.0016	0.024	1.02
W2	24/07/2012 9:00	0.0599	0.0775	0.0027	0.0332	<0.00050	0.00097	0.074	<0.00010	<0.0010	<0.05	<0.000010	39.5	High DL removed	<0.00050	0.00185	0.516	<0.00020	<0.0050	11.6	0.0846	<0.000010	0.0016	0.0017	0.024	1.04
W2	31/07/2012 16:40	0.0155	0.02	0.00151	0.0253	<0.00050	0.00093	0.0742	<0.00010	<0.0010	<0.05	<0.000010	39.7	High DL removed	<0.00050	0.00162	0.5	<0.00020	<0.0050	12.2	0.0574	<0.000010	0.0015	0.0017	0.024	1.11
W2	07/08/2012 9:20	0.0158	0.02	0.00114	0.025	<0.00050	0.00092	0.0767	<0.00010	<0.0010	<0.05	<0.000010	41.6	High DL removed	<0.00050	0.0015	0.61	<0.00020	<0.0050	12.1	0.0713	<0.000010	0.0015	0.0014	0.024	1.06
W2	10/08/2012 13:00	0.014	0.02	<0.0013	0.0347	<0.00050	0.00099	0.0756	<0.00010	<0.0010	<0.05	0.000016	38.6	High DL removed	<0.00050	0.00195	0.591	<0.00020	<0.0050	12.7	0.0688	<0.000010	0.0015	0.0017	0.027	1.13
W2	13/08/2012 16:50	0.0172	0.0211	0.00106	0.0327	<0.00050	0.00094	0.0723	<0.00010	<0.0010	<0.05	<0.000010	38.9	High DL removed	<0.00050	0.00174	0.579	<0.00020	<0.0050	12.3	0.0552	<0.000010	0.0015	0.0015	0.023	1.07
W2	16/08/2012 16:00	0.0104	0.0124	0.00067	0.0229	<0.00050	0.00088	0.0739	<0.00010	<0.0010	<0.05	<0.000010	41.3	High DL removed	<0.00050	0.00145	0.557	<0.00020	<0.0050	12.7	0.0526	<0.000010	0.0016	0.0013	0.024	1.06

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	Br	Cation	CN-T	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-TKN	P-PO4T	P-TDP	P-TRP
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L
W2	16/11/2010 13:00	0.0007	6.04	<0.00002	13.2	0.559	16	<0.00005	<0.005	<0.005	0.0019	<0.005	<0.005	<0.0005	180	<0.5	<0.5	<0.5		<0.4							9					0.005
W2	29/11/2010	0.0006	5.6	<0.00002	12.5	0.57	16	<0.00005	<0.005	<0.005	0.0023	<0.005	<0.005	<0.0005	180	<0.5	<0.5	<0.5		<0.4												0.005
W2	06/12/2010	0.0006	7.61	<0.00002	15.4	0.712	20	<0.00005	<0.005	<0.005	0.0025	<0.005	0.016	<0.0005	230	<0.5	<0.5	<0.5		<0.01												<0.005
W2	10/12/2010	0.0005	6.45	<0.00002	14	0.618	18	<0.00005	<0.005	<0.005	0.0024	<0.005	0.014	<0.0005	210	<0.5	<0.5	<0.5		<0.01												0.01
W2	14/12/2010	0.0007	8.65	<0.00002	20.4	0.849	33	<0.00005	<0.005	<0.005	0.0033	<0.005	0.02	<0.0005	280	<0.5	<0.5	<0.5		<0.01												0.013
W2	04/04/2011	0.0004	8.28	<0.00002	16.6	0.576	19	<0.00005	<0.005	<0.005	0.0024	<0.005	<0.005	<0.0005	270	4.7	<0.5	3.9		<0.4												0.027
W2	11/04/2011	0.0003	6.74	<0.00002	12.7	0.527	15	<0.00005	<0.005	<0.005	0.0018	<0.005	<0.005	<0.0005	230	<0.5	<0.5	<0.5		<0.4												0.016
W2	21/04/2011	0.0002	6.4	<0.00002	8.12	0.36	7	<0.00005	<0.005	<0.005	0.0009	<0.005	<0.005	<0.0005	170	<0.5	<0.5	<0.5														
W2	27/04/2011	<0.0001	3.45	<0.00002	2.82	0.116	<3	<0.00005	<0.005	<0.005	0.0001	<0.005	<0.005	<0.0005	62	<0.5	<0.5	<0.5									19					
W2	05/05/2011	<0.0001	2.81	<0.00002	1.84	0.071	<3	<0.00005	<0.005	<0.005	0.0001	<0.005	<0.005	<0.0005	43	<0.5	<0.5	<0.5														
W2	10/05/2011	<0.0001	3.25	<0.00002	2.23	0.09	<3	<0.00005	<0.005	<0.005	0.0002	<0.005	<0.005	<0.0005	56	<0.5	<0.5	<0.5														
W2	15/05/2011	0.0001	4.3	<0.00002	3.73	0.14	<3	<0.00005	<0.005	<0.005	0.0004	<0.005	<0.005	<0.0005	79	<0.5	<0.5	<0.5														
W2	23/05/2011	0.0001	4.5	<0.00002	4.78	0.236	5	<0.00005	<0.005	<0.005	0.0007	<0.005	<0.005	<0.0005	110	<0.5	<0.5	<0.5														
W2	30/05/2011	0.0001	5.2	<0.00002	6.7	0.297	5	<0.00005	<0.005	<0.005	0.0009	<0.005	<0.005	<0.0005	130	<0.5	<0.5	<0.5														
W2	07/06/2011	0.0002	5.56	<0.00002	5.5	0.181	4	<0.00005	<0.005	<0.005	0.0007	<0.005	<0.005	<0.0005	97	<0.5	<0.5	<0.5														
W2	13/06/2011	0.0001	4.85	<0.00002	7.08	0.29	5	<0.00005	<0.005	<0.005	0.001	<0.005	0.006	<0.0005	140	<0.5	<0.5	<0.5														
W2	16/06/2011	0.0001	6.53	<0.00002	7.14	0.231	6	<0.00005	<0.005	<0.005	0.0011	<0.005	<0.005	<0.0005	130	<0.5	<0.5	<0.5														
W2	20/06/2011	0.0001	5.16	<0.00002	6.87	0.263	5	<0.00005	<0.005	<0.005	0.001	<0.005	<0.005	<0.0005	130	<0.5	<0.5	<0.5														
W2	27/06/2011	0.0002	6.15	<0.00002	7.16	0.276	5	<0.00005	<0.005	<0.005	0.001	<0.005	<0.005	<0.0005	140	<0.5	<0.5	<0.5														
W2	03/07/2011	0.0001	6.48	<0.00002	7.02	0.249	5	<0.00005	<0.005	<0.005	0.0007	<0.005	<0.005	<0.0005	130	<0.5	<0.5	<0.5														
W2	09/07/2011	0.0001	6.76	<0.00002	6.66	0.252	4	<0.00005	<0.005	<0.005	0.0008	<0.005	<0.005	<0.0005	140	<0.5	<0.5	<0.5														
W2	19/07/2011	0.0001	6.03	<0.00002	5.73	0.231	3	<0.00005	<0.005	<0.005	0.0008	<0.005	<0.005	<0.0005	130	<0.5	<0.5	<0.5														
W2	26/07/2011	0.0002	6.4	<0.00002	6.45	0.27	4	<0.00005	<0.005	<0.005	0.0009	<0.005	<0.005	<0.0005	160	<0.5	<0.5	<0.5														
W2	02/08/2011	0.0001	6.08	<0.00002	4.31	0.148	<3	<0.00005	<0.005	<0.005	0.0004	<0.005	<0.005	<0.0005	88	<0.5	<0.5	<0.5														
W2	16/08/2011	0.0001	5.9	<0.00002	5.68	0.224	3	<0.00005	<0.005	<0.005	0.0006	<0.005	0.007	<0.0005	130	<0.5	<0.5	<0.5														
W2	29/08/2011	0.0001	6.69	<0.00002	5.51	0.236	<3	<0.00005	<0.005	<0.005	0.0007	<0.005	<0.005	<0.0005	140	<0.5	<0.5	<0.5														
W2	08/09/2011	0.0001	6.9	<0.00002	6.08	0.268	3	<0.00005	<0.005	<0.005	0.0008	<0.005	<0.005	<0.0005	150	<0.5	<0.5	<0.5														
W2	12/09/2011	0.0001	7.41	<0.00002	6.42	0.278	3	<0.00005	<0.005	<0.005	0.0008	<0.005	<0.005	<0.0005	150	<0.5	<0.5	<0.5									14.6					
W2	19/09/2011	0.0001	6.68	<0.00002	5.89	0.248	3	<0.00005	<0.005	<0.005	0.0007	<0.005	<0.005	<0.0005	150	<0.5	<0.5	<0.5														
W2	27/09/2011	0.0001	6.93	<0.00002	6.57	0.246	4	<0.00005	<0.005	<0.005	0.0007	<0.005	<0.005	<0.0005	150	<0.5	<0.5	<0.5														
W2	06/10/2011	0.0001	6.72	<0.00002	7	0.295	5	<0.00005	<0.005	<0.005	0.001	<0.005	<0.005	<0.0005	170	<0.5	<0.5	<0.5									13.3					
W2	11/10/2011	0.0001	7.02	<0.00002	6.8	0.278	5	<0.00005	<0.005	<0.005	0.0008	<0.005	<0.005	<0.0005	160	<0.5	<0.5	<0.5														
W2	19/10/2011	0.0002	7.71	<0.00002	6.83	0.307	5	<0.00005	<0.005	<0.005	0.001	<0.005	<0.005	<0.0005	170	<0.5	<0.5	<0.5														
W2	26/10/2011	0.0002	7.18	<0.00002	6.99	0.321	5	<0.00005	<0.005	<0.005	0.001	<0.005	<0.005	<0.0005	170	<0.5	<0.5	<0.5														
W2	30/10/2011	0.0002	7.57	<0.00002	7.19	0.326	5	<0.00005	<0.005	<0.005	0.0011	<0.005	<0.005	<0.0005	180	<0.5	<0.5	<0.5														
W2	03/11/2011	0.0002	6.95	<0.00002	7.59	0.366	5	<0.00005	<0.005	<0.005	0.0011	<0.005	<0.005	<0.0005	180	<0.5	<0.5	<0.5														
W2	08/11/2011	0.00024	7.74	<0.000020	8.94	0.363	6.1	<0.000050	<0.0050	<0.0050	0.00118	<0.0050	0.0062	<0.00050	184	<0.50	<0.50	<0.50														
W2	13/11/2011	0.00022	5.4	<0.000020	8.42	0.358	6.8	<0.000050	<0.0050	<0.0050	0.00138	<0.0050	<0.0050	<0.00050	191	1	<0.50	0.83														
W2	22/11/2011	0.00022	8.21	<0.000020	9.29	0.434	8.4	<0.000050	<0.0050	<0.0050	0.00159	<0.0050	<0.0050	<0.00050	206	<0.50	<0.50	<0.50									8.03					
W2	28/11/2011	0.00018	6.4	<0.000020	10.1	0.483	10.1	<0.000050	<0.0050	<0.0050	0.00183	<0.0050	<0.0050	<0.00050	209	<0.50	<0.50	<0.50														
W2	06/04/2012 11:00	0.00021	8.7	<0.000020	12.5	0.425	12.4	<0.000050	<0.0050	<0.0050	0.00137	<0.0050	<0.0050	<0.00050	242	<0.50	<0.50	<0.50												0.0469		
W2	12/04/2012	0.00019	7.94	<0.000020	12.1	0.429	10.3	<0.000050	<0.0050	<0.0050	0.00103	<0.0050	0.008	<0.00050	225	<0.50	<0.50	<0.50												0.0327		
W2	14/04/2012 14:17	0.00018	6.76	<0.000020	9.94	0.356	8.5	<0.000050	<0.0050	<0.0050	0.00084	<0.0050	<0.0050	<0.00050	190	<0.50	<0.50	<0.50												0.0446		
W2	15/04/2012 13:35	0.00012	5.81	<0.000020	8.07	0.3	6.5	<0.000050	<0.0050	<0.0050	0.00063	<0.0050	<0.0050	<0.00050	160	<0.50	<0.50	<0.50												0.087		
W2	12/05/2012 18:30	0.00013	4.4	<0.000020	3.89	0.135	<3.0	<0.000050	<0.0050	<0.0050	0.00054	<0.0050	<0.0050	<0.00050	85.7	<0.50	<0.50	<0.50												0.655		
W2	18/05/2012 15:50	0.00012	4.89	<0.000020	5.14	0.173	10.4	<0.000050	<0.0050	<0.0050	0.0007	<0.0050	<0.0050	<0.00050	117	<0.50	<0.50	<0.50												0.284		
W2	20/05/2012 12:30	0.00012	4.92	<0.000020	5.05	0.192	<3.0	<0.000050	<0.0050	<0.0050	0.00079	<0.0050	<0.0050	<0.00050	108	<0.50	<0.50	<0.50												0.0219		
W2	25/05/2012 12:15	0.00013	4.78	<0.000020	5.44	0.193	3.2	<0.000050	<0.0050	<0.0050	0.0011	<0.0050	<0.0050	<0.00050	117	<0.50	<0.50	<0.50												0.886		
W2	02/06/2012	0.00011	5.76	<0.000020	6.43	0.242	4.7	<0.000050	<0.0050	<0.0050	0.00115	<0.0050	<0.0050	<0.00050	150	<0.50	<0.50	<0.50												0.318		
W2	06/06/2012	0.00012	5.05	<0.000020	6.56	0.251	3.9	<0.000050	<0.0050	<0.0050	0.00104	<0.0050	<0.0050	<0.00050	150	<0.50	<0.50	<0.50												0.295		
W2	09/06/2012	0.00012	5.82	<0.000020	6.48	0.229	4.1	<0.000050	<0.0050	<0.0050	0.00113	<0.0050	<0.0050	<0.00050	140	<0.50	<0.50	<0.50												0.543		
W2	13/06/2012 8:20	0.00014	5.58	<0.000020	6.48	0.22	3.8	<0.000050	<0.0050	<0.0050	0.00103	<0.0050	<0.0050	<0.00050	132	<0.50	<0.50	<0.50												2.13		
W2	15/06/2012 9:45	0.00014	5.91	<0.000020	5.95	0.19	3.1	<0.000050	<0.0050	<0.0050	0.00078	<0.0050	<0.0050	<0.00050	117	<0.50	<0.50	<0.50												0.94		
W2	19/06/2012 7:40	0.00015	6.13	<0.000020	6.26	0.224	3.9	<0.000050	<0.0050	<0.0050	0.00089	<0.0050	<0.0050	<0.00050	134	<0.50	<0.50	<0.50									22.8			0.709		
W2	22/06/2012 14:00	<0.00010	5.33	<0.000020	6.43	0.245	3.2	<0.000050	<0.0050	<0.0050	0.00109	<0.0050	<0.0050	<0.00050	144	<0.50	<0.50	<0.50												0.373		
W2	29/06/2012 8:10	0.00016	6.14	<0.000020	7.69	0.294	4.5	<0.000050	<0.0050	<0.0050	0.00133	<0.0050	<0.0050	<0.00050	168	<0.50	<0.50	<0.50												0.191		
W2	08/07/2012 9:09	0.00015	6.52	<0.000020	7.23	0.287	4.1	<0.000050	<0.0050	<0.0050	0.0011	<0.0050	<0.0050	<0.00050	164	<0.50	<0.50	<0.50												0.167		
W2	11/07/2012 10:24	0.00011	5.76	<0.000020	6.84	0.255	4	<0.000050	<0.0050	<0.0050	0.00119	<0.0050	<0.0050	<0.00050	163	<0.50	<0.50	<0.50												0.804		
W2	17/07/2012 14:25	0.00015	6.72	<0.000020	7.68	0.3	4	<0.000050	<0.0050	<0.0050	0.00132	<0.0050	<0.0050	<0.00050	174	<0.50	<0.50	<0.50												0.523		
W2	24/07/2012 9:00	0.00015	6.54	<0.000020	7.71	0.286	4	<0.000050	<0.0050	<0.0050	0.00127	<0.0050	<0.0050	<0.00050	172	<0.50	<0.50	<0.50												1.08		
W2	31/07/2012 16:40	0.00011	6.82	<0.000020	7.58	0.313	4.9	<0.000050	<0.0050	<0.0050	0.00139	<0.0050	<0.0050	<0.00050	185	<0.50	<0.50	<0.50												0.227		
W2	07/08/2012 9:20	0.00014	7.09	<0.000020	7.77	0.318	4.5	<0.000050	<0.0050	<0.0050	0.00138	<0.0050	<0.0050	<0.00050	185	<0.50	<0.50	<0.50												0.236		
W2	10/08/2012 13:00	0.00018	6.46	<0.000020	7.89	0.317	3.9	<0.000050	<0.0050	<0.0050	0.00131	<0.0050	<0.0050	<0.00050	188	<0.50	<0.50	<0.50														
W2	13/08/2012 16:50	0.00013	6.9	<0.000020	7.74	0.31	4.1	<0.000050	<0.0050	<0.0050	0.00133	<0.0050	<0.0050	<0.00050	177	1.27	<0.50	1.06												0.263		
W2	16/08/2012 16:00	0.00015	6.9	<0.000020	7.69	0.344	4.7	<0.000050	<0.0050	<0.0050	0.00131	<0.0050	<0.0050	<0.00050	188	<0.50	<0.50	<0.50														

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W2	16/11/2010 13:00	<.005					0.6
W2	29/11/2010					0.1	
W2	06/12/2010					1.3	-1.1
W2	10/12/2010					1.1	-2.8
W2	14/12/2010					1.6	
W2	04/04/2011					2.9	
W2	11/04/2011					23.1	
W2	21/04/2011						
W2	27/04/2011						
W2	05/05/2011						
W2	10/05/2011						
W2	15/05/2011						
W2	23/05/2011						
W2	30/05/2011						
W2	07/06/2011						
W2	13/06/2011						
W2	16/06/2011						
W2	20/06/2011						
W2	27/06/2011						
W2	03/07/2011						
W2	09/07/2011						
W2	19/07/2011						
W2	26/07/2011						
W2	02/08/2011						
W2	16/08/2011						
W2	29/08/2011						
W2	08/09/2011						
W2	12/09/2011						
W2	19/09/2011						
W2	27/09/2011						
W2	06/10/2011						
W2	11/10/2011						
W2	19/10/2011						
W2	26/10/2011						
W2	30/10/2011						
W2	03/11/2011						
W2	08/11/2011						
W2	13/11/2011						
W2	22/11/2011						
W2	28/11/2011						
W2	06/04/2012 11:00			411			
W2	12/04/2012			372.1			
W2	14/04/2012 14:17			352.7			
W2	15/04/2012 13:35			295.5			
W2	12/05/2012 18:30			162			
W2	18/05/2012 15:50			196.1			
W2	20/05/2012 12:30			208.8			
W2	25/05/2012 12:15			220.7			
W2	02/06/2012			261.7			
W2	06/06/2012			309.9			
W2	09/06/2012			246.1			
W2	13/06/2012 8:20			241.9			
W2	15/06/2012 9:45			239.3			
W2	19/06/2012 7:40			268.6			
W2	22/06/2012 14:00			250.3			
W2	29/06/2012 8:10			280.7			
W2	08/07/2012 9:09			257.8			
W2	11/07/2012 10:24			266.9			
W2	17/07/2012 14:25			282.2			
W2	24/07/2012 9:00			266.2			
W2	31/07/2012 16:40			279.7			
W2	07/08/2012 9:20			300.3			
W2	10/08/2012 13:00			301.4			
W2	13/08/2012 16:50			290.6			
W2	16/08/2012 16:00			295.3			

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Phase	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
				mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W2	23/08/2012 7:15	No Discharge	P	75.8	208	7.91	8.29	192.4	317	7	10.87	89.8	38.1	158	156	159	1.8	0.33	10.7	0.049	High DL removed	<0.20	13.4	0.754	<0.00050	0.00132	0.102	<0.00010	<0.0010
W2	25/08/2012 16:30	No Discharge	P	443	212	8.29	8.2	195.3	318	8.4	10.53	90	29.1	194	158	158	1.6	0.34	10.4	0.0054	<0.0050	0.103	16.6	2.47	<0.00050	0.00287	0.222	0.00023	<0.0010
W2	27/08/2012 11:50	No Discharge	P	169	202	8.32	8.36	181.9	308	6.6	11.56	92.1	24.2	162	149	156	1.8	0.3	10.3	0.0056	<0.0050	0.119	13	3.41	<0.00050	0.00248	0.146	0.00016	<0.0010
W2	03/09/2012 16:12	No Discharge	P	85.1	198	8.27	8.28	177.5	309	6	12.17	97.8	-5.2	165	153	154	1.4	0.3	9.73	0.0066	<0.0050	0.106	11.4	0.54	<0.00050	0.00146	0.105	<0.00010	<0.0010
W2	12/09/2012 14:10	No Discharge	P	401	174	6.3	8.13	141.6	261	1.2	13.71	92.2	60.7	153	135	127	1.8	0.34	9.56	0.009	0.0051	0.082	16.7	2.11	<0.00050	0.00234	0.157	0.00016	<0.0010
W2	19/09/2012 14:40	No Discharge	P	11.7	208	7.95	8.19	170.4	295	3.5	12.49	94.2	45.3	140	153	145	1.7	0.3	12.5	0.16	<0.0050	0.105	14.9	0.256	<0.00050	0.00099	0.0677	<0.00010	<0.0010
W2	24/09/2012 17:10	No Discharge	P	9.3	200	7.95	8.24	184.4	308	5.3	12.17	96.4	52.17	157	149	147	1.4	0.26	11.9	0.11	<0.0050	0.06	13.7	0.0923	<0.00050	0.00094	0.0733	<0.00010	<0.0010
W2	04/10/2012 14:45	No Discharge	P	62.8	206	7.4	8.14		298	1	16.44	96.65	67.3	150		143	1.5	0.27	11.4	0.098	<0.0050	0.145	12.8	0.0236	<0.00050	0.00061	0.0663	<0.00010	<0.0010
W2	12/10/2012 15:30	No Discharge	P	21	210	7.83	8.11	161.7	308	0	14.67	100.2	88.2	178		151	2.1	0.28	14.5	0.011	<0.0050	0.158	14.9	0.157	<0.00050	0.00082	0.0775	<0.00010	<0.0010
W2	16/10/2012 10:49	No Discharge	P	30	188	7.88	8.23	154.6	302	0.2	15.03	103.7	54.8	153	163	144	1.8	0.25	12.6	0.017	<0.0050	0.163	13.9	0.246	<0.00050	0.00089	0.0716	<0.00010	<0.0010
W2	19/10/2012 17:30	No Discharge	P	32.4		8.7	8.12	156.8	311	0	13.67	94	70.2	170		147	1.9	0.25	14.9	0.089	<0.0050	0.169	11.9	0.117	<0.00050	0.0008	0.075	<0.00010	<0.0010
W2	22/10/2012 7:45	No Discharge	P	4.1	226	8.6	8.16		348	0.2				165	175	171	1.8	0.26	17.6	0.016	<0.0050	0.25	11.8	0.0449	<0.00050	0.00057	0.069	<0.00010	<0.0010
W2	11/11/2012 8:30	No Discharge	P	<1.0	236	7.47	8.11	93.2	384	-0.1			94.7	185	167	175	3.4	0.25	27.4	<0.0050	<0.0050	0.232	9.46	0.0106	<0.00050	0.00033	0.0847	<0.00010	<0.0010
W2	12/04/2013 10:00	No Discharge	P	2.2	464	8.2	8.28	745	671	0.2				312	311	290	6.1	0.58	82.8	0.071	<0.0050	<0.020	25.9	0.0977	<0.00050	0.00092	0.152	<0.00010	<0.0010
W2	16/04/2013 17:00	No Discharge	P	25.4	364	8	8.35	542	545	0.2				250	249	237	3.7	0.52	50.5	0.021	<0.0050	<0.020	15.7	0.865	<0.00050	0.00107	0.121	<0.00010	<0.0010
W2	24/05/2013 15:20	No Discharge	P	134	128	9.42	7.88	83.7	162	2.5	13.12	96.3	-65.4	81.2	73	64.9	3.4	0.17	7.69	0.055	0.0227	0.594	12.7	1.34	<0.00050	0.0014	0.0935	<0.00010	<0.0010
W2	29/05/2013 7:00	No Discharge	P	238	146	8.1	7.97	115.4	209	0.8	14.21	99	9.3	109	90.5	83.3	3.8	0.23	13.8	0.051	0.024	1.01	13.3	4.71	<0.00050	0.00317	0.154	0.00016	<0.0010
W2	31/05/2013 14:40	No Discharge	P	324	178	8.41	7.94	151.7	239	5.4	11.99	95.6	62.7	140	107	94.6	4.7	0.27	19.1	0.062	0.0383	1.33	5.62	7.91	<0.0010	0.00422	0.221	0.00027	<0.0020
W2	06/06/2013 9:30	No Discharge	P	159	156	7.56	8.16		225	2.1	13.67	99	88.6	127	111	108	1.8	0.25	9.57	0.089	0.0094	0.097	14.3	3.7	<0.00050	0.00253	0.126	0.00014	<0.0010
W2	16/06/2013 11:00	No Discharge	P	99	176	8.8	8.13	252	261	7				144	124	124	2.5	0.3	10.8	0.078	0.0108	0.143	13.3	2.88	<0.00050	0.00226	0.117	<0.00010	<0.0010
W2	18/06/2013 9:20	No Discharge	P	60	194	8.4	8.1	283	274	8.8				150	129	127	1.7	0.3	12.9	0.052	0.0077	0.167	11.4	1.79	<0.00050	0.0019	0.0993	<0.00010	<0.0010
W2	25/06/2013 9:15	No Discharge	P	21.8	188	8.03	8.18		312	7.6	11.37	95	62.1	159	148	146	1.6	0.34	15.8	0.036	0.0054	0.213	9.42	0.707	<0.00050	0.00104	0.0847	<0.00010	<0.0010
W2	02/07/2013 8:45	No Discharge	P	221	162	8.03	8.17		261	7.6	10.96	91.5	71.8	157	126	122	1.8	0.3	11.3	0.093	0.0085	0.166	12.5	7.04	<0.00050	0.00414	0.192	0.00024	<0.0010
W2	11/07/2013 12:25	No Discharge	P	112	204	8.15	8.08	186	279	7.5	11.08	92.4	121.8	157	130	133	1.6	0.31	13.8	0.063	0.0058	0.175	12.4	2.99	<0.00050	0.00208	0.125	<0.00010	<0.0010
W2	19/07/2013 8:45	No Discharge	P	17.4	202	8.16	8.3	204.3	317	8.2	11.17	95	51.9	168	161	154	1.7	0.36	15.3	0.027	0.0056	0.203	9.97	0.576	<0.00050	0.00109	0.0873	<0.00010	<0.0010
W2	23/07/2013 10:20	No Discharge	P	707	160	8.16	8.22	142.3	247	6.4	11.81	95.8	87.3	193	121	120	1.5	0.24	10.2	0.086	High DL removed	<0.20	15.2	16.2	0.00057	0.00736	0.359	0.00051	<0.0010
W2	30/07/2013 12:00	No Discharge	P	66.7	192	8.14	8.16	188.6	278	8.4	11.83	100.9	91.3	162	146	130	1.7	0.3	10.3	0.084	<0.0050	0.159	15	1.75	<0.00050	0.0017	0.1	<0.00010	<0.0010
W2	08/08/2013 14:20	No Discharge	P	33.5	232	8.23	8.26		308	11	9.46	83.3	131.1	170	145	149	2	0.33	13	0.028	High DL removed	<0.20	11.1	0.93	<0.00050	0.00138	0.0889	<0.00010	<0.0010
W2	16/08/2013 10:55	No Discharge	P	13.4	204	8.10	8.22	328	323	12.3				175	155	156	1.5	0.35	15.2	0.067	0.0077	0.238	10.9	0.404	<0.00050	0.00104	0.0792	<0.00010	<0.0010
W2	21/08/2013 7:40	No Discharge	P	23.9	192	7.71	8.29	205	317	7	11.13	97.6	181.1	168	159	154	1.3	0.32	13.2	0.025	<0.0050	0.14	9	0.713	<0.00050	0.00122	0.0828	<0.00010	<0.0010
W2	22/08/2013 11:10	No Discharge	P	30	214	8.02	8.18	206.5	319	6.6	11.55	99.3	136.4	174	157	155	1.6	0.32	12.3	0.025	<0.0050	0.157	11.4	1.17	<0.00050	0.00136	0.0872	<0.00010	<0.0010
W2	27/08/2013 10:15	No Discharge	P	55.5	164	7.82	8.16	189.2	300	5.3	11.68	96.8	178.6	167	146	144	1.7	0.28	9.23	0.03	0.0053	0.13	12.8	1.64	<0.00050	0.00167	0.0971	<0.00010	<0.0010
W2	03/09/2013 15:50	No Discharge	P	74.7	214	8.01	8.1	193.3	298	6.8	10.87	95.3	122.0	163	140	141	1.8	0.28	10	0.049	0.007	0.122	13.8	1.95	<0.00050	0.00182	0.104	<0.00010	<0.0010
W2	09/09/2013 12:45	No Discharge	P	16.1	224	8.02	8.17	195.7	319	5	10.22	85.2	146.0	169	162	153	1.8	0.3	14.1	0.024	<0.0050	0.088	12.8	0.371	<0.00050	0.00122	0.0799	<0.00010	<0.0010
W2	18/09/2013 10:15	No Discharge	P	118	184	7.62	8.2	164.1	290	2.1	12.72	89.7	177.6	149	145	140	2.1	0.26	12.9	0.032	<0.0050	0.087	13.9	2.91	<0.00050	0.00221	0.109	<0.00010	<0.0010
W2	20/09/2013 12:50	No Discharge	P	295	214	7.91	8.03	171.7	298	3.6	14.54	108.3	91.7	205	153	140	2.1	0.29	14.2	0.032	0.0054	0.06	15.5	9.23	<0.00050	0.00529	0.25	0.00031	<0.0010
W2	24/09/2013 9:50	No Discharge	P	48.2	156	7.57	8.17	161.5	287	1.9	13.93	96.6	179.9	145	142	131	1.8	0.28	14.2	0.064	<0.0050	0.096	15	1.33	<0.00050	0.00144	0.0887	<0.00010	<0.0010
W2	03/10/2013 10:10	No Discharge	P	17.3	252	7.57	8.15	159.6	300	0.3	14.47	96.3	148.1	158	149	142	2.1	0.27	13.9	0.023	<0.0050	0.129	13.3	0.383	<0.00050	0.0009	0.068	<0.00010	<0.0010
W2	11/10/2013 11:15	No Discharge	P	32.6	208	7.81	8.11	162.1	314	0.1	15.30	100	90.5	167	162	146	1.8	0.25	15.3	0.023	<0.0050	0.123	13.6	0.556	<0.00050	0.00105	0.0774	<0.00010	<0.0010
W2	18/10/2013 9:30	No Discharge	P	6.5	234	7.81	8.3	163.3	318	0	15.70	103.9	163.4	161	158	153	2	0.29	16.7	0.037	<0.0050	0.182	11.2	0.147	<0.00050	0.00082	0.0681	<0.00010	<0.0010
W2	21/10/2013 6:40	No Discharge	P	2.3	202	8.15	8.22	164	319	0.01	13.99	96	206.0	163	164	149	2	0.28	14.9	0.032	<0.0050	0.186	10.1	0.0514	<0.00050	0.00077	0.0683	<0.00010	<0.0010
W2	31/10/2013 13:50	No Discharge	P	19.5	210	7.98	8.21	166.6	318	0	15.20	101.6	119.0	173	157	150	1.7	0.29	14.9	0.031	<0.0050	0.197	10.4	0.429	<0.00050	0.00076	0.0712	<0.00010	<0.0010
W2	08/11/2013 14:10	No Discharge	P	2.5	234	8.04	8.2	173.8	364	0.1	13.07	90.3	97.9	198	181	172	2.3	0.36	20.9	0.018	<0.0050	0.259	9.99	0.0571	<0.00050	0.00051	0.0741	<0.00010	<0.0010
W2	14/11/2013 14:00	No Discharge	P	39.9	202	7.78	8.37	171.5	383	0	14.08	98	175.9	211	180	175	2.2	0.34	26.1	0.055	<0.0050	0.262	8.86	0.109	<0.00050	0.00047	0.0788	<0.00010	<0.0010
W2	18/11/2013 14:50	No Discharge	P	290	256	7.73	8.27	212	401	0	12.01	83	-235.6	226	215	184	2.7	0.34	28.7	0.024	<0.0050	0.257	9.84	2.17	<0.00050	0.00149	0.145	0.0001	<0.0010
W2	17/03/2014 15:00	No Discharge	F			8.33		111.9		1.7	12.73	89.3	144																
W2	27/05/2014 7:45	No Discharge	P	187	152	7.43	8.19	148.7	256	3.3	12.96	98	65.7	135	118	104	2.8	0.28	19.3	0.069	0.0243	0.759	17.9	3.69	<0.00050	0.00275	0.147	0.0001	<0.0010
W2	07/06/2014 15:20	No Discharge	P	18.2	188	7.57	8.26	176.3	270	7.2	11.58	96	96.1	131	130	125	1.9	0.31	12.8	0.061	0.0114	0.193	11.5	0.859	<0.00050	0.00114	0.0772	<0.00010	<0.0010
W2	12/06/2014 17:00	No Discharge	M																										
W2	12/06/2014 17:00	No Discharge	P	41.2	192	8.28	8.18	191.8	287	8.2	10.88	92.3	132.8	140	133	134	2.3	0.32	14.5	0.037	0.0087	0.153	10.8	1.15	<0.00050	0.00127	0.089	<0.00010	<0.0010
W2	20/06/2014 15:00	No Discharge	M			8.35		227.6		6.4	12.02	97.6	131.9																
W2	20/06/2014 15:00	No Discharge	P	1.3	174	8.35	8.17	227.6	311	6.4	12.02	97.6	131.9	155	147	140	2.1	0.34	17.3	0.015	<0.0050	0.094	8.27	0.0617	<0.00050	0.00056	0.0634	<0.00010	<0.0010
W2	24/06/2014 15:00	No Discharge	M			8.43		246.3		8.1	11.6	97.9	137.3																
W2	24/06/2014 15:00	No Discharge	P	<1.0	202	8.43	8.35	246.3	311	8.1	11.6	97.9	137.3	150	152	150	2	0.35	19.7	0.013	<0.0050	0.054	8.4	0.0321	<0.00050	0.00053	0.065	<0.00010	<0.0010
W2	30/06/2014 7:45	No Discharge	P	<1.0	214	8.3	8.18	238.5	333	8.7	10.96	94.2	127.1	167	158	151	2.4	0.36	19.6	0.04	<0.0050	0.049	9.24	0.0509	<0.00050	0.00052	0.0693	<0.00010	<0.0010
W2	01/07/2014 15:00	No Discharge	M			8.31		235		8.9	11.4	98.3	198.3																
W2	09/07/2014 10:35	No Discharge	M			8.35		274.4		7.6	10.47	87.2	111.9																
W2	09/07/2014 10:35	No Discharge	P	2.1	182	8.35	8.32	274.4	332	7.6	10.47	87.2	111.9	169	157	152	2	0.37	21.3	0.026	<0.0050	0.068	6.95	0.124	0.0018	0.00054	0.0739	<0.00010	<0.0010
W2	17/07/2014 14:45	No Discharge	M			7.51		202.1		7.8	11.43	96.1	152.3																
W2	17/07/2014 14:45	No Discharge	P	64.1	210	7.51	8.25	202.1	349	7.8	11.43	96.1	152.3	174	169	158	2.2	0.34	21.4	0.014	<0.0050	0.075	8.31	0.0374	<0.00050	0.00045	0.0721	<0.00010	<0.0010
W2	23/07/2014 7:40	No Discharge	M			7.58		210.3		6.4	11.71	94.9	76.7																
W2	23/07/2014 14:30	No Discharge	P	11.9	170	7.78	8.18	180	300	8.1	11.42	96.7	83.7	147	140	138	1.8	0.36	14.4	0.021	<0.0050	0.092	<0.50	0.376	<0.00050	0.00091	0.0708	<0.00010	<0.0010
W2	29/07/2014 14:20	No Discharge	M			7.97		230.2		8.6	11.2	95.8	131.3																
W2	29/07/2014 14:20	No Discharge	P	19.4	204	7.97	8.3	230.2	320	8.6	11.2	95.8	131.3	162	160	154	1.9	0.36	14.3	0.011	<0.0050	0.123	8.48	0.428	<0.00050	0.00091	0.0734	<0.00010	<0.0010
W2	07/08/2014 9:40	No Discharge	M			8.08		237.1		6.6	13.72	111.6	211.1																

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W2	23/08/2012 7:15	<0.05	0.000021	41.2	0.0012	0.00094	0.00424	2.14	0.00062	<0.0050	13.5	0.0937	<0.000010	0.001	0.0031	0.074	1.16	0.00014	7.65	<0.000020	8	0.349	<3.0	<0.000050	<0.0050	0.0184	0.00138
W2	25/08/2012 16:30	<0.05	0.000147	52.1	0.0039	0.00374	0.014	5.93	0.00247	<0.0050	15.6	0.392	<0.000010	<0.0010	0.0096	0.298	1.42	0.00021	10	<0.000020	8.44	0.417	<3.0	<0.000050	<0.0050	0.0351	0.00177
W2	27/08/2012 11:50	<0.05	0.000055	42.5	0.0065	0.0023	0.00913	6.59	0.00156	<0.0050	13.6	0.194	<0.000010	0.0016	0.0073	0.158	1.54	0.00024	12.2	0.00002	7.61	0.346	<3.0	0.000054	<0.0050	0.125	0.00145
W2	03/09/2012 16:12	<0.05	0.000036	42.9	<0.0010	0.00078	0.0041	1.82	0.00054	<0.0050	14.1	0.133	<0.000010	0.0011	0.0031	0.172	1.16	0.00014	7.27	<0.000020	8.26	0.36	4.5	<0.000050	<0.0050	0.0162	0.0013
W2	12/09/2012 14:10	<0.05	0.000097	41	0.0039	0.00319	0.0122	5.67	0.00222	<0.0050	12.2	0.416	<0.000010	<0.0010	0.0085	0.279	0.881	<0.00010	8.56	<0.000020	6.76	0.316	3.1	<0.000050	<0.0050	0.0445	0.00122
W2	19/09/2012 14:40	<0.05	<0.000010	37.6	<0.0010	<0.00050	0.00198	1.12	<0.00020	<0.0050	11.3	0.0913	<0.000010	0.0011	0.0021	0.036	0.939	0.00012	6.83	<0.000020	6.73	0.284	3.8	<0.000050	<0.0050	0.0111	0.0009
W2	24/09/2012 17:10	<0.05	<0.000010	41.8	<0.0010	<0.00050	0.00221	0.915	<0.00020	<0.0050	12.7	0.0814	<0.000010	0.0013	0.0021	0.03	1.13	<0.00010	7.36	<0.000020	7.79	0.325	4.3	<0.000050	<0.0050	<0.0050	0.00113
W2	04/10/2012 14:45	<0.05	<0.000010	39.1	<0.0010	<0.00050	0.00139	0.494	<0.00020	<0.0050	12.7	0.0799	<0.000010	0.0012	0.0016	0.025	0.975	0.00013	6.91	<0.000020	7.46	0.332	4.4	<0.000050	<0.0050	<0.0050	0.00108
W2	12/10/2012 15:30	<0.05	0.00001	44.9	<0.0010	<0.00050	0.00262	0.712	<0.00020	<0.0050	16.1	0.0723	<0.000010	0.0013	0.0024	0.052	1.05	0.00017	8.16	<0.000020	9.38	0.38	10.6	<0.000050	<0.0050	0.0051	0.00133
W2	16/10/2012 10:49	<0.05	<0.000010	39.2	<0.0010	<0.00050	0.00256	1.06	0.00021	<0.0050	13.3	0.0937	<0.000010	0.001	0.0022	0.04	0.934	0.00013	6.69	<0.000020	7.72	0.319	5.4	<0.000050	<0.0050	0.0074	0.0011
W2	19/10/2012 17:30	<0.05	<0.000010	45.2	<0.0010	<0.00050	0.00234	0.818	<0.00020	<0.0050	13.9	0.0947		0.0011	0.002	0.048	1	0.00012	7.36	<0.000020	8.14	0.343	6.5	<0.000050	<0.0050	0.0051	0.00124
W2	22/10/2012 7:45	<0.05	<0.000010	42.8	<0.0010	<0.00050	0.00169	0.4	<0.00020	<0.0050	14	0.032	<0.000010	0.0013	0.0014	0.022	1.03	0.00011	6.97	<0.000020	8.14	0.363	3.4	<0.000050	<0.0050	<0.0050	0.00125
W2	11/11/2012 8:30	<0.05	<0.000010	48.6	<0.0010	<0.00050	0.00207	0.0422	<0.00020	<0.0050	15.4	0.0414	<0.000010	0.0011	0.0013	<0.01	1.59	0.00015	6.65	<0.000020	9.45	0.46	10.1	<0.000050	<0.0050	<0.0050	0.0019
W2	12/04/2013 10:00	<0.05	0.000012	75.7	<0.0010	<0.00050	0.0183	0.169	<0.00020	<0.0050	30	0.0568	<0.000010	<0.0010	0.0017	0.078	8.7	0.00021	15	<0.000020	24.9	0.569	24.5	<0.000050	<0.0050	<0.0050	0.00165
W2	16/04/2013 17:00	<0.05	0.000018	59.8	0.0017	0.00077	0.028	1.34	0.00045	<0.0050	24.4	0.059	<0.000010	<0.0010	0.0024	0.066	5.55	0.00024	12.4	<0.000020	18.7	0.482	16	<0.000050	<0.0050	0.0353	0.0013
W2	24/05/2013 15:20	<0.05	0.000053	21	0.0023	0.00187	0.0241	2.98	0.00117	<0.0050	7	0.237	0.000015	<0.0010	0.0047	0.144	1.75	0.00025	5.15	<0.000020	5.69	0.193	3.2	<0.000050	<0.0050	0.0362	0.00058
W2	29/05/2013 7:00	<0.05	0.000075	26.5	0.0091	0.00352	0.0263	8.63	0.0023	<0.0050	10.4	0.546	<0.000010	0.0027	0.0098	0.27	2.69	0.00028	11.5	0.000033	7.61	0.311	5.5	<0.000050	<0.0050	0.185	0.00097
W2	31/05/2013 14:40	<0.1	0.000118	35.8	0.0142	0.0051	0.0333	12.9	0.00319	<0.01	12.4	0.584	<0.000010	0.0032	0.0154	0.388	2.7	0.00039	18.8	High DL removed	9	0.393	<6.0	<0.00010	<0.01	0.292	0.00146
W2	06/06/2013 9:30	<0.05	0.000055	32.4	0.0075	0.0027	0.0108	6.46	0.00163	<0.0050	11.3	0.193	<0.000010	0.0014	0.0086	0.185	1.6	0.00026	12.3	0.000027	6.73	0.27	<3.0	<0.000050	<0.0050	0.144	0.00114
W2	16/06/2013 11:00	<0.05	0.00004	37	0.0058	0.00207	0.00854	5.13	0.00116	<0.0050	12.5	0.123	<0.000010	0.0017	0.0069	0.125	1.38	0.00018	10.9	0.000021	7.72	0.302	3.7	<0.000050	<0.0050	0.109	0.00128
W2	18/06/2013 9:20	<0.05	0.000022	39.2	0.0037	0.00129	0.00729	3.23	0.00086	<0.0050	12.6	0.0819	<0.000010	0.0019	0.0048	0.096	1.55	0.00015	9.45	<0.000020	8.23	0.333	3.3	<0.000050	<0.0050	0.0726	0.00152
W2	25/06/2013 9:15	<0.05	0.000014	40.5	0.0016	0.00053	0.00367	1.18	0.00031	<0.0050	14	0.0381	<0.000010	0.0018	0.0024	0.038	1.56	0.00015	7.94	<0.000020	9.47	0.381	7.1	<0.000050	<0.0050	0.0228	0.00159
W2	02/07/2013 8:45	<0.05	0.000114	39.8	0.0144	0.00461	0.0169	11.2	0.00307	0.0056	14	0.222	0.000016	0.002	0.0146	0.292	1.85	0.00027	18.6	0.000049	8.42	0.328	5	0.000069	<0.0050	0.261	0.0018
W2	11/07/2013 12:25	<0.05	0.000046	39.7	0.0068	0.00207	0.00848	5.01	0.0012	<0.0050	14	0.0996	<0.000010	0.0015	0.0072	0.137	1.47	0.00031	11.8	<0.000020	8.45	0.341	4	<0.000050	<0.0050	0.13	0.00152
W2	19/07/2013 8:45	<0.05	0.000016	43.4	0.0012	<0.00050	0.00364	1.21	0.00024	<0.0050	14.5	0.0383	<0.000010	0.002	0.0026	0.04	1.48	0.00012	8	<0.000020	10.3	0.414	5.3	<0.000050	<0.0050	0.0216	0.00156
W2	23/07/2013 10:20	<0.05	0.000223	46.8	0.0313	0.0109	0.0353	23.6	0.00665	0.0103	18.4	0.598	<0.000010	0.0017	0.0326	0.752	2.33	0.00048	34.9	0.000123	8.86	0.359	<3.0	0.000143	<0.0050	0.625	0.00257
W2	30/07/2013 12:00	<0.05	0.00004	43.7	0.0035	0.00115	0.00562	3.21	0.00069	<0.0050	12.9	0.0757	<0.000010	0.0015	0.0046	0.1	1.15	0.00016	10.6	<0.000020	7.86	0.32	5	<0.000050	<0.0050	0.0597	0.00123
W2	08/08/2013 14:20	<0.05	0.000015	44.8	0.002	0.00069	0.00397	1.98	0.00038	<0.0050	14.1	0.0427	<0.000010	0.0015	0.0031	0.058	1.24	0.00013	8.66	<0.000020	9.2	0.355	5.9	<0.000050	<0.0050	0.0335	0.00127
W2	16/08/2013 10:55	<0.05	0.00001	44.6	0.0011	<0.00050	0.00304	1.11	0.00022	<0.0050	15.4	0.0296	<0.000010	0.0018	0.003	0.04	1.35	<0.00010	7.22	0.000054	9.74	0.405	6.3	<0.000050	<0.0050	0.0198	0.00175
W2	21/08/2013 7:40	<0.05	0.000012	43	0.0019	0.00058	0.00364	1.6	0.0003	<0.0050	14.6	0.0416	<0.000010	0.0017	0.0028	0.057	1.35	0.00019	8.64	<0.000020	9.27	0.378	3.8	<0.000050	<0.0050	0.0592	0.00144
W2	22/08/2013 11:10	<0.05	0.000014	44.4	0.0022	0.00069	0.00378	1.97	0.00036	<0.0050	15.3	0.0523	<0.000010	0.0018	0.0034	0.064	1.34	0.00019	9.54	0.00003	9.26	0.397	3.9	<0.000050	<0.0050	0.0408	0.00142
W2	27/08/2013 10:15	<0.05	0.000029	43.9	0.0039	0.0012	0.0046	3.38	0.00062	<0.0050	13.9	0.103	<0.000010	0.0014	0.0046	0.098	1.22	0.00015	10.4	<0.000020	8.55	0.33	3.4	<0.000050	<0.0050	0.0614	0.00115
W2	03/09/2013 15:50	<0.05	0.000022	42.6	0.0044	0.00143	0.00562	3.87	0.00075	<0.0050	13.7	0.134	<0.000010	0.0012	0.0049	0.111	1.17	0.0003	10.7	<0.000020	8.14	0.328	4.7	<0.000050	<0.0050	0.0748	0.00111
W2	09/09/2013 12:45	<0.05	<0.000010	44.6	0.001	<0.00050	0.00238	1.26	<0.00020	<0.0050	14.1	0.0478	<0.000010	0.0017	0.0023	0.039	1.23	<0.00010	7.94	<0.000020	8.76	0.367	3.9	<0.000050	<0.0050	0.0141	0.00127
W2	18/09/2013 10:15	<0.05	0.000036	39.2	0.0062	0.00202	0.00707	4.86	0.00111	<0.0050	12.3	0.198	<0.000010	0.0012	0.0068	0.14	1.13	0.00022	11.7	<0.000020	7.21	0.303	<3.0	<0.000050	<0.0050	0.119	0.00107
W2	20/09/2013 12:50	<0.05	0.000149	51.7	0.0185	0.00669	0.0274	15.8	0.004	0.0065	18.4	0.586	<0.000010	0.0016	0.0186	0.469	2.2	0.00039	24.5	0.000089	8.96	0.403	5.5	0.000088	<0.0050	0.343	0.0017
W2	24/09/2013 9:50	<0.05	0.00003	38.3	0.0028	0.00105	0.00512	2.61	0.00053	<0.0050	12	0.138	<0.000010	0.001	0.0043	0.104	1.07	0.00014	8.98	<0.000020	7.26	0.302	4.2	<0.000050	<0.0050	0.05	0.00098
W2	03/10/2013 10:10	<0.05	0.000036	40.8	<0.0010	0.00051	0.00273	1.36	<0.00020	<0.0050	13.6	0.0816	<0.000010	0.001	0.0035	0.066	1.18	<0.00010	7.93	0.000023	8.57	0.307	6	<0.000050	<0.0050	0.0167	0.00095
W2	11/10/2013 11:15	<0.05	0.000014	43.6	0.0015	<0.00050	0.00345	1.38	0.00025	<0.0050	14.1	0.0727	<0.000010	0.0011	0.0027	0.054	1.09	0.00017	8	<0.000020	7.79	0.34	5.9	<0.000050	<0.0050	0.0253	0.00116
W2	18/10/2013 9:30	<0.05	<0.000010	42.1	<0.0010	<0.00050	0.00189	0.758	<0.00020	<0.0050	13.7	0.0603	<0.000010	0.0011	0.0018	0.037	1.05	0.00011	7.3	<0.000020	8.22	0.338	4.9	<0.000050	<0.0050	0.0074	0.00118
W2	21/10/2013 6:40	<0.05	<0.000010	42.4	<0.0010	<0.00050	0.00185	0.644	<0.00020	<0.0050	13.9	0.0415	<0.000010	0.0014	0.0021	0.026	1.02	0.00014	7.33	<0.000020	8.47	0.345	3.9	<0.000050	<0.0050	<0.0050	0.00118
W2	31/10/2013 13:50	<0.05	<0.000010	45.6	0.0012	<0.00050	0.0025	0.983	<0.00020	<0.0050	14.3	0.0683	<0.000010	0.0013	0.0026	0.04	1.14	0.00013	7.68	<0.000020	8.38	0.358	5.2	<0.000050	<0.0050	0.0174	0.00111
W2	08/11/2013 14:10	<0.05	<0.000010	50.6	<0.0010	<0.00050	0.00192	0.237	<0.00020	<0.0050	17.3	0.0168	<0.000010	0.0014	0.0011	0.015	1.37	0.00018	8.14	0.000021	9.81	0.436	8.2	<0.000050	<0.0050	<0.0050	0.00149
W2	14/11/2013 14:00	<0.05	<0.000010	54.6	<0.0010	<0.00050	0.00227	0.292	<0.00020	<0.0050	18.2	0.0288	<0.000010	0.0014	0.0014	0.018	1.5	<0.00010	7.14	<0.000020	10.9	0.46	8.1	<0.000050	<0.0050	0.0065	0.00208
W2	18/11/2013 14:50	<0.05	0.000051	59.7	0.004	0.00234	0.0101	4.25	0.00134	<0.0050	18.8	0.199	<0.000010	0.001	0.0066	0.248	1.7	0.00017	9.96	<0.000020	11	0.518	7.9	<0.000050	<0.0050	0.0717	0.00242
W2	17/03/2014 15:00																										
W2	27/05/2014 7:45	<0.05	0.000078	34.4	0.0073	0.00295	0.0212	6.61	0.00199	<0.0050	11.9	0.21	<0.000010	0.0022	0.0088	0.195	2.31	0.00037	11.1	0.000028	8.79	0.411	8.7	<0.000050	<0.0050	0.137	0.0012
W2	07/06/2014 15:20	<0.05	<0.000010	34.2	0.0016	0.00068	0.00561	1.83	0.00046	<0.0050	11	0.0419	<0.000010	0.0015	0.0029	0.056	1.42	0.00019	6.91	<0.000020	7.76	0.313	3.1	<0.000050	<0.0050	0.0373	0.00118
W2	12/06/2014 17:00																										
W2	12/06/2014 17:00	<0.05	0.00002	35.1	0.0024	0.00081	0.00528	2.32	0.00055	<0.0050	12.7	0.0481	<0.000010	0.0013	0.0033	0.058	1.63	0.00011	6.6	<0.000020	8.31	0.347	5.3	<0.000050	<0.0050	0.0419	0.00135
W2	20/06/2014 15:00																										
W2	20/06/2014 15:00	<0.05	<0.000010	39.7	<0.0010	<0.00050	0.00302	0.247	<0.00020	<0.0050	13.5	0.0126	<0.000010	0.0017	0.0013	0.014	1.43	0.00013	5.5	<0.000020	8.44	0.385	5.1	<0.000050	<0.0050	<0.0050	0.00156
W2	24/06/2014 15:00																										
W2	24/06/2014 15:00	<0.05	<0.000010	36.8	<0.0010	<0.00050	0.00228	0.2	<0.00020	<0.0050	14.2	0.0115	<0.000010	0.0016	0.0016	<0.01	1.43	0.00011	3.9	<0.000020	9.44	0.381	7.2	<0.000050	<0.0050	<0.0050	0.00159
W2	30/06/2014 7:45	<0.05	0.00002	43.1	<0.0010	<0.00050	0.00341	0.119	<0.00020	<0.0050	14.3	0.0164	<0.000010	0.0016	0.0011	0.025	1.57	0.00013	5.49	0.000044	9.51	0.416	7.6	<0.000050	<0.0050	<0.0050	0.00159
W2	01/07/2014 15:00																										
W2	09/07/2014 10:35																										
W2	09/07/2014 10:35	<0.05	0.00002	43.6	<0.0010	<0.00050	0.0243	0.281	<0.00020	<0.0050	14.7	0.0221	<0.000010	0.0017	0.0012	0.024	1.56	0.00014	5.37	<0.000020	9.87	0.447	6.8	<0.000050	<0.0050	0.007	0.00163
W2	17/07/2014 14:45																										
W2	17/07/2014 14:45	<0.05	<0.000010	45.6	<0.0010	<0.00050	0.00272	0.112	<0.00020	<0.0050	14.6	0.0256	<0.000010	0.0015	0.0011	0.014	1.49	0.00013	5.53	<0.000020	9.82	0.441	7.9	<0.000050	<0.0050	<0.0050	0.00186
W2	23/07/2014 7:40																										
W2	23/07/2014 14:30	<0.05	<0.000010	38	<0.0010	<0.00050	0.00301	0.835	0.00022	<0.0050	12.7	0.029	<0.000010	0.0017	0.002	0.028	1.24	0.0001	6.32	<0.000020	8.86	0.38	5.3	<0.000050	<0.0050	0.0129	0.0012
W2	29/07/2014 14:20																										
W2	29/07/2014 14:20	<0.05	0.000012	42.7	<0.0010	<0.00050	0.00342	0.932	0.00021	<0.0050	13.5	0.045	<0.000010	0.0014	0.0021	0.026	1.37	0.00018	7.03	<0.000020	9.08	0.393	4.4	<0.000050	<0.0050	0.0159	0.00141
W2	07/08/2014 9:40																										

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W2	23/08/2012 7:15	<0.0050	0.0056	<0.00050	0.0293	<0.00050	0.00095	0.0766	<0.00010	<0.0010	<0.05	<0.000010	40.3	High DL removed	<0.00050	0.00172	0.625	<0.00020	<0.0050	13.4	0.0428	<0.000010	0.0016	0.0014	0.024	1.22
W2	25/08/2012 16:30	0.0145	0.018	0.00102	0.0284	<0.00050	0.00094	0.0759	<0.00010	<0.0010	<0.05	<0.000010	42.1	High DL removed	<0.00050	0.00188	0.51	<0.00020	<0.0050	12.8	0.0605	<0.000010	0.0016	0.0014	0.022	1.23
W2	27/08/2012 11:50	0.0113	0.0144	0.00096	0.0219	<0.00050	0.00084	0.0728	<0.00010	<0.0010	<0.05	<0.000010	39.1	High DL removed	<0.00050	0.00164	0.609	<0.00020	<0.0050	12.6	0.0637	<0.000010	0.0015	0.0016	0.023	1.13
W2	03/09/2012 16:12	<0.0050	<0.0050	0.00067	0.0184	<0.00050	0.00095	0.0718	<0.00010	<0.0010	<0.05	<0.000010	40.4	High DL removed	<0.00050	0.00183	0.683	<0.00020	<0.0050	12.7	0.0705	<0.000010	0.0014	0.0017	0.024	1.07
W2	12/09/2012 14:10	0.0123	0.0154	0.00092	0.0253	<0.00050	0.00078	0.0629	<0.00010	<0.0010	<0.05	<0.000010	36.4	High DL removed	<0.00050	0.0022	0.56	<0.00020	<0.0050	10.8	0.0822	<0.000010	<0.0010	0.0019	0.021	0.815
W2	19/09/2012 14:40	<0.0050	<0.0050	<0.00050	0.0184	<0.00050	0.00087	0.0679	<0.00010	<0.0010	<0.05	<0.000010	41.3	High DL removed	<0.00050	0.00183	0.699	<0.00020	<0.0050	12.2	0.0854	<0.000010	0.0012	0.0017	0.023	0.992
W2	24/09/2012 17:10	<0.0050	<0.0050	<0.00050	0.0155	<0.00050	0.0008	0.0688	<0.00010	<0.0010	<0.05	<0.000010	40.3	High DL removed	<0.00050	0.00162	0.558	<0.00020	<0.0050	11.8	0.0662	<0.000010	0.0012	0.0016	0.02	1.1
W2	04/10/2012 14:45	<0.0050	<0.0050	<0.00050																		<0.000010				
W2	12/10/2012 15:30	<0.0050	<0.0050	<0.00050																		<0.000010				
W2	16/10/2012 10:49	<0.0050	<0.0050	<0.00050	0.0129	<0.00050	0.00069	0.062	<0.00010	<0.0010	<0.05	0.000023	45	High DL removed	<0.00050	0.00167	0.546	<0.00020	<0.0050	12.2	0.0604	<0.000010	0.0011	0.0015	0.021	0.937
W2	19/10/2012 17:30	<0.0050	<0.0050	<0.00050																						
W2	22/10/2012 7:45	<0.0050	<0.0050	<0.00050	0.0102	<0.00050	0.00056	0.0727	<0.00010	<0.0010	<0.05	<0.000010	45.8	High DL removed	<0.00050	0.00172	0.3	<0.00020	<0.0050	14.8	0.0312	<0.000010	0.0014	0.0015	0.015	1.15
W2	11/11/2012 8:30	<0.0050	<0.0050	<0.00050	0.0059	<0.00050	0.00032	0.0832	<0.00010	<0.0010	<0.05	<0.000010	43.4	High DL removed	<0.00050	0.00196	0.0272	<0.00020	<0.0050	14.2	0.0376	<0.000010	0.001	0.0012	<0.01	1.49
W2	12/04/2013 10:00	<0.0050	<0.0050	<0.00050	0.0147	<0.00050	0.00101	0.156	<0.00010	<0.0010	<0.05	0.000011	73.2	High DL removed	<0.00050	0.0161	0.0512	<0.00020	<0.0050	31.1	0.0538	<0.000010	<0.0010	0.0016	0.065	8.95
W2	16/04/2013 17:00	<0.0050	0.0055	<0.00050	0.011	<0.00050	0.00075	0.108	<0.00010	<0.0010	<0.05	<0.000010	59	High DL removed	<0.00050	0.012	0.0354	<0.00020	<0.0050	24.7	0.0297	<0.000010	<0.0010	0.0012	0.039	5.97
W2	24/05/2013 15:20	0.0075	0.0101	0.00071	0.0241	<0.00050	0.00059	0.0444	<0.00010	<0.0010	<0.05	<0.000010	19.1	High DL removed	<0.00050	0.011	0.385	<0.00020	<0.0050	6.16	0.119	<0.000010	0.0016	0.0012	0.02	1.69
W2	29/05/2013 7:00	0.0159	0.0181	0.001	0.0199	<0.00050	0.00067	0.0557	<0.00010	<0.0010	<0.05	<0.000010	24	High DL removed	<0.00050	0.0076	0.572	<0.00020	<0.0050	7.43	0.271	<0.000010	0.0025	0.0013	0.019	1.97
W2	31/05/2013 14:40	0.024	0.029	0.0017	0.0224	<0.00050	0.00085	0.0607	<0.00010	<0.0010	<0.05	<0.000010	28.6	High DL removed	<0.00050	0.00769	0.635	<0.00020	<0.0050	8.74	0.182	<0.000010	0.0029	0.0013	0.021	2.26
W2	06/06/2013 9:30	0.0128	0.0135	0.00104	0.0196	<0.00050	0.00096	0.0535	<0.00010	<0.0010	<0.05	<0.000010	29.2	High DL removed	<0.00050	0.00216	0.68	<0.00020	<0.0050	9.22	0.0652	<0.000010	0.0014	0.0016	0.023	1.15
W2	16/06/2013 11:00	0.0109	0.0129	0.00078	0.0168	<0.00050	0.00093	0.0605	<0.00010	<0.0010	<0.05	<0.000010	32.8	High DL removed	<0.00050	0.00194	0.367	<0.00020	<0.0050	10.2	0.0256	<0.000010	0.0015	0.0015	0.02	1.11
W2	18/06/2013 9:20	0.0074	0.008	0.00078	0.0186	<0.00050	0.00083	0.0608	<0.00010	<0.0010	<0.05	<0.000010	34.3	High DL removed	<0.00050	0.00273	0.371	<0.00020	<0.0050	10.6	0.0154	<0.000010	0.0016	0.0013	0.021	1.16
W2	25/06/2013 9:15	<0.0050	<0.0050	<0.00050	0.018	<0.00050	0.00063	0.0663	<0.00010	<0.0010	<0.05	<0.000010	38.2	High DL removed	<0.00050	0.00201	0.168	<0.00020	<0.0050	12.7	0.0122	<0.000010	0.0017	0.0012	0.016	1.42
W2	02/07/2013 8:45	0.0237	0.0259	0.00191	0.0259	<0.00050	0.00099	0.0611	<0.00010	<0.0010	<0.05	<0.000010	33.2	High DL removed	<0.00050	0.00182	0.337	<0.00020	<0.0050	10.4	0.0165	<0.000010	0.0017	0.0016	0.018	1.02
W2	11/07/2013 12:25	0.012	0.0113	0.00081	0.028	<0.00050	0.00081	0.0601	<0.00010	<0.0010	<0.05	<0.000010	33.6	High DL removed	<0.00050	0.00182	0.317	<0.00020	<0.0050	11.2	0.0128	<0.000010	0.0015	0.0014	0.018	0.971
W2	19/07/2013 8:45	<0.0050	<0.0050	<0.00050	0.0164	<0.00050	0.00073	0.0669	<0.00010	<0.0010	<0.05	<0.000010	42.5	High DL removed	<0.00050	0.00176	0.297	<0.00020	<0.0050	13.3	0.0092	<0.000010	0.0017	0.0014	0.02	1.35
W2	23/07/2013 10:20	0.0531	0.0491	0.00362	0.0346	<0.00050	0.00081	0.0598	<0.00010	<0.0010	<0.05	<0.000010	31.4	High DL removed	<0.00050	0.00227	0.414	<0.00020	<0.0050	10.4	0.0441	<0.000010	0.0012	0.0018	0.022	0.767
W2	30/07/2013 12:00	0.0067	0.0066	0.00058	0.0291	<0.00050	0.00091	0.0654	<0.00010	<0.0010	<0.05	<0.000010	39.3	High DL removed	<0.00050	0.00231	0.495	<0.00020	<0.0050	11.5	0.0149	<0.000010	0.0014	0.0018	0.027	1.06
W2	08/08/2013 14:20	<0.0050	<0.0050	0.00067	0.0197	<0.00050	0.00088	0.0678	<0.00010	<0.0010	<0.05	<0.000010	38	High DL removed	<0.00050	0.00172	0.371	<0.00020	<0.0050	12.2	0.0121	<0.000010	0.0016	0.0015	0.02	1.13
W2	16/08/2013 10:55	<0.0050	<0.0050	<0.00050	0.0193	<0.00050	0.00075	0.0681	<0.00010	<0.0010	<0.05	<0.000010	41.4	High DL removed	<0.00050	0.00177	0.349	<0.00020	<0.0050	12.6	0.0091	<0.000010	0.0017	0.0014	0.02	1.19
W2	21/08/2013 7:40	<0.0050	<0.0050	<0.00050	0.0184	<0.00050	0.00077	0.0666	<0.00010	<0.0010	<0.05	<0.000010	42	High DL removed	<0.00050	0.00168	0.393	<0.00020	<0.0050	13.2	0.0104	<0.000010	0.0016	0.0013	0.02	1.21
W2	22/08/2013 11:10	<0.0050	<0.0050	0.00059	0.0183	<0.00050	0.00085	0.0657	<0.00010	<0.0010	<0.05	<0.000010	40.9	High DL removed	<0.00050	0.00161	0.363	<0.00020	<0.0050	13.3	0.0129	<0.000010	0.0015	0.0015	0.018	1.12
W2	27/08/2013 10:15	0.0062	0.0063	0.00104	0.0236	<0.00050	0.00083	0.0694	<0.00010	<0.0010	<0.05	<0.000010	38.5	High DL removed	<0.00050	0.00147	0.487	<0.00020	<0.0050	12.1	0.0324	<0.000010	0.0013	0.0016	0.025	1.01
W2	03/09/2013 15:50	0.0081	0.0074	0.00069	0.0263	<0.00050	0.00093	0.0678	<0.00010	<0.0010	<0.05	<0.000010	36.1	High DL removed	<0.00050	0.00169	0.526	<0.00020	<0.0050	12.1	0.038	<0.000010	0.0012	0.0017	0.025	0.91
W2	09/09/2013 12:45	<0.0050	<0.0050	<0.00050	0.0179	<0.00050	0.00097	0.0739	<0.00010	<0.0010	<0.05	<0.000010	43.7	High DL removed	<0.00050	0.00165	0.579	<0.00020	<0.0050	12.8	0.0304	<0.000010	0.0016	0.0017	0.019	1.18
W2	18/09/2013 10:15	0.01	0.0097	0.00085	0.0223	<0.00050	0.00085	0.0639	<0.00010	<0.0010	<0.05	<0.000010	39	High DL removed	<0.00050	0.00169	0.46	<0.00020	<0.0050	11.5	0.0685	<0.000010	0.0011	0.0017	0.02	0.993
W2	20/09/2013 12:50	0.0292	0.0365	0.00207	0.022	<0.00050	0.00084	0.067	<0.00010	<0.0010	<0.05	<0.000010	42	High DL removed	<0.00050	0.00219	0.477	<0.00020	<0.0050	11.7	0.0644	<0.000010	0.0012	0.0017	0.02	1
W2	24/09/2013 9:50	<0.0050	0.0055	0.00075	0.0196	<0.00050	0.00083	0.0631	<0.00010	<0.0010	<0.05	<0.000010	37.7	High DL removed	<0.00050	0.00187	0.536	<0.00020	<0.0050	11.6	0.0664	<0.000010	<0.0010	0.0018	0.023	0.833
W2	03/10/2013 10:10	<0.0050	0.0051	<0.00050	0.0155	<0.00050	0.00081	0.0633	<0.00010	<0.0010	<0.05	<0.000010	38.7	High DL removed	<0.00050	0.00167	0.598	<0.00020	<0.0050	12.7	0.057	<0.000010	0.0012	0.002	0.022	0.989
W2	11/10/2013 11:15	<0.0050	<0.0050	<0.00050	0.0206	<0.00050	0.00073	0.0636	<0.00010	<0.0010	<0.05	<0.000010	42.9	High DL removed	<0.00050	0.00193	0.495	<0.00020	<0.0050	13.2	0.0434	<0.000010	0.001	0.0016	0.023	1.03
W2	18/10/2013 9:30	<0.0050	<0.0050	<0.00050	0.0115	<0.00050	0.0007	0.063	<0.00010	<0.0010	<0.05	<0.000010	42.3	High DL removed	<0.00050	0.00142	0.504	<0.00020	<0.0050	12.8	0.0457	<0.000010	0.0011	0.0014	0.022	1.03
W2	21/10/2013 6:40	<0.0050	<0.0050	<0.00050	0.0113	<0.00050	0.00071	0.068	<0.00010	<0.0010	<0.05	<0.000010	43.8	High DL removed	<0.00050	0.00155	0.466	<0.00020	<0.0050	13.3	0.0382	<0.000010	0.0013	0.0015	0.02	1.06
W2	31/10/2013 13:50	<0.0050	<0.0050	<0.00050	0.0097	<0.00050	0.00055	0.064	<0.00010	<0.0010	<0.05	<0.000010	41.2	High DL removed	<0.00050	0.00134	0.224	<0.00020	<0.0050	13.1	0.0396	<0.000010	0.0012	0.0013	0.014	1.07
W2	08/11/2013 14:10	<0.0050	<0.0050	<0.00050	0.0072	<0.00050	0.00044	0.0696	<0.00010	<0.0010	<0.05	<0.000010	47.1	High DL removed	<0.00050	0.00145	0.128	<0.00020	<0.0050	15.4	0.0128	<0.000010	0.0013	0.0012	0.013	1.27
W2	14/11/2013 14:00	<0.0050	<0.0050	<0.00050	0.0062	<0.00050	0.00043	0.0772	<0.00010	<0.0010	<0.05	<0.000010	47	High DL removed	<0.00050	0.0017	0.0782	<0.00020	<0.0050	15.3	0.0201	<0.000010	0.0014	0.0011	<0.01	1.34
W2	18/11/2013 14:50	0.0079	0.0139	0.00059	0.0061	<0.00050	0.00039	0.0825	<0.00010	<0.0010	<0.05	<0.000010	56.7	High DL removed	<0.00050	0.00178	0.0795	<0.00020	<0.0050	17.9	0.0294	<0.000010	0.0014	0.0013	0.014	1.6
W2	17/03/2014 15:00																									
W2	27/05/2014 7:45	0.0135	0.0191	0.00091	0.014	<0.00050	0.00061	0.0678	<0.00010	<0.0010	<0.05	<0.000010	31.5	High DL removed	<0.00050	0.00522	0.345	<0.00020	<0.0050	9.64	0.0042	<0.000010	0.0022	0.0015	0.016	1.89
W2	07/06/2014 15:20	<0.0050	0.0077	<0.00050	0.0149	<0.00050	0.00065	0.0587	<0.00010	<0.0010	<0.05	<0.000010	34.5	High DL removed	<0.00050	0.0026	0.205	<0.00020	<0.0050	10.7	0.0122	<0.000010	0.0014	0.0013	0.015	1.23
W2	12/06/2014 17:00													High DL removed												
W2	12/06/2014 17:00	0.0052	0.0084	<0.00050	0.0112	<0.00050	0.00061	0.0631	<0.00010	<0.0010	<0.05	<0.000010	34.8	High DL removed	<0.00050	0.00192	0.142	<0.00020	<0.0050	11.1	0.0128	<0.000010	0.0014	0.0013	0.012	1.32
W2	20/06/2014 15:00													0.0023												
W2	20/06/2014 15:00	<0.0050	<0.0050	<0.00050	0.0137	<0.00050	0.00052	0.0632	<0.00010	<0.0010	<0.05	<0.000010	37.8	High DL removed	<0.00050	0.00223	0.116	<0.00020	<0.0050	12.9	0.0089	<0.000010	0.0016	0.001	0.01	1.38
W2	24/06/2014 15:00													High DL removed												
W2	24/06/2014 15:00	<0.0050	<0.0050	<0.00050	0.0118	<0.00050	0.0005	0.0668	<0.00010	<0.0010	<0.05	<0.000010	39.6	High DL removed	<0.00050	0.00206	0.103	<0.00020	<0.0050	12.9	0.0093	<0.000010	0.0016	0.0011	<0.01	1.41
W2	30/06/2014 7:45	<0.0050	0.0053	<0.00050	0.0118	<0.00050	0.00045	0.0684	<0.00010	<0.0010	<0.05	<0.000010	41.1	High DL removed	<0.00050	0.0022	0.0555	<0.00020	<0.0050	13.4	0.015	<0.000010	0.0016	0.0019	<0.01	1.52
W2	01/07/2014 15:00													High DL removed												
W2	09/07/2014 10:35													High DL removed												
W2	09/07/2014 10:35	<0.0050	0.007	<0.00050	0.0091	<0.00050	0.00045	0.0697	<0.00010	<0.0010	<0.05	0.000014	40.9	High DL removed	<0.00050	0.0023	0.0616	<0.00020	<0.0050	13.4	0.0148	<0.000010	0.0015	<0.0010	<0.01	1.46
W2	17/07/2014 14:45													High DL removed												
W2	17/07/2014 14:45	<0.0050	<0.0050	<0.00050	0.0062	<0.00050	0.00044	0.0701	<0.00010	<0.0010	<0.05	<0.000010	43.1	High DL removed	<0.00050	0.0021	0.0533	<0.00020	<0.0050	14.9	0.0221	<0.000010	0.0013	0.0012	<0.01	1.45
W2	23/07/2014 7:40													High DL removed												
W2	23/07/2014 14:30	<0.0050	<0.0050	<0.00050	0.0131	<0.00050	0.00066	0.0562	<0.00010	<0.0010	<0.05	<0.000010	35.6	High DL removed	<0.00050	0.00226	0.189	<0.00020	<0.0050	12.3	0.0066	<0.000010	0.0014	0.0013	0.02	1.09
W2	29/07/2014 14:20													High DL removed												
W2	29/07/2014 14:20	<0.0050	<0.0050	<0.00050	0.0181	<0.00050	0.00045	0.0627	<0.00010	<0.0010	<0.05	<0.000010	42.2	High DL removed	<0.00050	0.00195	0.221	<0.00020	<0.0050	13.1	0.0063	<0.000010	0.0013	0.0013	0.014	1.41
W2	07/08/2014 9:40													High DL removed												

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	Br	Cation	CN-T	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-TKN	P-PO4T	P-TDP	P-TRP
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L
W2	23/08/2012 7:15	0.00011	6.78	<0.000020	8.24	0.346	4.8	<0.000050	<0.0050	<0.0050	0.00136	<0.0050	<0.0050	<0.00050	194	<0.50	<0.50	<0.50									13.1			0.104		
W2	25/08/2012 16:30	0.00011	6.96	<0.000020	7.88	0.338	4.2	<0.000050	<0.0050	<0.0050	0.00137	<0.0050	<0.0050	<0.00050	193	<0.50	<0.50	<0.50														
W2	27/08/2012 11:50	0.00015	6.85	<0.000020	7.64	0.326	3.8	<0.000050	<0.0050	<0.0050	0.00122	<0.0050	<0.0050	<0.00050	186	2.27	<0.50	1.89														
W2	03/09/2012 16:12	<0.00010	6.94	<0.000020	7.63	0.333	4.2	<0.000050	<0.0050	<0.0050	0.00117	<0.0050	<0.0050	<0.00050	188	<0.50	<0.50	<0.50														
W2	12/09/2012 14:10	0.00012	6.6	<0.000020	6.68	0.263	3.8	<0.000050	<0.0050	<0.0050	0.00081	<0.0050	<0.0050	<0.00050	155	<0.50	<0.50	<0.50									20					
W2	19/09/2012 14:40	<0.00010	7.25	<0.000020	7.47	0.309	4	<0.000050	<0.0050	<0.0050	0.00101	<0.0050	<0.0050	<0.00050	177	<0.50	<0.50	<0.50														
W2	24/09/2012 17:10	0.00014	7.12	<0.000020	7.08	0.315	4.4	<0.000050	<0.0050	<0.0050	0.00101	<0.0050	<0.0050	<0.00050	179	<0.50	<0.50	<0.50														
W2	04/10/2012 14:45														175	<0.50	<0.50	<0.50														
W2	12/10/2012 15:30														184	<0.50	<0.50	<0.50														
W2	16/10/2012 10:49	0.00013	7.39	<0.000020	7.28	0.311	4.5	<0.000050	<0.0050	<0.0050	0.00103	<0.0050	<0.0050	<0.00050	176	<0.50	<0.50	<0.50									13.2					
W2	19/10/2012 17:30														180	<0.50	<0.50	<0.50														
W2	22/10/2012 7:45	0.00016	7.59	<0.000020	8.56	0.386	6.2	<0.000050	<0.0050	<0.0050	0.00128	<0.0050	<0.0050	<0.00050	208	<0.50	<0.50	<0.50														
W2	11/11/2012 8:30	0.00017	5.69	<0.000020	8.5	0.448	8.8	<0.000050	<0.0050	<0.0050	0.00196	<0.0050	<0.0050	<0.00050	214	<0.50	<0.50	<0.50														
W2	12/04/2013 10:00	0.00027	14.6	<0.000020	26.1	0.613	26.1	<0.000050	<0.0050	<0.0050	0.00171	<0.0050	<0.0050	<0.00050	354	<0.50	<0.50	<0.50														
W2	16/04/2013 17:00	0.00018	11.8	<0.000020	19.4	0.498	17.5	<0.000050	<0.0050	<0.0050	0.00121	<0.0050	<0.0050	<0.00050	280	4.39	<0.50	3.66														
W2	24/05/2013 15:20	0.00017	3.14	<0.000020	5.6	0.172	3.5	<0.000050	<0.0050	<0.0050	0.00042	<0.0050	<0.0050	<0.00050	79.1	<0.50	<0.50	<0.50														
W2	29/05/2013 7:00	0.0002	3.2	<0.000020	6.94	0.268	5	<0.000050	<0.0050	<0.0050	0.00057	<0.0050	<0.0050	<0.00050	102	<0.50	<0.50	<0.50														
W2	31/05/2013 14:40	0.00024	3.93	<0.000020	8.22	0.304	6.2	<0.000050	<0.0050	<0.0050	0.00077	<0.0050	<0.0050	<0.00050	115	<0.50	<0.50	<0.50														
W2	06/06/2013 9:30	0.00012	4.92	<0.000020	6.36	0.229	3.8	<0.000050	<0.0050	<0.0050	0.00089	<0.0050	<0.0050	<0.00050	132	<0.50	<0.50	<0.50														
W2	16/06/2013 11:00	0.00014	5.65	<0.000020	6.89	0.268	4.3	<0.000050	<0.0050	<0.0050	0.00116	<0.0050	<0.0050	<0.00050	151	<0.50	<0.50	<0.50														
W2	18/06/2013 9:20	0.00011	6	<0.000020	7.28	0.283	4.8	<0.000050	<0.0050	<0.0050	0.00124	<0.0050	<0.0050	<0.00050	155	<0.50	<0.50	<0.50														
W2	25/06/2013 9:15	0.00014	5.84	<0.000020	8.54	0.358	6.8	<0.000050	<0.0050	<0.0050	0.00154	<0.0050	<0.0050	<0.00050	178	<0.50	<0.50	<0.50														
W2	02/07/2013 8:45	0.00014	6.19	<0.000020	7.72	0.249	5	<0.000050	<0.0050	<0.0050	0.00122	<0.0050	<0.0050	<0.00050	149	<0.50	<0.50	<0.50														
W2	11/07/2013 12:25	0.00017	6.33	<0.000020	7.58	0.275	4.4	<0.000050	<0.0050	<0.0050	0.00121	<0.0050	<0.0050	<0.00050	163	<0.50	<0.50	<0.50														
W2	19/07/2013 8:45	0.00012	6.82	<0.000020	8.78	0.361	6.2	<0.000050	<0.0050	<0.0050	0.0014	<0.0050	<0.0050	<0.00050	188	<0.50	<0.50	<0.50														
W2	23/07/2013 10:20	0.00012	6.27	<0.000020	7.15	0.228	<3.0	<0.000050	<0.0050	<0.0050	0.00097	<0.0050	<0.0050	<0.00050	147	<0.50	<0.50	<0.50														
W2	30/07/2013 12:00	0.00014	6.57	<0.000020	7.08	0.273	4.9	<0.000050	<0.0050	<0.0050	0.00121	<0.0050	<0.0050	<0.00050	159	<0.50	<0.50	<0.50														
W2	08/08/2013 14:20	0.00013	6.36	<0.000020	7.74	0.332	5.1	<0.000050	<0.0050	<0.0050	0.00129	<0.0050	<0.0050	<0.00050	181	<0.50	<0.50	<0.50														
W2	16/08/2013 10:55	0.00012	6.84	<0.000020	8.21	0.369	4.3	<0.000050	<0.0050	<0.0050	0.00137	<0.0050	<0.0050	<0.00050	190	<0.50	<0.50	<0.50														
W2	21/08/2013 7:40	0.00013	7.13	<0.000020	8.19	0.359	4.5	<0.000050	<0.0050	<0.0050	0.00133	<0.0050	<0.0050	<0.00050	188	<0.50	<0.50	<0.50														
W2	22/08/2013 11:10	0.00012	6.56	<0.000020	8.3	0.35	4.2	<0.000050	<0.0050	<0.0050	0.00128	<0.0050	<0.0050	<0.00050	190	<0.50	<0.50	<0.50														
W2	27/08/2013 10:15	0.00013	7.23	<0.000020	7.57	0.327	4.3	<0.000050	<0.0050	<0.0050	0.00111	<0.0050	<0.0050	<0.00050	176	<0.50	<0.50	<0.50														
W2	03/09/2013 15:50	0.00013	6.58	<0.000020	7.7	0.298	4	<0.000050	<0.0050	<0.0050	0.00102	<0.0050	<0.0050	<0.00050	173	<0.50	<0.50	<0.50														
W2	09/09/2013 12:45	0.00012	7.36	<0.000020	8.22	0.367	5.2	<0.000050	<0.0050	<0.0050	0.00123	<0.0050	<0.0050	<0.00050	187	<0.50	<0.50	<0.50														
W2	18/09/2013 10:15	<0.00010	7.16	<0.000020	7.29	0.29	4.7	<0.000050	<0.0050	<0.0050	0.00092	<0.0050	<0.0050	<0.00050	171	<0.50	<0.50	<0.50														
W2	20/09/2013 12:50	0.00013	6.94	<0.000020	7.16	0.293	5.1	<0.000050	<0.0050	<0.0050	0.00097	<0.0050	<0.0050	<0.00050	171	<0.50	<0.50	<0.50														
W2	24/09/2013 9:50	0.00011	6.99	<0.000020	7.25	0.28	4.6	<0.000050	<0.0050	<0.0050	0.00091	<0.0050	<0.0050	<0.00050	160	<0.50	<0.50	<0.50														
W2	03/10/2013 10:10	0.00013	6.72	<0.000020	7.76	0.313	4.6	<0.000050	<0.0050	<0.0050	0.00096	<0.0050	<0.0050	<0.00050	173	<0.50	<0.50	<0.50														
W2	11/10/2013 11:15	0.00015	6.64	<0.000020	8.03	0.324	5.9	<0.000050	<0.0050	<0.0050	0.00106	<0.0050	<0.0050	<0.00050	179	<0.50	<0.50	<0.50														
W2	18/10/2013 9:30	0.00014	6.42	<0.000020	8.04	0.322	5.7	<0.000050	<0.0050	<0.0050	0.00115	<0.0050	<0.0050	<0.00050	187	<0.50	<0.50	<0.50														
W2	21/10/2013 6:40	0.00015	7.23	<0.000020	7.85	0.348	5.4	<0.000050	<0.0050	<0.0050	0.00115	<0.0050	<0.0050	<0.00050	182	<0.50	<0.50	<0.50														
W2	31/10/2013 13:50	0.00013	6.66	<0.000020	8	0.349	5.4	<0.000050	<0.0050	<0.0050	0.00118	<0.0050	<0.0050	<0.00050	183	<0.50	<0.50	<0.50														
W2	08/11/2013 14:10	0.00016	7.25	<0.000020	9.3	0.417	7.5	<0.000050	<0.0050	<0.0050	0.00143	<0.0050	<0.0050	<0.00050	209	<0.50	<0.50	<0.50														
W2	14/11/2013 14:00	0.00016	6.64	<0.000020	9.34	0.465	7.4	<0.000050	<0.0050	<0.0050	0.0019	<0.0050	<0.0050	<0.00050	206	3.38	<0.50	2.82														
W2	18/11/2013 14:50	0.00015	7.19	<0.000020	11.1	0.499	9.6	<0.000050	<0.0050	<0.0050	0.00223	<0.0050	<0.0050	<0.00050	225	<0.50	<0.50	<0.50														
W2	17/03/2014 15:00																															
W2	27/05/2014 7:45	0.0003	4.62	<0.000020	7.61	0.363	8.2	<0.000050	<0.0050	<0.0050	0.00053	<0.0050	<0.0050	<0.00050	127	<0.50	<0.50	<0.50														
W2	07/06/2014 15:20	0.00011	5.93	<0.000020	7.44	0.307	4.7	<0.000050	<0.0050	<0.0050	0.00113	<0.0050	<0.0050	<0.00050	152	<0.50	<0.50	<0.50														
W2	12/06/2014 17:00																							<0.0010	<0.0010							
W2	12/06/2014 17:00	0.00012	5.19	<0.000020	8.19	0.329	4.6	<0.000050	<0.0050	<0.0050	0.00123	<0.0050	<0.0050	<0.00050	164	<0.50	<0.50	<0.50														
W2	20/06/2014 15:00																							<0.0010	0.0018							
W2	20/06/2014 15:00	0.00013	5.09	<0.000020	8.9	0.375	6	<0.000050	<0.0050	<0.0050	0.00148	<0.0050	<0.0050	<0.00050	171	<0.50	<0.50	<0.50														
W2	24/06/2014 15:00																							<0.0010	<0.0010							
W2	24/06/2014 15:00	0.00012	4.99	<0.000020	8.84	0.387	6.2	<0.000050	<0.0050	<0.0050	0.00153	<0.0050	<0.0050	<0.00050	180	1.84	<0.50	1.53														
W2	30/06/2014 7:45	0.00011	4.58	<0.000020	8.95	0.418	6.7	<0.000050	<0.0050	<0.0050	0.00156	<0.0050	<0.0050	<0.00050	185	<0.50	<0.50	<0.50														
W2	01/07/2014 15:00																							<0.0010	<0.0010							
W2	09/07/2014 10:35																							<0.0010	<0.0010							
W2	09/07/2014 10:35	0.00013	5.03	<0.000020	8.54	0.42	6.8	<0.000050	<0.0050	<0.0050	0.00156	<0.0050	<0.0050	<0.00050	183	0.95	<0.50	0.79														
W2	17/07/2014 14:45																							<0.0010	<0.0010							
W2	17/07/2014 14:45	0.00021	4.88	<0.000020	9.98	0.419	3.2	<0.000050	<0.0050	<0.0050	0.00179	<0.0050	<0.0050	<0.00050	192	<0.50	<0.50	<0.50														
W2	23/07/2014 7:40																							<0.0010	<0.0010							
W2	23/07/2014 14:30	0.00019	6.09	<0.000020	8.16	0.349	6.9	<0.000050	<0.0050	<0.0050	0.00112	<0.0050	<0.0050	<0.00050	169	<0.50	<0.50	<0.50														
W2	29/07/2014 14:20																							<0.0020	<0.0020							
W2	29/07/2014 14:20	0.00011	6.67	<0.000020	9.17	0.363	5.7	<0.000050	<0.0050	<0.0050	0.00123	<0.0050	<0.0050	<0.00050	188	<0.50	<0.50	<0.50														
W2	07/08/2014 9:40																							<0.0010	<0.0010							

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W2	23/08/2012 7:15			292.8			
W2	25/08/2012 16:30			285.7			
W2	27/08/2012 11:50			279.4			
W2	03/09/2012 16:12			278.7			
W2	12/09/2012 14:10			269.6			
W2	19/09/2012 14:40			288.9			
W2	24/09/2012 17:10			295.6			
W2	04/10/2012 14:45						
W2	12/10/2012 15:30			309.6			
W2	16/10/2012 10:49			293.7			
W2	19/10/2012 17:30			300.3			
W2	22/10/2012 7:45			350			
W2	11/11/2012 8:30			178.8			
W2	12/04/2013 10:00						
W2	16/04/2013 17:00						
W2	24/05/2013 15:20			146.6			
W2	29/05/2013 7:00			214.7			
W2	31/05/2013 14:40			242.6			
W2	06/06/2013 9:30			220.2			
W2	16/06/2013 11:00						
W2	18/06/2013 9:20						
W2	25/06/2013 9:15			278.1			
W2	02/07/2013 8:45			249.1			
W2	11/07/2013 12:25			279.3			
W2	19/07/2013 8:45			300.7			
W2	23/07/2013 10:20			220.9			
W2	30/07/2013 12:00			275.1			
W2	08/08/2013 14:20			305.4			
W2	16/08/2013 10:55						
W2	21/08/2013 7:40			312.7			
W2	22/08/2013 11:10			318.9			
W2	27/08/2013 10:15			304.1			
W2	03/09/2013 15:50			296.4			
W2	09/09/2013 12:45			316.4			
W2	18/09/2013 10:15			291.4			
W2	20/09/2013 12:50			290			
W2	24/09/2013 9:50			288.6			
W2	03/10/2013 10:10			302.5			
W2	11/10/2013 11:15			310.3			
W2	18/10/2013 9:30			312.9			
W2	21/10/2013 6:40			314			
W2	31/10/2013 13:50			317			
W2	08/11/2013 14:10			334.3			
W2	14/11/2013 14:00			328.7			
W2	18/11/2013 14:50			405.9			
W2	17/03/2014 15:00			203.2			
W2	27/05/2014 7:45			294.4			
W2	07/06/2014 15:20			267.3			
W2	12/06/2014 17:00						
W2	12/06/2014 17:00			282.5			
W2	20/06/2014 15:00			352.8			
W2	20/06/2014 15:00			352.8			
W2	24/06/2014 15:00			363.9			
W2	24/06/2014 15:00			363.9			
W2	30/06/2014 7:45			345.5			
W2	01/07/2014 15:00			340			
W2	09/07/2014 10:35			378.8			
W2	09/07/2014 10:35			378.8			
W2	17/07/2014 14:45			301.2			
W2	17/07/2014 14:45			301.2			
W2	23/07/2014 7:40			326.4			
W2	23/07/2014 14:30			265.8			
W2	29/07/2014 14:20			335.9			
W2	29/07/2014 14:20			335.9			
W2	07/08/2014 9:40			366.1			

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Phase	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
				mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W2	07/08/2014 9:40	No Discharge	P	4.2	196	8.08	8.17	237.1	333	6.6	13.72	111.6	211.1	180	164	154	1.8	0.34	18.4	0.014	<0.0050	0.118	10.4	0.156	<0.00050	0.00072	0.0754	<0.00010	<0.0010
W2	11/08/2014 7:35	No Discharge	M			8.12		245.2		7.5	10.12	84.4	122.3																
W2	13/08/2014 14:30	No Discharge	M			8.16		237.2		8	11.25	95	138.1																
W2	13/08/2014 14:30	No Discharge	P	4.4	208	8.16	8.27	237.2	345	8	11.25	95	138.1	194	167	165	1.9	0.35	18.1	0.014	<0.0050	0.107	9.07	0.0948	<0.00050	0.00068	0.0765	<0.00010	<0.0010
W2	18/08/2014 15:40	No Discharge	M			8.22		234.6		7.5	11.64	97	154																
W2	18/08/2014 15:40	No Discharge	P	11.4	210	8.22	8.31	234.6	343	7.5	11.64	97	154	170	160	165	2.2	0.35	17.8	0.015	<0.0050	0.063	10.8	0.0756	<0.00050	0.00066	0.0648	<0.00010	<0.0010
W2	26/08/2014 9:00	No Discharge	M			8.21		229.1		5.9	12.36	99.1	193.3																
W2	26/08/2014 9:00	No Discharge	P	7.3	216	8.21	8.22	229.1	339	5.9	12.36	99.1	193.3	165	158	160	1.5	0.35	14.8	0.061	<0.0050	0.072	10.2	0.18	<0.00050	0.00074	0.0698	<0.00010	<0.0010
W2	01/09/2014 14:00	No Discharge	M			8.22		196.7		2.9	13.51	100.1	141.1																
W2	01/09/2014 14:00	No Discharge	P	2	202	8.22	8.33	196.7	343	2.9	13.51	100.1	141.1	163	169	166	1.8	0.34	16	0.039	<0.0050	0.056	9.45	0.0209	<0.00050	0.00055	0.0614	<0.00010	<0.0010
W2	03/09/2014 14:30	No Discharge	M			8.26		200.6		3.5	13.45	101.7	154.5																
W2	11/09/2014 15:40	No Discharge	M			7.89		200.4		3.9	14.84	113.1	196.6																
W2	11/09/2014 15:40	No Discharge	P	2.4	236	7.89	8.34	200.4	336	3.9	14.84	113.1	196.6	169	160	165	2	0.36	16.1	0.016	<0.0050	<0.020	9.18	0.0266	<0.00050	0.00077	0.0651	<0.00010	<0.0010
W2	16/09/2014 11:05	No Discharge	M			8.10		187.8		4.2	12.23	93.7	167.6																
W2	16/09/2014 11:05	No Discharge	P	3.3	224	8.10	8.2	187.8	339	4.2	12.23	93.7	167.6	169	160	160	2.1	0.36	17.4	0.022	<0.0050	<0.020	9.7	0.029	<0.00050	0.00041	0.0674	<0.00010	<0.0010
W2	22/09/2014 14:55	No Discharge	M			8.21		187.5		3	12.96	96.5	180.4																
W2	22/09/2014 14:55	No Discharge	P	19.7	210	8.21	8.34	187.5	325	3	12.96	96.5	180.4	177	152	162	1.8	0.36	14.4	0.019	<0.0050	<0.020	11	0.315	<0.00050	0.00087	0.0707	<0.00010	<0.0010
W2	30/09/2014 14:45	No Discharge	M			8.13		157.8		-0.1	14.54	99	149.8																
W2	30/09/2014 14:45	No Discharge	P	6.9	192	8.13	8.13	157.8	296	-0.1	14.54	99	149.8	155	139	139	3.1	0.31	15	0.013	<0.0050	0.058	12	0.168	<0.00050	0.00073	0.0629	<0.00010	<0.0010
W2	07/10/2014 13:40	No Discharge	M			8.16		159.8		-1.2	15.21	100.7	148.7																
W2	07/10/2014 13:40	No Discharge	P	5.3	210	8.16	8.19	159.8	324	-1.2	15.21	100.7	148.7	169	165	157	1.9	0.31	16.7	0.023	<0.0050	0.088	10.4	0.0544	<0.00050	0.00058	0.0618	<0.00010	<0.0010
W2	14/10/2014 15:10	No Discharge	P	<1.0	198	7.80	8.23	172.3	321	-0.8	14.74	98.5	200.5	164	158	155	1.8	0.3	15.7	0.0063	<0.0050	0.143	10.2	0.0318	<0.00050	0.00063	0.0578	<0.00010	<0.0010
W2	25/10/2014 14:10	No Discharge	P	1	202	7.77	8.15	190.2	333	-1.2	14.07	93.1	158.2	169	164	155	2.1	0.35	17.7	0.026	<0.0050	0.151	8.22	0.02	<0.00050	0.00056	0.0622	<0.00010	<0.0010
W2	31/10/2014 15:20	No Discharge	P	<1.0	228	7.69	8.23	188	377	-1.4	14.34	94.17	257.4	176	204	181	2.1	0.34	20.5	0.0091	<0.0050	0.175	8.52	0.0142	<0.00050	0.00032	0.0666	<0.00010	<0.0010
W2	06/11/2014 15:50	No Discharge	P	3.2	246	7.85	8.17	178.3	377	-1.7	14.72	96	214.4	189	183	179	3.3	0.36	22.7	<0.0050	<0.0050	0.165	8.39	0.163	<0.00050	0.00051	0.0717	<0.00010	<0.0010
W2	12/11/2014 7:00	No Discharge	P	1.1	224	7.91	8.1	242.3	385	-1.1	13.66	90.8	195.3	181	191	173	2.7	0.34	26.1	0.018	<0.0050	0.173	8.55	0.0628	<0.00050	0.00037	0.0711	<0.00010	<0.0010
W2	19/12/2014 8:35	No Discharge	P	1.4	294	7.92	8.18	247.8	467	-2	15.63	101.2	151.5	211	235	173	5.7	0.025	60.8	0.0091	0.0052	1.36	7.92	0.0208	<0.00050	0.00031	0.0941	<0.00010	<0.0010
W2	20/12/2014 8:30	No Discharge	P	1.3	288	7.62	8.04	253.5	449	-1.9	15.70	108.4	191.1	221	210	165	4.6	0.33	54.5	0.0091	<0.0050	1.05	7.59	0.0095	<0.00050	0.00033	0.0851	<0.00010	<0.0010
W2	21/12/2014 9:00	No Discharge	M			7.97		250.2		-1.9	14.69	95.4	99.1																
W2	05/06/2015 15:30	No Discharge	P	2.6	142	7.74	8.16	200.9	309	6.7	10.94	89.7	131.9	148	153	138	2.2	0.35	20.1	0.0057	<0.0050	0.114	6.7	0.0607	<0.00050	0.00047	0.0603	<0.00010	<0.0010
W2	11/06/2015 10:00	No Discharge	P	<1.0	196	7.7	8.05	208.9	334	5.7	11.42	89.5	142.7	170	166	143	2.5	0.36	24.4	0.02	<0.0050	0.142	7.26	0.0435	<0.00050	0.00046	0.0679	<0.00010	<0.0010
W2	15/06/2015 9:45	No Discharge	P	1.3	198	7.87	8.23	223.9	351	6.5	10.82	88.8	154.9	172	164	154	2.4	0.34	28.2	0.03	<0.0050	0.181	4	0.0203	<0.00050	0.00039	0.0692	<0.00010	<0.0010
W2	25/06/2015 8:45	No Discharge	P	4.3	212	7.77	8.11	247.6	371	7.9	10.3	87.1	143.5	196	195	160	3	0.29	32	0.016	<0.0050	0.112	6.31	0.399	<0.00050	0.00061	0.09	<0.00010	<0.0010
W2	29/06/2015 15:10	No Discharge	P	<1.0	228	7.88	8.29	233.7	350	7.6	11.38	95.2	171.3	158	183	161	2.5	0.35	23.6	0.03	<0.0050	0.125	9.25	0.025	<0.00050	0.00042	0.065	<0.00010	<0.0010
W2	02/07/2015 15:20	No Discharge	P	3	216	7.83	8.16	399.1	348	7.2	11.76			165	168	154	2.5	0.36	25.5	0.011	<0.0050	0.119	7.18	0.043	<0.00050	0.00042	0.0651	<0.00010	<0.0010
W2	09/07/2015 9:10	No Discharge	P	2	172	7.83	8.17	218.1	350	5.2	12.58	99.7	172.7	171	178	161	2.3	0.37	22.8	0.015	<0.0050	0.124	9.49	0.0441	<0.00050	0.00043	0.0634	<0.00010	<0.0010
W2	17/07/2015 9:10	No Discharge	P	1.1	208	7.8	8.15	223.8	356	5.3	11.29	89.2	151.4	167	163	164	2.3	0.35	24	0.031	<0.0050	0.096	7.14	0.0219	<0.00050	0.00043	0.071	<0.00010	<0.0010
W2	23/07/2015 9:25	No Discharge	P	1.2	192	7.8	8.24	234.2	366	5.1	11	86.5	160.5	172	172	164	2.4	0.3	25.4	0.018	<0.0050	0.079	8.44	0.276	<0.00050	0.00054	0.0752	<0.00010	<0.0010
W2	27/07/2015 9:55	No Discharge	P	<1.0	214	7.78	8.15	101.9	362	7.2	11.08	92.5	165.8	185	173	161	2.8	0.34	26.5	0.046	<0.0050	0.081	7.63	0.0137	<0.00050	0.00038	0.0716	<0.00010	<0.0010
W2	04/08/2015 13:40	No Discharge	P	<1.0	246	7.97	8.24	236.2	366	7	11.69	96.4	126.2	179	174	165	2.3	0.39	25	0.031	<0.0050	0.086	7.7	0.017	<0.00050	0.00041	0.0707	<0.00010	<0.0010
W2	13/08/2015 17:30	No Discharge	P	2.6	204	8.09	8.28	223.4	346	6.7	11.59	94.9	163.4	176	168	164	1.6	0.38	18	0.039	<0.0050	0.052	8.4	0.0576	<0.00050	0.00055	0.0639	<0.00010	<0.0010
W2	22/08/2015 10:25	No Discharge	P	1.3	202	7.89	8.22	210.9	347	4.6	8.55	66.3	144.7	163	168	166	1.8	0.39	18.5	0.026	<0.0050	0.056	8.4	0.0197	0.00112	0.00054	0.0643	<0.00010	<0.0010
W2	25/08/2015 13:55	No Discharge	P	13.6	202	8.12	8.24	158.6	345	5.6	12.84	101.6	165.9	175	187	163	1.7	0.39	18.8	0.018	<0.0050	0.056	7.9	0.149	<0.00050	0.00069	0.0707	<0.00010	<0.0010
W2	01/09/2015 11:15	No Discharge	P	12.2	204	8.06	8.27	178.1	307	3.2	13.5	100.6	125.2	154	168	143	1.7	0.35	16.9	0.027	<0.0050	0.049	12	0.208	<0.00050	0.00068	0.0629	<0.00010	<0.0010
W2	08/09/2015 14:55	No Discharge	P	1	188	8.11	8.29	197.5	333	3.3	13.13	98.5	171.3	181	165	154	2.2	0.38	17.4	0.043	<0.0050	<0.020	10	0.0273	<0.00050	0.00055	0.0612	<0.00010	<0.0010
W2	18/09/2015 9:30	No Discharge	P	<1.0	222	8.06	8.28	191.6	337	2.3	12.41	90.7	167.5	164	169	153	2	0.36	18.9	0.0099	<0.0050	<0.020	8.8	0.0154	<0.00050	0.00048	0.0567	<0.00010	<0.0010
W2	22/09/2015 10:30	No Discharge	P	<1.0	226	7.88	8.24	192.8	335	2.4	12.53	91.8	143.4	169	167	153	2.4	0.37	18	0.033	<0.0050	0.023	8.3	0.0131	<0.00050	0.00042	0.0581	<0.00010	<0.0010
W2	28/09/2015 14:00	No Discharge	P	<1.0	218	7.87	8.19	195.7	339	1.9	12.47	91.7	180.2	169	168	160	1.9	0.36	17.6	0.024	<0.0050	0.042	11	0.0122	<0.00050	0.00056	0.0625	<0.00010	<0.0010
W2	28/09/2015 14:45	No Discharge	M	<1.0	216	8.12	8.21	196.1	332	2.2	13.2	96	173	177	170	169	1.9	0.37	18.1	0.047	<0.0050	0.036	11	0.0173	<0.00050	0.00075	0.0598	<0.00010	<0.0010
W2	05/10/2015 9:30	No Discharge	P	<1.0	236	7.92	8.28	183.9	360	0	14.49	99.1	142.7	178	172	165	2.2	0.37	20.4	0.013	<0.0050	0.086	8.7	0.0067	<0.00050	0.00043	0.0644	<0.00010	<0.0010
W2	13/10/2015 9:55	No Discharge	P	<1.0	206	7.72	8.17	173.7	325	0.3	11.27	78.5	199	163	146	153	2	0.34	16.1	0.02	<0.0050	0.077	9.83	0.0127	<0.00050	0.00049	0.0558	<0.00010	<0.0010
W2	20/10/2015 15:00	No Discharge	P	1.2	208	7.77	8.29	181.3	340	0.5	13.49	93.5	6	166	161	155	1.9	0.35	19.8	0.019	<0.0050	0.097	8.83	0.0133	<0.00050	0.00044	0.0562	<0.00010	<0.0010
W2	26/10/2015 10:00	No Discharge	P	<1.0	210	7.94	8.1	181.7	367	0.2	12.33	86	41.7	189	179	166	2.5	0.37	21.7	0.016	<0.0050	0.117	8.15	0.0102	<0.00050	0.00046	0.0655	<0.00010	<0.0010
W2	02/11/2015 14:00	No Discharge	P	2.4	248	7.80	8.21	209.1	394	0.5	13.52	94.6	108.3	182	199	180	2.4	0.35	26	0.019	<0.0050	0.153	7.75	0.0129	<0.00050	0.00036	0.0697	<0.00010	<0.0010
W2	11/11/2015 13:00	No Discharge	P	2.7	202	8.03	8.33	224.8	388	1	13.61	96	136.4	172	175	175	2.7	0.32	27.7	0.041	<0.0050	0.12	7.32	0.185	<0.00050	0.00039	0.0737	<0.00010	<0.0010
W2	31/03/2016 11:15	No Discharge	P	14.7	273	8.41	8.35	248.6	473	0	14.92	101.5	137.5		234	215	3.64		43.2	<0.0050	<0.0010	0.0098	11.5	0.295	<0.00010	0.00067	0.0746	<0.000020	<0.000050
W2	04/04/2016 15:30	No Discharge	P	22.0	160	8.18	8.22	150.3	295	0	14.24	97.4	103		146	134	1.60		16.4	<0.0050	<0.0010	<0.0050	18.1	0.347	<0.00010	0.00063	0.0551	<0.000020	<0.000050
W2	09/05/2016 10:40	No Discharge	M			7.95		135.5		1.3	14.71	104.6	119																
W2	11/05/2016 8:50	No Discharge	P	10.7	127	7.9	8.19	115.7	235	0.4	103.2	97.72	120.6		118	106	1.48		13.1	0.0069	<0.0010	0.0200	14.1	0.216	<0.00010	0.00071	0.0499	<0.000020	<0.000050
W2	28/06/2016 13:52	No Discharge	P	<3.0	189	7.9	8.04	245.1	341	8.9	9.82	84.9	90.8		180	144	2.59		25.7	0.0097	<0.0010	0.103	7.67	0.0369	<0.00010	0.00040	0.0757	<0.000020	<0.000050
W2	31/10/2016 15:30	No Discharge	P	<3.0	220	8.29	8.36	212	383	0.4	13.93	96.6	70.4		176	180	3.30		33.4	0.0054	<0.0010	0.666	7.54	0.0210	<0.00010	0.00029	0.0726	<0.000020	<0.000050
W2	06/11/2016 7:35	No Discharge	P	<3.0	219	7.83	8.24	209.2	373	0.4	13.70	94.7	79.2		180	179	3.12		31.5	<0.0050	<0.0010	0.497	7.07	0.0096	<0.00010	0.00033	0.0752	<0.000020	<0.000050
W2	28/08/2008	Discharge	P	59	202		8.04		244							113	1.5		15	High DL removed	0.02	0.12	22.8	1.41	<0.0002	0.001	0.088	0.00007	
W2	31/08/2008	Discharge	P	35	206		8.1		272							118	1.55		18.5		<0.01	0.16		0.798	<0.0002	0.0008	0.078	<0.00004	
W2	07/09/2008	Discharge	P	48	302		8.14		319							139	2.21		25.4		0.04	0.16		0.944	<0.0002	0.0011	0.097	0.00008	

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W2	07/08/2014 9:40	<0.05	<0.000010	46.7	<0.0010	<0.00050	0.00219	0.492	<0.00020	<0.0050	15.4	0.0191	<0.000010	0.0015	0.0013	0.03	1.5	0.0001	7.74	<0.000020	9.69	0.429	6.9	<0.000050	<0.0050	0.0066	0.00162
W2	11/08/2014 7:35																										
W2	13/08/2014 14:30																										
W2	13/08/2014 14:30	<0.05	<0.000010	49.8	<0.0010	<0.00050	0.0025	0.323	<0.00020	<0.0050	16.9	0.0183	<0.000010	0.0016	0.0013	0.022	1.75	0.00013	7.47	<0.000020	10.2	0.469	6.2	<0.000050	<0.0050	<0.0050	0.00205
W2	18/08/2014 15:40																										
W2	18/08/2014 15:40	<0.05	<0.000010	43.8	<0.0010	<0.00050	0.00192	0.282	<0.00020	<0.0050	14.7	0.0152	<0.000010	0.0016	0.0011	0.01	1.57	<0.00010	6.16	<0.000020	8.9	0.4	6.8	<0.000050	<0.0050	<0.0050	0.00161
W2	26/08/2014 9:00																										
W2	26/08/2014 9:00	<0.05	<0.000010	42.8	<0.0010	<0.00050	0.0021	0.536	<0.00020	<0.0050	14.1	0.0244	<0.000010	0.0014	0.0016	0.024	1.47	0.00018	6.54	<0.000020	9.04	0.404	8.1	<0.000050	<0.0050	0.006	0.00159
W2	01/09/2014 14:00																										
W2	01/09/2014 14:00	<0.05	<0.000010	40.9	<0.0010	<0.00050	0.00154	0.273	<0.00020	<0.0050	14.7	0.0103	<0.000010	0.0015	0.0012	0.015	1.32	0.00014	5.38	<0.000020	9.2	0.419	4.9	<0.000050	<0.0050	<0.0050	0.00157
W2	03/09/2014 14:30																										
W2	11/09/2014 15:40																										
W2	11/09/2014 15:40	<0.05	<0.000010	43.7	<0.0010	<0.00050	0.0017	0.213	<0.00020	<0.0050	14.5	0.0099	<0.000010	0.0015	0.0011	<0.01	1.4	<0.00010	6.71	<0.000020	9.39	0.422	3.4	<0.000050	<0.0050	<0.0050	0.00158
W2	16/09/2014 11:05																										
W2	16/09/2014 11:05	<0.05	<0.000010	43.2	<0.0010	<0.00050	0.00208	0.198	<0.00020	<0.0050	14.9	0.0109	<0.000010	0.0015	0.0012	0.024	1.63	0.00011	6.17	<0.000020	9.58	0.421	5.8	<0.000050	<0.0050	<0.0050	0.00166
W2	22/09/2014 14:55																										
W2	22/09/2014 14:55	<0.05	<0.000010	45.4	<0.0010	<0.00050	0.00293	0.874	<0.00020	<0.0050	15.3	0.0496	<0.000010	0.0014	0.0017	0.036	1.74	0.00011	7.52	0.000031	9.21	0.391	4.5	<0.000050	<0.0050	0.0106	0.00141
W2	30/09/2014 14:45																										
W2	30/09/2014 14:45	<0.05	<0.000010	39.9	<0.0010	<0.00050	0.00267	0.61	<0.00020	<0.0050	13.5	0.0365	<0.000010	0.0013	0.0018	0.029	1.14	0.00015	6.55	0.000036	8.33	0.344	3.7	<0.000050	<0.0050	0.0069	0.00117
W2	07/10/2014 13:40																										
W2	07/10/2014 13:40	<0.05	<0.000010	44	<0.0010	<0.00050	0.002	0.297	<0.00020	<0.0050	14.5	0.0175	<0.000010	0.0013	0.0013	0.022	1.19	0.00012	6.85	<0.000020	8.72	0.384	5.3	<0.000050	<0.0050	<0.0050	0.00136
W2	14/10/2014 15:10	<0.05	<0.000010	42.5	<0.0010	<0.00050	0.00159	0.252	<0.00020	<0.0050	14.1	0.0125	<0.000010	0.0012	0.0013	0.02	1.23	0.00015	6.87	<0.000020	8.58	0.374	7.2	<0.000050	<0.0050	<0.0050	0.00139
W2	25/10/2014 14:10	<0.05	<0.000010	43.5	<0.0010	<0.00050	0.00276	0.266	<0.00020	<0.0050	14.6	0.0091	<0.000010	0.0013	0.0012	0.011	1.16	<0.00010	6.33	<0.000020	8.86	0.397	3.5	<0.000050	<0.0050	<0.0050	0.00153
W2	31/10/2014 15:20	<0.05	<0.000010	44.6	<0.0010	<0.00050	0.00163	0.083	<0.00020	<0.0050	15.8	0.0121	<0.000010	0.0012	0.0011	0.016	1.35	<0.00010	6.46	<0.000020	9.19	0.458	5.8	<0.000050	<0.0050	<0.0050	0.0019
W2	06/11/2014 15:50	<0.05	<0.000010	50.5	<0.0010	<0.00050	0.0021	0.286	<0.00020	0.0052	15.2	0.0218	<0.000010	0.0012	0.0011	0.031	1.66	<0.00010	6.95	<0.000020	16	0.535	8.6	<0.000050	<0.0050	0.0072	0.00188
W2	12/11/2014 7:00	<0.05	<0.000010	46.3	<0.0010	<0.00050	0.0023	0.168	<0.00020	<0.0050	15.7	0.0242	<0.000010	0.0012	0.0012	0.019	1.54	0.00015	6.45	<0.000020	10	0.47	9.9	<0.000050	<0.0050	<0.0050	0.00223
W2	19/12/2014 8:35	<0.05	0.000017	55.5	<0.0010	<0.00050	0.00362	0.05	<0.00020	<0.0050	17.7	0.0162	<0.000010	0.0037	<0.0010	0.013	3.45	0.00043	4.76	<0.000020	13.9	0.787	21.4	<0.000050	<0.0050	<0.0050	0.00243
W2	20/12/2014 8:30	<0.05	<0.000010	58.2	<0.0010	<0.00050	0.00238	0.033	<0.00020	<0.0050	18.5	0.0241	<0.000010	0.0023	0.0013	0.015	3.22	0.00032	6.59	0.000026	15.2	0.626	19.4	<0.000050	<0.0050	<0.0050	0.00221
W2	21/12/2014 9:00																										
W2	05/06/2015 15:30	<0.05	<0.000010	38.1	<0.0010	<0.00050	0.0024	0.17	<0.00020	<0.0050	12.7	0.0116	<0.000010	0.0017	0.0011	0.016	1.64	0.00016	5.34	<0.000020	9.28	0.425	8.7	<0.000050	<0.0050	<0.0050	0.00138
W2	11/06/2015 10:00	<0.05	<0.000010	43.5	<0.0010	<0.00050	0.00231	0.118	<0.00020	<0.0050	14.9	0.0142	<0.000010	0.0017	0.0014	0.018	1.77	0.00013	5.96	<0.000020	10.1	0.489	10.2	<0.000050	<0.0050	<0.0050	0.00166
W2	15/06/2015 9:45	<0.05	<0.000010	44.6	<0.0010	<0.00050	0.00221	0.069	<0.00020	<0.0050	14.6	0.0142	<0.000010	0.0015	<0.0010	0.01	1.76	<0.00010	6.26	<0.000020	10.2	0.481	8.2	<0.000050	<0.0050	<0.0050	0.00181
W2	25/06/2015 8:45	<0.05	<0.000010	53.1	<0.0010	<0.00050	0.00355	0.648	<0.00020	<0.0050	15.3	0.0788	<0.000010	0.0013	0.0015	0.041	1.94	0.00012	7.43	<0.000020	10.6	0.535	9.2	<0.000050	<0.0050	0.015	0.00169
W2	29/06/2015 15:10	<0.05	<0.000010	40.8	<0.0010	<0.00050	0.00204	0.088	<0.00020	<0.0050	13.7	0.014	<0.000010	0.0014	<0.0010	0.015	1.54	0.00012	5.64	<0.000020	9.96	0.442	8.3	<0.000050	<0.0050	<0.0050	0.00184
W2	02/07/2015 15:20	<0.05	<0.000010	42.9	<0.0010	<0.00050	0.00185	0.111	<0.00020	<0.0050	14	0.016	<0.000010	0.0015	<0.0010	<0.01	1.66	0.00014	6.04	<0.000020	9.62	0.472	8.9	<0.000050	<0.0050	<0.0050	0.00168
W2	09/07/2015 9:10	<0.05	<0.000010	43.3	<0.0010	<0.00050	0.00229	0.139	<0.00020	<0.0050	15.3	0.0154	<0.000010	0.0016	<0.0010	0.011	1.7	0.0001	6.97	<0.000020	10	0.428	7.5	<0.000050	<0.0050	<0.0050	0.0018
W2	17/07/2015 9:10	<0.05	<0.000010	44.1	<0.0010	<0.00050	0.00157	0.084	<0.00020	<0.0050	13.9	0.0172	<0.000010	0.0014	<0.0010	0.014	1.53	0.0001	6.32	<0.000020	9.6	0.47	8.4	<0.000050	<0.0050	<0.0050	0.00175
W2	23/07/2015 9:25	<0.05	0.000012	46.8	<0.0010	<0.00050	0.00276	0.459	<0.00020	<0.0050	13.5	0.0398	<0.000010	0.0015	0.0013	0.026	1.61	0.00011	7.17	<0.000020	9.82	0.459	12.6	<0.000050	<0.0050	0.0125	0.00187
W2	27/07/2015 9:55	<0.05	<0.000010	48.8	<0.0010	<0.00050	0.00173	0.069	<0.00020	<0.0050	15.4	0.0241	<0.000010	0.0013	<0.0010	0.012	1.69	<0.00010	6.96	<0.000020	10.2	0.485	9.3	<0.000050	<0.0050	<0.0050	0.00189
W2	04/08/2015 13:40	<0.05	<0.000010	47.9	<0.0010	<0.00050	0.00247	0.091	<0.00020	<0.0050	14.4	0.0165	<0.000010	0.0016	<0.0010	0.018	1.43	0.00014	6.56	0.000037	10.3	0.475	9.3	<0.000050	<0.0050	<0.0050	0.00195
W2	13/08/2015 17:30	<0.05	<0.000010	44.3	<0.0010	<0.00050	0.00237	0.207	<0.00020	<0.0050	15.9	0.014	<0.000010	0.0016	0.001	0.017	1.41	<0.00010	6.45	<0.000020	10	0.477	7.9	<0.000050	<0.0050	<0.0050	0.00174
W2	22/08/2015 10:25	<0.05	0.000012	43.7	<0.0010	<0.00050	0.00153	0.111	<0.00020	<0.0050	13.1	0.0094	<0.000010	0.0015	<0.0010	<0.01	1.45	0.00013	7.57	0.000036	8.71	0.446	6.8	<0.000050	<0.0050	<0.0050	0.00144
W2	25/08/2015 13:55	<0.05	<0.000010	44.6	<0.0010	0.00054	0.00288	0.364	<0.00020	<0.0050	15.5	0.0168	<0.000010	0.0017	0.0013	0.022	1.5	0.00013	6.31	<0.000020	10.3	0.485	7	<0.000050	<0.0050	0.0066	0.00172
W2	01/09/2015 11:15	<0.05	<0.000010	39.6	<0.0010	<0.00050	0.00329	0.547	<0.00020	<0.0050	13.5	0.0309	<0.000010	0.0014	0.0014	0.028	1.18	0.00016	6.79	<0.000020	9.05	0.387	5.6	<0.000050	<0.0050	0.0094	0.00116
W2	08/09/2015 14:55	<0.05	<0.000010	45.5	<0.0010	<0.00050	0.00274	0.146	<0.00020	<0.0050	16.3	0.0096	<0.000010	0.0016	0.001	0.016	1.38	0.00015	6.82	<0.000020	10	0.441	5.8	<0.000050	<0.0050	<0.0050	0.00145
W2	18/09/2015 9:30	<0.05	<0.000010	42.9	<0.0010	<0.00050	0.00179	0.128	<0.00020	<0.0050	13.9	0.0067	<0.000010	0.0012	0.0011	<0.01	1.38	<0.00010	6.57	<0.000020	8.84	0.396	6.4	<0.000050	<0.0050	<0.0050	0.00132
W2	22/09/2015 10:30	<0.05	<0.000010	43.3	<0.0010	<0.00050	0.00163	0.121	<0.00020	<0.0050	14.7	0.0066	<0.000010	0.0014	0.0011	0.011	1.35	0.00014	6.8	<0.000020	9.29	0.417	8	<0.000050	<0.0050	<0.0050	0.00153
W2	28/09/2015 14:00	<0.05	<0.000010	42.4	<0.0010	<0.00050	0.0018	0.111	<0.00020	<0.0050	15.4	0.0067	<0.000010	0.0014	<0.0010	<0.01	1.4	<0.00010	6.34	<0.000020	10	0.406	7.6	<0.000050	<0.0050	<0.0050	0.00126
W2	28/09/2015 14:45	<0.05	<0.000010	45.4	<0.0010	<0.00050	0.002	0.129	<0.00020	<0.0050	15.4	0.007	<0.000010	0.0014	0.001	0.013	1.41	<0.00010	6.87	<0.000020	9.7	0.415	6.3	<0.000050	<0.0050	<0.0050	0.00126
W2	05/10/2015 9:30	<0.05	<0.000010	46	<0.0010	<0.00050	0.00153	0.065	<0.00020	<0.0050	15.3	0.008	<0.000010	0.0014	<0.0010	0.012	1.4	<0.00010	6.63	<0.000020	10	0.459	8.3	<0.000050	<0.0050	<0.0050	0.00164
W2	13/10/2015 9:55	<0.05	<0.000010	40.5	<0.0010	<0.00050	0.00155	0.151	<0.00020	<0.0050	15	0.0061	<0.000010	0.0012	0.0012	0.014	1.32	<0.00010	6.28	<0.000020	8.82	0.392	3.4	<0.000050	<0.0050	<0.0050	0.00148
W2	20/10/2015 15:00	<0.05	<0.000010	43	<0.0010	<0.00050	0.00143	0.096	<0.00020	<0.0050	14.3	0.0054	<0.000010	0.0013	<0.0010	0.012	1.24	<0.00010	6.7	<0.000020	11.7	0.417	7.1	<0.000050	<0.0050	<0.0050	0.00128
W2	26/10/2015 10:00	<0.05	<0.000010	48	<0.0010	<0.00050	0.00173	0.065	<0.00020	<0.0050	16.8	0.0092	<0.000010	0.0012	0.0011	<0.01	1.48	<0.00010	6.82	<0.000020	11.4	0.44	5.7	<0.000050	<0.0050	<0.0050	0.00181
W2	02/11/2015 14:00	<0.05	<0.000010	47.6	<0.0010	<0.00050	0.00165	0.063	<0.00020	<0.0050	15.3	0.0129	<0.000010	0.0013	<0.0010	0.014	1.61	0.0001	6.36	<0.000020	10.2	0.492	8.1	<0.000050	<0.0050	<0.0050	0.00198
W2	11/11/2015 13:00	<0.05	<0.000010	45.1	<0.0010	<0.00050	0.00377	0.387	<0.00020	<0.0050	14.4	0.0328	<0.000010	0.001	0.0013	0.025	1.41	<0.00010	6.4	<0.000020	9.66	0.453	7.6	<0.000050	<0.0050	0.0117	0.00207
W2	31/03/2016 11:15	<0.010	0.0000138	52.5	0.00072	0.00025	0.00932	0.433	0.000131	0.0025	22.0	0.0313	<0.0000050	0.00103	0.00114	<0.050	3.60	0.000260	9.01	<0.000010	14.8	0.564	14.1	<0.000010	<0.00010	0.0120	0.00164
W2	04/04/2016 15:30	<0.010	0.0000193	34.7	0.00071	0.00031	0.00823	0.533	0.000144	0.0016	13.0	0.0347	0.0000078	0.000901	0.00140	0.062	2.89	0.000139	6.96	<0.000010	8.34	0.309	5.44	<0.000010	<0.00010	0.0146	0.000697
W2	09/05/2016 10:40																										
W2	11/05/2016 8:50	<0.010	0.0000106	30.9	<0.00080	0.00021	0.00355	0.564	0.000126	<0.0010	9.44	0.0265	<0.0000050	0.00120	0.00165	<0.050	1.18	0.000107	5.18	<0.000010	6.10	0.265	4.58	<0.000010	<0.00010	0.00892	0.000793
W2	28/06/2016 13:52	<0.010	<0.0000050	47.1	0.00032	<0.00010	0.00253	0.086	0.000123	0.0022	14.1	0.0226	<0.0000050	0.00136	0.00111	<0.050	1.66	0.000141	5.63	<0.000010	9.90	0.450	8.99	<0.000010	<0.00010	0.00131	0.00184
W2	31/10/2016 15:30	<0.010	<0.0000050	50.2	0.00016	<0.00010	0.00197	0.051	<0.000050	0.0018	15.2	0.0119	<0.0000050	0.00134	0.00092	<0.050	1.73	0.000171	5.91	<0.000010	10.4	0.514	10.9	<0.000010	<0.00010	0.00073	0.00216
W2	06/11/2016 7:35	<0.010	<0.0000050	48.9	0.00018	<0.00010	0.00195	0.040	<0.000050	0.0018	15.5	0.0137	<0.0000050	0.00122	0.00094	<0.050	1.69	0.000175	5.91	<0.000010	11.1	0.507	10.9	<0.000010	<0.00010	0.00036	0.00230
W2	28/08/2008	0.007	0.00006	37	0.0036	0.00104	0.043	3.55	0.0007	0.002	10.3	0.103	0.00001	0.00208	0.01	0.1	2.34	<0.0006	8.38	<0.00001	9.4	0.26		<0.00001	<0.0001	0.0417	0.0008
W2	31/08/2008	0.008	0.00002	38.9	0.0025	0.00065	0.02	2.05	0.0004	0.002	11.3	0.0718	<0.00001	0.00273	0.006	0.07	2.86	<0.0006	7.11	<0.00001	10.4	0.295		<0.00001	<0.0001	0.0357	0.0009
W2	07/09/2008	0.013	0.00004	40.9	0.0033	0.001	0.052	2.14	0.0006	0.002	12.3	0.116	<0.00001	0.00344	0.002	0.07	4.56	<0.0006	7.13	<0.00001	12.6	0.351		<0.00001	<0.0001	0.042	0.001

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W2	07/08/2014 9:40	<0.0050	<0.0050	<0.00050	0.0162	<0.00050	0.00062	0.0664	<0.00010	<0.0010	<0.05	<0.000010	42.4	High DL removed	<0.00050	0.00267	0.223	<0.00020	<0.0050	14.2	0.0091	<0.000010	0.0016	0.0013	0.045	1.41
W2	11/08/2014 7:35																									
W2	13/08/2014 14:30													High DL removed												
W2	13/08/2014 14:30	<0.0050	<0.0050	<0.00050	0.0081	<0.00050	0.00063	0.0723	<0.00010	<0.0010	<0.05	<0.000010	44.3	High DL removed	<0.00050	0.00169	0.142	<0.00020	<0.0050	13.7	0.0107	<0.000010	0.0016	0.0011	0.012	1.54
W2	18/08/2014 15:40													High DL removed												
W2	18/08/2014 15:40	<0.0050	<0.0050	<0.00050	0.0094	<0.00050	0.00057	0.0663	<0.00010	<0.0010	<0.05	<0.000010	39.8	High DL removed	<0.00050	0.0022	0.158	<0.00020	<0.0050	14.6	0.0087	<0.000010	0.0015	0.001	0.014	1.58
W2	26/08/2014 9:00													High DL removed												
W2	26/08/2014 9:00	<0.0050	<0.0050	<0.00050	0.0086	<0.00050	0.00064	0.0641	<0.00010	<0.0010	<0.05	<0.000010	40.4	High DL removed	<0.00050	0.00164	0.232	<0.00020	<0.0050	14	0.0073	<0.000010	0.0015	0.0011	0.016	1.4
W2	01/09/2014 14:00													High DL removed												
W2	01/09/2014 14:00	<0.0050	<0.0050	<0.00050	0.0069	<0.00050	0.00055	0.0651	<0.00010	<0.0010	<0.05	<0.000010	43.5	High DL removed	<0.00050	0.0015	0.174	<0.00020	<0.0050	14.6	0.0085	<0.000010	0.0016	0.0011	0.012	1.41
W2	03/09/2014 14:30																									
W2	11/09/2014 15:40													High DL removed												
W2	11/09/2014 15:40	<0.0050	<0.0050	<0.00050	0.0075	<0.00050	0.00048	0.0636	<0.00010	<0.0010	<0.05	<0.000010	40.9	High DL removed	<0.00050	0.00173	0.155	<0.00020	<0.0050	13.9	0.0085	<0.000010	0.0014	0.0012	<0.01	1.46
W2	16/09/2014 11:05													High DL removed												
W2	16/09/2014 11:05	<0.0050	<0.0050	<0.00050	0.0087	<0.00050	0.00049	0.0658	<0.00010	<0.0010	<0.05	<0.000010	39.9	High DL removed	<0.00050	0.00148	0.113	<0.00020	<0.0050	14.7	0.0099	<0.000010	0.0015	0.001	<0.01	1.61
W2	22/09/2014 14:55													High DL removed												
W2	22/09/2014 14:55	<0.0050	<0.0050	<0.00050	0.0081	<0.00050	0.00057	0.0605	<0.00010	<0.0010	<0.05	<0.000010	39.2	High DL removed	<0.00050	0.00147	0.158	<0.00020	<0.0050	13.3	0.0095	<0.000010	0.0013	0.0012	0.01	1.59
W2	30/09/2014 14:45													High DL removed												
W2	30/09/2014 14:45	<0.0050	<0.0050	<0.00050	0.0088	<0.00050	0.00055	0.0558	<0.00010	<0.0010	<0.05	<0.000010	36.2	High DL removed	<0.00050	0.00157	0.205	<0.00020	<0.0050	11.9	0.0154	<0.000010	0.0011	0.0016	0.012	1.01
W2	07/10/2014 13:40													High DL removed												
W2	07/10/2014 13:40	<0.0050	<0.0050	<0.00050	0.0076	<0.00050	0.00054	0.0574	<0.00010	<0.0010	<0.05	<0.000010	44	High DL removed	<0.00050	0.00155	0.182	<0.00020	<0.0050	13.4	0.0109	<0.000010	0.0012	0.0014	0.013	1.08
W2	14/10/2014 15:10	<0.0050	<0.0050	<0.00050	0.0086	<0.00050	0.0005	0.0564	<0.00010	<0.0010	<0.05	<0.000010	41.7	High DL removed	<0.00050	0.00137	0.163	<0.00020	<0.0050	13	0.0095	<0.000010	0.0012	0.0011	0.011	1.22
W2	25/10/2014 14:10	<0.0050	<0.0050	<0.00050	0.0085	<0.0010	0.00051	0.0587	<0.00020	<0.0020	<0.1	<0.000020	42	High DL removed	<0.0010	0.002	0.193	High DL removed	<0.01	14.5	0.0078	<0.000010	<0.0020	High DL removed	<0.02	1
W2	31/10/2014 15:20	<0.0050	<0.0050	<0.00050	0.0058	<0.00050	0.00038	0.0692	<0.00010	<0.0010	<0.05	<0.000010	54	High DL removed	<0.00050	0.00169	0.0609	<0.00020	<0.0050	16.8	0.0125	<0.000010	0.0014	<0.0010	<0.01	1.57
W2	06/11/2014 15:50	<0.0050	<0.0050	<0.00050	0.0065	<0.00050	0.00035	0.0679	<0.00010	<0.0010	<0.05	<0.000010	47.7	High DL removed	<0.00050	0.00135	0.0548	<0.00020	<0.0050	15.4	0.0102	<0.000010	0.0012	<0.0010	<0.01	1.41
W2	12/11/2014 7:00	<0.0050	<0.0050	<0.00050	0.0056	<0.00050	0.00031	0.0732	<0.00010	<0.0010	<0.05	<0.000010	50	High DL removed	<0.00050	0.0016	0.0481	<0.00020	<0.0050	16.1	0.0177	<0.000010	0.0012	0.001	<0.01	1.54
W2	19/12/2014 8:35	<0.0050	0.0479	<0.00050	0.0032	<0.00050	0.00034	0.083	<0.00010	<0.0010	<0.05	<0.000010	61.8	High DL removed	<0.00050	0.00273	0.0263	<0.00020	<0.0050	19.7	0.0146	<0.000010	0.0031	<0.0010	<0.01	3.7
W2	20/12/2014 8:30	<0.0050	0.0233	<0.00050	0.0038	<0.00050	0.00029	0.0853	<0.00010	<0.0010	<0.05	<0.000010	55.4	High DL removed	<0.00050	0.00221	0.0235	<0.00020	<0.0050	17.4	0.0238	<0.000010	0.0023	<0.0010	<0.01	3.06
W2	21/12/2014 9:00																									
W2	05/06/2015 15:30	<0.0050	<0.0050	<0.00050	0.0091	<0.00050	0.00046	0.0657	<0.00010	<0.0010	<0.05	<0.000010	40	High DL removed	<0.00050	0.00201	0.0615	<0.00020	<0.0050	12.8	0.0078	<0.000010	0.0017	<0.0010	0.01	1.75
W2	11/06/2015 10:00	<0.0050	<0.0050	<0.00050	0.0061	<0.00050	0.00039	0.0661	<0.00010	<0.0010	<0.05	<0.000010	42.6	High DL removed	<0.00050	0.00184	0.0414	<0.00020	<0.0050	14.4	0.0101	<0.000010	0.0016	<0.0010	<0.01	1.64
W2	15/06/2015 9:45	<0.0050	<0.0050	<0.00050	0.0073	<0.00050	0.00039	0.0686	<0.00010	<0.0010	<0.05	<0.000010	42.8	High DL removed	<0.00050	0.00176	0.0339	<0.00020	<0.0050	13.8	0.0126	<0.000010	0.0015	<0.0010	<0.01	1.66
W2	25/06/2015 8:45	<0.0050	<0.0050	<0.00050	0.0147	<0.00050	0.00038	0.081	<0.00010	<0.0010	<0.05	<0.000010	53.2	High DL removed	<0.00050	0.00194	0.0466	<0.00020	<0.0050	15.1	0.0271	<0.000010	0.0012	<0.0010	0.01	2.02
W2	29/06/2015 15:10	<0.0050	<0.0050	<0.00050	0.0188	<0.00050	0.00041	0.0689	<0.00010	<0.0010	<0.05	<0.000010	48.1	High DL removed	<0.00050	0.00165	0.0407	<0.00020	<0.0050	15.2	0.0107	<0.000010	0.0017	<0.0010	0.011	1.73
W2	02/07/2015 15:20	<0.0050	<0.0050	<0.00050	0.0078	<0.00050	0.0004	0.0667	<0.00010	<0.0010	<0.05	<0.000010	43.5	High DL removed	<0.00050	0.00166	0.0404	<0.00020	<0.0050	14.4	0.0118	<0.000010	0.0015	<0.0010	<0.01	1.64
W2	09/07/2015 9:10	<0.0050	<0.0050	<0.00050	0.0078	<0.00050	0.00043	0.0693	<0.00010	<0.0010	<0.05	<0.000010	48	High DL removed	<0.00050	0.00152	0.0491	<0.00020	<0.0050	14.2	0.0101	<0.000010	0.0014	<0.0010	0.01	1.86
W2	17/07/2015 9:10	<0.0050	<0.0050	<0.00050	0.0132	<0.00050	0.00047	0.0681	<0.00010	<0.0010	<0.05	<0.000010	41.6	High DL removed	<0.00050	0.00185	0.056	<0.00020	<0.0050	14.3	0.0149	<0.000010	0.0014	<0.0010	0.011	1.56
W2	23/07/2015 9:25	<0.0050	<0.0050	<0.00050	0.0136	<0.00050	0.00044	0.0693	<0.00010	<0.0010	<0.05	<0.000010	46	High DL removed	<0.00050	0.00151	0.0512	<0.00020	<0.0050	14	0.018	<0.000010	0.0014	<0.0010	0.013	1.67
W2	27/07/2015 9:55	<0.0050	<0.0050	<0.00050	0.0112	<0.00050	0.00045	0.0686	<0.00010	<0.0010	<0.05	<0.000010	46.2	High DL removed	<0.00050	0.00146	0.0542	<0.00020	<0.0050	13.9	0.0222	<0.000010	0.0013	<0.0010	0.015	1.66
W2	04/08/2015 13:40	<0.0050	<0.0050	<0.00050	0.0104	<0.00050	0.00039	0.0677	<0.00010	<0.0010	<0.05	<0.000010	46.1	High DL removed	<0.00050	0.00169	0.0527	<0.00020	<0.0050	14.3	0.0148	<0.000010	0.0014	<0.0010	<0.01	1.56
W2	13/08/2015 17:30	<0.0050	<0.0050	<0.00050	0.014	<0.00050	0.00048	0.0649	<0.00010	<0.0010	<0.05	<0.000010	42.6	High DL removed	<0.00050	0.00188	0.0738	<0.00020	<0.0050	15	0.0073	<0.000010	0.0016	<0.0010	<0.01	1.35
W2	22/08/2015 10:25	<0.0050	<0.0050	<0.00050	0.0105	<0.00050	0.00055	0.0654	<0.00010	<0.0010	<0.05	<0.000010	42.2	High DL removed	<0.00050	0.00183	0.109	<0.00020	<0.0050	15.2	0.0079	<0.000010	0.0013	<0.0010	0.012	1.57
W2	25/08/2015 13:55	<0.0050	<0.0050	<0.00050	0.014	<0.00050	0.0005	0.0674	<0.00010	<0.0010	<0.05	<0.000010	49.4	High DL removed	<0.00050	0.00182	0.0886	<0.00020	<0.0050	15.5	0.0068	<0.000010	0.0016	0.0013	0.01	1.58
W2	01/09/2015 11:15	<0.0050	<0.0050	<0.00050	0.0151	<0.00050	0.00071	0.0647	<0.00010	<0.0010	<0.05	<0.000010	43.6	High DL removed	<0.00050	0.00232	0.19	<0.00020	<0.0050	14.4	0.0061	<0.000010	0.0015	0.0014	0.021	1.28
W2	08/09/2015 14:55	<0.0050	0.0139	<0.00050	0.0165	<0.00050	0.0005	0.0586	<0.00010	<0.0010	<0.05	<0.000010	42	High DL removed	<0.00050	0.00208	0.101	<0.00020	<0.0050	14.7	0.0057	<0.000010	0.0014	0.0011	0.015	1.21
W2	18/09/2015 9:30	<0.0050	<0.0050	<0.00050	0.0106	<0.00050	0.00045	0.0592	<0.00010	<0.0010	<0.05	<0.000010	43.6	High DL removed	<0.00050	0.00194	0.107	<0.00020	<0.0050	14.7	0.0066	<0.000010	0.0012	0.0012	<0.01	1.34
W2	22/09/2015 10:30	<0.0050	<0.0050	<0.00050	0.007	<0.00050	0.00045	0.0585	<0.00010	<0.0010	<0.05	<0.000010	43.4	High DL removed	<0.00050	0.00165	0.107	<0.00020	<0.0050	14.4	0.0056	<0.000010	0.0013	<0.0010	0.012	1.27
W2	28/09/2015 14:00	<0.0050	<0.0050	<0.00050	0.0084	<0.00050	0.00041	0.0606	<0.00010	<0.0010	<0.05	<0.000010	42.1	High DL removed	<0.00050	0.00176	0.0803	<0.00020	<0.0050	15.4	0.0058	<0.000010	0.0014	0.0012	0.013	1.37
W2	28/09/2015 14:45	<0.0050	<0.0050	<0.00050	0.0078	<0.00050	0.00045	0.06	<0.00010	<0.0010	<0.05	<0.000010	42.7	High DL removed	<0.00050	0.00162	0.0786	<0.00020	<0.0050	15.4	0.0055	<0.000010	0.0014	<0.0010	0.015	1.41
W2	05/10/2015 9:30	<0.0050	<0.0050	<0.00050	0.0097	<0.00050	0.0005	0.0603	<0.00010	<0.0010	<0.05	<0.000010	43.3	High DL removed	<0.00050	0.00183	0.0595	<0.00020	<0.0050	15.6	0.0072	<0.000010	0.0014	<0.0010	0.011	1.3
W2	13/10/2015 9:55	<0.0050	<0.0050	<0.00050	0.0099	<0.00050	0.00047	0.0531	<0.00010	<0.0010	<0.05	<0.000010	36.3	High DL removed	<0.00050	0.00147	0.0926	<0.00020	<0.0050	13.4	0.0043	<0.000010	0.0012	<0.0010	0.012	1.06
W2	20/10/2015 15:00	<0.0050	<0.0050	<0.00050	0.0085	<0.00050	0.00042	0.059	<0.00010	<0.0010	<0.05	<0.000010	40.9	High DL removed	<0.00050	0.00149	0.0693	<0.00020	<0.0050	14.3	0.0042	<0.000010	0.0013	0.001	<0.01	1.28
W2	26/10/2015 10:00	<0.0050	<0.0050	<0.00050	0.0065	<0.00050	0.00038	0.0672	<0.00010	<0.0010	<0.05	<0.000010	46.6	High DL removed	<0.00050	0.00186	0.046	<0.00020	<0.0050	15.3	0.0092	<0.000010	0.0013	0.0012	0.011	1.39
W2	02/11/2015 14:00	<0.0050	<0.0050	<0.00050	0.0093	<0.00050	0.0004	0.0691	<0.00010	<0.0010	<0.05	<0.000010	51.6	High DL removed	<0.00050	0.00187	0.0437	<0.00020	<0.0050	17.1	0.0112	<0.000010	0.0015	0.0011	0.011	1.6
W2	11/11/2015 13:00	<0.0050	0.0069	<0.00050	0.0091	<0.00050	0.00025	0.0747	<0.00010	<0.0010	<0.05	<0.000010	45.7	High DL removed	<0.00050	0.00213	0.0362	<0.00020	<0.0050	14.8	0.0156	<0.000010	0.0012	0.0012	<0.01	1.36
W2	31/03/2016 11:15	0.00123	<0.0030	<0.00030	0.0052	<0.00010	0.00053	0.0753	<0.000020	<0.000050	<0.010	0.0000086	55.6	0.00020	<0.00010	0.00399	0.024	<0.000050	0.0023	23.2	0.0221	<0.0000050	0.000947	0.00072	<0.050	3.65
W2	04/04/2016 15:30	0.00135	<0.0030	<0.00030	0.0083	<0.00010	0.00047	0.0520	<0.000020	<0.000050	<0.010	0.0000134	36.3	0.00018	<0.00010	0.00550	0.062	<0.000050	0.0015	13.4	0.0217	0.0000057	0.000865	0.00086	<0.050	2.92
W2	09/05/2016 10:40																									
W2	11/05/2016 8:50	0.00143	<0.0030	<0.00030	0.0112	<0.00010	0.00055	0.0458	<0.000020	<0.000050	<0.010	<0.0000050	31.7	0.00028	0.00010	0.00280	0.184	<0.000050	<0.0010	9.41	0.00876	0.0000068	0.00104	0.00132	<0.050	1.12
W2	28/06/2016 13:52	0.00074	<0.0030	<0.00030	0.0056	<0.00010	0.00037	0.0757	<0.000020	<0.000050	<0.010	<0.0000050	48.5	0.00018	<0.00010	0.00224	0.037	<0.000050	0.0021	14.4	0.0194	<0.0000050	0.00130	0.00105	<0.050	1.68
W2	31/10/2016 15:30	<0.00050	<0.0030	<0.00030	0.0029	<0.00010	0.00026	0.0659	<0.000020	<0.000050	<0.010	<0.0000050	47.8	0.00012	<0.00010	0.00161	0.021	<0.000050	0.0016	13.7	0.00902	<0.0000050	0.00115	0.00074	<0.050	1.57
W2	06/11/2016 7:35	<0.00050	<0.0030	<0.00030	0.0028	<0.00010	0.00031	0.0751	<0.000020	<0.000050	<0.010	<0.0000050	47.5	0.00012	<0.00010	0.00172	0.026	<0.000050	0.0015	14.8	0.0125	<0.0000050	0.00113	0.00086	<0.050	1.64
W2	28/08/2008	0.00537	0.015	0.0006	0.047	0.0005	0.0006	0.06	<0.00004		0.007	<0.00001	34.2	0.0011	0.0002	0.013	0.33	0.0002	0.001	9.65	0.0185	<0.00001	0.00214	0.002	0.02	1.95
W2	31/08/2008	0.00366	0.007	0.0004																						
W2	07/09/2008	0.00457	0.011	0.0005																						

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	Br	Cation	CN-T	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-TKN	P-PO4T	P-TDP	P-TRP
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L
W2	07/08/2014 9:40	0.00017	6.45	<0.000020	9.94	0.4	6.5	<0.000050	<0.0050	<0.0050	0.00144	<0.0050	<0.0050	<0.00050	188	<0.50	<0.50	<0.50														
W2	11/08/2014 7:35																															
W2	13/08/2014 14:30																							<0.0010	<0.0010							
W2	13/08/2014 14:30	<0.00010	6.5	<0.000020	8.87	0.443	6.3	<0.000050	<0.0050	<0.0050	0.00167	<0.0050	<0.0050	<0.00050	201	<0.50	<0.50	<0.50														
W2	18/08/2014 15:40																							<0.0010	<0.0010							
W2	18/08/2014 15:40	<0.00010	5.53	<0.000020	9.38	0.427	7.7	<0.000050	<0.0050	<0.0050	0.0016	<0.0050	<0.0050	<0.00050	199	1.08	<0.50	0.9														
W2	26/08/2014 9:00																							<0.0010	<0.0010							
W2	26/08/2014 9:00	0.00011	5.44	<0.000020	8.81	0.422	5.7	<0.000050	<0.0050	<0.0050	0.00154	<0.0050	<0.0050	<0.00050	195	<0.50	<0.50	<0.50														
W2	01/09/2014 14:00																							<0.0010	<0.0010							
W2	01/09/2014 14:00	0.00012	6.12	<0.000020	8.9	0.432	6.7	<0.000050	<0.0050	<0.0050	0.00159	<0.0050	<0.0050	<0.00050	199	1.8	<0.50	1.5														
W2	03/09/2014 14:30																															
W2	11/09/2014 15:40																							<0.0010	<0.0010							
W2	11/09/2014 15:40	<0.00010	5.75	<0.000020	8.95	0.41	5.4	<0.000050	<0.0050	<0.0050	0.00154	<0.0050	<0.0050	<0.00050	198	1.56	<0.50	1.3														
W2	16/09/2014 11:05																							<0.0010	<0.0010							
W2	16/09/2014 11:05	<0.00010	5.65	<0.000020	9.26	0.446	6.1	<0.000050	<0.0050	<0.0050	0.00149	<0.0050	<0.0050	<0.00050	195	<0.50	<0.50	<0.50														
W2	22/09/2014 14:55																							<0.0010	<0.0010							
W2	22/09/2014 14:55	<0.00010	5.6	<0.000020	8.29	0.383	5.1	<0.000050	<0.0050	<0.0050	0.00127	<0.0050	<0.0050	<0.00050	194	1.76	<0.50	1.47														
W2	30/09/2014 14:45																							<0.0010	<0.0010							
W2	30/09/2014 14:45	<0.00010	5.65	<0.000020	7.58	0.332	5	<0.000050	<0.0050	<0.0050	0.00111	<0.0050	<0.0050	<0.00050	169	<0.50	<0.50	<0.50														
W2	07/10/2014 13:40																							<0.0010	<0.0010							
W2	07/10/2014 13:40	0.00012	6.8	<0.000020	8.4	0.37	6.2	<0.000050	<0.0050	<0.0050	0.00133	<0.0050	<0.0050	<0.00050	191	<0.50	<0.50	<0.50														
W2	14/10/2014 15:10	<0.00010	6.69	<0.000020	8.29	0.36	6.4	<0.000050	<0.0050	<0.0050	0.00131	<0.0050	<0.0050	<0.00050	189	<0.50	<0.50	<0.50														
W2	25/10/2014 14:10	0.00026	5.79	<0.000040	9.04	0.392	1670	<0.00010	<0.01	<0.01	0.00149	<0.01	High DL removed	<0.0010	189	<0.50	<0.50	<0.50														
W2	31/10/2014 15:20	0.00011	7.56	<0.000020	10.4	0.476	8	<0.000050	<0.0050	<0.0050	0.00197	<0.0050	<0.0050	<0.00050	220	<0.50	<0.50	<0.50														
W2	06/11/2014 15:50	0.00012	6.18	<0.000020	9.68	0.457	7.4	<0.000050	<0.0050	<0.0050	0.0019	<0.0050	<0.0050	<0.00050	218	<0.50	<0.50	<0.50														
W2	12/11/2014 7:00	<0.00010	6.5	<0.000020	10.6	0.499	7.7	<0.000050	<0.0050	<0.0050	0.00216	<0.0050	<0.0050	<0.00050	211	<0.50	<0.50	<0.50														
W2	19/12/2014 8:35	0.00038	5.66	<0.000020	15.1	0.689	25.4	<0.000050	<0.0050	<0.0050	0.00214	<0.0050	<0.0050	<0.00050	211	<0.50	<0.50	<0.50														
W2	20/12/2014 8:30	0.00031	5.62	<0.000020	12.6	0.641	19.2	<0.000050	<0.0050	<0.0050	0.00227	<0.0050	<0.0050	<0.00050	202	<0.50	<0.50	<0.50														
W2	21/12/2014 9:00																															
W2	05/06/2015 15:30	0.00012	5.9	<0.000020	9.22	0.455	8.2	<0.000050	<0.0050	<0.0050	0.00148	<0.0050	<0.0050	<0.00050	169	<0.50	<0.50	<0.50														
W2	11/06/2015 10:00	0.00012	5.61	<0.000020	9.72	0.434	9	<0.000050	<0.0050	<0.0050	0.00156	<0.0050	<0.0050	<0.00050	174	<0.50	<0.50	<0.50														
W2	15/06/2015 9:45	0.0001	5.82	<0.000020	9.71	0.461	8.7	<0.000050	<0.0050	<0.0050	0.00165	<0.0050	<0.0050	<0.00050	188	<0.50	<0.50	<0.50														
W2	25/06/2015 8:45	0.00015	6.44	<0.000020	10.4	0.537	9.6	<0.000050	<0.0050	<0.0050	0.00174	<0.0050	<0.0050	<0.00050	195	<0.50	<0.50	<0.50														
W2	29/06/2015 15:10	0.00019	6.47	<0.000020	10.1	0.481	9.3	<0.000050	<0.0050	<0.0050	0.00171	<0.0050	<0.0050	<0.00050	197	<0.50	<0.50	<0.50														
W2	02/07/2015 15:20	0.00011	6.12	<0.000020	9.96	0.459	9	<0.000050	<0.0050	<0.0050	0.00172	<0.0050	<0.0050	<0.00050	188	<0.50	<0.50	<0.50									7.93					
W2	09/07/2015 9:10	0.00012	7.33	<0.000020	9.85	0.451	7.6	<0.000050	<0.0050	<0.0050	0.0018	<0.0050	<0.0050	<0.00050	196	<0.50	<0.50	<0.50														
W2	17/07/2015 9:10	0.00011	6.08	<0.000020	9.88	0.441	8	<0.000050	<0.0050	<0.0050	0.00171	<0.0050	<0.0050	<0.00050	200	<0.50	<0.50	<0.50														
W2	23/07/2015 9:25	0.00012	6.78	<0.000020	9.52	0.463	11.2	<0.000050	<0.0050	<0.0050	0.00179	<0.0050	<0.0050	<0.00050	200	<0.50	<0.50	<0.50														
W2	27/07/2015 9:55	<0.00010	6.22	<0.000020	10.8	0.472	11.9	<0.000050	<0.0050	<0.0050	0.00171	<0.0050	<0.0050	<0.00050	197	<0.50	<0.50	<0.50														
W2	04/08/2015 13:40	<0.00010	6.12	<0.000020	10.2	0.464	7.1	<0.000050	<0.0050	<0.0050	0.00186	<0.0050	<0.0050	<0.00050	201	<0.50	<0.50	<0.50														
W2	13/08/2015 17:30	<0.00010	6.16	<0.000020	10.4	0.443	8.5	<0.000050	<0.0050	<0.0050	0.00146	<0.0050	<0.0050	<0.00050	200	<0.50	<0.50	<0.50														
W2	22/08/2015 10:25	<0.00010	5.66	<0.000020	10.4	0.471	6.1	<0.000050	<0.0050	<0.0050	0.00162	<0.0050	<0.0050	<0.00050	202	<0.50	<0.50	<0.50														
W2	25/08/2015 13:55	0.00011	6.94	<0.000020	9.85	0.476	5.3	<0.000050	<0.0050	<0.0050	0.00171	<0.0050	<0.0050	<0.00050	199	<0.50	<0.50	<0.50														
W2	01/09/2015 11:15	<0.00010	7.06	<0.000020	9.65	0.411	5.3	<0.000050	<0.0050	<0.0050	0.00117	<0.0050	<0.0050	<0.00050	175	<0.50	<0.50	<0.50														
W2	08/09/2015 14:55	0.00011	6.48	<0.000020	9.63	0.424	8.2	<0.000050	<0.0050	<0.0050	0.00142	<0.0050	<0.0050	<0.00050	188	<0.50	<0.50	<0.50														
W2	18/09/2015 9:30	0.00011	6.9	<0.000020	9.49	0.409	7	<0.000050	<0.0050	<0.0050	0.00133	<0.0050	<0.0050	<0.00050	187	<0.50	<0.50	<0.50														
W2	22/09/2015 10:30	<0.00010	6.74	<0.000020	9.52	0.41	6	<0.000050	<0.0050	<0.0050	0.00144	<0.0050	<0.0050	<0.00050	187	<0.50	<0.50	<0.50														
W2	28/09/2015 14:00	0.00014	6.77	<0.000020	9.61	0.39	7	<0.000050	<0.0050	<0.0050	0.00129	<0.0050	<0.0050	<0.00050	195	<0.50	<0.50	<0.50														
W2	28/09/2015 14:45	0.00013	6.74	<0.000020	9.94	0.416	7.7	<0.000050	<0.0050	<0.0050	0.00127	<0.0050	<0.0050	<0.00050	206	<0.50	<0.50	<0.50														
W2	05/10/2015 9:30	<0.00010	6.56	<0.000020	9.97	0.42	7	<0.000050	<0.0050	<0.0050	0.0016	<0.0050	<0.0050	<0.00050	202	<0.50	<0.50	<0.50														
W2	13/10/2015 9:55	<0.00010	5.52	<0.000020	8.85	0.374	5	<0.000050	<0.0050	<0.0050	0.00131	<0.0050	<0.0050	<0.00050	187	<0.50	<0.50	<0.50														
W2	20/10/2015 15:00	0.00011	6.41	<0.000020	8.79	0.412	8.1	<0.000050	<0.0050	<0.0050	0.00128	<0.0050	<0.0050	<0.00050	189	<0.50	<0.50	<0.50														
W2	26/10/2015 10:00	<0.00010	6.8	<0.000020	10.1	0.467	7.9	<0.000050	<0.0050	<0.0050	0.00169	<0.0050	<0.0050	<0.00050	202	<0.50	<0.50	<0.50														
W2	02/11/2015 14:00	0.0001	7.26	<0.000020	11.3	0.498	9.3	<0.000050	<0.0050	<0.0050	0.00192	<0.0050	<0.0050	<0.00050	219	<0.50	<0.50	<0.50														
W2	11/11/2015 13:00	0.00015	5.05	<0.000020	10.8	0.506	8.7	<0.000050	<0.0050	<0.0050	0.00228	<0.0050	<0.0050	<0.00050	209	2.06	<0.50	1.72														
W2	31/03/2016 11:15	0.000251	8.78	<0.000010	15.0	0.587	14.8	<0.000010	<0.00010	<0.00030	0.00172	<0.00050	<0.0010	<0.00030	207	8.2	<1.0		5.30		5.43							1.2				
W2	04/04/2016 15:30	0.000151	6.51	<0.000010	8.45	0.315	5.72	<0.000010	<0.00010	0.00035	0.000676	<0.00050	0.0023	<0.00030	134	<1.0	<1.0		3.07		3.37							4.6				
W2	09/05/2016 10:40																															
W2	11/05/2016 8:50	0.000121	4.75	<0.000010	6.15	0.245	4.61	<0.000010	<0.00010	0.00065	0.000697	0.00073	0.0013	<0.00030	106	<1.0	<1.0		2.42		2.66							4.7				
W2	28/06/2016 13:52	0.000103	5.68	<0.000010	9.87	0.455	8.81	<0.000010	<0.00010	<0.00030	0.00175	0.00053	0.0011	<0.00030	144	<1.0	<1.0		3.48		4.08							7.9				
W2	31/10/2016 15:30	0.000189	5.49	<0.000010	9.43	0.492	10.1	<0.000010	<0.00010	<0.00030	0.00206	<0.00050	<0.0010	<0.00030	175	5.8	<1.0		4.44		3.97							-5.6				
W2	06/11/2016 7:35	0.000168	5.82	<0.000010	10.5	0.492	10.1	<0.000010	<0.00010	<0.00030	0.00214	<0.00050	<0.0010	<0.00030	179	<1.0	<1.0		4.35		4.09							-3.1				
W2	28/08/2008	<0.0006	5.69	<0.00001	9.13	0.247		<0.00001	<0.0001	0.0036	0.0007	0.0014	0.003	0.0004	140	<6	<5						80				23.4		1.03	0.07		0.07
W2	31/08/2008														140	<6	<5						80									
W2	07/09/2008														170	<6	<5						110									

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W2	07/08/2014 9:40			366.1			
W2	11/08/2014 7:35			368.1			
W2	13/08/2014 14:30			351.3			
W2	13/08/2014 14:30			351.3			
W2	18/08/2014 15:40			352.4			
W2	18/08/2014 15:40			352.4			
W2	26/08/2014 9:00			359.9			
W2	26/08/2014 9:00			359.9			
W2	01/09/2014 14:00			340.5			
W2	01/09/2014 14:00			340.5			
W2	03/09/2014 14:30			340.3			
W2	11/09/2014 15:40			335.5			
W2	11/09/2014 15:40			335.5			
W2	16/09/2014 11:05			312.2			
W2	16/09/2014 11:05			312.2			
W2	22/09/2014 14:55			323.1			
W2	22/09/2014 14:55			323.1			
W2	30/09/2014 14:45			303.7			
W2	30/09/2014 14:45			303.7			
W2	07/10/2014 13:40			319.8			
W2	07/10/2014 13:40			319.8			
W2	14/10/2014 15:10			339.2			
W2	25/10/2014 14:10			381			
W2	31/10/2014 15:20			381.4			
W2	06/11/2014 15:50			363.8			
W2	12/11/2014 7:00			484.3			
W2	19/12/2014 8:35			512.9			
W2	20/12/2014 8:30			523			
W2	21/12/2014 9:00			474.3			
W2	05/06/2015 15:30			309			
W2	11/06/2015 10:00			335.6			
W2	15/06/2015 9:45			347.3			
W2	25/06/2015 8:45			367.8			
W2	29/06/2015 15:10			350.3			
W2	02/07/2015 15:20						
W2	09/07/2015 9:10			350.8			
W2	17/07/2015 9:10			358.3			
W2	23/07/2015 9:25			377.9			
W2	27/07/2015 9:55			153.4			
W2	04/08/2015 13:40			360.1			
W2	13/08/2015 17:30			343.1			
W2	22/08/2015 10:25			345.2			
W2	25/08/2015 13:55			252.2			
W2	01/09/2015 11:15			305.4			
W2	08/09/2015 14:55			336.9			
W2	18/09/2015 9:30			339			
W2	22/09/2015 10:30			339.4			
W2	28/09/2015 14:00			350			
W2	28/09/2015 14:45			349.1			
W2	05/10/2015 9:30			352.9			
W2	13/10/2015 9:55			328.9			
W2	20/10/2015 15:00			341			
W2	26/10/2015 10:00			345.3			
W2	02/11/2015 14:00			394.7			
W2	11/11/2015 13:00			415.09			
W2	31/03/2016 11:15			476.3			
W2	04/04/2016 15:30			287.7			
W2	09/05/2016 10:40			247.6			
W2	11/05/2016 8:50			217.9			
W2	28/06/2016 13:52			354			
W2	31/10/2016 15:30			399.6			
W2	06/11/2016 7:35			395.2			
W2	28/08/2008					22	
W2	31/08/2008					3.8	
W2	07/09/2008					6.4	

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Phase	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
				mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W2	11/09/2008	Discharge	P	28	264		8.07		279							129	1.89		20.8	0.1	0.04	0.09		0.614	<0.0002	0.0011	0.077	<0.00004	<0.0001
W2	19/09/2008	Discharge	P	9	244		8.12		320							147	2.33		20.9	0.12	<0.01	0.08	19.8	0.312	<0.0002	0.0003	0.067	<0.00004	<0.0001
W2	26/06/2009 20:00	Discharge	P	8	180		8.2		305					156	147					0.007	<0.005	0.1	10.1	0.034	<0.0005	0.0004	0.067	<0.0001	<0.001
W2	27/06/2009	Discharge	P			8.21		350		7.94		108.2																	
W2	28/06/2009	Discharge	P			8.29		265		10.16		107.8																	
W2	29/06/2009	Discharge	P	40	230	7.9	8.2	219	371	7.95		105.2		165	164	130	2.6	0.43	29	<0.005	0.044	2.23	12.5	0.871	<0.0005	0.001	0.107	<0.0001	<0.001
W2	30/06/2009	Discharge	M			8.26		358		7.99		107.4																	
W2	30/06/2009 9:00	Discharge	M																										
W2	01/07/2009	Discharge	P	21	250	8.32	8.3	381	383	8.43		110.5																	
W2	02/07/2009	Discharge	P	7	270	8.2	8.2	387	423	9.2		108.9																	
W2	03/07/2009	Discharge	P	10	240	8.18	8.3	390	391	9.85		105.5																	
W2	04/07/2009 8:30	Discharge	P			8.2		394		9.19		104.9																	
W2	05/07/2009 16:00	Discharge	P	10	240	8.17	8.2	396	396	9.75		105.6		176	182	150	2.7	0.43	41	<0.005	0.024	2.19		0.212	<0.0005	0.0006	0.091	<0.0001	<0.001
W2	06/07/2009	Discharge	P			8.11		401		11.9		107.6																	
W2	07/07/2009	Discharge	P			8.2		394		8.65		105.3																	
W2	08/07/2009	Discharge	P			8.17		409		12.01		106.7																	
W2	08/07/2009 10:00	Discharge	P	9																									
W2	09/07/2009	Discharge	P			8.46		412		13.03		112																	
W2	09/07/2009 9:00	Discharge	P	10																									
W2	10/07/2009	Discharge	P			8.4		408		11.83		114.4																	
W2	10/07/2009 9:00	Discharge	P	9																									
W2	11/07/2009	Discharge	P			8.38		411		12		115.5																	
W2	11/07/2009 11:00	Discharge	P	7																									
W2	12/07/2009	Discharge	P			8.39		413		11.07		116.2																	
W2	12/07/2009 9:00	Discharge	P	6	270		8.3		407					185	180	160	2.8	0.41	39	<0.005	0.022	2.15	12.2	0.15	<0.0005	0.0005	0.092	<0.0001	<0.001
W2	13/07/2009	Discharge	P			8.4		412		9.72		114.2																	
W2	14/07/2009	Discharge	P			8.42		412		9.76		110																	
W2	15/07/2009	Discharge	P	11	260	8.36	8.3	408	403	10.33		104.7																	
W2	16/07/2009	Discharge	P	10	240	8.41	8.2	406	404	7.93		106.7		199	179	160	3.1	0.43	47	0.007	0.026	1.96		0.221	<0.0005	0.0006	0.096	<0.0001	<0.001
W2	17/07/2009	Discharge	P	8	230	8.3	8.2	408	404	7.62		111.2		194	175	160	3	0.46	46	<0.005	0.025	2.02		0.161	<0.0005	0.0005	0.089	<0.0001	<0.001
W2	18/07/2009	Discharge	P	31	210	8.61	8	407	331	7.81		112.4		150	131	84	8.6	0.37	46	0.83	0.125	5.8		1.18	0.0009	0.0015	0.154	<0.0001	<0.001
W2	19/07/2009	Discharge	P		220	8.34	8.2	367	368	7.86		117.5																	
W2	20/07/2009	Discharge	P			8.19		362		8.9		124.5																	
W2	21/07/2009	Discharge	P			8.34		357		8.39		121		158	160					0.029	0.045	2.7		0.374	<0.0005	0.0005	0.079	<0.0001	<0.001
W2	22/07/2009 11:00	Discharge	P	5	210	8.43	8.1	352	348	9.09		122.3																	
W2	22/07/2009 13:00	Discharge	P	6	230		8		345																				
W2	23/07/2009	Discharge	P			8.32		350		9.37		110.5																	
W2	24/07/2009	Discharge	P			8.37		372		10.47		115.2																	
W2	24/07/2009 14:00	Discharge	P	17	220		8.2		366																				
W2	25/07/2009	Discharge	P			8.39		381		8.44		111.4																	
W2	25/07/2009 10:00	Discharge	P	14	240		8.2		382					180	159	140	5.6	0.38	42	0.013	0.055	2.9		0.395	<0.0005	0.0005	0.091	<0.0001	<0.001
W2	26/07/2009	Discharge	P	11	230	8.43	8.2	377	373	10.19		116.2																	
W2	26/07/2009	Discharge	P	8	200		8.1		344																				
W2	27/07/2009	Discharge	P	8	230	8.4	8.2	380	375	12.02		150.2																	
W2	28/07/2009	Discharge	P	12	224	7.94	8.05	348	342	10.69		152.1			155	107	5.65		37.9										
W2	29/07/2009	Discharge	P	<4	210	7.9	8.1	357	351	9.17		86																	
W2	30/07/2009	Discharge	P	<4	200	7.79	8.1	357	350	8.84																			
W2	31/07/2009	Discharge	P	4	210	8.36	8.1	370	362	9.48																			
W2	01/08/2009	Discharge	P			8.1		401		11.13																			
W2	01/08/2009	Discharge	P	5	230		8.2		390					180	186	140	6.2	0.37	38	0.01	0.014	1.56		0.192	<0.0005	0.0005	0.088	<0.0001	<0.001
W2	02/08/2009	Discharge	P	4	240		8.2		395																				
W2	02/08/2009	Discharge	P			7.87		442		13.65																			
W2	03/08/2009	Discharge	P	<4	240		8.1		394																				
W2	03/08/2009	Discharge	P			8.13		409		7.96																			
W2	04/08/2009	Discharge	P	7	260	8	8.3	408	405	7.97																			
W2	05/08/2009	Discharge	P	<4	240	8.34	8.3	405	400	8.35																			
W2	14/08/2009	Discharge	P	18	260	7.87	8.1	371	364	7.49		102.3																	
W2	15/08/2009	Discharge	P	15	220	7.83	8.2	381	377	8.64		146.5		166	164	120	11	0.27	38	0.012	0.04	3.4		0.339	<0.0005	0.0005	0.096	<0.0001	<0.001
W2	16/08/2009	Discharge	P	13	230	7.79	8.2	380	376	9.35		102.1																	
W2	17/08/2009	Discharge	P	17	240	7.87	8.2	377	375	9.75		110																	
W2	18/08/2009	Discharge	P	100	240	7.84	8.2	373	369	9.06		89.4																	
W2	19/08/2009	Discharge	P	550	220	7.96	8	361	357	8.26				225	157	120	10	0.26	30	<0.005	0.014	3.2		8.02	0.0008	0.0052	0.287	0.0003	<0.001
W2	20/08/2009	Discharge	P	33	210	8.1	8.1	367	363	8.23						120	11	0.28	32	<0.005	0.023	3.4							
W2	21/08/2009	Discharge	P	21	220	8.08	8.1	372	368	8.22						120	11	0.28	33	<0.005	0.024	3.6							
W2	22/08/2009	Discharge	P	15	230	7.93	8.1	376	374	9.54				161	167	120	12	0.29	35	<0.005	0.024	3.8		0.395	<0.0005	0.0006	0.092	<0.0001	<0.001

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W2	11/09/2008	0.01	<0.00001	35.6	0.0022	0.00062	0.035	1.39	0.0006	0.002	10	0.0852	0.00001	0.00276	0.003	0.06	3.59	<0.0006	6.26	0.00005	10.5	0.304		<0.00001	<0.0001	0.0294	0.0008
W2	19/09/2008	0.011	0.00004	39.4	0.0017	0.00045	0.044	0.72	0.0002	0.002	11.3	0.102	<0.00001	0.00285	0.001	0.03	4.3	0.0006	6.07	0.00016	10.7	0.331		<0.00001	<0.0001	0.0142	0.001
W2	26/06/2009 20:00	<0.05	0.00002	41.4	<0.001	<0.0005	0.0049	0.07	<0.0002	<0.005	12.7	0.006	<0.00002	0.002	0.001		1.56	0.0002	5.65	<0.00002	9.04	0.357	6	<0.00005	<0.005	<0.005	0.0014
W2	27/06/2009																										
W2	28/06/2009																										
W2	29/06/2009	<0.05	0.00003	43.7	0.002	0.0007	0.0287	1.37	0.0006	<0.005	13.6	0.112	<0.00002	0.007	0.003		3.75	0.0015	6.48	<0.00002	12.9	0.425	13	<0.00005	<0.005	0.035	0.0013
W2	30/06/2009																										
W2	30/06/2009 9:00																										
W2	01/07/2009																										
W2	02/07/2009																										
W2	03/07/2009																										
W2	04/07/2009 8:30																										
W2	05/07/2009 16:00	<0.05	0.00002	47.5	<0.001	<0.0005	0.0231	0.427	0.0002	<0.005	13.9	0.028	<0.00002	0.007	0.001		3.91	0.0015	5.61	<0.00002	13.1	0.49	22	<0.00005	<0.005	0.013	0.0013
W2	06/07/2009																										
W2	07/07/2009																										
W2	08/07/2009																										
W2	08/07/2009 10:00																										
W2	09/07/2009																										
W2	09/07/2009 9:00																										
W2	10/07/2009																										
W2	10/07/2009 9:00																										
W2	11/07/2009																										
W2	11/07/2009 11:00																										
W2	12/07/2009																										
W2	12/07/2009 9:00	<0.05	0.00003	49.4	<0.001	<0.0005	0.0205	0.301	0.0002	<0.005	15.1	0.023	0.00003	0.007	0.001		3.87	0.0011	5.68	<0.00002	13.6	0.504	17	<0.00005	<0.005	0.005	0.0015
W2	13/07/2009																										
W2	14/07/2009																										
W2	15/07/2009																										
W2	16/07/2009	<0.05	0.00003	53	0.001	<0.0005	0.0352	0.468	0.0002	<0.005	16.2	0.033	<0.00002	0.009	0.002		4.52	0.0014	6.65	<0.00002	15	0.547	17	<0.00005	<0.005	0.012	0.0016
W2	17/07/2009	<0.05	0.00002	51.5	<0.001	<0.0005	0.0318	0.352	0.0002	<0.005	15.8	0.025	0.00016	0.009	0.001		4.48	0.0013	5.92	<0.00002	14.9	0.516	21	<0.00005	<0.005	0.007	0.0015
W2	18/07/2009	<0.05	0.00007	41.5	0.003	0.001	0.0611	1.82	0.0017	<0.005	11.4	0.156	0.00004	0.017	0.004		3.71	0.0022	6.33	0.00002	11.7	0.645	18	<0.00005	<0.005	0.057	0.0015
W2	19/07/2009																										
W2	20/07/2009																										
W2	21/07/2009	<0.05	0.00004	43.2	0.001	<0.0005	0.0166	0.647	0.0004	<0.005	12.1	0.038	<0.00002	0.007	0.002		2.66	0.0008	5.8	<0.00002	9.89	0.45	15	<0.00005	<0.005	0.02	0.0013
W2	22/07/2009 11:00																										
W2	22/07/2009 13:00																										
W2	23/07/2009																										
W2	24/07/2009																										
W2	24/07/2009 14:00																										
W2	25/07/2009																										
W2	25/07/2009 10:00	<0.05	<0.00001	49.3	<0.001	<0.0005	0.0243	0.596	0.0005	<0.005	13.8	0.051	<0.00002	0.009	0.002		3.64	0.0013	5.94	<0.00002	13.3	0.484	15	<0.00005	<0.005	0.014	0.0013
W2	26/07/2009																										
W2	26/07/2009																										
W2	27/07/2009																										
W2	28/07/2009																										
W2	29/07/2009																										
W2	30/07/2009																										
W2	31/07/2009																										
W2	01/08/2009																										
W2	01/08/2009	<0.05	0.00003	48.5	<0.001	<0.0005	0.0161	0.312	0.0005	<0.005	14.3	0.025	0.00002	0.008	0.001		3.4	0.0012	5.42	<0.00002	13.5	0.526	17	<0.00005	<0.005	0.008	0.0012
W2	02/08/2009																										
W2	02/08/2009																										
W2	03/08/2009																										
W2	03/08/2009																										
W2	04/08/2009																										
W2	05/08/2009																										
W2	14/08/2009																										
W2	15/08/2009	<0.05	0.00026	45.8	<0.001	<0.0005	0.0118	0.625	0.0008	<0.005	12.6	0.056	<0.00002	0.009	0.002		2.83	0.0011	5.44	<0.00002	12.5	0.52	21	<0.00005	<0.005	0.019	0.0009
W2	16/08/2009																										
W2	17/08/2009																										
W2	18/08/2009																										
W2	19/08/2009	<0.05	0.00018	62.8	0.014	0.0062	0.0656	11.7	0.0043	0.007	16.6	0.443	<0.00002	0.008	0.015		4.11	0.0011	20.9	0.00005	12	0.556	13	0.0001	<0.005	0.349	0.0013
W2	20/08/2009																										
W2	21/08/2009																										
W2	22/08/2009	<0.05	0.00004	44	0.001	<0.0005	0.011	0.614	0.0009	<0.005	12.5	0.049	0.00003	0.009	0.001		2.66	0.001	5.32	<0.00002	12.1	0.506	18	<0.00005	<0.005	0.019	0.0007

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W2	11/09/2008	0.0031	0.008	0.0004																						
W2	19/09/2008	0.00204	0.008	0.0005	0.036	0.0008	0.0007	0.06	<0.00004		0.014	<0.00001	37.6	0.0021	0.00042	0.015	0.31	0.0001	0.001	11	0.0908	<0.00001	0.00254	0.002	0.01	4.03
W2	26/06/2009 20:00	<0.005	<0.005	<0.0005	0.007	<0.0005	0.0004	0.059	<0.0001	<0.001	<0.05	<0.00001	39	High DL removed	<0.0005	0.0029	0.022	<0.0002	<0.005	12.1	0.003	<0.00002	0.002	0.001		1.45
W2	27/06/2009																									
W2	28/06/2009																									
W2	29/06/2009	<0.005	0.007	<0.0005	0.027	<0.0005	0.0005	0.079	<0.0001	<0.001	<0.05	0.00002	43.2	High DL removed	<0.0005	0.0167	0.127	<0.0002	<0.005	13.6	0.003	<0.00002	0.008	0.001		3.55
W2	30/06/2009																									
W2	30/06/2009 9:00																									
W2	01/07/2009																									
W2	02/07/2009																									
W2	03/07/2009																									
W2	04/07/2009 8:30																									
W2	05/07/2009 16:00	<0.005	<0.005	<0.0005	0.017	<0.0005	0.0005	0.08	<0.0001	<0.001	<0.05	0.00002	50	High DL removed	<0.0005	0.0194	0.081	<0.0002	<0.005	14	0.004	<0.00002	0.007	<0.001		4.09
W2	06/07/2009																									
W2	07/07/2009																									
W2	08/07/2009																									
W2	08/07/2009 10:00																									
W2	09/07/2009																									
W2	09/07/2009 9:00																									
W2	10/07/2009																									
W2	10/07/2009 9:00																									
W2	11/07/2009																									
W2	11/07/2009 11:00																									
W2	12/07/2009																									
W2	12/07/2009 9:00	<0.005	0.006	<0.0005	0.013	<0.0005	0.0005	0.084	<0.0001	<0.001	<0.05	0.00001	48.4	High DL removed	<0.0005	0.0163	0.063	<0.0002	<0.005	14.4	0.003	<0.00002	0.007	<0.001		3.81
W2	13/07/2009																									
W2	14/07/2009																									
W2	15/07/2009																									
W2	16/07/2009	<0.005	<0.005	<0.0005	0.016	<0.0005	0.0005	0.077	<0.0001	<0.001	<0.05	0.00001	48.2	High DL removed	<0.0005	0.0227	0.077	<0.0002	<0.005	14.2	0.002	<0.00002	0.007	0.001		4.01
W2	17/07/2009	<0.005	<0.005	<0.0005	0.015	<0.0005	0.0005	0.077	<0.0001	<0.001	<0.05	<0.00001	47.2	High DL removed	<0.0005	0.0226	0.076	<0.0002	<0.005	13.8	0.003	<0.00002	0.008	0.001		4.04
W2	18/07/2009	<0.005	0.011	0.001	0.046	0.0008	0.0009	0.116	<0.0001	<0.001	<0.05	0.00003	37.1	High DL removed	<0.0005	0.0192	0.097	0.0003	<0.005	9.37	0.093	0.00003	0.015	0.001		3.02
W2	19/07/2009																									
W2	20/07/2009																									
W2	21/07/2009	<0.005	0.009	<0.0005	0.011	<0.0005	0.0004	0.068	<0.0001	<0.001	<0.05	0.00002	43	High DL removed	<0.0005	0.0084	0.043	<0.0002	<0.005	12.8	0.004	0.00007	0.007	0.001		2.66
W2	22/07/2009 11:00																									
W2	22/07/2009 13:00																									
W2	23/07/2009																									
W2	24/07/2009																									
W2	24/07/2009 14:00																									
W2	25/07/2009																									
W2	25/07/2009 10:00	<0.005	0.01	<0.0005	0.013	<0.0005	0.0005	0.078	<0.0001	<0.001	<0.05	0.00002	43.5	High DL removed	<0.0005	0.0128	0.052	<0.0002	<0.005	12.3	0.002	<0.00002	0.009	0.001		3.38
W2	26/07/2009																									
W2	26/07/2009																									
W2	27/07/2009																									
W2	28/07/2009																									
W2	29/07/2009																									
W2	30/07/2009																									
W2	31/07/2009																									
W2	01/08/2009																									
W2	01/08/2009	<0.005	<0.005	<0.0005	0.035	<0.0005	0.0005	0.083	<0.0001	<0.001	<0.05	0.00003	52.3	High DL removed	<0.0005	0.0097	0.047	<0.0002	<0.005	13.6	0.003	0.00004	0.008	0.001		3.46
W2	02/08/2009																									
W2	02/08/2009																									
W2	03/08/2009																									
W2	03/08/2009																									
W2	04/08/2009																									
W2	05/08/2009																									
W2	14/08/2009																									
W2	15/08/2009	<0.005	0.006	<0.0005	0.016	<0.0005	0.0004	0.078	<0.0001	<0.001	<0.05	0.00001	44.7	High DL removed	<0.0005	0.0037	0.027	<0.0002	<0.005	12.7	0.001	<0.00002	0.009	<0.001		2.75
W2	16/08/2009																									
W2	17/08/2009																									
W2	18/08/2009																									
W2	19/08/2009	0.021	0.032	0.0015	0.023	<0.0005	0.0006	0.087	<0.0001	<0.001	<0.05	0.00001	42.5	High DL removed	<0.0005	0.0036	0.041	<0.0002	<0.005	12.2	<0.001	<0.00002	0.008	<0.001		2.54
W2	20/08/2009																									
W2	21/08/2009																									
W2	22/08/2009	<0.005	0.005	<0.0005	0.018	<0.0005	0.0004	0.086	<0.0001	<0.001	<0.05	0.00002	46	High DL removed	<0.0005	0.0035	0.035	<0.0002	<0.005	12.7	0.002	<0.00002	0.009	<0.001		2.82

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	Br	Cation	CN-T	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-TKN	P-PO4T	P-TDP	P-TRP
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L
W2	11/09/2008														160	<6	<5						90				21.5		0.96	<0.05		0.06
W2	19/09/2008	0.0013	5.42	<0.00001	11.1	0.317		<0.00001	<0.0001	0.0026	0.0009	0.00156	0.003	0.0004	180	<6	<5						80				20.5		0.91	<0.05		0.08
W2	26/06/2009 20:00	0.0001	5.5	<0.00002	8.54	0.331	8	<0.00005	<0.005	<0.005	0.0014	<0.005	<0.005	<0.0005																		<0.005
W2	27/06/2009																															
W2	28/06/2009																															
W2	29/06/2009	0.0015	5.14	<0.00002	13.3	0.406	15	<0.00005	<0.005	<0.005	0.0013	<0.005	<0.005	<0.0005	150	<0.5	<0.5	<0.5		<0.4												<0.005
W2	30/06/2009																															
W2	30/06/2009 9:00																															<0.005
W2	01/07/2009																															
W2	02/07/2009																															
W2	03/07/2009																															
W2	04/07/2009 8:30																															<0.005
W2	05/07/2009 16:00	0.0014	4.86	<0.00002	13.9	0.464	14	<0.00005	<0.005	<0.005	0.0013	<0.005	<0.005	<0.0005	180	<0.5	<0.5	<0.5		<0.4												<0.005
W2	06/07/2009																															
W2	07/07/2009																															
W2	08/07/2009																															
W2	08/07/2009 10:00																															
W2	09/07/2009																															
W2	09/07/2009 9:00																															
W2	10/07/2009																															
W2	10/07/2009 9:00																															
W2	11/07/2009																															
W2	11/07/2009 11:00																															
W2	12/07/2009																															
W2	12/07/2009 9:00	0.0011	5.35	<0.00002	13.4	0.487	16	<0.00005	<0.005	<0.005	0.0014	<0.005	<0.005	<0.0005	190	<0.5	<0.5	<0.5		<0.4												<0.005
W2	13/07/2009																															
W2	14/07/2009																															
W2	15/07/2009																															
W2	16/07/2009	0.0013	5.31	<0.00002	13.7	0.479	16	<0.00005	<0.005	<0.005	0.0014	<0.005	<0.005	<0.0005	190	<0.5	<0.5	<0.5		<0.4												<0.005
W2	17/07/2009	0.0013	5.28	<0.00002	13.4	0.468	16	<0.00005	<0.005	<0.005	0.0014	<0.005	<0.005	<0.0005	190	<0.5	<0.5	<0.5		<0.4												<0.005
W2	18/07/2009	0.0021	3.14	<0.00002	10.4	0.569	15	<0.00005	<0.005	0.007	0.0012	<0.005	<0.005	0.0005	100	<0.5	<0.5	<0.5		<0.4												<0.005
W2	19/07/2009																															
W2	20/07/2009																															
W2	21/07/2009	0.0009	5.01	<0.00002	10.8	0.415	13	<0.00005	<0.005	<0.005	0.0013	<0.005	<0.005	<0.0005																		0.009
W2	22/07/2009 11:00																															
W2	22/07/2009 13:00																															
W2	23/07/2009																															
W2	24/07/2009																															
W2	24/07/2009 14:00																															
W2	25/07/2009																															
W2	25/07/2009 10:00	0.0014	4.97	<0.00002	11.5	0.488	15	<0.00005	<0.005	<0.005	0.0012	<0.005	<0.005	<0.0005	170	<0.5	<0.5	<0.5		<0.4												<0.005
W2	26/07/2009																															
W2	26/07/2009																															
W2	27/07/2009																															
W2	28/07/2009														130	<6	<5						33									
W2	29/07/2009																															
W2	30/07/2009																															
W2	31/07/2009																															
W2	01/08/2009																															
W2	01/08/2009	0.0012	5.23	<0.00002	13.2	0.52	15	<0.00005	<0.005	<0.005	0.0013	<0.005	<0.005	<0.0005	170	<0.5	<0.5	<0.5		<0.4												<0.005
W2	02/08/2009																															
W2	02/08/2009																															
W2	03/08/2009																															
W2	03/08/2009																															
W2	04/08/2009																															
W2	05/08/2009																															
W2	14/08/2009																															
W2	15/08/2009	0.0011	4.65	<0.00002	12.5	0.476	15	<0.00005	<0.005	<0.005	0.0009	<0.005	<0.005	<0.0005	150	<0.5	<0.5	<0.5		<0.4												<0.005
W2	16/08/2009																															
W2	17/08/2009																															
W2	18/08/2009																															
W2	19/08/2009	0.001	4.99	<0.00002	11.6	0.449	13	<0.00005	<0.005	<0.005	0.0008	<0.005	<0.005	<0.0005	150	<0.5	<0.5	<0.5		<0.4												<0.005
W2	20/08/2009														150	<0.5	<0.5	<0.5		<0.4												<0.005
W2	21/08/2009														150	<0.5	<0.5	<0.5		<0.4												<0.005
W2	22/08/2009	0.0011	4.79	<0.00002	12.5	0.501	16	<0.00005	<0.005	<0.005	0.0008	<0.005	<0.005	<0.0005	140	<0.5	<0.5	<0.5		<0.4												<0.005

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W2	11/09/2008					4.6	
W2	19/09/2008					6.6	
W2	26/06/2009 20:00					2.6	
W2	27/06/2009						3.9
W2	28/06/2009						20.8
W2	29/06/2009					15.7	0.3
W2	30/06/2009						3.6
W2	30/06/2009 9:00						
W2	01/07/2009					6.2	8.8
W2	02/07/2009					2.5	6.3
W2	03/07/2009					4.3	3.7
W2	04/07/2009 8:30						6.7
W2	05/07/2009 16:00					2.4	3.2
W2	06/07/2009						9.7
W2	07/07/2009						0
W2	08/07/2009						2.5
W2	08/07/2009 10:00						
W2	09/07/2009						2.6
W2	09/07/2009 9:00						
W2	10/07/2009						2.1
W2	10/07/2009 9:00						
W2	11/07/2009						2.1
W2	11/07/2009 11:00						
W2	12/07/2009						1.3
W2	12/07/2009 9:00					2.9	
W2	13/07/2009						0.9
W2	14/07/2009						1
W2	15/07/2009					4.4	4.2
W2	16/07/2009					6.3	2.8
W2	17/07/2009					3.5	0.9
W2	18/07/2009					50	2.5
W2	19/07/2009						1
W2	20/07/2009						1.5
W2	21/07/2009						1.4
W2	22/07/2009 11:00					2.3	1.6
W2	22/07/2009 13:00					1.8	
W2	23/07/2009						1.6
W2	24/07/2009						6.7
W2	24/07/2009 14:00					4	
W2	25/07/2009						8.1
W2	25/07/2009 10:00					7.2	
W2	26/07/2009					6.5	6.1
W2	26/07/2009					11.8	
W2	27/07/2009					6.1	6.2
W2	28/07/2009					9.4	12
W2	29/07/2009					2	0.5
W2	30/07/2009					0.5	0
W2	31/07/2009					2	3.2
W2	01/08/2009						2.3
W2	01/08/2009					2.6	
W2	02/08/2009					3.3	
W2	02/08/2009						4.2
W2	03/08/2009					2.5	
W2	03/08/2009						1.4
W2	04/08/2009					1	0.7
W2	05/08/2009					1.4	0
W2	14/08/2009					4.5	6.7
W2	15/08/2009					3.7	5.1
W2	16/08/2009					2.7	2.9
W2	17/08/2009					4.4	4.7
W2	18/08/2009					23.1	32.4
W2	19/08/2009					352	12.7
W2	20/08/2009					9	9.5
W2	21/08/2009					8.9	8.4
W2	22/08/2009					6.2	6.6

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Phase	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
				mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W2	23/08/2009	Discharge	P	20	230	8.08	8.1	378	376	9.42						120	12	0.29	35	<0.005	0.025	3.8							
W2	24/08/2009	Discharge	P	13	180	8.07	8.2	374	381	8.62		101.8				110	14	0.28	34	<0.005	0.029	4							
W2	25/08/2009	Discharge	P	13	240	7.97	8.2	377	382	8.8		99.8																	
W2	26/08/2009	Discharge	P	22	240	8.01	8.2	367	370	8.72		113.2																	
W2	27/08/2009	Discharge	P	15	240	8.02	8	368	367	7.82		110.7																	
W2	28/08/2009	Discharge	P	15	240	7.97	8.1	377	379	9.69		104																	
W2	29/08/2009	Discharge	P	13	250	8.04	8	385	385	9.13		103.5																	
W2	30/08/2009	Discharge	P	71	230	7.87	8	382	382	9.51		102.7		229	167	110	20	0.26	39	<0.005	0.023	4.5		1.92	0.0006	0.0012	0.151	<0.0001	<0.001
W2	31/08/2009	Discharge	P	50	230	7.95	8	365	371	8.61		105.1											9.7						
W2	01/09/2009	Discharge	P	20	230	7.94	8.1	375	380	8.01		106.5																	
W2	02/09/2009	Discharge	P	14	240	7.97	8.1	381	386	7.67		104.4																	
W2	03/09/2009	Discharge	P	13	250	7.95	8.1	385	391	7.23		105.7																	
W2	04/09/2009	Discharge	P	14	230	7.91	8.1	388	393	7.83		101.5																	
W2	05/09/2009	Discharge	P	11	250	8	8.1	389	394	8.06		106.5																	
W2	06/09/2009	Discharge	P	12	240	8.07	8	390	396	7.39		106		175	155	100	22	0.25	42	<0.005	0.012	4.8		0.257	<0.0005	0.0005	0.1	<0.0001	<0.001
W2	07/09/2009	Discharge	P	7	240	8.13	8.1	390	393	6.87		106.2																	
W2	08/09/2009	Discharge	P	10	240	8.24	8.1	391	395	7.05		106.6																	
W2	09/09/2009	Discharge	P	17	250	8.2	8.1	391	396	6.98		105																	
W2	10/09/2009	Discharge	P	8	260	8.14	8.1	395	399	6.31		106.5																	
W2	11/09/2009	Discharge	P	7	260	8.2	8.1	393	398	7.73		108.6																	
W2	12/09/2009	Discharge	P	7	270	8.39	7.9	396	400	7.08		111.9																	
W2	13/09/2009	Discharge	P	6	270	8.19	8.1	397	383	7.45		109.6		171	170	110				<0.005	0.019	4.6		0.191	<0.0005	0.0004	0.104	<0.0001	<0.001
W2	14/09/2009	Discharge	P	6	250	8.22	8	395	400	6.4		109.1																	
W2	15/09/2009	Discharge	P	7	260	8.12	8.1	399	404	5.49		110																	
W2	16/09/2009	Discharge	P	4	260	8.25	7.9	399	404	6.84		106.1																	
W2	17/09/2009	Discharge	P	6	250	8.02	8.1	399	406	7.06		105.7																	
W2	18/09/2009	Discharge	P	6	250	8.45	7.6	402	404	5.23		107.6																	
W2	19/09/2009	Discharge	P	<4	250	8.21	8.1	402	408	5.77		110																	
W2	20/09/2009	Discharge	P	<4	230	8.24	8.1	402	410	5.93		109.8		188	169					<0.005	0.014	5.1		0.169	<0.0005	0.0004	0.105	<0.0001	<0.001
W2	21/09/2009	Discharge	P	<4	270	7.93	8	401	405	5.94		110.4																	
W2	22/09/2009	Discharge	P	<4	240	8.08	8	405	408	4.41		108																	
W2	23/09/2009	Discharge	P	<4	250	8.28	8	401	402	6.04		110.5																	
W2	24/09/2009	Discharge	P	5	240	8.09	8.1	390	396	5.51		108.3																	
W2	25/09/2009	Discharge	P	5	250	8.12	8	396	400	5.71		107.9																	
W2	26/09/2009	Discharge	P	4	230	8.24	8.1	390	403	5.95		110.3		177	168					<0.005	0.012	5.3		0.127	<0.0005	0.0005	0.101	<0.0001	<0.001
W2	27/09/2009	Discharge	P	5	270	8.13	8.1	392	398	4.07		113																	
W2	28/09/2009	Discharge	P	5	240	8.11	8.1	395	406	2.78		112.2																	
W2	29/09/2009	Discharge	P	<4	240	8.33	8.1	434	427	1.45		77.8																	
W2	30/09/2009	Discharge	P	<4	260	8.02	8.1	430	428	2.17		40.3																	
W2	01/10/2009	Discharge	P	5	250	7.82	8.2	420	420	3.53																			
W2	02/10/2009	Discharge	P	<4	240	7.79	8.1	428	378	2.38		99.3																	
W2	03/10/2009	Discharge	P	6	190	7.65	8.1	434	423	2.16		114.2																	
W2	04/10/2009	Discharge	P	5	270	7.7	8.1	430	416	2.79		105.5		183	174					<0.005	0.014	4.9		0.131	<0.0005	0.0004	0.101	<0.0001	<0.001
W2	05/10/2009	Discharge	P	<4	270	7.8	8.1	424	418	2.63		118																	
W2	06/10/2009	Discharge	P	7	270	8.03	8.1	414	408	3.08		119																	
W2	07/10/2009	Discharge	P	<4	280	8.1	8.1	430	422	1.95		119.5																	
W2	08/10/2009	Discharge	P	5	270	8.03	8.1	426	419	2.22		117.2																	
W2	09/10/2009	Discharge	P	5	270	8	8.1	428	423	2.29		118.5																	
W2	10/10/2009	Discharge	P	<4	260	8.05	8	433	427	2.25		96.1																	
W2	11/10/2009	Discharge	P	4	270	8.11	8.1	439	429	1.75		95.3		170	186					<0.005	0.013	5.7		0.144	<0.0005	0.0004	0.096	<0.0001	<0.001
W2	12/10/2009	Discharge	P	6	260	8.16	8.1	444	431	0.99																			
W2	13/10/2009	Discharge	P	9	260	8.13	8.1	446	447	-0.08		117.2																	
W2	14/10/2009	Discharge	P	9	240	8.43	8.1	424	453	-0.08		133.2																	
W2	15/10/2009	Discharge	P	<4	270	8.4	8.1	475	458	-0.08		132																	
W2	16/10/2009	Discharge	P	9	240	7.7	8.1	475	457	-0.07		132.8																	
W2	17/10/2009	Discharge	P	12	240	8.2	8.1	471	456	0		137.1																	
W2	18/10/2009	Discharge	P	<4	240	8.3	8.1	459	449	1.14		140																	
W2	19/10/2009	Discharge	P	<4	200	8.3	8.1	453	446	1.38		133.7																	
W2	20/10/2009	Discharge	P	<4	180	8.25	8.1	431	422	0.08		124.6		199	185	130		0.32		<0.005	<0.005	4.6		0.056	<0.0005	0.0003	0.094	<0.0001	<0.001
W2	21/10/2009	Discharge	P	<4	220	8.21	8.2	413	401	0.73		116.5																	
W2	22/10/2009	Discharge	P	47	200	8.25	8.1	408	396	0.84		99.6																	
W2	23/10/2009	Discharge	P	<4	200	8.13	8.1	404	398	1.28		100.5																	
W2	24/10/2009	Discharge	P	<4	210	8.09	8.1	403	393	0.57		93.3																	
W2	25/10/2009	Discharge	P			8.11		406		0.52		98																	
W2	25/10/2009	Discharge	P	4	220	8.11	8.1	406	395	0.52		98		189	176	130				<0.005	<0.005	3.9	8.2	0.108	<0.0005	0.0004	0.093	<0.0001	<0.001

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W2	23/08/2009																										
W2	24/08/2009																										
W2	25/08/2009																										
W2	26/08/2009																										
W2	27/08/2009																										
W2	28/08/2009																										
W2	29/08/2009																										
W2	30/08/2009	<0.05	0.00007	61.6	0.003	0.0011	0.0247	2.24	0.0013	<0.005	18.3	0.165	<0.00002	0.011	0.004		3.74	0.0015	9.15	<0.00002	19	0.678	20	<0.00005	<0.005	0.072	0.0009
W2	31/08/2009																										
W2	01/09/2009																										
W2	02/09/2009																										
W2	03/09/2009																										
W2	04/09/2009																										
W2	05/09/2009																										
W2	06/09/2009	<0.05	0.00003	48	<0.001	<0.0005	0.0056	0.411	0.0005	<0.005	13.4	0.046	<0.00002	0.009	0.001		2.75	0.0012	4.96	<0.00002	14.9	0.538	19	<0.00005	<0.005	0.01	0.0006
W2	07/09/2009																										
W2	08/09/2009																										
W2	09/09/2009																										
W2	10/09/2009																										
W2	11/09/2009																										
W2	12/09/2009																										
W2	13/09/2009	<0.05	0.00004	46.9	<0.001	<0.0005	0.0035	0.237	0.0004	<0.005	13.1	0.029	<0.00002	0.009	0.001		2.7	0.0012	4.9	<0.00002	14.4	0.573	14	<0.00005	<0.005	<0.005	0.0006
W2	14/09/2009																										
W2	15/09/2009																										
W2	16/09/2009																										
W2	17/09/2009																										
W2	18/09/2009																										
W2	19/09/2009																										
W2	20/09/2009	<0.05	0.00003	51.2	<0.001	<0.0005	0.0034	0.199	0.0004	<0.005	14.7	0.03	0.00003	0.01	0.001		2.9	0.0012	5.3	<0.00002	15.3	0.546	19	<0.00005	<0.005	0.005	0.0006
W2	21/09/2009																										
W2	22/09/2009																										
W2	23/09/2009																										
W2	24/09/2009																										
W2	25/09/2009																										
W2	26/09/2009	<0.05	0.00016	48.1	<0.001	<0.0005	0.0109	0.178	0.0007	<0.005	13.8	0.03	0.00003	0.01	0.003		2.44	0.0011	4.62	<0.00002	14.6	0.544	22	<0.00005	<0.005	<0.005	0.0006
W2	27/09/2009																										
W2	28/09/2009																										
W2	29/09/2009																										
W2	30/09/2009																										
W2	01/10/2009																										
W2	02/10/2009																										
W2	03/10/2009																										
W2	04/10/2009	<0.05	0.00016	50.9	<0.001	<0.0005	0.008	0.177	0.0004	<0.005	13.6	0.038	<0.00002	0.011	0.001		2.62	0.0013	4.6	<0.00002	13.9	0.596	21	<0.00005	<0.005	<0.005	0.0007
W2	05/10/2009																										
W2	06/10/2009																										
W2	07/10/2009																										
W2	08/10/2009																										
W2	09/10/2009																										
W2	10/10/2009																										
W2	11/10/2009	<0.05	0.00005	46.8	<0.001	<0.0005	0.0034	0.205	<0.0002	<0.005	12.9	0.05	0.00005	0.01	0.001		2.41	0.0013	4.66	<0.00002	13	0.587	21	<0.00005	<0.005	<0.005	0.0006
W2	12/10/2009																										
W2	13/10/2009																										
W2	14/10/2009																										
W2	15/10/2009																										
W2	16/10/2009																										
W2	17/10/2009																										
W2	18/10/2009																										
W2	19/10/2009																										
W2	20/10/2009	<0.05	<0.00001	55	<0.001	<0.0005	0.003	0.128	<0.0002	<0.005	15.1	0.029	<0.00002	0.008	0.001		2.44	0.0011	5.41	<0.00002	13.4	0.62	17	<0.00005	<0.005	<0.005	0.001
W2	21/10/2009																										
W2	22/10/2009																										
W2	23/10/2009																										
W2	24/10/2009																										
W2	25/10/2009																										
W2	25/10/2009	<0.05	0.00003	51	<0.001	<0.0005	0.0039	0.219	<0.0002	<0.005	14.9	0.027	<0.00002	0.007	0.001		2.26	0.001	5.96	<0.00002	13.3	0.572	15	<0.00005	<0.005	<0.005	0.0011

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W2	23/08/2009																									
W2	24/08/2009																									
W2	25/08/2009																									
W2	26/08/2009																									
W2	27/08/2009																									
W2	28/08/2009																									
W2	29/08/2009																									
W2	30/08/2009	0.005	0.014	<0.0005	0.072	<0.0005	0.0003	0.092	<0.0001	<0.001	<0.05	<0.00001	44.9	High DL removed	<0.0005	0.0079	0.033	<0.0002	<0.005	13.3	0.005	<0.00002	0.008	<0.001		2.66
W2	31/08/2009																									
W2	01/09/2009																									
W2	02/09/2009																									
W2	03/09/2009																									
W2	04/09/2009																									
W2	05/09/2009																									
W2	06/09/2009	<0.005	<0.005	<0.0005	0.03	<0.0005	0.0004	0.088	<0.0001	<0.001	<0.05	<0.00001	42.7	High DL removed	<0.0005	0.0016	0.024	<0.0002	<0.005	11.8	0.002	<0.00002	0.009	<0.001		2.37
W2	07/09/2009																									
W2	08/09/2009																									
W2	09/09/2009																									
W2	10/09/2009																									
W2	11/09/2009																									
W2	12/09/2009																									
W2	13/09/2009	<0.005	<0.005	<0.0005	0.048	<0.0005	0.0003	0.095	<0.0001	<0.001	<0.05	0.00001	46.8	High DL removed	<0.0005	0.0015	0.032	<0.0002	<0.005	12.8	0.01	<0.00002	0.009	<0.001		2.47
W2	14/09/2009																									
W2	15/09/2009																									
W2	16/09/2009																									
W2	17/09/2009																									
W2	18/09/2009																									
W2	19/09/2009																									
W2	20/09/2009	<0.005	<0.005	<0.0005	0.038	<0.0005	0.0004	0.093	<0.0001	<0.001	<0.05	0.00002	46.8	High DL removed	<0.0005	0.0015	0.029	<0.0002	<0.005	12.7	0.013	0.00006	0.01	<0.001		2.53
W2	21/09/2009																									
W2	22/09/2009																									
W2	23/09/2009																									
W2	24/09/2009																									
W2	25/09/2009																									
W2	26/09/2009	<0.005	0.012	<0.0005	0.033	<0.0005	0.0004	0.095	<0.0001	<0.001	<0.05	0.00002	45.9	High DL removed	<0.0005	0.0015	0.03	<0.0002	<0.005	12.9	0.013	0.00003	0.01	<0.001		2.52
W2	27/09/2009																									
W2	28/09/2009																									
W2	29/09/2009																									
W2	30/09/2009																									
W2	01/10/2009																									
W2	02/10/2009																									
W2	03/10/2009																									
W2	04/10/2009	<0.005	<0.005	<0.0005	0.032	<0.0005	0.0004	0.092	<0.0001	<0.001	<0.05	0.00002	47.8	High DL removed	<0.0005	0.0013	0.025	<0.0002	<0.005	13.2	0.017	0.00006	0.011	<0.001		2.51
W2	05/10/2009																									
W2	06/10/2009																									
W2	07/10/2009																									
W2	08/10/2009																									
W2	09/10/2009																									
W2	10/10/2009																									
W2	11/10/2009	<0.005	<0.005	<0.0005	0.039	<0.0005	0.0004	0.094	<0.0001	<0.001	<0.05	0.00001	51.2	High DL removed	<0.0005	0.0014	0.029	<0.0002	<0.005	14.1	0.032	<0.00002	0.011	<0.001		2.62
W2	12/10/2009																									
W2	13/10/2009																									
W2	14/10/2009																									
W2	15/10/2009																									
W2	16/10/2009																									
W2	17/10/2009																									
W2	18/10/2009																									
W2	19/10/2009																									
W2	20/10/2009	<0.005	<0.005	<0.0005	0.018	<0.0005	0.0003	0.09	<0.0001	<0.001	<0.05	<0.00001	51.2	High DL removed	<0.0005	0.0016	0.029	<0.0002	<0.005	13.9	0.013	<0.00002	0.008	<0.001		2.34
W2	21/10/2009																									
W2	22/10/2009																									
W2	23/10/2009																									
W2	24/10/2009																									
W2	25/10/2009																									
W2	25/10/2009	<0.005	<0.005	<0.0005	0.014	<0.0005	0.0003	0.08	<0.0001	<0.001	<0.05	<0.00001	48.3	High DL removed	<0.0005	0.0016	0.026	<0.0002	<0.005	13.4	0.009	<0.00002	0.007	<0.001		2.11

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	Br	Cation	CN-T	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-TKN	P-PO4T	P-TDP	P-TRP
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L
W2	23/08/2009														140	<0.5	<0.5	<0.5		<0.4													<0.005
W2	24/08/2009														140	<0.5	<0.5	<0.5		<0.4													<0.005
W2	25/08/2009																																
W2	26/08/2009																																
W2	27/08/2009																																
W2	28/08/2009																																
W2	29/08/2009																																
W2	30/08/2009	0.0011	4.69	<0.00002	14.8	0.526	15	<0.00005	<0.005	<0.005	0.0006	<0.005	<0.005	<0.0005	130	<0.5	<0.5	<0.5		<0.4													<0.005
W2	31/08/2009																										9.6						
W2	01/09/2009																																
W2	02/09/2009																																
W2	03/09/2009																																
W2	04/09/2009																																
W2	05/09/2009																																
W2	06/09/2009	0.0011	4.33	<0.00002	13.6	0.512	15	<0.00005	<0.005	<0.005	0.0005	<0.005	<0.005	<0.0005	130	<0.5	<0.5	<0.5		<0.4													<0.005
W2	07/09/2009																																
W2	08/09/2009																																
W2	09/09/2009																																
W2	10/09/2009																																
W2	11/09/2009																																
W2	12/09/2009																																
W2	13/09/2009	0.0011	4.4	<0.00002	14.5	0.542	16	<0.00005	<0.005	<0.005	0.0006	<0.005	<0.005	<0.0005	130	<0.5	<0.5	<0.5															<0.005
W2	14/09/2009																																
W2	15/09/2009																																
W2	16/09/2009																																
W2	17/09/2009																																
W2	18/09/2009																																
W2	19/09/2009																																
W2	20/09/2009	0.0013	4.4	<0.00002	14.5	0.565	17	<0.00005	<0.005	<0.005	0.0006	<0.005	<0.005	<0.0005																			<0.005
W2	21/09/2009																																
W2	22/09/2009																																
W2	23/09/2009																																
W2	24/09/2009																																
W2	25/09/2009																																
W2	26/09/2009	0.0012	4.87	<0.00002	13.6	0.562	17	<0.00005	<0.005	<0.005	0.0006	<0.005	<0.005	<0.0005																			<0.005
W2	27/09/2009																																
W2	28/09/2009																																
W2	29/09/2009																																
W2	30/09/2009																																
W2	01/10/2009																																
W2	02/10/2009																																
W2	03/10/2009																																
W2	04/10/2009	0.0013	4.31	<0.00002	13.7	0.589	19	<0.00005	<0.005	<0.005	0.0007	<0.005	<0.005	<0.0005																			<0.005
W2	05/10/2009																																
W2	06/10/2009																																
W2	07/10/2009																																
W2	08/10/2009																																
W2	09/10/2009																																
W2	10/10/2009																																
W2	11/10/2009	0.0014	4.68	<0.00002	14.9	0.606	20	<0.00005	<0.005	<0.005	0.0006	<0.005	<0.005	<0.0005																			<0.005
W2	12/10/2009																																
W2	13/10/2009																																
W2	14/10/2009																																
W2	15/10/2009																																
W2	16/10/2009																																
W2	17/10/2009																																
W2	18/10/2009																																
W2	19/10/2009																																
W2	20/10/2009	0.0013	5.62	<0.00002	13.3	0.623	17	<0.00005	<0.005	<0.005	0.001	<0.005	<0.005	<0.0005	160	<0.5	<0.5	<0.5		0.6													<0.005
W2	21/10/2009																																
W2	22/10/2009																																
W2	23/10/2009																																
W2	24/10/2009																																
W2	25/10/2009																																
W2	25/10/2009	0.0008	4.85	<0.00002	12.1	0.537	15	<0.00005	<0.005	<0.005	0.001	<0.005	<0.005	<0.0005	160	<0.5	<0.5	<0.5									7.6						<0.005

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W2	23/08/2009					6.1	6.6
W2	24/08/2009	0.006				6.8	5.2
W2	25/08/2009					6.7	4.8
W2	26/08/2009					7.3	6.9
W2	27/08/2009					5.2	4.7
W2	28/08/2009					3.8	4
W2	29/08/2009					4.7	3.2
W2	30/08/2009					20.9	21.4
W2	31/08/2009					9.1	14.6
W2	01/09/2009					5.2	6.4
W2	02/09/2009					5.4	4.9
W2	03/09/2009					2.9	3.4
W2	04/09/2009					3.1	3.8
W2	05/09/2009					3.9	3.8
W2	06/09/2009					3.3	2.9
W2	07/09/2009					1.6	1.9
W2	08/09/2009					2.5	2.8
W2	09/09/2009					3.7	5.6
W2	10/09/2009					2.1	1.9
W2	11/09/2009					2	1.5
W2	12/09/2009					1.5	0.8
W2	13/09/2009					1.2	0.7
W2	14/09/2009					1.3	0.6
W2	15/09/2009					1.6	1
W2	16/09/2009					1.1	0.2
W2	17/09/2009					0.9	0.8
W2	18/09/2009					1.5	0.3
W2	19/09/2009					1.1	0
W2	20/09/2009					1.1	0.2
W2	21/09/2009					1.7	0
W2	22/09/2009					0.9	0
W2	23/09/2009					0.9	0
W2	24/09/2009					1.6	0.7
W2	25/09/2009					1.2	0
W2	26/09/2009					0.9	0
W2	27/09/2009					0.8	0.1
W2	28/09/2009					1.1	0
W2	29/09/2009					1.2	1.6
W2	30/09/2009					0.9	1.4
W2	01/10/2009					0.8	1.8
W2	02/10/2009					0.7	1.2
W2	03/10/2009					2.5	2.4
W2	04/10/2009					1.2	1.9
W2	05/10/2009					1.9	2
W2	06/10/2009					3.8	4
W2	07/10/2009					1.9	2.4
W2	08/10/2009					1.4	2.6
W2	09/10/2009					1.8	2.1
W2	10/10/2009					2	2.7
W2	11/10/2009					1.9	2.3
W2	12/10/2009					2.5	2.2
W2	13/10/2009					2	2.3
W2	14/10/2009					1.3	2.3
W2	15/10/2009					1.1	1.5
W2	16/10/2009					2	3
W2	17/10/2009					4	5.2
W2	18/10/2009					1.7	2.1
W2	19/10/2009					1.9	2
W2	20/10/2009					0.5	1.8
W2	21/10/2009					0.7	1.3
W2	22/10/2009					9.1	1.3
W2	23/10/2009					0.8	0.9
W2	24/10/2009					1.1	1.3
W2	25/10/2009						1.9
W2	25/10/2009	0.009				2.5	

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Phase	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
				mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W2	26/10/2009	Discharge	P	<4	230	8.16	8.1	400	396	1.23		95.9																	
W2	27/10/2009	Discharge	P	<4	220	8.05	8.1	402	395	0.83		92.9		190	174	130				<0.005	<0.005	3.8		0.056	<0.0005	0.0003	0.089	<0.0001	<0.001
W2	28/10/2009	Discharge	P	<4	210	8.12	8.2	401	388	0.66		94.6																	
W2	29/10/2009	Discharge	P	<4	240	7.79	8.2	410	389	0.16		115.5																	
W2	30/10/2009	Discharge	P	4	230	7.81	8.1	412	395	-0.05		113.2																	
W2	14/07/2010	Discharge	P	2	220	8.31	7.9	321	323	6.87		99		156	147	150	2.5	0.31	24	0.009	0.005	0.35	9.8	0.029	<0.0005	<0.0004	0.072	<0.0002	<0.001
W2	15/07/2010	Discharge	P	97	170	8.26	8.13	257	270	7.64		113		143	120	110	3.5	0.26	17	0.02	0.013	1.31	17.2	1.86	<0.0005	0.0014	0.101	<0.0002	<0.001
W2	16/07/2010	Discharge	P	37	200	7.9	8.14	286	296	8.37		106.3		145	130	120	5.3	0.26	21	0.1	0.015	1.78	15.5	0.738	<0.0005	0.0009	0.077	<0.0002	<0.001
W2	17/07/2010	Discharge	P	20	210	7.85	8.13	304	312	7.21		108.1		137	137	120	7.4	0.28	26	<0.005	0.014	2.11	15.4	0.411	<0.0005	0.0006	0.07	<0.0002	<0.001
W2	18/07/2010	Discharge	P	12	240	7.75	8.09	334	347	7.27		107.8		141	140	130	7.8	0.3	28		0.011	2.68	13.5	0.228	<0.0005	0.0006	0.074	<0.0002	<0.001
W2	19/07/2010	Discharge	P	6	230	8.25	8.15	360	372	8.18		104.1		157	152	130	9.9	0.29	33		0.013	3.3	12.5	0.093	<0.0005	0.0005	0.076	<0.0002	<0.001
W2	20/07/2010	Discharge	P	4	230	7.98	8.15	377	388	8.76		97.5		148	166	130	11	0.31	38	0.006	0.01	3.6	12.4	0.074	<0.0005	<0.0004	0.075	<0.0002	<0.001
W2	21/07/2010	Discharge	P	4	250	7.47	8.17	383	394	9.23		85		151	169	130	11	0.34	38	0.018	0.011	3.8	12.6	0.058	<0.0005	<0.0004	0.077	<0.0002	<0.001
W2	22/07/2010	Discharge	P	7	240	8.19	8.17	361	375	9.25		69.6		143	158	120	9.6	0.33	34	0.013	0.009	3.3	14.3	0.082	<0.0005	<0.0004	0.069	<0.0002	<0.001
W2	23/07/2010	Discharge	P	83	210	7.82	8.1	304	301	8.09		55.2		144	134	120	6.1	0.33	28	0.009	<0.005	1.95	13.5	1.16	<0.0005	0.0023	0.099	<0.0002	<0.001
W2	24/07/2010	Discharge	P	20	230	7.68	7.96	296	301	7.08		95.8		137	136	120	6.2	0.3	25	0.017	0.01	1.98	14.9	0.387	<0.0005	0.001	0.079	<0.0002	<0.001
W2	25/07/2010	Discharge	P	13	210	8.03	8.05	311	315	6.97		83.3		149	136	120	6.5	0.27	27	0.02	0.007	1.98	14.1	0.297	<0.0005	0.0009	0.082	<0.0002	<0.001
W2	27/07/2010	Discharge	P	5	230	8.11	8.13	339	348	9.09		47.5		161	154	130	7.8	0.3	29	0.017	0.008	2.57	12.2	0.159	<0.0005	0.0006	0.08	<0.0002	<0.001
W2	28/07/2010	Discharge	P	4	200	8.1	8.16	352	361	7.71		40.7		150	151	130	9.4	0.32	34	0.22	<0.005	2.9	12.4	0.08	<0.0005	0.0004	0.071	<0.0002	<0.001
W2	29/07/2010	Discharge	P	5	220	8.02	8.11	338	345	8.51		78.9		143	155	130	13	0.31	29	0.016	0.006	2.7	10.1	0.094	<0.0005	0.0005	0.067	<0.0002	<0.001
W2	30/07/2010	Discharge	P	3	200	7.95	8.09	358	363	7.88		77.4		149	159	130	9.3	0.33	35	0.023	0.006	3.3	11.3	0.074	<0.0005	0.0005	0.072	<0.0002	<0.001
W2	31/07/2010	Discharge	P	3	220	8	8.2	355	360	8.52		77.3		151	160	130	9.4	0.32	31	0.012	<0.005	3.1	10.1	0.066	<0.0005	0.0004	0.077	<0.0002	<0.001
W2	01/08/2010	Discharge	P	4	250	8.02	8.17	389	397	8.34		77.5		172	173	130	11	0.33	36	0.028	0.006	6.7	11.3	0.084	<0.0005	<0.0004	0.088	<0.0002	<0.001
W2	02/08/2010	Discharge	P	3	260	7.99	8.19	399	410	9.64		78.4		167	177	140	12	0.35	41	0.047	0.009	4.4	9.5	0.077	<0.0005	0.0004	0.086	<0.0002	<0.001
W2	03/08/2010	Discharge	P	4	240	8.03	8.14	407	413	9.06		79.2		187	178	130	12	0.35	44	0.12	0.007	4.6	11	0.071	<0.0005	<0.0004	0.088	<0.0002	<0.001
W2	04/08/2010	Discharge	P	3	260	8.14	8.1	414	419	11.22		85		169	183	130	12	0.38	42	0.019	0.007	4.9	11.5	0.057	<0.0005	<0.0004	0.083	<0.0002	<0.001
W2	05/08/2010	Discharge	P	3	280	8.09	8.15	419	422	9.63		78.8		167	186	140	13	0.35	45	0.015	0.006	5	11	0.052	<0.0005	0.0005	0.084	<0.0002	<0.001
W2	06/08/2010	Discharge	P	3	250	8.1	8.19	422	426	10.07		80.1		164	171	130	14	0.34	45	0.38	0.008	4.9	10	0.056	<0.0005	<0.0004	0.079	<0.0002	<0.001
W2	07/08/2010	Discharge	P	3	280	8.08	8.13	412	418	8.35		78.8		169	174	140	14	0.33	42	0.025	<0.005	4.7	10.5	0.064	<0.0005	0.0005	0.084	<0.0002	<0.001
W2	08/08/2010	Discharge	P	3	290	8.11	8.17	413	419	8.5		79.9		180	174	130	13	0.35	44	High DL removed	0.006	4.8	11	0.066	<0.0005	0.0004	0.08	<0.0002	<0.001
W2	09/08/2010	Discharge	P	5	250	8.08	8.21	398	413	8.84		87.3		198	176	130	12	0.33	44	0.027	0.006	4.4	11.5	0.097	<0.0005	0.0005	0.087	<0.0002	<0.001
W2	10/08/2010	Discharge	P	3	270	8.09	8.25	410	419	8.14		39.8		178	178	140	12	0.35	45	0.04	<0.005	4.8	11.6	0.106	<0.0005	<0.0004	0.09	<0.0002	<0.001
W2	11/08/2010	Discharge	P	18	240	8.43	7.97	392	389	9.03		80.8		176	173	130	11	0.33	44	0.042	<0.005	4.3	11.9	0.32	<0.0005	0.0007	0.093	<0.0002	<0.001
W2	12/08/2010	Discharge	P	9	240	8.54	8.1	369	380	7.16		82.8		190	164	130	9.7	0.32	37	0.042	<0.005	3.7	12.3	0.238	<0.0005	0.0005	0.093	<0.0002	<0.001
W2	13/08/2010	Discharge	P	3	190	7.83	8.07	338	344	8.95		85.9		159	163	130	6.4	0.31	32	0.045	<0.005	2.18	13.1	0.063	<0.0005	0.0005	0.076	<0.0002	<0.001
W2	14/08/2010	Discharge	P	7	260	8.09	8.07	405	417	8.54		88.1		170	175	130	12	0.34	44	0.023	0.026	4.7	10.9	0.123	<0.0005	0.0005	0.09	<0.0002	<0.001
W2	15/08/2010	Discharge	P	6	280	7.76	8.23	427	436	8.87		90.1		167	183	130	13	0.34	50	0.03	0.009	5.7	13.4	0.103	<0.0005	0.0006	0.09	<0.0002	<0.001
W2	16/08/2010	Discharge	P	5	270	8.5	8.23	438	451	9.29		92.7		202	186	140	14	0.34	50	0.026	0.008	5.7	10.9	0.109	<0.0005	0.0007	0.103	<0.0002	<0.001
W2	17/08/2010	Discharge	P	4	270	8.43	8.23	447	463	10.15		91.1		196	187	140	14	0.35	55	0.035	0.012	6.4	11.6	0.072	<0.0005	0.0006	0.101	<0.0002	<0.001
W2	18/08/2010	Discharge	P	310	270	8.53	8.23	395	413	10.08		96.7		217	168	130	11	0.33	42	0.038	<0.005	4.5	14.3	4.93	<0.0005	0.0034	0.214	0.0002	<0.001
W2	19/08/2010	Discharge	P	72	210	8.35	8.14	279	291	8.3		90.6		137	120	110	5.5	0.31	25	<0.01	0.006	2.05	18.9	1.43	<0.0005	0.0012	0.099	<0.0002	<0.001
W2	20/08/2010	Discharge	P	53	210	7.31	8.04	290	309	7.61		92.8		140	127	110	5.9	0.28	27	0.1	0.006	2.1	7.1	0.943	<0.0005	0.001	0.086	<0.0002	<0.001
W2	21/08/2010	Discharge	P	28	200	7.87	8.24	327	342	6.91		94.7		151	148	120	8.4	0.32	30	0.019	0.009	2.9	8.8	0.558	<0.0005	0.0008	0.085	<0.0002	<0.001
W2	22/08/2010	Discharge	P	19	260	8.46	8.28	354		7.26		94.8		155	154	120	10	0.31	38	<0.005	0.005	3.6	13.6	0.329	<0.0005	0.0007	0.086	<0.0002	<0.001
W2	23/08/2010	Discharge	P	18	250	8.15	8.23	371	375	8.6		89.1		154	157	120	13	0.35	41	High DL removed	0.006	3.7	14.2	0.314	<0.0005	0.0007	0.086	<0.0002	<0.001
W2	24/08/2010	Discharge	P	24	250	8.22	8.2	368	370	5.78		89.5		167	167	130	9.1	0.33	37	<0.005	0.009	3.8	15.3	0.431	<0.0005	0.0008	0.092	<0.0002	<0.001
W2	25/08/2010	Discharge	P	13	250	8.17	8.13	402	417	7.34		91.3		175	166	120	12	0.27	47	<0.005	0.017	5.5	13.4	0.371	<0.0005	0.0006	0.085	<0.0002	<0.001
W2	26/08/2010	Discharge	P	9	280	8.21	8.17	409	419	6.65		85.7		183	170	120	14	0.27	55	0.08	0.019	5.5	12.7	0.212	<0.0005	0.0006	0.091	<0.0002	<0.001
W2	27/08/2010	Discharge	P	7	260	8.12	8.2	413	420	6.02		79.6		183	177	120	15	0.27	53	0.033	0.021	5.5	12	0.16	<0.0005	0.0006	0.087	<0.0002	<0.001
W2	28/08/2010	Discharge	P	8	250	8.22	8.21	418	426	5.52		76.6		180	182	120	15	0.28	54	0.028	0.019	5.5	11.6	0.146	<0.0005	0.0005	0.087	<0.0002	<0.001
W2	29/08/2010	Discharge	P	6	300	8.23	8.01	425	435	6.22		73.7		190	177	120	15	0.27	54	0.01	0.016	6	12.5	0.143	<0.0005	0.0006	0.095	<0.0002	<0.001
W2	30/08/2010	Discharge	P	19	230	8.26	8.17	366	381	5.75		66.9		160	165	130	9.7	0.3	37	0.036	<0.005	3.5	13	0.346	<0.0005	0.0007	0.087	<0.0002	<0.001
W2	31/08/2010	Discharge	P	6	300	8.28	8.07	426	443	7.26		63.9		176	182	130	16	0.33	53	0.043	0.015	5.9	11.8	0.151	<0.0005	0.0006	0.094	<0.0002	<0.001
W2	01/09/2010	Discharge	P	6	280	8.28	8.09	426	441	6.66		57.3		189	181	130	14	0.36	50	0.015	0.011	6.4	11.5	0.211	0.001	0.0006	0.094	<0.0002	<0.001
W2	02/09/2010	Discharge	P	6	270	8.2	8.17	427	428	6.75		82.9		178	182	130	15	0.35	49	0.049	0.012	6.4	11.9	0.141	0.0009	0.0005	0.091	<0.0002	<0.001
W2	03/09/2010	Discharge	P	7	300	8.13	8.12	418	432	7.67		81.4		193	179	130	14	0.35	47	0.028	0.011	6.1	12.3	0.167	0.001	0.0005	0.094	<0.0002	<0.001
W2	04/09/2010	Discharge	P	5	280	8.12	8.16	412	413	7.04		81.9		175	173	130	15	0.35	49	0.019	0.01	5.7	12.4	0.103	0.0008	0.0006	0.089	<0.0002	<0.001
W2	05/09/2010	Discharge	P	5	280	8.15	8.11	419	424	5.63		80.4		180	176	130	14	0.36	48	0.043	0.009	6.2	12.1	0.118	<0.0005	0.0006	0.091	<0.0002	<0.001
W2	06/09/2010	Discharge	P	6	240	8.19	8.15	424	431	8.05		83.1		177	176	130	14	0.35	49	0.12	0.013	6.7	11.6	0.148	<0.0005	<0.0004	0.09	<0.0002	<0.001
W2	07/09/2010	Discharge	P	5	330	8.11	8.15	421	431	6.98		83.8		172	187	120	13	0.35	56	0.037	0.012	6.3	12.2	0.111	<0.0005	0.0005	0.082	<0.0002	<0.001
W2	08/09/2010	Discharge	P	6	380	8.2		424	435	7.31		91.5		186	173	130	13	0.3	50	0.033	0.015	6	13.5	0.134	<0.0005	0.0006	0.094	<0.0002	<0.001
W2	09/09/2010	Discharge	P	28	350	8.33	8.11	422	439	7.63		85.3		184	187	130	12	0.35	55	<0.005	0.008	6.1	12.8	0.518	<0.0005	0.0007	0.102	<0.0002	<0.001
W2	10/09/2010	Discharge	P	18	280	7.53	8.16	387	398	6.3		83.4		156	162	120	11		39	0.1	0.01	5.1	13.8	0.331	<0.0005	0.0006	0.086	<0.0002	<0.001
W2	11/09/2010	Discharge	P	11	340	8.07	8.13	412	426	5.85		83.4		180	179	120	12	0.34	56	0.049	0.018	6.3	12.2	0.204	<0.0005	0.0005	0.092	<0.0002	<0.001
W2	12/09/2010	Discharge	P	8	300	8.15	8.11	416	427	6.76		84.2		208	180	120	13	0.3	48	0.03	0.013	6	12.8	0.172	<0.0005	0.0004	0.1	<0.0002	<0.001

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W2	26/10/2009																										
W2	27/10/2009	<0.05	0.00005	51.3	<0.001	<0.0005	0.0036	0.13	<0.0002	<0.005	15.2	0.019	<0.00002	0.007	0.001		2.13	0.0009	5.5	<0.00002	13.5	0.541	15	<0.00005	<0.005	<0.005	0.001
W2	28/10/2009																										
W2	29/10/2009																										
W2	30/10/2009																										
W2	14/07/2010	<0.1	<0.0001	41	<0.002	<0.0005	0.003	0.064	<0.0002	<0.01	13	0.014	<0.0002	0.002	0.001		2	<0.0008	5.93	<0.0001	9	0.407	<60	<0.00005	<0.005	<0.01	0.0014
W2	15/07/2010	<0.1	<0.0001	39	0.002	0.0016	0.013	3.44	0.001	<0.01	11	0.273	<0.0002	0.002	0.005		1	<0.0008	10.2	<0.0001	9	0.314	<60	<0.00005	<0.005	0.07	0.0007
W2	16/07/2010	<0.1	<0.0001	38	<0.002	0.0006	0.007	1.32	0.0003	<0.01	12	0.101	<0.0002	0.003	0.003		2	<0.0008	7.35	<0.0001	10	0.353	<60	<0.00005	<0.005	0.033	0.0007
W2	17/07/2010	<0.1	<0.0001	36	<0.002	<0.0005	0.005	0.718	0.0002	<0.01	11	0.054	<0.0002	0.003	0.002		2	<0.0008	6.25	<0.0001	10	0.369	<60	<0.00005	<0.005	0.015	0.0007
W2	18/07/2010	<0.1	<0.0001	38	<0.002	<0.0005	0.004	0.459	<0.0002	<0.01	11	0.034	<0.0002	0.004	0.002		2	<0.0008	6.19	<0.0001	12	0.414	<60	<0.00005	<0.005	<0.01	0.0008
W2	19/07/2010	<0.1	<0.0001	42	<0.002	<0.0005	0.003	0.225	<0.0002	<0.01	13	0.018	<0.0002	0.005	0.001		2	<0.0008	6.09	<0.0001	14	0.469	<60	<0.00005	<0.005	<0.01	0.0009
W2	20/07/2010	<0.1	<0.0001	41	<0.002	<0.0005	0.002	0.148	<0.0002	<0.01	11	0.014	<0.0002	0.005	<0.001		2	0.0009	5.65	<0.0001	13	0.456	<60	<0.00005	<0.005	<0.01	0.0009
W2	21/07/2010	<0.1	<0.0001	41	<0.002	<0.0005	0.002	0.139	<0.0002	<0.01	12	0.014	<0.0002	0.005	<0.001		2	0.001	5.58	<0.0001	13	0.473	<60	<0.00005	<0.005	<0.01	0.0008
W2	22/07/2010	<0.1	<0.0001	39	<0.002	<0.0005	0.002	0.219	<0.0002	<0.01	11	0.02	<0.0002	0.004	0.001		2	0.0009	5.73	<0.0001	13	0.424	<60	<0.00005	<0.005	<0.01	0.0008
W2	23/07/2010	<0.1	<0.0001	38	<0.002	0.0011	0.01	1.99	0.0007	<0.01	12	0.205	<0.0002	0.002	0.008		2	<0.0008	7.81	<0.0001	11	0.397	<60	<0.00005	<0.005	0.039	0.0008
W2	24/07/2010	<0.1	<0.0001	36	<0.002	<0.0005	0.004	0.707	<0.0002	<0.01	12	0.064	<0.0002	0.002	0.006		2	<0.0008	6.59	<0.0001	10	0.373	<60	<0.00005	<0.005	0.014	0.0007
W2	25/07/2010	<0.1	<0.0001	39	<0.002	<0.0005	0.006	0.544	<0.0002	<0.01	13	0.039	<0.0002	0.004	0.007		2	<0.0008	6.78	<0.0001	12	0.411	<60	<0.00005	<0.005	0.011	0.0008
W2	27/07/2010	<0.1	<0.0001	43	<0.002	<0.0005	0.003	0.304	<0.0002	<0.01	13	0.022	<0.0002	0.004	0.005		2	0.0009	6.62	<0.0001	12	0.436	<60	<0.00005	<0.005	<0.01	0.0009
W2	28/07/2010	<0.1	<0.0001	39	<0.002	<0.0005	0.003	0.186	<0.0002	<0.01	12	0.015	<0.0002	0.004	0.004		2	0.0008	5.44	<0.0001	12	0.433	<60	<0.00005	<0.005	<0.01	0.0008
W2	29/07/2010	<0.1	<0.0001	38	<0.002	<0.0005	0.004	0.212	<0.0002	<0.01	12	0.017	<0.0002	0.004	0.004		2	<0.0008	5.48	<0.0001	11	0.417	<60	<0.00005	<0.005	<0.01	0.0008
W2	30/07/2010	<0.1	<0.0001	39	<0.002	<0.0005	0.003	0.164	<0.0002	<0.01	13	0.014	<0.0002	0.005	0.004		2	0.0009	5.33	<0.0001	12	0.45	<60	<0.00005	<0.005	<0.01	0.0008
W2	31/07/2010	<0.1	<0.0001	40	<0.002	<0.0005	0.003	0.152	<0.0002	<0.01	12	0.014	<0.0002	0.004	0.003		2	0.0009	5.78	<0.0001	12	0.463	<60	<0.00005	<0.005	<0.01	0.0008
W2	01/08/2010	<0.1	<0.0001	46	<0.002	<0.0005	0.003	0.178	<0.0002	<0.01	14	0.016	<0.0002	0.006	0.004		2	0.0012	5.9	<0.0001	14	0.535	<60	<0.00005	<0.005	<0.01	0.0009
W2	02/08/2010	<0.1	<0.0001	43	<0.002	<0.0005	0.005	0.148	<0.0002	<0.01	14	0.016	<0.0002	0.006	0.004		3	0.0011	5.46	<0.0001	15	0.523	<60	<0.00005	<0.005	<0.01	0.0009
W2	03/08/2010	<0.1	<0.0001	51	<0.002	<0.0005	0.003	0.16	<0.0002	<0.01	15	0.013	<0.0002	0.006	0.004		3	0.0014	6	<0.0001	15	0.575	<60	<0.00005	<0.005	<0.01	0.001
W2	04/08/2010	<0.1	<0.0001	45	<0.002	<0.0005	0.004	0.122	<0.0002	<0.01	14	0.013	<0.0002	0.006	0.003		3	0.0012	5.35	<0.0001	16	0.53	<60	<0.00005	<0.005	<0.01	0.001
W2	05/08/2010	<0.1	<0.0001	44	<0.002	<0.0005	0.006	0.115	<0.0002	<0.01	14	0.013	<0.0002	0.006	0.003		3	0.0012	5.21	<0.0001	16	0.536	<60	<0.00005	<0.005	<0.01	0.0009
W2	06/08/2010	<0.1	<0.0001	43	<0.002	<0.0005	0.003	0.123	<0.0002	<0.01	13	0.015	<0.0002	0.006	0.001		3	0.0012	5.03	<0.0001	14	0.54	<60	<0.00005	<0.005	<0.01	0.0009
W2	07/08/2010	<0.1	<0.0001	44	<0.002	<0.0005	0.004	0.141	<0.0002	<0.01	14	0.013	<0.0002	0.006	0.002		3	0.0012	5.24	<0.0001	15	0.566	<60	<0.00005	<0.005	<0.01	0.001
W2	08/08/2010	<0.1	<0.0001	49	<0.002	<0.0005	0.003	0.157	<0.0002	<0.01	14	0.013	<0.0002	0.006	0.002		3	0.0014	5.77	<0.0001	14	0.552	<60	<0.00005	<0.005	<0.01	0.0009
W2	09/08/2010	<0.1	<0.0001	52	<0.002	<0.0005	0.005	0.235	<0.0002	<0.01	16	0.02	<0.0002	0.007	0.002		3	0.0014	6.36	<0.0001	17	0.606	<60	<0.00005	<0.005	<0.01	0.0011
W2	10/08/2010	<0.1	<0.0001	45	<0.002	<0.0005	0.003	0.15	<0.0002	<0.01	16	0.016	<0.0002	0.007	0.002		3	0.0013	5.29	<0.0001	17	0.611	<60	<0.00005	<0.005	<0.01	0.001
W2	11/08/2010	<0.1	<0.0001	47	<0.002	<0.0005	0.005	0.697	0.0002	<0.01	14	0.069	<0.0002	0.006	0.002		3	0.0013	6.6	<0.0001	17	0.575	<60	<0.00005	<0.005	0.015	0.0009
W2	12/08/2010	<0.1	<0.0001	50	<0.002	<0.0005	0.004	0.506	<0.0002	<0.01	16	0.045	<0.0002	0.006	0.002		3	0.0013	7.11	<0.0001	16	0.585	<60	<0.00005	<0.005	<0.01	0.001
W2	13/08/2010	<0.1	<0.0001	43	<0.002	<0.0005	0.004	0.216	<0.0002	<0.01	13	0.018	<0.0002	0.004	0.002		2	<0.0008	6.47	<0.0001	13	0.498	<60	<0.00005	<0.005	<0.01	0.001
W2	14/08/2010	<0.1	<0.0001	45	<0.002	<0.0005	0.003	0.26	<0.0002	<0.01	14	0.025	<0.0002	0.007	0.002		3	0.0015	5.42	<0.0001	14	0.576	<60	<0.00005	<0.005	<0.01	0.001
W2	15/08/2010	<0.1	<0.0001	43	<0.002	<0.0005	0.004	0.223	<0.0002	<0.01	15	0.024	<0.0002	0.007	0.001		3	0.0016	4.95	<0.0001	18	0.616	<60	<0.00005	<0.005	<0.01	0.001
W2	16/08/2010	<0.1	<0.0001	55	<0.002	<0.0005	0.003	0.264	<0.0002	<0.01	16	0.024	<0.0002	0.008	0.001		3	0.0019	6.39	<0.0001	20	0.69	<60	<0.00005	<0.005	<0.01	0.0011
W2	17/08/2010	<0.1	<0.0001	53	<0.002	<0.0005	0.003	0.187	<0.0002	<0.01	16	0.02	<0.0002	0.008	0.002		3	0.0022	5.91	<0.0001	20	0.704	<60	<0.00005	<0.005	<0.01	0.0011
W2	18/08/2010	<0.1	0.0001	59	0.01	0.0044	0.043	9.57	0.0026	<0.01	17	0.709	<0.0002	0.007	0.011		3	0.0021	16.2	<0.0001	15	0.655	<60	0.00006	<0.005	0.205	0.0012
W2	19/08/2010	<0.1	<0.0001	36	0.003	0.0013	0.012	2.68	0.0007	<0.01	11	0.188	<0.00002	0.003	0.005		2	0.0009	9.41	<0.0001	11	0.4	<60	<0.00005	<0.005	0.058	0.0007
W2	20/08/2010	<0.1	<0.0001	37	0.003	0.0009	0.01	1.9	0.0005	<0.01	12	0.134	<0.0002	0.004	0.004		2	0.001	7.97	<0.0001	11	0.407	<60	<0.00005	<0.005	0.038	0.0006
W2	21/08/2010	<0.1	<0.0001	40	<0.002	0.0006	0.007	1.15	0.0003	<0.01	12	0.077	<0.00002	0.004	0.003		2	0.0012	7.37	<0.0001	13	0.483	<60	<0.00005	<0.005	0.022	0.0007
W2	22/08/2010	<0.1	<0.0001	42	<0.002	<0.0005	0.005	0.73	<0.0002	<0.01	12	0.054	<0.0002	0.006	0.002		2	0.0014	6.12	<0.0001	12	0.528	<60	<0.00005	<0.005	0.014	0.0008
W2	23/08/2010	<0.1	<0.0001	41	<0.002	<0.0005	0.005	0.632	0.0002	<0.01	13	0.052	<0.0002	0.005	0.002		2	0.0013	5.55	<0.0001	13	0.542	<60	<0.00005	<0.005	0.011	0.0008
W2	24/08/2010	<0.1	<0.0001	45	<0.002	<0.0005	0.006	0.956	0.0005	<0.01	13	0.073	<0.0002	0.006	0.003		2	0.0014	6.37	<0.0001	13	0.565	<60	<0.00005	<0.005	0.018	0.0009
W2	25/08/2010	<0.1	<0.0001	46	<0.002	<0.0005	0.004	0.488	<0.0002	<0.01	15	0.035	<0.0002	0.007	0.002		3	0.0019	5.85	<0.0001	18	0.614	<60	<0.00005	<0.005	<0.01	0.0008
W2	26/08/2010	<0.1	<0.0001	49	<0.002	<0.0005	0.004	0.457	<0.0002	<0.01	15	0.03	<0.0002	0.008	0.003		3	0.0021	6.22	<0.0001	16	0.648	<60	<0.00005	<0.005	<0.01	0.0009
W2	27/08/2010	<0.1	<0.0001	49	<0.002	<0.0005	0.004	0.392	<0.0002	<0.01	15	0.029	<0.0002	0.007	0.002		3	0.0021	6.16	<0.0001	16	0.63	<60	<0.00005	<0.005	<0.01	0.0009
W2	28/08/2010	<0.1	<0.0001	48	<0.002	<0.0005	0.004	0.352	<0.0002	<0.01	15	0.027	<0.0002	0.008	0.001		3	0.0021	5.81	<0.0001	17	0.643	<60	<0.00005	<0.005	<0.01	0.0009
W2	29/08/2010	<0.1	<0.0001	50	<0.002	<0.0005	0.004	0.341	<0.0002	<0.01	16	0.028	<0.0002	0.009	0.002		3	0.0023	5.97	<0.0001	18	0.715	<60	<0.00005	<0.005	<0.01	0.0009
W2	30/08/2010	<0.1	<0.0001	43	<0.002	<0.0005	0.004	0.754	0.0002	<0.01	13	0.063	<0.0002	0.005	0.002		2	0.0013	6.28	<0.0001	12	0.591	<60	<0.00005	<0.005	0.012	0.0009
W2	31/08/2010	<0.1	<0.0001	47	<0.002	<0.0005	0.004	0.322	<0.0002	<0.01	14	0.026	<0.0002	0.008	0.001		3	0.0021	5.48	<0.0001	16	0.705	<60	<0.00005	<0.005	<0.01	0.0009
W2	01/09/2010	<0.1	<0.0001	50	<0.002	<0.0005	0.004	0.354	<0.0002	<0.01	15	0.026	<0.0002	0.008	0.003		3	0.0022	5.93	<0.0001	17	0.702	<60	<0.00005	<0.005	<0.01	0.0009
W2	02/09/2010	<0.1	<0.0001	47	<0.002	<0.0005	0.006	0.297	<0.0002	<0.01	15	0.023	<0.0002	0.008	0.002		3	0.002	5.54	<0.0001	17	0.674	<60	<0.00005	<0.005	<0.01	0.0009
W2	03/09/2010	<0.1	<0.0001	52	<0.002	<0.0005	0.004	0.38	<0.0002	<0.01	16	0.03	<0.0002	0.008	0.002		3	0.0021	6.23	<0.0001	18	0.709	<60	<0.00005	<0.005	<0.01	0.0009
W2	04/09/2010	<0.1	<0.0001	46	<0.002	<0.0005	0.003	0.269	<0.0002	<0.01	14	0.022	<0.0002	0.007	0.001		3	0.0019	5.66	<0.0001	15	0.66	<60	<0.00005	<0.005	<0.01	0.0009
W2	05/09/2010	<0.1	<0.0001	48	<0.002	<0.0005	0.011	0.334	0.0008	<0.01	15	0.025	<0.0002	0.008	0.002		3	0.002	5.73	<0.0001	16	0.692	<60	<0.00005	<0.005	<0.01	0.0009
W2	06/09/2010	<0.1	<0.0001	47	<0.002	<0.0005	0.003	0.306	<0.0002	<0.01	15	0.027	<0.0002	0.008	0.001		3	0.0021	5.67	<0.0001	16	0.695	<60	<0.00005	<0.005	<0.01	0.0009
W2	07/09/2010	<0.1	<0.0001	46	<0.002	<0.0005	0.003	0.266	<0.0002	<0.01	14	0.023	<0.0002	0.008	0.001		3	0.002	5.56	<0.0001	16	0.665	<60	<0.00005	<0.005	<0.01	0.0008
W2	08/09/2010	<0.1	<0.0001	50	<0.002	<0.0005	0.003	0.297	<0.0002	<0.01	15	0.025	<0.0002	0.008	0.002		3	0.0022	5.61	<0.0001	17	0.727	<60	<0.00005	<0.005	<0.01	0.0009
W2	09/09/2010	<0.1	<0.0001	49	<0.002	<0.0005	0.006	0.984	0.0004	<0.01	15	0.084	<0.0002	0.008	0.002		3	0.0023	6.41	<0.0001	16	0.719	<60	<0.00005	<0.005	0.019	0.0009
W2	10/09/2010	<0.1	<0.0001	42	<0.002	<0.0005	0.004	0.641	<0.0002	<0.01	13	0.049	<0.0002	0.006	0.002		2	0.0016	5.74	<0.0001	13	0.596	<60	<0.00005	<0.005	<0.01	0.0007
W2	11/09/2010	<0.1	<0.0001	48	<0.002	<0.0005	0.004	0.443	<0.0002	<0.01	14	0.036	<0.0002	0.008	0.002		3	0.0023	6.1	<0.0001	16	0.724	<60	<0.00005	<0.005	<0.01	0.0008
W2	12/09/2010	<0.1	<0.0001	57	<0.002	<0.0005	0.006	0.021	<0.0002	<0.01	16	0.069	<0.0002	0.017	0.001		5	0.0044	4.07	<0.0001	26	1.28	<60	<0.00005	<0.005	<0.01	0.0008

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W2	26/10/2009																									
W2	27/10/2009	<0.005	<0.005	<0.0005	0.014	<0.0005	0.0004	0.081	<0.0001	<0.001	<0.05	0.00002	48	High DL removed	<0.0005	0.0015	0.042	<0.0002	<0.005	13.1	0.01	0.00007	0.007	<0.001		2.01
W2	28/10/2009																									
W2	29/10/2009																									
W2	30/10/2009																									
W2	14/07/2010	<0.005	<0.01	<0.002	<0.01	<0.0005	<0.0004	0.068	<0.0002	<0.001	<0.1	High DL removed	39	High DL removed	<0.0005	0.002	0.023	<0.0002	<0.01	12	<0.001	<0.0002	0.002	<0.001		2
W2	15/07/2010	0.007	<0.01	<0.002	0.023	<0.0005	0.0006	0.055	<0.0002	<0.001	<0.1	High DL removed	32	High DL removed	<0.0005	0.003	0.135	<0.0002	<0.01	10	0.002	<0.0002	0.003	0.002		1
W2	16/07/2010	<0.005	<0.01	<0.002	0.02	<0.0005	0.0005	0.061	<0.0002	<0.001	<0.1	High DL removed	35	High DL removed	<0.0005	0.003	0.106	<0.0002	<0.01	10	0.002	<0.0002	0.003	0.001		1
W2	17/07/2010	<0.005	<0.01	<0.002	0.02	<0.0005	0.0005	0.063	<0.0002	<0.001	<0.1	High DL removed	37	High DL removed	<0.0005	0.003	0.094	<0.0002	<0.01	11	0.002	<0.0002	0.004	0.001		2
W2	18/07/2010	<0.005	<0.01	<0.002	0.028	<0.0005	0.0005	0.069	<0.0002	<0.001	<0.1	High DL removed	37	High DL removed	<0.0005	0.002	0.091	<0.0002	<0.01	12	0.008	<0.0002	0.004	0.001		2
W2	19/07/2010	<0.005	<0.01	<0.002	0.015	<0.0005	0.0004	0.076	<0.0002	<0.001	<0.1	High DL removed	40	High DL removed	<0.0005	0.002	0.047	<0.0002	<0.01	12	0.003	<0.0002	0.005	0.001		2
W2	20/07/2010	<0.005	<0.01	<0.002	0.016	<0.0005	0.0005	0.084	<0.0002	<0.001	<0.1	High DL removed	45	High DL removed	<0.0005	0.002	0.038	<0.0002	<0.01	13	0.003	<0.0002	0.005	0.001		2
W2	21/07/2010	<0.005	<0.01	<0.002	0.015	<0.0005	0.0005	0.084	<0.0002	<0.001	<0.1	High DL removed	47	High DL removed	<0.0005	0.002	0.042	<0.0002	<0.01	13	0.003	<0.0002	0.006	0.001		2
W2	22/07/2010	<0.005	<0.01	<0.002	0.018	<0.0005	0.0005	0.08	<0.0002	<0.001	<0.1	High DL removed	43	High DL removed	<0.0005	0.002	0.058	<0.0002	<0.01	12	0.002	<0.0002	0.005	0.001		2
W2	23/07/2010	0.005	<0.01	<0.002	0.018	<0.0005	0.0005	0.063	<0.0002	<0.001	<0.1	High DL removed	35	High DL removed	<0.0005	0.003	0.11	<0.0002	<0.01	11	0.004	<0.0002	0.004	0.002		2
W2	24/07/2010	<0.005	<0.01	<0.002	0.016	<0.0005	0.0005	0.064	<0.0002	<0.001	<0.1	High DL removed	36	High DL removed	<0.0005	0.002	0.128	<0.0002	<0.01	11	0.001	<0.0002	0.003	0.001		2
W2	25/07/2010	<0.005	<0.01	<0.002	0.017	<0.0005	0.0005	0.068	<0.0002	<0.001	<0.1	High DL removed	36	High DL removed	<0.0005	0.002	0.09	<0.0002	<0.01	11	0.004	<0.0002	0.004	0.001		2
W2	27/07/2010	<0.005	<0.01	<0.002	0.016	<0.0005	0.0005	0.072	<0.0002	<0.001	<0.1	High DL removed	41	High DL removed	<0.0005	0.002	0.058	<0.0002	<0.01	13	0.005	<0.0002	0.004	0.001		2
W2	28/07/2010	<0.005	<0.01	<0.002	0.013	<0.0005	0.0004	0.071	<0.0002	<0.001	<0.1	High DL removed	40	High DL removed	<0.0005	0.001	0.054	<0.0002	<0.01	12	0.005	<0.0002	0.004	0.001		2
W2	29/07/2010	<0.005	<0.01	<0.002	0.016	<0.0005	0.0004	0.071	<0.0002	<0.001	<0.1	High DL removed	41	High DL removed	<0.0005	0.002	0.063	<0.0002	<0.01	13	0.005	<0.0002	0.004	0.001		2
W2	30/07/2010	<0.005	<0.01	<0.002	0.017	<0.0005	0.0005	0.077	<0.0002	<0.001	<0.1	High DL removed	42	High DL removed	<0.0005	0.001	0.049	<0.0002	<0.01	13	0.001	<0.0002	0.005	0.001		2
W2	31/07/2010	<0.005	<0.01	<0.002	0.017	<0.0005	0.0004	0.077	<0.0002	<0.001	<0.1	High DL removed	43	High DL removed	<0.0005	0.002	0.047	<0.0002	<0.01	13	0.001	<0.0002	0.004	0.001		2
W2	01/08/2010	<0.005	<0.01	<0.002	0.017	<0.0005	0.0005	0.084	<0.0002	<0.001	<0.1	High DL removed	46	High DL removed	<0.0005	0.002	0.045	<0.0002	<0.01	14	0.003	<0.0002	0.006	0.001		3
W2	02/08/2010	<0.005	<0.01	<0.002	0.015	<0.0005	0.0005	0.087	<0.0002	<0.001	<0.1	High DL removed	47	High DL removed	<0.0005	0.002	0.036	<0.0002	<0.01	15	<0.001	<0.0002	0.006	0.001		3
W2	03/08/2010	<0.005	<0.01	<0.002	0.013	<0.0005	0.0005	0.082	<0.0002	<0.001	<0.1	High DL removed	48	High DL removed	<0.0005	0.002	0.034	<0.0002	<0.01	14	0.002	<0.0002	0.006	0.001		3
W2	04/08/2010	<0.005	<0.01	<0.002	0.016	<0.0005	0.0005	0.083	<0.0002	<0.001	<0.1	High DL removed	50	High DL removed	<0.0005	0.002	0.048	<0.0002	<0.01	14	0.007	<0.0002	0.006	0.001		3
W2	05/08/2010	<0.005	0.017	<0.002	0.018	<0.0005	0.0005	0.086	<0.0002	<0.001	<0.1	High DL removed	50	High DL removed	<0.0005	0.002	0.047	<0.0002	<0.01	15	0.007	<0.0002	0.007	0.001		3
W2	06/08/2010	<0.005	<0.01	<0.002	0.014	<0.0005	0.0004	0.086	<0.0002	<0.001	<0.1	High DL removed	45	High DL removed	<0.0005	0.002	0.035	<0.0002	<0.01	14	0.008	<0.0002	0.007	<0.001		3
W2	07/08/2010	<0.005	<0.01	<0.002	0.015	<0.0005	0.0004	0.085	<0.0002	<0.001	<0.1	High DL removed	46	High DL removed	<0.0005	0.002	0.046	<0.0002	<0.01	14	0.006	<0.0002	0.006	0.001		3
W2	08/08/2010	<0.005	<0.01	<0.002	0.015	<0.0005	0.0004	0.083	<0.0002	<0.001	<0.1	High DL removed	46	High DL removed	<0.0005	0.002	0.045	<0.0002	<0.01	14	0.006	<0.0002	0.006	0.001		3
W2	09/08/2010	<0.005	<0.01	<0.002	0.021	<0.0005	0.0005	0.081	<0.0002	<0.001	<0.1	High DL removed	47	High DL removed	<0.0005	0.002	0.057	<0.0002	<0.01	14	0.006	<0.0002	0.006	0.001		3
W2	10/08/2010	<0.005	<0.01	<0.002	0.017	<0.0005	0.0004	0.085	<0.0002	<0.001	<0.1	High DL removed	48	High DL removed	<0.0005	0.002	0.054	<0.0002	<0.01	14	0.005	<0.0002	0.006	0.001		3
W2	11/08/2010	<0.005	<0.01	<0.002	0.017	<0.0005	0.0005	0.082	<0.0002	<0.001	<0.1	High DL removed	46	High DL removed	<0.0005	0.002	0.075	<0.0002	<0.01	14	0.005	<0.0002	0.006	0.001		3
W2	12/08/2010	<0.005	<0.01	<0.002	0.019	<0.0005	0.0005	0.075	<0.0002	<0.001	<0.1	High DL removed	43	High DL removed	<0.0005	0.002	0.097	<0.0002	<0.01	13	0.005	<0.0002	0.005	0.001		2
W2	13/08/2010	<0.005	<0.01	<0.002	0.014	<0.0005	0.0005	0.072	<0.0002	<0.001	<0.1	High DL removed	45	High DL removed	<0.0005	0.002	0.095	<0.0002	<0.01	13	0.007	<0.0002	0.004	0.001		2
W2	14/08/2010	<0.005	<0.01	<0.002	0.017	<0.0005	0.0005	0.086	<0.0002	<0.001	<0.1	High DL removed	47	High DL removed	<0.0005	0.002	0.069	<0.0002	<0.01	14	0.004	<0.0002	0.006	0.001		3
W2	15/08/2010	<0.005	<0.01	<0.002	0.021	<0.0005	0.0005	0.087	<0.0002	<0.001	<0.1	High DL removed	49	High DL removed	<0.0005	0.002	0.064	<0.0002	<0.01	15	0.005	<0.0002	0.007	0.001		3
W2	16/08/2010	<0.005	<0.01	<0.002	0.019	<0.0005	0.0005	0.092	<0.0002	<0.001	<0.1	High DL removed	50	High DL removed	<0.0005	0.003	0.061	<0.0002	<0.01	15	0.005	<0.0002	0.008	<0.001		3
W2	17/08/2010	<0.005	<0.01	<0.002	0.015	<0.0005	0.0004	0.094	<0.0002	<0.001	<0.1	High DL removed	50	High DL removed	<0.0005	0.001	0.041	<0.0002	<0.01	15	0.004	<0.0002	0.008	<0.001		3
W2	18/08/2010	0.016	0.026	<0.002	0.017	<0.0005	0.0006	0.085	<0.0002	<0.001	<0.1	High DL removed	45	High DL removed	<0.0005	0.002	0.092	<0.0002	<0.01	13	0.013	<0.0002	0.007	0.001		3
W2	19/08/2010	0.005	<0.01	<0.002	0.02	<0.0005	0.0006	0.061	<0.0002	<0.001	<0.1	High DL removed	31	High DL removed	<0.0005	0.003	0.187	<0.0002	<0.01	10	0.01	<0.0002	0.003	0.002		1
W2	20/08/2010	<0.005	<0.01	<0.002	0.022	<0.0005	0.0006	0.066	<0.0002	<0.001	<0.1	High DL removed	34	High DL removed	<0.0005	0.002	0.147	<0.0002	<0.01	10	0.006	<0.0002	0.004	0.002		1
W2	21/08/2010	<0.005	<0.01	<0.002	0.018	<0.0005	0.0006	0.073	<0.0002	<0.001	<0.1	High DL removed	40	High DL removed	<0.0005	0.002	0.149	<0.0002	<0.01	12	0.005	<0.0002	0.005	0.001		2
W2	22/08/2010	<0.005	<0.01	<0.002	0.019	<0.0005	0.0005	0.075	<0.0002	<0.001	<0.1	High DL removed	42	High DL removed	<0.0005	0.002	0.125	<0.0002	<0.01	12	0.005	<0.0002	0.005	0.001		2
W2	23/08/2010	<0.005	<0.01	<0.002	0.018	<0.0005	0.0005	0.075	<0.0002	<0.001	<0.1	High DL removed	42	High DL removed	<0.0005	0.002	0.103	<0.0002	<0.01	13	0.007	<0.00002	0.005	0.001		2
W2	24/08/2010	<0.005	<0.01	<0.002	0.022	<0.0005	0.0005	0.077	<0.0002	<0.001	<0.1	0.0002	45	High DL removed	<0.0005	0.003	0.136	<0.0002	<0.01	13	0.006	<0.00002	0.005	0.001		2
W2	25/08/2010	<0.005	<0.01	<0.002	0.018	<0.0005	0.0005	0.081	<0.0002	<0.001	<0.1	High DL removed	46	High DL removed	<0.0005	0.002	0.098	<0.0002	<0.01	12	0.005	<0.0002	0.007	0.001		2
W2	26/08/2010	<0.005	<0.01	<0.002	0.019	<0.0005	0.0005	0.08	<0.0002	<0.001	<0.1	High DL removed	46	High DL removed	<0.0005	0.002	0.097	<0.0002	<0.01	13	0.006	<0.0002	0.007	0.001		2
W2	27/08/2010	<0.005	<0.01	<0.002	0.019	<0.0005	0.0004	0.082	<0.0002	<0.001	<0.1	High DL removed	48	High DL removed	<0.0005	0.002	0.098	<0.0002	<0.01	14	0.006	<0.0002	0.007	<0.001		2
W2	28/08/2010	<0.005	<0.01	<0.002	0.019	<0.0005	0.0004	0.084	<0.0002	<0.001	<0.1	High DL removed	49	High DL removed	<0.0005	0.002	0.097	<0.0002	<0.01	14	0.006	<0.0002	0.007	<0.001		3
W2	29/08/2010	<0.005	<0.01	<0.002	0.025	<0.0005	0.0005	0.081	<0.0002	<0.001	<0.1	High DL removed	47	High DL removed	<0.0005	0.002	0.08	<0.0002	<0.01	14	0.006	<0.0002	0.007	0.001		3
W2	30/08/2010	<0.005	<0.01	<0.002	0.019	<0.0005	0.0004	0.076	<0.0002	<0.001	<0.1	High DL removed	45	High DL removed	<0.0005	0.002	0.129	<0.0002	<0.01	13	0.004	<0.0002	0.005	0.001		2
W2	31/08/2010	<0.005	<0.01	<0.002	0.026	<0.0005	0.0004	0.087	<0.0002	<0.001	<0.1	High DL removed	49	High DL removed	<0.0005	0.002	0.081	<0.0002	<0.01	14	0.005	<0.0002	0.008	<0.001		3
W2	01/09/2010	<0.005	<0.01	<0.002	0.027	<0.0005	0.0005	0.085	<0.0002	<0.001	<0.1	High DL removed	48	High DL removed	<0.0005	0.003	0.095	<0.0002	<0.01	14	0.007	<0.0002	0.008	0.001		3
W2	02/09/2010	<0.005	<0.01	<0.002	0.027	<0.0005	0.0005	0.082	<0.0002	<0.001	<0.1	High DL removed	49	High DL removed	<0.0005	0.002	0.091	<0.0002	<0.01	14	0.008	<0.0002	0.008	0.002		3
W2	03/09/2010	<0.005	<0.01	<0.002	0.022	0.0008	0.0005	0.081	<0.0002	<0.001	<0.1	High DL removed	47	High DL removed	<0.0005	0.002	0.099	<0.0002	<0.01	15	0.008	<0.0002	0.008	0.001		3
W2	04/09/2010	<0.005	<0.01	<0.002	0.02	0.0008	0.0005	0.078	<0.0002	<0.001	<0.1	High DL removed	47	High DL removed	<0.0005	0.002	0.096	<0.0002	<0.01	13	0.007	<0.0002	0.007	0.001		3
W2	05/09/2010	<0.005	<0.01	<0.002	0.02	0.0009	0.0005	0.081	<0.0002	<0.001	<0.1	High DL removed	48	High DL removed	<0.0005	0.002	0.103	<0.0002	<0.01	13	0.006	<0.0002	0.007	0.001		3
W2	06/09/2010	<0.005	<0.01	<0.002	0.021	0.0009	0.0005	0.085	<0.0002	<0.001	<0.1	High DL removed	48	High DL removed	<0.0005	0.002	0.086	<0.0002	<0.01	13	0.008	<0.0002	0.008	0.001		3
W2	07/09/2010	<0.005	<0.01	<0.002	0.03	<0.0005	0.0005	0.081	<0.0002	<0.001	<0.1	High DL removed	50	High DL removed	<0.0005	0.002	0.093	<0.0002	<0.01	15	0.009	<0.0002	0.008	0.001		3
W2	08/09/2010	<0.005	<0.01	<0.002	0.044	<0.0005	0.0005	0.086	<0.0002	<0.001	<0.1	High DL removed	46	High DL removed	<0.0005	0.002	0.09	<0.0002	<0.01	14	0.008	<0.0002	0.008	0.001		3
W2	09/09/2010	<0.005	<0.01	<0.002	0.021	<0.0005	0.0005	0.084	<0.0002	<0.001	<0.1	High DL removed	50	High DL removed	<0.0005	0.002	0.099	<0.0002	<0.01	15	0.007	<0.0002	0.008	0.001		3
W2	10/09/2010	<0.005	<0.01	<0.002	0.02	<0.0005	0.0005	0.079	<0.0002	<0.001	<0.1	High DL removed	43	High DL removed	<0.0005	0.002	0.12	<0.0002	<0.01	13	0.007	<0.0002	0.007	0.001		2
W2	11/09/2010	<0.005	<0.01	<0.002	0.02	<0.0005	0.0005	0.08	<0.0002	<0.001	<0.1	High DL removed	49	High DL removed	<0.0005	0.002	0.107	<0.0002	<0.01	14	0.007	<0.0002	0.008	0.001		3
W2	12/09/2010	<0.005	<0.01	<0.002	0.02	<0.0005	0.0005	0.082	<0.0002	<0.001	<0.1	High DL removed	48	High DL removed	<0.0005	0.002	0.101	<0.0002	<0.01	15	0.007	<0.0002	0.008	0.001		3

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	Br	Cation	CN-T	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-TKN	P-PO4T	P-TDP	P-TRP
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L
W2	26/10/2009																															
W2	27/10/2009	0.0009	5.44	<0.00002	11.7	0.529	14	<0.00005	<0.005	<0.005	0.001	<0.005	<0.005	<0.0005	160	<0.5	<0.5	<0.5														<0.005
W2	28/10/2009																															
W2	29/10/2009																															
W2	30/10/2009																															
W2	14/07/2010	<0.0008	5.52	<0.0001	9	0.382	<60	<0.00005	<0.005	<0.01	0.0013	<0.005	High DL removed	<0.002	180	<0.5	<0.5	<0.5		<0.4												<0.005
W2	15/07/2010	<0.0008	5.85	<0.0001	8	0.296	<60	<0.00005	<0.005	<0.01	0.0006	<0.005	High DL removed	<0.002	140	<0.5	<0.5	<0.5		0.6												<0.005
W2	16/07/2010	<0.0008	5.84	<0.0001	9	0.345	<60	<0.00005	<0.005	<0.01	0.0007	<0.005	High DL removed	<0.002	140	<0.5	<0.5	<0.5		0.9												<0.005
W2	17/07/2010	<0.0008	5.85	<0.0001	10	0.381	<60	<0.00005	<0.005	<0.01	0.0007	<0.005	High DL removed	<0.002	140	<0.5	<0.5	<0.5		1.2												<0.005
W2	18/07/2010	<0.0008	5.79	<0.0001	12	0.417	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		1.4												<0.005
W2	19/07/2010	0.0008	5.93	<0.0001	13	0.468	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		1.4												<0.005
W2	20/07/2010	0.0009	5.75	<0.0001	14	0.511	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		1.9												<0.005
W2	21/07/2010	0.001	5.77	<0.0001	14	0.517	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		2												<0.005
W2	22/07/2010	0.0009	5.65	<0.0001	13	0.49	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		1.8												<0.005
W2	23/07/2010	<0.0008	6.11	<0.0001	11	0.372	<60	<0.00005	<0.005	<0.01	0.0006	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		1.3												<0.005
W2	24/07/2010	<0.0008	5.9	<0.0001	11	0.386	<60	<0.00005	<0.005	<0.01	0.0006	<0.005	High DL removed	<0.002	140	<0.5	<0.5	<0.5		<0.4												<0.005
W2	25/07/2010	<0.0008	5.76	<0.0001	10	0.392	<60	<0.00005	<0.005	<0.01	0.0006	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		1.4												<0.005
W2	27/07/2010	<0.0008	6.19	<0.0001	13	0.436	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		1.3												<0.005
W2	28/07/2010	0.0009	5.72	<0.0001	13	0.441	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		1.6												<0.005
W2	29/07/2010	0.0008	6.28	<0.0001	13	0.436	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		1.9												<0.005
W2	30/07/2010	0.0009	6.16	<0.0001	14	0.472	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		2.6												<0.005
W2	31/07/2010	0.0009	6.27	<0.0001	14	0.473	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		2.6												<0.005
W2	01/08/2010	0.0012	6.14	<0.0001	16	0.523	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		3.3												<0.005
W2	02/08/2010	0.0013	6.02	<0.0001	17	0.539	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	170	<0.5	<0.5	<0.5		2.6												<0.005
W2	03/08/2010	0.0014	5.69	<0.0001	15	0.546	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		4.1												<0.005
W2	04/08/2010	0.0014	5.74	<0.0001	15	0.567	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		3.4												<0.005
W2	05/08/2010	0.0015	5.86	<0.0001	17	0.571	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		4.2												<0.005
W2	06/08/2010	0.0014	5.15	<0.0001	15	0.579	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		6.7												<0.005
W2	07/08/2010	0.0014	5.45	<0.0001	16	0.575	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	170	<0.5	<0.5	<0.5		2.3												<0.005
W2	08/08/2010	0.0014	5.41	<0.0001	15	0.578	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		3.8												<0.005
W2	09/08/2010	0.0014	5.96	<0.0001	16	0.568	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		2												<0.005
W2	10/08/2010	0.0014	5.85	<0.0001	17	0.6	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	170	<0.5	<0.5	<0.5		2.2												<0.005
W2	11/08/2010	0.0014	5.98	<0.0001	16	0.576	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		1.6												<0.005
W2	12/08/2010	0.0012	5.82	<0.0001	14	0.511	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		2												<0.005
W2	13/08/2010	<0.0008	6.76	<0.0001	12	0.493	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		0.7												<0.005
W2	14/08/2010	0.0014	6.06	<0.0001	16	0.559	<60	<0.00005	<0.005	<0.01	0.001	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		2.9												<0.005
W2	15/08/2010	0.0019	5.56	<0.0001	17	0.626	<60	<0.00005	<0.005	<0.01	0.001	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		2.7												<0.005
W2	16/08/2010	0.002	5.76	<0.0001	18	0.669	<60	<0.00005	<0.005	<0.01	0.001	<0.005	High DL removed	<0.002	170	<0.5	<0.5	<0.5		2.5												<0.005
W2	17/08/2010	0.0022	5.59	<0.0001	19	0.705	<60	<0.00005	<0.005	<0.01	0.001	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		2												<0.005
W2	18/08/2010	0.0018	5.16	<0.0001	14	0.609	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		2.9												<0.005
W2	19/08/2010	0.0008	5.45	<0.0001	9	0.375	<60	<0.00005	<0.005	<0.01	0.0005	<0.005	High DL removed	<0.002	130	<0.5	<0.5	<0.5		1.8												<0.005
W2	20/08/2010	0.001	5.66	<0.0001	9	0.416	<60	<0.00005	<0.005	<0.01	0.0006	<0.005	High DL removed	<0.002	130	<0.5	<0.5	<0.5		1.8												<0.005
W2	21/08/2010	0.0012	6.29	<0.0001	12	0.472	<60	<0.00005	<0.005	<0.01	0.0006	<0.005	High DL removed	<0.002	140	<0.5	<0.5	<0.5		<0.4												<0.005
W2	22/08/2010	0.0014	5.79	<0.0001	13	0.517	<60	<0.00005	<0.005	<0.01	0.0007	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		2.2												<0.005
W2	23/08/2010	0.0014	5.73	<0.0001	14	0.527	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		2												<0.005
W2	24/08/2010	0.0014	6.32	<0.0001	14	0.546	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		1.5												<0.005
W2	25/08/2010	0.0022	5.84	<0.0001	13	0.62	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		1.6												<0.005
W2	26/08/2010	0.0021	5.54	<0.0001	15	0.634	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		2												<0.005
W2	27/08/2010	0.002	5.39	<0.0001	17	0.672	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		1.9												<0.005
W2	28/08/2010	0.002	5.46	<0.0001	18	0.686	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		1.8												<0.005
W2	29/08/2010	0.0022	5.41	<0.0001	17	0.649	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		2												<0.005
W2	30/08/2010	0.0012	5.69	<0.0001	15	0.601	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		1.1												<0.005
W2	31/08/2010	0.0021	5.32	<0.0001	18	0.713	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		2.4												<0.005
W2	01/09/2010	0.0022	5.48	<0.0001	17	0.709	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		2.5												<0.005
W2	02/09/2010	0.0022	5.46	<0.0001	17	0.7	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		2.1												<0.005
W2	03/09/2010	0.0021	5.39	<0.0001	17	0.685	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		2.7												<0.005
W2	04/09/2010	0.002	5.57	<0.0001	15	0.678	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		2												<0.005
W2	05/09/2010	0.0021	5.62	<0.0001	15	0.691	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		2												<0.005
W2	06/09/2010	0.0022	5.45	<0.0001	15	0.743	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		1.9												<0.005
W2	07/09/2010	0.0022	6.03	<0.0001	17	0.702	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		1.8												<0.005
W2	08/09/2010	0.0024	4.98	<0.0001	18	0.701	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	0.01	<0.002	160	<0.5	<0.5	<0.5		2												<0.005
W2	09/09/2010	0.0022	5.91	<0.0001	17	0.707	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		2.3												<0.005
W2	10/09/2010	0.0021	5.48	<0.0001	15	0.625	<60	<0.00005	<0.005	<0.01	0.0007	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		1.8												<0.005
W2	11/09/2010	0.0022	6.06	<0.0001	16	0.689	<60	<0.00005	<0.005	<0.01	0.0007	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		2.2												<0.005
W2	12/09/2010	0.0021	5.96	<0.0001	16	0.715	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		2.2							12.5					<0.005

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W2	26/10/2009					0.9	1
W2	27/10/2009					0.8	2.4
W2	28/10/2009					0.5	1.2
W2	29/10/2009					1.2	1
W2	30/10/2009					0.7	1.1
W2	14/07/2010					0.7	-3.7
W2	15/07/2010					39.7	40.7
W2	16/07/2010					12.1	9.3
W2	17/07/2010					5.6	4.2
W2	18/07/2010						1.5
W2	19/07/2010						12.1
W2	20/07/2010					1.3	-2.4
W2	21/07/2010					1.1	-2.5
W2	22/07/2010					3.2	-0.8
W2	23/07/2010					18.8	26.1
W2	24/07/2010					6.2	5.8
W2	25/07/2010					1.7	1.1
W2	27/07/2010					0.5	-1.8
W2	28/07/2010					1	-2.2
W2	29/07/2010					1.1	-1.1
W2	30/07/2010					1.2	-1.8
W2	31/07/2010					0.6	-1.4
W2	01/08/2010					0.9	-2.2
W2	02/08/2010	<0.005				0.5	0.1
W2	03/08/2010					0.6	-1.1
W2	04/08/2010					0.9	-2.7
W2	05/08/2010					0.8	-3.2
W2	06/08/2010					0.5	-3.3
W2	07/08/2010						-2.9
W2	08/08/2010					0.7	-3.1
W2	09/08/2010					2	-2.2
W2	10/08/2010					1.8	-2.7
W2	11/08/2010					3.3	4.3
W2	12/08/2010					2.2	0.3
W2	13/08/2010					1.2	-2.6
W2	14/08/2010					2.4	-0.9
W2	15/08/2010					2.1	-1.8
W2	16/08/2010					1.6	-2.1
W2	17/08/2010					0.9	-2.8
W2	18/08/2010					78.4	125.5
W2	19/08/2010					20.9	129.2
W2	20/08/2010					9.6	12.5
W2	21/08/2010					8	12.2
W2	22/08/2010					4.1	3.7
W2	23/08/2010					5.7	3.2
W2	24/08/2010					8.7	6.4
W2	25/08/2010					3.4	0.8
W2	26/08/2010					2.3	0.2
W2	27/08/2010					1.6	0.3
W2	28/08/2010					1.6	-0.3
W2	29/08/2010					3.1	-0.7
W2	30/08/2010					9.4	5
W2	31/08/2010					2.5	0.1
W2	01/09/2010					3	-1.2
W2	02/09/2010					2.3	-1.3
W2	03/09/2010					1.7	-0.2
W2	04/09/2010					1.7	-1.7
W2	05/09/2010					1.7	-1.3
W2	06/09/2010					1.5	-0.7
W2	07/09/2010					1.9	-1.5
W2	08/09/2010					2.5	4.4
W2	09/09/2010					9.8	8.8
W2	10/09/2010					4.9	3.4
W2	11/09/2010					3.1	0.4
W2	12/09/2010	<0.005				2.2	-0.1

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Phase	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
				mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W2	13/09/2010	Discharge	P	5	320	8.12	8.26	423	430	5.76		86.3		174	177	120	27	0.32	51	0.029	0.014	6.5	12.4	0.103	<0.0005	<0.0004	0.088	<0.0002	<0.001
W2	14/09/2010	Discharge	P	7	300	7.2	8.22	434	439	4.99		80.6		169	182	120	13	0.34	49	0.044	0.013	6.8	12.9	0.159	<0.0005	<0.0004	0.087	<0.0002	<0.001
W2	15/09/2010	Discharge	P	5	280	8.01	8.22	417	424	4.34		84.7		170	178	130	13	0.34	41	0.005	<0.005	5.6	13.2	0.021	<0.0005	<0.0004	0.081	<0.0002	<0.001
W2	16/09/2010	Discharge	P	4	290	8.02	8.22	421	432	4.99		103.5		203	189	130	12	0.37	47	0.022	0.007	6.1	12.2	0.102	<0.0005	0.0005	0.092	<0.0002	<0.001
W2	17/09/2010	Discharge	P	5	270	8.05	8.23	414	426	3.68		113.9		201	188	130	9.2	0.39	45	0.039	0.008	6.3	13.2	0.141	<0.0005	0.0005	0.092	<0.0002	<0.001
W2	18/09/2010	Discharge	P	3	270	8.14	8.08	419	432	4.82		103.4		191	194	130	9.2	0.35	49	0.025	0.008	6.3	12.7	0.069	<0.0005	<0.0004	0.087	<0.0002	<0.001
W2	19/09/2010	Discharge	P	5	290	8.18	8.09	433	445	2.82		106.4		181	192	130	9.8	0.41	48	0.018	0.011	7	11.9	0.09	<0.0005	<0.0004	0.085	<0.0002	<0.001
W2	20/09/2010	Discharge	P	5	280	8.19	8.13	436	443	2.2		78.2		173	186	130	10	0.36	52	0.035	0.008	6.9	12.4	0.079	<0.0005	0.0006	0.096	<0.0002	<0.001
W2	21/09/2010	Discharge	P	4	280	8.19	8.09	442	443	1.79		55.1		184	185	130	11	0.37	55	0.046	0.01	7	12.9	0.087	<0.0005	0.0006	0.086	<0.0002	<0.001
W2	22/09/2010	Discharge	P	3	270	8.19	8.11	446	453	1.86		98.6		180	186	130	11	0.38	57	0.047	0.012	7	11.3	0.069	<0.0005	0.0006	0.089	<0.0002	<0.001
W2	23/09/2010	Discharge	P	4	300	8.06	8.04	444	441	0.83		93.3		188	188	130	10	0.37	55	0.044	0.014	6.7	12.5	0.096	<0.0005	0.0005	0.087	<0.0002	<0.001
W2	24/09/2010	Discharge	P	3	320	7.99	8.08	455	459	1.27		95.1		187	190	130	12	0.37	59	0.017	0.014	7.7	11.2	0.086	<0.0005	0.0005	0.088	<0.0001	<0.001
W2	25/09/2010	Discharge	P	3	300	8.1	8.04	457	466	2.32		95.5		194	190	130	11	0.37	61	0.032	0.019	8.1	11.4	0.086	<0.0005	0.0006	0.091	<0.0001	<0.001
W2	26/09/2010	Discharge	P	4	310	8.11	8.1	455	464	2.1		96.8		191	192	130	12	0.36	60	0.011	0.019	7.8	10.3	0.112	<0.0005	0.0003	0.088	<0.0001	<0.001
W2	27/09/2010	Discharge	P	6	310	8.11	8.1	460	469	2.35		98.3		185	192	130	13	0.37	62	0.022	0.019	8.2	10.9	0.128	<0.0005	0.0003	0.089	<0.0001	<0.001
W2	28/09/2010	Discharge	P	4	310	8.11	8.14	471	472	2.43		99.6		199	189	130	12	0.29	55	<0.005	<0.05	8.4	10.8	0.067	<0.0005	0.0003	0.086	<0.0001	<0.001
W2	29/09/2010	Discharge	P	3	300	8.17	8.15	467	474	2.54		101.9		204	190	130	13	0.36	56	0.06	<0.05	8.6	11.7	0.081	<0.0005	0.0003	0.09	<0.0001	<0.001
W2	01/10/2010	Discharge	P	7	280		8.12		444					189	179	130	11	0.36	50	0.023	<0.05	7.3	12.6	0.141	<0.0005	0.0003	0.084	<0.0001	<0.001
W2	02/10/2010	Discharge	P	15	250		8.12		395					184	160	120	8.4	0.31	39	0.047	<0.05	5.4	13.3	0.302	<0.0005	0.0006	0.083	<0.0001	<0.001
W2	03/10/2010	Discharge	P	4	240		8.04		360					161	153	120	7.1	0.31	30	0.041	<0.05	3.6	13.7	0.092	<0.0005	0.0004	0.07	<0.0001	<0.001
W2	04/10/2010	Discharge	P	6	270		8.09		426					180	175	120	9.5	0.34	47	0.035	<0.05	7.3	13.5	0.107	<0.0005	0.0004	0.078	<0.0001	<0.001
W2	05/10/2010	Discharge	P	3	260	8.09	8.1	408	412	1.43		102.4		167	172	130	10	0.32	44	0.013	<0.005	5.5	12	0.07	<0.0005	0.0006	0.075	<0.0001	<0.001
W2	06/10/2010	Discharge	P	2	270	8.15	8.1	404	409	2.05		104.3		189	170	130	9.9	0.32	48	0.005	<0.005	5.4	13.2	0.07	<0.0005	0.0004	0.081	<0.0001	<0.001
W2	07/10/2010	Discharge	P	5	260	8.11	8.21	413	407	0.43		103.4		173	172	130	9.5	0.33	44	0.012	<0.005	5.6	11.4	0.083	<0.0005	0.0004	0.075	<0.0001	<0.001
W2	08/10/2010	Discharge	P	3	260	8.15	8.17	422	415	-0.18		104.1		188	177	140	11	0.31	46	<0.005	<0.005	5.3	12.1	0.086	<0.0005	0.0003	0.088	<0.0001	<0.001
W2	09/10/2010	Discharge	P	3	300	8.16	8.23	449	443	-0.1		103.4		202	184	140	11	0.35	53	0.014	0.009	6.7	10.1	0.073	<0.0005	0.0003	0.095	<0.0001	<0.001
W2	10/10/2010	Discharge	P	4	290	7.85	8.2	447	447	1.47		107.1		208	184	140	11	0.38	53	0.061	0.006	6.4	12.1	0.167	<0.0005	0.0004	0.092	<0.0001	<0.001
W2	11/10/2010	Discharge	P	3	310		8.09		438					176	183	140	11	0.37	46	0.039	0.007	6.4	12.3	0.072	<0.0005	0.0004	0.077	<0.0001	<0.001
W2	12/10/2010	Discharge	P	3	270	8.11	8.1	451	453	1.17		109.4		176	183	140	11	0.36	51	0.058	0.008	6.6	11.1	0.074	<0.0005	0.0003	0.078	<0.0001	<0.001
W2	13/10/2010	Discharge	P	2	280	8.31	8.11	455	453	1.49		114.2		194	206	140	11	0.04	62	0.027	0.011	7	11.2	0.072	<0.0005	0.0004	0.082	<0.0001	<0.001
W2	14/10/2010	Discharge	P	3	300	8.27	8.12	461	458	0.66		111.2		194	224	140	11	0.37	60	0.015	0.011	7.2	10.9	0.081	<0.0005	0.0005	0.085	<0.0001	<0.001
W2	15/10/2010	Discharge	P	3	280	8.18	8.14	470	465	0.5		110.7		197	217	140	12	0.37	61	0.032	0.013	7.3	10.6	0.071	<0.0005	0.0004	0.086	<0.0001	<0.001
W2	16/10/2010	Discharge	P	3	280	8.2	8.15	477	475	0.31		109.5		197	219	140	11	0.37	64	0.026	0.015	7.6	11	0.065	<0.0005	0.0004	0.088	<0.0001	<0.001
W2	17/10/2010	Discharge	P	2	320		8.21		485					201	201	140	13	0.39	59	0.092	0.015	7.4	10	0.051	<0.0005	0.0004	0.087	<0.0001	<0.001
W2	18/10/2010	Discharge	P	6	320	8.28	8.24	478	481	1.96		107.9		214	203	140	13	0.39	58	0.088	0.018	7.2	10.2	0.113	<0.0005	0.0005	0.093	<0.0001	<0.001
W2	19/10/2010	Discharge	P	3	330	8.33	8.22	503	505	1.23		109.6		218	207	140	13	0.4	67	0.082	0.029	8.3	9.8	0.05	<0.0005	0.0003	0.089	<0.0001	<0.001
W2	20/10/2010	Discharge	P	20	300	8.25	8.22	488	475	1.33		110.6		226		140	14	0.37	53	0.064	0.006	6.4		0.438	<0.0005	0.0007	0.103	<0.0001	<0.001
W2	21/10/2010	Discharge	P	2	330	7.87	8.24		514	-0.2		114.2		238	216	150	14	0.38	67	0.075	0.013	7.3	9.7	0.087	<0.0005	0.0004	0.094	<0.0001	<0.001
W2	22/10/2010	Discharge	P	2	340		8.28		540					244	222	150	15	0.35	74	0.05	0.015	8.7	9.7	0.04	<0.0005	0.0004	0.102	<0.0001	<0.001
W2	23/10/2010	Discharge	P	2	340	8.17	8.26	545	541	-0.2		104.5		243	221	150	15	0.36	74	<0.005	0.013	8.7	9.3	0.045	<0.0005	0.0004	0.108	<0.0001	<0.001
W2	25/10/2010	Discharge	P	1	320	8.28	8.29	534	535	-0.05		95.8		225	214	150	14	0.38	71	0.06	0.015	8.8	8.8	0.039	<0.0005	0.0004	0.089	<0.0001	<0.001
W2	26/10/2010	Discharge	P			8.23				2.84		94.5																	
W2	27/10/2010	Discharge	P	2	340	8.39	8.14	538	524	0.45		81.4		228	232	150	14	0.41	76	0.007	0.013	8.6	9	0.054	<0.0005	0.0004	0.099	<0.0001	<0.001
W2	16/04/2012 14:20	Discharge	P	39.9	164	8.23	8.08	132.7	246	0	14.39	98.5		127	117	110	2	0.3	12.7	0.011	<0.0050	<0.020	13.4	1.21	<0.00050	0.00103	0.0695	<0.00010	<0.0010
W2	17/04/2012 16:40	Discharge	P			8.07		119.7		0	14.68	100.4																	
W2	18/04/2012 17:00	Discharge	P			8.11		110.6		0	15.32	105.1																	
W2	19/04/2012 8:33	Discharge	P			8		104.7		0	14.44	98.7																	
W2	20/04/2012 7:15	Discharge	P			7.48		85.9		0	13.46	92																	
W2	21/04/2012 9:04	Discharge	P			7.44		77.4		0	14.88	101.9																	
W2	22/04/2012 8:55	Discharge	P	29.6	108	7.54	7.68	62.2	113	0	15.15	103.6		58.6	60.8	49.5	1.7	0.11	<0.50	0.0079	<0.0050	0.172	32.4	0.458	<0.00050	0.00056	0.0372	<0.00010	<0.0010
W2	23/04/2012 13:15	Discharge	P			7.61		71.7		0.2	16.23	111.6																	
W2	24/04/2012 6:31	Discharge	P	32.3	120	8.04	7.8	66.2	125	0	16.25	111.2		57.3	62.7	54.9	1.9	0.13	<0.50	0.0051	<0.0050	0.387	20.8	0.681	<0.00050	0.00073	0.0406	<0.00010	<0.0010
W2	25/04/2012 14:30	Discharge	P			7.81		82.1		0.4	14.44	99.8																	
W2	26/04/2012	Discharge	P	202	128	7.63	7.74	75.2	138	0.5	14.27	99.1	153.2	78.6	65.9	56.9	2	0.15	<0.50	0.018	<0.0050	0.441	23.1	3.85	<0.00050	0.00208	0.112	0.00015	<0.0010
W2	27/04/2012 14:00	Discharge	P			7.7		73.3		0.6	14.03	97.5																	
W2	28/04/2012 14:25	Discharge	P			7.59		71.8		0.8	14.1	98.9	82.9																
W2	29/04/2012	Discharge	P	390	112	7.49	7.8	70.2	129	0.8	14.24	99.5	67.3	79.2	72.3	52.1	1.3	0.15	<0.50	0.031	0.0057	0.466	19.1	6.63	<0.00050	0.00333	0.182	0.00028	<0.0010
W2	30/04/2012	Discharge	P	597	112	7.65	7.81	77	143	0.7	13.16	91.7	55.8	97.4	68.9	57.8	1.4	0.15	1.36	0.042	0.0467	0.534	18.3	11	<0.00050	0.00518	0.276	0.00041	<0.0010
W2	01/05/2012 9:55	Discharge	P			7.23		68.8		0.5	13.36	92.9	68																
W2	02/05/2012 12:30	Discharge	P			7.23		107.3		2.4	8.6	62.9	85.4																
W2	03/05/2012 9:15	Discharge	P			7.44		87.3		0.2	13.56	93.3	86.3																
W2	07/05/2012	Discharge	P	581	106	7.68	7.81	77.7	146	1.8	10.72	77.2	52.1	96.8	73.4	65.6	2.3	0.17	0.74	0.048	0.044	0.138	14.3	11	<0.00050	0.00544	0.264	0.00044	<0.0010
W2	10/05/2012 14:40	Discharge	P			8.07		113.9		1.5	14.45	103	56.7																
W2	24/04/2013 15:35	Discharge	P	7	282	8.94	8.29	248.3	469	0.1		93.8	-76	226	217	207	3.4	0.55	43.5	0.019	<0.0050	0.321	12.7	0.304	<0.00050	0.00063	0.0898	<0.00010	<0.0010
W2	27/04/2013 11:30	Discharge	P			8.69		243.3		0.2		95.1	-95																

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W2	13/09/2010	<0.1	<0.0001	47	<0.002	<0.0005	0.008	0.252	0.029	<0.01	14	0.022	<0.0002	0.007	0.004		3	0.0021	5.63	<0.0001	15	0.665	<60	<0.00005	0.025	<0.01	0.0008
W2	14/09/2010	<0.1	<0.0001	46	<0.002	<0.0005	0.003	0.329	<0.0002	<0.01	13	0.025	<0.0002	0.007	0.001		3	0.0021	5.34	<0.0001	15	0.67	<60	<0.00005	<0.005	<0.01	0.0008
W2	15/09/2010	<0.1	<0.0001	46	<0.002	<0.0005	0.002	0.11	<0.0002	<0.01	13	0.008	<0.0002	0.006	0.001		3	0.0016	5.39	<0.0001	15	0.637	<60	<0.00005	<0.005	<0.01	0.0008
W2	16/09/2010	<0.1	<0.0001	53	<0.002	<0.0005	0.004	0.248	<0.0002	<0.01	17	0.022	<0.0002	0.008	0.002		3	0.002	6.5	<0.0001	18	0.726	<60	<0.00005	<0.005	<0.01	0.001
W2	17/09/2010	<0.1	<0.0001	53	<0.002	<0.0005	0.003	0.305	<0.0002	<0.01	17	0.024	<0.0002	0.008	0.002		3	0.002	6.67	<0.0001	17	0.713	<60	<0.00005	<0.005	<0.01	0.0011
W2	18/09/2010	<0.1	<0.0001	53	<0.002	<0.0005	0.004	0.226	<0.0002	<0.01	15	0.018	<0.0002	0.007	0.001		3	0.0022	5.96	<0.0001	15	0.714	<60	<0.00005	<0.005	<0.01	0.0011
W2	19/09/2010	<0.1	<0.0001	49	<0.002	<0.0005	0.003	0.254	<0.0002	<0.01	14	0.021	<0.0002	0.008	0.001		3	0.0021	5.36	<0.0001	15	0.738	<60	<0.00005	<0.005	<0.01	0.0011
W2	20/09/2010	<0.1	<0.0001	44	<0.002	<0.0005	0.008	0.196	<0.0002	<0.01	15	0.021	<0.0002	0.008	0.002		3	0.002	4.91	<0.0001	16	0.769	<60	<0.00005	<0.005	<0.01	0.0012
W2	21/09/2010	<0.1	<0.0001	49	<0.002	<0.0005	0.004	0.217	<0.0002	<0.01	15	0.022	<0.0002	0.009	0.002		3	0.0024	5.31	<0.0001	16	0.76	<60	<0.00005	<0.005	<0.01	0.0012
W2	22/09/2010	<0.1	<0.0001	47	<0.002	<0.0005	0.003	0.172	<0.0002	<0.01	15	0.017	<0.0002	0.008	0.001		3	0.0023	5.14	<0.0001	16	0.738	<60	<0.00005	<0.005	<0.01	0.0012
W2	23/09/2010	<0.1	0.0001	50	<0.002	<0.0005	0.003	0.223	<0.0002	<0.01	15	0.023	<0.0002	0.008	0.001		3	0.0023	5.48	<0.0001	16	0.763	<60	<0.00005	<0.005	<0.01	0.0013
W2	24/09/2010	<0.05	<0.00001	49.8	<0.001	<0.0005	0.0033	0.21	<0.0002	<0.005	15.1	0.023	0.00004	0.009	0.001		3.15	0.0023	5.47	<0.00002	16.1	0.79	20	<0.00005	<0.005	<0.005	0.0013
W2	25/09/2010	<0.05	<0.00001	51.9	<0.001	<0.0005	0.0033	0.203	<0.0002	<0.005	15.7	0.023	<0.00002	0.009	0.001		3.26	0.0025	5.58	<0.00002	16.8	0.842	22	<0.00005	<0.005	<0.005	0.0013
W2	26/09/2010	<0.05	<0.00001	49.7	<0.001	<0.0005	0.0036	0.246	<0.0002	<0.005	16.2	0.026	0.00003	0.008	0.001		3.27	0.0024	5.28	<0.00002	17.6	0.789	22	<0.00005	<0.005	<0.005	0.0012
W2	27/09/2010	<0.05	0.00004	49.1	<0.001	<0.0005	0.0035	0.265	<0.0002	<0.005	15.2	0.031	<0.00002	0.009	0.001		3.12	0.0025	5.17	<0.00002	16.8	0.815	20	<0.00005	<0.005	0.005	0.0012
W2	28/09/2010	<0.05	<0.00001	54.5	<0.001	<0.0005	0.0026	0.175	<0.0002	<0.005	15.3	0.021	<0.00002	0.009	0.001		3.1	0.0027	5.75	<0.00002	19.5	0.848	23	<0.00005	<0.005	<0.005	0.0012
W2	29/09/2010	<0.05	<0.00001	56.2	<0.001	<0.0005	0.0028	0.186	<0.0002	<0.005	15.6	0.021	<0.00002	0.009	0.001		3.35	0.0027	5.78	<0.00002	20.5	0.884	22	<0.00005	<0.005	<0.005	0.0012
W2	01/10/2010	<0.05	<0.00001	51.4	<0.001	<0.0005	0.0034	0.329	<0.0002	<0.005	14.7	0.033	<0.00002	0.008	0.001		3.09	0.0022	5.89	<0.00002	18.2	0.806	18	<0.00005	<0.005	<0.005	0.0011
W2	02/10/2010	<0.05	<0.00001	49	<0.001	<0.0005	0.0044	0.739	<0.0002	<0.005	15.1	0.062	<0.00002	0.007	0.002		2.77	0.0018	6.84	<0.00002	17.6	0.726	18	<0.00005	<0.005	0.009	0.001
W2	03/10/2010	<0.05	<0.00001	43.4	<0.001	<0.0005	0.0022	0.303	<0.0002	<0.005	12.7	0.025	<0.00002	0.004	0.001		2.18	0.0013	6.46	<0.00002	13.2	0.604	12	<0.00005	<0.005	<0.005	0.0009
W2	04/10/2010	<0.05	<0.00001	49.3	<0.001	<0.0005	0.0027	0.285	<0.0002	<0.005	13.8	0.025	<0.00002	0.007	0.002		2.51	0.0024	6.38	<0.00002	16.1	0.725	18	<0.00005	<0.005	<0.005	0.001
W2	05/10/2010	<0.05	0.00002	44.3	<0.001	<0.0005	0.0032	0.2	<0.0002	<0.005	13.6	0.022	<0.00002	0.006	0.001		2.53	0.0019	5.54	<0.00002	13.4	0.659	13	<0.00005	<0.005	<0.005	0.0011
W2	06/10/2010	<0.05	0.00002	50.1	<0.001	<0.0005	0.003	0.196	<0.0002	<0.005	15.4	0.021	<0.00002	0.006	0.002		3.01	0.002	6.24	<0.00002	15	0.695	17	<0.00005	<0.005	<0.005	0.0012
W2	07/10/2010	<0.05	0.00002	46	<0.001	<0.0005	0.0024	0.221	<0.0002	<0.005	14.1	0.024	<0.00002	0.006	0.001		2.69	0.0018	5.74	<0.00002	13.6	0.635	13	<0.00005	<0.005	<0.005	0.0011
W2	08/10/2010	0.061	<0.00001	49.5	<0.001	<0.0005	0.0029	0.251	<0.0002	<0.005	15.7	0.026	<0.00002	0.007	0.001		2.99	0.0016	5.91	<0.00002	16.5	0.732	18	<0.00005	<0.005	<0.005	0.0012
W2	09/10/2010	<0.05	0.00004	54.2	<0.001	<0.0005	0.0031	0.182	<0.0002	<0.005	16.2	0.022	0.00002	0.008	0.001		3.21	0.002	5.87	<0.00002	18	0.821	22	<0.00005	<0.005	<0.005	0.0014
W2	10/10/2010	<0.05	0.00001	55	<0.001	<0.0005	0.0038	0.205	<0.0002	<0.005	17.2	0.025	<0.00002	0.008	0.001		3.34	0.0021	5.96	<0.00002	17.7	0.807	17	<0.00005	<0.005	<0.005	0.0013
W2	11/10/2010	<0.05	<0.00001	47	<0.001	<0.0005	0.0024	0.183	<0.0002	<0.005	14.2	0.022	<0.00002	0.007	<0.001		2.98	0.0019	5.2	<0.00002	16.7	0.668	17	<0.00005	<0.005	<0.005	0.0011
W2	12/10/2010	<0.05	<0.00001	47.1	<0.001	<0.0005	0.0026	0.179	<0.0002	<0.005	14.2	0.022	<0.00002	0.007	0.001		2.97	0.0018	5.21	<0.00002	16.7	0.688	18	<0.00005	<0.005	<0.005	0.0011
W2	13/10/2010	<0.05	0.00001	52.2	<0.001	<0.0005	0.0028	0.182	<0.0002	<0.005	15.5	0.022	0.00003	0.007	0.001		3.15	0.0017	5.85	<0.00002	18.1	0.727	21	<0.00005	<0.005	<0.005	0.0012
W2	14/10/2010	<0.05	<0.00001	52	<0.001	<0.0005	0.005	0.207	<0.0002	<0.005	15.7	0.029	<0.00002	0.007	<0.001		3.19	0.002	5.59	<0.00002	18.6	0.765	19	<0.00005	<0.005	<0.005	0.0012
W2	15/10/2010	<0.05	<0.00001	53.2	<0.001	<0.0005	0.0024	0.181	<0.0002	<0.005	15.5	0.025	<0.00002	0.008	0.001		3.24	0.002	5.55	<0.00002	18.4	0.794	24	<0.00005	<0.005	<0.005	0.0012
W2	16/10/2010	<0.05	<0.00001	52.8	<0.001	<0.0005	0.0041	0.166	<0.0002	<0.005	15.9	0.026	<0.00002	0.008	0.001		3.32	0.0021	5.51	<0.00002	19.4	0.816	20	<0.00005	<0.005	<0.005	0.0012
W2	17/10/2010	<0.05	0.00002	52.2	<0.001	<0.0005	0.0036	0.149	<0.0002	<0.005	17.2	0.029	0.00004	0.008	0.001		3.39	0.0023	5.81	<0.00002	21.5	0.861	25	<0.00005	<0.005	<0.005	0.0014
W2	18/10/2010	<0.05	0.00001	56.9	<0.001	<0.0005	0.0051	0.284	<0.0002	<0.005	17.5	0.04	<0.00002	0.009	0.001		3.44	0.0021	6.29	<0.00002	21.9	0.923	24	<0.00005	<0.005	<0.005	0.0015
W2	19/10/2010	<0.05	0.00001	57.8	<0.001	<0.0005	0.0028	0.155	<0.0002	<0.005	17.8	0.029	<0.00002	0.008	0.001		3.31	0.0022	5.98	<0.00002	22.4	0.939	30	<0.00005	<0.005	<0.005	0.0014
W2	20/10/2010	<0.05	0.00005	59	<0.001	<0.0005	0.0062	0.819	0.0003	<0.005	19.1	0.101	<0.00002	0.007	0.002		3.26	0.002	7.2	<0.00002	21.5	0.876	24	<0.00005	<0.005	0.018	0.0016
W2	21/10/2010	<0.05	0.00002	62.4	<0.001	<0.0005	0.0025	0.131	<0.0002	<0.005	19.9	0.022	<0.00002	0.007	0.002		3.52	0.002	6.41	<0.00002	20.4	0.853	27	<0.00005	<0.005	<0.005	0.0014
W2	22/10/2010	<0.05	0.00004	64.6	<0.001	<0.0005	0.0026	0.099	<0.0002	<0.005	20.1	0.019	<0.00002	0.009	<0.001		3.52	0.0024	6.11	<0.00002	23.8	1	29	<0.00005	<0.005	<0.005	0.0018
W2	23/10/2010	<0.05	0.00001	63.4	<0.001	<0.0005	0.0025	0.1	<0.0002	<0.005	20.5	0.02	<0.00002	0.009	0.001		3.61	0.0024	6.06	<0.00002	24.4	1.04	28	<0.00005	<0.005	<0.005	0.0018
W2	25/10/2010	<0.05	0.00001	60.1	<0.001	<0.0005	0.0021	0.092	<0.0002	<0.005	18.2	0.013	<0.00002	0.008	<0.001		3.38	0.0023	5.74	<0.00002	22	0.933	28	<0.00005	<0.005	<0.005	0.0015
W2	26/10/2010																										
W2	27/10/2010	<0.05	0.00003	61	<0.001	<0.0005	0.0026	0.118	<0.0002	<0.005	18.4	0.02	<0.00002	0.009	0.001		3.75	0.0023	5.56	<0.00002	22.1	1	28	<0.00005	<0.005	<0.005	0.0016
W2	16/04/2012 14:20	<0.05	0.000036	31.1	0.0021	0.00093	0.0126	1.88	0.00051	<0.0050	11.9	0.0732	<0.000010	<0.0010	0.0024	0.091	3.06	0.00017	7.65	<0.000020	7.29	0.281	4.7	<0.000050	<0.0050	0.0503	0.0006
W2	17/04/2012 16:40																										
W2	18/04/2012 17:00																										
W2	19/04/2012 8:33																										
W2	20/04/2012 7:15																										
W2	21/04/2012 9:04																										
W2	22/04/2012 8:55	<0.05	0.000025	15.8	<0.0010	<0.00050	0.00746	0.899	0.00022	<0.0050	4.67	0.0668	<0.000010	<0.0010	0.0018	0.086	2.09	0.00014	4.05	<0.000020	2.89	0.12	<3.0	<0.000050	<0.0050	0.0194	0.00019
W2	23/04/2012 13:15																										
W2	24/04/2012 6:31	<0.05	0.00004	15	0.0013	0.00063	0.00654	1.22	0.00031	<0.0050	4.81	0.093	<0.000010	<0.0010	0.0021	0.074	1.67	0.00017	4.26	<0.000020	3	0.115	<3.0	<0.000050	<0.0050	0.0281	0.00023
W2	25/04/2012 14:30																										
W2	26/04/2012	<0.05	0.000088	20.1	0.0069	0.00259	0.0137	6.17	0.00189	<0.0050	6.9	0.188	<0.000010	0.0011	0.0068	0.168	2.26	0.00039	11	0.000033	4.14	0.161	<3.0	<0.000050	<0.0050	0.127	0.0006
W2	27/04/2012 14:00																										
W2	28/04/2012 14:25																										
W2	29/04/2012	<0.05	0.000181	20.1	0.0109	0.00466	0.0188	11.2	0.00353	<0.0050	7.05	0.289	<0.000010	0.0011	0.0114	0.281	2.16	0.00041	15.8	0.000052	3.73	0.146	<3.0	0.000089	<0.0050	0.207	0.00092
W2	30/04/2012	<0.05	0.000237	23.5	0.0196	0.00766	0.0276	18.5	0.00567	0.0078	9.41	0.443	<0.000010	0.0013	0.0189	0.465	2.67	0.00033	23.4	0.00011	4.43	0.174	<3.0	0.000129	<0.0050	0.36	0.00158
W2	01/05/2012 9:55																										
W2	02/05/2012 12:30																										
W2	03/05/2012 9:15																										
W2	07/05/2012	<0.05	0.000245	23.6	0.0205	0.00779	0.0332	18.2	0.00515	0.0078	9.2	0.483	<0.000010	0.0013	0.019	0.475	2.43	0.00031	24.3	0.000091	4.33	0.176	<3.0	0.000125	<0.0050	0.35	0.00154
W2	10/05/2012 14:40																										
W2	24/04/2013 15:35	<0.05	0.000013	52.4	<0.0010	<0.00050	0.0103	0.447	0.00036	<0.0050	23	0.0323	<0.000010	<0.0010	0.0012	0.053	4.51	0.00023	10.4	<0.000020	15.9	0.472	14.2	<0.000050	<0.0050	0.0118	0.00097
W2	27/04/2013 11:30																										

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W2	13/09/2010	<0.005	0.017	<0.002	0.022	<0.0005	0.0005	0.085	<0.0002	<0.001	<0.1	High DL removed	48	High DL removed	<0.0005	0.002	0.102	<0.0002	<0.01	14	0.01	<0.0002	0.008	0.001		3
W2	14/09/2010	<0.005	<0.01	<0.002	0.019	<0.0005	0.0005	0.088	<0.0002	<0.001	<0.1	High DL removed	49	High DL removed	<0.0005	0.002	0.099	<0.0002	<0.01	15	0.009	<0.0002	0.009	0.001		3
W2	15/09/2010	<0.005	<0.01	<0.002	0.057	<0.0005	0.0005	0.087	<0.0002	<0.001	<0.1	High DL removed	48	High DL removed	<0.0005	0.002	0.216	<0.0002	<0.01	14	0.022	<0.0002	0.007	0.001		3
W2	16/09/2010	<0.005	<0.01	<0.002	0.024	<0.0005	0.0005	0.083	<0.0002	<0.001	<0.1	High DL removed	51	High DL removed	<0.0005	0.003	0.106	<0.0002	<0.01	15	0.01	<0.0002	0.007	0.001		3
W2	17/09/2010	<0.005	<0.01	<0.002	0.02	<0.0005	0.0005	0.083	<0.0002	<0.001	<0.1	High DL removed	50	High DL removed	<0.0005	0.002	0.104	<0.0002	<0.01	15	0.009	<0.0002	0.007	0.001		3
W2	18/09/2010	<0.005	<0.01	<0.002	0.021	<0.0005	0.0005	0.083	<0.0002	<0.001	<0.1	High DL removed	52	High DL removed	<0.0005	0.002	0.1	<0.0002	<0.01	15	0.01	<0.0002	0.008	0.001		3
W2	19/09/2010	<0.005	<0.01	<0.002	0.021	<0.0005	0.0005	0.084	<0.0002	<0.001	<0.1	High DL removed	51	High DL removed	<0.0005	0.002	0.09	<0.0002	<0.01	15	0.01	<0.0002	0.008	0.001		3
W2	20/09/2010	<0.005	<0.01	<0.002	0.018	<0.0005	<0.0004	0.08	<0.0002	<0.001	<0.1	0.0001	51	High DL removed	<0.0005	0.003	0.088	<0.0002	<0.01	14	0.011	<0.0002	0.008	0.001		3
W2	21/09/2010	<0.005	<0.01	<0.002	0.018	<0.0005	<0.0004	0.083	<0.0002	<0.001	<0.1	High DL removed	49	High DL removed	<0.0005	0.003	0.083	<0.0002	<0.01	15	0.011	<0.0002	0.009	<0.001		3
W2	22/09/2010	<0.005	<0.01	<0.002	0.018	<0.0005	<0.0004	0.081	<0.0002	<0.001	<0.1	High DL removed	51	High DL removed	<0.0005	0.002	0.075	<0.0002	<0.01	14	0.011	<0.0002	0.009	0.001		3
W2	23/09/2010	<0.005	<0.01	<0.002	0.018	<0.0005	<0.0004	0.079	<0.0002	<0.001	<0.1	High DL removed	50	High DL removed	<0.0005	0.002	0.073	<0.0002	<0.01	15	0.011	<0.0002	0.008	<0.001		3
W2	24/09/2010	<0.005	<0.005	<0.0005	0.028	<0.0005	0.0004	0.085	<0.0001	<0.001	<0.05	<0.00001	51.2	High DL removed	<0.0005	0.0023	0.074	<0.0002	<0.005	15.1	0.011	0.00007	0.009	0.001		3.03
W2	25/09/2010	<0.005	<0.005	<0.0005	0.018	<0.0005	0.0004	0.085	<0.0001	<0.001	<0.05	<0.00001	50.8	High DL removed	<0.0005	0.0022	0.067	<0.0002	<0.005	15.4	0.011	0.00003	0.009	0.001		3.16
W2	26/09/2010	<0.005	<0.005	<0.0005	0.02	<0.0005	0.0006	0.086	<0.0001	<0.001	<0.05	<0.00001	51.3	High DL removed	<0.0005	0.0023	0.067	<0.0002	<0.005	15.5	0.012	<0.00002	0.009	0.001		3.26
W2	27/09/2010	<0.005	<0.005	<0.0005	0.019	<0.0005	0.0005	0.09	<0.0001	<0.001	<0.05	0.00001	51.5	High DL removed	<0.0005	0.0023	0.062	<0.0002	<0.005	15.4	0.013	<0.00002	0.009	<0.001		3.29
W2	28/09/2010	<0.005	<0.005	<0.0005	0.017	<0.0005	0.0004	0.087	<0.0001	<0.001	<0.05	0.00004	51.3	High DL removed	<0.0005	0.0022	0.061	<0.0002	<0.005	14.9	0.014	0.00004	0.009	<0.001		3.15
W2	29/09/2010	<0.005	0.005	<0.0005	0.017	<0.0005	0.0004	0.088	<0.0001	<0.001	<0.05	0.00001	51	High DL removed	<0.0005	0.0022	0.052	<0.0002	<0.005	15.2	0.014	0.00004	0.009	<0.001		3.47
W2	01/10/2010	<0.005	<0.005	<0.0005	0.019	<0.0005	0.0004	0.084	<0.0001	<0.001	<0.05	0.00001	47.6	High DL removed	<0.0005	0.0023	0.067	<0.0002	<0.005	14.5	0.015	0.00003	0.008	0.001		3.09
W2	02/10/2010	<0.005	<0.005	<0.0005	0.024	<0.0005	0.0004	0.072	<0.0001	<0.001	<0.05	0.00001	43.1	High DL removed	<0.0005	0.0019	0.125	<0.0002	<0.005	12.6	0.014	<0.00002	0.006	0.001		2.48
W2	03/10/2010	<0.005	<0.005	<0.0005	0.016	<0.0005	0.0004	0.066	<0.0001	<0.001	<0.05	0.00001	41	High DL removed	<0.0005	0.0017	0.111	<0.0002	<0.005	12.2	0.011	<0.00002	0.004	0.001		2.17
W2	04/10/2010	<0.005	<0.005	<0.0005	0.021	<0.0005	0.0004	0.075	<0.0001	<0.001	<0.05	0.00001	46.8	High DL removed	<0.0005	0.0025	0.093	<0.0002	<0.005	14.2	0.012	<0.00002	0.007	0.001		2.65
W2	05/10/2010	<0.005	0.009	<0.0005	0.019	<0.0005	0.0004	0.075	<0.0001	<0.001	<0.05	0.00002	46.7	High DL removed	<0.0005	0.0018	0.081	<0.0002	<0.005	13.4	0.012	<0.00002	0.006	0.001		2.7
W2	06/10/2010	<0.005	<0.005	<0.0005	0.018	<0.0005	0.0004	0.074	<0.0001	<0.001	<0.05	0.00002	46.4	High DL removed	<0.0005	0.0018	0.079	<0.0002	<0.005	13.2	0.012	<0.00002	0.006	0.001		2.73
W2	07/10/2010	<0.005	<0.005	<0.0005	0.023	<0.0005	0.0005	0.072	<0.0001	<0.001	<0.05	0.00001	47	High DL removed	<0.0005	0.0018	0.081	<0.0002	<0.005	13.2	0.012	<0.00002	0.006	0.001		2.62
W2	08/10/2010	<0.005	<0.005	<0.0005	0.017	<0.0005	0.0004	0.077	<0.0001	<0.001	<0.05	<0.00001	48.7	High DL removed	<0.0005	0.0016	0.074	<0.0002	<0.005	13.5	0.012	<0.00002	0.006	<0.001		2.85
W2	09/10/2010	<0.005	<0.005	<0.0005	0.016	<0.0005	0.0004	0.079	<0.0001	<0.001	<0.05	0.00003	49.9	High DL removed	<0.0005	0.002	0.057	<0.0002	<0.005	14.3	0.013	<0.00002	0.007	<0.001		3.01
W2	10/10/2010	<0.005	<0.005	<0.0005	0.02	<0.0005	0.0004	0.081	<0.0001	<0.001	<0.05	0.00002	50.1	High DL removed	<0.0005	0.002	0.058	<0.0002	<0.005	14.2	0.013	<0.00002	0.007	0.001		3.07
W2	11/10/2010	<0.005	<0.005	<0.0005	0.02	<0.0005	0.0004	0.081	<0.0001	<0.001	<0.05	0.00002	49.7	High DL removed	<0.0005	0.0021	0.065	<0.0002	<0.005	14.4	0.013	<0.00002	0.007	0.001		3.04
W2	12/10/2010	<0.005	<0.005	<0.0005	0.019	<0.0005	0.0004	0.081	<0.0001	<0.001	<0.05	0.00001	49.8	High DL removed	<0.0005	0.0021	0.063	<0.0002	<0.005	14.3	0.014	<0.00002	0.007	<0.001		3.01
W2	13/10/2010	<0.005	<0.005	<0.0005	0.022	<0.0005	0.0005	0.084	<0.0001	<0.001	<0.05	0.00002	56.1	High DL removed	<0.0005	0.0023	0.062	<0.0002	<0.005	15.9	0.015	0.00003	0.008	0.001		3.24
W2	14/10/2010	<0.005	<0.005	<0.0005	0.02	<0.0005	0.0005	0.087	<0.0001	<0.001	<0.05	0.00001	60.7	High DL removed	<0.0005	0.0024	0.069	<0.0002	<0.005	17.6	0.016	<0.00002	0.009	0.001		3.4
W2	15/10/2010	<0.005	<0.005	<0.0005	0.019	<0.0005	0.0005	0.084	<0.0001	<0.001	<0.05	0.00001	59.1	High DL removed	<0.0005	0.0021	0.065	<0.0002	<0.005	16.8	0.018	0.00002	0.008	0.001		3.25
W2	16/10/2010	<0.005	<0.005	<0.0005	0.019	<0.0005	0.0004	0.088	<0.0001	<0.001	<0.05	<0.00001	58.3	High DL removed	<0.0005	0.0024	0.06	<0.0002	<0.005	17.8	0.018	0.00002	0.009	0.001		3.45
W2	17/10/2010	<0.005	0.014	<0.0005	0.016	<0.0005	0.0004	0.085	<0.0001	<0.001	<0.05	<0.00001	54	High DL removed	<0.0005	0.0023	0.047	<0.0002	<0.005	16.1	0.018	<0.00002	0.008	0.001		3.19
W2	18/10/2010	<0.005	0.007	<0.0005	0.014	<0.0005	0.0004	0.085	<0.0001	<0.001	<0.05	0.00001	54.8	High DL removed	<0.0005	0.0019	0.048	<0.0002	<0.005	16.1	0.016	<0.00002	0.008	<0.001		3.13
W2	19/10/2010	<0.005	<0.005	<0.0005	0.016	<0.0005	0.0004	0.089	<0.0001	<0.001	<0.05	0.00001	55.9	High DL removed	<0.0005	0.0025	0.051	<0.0002	<0.005	16.5	0.019	<0.00002	0.008	<0.001		3.22
W2	20/10/2010	<0.005	0.006	<0.0005																						
W2	21/10/2010	<0.005	<0.005	<0.0005	0.014	<0.0005	0.0004	0.089	<0.0001	<0.001	<0.05	<0.00001	57.8	High DL removed	<0.0005	0.0016	0.037	<0.0002	<0.005	17.4	0.016	<0.00002	0.007	<0.001		3.14
W2	22/10/2010	<0.005	<0.005	<0.0005	0.011	<0.0005	0.0004	0.092	<0.0001	<0.001	<0.05	<0.00001	59.7	High DL removed	<0.0005	0.0015	0.026	<0.0002	<0.005	17.6	0.013	<0.00002	0.008	<0.001		3.21
W2	23/10/2010	<0.005	<0.005	<0.0005	0.01	<0.0005	0.0004	0.092	<0.0001	<0.001	<0.05	<0.00001	59.3	High DL removed	<0.0005	0.0014	0.025	<0.0002	<0.005	17.8	0.013	<0.00002	0.008	<0.001		3.22
W2	25/10/2010	<0.005	<0.005	<0.0005	0.011	<0.0005	0.0004	0.088	<0.0001	<0.001	<0.05	<0.00001	57.8	High DL removed	<0.0005	0.0016	0.024	<0.0002	<0.005	16.9	0.01	<0.00002	0.008	<0.001		3.22
W2	26/10/2010																									
W2	27/10/2010	<0.005	<0.005	<0.0005	0.02	<0.0005	0.0004	0.091	<0.0001	<0.001	<0.05	<0.00001	62.6	High DL removed	<0.0005	0.0016	0.029	<0.0002	<0.005	18.4	0.011	<0.00002	0.008	<0.001		3.46
W2	16/04/2012 14:20	<0.0050	0.0055	<0.00050	0.0095	<0.00050	0.00041	0.0481	<0.00010	<0.0010	<0.05	0.000018	29.2	High DL removed	<0.00050	0.00379	0.0835	<0.00020	<0.0050	10.6	0.0229	<0.000010	<0.0010	<0.0010	0.049	2.59
W2	17/04/2012 16:40																									
W2	18/04/2012 17:00																									
W2	19/04/2012 8:33																									
W2	20/04/2012 7:15																									
W2	21/04/2012 9:04																									
W2	22/04/2012 8:55	<0.0050	<0.0050	<0.00050	0.041	<0.00050	0.00043	0.0291	<0.00010	<0.0010	<0.05	0.000024	16.6	High DL removed	<0.00050	0.0055	0.271	<0.00020	<0.0050	4.7	0.0446	<0.000010	<0.0010	0.0011	0.048	1.96
W2	23/04/2012 13:15																									
W2	24/04/2012 6:31	<0.0050	<0.0050	<0.00050	0.0412	<0.00050	0.00052	0.0318	<0.00010	<0.0010	<0.05	0.000023	17.1	High DL removed	<0.00050	0.00564	0.403	<0.00020	<0.0050	4.89	0.064	<0.000010	<0.0010	0.0012	0.038	1.74
W2	25/04/2012 14:30																									
W2	26/04/2012	0.0115	0.0154	0.00083	0.0445	<0.00050	0.00056	0.0403	<0.00010	<0.0010	<0.05	0.000016	17.8	High DL removed	<0.00050	0.00603	0.363	<0.00020	<0.0050	5.21	0.0874	<0.000010	<0.0010	0.0014	0.026	1.6
W2	27/04/2012 14:00																									
W2	28/04/2012 14:25																									
W2	29/04/2012	0.0199	0.0245	0.00129	0.0426	<0.00050	0.00062	0.044	<0.00010	<0.0010	<0.05	0.00002	20.8	High DL removed	<0.00050	0.00498	0.656	<0.00020	<0.0050	4.96	0.116	<0.000010	<0.0010	0.0015	0.028	1.5
W2	30/04/2012	0.0333	0.0417	0.00186	0.0364	<0.00050	0.0007	0.0476	<0.00010	<0.0010	<0.05	0.000017	18.8	High DL removed	<0.00050	0.00489	0.609	<0.00020	<0.0050	5.29	0.15	<0.000010	0.0011	0.002	0.028	1.49
W2	01/05/2012 9:55																									
W2	02/05/2012 12:30																									
W2	03/05/2012 9:15																									
W2	07/05/2012	0.0354	0.0436	0.00164	0.0365	<0.00050	0.00076	0.0509	<0.00010	<0.0010	<0.05	0.000018	20.3	High DL removed	<0.00050	0.00396	0.761	<0.00020	<0.0050	5.54	0.158	<0.000010	<0.0010	0.0018	0.027	1.28
W2	10/05/2012 14:40																									
W2	24/04/2013 15:35	<0.0050	<0.0050	<0.00050	0.0077	<0.00050	0.00045	0.0789	<0.00010	<0.0010	<0.05	0.000011	50.4	High DL removed	<0.00050	0.00426	0.0393	<0.00020	<0.0050	22.3	0.0201	<0.000010	<0.0010	<0.0010	0.031	4.42
W2	27/04/2013 11:30																									

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	Br	Cation	CN-T	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-TKN	P-PO4T	P-TDP	P-TRP
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L
W2	13/09/2010	0.0023	5.68	<0.0001	17	0.738	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		2.4												0.007
W2	14/09/2010	0.0024	5.61	<0.0001	18	0.76	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	150	<0.5	<0.5	<0.5		2.8												0.007
W2	15/09/2010	0.0018	5.77	<0.0001	17	0.727	<60	<0.00005	<0.005	<0.01	0.0008	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		2.3												<0.005
W2	16/09/2010	0.0021	5.84	<0.0001	16	0.715	<60	<0.00005	<0.005	<0.01	0.0009	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		2.3												<0.005
W2	17/09/2010	0.0021	5.89	<0.0001	16	0.704	<60	<0.00005	<0.005	<0.01	0.001	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		2.3												<0.005
W2	18/09/2010	0.0021	6	<0.0001	16	0.735	<60	<0.00005	<0.005	<0.01	0.0011	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		2.6												<0.005
W2	19/09/2010	0.0023	5.63	<0.0001	17	0.754	<60	<0.00005	<0.005	<0.01	0.0011	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		2.7												<0.005
W2	20/09/2010	0.0024	5.64	<0.0001	15	0.758	<60	<0.00005	<0.005	<0.01	0.0011	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		2.6												<0.005
W2	21/09/2010	0.0023	5.33	<0.0001	18	0.746	<60	<0.00005	<0.005	<0.01	0.0011	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		3												<0.005
W2	22/09/2010	0.0025	5.37	<0.0001	16	0.8	<60	<0.00005	<0.005	<0.01	0.0012	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		3.1												<0.005
W2	23/09/2010	0.0023	5.72	<0.0001	18	0.703	<60	<0.00005	<0.005	<0.01	0.0012	<0.005	High DL removed	<0.002	160	<0.5	<0.5	<0.5		2.7												<0.005
W2	24/09/2010	0.0025	5.49	<0.00002	18.4	0.798	21	<0.00005	<0.005	<0.005	0.0012	<0.005	<0.005	<0.0005	160	<0.5	<0.5	<0.5		2.4												<0.005
W2	25/09/2010	0.0025	5.37	<0.00002	19	0.816	21	<0.00005	<0.005	<0.005	0.0012	<0.005	<0.005	<0.0005	160	<0.5	<0.5	<0.5		2.4												<0.005
W2	26/09/2010	0.0026	5.22	<0.00002	17.4	0.821	21	<0.00005	<0.005	<0.005	0.0013	<0.005	<0.005	<0.0005	160	<0.5	<0.5	<0.5		2.6												<0.005
W2	27/09/2010	0.0026	5.21	<0.00002	17.6	0.878	22	<0.00005	<0.005	<0.005	0.0012	<0.005	<0.005	<0.0005	160	<0.5	<0.5	<0.5		2.6												<0.005
W2	28/09/2010	0.0025	5.33	<0.00002	18.7	0.836	21	<0.00005	<0.005	<0.005	0.0011	<0.005	<0.005	<0.0005	160	<0.5	<0.5	<0.5		2.7												<0.005
W2	29/09/2010	0.0026	5.24	<0.00002	19.6	0.859	22	<0.00005	<0.005	<0.005	0.0011	<0.005	<0.005	<0.0005	160	<0.5	<0.5	<0.5		2.6												<0.005
W2	01/10/2010	0.0023	5.26	<0.00002	17.6	0.8	20	<0.00005	<0.005	<0.005	0.0011	<0.005	<0.005	<0.0005	160	<0.5	<0.5	<0.5		2.3												<0.005
W2	02/10/2010	0.0017	5.53	<0.00002	14.1	0.654	15	<0.00005	<0.005	<0.005	0.0009	<0.005	<0.005	<0.0005	150	<0.5	<0.5	<0.5		2.2												<0.005
W2	03/10/2010	0.0011	5.93	<0.00002	12.4	0.578	12	<0.00005	<0.005	<0.005	0.0009	<0.005	<0.005	<0.0005	150	<0.5	<0.5	<0.5		1.1												<0.005
W2	04/10/2010	0.002	5.63	<0.00002	16.4	0.691	20	<0.00005	<0.005	<0.005	0.0009	<0.005	<0.005	0.0008	150	<0.5	<0.5	<0.5		2												<0.005
W2	05/10/2010	0.0017	5.61	<0.00002	13.5	0.696	16	<0.00005	<0.005	<0.005	0.001	<0.005	<0.005	<0.0005	160	<0.5	<0.5	<0.5		2.2												0.006
W2	06/10/2010	0.0016	5.62	<0.00002	13.4	0.659	16	<0.00005	<0.005	<0.005	0.001	<0.005	<0.005	<0.0005	160	<0.5	<0.5	<0.5		1.9												<0.005
W2	07/10/2010	0.0017	5.58	<0.00002	13.4	0.637	16	<0.00005	<0.005	<0.005	0.001	<0.005	<0.005	<0.0005	160	<0.5	<0.5	<0.5		2.4												<0.005
W2	08/10/2010	0.0016	5.82	<0.00002	13.1	0.675	16	<0.00005	<0.005	<0.005	0.0011	<0.005	<0.005	<0.0005	170	<0.5	<0.5	<0.5		2.1												<0.005
W2	09/10/2010	0.002	5.52	<0.00002	14.9	0.708	18	<0.00005	<0.005	<0.005	0.0011	<0.005	<0.005	<0.0005	170	<0.5	<0.5	<0.5		2.2												0.048
W2	10/10/2010	0.0019	5.34	<0.00002	14.9	0.743	19	<0.00005	<0.005	<0.005	0.0013	<0.005	<0.005	<0.0005	170	<0.5	<0.5	<0.5		2.4												0.006
W2	11/10/2010	0.0019	5.33	<0.00002	15	0.736	18	<0.00005	<0.005	<0.005	0.0012	<0.005	<0.005	<0.0005	170	<0.5	<0.5	<0.5		2.8												<0.005
W2	12/10/2010	0.0019	5.31	<0.00002	14.8	0.753	18	<0.00005	<0.005	<0.005	0.0012	<0.005	<0.005	<0.0005	170	<0.5	<0.5	<0.5		2.4												<0.005
W2	13/10/2010	0.0021	6.23	<0.00002	16.8	0.767	21	<0.00005	<0.005	<0.005	0.0015	<0.005	<0.005	<0.0005	170	<0.5	<0.5	<0.5		2.6												<0.005
W2	14/10/2010	0.0023	6.68	<0.00002	18.8	0.826	23	<0.00005	<0.005	<0.005	0.0016	<0.005	<0.005	<0.0005	170	<0.5	<0.5	<0.5		2.7												<0.005
W2	15/10/2010	0.0023	6.34	<0.00002	18.2	0.814	22	<0.00005	<0.005	<0.005	0.0014	<0.005	<0.005	<0.0005	170	<0.5	<0.5	<0.5		2.6												<0.005
W2	16/10/2010	0.0024	6	<0.00002	19.6	0.858	23	<0.00005	<0.005	<0.005	0.0014	<0.005	<0.005	<0.0005	170	<0.5	<0.5	<0.5		2.6												<0.005
W2	17/10/2010	0.0023	5.3	<0.00002	17.8	0.838	22	<0.00005	<0.005	<0.005	0.0013	<0.005	<0.005	<0.0005	170	<0.5	<0.5	<0.5		2.6												0.026
W2	18/10/2010	0.0021	5.29	<0.00002	17.8	0.843	21	<0.00005	<0.005	<0.005	0.0013	<0.005	<0.005	<0.0005	170	<0.5	<0.5	<0.5		2.2												0.029
W2	19/10/2010	0.0023	5.23	<0.00002	18.9	0.922	24	<0.00005	<0.005	<0.005	0.0014	<0.005	<0.005	<0.0005	170	<0.5	<0.5	<0.5		2.4												0.028
W2	20/10/2010														180	<0.5	<0.5	<0.5		2.4												0.031
W2	21/10/2010	0.0021	5.51	<0.00002	18	0.85	24	<0.00005	<0.005	<0.005	0.0014	<0.005	<0.005	<0.0005	180	<0.5	<0.5	<0.5		2.6												0.039
W2	22/10/2010	0.0022	5.29	<0.00002	18.5	0.884	27	<0.00005	<0.005	<0.005	0.0015	<0.005	<0.005	<0.0005	180	<0.5	<0.5	<0.5		2.7												0.053
W2	23/10/2010	0.0022	5.24	<0.00002	18.6	0.889	28	<0.00005	<0.005	<0.005	0.0016	<0.005	<0.005	<0.0005	180	<0.5	<0.5	<0.5		2.3												0.062
W2	25/10/2010	0.0023	5.1	<0.00002	18.4	0.911	26	<0.00005	<0.005	<0.005	0.0015	<0.005	<0.005	<0.0005	180	<0.5	<0.5	<0.5		3												0.06
W2	26/10/2010																															
W2	27/10/2010	0.0025	5.58	<0.00002	20.4	0.956	27	<0.00005	<0.005	<0.005	0.0015	<0.005	<0.005	<0.0005	180	<0.5	<0.5	<0.5		3												<0.005
W2	16/04/2012 14:20	0.00013	5.31	<0.000020	6.82	0.27	5.2	<0.000050	<0.0050	<0.0050	0.00051	<0.0050	<0.0050	<0.00050	135	<0.50	<0.50	<0.50												0.09		
W2	17/04/2012 16:40																															
W2	18/04/2012 17:00																															
W2	19/04/2012 8:33																															
W2	20/04/2012 7:15																															
W2	21/04/2012 9:04																															
W2	22/04/2012 8:55	0.00015	3.54	<0.000020	2.96	0.114	<3.0	<0.000050	<0.0050	<0.0050	0.00014	<0.0050	<0.0050	<0.00050	60.4	<0.50	<0.50	<0.50												0.0723		
W2	23/04/2012 13:15																															
W2	24/04/2012 6:31	0.00017	3.38	<0.000020	3.19	0.118	<3.0	<0.000050	<0.0050	<0.0050	0.00018	<0.0050	<0.0050	<0.00050	67	<0.50	<0.50	<0.50									23.7			0.0846		
W2	25/04/2012 14:30																															
W2	26/04/2012	0.00023	3.44	<0.000020	3.71	0.133	<3.0	<0.000050	<0.0050	<0.0050	0.00033	<0.0050	<0.0050	<0.00050	69.4	<0.50	<0.50	<0.50									33.7			0.259		
W2	27/04/2012 14:00																															
W2	28/04/2012 14:25																															
W2	29/04/2012	0.00029	4.32	<0.000020	3.74	0.113	<3.0	<0.000050	<0.0050	<0.0050	0.00032	<0.0050	<0.0050	<0.00050	63.5	<0.50	<0.50	<0.50												0.422		
W2	30/04/2012	0.00027	3.6	<0.000020	4.14	0.12	3.4	<0.000050	<0.0050	<0.0050	0.00041	<0.0050	<0.0050	<0.00050	70.5	<0.50	<0.50	<0.50												0.563		
W2	01/05/2012 9:55																															
W2	02/05/2012 12:30																															
W2	03/05/2012 9:15																															
W2	07/05/2012	0.00019	4.35	<0.000020	4.05	0.13	<3.0	<0.000050	<0.0050	<0.0050	0.00046	<0.0050	<0.0050	<0.00050	80	<0.50	<0.50	<0.50												0.472		
W2	10/05/2012 14:40																															
W2	24/04/2013 15:35	0.00026	9.75	<0.000020	15.7	0.434	14.7	<0.000050	<0.0050	<0.0050	0.00082	<0.0050	<0.0050	<0.00050	252	<0.50	<0.50	<0.50														
W2	27/04/2013 11:30																															

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W2	13/09/2010					1.3	-1.7
W2	14/09/2010					2.4	-0.2
W2	15/09/2010					1.5	-1.9
W2	16/09/2010					1.3	-2.4
W2	17/09/2010					2.2	-0.8
W2	18/09/2010					1.5	-2.6
W2	19/09/2010					2	-1.5
W2	20/09/2010					1.2	-2.3
W2	21/09/2010					2	-2
W2	22/09/2010					1.5	-1.4
W2	23/09/2010					0.9	-1.9
W2	24/09/2010					1.6	-2.3
W2	25/09/2010					1.3	-2.2
W2	26/09/2010					1.9	-1.9
W2	27/09/2010					2.4	-1.3
W2	28/09/2010					1.3	-2.5
W2	29/09/2010					1.3	-2.7
W2	01/10/2010					2.3	
W2	02/10/2010					7.5	
W2	03/10/2010					2.4	
W2	04/10/2010					2.8	
W2	05/10/2010					1.4	-2.4
W2	06/10/2010					1.3	-2.7
W2	07/10/2010					1.3	-2.2
W2	08/10/2010					1.8	-2.1
W2	09/10/2010					1.2	-2.6
W2	10/10/2010					1.3	-1.7
W2	11/10/2010					1.8	
W2	12/10/2010					1.6	-2.3
W2	13/10/2010					1.8	-2.6
W2	14/10/2010					1.3	-2.4
W2	15/10/2010					1.4	-2.7
W2	16/10/2010					1.2	-2.7
W2	17/10/2010					1	
W2	18/10/2010					2.7	-1.3
W2	19/10/2010					1.8	-2.7
W2	20/10/2010					8.2	
W2	21/10/2010					1	
W2	22/10/2010					0.9	
W2	23/10/2010					1.1	
W2	25/10/2010					1.4	
W2	26/10/2010						-3
W2	27/10/2010					0.8	
W2	16/04/2012 14:20			253.7			
W2	17/04/2012 16:40			229.1			
W2	18/04/2012 17:00			211.4			
W2	19/04/2012 8:33			200.4			
W2	20/04/2012 7:15			164.4			
W2	21/04/2012 9:04			148.2			
W2	22/04/2012 8:55			119.1			
W2	23/04/2012 13:15			136.5			
W2	24/04/2012 6:31			126.9			
W2	25/04/2012 14:30			155			
W2	26/04/2012			141.2			
W2	27/04/2012 14:00			137.3			
W2	28/04/2012 14:25			133.3			
W2	29/04/2012			130.8			
W2	30/04/2012			143.6			
W2	01/05/2012 9:55			128.6			
W2	02/05/2012 12:30			188.9			
W2	03/05/2012 9:15			165.6			
W2	07/05/2012			139.6			
W2	10/05/2012 14:40			206.6			
W2	24/04/2013 15:35			473.6			
W2	27/04/2013 11:30			463.2			

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Phase	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
				mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W2	29/04/2013 16:10	Discharge	P	8.5	314	8.57	8.27	233	479	0		100.8	121.6	222	221	197	4.7	0.42	42	0.021	0.0152	1.46	14.9	0.332	<0.00050	0.0006	0.0925	<0.00010	<0.0010
W2	30/04/2013 5:15	Discharge	P	<1.0	268	8.3	8.21	218.8	446	-0.1		104.9	-92.6	412	203	183	5.5	0.38	46.6	0.022	0.0142	1.55	12.8	0.0304	<0.00050	0.00164	0.247	<0.00010	<0.0010
W2	30/04/2013 16:50	Discharge	M	24.5	292	8.4	8.32	211.9	436	-0.1		115.9	-45.6	214	199	182	5.3	0.37	41	0.029	0.0218	1.55	9.74	0.916	<0.00050	0.00085	0.0956	<0.00010	<0.0010
W2	07/05/2013 15:30	Discharge	P	88.3	170	8.39	7.99	103.8	198	0	13.99	95.9	40.9	107	93	83.7	3.1	0.19	5.97	0.026	0.0074	0.386	17.6	1.74	<0.00050	0.00116	0.0723	<0.00010	<0.0010
W2	09/05/2013 15:53	Discharge	P	306	104	7.61	7.77	70.8	132	0.1	14.08	96.5	62.8	80	64.8	56.7	3.1	0.13	<0.50	0.041	<0.0050	0.207	27.1	3.22	<0.00050	0.00176	0.0984	<0.00010	<0.0010
W2	12/05/2013 17:20	Discharge	P	26.5	78	7.11	7.17	32.2	59.6	0.7	13.86	95.9	34.6	41.1	40	24.1	2.3	0.093	0.71	0.12	0.009	<0.020	22.2	2.04	<0.00050	0.00128	0.0639	<0.00010	<0.0010
W2	15/05/2013 17:30	Discharge	P	216	78	8.1	7.79	45.1	87.6	0.7	13.4	94.2	86.6	60.6	46.9	40.7	1.5	0.12	<0.50	0.062	0.0067	<0.020	18.4	4.23	<0.00050	0.00254	0.117	0.00018	<0.0010
W2	19/05/2013 17:55	Discharge	P	79	134	8.17	8.05	88.7	177	0.6	13.3	92.4	73.9	91.4	85.9	74.6	3.6	0.17	7.14	0.044	<0.0050	0.397	15.5	1.95	<0.00050	0.00147	0.0853	<0.00010	<0.0010
W2	06/04/2014 14:00	Discharge	P	15	544	8.38	8.37	384.2	799	0	13.69	93.7	131	382	386	341	13	0.75	90.2	0.017	<0.0050	0.109	24.9	0.575	<0.00050	0.00138	0.167	<0.00010	<0.0010
W2	08/04/2014 10:05	Discharge	P	1.4	344	8.37	8.43	248.4	522	0	12.87	88.1	127.6	231	233	215	9.8	0.52	48.2	0.012	<0.0050	0.043	16.7	0.0422	<0.00050	0.00055	0.0829	<0.00010	<0.0010
W2	17/04/2014 15:30	Discharge	P	152	218	8.41	8.28	191.6	365	0	14.07	96.2	136.2	198	166	156	7.2	0.33	27.4	0.026	0.0072	0.26	9.53	4.22	<0.00050	0.003	0.148	0.00015	<0.0010
W2	21/04/2014 7:30	Discharge	P			8.2		123.3		0	14.4	98.7	111.7																
W2	21/04/2014 7:30	Discharge	P	7.7	158		8.12		236					129	111	99.6	3.9	0.22	12	0.035	<0.0050	0.175	16.2	1.11	<0.00050	0.00082	0.0658	<0.00010	<0.0010
W2	22/04/2014 15:10	Discharge	P	62	136	8	7.9	96.5	144	-0.1	13.98	95.5	209.1	80.9	68.2	62.7	2.8	0.16	<0.50	0.05	0.0084	0.051	20.7	1.23	<0.00050	0.00102	0.0581	<0.00010	<0.0010
W2	01/05/2014 15:30	Discharge	P	145	120	8.36	7.67	84.1	125	1.1	14.46	102.3	139	75.3	56.5	52.9	2.1	0.13	<0.50	0.026	<0.0050	0.272	20.9	3.12	<0.00050	0.00213	0.131	0.00017	<0.0010
W2	05/05/2014 8:00	Discharge	P	54.4	122	8.22	7.84	77.2	136	0.3	14.44	99.7	117.4	68.9	66	60.7	1.7	0.14	<0.50	0.021	<0.0050	0.054	18.5	0.898	<0.00050	0.00096	0.0575	<0.00010	<0.0010
W2	17/05/2014 15:00	Discharge	M																										
W2	17/05/2014 15:00	Discharge	P	143	190	7.63	8.17	196.7	284	6	12.14	97.6	113.1	154	125	108	4.1	0.27	26.8	0.08	0.0235	1.27	11.5	6.58	<0.00050	0.00418	0.21	0.00026	<0.0010
W2	19/05/2014 14:00	Discharge	M																										
W2	19/05/2014 14:00	Discharge	P	472	192	7.62	8.19	176.4	281	3.3	12.89	96.7	117.4	171	126	113	3.4	0.27	26	0.1	0.0182	1.06	13	11.3	<0.00050	0.00637	0.299	0.00039	<0.0010
W2	25/05/2014 7:45	Discharge	M			7.62		180.8		3.4	13	97.6	138.1																
W2	26/05/2014 7:45	Discharge	M																										
W2	11/12/2014 7:50	Discharge	P	1.6	282	8.04	7.91	269.2	510	-1.9	14.87	96.3	96.0	229	227	159		0.43		0.037	0.0174	2.03	8.47	0.0472	<0.00050	0.00055	0.0925	<0.00010	<0.0010
W2	12/12/2014 7:45	Discharge	F			7.97		282		-1.9	14.85	96	252.4																
W2	13/12/2014 8:10	Discharge	M			7.88		297.3		-1.4	15.13	98.2	106.3																
W2	14/12/2014 7:40	Discharge	M			7.94		295.1		-1.9	19.09	124.4	154.2																
W2	15/12/2014 8:30	Discharge	P	1.1	348	7.81	8.04	300	554	-2		84.4	213.8	250	254	176	7.9	0.47	92.5	0.0083	0.0128	2.6	9.5	0.007	<0.00050	0.00039	0.105	<0.00010	<0.0010
W2	16/12/2014 9:45	Discharge	P	1.4	316	7.81	7.97	249.9	507	-1.9	12.60	81.6	154.8	247	231	158	7.1	0.43	86.7	0.013	0.0124	2.38	8.5	0.0179	<0.00050	0.0004	0.106	<0.00010	<0.0010
W2	05/04/2015 17:30	Discharge	P	<1.0	328	8.29	8.28	278.8	541	-0.1	15.39	105.3	158.5	281	254	233	4.5	0.54	51.8	0.011	<0.0050	0.128	9.6	0.0519	<0.00050	0.00052	0.107	<0.00010	<0.0010
W2	10/04/2015 14:20	Discharge	P	2.3	242	8.34	8.15	210	405	-0.1	14.32	97.9	175.8	197	173	134	5.2	0.38	55	0.0059	0.0089	1.38	8.52	0.0792	<0.00050	0.0005	0.0804	<0.00010	<0.0010
W2	14/04/2015 15:30	Discharge	P	<1.0	210	8.34	8.31	199.1	386		13.69	93.8	213.6	194	174	169	3.3	0.41	32.9	0.013	<0.0050	0.205	11.3	0.0682	<0.00050	0.00054	0.0749	<0.00010	<0.0010
W2	20/04/2015 7:45	Discharge	P	4.7	124	8.06	7.98	99.2	190	0	14.28	97.6	176.8	89.4	83.8	76.6	2.7	0.18	14	0.034	0.0096	0.425	0.61	0.137	<0.00050	0.00051	0.0461	<0.00010	<0.0010
W2	30/04/2015 16:30	Discharge	P	219	136	7.92	7.67	81.3	156	0.3	14.22	98.2	199.3	83.9	71.6	59.5	2.9	0.16	0.56	0.09	<0.050	0.35	23.1	3.17	<0.00050	0.00224	0.12	0.00014	<0.0010
W2	09/05/2015 14:15	Discharge	P	150	152	7.6	7.94	121.4	217	2.5	14.29	104.8	133.3	115	101	85.3	2.8	0.21	17.7	0.028	<0.0050	0.452	14.6	2.89	<0.00050	0.00234	0.118	0.00016	<0.0010
W2	14/05/2015 13:30	Discharge	P	102	160	7.75	8.06	154.2	251	5.4	12.36	97.9	135.6	112	107	94	3.6	0.25	22.4	0.031	0.0106	0.698	11.3	1.58	<0.00050	0.00148	0.0896	<0.00010	<0.0010
W2	19/05/2015 7:45	Discharge	P	36.3	158	7.89	8.16	142.7	235	4.2	11.97	91.2	70.9	105	105	101	2.1	0.29	14.7	0.029	<0.0050	0.191	11.8	0.718	<0.00050	0.001	0.0622	<0.00010	<0.0010
W2	28/05/2015 15:20	Discharge	P	8.7	214	7.89	8.23	236.3	362	7.4	11.56	96	146.6	181	149	145	4.2	0.33	26	0.035	<0.0050	0.746	6.94	0.111	<0.00050	0.00056	0.0843	<0.00010	<0.0010
W2	12/04/2016 11:15	Discharge	P	91.3	67.0	7.64	7.74	65.8	126	0.2	15.56	107.2	128.8		65.6	54.4	0.94		5.28	0.0182	<0.0010	<0.0050	33.9	1.30	<0.00010	0.00100	0.0575	0.000061	<0.000050
W2	21/04/2016 10:50	Discharge	P	8.7	106	7.96	7.98	103.4	199	0	16.45	112.4	127.6		98.0	85.3	1.69		12.1	0.0111	<0.0010	0.0083	23.3	0.116	0.00020	0.00050	0.0411	<0.000020	<0.000050
W2	27/04/2016 8:15	Discharge	P	4.0	122	7.95	8.06	118.1	227	0.2	14.44	99.5	140		115	94.9	2.17		14.6	<0.0050	<0.0010	0.0717	15.9	0.103	<0.00010	0.00053	0.0452	<0.000020	<0.000050
W2	03/05/2016 9:30	Discharge	P	3.3	129	8.09	8.19	127.4	241	0.7	14.25	99.4	105		116	106	1.92		15.0	<0.0050	<0.0010	0.0303	12.7	0.0590	0.00010	0.00051	0.0476	<0.000020	<0.000050
W2	16/05/2016 8:05	Discharge	P	5.3	147	7.7	8.20	122.8	275	1.3	13.13	93.3	155.2		134	123	1.69		15.6	<0.0050	<0.0010	0.0862	10.2	0.178	<0.00010	0.00061	0.0539	<0.000020	<0.000050
W2	17/05/2016 10:50	Discharge	P			8		132.6		1.7	14.75	106.3	192.4																
W2	25/05/2016 8:55	Discharge	P	20.0	152	7.95	8.24	155.9	274	2.1	13.11	95.2	135.1		141	124	1.89		16.9	<0.0050	0.0015	0.288	11.5	0.289	<0.00010	0.00073	0.0599	<0.000020	<0.000050
W2	03/06/2016 11:15	Discharge	P	6.0	176	8.04	8.25	184.1	306	3.8	11.43	86.5	132.4		157	143	2.13		21.0	0.0057	0.0023	0.251	9.29	0.134	0.00012	0.00056	0.0631	<0.000020	<0.000050
W2	07/06/2016 11:50	Discharge	P	12.7	168	8.12	8.12	176.9	291	3.8	12.81	97.4	120.7		156	136	1.85		18.8	0.0074	0.0012	0.200	10.7	0.256	0.00012	0.00073	0.0620	<0.000020	<0.000050
W2	09/06/2016 16:16	Discharge	P			7.96		197.2		6.4	11.99	97.5	103																
W2	17/06/2016 16:35	Discharge	P	3.3	187	7.83	8.11	230	328	8.5	10.61	91.6	172.2		170	152	2.24		22.2	0.0071	<0.0010	0.258	9.92	0.0370	0.00011	0.00053	0.0644	<0.000020	<0.000050
W2	18/06/2016 8:20	Discharge	M			7.84		219.3		6.6	11.19	91.1	125.1																
W2	23/06/2016 8:25	Discharge	P	8.0	196	7.81	7.98	227	344	6.8	10.79	88.5	201.7		178	158	2.30		23.9	<0.0050	0.0019	0.0987	8.72	0.0709	0.00013	0.00045	0.0738	<0.000020	<0.000050
W2	07/07/2016 14:20	Discharge	P	<3.0	198	7.95	8.25	240.9	351	8.2	10.95	93	122.5		178	167	2.09		22.8	<0.0050	<0.0010	0.0135	8.18	0.0095	<0.00010	0.00039	0.0698	<0.000020	<0.000050
W2	12/07/2016 9:10	Discharge	P	3.3	199	8.02	8.07	236.4	342	7.7	10.78	90.6	132.2		181	167	1.96		21.5	<0.0050	<0.0010	0.0918	8.61	0.0137	<0.00010	0.00045	0.0666	<0.000020	<0.000050
W2	19/07/2016 8:30	Discharge	P	<3.0	206	7.98	8.19	256.8	360	9	10.11	88.2	110		184	170	2.40		25.1	<0.0050	<0.0010	0.0947	7.92	0.0093	<0.00010	0.00040	0.0713	<0.000020	<0.000050
W2	25/07/2016 10:50	Discharge	M			8.11		202.9		7	10.85	89.6	107.8																
W2	26/07/2016 13:10	Discharge	P	106	161	8.11	8.07	187.7	286	7.9	11.47	96.7	88.1		150	139	1.30		13.9	0.0269	<0.0010	0.0632	16.0	2.18	0.00020	0.00200	0.109	0.000086	0.000054
W2	02/08/2016 10:55	Discharge	P	<3.0	199	7.94	8.16	238.7	349	7.7	11.69	97.7	127.7		184	167	2.01		20.4	0.0052	<0.0010	0.188	10.6	0.0238	<0.00010	0.00059	0.0680	<0.000020	<0.000050
W2	09/08/2016 11:30	Discharge	P	6.7	198	8.03	8.27	241.7	345	9.2	10.53	91.5	152.6		177	173	1.89		18.3	<0.0050	<0.0010	0.225	13.0	0.190	<0.00010	0.00081	0.0802	<0.000020	<0.000050
W2	15/08/2016 11:10	Discharge	M			7.86		240.6		7.6	11.57	96.9	114.6																
W2	15/08/2016 11:10	Discharge	P	<3.0	210		8.25		353						189	180	2.14		21.3	0.0069	<0.0010	0.302	12.0	0.0391	<0.00010	0.00071	0.0708	<0.000020	<0.000050
W2	17/08/2016 7:50	Discharge	P	<3.0	209	8.06	8.09	235.1	349	7	11.87	97.9	118.1		196	176	2.10		21.1	0.0061	<0.0010	0.221	11.0	0.0408	<0.00010	0.00058	0.0693	<0.000020	<0.000050
W2	18/08/2016 11:40	Discharge	M			7.92		238		6.8	12.14	99.6	114.8																
W2	23/08/2016 13:05	Discharge	P	<3.0	210	8.2	8.27	243.4	357	7.1	12.01	99.5	126.1		189	179	2.17		21.5	0.0071	<0.0010	0.258	10.2	0.0253	0.00010	0.00062	0.0713	<0.000020	<0.000050
W2	31/08/2016 10:00	Discharge	P	<3.0	209	7.67	8.13	167.9	340	6.2	13.12	106.1	146.2		189	171	2.42		22.7	0.0052	<0.0010	0.536	12.6	0.0860	<0.00010	0.00064	0.0735	<0.000020	<0.000050
W2	06/09/2016 11:02	Discharge	P	11.6	178	7.86	8.25	206.3	304	6.7	11.61	95.1	148.6		154	144	2.17		21.7	<0.0050	0.0022	0.767	10.7	0.0545	0.00011	0.00061	0.0632	<0.000020	<0.000050
W2	13/09/2016 15:21	Discharge	P	6.0	188	8.18	8.21	208.8	320	7.4	11.28	94	124.7		159	154	2.27		22.8	<0.0050	0.0018	0.879	10.1	0.0471	<0.00010	0.00052	0.0596	<0.000020	<0.000050

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W2	29/04/2013 16:10	<0.05	0.000021	53.5	<0.0010	<0.00050	0.0105	0.515	<0.00020	<0.0050	21.4	0.0279	<0.000010	0.0017	0.0013	0.036	4.74	0.00072	6.99	<0.000020	15.8	0.496	15.4	<0.000050	<0.0050	0.0135	0.00111
W2	30/04/2013 5:15	0.057	<0.000010	107	<0.0010	<0.00050	<0.00020	4.96	<0.00020	<0.0050	35.1	7.14	<0.000010	0.0018	0.0014	0.162	5.96	<0.00010	13.4	<0.000020	27.1	0.611	7.9	<0.000050	<0.0050	<0.0050	0.00064
W2	30/04/2013 16:50	<0.05	<0.000010	52.6	0.0013	0.00068	0.0185	1.32	0.00041	<0.0050	20.1	0.0461	<0.000010	0.0018	0.002	0.049	3.64	0.0004	7.79	<0.000020	15.1	0.476	13.2	<0.000050	<0.0050	0.0371	0.00099
W2	07/05/2013 15:30	<0.05	0.000047	27.2	0.0028	0.00137	0.0211	2.71	0.00078	<0.0050	9.58	0.125	<0.000010	0.0013	0.0037	0.175	2.73	0.00022	7.43	0.000025	6.42	0.229	3.9	<0.000050	<0.0050	0.0803	0.00045
W2	09/05/2013 15:53	<0.05	0.000069	20.8	0.0054	0.00225	0.017	4.88	0.00147	<0.0050	6.79	0.239	0.000015	<0.0010	0.006	0.304	2.44	0.00031	9.46	<0.000020	4	0.165	<3.0	<0.000050	<0.0050	0.132	0.0004
W2	12/05/2013 17:20	<0.05	0.00005	10.9	0.0037	0.00158	0.0119	3.4	0.00097	<0.0050	3.38	0.15	0.00001	<0.0010	0.0047	0.173	1.79	0.0001	6.36	0.000027	1.65	0.0709	<3.0	<0.000050	<0.0050	0.0785	0.00025
W2	15/05/2013 17:30	<0.05	0.000078	15.6	0.0077	0.00331	0.0157	7.3	0.00209	<0.0050	5.27	0.299	0.000022	<0.0010	0.0091	0.311	1.8	<0.00010	10.8	<0.000020	2.52	0.113	<3.0	<0.000050	<0.0050	0.161	0.00055
W2	19/05/2013 17:55	<0.05	0.000033	23.6	0.0035	0.00161	0.016	3.57	0.00096	<0.0050	7.91	0.192	<0.000010	0.0013	0.0045	0.13	1.65	0.00029	7.37	0.00002	5.4	0.197	4.5	<0.000050	<0.0050	0.0705	0.00071
W2	06/04/2014 14:00	<0.05	0.000037	90.6	0.0012	0.00055	0.0245	0.858	0.00029	0.0057	37.9	0.0687	0.000011	0.0019	0.0025	0.153	10	0.00049	15.7	<0.000020	30	0.725	24.9	<0.000050	<0.0050	0.0262	0.00296
W2	08/04/2014 10:05	<0.05	0.000015	54.6	<0.0010	<0.00050	0.00847	0.101	<0.00020	<0.0050	23	0.0173	<0.000010	0.0014	0.0012	0.053	4.38	0.00036	8.94	<0.000020	17.4	0.482	14.3	<0.000050	<0.0050	<0.0050	0.00112
W2	17/04/2014 15:30	<0.05	0.000062	48.5	0.0072	0.00304	0.0417	6.54	0.00195	0.0052	18.7	0.175	<0.000010	0.0021	0.0068	0.183	3.66	0.00042	13.6	0.000041	12.2	0.458	8	<0.000050	<0.0050	0.177	0.00113
W2	21/04/2014 7:30																										
W2	21/04/2014 7:30	<0.05	0.000036	34.3	0.0014	0.00059	0.0362	1.31	0.00032	<0.0050	10.5	0.0618	<0.000010	0.0018	0.002	0.212	2.99	0.00028	6.76	<0.000020	7.42	0.313	3.9	<0.000050	<0.0050	0.0367	0.00062
W2	22/04/2014 15:10	<0.05	0.000041	20.8	0.0022	0.00104	0.0211	1.87	0.00061	<0.0050	7.04	0.0973	<0.000010	<0.0010	0.0031	0.145	2.53	0.00029	5.93	0.000023	4.41	0.172	<3.0	<0.000050	<0.0050	0.0527	0.00035
W2	01/05/2014 15:30	<0.05	0.000101	19.5	0.0057	0.00315	0.019	5.43	0.00194	<0.0050	6.46	0.394	<0.000010	0.0011	0.008	0.302	2.04	0.00032	7.73	0.000023	4.07	0.189	<3.0	<0.000050	<0.0050	0.102	0.00061
W2	05/05/2014 8:00	<0.05	0.000028	18	0.0018	0.00095	0.00701	1.71	0.00049	<0.0050	5.78	0.139	<0.000010	<0.0010	0.0032	0.084	1.32	0.00014	5.13	<0.000020	3.69	0.169	<3.0	<0.000050	<0.0050	0.0371	0.00042
W2	17/05/2014 15:00																										
W2	17/05/2014 15:00	<0.05	0.000134	38.9	0.0127	0.00522	0.0369	10.7	0.00325	0.0058	13.9	0.476	<0.000010	0.0026	0.0147	0.382	3.15	0.00067	15.7	0.000069	9.4	0.453	9.1	0.000057	<0.0050	0.277	0.0016
W2	19/05/2014 14:00																										
W2	19/05/2014 14:00	<0.05	0.000212	41.9	0.0211	0.00846	0.0486	17.7	0.00543	0.0082	16.2	0.684	<0.000010	0.0028	0.0235	0.679	3.16	0.00071	22.5	0.000072	9.22	0.48	8.5	0.000097	<0.0050	0.459	0.00195
W2	25/05/2014 7:45																										
W2	26/05/2014 7:45																										
W2	11/12/2014 7:50	<0.05	<0.000010	56.7	<0.0010	<0.00050	0.00522	0.1	<0.00020	<0.0050	21.2	0.0364	<0.000010	0.0049	<0.0010	0.027	4.24	0.00067	4.16	<0.000020	18	0.662	25.5	<0.000050	<0.0050	<0.0050	0.002
W2	12/12/2014 7:45																										
W2	13/12/2014 8:10																										
W2	14/12/2014 7:40																										
W2	15/12/2014 8:30	<0.05	<0.000010	63.7	<0.0010	<0.00050	0.00432	0.037	<0.00020	<0.0050	22	0.0158	<0.000010	0.0058	<0.0010	0.025	5.45	0.00072	4.5	<0.000020	18.7	0.876	31.9	<0.000050	<0.0050	<0.0050	0.00222
W2	16/12/2014 9:45	<0.05	<0.000010	64.9	<0.0010	<0.00050	0.00566	0.055	<0.00020	<0.0050	20.6	0.0151	<0.000010	0.0064	<0.0010	0.032	5.5	0.00074	4.45	<0.000020	18.3	0.904	26.7	<0.000050	<0.0050	<0.0050	0.00216
W2	05/04/2015 17:30	<0.05	<0.000010	65.8	<0.0010	<0.00050	0.00822	0.145	<0.00020	<0.0050	28.4	0.0322	<0.000010	0.0021	<0.0010	0.045	3.95	0.00042	8.77	<0.000020	19.9	0.674	15.7	<0.000050	<0.0050	<0.0050	0.00235
W2	10/04/2015 14:20	<0.05	0.000012	49	<0.0010	<0.00050	0.00687	0.175	<0.00020	<0.0050	18.2	0.108	<0.000010	0.0049	<0.0010	0.024	4.73	0.00054	4.05	<0.000020	17.4	0.678	22	<0.000050	<0.0050	0.0105	0.00155
W2	14/04/2015 15:30	<0.05	0.000016	49.2	<0.0010	<0.00050	0.0194	0.283	<0.00020	<0.0050	17.4	0.0597	<0.000010	0.0024	<0.0010	0.032	3.43	0.00025	7.15	<0.000020	12.8	0.588	11.4	<0.000050	<0.0050	0.0064	0.00145
W2	20/04/2015 7:45	<0.05	0.000016	22.5	<0.0010	<0.00050	0.00753	0.41	<0.00020	<0.0050	8.07	0.0775	<0.000010	0.0017	0.0012	0.039	2.8	0.0003	3.81	<0.000020	7.3	0.272	6.6	<0.000050	<0.0050	0.0055	0.00048
W2	30/04/2015 16:30	<0.05	0.00007	21.6	0.0062	0.00272	0.022	5.62	0.0017	<0.0050	7.28	0.361	<0.000010	0.0012	0.0077	0.239	2.2	0.00032	9.13	0.000021	4.96	0.251	3.4	<0.000050	<0.0050	0.133	0.00063
W2	09/05/2015 14:15	<0.05	0.000054	29.8	0.0065	0.00216	0.0165	5.33	0.00154	<0.0050	9.97	0.352	<0.000010	0.0015	0.0069	0.18	2.01	0.00042	9.79	<0.000020	6.61	0.309	5.6	<0.000050	<0.0050	0.115	0.00093
W2	14/05/2015 13:30	<0.05	0.000039	29.1	0.0034	0.00134	0.0137	3.03	0.00087	<0.0050	9.45	0.176	<0.000010	0.0018	0.0047	0.117	1.98	0.00029	6.65	<0.000020	8.68	0.339	5.8	<0.000050	<0.0050	0.0732	0.00084
W2	19/05/2015 7:45	<0.05	0.000016	27.8	0.0017	0.00058	0.00572	1.57	0.00037	<0.0050	8.72	0.0664	<0.000010	0.0014	0.0025	0.076	1.55	0.00023	5.61	0.000041	6.49	0.31	4.9	<0.000050	<0.0050	0.0341	0.00074
W2	28/05/2015 15:20	<0.05	<0.000010	46.3	<0.0010	<0.00050	0.00395	0.273	<0.00020	<0.0050	15.8	0.0222	<0.000010	0.0026	0.0012	0.024	2.63	0.00036	5.45	<0.000020	12.4	0.571	13.6	<0.000050	<0.0050	<0.0050	0.00171
W2	12/04/2016 11:15	<0.010	0.0000325	18.1	0.00237	0.00100	0.0116	1.92	0.000584	0.0014	5.72	0.107	<0.000025	0.000507	0.00368	0.143	1.68	0.000141	6.23	0.000013	3.65	0.139	2.12	0.000011	<0.00010	0.0485	0.000254
W2	21/04/2016 10:50	<0.010	0.0000084	23.5	0.00049	0.00016	0.00594	0.271	0.000053	<0.0010	7.76	0.0112	0.0000118	0.000893	0.00146	<0.050	1.28	0.000154	4.29	<0.000010	5.39	0.199	4.20	<0.000010	<0.00010	0.00502	0.000527
W2	27/04/2016 8:15	<0.010	0.0000091	26.5	0.00048	0.00017	0.00500	0.347	0.000065	0.0011	8.86	0.0224	0.0000102	0.00115	0.00152	<0.050	1.31	0.000101	4.55	<0.000010	6.45	0.241	4.99	<0.000010	<0.00010	0.00429	0.000703
W2	03/05/2016 9:30	<0.010	0.0000063	30.6	0.00034	0.00011	0.00339	0.285	<0.000050	0.0013	10.0	0.0147	0.0000056	0.00120	0.00118	<0.050	1.35	0.000130	4.70	<0.000010	6.73	0.268	5.16	<0.000010	<0.00010	0.00228	0.000795
W2	16/05/2016 8:05	<0.010	0.0000063	35.0	<0.00060	0.00018	0.00289	0.440	0.000110	<0.0010	11.0	0.0210	0.0000097	0.00185	0.00142	<0.050	1.32	0.000205	5.07	<0.000010	7.29	0.310	5.39	<0.000010	<0.00010	0.00650	0.00107
W2	17/05/2016 10:50																										
W2	25/05/2016 8:55	<0.010	0.0000096	35.5	0.00071	0.00026	0.00356	0.720	0.000153	0.0015	11.6	0.0497	<0.0000050	0.00169	0.00162	<0.050	1.28	0.000144	5.36	<0.000010	8.08	0.320	6.59	<0.000010	<0.00010	0.0108	0.00118
W2	03/06/2016 11:15	<0.010	<0.0000050	40.1	0.00045	0.00014	0.00274	0.317	0.000097	0.0014	12.9	0.0207	<0.0000050	0.00181	0.00140	<0.050	1.64	0.000176	5.42	<0.000010	9.32	0.367	6.99	<0.000010	<0.00010	0.00538	0.00143
W2	07/06/2016 11:50	<0.010	0.0000086	39.1	0.00072	0.00024	0.00307	0.574	0.000146	0.0010	12.3	0.0336	<0.0000050	0.00166	0.00164	<0.050	1.45	0.000162	5.70	<0.000010	8.61	0.345	6.24	<0.000010	<0.00010	0.00962	0.00136
W2	09/06/2016 16:16																										
W2	17/06/2016 16:35	<0.010	<0.0000050	44.0	0.00025	<0.00010	0.00264	0.103	<0.000050	0.0012	14.1	0.0103	<0.0000050	0.00159	0.00097	<0.050	1.70	0.000138	5.54	<0.000010	9.85	0.367	8.23	<0.000010	<0.00010	0.00156	0.00148
W2	18/06/2016 8:20																										
W2	23/06/2016 8:25	<0.010	<0.0000050	48.7	0.00032	<0.00010	0.00252	0.136	<0.000050	0.0020	14.6	0.0224	<0.0000050	0.00142	0.00120	<0.050	1.92	0.000140	5.92	<0.000010	10.1	0.463	8.73	<0.000010	<0.00010	0.00315	0.00182
W2	07/07/2016 14:20	<0.010	<0.0000050	46.6	0.00024	<0.00010	0.00187	0.042	<0.000050	0.0024	14.2	0.0116	<0.0000050	0.00147	0.00091	<0.050	1.60	0.000170	5.76	<0.000010	10.1	0.449	7.73	<0.000010	<0.00010	0.00033	0.00187
W2	12/07/2016 9:10	<0.010	<0.0000050	45.4	0.00021	<0.00010	0.00191	0.051	<0.000050	0.0017	14.4	0.0102	<0.0000050	0.00164	0.00092	<0.050	1.60	0.000128	5.64	<0.000010	10.0	0.454	7.55	<0.000010	<0.00010	0.00045	0.00164
W2	19/07/2016 8:30	<0.010	<0.0000050	48.3	0.00019	<0.00010	0.00193	0.051	<0.000050	0.0019	14.4	0.0183	<0.0000050	0.00135	0.00097	<0.050	1.64	0.000109	5.81	<0.000010	9.92	0.470	8.57	<0.000010	<0.00010	0.00034	0.00182
W2	25/07/2016 10:50																										
W2	26/07/2016 13:10	<0.010	0.0000465	40.1	0.00426	0.00158	0.00957	3.59	0.000900	0.0023	12.7	0.236	<0.000025	0.00138	0.00532	0.122	1.27	0.000215	9.85	0.000026	8.73	0.363	4.93	0.000029	<0.00010	0.0802	0.00113
W2	02/08/2016 10:55	<0.010	<0.0000050	46.8	0.00024	<0.00010	0.00258	0.139	0.000058	0.0018	14.8	0.0100	<0.0000050	0.00171	0.00110	<0.050	1.43	0.000133	6.25	<0.000010	9.71	0.434	6.76	<0.000010	<0.00010	0.00101	0.00152
W2	09/08/2016 11:30	0.010	0.0000060	48.1	0.00059	0.00019	0.00412	0.442	0.000107	0.0016	14.6	0.0248	<0.0000050	0.00169	0.00157	<0.050	1.71	0.000178	6.49	<0.000010	10.5	0.434	6.60	<0.000010	<0.00010	0.00786	0.00132
W2	15/08/2016 11:10																										
W2	15/08/2016 11:10	0.011	<0.0000050	50.4	0.00039	<0.00010	0.00251	0.235	<0.000050	0.0013	15.4	0.0122	<0.0000050	0.00200	0.00130	<0.050	1.64	0.000176	6.35	<0.000010	10.2	0.455	7.61	<0.000010	<0.00010	0.00178	0.00145
W2	17/08/2016 7:50	<0.010	<0.0000050	51.4	0.00030	<0.00010	0.00226	0.228	<0.000050	0.0016	15.8	0.0132	<0.0000050	0.00169	0.00123	<0.050	1.62	0.000170	6.54	<0.000010	9.95	0.457	7.55	<0.000010	<0.00010	0.00157	0.00163
W2	18/08/2016 11:40																										
W2	23/08/2016 13:05	0.011	0.0000056	50.9	0.00030	<0.00010	0.00230	0.186	<0.000050	0.0020	15.9	0.0101	<0.0000050	0.00194	0.00107	<0.050	1.65	0.000175	6.47	<0.000010	10.8	0.482	7.22	<0.000010	<0.00010	0.00104	0.00164
W2	31/08/2016 10:00	0.011	0.0000052	49.4	<0.00050	0.00013	0.00319	0.316	0.000073	0.0017	15.8	0.0175	<0.0000050	0.00193	0.00146	<0.050	1.54	0.000246	6.65	<0.000010	11.2	0.475	8.42	<0.000010	<0.00010	0.00337	0.00132
W2	06/09/2016 11:02	0.015	0.0000070	38.6	0.00033	<0.00010	0.00291	0.271	0.000068	0.0012	12.8	0.0161	<0.0000050	0.00206	0.00119	<0.050	1.51	0.000256	5.25	<0.000010	8.71	0.406	7.84	<0.000010	<0.00010	0.00230	0.000880
W2	13/09/2016 15:21	0.014	0.0000058	44.0	0.00030	<0.00010	0.00265	0.205	<0.000050	<0.0010	13.6	0.0127	<0.0000050	0.00179	0.00107	<0.050	1.60	0.000236	5.55	<0.000010	8.82	0.371	8.57	<0.000010	<0.00010	0.00177	0.000916

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W2	29/04/2013 16:10	<0.0050	<0.0050	<0.00050	0.0064	<0.00050	0.00052	0.0832	<0.00010	<0.0010	<0.05	0.000013	53.9	High DL removed	<0.00050	0.00543	0.0339	<0.00020	<0.0050	21	0.0157	<0.000010	0.0016	<0.0010	0.026	4.33
W2	30/04/2013 5:15	<0.0050	<0.0050	<0.00050	0.0052	<0.00050	0.00048	0.0764	<0.00010	<0.0010	<0.05	<0.000010	49.5	High DL removed	<0.00050	0.00496	0.0275	<0.00020	<0.0050	19.3	0.0129	<0.000010	0.0017	<0.0010	0.019	3.76
W2	30/04/2013 16:50	<0.0050	0.009	<0.00050	0.0038	<0.00050	0.00041	0.0763	<0.00010	<0.0010	<0.05	0.000013	48.4	High DL removed	<0.00050	0.0056	0.0211	<0.00020	<0.0050	18.9	0.0111	<0.000010	0.0017	<0.0010	0.015	3.51
W2	07/05/2013 15:30	0.0056	0.0118	0.00063	0.0141	<0.00050	0.00036	0.0396	<0.00010	<0.0010	<0.05	0.000015	24.1	High DL removed	<0.00050	0.0056	0.106	<0.00020	<0.0050	7.98	0.0414	<0.000010	0.001	<0.0010	0.041	2.38
W2	09/05/2013 15:53	0.0097	0.0148	0.00078	0.0341	<0.00050	0.00042	0.0331	<0.00010	<0.0010	<0.05	0.000015	17.1	High DL removed	<0.00050	0.00682	0.151	<0.00020	<0.0050	5.36	0.0638	<0.000010	<0.0010	0.0011	0.045	2.05
W2	12/05/2013 17:20	0.0071	0.0114	0.00072	0.201	<0.00050	0.00046	0.0285	<0.00010	<0.0010	<0.05	0.000016	11.7	High DL removed	<0.00050	0.00846	0.555	<0.00020	<0.0050	2.6	0.0614	<0.000010	<0.0010	0.0013	0.069	1.53
W2	15/05/2013 17:30	0.0136	0.0194	0.00094	0.0446	<0.00050	0.00052	0.0318	<0.00010	<0.0010	<0.05	<0.000010	12.7	High DL removed	<0.00050	0.00408	0.441	<0.00020	<0.0050	3.68	0.0822	<0.000010	<0.0010	0.0015	0.028	1.24
W2	19/05/2013 17:55	0.0069	0.0091	0.00063	0.029	<0.00050	0.00054	0.0488	<0.00010	<0.0010	<0.05	<0.000010	23	High DL removed	<0.00050	0.00725	0.413	<0.00020	<0.0050	6.94	0.0969	<0.000010	0.0012	0.0014	0.018	1.49
W2	06/04/2014 14:00	<0.0050	0.0155	<0.00050	0.0112	<0.00050	0.00122	0.163	<0.00010	<0.0010	<0.05	0.000015	90.7	High DL removed	<0.00050	0.0123	0.0434	<0.00020	0.0053	38.6	0.0489	<0.000010	0.002	0.0015	0.125	9.56
W2	08/04/2014 10:05	<0.0050	<0.0050	<0.00050	0.0067	<0.00050	0.00057	0.083	<0.00010	<0.0010	<0.05	0.000014	57.2	High DL removed	<0.00050	0.00648	0.0302	<0.00020	<0.0050	22	0.0156	<0.000010	0.0014	<0.0010	0.037	4.44
W2	17/04/2014 15:30	0.0136	0.0219	0.00098	0.0055	<0.00050	0.00041	0.064	<0.00010	<0.0010	<0.05	0.00001	41.6	High DL removed	<0.00050	0.0056	0.0293	<0.00020	<0.0050	15.1	0.0093	<0.000010	0.002	<0.0010	0.021	2.78
W2	21/04/2014 7:30																									
W2	21/04/2014 7:30	<0.0050	0.0096	<0.00050	0.012	<0.00050	0.00038	0.0459	<0.00010	<0.0010	<0.05	0.000014	28.7	High DL removed	<0.00050	0.00686	0.0865	<0.00020	<0.0050	9.53	0.0239	<0.000010	0.0013	<0.0010	0.03	2.62
W2	22/04/2014 15:10	<0.0050	0.0102	<0.00050	0.0233	<0.00050	0.00036	0.0319	<0.00010	<0.0010	<0.05	0.000017	18.1	High DL removed	<0.00050	0.00706	0.103	<0.00020	<0.0050	5.61	0.0366	<0.000010	<0.0010	<0.0010	0.04	2.12
W2	01/05/2014 15:30	0.0117	0.0194	0.00096	0.0461	<0.00050	0.00047	0.0341	<0.00010	<0.0010	<0.05	0.000012	15.4	High DL removed	<0.00050	0.00713	0.269	<0.00020	<0.0050	4.39	0.073	<0.000010	0.001	0.0013	0.028	1.58
W2	05/05/2014 8:00	<0.0050	0.006	<0.00050	0.03	<0.00050	0.00056	0.0348	<0.00010	<0.0010	<0.05	0.000012	17.7	High DL removed	<0.00050	0.00422	0.302	<0.00020	<0.0050	5.27	0.0732	<0.000010	<0.0010	0.0015	0.026	1.28
W2	17/05/2014 15:00													High DL removed												
W2	17/05/2014 15:00	0.0226	0.0339	0.00148	0.0208	<0.00050	0.00064	0.0659	<0.00010	<0.0010	<0.05	<0.000010	33.7	High DL removed	<0.00050	0.00879	0.345	<0.00020	<0.0050	9.97	0.0472	<0.000010	0.0028	0.001	0.018	2.26
W2	19/05/2014 14:00													High DL removed												
W2	19/05/2014 14:00	0.0363	0.0484	0.00179	0.016	<0.00050	0.00062	0.063	<0.00010	<0.0010	<0.05	<0.000010	33.1	High DL removed	<0.00050	0.00631	0.357	<0.00020	<0.0050	10.6	0.021	<0.000010	0.0025	0.0012	0.021	1.98
W2	25/05/2014 7:45													High DL removed												
W2	26/05/2014 7:45													High DL removed												
W2	11/12/2014 7:50	<0.0050	0.0304	<0.00050	0.0053	<0.00050	0.0004	0.092	<0.00010	<0.0010	<0.05	<0.000010	57.9	High DL removed	<0.00050	0.00336	0.0323	<0.00020	<0.0050	20.1	0.0342	<0.000010	0.0053	<0.0010	0.02	4.25
W2	12/12/2014 7:45																									
W2	13/12/2014 8:10																									
W2	14/12/2014 7:40																									
W2	15/12/2014 8:30	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00039	0.105	<0.00010	<0.0010	<0.05	<0.000010	65.1	High DL removed	<0.00050	0.00435	0.0277	<0.00020	<0.0050	22.2	0.0147	<0.000010	0.0059	<0.0010	0.016	5.54
W2	16/12/2014 9:45	<0.0050	<0.0050	<0.00050	<0.0030	<0.00050	0.00039	0.0939	<0.00010	<0.0010	<0.05	<0.000010	59.9	High DL removed	<0.00050	0.0037	0.0284	<0.00020	<0.0050	19.7	0.0124	<0.000010	0.0056	<0.0010	0.019	5.18
W2	05/04/2015 17:30	<0.0050	<0.0050	<0.00050	0.0122	<0.00050	0.00052	0.0939	<0.00010	<0.0010	<0.05	<0.000010	62.6	High DL removed	<0.00050	0.00566	0.0472	<0.00020	<0.0050	23.7	0.0263	<0.000010	0.0019	<0.0010	0.027	3.49
W2	10/04/2015 14:20	<0.0050	0.0072	<0.00050	0.0057	<0.00050	0.00042	0.0718	<0.00010	<0.0010	<0.05	0.000011	44.6	High DL removed	<0.00050	0.00427	0.0652	<0.00020	<0.0050	15	0.0916	<0.000010	0.0046	<0.0010	0.017	4.16
W2	14/04/2015 15:30	<0.0050	<0.0050	<0.00050	0.011	<0.00050	0.00054	0.0672	<0.00010	<0.0010	<0.05	0.000012	42.6	High DL removed	<0.00050	0.00638	0.128	<0.00020	<0.0050	16.3	0.0538	<0.000010	0.0022	<0.0010	0.019	3.39
W2	20/04/2015 7:45	<0.0050	<0.0050	<0.00050	0.0131	<0.00050	0.0004	0.0427	<0.00010	<0.0010	<0.05	<0.000010	21.8	High DL removed	<0.00050	0.00542	0.165	<0.00020	<0.0050	7.1	0.0617	<0.000010	0.0017	<0.0010	0.022	2.7
W2	30/04/2015 16:30	0.0116	0.0151	0.00089	0.0389	<0.00050	0.00051	0.0423	<0.00010	<0.0010	<0.05	<0.000010	19.5	High DL removed	<0.00050	0.00651	0.236	<0.00020	<0.0050	5.54	0.107	<0.000010	0.0012	0.0013	0.033	1.77
W2	09/05/2015 14:15	0.0097	0.0132	0.00087	0.0225	<0.00050	0.00049	0.0477	<0.00010	<0.0010	<0.05	<0.000010	26.6	High DL removed	<0.00050	0.00392	0.218	<0.00020	<0.0050	8.33	0.0636	<0.000010	0.0013	0.0012	0.02	1.76
W2	14/05/2015 13:30	0.0063	0.0075	0.00081	0.0144	<0.00050	0.00056	0.0516	<0.00010	<0.0010	<0.05	<0.000010	27.6	High DL removed	<0.00050	0.006	0.203	<0.00020	<0.0050	9.29	0.0099	<0.000010	0.0022	0.0011	0.016	2.09
W2	19/05/2015 7:45	<0.0050	<0.0050	<0.00050	0.0124	<0.00050	0.0005	0.0464	<0.00010	<0.0010	<0.05	<0.000010	27.9	High DL removed	<0.00050	0.00264	0.261	<0.00020	<0.0050	8.54	0.0043	<0.000010	0.0014	0.001	0.017	1.48
W2	28/05/2015 15:20	<0.0050	<0.0050	<0.00050	0.017	<0.00050	0.00041	0.0661	<0.00010	<0.0010	<0.05	<0.000010	38.1	High DL removed	<0.00050	0.00258	0.0547	<0.00020	<0.0050	13.1	0.0045	<0.000010	0.0023	<0.0010	<0.01	2.05
W2	12/04/2016 11:15	0.00406	0.0061	0.00046	0.0597	<0.00010	0.00042	0.0330	<0.000020	<0.000050	<0.010	0.0000128	17.5	0.00072	0.00015	0.00796	0.170	<0.000050	<0.0010	5.30	0.0285	0.0000156	0.000460	0.00169	<0.050	1.49
W2	21/04/2016 10:50	0.00092	<0.0030	<0.00030	0.0232	<0.00010	0.00048	0.0414	<0.000020	<0.000050	<0.010	0.0000068	25.5	0.00031	<0.00010	0.00556	0.142	<0.000050	<0.0010	8.34	0.00550	0.0000117	0.000888	0.00145	<0.050	1.33
W2	27/04/2016 8:15	0.00109	<0.0030	<0.00030	0.0158	<0.00010	0.00049	0.0442	<0.000020	<0.000050	<0.010	0.0000067	30.5	0.00025	0.00012	0.00433	0.189	<0.000050	0.0011	9.33	0.0113	0.0000073	0.00107	0.00119	<0.050	1.37
W2	03/05/2016 9:30	0.00090	<0.0030	<0.00030	0.0093	<0.00010	0.00048	0.0461	<0.000020	<0.000050	<0.010	0.0000063	30.3	0.00023	<0.00010	0.00296	0.157	<0.000050	0.0011	9.83	0.00662	<0.0000050	0.00112	0.00110	<0.050	1.31
W2	16/05/2016 8:05	0.00131	0.0076	<0.00030	0.0098	<0.00010	0.00049	0.0506	<0.000020	<0.000050	<0.010	<0.0000050	35.4	0.00020	<0.00010	0.00218	0.128	<0.000050	<0.0010	11.0	0.00422	<0.0000050	0.00138	0.00097	<0.050	1.29
W2	17/05/2016 10:50																									
W2	25/05/2016 8:55	0.00186	<0.0030	<0.00030	0.0135	<0.00010	0.00057	0.0521	<0.000020	<0.000050	<0.010	<0.0000050	36.8	0.00022	<0.00010	0.00286	0.163	<0.000050	<0.0010	11.8	0.0118	<0.0000050	0.00164	0.00121	<0.050	1.32
W2	03/06/2016 11:15	0.00120	<0.0030	<0.00030	0.0078	<0.00010	0.00044	0.0602	<0.000020	<0.000050	<0.010	<0.0000050	41.4	0.00018	<0.00010	0.00229	0.058	<0.000050	0.0013	13.0	0.00484	<0.0000050	0.00169	0.00104	<0.050	1.51
W2	07/06/2016 11:50	0.00164	<0.0030	0.00032	0.0093	<0.00010	0.00052	0.0578	<0.000020	<0.000050	<0.010	<0.0000050	41.5	0.00023	<0.00010	0.00223	0.087	<0.000050	0.0010	12.7	0.00443	<0.0000050	0.00163	0.00114	<0.050	1.43
W2	09/06/2016 16:16																									
W2	17/06/2016 16:35	0.00088	<0.0030	<0.00030	0.0063	<0.00010	0.00047	0.0652	<0.000020	<0.000050	<0.010	<0.0000050	44.9	0.00021	<0.00010	0.00240	0.036	<0.000050	0.0014	14.0	0.00610	<0.0000050	0.00168	0.00094	<0.050	1.63
W2	18/06/2016 8:20																									
W2	23/06/2016 8:25	0.00090	<0.0030	<0.00030	0.0049	<0.00010	0.00041	0.0720	<0.000020	<0.000050	<0.010	<0.0000050	48.0	0.00019	<0.00010	0.00217	0.030	<0.000050	0.0019	14.2	0.0150	<0.0000050	0.00133	0.00101	<0.050	1.78
W2	07/07/2016 14:20	0.00073	<0.0030	<0.00030	0.0044	<0.00010	0.00038	0.0697	<0.000020	<0.000050	<0.010	<0.0000050	47.3	0.00017	<0.00010	0.00201	0.029	<0.000050	0.0021	14.4	0.0102	<0.0000050	0.00145	0.00094	<0.050	1.61
W2	12/07/2016 9:10	0.00080	<0.0030	<0.00030	0.0058	<0.00010	0.00043	0.0695	<0.000020	<0.000050	<0.010	<0.0000050	47.7	0.00021	<0.00010	0.00188	0.034	<0.000050	0.0016	15.1	0.00841	<0.0000050	0.00165	0.00095	<0.050	1.71
W2	19/07/2016 8:30	0.00056	<0.0030	<0.00030	0.0040	<0.00010	0.00041	0.0742	<0.000020	<0.000050	<0.010	<0.0000050	49.4	0.00015	<0.00010	0.00183	0.036	<0.000050	0.0021	14.8	0.0177	<0.0000050	0.00131	0.00093	<0.050	1.68
W2	25/07/2016 10:50																									
W2	26/07/2016 13:10	0.00778	0.0085	0.00054	0.0133	<0.00010	0.00068	0.0645	<0.000020	<0.000050	<0.010	<0.0000050	39.8	0.00035	0.00010	0.00292	0.138	<0.000050	<0.0010	12.2	0.00885	<0.0000050	0.00118	0.00156	<0.050	1.03
W2	02/08/2016 10:55	0.00085	<0.0030	<0.00030	0.0112	<0.00010	0.00057	0.0702	<0.000020	<0.000050	<0.010	<0.0000050	48.8	0.00021	<0.00010	0.00268	0.095	<0.000050	0.0019	15.2	0.00749	<0.0000050	0.00157	0.00101	<0.050	1.50
W2	09/08/2016 11:30	0.00172	<0.0030	<0.00030	0.0086	<0.00010	0.00065	0.0726	<0.000020	<0.000050	<0.010	<0.0000050	47.2	0.00022	<0.00010	0.00246	0.148	<0.000050	0.0016	14.3	0.00710	<0.0000050	0.00157	0.00116	<0.050	1.67
W2	15/08/2016 11:10																									
W2	15/08/2016 11:10	0.00097	0.0050	<0.00030	0.0068	<0.00010	0.00060	0.0679	<0.000020	<0.000050	<0.010	<0.0000050	50.6	0.00026	<0.00010	0.00230	0.158	<0.000050	0.0018	15.3	0.00704	<0.0000050	0.00156	0.00123	<0.050	1.59
W2	17/08/2016 7:50	0.00091	<0.0030	<0.00030	0.0063	<0.00010	0.00056	0.0662	<0.000020	<0.000050	<0.010	<0.0000050	52.0	0.00021	<0.00010	0.00204	0.150	<0.000050	0.0016	16.0	0.00764	<0.0000050	0.00151	0.00111	<0.050	1.62
W2	18/08/2016 11:40																									
W2	23/08/2016 13:05	0.00088	<0.0030	<0.00030	0.0075	<0.00010	0.00059	0.0701	<0.000020	<0.000050	0.010	<0.0000050	50.5	0.00026	<0.00010	0.00210	0.128	<0.000050	0.0018	15.3	0.00701	<0.0000050	0.00169	0.00101	<0.050	1.55
W2	31/08/2016 10:00	0.00115	<0.0030	<0.00030	0.0083	<0.00010	0.00056	0.0674	<0.000020	<0.000050	<0.010	<0.0000050	51.2	0.00029	<0.00010	0.00267	0.150	<0.000050	0.0016	14.8	0.00557	<0.0000050	0.00177	0.00127	<0.050	1.55
W2	06/09/2016 11:02	0.00102	<0.0030	<0.00030	0.0083	<0.00010	0.00055	0.0635	<0.000020	<0.000050	0.015	<0.0000050	41.0	0.00030	<0.00010	0.00270	0.123	<0.000050	0.0010	12.4	0.00412	<0.0000050	0.00197	0.00110	<0.050	1.43
W2	13/09/2016 15:21	0.00078	<0.0030	<0.00030	0.0068	<0.00010	0.00047	0.0637	<0.000020	<0.000050	0.014	<0.0000050	42.2	0.00017	<0.00010	0.00252	0.095	<0.000050	<0.0010	13.0	0.00421	<0.0000050	0.00167	0.00104	<0.050	1.52

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	Br	Cation	CN-T	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-TKN	P-PO4T	P-TDP	P-TRP
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L
W2	29/04/2013 16:10	0.00064	7.19	<0.000020	15.7	0.491	15.9	<0.000050	<0.0050	<0.0050	0.00094	<0.0050	<0.0050	<0.00050	241	<0.50	<0.50	<0.50														
W2	30/04/2013 5:15	0.00061	6.11	<0.000020	15.1	0.462	14.8	<0.000050	<0.0050	<0.0050	0.00086	<0.0050	<0.0050	<0.00050	224	<0.50	<0.50	<0.50														
W2	30/04/2013 16:50	0.00056	5.5	<0.000020	14.9	0.466	13.9	<0.000050	<0.0050	<0.0050	0.00094	<0.0050	<0.0050	<0.00050	217	2.11	<0.50	1.76									10.4					
W2	07/05/2013 15:30	0.00023	3.82	<0.000020	5.81	0.205	4.5	<0.000050	<0.0050	<0.0050	0.00034	<0.0050	<0.0050	<0.00050	102	<0.50	<0.50	<0.50														
W2	09/05/2013 15:53	<0.00010	3.19	<0.000020	3.75	0.13	<3.0	<0.000050	<0.0050	<0.0050	0.00018	<0.0050	<0.0050	<0.00050	69.2	<0.50	<0.50	<0.50														
W2	12/05/2013 17:20	<0.00010	2.32	<0.000020	1.5	0.0919	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	29.4	<0.50	<0.50	<0.50														
W2	15/05/2013 17:30	<0.00010	2.64	<0.000020	2.42	0.0826	<3.0	<0.000050	<0.0050	<0.0050	0.00016	<0.0050	<0.0050	<0.00050	49.7	<0.50	<0.50	<0.50														
W2	19/05/2013 17:55	0.00021	3.66	<0.000020	5.16	0.189	4.1	<0.000050	<0.0050	<0.0050	0.00053	<0.0050	<0.0050	<0.00050	91.1	<0.50	<0.50	<0.50														
W2	06/04/2014 14:00	0.0005	14.2	<0.000020	30.4	0.778	27.8	<0.000050	<0.0050	<0.0050	0.00291	<0.0050	<0.0050	<0.00050	407	4.68	<0.50	3.9														
W2	08/04/2014 10:05	0.0003	9.15	<0.000020	17.9	0.463	15.6	<0.000050	<0.0050	<0.0050	0.00114	<0.0050	<0.0050	<0.00050	252	4.81	<0.50	4.01														
W2	17/04/2014 15:30	0.00033	5.34	<0.000020	11.1	0.424	9.2	<0.000050	<0.0050	<0.0050	0.00093	<0.0050	<0.0050	<0.00050	191	<0.50	<0.50	<0.50														
W2	21/04/2014 7:30																															
W2	21/04/2014 7:30	0.00019	4.58	<0.000020	6.92	0.26	5.5	<0.000050	<0.0050	<0.0050	0.00046	<0.0050	<0.0050	<0.00050	122	<0.50	<0.50	<0.50														
W2	22/04/2014 15:10	0.00011	3.29	<0.000020	3.79	0.148	<3.0	<0.000050	<0.0050	<0.0050	0.0002	<0.0050	<0.0050	<0.00050	76.5	<0.50	<0.50	<0.50														
W2	01/05/2014 15:30	0.00014	3	<0.000020	3.77	0.131	<3.0	<0.000050	<0.0050	<0.0050	0.00023	<0.0050	<0.0050	<0.00050	64.5	<0.50	<0.50	<0.50														
W2	05/05/2014 8:00	0.00011	3.62	<0.000020	3.61	0.145	<3.0	<0.000050	<0.0050	<0.0050	0.0003	<0.0050	<0.0050	<0.00050	74	<0.50	<0.50	<0.50														
W2	17/05/2014 15:00																							<0.0010	<0.0010							
W2	17/05/2014 15:00	0.00047	4.25	<0.000020	8.49	0.375	9.8	<0.000050	<0.0050	<0.0050	0.00098	<0.0050	<0.0050	<0.00050	132	<0.50	<0.50	<0.50														
W2	19/05/2014 14:00																							<0.0010	<0.0010							
W2	19/05/2014 14:00	0.00041	4.28	<0.000020	8.11	0.366	8.4	<0.000050	<0.0050	<0.0050	0.00098	<0.0050	<0.0050	<0.00050	138	<0.50	<0.50	<0.50														
W2	25/05/2014 7:45																							<0.0010	<0.0010							
W2	26/05/2014 7:45																							<0.0010	<0.0010							
W2	11/12/2014 7:50	0.00066	4.24	<0.000020	16.9	0.706	25.6	<0.000050	<0.0050	<0.0050	0.00209	<0.0050	<0.0050	<0.00050	194	<0.50	<0.50	<0.50														
W2	12/12/2014 7:45																															
W2	13/12/2014 8:10																															
W2	14/12/2014 7:40																															
W2	15/12/2014 8:30	0.00069	4.54	<0.000020	19.3	0.844	30.3	<0.000050	<0.0050	<0.0050	0.00209	<0.0050	<0.0050	<0.00050	214	<0.50	<0.50	<0.50														
W2	16/12/2014 9:45	0.00069	4.03	<0.000020	17.9	0.787	28.6	<0.000050	<0.0050	<0.0050	0.00185	<0.0050	<0.0050	<0.00050	193	<0.50	<0.50	<0.50														
W2	05/04/2015 17:30	0.0003	8.33	<0.000020	16.3	0.633	16.6	<0.000050	<0.0050	<0.0050	0.00204	<0.0050	<0.0050	<0.00050	284	<0.50	<0.50	<0.50														
W2	10/04/2015 14:20	0.00049	4.01	<0.000020	13.9	0.628	21.9	<0.000050	<0.0050	<0.0050	0.00138	<0.0050	<0.0050	<0.00050	164	<0.50	<0.50	<0.50														
W2	14/04/2015 15:30	0.00028	6.5	<0.000020	11.7	0.556	11.1	<0.000050	<0.0050	<0.0050	0.00137	<0.0050	<0.0050	<0.00050	206	<0.50	<0.50	<0.50														
W2	20/04/2015 7:45	0.00022	3.72	<0.000020	6.99	0.261	4.8	<0.000050	<0.0050	<0.0050	0.00046	<0.0050	<0.0050	<0.00050	93.4	<0.50	<0.50	<0.50														
W2	30/04/2015 16:30	0.00016	4.25	<0.000020	4.71	0.209	5.7	<0.000050	<0.0050	<0.0050	0.00036	<0.0050	<0.0050	<0.00050	72.5	<0.50	<0.50	<0.50														
W2	09/05/2015 14:15	0.00018	4.34	<0.000020	6.8	0.274	5.9	<0.000050	<0.0050	<0.0050	0.00066	<0.0050	<0.0050	<0.00050	104	<0.50	<0.50	<0.50														
W2	14/05/2015 13:30	0.00024	3.68	<0.000020	9.2	0.327	6.8	<0.000050	<0.0050	<0.0050	0.00079	<0.0050	<0.0050	<0.00050	115	<0.50	<0.50	<0.50														
W2	19/05/2015 7:45	0.00015	4.37	<0.000020	6.64	0.307	4.9	<0.000050	<0.0050	<0.0050	0.00078	<0.0050	<0.0050	<0.00050	123	<0.50	<0.50	<0.50														
W2	28/05/2015 15:20	0.00026	4.04	<0.000020	10.7	0.49	10.8	<0.000050	<0.0050	<0.0050	0.00147	<0.0050	<0.0050	<0.00050	176	<0.50	<0.50	<0.50														
W2	12/04/2016 11:15	0.000105	3.97	<0.000010	3.56	0.131	2.12	<0.000010	<0.00010	0.00111	0.000168	0.00055	0.0017	0.00037	54.4	<1.0	<1.0		1.22		1.52							10.9				
W2	21/04/2016 10:50	0.000140	4.35	<0.000010	5.62	0.209	4.39	<0.000010	<0.00010	0.00062	0.000524	0.00061	0.0013	0.00032	85.3	<1.0	<1.0		2.01		2.25							5.7				
W2	27/04/2016 8:15	0.000138	4.55	<0.000010	6.61	0.243	5.09	<0.000010	<0.00010	0.00052	0.000661	0.00073	0.0011	<0.00030	94.9	<1.0	<1.0		2.27		2.63							7.3				
W2	03/05/2016 9:30	0.000110	4.53	<0.000010	6.68	0.259	5.08	<0.000010	<0.00010	0.00039	0.000742	0.00070	<0.0010	<0.00030	106	<1.0	<1.0		2.49		2.65							3.1				
W2	16/05/2016 8:05	0.000134	4.75	<0.000010	7.04	0.303	5.38	<0.000010	<0.00010	0.00063	0.000986	0.00064	<0.0010	<0.00030	123	<1.0	<1.0		2.84		3.02							3.0				
W2	17/05/2016 10:50																															
W2	25/05/2016 8:55	0.000186	4.86	<0.000010	7.87	0.337	6.39	<0.000010	<0.00010	0.00054	0.00116	0.00076	0.0018	<0.00030	124	<1.0	<1.0		2.90		3.19							4.8				
W2	03/06/2016 11:15	0.000167	5.22	<0.000010	9.83	0.360	6.93	<0.000010	<0.00010	0.00033	0.00135	0.00071	0.0027	<0.00030	143	<1.0	<1.0		3.37		3.60							3.3				
W2	07/06/2016 11:50	0.000143	5.41	<0.000010	8.90	0.351	6.47	<0.000010	<0.00010	0.00051	0.00130	0.00082	<0.0010	<0.00030	136	<1.0	<1.0		3.17		3.54							5.5				
W2	09/06/2016 16:16																															
W2	17/06/2016 16:35	0.000164	5.50	<0.000010	10.0	0.408	8.22	<0.000010	<0.00010	<0.00030	0.00155	0.00072	<0.0010	<0.00030	152	<1.0	<1.0		3.58		3.87							3.9				
W2	18/06/2016 8:20																															
W2	23/06/2016 8:25	0.000152	5.66	<0.000010	9.97	0.442	8.49	<0.000010	<0.00010	<0.00030	0.00167	0.00053	<0.0010	<0.00030	158	<1.0	<1.0		3.73		4.04							4.0				
W2	07/07/2016 14:20	0.000103	5.83	<0.000010	10.2	0.450	7.78	<0.000010	<0.00010	<0.00030	0.00180	0.00057	0.0013	<0.00030	167	<1.0	<1.0		3.86		4.04							2.2				
W2	12/07/2016 9:10	0.000109	6.00	<0.000010	10.3	0.464	7.70	<0.000010	<0.00010	<0.00030	0.00165	0.00065	<0.0010	<0.00030	167	<1.0	<1.0		3.84		4.12							3.5				
W2	19/07/2016 8:30	0.000103	5.98	<0.000010	10.2	0.472	8.58	<0.000010	<0.00010	<0.00030	0.00178	0.00052	<0.0010	<0.00030	170	<1.0	<1.0		3.99		4.17							2.3				
W2	25/07/2016 10:50																															
W2	26/07/2016 13:10	0.000123	6.14	<0.000010	8.99	0.349	4.88	<0.000010	<0.00010	0.00081	0.000954	0.00106	<0.0010	<0.00030	139	<1.0	<1.0		3.11		3.42							4.7				
W2	02/08/2016 10:55	0.000137	6.41	<0.000010	10.1	0.457	6.95	<0.000010	<0.00010	0.00074	0.00152	0.00076	0.0015	<0.00030	167	<1.0	<1.0		3.83		4.17							4.2				
W2	09/08/2016 11:30	0.000162	6.05	<0.000010	9.70	0.435	6.53	<0.000010	<0.00010	0.00038	0.00133	0.00078	<0.0010	<0.00030	173	<1.0	<1.0		3.91		4.01							1.2				
W2	15/08/2016 11:10																															
W2	15/08/2016 11:10	0.000167	6.36	<0.000010	10.1	0.447	7.25	<0.000010	<0.00010	0.00039	0.00145	0.00075	<0.0010	<0.00030	180	<1.0	<1.0		4.12		4.27							1.8				
W2	17/08/2016 7:50	0.000168	6.51	<0.000010	9.75	0.444	7.53	<0.000010	<0.00010	0.00031	0.00153	0.00066	0.0017	<0.00030	176	<1.0	<1.0		4.03		4.39							4.2				
W2	18/08/2016 11:40																															
W2	23/08/2016 13:05	0.000150	6.21	<0.000010	10.4	0.463	7.32	<0.000010	<0.00010	0.00038	0.00153	0.00072	0.0012	<0.00030	179	<1.0	<1.0		4.11		4.28							2.1				
W2	31/08/2016 10:00	0.000209	6.03	<0.000010	11.3	0.442	7.44	<0.000010	<0.00010	0.00039	0.00125	0.00075	0.0013	<0.00030	171	<1.0	<1.0		3.99		4.31							3.9				
W2	06/09/2016 11:02	0.000207	5.30	<0.000010	9.21	0.407	7.23	<0.000010	<0.00010	0.00040	0.000864	0.00069	0.0075	<0.00030	144	<1.0	<1.0		3.45		3.51							0.9				
W2	13/09/2016 15:21	0.000292	5.23	<0.000010	9.50	0.385	7.85	<0.000010	<0.00010	0.00033	0.000839	0.00060	<0.0010	<0.00030	154	<1.0	<1.0		3.67		3.64							-0.5				

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W2	29/04/2013 16:10			446.8			
W2	30/04/2013 5:15			419.8			
W2	30/04/2013 16:50			406.9			
W2	07/05/2013 15:30			198.8			
W2	09/05/2013 15:53			135.2			
W2	12/05/2013 17:20			60.4			
W2	15/05/2013 17:30			84.2			
W2	19/05/2013 17:55			1861			
W2	06/04/2014 14:00			736			
W2	08/04/2014 10:05			475.8			
W2	17/04/2014 15:30			366.9			
W2	21/04/2014 7:30			236.1			
W2	21/04/2014 7:30						
W2	22/04/2014 15:10			185.4			
W2	01/05/2014 15:30			155.7			
W2	05/05/2014 8:00			146.4			
W2	17/05/2014 15:00						
W2	17/05/2014 15:00			307			
W2	19/05/2014 14:00						
W2	19/05/2014 14:00			303			
W2	25/05/2014 7:45			307.7			
W2	26/05/2014 7:45						
W2	11/12/2014 7:50			554.1			
W2	12/12/2014 7:45			579.7			
W2	13/12/2014 8:10			605.9			
W2	14/12/2014 7:40			607.7			
W2	15/12/2014 8:30			518.4			
W2	16/12/2014 9:45			517.7			
W2	05/04/2015 17:30			534.8			
W2	10/04/2015 14:20			402.6			
W2	14/04/2015 15:30			331.7			
W2	20/04/2015 7:45			190.2			
W2	30/04/2015 16:30			154			
W2	09/05/2015 14:15			213.1			
W2	14/05/2015 13:30			246.3			
W2	19/05/2015 7:45			236			
W2	28/05/2015 15:20			355.9			
W2	12/04/2016 11:15			123.1			
W2	21/04/2016 10:50			197.8			
W2	27/04/2016 8:15			224.3			
W2	03/05/2016 9:30			238.2			
W2	16/05/2016 8:05			228.5			
W2	17/05/2016 10:50			238.9			
W2	25/05/2016 8:55			276.8			
W2	03/06/2016 11:15			309.6			
W2	07/06/2016 11:50			296.9			
W2	09/06/2016 16:16			305.8			
W2	17/06/2016 16:35			335.8			
W2	18/06/2016 8:20			337.9			
W2	23/06/2016 8:25			348.6			
W2	07/07/2016 14:20			354.6			
W2	12/07/2016 9:10			352.6			
W2	19/07/2016 8:30			370.8			
W2	25/07/2016 10:50			309			
W2	26/07/2016 13:10			293.4			
W2	02/08/2016 10:55			356.8			
W2	09/08/2016 11:30			346.4			
W2	15/08/2016 11:10			360			
W2	15/08/2016 11:10						
W2	17/08/2016 7:50			358.3			
W2	18/08/2016 11:40			364.9			
W2	23/08/2016 13:05			369.4			
W2	31/08/2016 10:00			261.6			
W2	06/09/2016 11:02			317.2			
W2	13/09/2016 15:21			314.3			

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Phase	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
				mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W2	20/09/2016 15:25	Discharge	P	<3.0	175	8.15	8.10	187.7	301	4.4	12.35	95.4	127.6		152	141	2.20		21.4	<0.0050	<0.0010	0.780	10.9	0.0295	<0.00010	0.00052	0.0597	<0.000020	<0.000050
W2	27/09/2016 11:40	Discharge	P	<3.0	176	7.65	8.18	180.7	297	2.1	13.85	100.8	165		147	146	2.06		20.8	<0.0050	<0.0010	0.775	9.70	0.0240	<0.00010	0.00045	0.0576	<0.000020	<0.000050
W2	03/10/2016 10:30	Discharge	P	<3.0	187	7.52	8.24	176.5	298	0	13.14	89.9	127.6		160	155	2.14		21.8	0.0054	<0.0010	0.709	9.40	0.0210	<0.00010	0.00046	0.0614	<0.000020	<0.000050
W2	12/10/2016 7:10	Discharge	P	4.0	219	7.91	8.06	198.3	371	-0.1	13.18	93.2	104.9		186	173	3.08		31.0	0.0054	<0.0010	0.993	8.25	0.143	0.00010	0.00041	0.0737	<0.000020	<0.000050
W2	18/10/2016 8:10	Discharge	P	<3.0	243	7.79	8.21	224	401	-0.1	13.09	89.4	108.1		195	175	4.04		43.1	<0.0050	0.0018	2.16	8.90	0.0162	<0.00010	0.00039	0.0799	<0.000020	<0.000050
W2	23/10/2016 17:10	Discharge	P	<3.0	245	7.87	8.29	116.6	404	0	13.13	90	115.5		201	176	4.06		43.3	0.0055	0.0019	2.11	8.34	0.0294	<0.00010	0.00045	0.0734	<0.000020	<0.000050
W2	24/10/2016 15:10	Discharge	P	3.1	246		8.24		421						200	177	4.07		42.7	<0.0050	<0.0010	2.09	8.76	0.0136	0.00021	0.00044	0.0755	<0.000020	<0.000050

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W2	20/09/2016 15:25	0.012	<0.0000050	39.3	0.00030	0.00010	0.00318	0.192	<0.000050	<0.0010	12.5	0.0192	<0.0000050	0.00164	0.00125	<0.050	1.43	0.000213	5.06	<0.000010	8.86	0.375	6.95	<0.000010	<0.00010	0.00142	0.000937
W2	27/09/2016 11:40	0.013	<0.0000050	40.2	0.00027	<0.00010	0.00331	0.151	<0.000050	0.0015	13.3	0.00772	<0.0000050	0.00162	0.00117	<0.050	1.46	0.000204	5.40	<0.000010	10.0	0.376	7.87	<0.000010	<0.00010	0.00093	0.000973
W2	03/10/2016 10:30	0.014	<0.0000050	43.3	0.00023	<0.00010	0.00238	0.133	<0.000050	<0.0010	13.6	0.0108	<0.0000050	0.00191	0.00104	<0.050	1.55	0.000198	6.03	<0.000010	10.0	0.398	8.15	<0.000010	<0.00010	0.00090	0.00119
W2	12/10/2016 7:10	0.016	0.0000056	49.5	0.00044	0.00015	0.00338	0.241	0.000063	0.0022	16.4	0.0224	<0.0000050	0.00157	0.00136	<0.050	1.68	0.000245	6.17	<0.000010	11.4	0.494	10.6	<0.000010	<0.00010	0.00591	0.00175
W2	18/10/2016 8:10	0.017	<0.0000050	53.9	0.00019	<0.00010	0.00403	0.066	<0.000050	0.0018	18.0	0.0100	<0.0000050	0.00224	0.00087	<0.050	2.11	0.000541	5.89	<0.000010	12.9	0.550	16.4	<0.000010	<0.00010	0.00074	0.00178
W2	23/10/2016 17:10	0.016	<0.0000050	52.0	0.00021	<0.00010	0.00323	0.081	<0.000050	0.0015	17.4	0.00782	<0.0000050	0.00218	0.00084	<0.050	2.03	0.000535	5.49	<0.000010	11.5	0.539	14.3	<0.000010	<0.00010	0.00139	0.00176
W2	24/10/2016 15:10	0.015	<0.0000050	53.0	0.00019	<0.00010	0.00423	0.057	<0.000050	0.0018	17.8	0.00603	<0.0000050	0.00222	0.00084	<0.050	2.07	0.000518	5.50	0.000034	12.6	0.551	15.2	<0.000010	<0.00010	0.00050	0.00187

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	V-T	Zn-T	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
W2	20/09/2016 15:25	0.00081	<0.0030	<0.00030	0.0078	<0.00010	0.00042	0.0569	<0.000020	<0.000050	0.012	<0.0000050	39.9	0.00019	<0.00010	0.00261	0.099	<0.000050	0.0010	12.7	0.00557	<0.0000050	0.00162	0.00109	<0.050	1.43
W2	27/09/2016 11:40	0.00061	<0.0030	<0.00030	0.0055	<0.00010	0.00042	0.0572	<0.000020	<0.000050	0.012	<0.0000050	37.9	0.00021	<0.00010	0.00226	0.096	<0.000050	0.0013	12.6	0.00471	<0.0000050	0.00139	0.00102	<0.050	1.38
W2	03/10/2016 10:30	0.00052	<0.0030	<0.00030	0.0052	<0.00010	0.00044	0.0598	<0.000020	<0.000050	0.012	0.0000053	42.0	0.00020	<0.00010	0.00202	0.077	<0.000050	<0.0010	13.3	0.00699	<0.0000050	0.00143	0.00096	<0.050	1.54
W2	12/10/2016 7:10	0.00082	<0.0030	<0.00030	0.0040	<0.00010	0.00032	0.0709	<0.000020	<0.000050	0.012	<0.0000050	48.1	0.00016	<0.00010	0.00208	0.030	<0.000050	0.0020	16.0	0.00844	<0.0000050	0.00145	0.00092	<0.050	1.65
W2	18/10/2016 8:10	0.00053	<0.0030	<0.00030	0.0038	<0.00010	0.00035	0.0748	<0.000020	<0.000050	0.015	<0.0000050	49.7	0.00012	<0.00010	0.00338	0.035	<0.000050	<0.0010	17.3	0.00724	<0.0000050	0.00194	0.00071	<0.050	2.00
W2	23/10/2016 17:10	0.00055	<0.0030	<0.00030	0.0034	<0.00010	0.00037	0.0737	<0.000020	<0.000050	0.015	<0.0000050	51.3	0.00014	<0.00010	0.00317	0.030	<0.000050	0.0015	17.7	0.00508	<0.0000050	0.00201	0.00074	<0.050	2.08
W2	24/10/2016 15:10	0.00055	<0.0030	<0.00030	0.0040	0.00011	0.00040	0.0740	<0.000020	<0.000050	0.014	<0.0000050	51.7	0.00014	<0.00010	0.00328	0.030	<0.000050	0.0017	17.3	0.00441	<0.0000050	0.00203	0.00078	<0.050	2.02

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Se-D	Si-D	Ag-D	Na-D	Sr-D	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	Br	Cation	CN-T	Colour	CR_III	CR_VI	C-TIC	C-TOC	IB	N-TKN	P-PO4T	P-TDP	P-TRP
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	TCU	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	mg/L	mg/L
W2	20/09/2016 15:25	0.000193	5.06	<0.000010	9.01	0.370	6.97	<0.000010	<0.00010	0.00034	0.000898	0.00053	0.0030	<0.00030	141	<1.0	<1.0		3.38		3.47							1.4				
W2	27/09/2016 11:40	0.000198	5.15	<0.000010	9.43	0.353	7.20	<0.000010	<0.00010	<0.00030	0.000892	<0.00050	<0.0010	<0.00030	146	<1.0	<1.0		3.47		3.38							-1.3				
W2	03/10/2016 10:30	0.000219	5.59	<0.000010	9.82	0.384	7.37	<0.000010	<0.00010	<0.00030	0.00110	<0.00050	<0.0010	<0.00030	155	<1.0	<1.0		3.66		3.66							0.0				
W2	12/10/2016 7:10	0.000257	5.60	<0.000010	11.0	0.487	10.1	<0.000010	<0.00010	<0.00030	0.00163	<0.00050	0.0017	<0.00030	173	<1.0	<1.0		4.27		4.24							-0.3				
W2	18/10/2016 8:10	0.000526	5.25	<0.000010	12.3	0.518	13.9	<0.000010	<0.00010	<0.00030	0.00165	<0.00050	<0.0010	<0.00030	175	<1.0	<1.0		4.66		4.49							-1.9				
W2	23/10/2016 17:10	0.000524	5.29	<0.000010	11.7	0.530	13.4	<0.000010	<0.00010	<0.00030	0.00166	<0.00050	0.0012	<0.00030	176	<1.0	<1.0		4.68		4.58							-1.0				
W2	24/10/2016 15:10	0.000588	5.34	<0.000010	12.2	0.534	14.6	<0.000010	<0.00010	<0.00030	0.00174	<0.00050	0.0023	<0.00030	177	<1.0	<1.0		4.69		4.59							-1.1				

Appendix C - Minto Water Quality Data - Minto Creek

Stn.Code	Smpl Date	Ra-226	SO4-T	Sp-Cond	Sulphd	Turb	Turb-F
		Bq/L	mg/L	µS/cm	mg/L	NTU	NTU
W2	20/09/2016 15:25			309.1			
W2	27/09/2016 11:40			321.6			
W2	03/10/2016 10:30			338			
W2	12/10/2016 7:10			380.3			
W2	18/10/2016 8:10			430.1			
W2	23/10/2016 17:10			222.9			
W2	24/10/2016 15:10						

Appendix C - Water Quality Data - McGinty Creek

Stn.Code	Smpl Date	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
			mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MN-1.5	03/05/2009	B	2	26	5.79	6.3	44.80	31	-0.5				15.4	16.2	5.5	2.2	0.05	<0.5	<0.005	0.005	<0.02		0.179	0.00002	0.00023	0.0173	0.00002	<0.000005
MN-1.5	06/05/2009	B	2	32	5.26	6	30.5	26	-1.9				12	12.5	3.9	1.9	0.08	<0.5	<0.005	<0.005	<0.02	28.3	0.169	0.00003	0.00019	0.0131	0.00002	<0.000005
MN-1.5	13/05/2009	B	12	28	5.95	6	42.9	29	-1.8				15	14.3	4	1.5	0.05	High DL removed	<0.005	<0.005	<0.02	32.8	0.28	0.00002	0.00024	0.0221	0.00003	<0.000005
MN-1.5	21/05/2009	B	14		7.66	7.1	54.5	39	-1.8	12.00	85.2		18	18.3				<0.5	<0.005			21.2	0.221	0.00005	0.00038	0.0244	0.00003	<0.000005
MN-1.5	28/05/2009	B	25	46	6.95	7.2	68.3	50	-0.8	12.30	91.2		25.1	24.3	16	1.6	0.1	<0.5	<0.005	<0.005	<0.02	20	0.23	0.00005	0.00034	0.0279	0.00002	<0.000005
MN-1.5	25/06/2009	B	34	52	6.92	7.2	32	53	3.2	12.9	96.4	110	23.5	22.6	14	0.7	0.1	0.8	<0.005	<0.005	<0.02	<0.5	0.353	0.00006	0.00047	0.0324	0.00003	<0.000005
MN-1.5	28/07/2009	B	3	66	7.41	7.5	50.3	79	5.3	10.01	79.1	53.5	36.8	37	32	1.4	0.11	3.1	0.005	<0.005	<0.02	17.2	0.114	0.00008	0.00035	0.0325	0.00001	<0.000005
MN-1.5	29/08/2009	B	2	36	7.32	7.4	39.5	63	3.8	11.03	83.6	58.7	29.3	30.5	35	0.9	0.1	<0.5	<0.005	<0.005	<0.02	19.9	0.128	0.00008	0.00041	0.0276	0.00002	<0.000005
MN-1.5	29/09/2009	B	9	72	8.21	7.6	41	72	-0.1	12.52	85.6	97	34.8	35.5	32	0.9	0.12	<0.5	0.04	<0.005	<0.02	16.2	0.137	0.00008	0.00037	0.0289	0.00002	<0.000005
MN-1.5	23/10/2009	B	1	82		7.5		93					46.5	47.3	47	0.7	0.11	<0.5	0.01	<0.005	0.02	12.2	0.0684	0.00007	0.00031	0.0298	0.00001	<0.000005
MN-1.5	27/11/2009	B	1	80	8.3	7.5	59.9	119	-0.1	7.3	50	35.9	55.1	56.2	61	0.9	0.11	1.4	<0.005	<0.005	0.2	10.9	0.0479	0.00007	0.00026	0.0382	0.00001	<0.000005
MN-1.5	15/12/2009	B	1	110	4.88	7.5	85.4	142	0			120.1	64.2	66	74	0.6	0.09	2.1	0.006	<0.005	<0.02	10	0.0352	0.00008	0.00023	0.0457	<0.00001	<0.000005
MN-1.5	25/01/2010	B	5	260	4.41	8.1	220.6	370	0	8.29	56.5	129.7	189	206	190	1.9	0.19	3.1	0.008	<0.005	0.04	25.2	0.0673	0.00023	0.00056	0.117	0.00002	<0.000005
MN-1.5	21/04/2010	B	<1	38	6.22	6.7	24.3	41	0.0	11.39	86.7	142.2	21.8	21.8	10	1.5	0.07	<0.5	0.07	High DL removed	0.2	38	0.208	<0.00002	0.00024	0.0221	0.00003	<0.000005
MN-1.5	28/05/2010	B	12	44	6.92	7.6	35.2	64	1.3	11.95	84.9	281.9	27.3	28	30	<0.5	0.11	<0.5	0.027	<0.005	<0.02	12.9	0.09	0.00005	0.00028	0.0257	0.00001	<0.000005
MN-1.5	28/06/2010	B	5	60	7.42	7.26	40.6	71	3.9	11.6	97.8	22.8	32.3	32.4	31	<0.5	0.11	0.8	<0.05	<0.005	<0.02	15.4	0.124	0.00006	0.00035	0.0304	0.00002	<0.000005
MN-1.5	21/07/2010	B	1100	46	7.15	7.22	32.7	54	4.5	11.23	96	-6.1	53.8	24.4	21	1	0.1	4.8	0.092	<0.005	<0.02	18.7	4.68	0.0001	0.00279	0.324	0.00041	<0.000005
MN-1.5	18/08/2010	B	8200	36	6.74	6.82	45.7	41	5.1	10.17	88.1	18.2	223	19.7	13	0.5	0.11	<0.5	0.66	0.006	0.04	21.3	32.1	0.0002	0.0084	1.96	0.00276	<0.00003
MN-1.5	15/09/2010	B	190	74	7.73	7.37	43.4	77	1.9	12.49	90.3	223.2	42.1	38.2	32	<0.5	0.11	0.9	0.26	<0.005	0.04	18.5	1.36	0.0001	0.00127	0.0999	0.00012	<0.000005
MN-1.5	21/10/2010	B	12	88	7.14	7.76	53.5	100	-0.1	9.86	46.5	325.6	49.1	48.2	49	<0.5	0.13	<0.5	0.051	<0.005	0.07	12.5	0.192	0.00013	0.00041	0.0429	0.00002	<0.000005
MN-1.5	29/04/2011 10:20	B	1	68	7.47	7.19	40.4	77	0	12.97	98.5	97.3	36.3	35.3	29	2.8	0.09	High DL removed	0.046	<0.005	<0.02	34	0.118	0.00003	0.00036	0.0295	0.00001	<0.000005
MN-1.5	19/05/2011 15:45	B	200	24	6.8	6.82	16.3	31	0.1	13.72	96.2	119.5	24.7	14.7	11	2.2	0.08	<0.5	<0.005	<0.005	<0.02	25.9	3.47	0.00012	0.00133	0.084	0.0001	0.00002
MN-1.5	28/06/2011 10:00	B	590	54	7.85	7.16	34.6	54	4	11.77	101.3	136	44.5	27.5	21	1.2	0.11	<0.5	0.16	<0.005	0.03	17.5	6.08	0.00021	0.00325	0.18	0.00023	0.00005
MN-1.5	15/07/2011 12:05	B	1400	42	6.69	6.66		39	4.2	10.8	92		131	18.8	11	2.2	0.12	High DL removed	0.31	0.027	<0.02	23.9	41.4	0.0009	0.0164	0.879	0.00137	0.0003
MN-1.5	10/08/2011 15:10	B	690	50	7.19	7.04		61	4.6	12.38	95.8	78.3	61.3	30.2	28	1.6	0.11	<0.5	0.16	<0.005	<0.02	16.8	11.1	0.0004	0.0057	0.273	0.00045	<0.0001
MN-1.5	28/10/2011 10:30	B	70	72	7.4	7.45		114	0.2				63.1	56	51	0.6	0.12	<0.5	0.08	<0.005	0.08	11.4	0.639	0.00009	0.00099	0.0646	0.00004	<0.000005
MN-1.5	19/04/2012	M	13.7	106		7.31		78.5					39.3	38.9	34.4	1.6	0.067	<0.50	0.041	<0.0050	0.039	28.5	0.106	0.000042	0.000371	0.0326	0.000013	<0.0000050
MN-1.5	24/05/2012	M	193	38		7.4		57.4					30.1	27.6	25.1	1.1	0.11	<0.50	0.059	High DL removed	High DL removed	19.1	0.684	0.000081	0.00113	0.0565	0.000057	<0.0000050
MN-1.5	14/06/2012	M	822	36		6.86		50.2					57.6	25.3	20.1	1.1	0.12	<0.50	0.062	High DL removed	High DL removed	18.8	5.61	0.000137	0.0048	0.333	0.000465	0.0000071
MN-1.5	12/07/2012	M	379	66		7.36		76.7					48.7	36.8	30.4	0.96	0.13	<0.50	0.093	High DL removed	High DL removed	16.3	2.64	0.000106	0.00247	0.158	0.00017	0.000007
MN-1.5	06/08/2012	M	743	104		7.62		92.3					111	50.8	43.8	0.8	0.13	<0.50	0.068	0.0147	0.041	14.6	13	0.000285	0.00586	0.614	0.000789	0.000012
MN-1.5	07/09/2012	P	47.5	80		7.72		96.6					45	50.3	47.6	1.3	0.12	5.2	<0.0050	<0.0050	0.049	17.2	0.263	<0.00050	0.00072	0.0476	<0.00010	<0.0010
MN-1.5	01/10/2012	M	8.3	104		7.77		97.3					47.5	47.6	47.4	0.9	0.11	<0.50	0.058	<0.0050	0.051	13.6	0.225	<0.00050	0.00078	0.0456	<0.00010	<0.0010
MN-1.5	27/05/2013	M	506	60		7.13		39.3					32.1	26.5	14	1	0.097	<0.50	0.024	<0.0050	<0.020	18.2	5.44	<0.00050	0.00214	0.115	0.00016	<0.0010
MN-1.5	17/06/2013	M	82.1	66		7.36		62.6					33.2	29.4	26.5	1.1	0.081	<0.50	0.064	<0.0050	0.063	14.7	1.54	<0.00050	0.00118	0.0576	<0.00010	<0.0010
MN-1.5	15/07/2013	M	44.9	64		7.48		73.9					36.7	35.7	32.5	0.75	0.12	<0.50	0.043	0.0053	0.078	15.5	0.518	<0.00050	0.00094	0.0436	<0.00010	<0.0010
MN-1.5	28/08/2013	M	45.7	40		7.49		77.3					37.7	35.4	35.9	0.67	0.11	<0.50	0.06	<0.020	0.049	17.5	0.287	0.000074	0.000812	0.0453	0.000029	<0.0000050
MN-1.5	11/09/2013 9:25	P	49.4	100		7.59		88.8					49.1	42.4	40.5	0.81	0.12	<0.50	0.1	High DL removed	High DL removed	14.8	1.36	<0.00050	0.0012	0.061	<0.00010	<0.0010
MN-1.5	16/10/2013 12:50	M	13.3	74		7.47		89.5					45.5	43.3	42	0.82	0.1	<0.50	0.056	<0.0050	0.049	12.5	0.267	<0.00050	0.00069	0.0394	<0.00010	<0.0010
MN-1.5	16/10/2013 12:50	M			6.78				0	13.25	90.5	-7.1																
MN-1.5	16/05/2014 15:05	M	75	66	7.73	7.46	48.5	59.2	0.6	12.88	89.4	86.9	34.6	29.3	26	1.1	0.11	High DL removed	0.04	<0.0050	<0.020	18.6	2.07	<0.00050	0.00104	0.0605	<0.00010	<0.0010
MN-1.5	03/06/2014 10:00	M	23.6	76	6.62	7.61	99.1	97.6	0.4	17.52	120.1	75.9	36.8	33.7	36	0.88	0.1	<0.50	0.025	<0.0050	0.045	16.9	0.372	<0.00050	0.00059	0.0383	<0.00010	<0.0010
MN-1.5	26/07/2014 15:00	M	10.2	78	7.99	7.63	78.6	87.1	4.2	11.6	89.3	35.7	45.1	39.7	40.1	0.59	0.11	<0.50	0.034	<0.0050	<0.020	19.2	0.261	<0.00050	0.00051	0.0404	<0.00010	<0.0010
MN-1.5	17/08/2014 15:00	M	167	88	7.25	7.65	87.9	105	4.6	12.02	93.3	28.1	58	53.3	51.2	0.54	0.12	<0.50	0.049	<0.0050	0.034	15.6	2	<0.00050	0.0011	0.0744	<0.00010	<0.0010
MN-1.5	20/09/2014 14:20	M	4.4	80	7.44	7.67	76.3	95.6	2.1	12.44	90.3	19.2	49.6	46.1	45.8	0.63	0.11	<0.50	0.05	<0.0050	0.036	20.4	0.116	<0.00050	0.00064	0.0359	<0.00010	<0.0010
MN-1.5	11/10/2014 14:00	M	56.8	72	7.66	7.66	69.5	89.9	-1.4	12.80	84.5	35.9	41.5	42.9	42.7	1.3	0.11	<0.50	0.056	<0.0050	0.031	15.6	0.372	<0.00050	0.00076	0.0388	<0.00010	<0.0010
MN-1.5	30/05/2015 11:30	M	58.9	65	6.78	7.72	51.1	87.9	3.2	11.98	89.7	133.9	46.8	41.3	43.6	1.4	0.11	<0.50	0.018	<0.0050	0.039	13.3	0.288	<0.00050	0.00057	0.0424	<0.00010	<0.0010
MN-1.5	30/06/2015 16:10	M	46.5	74	7.31	7.6	46.2	76.4	4	12.77	97.4	54.4	39.6	37.7	37.1	0.64	0.11	<0.50	0.025	<0.0050	<0.020		0.767	<0.00050	0.00087	0.0442	<0.00010	<0.0010
MN-1.5	13/07/2015 15:40	M	49.3	68	7.12	7.39	41.8	71.1	5.7	10.17	81.6	52	37.2	35.7	32.7	<0.50	0.11	<0.50	0.033	<0.0050	<0.020		0.619	<0.00050	0.00062	0.0398	<0.00010	<0.0010
MN-1.5	29/08/2015 15:00	P	157	122	7.96	7.19	29.7	51.1	2.2	13.79	100.4	3.9	43.9	24.7	16.8	3	0.11	2.34	0.051	0.05	High DL removed	22	6.94	<0.00050	0.00366	0.142	0.0002	<0.0010
MN-1.5	20/09/2015 15:00	P	9.6	76	7.6	7.67	38.9	76.5	2	12.23	88.7	22.3	41.6	36	34.4	1.2	0.11	<0.50	0.058	<0.0050	0.024	18	0.231	<0.00050	0.00071	0.0371	<0.00010	<0.0010
MN-1.5	19/10/2015 14:15	P	26.8	70	7.32	7.78	47.4	94	0	12.57	85.9	16.5	44.7	41.8	42.4	0.63	0.098	<0.50	0.081	<0.0050	<0.020	13.8	0.153	<0.00050	0.0006	0.0331	<0.00010	<0.0010
MN-1.5	30/04/2016 14:30	P	<3.0	40.5	7.7	7.49	40.2	76.5	0	13.64	93.4	103.6		44.0	34.5	<0.50		0.97	0.0095	<0.0010	<0.0050	33.6	0.153	<0.00010	0.00034	0.0308	0.000027	<0.000050
MN-1.5	29/05/2016 10:25	P	3.3	44.8	7.34	7.38	47.4	84.9	1.7	11.4	81.5	44.6		42.8	41.7	<0.50		1.24	0.0128	<0.0010	0.0299	15.5	0.0789	0.00010	0.00050	0.0321	<0.000020	<0.000050
MN-1.5	21/06/2016 17:20	P	11.3	55.9	7.44	7.49	69.8	105	6.7	10.64	87	15.9		53.2	53.4	<0.50		0.80	0.0077	<0.0010	0.0134	13.7	0.188	<0.00010	0.00075	0.0455	<0.000020	<0.000050
MN-1.5	04/07/2016 15:05	P	4.0	67.3	7.34	7.66	89.3	127	9.3	9.39	82	13.2		63.8	66.3	<0.50		0.88	<0.0050	<0.0010	<0.0050	13.0	0.0433	<0.00010	0.00067	0.0456	<0.000020	<0.000050
MN-1.5	07/08/2016 15:45	P	8.0	63.1	7.98	7.72	80.4	116	9	9.81	85	36		58.7	61.1	<0.50		1.10	0.0182	<0.0010	0.0152	17.9	0.163	<0.00010	0.00081	0.0503	<0.000020	<0.000050
MN-1.5	03/09/2016 17:45	P	89.4	52.9	7.27	7.59	61.1	95.6	4.7	10.58	82.9	16.3		50.8	49.8	<0.50		1.27	0.0176	<0.0010	0.0144	17.2	0.334	<0.00010	0.00072	0.0415	0.000021	<0.000050
MN-2.5	03/05/2009	B	18	32	6.18	7.1	53.5	41	-1.9				23.7	23.2	14	2	0.06	<0.5	<0.005	<0.005	<0.02		0.177	0.00005	0.00048	0.0244	0.00002	<0.000005
MN-2.5	06/05/2009	B	17	42	7.21	7.2	54.1	40	-1.9				24.9	23.4	15	3.1	0.07	<0.5	<0.005	0.007	<0.02	25.9	0.195	0.00007	0.00039	0.0219	0.00003	<0.000005
MN-2.5	13/05/2009	B	15	82	7.44	7.3	72.6	53	-1.8				31.8	31	24	1.5	0.07	<5	<0.005	<0.005	<0.02	28.8	0.165	0.00021	0.00038	0.0245	0.00003	<0.000005
MN-2.5	21/05/2009	B	22		8.03	7.6	101.2	76	-1.1	13.49	94.9		38.9	38				<0.5	<0.005			18.9	0.183	0.00007	0.00051	0.0285	0.00002	<0.000005
MN-2.5	28/05/2009	B	12	94	8.06	7.7	131.8	98	-0.4	13.15	94.0		53.9	52.3	48	1.7	0.13	<0.5	<0.005	<0.005	<0.02	18.2	0.0818	0.00008	0.00042	0.0286	0.00002	<0.000005
MN-2.5	25/06/2009	B	2	110	7.66	7.9	76.8	130	3.4	13.67	102.8	167.4	56.1	58.7	63	<0.5	0.14	<0.5	<0.005	<0.005	<0.02	16.5	0.0244	0.00009	0.0003	0.0273	0.00001	<0.000005
MN-2.5	28/07/2009	B	<1	98	7.61	8	119.6	190	4.3	11.06	85	158	93.6	91.3	95	0.8	0.17	1.1	<0.005	<0.005	<0.02	10	0.0159	0.00013	0.00029	0.0393	<0.00001	<0.000005

Appendix C - Water Quality Data - McGinty Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T	V-T	Zn-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MN-1.5	03/05/2009	<0.05	0.000054	4.09	0.0002	0.000249	0.0071	0.173	0.000035	<0.0005	1.25	0.0605		0.00014	0.00092		1.93	0.00007	1.49	0.000007	0.73	0.0211	<3	<0.000002	0.00015	0.0029	0.000027	<0.0002	0.0072
MN-1.5	06/05/2009	<0.05	0.000034	3.15	0.0002	0.000284	0.00781	0.168	0.000044	<0.0005	1	0.0617	0.00002	0.00008	0.00097		1.77	0.00004	1.34	0.000008	0.64	0.0154	<3	<0.000002	<0.00001	0.0016	0.000017	0.0006	0.0073
MN-1.5	13/05/2009	<0.05	0.000029	4	0.0005	0.000624	0.00895	0.407	0.000066	<0.0005	1.21	0.0745	<0.00001	0.00008	0.00124		1.73	0.00005	2.46	<0.000005	0.96	0.0202	<3	<0.000002	<0.00001	0.006	0.000033	0.0013	0.0055
MN-1.5	21/05/2009	<0.05	0.000051	4.71	0.0006	0.00061	0.00795	0.501	0.000245	<0.0005	1.5	0.076	0.00001	0.00018	0.00121		1.31	0.00005	2.58	0.000006	1.5	0.0255	<3	<0.000002	<0.00001	0.0051	0.000048	0.0015	0.0039
MN-1.5	28/05/2009	<0.05	0.000012	6.63	0.0003	0.000314	0.00707	0.438	0.000095	<0.0005	2.07	0.0242		0.00017	0.00126		0.98	0.00006	4.08	<0.000005	1.76	0.0331	<3	<0.000002	<0.00001	0.0059	0.000051	0.0012	0.0014
MN-1.5	25/06/2009	<0.05	0.000015	6.25	0.0006	0.000424	0.00732	0.922	0.000222	0.0006	1.92	0.0204	<0.00001	0.00014	0.00127		0.42	0.00008	4.14	<0.000005	2.07	0.0378	<3	0.000002	<0.00001	0.0112	0.000064	0.0019	0.0025
MN-1.5	28/07/2009	<0.05	0.000022	9.93	0.0004	0.000202	0.00529	0.342	0.000055	<0.0005	2.92	0.0151	<0.00001	0.00024	0.00113		0.39	0.00009	6.07	<0.000005	2.93	0.0513	<3	<0.000002	<0.00001	0.002	0.00003	0.0007	0.0019
MN-1.5	29/08/2009	<0.05	0.00001	7.79	0.0007	0.000223	0.00613	0.362	0.00003	<0.0005	2.38	0.0137	<0.00001	0.00025	0.00124		0.35	0.00008	5.83	<0.000005	2.68	0.0412	<3	<0.000002	<0.00001	0.0018	0.000031	0.0006	0.001
MN-1.5	29/09/2009	<0.05	0.000032	9.27	0.0006	0.000251	0.0054	0.498	0.000073	<0.0005	2.82	0.0179		0.00029	0.00128		0.36	0.00008	6.78	0.000006	2.71	0.0473	<3	<0.000002	<0.00001	0.0035	0.000031	0.0008	0.0019
MN-1.5	23/10/2009	<0.05	<0.000005	12.3	0.0005	0.000147	0.00362	0.274	0.00001	<0.0005	3.8	0.00971	<0.00001	0.00028	0.00095		0.33	0.00007	7.39	<0.000005	3	0.0584	<3	<0.000002	<0.00001	0.0016	0.000024	0.0004	0.0005
MN-1.5	27/11/2009	<0.05	0.000067	15.3	0.0003	0.000166	0.00331	0.254	0.00023	<0.0005	4.13	0.018	<0.00001	0.0003	0.00087		0.39	<0.00004	8.4	<0.000005	2.81	0.07	<3	<0.000002	0.00003	0.001	0.000024	0.0003	0.0071
MN-1.5	15/12/2009	<0.05	0.000007	17.1	0.0003	0.000203	0.00305	0.183	0.000052	<0.0005	5.23	0.0244	<0.00001	0.00029	0.00075		0.42	0.00004	6.67	0.000006	3.24	0.0868	<3	<0.000002	<0.00001	<0.0005	0.000019	0.0002	0.0009
MN-1.5	25/01/2010	<0.05	0.000105	45.4	0.0009	0.000381	0.00794	0.208	0.000398	0.001	18.4	0.0423	<0.00001	0.00066	0.00205		2.26	0.00011	16.9	0.000099	11.3	0.219	<3	<0.000002	0.00009	0.0018	0.000047	0.0005	0.012
MN-1.5	21/04/2010	<0.05	0.000038	5.67	0.0002	0.000218	0.00832	0.203	0.000013	0.0005	1.85	0.0378	<0.00001	0.0001	0.00119		1.72	0.00006	2.42	<0.000005	1.35	0.029	<10	<0.000002	<0.00001	0.0032	0.000029	<0.0002	0.0054
MN-1.5	28/05/2010	<0.05	0.000006	7.18	0.0003	0.000164	0.00458	0.234	0.000023	<0.0005	2.27	0.0109	<0.00001	0.00022	0.00101		0.52	0.00006	4.4	<0.000005	2.07	0.0402	<10	<0.000002	<0.00001	0.0012	0.000025	0.0006	0.0005
MN-1.5	28/06/2010	<0.05	0.000014	8.57	0.0005	0.000196	0.00549	0.338	0.000082	<0.0005	2.65	0.0121		0.00024	0.00128		0.32	0.00007	5.39	<0.000005	2.61	0.0482	<10	0.000002	0.00001	0.0024	0.000033	0.0007	0.0015
MN-1.5	21/07/2010	<0.05	0.000193	14.2	0.0073	0.00778	0.04	9.77	0.00374	0.0034	4.47	0.42	<0.00001	0.00012	0.0114		0.41	0.00015	9.71	0.000014	2.1	0.0796	<10	0.000014	<0.00001	0.0544	0.000958	0.0292	0.0317
MN-1.5	18/08/2010	<0.3	0.00107	52.5	0.0375	0.0506	0.316	53.8	0.0167	0.017	22.2	2.32	<0.00005	<0.0003	0.0637		1.1	0.0002	32	0.00005	3	0.329	<50	0.00006	<0.00005	0.19	0.00566	0.237	0.225
MN-1.5	15/09/2010	<0.05	0.000054	11	0.0022	0.00196	0.0184	3.33	0.00112	0.0008	3.54	0.126	<0.00001	0.00026	0.00373		0.44	0.00008	7.13	0.000018	2.61	0.0601	<10	0.000007	<0.00001	0.0424	0.000283	0.0105	0.0111
MN-1.5	21/10/2010	<0.05	0.000063	13.2	0.0007	0.000538	0.006	0.609	0.000303	<0.0005	3.9	0.0524	<0.00001	0.00038	0.00151		0.43	0.00008	7.41	0.000011	2.72	0.0653	<10	<0.000002	0.00002	0.0063	0.000069	0.0013	0.006
MN-1.5	29/04/2011 10:20	<0.05	0.000057	9.3	0.0003	0.000462	0.00707	0.34	0.000029	<0.0005	3.17	0.102	0.000008	0.00014	0.00113		2.19	0.00005	4.68	0.000007	2.23	0.0467	<10	0.000002	<0.00001	0.0015	0.000028	0.0004	0.0062
MN-1.5	19/05/2011 15:45	<0.05	0.000069	5.9	0.0052	0.00255	0.0207	5.42	0.00156	0.0021	2.4	0.203	0.000015	0.00043	0.004		1.5	0.00011	7.7	0.000038	1.2	0.0362	<50	0.00003	<0.0002	0.15	0.000218	0.0124	0.013
MN-1.5	28/06/2011 10:00	<0.05	0.000138	10.6	0.0106	0.00556	0.047	11.4	0.0032	0.0034	4.4	0.256	0.00003	0.00062	0.0088		0.7	0.00018	12.6	0.000067	2.4	0.0636	<50	0.000042	<0.0002	0.223	0.000623	0.0308	0.025
MN-1.5	15/07/2011 12:05	<0.3	0.00064	27	0.068	0.0279	0.235	67.4	0.0203	0.021	16	1.06	<0.000002	0.0022	0.0462		3	0.0009	65.1	0.00034	4	0.192	<300	0.00027	<0.001	1.37	0.00302	0.173	0.163
MN-1.5	10/08/2011 15:10	<0.3	0.00021	14	0.019	0.00781	0.058	17	0.0058	0.007	6	0.352	<0.00005	0.001	0.015	0.831	1	0.0002	22.7	0.00009	3	0.0967	<300	0.00008	<0.001	0.471	0.001	0.044	0.045
MN-1.5	28/10/2011 10:30	<0.05	0.000032	17.6	0.0013	0.00105	0.00902	2.13	0.000413	<0.0005	4.63	0.114	<0.00001	0.00028	0.0021	0.069	0.43	0.00009	9.43	0.000013	3.02	0.0759	<10	0.000006	<0.00001	0.0197	0.000134	0.0052	0.0036
MN-1.5	19/04/2012	<0.05	0.0000495	10.6	0.00042	0.000937	0.00762	1.36	0.0000496	<0.00050	3.1	0.149	<0.000010	0.000197	0.00102	0.0457	1.9	0.000058	4.43	0.0000087	1.92	0.0493	<10	<0.0000020	<0.00020	0.00197	0.0000248	0.00079	0.00677
MN-1.5	24/05/2012	<0.05	0.0000617	8.06	0.00111	0.00134	0.0127	2.54	0.000505	0.00053	2.41	0.128	<0.000000010	0.000678	0.00214	0.156	0.827	0.000123	4.56	0.0000211	1.9	0.0423	<10	0.0000039	<0.00020	0.0277	0.000128	0.00558	0.00468
MN-1.5	14/06/2012	<0.05	0.000318	14.7	0.00708	0.00952	0.0767	15.8	0.00463	0.00291	5.1	0.535	<0.000010	0.000199	0.0116	1.04	0.671	0.000189	9.89	0.0000341	2.34	0.0829	<10	0.0000203	<0.00020	0.106	0.00101	0.0507	0.0401
MN-1.5	12/07/2012	<0.05	0.00016	12.8	0.00372	0.00391	0.0347	7.45	0.00196	0.00131	4.09	0.26	<0.000010	0.000324	0.00523	0.312	0.481	0.000097	8.21	0.000042	2.94	0.0697	<10	0.000015	<0.00020	0.0799	0.000415	0.0215	0.0166
MN-1.5	06/08/2012	<0.05	0.000572	27.9	0.0181	0.0211	0.136	43.6	0.008	0.00671	9.98	1.23		0.000271	0.023		0.785	0.00024	18.7	0.000199	3.4	0.176	<10	0.00005	<0.00020	0.17	0.00185	0.102	0.0798
MN-1.5	07/09/2012	<0.05	<0.000010	12.4	0.001	0.00136	0.00699	1.84	<0.00020	<0.0050	3.42	0.167	<0.000010	<0.0010	0.0017	0.058	0.349	<0.00010	6.48	<0.000020	2.74	0.0621	<3.0	<0.000050	<0.0050	0.0095	<0.00010	<0.0050	<0.0050
MN-1.5	01/10/2012	<0.05	<0.000010	13.3	<0.0010	0.00105	0.00689	1.65	<0.00020	<0.0050	3.45	0.133	<0.000010	<0.0010	0.0017	0.046	0.371	<0.00010	6.22	<0.000020	2.6	0.0651	<3.0	<0.000050	<0.0050	0.0103	<0.00010	<0.0050	<0.0050
MN-1.5	27/05/2013	<0.05	0.00004	7.62	0.0087	0.00367	0.0281	8.13	0.00227	<0.0050	3.18	0.246	<0.000010	<0.0010	0.0065	0.362	1.45	0.00023	11.3	0.000036	1.8	0.0486	<3.0	<0.000050	<0.0050	0.256	0.0003	0.0178	0.0174
MN-1.5	17/06/2013	<0.05	0.00001	8.65	0.0031	0.0017	0.0153	3.25	0.00054	<0.0050	2.81	0.136	<0.000010	<0.0010	0.0025	0.093	0.675	0.00019	7.21	<0.000020	2.54	0.0476	<3.0	<0.000050	<0.0050	0.0702	0.00012	0.0065	0.0053
MN-1.5	15/07/2013	<0.05	0.000016	9.75	0.0014	0.00121	0.00996	2.21	<0.00020	<0.0050	3.01	0.146	<0.000010	<0.0010	0.0018	0.051	0.362	<0.00010	6.6	<0.000020	2.94	0.0543	<3.0	<0.000050	<0.0050	0.0219	<0.00010	<0.0050	<0.0050
MN-1.5	28/08/2013	<0.05	0.000017	10.3	0.0009	0.000816	0.00848	1.67	0.000155	<0.00050	2.87	0.0973	<0.000010	0.000619	0.00193	0.0406	0.331	0.000111	6.2	0.000005	2.86	0.0576	<3.0	0.000002	<0.00020	0.0083	0.000072	0.0025	0.0101
MN-1.5	11/09/2013 9:25	<0.05	<0.000010	13.1	0.003	0.00202	0.0109	3.24	0.00049	<0.0050	3.97	0.198	<0.000010	<0.0010	0.0029	0.093	0.518	0.00019	8.72	<0.000020	3.56	0.0671	<3.0	<0.000050	<0.0050	0.0716	0.00011	0.0056	<0.0050
MN-1.5	16/10/2013 12:50	<0.05	<0.000010	12.2	<0.0010	0.00084	0.00584	1.35	<0.00020	<0.0050	3.67	0.101	<0.000010	<0.0010	0.0014	0.048	0.337	0.00011	7.74	<0.000020	2.97	0.0624	<3.0	<0.000050	<0.0050	0.0103	<0.00010	<0.0050	<0.0050
MN-1.5	16/10/2013 12:50																												
MN-1.5	16/05/2014 15:05	<0.05	0.000033	8.77	0.0033	0.00173	0.0162	3.27	0.00077	<0.0050	3.08	0.141	<0.000010	<0.0010	0.0031	0.152	0.925	0.00011	6.78	0.00002	2.1	0.0455	<3.0	<0.000050	<0.0050	0.0978	0.00015	0.0081	0.0108
MN-1.5	03/06/2014 10:00	<0.05	0.000012	9.65	<0.0010	0.0006	0.0101	1.09	<0.00020	<0.0050	3.09	0.0462	<0.000010	<0.0010	0.0015	0.041	0.466	<0.00010	5.15	<0.000020	2.6	0.0495	<3.0	<0.000050	<0.0050	0.0153	<0.00010	<0.0050	<0.0050
MN-1.5	26/07/2014 15:00	<0.05	0.000012	12.4	0.001	0.00051	0.00809	0.828	<0.00020	<0.0050	3.45	0.0507	<0.000010	<0.0010	0.0015	0.028	0.303	0.00014	6.69	<0.000020	2.87	0.0604	<3.0	<0.000050	<0.0050	0.0088	<0.00010	<0.0050	<0.0050
MN-1.5	17/08/2014 15:00	<0.05	0.000039	15.6	0.0037	0.00134	0.015	3.25	0.00086	<0.0050	4.62	0.0913	<0.000010	<0.0010	0.0033	0.148	0.599	0.00015	10.1	<0.000020	5.45	0.0789	10.8	<0.000050	<0.0050	0.0972	0.00015	0.0073	0.0096
MN-1.5	20/09/2014 14:20	<0.05	0.000014	13.3	<0.0010	0.00052	0.00766	1.07	<0.00020	<0.0050	3.96	0.0759	<0.000010	<0.0010	0.0016	0.044	0.388	0.00014	6.83	<0.000020	3.71	0.067	<3.0	<0.000050	<0.0050	0.0051	<0.00010	<0.0050	<0.0050
MN-1.5	11/10/2014 14:00	<0.05	0.000017	10.7	0.0011	0.00063	0.007	1.63	0.0002	<0.0050	3.58	0.0652	<0.000010	<0.0010	0.0019	0.096	0.307	<0.00010	5.52	<0.000020	2.81	0.0598	<3.0	<0.000050	<0.0050	0.0177	<0.00010	<0.0050	<0.0050
MN-1.5	30/05/2015 11:30	<0.05	<0.000010	12.4	0.0011	<0.00050	0.00698	0.93	<0.00020	<0.0050	3.86	0.0499	<0.000010	<0.0010	0.0014	0.069	0.447	<0.00010	6.17	<0.000020	2.81	0.0654	<3.0	<0.000050	<0.0050	0.0121	<0.00010	<0.0050	<0.0050
MN-1.5	30/06/2015 16:10	<0.05	0.000014	10.7	0.0018	0.00079	0.00947	2	0.00035	<0.0050	3.17	0.0691	<0.000010	<0.0010	0.002	0.083	0.333	<0.00010	7.11	<0.000020	2.85	0.0535	<3.0	<0.000050	<0.0050	0.0339	<0.00010	<0.0050	<0.0050
MN-1.5	13/07/2015 15:40	<0.05	0.00001	10.2	0.0017	0.00055	0.0101	1.42	0.00022	<0.0050	2.87	0.0475	<0.000010	<0.0010	0.0017	0.046	0.226	<0.00010	6.92	<0.000020	2.71	0.0527	<3.0	<0.000050	<0.0050	0.0238	<0.00010	<0.0050	<0.0050
MN-1.5	29/08/2015 15:00	<0.05	0.000047	10.2	0.0072	0.00372	0.0795	11.7	0.00216	<0.0050	4.49	0.237	<0.000010	<0.0010	0.0053	0.252	1.19	0.00033	19.6	0.000022	3.02	0.0558	<3.0	<0.000050	<0.0050	0.318	0.00032	0.0242	0.022
MN-1.5	20/09/2015 15:00	<0.05	<0.000010	11.4	<0.0010	0.00059	0.00725	1.33	<0.00020	<0.0050	3.17	0.0761	<0.000010	<0.0010	0.0013	0.05	0.302	<0.00010	8.08	<0.000020	2.95	0.0528	<3.0	<0.000050	<0.0050	0.0075	<0.00010	<0.0050	<0.0050
MN-1.5	19/10/2015 14:15	<0.05	<0.000010	12.4	<0.0010	<0.00050	0.00555	1.22	<0.00020	<0.0050	3.33	0.0525	<0.000010	<0.0010	<0.0010	0.043	0.221	<0.00010	7.52	<0.000020	3.04	0.0593	<3.0	<0.000050	<0.0050	0.0058	<0.00010	<0.0050	<0.0050
MN-1.5	30/04/2016 14:30	<0.010	0.0000050	11.4	0.00058	0.00019	0.0102	0.335	<0.000050	<0.0010	3.19	0.0149	0.0000189	0.000197	0.00143	<0.050	0.88	0.000082	4.37	<0.000010	1.91	0.0544	0.58	<0.000010	<0.00010	0.00171	0.000044	0.00063	<0.0030
MN-1.5	29/05/2016 10:25	<0.010	<0.0000050	11.1	0.00066	0.00029	0.00589	0.387	<0.000050	<0.0010	3.29	0.0326	<0.0000050	0.000364	0.00134	<0.050	0.34	0.000120	5.41	<0.000010	2.82	0.0566	0.65	<0.000010	<0.00010	0.00156	0.000031	0.00080	<0.0030
MN-1.5	21/06/2016 17:20	<0.010	<0.0000050	14.3	0.00075	0.00069	0.00522	1.59	0.000057	<0.0010	4.22	0.115	<0.0000050	0.000464	0.00136	<0.050	0.34	0.000080	6.46	<0.000010	3.32	0.0736	<0.50	<0.000010	<0.00010	0.00641	0.000034	0.00162	<0.0030
MN-1.5	04/07/2016 15:05	<0.010	0.0000058	17.3	0.00050	0.00068	<0.0045	0.930	<0.000050	<0.0010	5.07	0.112	<0.0000050	0.000504	0.00119	<0.050	0.31	0.000064	6.52	<0.000010	3.42	0.0857	<0.50	<0.000010	<0.00010	0.00139	0.000038	0.00082	<0.0030
MN-1.5	07/08/2016 15:45	<0.010	0.0000073	15.9	0.00088	0.00073	0.00566	1.33	0.000073	<0.0010	4.46	0.0965	<0.0000050	0.000520	0.00155	<0.050	0.32	0.000088	7.10	<0.000010	3.46	0.0861	0.56	<0.000010	<0.00010	0.00698	0.000055	0.00164	<0.0030
MN-1.5	03/09/2016 17:45	<0.010	0.0000106	13.4	0.00115	0.00068	0.00657	1.71	0.000114	<0.0010	3.97	0.0839	0.0000060	0.000472	0.00165	0.061	0.34	0.000131	7.36	0.000021	2.88	0.0637	0.67	<0.000010	<0.00010	0.0127	0.000045	0.00183	<0.0030
MN-2.5	03/05/2009	<0.05	0.000137	6.4	0.0003	0.000275	0.00304	0.32	0.00174	<0.0005	1.88	0.0437		0.00015	0.00121		1.65	0.00006	2.12	0.000008	0.7	0.0274	<3	<0.000002	0.00001	0.0058	0.000043	0.0005	0.0087
MN-2.5	06/05/2009	<0.05	0.00007	6.67	0.0005	0.000376	0.00403	0.358	0.000299	<0.0005	2.02	0.0538	0.00001	0.00012	0.00177		1.58	0.00004	2.06	0.000009	0.84	0.0287	<3	<0.000002	0.00003	0.0052	0.000035	0.001	0.0096
MN-2.5	13/05/2009	<0.05	0.000025	8.63	0.0005	0.000258	0.0043	0.334	0.000075	<0.0005	2.5	0.0391	<0.00001	0.00017	0.00176		1.19	0.00007	3.6	<0.000005	1.25	0.0363	<3	<0.000002	<0.00001	0.0039	0.000047	0.0009	0.0031
MN-2.5	21/05/2009	<0.05	0.000019	10.4	0.0005	0.000363	0.00365	0.5	0.000212	0.0005	3.13	0.0757	<0.00001	0.00032	0.00201		0.9	0.00009	3.89	<0.000005	2.03	0.0491	<3	0.000003	<0.00001	0.0066	0.000072	0.0012	0.0044
MN-2.5	28/05/2009	<0.05	0.000006	14.6	0.0003	0.000181	0.00278	0.207	0.000063	0.0005	4.23	0.0397		0.00038	0.00161		0.69	0.00007	5.07	<0.000005	2.49	0.0606	<3	<0.000002	<0.00001	0.0031	0.000059	0.0008	0.0008
MN-2.5	25/06/2009	<0.05	<0.000005	15.4	0.0002	0.000076	0.00195	0.085	0.00002	0.0007	4.3	0.00943	<0.00001	0.00053	0.00103		0.42	0.00008	4.8	<0.000005	2.99	0.0814	<3	<0.000002	<0.00001	0.0016	0.000071	0.0003	0.0003
MN-2.5	28/07/2009	<0.05	0.000028	26.4	<0.0001	0.000073	0.00158	0.068	0.000055	0.0009	6.73	0.0147	<0.00001	0.00086	0.00099		0.76	0.00006	6.05	<0.000005	3.98	0.122	<3	<0.000002	0.00002	0.0009	0.000152	0.0004	0.0016

Appendix C - Water Quality Data - McGinty Creek

Stn.Code	Smpl Date	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D	Se-D	Si-D	Ag-D	Na-D	Sr-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MN-1.5	03/05/2009	0.0004	0.183	0.00003	0.00021	0.0172	0.00002	<0.000005	<0.05	0.000021	4.29	0.0003	0.000266	0.00789	0.173	0.00001	<0.0005	1.32	0.0649		0.00014	0.00091		2.06	0.00006	1.47	0.000007	0.84	0.0214
MN-1.5	06/05/2009	0.0003	0.182	0.0002	0.00015	0.0143	0.00002	<0.000005	<0.05	0.000046	3.32	0.0002	0.000296	0.0077	0.176	0.000094	<0.0005	1.03	0.0651	0.00001	0.00012	0.00095		1.91	<0.00004	1.26	0.000006	0.68	0.0171
MN-1.5	13/05/2009	0.0005	0.22	0.00003	0.00023	0.0197	0.00002	<0.000005	<0.05	0.000028	3.8	0.0004	0.000564	0.00866	0.263	0.000018	<0.0005	1.17	0.071	0.00002	0.00009	0.00114		1.73	0.00006	2.31	<0.000005	0.94	0.0202
MN-1.5	21/05/2009	0.0004	0.148	0.00005	0.00028	0.0209	0.00002	<0.000005	<0.05	0.00005	4.81	0.0004	0.000526	0.00645	0.296	0.000119	<0.0005	1.52	0.0709	0.00001	0.00014	0.00113		1.38	0.00004	2.59	<0.000005	1.41	0.0257
MN-1.5	28/05/2009	0.0005	0.122	0.00004	0.00028	0.0229	0.00002	<0.000005	<0.05	0.000005	6.43	0.0003	0.000079	0.00619	0.21	0.000009	<0.0005	2.01	0.00028	<0.00001	0.00017	0.0011		0.99	0.00007	3.54	<0.000005	1.85	0.0335
MN-1.5	25/06/2009	0.0006	0.132	0.00006	0.00025	0.0247	<0.00001	<0.000005	<0.05	0.00004	6.13	0.0003	0.000125	0.00581	0.266	0.000018	<0.0005	1.78	0.00399	<0.00001	0.00016	0.001		0.42	0.00008	4.32	<0.000005	2.06	0.036
MN-1.5	28/07/2009	0.0011	0.103	0.00006	0.00036	0.0321	0.00001	<0.000005	<0.05	0.00001	9.99	0.0004	0.000205	0.00525	0.292	0.000025	<0.0005	2.93	0.0151	<0.00001	0.00024	0.00115		0.37	0.00007	6.25	<0.000005	2.96	0.0519
MN-1.5	29/08/2009	0.0007	0.126	0.00008	0.00038	0.0274	0.00002	<0.000005	<0.05	0.000008	8.29	0.0006	0.000189	0.00545	0.327	0.000023	<0.0005	2.39	0.0134	<0.00001	0.00027	0.00118		0.37	0.00008	5.85	<0.000005	2.64	0.0438
MN-1.5	29/09/2009	0.0006	0.0938	0.00007	0.00034	0.0266	0.00001	<0.000005	<0.05	0.00002	9.48	0.0006	0.000214	0.005	0.34	0.000025	<0.0005	2.88	0.0159		0.00029	0.00115		0.36	0.00007	7.1	<0.000005	2.76	0.0463
MN-1.5	23/10/2009	0.0005	0.0638	0.00007	0.00026	0.0306	0.00001	<0.000005	<0.05	<0.000005	12.6	0.0005	0.000157	0.00348	0.215	0.000019	<0.0005	3.86	0.00967	<0.00001	0.00027	0.00096		0.34	0.00007	7.02	<0.000005	2.99	0.0584
MN-1.5	27/11/2009	0.0004	0.042	0.00007	0.00025	0.0381	<0.00001	<0.000005	<0.05	0.000011	15.1	0.0004	0.000166	0.00316	0.227	0.000025	<0.0005	4.5	0.0171	<0.00001	0.00029	0.00091		0.37	0.00006	7.84	<0.000005	3.1	0.0744
MN-1.5	15/12/2009	0.0003	0.0342	0.00007	0.00024	0.0478	<0.00001	<0.000005	<0.05	<0.000005	17.5	0.0003	0.000209	0.00302	0.145	0.000046	<0.0005	5.4	0.0251	<0.00001	0.00029	0.00078		0.45	0.00005	6.69	<0.000005	3.38	0.0912
MN-1.5	25/01/2010	0.0006	0.0374	0.00019	0.00065	0.123	0.00001	<0.000005	<0.05	0.000074	49.2	0.0009	0.000405	0.00816	0.126	0.000095	0.0011	20.3	0.0456	<0.00001	0.00076	0.00233		2.54	0.00015	18.9	0.000018	12.5	0.247
MN-1.5	21/04/2010	0.0003	0.191	0.00009	0.00023	0.0202	0.00002	<0.000005	<0.05	0.000106	5.93	0.0003	0.000186	0.00778	0.206	0.00034	<0.0005	1.71	0.0349	0.00002	0.00054	0.00117		1.68	0.00007	2.18	0.000018	3.6	0.0294
MN-1.5	28/05/2010	0.0004	0.0706	0.00006	0.00026	0.0254	0.00002	<0.000005	<0.05	0.000011	7.39	0.0003	0.000133	0.00445	0.169	0.000008	<0.0005	2.32	0.00755		0.00021	0.00104		0.55	0.00007	4.15	<0.000005	2.17	0.0398
MN-1.5	28/06/2010	0.0005	0.0927	0.0001	0.00034	0.0293	0.00001	<0.000005	<0.05	0.00006	8.65	0.0006	0.000231	0.00609	0.232	0.000527	<0.0005	2.62	0.0149		0.00027	0.00158		0.5	0.00007	5.42	<0.000005	3.16	0.0477
MN-1.5	21/07/2010	0.0018	0.145	0.00008	0.00062	0.0301	0.00003	<0.000005	<0.05	0.000017	6.61	0.0006	0.00125	0.00638	0.844	0.000041	<0.0005	1.92	0.143		0.00025	0.00169		0.29	0.00008	5.41	<0.000005	2.41	0.0375
MN-1.5	18/08/2010	0.0041	0.158	0.00012	0.00086	0.0321	0.00002	<0.000005	<0.05	0.000017	5.23	0.0007	0.00173	0.00784	1.27	0.000091	<0.0005	1.61	0.166		0.00037	0.00188		0.3	0.00009	5.37	<0.000005	2.32	0.0317
MN-1.5	15/09/2010	0.0011	0.119	0.00008	0.00054	0.0364	0.00002	<0.000005	<0.05	0.00001	10.4	0.0007	0.000725	0.00644	0.547	0.000037	<0.0005	3	0.0821		0.00044	0.00143		0.43	0.00009	7.08	<0.000005	2.63	0.0513
MN-1.5	21/10/2010	0.0006	0.0902	0.00009	0.00034	0.0411	0.00001	<0.000005	<0.05	0.000023	12.9	0.0006	0.000435	0.00484	0.317	0.000028	<0.0005	3.91	0.0501		0.00034	0.0012		0.42	0.00007	7.27	<0.000005	2.7	0.0649
MN-1.5	29/04/2011 10:20	0.0003	0.0935	0.00003	0.00035	0.0259	0.00001	<0.000005	<0.05	0.000053	9.32	0.0004	0.000434	0.00645	0.32	0.000024	0.0006	2.91	0.0974	<0.00001	0.00008	0.00101		2.16	0.00006	4.57	0.000008	2.29	0.0453
MN-1.5	19/05/2011 15:45	0.0006	0.154	0.00004	0.00038	0.0246	0.00002	<0.000005	<0.05	0.000022	3.91	0.0004	0.000913	0.00763	0.599	0.000027	<0.0005	1.2	0.121		0.00025	0.00108		1.03	0.00006	1.93	0.000006	0.98	0.0226
MN-1.5	28/06/2011 10:00	0.001	0.148	0.00009	0.0007	0.0342	0.00002	<0.000005	<0.05	0.000019	7.32	0.0006	0.000913	0.00708	0.937	0.000048	<0.0005	2.25	0.101	<0.00001	0.00038	0.00136		0.46	0.00009	5.97	0.000006	2.5	0.0387
MN-1.5	15/07/2011 12:05	0.0026	0.219	0.0001	0.00106	0.0321	0.00003	<0.000005	<0.05	0.00002	5.01	0.0007	0.00121	0.00809	1.62	0.000116	<0.0005	1.53	0.0982		0.00044	0.00161		0.32	0.00008	5.33	0.000006	2.1	0.0306
MN-1.5	10/08/2011 15:10	0.0011	0.129	0.0001	0.00075	0.0383	0.00002	<0.000005	<0.05	0.000022	8.3	0.0006	0.000997	0.00675	1.13	0.000052	<0.0005	2.29	0.11		0.00056	0.00143	0.015	0.37	0.00008	5.78	<0.000005	2.27	0.0447
MN-1.5	28/10/2011 10:30	0.0006	0.0605	0.00008	0.00052	0.0445	<0.00001	<0.000005	<0.05	0.000016	15.6	0.0005	0.000587	0.00356	0.714	0.000017	<0.0005	4.13	0.0957	<0.00001	0.00037	0.00114	0.015	0.41	0.00008	7.68	<0.000005	2.78	0.0729
MN-1.5	19/04/2012	0.00034	0.081	0.000038	0.000265	0.0287	0.000012	<0.0000050	<0.05	0.0000415	10.2	0.00038	0.000482	0.00734	0.296	0.0000191	0.00051	3.24	0.0938	<0.000010	0.000145	0.00106	0.0327	1.97	0.00005	4.27	<0.0000050	2.03	0.051
MN-1.5	24/05/2012	0.00071	0.12	0.000072	0.000595	0.0323	0.00002	<0.0000050	<0.05	0.000046	7.5	0.0005	0.000673	0.00672	0.891	0.000111	<0.00050	2.16	0.0974	<0.000010	0.000354	0.00124	0.0271	0.828	0.000103	4.25	0.0000141	1.9	0.0389
MN-1.5	14/06/2012	0.00202	0.136	0.00008	0.000555	0.035	0.000021	<0.0000050	<0.05	0.0000331	6.84	0.00055	0.00116	0.00687	1.19	0.0000712	<0.00050	1.99	0.121	<0.000010	0.000421	0.00141	0.0181	0.507	0.000092	5.28	0.0000063	2.22	0.0362
MN-1.5	12/07/2012	0.00124	0.115	0.000069	0.000718	0.044	0.000013	<0.0000050	<0.05	0.000031	9.94	0.00063	0.00133	0.00645	1.01	0.000021	<0.00050	2.9	0.155	<0.000010	0.000619	0.00143	0.0208	0.39	0.000093	5.79	0.000005	2.92	0.0534
MN-1.5	06/08/2012	0.00308	0.103	0.000085	0.000774	0.048	0.00002	<0.0000050	<0.05	<0.0000050	13.8	0.00075	0.00143	0.00584	1.19	0.00002	<0.00050	3.97	0.206		0.000924	0.00155		0.43	0.000078	6.5	<0.0000050	3.17	0.0697
MN-1.5	07/09/2012	0.00068	0.121	<0.00050	0.00076	0.044	<0.00010	<0.0010	<0.05	<0.000010	13.5	<0.0010	0.00138	0.00619	1.2	<0.00020	<0.0050	4.03	0.181	<0.000010	<0.0010	0.0017	0.03	0.425	<0.00010	6.97	<0.000020	3.26	0.0716
MN-1.5	01/10/2012	0.00075	0.0911	<0.00050	0.00065	0.039	<0.00010	<0.0010	<0.05	<0.000010	12.7	<0.0010	0.00095	0.00532	0.908	<0.00020	<0.0050	3.84	0.129	<0.000010	<0.0010	0.0018	0.029	0.396	<0.00010	6.62	<0.000020	2.98	0.0665
MN-1.5	27/05/2013	0.00082	0.0867	<0.00050	0.00031	0.0229	<0.00010	<0.0010	<0.05	<0.000010	6.94	<0.0010	0.00057	0.00573	0.34	<0.00020	<0.0050	2.22	0.0919	<0.000010	<0.0010	0.001	0.018	1.05	<0.00010	3.06	<0.000020	1.65	0.0371
MN-1.5	17/06/2013	0.00074	0.121	<0.00050	0.00064	0.0334	<0.00010	<0.0010	<0.05	<0.000010	8.02	<0.0010	0.00085	0.00726	0.947	<0.00020	<0.0050	2.27	0.0997	<0.000010	<0.0010	0.0013	0.024	0.513	<0.00010	5.32	<0.000020	2.47	0.0433
MN-1.5	15/07/2013	0.00097	0.111	<0.00050	0.00072	0.0376	<0.00010	<0.0010	<0.05	<0.000010	9.95	<0.0010	0.00104	0.00655	1.25	<0.00020	<0.0050	2.63	0.137	<0.000010	<0.0010	0.0014	0.025	0.329	<0.00010	6.55	<0.000020	2.93	0.0521
MN-1.5	28/08/2013	0.00089	0.101	0.000075	0.00064	0.0343	0.00002	<0.0000050	<0.05	0.000005	9.53	0.00074	0.000091	0.00669	0.914	0.000013	<0.00050	2.82	0.00322	<0.000010	0.000669	0.00138	0.0169	0.321	0.000132	5.86	0.000007	2.85	0.0542
MN-1.5	11/09/2013 9:25	0.00074	0.111	<0.00050	0.00072	0.041	<0.00010	<0.0010	<0.05	<0.000010	11	<0.0010	0.00125	0.00581	0.985	<0.00020	<0.0050	3.6	0.159	<0.000010	<0.0010	0.0015	0.026	0.39	0.00012	5.87	<0.000020	3.14	0.0598
MN-1.5	16/10/2013 12:50	0.00059	0.0853	<0.00050	0.00057	0.0342	<0.00010	<0.0010	<0.05	<0.000010	11.9	<0.0010	0.00064	0.00514	0.771	<0.00020	<0.0050	3.3	0.085	<0.000010	<0.0010	0.0012	0.022	0.303	<0.00010	7.25	<0.000020	2.83	0.0599
MN-1.5	16/10/2013 12:50																												
MN-1.5	16/05/2014 15:05	<0.00050	0.0966	<0.00050	0.00033	0.0273	<0.00010	<0.0010	<0.05	0.000013	7.73	<0.0010	0.00058	0.00709	0.338	<0.00020	<0.0050	2.43	0.0915	<0.000010	<0.0010	0.0013	0.018	0.753	<0.00010	3.36	<0.000020	1.85	0.0403
MN-1.5	03/06/2014 10:00	<0.00050	0.0922	<0.00050	0.00034	0.0298	<0.00010	<0.0010	<0.05	<0.000010	9.1	<0.0010	<0.00050	0.00647	0.376	<0.00020	<0.0050	2.66	0.0297	<0.000010	<0.0010	0.0011	0.012	0.455	0.00011	4.73	<0.000020	2.32	0.048
MN-1.5	26/07/2014 15:00	0.00065	0.116	<0.00050	0.00047	0.0336	<0.00010	<0.0010	<0.05	<0.000010	10.8	<0.0010	<0.00050	0.00769	0.543	<0.00020	<0.0050	3.13	0.0438	<0.000010	<0.0010	0.0012	0.043	0.29	<0.00010	5.98	<0.000020	2.66	0.0548
MN-1.5	17/08/2014 15:00	0.0008	0.0812	<0.00050	0.00051	0.0438	<0.00010	<0.0010	<0.05	<0.000010	14.9	<0.0010	<0.00050	0.00578	0.587	<0.00020	<0.0050	3.92	0.0635	<0.000010	<0.0010	0.0014	0.018	0.287	<0.00010	7.11	<0.000020	3.19	0.072
MN-1.5	20/09/2014 14:20	0.00051	0.0782	<0.00050	0.00061	0.0351	<0.00010	<0.0010	<0.05	<0.000010	12.7	<0.0010	<0.00050	0.00472	0.764	<0.00020	<0.0050	3.49	0.0672	<0.000010	<0.0010	0.0012	0.03	0.324	<0.00010	6.73	<0.000020	3.01	0.0615
MN-1.5	11/10/2014 14:00	0.00057	0.0733	<0.00050	0.00055	0.0284	<0.00010	<0.0010	<0.05	<0.000010	11.6	<0.0010	<0.00050	0.00438	0.608	<0.00020	<0.0050	3.4	0.0465	<0.000010	<0.0010	0.001	0.024	0.256	<0.00010	6.74	<0.000020	2.88	0.0561
MN-1.5	30/05/2015 11:30	0.00054	0.0691	<0.00050	0.00034	0.031	<0.00010	<0.0010	<0.05	<0.000010	10.9	<0.0010	<0.00050	0.00546	0.335	<0.00020	<0.0050	3.4	0.0331	<0.000010	<0.0010	0.0011	0.012	0.4	<0.00010	4.78	<0.000020	2.54	0.0553
MN-1.5	30/06/2015 16:10	0.00054	0.0888	<0.00050	0.00043	0.0302	<0.00010	<0.0010	<0.05	<0.000010	10.2	<0.0010	<0.00050	0.00617	0.462	<0.00020	<0.0050	2.97	0.0381	<0.000010	<0.0010	0.0012	0.016	0.217	<0.00010	5.7	<0.000020	3.16	0.051
MN-1.5	13/07/2015 15:40	0.00066	0.111	<0.00050	0.00044	0.0303	<0.00010	<0.0010	<0.05	<0.000010	9.81	<0.0010	<0.00050	0.00687	0.445	<0.00020	<0.0050	2.72	0.0333	<0.000010	<0.0010	0.0012	0.016	0.177	<0.00010	5.93	<0.000020	2.69	0.0518
MN-1.5	29/08/2015 15:00	0.00114	0.236	<0.00050	0.00113	0.0296	<0.00010	<0.0010	<0.05	<0.000010	6.7	<0.0010	0.00081	0.00938	1.18	<0.00020	<0.0050	1.94	0.083	<0.000010	<0.0010	0.0013	0.03	0.249	<0.00010	6.2	<0.000020	2.53	0.0351
MN-1.5	20/09/2015 15:00	0.00061	0.102	<0.00050	0.00064	0.0298	<0.00010	<0.0010	<0.05	0.000011	9.7	<0.0010	0.00061	0.00609	0.769	<0.00020	<0.0050	2.85	0.0705	<0.000010	<0.0010	0.0014	0.026	0.272	<0.00010	6.34	<0.000020	3.05	0.0498
MN-1.5	19/10/2015 14:15	0.00059	0.0835	<0.00050	0.00037	0.0308	<0.00010	<0.0010	<0.05	<0.000010	11.2	<0.0010	<0.00050	0.00468	0.56	<0.00020	<0.0050	3.34	0.0458	<0.000010	<0.0010	<0.0010	0.026	0.218	<0.00010	6.99	<0.000020	2.67	0.0571
MN-1.5	30/04/2016 14:30	0.00049	0.142	<0.00010	0.00034	0.0332	0.000030	<0.000050	<0.010	<0.0000050	12.1	0.00053	0.00018	0.00983	0.314	<0.000050	<0.0010	3.35	0.0144	0.0000084	0.000195	0.00145	<0.050	0.90	0.000111	4.57	<0.000010	1.98	0.0556
MN-1.5	29/05/2016 10:25	0.00046	0.0623	<0.00010	0.00033	0.0318	<0.000020	<0.000050	<0.010	<0.0000050	11.4	0.00048	0.00028	0.00557	0.311	<0.000050	<0.0010	3.45	0.0316	<0.0000050	0.000319	0.00118	<0.050	0.34	0.000078	5.56	<0.000010	2.79	0.0548
MN-1.5	21/06/2016 17:20	0.00043	0.0480	<0.00010	0.00057	0.0418	<0.000020	<0.000050	<0.010	0.0000060	14.4	0.00051	0.00055	0.00476	0.531	<0.000050	<0.0010	4.17	0.100	<0.0000050	0.000435	0.00119	<0.050	0.30	0.000062	6.28	<0.000010	3.37	0.0720
MN-1.5	04/07/2016 15:05	0.00040	0.0313	<0.00010	0.00055	0.0460	<0.000020	<0.000050	<0.010	<0.0000050	17.2	0.00041	0.00065	0.00326	0.543	<0.000050	<0.0010	5.08	0.110	<0.0000050	0.000477	0.00114	<0.050	0.27	0.000079	6.52	<0.000010	3.39	0.0858
MN-1.5	07/08/2016 15:45	0.00061	0.0675	<0.00010	0.00061	0.0458	<0.000020	<0.000050	<0.010	0.0000051	16.1	0.00062	0.00061	0.00513	0.771	<0.000050	<0.0010	4.50	0.0919	<0.0000050	0.000457	0.00134	<0.050	0.33	0.000098	6.95	<0.000010	3.35	0.0808
MN-1.5	03/09/2016 17:45	0.00111	0.0672	<0.00010	0.00056	0.0357	<0.000020	<0.000050	<0.010	<0.0000050	13.8	0.00073	0.00049	0.00515	0.606	<0.000050	<0.0010	3.94	0.0682	<0.0000050	0.000438	0.00133	<0.050	0.28	0.000127	7.28	<0.000010	2.88	0.0649
MN-2.5	03/05/2009	0.0004	0.0882	0.00004	0.00029	0.0172	0.00001	<0.000005	<0.05	0.000022	6.21	0.0002	0.000139	0.00248	0.096	0.000016	<0.0005	1.87	0.0201		0.00011	0.00091		1.67	0.00007	1.99	0.000008	0.74	0.0267
MN-2.5	06/05/2009	0.0004	0.107	0.00008	0.00025	0.0179	0.00001	<0.000005	<0.05	0.000075	6.23	0.0002	0.000221	0.00284	0.134	0.000071	<0.0005	1.9	0.0341	0.00001	0.00014	0.00104		1.51	0.00004	1.85	0.000006	0.78	0.0275
MN-2.5	13/05/2009	0.0006	0.112	0.00006	0.00033	0.0215	0.00002	<0.000005	<0.05	0.000009	8.36	0.0003	0.000173	0.00411	0.192	0.000021	<0.0005	2.45	0.023	0.00001	0.00017	0.00158		1.19	0.00008	3.38	<0.000005	1.21	0.0362
MN-2.5	21/05/2009	0.0004	0.0437	0.00008	0.00032	0.0226	0.00001	<0.000005	<0.05	0.000025	10.2	0.0003	0.000145	0.00293	0.145	0.000083	<0.0005	3.04	0.042	<0.00001	0.00035	0.00135		0.89	0.00008	3.95	<0.000005	1.96	0.0485
MN-2.5	28/05/2009	0.0004	0.0259	0.00008	0.00037	0.0262	0.00001	<0.000005	<0.05	<0.000005	14.2	0.0002	0.000067	0.00261	0.079	0.00001	0.0005	4.1	0.00035	<0.00001	0.00038	0.00156		0.68	0.00007	4.51	<0.000005	2.56	0.0631
MN-2.5	25/06/2009	0.0003	0.0177	0.00009	0.00029	0.028	0.00001	<0.000005	<0.05	0.000009	16.3	<0.0001	0.000081	0.00195	0.061	0.000014	0.0007	4.39	0.00677	<0.00001	0.00053	0.00105		0.45	0.00008	4.99	<0.000005	3.02	0.0824
MN-2.5	28/07/2009	0.0002	0.0085	0.00006	0.00029	0.0381	<0.00001	<0.000005	<0.05	0.000006	26.1	<0.0001	0.000065	0.00158	0.046	0.000009	0.0009	6.32	0.0135	<0.00001	0.00083	0.0009		0.72	0.00006	5.98	<0.000005	3.86	0.12

Appendix C - Water Quality Data - McGinty Creek

Stn.Code	Smpl Date	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	BOD5	Cation	CN-SAD	CN-T	CN-WAD	COD	C-TOC	IB	N-T	N-TKN	Sp-Cond	TDS-F	Wlevel
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	µS/cm	mg/L	m
MN-1.5	03/05/2009	<3	<0.000002	0.00001	0.0021	0.000027	0.0004	0.0036	0.0003	6.7	<0.5	<0.5	<0.5					0.0015			35.9					22.3	
MN-1.5	06/05/2009	<3	<0.000002	0.00001	0.0019	0.000018	0.0008	0.0094	0.0003	4.8	<0.5	<0.5	<0.5					0.001			31.7					15	
MN-1.5	13/05/2009	<3	<0.000002	<0.00001	0.0017	0.000031	0.001	0.0057	0.0004	4.9	<0.5	<0.5	<0.5					0.001			30.3					21.4	
MN-1.5	21/05/2009	<3	<0.000002	0.00002	0.0011	0.000031	0.001	0.0041	0.0004												23					27.2	
MN-1.5	28/05/2009	<3	<0.000002	<0.00001	0.0015	0.000034	0.0006	0.0007	0.0004	20	<0.5	<0.5	<0.5					0.0013			21.6					34.1	
MN-1.5	25/06/2009	<3	<0.000002	<0.00001	0.0009	0.000034	0.0005	0.0011	0.0005	17	<0.5	<0.5	<0.5					0.001			19.2						
MN-1.5	28/07/2009	<3	<0.000002	<0.00001	0.0016	0.000028	0.0006	0.001	0.0006	39	<0.5	<0.5	<0.5					0.0011			17.4						
MN-1.5	29/08/2009	<3	<0.000002	<0.00001	0.0015	0.000032	0.0006	0.0012	0.0006	43	<0.5	<0.5	<0.5					0.0012			19.4						
MN-1.5	29/09/2009	<3	<0.000002	<0.00001	0.001	0.000025	0.0005	0.0025	0.0006	39	<0.5	<0.5	<0.5					0.0009			17						
MN-1.5	23/10/2009	<3	<0.000002	<0.00001	0.0007	0.000023	0.0004	0.0013	0.0005	57	<0.5	<0.5	<0.5					0.0007			13.2						
MN-1.5	27/11/2009	<3	<0.000002	<0.00001	0.0008	0.000019	0.0004	0.0017	0.0004	75	<0.5	<0.5	<0.5					0.0006			10.6						
MN-1.5	15/12/2009	<3	<0.000002	<0.00001	<0.0005	0.000018	0.0002	0.0016	0.0003	90	<0.5	<0.5	<0.5					<0.0005			9.8						
MN-1.5	25/01/2010	3	<0.000002	0.00003	0.001	0.000055	0.0007	0.0102	0.0006	230	<0.5	<0.5	<0.5					<0.0005			25.1	1.2					
MN-1.5	21/04/2010	14	0.000003	0.00057	0.0016	0.000035	0.0005	0.012	0.0003	12	<0.5	<0.5	<0.5					0.001			39						
MN-1.5	28/05/2010	<10	<0.000002	<0.00001	0.0008	0.000024	0.0005	0.0009	0.0004	36	<0.5	<0.5	<0.5					0.0009			13						
MN-1.5	28/06/2010	<10	<0.000002	0.00009	0.001	0.000027	0.0004	0.0079	0.0005	38	<0.5	<0.5	<0.5					0.0007			15.3						
MN-1.5	21/07/2010	<10	<0.000002	<0.00001	0.0034	0.000046	0.0014	0.0015	0.0009	26	<0.5	<0.5	<0.5					0.0017			18.8						
MN-1.5	18/08/2010	<10	<0.000002	<0.00001	0.0029	0.000061	0.0022	0.009	0.0008	16	<0.5	<0.5	<0.5					0.0043			38.6						
MN-1.5	15/09/2010	<10	<0.000002	<0.00001	0.002	0.000057	0.0012	0.0014	0.0007	39	<0.5	<0.5	<0.5					0.0018			18.1						
MN-1.5	21/10/2010	<10	<0.000002	<0.00001	0.0007	0.000057	0.0007	0.0029	0.0006	60	<0.5	<0.5	<0.5					0.0005	0.0007		12.7						
MN-1.5	29/04/2011 10:20	<10	<0.000002	<0.00001	0.0011	0.000024	0.0004	0.0061	0.0002	35	<0.5	<0.5	<0.5					0.0013	0.0018		34						
MN-1.5	19/05/2011 15:45	<10	<0.000002	<0.00001	0.0016	0.000036	0.0014	0.0021	0.0003	14	<0.5	<0.5	<0.5					0.0018	0.0019		26.3						
MN-1.5	28/06/2011 10:00	<10	<0.000002	0.00001	0.0024	0.00004	0.0017	0.0012	0.0006	26	<0.5	<0.5	<0.5					0.002	0.002		22.6						
MN-1.5	15/07/2011 12:05	<10	<0.000002	<0.00001	0.0044	0.000044	0.0025	0.005	0.0007	14	<0.5	<0.5	<0.5					0.0017	0.0026		31.3				44.4		
MN-1.5	10/08/2011 15:10	<10	<0.000002	<0.00001	0.0024	0.000052	0.0019	0.002	0.0006	34	<0.5	<0.5	<0.5					0.0011	0.0017		20.1				64.8		
MN-1.5	28/10/2011 10:30	<10	<0.000002	<0.00001	0.0012	0.000061	0.001	0.0015	0.0004	63	<0.5	<0.5	<0.5					0.0007	<0.0005		12.4				224		
MN-1.5	19/04/2012	<10	<0.0000020	<0.00020	0.00095	0.0000179	0.00044	0.00565	0.00029	41.9	<0.50	<0.50	<0.50					0.00103	0.00073		32.1						
MN-1.5	24/05/2012	<10	<0.0000020	<0.00020	0.00242	0.0000359	0.00135	0.00505	0.00045	30.6	<0.50	<0.50	<0.50					0.00069	<0.00050		18.4						
MN-1.5	14/06/2012	<10	<0.0000020	<0.00020	0.00223	0.0000294	0.00146	0.00193	0.00059	24.5	<0.50	<0.50	<0.50					0.00161	0.00166		23.9						
MN-1.5	12/07/2012	<10	0.000002	<0.00020	0.00228	0.000047	0.00157	0.00066	0.00057	37	<0.50	<0.50	<0.50					0.00137	0.00159		18.8						
MN-1.5	06/08/2012	<10	0.000002	<0.00020	0.00218	0.000061	0.00158	0.00099	0.00065	53.5	<0.50	<0.50	<0.50					0.00223	0.00211		19.3						
MN-1.5	07/09/2012	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	0.00072	58	<0.50	<0.50	<0.50					0.00053	<0.00050		17.2						
MN-1.5	01/10/2012	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	0.00061	57.8	<0.50	<0.50	<0.50					<0.00050	<0.00050		15.2						
MN-1.5	27/05/2013	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	17	<0.50	<0.50	<0.50					<0.00050			19.7						
MN-1.5	17/06/2013	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	0.0006	32.3	<0.50	<0.50	<0.50					0.00168	0.001		17.6						
MN-1.5	15/07/2013	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	0.00069	39.6	<0.50	<0.50	<0.50					0.00112			15.8						
MN-1.5	28/08/2013	<3.0	<0.0000020	<0.00020	0.00225	0.000047	0.00158	0.0003	0.0007	43.9	<0.50	<0.50	<0.50					0.00151	0.00152		18.5	1.2					
MN-1.5	11/09/2013 9:25	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	0.00083	49.4	<0.50	<0.50	<0.50				0.00138		0.00092		15.4						
MN-1.5	16/10/2013 12:50	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	0.00067	51.2	<0.50	<0.50	<0.50				0.001		0.00102		12.7						
MN-1.5	16/10/2013 12:50																								76.6		
MN-1.5	16/05/2014 15:05	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	31.7	<0.50	<0.50	<0.50				0.00191		0.00141		18.4				91		
MN-1.5	03/06/2014 10:00	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	43.9	<0.50	<0.50	<0.50				0.00125		0.0011		18.8				187.1		
MN-1.5	26/07/2014 15:00	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	0.00071	48.9	<0.50	<0.50	<0.50				0.00092		0.00085		17.6				130.2		
MN-1.5	17/08/2014 15:00	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	0.00066	62.5	<0.50	<0.50	<0.50				<0.00050		0.00089						143.9		
MN-1.5	20/09/2014 14:20	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	0.00061	55.9	<0.50	<0.50	<0.50				0.0012		0.00112		15.6				135.7		
MN-1.5	11/10/2014 14:00	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	0.00051	52.1	<0.50	<0.50	<0.50				0.00119		0.00087		15.3				139.9		
MN-1.5	30/05/2015 11:30	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	53.2	<0.50	<0.50	<0.50				0.00103		0.00102		13				87.4		
MN-1.5	30/06/2015 16:10	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	0.00056	45.3	<0.50	<0.50	<0.50												77.5		
MN-1.5	13/07/2015 15:40	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	0.00069	39.9	<0.50	<0.50	<0.50												66.7		
MN-1.5	29/08/2015 15:00	<3.0	<0.000050	<0.0050	0.0116	<0.00010	<0.0050	<0.0050	0.00104	20.4	<0.50	<0.50	<0.50												52.7		
MN-1.5	20/09/2015 15:00	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	0.00058	41.9	<0.50	<0.50	<0.50												69.4		
MN-1.5	19/10/2015 14:15	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	51.7	<0.50	<0.50	<0.50												90.9		
MN-1.5	30/04/2016 14:30	0.59	<0.000010	<0.00010	0.00131	0.000042	0.00054	0.0019	0.00061	34.5	<1.0	<1.0		0.71		1.02						18.1			76.9		
MN-1.5	29/05/2016 10:25	0.62	<0.000010	<0.00010	0.00088	0.000026	0.00063	<0.0010	0.00050	41.7	<1.0	<1.0		0.86		1.01						8.0			85.6		
MN-1.5	21/06/2016 17:20	<0.50	<0.000010	<0.00010	0.00122	0.000024	0.00070	0.0015	0.00048	53.4	<1.0	<1.0		1.08		1.26						7.3			107.5		
MN-1.5	04/07/2016 15:05	<0.50	<0.000010	<0.00010	0.00094	0.000034	0.00058	0.0028	0.00042	66.3	<1.0	<1.0		1.34		1.47						4.4			127.6		
MN-1.5	07/08/2016 15:45	0.58	<0.000010	<0.00010	0.00178	0.000045	0.00088	<0.0010	0.00066	61.1	<1.0	<1.0		1.24		1.38						5.2			116.2		
MN-1.5	03/09/2016 17:45	0.63	<0.000010	<0.00010	0.00152	0.000035	0.00070	0.0020	0.00069	49.8	<1.0	<1.0		1.02		1.19						7.6			99.9		
MN-2.5	03/05/2009	<3	<0.000002	<0.00001	0.0009	0.000024	0.0003	0.0044	0.0003	17	<0.5	<0.5	<0.5					0.0013			30					26.7	
MN-2.5	06/05/2009	<3	<0.000002	0.00001	0.0009	0.000025	0.0005	0.0053	0.0003	18	<0.5	<0.5	<0.5					0.0008			26.5					36.3	
MN-2.5	13/05/2009	<3	<0.000002	<0.00001	0.0012	0.000042	0.0007	0.0033	0.0005	29	<0.5	<0.5	<0.5					0.0008			26.6					36.3	
MN-2.5	21/05/2009	<3	<0.000002	<0.00001	0.0009	0.000042	0.0005	0.0018	0.0003												20.3					50.5	
MN-2.5	28/05/2009	<3	<0.000002	<0.00001	0.0006	0.000052	0.0005	0.0004	0.0003	59	<0.5	<0.5	<0.5					0.0014			19.6					65.8	
MN-2.5	25/06/2009	<3	<0.000002	<0.00001	0.0008	0.000064	0.0003	0.0007	0.0003	77	<0.5	<0.5	<0.5					0.0008			13.8						
MN-2.5	28/07/2009	<3	<0.000002	<0.00001	<0.0005	0.000146	0.0003	0.0006	0.0002	120	<0.5	<0.5	<0.5					0.0007			10.1						

Appendix C - Water Quality Data - McGinty Creek

Stn.Code	Smpl Date	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
			mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MN-2.5	29/08/2009	B	1	120	7.77	7.9	94.6	153	3.7	11.7	88.6	67.1	73.7	75.6	77	0.6	0.17	<0.5	<0.005	<0.005	0.06	13.8	0.0183	0.00008	0.00035	0.0328	<0.00001	0.000007
MN-2.5	29/09/2009	B	<1	140	7.86	8.1	97.3	162	-0.1	13.47	92.1	49.2	84.2	85.5	90	1.3	0.18	0.8	0.03	<0.005	<0.02	11.5	0.0121	0.00008	0.00034	0.0331	0.00001	<0.000005
MN-2.5	23/10/2009	B	<1	120		7.9		172					83.3	86	87	1.1	0.17	2.3	0.006	<0.005	0.03	9.7	0.0104	0.00007	0.00026	0.0342	<0.00001	<0.000005
MN-2.5	27/11/2009	B	4	84	7.83	7.9	102.4	187	-0.1	9.33	63.8	62.9	88.7	90.8	94	0.8	0.19	3.1	0.011	<0.005	0.05	7.3	0.0252	0.00006	0.00025	0.041	<0.00001	<0.000005
MN-2.5	15/12/2009	B	<1	130	5.7	7.8	73.2	214	0.5			169.6	95	101	110	0.7	0.19	5.5	<0.005	<0.005	<0.02	8	0.0117	0.00011	0.00025	0.0512	<0.00001	<0.000005
MN-2.5	25/01/2010	B	4	650	4.1	8.5	445.1	818	-0.1	6.94	47.0	116.5	448	479	450	4.7	1.13	30	0.038	<0.005	<0.02	45	0.0243	0.00023	0.00127	0.149	0.00001	<0.000005
MN-2.5	22/04/2010	B	<1	68	7.56	7.6	41.6	73	0.0	11.70	86.4	114.3	40.3	37.1	33	1.6	0.09	<5	0.07	<0.03	<0.1	36.7	0.115	0.00003	0.00033	0.0235	0.00002	<0.000005
MN-2.5	28/05/2010	B	3	100	7.54	8	73.8	133	0.9	13.16	92.7	339.2	59.3	63.5	68	<0.5	0.16	<0.5	<0.005	<0.005	<0.02	9.6	0.0221	0.00006	0.00032	0.0294	<0.00001	<0.000005
MN-2.5	28/06/2010	B	<1	120	7.73	7.79	95.1	163	3.8	11.07	90.50	65.2	76	79.3	84	<0.5	0.17	<0.5	<0.05	<0.005	<0.02	10.5	0.0188	0.00007	0.00032	0.0345	<0.00001	<0.000005
MN-2.5	21/07/2010	B	1	96	7.55	7.93	80.1	134	5.5	11	94.60	40.7	59.8	61.2	69	0.9	0.14	<0.5	0.033	<0.005	<0.02	16.6	0.0346	0.0001	0.00041	0.033	<0.00001	<0.000005
MN-2.5	18/08/2010	B	350	120	7.3	7.85	89.8	145	6.2	10.22	89.40	39	88.6	74.9	72	0.9	0.15	<0.5	0.3	<0.005	<0.02	17.5	2.6	0.00012	0.00228	0.177	0.00024	<0.000005
MN-2.5	15/09/2010	B	2	84	7.65	7.89	83.9	150	1.6	13.21	94.8	304.6	68.7	78.7	73	<0.5	0.13	1.7	0.17	<0.005	<0.02	14.9	0.051	0.00009	0.0005	0.0379	<0.00001	<0.000005
MN-2.5	21/10/2010	B	<4	120	7.35	7.96	88.0	172	-0.1	12.15	83.3	316.4	82.6	84.3	86	0.5	0.17	<0.5	0.052	<0.005	0.04	11.7	0.0261	0.00007	0.00034	0.0401	<0.00001	<0.000005
MN-2.5	11/01/2011	B	1	100		7.52		208					97.9	94.9	97	1.2	0.19	5.1	0.016	<0.005	0.07	7.9	0.0109	0.00009	0.00033	0.0512	<0.00001	<0.000005
MN-2.5	29/04/2011 11:13	B	<1	86	7.35	7.43	49.4	93	0	13.69	102	137.9	46.7	44.6	44	1.6	0.1	<0.5	0.021	<0.005	<0.02	25	0.0309	0.00003	0.00036	0.0246	<0.00001	<0.000005
MN-2.5	19/05/2011 13:10	B	21	58	7.66	7.36	33.60	63	0.30	14.52	99.50	124.60	36	31.6	32	2	0.1	<0.5	<0.005	<0.005	<0.02	25.2	0.414	0.00008	0.00059	0.0329	0.00003	<0.00002
MN-2.5	28/06/2011 11:49	B	8	110	7.84	7.81	91	149	4	12.27	102.8	46.5	77.4	82.6	76	1.4	0.16	<0.5	0.16	<0.005	<0.02	20.1	0.0923	0.00013	0.00052	0.0388	0.00001	<0.000005
MN-2.5	15/07/2011 13:56	B	330	90	7.45	7.48		109	5.6	10.6	91	257.8	76.8	54.7	52	1.7	0.16	<0.5	0.071	0.006	<0.02	19.1	7.56	0.0003	0.0039	0.207	0.00029	<0.0001
MN-2.5	10/08/2011 17:15	B	160	130	7.71	7.48		132	5.3	12.46	98.4	249.4	78.5	63	64	1.6	0.15	<0.5	0.069	<0.005	<0.02	16.1	3.04	0.00022	0.0018	0.103	0.00011	0.00003
MN-2.5	28/10/2011 11:00	B	6	110	7.86	7.84		181	0.2				94.1	86.9	84	1.1	0.17	0.9	0.025	<0.005	0.07	9	0.064	0.00006	0.00051	0.0433	<0.00001	<0.000005
MN-2.5	19/04/2012	M	<1.0	104		7.61		115					58.7	56	52.7	1.8	0.1	<0.50	0.0074	<0.0050	<0.020	22.4	0.0164	0.000031	0.000387	0.0249	<0.000010	<0.0000050
MN-2.5	24/05/2012	M	105	102		7.87		119					60.5	60.4	59.5	1	0.15	<0.50	0.036	<0.050	<0.20	15.6	0.413	0.000088	0.000995	0.0546	0.000044	<0.0000050
MN-2.5	14/06/2012	M	260	94		7.74		116					68.3	60.1	56.9	<5.0	0.16	<5.0	0.029	<0.050	<0.20	13.7	1.47	0.000125	0.00242	0.127	0.000153	<0.0000050
MN-2.5	12/07/2012	M	6.7	104		7.93		163					81.9	81.3	80	1.1	0.18	<0.50	0.036	<0.050	<0.20	12.3	0.0805	0.000085	0.000754	0.0421	<0.000010	<0.0000050
MN-2.5	06/08/2012	M	3.8	136		8.09		186					94.5	93.2	94.3	1.3	0.18	<0.50	0.017	<0.0050	0.034	11.4	0.0742	0.000068	0.000916	0.0471	0.00001	<0.0000050
MN-2.5	07/09/2012	P	8.7	120		8.08		180					87.2	93	92.1	1.5	0.18	<0.50	0.0098	<0.0050	0.032	12.3	0.0646	<0.00050	0.00074	0.0435	<0.00010	<0.0010
MN-2.5	01/10/2012	M	3.1	242		8.03		177					91.6	86.5	89	1.2	0.16	<0.50	0.015	<0.0050	0.033	11.3	0.041	<0.00050	0.00068	0.0433	<0.00010	<0.0010
MN-2.5	27/05/2013	M	61.7	90		7.68		90.7					49.3	45.5	43.4	1.3	0.12	<0.50	0.039	<0.0050	<0.020	15.5	0.966	<0.00050	0.00076	0.0434	<0.00010	<0.0010
MN-2.5	17/06/2013	M	46.9	126		7.81		140					75.7	68.9	70.2	0.98	0.15	<0.50	0.018	<0.0050	0.022	11	0.881	<0.00050	0.00092	0.0531	<0.00010	<0.0010
MN-2.5	15/07/2013	M	3.6	98		7.94		171					87.4	84.9	85.3	1	0.18	0.63	0.022	<0.0050	0.036	9.47	0.073	<0.00050	0.00052	0.0415	<0.00010	<0.0010
MN-2.5	28/08/2013	M	10.1	114		7.88		161					78.5	80.4	78.5	1.1	0.17	<0.50	0.028	<0.0020	0.0299	13.5	0.0931	0.000082	0.000713	0.0438	0.000015	<0.0000050
MN-2.5	11/09/2013 14:00	P	2.4	128		7.96		171					90.7	82.5	85.3	1.3	0.17	1.04	0.039	<0.050	<0.20	11.9	0.0504	<0.00050	0.00074	0.0422	<0.00010	<0.0010
MN-2.5	16/10/2013 14:45	M			7.48				0	13.86	94.7	12.5																
MN-2.5	16/10/2013 14:45	M	3	144		7.84		167					86.7	80.9	82.7	1.4	0.16	0.93	0.022	<0.0050	0.041	9.79	0.0584	<0.00050	0.0005	0.04	<0.00010	<0.0010
MN-2.5	16/05/2014 13:50	M	120	82	8	7.8	67.7	112	0.0	14.04	96.2	64.5	68.9	54.3	52.5	0.98	0.16	<0.50	0.037	<0.0050	<0.020	15	2.84	<0.00050	0.00161	0.081	0.00011	<0.0010
MN-2.5	03/06/2014 11:30	M	11.5	114	6.86	8.01	88.9	136	0.5	17.13	117.9	41.3	68.9	66.6	66.3	1	0.17	<0.50	0.014	<0.0050	0.036	13.5	0.148	<0.00050	0.0005	0.0365	<0.00010	<0.0010
MN-2.5	26/07/2014 12:45	M	15.1	112	8.24	8	113.5	177	3.6	12.27	92.7	24.2	86.6	82.6	85.4	0.78	0.18	<0.50	0.013	<0.0050	0.035	11.9	0.15	<0.00050	0.00047	0.0419	<0.00010	<0.0010
MN-2.5	17/08/2014 13:15	M	3.3	124	7.64	8.03	124.2	182	3.3	12.58	94.3	37.3	97.8	90.4	90	0.95	0.19	1.7	0.021	<0.0050	0.043	8.92	0.0274	<0.00050	0.00042	0.0415	<0.00010	<0.0010
MN-2.5	20/09/2014 13:10	M	<1.0	111	7.63	7.94	116.4	181	1.6	12.86	92	57.5	92	86.2	91.8	0.95	0.17	0.92	0.02	<0.0050	<0.020	10	0.0766	<0.00050	0.00046	0.0392	<0.00010	<0.0010
MN-2.5	11/10/2014 11:45	M	1.3	116	7.94	7.91	120.6	175	-1.3	13.87	81.4	67.8	77.9	84.7	84.4	1.6	0.17	1.17	0.018	<0.0050	0.045	12.1	0.0204	<0.00050	0.00037	0.034	<0.00010	<0.0010
MN-2.5	04/12/2014 14:45	M	<1.0	172		8.07		255					132	129	129	1.6	0.22	3.8	0.011	<0.0050	0.079	11.5	0.0333	<0.00050	0.00029	0.0602	<0.00010	<0.0010
MN-2.5	26/05/2015 14:15	M	3.6	92	7.79	7.82	74.2	137	0.8	13.82	96.7	138.4	70.7	67.1	64.5	1.5	0.16	<0.50	0.055	<0.0050	<0.020	7.6	0.0536	<0.00050	0.00033	0.03	<0.00010	<0.0010
MN-2.5	23/06/2015 16:25	M	3.5	122	7.48	8.13	119.4	200	4.2	11.17	85.7	78	101	98.5	100	1	0.21	3.78	0.017	<0.0050	0.041		0.214	<0.00050	0.00041	0.0489	<0.00010	<0.0010
MN-2.5	13/07/2015 13:50	M	2.6	98	7.72	7.83	98	165	4.9	11.75	91.8	112.8	81.5	80.2	82.1	0.68	0.17	0.87	0.14	<0.0050	0.025		0.0304	<0.00050	0.00031	0.0319	<0.00010	<0.0010
MN-2.5	30/08/2015 14:30	P	341	116	7.36	7.77	76.8	136	2.1	12.54	91	51.9	96.5	68.8	63.5	1.5	0.17	<0.50	0.04	<0.0050	<0.020	18	5.53	<0.00050	0.00254	0.151	0.00021	<0.0010
MN-2.5	20/09/2015 13:48	P	2.3	122	7.63	8.04	92.6	173	1.8	12.54	90.1	44.3	86.2	84	86	1.4	0.18	0.58	0.025	<0.0050	<0.020	12	0.165	<0.00050	0.00036	0.039	<0.00010	<0.0010
MN-2.5	18/10/2015 15:15	P	10.1	96	7.52	8.04	91.2	176	0	12.92	88.5	-0.2	77	88.3	85.5	1.4	0.17	0.58	0.021	<0.0050	0.034	11.5	0.106	<0.00050	0.00028	0.0313	<0.00010	<0.0010
MN-2.5	26/11/2015 13:55	P	2.5	172	8.58	7.97	113.7	277	-0.1	0.96	6.6	98.60	134	135	121	0.57	0.39	15	0.0098	<0.0050	0.122	6.58	0.0193	<0.00050	0.00031	0.0632	<0.00010	<0.0010
MN-2.5	19/12/2015 15:40	P	44.7	134	8.6	8.28	112.3	253	-0.1	0.72	4.9		129	123	129	1.3	0.21	5.04	0.013	<0.0050	0.046	7.8	0.464	<0.00050	0.00071	0.0802	<0.00010	<0.0010
MN-2.5	29/04/2016 17:45	P	60.0	53.3	7.57	7.78	51	101	0	13.48	92.3	122.9		55.1	48.5	<0.50		1.44	0.0126	<0.0010	<0.0050	23.3	1.02	<0.00010	0.00092	0.0645	0.000047	<0.000050
MN-2.5	28/05/2016 16:35	P	24.0	79.1	7.76	7.80	74.9	149	1.9	13.13	94.9	43.1		75.5	74.9	0.57		2.33	0.0158	<0.0010	0.0204	12.7	0.452	0.00016	0.00071	0.0416	0.000029	<0.000050
MN-2.5	21/06/2016 16:10	P	72.0	101	7.71	7.91	117.8	189	4.5	12.25	95.1	9.3		96.8	95.3	0.60		3.55	0.0174	<0.0010	0.0211	10.1	0.594	0.00010	0.00064	0.0542	0.000022	<0.000050
MN-2.5	04/07/2016 13:25	P	24.0	108	7.73	7.99	119.5	198	4	12.1	92.3	40.4		107	100	0.51		4.21	0.0083	<0.0010	0.0179	8.09	0.269	0.00012	0.00042	0.0446	<0.000020	<0.000050
MN-2.5	04/08/2016 16:05	P	71.3	102	7.9	7.96	205	190	5.3					97.2	97.1	0.64		2.71	0.0165	<0.0010	0.0220	11.5	0.733	<0.00010	0.00062	0.0554	0.000024	<0.000050
MN-2.5	03/09/2016 16:30	P	165	102	7.26	8.01	101.4	184	3.9	11.97	90.9	71.8		98.2	97.7	0.95		2.34	0.0160	<0.0010	0.0091	14.6	0.271	<0.00010	0.00056	0.0461	<0.000020	<0.000050
MN-2.5	10/10/2016 16:25	P	22.0	113	7.43	7.80	106.8	199	-0.1	11.55	78.8	60.2		97.5	114	0.77		3.81	0.0150	<0.0010	0.0596	9.80	0.160	0.00011	0.00041	0.0524	<0.000020	<0.000050
MN-2.5	10/11/2016 13:34	F			7.38		120.8		-0.1	12.49	85.4	41.8																
MN-2.5	12/11/2016 11:05	P	<3.0	117	7.93	7.67	120.3	218	0	13.32	91	14.3		101	117	0.73		4.49	0.0483	<0.0010	0.0490	10.1	0.0160	0.00014	0.00061	0.0611	<0.000020	<0.000050
MN-4.5	06/05/2009	B	52	42	7.35	7.1	47.0	44	-1.5				28.2	25.8	15	1.5	0.08	<0.5	<0.005	0.005	<0.02	27.5	0.322	0.00006	0.0005	0.0338	0.00003	<0.000005
MN-4.5	13/05/2009	B	12	94	7.26	7.3	76.6	57	-1.5				32.9	33.8	25	High DL removed	0.08	<0.5	0.008	0.017	0.11	29.8	0.178	0.00005	0.00045	0.0261	0.00002	<0.000005
MN-4.5	21/05/2009	B	18		7.65	7.8	124.5	96	0.8	9.59	81.8		44.3	47.6				<0.5	<0.005			17.1	0.137	0.00007	0.00046	0.0304	0.00002	<0.000005
MN-4.5	28/05/2009	B	12	110	7.77	7.8	143.9	115	0.0	10.34	89.2		59.6	60.4	53	1.7	0.18	<0.5	<0.005	<0.005	<0.02	19.1	0.123	0.00007	0.00049	0.0344	0.00002	<0.000005
MN-4.5	25/06/2009	B	2	120	7.87	7.9	90.8	150	3.8	13.77	104	134	67.3	66.7	70	0.6	0.25	6.5	<0.005	<0.005	0.05	13.4	0.0309	0.00011	0.00032	0.0346	<0.00001	<0.000005
MN-4.5	28/07/2009	B	<1	120	7.67	8	129.3	210	5	10.95	85.8	163.7	98.8	99.4	99	0.6	0.33	8.5	<0.005	<0.005	0.12	9	0.0098	0.00008	0.00028	0.0453	<0.00001	<0.000005
MN-4.5	29/08/2009	B	1	130	8.02	7.9		177	4.1	11.4	87.7	75.9	84.8	86.5	85	<0.5	0.28	6.2	<0.005	<0.005	0.24	12.7	0.0339	0.0001	0.0004	0.0411	<0.00001	<0.000005

Appendix C - Water Quality Data - McGinty Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T	V-T	Zn-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MN-2.5	29/08/2009	<0.05	<0.000005	20.3	0.0003	0.000103	0.00195	0.109	0.000009	0.0006	5.55	0.0258	<0.00001	0.00064	0.00128		0.5	0.00008	6.37	<0.000005	3.61	0.0956	<3	<0.000002	<0.00001	<0.0005	0.000081	0.0002	0.0005
MN-2.5	29/09/2009	<0.05	0.000007	23	0.0003	0.000114	0.00137	0.105	0.000012	0.0008	6.47	0.0297		0.0007	0.00114		0.53	0.00007	6.38	<0.000005	4.03	0.1	<3	<0.000002	<0.00001	<0.0005	0.000111	<0.0002	0.0005
MN-2.5	23/10/2009	<0.05	<0.000005	23	0.0002	0.000086	0.00122	0.085	0.000006	0.001	6.29	0.0253	<0.00001	0.00074	0.00098		0.64	0.00007	6.72	<0.000005	3.92	0.106	<3	<0.000002	<0.00001	<0.0005	0.000111	<0.0002	0.0005
MN-2.5	27/11/2009	<0.05	0.000008	25.6	0.0002	0.000097	0.00123	0.128	0.000232	0.0012	6.01	0.0344	<0.00001	0.00089	0.0007		0.9	<0.00004	6.99	<0.000005	3.27	0.12	<3	<0.000002	<0.00001	0.0009	0.000147	<0.0002	0.0028
MN-2.5	15/12/2009	<0.05	0.000014	26.2	0.0002	0.000048	0.00162	0.055	0.00142	0.001	7.19	0.0107	<0.00001	0.00077	0.0008		1.05	0.00006	6.06	0.000006	4.09	0.143	<3	<0.000002	<0.00001	<0.0005	0.000122	<0.0002	0.0014
MN-2.5	25/01/2010	<0.05	0.000109	109	0.0007	0.000261	0.00388	0.04	0.000201	0.0073	42.5	0.0445	<0.00001	0.00103	0.00223		8.27	0.00033	35.1	0.000039	27.4	0.545	14	<0.000002	0.00004	0.0012	0.000384	0.0004	0.0044
MN-2.5	22/04/2010	<0.05	0.000036	10.7	0.0003	0.000115	0.00371	0.162	0.000027	0.0006	3.31	0.0108	<0.00001	0.00022	0.00141		1.68	0.00007	3.35	<0.000005	2.13	0.0441	<10	<0.000002	<0.00001	0.0019	0.000032	<0.0002	0.0057
MN-2.5	28/05/2010	<0.05	<0.000005	16.3	0.0001	0.000078	0.00219	0.082	0.000043	0.0005	4.51	0.0159	<0.00001	0.00063	0.0011		0.59	0.00006	4.66	<0.000005	2.88	0.0804	<10	<0.000002	0.00002	<0.0005	0.000103	0.0004	0.0005
MN-2.5	28/06/2010	<0.05	<0.000005	21.1	0.0003	0.000084	0.00162	0.081	0.000029	0.0008	5.69	0.00904		0.00068	0.00115		0.58	0.00007	5.51	<0.000005	3.64	0.107	<10	<0.000002	<0.00001	0.0006	0.000096	0.0003	0.0007
MN-2.5	21/07/2010	<0.05	0.000011	16.8	0.0003	0.000091	0.00253	0.173	0.0001	0.0007	4.32	0.0144	<0.00001	0.00052	0.00124		0.4	0.00007	5.78	<0.000005	2.86	0.0813	<10	<0.000002	<0.00001	0.0013	0.000068	0.0005	0.0014
MN-2.5	18/08/2010	<0.05	0.000123	23.2	0.0045	0.00484	0.0232	7.03	0.00249	0.0018	7.48	0.789	<0.00001	0.00026	0.00872		0.64	0.0001	9.04	0.000009	3.86	0.116	<10	0.000011	<0.00001	0.0427	0.000561	0.0184	0.0203
MN-2.5	15/09/2010	<0.05	0.000014	18.4	0.0004	0.000192	0.00289	0.384	0.000063	<0.0005	5.52	0.0599	<0.00001	0.00057	0.00171		0.44	0.00008	5.95	<0.000005	3.5	0.0903	<10	<0.000002	<0.00001	0.0013	0.000111	0.0006	0.0024
MN-2.5	21/10/2010	<0.05	0.00001	22.4	0.0003	0.000156	0.00184	0.288	0.000023	0.0006	6.45	0.0717	<0.00001	0.00068	0.00124		0.5	0.00007	6.95	<0.000005	3.72	0.107	<10	<0.000002	<0.00001	<0.0005	0.000126	0.0002	0.0008
MN-2.5	11/01/2011	<0.05	0.000054	26.1	0.0002	0.000226	0.00173	0.219	0.000105	0.0011	7.98	0.081	<0.00001	0.00073	0.00108		1.05	0.00007	6.49	0.000019	4.89	0.125	<10	<0.000002	0.00001	<0.0005	0.000087	0.0002	0.0054
MN-2.5	29/04/2011 11:13	<0.05	0.000029	12.4	0.0002	0.000078	0.00187	0.118	0.000009	<0.0005	3.82	0.0168	0.00001	0.00016	0.00096		2.41	0.00006	4.57	<0.000005	1.89	0.0543	<10	<0.000002	<0.00001	0.0005	0.000025	0.0002	0.0028
MN-2.5	19/05/2011 13:10	<0.05	0.000022	9.9	0.001	0.00046	0.0043	1.02	0.0002	<0.0005	2.7	0.11	<0.00001	0.00034	0.0019		1	0.0001	4.18	0.000012	1.5	0.0465	<50	0.000004	<0.0002	0.017	0.00007	0.0018	0.003
MN-2.5	28/06/2011 11:49	<0.05	0.000028	21.2	0.0004	0.000179	0.00304	0.369	0.000104	0.0006	5.92	0.0368	<0.00001	0.00047	0.00181		0.38	0.0001	5.54	<0.000005	3.56	0.0941	<10	<0.000002	0.00002	0.0039	0.000115	0.001	0.0013
MN-2.5	15/07/2011 13:56	<0.3	0.00016	19	0.015	0.0053	0.035	11.7	0.004	0.004	7	0.352	<0.00005	0.0008	0.0133		<1	0.0003	18.4	0.00008	3	0.111	<300	0.00007	<0.001	0.253	0.00058	0.026	0.032
MN-2.5	10/08/2011 17:15	<0.05	0.000074	21.1	0.0065	0.00242	0.0133	5.29	0.00152	0.0023	6.3	0.179	<0.00001	0.00078	0.0063	0.133	0.6	0.00014	11.2	0.000032	3.5	0.103	<50	0.000027	<0.0002	0.135	0.00044	0.0126	0.01
MN-2.5	28/10/2011 11:00	<0.05	0.000011	26.4	0.0003	0.000358	0.00179	0.633	0.000038	0.0006	6.84	0.208	<0.00001	0.0007	0.00134	0.019	0.54	0.0001	7.88	<0.000005	4.09	0.112	<10	<0.000002	<0.00001	0.0023	0.000151	0.0007	0.0006
MN-2.5	19/04/2012	<0.05	0.0000192	16	0.00019	0.0000806	0.00164	0.146	0.0000187	<0.00050	4.58	0.0198	<0.000010	0.000251	0.000837	0.0734	2.25	0.000081	4.94	<0.0000050	2.61	0.0656	<10	<0.0000020	<0.00020	<0.00050	0.0000266	<0.00020	0.00255
MN-2.5	24/05/2012	<0.05	0.0000624	16.3	0.00093	0.000764	0.00507	1.42	0.000504	0.00069	4.85	0.115	<0.000000010	0.000397	0.00281	0.111	0.724	0.000102	5.51	0.0000124	2.71	0.0778	<10	0.0000021	0.00162	0.0154	0.0002	0.00332	0.0044
MN-2.5	14/06/2012	<0.05	0.000127	17.9	0.00247	0.00317	0.015	4.97	0.00157	0.00118	5.71	0.556	<0.000010	0.000289	0.00605	0.205	0.527	0.000138	6.89	0.0000254	3.13	0.0923	<10	0.0000065	<0.00020	0.0365	0.000376	0.0122	0.0141
MN-2.5	12/07/2012	<0.05	0.00002	22.4	0.00046	0.000304	0.0023	0.886	0.00103	0.00056	6.34	0.107	<0.000010	0.000734	0.00159	0.0242	0.467	0.000067	6.41	<0.0000050	3.95	0.105	<10	<0.0000020	<0.00020	0.00364	0.00012	0.00117	0.00125
MN-2.5	06/08/2012	<0.05	0.000016	26.2	0.00056	0.000369	0.00204	1.18	0.000052	0.00071	7.09	0.184		0.000916	0.00166		0.584	0.000117	7.1	<0.0000050	4.22	0.123	<10	<0.0000020	<0.00020	0.003	0.000162	0.00128	0.00082
MN-2.5	07/09/2012	<0.05	<0.000010	23.9	<0.0010	<0.00050	0.00205	0.975	<0.00020	<0.0050	6.69	0.156	<0.000010	<0.0010	0.0017	0.026	0.45	<0.00010	6.44	<0.000020	4.12	0.109	<3.0	<0.000050	<0.0050	<0.0050	0.00015	<0.0050	<0.0050
MN-2.5	01/10/2012	<0.05	0.000022	25.3	<0.0010	<0.00050	0.00231	0.834	0.00021	<0.0050	6.9	0.164	<0.000010	<0.0010	0.0022	0.016	0.506	<0.00010	6.44	<0.000020	4.44	0.122	<3.0	<0.000050	<0.0050	<0.0050	0.00019	<0.0050	0.0106
MN-2.5	27/05/2013	<0.05	0.000011	13.2	0.0019	0.00086	0.00532	1.64	0.00044	<0.0050	4	0.12	<0.000010	<0.0010	0.003	0.1	1.28	0.0001	5.44	<0.000020	2.18	0.0617	<3.0	<0.000050	<0.0050	0.045	0.00012	<0.0050	<0.0050
MN-2.5	17/06/2013	<0.05	<0.000010	20.7	0.002	0.00067	0.00424	1.73	0.00041	<0.0050	5.85	0.0673	<0.000010	<0.0010	0.0028	0.064	0.785	0.00019	7.35	<0.000020	3.8	0.106	<3.0	<0.000050	<0.0050	0.0514	0.00018	<0.0050	<0.0050
MN-2.5	15/07/2013	<0.05	0.000013	24.4	<0.0010	<0.00050	0.00225	0.394	<0.00020	<0.0050	6.45	0.0578	<0.000010	<0.0010	0.0013	0.019	0.724	<0.00010	7.03	<0.000020	4.14	0.126	<3.0	<0.000050	<0.0050	<0.0050	0.00015	<0.0050	<0.0050
MN-2.5	28/08/2013	<0.05	0.000008	21.2	0.00053	0.000262	0.00266	0.696	0.000076	0.00076	6.18	0.0936	<0.000010	0.000748	0.00168	0.021	0.453	0.000093	6.52	<0.0000050	4.06	0.104	5.7	<0.0000020	<0.00020	0.00337	0.000145	0.00114	0.00239
MN-2.5	11/09/2013 14:00	<0.05	<0.000010	24.4	<0.0010	<0.00050	0.00222	0.744	<0.00020	<0.0050	7.22	0.125	<0.000010	<0.0010	0.0015	0.015	0.567	0.00014	6.83	<0.000020	4.55	0.117	<3.0	<0.000050	<0.0050	<0.0050	0.00013	<0.0050	<0.0050
MN-2.5	16/10/2013 14:45																												
MN-2.5	16/10/2013 14:45	<0.05	<0.000010	23.4	<0.0010	<0.00050	0.00209	0.555	<0.00020	<0.0050	6.87	0.121	<0.000010	<0.0010	0.0016	0.022	0.503	<0.00010	7.24	<0.000020	4.34	0.115	<3.0	<0.000050	<0.0050	<0.0050	0.00017	<0.0050	<0.0050
MN-2.5	16/05/2014 13:50	<0.05	0.000046	17.8	0.0053	0.00188	0.00858	4.11	0.00144	<0.0050	5.92	0.12	<0.000010	<0.0010	0.0058	0.203	1.29	0.00013	10.7	0.000027	3	0.0846	<3.0	<0.000050	<0.0050	0.133	0.00026	0.0103	0.0148
MN-2.5	03/06/2014 11:30	<0.05	0.000014	18.3	<0.0010	<0.00050	0.00359	0.516	<0.00020	<0.0050	5.6	0.0521	<0.000010	<0.0010	0.0017	0.03	0.612	<0.00010	5.48	<0.000020	3.8	0.0881	<3.0	<0.000050	<0.0050	0.0075	0.00012	<0.0050	0.0052
MN-2.5	26/07/2014 12:45	<0.05	<0.000010	23.9	<0.0010	<0.00050	0.00197	0.444	<0.00020	<0.0050	6.55	0.0609	<0.000010	<0.0010	0.0014	0.019	0.706	0.00012	6.64	<0.000020	4.1	0.116	<3.0	<0.000050	<0.0050	0.0072	0.00015	<0.0050	<0.0050
MN-2.5	17/08/2014 13:15	<0.05	<0.000010	26.5	<0.0010	<0.00050	0.00148	0.24	<0.00020	<0.0050	7.65	0.0745	<0.000010	0.0011	0.0013	<0.01	0.939	<0.00010	7.08	<0.000020	4.53	0.132	<3.0	<0.000050	<0.0050	<0.0050	0.00019	<0.0050	<0.0050
MN-2.5	20/09/2014 13:10	<0.05	0.000015	24.7	<0.0010	<0.00050	0.00481	0.351	<0.00020	<0.0050	7.37	0.0806	<0.000010	<0.0010	0.0016	0.029	0.807	0.00011	6.56	<0.000020	6.2	0.123	<3.0	<0.000050	<0.0050	<0.0050	0.00017	<0.0050	0.0093
MN-2.5	11/10/2014 11:45	<0.05	<0.000010	20.1	<0.0010	<0.00050	0.00155	0.312	<0.00020	<0.0050	6.71	0.0707	<0.000010	<0.0010	0.0011	<0.01	0.574	0.00013	4.79	<0.000020	3.88	0.112	<3.0	<0.000050	<0.0050	<0.0050	0.00015	<0.0050	<0.0050
MN-2.5	04/12/2014 14:45	<0.05	<0.000010	36	<0.0010	<0.00050	0.0101	0.063	<0.00020	<0.0050	10.3	0.0164	<0.000010	<0.0010	0.0012	0.031	1.87	<0.00010	8.19	<0.000020	5.82	0.183	<3.0	<0.000050	<0.0050	<0.0050	0.00029	<0.0050	<0.0050
MN-2.5	26/05/2015 14:15	<0.05	<0.000010	19	<0.0010	<0.00050	0.00189	0.197	<0.00020	<0.0050	5.66	0.0649	<0.000010	<0.0010	0.001	0.024	0.896	<0.00010	5.12	<0.000020	3.63	0.0884	<3.0	<0.000050	<0.0050	<0.0050	0.00013	<0.0050	<0.0050
MN-2.5	23/06/2015 16:25	<0.05	<0.000010	28.2	<0.0010	<0.00050	0.00164	0.468	<0.00020	<0.0050	7.41	0.0583	<0.000010	0.001	0.0011	0.065	0.901	<0.00010	7.12	<0.000020	4.24	0.139	4.7	<0.000050	<0.0050	0.0077	0.00026	<0.0050	<0.0050
MN-2.5	13/07/2015 13:50	<0.05	<0.000010	22.9	<0.0010	<0.00050	0.00142	0.172	<0.00020	<0.0050	5.91	0.0276	<0.000010	<0.0010	<0.0010	<0.01	0.628	<0.00010	6.7	<0.000020	3.75	0.108	<3.0	<0.000050	<0.0050	<0.0050	0.00012	<0.0050	<0.0050
MN-2.5	30/08/2015 14:30	<0.05	0.000062	25.2	0.0108	0.00396	0.0136	8.39	0.00255	<0.0050	8.16	0.296	<0.000010	<0.0010	0.011	0.396	0.908	0.00027	17.5	<0.000020	4.41	0.111	<3.0	<0.000050	<0.0050	0.228	0.00052	0.0163	0.0189
MN-2.5	20/09/2015 13:48	<0.05	<0.000010	24	<0.0010	<0.00050	0.00268	0.439	<0.00020	<0.0050	6.36	0.0711	<0.000010	<0.0010	0.0014	0.032	0.658	<0.00010	6.94	<0.000020	4.7	0.12	<3.0	<0.000050	<0.0050	0.008	0.00017	<0.0050	<0.0050
MN-2.5	18/10/2015 15:15	<0.05	<0.000010	21.3	<0.0010	<0.00050	0.00205	0.302	<0.00020	<0.0050	5.76	0.055	<0.000010	<0.0010	0.001	0.015	0.494	<0.00010	6.21	<0.000020	3.69	0.0951	<3.0	<0.000050	<0.0050	<0.0050	0.00011	<0.0050	0.0071
MN-2.5	26/11/2015 13:55	<0.05	<0.000010	37.6	<0.0010	<0.00050	0.00108	0.062	<0.00020	<0.0050	9.64	0.0085	<0.000010	0.0011	<0.0010	0.012	1.01	0.0002	6.97	<0.000020	7.58	0.269	4.8	<0.000050	<0.0050	<0.0050	0.0007	<0.0050	<0.0050
MN-2.5	19/12/2015 15:40	<0.05	<0.000010	35.3	0.0012	<0.00050	0.00342	1.3	0.00031	<0.0050	9.93	0.0784	<0.000010	<0.0010	0.0017	0.043	1.28	<0.00010	8.54	0.000024	5.71	0.179	<3.0	<0.000050	<0.0050	0.0233	0.00019	<0.0050	<0.0050
MN-2.5	29/04/2016 17:45	<0.010	0.0000180	15.2	0.00194	0.00118	0.00520	1.83	0.000447	0.0015	4.57	0.334	0.0000105	0.000433	0.00324	0.132	0.99	0.000117	6.55	<0.000010	2.29	0.0696	0.74	<0.000010	<0.00010	0.0423	0.000117	0.00380	0.0056
MN-2.5	28/05/2016 16:35	<0.010	0.0000081	20.0	0.00120	0.00041	0.00269	0.724	0.000202	<0.0010	5.92	0.0470	<0.0000050	0.000686	0.00213	<0.050	0.75	0.000129	5.98	0.000016	3.80	0.0977	0.95	<0.000010	<0.00010	0.0185	0.000163	0.00192	<0.0030
MN-2.5	21/06/2016 16:10	<0.010	0.0000056	25.9	0.00124	0.00048	0.00240	0.905	0.000239	<0.0010	7.29	0.0584	<0.0000050	0.000804	0.00201	<0.050	0.85	0.000086	6.75	<0.000010	4.46	0.127	1.34	<0.000010	<0.00010	0.0223	0.000236	0.00235	<0.0030
MN-2.5	04/07/2016 13:25	<0.010	0.0000063	26.4	0.00070	0.00026	<0.0020	0.406	0.000116	0.0012	7.21	0.0498	<0.0000050	0.000879	0.00128	<0.050	0.88	0.000092	6.38	<0.000010	3.99	0.129	1.60	<0.000010	<0.00010	0.0102	0.000252	0.00125	<0.0030
MN-2.5	04/08/2016 16:05	<0.010	0.0000082	25.8	0.00147	0.00051	0.00240	0.931	0.000318	0.0012	7.19	0.0875	<0.0000050	0.000759	0.00205	<0.050	0.78	0.000086	7.38	<0.000010	4.57	0.125	1.07	<0.000010	<0.00010	0.0269	0.000208	0.00241	0.0041
MN-2.5	03/09/2016 16:30	<0.010	0.0000050	25.6	0.00074	0.00031	0.00215	0.524	0.000116	<0.0010	7.40	0.0661	<0.0000050	0.000701	0.00156	<0.050	0.63	0.000127	6.66	<0.000010	4.32	0.116	1.03	<0.000010	<0.00010	0.0114	0.000176	0.00136	<0.0030
MN-2.5	10/10/2016 16:25	<0.010	0.0000141	28.2	0.00053	0.00026	0.00559	0.399	0.000100	<0.0010	7.57	0.123	<0.0000050	0.000804	0.00141	<0.050	0.94	0.000066	6.99	<0.000010	4.45	0.144	1.33	<0.000010	<0.00010	0.00783	0.000167	0.00088	<0.0030
MN-2.5	10/11/2016 13:34																												
MN-2.5	12/11/2016 11:05	<0.010	0.0000083	28.7	0.00027	0.00044	0.00150	0.499	<0.000050	0.0011	8.45	0.448	<0.0000050	0.00105	0.00158	<0.050	1.02	0.000080	7.09	<0.000010	5.10	0.149	1.74	<0.000010	<0.00010	0.00064	0.000186	0.00051	<0.0030
MN-4.5	06/05/2009	<0.05	0.000031	7.63	0.0006	0.000532	0.00398	0.617	0.000254	<0.0005	2.22	0.0623	<0.00001	0.00014	0.00193		1.35	0.00006	2.09	0.000008	0.93	0.0396	<3	<0.000002	<0.00001	0.0093	0.000082	0.0015	0.0062
MN-4.5	13/05/2009	<0.05	0.000007	8.98	0.0005	0.00019	0.00358	0.342	0.000055	<0.0005	2.55	0.0151	<0.00001	0.00022	0.0019		1.01	0.00013	3.46	<0.000005	1.44	0.0471	<3	<0.000002	<0.00001	0.0035	0.000087	0.0008	0.0018
MN-4.5	21/05/2009	<0.05	0.000073	12.1	0.0004	0.000261	0.00286	0.331	0.000155	0.0006	3.42	0.0347	<0.00001	0.00043	0.0016		0.81	0.00012	3.81	0.000006	2.39	0.0786	<3	<0.000002	<0.00001	0.0038	0.0002	0.0011	0.003
MN-4.5	28/05/2009	<0.05	0.00001	16.7	0.0004	0.00022	0.00287	0.314	0.000105	0.0005	4.34	0.0254		0.0005	0.0018		0.74	0.00011	4.55	<0.000005	3.04	0.0975	<3	0.000002	<0.00001	0.0046	0.000183	0.0011	0.0024
MN-4.5	25/06/2009	<0.05	<0.000005	18.9	0.0001	0.00008	0.00207	0.071	0.000158	0.0009	4.9	0.0028	<0.00001	0.00087	0.00109		0.54	0.00016	4.74	<0.000005	3.84	0.132	<3	<0.000002	<0.00001	0.0009	0.000296	0.0005	0.0005
MN-4.5	28/07/2009	<0.05	<0.000005	28.6	<0.0001	0.000043	0.00173	0.019	0.000011	0.001	6.65	0.00168	<0.00001	0.00099	0.00061		0.83	0.00018	6.2	<0.000005	4.92	0.171	4	<0.000002	<0.00001	<0.0005	0.00115	0.0005	0.0004
MN-4.5	29/08/2009	<0.05	0.000026	24	0.0003	0.000085	0.00221	0.081	0.000053	0.001	6.06	0.00423	<0.00001	0.00089	0.00111		0.66	0.00015	6.32	<0.000005	4.51	0.148	<3	<0.000002	<0.00001	0.0012	0.000351	0.0005	0.0008

Appendix C - Water Quality Data - McGinty Creek

Stn.Code	Smpl Date	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D	Se-D	Si-D	Ag-D	Na-D	Sr-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MN-2.5	29/08/2009	0.0003	0.0182	0.00009	0.00033	0.0335	0.00001	<0.000005	<0.05	0.000023	21.2	0.0003	0.00009	0.00185	0.1	0.000032	0.0008	5.49	0.0237	<0.00001	0.00063	0.00117		0.54	0.00008	6.4	<0.000005	4.35	0.101
MN-2.5	29/09/2009	0.0003	0.0106	0.00008	0.00034	0.0345	<0.00001	<0.000005	<0.05	0.000006	23.7	0.0002	0.000119	0.00138	0.095	0.000009	0.0007	6.36	0.0286		0.00068	0.00116		0.54	0.00006	6.55	<0.000005	4.03	0.105
MN-2.5	23/10/2009	0.0002	0.0094	0.00006	0.00027	0.0336	<0.00001	<0.000005	<0.05	<0.000005	23.7	0.0002	0.000066	0.00125	0.067	<0.000005	0.001	6.5	0.0244	<0.00001	0.00075	0.00096		0.67	0.00008	6.17	<0.000005	4.06	0.107
MN-2.5	27/11/2009	0.0002	0.0078	0.00006	0.0002	0.0386	<0.00001	<0.000005	<0.05	<0.000005	25.7	0.0002	0.000059	0.00123	0.048	0.000033	0.0011	6.49	0.0149	<0.00001	0.00094	0.00073		0.92	0.00007	7.07	<0.000005	3.69	0.126
MN-2.5	15/12/2009	0.0002	0.009	0.00009	0.00024	0.0499	<0.00001	<0.000005	<0.05	0.000011	27.8	0.0002	0.000054	0.00157	0.036	0.00007	0.0011	7.58	0.00954	<0.00001	0.00079	0.00077		1.07	0.00006	5.96	<0.000005	4.27	0.143
MN-2.5	25/01/2010	0.0005	0.0234	0.00022	0.00149	0.156	0.00002	0.000016	<0.05	0.000058	116	0.0007	0.000314	0.00448	0.036	0.000822	0.0078	46.3	0.0476	0.00001	0.00117	0.00376		8.78	0.00038	38.8	0.000013	29.5	0.591
MN-2.5	22/04/2010	0.0004	0.0957	0.00005	0.0003	0.0218	0.00001	<0.000005	<0.05	0.000026	10	0.0002	0.000092	0.00291	0.141	0.000027	<0.0005	2.94	0.00886	0.00002	0.00022	0.00114		1.55	0.00007	2.99	<0.000005	1.61	0.0443
MN-2.5	28/05/2010	0.0002	0.0091	0.00007	0.0003	0.0298	0.00001	<0.000005	<0.05	<0.000005	17.2	0.0002	0.000069	0.00149	0.035	0.000008	0.0005	4.99	0.0098		0.00062	0.00108		0.64	0.00007	4.42	<0.000005	3.21	0.0819
MN-2.5	28/06/2010	0.0002	0.0095	0.00009	0.0003	0.0342	<0.00001	<0.000005	<0.05	0.000006	22	0.0002	0.000061	0.00159	0.049	0.000044	0.0007	5.92	0.00652		0.0007	0.00114		0.6	0.00007	5.87	<0.000005	3.75	0.106
MN-2.5	21/07/2010	0.0003	0.0324	0.00011	0.00041	0.0336	<0.00001	<0.000005	<0.05	0.000028	16.9	0.0003	0.000117	0.00299	0.141	0.000288	0.0007	4.61	0.0139		0.00054	0.0015		0.42	0.00007	5.74	<0.000005	3.08	0.0839
MN-2.5	18/08/2010	0.0013	0.05	0.00011	0.00048	0.0433	0.00002	<0.000005	<0.05	0.000006	20.8	0.0004	0.000157	0.00309	0.256	0.000022	0.0006	5.56	0.0168		0.00054	0.00147		0.49	0.0001	6.4	<0.000005	3.61	0.0911
MN-2.5	15/09/2010	0.0004	0.0313	0.00009	0.00048	0.0394	0.00001	<0.000005	<0.05	0.000009	21.8	0.0005	0.000184	0.00276	0.315	0.000058	0.0006	5.88	0.0603		0.00059	0.00148		0.47	0.0001	7.24	<0.000005	3.56	0.0937
MN-2.5	21/10/2010	0.0003	0.0265	0.00007	0.00038	0.0409	<0.00001	<0.000005	<0.05	0.000011	22.7	0.0004	0.000165	0.00189	0.226	0.000013	0.0007	6.69	0.0757		0.00067	0.00135		0.51	0.00007	6.98	<0.000005	3.84	0.103
MN-2.5	11/01/2011	0.0004	0.0071	0.00009	0.00035	0.0508	<0.00001	<0.000005	<0.05	0.000068	25.9	0.0002	0.000213	0.00162	0.087	0.000071	0.0012	7.35	0.0774	<0.00001	0.00069	0.00092		1.08	0.00006	6.2	0.000009	4.6	0.132
MN-2.5	29/04/2011 11:13	0.0002	0.0264	0.00003	0.00036	0.0231	<0.00001	<0.000005	<0.05	0.000026	11.9	0.0002	0.000085	0.00172	0.107	0.000046	<0.0005	3.62	0.0148	<0.00001	0.00016	0.0009		2.34	0.00006	4.25	0.000006	1.81	0.0545
MN-2.5	19/05/2011 13:10	0.0004	0.0663	0.00005	0.00044	0.0234	0.00001	<0.000005	<0.05	0.000026	8.76	0.0003	0.000193	0.00413	0.282	0.000053	<0.0005	2.37	0.0542		0.00031	0.00145		0.87	0.00008	3.36	<0.000005	1.37	0.0405
MN-2.5	28/06/2011 11:49	0.0004	0.0291	0.00012	0.00047	0.0386	0.00001	<0.000005	<0.05	0.000014	22.7	0.0004	0.000114	0.00272	0.218	0.000069	<0.0005	6.29	0.019	<0.00001	0.00053	0.00188		0.44	0.00011	5.9	0.000005	3.68	0.0942
MN-2.5	15/07/2011 13:56	0.0011	0.0747	0.00014	0.0006	0.0405	0.00002	<0.000005	<0.05	0.000011	15	0.0005	0.00031	0.00463	0.361	0.00009	<0.0005	4.22	0.0374		0.00043	0.0017		0.27	0.00009	6.11	<0.000005	3	0.0699
MN-2.5	10/08/2011 17:15	0.0008	0.0441	0.00011	0.00067	0.0426	0.00001	<0.000005	<0.05	0.000017	17.3	0.0004	0.000329	0.003	0.592	0.000051	0.0005	4.78	0.0789		0.00058	0.00148	0.013	0.32	0.00008	5.93	<0.000005	3.11	0.082
MN-2.5	28/10/2011 11:00	0.0003	0.0169	0.00006	0.00042	0.044	<0.00001	<0.000005	<0.05	0.000006	24.3	0.0003	0.000307	0.0015	0.365	0.000012	0.0007	6.39	0.193	<0.00001	0.0007	0.00113	0.012	0.54	0.00009	6.92	<0.000005	3.8	0.113
MN-2.5	19/04/2012	0.00015	0.0147	0.000033	0.000426	0.0254	<0.000010	<0.0000050	<0.05	0.0000238	14.8	0.00022	0.0000768	0.00175	0.12	0.0000183	0.00052	4.62	0.0192	<0.000010	0.000221	0.000784	0.0638	2.18	0.00006	4.68	0.000006	2.46	0.0665
MN-2.5	24/05/2012	0.00045	0.0268	0.000084	0.000534	0.0352	0.000012	<0.0000050	<0.05	0.000017	16.5	0.00031	0.000202	0.00254	0.543	0.0000286	<0.00050	4.67	0.0542	<0.000010	0.00054	0.00147	0.0166	0.709	0.000128	5.53	<0.0000050	2.78	0.0729
MN-2.5	14/06/2012	0.00084	0.0283	0.000084	0.000547	0.035	<0.000010	<0.0000050	<0.05	0.000012	16.3	0.00036	0.000209	0.00264	0.469	0.0000335	<0.00050	4.7	0.0365	<0.000010	0.000585	0.00147	0.0163	0.453	0.000094	5.78	<0.0000050	3.1	0.0736
MN-2.5	12/07/2012	0.00037	0.0215	0.000079	0.000656	0.0392	<0.000010	<0.0000050	<0.05	0.000018	22.1	0.00036	0.000224	0.0021	0.632	0.000032	0.00056	6.33	0.0937	<0.000010	0.000759	0.00132	0.0169	0.466	0.000102	6.27	<0.0000050	3.97	0.105
MN-2.5	06/08/2012	0.00035	0.0204	0.00007	0.000777	0.045	0.000012	<0.0000050	<0.05	<0.0000050	25.8	0.00037	0.00031	0.0017	0.867	0.000019	0.00069	6.99	0.174		0.000859	0.00155		0.55	0.00013	6.85	<0.0000050	4.21	0.119
MN-2.5	07/09/2012	<0.00050	0.025	<0.00050	0.00073	0.0454	<0.00010	<0.0010	<0.05	<0.000010	25.1	<0.0010	<0.00050	0.00279	0.733	<0.00020	<0.0050	7.35	0.157	<0.000010	<0.0010	0.0015	0.02	0.508	<0.00010	6.82	<0.000020	4.63	0.116
MN-2.5	01/10/2012	<0.00050	0.0169	<0.00050	0.00068	0.0405	<0.00010	<0.0010	<0.05	<0.000010	23.2	<0.0010	<0.00050	0.00193	0.553	<0.00020	<0.0050	6.91	0.146	<0.000010	<0.0010	0.0016	0.017	0.496	<0.00010	6.42	<0.000020	4.2	0.113
MN-2.5	27/05/2013	<0.00050	0.0306	<0.00050	0.00038	0.0264	<0.00010	<0.0010	<0.05	<0.000010	12.3	<0.0010	<0.00050	0.00259	0.223	<0.00020	<0.0050	3.6	0.0813	<0.000010	<0.0010	0.0011	0.022	1.13	<0.00010	3.47	<0.000020	2.13	0.0608
MN-2.5	17/06/2013	<0.00050	0.0142	<0.00050	0.00044	0.0353	<0.00010	<0.0010	<0.05	<0.000010	18.7	<0.0010	<0.00050	0.00191	0.341	<0.00020	<0.0050	5.36	0.0327	<0.000010	<0.0010	0.0013	0.013	0.648	<0.00010	5.7	<0.000020	3.48	0.0887
MN-2.5	15/07/2013	<0.00050	0.0139	<0.00050	0.00042	0.0387	<0.00010	<0.0010	<0.05	<0.000010	23.7	<0.0010	<0.00050	0.00164	0.262	<0.00020	<0.0050	6.26	0.0488	<0.000010	<0.0010	0.0019	0.012	0.661	<0.00010	6.96	<0.000020	3.81	0.11
MN-2.5	28/08/2013	0.00036	0.0217	0.000092	0.000561	0.0392	<0.000010	<0.0000050	<0.05	0.00001	22.2	0.00038	0.000055	0.00309	0.334	0.000039	0.00057	6.04	0.00131	<0.000010	0.000741	0.00164	0.0107	0.477	0.000099	6.57	0.000005	3.91	0.105
MN-2.5	11/09/2013 14:00	<0.00050	0.0197	<0.00050	0.00063	0.0418	<0.00010	<0.0010	<0.05	<0.000010	22.3	<0.0010	<0.00050	0.00201	0.543	<0.00020	<0.0050	6.53	0.115	<0.000010	<0.0010	0.0015	0.015	0.582	0.0001	5.97	<0.000020	3.96	0.108
MN-2.5	16/10/2013 14:45																												
MN-2.5	16/10/2013 14:45	<0.00050	0.0148	<0.00050	0.0005	0.0361	<0.00010	<0.0010	<0.05	<0.000010	22.4	<0.0010	<0.00050	0.00178	0.322	<0.00020	<0.0050	6.08	0.105	<0.000010	<0.0010	0.0013	0.011	0.488	<0.00010	6.49	<0.000020	3.94	0.103
MN-2.5	16/05/2014 13:50	0.00064	0.0182	<0.00050	0.00039	0.0314	<0.00010	<0.0010	<0.05	<0.000010	14.5	<0.0010	<0.00050	0.00253	0.194	<0.00020	<0.0050	4.38	0.057	<0.000010	<0.0010	0.0014	0.017	0.891	0.00012	4.1	<0.000020	2.67	0.0722
MN-2.5	03/06/2014 11:30	<0.00050	0.0139	<0.00050	0.00042	0.0302	<0.00010	<0.0010	<0.05	<0.000010	17.9	<0.0010	<0.00050	0.00222	0.218	<0.00020	<0.0050	5.32	0.026	<0.000010	<0.0010	0.0014	0.014	0.592	<0.00010	4.98	<0.000020	3.54	0.0839
MN-2.5	26/07/2014 12:45	<0.00050	0.0104	<0.00050	0.00039	0.036	<0.00010	<0.0010	<0.05	<0.000010	21.9	<0.0010	<0.00050	0.00147	0.214	<0.00020	<0.0050	6.77	0.048	<0.000010	<0.0010	0.0011	0.011	0.611	<0.00010	5.99	<0.000020	4.05	0.105
MN-2.5	17/08/2014 13:15	<0.00050	0.0083	<0.00050	0.00037	0.0394	<0.00010	<0.0010	<0.05	<0.000010	25.3	<0.0010	<0.00050	0.00129	0.166	<0.00020	<0.0050	6.61	0.0683	<0.000010	<0.0010	0.001	<0.01	0.841	<0.00010	6.72	<0.000020	3.81	0.123
MN-2.5	20/09/2014 13:10	<0.00050	0.0102	<0.00050	0.00038	0.0375	<0.00010	<0.0010	<0.05	<0.000010	23.5	<0.0010	<0.00050	0.00137	0.187	<0.00020	<0.0050	6.69	0.0728	<0.000010	<0.0010	0.0011	<0.01	0.757	<0.00010	6.28	<0.000020	4.13	0.115
MN-2.5	11/10/2014 11:45	<0.00050	0.011	<0.00050	0.00043	0.0347	<0.00010	<0.0010	<0.05	<0.000010	22.9	<0.0010	<0.00050	0.00151	0.193	<0.00020	<0.0050	6.7	0.0672	<0.000010	<0.0010	0.0011	<0.01	0.542	<0.00010	6.07	<0.000020	4.17	0.109
MN-2.5	04/12/2014 14:45	<0.00050	0.0086	<0.00050	0.00029	0.0629	<0.00010	<0.0010	<0.05	0.000011	35.1	<0.0010	<0.00050	0.00174	0.023	<0.00020	<0.0050	10.1	0.0155	<0.000010	0.001	<0.0010	0.018	1.84	<0.00010	8.32	<0.000020	5.86	0.194
MN-2.5	26/05/2015 14:15	<0.00050	0.0097	<0.00050	0.00029	0.0295	<0.00010	<0.0010	<0.05	<0.000010	18.6	<0.0010	<0.00050	0.00161	0.0665	<0.00020	<0.0050	4.99	0.0532	<0.000010	<0.0010	0.0011	0.01	0.865	<0.00010	4.59	<0.000020	3.48	0.0862
MN-2.5	23/06/2015 16:25	<0.00050	0.0065	<0.00050	0.0003	0.0426	<0.00010	<0.0010	<0.05	<0.000010	27.9	<0.0010	<0.00050	0.00107	0.054	<0.00020	<0.0050	7.02	0.0186	<0.000010	0.001	<0.0010	<0.01	0.889	<0.00010	6.93	<0.000020	3.92	0.133
MN-2.5	13/07/2015 13:50	<0.00050	0.0099	<0.00050	0.00032	0.0324	<0.00010	<0.0010	<0.05	<0.000010	22.1	<0.0010	<0.00050	0.00166	0.0838	<0.00020	<0.0050	6.07	0.0207	<0.000010	<0.0010	<0.0010	<0.01	0.65	<0.00010	6.32	<0.000020	3.88	0.103
MN-2.5	30/08/2015 14:30	0.00114	0.0351	<0.00050	0.00049	0.0376	<0.00010	<0.0010	<0.05	<0.000010	18.3	<0.0010	<0.00050	0.00338	0.288	<0.00020	<0.0050	5.6	0.0862	<0.000010	<0.0010	0.0015	0.013	0.363	<0.00010	6.29	<0.000020	3.95	0.0844
MN-2.5	20/09/2015 13:48	<0.00050	0.0147	<0.00050	0.0004	0.0341	<0.00010	<0.0010	<0.05	<0.000010	22.8	<0.0010	<0.00050	0.00191	0.194	<0.00020	<0.0050	6.55	0.0621	<0.000010	<0.0010	0.0012	<0.01	0.578	<0.00010	6.28	<0.000020	4.14	0.107
MN-2.5	18/10/2015 15:15	<0.00050	0.0171	<0.00050	0.00039	0.0344	<0.00010	<0.0010	<0.05	0.00001	24.6	<0.0010	<0.00050	0.00159	0.187	<0.00020	<0.0050	6.5	0.0649	<0.000010	<0.0010	0.001	0.011	0.57	<0.00010	6.9	<0.000020	4.24	0.109
MN-2.5	26/11/2015 13:55	<0.00050	0.0091	<0.00050	0.00032	0.0622	<0.00010	<0.0010	<0.05	<0.000010	37.9	<0.0010	<0.00050	0.00071	0.0225	<0.00020	<0.0050	9.73	0.0054	<0.000010	0.0011	<0.0010	<0.01	0.98	0.00019	7	<0.000020	7.53	0.275
MN-2.5	19/12/2015 15:40	<0.00050	0.0121	<0.00050	0.0003	0.0618	<0.00010	<0.0010	<0.05	<0.000010	32.8	<0.0010	<0.00050	0.00208	0.0228	<0.00020	<0.0050	9.96	0.0071	<0.000010	<0.0010	<0.0010	<0.01	1.22	<0.00010	7.7	<0.000020	5.76	0.162
MN-2.5	29/04/2016 17:45	0.00040	0.0357	<0.00010	0.00041	0.0264	<0.000020	<0.000050	<0.010	0.0000064	15.0	0.00036	0.00012	0.00349	0.158	<0.000050	<0.0010	4.27	0.0214	0.0000073	0.000412	0.00135	<0.050	0.96	0.000093	4.88	<0.000010	2.27	0.0640
MN-2.5	28/05/2016 16:35	<0.00030	0.0127	<0.00010	0.00035	0.0357	<0.000020	<0.000050	<0.010	<0.0000050	20.7	0.00026	0.00014	0.00183	0.124	<0.000050	<0.0010	5.76	0.0359	<0.0000050	0.000625	0.00138	<0.050	0.64	0.000087	5.27	<0.000010	3.82	0.0961
MN-2.5	21/06/2016 16:10	<0.00030	0.0112	<0.00010	0.00040	0.0478	<0.000020	<0.000050	<0.010	<0.0000050	26.8	0.00020	0.00017	0.00181	0.121	<0.000050	<0.0010	7.23	0.0488	<0.0000050	0.000765	0.00119	<0.050	0.74	0.000083	5.87	<0.000010	4.62	0.126
MN-2.5	04/07/2016 13:25	<0.00030	0.0071	<0.00010	0.00032	0.0433	<0.000020	<0.000050	<0.010	<0.0000050	30.4	0.00017	0.00011	0.00121	0.060	<0.000050	<0.0010	7.64	0.0448	<0.0000050	0.000868	0.00086	<0.050	0.87	0.000065	6.33	<0.000010	4.13	0.133
MN-2.5	04/08/2016 16:05	<0.00030	0.0115	<0.00010	0.00042	0.0472	<0.000020	<0.000050	<0.010	<0.0000050	26.9	0.00024	0.00021	0.00147	0.106	<0.000050	0.0011	7.29	0.0801	<0.0000050	0.000802	0.00119	<0.050	0.76	0.000072	6.42	<0.000010	4.77	0.131
MN-2.5	03/09/2016 16:30	<0.00030	0.0128	<0.00010	0.00046	0.0459	<0.000020	<0.000050	<0.010	<0.0000050	26.9	0.00029	0.00019	0.00160	0.159	<0.000050	<0.0010	7.54	0.0652	<0.0000050	0.000679	0.00132	<0.050	0.59	0.000113	6.51	<0.000010	4.59	0.120
MN-2.5	10/10/2016 16:25	<0.00030	0.0086	<0.00010	0.00032	0.0486	<0.000020	<0.000050	<0.010	0.0000052	26.9	0.00022	0.00014	0.00200	0.112	<0.000050	<0.0010	7.34	0.104	<0.0000050	0.000757	0.00111	<0.050	0.95	0.000083	6.73	<0.000010	4.31	0.136
MN-2.5	10/11/2016 13:34																												
MN-2.5	12/11/2016 11:05	<0.00030	0.0060	<0.00010	0.00055	0.0610	<0.000020	<0.000050	<0.010	0.0000070	26.9	0.00020	0.00041	0.00131	0.332	<0.000050	0.0010	8.16	0.421	<0.0000050	0.000949	0.00143	<0.050	0.95	0.000056	6.74	<0.000010	4.92	0.139
MN-4.5	06/05/2009	0.0005	0.138	0.00007	0.00028	0.0214	0.00002	<0.000005	<0.05	0.000041	7.03	0.0003	0.000212	0.00303	0.164	0.00006	<0.0005	2.01	0.0278	0.00001	0.00017	0.00124		1.33	0.00006	1.76	<0.000005	0.91	0.0368
MN-4.5	13/05/2009	0.0006	0.144	0.00006	0.00036	0.0249	0.00003	<0.000005	<0.05	0.000012	9.3	0.0004	0.000154	0.00359	0.252	0.000021	<0.0005	2.57	0.00575	0.00001	0.0002	0.00184		1.02	0.0001	3.25	<0.000005	1.46	0.0495
MN-4.5	21/05/2009	0.0004	0.046	0.00007	0.00038	0.027	0.00002	<0.000005	<0.05	0.00003	13.1	0.0003	0.000133	0.00247	0.14	0.000071	0.0005	3.61	0.0127	<0.00001	0.00046	0.00166		0.88	0.00012	3.86	<0.000005	2.62	0.0812
MN-4.5	28/05/2009	0.0004	0.0297	0.00008	0.00045	0.0306	0.00001	<0.000005	<0.05	<0.000005	16.8	0.0002	0.000068	0.00258	0.106	0.000009	0.0007	4.48	0.00019	<0.00001	0.00057	0.0015		0.75	0.00013	4.58	<0.000005	3.21	0.0961
MN-4.5	25/06/2009	0.0003	0.0173	0.0001	0.00031	0.0328	0.00001	<0.000005	<0.05	0.000013	19	0.0001	0.00005	0.00195	0.042	0.000059	0.0008	4.7	0.00052	<0.00001	0.00082	0.00116		0.55	0.00015	4.81	<0.000005	3.74	0.129
MN-4.5	28/07/2009	0.0002	0.0076	0.00008	0.00026	0.0437	<0.00001	<0.000005	<0.05	<0.000005	29.1	<0.0001	0.000037	0.00178	0.012	0.000012	0.001	6.5	0.00106	<0.00001	0.00099	0.00072		0.83	0.00016	5.85	<0.000005	4.93	0.171
MN-4.5	29/08/2009	0.0003	0.0143	0.00009	0.00036	0.0397	<0.00001	<0.000005	<0.05	0.000009	24.9	0.0003	0.000045	0.00166	0.044	0.000016	0.0009	5.89	0.00103	<0.00001	0.00086	0.00098		0.67	0.00013	5.97	<0.000005	4.36	0.151

Appendix C - Water Quality Data - McGinty Creek

Stn.Code	Smpl Date	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	BOD5	Cation	CN-SAD	CN-T	CN-WAD	COD	C-TOC	IB	N-T	N-TKN	Sp-Cond	TDS-F	Wlevel
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	µS/cm	mg/L	m
MN-2.5	29/08/2009	<3	<0.000002	<0.00001	0.0005	0.000085	0.0002	0.001	0.0003	94	<0.5	<0.5	<0.5					0.0009			14.1						
MN-2.5	29/09/2009	<3	<0.000002	<0.00001	<0.0005	0.000118	<0.0002	0.0008	0.0002	110	<0.5	<0.5	<0.5					0.0005			11.4						
MN-2.5	23/10/2009	<3	<0.000002	<0.00001	<0.0005	0.00011	<0.0002	0.0006	0.0002	110	<0.5	<0.5	<0.5					<0.0005			10.7						
MN-2.5	27/11/2009	<3	<0.000002	<0.00001	<0.0005	0.000147	<0.0002	0.0011	0.0002	110	<0.5	<0.5	<0.5					<0.0005			9.5						
MN-2.5	15/12/2009	<3	<0.000002	<0.00001	<0.0005	0.000131	<0.0002	0.0012	0.0002	130	<0.5	<0.5	<0.5					0.0011			8.2						
MN-2.5	25/01/2010	14	<0.000002	0.00002	0.0007	0.000458	0.0005	0.004	0.0006	520	13	<0.5	11					0.0021			44	1.1					
MN-2.5	22/04/2010	<10	0.000002	0.00003	0.0011	0.000035	0.0003	0.0043	0.0004	41	<0.5	<0.5	<0.5					0.001			36.2						
MN-2.5	28/05/2010	<10	<0.000002	<0.00001	<0.0005	0.000105	0.0003	0.0011	0.0002	83	<0.5	<0.5	<0.5					0.0008			9.6						
MN-2.5	28/06/2010	<10	<0.000002	<0.00001	<0.0005	0.000099	0.0003	0.0031	0.0002	100	<0.5	<0.5	<0.5					0.0008			10.8						
MN-2.5	21/07/2010	<10	<0.000002	0.00001	0.0008	0.000071	0.0005	0.0061	0.0004	84	<0.5	<0.5	<0.5					0.0013			15						
MN-2.5	18/08/2010	<10	<0.000002	<0.00001	0.0015	0.00013	0.001	0.0008	0.0004	87	<0.5	<0.5	<0.5					0.0007			20.3						
MN-2.5	15/09/2010	<10	<0.000002	<0.00001	0.001	0.000117	0.0006	0.0007	0.0004	89	<0.5	<0.5	<0.5					0.0012			14.9						
MN-2.5	21/10/2010	<10	<0.000002	<0.00001	<0.0005	0.000126	0.0004	0.0011	0.0003	100	<0.5	<0.5	<0.5					<0.0005	<0.0005		11.9						
MN-2.5	11/01/2011	<10	<0.000002	<0.00001	<0.0005	0.000089	<0.0002	0.0056	0.0004	120	<0.5	<0.5	<0.5					<0.0005	<0.0005		7.6						
MN-2.5	29/04/2011 11:13	<10	<0.000002	<0.00001	0.0005	0.000029	0.0002	0.0034	0.0002	53	<0.5	<0.5	<0.5					0.0015	0.0011		24						
MN-2.5	19/05/2011 13:10	<10	<0.000002	<0.00001	0.0011	0.000048	0.0008	0.0019	0.0004	39	<0.5	<0.5	<0.5					0.0027	0.0018		26.4						
MN-2.5	28/06/2011 11:49	<10	<0.000002	0.00004	0.001	0.000093	0.0003	0.0011	0.0003	93	<0.5	<0.5	<0.5					0.0015	0.0014		20.4						
MN-2.5	15/07/2011 13:56	<10	<0.000002	0.00001	0.0025	0.00007	0.0014	0.0019	0.0005	64	<0.5	<0.5	<0.5					0.0011	0.0015		22.7				109.4		
MN-2.5	10/08/2011 17:15	<10	<0.000002	<0.00001	0.0014	0.000131	0.0016	0.0009	0.0005	78	<0.5	<0.5	<0.5					0.0008	0.0013		18.9				130.4		
MN-2.5	28/10/2011 11:00	<10	<0.000002	<0.00001	<0.0005	0.000158	0.0005	0.0006	0.0002	100	<0.5	<0.5	<0.5					<0.0005	<0.0005		9.7				357		
MN-2.5	19/04/2012	<10	<0.0000020	<0.00020	<0.00050	0.0000203	0.0002	0.00287	0.00012	64.3	<0.50	<0.50	<0.50					0.00113	<0.00050		23.1						
MN-2.5	24/05/2012	<10	<0.0000020	<0.00020	0.00115	0.0000886	0.00089	0.00211	0.0003	72.6	<0.50	<0.50	<0.50					0.00088	<0.00050		14.6						
MN-2.5	14/06/2012	<10	<0.0000020	<0.00020	0.00061	0.0000747	0.00099	0.00097	0.00034	69.4	<0.50	<0.50	<0.50					0.00099	0.0011		17.7						
MN-2.5	12/07/2012	<10	<0.0000020	<0.00020	0.00086	0.000117	0.00082	0.00083	0.00032	97.5	<0.50	<0.50	<0.50					<0.00050	<0.00050		12.9						
MN-2.5	06/08/2012	<10	<0.0000020	0.00038	0.00088	0.000149	0.00087	0.00092	0.00032	115	<0.50	<0.50	<0.50					0.00057	<0.00050		11.7						
MN-2.5	07/09/2012	<3.0	<0.000050	<0.0050	<0.0050	0.00017	<0.0050	<0.0050	<0.00050	112	<0.50	<0.50	<0.50					<0.00050	<0.00050		13.6						
MN-2.5	01/10/2012	<3.0	<0.000050	<0.0050	<0.0050	0.00018	<0.0050	<0.0050	<0.00050	109	<0.50	<0.50	<0.50					<0.00050	<0.00050		12.4						
MN-2.5	27/05/2013	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	53	<0.50	<0.50	<0.50					0.00051			16.1						
MN-2.5	17/06/2013	<3.0	<0.000050	<0.0050	<0.0050	0.0001	<0.0050	<0.0050	<0.00050	85.6	<0.50	<0.50	<0.50					0.00094	0.00054		12.4						
MN-2.5	15/07/2013	<3.0	<0.000050	<0.0050	<0.0050	0.00013	<0.0050	<0.0050	<0.00050	104	<0.50	<0.50	<0.50					0.00072			10.2						
MN-2.5	28/08/2013	<3.0	<0.0000020	<0.00020	0.00107	0.000134	0.00083	0.00227	0.00038	95.8	<0.50	<0.50	<0.50					<0.00050	0.00167		14.6	1.1					
MN-2.5	11/09/2013 14:00	<3.0	<0.000050	<0.0050	<0.0050	0.00015	<0.0050	<0.0050	<0.00050	104	<0.50	<0.50	<0.50				0.00104		0.00083		12.3						
MN-2.5	16/10/2013 14:45																								140.3		
MN-2.5	16/10/2013 14:45	<3.0	<0.000050	<0.0050	<0.0050	0.00015	<0.0050	<0.0050	<0.00050	101	<0.50	<0.50	<0.50				0.00089		0.00113		10.3						
MN-2.5	16/05/2014 13:50	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	64.1	<0.50	<0.50	<0.50				0.00154		0.00116		15.6				129.3		
MN-2.5	03/06/2014 11:30	<3.0	<0.000050	<0.0050	<0.0050	0.0001	<0.0050	<0.0050	<0.00050	80.9	<0.50	<0.50	<0.50				0.00114		0.00117		14.3				167		
MN-2.5	26/07/2014 12:45	<3.0	<0.000050	<0.0050	<0.0050	0.00012	<0.0050	<0.0050	<0.00050	104	<0.50	<0.50	<0.50				0.0006		0.00073		10.4				192.2		
MN-2.5	17/08/2014 13:15	<3.0	<0.000050	<0.0050	<0.0050	0.00017	<0.0050	<0.0050	<0.00050	110	<0.50	<0.50	<0.50				<0.00050		<0.00050						212.1		
MN-2.5	20/09/2014 13:10	<3.0	<0.000050	<0.0050	<0.0050	0.00015	<0.0050	<0.0050	<0.00050	112	<0.50	<0.50	<0.50				0.001		0.00083		10.7				210.5		
MN-2.5	11/10/2014 11:45	<3.0	<0.000050	<0.0050	<0.0050	0.00015	<0.0050	<0.0050	<0.00050	103	<0.50	<0.50	<0.50				0.00104		0.00084		11.9				242.8		
MN-2.5	04/12/2014 14:45	<3.0	<0.000050	<0.0050	<0.0050	0.0003	<0.0050	<0.0050	<0.00050	157	<0.50	<0.50	<0.50				0.00082		0.00066		10.1						
MN-2.5	26/05/2015 14:15	<3.0	<0.000050	<0.0050	<0.0050	0.00013	<0.0050	<0.0050	<0.00050	78.7	<0.50	<0.50	<0.50				0.00073		0.00078		8.89				137.8		
MN-2.5	23/06/2015 16:25	<3.0	<0.000050	<0.0050	<0.0050	0.00025	<0.0050	<0.0050	<0.00050	122	<0.50	<0.50	<0.50												198		
MN-2.5	13/07/2015 13:50	<3.0	<0.000050	<0.0050	<0.0050	0.00012	<0.0050	<0.0050	<0.00050	100	<0.50	<0.50	<0.50												158.9		
MN-2.5	30/08/2015 14:30	<3.0	<0.000050	<0.0050	<0.0050	0.0001	<0.0050	<0.0050	<0.00050	77.5	<0.50	<0.50	<0.50												136.5		
MN-2.5	20/09/2015 13:48	<3.0	<0.000050	<0.0050	<0.0050	0.00014	<0.0050	<0.0050	<0.00050	105	<0.50	<0.50	<0.50												166.3		
MN-2.5	18/10/2015 15:15	<3.0	<0.000050	<0.0050	<0.0050	0.00017	<0.0050	<0.0050	<0.00050	104	<0.50	<0.50	<0.50												174.1		
MN-2.5	26/11/2015 13:55	3.6	<0.000050	<0.0050	<0.0050	0.0007	<0.0050	<0.0050	<0.00050	148	<0.50	<0.50	<0.50												218.1		
MN-2.5	19/12/2015 15:40	<3.0	<0.000050	<0.0050	<0.0050	0.00014	<0.0050	<0.0050	<0.00050	158	<0.50	<0.50	<0.50												216.6		
MN-2.5	29/04/2016 17:45	0.70	<0.000010	<0.00010	0.00095	0.000049	<0.00050	0.0013	0.00035	48.5	<1.0	<1.0		1.00		1.24						10.7			97.1		
MN-2.5	28/05/2016 16:35	0.99	<0.000010	<0.00010	0.00043	0.000126	<0.00050	0.0031	<0.00030	74.9	<1.0	<1.0		1.56		1.70						4.2			134.7		
MN-2.5	21/06/2016 16:10	1.36	<0.000010	<0.00010	0.00037	0.000211	0.00070	0.0019	<0.00030	95.3	<1.0	<1.0		2.00		2.16						4.0			193.7		
MN-2.5	04/07/2016 13:25	1.64	<0.000010	<0.00010	<0.00030	0.000225	<0.00050	<0.0010	<0.00030	100	<1.0	<1.0		2.10		2.35						5.7			199.5		
MN-2.5	04/08/2016 16:05	1.16	<0.000010	<0.00010	0.00032	0.000178	0.00055	<0.0010	<0.00030	97.1	<1.0	<1.0		2.02		2.18						3.9					
MN-2.5	03/09/2016 16:30	1.00	<0.000010	<0.00010	0.00043	0.000168	0.00064	0.0016	<0.00030	97.7	<1.0	<1.0		2.03		2.19						3.8			169.6		
MN-2.5	10/10/2016 16:25	1.25	<0.000010	<0.00010	0.00042	0.000150	<0.00050	<0.0010	<0.00030	114	<1.0	<1.0		2.39		2.17						-4.7			204.7		
MN-2.5	10/11/2016 13:34																								231.9		
MN-2.5	12/11/2016 11:05	1.60	<0.000010	<0.00010	<0.00030	0.000172	<0.00050	<0.0010	<0.00030	117	<1.0	<1.0		2.45		2.29						-3.3			230.9		
MN-4.5	06/05/2009	<3	<0.000002	<0.00001	0.0018	0.000053	0.0006	0.0049	0.0004	18	<0.5	<0.5	<0.5					0.0009			30.4					29.1	
MN-4.5	13/05/2009	<3	<0.000002	<0.00001	0.0015	0.000083	0.0007	0.0041	0.0006	30	<0.5	<0.5	<0.5					0.0009			32.8					37.3	
MN-4.5	21/05/2009	<3	<0.000002	<0.00001	0.0007	0.00017	0.0007	0.0025	0.0004												18					62.1	
MN-4.5	28/05/2009	<3	<0.000002	<0.00001	0.0007	0.000169	0.0007	0.0006	0.0004	64	<0.5	<0.5	<0.5					0.0014			19.1					74.4	
MN-4.5	25/06/2009	<3	<0.000002	<0.00001	0.0007	0.00028	0.0005	0.0011	0.0003	85	<0.5	<0.5	<0.5					0.0007			12.7						
MN-4.5	28/07/2009	4	<0.000002	<0.00001	<0.0005	0.00114	0.0005	0.0013	0.0002	120	<0.5	<0.5	<0.5					0.0007			9						
MN-4.5	29/08/2009	<3	<0.000002	<0.00001	<0.0005	0.000362	0.0004	0.0007	0.0003	100	<0.5	<0.5	<0.5					0.0008			12.7						

Appendix C - Water Quality Data - McGinty Creek

Stn.Code	Smpl Date	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
			mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MN-4.5	29/09/2009	B	<1	120	7.88	8	109.6	196	1	12.34	86.6	104.5	86.2	93.2	94	0.6	0.32	7.6	0.02	<0.005	0.07	10	0.0122	0.00009	0.00032	0.0399	<0.00001	<0.000005
MN-4.5	23/10/2009	B	<1	120		8.1		206					103	107	100	1	0.33	9.9	<0.005	<0.005	0.09	8	0.0079	0.00007	0.00027	0.0444	<0.00001	<0.000005
MN-4.5	27/11/2009	B	<1	110		8		224					105	108	110	1	0.35	9.1	<0.005	<0.005	0.3	6.7	0.0085	0.00007	0.00024	0.0475	<0.00001	<0.000005
MN-4.5	22/04/2010	B	14	62	7.47	7.3	41.5	68	0.0	12.30	90.0	326.0	41.8	39.8	30	1.9	0.1	<5	0.08	High DL removed	<0.1	44.7	0.242	0.00003	0.0004	0.0318	0.00003	<0.000005
MN-4.5	28/05/2010	B	1	140	7.74	8.1	110.3	182	4.0	12.96	98.9	333.8	78.2	82.5	88	<0.5	0.31	8.1	<0.005	<0.005	0.02	8.1	0.0128	0.00007	0.00035	0.0377	<0.00001	<0.000005
MN-4.5	28/06/2010	B	2	130	7.83	7.83	112.4	198	4.5	11.4	93.00	97.3	84.6	88.5	89	<0.5	0.32	8	High DL removed	<0.005	<0.02	12.5	0.0403	0.00008	0.00034	0.0418	<0.00001	<0.000005
MN-4.5	21/07/2010	B	5	110	8.04	7.98	95.2	154	6.6	11.86	102.9	71.4	66.3	69.4	75	1	0.24	1.4	0.018	<0.005	0.02	17.2	0.047	0.00009	0.0004	0.0395	0.00001	<0.000005
MN-4.5	18/08/2010	B	290	140	8.11	7.84	147.5	153	6.4	10.9	94.10	53.0	91.2	75.5	73	0.7	0.22	1.1	0.27	<0.005	<0.02	3.2	1.95	0.00013	0.00188	0.13	0.00017	0.000005
MN-4.5	15/09/2010	B	4	110	7.98	7.95	88.4	154	2.4	13.59	99.4	286.3	69.4	77.2	74	<0.5	0.21	3.3	0.17	<0.005	0.05	17	0.0569	0.00009	0.00043	0.0398	0.00001	<0.000005
MN-4.5	21/10/2010	B	<4	140	8.03	8.03	69.3	191	-0.1			336.3	95.8	94.3	91	0.5	0.29	6.4	<0.005	<0.005	0.11	12.5	0.0378	0.00009	0.0004	0.0471	<0.00001	<0.000005
MN-4.5	29/04/2011 12:15	B	2	96	7.46	7.48	54	101	0	14.33	103.5	124.2	55.7	52.7	46	1.9	0.13	<0.5	0.038	<0.005	<0.02	29	0.0589	0.00004	0.00041	0.0341	<0.00001	<0.000005
MN-4.5	19/05/2011 11:15	B	14	68	7.89	7.37	37.9	71	1.1	14.86	102.6	169.3	40.6	36.1	33	2.4	0.12	<5	<0.005	<0.005	0.09	26.8	0.334	0.00007	0.00055	0.033	0.00003	<0.00002
MN-4.5	28/06/2011 12:33	B	52	110	7.9	7.74	83.9	132	5.1	12.3	104.2	63.9	62.9	72.9	61	1.7	0.21	<0.5	0.034	<0.005	0.07	20.5	0.638	0.0001	0.00072	0.046	0.00004	<0.00002
MN-4.5	15/07/2011 15:40	B	570	58	7.44	7.51		97	6.5	10.7	94	318.1	101	48.4	44	1.7	0.18	<0.5	0.12	0.006	0.02	24.6	12.6	0.0005	0.0065	0.317	0.00053	<0.0001
MN-4.5	10/08/2011 18:05	B	150	110	7.93	7.43		120	5.9	12.69	101.5	277.3	73.8	59.5	56	1.6	0.18	<0.5	0.061	<0.005	<0.02	20	2.99	0.00021	0.00196	0.0986	0.00012	0.00003
MN-4.5	28/10/2011 12:15	B	6	120	8.16	7.89		209	0.2				109	98.3	92	1	0.29	6.6	0.013	<0.005	0.13	9.7	0.0627	0.00007	0.00045	0.0486	<0.00001	<0.000005
MN-4.5	19/04/2012	M	2.9	110		7.59		111					59.2	55.2	49.5	1.4	0.15	<0.50	0.0098	<0.0050	<0.020	27.8	0.0442	0.000034	0.000419	0.0317	0.000012	<0.0000050
MN-4.5	24/05/2012	M	67.7	106		7.91		133					64.4	61.8	61.3	1.2	0.22	<0.50	0.028	High DL removed	High DL removed	13.5	0.425	0.000081	0.00094	0.0556	0.000044	<0.0000050
MN-4.5	14/06/2012	M	560	74		7.62		101					80.1	51.3	45.3	High DL removed	0.19	<5.0	0.013	High DL removed	High DL removed	17.1	3.42	0.000159	0.00398	0.224	0.000317	0.0000065
MN-4.5	12/07/2012	M	55.7	114		7.97		173					86.9	83.1	81.2	1.2	0.27	1.24	0.024	High DL removed	High DL removed	13.7	0.648	0.000098	0.00102	0.0662	0.000042	0.000005
MN-4.5	06/08/2012	M	55.9	134		8.05		201					103	99	98.7	1.1	0.29	3.41	0.015	<0.0050	0.065	10.8	0.591	0.0001	0.00106	0.0665	0.000041	0.000005
MN-4.5	07/09/2012	P	57.1	128		8.07		190					86.5	99.9	93	1.4	0.26	2.61	0.0077	<0.0050	0.033	13.4	0.222	<0.00050	0.00067	0.0529	<0.00010	<0.0010
MN-4.5	01/10/2012	M	7.8	154		8		190					100	93.7	91.7	1	0.26	4.04	0.0075	<0.0050	0.067	11.6	0.075	<0.00050	0.00062	0.05	<0.00010	<0.0010
MN-4.5	27/05/2013	M	39.5	98		7.83		109					54.9	53.3	51.6	1.2	0.18	<0.50	0.032	<0.0050	<0.020	14.1	0.749	<0.00050	0.00073	0.0438	<0.00010	<0.0010
MN-4.5	17/06/2013	M	10.6	130		7.83		171					88.2	80.7	80.4	1.2	0.27	4.46	0.024	<0.0050	0.037	10.3	0.29	<0.00050	0.00072	0.0486	<0.00010	<0.0010
MN-4.5	28/08/2013	M	31.3	76		7.89		169					87	82.7	78.4	0.83	0.24	2.1	0.019	<0.0020	0.0581	12.9	0.135	0.00009	0.000709	0.0489	0.000021	<0.0000050
MN-4.5	11/09/2013 15:15	P	8.3	134		7.93		188					91.8	89.3	87.7	1	0.26	5.4	0.035	High DL removed	High DL removed	11	0.217	<0.00050	0.00076	0.047	<0.00010	<0.0010
MN-4.5	16/10/2013 15:30	M	23.1	158		7.95		188					94.1	91.3	88.5	1.4	0.26	6.92	0.016	<0.0050	0.089	9.71	0.292	<0.00050	0.0006	0.0503	<0.00010	<0.0010
MN-4.5	16/10/2013 15:30	M			7.74				0	14.52	99.3	-17.5																
MN-4.5	16/05/2014 10:10	M	4.7	108	8.28	7.92	151.6	147	0.6	14.37	100.0	210.4	75.5	69.4	67.4	0.99	0.26	0.76	0.036	<0.0050	<0.020	15.7	0.149	<0.00050	0.0005	0.0388	<0.00010	<0.0010
MN-4.5	03/06/2014 14:00	M	4.4	124	7.42	8.05	118.3	175	2.9	14.86	109.9	112.1	86.8	82.4	80.9	0.69	0.29	5.88	0.014	<0.0050	0.072	12.6	0.0933	<0.00050	0.00042	0.0415	<0.00010	<0.0010
MN-4.5	26/07/2014 10:00	M	6.3	120	8.43	8.07	167.6	201	4.2	12.76	98.8	92.2	102	92.7	94	0.79	0.31	6.94	0.019	<0.0050	0.061	11.4	0.151	<0.00050	0.00047	0.05	<0.00010	<0.0010
MN-4.5	17/08/2014 10:30	M	8.2	146	7.98	8.18	177.9	227	4.1	12.89	98.3	118.4	113	110	107	0.77	0.35	9.38	0.02	<0.0050	0.09	7.86	0.179	<0.00050	0.00046	0.0534	<0.00010	<0.0010
MN-4.5	20/09/2014 10:50	M	<1.0	132	7.93	7.92	194.3	212	2	13.29	96.1	200.1	108	101	96.1	0.72	0.32	8.07	0.014	<0.0050	<0.020	20.5	0.0199	<0.00050	0.00037	0.0475	<0.00010	<0.0010
MN-4.5	10/10/2014 13:30	M	2	124	7.62	8.07	126.6	192	-1.2	14.72	97.5	185.5	85.1	93.8	87.9	1.3	0.28	8.03	0.011	<0.0050	0.076	11.2	0.0441	<0.00050	0.00036	0.0402	<0.00010	<0.0010
MN-4.5	26/05/2015 10:45	M	3.3	122	7.63	7.95	108.2	196	1.6	14.01	100.3	133.6	99.4	95.2	85.3	1.8	0.29	9.81	0.023	<0.0050	<0.020	7.4	0.0659	<0.00050	0.00039	0.0465	<0.00010	<0.0010
MN-4.5	23/06/2015 12:50	M	11.5	136	7.37	8.1	129.8	220	3.9	10.94	83.4	169.8	105	107	102	0.98	0.35	10.6	0.027	<0.0050	0.232		0.0177	<0.00050	0.00031	0.0493	<0.00010	<0.0010
MN-4.5	13/07/2015 11:10	M	9.9	114	7.78	7.85	100.2	167	4.8	11.64	90.3	143.2	81.3	79.9	77.7	0.56	0.29	5.07	0.042	<0.0050	0.048		0.216	<0.00050	0.00048	0.0417	<0.00010	<0.0010
MN-4.5	30/08/2015 12:10	P	94.6	120	7.96	7.85	72.8	130	2.3	13.14	95.7	115.9	80.4	62.2	59.4	1.7	0.22	<0.50	0.037	<0.0050	0.027	18	1.61	<0.00050	0.00111	0.0719	<0.00010	<0.0010
MN-4.5	20/09/2015 11:10	P	<1.0	146	8.04	8.04	105.9	186	2	13.15	95.1	133.1	93.9	89.9	87.4	1.2	0.31	6.85	0.011	<0.0050	0.031	12	0.0336	<0.00050	0.00029	0.0451	<0.00010	<0.0010
MN-4.5	18/10/2015 12:20	P	1.9	118	7.80	8	101.1	195	0.1	13.30	91.2	36.0	94.6	96.7	88.5	1.2	0.3	6.29	0.013	<0.0050	0.081	10.3	0.0188	<0.00050	0.00036	0.0383	<0.00010	<0.0010
MN-4.5	29/04/2016 16:05	P	8.7	78.9	7.84	7.97	79.6	147	1.3	13.67	97	128.7		77.7	68.5	<0.50		5.69	0.0087	<0.0010	<0.0050	24.0	0.170	<0.00010	0.00048	0.0384	<0.000020	<0.000050
MN-4.5	28/05/2016 14:30	P	<3.0	97.2	7.99	7.92	105.4	183	2.8	13.22	97.5	103.3		90.5	85.9	<0.50		8.03	0.0054	0.0014	0.0473	11.7	0.0469	<0.00010	0.00039	0.0424	<0.000020	<0.000050
MN-4.5	21/06/2016 14:30	P	3.3	112	7.8	7.93	130.9	203	5.3	11.93	94.1	101.7		106	96.6	<0.50		9.28	0.0052	<0.0010	0.0710	9.68	0.0240	<0.00010	0.00038	0.0505	<0.000020	<0.000050
MN-4.5	04/07/2016 11:25	P	<3.0	125	7.56	7.95	126.3	224	5.2	10.86	85.4	122.3		118	109	0.52		10.5	<0.0050	<0.0010	0.101	8.20	0.0716	<0.00010	0.00034	0.0510	<0.000020	<0.000050
MN-4.5	04/08/2016 14:40	P	<3.0	119	7.72	8.00	139.6	207	6.6	12.71	104	95.5		112	106	<0.50		8.29	<0.0050	<0.0010	0.0522	11.0	0.0243	<0.00010	0.00042	0.0548	<0.000020	<0.000050
MN-4.5	03/09/2016 14:30	P	5.2	105	7.27	8.00	118.2	191	4.5	12.29	94.8	152.1		99.2	94.5	0.59		6.97	<0.0050	<0.0010	0.0264	13.7	0.118	<0.00010	0.00050	0.0491	<0.000020	<0.000050
MN-4.5	10/10/2016 14:45	P	<3.0	131	7.47	8.02	126.6	228	0.8	11.8	82.6	157.9		111	122	0.92		10.4	0.0052	<0.0010	0.183	9.52	0.0766	0.00010	0.00035	0.0549	<0.000020	<0.000050
MN-4.5	10/11/2016 11:55	P	<3.0	135	7.76	7.98	146.5	242	0.7	13.51	94.4	125.0		118	120	0.94		12.8	<0.0050	<0.0010	0.323	7.63	0.0067	<0.00010	0.00027	0.0599	<0.000020	<0.000050
MN-0.2	13/05/2009	B	<1	34	7.28	6.8	83.0	37	-1.9				19.8	19.6	10	1.1	0.06	<5	<0.005	<0.005	<0.02	28.4	0.176	0.00004	0.00027	0.0247	0.00002	<0.000005
MN-0.2	28/05/2009	B	34	48	6.90	7.6	66.8	52	2.7	8.26	73.0		23.7	22.8	24	1.3	0.1	<0.5	<0.005	<0.005	<0.02	18.1	0.0799	0.00006	0.00027	0.0244	0.00002	<0.000005
MN-0.2	25/06/2009	B	<1	48	6.74	7.3	34.8	53		9.04	76.1		20.6	21.6	22	<0.5	0.1	<0.5	<0.005	<0.005	<0.02	17.1	0.0554	0.00007	0.00026	0.0243	0.00002	<0.000005
MN-0.2	29/04/2011 10:55	B	1	40	7.1	6.55	28	53	0	13.14	99.2	131.4	25.5	24	9.5	2	0.06	<0.5	0.024	<0.005	<0.02	38	0.138	0.00002	0.00028	0.0266	0.00002	<0.000005
MN-0.2	19/05/2011 15:00	B	3	42	6.95	6.89	25.8	44	2.2	10.33	76.3	141.8	20.8	20	17	1.9	0.08	<0.5	<0.005	<0.005	<0.02	18.8	0.0964	0.00005	0.00042	0.0288	0.00002	<0.000005
MN-0.2	28/06/2011 10:40	B	2	50	7.24	7.23	34.7	55	5	9.43	82.6	40.3	26.5	26.9	25	1.3	0.12	<0.5	0.051	<0.005	<0.02	16.9	0.119	0.00015	0.0004	0.031	0.00002	<0.000005
MN-0.2	15/07/2011 13:05	B	300	66	6.39	7		50	5.4	10	88	288.7	39.6	25.2	15	1.6	0.12	<0.5	0.07	0.007	<0.02	28.4	6.46	0.00028	0.00286	0.168	0.0002	0.00005
MN-0.2	10/08/2011 16:00	B	<1	54	6.94	7		64	7.2	9.06	75	209.8	31.3	28.4	29	1.6	0.11	<0.5	0.028	<0.005	<0.02	17.2	0.0894	0.00008	0.00038	0.0376	0.00003	<0.000005
MN-0.2	28/10/2011 9:45	B	1	72	7.05	7.24		81	0.4				39.6	37.4	36	0.8	0.11	<0.5	0.033	<0.005	<0.02	13.4	0.0686	0.00007	0.00029	0.0406	0.00001	<0.000005
MN-0.2	19/04/2012	M	1.7	90		6.84		54.6					26.3	25.1	11.3	1.6	0.057	<0.50	0.0071	<0.0050	<0.020	31.8	0.0919	<0.000020	0.000268	0.0227	0.000011	<0.0000050
MN-0.2	24/05/2012	M	1.7	70		7.42		64.4					28.6	28.6	30.6	1.4	0.12	<0.50	0.032	<0.050	0.23	13.1	0.0736	0.000081	0.000539	0.0368	0.000019	<0.0000050
MN-0.2	14/06/2012	M	155	42		7.06		49.4					28.8	24.3	16	<5.0	0.11	<5.0	0.02	<0.050	<0.20	22.9	1.07	0.000098	0.00131	0.0905	0.000096	<0.0000050
MN-0.2	12/07/2012	M	10.4	64		7.58		68.7					32.9	32.5	32.2	0.75	0.12	<0.50	0.034	<0.050	<0.20	16	0.146	0.000067	0.00122	0.0439	0.000022	<0.0000050
MN-0.2	06/08/2012	M	15.3	88		7.69		87					42.6	43	43.8	1	0.13	<0.50	0.011	<0.0050	<0.020	14.6	0.141	0.000067	0.000786	0.0512	0.000023	<0.0000050
MN-0.2	07/09/2012	P	7.2	86		7.68		84.2					37.6	40.7	42.9	1.1	0.13	<0.50	0.007	<0.0050	<0.020	13.7	0.0534	<0.00050	0.00081	0.037	<0.00010	<0.0010
MN-0.2	01/10/2012	M	<1.0	78		7.5		72.9					34.7	34.9	34.1	0.72	0.11	<0.50	0.012	<0.0050	<0.020	13.4	0.04	<0.00050	0.00043	0.0311	<0.00010	<0.0010

Appendix C - Water Quality Data - McGinty Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T	V-T	Zn-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MN-4.5	29/09/2009	<0.05	0.000033	24.4	0.0002	0.000055	0.00192	0.025	0.000014	0.001	6.15	0.00197		0.00091	0.00088		0.83	0.00021	5.92	<0.000005	4.59	0.147	3	<0.000002	<0.00001	<0.0005	0.000766	0.0002	0.0024
MN-4.5	23/10/2009	<0.05	0.000006	29.2	0.0002	0.000043	0.00131	0.017	0.000007	0.0011	7.27	0.00065	<0.00001	0.00103	0.00072		0.8	0.00016	6.18	<0.000005	5.31	0.177	4	<0.000002	<0.00001	<0.0005	0.000807	0.0003	0.0003
MN-4.5	27/11/2009	<0.05	0.000019	31.2	0.0002	0.000034	0.00154	0.012	0.000066	0.001	6.68	0.0005	<0.00001	0.00103	0.00053		0.8	0.00017	6.08	<0.000005	4.48	0.183	4	<0.000002	0.00002	<0.0005	0.00173	0.0002	0.0015
MN-4.5	22/04/2010	<0.05	0.000036	11.3	0.0005	0.000236	0.00438	0.305	0.000088	0.0006	3.3	0.0221	<0.00001	0.00018	0.00173		1.48	0.00007	2.71	<0.000005	1.8	0.0634	<10	<0.000002	<0.00001	0.0051	0.000092	0.0006	0.006
MN-4.5	28/05/2010	<0.05	0.000015	22.3	0.0001	0.000046	0.00148	0.039	0.000122	0.0007	5.51	0.00354	<0.00001	0.001	0.00084		0.79	0.00015	4.5	<0.000005	4.27	0.15	<10	<0.000002	0.00001	<0.0005	0.000532	0.0004	0.0008
MN-4.5	28/06/2010	<0.05	0.000006	23.7	0.0002	0.000098	0.00177	0.082	0.000044	0.0008	6.15	0.0104		0.00093	0.00098		0.82	0.00014	4.95	<0.000005	4.59	0.161	<10	<0.000002	<0.00001	0.0012	0.000847	0.0006	0.0009
MN-4.5	21/07/2010	<0.05	0.000009	18.9	0.0003	0.000098	0.00244	0.137	0.000063	0.0009	4.66	0.00592	<0.00001	0.00077	0.0012		0.5	0.00015	5.41	<0.000005	3.45	0.121	<10	<0.000002	<0.00001	0.0019	0.000244	0.0008	0.0017
MN-4.5	18/08/2010	<0.05	0.000106	24.7	0.0035	0.00296	0.0131	3.9	0.00221	0.0019	7.15	0.286	<0.00001	0.00031	0.00821		0.73	0.00013	8.6	0.000006	4.04	0.147	<10	0.00001	<0.00001	0.0332	0.000592	0.0113	0.0161
MN-4.5	15/09/2010	<0.05	0.000016	18.8	0.0004	0.000122	0.00252	0.229	0.000199	0.0006	5.43	0.0115	<0.00001	0.00064	0.00403		0.51	0.00013	5.72	<0.000005	3.84	0.119	<10	<0.000002	0.00004	0.0012	0.000227	0.0007	0.0631
MN-4.5	21/10/2010	<0.05	0.000016	27	0.0003	0.000076	0.00183	0.137	0.000051	0.0009	6.87	0.00531	<0.00001	0.00085	0.00117		0.69	0.00017	7.08	<0.000005	4.52	0.16	<10	<0.000002	<0.00001	0.001	0.000425	0.0004	0.0016
MN-4.5	29/04/2011 12:15	<0.05	0.000032	15.9	0.0002	0.000094	0.00262	0.138	0.000031	0.0006	3.91	0.00976	<0.00001	0.00028	0.00112		2.66	0.0001	4.3	<0.000005	2.03	0.0835	<10	<0.000002	<0.00001	0.0011	0.000101	0.0003	0.0033
MN-4.5	19/05/2011 11:15	<0.05	0.000024	11.3	0.0009	0.00034	0.0036	0.824	0.00017	0.0006	3	0.0415	<0.00001	0.00041	0.0019		0.9	0.00012	4.17	0.000009	1.8	0.0638	<50	0.000004	<0.0002	0.014	0.000124	0.0016	0.002
MN-4.5	28/06/2011 12:33	<0.05	0.000033	17.2	0.0014	0.00058	0.0043	1.12	0.00037	0.0009	4.8	0.0499	<0.00001	0.00058	0.0028		0.5	0.00013	5.76	0.00001	3.2	0.106	<50	0.000008	<0.0002	0.026	0.000253	0.003	0.003
MN-4.5	15/07/2011 15:40	<0.3	0.00031	24	0.023	0.0102	0.037	20.1	0.0074	0.008	10	0.67	<0.00005	0.0009	0.0248		2	0.0004	27.2	0.00008	4	0.167	<300	0.00009	<0.001	0.48	0.00114	0.046	0.061
MN-4.5	10/08/2011 18:05	<0.05	0.000066	20	0.006	0.00237	0.0102	5.12	0.00162	0.0025	5.8	0.134	<0.00001	0.00072	0.0066	0.16	0.7	0.00017	11.3	0.000026	3.5	0.113	<50	0.000027	<0.0002	0.131	0.000441	0.0117	0.01
MN-4.5	28/10/2011 12:15	<0.05	0.00001	31.1	0.0003	0.000138	0.00166	0.277	0.00008	0.0009	7.59	0.0309	<0.00001	0.00081	0.00105	0.014	0.72	0.0002	7.45	<0.000005	5.08	0.169	<10	<0.000002	<0.00001	0.0022	0.000471	0.0007	0.001
MN-4.5	19/04/2012	<0.05	0.0000233	17.3	0.00028	0.000109	0.00263	0.187	0.0000358	0.00059	3.86	0.0107	<0.000010	0.00041	0.001	0.0844	2.23	0.000141	4.28	0.0000053	2.29	0.0991	<10	<0.0000020	<0.00020	0.00184	0.000121	0.00048	0.00233
MN-4.5	24/05/2012	<0.05	0.0000467	17.7	0.00096	0.000689	0.00423	1.32	0.00051	0.00075	4.92	0.104	<0.000000010	0.000535	0.00257	0.0682	0.797	0.000142	5.18	0.0000129	3.16	0.107	<10	0.0000023	<0.00020	0.0166	0.000326	0.00313	0.00423
MN-4.5	14/06/2012	<0.05	0.000288	21.6	0.00585	0.00636	0.0231	8.57	0.0042	0.00252	6.32	0.715	<0.000010	0.00037	0.0146	0.635	0.684	0.000188	8.93	0.0000389	3.08	0.135	<10	0.0000179	0.00355	0.0619	0.000853	0.0238	0.0319
MN-4.5	12/07/2012	<0.05	0.000043	24.2	0.0013	0.000715	0.00466	1.33	0.000617	0.00105	6.43	0.0476	<0.000010	0.000642	0.00303	0.0504	0.62	0.000171	6.91	0.000012	4.44	0.144	<10	0.000005	<0.00020	0.0215	0.000327	0.00344	0.00669
MN-4.5	06/08/2012	<0.05	0.000039	28.6	0.0013	0.000697	0.00386	1.37	0.000537	0.00125	7.58	0.0582		0.000812	0.00288		0.804	0.00017	7.46	0.000011	4.97	0.174	<10	0.000005	<0.00020	0.0206	0.000456	0.00308	0.00318
MN-4.5	07/09/2012	<0.05	0.00001	23.8	<0.0010	<0.00050	0.00289	0.879	0.00028	<0.0050	6.57	0.0561	<0.000010	<0.0010	0.0027	0.049	0.587	0.00021	6.07	<0.000020	4.37	0.147	<3.0	<0.000050	<0.0050	0.009	0.00031	<0.0050	<0.0050
MN-4.5	01/10/2012	<0.05	<0.000010	28.2	<0.0010	<0.00050	0.00315	0.588	0.00021	<0.0050	7.23	0.0432	<0.000010	<0.0010	0.0021	0.023	0.701	0.00012	6.28	<0.000020	5.19	0.18	<3.0	<0.000050	<0.0050	<0.0050	0.0004	<0.0050	0.0145
MN-4.5	27/05/2013	<0.05	0.000011	15.3	0.0014	0.00068	0.00417	1.33	0.00032	<0.0050	4.06	0.0904	<0.000010	<0.0010	0.0024	0.067	1.07	0.00022	5.05	<0.000020	2.62	0.097	<3.0	<0.000050	<0.0050	0.0344	0.00021	<0.0050	0.005
MN-4.5	17/06/2013	<0.05	<0.000010	24.6	<0.0010	<0.00050	0.00252	0.629	<0.00020	<0.0050	6.5	0.0401	<0.000010	0.0011	0.0016	0.026	0.864	0.00019	5.85	<0.000020	4.93	0.164	<3.0	<0.000050	<0.0050	0.0161	0.00044	<0.0050	<0.0050
MN-4.5	28/08/2013	<0.05	0.00002	24.7	0.00053	0.000249	0.00311	0.63	0.000207	0.00072	6.15	0.0281	<0.000010	0.000837	0.0018	0.0315	0.593	0.000152	6.98	<0.0000050	4.66	0.14	<3.0	<0.0000020	<0.00020	0.00572	0.000316	0.00161	0.0023
MN-4.5	11/09/2013 15:15	<0.05	<0.000010	25.2	<0.0010	<0.00050	0.00194	0.674	<0.00020	<0.0050	7.03	0.0207	<0.000010	<0.0010	0.0018	0.025	0.692	0.00017	6.47	<0.000020	4.83	0.159	<3.0	<0.000050	<0.0050	0.0097	0.00034	<0.0050	<0.0050
MN-4.5	16/10/2013 15:30	<0.05	<0.000010	25.9	<0.0010	<0.00050	0.00245	0.626	<0.00020	<0.0050	7.14	0.0247	<0.000010	<0.0010	0.002	0.031	0.658	0.00016	7.04	<0.000020	4.92	0.172	3.5	<0.000050	<0.0050	0.0162	0.00041	<0.0050	<0.0050
MN-4.5	16/10/2013 15:30																												
MN-4.5	16/05/2014 10:10	<0.05	0.00001	20.8	<0.0010	<0.00050	0.00292	0.401	<0.00020	<0.0050	5.69	0.016	<0.000010	<0.0010	0.0017	0.028	0.928	0.00014	5.43	<0.000020	3.79	0.132	<3.0	<0.000050	<0.0050	0.0077	0.00031	<0.0050	0.0054
MN-4.5	03/06/2014 14:00	<0.05	<0.000010	24.3	<0.0010	<0.00050	0.00277	0.235	<0.00020	<0.0050	6.31	0.0127	<0.000010	<0.0010	0.0011	0.016	0.753	0.00021	5.51	<0.000020	4.76	0.157	3.1	<0.000050	<0.0050	<0.0050	0.00045	<0.0050	<0.0050
MN-4.5	26/07/2014 10:00	<0.05	<0.000010	29	<0.0010	<0.00050	0.00244	0.269	<0.00020	<0.0050	7.29	0.009	<0.000010	0.0011	0.0012	0.038	0.853	0.00015	6.59	<0.000020	5.26	0.182	<3.0	<0.000050	<0.0050	0.0064	0.00048	<0.0050	<0.0050
MN-4.5	17/08/2014 10:30	0.079	<0.000010	31.5	<0.0010	<0.00050	0.00197	0.269	<0.00020	<0.0050	8.35	0.0095	<0.000010	0.0012	0.0011	0.02	1.06	0.0001	6.52	0.000231	5.94	0.197	4	<0.000050	<0.0050	0.0115	0.00077	<0.0050	<0.0050
MN-4.5	20/09/2014 10:50	<0.05	<0.000010	29.5	<0.0010	<0.00050	0.00141	0.071	<0.00020	<0.0050	8.33	0.0033	<0.000010	0.0011	<0.0010	<0.01	0.94	0.00012	6	<0.000020	5.95	0.193	3.3	<0.000050	<0.0050	<0.0050	0.00058	<0.0050	<0.0050
MN-4.5	10/10/2014 13:30	<0.05	<0.000010	23.1	<0.0010	<0.00050	0.0015	0.164	<0.00020	<0.0050	6.67	0.0052	<0.000010	<0.0010	<0.0010	<0.01	0.668	<0.00010	4.83	<0.000020	4.54	0.163	<3.0	<0.000050	<0.0050	<0.0050	0.0004	<0.0050	<0.0050
MN-4.5	26/05/2015 10:45	<0.05	<0.000010	27.4	<0.0010	<0.00050	0.0015	0.188	<0.00020	<0.0050	7.54	0.0113	<0.000010	<0.0010	<0.0010	0.027	1.05	0.00027	5.3	0.000021	5.55	0.207	<3.0	<0.000050	<0.0050	<0.0050	0.00057	<0.0050	<0.0050
MN-4.5	23/06/2015 12:50	<0.05	<0.000010	30.5	<0.0010	<0.00050	0.00168	0.033	<0.00020	<0.0050	7.08	0.004	<0.000010	0.001	<0.0010	0.013	0.867	0.00016	6.15	<0.000020	4.85	0.198	6.6	<0.000050	<0.0050	<0.0050	0.00106	<0.0050	<0.0050
MN-4.5	13/07/2015 11:10	<0.05	<0.000010	22.9	<0.0010	<0.00050	0.00221	0.421	<0.00020	<0.0050	5.87	0.0221	<0.000010	<0.0010	0.0013	0.025	0.662	0.00012	6.31	<0.000020	4.35	0.16	<3.0	<0.000050	<0.0050	0.0077	0.00034	<0.0050	<0.0050
MN-4.5	30/08/2015 12:10	<0.05	0.000032	22	0.0036	0.00131	0.00702	3.03	0.00088	<0.0050	6.19	0.116	<0.000010	<0.0010	0.004	0.102	0.688	0.00029	10.5	<0.000020	4.26	0.121	<3.0	<0.000050	<0.0050	0.0709	0.0003	0.0053	0.0066
MN-4.5	20/09/2015 11:10	<0.05	<0.000010	26.8	<0.0010	<0.00050	0.00238	0.12	<0.00020	<0.0050	6.55	0.0039	<0.000010	0.001	<0.0010	0.019	0.815	0.00017	6.43	<0.000020	6.27	0.16	<3.0	<0.000050	<0.0050	<0.0050	0.00044	<0.0050	<0.0050
MN-4.5	18/10/2015 12:20	<0.05	<0.000010	26.5	<0.0010	<0.00050	0.0014	0.089	<0.00020	<0.0050	6.89	0.0026	<0.000010	<0.0010	<0.0010	<0.01	0.681	0.0002	6.8	<0.000020	4.99	0.161	<3.0	<0.000050	<0.0050	<0.0050	0.00041	<0.0050	<0.0050
MN-4.5	29/04/2016 16:05	<0.010	0.0000080	19.7	0.00056	0.00020	0.00270	0.355	0.000122	0.0012	5.21	0.0259	0.0000079	0.000645	0.00151	<0.050	0.91	0.000153	4.92	<0.000010	3.34	0.130	2.06	<0.000010	<0.00010	0.00643	0.000253	0.00112	<0.0030
MN-4.5	28/05/2016 14:30	<0.010	<0.0000050	23.7	0.00026	<0.00010	0.00248	0.108	<0.000050	<0.0010	5.96	0.00576	<0.0000050	0.00103	0.00230	<0.050	0.91	0.000137	4.95	<0.000010	4.55	0.165	2.81	<0.000010	<0.00010	0.00191	0.000458	0.00069	<0.0030
MN-4.5	21/06/2016 14:30	<0.010	<0.0000050	30.7	0.00024	<0.00010	0.00182	0.044	<0.000050	<0.0010	7.37	0.00268	<0.0000050	0.00112	0.00097	<0.050	1.04	0.000163	5.64	<0.000010	5.68	0.197	3.34	<0.000010	<0.00010	0.00106	0.000719	0.00074	<0.0030
MN-4.5	04/07/2016 11:25	<0.010	<0.0000050	33.1	0.00028	<0.00010	<0.0020	0.105	0.000052	0.0012	7.65	0.00727	<0.0000050	0.000984	0.00083	<0.050	0.95	0.000144	5.65	<0.000010	5.42	0.195	3.68	<0.000010	<0.00010	0.00300	0.00101	0.00078	<0.0030
MN-4.5	04/08/2016 14:40	<0.010	<0.0000050	31.6	0.00029	<0.00010	0.00180	0.049	<0.000050	<0.0010	7.52	0.00268	<0.0000050	0.00105	0.00100	<0.050	0.93	0.000146	6.17	<0.000010	5.95	0.205	2.94	<0.000010	<0.00010	0.00111	0.000556	0.00088	<0.0030
MN-4.5	03/09/2016 14:30	<0.010	<0.0000050	26.3	0.00051	0.00011	0.00233	0.228	0.000071	0.0011	6.96	0.00914	<0.0000050	0.000896	0.00126	<0.050	0.77	0.000233	6.31	<0.000010	4.96	0.167	2.72	<0.000010	<0.00010	0.00473	0.000356	0.00104	0.0030
MN-4.5	10/10/2016 14:45	<0.010	<0.0000050	33.2	0.00034	<0.00010	0.00202	0.132	<0.000050	0.0010	7.91	0.00779	<0.0000050	0.000943	0.00093	<0.050	0.95	0.000165	6.44	<0.000010	5.60	0.216	3.64	<0.000010	<0.00010	0.00361	0.00121	0.00074	<0.0030
MN-4.5	10/11/2016 11:55	<0.010	<0.0000050	33.8	0.00014	<0.00010	0.00158	0.010	<0.000050	0.0012	8.57	0.00067	<0.0000050	0.000945	0.00059	<0.050	0.97	0.000215	5.86	<0.000010	5.92	0.219	4.62	<0.000010	<0.00010	<0.00030	0.00198	0.00051	<0.0030
MN-0.2	13/05/2009	<0.05	0.000012	5.2	0.0004	0.000224	0.00418	0.284	0.000022	<0.0005	1.64	0.0122	<0.00001	0.00008	0.0019		1.4	0.00007	3.44	<0.000005	1.38	0.0294	<3	<0.000002	<0.00001	0.0034	0.000029	0.0009	0.0019
MN-0.2	28/05/2009	<0.05	<0.000005	6.14	0.0002	0.000144	0.00339	0.106	0.000021	<0.0005	2.03	0.00383		0.00011	0.00168		1.06	0.00007	6.24	<0.000005	2.47	0.0351	<3	<0.000002	<0.00001	0.0021	0.000025	0.0004	0.0006
MN-0.2	25/06/2009	<0.05	<0.000005	5.39	0.0003	0.000092	0.00261	0.102	0.000011	<0.0005	1.73	0.00591	<0.00001	0.00009	0.00139		0.37	0.00007	5.48	<0.000005	2.63	0.0381	<3	<0.000002	<0.00001	0.0009	0.000023	<0.0002	0.0005
MN-0.2	29/04/2011 10:55	<0.05	0.000059	6.19	0.0002	0.000181	0.00605	0.199	0.000041	<0.0005	2.43	0.0431	0.00001	<0.00005	0.00116		2.26	0.00004	3.2	<0.000005	1.9	0.0359	<10	<0.000002	<0.00001	0.0012	0.000015	0.0003	0.0091
MN-0.2	19/05/2011 15:00	<0.05	0.000028	5.38	0.0004	0.000305	0.00314	0.43	0.000425	<0.0005	1.78	0.0775	<0.00001	0.00019	0.00177		1.14	0.00005	3.03	0.000007	1.56	0.0346	<10	<0.000002	<0.00001	0.0027	0.000029	0.0011	0.0037
MN-0.2	28/06/2011 10:40	<0.05	0.000118	6.98	0.0005	0.000169	0.00348	0.244	0.000209	<0.0005	2.21	0.0168	<0.00001	0.00017	0.00202		0.4	0.00007	6.67	<0.000005	2.87	0.0427	<10	<0.000002	0.00003	0.002	0.000031	0.0008	0.0041
MN-0.2	15/07/2011 13:05	<0.05	0.0001	9.3	0.0123	0.00449	0.0165	9.22	0.00282	0.0034	4	0.2	0.000003	0.00039	0.0103		0.7	0.0002	14.7	0.000048	2.6	0.0674	<50	0.000061	<0.0002	0.256	0.00042	0.0225	0.019
MN-0.2	10/08/2011 16:00	<0.05	0.000019	8.07	0.0005	0.000192	0.00286	0.24	0.000036	<0.0005	2.69	0.0184	<0.00001	0.00026	0.00181	0.008	0.4	0.00005	7.27	<0.000005	2.87	0.0537	<10	<0.000002	<0.00001	0.0015	0.000029	0.001	0.0008
MN-0.2	28/10/2011 9:45	<0.05	0.000015	10.2	0.0004	0.000188	0.00261	0.152	0.000241	<0.0005	3.42	0.062	<0.00001	0.0001	0.00195	0.005	0.39	0.00006	9.18	0.000013	3.47	0.0592	<10	<0.000002	0.00003	0.0012	0.000012	0.0005	0.0046
MN-0.2	19/04/2012	<0.05	0.0000448	6.74	0.00024	0.000181	0.00524	0.263	0.0000232	<0.00050	2.3	0.044	<0.000010	0.000066	0.00106	0.0385	1.86	0.000042	3.35	0.0000054	1.93	0.0367	<10	<0.0000020	<0.00020	0.00181	0.0000154	0.00028	0.0072
MN-0.2	24/05/2012	<0.05	0.0000249	7.38	0.00036	0.000352	0.00277	0.54	0.000037	<0.00050	2.46	0.14	<0.000000010	0.00026	0.00231	0.0187	0.833	0.000053	5.7	<0.0000050	2.47	0.0483	<10	<0.0000020	<0.00020	0.00222	0.00002	0.00067	0.0013
MN-0.2	14/06/2012	<0.05	0.0000809	7.26	0.00201	0.00202	0.00814	2.82	0.000977	0.00081	2.59	0.212	<0.000010	0.000143	0.00448	0.119	0.507	0.000079	5.93	0.0000132	2.53	0.0478	<10	0.0000084	<0.00020	0.0259	0.000134	0.00671	0.00875
MN-0.2	12/07/2012	<0.05	0.000042	8.56	0.00057	0.000502	0.00319	1.69	0.000132	<0.00050	2.8	0.178	<0.000010	0.000202	0.00227	0.0374	0.436	0.000059	7.38	0.000005	3.06	0.056	<10	<0.0000020	<0.00020	0.00403	0.000027	0.00157	0.00186
MN-0.2	06/08/2012	<0.05	0.00002	11.1	0.00057	0.000654	0.00251	1.06	0.000072	<0.00050	3.62	0.249		0.000281	0.00256		0.495	0.000091	8.33	<0.0000050	3.32	0.0741	<10	0.000003	<0.00020	0.00386	0.000042	0.00116	0.00093
MN-0.2	07/09/2012	<0.05	<0.000010	9.75	<0.0010	0.00052	0.00182	1.05	<0.00020	<0.0050	3.21	0.207	<0.000010	<0.0010	0.0021	0.015	0.463	<0.00010	7.59	<0.000020	3.17	0.0614	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050
MN-0.2	01/10/2012	<0.05	<0.000010	9.18	<0.0010	<0.00050	0.00212	0.391	<0.00020	<0.0050	2.85	0.105	<0.000010	<0.0010	0.0026	<0.01	0.405	<0.00010	7.14	<0.000020	2.81	0.0577	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050

Appendix C - Water Quality Data - McGinty Creek

Stn.Code	Smpl Date	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D	Se-D	Si-D	Ag-D	Na-D	Sr-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MN-4.5	29/09/2009	0.0002	0.0097	0.00008	0.00033	0.0424	<0.00001	<0.000005	<0.05	0.000007	26.9	0.0002	0.000041	0.00185	0.02	<0.000005	0.001	6.31	0.0014		0.00095	0.0009		0.77	0.00013	6.06	<0.000005	4.82	0.157
MN-4.5	23/10/2009	0.0002	0.0069	0.00007	0.00029	0.0427	<0.00001	<0.000005	<0.05	<0.000005	30.2	0.0002	0.00004	0.00123	0.015	<0.000005	0.0012	7.66	0.00054	<0.00001	0.00099	0.00076		0.84	0.00017	5.6	<0.000005	5.54	0.173
MN-4.5	27/11/2009	0.0002	0.0099	0.00009	0.00026	0.0461	<0.00001	<0.000005	<0.05	0.000036	31.1	0.0002	0.000035	0.00181	0.014	0.000151	0.0011	7.32	0.00063	<0.00001	0.00103	0.00057		0.82	0.0002	5.51	<0.000005	4.99	0.184
MN-4.5	22/04/2010	0.0005	0.174	0.00011	0.00038	0.0256	0.00002	<0.000005	<0.05	0.000135	11.1	0.0004	0.000127	0.00471	0.201	0.000467	0.0005	2.93	0.0156	0.00002	0.00122	0.00147		1.51	0.00009	2.86	0.000011	26.6	0.0628
MN-4.5	28/05/2010	0.0001	0.0091	0.00007	0.00034	0.0407	<0.00001	<0.000005	<0.05	<0.000005	23.3	0.0002	0.000047	0.00113	0.031	<0.000005	0.0008	5.9	0.00076		0.00095	0.00085		0.84	0.00017	4.29	<0.000005	4.43	0.155
MN-4.5	28/06/2010	0.0002	0.0087	0.00009	0.00034	0.0421	<0.00001	<0.000005	<0.05	0.000006	25.1	0.0002	0.000045	0.00166	0.018	0.000032	0.0008	6.27	0.0016		0.00102	0.00084		0.84	0.00014	5.1	<0.000005	4.7	0.164
MN-4.5	21/07/2010	0.0004	0.0231	0.0001	0.00041	0.0386	0.00001	<0.000005	<0.05	0.000013	19.6	0.0003	0.000067	0.00244	0.082	0.000067	0.0008	4.95	0.00173		0.00079	0.00167		0.54	0.00015	5.54	<0.000005	3.71	0.124
MN-4.5	18/08/2010	0.001	0.0318	0.00011	0.00055	0.0431	0.00001	<0.000005	<0.05	0.000006	21	0.0004	0.000064	0.00286	0.125	0.000021	0.0006	5.58	0.00086		0.00073	0.00147		0.6	0.00013	5.85	<0.000005	3.99	0.123
MN-4.5	15/09/2010	0.0004	0.0337	0.0001	0.00043	0.0407	0.00001	<0.000005	<0.05	0.000006	21.8	0.0005	0.00008	0.0023	0.172	0.000053	0.0007	5.56	0.00666		0.00072	0.00138		0.54	0.00013	6.79	<0.000005	3.79	0.128
MN-4.5	21/10/2010	0.0003	0.0181	0.00008	0.00037	0.0462	<0.00001	<0.000005	<0.05	<0.000005	26.3	0.0003	0.000061	0.00165	0.085	0.000014	0.0009	6.93	0.00272		0.0008	0.00105		0.69	0.00017	7.03	<0.000005	4.52	0.155
MN-4.5	29/04/2011 12:15	0.0002	0.0411	0.00005	0.00042	0.0304	<0.00001	<0.000005	<0.05	0.000027	15.1	0.0002	0.000088	0.00261	0.111	0.000059	0.0006	3.65	0.00726	<0.00001	0.00026	0.00099		2.64	0.00009	3.95	<0.000005	1.98	0.084
MN-4.5	19/05/2011 11:15	0.0005	0.0713	0.00005	0.00046	0.0257	0.00002	<0.000005	<0.05	0.000017	10.1	0.0004	0.000155	0.00308	0.308	0.000098	0.0007	2.63	0.0121		0.00031	0.00164		0.79	0.0001	3.4	<0.000005	1.63	0.0576
MN-4.5	28/06/2011 12:33	0.0006	0.049	0.00012	0.00049	0.0366	0.00001	<0.000005	<0.05	0.000032	20.4	0.0005	0.000099	0.00305	0.197	0.000209	0.0005	5.37	0.00449	<0.00001	0.00059	0.00183		0.52	0.00014	6.02	<0.000005	3.71	0.109
MN-4.5	15/07/2011 15:40	0.0018	0.0774	0.00013	0.00065	0.0341	0.00002	<0.000005	<0.05	<0.000005	13.3	0.0006	0.000242	0.0035	0.397	0.000057	<0.0005	3.71	0.0272		0.00041	0.00188		0.3	0.00013	5.85	<0.000005	2.9	0.0721
MN-4.5	10/08/2011 18:05	0.001	0.0659	0.00012	0.00062	0.0391	0.00002	<0.000005	<0.05	0.000014	16.7	0.0005	0.000225	0.00292	0.433	0.000075	0.0006	4.3	0.0279		0.00055	0.00162	0.013	0.37	0.00011	5.89	<0.000005	3.07	0.0928
MN-4.5	28/10/2011 12:15	0.0002	0.0168	0.00008	0.00041	0.05	<0.00001	<0.000005	<0.05	0.000011	27.4	0.0002	0.000092	0.00149	0.134	0.000112	0.0009	7.24	0.027	<0.00001	0.00085	0.0009	0.01	0.73	0.00017	6.26	<0.000005	4.86	0.17
MN-4.5	19/04/2012	0.0002	0.0288	0.000043	0.000325	0.0316	<0.000010	<0.0000050	<0.05	0.0000228	15.9	0.00022	0.0000752	0.00258	0.129	0.0000411	0.00057	3.78	0.00685	<0.000010	0.000383	0.000892	0.0685	2.19	0.000096	3.93	<0.0000050	2.26	0.0994
MN-4.5	24/05/2012	0.00049	0.0245	0.00007	0.000465	0.0362	<0.000010	<0.0000050	<0.05	0.000013	17.1	0.00031	0.000137	0.00193	0.403	0.0000209	0.00056	4.62	0.0282	<0.000010	0.000667	0.00114	0.0159	0.74	0.000131	4.81	<0.0000050	3.09	0.102
MN-4.5	14/06/2012	0.00131	0.0448	0.000112	0.000601	0.0311	0.000015	<0.0000050	<0.05	0.0000428	14.2	0.00039	0.000143	0.00269	0.562	0.000155	<0.00050	3.86	0.0132	<0.000010	0.00057	0.00165	0.0192	0.516	0.000139	5.43	0.0000063	3.12	0.0824
MN-4.5	12/07/2012	0.00055	0.0216	0.000087	0.000607	0.0429	<0.000010	<0.0000050	<0.05	0.000014	23.2	0.00035	0.000119	0.00204	0.34	0.000043	0.00063	6.08	0.0149	<0.000010	0.000873	0.0013	0.0141	0.572	0.00015	6.02	<0.0000050	4.35	0.138
MN-4.5	06/08/2012	0.00055	0.0178	0.000077	0.000584	0.0476	0.000011	<0.0000050	<0.05	<0.0000050	27.9	0.00031	0.000121	0.00165	0.404	0.000028	0.00086	7.14	0.0204		0.000994	0.00123		0.71	0.000183	6.37	<0.0000050	4.89	0.162
MN-4.5	07/09/2012	<0.00050	0.0213	<0.00050	0.00055	0.045	<0.00010	<0.0010	<0.05	<0.000010	28.2	<0.0010	<0.00050	0.00165	0.482	<0.00020	<0.0050	7.18	0.0325	<0.000010	<0.0010	0.0012	0.013	0.634	0.00016	6.35	<0.000020	4.72	0.169
MN-4.5	01/10/2012	<0.00050	0.0208	<0.00050	0.00056	0.0442	<0.00010	<0.0010	<0.05	<0.000010	25.7	<0.0010	<0.00050	0.0023	0.338	<0.00020	<0.0050	7.14	0.0275	<0.000010	<0.0010	0.0014	0.014	0.658	0.00017	6.29	<0.000020	4.81	0.161
MN-4.5	27/05/2013	<0.00050	0.026	<0.00050	0.00037	0.03	<0.00010	<0.0010	<0.05	<0.000010	15.1	<0.0010	<0.00050	0.0019	0.249	<0.00020	<0.0050	3.81	0.0458	<0.000010	<0.0010	0.001	0.018	0.954	<0.00010	3.54	<0.000020	2.58	0.0989
MN-4.5	17/06/2013	<0.00050	0.0124	<0.00050	0.00049	0.0414	<0.00010	<0.0010	<0.05	<0.000010	22.5	<0.0010	<0.00050	0.00152	0.168	<0.00020	<0.0050	5.92	0.0163	<0.000010	<0.0010	0.001	0.01	0.745	0.00017	5.52	<0.000020	4.3	0.142
MN-4.5	28/08/2013	0.00042	0.0257	0.000092	0.000576	0.0434	0.000012	<0.0000050	<0.05	0.000007	23.3	0.00043	0.000062	0.00223	0.269	0.000032	0.0006	5.96	0.000722	<0.000010	0.000862	0.00145	0.0097	0.592	0.000126	6.32	<0.0000050	4.49	0.145
MN-4.5	11/09/2013 15:15	<0.00050	0.0193	<0.00050	0.00058	0.0438	<0.00010	<0.0010	<0.05	<0.000010	24.2	<0.0010	<0.00050	0.00184	0.354	<0.00020	<0.0050	6.99	0.0146	<0.000010	<0.0010	0.0013	0.013	0.747	0.00016	5.84	<0.000020	4.89	0.154
MN-4.5	16/10/2013 15:30	<0.00050	0.0161	<0.00050	0.00047	0.0432	<0.00010	<0.0010	<0.05	<0.000010	25.4	<0.0010	<0.00050	0.00185	0.186	<0.00020	<0.0050	6.79	0.0101	<0.000010	<0.0010	0.0012	<0.01	0.648	0.00013	6.57	<0.000020	4.9	0.155
MN-4.5	16/10/2013 15:30																												
MN-4.5	16/05/2014 10:10	<0.00050	0.0203	<0.00050	0.00039	0.0359	<0.00010	<0.0010	<0.05	<0.000010	19	<0.0010	<0.00050	0.00224	0.155	<0.00020	<0.0050	5.33	0.0065	<0.000010	<0.0010	0.0012	0.012	0.877	0.00017	4.23	<0.000020	3.75	0.131
MN-4.5	03/06/2014 14:00	<0.00050	0.0137	<0.00050	0.00038	0.0394	<0.00010	<0.0010	<0.05	<0.000010	22.9	<0.0010	<0.00050	0.0019	0.097	<0.00020	<0.0050	6.1	0.0035	<0.000010	0.001	0.001	0.019	0.758	0.0002	5.01	<0.000020	4.61	0.153
MN-4.5	26/07/2014 10:00	<0.00050	0.0094	<0.00050	0.00038	0.044	<0.00010	<0.0010	<0.05	<0.000010	25.7	<0.0010	<0.00050	0.00164	0.067	<0.00020	<0.0050	6.95	0.0016	<0.000010	<0.0010	<0.0010	<0.01	0.769	0.00014	5.61	<0.000020	4.96	0.17
MN-4.5	17/08/2014 10:30	<0.00050	0.0168	<0.00050	0.00034	0.051	<0.00010	<0.0010	<0.05	<0.000010	31.4	<0.0010	<0.00050	0.00149	0.0472	<0.00020	<0.0050	7.67	0.0031	<0.000010	0.0011	<0.0010	<0.01	0.893	0.00015	6.34	<0.000020	5.45	0.199
MN-4.5	20/09/2014 10:50	<0.00050	0.0107	<0.00050	0.00033	0.0459	<0.00010	<0.0010	<0.05	<0.000010	28.7	<0.0010	<0.00050	0.00202	0.0588	<0.00020	<0.0050	7.18	0.0038	<0.000010	<0.0010	<0.0010	<0.01	0.911	0.00012	6.09	<0.000020	5.06	0.178
MN-4.5	10/10/2014 13:30	<0.00050	0.0105	<0.00050	0.00036	0.0404	<0.00010	<0.0010	<0.05	<0.000010	26	<0.0010	<0.00050	0.00152	0.0765	<0.00020	<0.0050	7.04	0.0024	<0.000010	<0.0010	<0.0010	<0.01	0.705	0.00015	5.7	<0.000020	4.74	0.166
MN-4.5	26/05/2015 10:45	<0.00050	0.0081	<0.00050	0.00035	0.0434	<0.00010	<0.0010	<0.05	<0.000010	26.7	<0.0010	<0.00050	0.0012	0.0507	<0.00020	<0.0050	6.89	0.0035	<0.000010	<0.0010	<0.0010	<0.01	1.04	0.00021	4.9	<0.000020	5.13	0.193
MN-4.5	23/06/2015 12:50	<0.00050	0.0067	<0.00050	0.00029	0.0524	<0.00010	<0.0010	<0.05	<0.000010	31.2	<0.0010	<0.00050	0.00121	0.0133	<0.00020	<0.0050	6.97	0.0018	<0.000010	<0.0010	<0.0010	<0.01	0.919	0.00017	6.2	<0.000020	4.99	0.199
MN-4.5	13/07/2015 11:10	<0.00050	0.0152	<0.00050	0.00042	0.0381	<0.00010	<0.0010	<0.05	<0.000010	22.2	<0.0010	<0.00050	0.00174	0.082	<0.00020	<0.0050	5.96	0.0014	<0.000010	<0.0010	<0.0010	0.011	0.668	0.00013	5.8	<0.000020	4.55	0.149
MN-4.5	30/08/2015 12:10	0.00079	0.0494	<0.00050	0.0006	0.0339	<0.00010	<0.0010	<0.05	<0.000010	16.9	<0.0010	<0.00050	0.00377	0.234	<0.00020	<0.0050	4.86	0.0113	<0.000010	<0.0010	0.0017	0.021	0.403	0.00012	5.94	<0.000020	3.89	0.109
MN-4.5	20/09/2015 11:10	<0.00050	0.0162	<0.00050	0.00034	0.0416	<0.00010	<0.0010	<0.05	<0.000010	25.1	<0.0010	<0.00050	0.00177	0.0853	<0.00020	<0.0050	6.62	0.0026	<0.000010	0.0011	<0.0010	<0.01	0.699	0.00023	6.1	<0.000020	5.11	0.166
MN-4.5	18/10/2015 12:20	<0.00050	0.0163	<0.00050	0.0003	0.0399	<0.00010	<0.0010	<0.05	0.000013	27.6	<0.0010	<0.00050	0.00142	0.0681	<0.00020	<0.0050	6.77	0.0012	<0.000010	<0.0010	<0.0010	0.016	0.744	0.00015	6.55	<0.000020	4.8	0.171
MN-4.5	29/04/2016 16:05	<0.00030	0.0229	<0.00010	0.00039	0.0362	<0.000020	<0.000050	<0.010	<0.0000050	21.7	0.00025	<0.00010	0.00240	0.109	<0.000050	<0.0010	5.70	0.00689	<0.0000050	0.000611	0.00114	<0.050	1.00	0.000122	4.98	<0.000010	3.51	0.134
MN-4.5	28/05/2016 14:30	<0.00030	0.0104	<0.00010	0.00037	0.0421	<0.000020	<0.000050	<0.010	<0.0000050	25.5	0.00016	<0.00010	0.00146	0.048	<0.000050	<0.0010	6.50	0.00116	<0.0000050	0.000957	0.00099	<0.050	0.87	0.000141	5.20	<0.000010	4.47	0.170
MN-4.5	21/06/2016 14:30	<0.00030	0.0107	<0.00010	0.00034	0.0496	<0.000020	<0.000050	<0.010	0.0000093	30.7	0.00016	<0.00010	0.00178	0.025	<0.000050	<0.0010	7.15	0.00165	<0.0000050	0.000999	0.00090	<0.050	0.92	0.000144	5.51	<0.000010	5.52	0.189
MN-4.5	04/07/2016 11:25	<0.00030	0.0066	<0.00010	0.00029	0.0530	<0.000020	<0.000050	<0.010	<0.0000050	34.0	0.00014	<0.00010	0.00150	0.013	<0.000050	<0.0010	7.90	0.00114	<0.0000050	0.000970	0.00160	<0.050	0.96	0.000163	5.74	<0.000010	5.48	0.200
MN-4.5	04/08/2016 14:40	<0.00030	0.0090	<0.00010	0.00042	0.0553	<0.000020	<0.000050	<0.010	<0.0000050	32.3	0.00020	<0.00010	0.00173	0.026	<0.000050	<0.0010	7.55	0.00122	<0.0000050	0.000960	0.00091	<0.050	0.95	0.000147	6.18	<0.000010	6.08	0.195
MN-4.5	03/09/2016 14:30	0.00030	0.0155	<0.00010	0.00039	0.0477	<0.000020	<0.000050	<0.010	<0.0000050	28.0	0.00027	<0.00010	0.00191	0.092	<0.000050	<0.0010	7.10	0.00320	<0.0000050	0.000803	0.00108	<0.050	0.74	0.000162	6.45	<0.000010	4.90	0.165
MN-4.5	10/10/2016 14:45	<0.00030	0.0061	<0.00010	0.00030	0.0531	<0.000020	<0.000050	<0.010	<0.0000050	31.7	0.00019	<0.00010	0.00182	0.016	<0.000050	<0.0010	7.83	0.00117	<0.0000050	0.000892	0.00082	<0.050	0.96	0.000158	6.25	<0.000010	5.52	0.207
MN-4.5	10/11/2016 11:55	<0.00030	0.0044	<0.00010	0.00025	0.0598	<0.000020	<0.000050	<0.010	<0.0000050	33.3	0.00013	<0.00010	0.00148	<0.010	<0.000050	0.0012	8.37	0.00053	<0.0000050	0.000869	0.00054	<0.050	0.97	0.000214	5.69	<0.000010	5.74	0.215
MN-0.2	13/05/2009	0.0004	0.163	0.00005	0.00028	0.0253	0.00003	<0.000005	<0.05	0.000017	5.11	0.0003	0.000205	0.00425	0.265	0.000029	<0.0005	1.67	0.0113	0.00002	0.00009	0.00205		1.4	0.00005	3.31	<0.000005	1.38	0.0304
MN-0.2	28/05/2009	0.0005	0.0653	0.00006	0.00029	0.0245	0.00002	<0.000005	<0.05	<0.000005	5.84	0.0003	0.000129	0.00358	0.095	0.000019	0.0005	1.99	0.0008	<0.00001	0.00012	0.00182		1.06	0.00007	5.26	<0.000005	2.51	0.0365
MN-0.2	25/06/2009	0.0004	0.0552	0.00008	0.00028	0.0247	<0.00001	<0.000005	<0.05	<0.000005	5.76	0.0002	0.000094	0.00267	0.084	0.000013	<0.0005	1.75	0.00429	<0.00001	0.0001	0.00149		0.4	0.00006	5.99	<0.000005	2.59	0.0385
MN-0.2	29/04/2011 10:55	0.0002	0.114	0.00002	0.00025	0.024	0.00001	<0.000005	<0.05	0.000053	5.96	0.0003	0.000177	0.00527	0.185	0.00002	<0.0005	2.21	0.0387	0.00001	<0.00005	0.00104		2.23	0.00004	2.84	<0.000005	1.79	0.0359
MN-0.2	19/05/2011 15:00	0.0003	0.0612	0.00005	0.00043	0.028	0.00001	<0.000005	<0.05	0.00002	5.12	0.0002	0.000284	0.00283	0.316	0.000024	<0.0005	1.75	0.0725		0.00016	0.00173		1.12	0.00005	2.86	<0.000005	1.49	0.0335
MN-0.2	28/06/2011 10:40	0.0004	0.0734	0.00007	0.00032	0.028	0.00002	<0.000005	<0.05	0.000013	7.07	0.0005	0.000081	0.00281	0.117	0.000031	<0.0005	2.25	0.00146	<0.00001	0.00013	0.00173		0.4	0.00007	7.29	0.000005	2.74	0.042
MN-0.2	15/07/2011 13:05	0.0014	0.199	0.00011	0.00078	0.0394	0.00002	<0.000005	<0.05	0.000035	6.8	0.0009	0.00079	0.0034	0.858	0.000162	<0.0005	2	0.0812		0.00016	0.00272		0.21	0.00009	6.07	0.000007	2.53	0.0416
MN-0.2	10/08/2011 16:00	0.0004	0.0763	0.00007	0.00033	0.0351	0.00002	<0.000005	<0.05	0.000036	7.49	0.0004	0.000178	0.00263	0.188	0.00006	<0.0005	2.35	0.0168		0.00014	0.00166	0.006	0.39	0.00005	6.83	0.000009	2.46	0.0509
MN-0.2	28/10/2011 9:45	0.0003	0.0656	0.00008	0.00035	0.0407	<0.00001	<0.000005	<0.05	0.000019	9.92	0.0004	0.000151	0.00252	0.126	0.000271	<0.0005	3.07	0.056	<0.00001	0.0001	0.00167	0.008	0.4	0.00005	8.59	0.000007	3.27	0.0572
MN-0.2	19/04/2012	0.00019	0.0765	0.00002	0.000262	0.0222	0.000011	<0.0000050	<0.05	0.0000387	6.19	0.00026	0.000185	0.00504	0.222	0.0000184	<0.00050	2.34	0.0473	<0.000010	0.000055	0.00105	0.029	1.86	<0.000040	3.12	<0.0000050	1.91	0.0356
MN-0.2	24/05/2012	0.00033	0.0445	0.000076	0.000515	0.0362	0.000015	<0.0000050	<0.05	0.000016	7.43	0.00032	0.000319	0.00251	0.435	0.0000251	<0.00050	2.43	0.137	<0.000010	0.000506	0.00205	0.0129	0.835	0.00005	5.74	<0.0000050	2.43	0.0487
MN-0.2	14/06/2012	0.00099	0.134	0.000087	0.000503	0.0339	0.00002	<0.0000050	<0.05	0.0000305	6.43	0.00055	0.000618	0.00288	0.811	0.000038	<0.00050	2.01	0.116	<0.000010	0.000175	0.00184	0.0186	0.421	0.000069	5.23	<0.0000050	2.43	0.0394
MN-0.2	12/07/2012	0.00053	0.058	0.000066	0.000462	0.0361	0.000016	<0.0000050	<0.05	0.000018	8.43	0.0004	0.000296	0.0025	0.269	0.00001	<0.00050	2.77	0.105	<0.000010	0.000664	0.00197	0.007	0.399	0.000066	7.23	<0.0000050	3.05	0.055
MN-0.2	06/08/2012	0.0005	0.0512	0.000094	0.000747	0.0426	0.000016	<0.0000050	<0.05	<0.0000050	11	0.00049	0.000414	0.00245	0.504	0.000016	<0.00050	3.75	0.193		0.000295	0.00246		0.493	0.000062	8.07	<0.0000050	3.47	0.0697
MN-0.2	07/09/2012	<0.00050	0.0415	<0.00050	0.00062	0.0369	<0.00010	<0.0010	<0.05	<0.000010	10.4	<0.0010	<0.00050	0.00225	0.464	<0.00020	<0.0050	3.56	0.146	<0.000010	<0.0010	0.002	<0.01	0.509	<0.00010	7.89	<0.000020	3.53	0.0701
MN-0.2	01/10/2012	<0.00050	0.0434	<0.00050	0.00048	0.0313	<0.00010	<0.0010	<0.05	0.000018	8.8	<0.0010	<0.00050	0.00279	0.322	<0.00020	<0.0050	3.13	0.102	<0.000010	<0.0010	0.002	<0.01	0.456	<0.00010	7.46	<0.000020	3.08	0.0603

Appendix C - Water Quality Data - McGinty Creek

Stn.Code	Smpl Date	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	BOD5	Cation	CN-SAD	CN-T	CN-WAD	COD	C-TOC	IB	N-T	N-TKN	Sp-Cond	TDS-F	Wlevel
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	µS/cm	mg/L	m
MN-4.5	29/09/2009	<3	<0.000002	<0.00001	<0.0005	0.000813	0.0003	0.0007	0.0002	110	<0.5	<0.5	<0.5					<0.0005			9.4						
MN-4.5	23/10/2009	4	<0.000002	<0.00001	<0.0005	0.000797	0.0003	0.0005	0.0002	120	<0.5	<0.5	<0.5					<0.0005			7.9						
MN-4.5	27/11/2009	3	<0.000002	0.00001	0.0008	0.00179	0.0003	0.006	0.0002	130	<0.5	<0.5	<0.5					<0.0005			7.2						
MN-4.5	22/04/2010	17	<0.000002	0.00007	0.002	0.000078	0.0005	0.0144	0.0005	36	<0.5	<0.5	<0.5					<0.0005			44.6						
MN-4.5	28/05/2010	<10	<0.000002	<0.00001	<0.0005	0.000563	0.0004	0.0008	0.0002	110	<0.5	<0.5	<0.5					0.0008			8.1						
MN-4.5	28/06/2010	<10	<0.000002	0.00002	<0.0005	0.000848	0.0005	0.0014	0.0002	110	<0.5	<0.5	<0.5					<0.0005			12.7						
MN-4.5	21/07/2010	<10	<0.000002	0.00002	0.0012	0.00024	0.0007	0.0023	0.0004	92	<0.5	<0.5	<0.5					0.0012			16.4						
MN-4.5	18/08/2010	<10	<0.000002	<0.00001	0.0013	0.000231	0.0013	0.0002	0.0004	89	<0.5	<0.5	<0.5					<0.0005			16						
MN-4.5	15/09/2010	<10	<0.000002	<0.00001	0.001	0.00025	0.0006	0.0015	0.0004	91	<0.5	<0.5	<0.5					0.0014			17.1						
MN-4.5	21/10/2010	<10	<0.000002	<0.00001	<0.0005	0.00041	0.0004	0.0007	0.0003	110	<0.5	<0.5	<0.5					<0.0005	<0.0005		12.8						0.24
MN-4.5	29/04/2011 12:15	<10	<0.000002	<0.00001	0.0006	0.000103	0.0004	0.0034	0.0002	56	<0.5	<0.5	<0.5					0.0008	0.001		30						0.445
MN-4.5	19/05/2011 11:15	<10	<0.000002	<0.00001	0.0012	0.000102	0.0008	0.0052	0.0005	40	<0.5	<0.5	<0.5					0.0015	0.0013		27.8						0.325
MN-4.5	28/06/2011 12:33	<10	<0.000002	0.0004	0.0014	0.000162	0.0006	0.0029	0.0004	74	<0.5	<0.5	<0.5					0.0018	0.0016		21.9						0.285
MN-4.5	15/07/2011 15:40	<10	<0.000002	<0.00001	0.0023	0.000102	0.0016	0.0011	0.0007	54	<0.5	<0.5	<0.5					0.0018	0.0021		26.7				97.1		0.55
MN-4.5	10/08/2011 18:05	<10	<0.000002	<0.00001	0.0019	0.000188	0.0017	0.0014	0.0006	68	<0.5	<0.5	<0.5					0.0006	0.0012		20.4				118.8		0.33
MN-4.5	28/10/2011 12:15	<10	<0.000002	<0.00001	<0.0005	0.000477	0.0006	0.0008	0.0002	110	<0.5	<0.5	<0.5					<0.0005	<0.0005		10				19		0.298
MN-4.5	19/04/2012	<10	<0.0000020	<0.00020	<0.00050	0.000116	0.00038	0.00284	0.00019	60.4	<0.50	<0.50	<0.50					0.00136	<0.00050		27.4						
MN-4.5	24/05/2012	<10	<0.0000020	<0.00020	0.00057	0.000237	0.00099	0.0007	0.00027	74.8	<0.50	<0.50	<0.50					<0.00050	<0.00050		13.7						
MN-4.5	14/06/2012	<10	<0.0000020	<0.00020	0.00192	0.000109	0.00132	0.00215	0.00045	55.3	<0.50	<0.50	<0.50					0.00128	0.00106		23.6						
MN-4.5	12/07/2012	<10	<0.0000020	<0.00020	0.00097	0.000297	0.00104	0.00085	0.00035	99.1	<0.50	<0.50	<0.50					<0.00050	<0.00050		13.1						
MN-4.5	06/08/2012	<10	<0.0000020	0.00022	0.00053	0.000412	0.00096	0.00115	0.00029	120	<0.50	<0.50	<0.50					<0.00050	<0.00050		12.4						
MN-4.5	07/09/2012	<3.0	<0.000050	<0.0050	<0.0050	0.00033	<0.0050	<0.0050	<0.00050	113	<0.50	<0.50	<0.50					<0.00050	<0.00050		13.9						
MN-4.5	01/10/2012	<3.0	<0.000050	<0.0050	<0.0050	0.00037	<0.0050	<0.0050	<0.00050	112	<0.50	<0.50	<0.50					<0.00050	<0.00050		11.5						
MN-4.5	27/05/2013	<3.0	<0.000050	<0.0050	<0.0050	0.00014	<0.0050	<0.0050	<0.00050	62.9	<0.50	<0.50	<0.50					<0.00050			14.3						
MN-4.5	17/06/2013	3.1	<0.000050	<0.0050	<0.0050	0.0004	<0.0050	<0.0050	<0.00050	98	<0.50	<0.50	<0.50					0.00084	0.00072		12.5						
MN-4.5	28/08/2013	<3.0	<0.0000020	<0.00020	0.00115	0.000299	0.00115	0.00096	0.00038	95.6	<0.50	<0.50	<0.50					0.00124	0.00153		14.5	1.1					
MN-4.5	11/09/2013 15:15	<3.0	<0.000050	<0.0050	<0.0050	0.00039	<0.0050	<0.0050	<0.00050	107	<0.50	<0.50	<0.50				0.001		0.00065		11.7						
MN-4.5	16/10/2013 15:30	3.3	<0.000050	<0.0050	<0.0050	0.00036	<0.0050	<0.0050	<0.00050	108	<0.50	<0.50	<0.50				0.00086		0.00094		9.83						
MN-4.5	16/10/2013 15:30																								157.3		
MN-4.5	16/05/2014 10:10	<3.0	<0.000050	<0.0050	<0.0050	0.00029	<0.0050	<0.0050	<0.00050	82.3	<0.50	<0.50	<0.50				0.00139		0.00109		17.3				282.5		
MN-4.5	03/06/2014 14:00	<3.0	<0.000050	<0.0050	<0.0050	0.00046	<0.0050	<0.0050	<0.00050	98.6	<0.50	<0.50	<0.50				0.00108		0.0012		12				204.9		
MN-4.5	26/07/2014 10:00	<3.0	<0.000050	<0.0050	<0.0050	0.00043	<0.0050	<0.0050	<0.00050	115	<0.50	<0.50	<0.50				0.00056		0.00069		9.7				277.9		
MN-4.5	17/08/2014 10:30	3	<0.000050	<0.0050	<0.0050	0.00067	<0.0050	<0.0050	<0.00050	131	<0.50	<0.50	<0.50				<0.00050		<0.00050						296.1		
MN-4.5	20/09/2014 10:50	3.3	<0.000050	<0.0050	<0.0050	0.00053	<0.0050	<0.0050	<0.00050	117	<0.50	<0.50	<0.50				<0.0010		0.00088		9.56				348.7		
MN-4.5	10/10/2014 13:30	<3.0	<0.000050	<0.0050	<0.0050	0.0004	<0.0050	<0.0050	<0.00050	107	<0.50	<0.50	<0.50				0.00099		0.00079		11.9				252.9		
MN-4.5	26/05/2015 10:45	3.3	<0.000050	<0.0050	<0.0050	0.00059	<0.0050	<0.0050	<0.00050	104	<0.50	<0.50	<0.50				0.00055		0.00057		8.31				195.4		
MN-4.5	23/06/2015 12:50	4.6	<0.000050	<0.0050	<0.0050	0.00105	<0.0050	<0.0050	<0.00050	125	<0.50	<0.50	<0.50												217.3		
MN-4.5	13/07/2015 11:10	<3.0	<0.000050	<0.0050	<0.0050	0.0003	<0.0050	<0.0050	<0.00050	94.8	<0.50	<0.50	<0.50												163		
MN-4.5	30/08/2015 12:10	<3.0	<0.000050	<0.0050	<0.0050	0.00015	<0.0050	<0.0050	<0.00050	72.5	<0.50	<0.50	<0.50												128.6		
MN-4.5	20/09/2015 11:10	<3.0	<0.000050	<0.0050	<0.0050	0.00036	<0.0050	<0.0050	<0.00050	107	<0.50	<0.50	<0.50												188.4		
MN-4.5	18/10/2015 12:20	<3.0	<0.000050	<0.0050	<0.0050	0.00041	<0.0050	<0.0050	<0.00050	108	<0.50	<0.50	<0.50												193.9		
MN-4.5	29/04/2016 16:05	2.19	<0.000010	<0.00010	0.00053	0.000237	0.00058	0.0021	<0.00030	68.5	<1.0	<1.0		1.49		1.74						7.8			145.5		
MN-4.5	28/05/2016 14:30	2.90	<0.000010	<0.00010	0.00037	0.000442	0.00058	<0.0010	<0.00030	85.9	<1.0	<1.0		1.89		2.03						3.6			183.4		
MN-4.5	21/06/2016 14:30	3.30	<0.000010	<0.00010	0.00054	0.000664	0.00063	0.0011	<0.00030	96.6	<1.0	<1.0		2.13		2.39						5.8			209.1		
MN-4.5	04/07/2016 11:25	3.72	<0.000010	<0.00010	<0.00030	0.000984	<0.00050	0.0033	<0.00030	109	<1.0	<1.0		2.41		2.61						4.1			203.4		
MN-4.5	04/08/2016 14:40	3.11	<0.000010	<0.00010	<0.00030	0.000525	0.00070	0.0021	<0.00030	106	<1.0	<1.0		2.29		2.53						4.8			215.4		
MN-4.5	03/09/2016 14:30	2.51	<0.000010	<0.00010	0.00061	0.000336	0.00065	0.0013	<0.00030	94.5	<1.0	<1.0		2.05		2.22						4.0			194.4		
MN-4.5	10/10/2016 14:45	3.54	<0.000010	<0.00010	<0.00030	0.00113	<0.00050	<0.0010	<0.00030	122	<1.0	<1.0		2.69		2.49						-3.9			235.2		
MN-4.5	10/11/2016 11:55	4.38	<0.000010	<0.00010	<0.00030	0.00190	<0.00050	<0.0010	<0.00030	120	<1.0	<1.0		2.71		2.62						-1.5			274		
MN-0.2	13/05/2009	<3	<0.000002	<0.00001	0.0027	0.000031	0.001	0.0022	0.0005	13	<0.5	<0.5	<0.5					0.001			28.2					41.6	
MN-0.2	28/05/2009	<3	<0.000002	0.00003	0.0009	0.000021	0.0004	0.0001	0.0004	29	<0.5	<0.5	<0.5					0.0016			18.6					33.6	
MN-0.2	25/06/2009	<3	<0.000002	<0.00001	0.0008	0.000028	0.0003	0.0009	0.0005	27	<0.5	<0.5	<0.5					0.001			18.1						
MN-0.2	29/04/2011 10:55	<10	<0.000002	<0.00001	0.0013	0.000016	0.0003	0.0085	0.0002	12	<0.5	<0.5	<0.5					0.001	0.0015		40						
MN-0.2	19/05/2011 15:00	<10	<0.000002	<0.00001	0.0012	0.000023	0.0009	0.0015	0.0002	20	<0.5	<0.5	<0.5					0.0011	0.001		19.2						
MN-0.2	28/06/2011 10:40	<10	<0.000002	<0.00001	0.0009	0.000018	0.0003	0.0009	0.0004	30	<0.5	<0.5	<0.5					0.0012	0.0013		18.6						
MN-0.2	15/07/2011 13:05	<10	<0.000002	0.00005	0.0039	0.000054	0.0019	0.0131	0.0008	19	<0.5	<0.5	<0.5					0.0014	0.002		29.9				50.2		
MN-0.2	10/08/2011 16:00	<10	<0.000002	<0.00001	0.0009	0.000021	0.0008	0.0018	0.0004	35	<0.5	<0.5	<0.5					0.0013	0.002		19				63.5		
MN-0.2	28/10/2011 9:45	<10	<0.000002	0.00004	0.0014	0.000015	0.0004	0.0051	0.0003	44	<0.5	<0.5	<0.5					<0.0005	<0.0005		13.4				147		
MN-0.2	19/04/2012	<10	<0.0000020	<0.00020	0.00093	0.000013	0.00027	0.00774	0.00016	13.8	<0.50	<0.50	<0.50					0.00126	0.00053		32.8						
MN-0.2	24/05/2012	<10	<0.0000020	<0.00020	0.00086	0.0000151	0.00061	0.00161	0.00029	37.3	<0.50	<0.50	<0.50					<0.00050	<0.00050		12.4						
MN-0.2	14/06/2012	<10	<0.0000020	<0.00020	0.00273	0.0000262	0.0012	0.00157	0.00062	19.5	<0.50	<0.50	<0.50					0.0013	0.00156		27.1						
MN-0.2	12/07/2012	<10	<0.0000020	<0.00020	0.00077	0.00002	0.00055	0.00047	0.00039	39.3	<0.50	<0.50	<0.50					0.00059	0.00143		16.8						
MN-0.2	06/08/2012	<10	<0.0000020	<0.00020	0.00125	0.00002	0.00065	0.0009	0.00044	53.4	<0.50	<0.50	<0.50					0.00055	0.00054		15.9						
MN-0.2	07/09/2012	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	52.3	<0.50	<0.50	<0.50					<0.00050	<0.00050		14.2						
MN-0.2	01/10/2012	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	41.6	<0.50	<0.50	<0.50					<0.00050	<0.00050		13.9						

Appendix C - Water Quality Data - McGinty Creek

Stn.Code	Smpl Date	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
			mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MN-0.2	27/05/2013	M	2.9	52		7.32		54.7					24.1	23.9	24.4	1.2	0.09	<0.50	0.019	<0.0050	<0.020	14.9	0.0901	<0.00050	0.00056	0.0312	<0.00010	<0.0010
MN-0.2	17/06/2013	M	1.9	62		7.3		59.5					27.3	25.7	27	0.72	0.085	<0.50	0.019	<0.0050	<0.020	11.5	0.0921	<0.00050	0.00053	0.0316	<0.00010	<0.0010
MN-0.2	15/07/2013	M	42.1	62		7.39		65.9					30.9	29.2	32.5	0.66	0.12	<0.50	0.022	<0.0050	<0.020	12.1	0.085	<0.00050	0.00089	0.0389	<0.00010	<0.0010
MN-0.2	28/08/2013	M	1.6	48		7.44		71.5					33.9	33.4	32.2	0.7	0.12	<0.50	0.034	<0.0020	<0.0020	12.7	0.0808	0.000058	0.000537	0.0328	0.000013	<0.0000050
MN-0.2	11/09/2013 10:45	P	2.2	70		7.53		80					39.7	36.4	38.1	0.88	0.12	<0.50	0.037	<0.050	<0.20	13.2	0.0571	<0.00050	0.0009	0.0376	<0.00010	<0.0010
MN-0.2	16/10/2013 13:20	M	2.1	64		7.23		78.1					35.2	34.5	38.3	0.79	0.097	<0.50	0.016	<0.0050	<0.020	11.3	0.0401	<0.00050	0.0004	0.0327	<0.00010	<0.0010
MN-0.2	16/10/2013 13:20	M			6.78				0.1	7.85	54.4	-27.2																
MN-0.2	16/05/2014 16:30	M	4.2	52	7.2	7.4	44.4	51.9	2.8	7.28	53.6	161.7	22.9	22	23.9	0.83	0.12	<0.50	0.041	<0.0050	<0.020	11.3	0.0972	<0.00050	0.00059	0.0271	<0.00010	<0.0010
MN-0.2	03/06/2014 11:00	M	21.8	66	6.23	7.57	91.8	56.7	1.3	7.49	63.2	88.5	24.6	23.3	25.9	0.78	0.098	<0.50	0.024	<0.0050	<0.020	11.9	0.0646	<0.00050	0.00039	0.0309	<0.00010	<0.0010
MN-0.2	26/07/2014 16:30	M	2.6	57	7.64	7.56	65	65.4	6.3	8.19	66.3	65.6	30.3	28.4	30.1	<0.50	0.11	<0.50	0.012	<0.0050	<0.020	15.4	0.112	<0.00050	0.00061	0.0354	<0.00010	<0.0010
MN-0.2	18/08/2014 10:05	M			7.8		78		6.6																			
MN-0.2	20/09/2014 15:45	M	<1.0	52	7.10	7.42	61.6	67.4	3.6	8.05	60.9	88.6	31.6	30.1	34.1	0.55	0.1	<0.50	0.0081	<0.0050	<0.020	13.7	0.0552	<0.00050	0.00053	0.031	<0.00010	<0.0010
MN-0.2	11/10/2014 16:00	M	100	58	7.33	7.24	47.6	69.2	-1.3	10.04	66.2	79.1	28	30.7	32.1	1.1	0.097	<0.50	0.019	<0.0050	<0.020	13.7	0.196	<0.00050	0.00211	0.0377	<0.00010	<0.0010
MN-0.2	30/05/2015 10:20	M	9.1	55	6.5	7.44	33.2	56.9	4.4	8.68	66.8	140.9	26.4	23.3	28.2	0.75	0.1	0.5	0.026	<0.0050	<0.020	9.36	0.079	<0.00050	0.00152	0.035	<0.00010	<0.0010
MN-0.2	30/06/2015 14:30	M	4	80		7.5		79.9					37	37.6	30.9	0.73	0.11	<0.50	0.023	<0.0050	<0.020		0.127	<0.00050	0.0007	0.0356	<0.00010	<0.0010
MN-0.2	13/07/2015 17:30	M	<1.0	56	6.66	7.53	39.9	58.8	6.5	8.49	69.2	138.6	25.3	25.6	27.3	<0.50	0.11	<0.50	0.066	<0.0050	<0.020		0.0514	<0.00050	0.00032	0.0266	<0.00010	<0.0010
MN-0.2	31/08/2015 11:35	P	14.5	80	8.57	7.46	34.1	61.8	2.4	11.72	86.7	104.1	30.5	29.1	24.7	0.94	0.11	0.57	0.02	<0.0050	<0.020	19	0.206	<0.00050	0.00073	0.0392	<0.00010	<0.0010
MN-0.2	21/09/2015 11:00	P	1.9	76	8.07	7.48	43.3	76	0.9	13.56	95.5	16.9	36.7	39.1	30.6	1	0.12	<0.50	0.057	<0.0050	<0.020	17	0.128	<0.00050	0.0006	0.0326	<0.00010	<0.0010
MN-0.2	19/10/2015 10:55	P	1.2	80	7.81	7.67	44.5	84.1	0	12.64		-33.8	42.8	38	31.8	0.9	0.11	2.9	0.03	<0.0050	<0.020	17.2	0.106	<0.00050	0.0005	0.0337	<0.00010	<0.0010
MN-0.2	06/12/2015 12:00	P	60	90	7.57	7.32	76.4	112	0	4.68	34.7	-66.3	63.3	49.9	52.9	1.3	0.092	<0.50	0.11	<0.050	<0.20	17.3	0.817	<0.00050	0.00742	0.129	<0.00010	<0.0010
MN-0.2	30/04/2016 17:00	P	4.7	28.4		7.11		57.3						29.9	15.6	<0.50		5.45	0.0082	<0.0010	<0.0050	32.1	0.224	<0.00010	0.00040	0.0295	0.000025	<0.000050
MN-0.2	30/04/2016 17:00	P	4.7	28.4	7.34	7.11	29.8	57.3	0.2	13.76	94.4	97.6		29.9	15.6	<0.50		5.45	0.0082	<0.0010	<0.0050	32.1	0.224	<0.00010	0.00040	0.0295	0.000025	<0.000050
MN-0.2	26/05/2016 16:25	P	<3.0	35.7	7.32	6.95	40.5	66.5	3.6	11.66	88	84		32.1	25.2	<0.50		5.98	0.0056	<0.0010	<0.0050	19.5	0.411	0.00014	0.00070	0.0351	0.000039	<0.000050
MN-0.2	20/06/2016 15:35	P	6.7	45.8	7.53	7.34	54.9	85.0	5.6	11.23	89.4	8.7		42.3	35.7	<0.50		5.15	0.0052	<0.0010	<0.0050	19.5	0.105	<0.00010	0.00073	0.0415	<0.000020	<0.000050
MN-0.2	30/07/2016 16:10	P	4.0		7.32	7.24	67	84.5	6.9	11.6	95.3	-4.4		43.1	36.0	<0.50	0.149	5.71	0.0070	<0.0010	<0.0050	25.2	0.121	0.00011	0.00072	0.0405	0.000020	<0.000050
MN-0.2	15/08/2016 15:10	P	<3.0	52.5	6.95	7.60	63	92.3	7.9	10.73	90.5	7.4		49.5	42.9	<0.50		4.99	0.0120	<0.0010	<0.0050	23.2	0.131	<0.00010	0.00089	0.0436	<0.000020	<0.000050
MN-0.2	05/09/2016 15:15	P	5.0	48.1	7.08	7.52	53.8	87.2	4.3	12.18	93.6	33.4		43.8	37.8	<0.50		5.57	0.0080	<0.0010	<0.0050	22.0	0.219	0.00010	0.00077	0.0418	<0.000020	<0.000050
MN-0.2	07/10/2016 15:30	P	13.6	52.3	7.4	7.19	51.4	93.6	-0.1	8.49	58.2	49.2		46.0	45.7	<0.50		3.57	0.0192	<0.0010	0.0056	19.8	0.236	<0.00010	0.00115	0.0487	0.000027	<0.000050
MN-0.5	03/05/2009	B	5	34	6.80	7.1	57.9	43	-1.8				25.8	26.3	13	2.2	0.1	<1	<0.005	0.006	<0.02		0.174	0.00003	0.0003	0.0233	0.00002	<0.000005
MN-0.5	06/05/2009	B	6	46	7.21	7.1	59.7	49	-0.5				28.3	26.8	15	1.9	0.06	<0.5	<0.005	<0.005	<0.02	33.1	0.219	0.00006	0.00036	0.028	0.00002	<0.000005
MN-0.5	13/05/2009	B	7	100	6.65	7.1	49.5	64	-0.7				34.9	35.2	26	1.6	0.09	<5	<0.005	<0.005	<0.02	30.8	0.186	0.00004	0.00039	0.0293	0.00003	<0.000005
MN-0.5	21/05/2009	B	32		8.23	7.8	137.8	100	-1.8	10.77	83.4		51.1	50.1				<0.5	<0.005			15.6	0.224	0.00007	0.00051	0.036	0.00002	<0.000005
MN-0.5	28/05/2009	B	25	110	7.83	7.8	155.3	115	-1.8	12.96	92.9		59.4	58.3	52	1.5	0.21	<0.5	<0.005	<0.005	<0.02	17.3	0.165	0.00008	0.00054	0.0371	0.00002	<0.000005
MN-0.5	25/06/2009	B	4	140	7.77	8	97.4	160	3.5	13.36	100	163.2	70.2	73.2	74	<0.5	0.28	21	0.005	<0.005	0.07	12.8	0.0421	0.00011	0.00036	0.0374	0.00001	<0.000005
MN-0.5	28/07/2009	B	38	140	7.92	8.1	144.5	230	5.3	10.79	85.3	150.9	107	113	110	0.8	0.34	12	<0.005	<0.005	0.04	8.2	0.0135	0.00007	0.00035	0.0496	<0.00001	<0.000005
MN-0.5	29/08/2009	B	46	130	7.97	7.9	113.1	183	3.9	11.51	87.7	98.6	89.3	88.6	86	<0.5	0.3	9.3	<0.005	<0.005	0.02	13.4	0.09	0.0001	0.00053	0.0459	0.00002	<0.000005
MN-0.5	29/09/2009	B	2	150	8.08	8	108.2	206	-0.1	13.48	91.9	75.5	98.6	98	95	1.1	0.34	8.9	0.03	<0.005	0.03	12.3	0.0364	0.00007	0.00037	0.044	<0.00001	<0.000005
MN-0.5	23/10/2009	B	<1	130		8.1		230					108	116	110	1.2	0.39	14	<0.005	<0.005	0.1	7	0.0072	0.00006	0.00033	0.0468	<0.00001	<0.000005
MN-0.5	27/11/2009	B	<1	140	7.77	8	144.6	266	-0.1	12.14	83	104.7	124	127	130	1.1	0.42	31	0.027	<0.005	1.69	5.4	0.012	0.00005	0.00027	0.0545	<0.00001	<0.000005
MN-0.5	15/12/2009	B	3	150	5.36	8	78.2	278	0			150	129	133	140	0.6	0.46	17	<0.005	<0.005	0.13	4.6	0.0195	0.0001	0.00028	0.0621	<0.00001	<0.000005
MN-0.5	25/01/2010	B	<1	200	5.49	8	139.7	330	-0.1	1.61	11.6	121.3	159	163	150	0.9	0.66	23	<0.005	<0.005	0.12	4.5	0.0039	0.00004	0.00032	0.0533	<0.00001	<0.000005
MN-0.5	22/04/2010	B	<1	64	7.35	7.3	41.2	69	0.0	11.83	86.7	159.6	41.2	42.9	28	2	0.1	<0.5	0.07	<0.03	<0.1	48.7	0.197	0.00003	0.00035	0.0309	0.00003	<0.000005
MN-0.5	28/05/2010	B	4	140	7.68	8.2	103.8	194	0.3	14.15	98.2	338.2	86.2	87.6	92	<0.5	0.35	10	0.029	<0.005	<0.02	8.3	0.0247	0.00006	0.00041	0.0435	<0.00001	0.000012
MN-0.5	28/06/2010	B	4	140	7.97	7.76	189.9	189	3.8	11.45	93	79.3	88.8	90.2	89	<0.5	0.35	11	<0.05	<0.005	0.06	10	0.118	0.00009	0.00048	0.0484	0.00002	<0.000005
MN-0.5	18/08/2010	B	670	110	7.84	7.82	144.3	154	5.7	10.52	90.6	34.4	108	73.7	72	0.9	0.24	2.2	0.33	0.01	<0.02	20.4	3.75	0.00019	0.00353	0.234	0.00037	0.000009
MN-0.5	15/09/2010	B	4	110	7.80	7.87	85.1	147	2.7	13.24	97.7	298.0	66.1	74.2	66	<0.5	0.23	6.5	0.25	<0.005	0.02	19.4	0.063	0.00009	0.00046	0.0409	0.00001	<0.000005
MN-0.5	21/10/2010	B	<4	130	7.75	7.9	89.3	184	-0.1			321.1	87.6	92.5	85	<0.5	0.31	7.5	0.021	<0.005	0.07	13.4	0.0332	0.00008	0.00038	0.0453	<0.00001	<0.000005
MN-0.5	29/04/2011 11:47	B	2	90	7.49	7.38		97	0	13.75	100.6	138.1	52	48.2	42	2.1	0.14	<5	0.043	<0.005	<0.02	36	0.0678	0.00004	0.00037	0.0364	0.00001	<0.000005
MN-0.5	19/05/2011 14:00	B	25	60	7.81	7.29	37.3	70	0.3	14.64	99.9	105.7	35.9	35.7	31	2	0.13	<0.5	<0.005	<0.005	<0.02	25.2	0.283	0.00006	0.00047	0.0324	0.00002	<0.00002
MN-0.5	28/06/2011 11:00	B	54	100	7.64	7.52	73.3	118	4.8	11.97	101.3	53.7	61.9	62.4	53	1.7	0.21	<0.5	0.039	<0.005	<0.02	21.9	0.346	0.00014	0.00077	0.0451	0.00004	<0.000005
MN-0.5	15/07/2011 14:45	B	330	94	7.15	7.41		90	6.2	10.3	90	304.5	64.8	44.8	38	1.5	0.17	<0.5	0.064	0.005	<0.02	27	6.22	0.00029	0.00336	0.16	0.00023	0.00006
MN-0.5	10/08/2011 16:35	B	150	110	7.72	7.3		110	5.6	12.48	99.3	256.1	68.9	53.6	48	1.7	0.18	<0.5	0.083	<0.005	<0.02	22.7	3.23	0.00023	0.00215	0.101	0.00012	0.00003
MN-0.5	28/10/2011 11:40	B	7	130	7.96	7.92		210	0.2				105	101	90	0.6	0.34	8.9	0.036	<0.005	0.12	9.3	0.0794	0.00007	0.00045	0.0512	<0.00001	<0.000005
MN-0.5	19/04/2012	M	4.5	116		7.55		102					54.7	51.3	43.9	1.4	0.15	<0.50	0.0097	<0.0050	<0.020	32.9	0.0534	0.000031	0.000411	0.0319	0.000011	<0.0000050
MN-0.5	24/05/2012	M	68.5	120		7.87		131					64.5	63.8	59.7	1	0.26	2.3	0.017	<0.050	<0.20	13.4	0.29	0.000079	0.000705	0.0473	0.00003	<0.0000050
MN-0.5	14/06/2012	M	673	66		7.54		88.8					75.3	44.1	39.2	1.2	0.19	<0.50	0.019	<0.050	<0.20	19.9	3.54	0.000141	0.00388	0.23	0.000311	0.0000077
MN-0.5	12/07/2012	M	201	112		7.95		171					93.6	82.9	78.7	0.95	0.3	3.1	0.058	<0.050	<0.20	13.2	1.87	0.000146	0.00193	0.117	0.000114	0.000011
MN-0.5	06/08/2012	M	278	144		8.08		203					117	98.5	96.8	1.2	0.34	5.68	0.03	0.0137	0.064	11.3	2.54	0.000142	0.00229	0.141	0.000175	0.00001
MN-0.5	07/09/2012	P	114	124		8.05		186					92.9	96	88.6	1.2	0.29	4.67	0.0094	<0.0050	0.057	13.5	0.42	<0.00050	0.00083	0.0603	<0.00010	<0.0010
MN-0.5	01/10/2012	M	23.1	146		8.01		187					94.4	90.7	88.3	1.1	0.29	6.17	0.011	<0.0050	0.077	12.2	0.118	<0.00050	0.00066	0.0519	<0.00010	<0.0010
MN-0.5	27/05/2013	M	25.2	102		7.81		117					59.5	57.4	52.9	1.2	0.21	<0.50	0.021	<0.0050	<0.020	13	0.612	<0.00050	0.00068	0.0439	<0.00010	<0.0010
MN-0.5	17/06/2013	M	83.4	126		7.89		171					91.1	79.9	78.4	1.1	0.29	7.27	0.021	<0.0050	0.058	9.15	1.88	<0.00050	0.00156	0.0809	<0.00010	<0.0010
MN-0.5	15/07/2013	M	732	122		7.98		203					150	97.9	93.6	1.1	0.37	8.28	0.048	<0.0050	0.14	9.2	16.1	0.00068	0.00784	0.319	0.00052	<0.0010
MN-0.5	28/08/2013	M	55	116		7.87		162					83.5	76.8	73.5	0.8	0.26	4.11	0.038	0.002	0.0576	12	0.0916	0.000091	0.000726	0.0487	0.000027	<0.0000050
MN-0.5	11/09/2013 12:15	P	32	128		7.78		183					96.1	87.2	82.7	0.81	0.29	7.55	0.046	<0.050	<0.20	12.3	0.739	<0.00050	0.00095	0.0633	<0.00010	<0.0010

Appendix C - Water Quality Data - McGinty Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T	V-T	Zn-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MN-0.2	27/05/2013	<0.05	0.00001	6.18	<0.0010	0.00057	0.0034	0.632	<0.00020	<0.0050	2.1	0.216	<0.000010	<0.0010	0.0018	0.028	1.85	<0.00010	4.55	<0.000020	2.09	0.0416	<3.0	<0.000050	<0.0050	0.0259	<0.00010	<0.0050	<0.0050
MN-0.2	17/06/2013	<0.05	<0.000010	7.15	<0.0010	<0.00050	0.00268	0.411	<0.00020	<0.0050	2.3	0.0516	<0.000010	<0.0010	0.0016	0.017	0.762	<0.00010	6.83	<0.000020	2.91	0.047	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050
MN-0.2	15/07/2013	<0.05	0.000017	8.11	<0.0010	0.00057	0.00339	0.903	<0.00020	<0.0050	2.59	0.2	<0.000010	<0.0010	0.0017	0.022	0.485	0.00012	7.91	0.000028	3.29	0.0545	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050
MN-0.2	28/08/2013	<0.05	<0.0000050	8.64	0.00039	0.000264	0.00191	0.338	0.000021	<0.00050	2.99	0.0857	<0.000010	0.000258	0.00165	0.0073	0.49	0.000078	7.67	<0.0000050	3.23	0.064	<3.0	<0.0000020	<0.00020	0.00062	0.000018	0.00065	0.00278
MN-0.2	11/09/2013 10:45	<0.05	<0.000010	10.2	<0.0010	<0.00050	0.00291	0.737	<0.00020	<0.0050	3.43	0.146	<0.000010	<0.0010	0.0019	0.013	0.545	0.00012	8.57	<0.000020	3.56	0.0689	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050
MN-0.2	16/10/2013 13:20	<0.05	<0.000010	8.76	<0.0010	<0.00050	0.00173	0.392	<0.00020	<0.0050	3.24	0.0772	<0.000010	<0.0010	0.0014	<0.01	0.432	<0.00010	7.22	<0.000020	3.27	0.0582	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050
MN-0.2	16/10/2013 13:20																												
MN-0.2	16/05/2014 16:30	<0.05	0.000025	5.88	<0.0010	<0.00050	0.00311	0.65	<0.00020	<0.0050	1.99	0.0894	<0.000010	<0.0010	0.002	0.031	1.04	<0.00010	4.95	<0.000020	2.4	0.037	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050
MN-0.2	03/06/2014 11:00	<0.05	<0.000010	6.23	<0.0010	<0.00050	0.00472	0.389	<0.00020	<0.0050	2.19	0.0388	<0.000010	<0.0010	0.0017	0.011	0.541	<0.00010	5.68	<0.000020	2.78	0.0399	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050
MN-0.2	26/07/2014 16:30	<0.05	<0.000010	7.86	<0.0010	<0.00050	0.00286	0.646	<0.00020	<0.0050	2.59	0.0832	<0.000010	<0.0010	0.0017	0.01	0.457	<0.00010	7.68	<0.000020	3.19	0.0517	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050
MN-0.2	18/08/2014 10:05																												
MN-0.2	20/09/2014 15:45	<0.05	<0.000010	7.9	<0.0010	<0.00050	0.00361	0.291	<0.00020	<0.0050	2.88	0.0372	<0.000010	<0.0010	0.0017	0.012	0.448	<0.00010	7.56	<0.000020	3.56	0.0547	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050
MN-0.2	11/10/2014 16:00	<0.05	<0.000010	6.93	<0.0010	0.00059	0.00245	2.68	<0.00020	<0.0050	2.59	0.148	<0.000010	<0.0010	0.0016	0.053	0.415	<0.00010	6.16	<0.000020	2.9	0.0493	<3.0	<0.000050	<0.0050	0.0089	<0.00010	<0.0050	<0.0050
MN-0.2	30/05/2015 10:20	<0.05	<0.000010	6.95	<0.0010	<0.00050	0.00313	1.66	<0.00020	<0.0050	2.2	0.082	<0.000010	<0.0010	0.0016	0.048	0.669	<0.00010	6.44	<0.000020	2.98	0.0451	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050
MN-0.2	30/06/2015 14:30	<0.05	<0.000010	9.71	<0.0010	0.00052	0.0026	1.01	<0.00020	<0.0050	3.1	0.0907	<0.000010	<0.0010	0.0015	0.028	0.214	<0.00010	5.76	<0.000020	3.15	0.0692	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050
MN-0.2	13/07/2015 17:30	<0.05	<0.000010	6.77	<0.0010	<0.00050	0.00234	0.315	<0.00020	<0.0050	2.04	0.044	<0.000010	<0.0010	0.0013	0.012	0.408	<0.00010	6.88	<0.000020	2.99	0.0426	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050
MN-0.2	31/08/2015 11:35	<0.05	0.000013	8.09	<0.0010	0.00065	0.00344	1	<0.00020	<0.0050	2.51	0.199	<0.000010	<0.0010	0.0018	0.036	0.423	<0.00010	7.52	<0.000020	2.85	0.0518	<3.0	<0.000050	<0.0050	0.0065	<0.00010	<0.0050	<0.0050
MN-0.2	21/09/2015 11:00	<0.05	<0.000010	9.63	<0.0010	<0.00050	0.00289	0.859	<0.00020	<0.0050	3.08	0.0618	<0.000010	<0.0010	0.0016	0.018	0.152	<0.00010	6.76	<0.000020	3.06	0.0544	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050
MN-0.2	19/10/2015 10:55	<0.05	<0.000010	11.5	<0.0010	<0.00050	0.00252	0.8	<0.00020	<0.0050	3.42	0.0568	<0.000010	<0.0010	0.0012	0.017	0.191	<0.00010	7.91	<0.000020	3.25	0.0632	7	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050
MN-0.2	06/12/2015 12:00	<0.05	0.00004	16	0.0031	0.00414	0.00463	16.8	0.00045	<0.0050	5.69	1.13	<0.000010	<0.0010	0.0033		0.567	0.00015	10.1	<0.000020	4.49	0.118	<3.0	<0.000050	<0.0050	0.0362	<0.00010	0.0075	<0.0050
MN-0.2	30/04/2016 17:00	<0.010	0.0000077	7.24	0.00062	0.00040	0.00470	0.658	0.000056	<0.0010	2.31	0.0648	0.0000170	0.000173	0.00165	<0.050	0.58	0.000067	3.57	<0.000010	1.91	0.0440	1.90	<0.000010	<0.00010	0.00672	0.000045	0.00082	<0.0030
MN-0.2	30/04/2016 17:00	<0.010	0.0000077	7.24	0.00062	0.00040	0.00470	0.658	0.000056	<0.0010	2.31	0.0648	0.0000170	0.000173	0.00165	<0.050	0.58	0.000067	3.57	<0.000010	1.91	0.0440	1.90	<0.000010	<0.00010	0.00672	0.000045	0.00082	<0.0030
MN-0.2	26/05/2016 16:25	<0.010	0.0000059	8.04	0.00111	0.00048	0.00360	1.05	0.000126	<0.0010	2.68	0.0564	<0.0000050	0.000237	0.00167	<0.050	0.30	0.000114	5.04	<0.000010	2.79	0.0516	2.13	0.000011	<0.00010	0.0162	0.000039	0.00158	<0.0030
MN-0.2	20/06/2016 15:35	<0.010	<0.0000050	11.2	0.00065	0.00051	0.00262	0.928	<0.000050	<0.0010	3.54	0.0895	<0.0000050	0.000252	0.00155	<0.050	0.28	0.000082	5.86	<0.000010	3.46	0.0702	1.97	<0.000010	<0.00010	0.00243	0.000024	0.00086	<0.0030
MN-0.2	30/07/2016 16:10	<0.010	0.0000067	11.2	0.00084	0.00046	0.00263	0.748	0.000059	<0.0010	3.54	0.0738		0.000252	0.00173	<0.050	0.18	0.000108	6.66	<0.000010	3.68	0.0704	2.19	<0.000010	<0.00010	0.00300	0.000037	0.00093	<0.0030
MN-0.2	15/08/2016 15:10	<0.010	0.0000068	13.2	0.00083	0.00058	0.00217	1.17	<0.000050	<0.0010	4.04	0.101	<0.000025	0.000277	0.00183	<0.050	0.21	0.000106	7.22	<0.000010	3.59	0.0767	2.01	<0.000010	<0.00010	0.00400	0.000037	0.00108	<0.0030
MN-0.2	05/09/2016 15:15	<0.010	<0.0000050	11.6	0.00099	0.00051	0.00260	1.11	0.000071	<0.0010	3.73	0.0803	<0.0000050	0.000381	0.00175	<0.050	0.21	0.000106	7.25	<0.000010	3.33	0.0748	2.31	<0.000010	<0.00010	0.00837	0.000048	0.00127	<0.0030
MN-0.2	07/10/2016 15:30	<0.010	0.0000076	12.6	0.00098	0.00102	0.00212	2.38	0.000084	<0.0010	3.88	0.223	<0.0000050	0.000140	0.00175	0.065	0.26	0.000085	7.72	<0.000010	3.41	0.0775	1.27	<0.000010	<0.00010	0.00922	0.000037	0.00164	<0.0030
MN-0.5	03/05/2009	<0.05	0.000037	7.17	0.0003	0.000217	0.00296	0.182	0.000035	<0.0005	1.92	0.0365		0.00018	0.0012		1.41	0.00008	1.72	<0.000005	0.78	0.0408	<3	<0.000002	<0.00001	0.0023	0.000068	0.0003	0.0062
MN-0.5	06/05/2009	<0.05	0.000066	7.73	0.0005	0.000308	0.00455	0.29	0.000283	<0.0005	2.18	0.0352	<0.00001	0.00016	0.00206		1.24	0.00007	1.89	0.000007	1	0.0451	<3	<0.000002	0.00003	0.0034	0.000066	0.0008	0.0111
MN-0.5	13/05/2009	<0.05	0.000015	9.78	0.0005	0.000243	0.00318	0.358	0.000074	<0.0005	2.55	0.0257	<0.00001	0.00023	0.00191		0.91	0.00008	3.03	0.000025	1.47	0.0587	<3	<0.000002	<0.00001	0.0038	0.000104	0.0007	0.0023
MN-0.5	21/05/2009	<0.05	0.000031	14.1	0.0006	0.000358	0.00265	0.479	0.000267	0.0007	3.84	0.0629	<0.00001	0.00054	0.00185		0.84	0.00013	3.73	0.000008	2.82	0.102	<3	0.000002	<0.00001	0.009	0.000272	0.0013	0.0038
MN-0.5	28/05/2009	<0.05	0.000014	16.8	0.0003	0.000304	0.00269	0.354	0.000179	0.0007	4.24	0.0468		0.00059	0.00168		0.7	0.00014	4.97	<0.000005	3.15	0.112	<3	<0.000002	<0.00001	0.0045	0.000251	0.0015	0.0016
MN-0.5	25/06/2009	<0.05	0.000005	19.8	0.0002	0.000092	0.00179	0.111	0.000062	0.0008	5.07	0.00503	<0.00001	0.00098	0.00118		0.55	0.00022	4.73	<0.000005	4.29	0.153	4	<0.000002	<0.00001	0.0017	0.000292	0.0008	0.0006
MN-0.5	28/07/2009	<0.05	<0.000005	31.1	<0.0001	0.000042	0.00103	0.028	0.000011	0.0009	7.21	0.00253	<0.00001	0.00133	0.00071		0.76	0.00017	5.49	<0.000005	5.75	0.211	5	<0.000002	<0.00001	0.0008	0.000552	0.0006	0.0002
MN-0.5	29/08/2009	<0.05	0.000012	25.3	0.0004	0.000167	0.00219	0.191	0.000145	0.0009	6.34	0.0138	0.00001	0.00096	0.0016		0.63	0.0002	6.79	<0.000005	4.98	0.169	4	<0.000002	<0.00001	0.0032	0.000309	0.0008	<0.0001
MN-0.5	29/09/2009	<0.05	0.000009	27.8	0.0004	0.000096	0.00155	0.092	0.00003	0.001	7.1	0.00793		0.00106	0.00103		0.7	0.00017	6.46	<0.000005	5.57	0.18	5	<0.000002	<0.00001	0.0016	0.000387	0.0005	0.0016
MN-0.5	23/10/2009	<0.05	<0.000005	30.5	0.0001	0.000037	0.00087	0.025	<0.000005	0.0011	7.69	0.00358	<0.00001	0.00128	0.00065		0.72	0.00024	6.38	<0.000005	6.05	0.2	6	<0.000002	<0.00001	<0.0005	0.000545	0.0003	0.0002
MN-0.5	27/11/2009	<0.05	0.000026	36.7	0.0002	0.000034	0.00077	0.026	0.000079	0.0013	7.9	0.00407	<0.00001	0.00132	0.00045		0.86	0.0002	6.85	<0.000005	5.86	0.241	6	<0.000002	<0.00001	<0.0005	0.000668	0.0003	0.0022
MN-0.5	15/12/2009	<0.05	0.000021	37.2	0.0001	0.000052	0.00163	0.044	0.000119	0.0013	8.79	0.00576	<0.00001	0.00134	0.00054		0.99	0.00025	5.77	<0.000005	7.14	0.269	5	<0.000002	<0.00001	<0.0005	0.000757	0.0004	0.0017
MN-0.5	25/01/2010	<0.05	0.00001	45.7	0.0002	0.00003	0.00049	0.008	0.000067	0.0023	10.8	0.00088	<0.00001	0.00104	0.00024		1.68	0.0003	7.19	0.000007	11.5	0.27	9	<0.000002	<0.00001	0.0007	0.00131	0.0003	0.0008
MN-0.5	22/04/2010	<0.05	0.000029	11.3	0.0004	0.000136	0.00435	0.235	0.000016	0.0007	3.15	0.0106	0.00001	0.00021	0.00156		1.33	0.00009	3.05	<0.000005	1.88	0.0688	<10	<0.000002	<0.00001	0.0022	0.000081	0.0003	0.0053
MN-0.5	28/05/2010	<0.05	0.000005	24.6	<0.0001	0.000091	0.00098	0.088	0.000044	0.0008	6	0.0177	<0.00001	0.00114	0.00084		0.84	0.0002	4.6	<0.000005	4.56	0.183	<10	<0.000002	<0.00001	0.0006	0.000543	0.0006	0.0007
MN-0.5	28/06/2010	<0.05	0.000006	24.9	0.0003	0.000203	0.0018	0.26	0.000115	0.0008	6.45	0.0203		0.00108	0.00135		0.76	0.00016	5.26	<0.000005	5.13	0.188	<10	<0.000002	<0.00001	0.0039	0.000433	0.0011	0.0013
MN-0.5	18/08/2010	<0.05	0.000278	28.2	0.0076	0.00637	0.0275	6.56	0.00563	0.0035	9.12	0.387	<0.00001	0.00052	0.0186		0.79	0.00021	9.53	<0.000005	4.38	0.179	<10	0.000024	<0.00001	0.0425	0.000732	0.0216	0.0331
MN-0.5	15/09/2010	<0.05	0.000013	17.7	0.0004	0.000126	0.00237	0.224	0.000091	<0.0005	5.34	0.0144	<0.00001	0.00076	0.00163		0.48	0.00015	5.56	<0.000005	4.01	0.127	<10	<0.000002	<0.00001	0.0018	0.000206	0.0008	0.0033
MN-0.5	21/10/2010	<0.05	0.000029	24.2	0.0004	0.000083	0.00165	0.131	0.000055	0.0008	6.59	0.00906	<0.00001	0.00095	0.00108		0.6	0.00018	6.57	<0.000005	4.59	0.167	<10	<0.000002	<0.00001	0.0008	0.000344	0.0004	0.0015
MN-0.5	29/04/2011 11:47	<0.05	0.000025	15.1	0.0002	0.0001	0.00299	0.137	0.000018	<0.0005	3.47	0.00806	0.00001	0.0003	0.00113		2.47	0.0001	3.82	<0.000005	1.88	0.093	<10	<0.000002	<0.00001	0.0008	0.000114	0.0004	0.0028
MN-0.5	19/05/2011 14:00	<0.05	0.000037	10.3	0.0006	0.00029	0.0024	0.663	0.00016	0.0005	2.4	0.0317	<0.00001	0.00044	0.0016		0.7	0.00013	3.48	0.000009	1.5	0.0734	<50	0.000003	<0.0002	0.009	0.000141	0.0012	0.002
MN-0.5	28/06/2011 11:00	<0.05	0.000034	17.4	0.001	0.000543	0.0044	0.8	0.000523	0.0008	4.49	0.0479	<0.00001	0.0005	0.00293		0.41	0.00017	6.22	<0.000005	3.27	0.108	<10	0.000003	<0.00001	0.0112	0.000224	0.0023	0.0039
MN-0.5	15/07/2011 14:45	<0.05	0.000152	16.1	0.0115	0.005	0.0179	9.17	0.00348	0.0044	6	0.282	<0.000002	0.00066	0.0142		0.9	0.00024	14.8	0.000052	3.2	0.117	<50	0.000059	<0.0002	0.246	0.00061	0.0211	0.022
MN-0.5	10/08/2011 16:35	<0.05	0.000067	18.5	0.0064	0.00234	0.0094	5.25	0.00177	0.0027	5.5	0.113	<0.00001	0.00073	0.0074	0.145	0.7	0.00019	12	0.000034	3.5	0.116	<50	0.000031	<0.0002	0.151	0.000401	0.012	0.013
MN-0.5	28/10/2011 11:40	<0.05	0.000015	30	0.0004	0.000141	0.00143	0.275	0.000134	0.0009	7.27	0.0278	<0.00001	0.00091	0.00108	0.019	0.69	0.0002	7.1	0.000005	5.22	0.191	<10	<0.000002	<0.00001	0.0028	0.00046	0.0008	0.0022
MN-0.5	19/04/2012	<0.05	0.0000198	16	0.00023	0.0000923	0.00307	0.185	0.0000265	0.00059	3.55	0.00921	<0.000010	0.00039	0.00101	0.0628	2.15	0.000106	3.96	0.0000058	2.19	0.103	<10	<0.0000020	<0.00020	0.00157	0.000107	0.00039	0.00258
MN-0.5	24/05/2012	<0.05	0.0000306	18	0.00072	0.000442	0.00286	0.997	0.000314	0.00079	4.77	0.0574	<0.000000010	0.000683	0.00202	0.0686	0.742	0.000216	5.1	0.0000074	3.31	0.121	<10	<0.0000020	<0.00020	0.0109	0.000302	0.0022	0.00262
MN-0.5	14/06/2012	<0.05	0.0003	20.3	0.00575	0.0063	0.0212	8.77	0.00429	0.00252	6	0.645	<0.000010	0.000212	0.0158	0.815	0.629	0.000198	9.13	0.0000322	2.96	0.134	<10	0.0000195	<0.00020	0.06	0.000734	0.0224	0.0301
MN-0.5	12/07/2012	<0.05	0.000115	25.9	0.00353	0.00204	0.00958	3.21	0.00183	0.00173	7.01	0.118	<0.000010	0.000537	0.0066	0.147	0.681	0.000219	8.91	0.00003	4.52	0.165	<10	0.000012	0.00026	0.0477	0.000479	0.00837	0.0119
MN-0.5	06/08/2012	<0.05	0.000152	31.9	0.00491	0.00325	0.0136	4.61	0.00252	0.00259	9.09	0.187		0.000543	0.011		1	0.000215	10.1	0.000043	5.31	0.21	<10	0.000021	0.00025	0.0704	0.000691	0.0116	0.0179
MN-0.5	07/09/2012	<0.05	0.000021	26.2	<0.0010	0.00078	0.00364	1.38	0.00056	<0.0050	6.66	0.0803	<0.000010	<0.0010	0.0033	0.136	0.699	0.00013	6.82	<0.000020	4.51	0.167	<3.0	<0.000050	<0.0050	0.0132	0.00036	<0.0050	<0.0050
MN-0.5	01/10/2012	<0.05	0.000021	27	0.0019	<0.00050	0.0024	0.787	0.00026	<0.0050	6.55	0.0593	<0.000010	0.001	0.0018	0.03	0.657	0.0002	6.15	<0.000020	5.03	0.189	<3.0	<0.000050	<0.0050	<0.0050	0.00041	<0.0050	0.0471
MN-0.5	27/05/2013	<0.05	<0.000010	16.6	0.0012	0.0005	0.00302	1.18	0.00026	<0.0050	4.36	0.0755	<0.000010	<0.0010	0.002	0.051	0.97	0.0002	5.03	<0.000020	3.13	0.129	<3.0	<0.000050	<0.0050	0.0259	0.00025	<0.0050	<0.0050
MN-0.5	17/06/2013	<0.05	0.000027	25.4	0.0033	0.00138	0.00542	2.89	0.0009	<0.0050	6.73	0.122	<0.000010	0.0013	0.0043	0.11	0.999	0.00022	8.95	<0.000020	4.81	0.186	<3.0	<0.000050	<0.0050	0.0947	0.00053	0.0068	0.0074
MN-0.5	15/07/2013	<0.05	0.000216	38.7	0.0269	0.00946	0.0317	22.7	0.00673	0.013	13.1	0.365	0.000026	0.0017	0.0261	0.536	2.29	0.00055	37.2	0.000082	6.28	0.275	<3.0	0.000132	<0.0050	0.735	0.00131	0.047	0.0497
MN-0.5	28/08/2013	<0.05	0.000017	24	0.00049	0.000193	0.00251	0.538	0.000141	0.00081	5.71	0.0174	<0.000010	0.000823	0.0016	0.0236	0.548	0.000207	6.87	<0.0000050	4.45	0.154	3.7	<0.0000020	<0.00020	0.00226	0.000324	0.00139	0.00942
MN-0.5	11/09/2013 12:15	<0.05	<0.000010	26.3	0.0017	0.00056	0.0032	1.56	0.00033	<0.0050	7.37	0.0478	<0.000010	0.0011	0.0026	0.046	0.748	0.00037	8	<0.000020	5.2	0.184	<3.0	<0.000050	<0.0050	0.0359	0.00046	<0.0050	<0.0050

Appendix C - Water Quality Data - McGinty Creek

Stn.Code	Smpl Date	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D	Se-D	Si-D	Ag-D	Na-D	Sr-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MN-0.2	27/05/2013	<0.00050	0.0432	<0.00050	0.00056	0.0308	<0.00010	<0.0010	<0.05	<0.000010	6.12	<0.0010	0.00054	0.00292	0.47	<0.00020	<0.0050	2.08	0.211	<0.000010	<0.0010	0.0014	0.018	1.82	<0.00010	4.05	<0.000020	2.09	0.0435
MN-0.2	17/06/2013	<0.00050	0.0377	<0.00050	0.00046	0.0292	<0.00010	<0.0010	<0.05	<0.000010	6.7	<0.0010	<0.00050	0.00235	0.237	<0.00020	<0.0050	2.17	0.0383	<0.000010	<0.0010	0.0016	<0.01	0.72	<0.00010	6.72	<0.000020	2.94	0.0447
MN-0.2	15/07/2013	<0.00050	0.0389	<0.00050	0.00041	0.0316	<0.00010	<0.0010	<0.05	<0.000010	7.69	<0.0010	<0.00050	0.0022	0.162	<0.00020	<0.0050	2.42	0.0523	<0.000010	<0.0010	0.0016	<0.01	0.44	<0.00010	8.31	<0.000020	3.16	0.0509
MN-0.2	28/08/2013	0.00037	0.0349	0.00006	0.000495	0.0308	0.000014	<0.0000050	<0.05	<0.0000050	8.47	0.00036	0.000056	0.00197	0.185	0.000009	<0.00050	2.98	0.00298	<0.000010	0.000249	0.00161	0.0073	0.477	0.000066	7.68	0.000011	3.1	0.0637
MN-0.2	11/09/2013 10:45	<0.00050	0.0428	<0.00050	0.00069	0.0348	<0.00010	<0.0010	<0.05	<0.000010	8.99	<0.0010	<0.00050	0.00185	0.371	<0.00020	<0.0050	3.39	0.117	<0.000010	<0.0010	0.0018	<0.01	0.536	<0.00010	7.3	<0.000020	3.26	0.0649
MN-0.2	16/10/2013 13:20	<0.00050	0.0337	<0.00050	0.0004	0.031	<0.00010	<0.0010	<0.05	<0.000010	8.97	<0.0010	<0.00050	0.00178	0.179	<0.00020	<0.0050	2.94	0.0454	<0.000010	<0.0010	0.0014	<0.01	0.405	<0.00010	8.08	<0.000020	3.06	0.061
MN-0.2	16/10/2013 13:20																												
MN-0.2	16/05/2014 16:30	<0.00050	0.0422	<0.00050	0.00047	0.0267	<0.00010	<0.0010	<0.05	0.000018	5.61	<0.0010	<0.00050	0.00254	0.361	<0.00020	<0.0050	1.93	0.0779	<0.000010	<0.0010	0.0017	0.016	1.04	<0.00010	4.19	<0.000020	2.24	0.0387
MN-0.2	03/06/2014 11:00	<0.00050	0.0396	<0.00050	0.00036	0.0295	<0.00010	<0.0010	<0.05	<0.000010	6.01	<0.0010	<0.00050	0.00295	0.228	<0.00020	<0.0050	2.02	0.0368	<0.000010	<0.0010	0.0017	<0.01	0.554	<0.00010	5.52	<0.000020	2.7	0.0409
MN-0.2	26/07/2014 16:30	<0.00050	0.0357	<0.00050	0.00037	0.0302	<0.00010	<0.0010	<0.05	<0.000010	7	<0.0010	<0.00050	0.00227	0.124	<0.00020	<0.0050	2.64	0.0259	<0.000010	<0.0010	0.0013	<0.01	0.439	<0.00010	6.8	<0.000020	3.22	0.0475
MN-0.2	18/08/2014 10:05																												
MN-0.2	20/09/2014 15:45	<0.00050	0.0649	<0.00050	0.00044	0.03	<0.00010	<0.0010	<0.05	0.00001	7.57	<0.0010	<0.00050	0.0029	0.22	<0.00020	<0.0050	2.73	0.0379	<0.000010	<0.0010	0.0014	0.016	0.465	<0.00010	7.73	<0.000020	3.09	0.05
MN-0.2	11/10/2014 16:00	<0.00050	0.0361	<0.00050	0.0005	0.0291	<0.00010	<0.0010	<0.05	<0.000010	7.58	<0.0010	<0.00050	0.00194	0.365	<0.00020	<0.0050	2.86	0.0588	<0.000010	<0.0010	0.0012	<0.01	0.368	<0.00010	7.22	<0.000020	3.14	0.0509
MN-0.2	30/05/2015 10:20	<0.00050	0.035	<0.00050	0.00037	0.026	<0.00010	<0.0010	<0.05	<0.000010	5.99	<0.0010	<0.00050	0.00244	0.247	<0.00020	<0.0050	2.01	0.0289	<0.000010	<0.0010	0.0015	0.01	0.702	<0.00010	5.63	<0.000020	2.74	0.0391
MN-0.2	30/06/2015 14:30	<0.00050	0.0904	<0.00050	0.00066	0.0347	<0.00010	<0.0010	<0.05	<0.000010	10.1	<0.0010	0.00051	0.00201	0.743	<0.00020	<0.0050	3	0.0885	<0.000010	<0.0010	0.0014	0.02	0.215	<0.00010	5.24	<0.000020	3.16	0.0613
MN-0.2	13/07/2015 17:30	<0.00050	0.0394	<0.00050	0.00032	0.0279	<0.00010	<0.0010	<0.05	<0.000010	6.49	<0.0010	<0.00050	0.00236	0.104	<0.00020	<0.0050	2.27	0.0109	<0.000010	<0.0010	0.0013	<0.01	0.421	<0.00010	6.6	<0.000020	3.33	0.0466
MN-0.2	31/08/2015 11:35	<0.00050	0.0715	<0.00050	0.0004	0.027	<0.00010	<0.0010	<0.05	<0.000010	7.61	<0.0010	<0.00050	0.00323	0.208	<0.00020	<0.0050	2.45	0.0138	<0.000010	<0.0010	0.0016	0.013	0.415	0.00012	6.84	<0.000020	3.05	0.0488
MN-0.2	21/09/2015 11:00	0.00073	0.123	<0.00050	0.00055	0.0333	<0.00010	<0.0010	<0.05	<0.000010	10.4	<0.0010	<0.00050	0.00186	0.711	<0.00020	<0.0050	3.18	0.0636	<0.000010	<0.0010	0.0015	0.02	0.184	<0.00010	7.02	<0.000020	3.28	0.0608
MN-0.2	19/10/2015 10:55	0.00057	0.0985	<0.00050	0.00042	0.0337	<0.00010	<0.0010	<0.05	<0.000010	9.81	<0.0010	<0.00050	0.00168	0.515	<0.00020	<0.0050	3.28	0.0518	<0.000010	<0.0010	0.0012	0.018	0.165	0.0001	6.99	<0.000020	2.88	0.0621
MN-0.2	06/12/2015 12:00	0.0014	0.137	<0.00050	0.00388	0.0737	<0.00010	<0.0010	<0.05	<0.000010	13.1	0.0011	0.00306	0.00202	10.3	<0.00020	<0.0050	4.16	0.876	<0.000010	<0.0010	0.0019	0.122	0.335	<0.00010	6.99	<0.000020	3.28	0.0859
MN-0.2	30/04/2016 17:00	0.00040	0.137	<0.00010	0.00035	0.0293	0.000026	<0.000050	<0.010	<0.0000050	7.89	0.00043	0.00035	0.00454	0.367	<0.000050	<0.0010	2.48	0.0587	0.0000103	0.000143	0.00165	<0.050	0.59	0.000081	3.68	<0.000010	2.06	0.0463
MN-0.2	30/04/2016 17:00	0.00040	0.137	<0.00010	0.00035	0.0293	0.000026	<0.000050	<0.010	<0.0000050	7.89	0.00043	0.00035	0.00454	0.367	<0.000050	<0.0010	2.48	0.0587	0.0000103	0.000143	0.00165	<0.050	0.59	0.000081	3.68	<0.000010	2.06	0.0463
MN-0.2	26/05/2016 16:25	0.00047	0.0814	<0.00010	0.00043	0.0292	<0.000020	<0.000050	<0.010	<0.0000050	8.42	0.00047	0.00020	0.00239	0.335	<0.000050	<0.0010	2.69	0.0266	<0.0000050	0.000202	0.00132	<0.050	0.26	0.000082	4.71	<0.000010	2.82	0.0511
MN-0.2	20/06/2016 15:35	0.00059	0.0794	<0.00010	0.00069	0.0406	<0.000020	<0.000050	<0.010	<0.0000050	11.2	0.00058	0.00047	0.00210	0.659	<0.000050	<0.0010	3.47	0.0823	<0.0000050	0.000240	0.00163	<0.050	0.23	0.000093	5.78	<0.000010	3.45	0.0680
MN-0.2	30/07/2016 16:10	0.00068	0.0884	<0.00010	0.00067	0.0411	<0.000020	<0.000050	<0.010	0.0000054	11.5	0.00071	0.00047	0.00277	0.575	<0.000050	<0.0010	3.50	0.0751		0.000209	0.00169	<0.050	0.17	0.000090	6.59	<0.000010	3.78	0.0707
MN-0.2	15/08/2016 15:10	0.00067	0.0714	<0.00010	0.00072	0.0390	<0.000020	<0.000050	<0.010	0.0000051	13.2	0.00069	0.00048	0.00252	0.867	<0.000050	<0.0010	4.03	0.0886	<0.0000050	0.000223	0.00164	<0.050	0.22	0.000095	7.10	<0.000010	3.28	0.0744
MN-0.2	05/09/2016 15:15	0.00077	0.0903	<0.00010	0.00066	0.0397	<0.000020	<0.000050	<0.010	0.0000056	11.6	0.00054	0.00046	0.00257	0.765	<0.000050	<0.0010	3.62	0.0784	<0.0000050	0.000352	0.00183	<0.050	0.25	0.000107	7.15	<0.000010	3.45	0.0710
MN-0.2	07/10/2016 15:30	0.00073	0.0726	<0.00010	0.00095	0.0426	<0.000020	<0.000050	<0.010	<0.0000050	12.1	0.00063	0.00088	0.00142	1.36	<0.000050	<0.0010	3.81	0.204	<0.0000050	0.000112	0.00143	<0.050	0.25	0.000074	7.20	<0.000010	3.39	0.0735
MN-0.5	03/05/2009	0.0004	0.162	0.00004	0.00031	0.0214	0.00002	<0.000005	<0.05	0.000032	7.26	0.0003	0.000197	0.00291	0.147	0.000015	<0.0005	1.99	0.0331		0.00011	0.00123		1.44	0.00009	1.77	<0.000005	0.83	0.0403
MN-0.5	06/05/2009	0.0004	0.178	0.00007	0.00026	0.0233	0.00002	<0.000005	<0.05	0.000026	7.37	0.0004	0.000212	0.00306	0.182	0.000099	<0.0005	2.04	0.0279	0.00002	0.00024	0.00181		1.18	0.00005	1.64	<0.000005	0.95	0.0427
MN-0.5	13/05/2009	0.0006	0.156	0.00007	0.00039	0.0266	0.00003	<0.000005	<0.05	0.000011	9.69	0.0004	0.000169	0.00323	0.253	0.000021	<0.0005	2.67	0.0204	0.00001	0.00023	0.00186		0.91	0.0001	2.93	<0.000005	1.63	0.0598
MN-0.5	21/05/2009	0.0004	0.0511	0.00007	0.00041	0.0288	0.00001	<0.000005	<0.05	0.000014	14	0.0003	0.000168	0.0019	0.155	0.000103	<0.0005	3.67	0.0442	0.00002	0.00053	0.00114		0.83	0.00014	3.53	<0.000005	2.74	0.101
MN-0.5	28/05/2009	0.0005	0.0306	0.00007	0.0004	0.0312	0.00002	<0.000005	<0.05	<0.000005	16.5	0.0002	0.000056	0.0022	0.119	0.000013	0.0006	4.17	0.00024	<0.00001	0.00061	0.00141		0.69	0.00013	4.17	<0.000005	3.29	0.113
MN-0.5	25/06/2009	0.0003	0.0194	0.0001	0.00031	0.0377	<0.00001	<0.000005	<0.05	<0.000005	20.9	<0.0001	0.000055	0.00161	0.057	0.00001	0.0007	5.11	0.00146	<0.00001	0.00098	0.00105		0.57	0.00019	5.34	<0.000005	4.23	0.154
MN-0.5	28/07/2009	0.0002	0.0145	0.00007	0.00041	0.0493	<0.00001	<0.000005	<0.05	<0.000005	32.8	<0.0001	0.000045	0.00118	0.029	0.000018	0.0011	7.63	0.00176	<0.00001	0.00143	0.00077		0.82	0.00021	6.62	<0.000005	6.13	0.221
MN-0.5	29/08/2009	0.0003	0.0186	0.00009	0.00039	0.0425	<0.00001	<0.000005	<0.05	0.000007	25.1	0.0003	0.000062	0.00169	0.062	0.000028	0.0009	6.28	0.00556	<0.00001	0.00098	0.00107		0.61	0.00018	5.8	<0.000005	4.82	0.174
MN-0.5	29/09/2009	0.0003	0.0122	0.00008	0.00037	0.0433	<0.00001	<0.000005	<0.05	0.000017	28	0.0003	0.00006	0.00139	0.049	0.000023	0.0009	6.85	0.00602		0.00103	0.00097		0.68	0.00017	6.43	<0.000005	5.54	0.178
MN-0.5	23/10/2009	0.0001	0.0077	0.00006	0.00029	0.0497	<0.00001	<0.000005	<0.05	<0.000005	33	0.0001	0.000037	0.00086	0.025	0.000006	0.001	8.25	0.00395	0.00001	0.00134	0.00066		0.8	0.00023	6.03	<0.000005	6.39	0.215
MN-0.5	27/11/2009	0.0001	0.0047	0.00005	0.00026	0.0556	<0.00001	<0.000005	<0.05	<0.000005	36.6	0.0002	0.000037	0.00075	0.016	0.000013	0.0011	8.57	0.00339	<0.00001	0.00133	0.00048		0.88	0.00024	6.23	<0.000005	6.58	0.247
MN-0.5	15/12/2009	<0.0001	0.0056	0.00009	0.00028	0.0627	<0.00001	<0.000005	<0.05	0.000009	38.3	<0.0001	0.000034	0.00117	0.014	0.000045	0.0013	8.98	0.00301	<0.00001	0.00141	0.00051		1.02	0.00023	5.29	<0.000005	7.37	0.279
MN-0.5	25/01/2010	<0.0001	0.0037	0.00008	0.00036	0.0547	<0.00001	<0.000005	<0.05	0.000076	46.4	0.0003	0.00004	0.001	0.008	0.000051	0.0024	11.4	0.00124	<0.00001	0.00116	0.00052		1.76	0.0004	8.42	<0.000005	12.1	0.287
MN-0.5	22/04/2010	0.0005	0.191	0.00003	0.00032	0.028	0.00003	<0.000005	<0.05	0.000024	12	0.0004	0.000123	0.00395	0.214	0.000029	0.0005	3.16	0.0101	0.00002	0.00021	0.00164		1.42	0.00009	2.9	0.000007	1.92	0.0698
MN-0.5	28/05/2010	0.0001	0.0085	0.00007	0.00039	0.0411	<0.00001	<0.000005	<0.05	0.000036	25	0.0001	0.000064	0.0016	0.053	0.000085	0.0008	6.14	0.00602		0.00107	0.0009		1	0.00021	4.49	<0.000005	4.93	0.178
MN-0.5	28/06/2010	0.0002	0.0117	0.00007	0.00037	0.0449	<0.00001	<0.000005	<0.05	<0.000005	25.8	0.0002	0.000043	0.00134	0.032	0.000025	0.0008	6.26	0.00206		0.00102	0.00093		0.73	0.00016	5.4	<0.000005	5.07	0.186
MN-0.5	18/08/2010	0.0016	0.0542	0.00012	0.00067	0.045	0.00002	<0.000005	<0.05	0.00001	20.5	0.0005	0.000159	0.00318	0.205	0.000094	0.0007	5.46	0.0254		0.00079	0.00197		0.54	0.00018	5.74	0.000006	4.02	0.126
MN-0.5	15/09/2010	0.0005	0.0437	0.0001	0.0005	0.0403	0.00002	<0.000005	<0.05	0.000018	20.7	0.0005	0.000095	0.00255	0.192	0.000198	0.0006	5.47	0.0124		0.00073	0.00181		0.5	0.0002	6.63	<0.000005	3.91	0.13
MN-0.5	21/10/2010	0.0003	0.0222	0.00009	0.00042	0.0459	<0.00001	<0.000005	<0.05	0.000016	25.8	0.0003	0.000067	0.00178	0.105	0.000032	0.0008	6.83	0.00875		0.00088	0.00112		0.65	0.00018	7.11	<0.000005	4.8	0.167
MN-0.5	29/04/2011 11:47	0.0002	0.0518	0.00003	0.00039	0.0319	<0.00001	<0.000005	<0.05	0.000025	14.1	0.0002	0.000077	0.00266	0.119	0.000028	0.0005	3.16	0.00557	0.00001	0.00025	0.00093		2.33	0.00009	3.58	<0.000005	1.73	0.089
MN-0.5	19/05/2011 14:00	0.0005	0.0739	0.00005	0.00047	0.0258	0.00002	<0.000005	<0.05	0.000032	10	0.0004	0.000167	0.00258	0.307	0.000051	<0.0005	2.6	0.022		0.00034	0.0017		0.72	0.0001	3.14	<0.000005	1.72	0.066
MN-0.5	28/06/2011 11:00	0.0006	0.0822	0.00016	0.0005	0.0349	0.00002	<0.000005	<0.05	0.000064	17.8	0.0006	0.000108	0.00376	0.218	0.000186	0.0006	4.36	0.00719	<0.00001	0.0006	0.002		0.47	0.00017	6.37	0.000006	3.5	0.103
MN-0.5	15/07/2011 14:45	0.0017	0.0901	0.00013	0.00061	0.0308	0.00003	<0.000005	<0.05	0.000011	12.3	0.0006	0.000181	0.00339	0.344	0.000071	<0.0005	3.44	0.0164		0.00036	0.002		0.27	0.00014	5.92	<0.000005	2.89	0.0753
MN-0.5	10/08/2011 16:35	0.0012	0.0821	0.00012	0.00065	0.0387	0.00002	<0.000005	<0.05	0.000024	15.1	0.0006	0.000213	0.00274	0.387	0.000066	0.0006	3.84	0.0269		0.00046	0.00197	0.012	0.33	0.00014	5.99	0.000006	2.93	0.0938
MN-0.5	28/10/2011 11:40	0.0002	0.0179	0.00006	0.00034	0.0522	<0.00001	<0.000005	<0.05	<0.000005	28.9	0.0002	0.000081	0.00125	0.143	0.000013	0.0009	7.04	0.0237	<0.00001	0.00094	0.0009	0.01	0.71	0.00022	6.66	<0.000005	5.05	0.191
MN-0.5	19/04/2012	0.00022	0.0418	0.000032	0.000454	0.031	0.000011	<0.0000050	<0.05	0.0000186	14.9	0.00024	0.0000723	0.0029	0.15	0.0000095	0.0006	3.41	0.0079	<0.000010	0.00037	0.00104	0.0491	2.07	0.000099	3.65	<0.0000050	2.13	0.102
MN-0.5	24/05/2012	0.00044	0.0281	0.000066	0.000557	0.0368	<0.000010	<0.0000050	<0.05	0.0000091	17.9	0.00026	0.000113	0.00181	0.462	0.0000305	0.00058	4.65	0.0246	<0.000010	0.00078	0.00119	0.0184	0.726	0.000166	4.86	<0.0000050	3.36	0.118
MN-0.5	14/06/2012	0.0016	0.0569	0.000107	0.000637	0.0292	0.000012	<0.0000050	<0.05	0.0000251	12.4	0.00045	0.000203	0.0025	0.716	0.000083	<0.00050	3.2	0.0224	<0.000010	0.000515	0.00167	0.0177	0.444	0.000129	5.33	<0.0000050	2.85	0.078
MN-0.5	12/07/2012	0.00114	0.0266	0.000085	0.000713	0.047	<0.000010	<0.0000050	<0.05	0.000014	23.2	0.00042	0.000172	0.00179	0.356	0.00005	0.00059	6.06	0.038	<0.000010	0.000928	0.00133	0.014	0.572	0.000195	6.1	<0.0000050	4.55	0.153
MN-0.5	06/08/2012	0.00099	0.0236	0.000086	0.000625	0.0491	0.00001	<0.0000050	<0.05	0.000005	28	0.00035	0.000169	0.00158	0.398	0.000031	0.00084	6.96	0.0425		0.0011	0.00132		0.678	0.000218	6.38	<0.0000050	5.03	0.178
MN-0.5	07/09/2012	<0.00050	0.0253	<0.00050	0.00062	0.0462	<0.00010	<0.0010	<0.05	<0.000010	27.2	<0.0010	<0.00050	0.00226	0.528	<0.00020	<0.0050	6.8	0.0417	<0.000010	<0.0010	0.0012	0.015	0.613	0.00024	6.23	<0.000020	4.78	0.186
MN-0.5	01/10/2012	<0.00050	0.0367	<0.00050	0.00057	0.0457	<0.00010	<0.0010	<0.05	<0.000010	25.5	<0.0010	<0.00050	0.00261	0.433	<0.00020	<0.0050	6.54	0.0393	<0.000010	<0.0010	0.0016	0.017	0.616	0.00017	6.27	<0.000020	4.59	0.176
MN-0.5	27/05/2013	<0.00050	0.0316	<0.00050	0.00043	0.0332	<0.00010	<0.0010	<0.05	<0.000010	16.3	<0.0010	<0.00050	0.00175	0.335	<0.00020	<0.0050	4.06	0.0507	<0.000010	<0.0010	0.001	0.019	0.868	0.00013	3.76	<0.000020	2.96	0.12
MN-0.5	17/06/2013	0.0008	0.0164	<0.00050	0.00061	0.0446	<0.00010	<0.0010	<0.05	<0.000010	22.6	<0.0010	<0.00050	0.00146	0.212	<0.00020	<0.0050	5.71	0.0573	<0.000010	0.0011	<0.0010	0.012	0.722	0.00016	5.36	<0.000020	4.38	0.158
MN-0.5	15/07/2013	0.00443	0.0144	<0.00050	0.00049	0.0415	<0.00010	<0.0010	<0.05	<0.000010	28.4	<0.0010	<0.00050	0.00166	0.133	<0.00020	<0.0050	6.55	0.0357	<0.000010	0.0012	0.0012	0.012	0.72	0.00021	6.59	<0.000020	5.14	0.18
MN-0.5	28/08/2013	0.00046	0.0291	0.000083	0.000637	0.0448	0.000012	<0.0000050	<0.05	0.000006	21.4	0.00041	0.00008	0.00196	0.338	0.000034	0.00059	5.68	0.00179	<0.000010	0.000895	0.0015	0.0112	0.506	0.000192	5.9	0.000007	4.34	0.151
MN-0.5	11/09/2013 12:15	0.00055	0.0225	<0.00050	0.00064	0.0453	<0.00010	<0.0010	<0.05	<0.000010	23.8	<0.0010	<0.00050	0.00181	0.429	<0.00020	<0.0050	6.75	0.0264	<0.000010	0.001	0.0012	0.015	0.645	0.00023	5.68	<0.000020	4.73	0.169

Appendix C - Water Quality Data - McGinty Creek

Stn.Code	Smpl Date	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	BOD5	Cation	CN-SAD	CN-T	CN-WAD	COD	C-TOC	IB	N-T	N-TKN	Sp-Cond	TDS-F	Wlevel
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	µS/cm	mg/L	m
MN-0.2	27/05/2013	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	29.7	<0.50	<0.50	<0.50					<0.00050			15.7						
MN-0.2	17/06/2013	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	32.9	<0.50	<0.50	<0.50					<0.00050	<0.00050		13						
MN-0.2	15/07/2013	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	39.7	<0.50	<0.50	<0.50					0.00072			13						
MN-0.2	28/08/2013	<3.0	<0.0000020	<0.00020	0.00098	0.000015	0.00063	0.0005	0.00041	39.3	<0.50	<0.50	<0.50					0.00131	0.00162		15	1.2					
MN-0.2	11/09/2013 10:45	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	46.5	<0.50	<0.50	<0.50				0.00105		0.00052		13.9						
MN-0.2	16/10/2013 13:20	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	46.7	<0.50	<0.50	<0.50				0.0007		0.0011		11.6						
MN-0.2	16/10/2013 13:20																								64.3		
MN-0.2	16/05/2014 16:30	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	29.2	<0.50	<0.50	<0.50				0.00139		0.00107		10.5				77.1		
MN-0.2	03/06/2014 11:00	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	31.6	<0.50	<0.50	<0.50				0.00098		0.00139		12.3				167.7		
MN-0.2	26/07/2014 16:30	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	36.7	<0.50	<0.50	<0.50				0.00071		0.00084		13				101		
MN-0.2	18/08/2014 10:05																										
MN-0.2	20/09/2014 15:45	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	41.5	<0.50	<0.50	<0.50				<0.0010		0.00107		15				104.4		
MN-0.2	11/10/2014 16:00	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	39.2	<0.50	<0.50	<0.50				0.00158		0.001		15.4				958		
MN-0.2	30/05/2015 10:20	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	34.4	<0.50	<0.50	<0.50				0.00078		0.00076		9.72				55		
MN-0.2	30/06/2015 14:30	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	0.00055	37.7	<0.50	<0.50	<0.50														
MN-0.2	13/07/2015 17:30	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	33.3	<0.50	<0.50	<0.50												61.9		
MN-0.2	31/08/2015 11:35	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	<0.00050	30.1	<0.50	<0.50	<0.50												60.3		
MN-0.2	21/09/2015 11:00	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	0.00066	37.4	<0.50	<0.50	<0.50												80.6		
MN-0.2	19/10/2015 10:55	3.1	<0.000050	<0.0050	<0.0050	0.00016	<0.0050	<0.0050	<0.00050	38.8	<0.50	<0.50	<0.50												85.2		
MN-0.2	06/12/2015 12:00	<3.0	<0.000050	<0.0050	<0.0050	<0.00010	<0.0050	<0.0050	0.00082	64.6	<0.50	<0.50	<0.50												146.1		
MN-0.2	30/04/2016 17:00	2.04	<0.000010	<0.00010	0.00135	0.000031	<0.00050	<0.0010	0.00051	15.6	<1.0	<1.0		0.43		0.74						27.0					
MN-0.2	30/04/2016 17:00	2.04	<0.000010	<0.00010	0.00135	0.000031	<0.00050	<0.0010	0.00051	15.6	<1.0	<1.0		0.43		0.74						27.0			56.8		
MN-0.2	26/05/2016 16:25	2.29	<0.000010	<0.00010	0.00119	0.000020	<0.00050	<0.0010	0.00050	25.2	<1.0	<1.0		0.63		0.80						12.0			68.4		
MN-0.2	20/06/2016 15:35	1.97	<0.000010	<0.00010	0.00138	0.000022	0.00067	0.0027	0.00062	35.7	<1.0	<1.0		0.82		1.05						12.2			87.1		
MN-0.2	30/07/2016 16:10	2.23	<0.000010	<0.00010	0.00182	0.000029	0.00074	<0.0010	0.00072	36.0	<1.0	<1.0		0.85	<2.0	1.07				65	25.7	11.8	0.585	0.585	87		
MN-0.2	15/08/2016 15:10	1.97	<0.000010	<0.00010	0.00149	0.000030	0.00072	0.0018	0.00067	42.9	<1.0	<1.0		0.96		1.20						10.9			93.4		
MN-0.2	05/09/2016 15:15	2.09	<0.000010	<0.00010	0.00188	0.000030	0.00075	0.0018	0.00079	37.8	<1.0	<1.0		0.87		1.09						11.0			89.1		
MN-0.2	07/10/2016 15:30	1.14	<0.000010	<0.00010	0.00175	0.000022	0.00077	0.0012	0.00072	45.7	<1.0	<1.0		0.99		1.16						8.1			98.7		
MN-0.5	03/05/2009	<3	<0.000002	<0.00001	0.0016	0.000059	0.0004	0.0058	0.0004	16	<0.5	<0.5	<0.5					0.0016			40.2					29	
MN-0.5	06/05/2009	<3	<0.000002	<0.00001	0.0021	0.000064	0.0005	0.0071	0.0004	18	<0.5	<0.5	<0.5					0.0009			33.8					29.8	
MN-0.5	13/05/2009	<3	<0.000002	<0.00001	0.0015	0.000111	0.0009	0.0022	0.0006	32	<0.5	<0.5	<0.5					0.0022			30.4					24.9	
MN-0.5	21/05/2009	<3	<0.000002	<0.00001	0.0005	0.000217	0.0007	0.0019	0.0003												17					68.8	
MN-0.5	28/05/2009	<3	<0.000002	<0.00001	0.0007	0.000221	0.0009	0.0009	0.0004	63	<0.5	<0.5	<0.5					0.0015			19.3					77.7	
MN-0.5	25/06/2009	3	<0.000002	<0.00001	0.0007	0.000298	0.0008	0.0004	0.0003	91	<0.5	<0.5	<0.5					0.0007			12.8						
MN-0.5	28/07/2009	4	<0.000002	<0.00001	0.0007	0.000577	0.0007	0.0006	0.0002	130	<0.5	<0.5	<0.5					0.0006			8.5						
MN-0.5	29/08/2009	3	<0.000002	<0.00001	0.0005	0.000305	0.0005	0.0007	0.0003	110	<0.5	<0.5	<0.5					0.0009			13.3						
MN-0.5	29/09/2009	4	<0.000002	<0.00001	0.0007	0.000386	0.0004	0.0015	0.0002	120	<0.5	<0.5	<0.5					0.0006			11.8						
MN-0.5	23/10/2009	5	<0.000002	<0.00001	0.0006	0.000593	0.0003	0.0003	0.0001	130	<0.5	<0.5	<0.5					<0.0005			7.7						
MN-0.5	27/11/2009	5	<0.000002	<0.00001	<0.0005	0.000706	0.0003	0.0006	0.0001	150	<0.5	<0.5	<0.5								5.7	0.86					
MN-0.5	15/12/2009	5	<0.000002	<0.00001	<0.0005	0.000796	0.0004	0.0015	0.0001	160	<0.5	<0.5	<0.5					0.0008			4.6	0.97					
MN-0.5	25/01/2010	9	<0.000002	<0.00001	<0.0005	0.00142	0.0004	0.0036	<0.0001	190	<0.5	<0.5	<0.5					<0.0005			4.4	1.1					
MN-0.5	22/04/2010	<10	<0.000002	<0.00001	0.0017	0.000084	0.0005	0.0068	0.0005	34	<0.5	<0.5	<0.5					0.0012			62						
MN-0.5	28/05/2010	<10	<0.000002	0.00002	<0.0005	0.00053	0.0007	0.0022	0.0001	110	<0.5	<0.5	<0.5					0.0009			8						
MN-0.5	28/06/2010	<10	<0.000002	<0.00001	<0.0005	0.000408	0.0005	0.0014	0.0002	110	<0.5	<0.5	<0.5					0.0007			10.1						
MN-0.5	18/08/2010	<10	<0.000002	<0.00001	0.0034	0.000271	0.0013	0.0013	0.0006	88	<0.5	<0.5	<0.5					0.0011			22.7						
MN-0.5	15/09/2010	<10	<0.000002	<0.00001	0.0011	0.000258	0.0006	0.0039	0.0005	81	<0.5	<0.5	<0.5					0.0014			19.3						
MN-0.5	21/10/2010	<10	<0.000002	<0.00001	<0.0005	0.000322	0.0005	0.0016	0.0003	100	<0.5	<0.5	<0.5					<0.0005	<0.0005		12.7						
MN-0.5	29/04/2011 11:47	<10	<0.000002	<0.00001	0.0009	0.000111	0.0004	0.0029	0.0002	52	<0.5	<0.5	<0.5					0.0011	0.0014		36				100.7		
MN-0.5	19/05/2011 14:00	<10	<0.000002	<0.00001	0.0014	0.000127	0.0009	0.0024	0.0004	38	<0.5	<0.5	<0.5					0.0013	0.0015		26.7						
MN-0.5	28/06/2011 11:00	<10	<0.000002	0.00004	0.0024	0.000137	0.0006	0.0049	0.0005	64	<0.5	<0.5	<0.5					0.0013	0.0015		23.5						
MN-0.5	15/07/2011 14:45	<10	<0.000002	0.00003	0.0027	0.000086	0.0013	0.0024	0.0007	47	<0.5	<0.5	<0.5					0.001	0.0016		26.9				88.4		
MN-0.5	10/08/2011 16:35	<10	<0.000002	0.00002	0.0022	0.000155	0.0015	0.001	0.0006	58	<0.5	<0.5	<0.5					0.0018	0.0014		23.1				105.6		
MN-0.5	28/10/2011 11:40	<10	<0.000002	<0.00001	<0.0005	0.00047	0.0006	0.0006	0.0002	110	<0.5	<0.5	<0.5					<0.0005	<0.0005		9.7				420		
MN-0.5	19/04/2012	<10	<0.0000020	<0.00020	<0.00050	0.0000963	0.00038	0.00256	0.00019	53.6	<0.50	<0.50	<0.50					0.00096	<0.00050		30.4						
MN-0.5	24/05/2012	<10	<0.0000020	<0.00020	0.00091	0.000252	0.00106	0.00073	0.00028	72.9	<0.50	<0.50	<0.50					0.00089	0.00089		15.5						
MN-0.5	14/06/2012	<10	<0.0000020	<0.00020	0.00164	0.0000848	0.0014	0.00136	0.0005	47.9	<0.50	<0.50	<0.50					0.00105	0.00084		26.5						
MN-0.5	12/07/2012	<10	<0.0000020	0.00024	0.00119	0.000352	0.00125	0.00045	0.00038	96	<0.50	<0.50	<0.50					0.00125	0.00124		15.2						
MN-0.5	06/08/2012	<10	<0.0000020	0.00034	0.00083	0.000498	0.00108	0.00073	0.00034	118	<0.50	<0.50	<0.50					0.00107	<0.00050		13.5						
MN-0.5	07/09/2012	<3.0	<0.000050	<0.0050	<0.0050	0.00036	<0.0050	<0.0050	<0.00050	108	<0.50	<0.50	<0.50					<0.00050	<0.00050		13.6						
MN-0.5	01/10/2012	<3.0	<0.000050	<0.0050	<0.0050	0.00039	<0.0050	<0.0050	<0.00050	108	<0.50	<0.50	<0.50					<0.00050	<0.00050		13						
MN-0.5	27/05/2013	<3.0	<0.000050	<0.0050	<0.0050	0.00019	<0.0050	<0.0050	<0.00050	64.6	<0.50	<0.50	<0.50					<0.00050			15.2						
MN-0.5	17/06/2013	<3.0	<0.000050	<0.0050	<0.0050	0.00041	<0.0050	<0.0050	<0.00050	95.6	<0.50	<0.50	<0.50					0.00114	0.00075		11.5						
MN-0.5	15/07/2013	3.6	<0.000050	<0.0050	<0.0050	0.00058	<0.0050	<0.0050	<0.00050	114	<0.50	<0.50	<0.50					0.00092			10.3						
MN-0.5	28/08/2013	<3.0	0.000002	<0.00020	0.00107	0.000315	0.00133	0.00016	0.00043	89.7	<0.50	<0.50	<0.50					0.00109	0.00125		14.2	1.1					
MN-0.5	11/09/2013 12:15	<3.0	<0.000050	<0.0050	<0.0050	0.00039	<0.0050	<0.0050	<0.00050	101	<0.50	<0.50	<0.50				0.00103		0.00067		12.3						

Appendix C - Water Quality Data - McGinty Creek

Stn.Code	Smpl Date	Sample Class	TSS	TDS	pH-F	pH-L	Cond-F	Cond-L	Temp-F	O-DO	O-DO-%	ORP	Hard-T	Hard-D	Alk-T	Chlord	Fluord	SO4-D	N-NH3	N-NO2	N-NO3	C-DOC	Al-T	Sb-T	As-T	Ba-T	Be-T	Bi-T
			mg/L	mg/L	pH units	pH units	µS/cm	µS/cm	C	mg/L	%	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MN-0.5	16/10/2013 13:55	M	4.2	150		7.92		184					91.8	88.6	85.4	1.3	0.29	8.17	0.018	<0.0050	0.087	11.3	0.0811	<0.00050	0.0005	0.0458	<0.00010	<0.0010
MN-0.5	16/10/2013 13:55	M			7.1				0	14.18	96.9	-16.6																
MN-0.5	16/05/2014 12:00	M	2.4	120	8.11	7.95	96.1	155	0.1	14.03	96.2	173.1	82.4	74.6	70.3	1	0.31	5.43	0.037	<0.0050	<0.020	14.5	0.0899	<0.00050	0.00051	0.0419	<0.00010	<0.0010
MN-0.5	03/06/2014 13:00	M	17.8	128	7.21	8.03	108.3	175	0.3	16.61	115.1	81.2	86.1	80.8	80.1	1	0.32	7.59	0.02	<0.0050	0.063	11.2	0.345	<0.00050	0.00059	0.0486	<0.00010	<0.0010
MN-0.5	26/07/2014 11:45	M	36.6	114	8.67	7.99	124.5	198	4.3	12.31	94.6	125.5	102	90.6	89.2	0.85	0.34	8.9	0.013	<0.0050	0.071	11.9	1.02	<0.00050	0.00103	0.0715	<0.00010	<0.0010
MN-0.5	17/08/2014 11:50	M	2.5	132	7.9	8.13	158.6	239	3.7	13.04	98.9	94	131	114	110	1.7	0.4	12	0.012	<0.0050	0.086	7.89	0.0907	<0.00050	0.00053	0.0598	<0.00010	<0.0010
MN-0.5	20/09/2014 12:00	M	<1.0	146	7.87	8.09	134.9	214	1.4	13.29	94.7	215.1	103	101	97.9	1.4	0.35	10.1	0.012	<0.0050	0.046	9.23	0.0351	<0.00050	0.00039	0.047	<0.00010	<0.0010
MN-0.5	10/10/2014 16:00	M	46	125	7.04	7.76	108.7	190	-1.4	14.38	94.7	179.8	90.5	92.4	82	1	0.3	9.62	0.013	<0.0050	0.076	11.4	0.598	<0.00050	0.00085	0.0602	<0.00010	<0.0010
MN-0.5	02/03/2015 12:40	M	7.4	264	8.53	8.13	207.2	425	-0.1	4.99	34	184.2	198	184	196	1.8	0.89	31.5	0.01	<0.0050	<0.020	5.67	0.065	<0.00050	0.00044	0.0769	<0.00010	<0.0010
MN-0.5	26/05/2015 12:45	M	34	120	7.94	7.96	112	214	0	14.34	98.1	116.4	109	102	92	1.1	0.36	12.4	0.016	<0.0050	<0.020	6.54	0.377	<0.00050	0.00055	0.0624	<0.00010	<0.0010
MN-0.5	23/06/2015 15:00	M	14.8	140	7.69	8.25	132.1	235	2.3	12.68	92.4	140.5	119	116	107	0.87	0.43	13.6	0.034	<0.0050	0.112		0.227	<0.00050	0.00053	0.0611	<0.00010	<0.0010
MN-0.5	13/07/2015 13:00	M	48.9	106	7.9	7.82	91.2	150	5.4	11.96	94.4	139.2	77.2	69.2	68.6	0.69	0.28	4.4	0.11	<0.0050	0.032		0.806	<0.00050	0.00081	0.0549	<0.00010	<0.0010
MN-0.5	30/08/2015 13:35	P	106	110	7.79	7.73	64.3	120	2.3	12.9	93.9	125.7	75.5	57.7	51.4	1.2	0.22	<0.50	0.024	<0.0050	0.021	23	1.07	<0.00050	0.00117	0.0715	<0.00010	<0.0010
MN-0.5	20/09/2015 12:45	P	14.5	130	8.11	8.06	103.2	183	2	13.29	96.6	162.5	92.6	85.8	83.7	1.2	0.33	9.08	0.011	<0.0050	0.048	14	0.0295	<0.00050	0.00045	0.0415	<0.00010	<0.0010
MN-0.5	18/10/2015 13:55	P	4.1	126	7.75	7.97	100.8	194	0	13.26	90.6	79.3	93.9	94.9	86.5	1.2	0.33	8.16	0.017	<0.0050	0.082	11	0.0249	<0.00050	0.0004	0.038	<0.00010	<0.0010
MN-0.5	26/11/2015 13:25	P	13	146	8.50	7.75	142.6	226	-0.1	8.00	54.7	112.4	110	112	105	1	0.18	5.43	0.043	<0.0050	0.053	9.38	0.158	<0.00050	0.00045	0.0514	<0.00010	<0.0010
MN-0.5	29/04/2016 17:10	P	<3.0	88.4	7.76	8.00	85.8	165	0	13.89	95	121.8		85.8	74.1	<0.50		8.41	0.0065	<0.0010	<0.0050	21.2	0.0876	<0.00010	0.00041	0.0404	<0.000020	<0.000050
MN-0.5	28/05/2016 15:55	P	43.3	92.5	7.89	7.85	92	174	0.2	14.22	98	140.5		85.2	79.1	<0.50		8.85	0.0142	<0.0010	0.0246	11.1	0.556	0.00015	0.00082	0.0543	0.000036	<0.000050
MN-0.5	21/06/2016 15:30	P	6.0	110	7.84	7.96	123.8	198	4.8	12.2	95	121.4		102	92.0	<0.50		10.9	0.0061	<0.0010	0.0643	9.90	0.0599	<0.00010	0.00043	0.0514	<0.000020	<0.000050
MN-0.5	04/07/2016 12:40	P	6.7	127	7.92	8.08	142.5	227	5	12.14	95.1	124.6		120	108	<0.50		12.7	<0.0050	<0.0010	0.0595	8.53	0.0344	<0.00010	0.00042	0.0532	<0.000020	<0.000050
MN-0.5	04/08/2016 15:38	P	<3.0	116	7.9	8.05	220	205	6.6					110	98.6	<0.50		10.3	<0.0050	<0.0010	0.0473	11.8	0.0510	<0.00010	0.00051	0.0566	<0.000020	<0.000050
MN-0.5	03/09/2016 15:45	P	6.4	95.6	7.32	7.97	108.1	175	4.3	12.1	93.1	151.6		88.7	84.5	<0.50		8.13	<0.0050	<0.0010	0.0236	14.9	0.0567	<0.00010	0.00051	0.0450	<0.000020	<0.000050
MN-0.5	10/10/2016 16:00	P	21.3	138	7.43	8.03	128.9	231	-0.1	11.08	76.7	177.1		117	125	0.52		12.6	<0.0050	<0.0010	0.116	9.85	0.0480	<0.00010	0.00038	0.0536	<0.000020	<0.000050
MN-0.5	10/11/2016 12:47	P	<3.0	149	7.56	8.00	145	266	-0.1	14.3	97.7	152.8		128	132	<0.50		15.4	<0.0050	<0.0010	0.140	6.61	0.0248	<0.00010	0.00034	0.0647	<0.000020	<0.000050
MN-0.5	02/12/2016 14:50	P	<3.0	184	7.78	7.91	176.6	338	0	9.59	67.1	40.1		161	159	0.74		19.4	<0.0050	<0.0010	0.115	8.15	0.0231	0.00011	0.00040	0.0757	<0.000020	<0.000050

Appendix C - Water Quality Data - McGinty Creek

Stn.Code	Smpl Date	B-T	Cd-T	Ca-T	Cr-T	Co-T	Cu-T	Fe-T	Pb-T	Li-T	Mg-T	Mn-T	Hg-T	Mo-T	Ni-T	P-T	K-T	Se-T	Si-T	Ag-T	Na-T	Sr-T	S-T	Tl-T	Sn-T	Ti-T	U-T	V-T	Zn-T
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MN-0.5	16/10/2013 13:55	<0.05	<0.000010	25.6	<0.0010	<0.00050	0.00204	0.392	<0.00020	<0.0050	6.79	0.027	<0.000010	0.001	0.0015	0.022	0.61	0.00017	7.03	<0.000020	4.97	0.184	3.7	<0.000050	<0.0050	<0.0050	0.0004	<0.0050	<0.0050
MN-0.5	16/10/2013 13:55																												
MN-0.5	16/05/2014 12:00	<0.05	0.000012	23.2	<0.0010	<0.00050	0.00247	0.286	<0.00020	<0.0050	5.93	0.0144	<0.000010	<0.0010	0.0013	0.02	0.846	0.00016	5.64	<0.000020	4.31	0.169	<3.0	<0.000050	<0.0050	<0.0050	0.00037	<0.0050	<0.0050
MN-0.5	03/06/2014 13:00	<0.05	0.000013	24	<0.0010	<0.00050	0.0044	0.597	<0.00020	<0.0050	6.35	0.0505	<0.000010	<0.0010	0.0016	0.038	0.739	0.00025	5.43	<0.000020	5.01	0.172	3.8	<0.000050	<0.0050	0.0156	0.00051	<0.0050	0.0068
MN-0.5	26/07/2014 11:45	<0.05	0.000023	28.7	0.0019	0.00087	0.00391	1.7	0.00053	<0.0050	7.32	0.0544	<0.000010	0.0011	0.0031	0.091	0.895	0.00026	8.1	<0.000020	5.16	0.199	<3.0	<0.000050	<0.0050	0.0559	0.00047	<0.0050	0.0058
MN-0.5	17/08/2014 11:50	<0.05	<0.000010	36.7	<0.0010	<0.00050	0.00153	0.175	<0.00020	<0.0050	9.6	0.0127	<0.000010	0.0016	<0.0010	0.021	1.03	0.00018	7.25	0.000082	7.04	0.262	<3.0	<0.000050	<0.0050	<0.0050	0.00073	<0.0050	<0.0050
MN-0.5	20/09/2014 12:00	<0.05	<0.000010	28.4	<0.0010	<0.00050	0.00142	0.135	<0.00020	<0.0050	7.89	0.0125	<0.000010	0.0012	0.0011	<0.01	0.817	0.0002	5.86	<0.000020	5.99	0.21	3.3	<0.000050	<0.0050	<0.0050	0.00048	<0.0050	<0.0050
MN-0.5	10/10/2014 16:00	<0.05	0.000019	24.2	0.0012	0.00065	0.00344	1.18	0.00045	<0.0050	7.33	0.0527	<0.000010	<0.0010	0.0029	0.104	0.709	0.00018	5.94	<0.000020	5.11	0.196	<3.0	<0.000050	<0.0050	0.0276	0.00044	<0.0050	<0.0050
MN-0.5	02/03/2015 12:40	<0.05	0.000015	53.7	<0.0010	<0.00050	0.00841	0.097	<0.00020	<0.0050	15.5	0.0066	<0.000010	0.0011	0.001	0.038	3.3	0.00066	9.97	<0.000020	17.7	0.396	11	<0.000050	<0.0050	0.0054	0.00132	<0.0050	0.0062
MN-0.5	26/05/2015 12:45	<0.05	0.000013	30.4	<0.0010	<0.00050	0.00745	0.636	0.00043	<0.0050	7.99	0.0627	<0.000010	<0.0010	0.0013	0.052	1.13	0.00029	5.87	<0.000020	5.64	0.275	3.2	<0.000050	<0.0050	0.0182	0.00074	<0.0050	0.006
MN-0.5	23/06/2015 15:00	<0.05	<0.000010	33.8	<0.0010	<0.00050	0.00207	0.356	0.00022	<0.0050	8.3	0.0274	<0.000010	0.0013	0.0011	0.032	1.1	0.00023	6.34	<0.000020	6.34	0.264	8	<0.000050	<0.0050	0.012	0.00093	<0.0050	<0.0050
MN-0.5	13/07/2015 13:00	<0.05	0.000019	22	0.0015	0.00062	0.00362	1.36	0.00046	<0.0050	5.42	0.0517	<0.000010	<0.0010	0.0026	0.067	0.657	0.00014	7.5	<0.000020	4.28	0.164	<3.0	<0.000050	<0.0050	0.0403	0.00028	<0.0050	<0.0050
MN-0.5	30/08/2015 13:35	<0.05	0.000043	21.1	0.0025	0.00103	0.00625	2.41	0.00073	<0.0050	5.52	0.123	<0.000010	<0.0010	0.0037	0.121	0.572	0.00026	9.56	<0.000020	4.18	0.133	3	<0.000050	<0.0050	0.0559	0.00028	<0.0050	<0.0050
MN-0.5	20/09/2015 12:45	<0.05	<0.000010	26.2	<0.0010	<0.00050	0.002	0.149	<0.00020	<0.0050	6.63	0.0088	<0.000010	<0.0010	0.001	0.013	0.645	0.00021	6.29	<0.000020	4.9	0.175	<3.0	<0.000050	<0.0050	<0.0050	0.00035	<0.0050	<0.0050
MN-0.5	18/10/2015 13:55	<0.05	<0.000010	26.1	<0.0010	<0.00050	0.00122	0.13	<0.00020	<0.0050	6.99	0.0081	<0.000010	<0.0010	<0.0010	<0.01	0.661	0.00021	6.33	<0.000020	5.36	0.182	3.2	<0.000050	<0.0050	<0.0050	0.00037	<0.0050	<0.0050
MN-0.5	26/11/2015 13:25	<0.05	<0.000010	30.2	<0.0010	<0.00050	0.00261	0.508	<0.00020	<0.0050	8.46	0.157	<0.000010	<0.0010	0.0026	0.02	1	<0.00010	7.83	<0.000020	5.02	0.136	<3.0	<0.000050	<0.0050	0.0075	0.00019	<0.0050	<0.0050
MN-0.5	29/04/2016 17:10	<0.010	0.0000087	22.4	0.00042	0.00011	0.00217	0.246	<0.000050	0.0011	5.71	0.0147	0.0000064	0.000792	0.00104	<0.050	0.93	0.000174	4.76	<0.000010	3.80	0.167	2.97	<0.000010	<0.00010	0.00269	0.000305	0.00091	<0.0030
MN-0.5	28/05/2016 15:55	<0.010	0.0000114	23.5	0.00129	0.00056	0.00273	0.949	0.000329	0.0010	6.12	0.0833	<0.0000050	0.00109	0.00227	0.057	0.96	0.000249	5.69	0.000013	4.67	0.177	3.06	<0.000010	<0.00010	0.0238	0.000465	0.00269	0.0035
MN-0.5	21/06/2016 15:30	<0.010	<0.0000050	30.1	0.00028	<0.00010	0.00169	0.110	<0.000050	<0.0010	7.17	0.00780	<0.0000050	0.00134	0.00104	<0.050	0.99	0.000201	5.64	<0.000010	5.86	0.208	3.92	<0.000010	<0.00010	0.00242	0.000532	0.00107	<0.0030
MN-0.5	04/07/2016 12:40	<0.010	<0.0000050	34.8	0.00023	<0.00010	<0.0020	0.058	<0.000050	0.0011	8.03	0.00629	<0.0000050	0.00144	0.00082	<0.050	0.99	0.000165	5.84	<0.000010	6.31	0.229	4.63	<0.000010	<0.00010	0.00151	0.000677	0.00088	<0.0030
MN-0.5	04/08/2016 15:38	<0.010	0.0000066	30.8	0.00035	<0.00010	0.00172	0.118	0.000062	<0.0010	7.24	0.00804	<0.0000050	0.00125	0.00107	<0.050	0.81	0.000193	6.10	<0.000010	6.12	0.230	3.66	<0.000010	<0.00010	0.00264	0.000441	0.00104	<0.0030
MN-0.5	03/09/2016 15:45	<0.010	<0.0000050	24.1	0.00044	<0.00010	0.00181	0.194	0.000067	<0.0010	6.33	0.0131	<0.0000050	0.000932	0.00130	<0.050	0.69	0.000253	6.26	<0.000010	4.67	0.173	3.14	<0.000010	<0.00010	0.00232	0.000266	0.00081	<0.0030
MN-0.5	10/10/2016 16:00	<0.010	0.0000051	33.9	0.00029	<0.00010	0.00142	0.109	<0.000050	<0.0010	7.94	0.0134	<0.0000050	0.00109	0.00097	<0.050	0.79	0.000175	6.52	<0.000010	5.92	0.248	4.26	<0.000010	<0.00010	0.00232	0.000576	0.00065	<0.0030
MN-0.5	10/11/2016 12:47	<0.010	<0.0000050	36.5	0.00018	<0.00010	0.00105	0.062	<0.000050	0.0013	9.65	0.0144	<0.0000050	0.00126	0.00069	<0.050	1.06	0.000236	6.45	<0.000010	7.52	0.272	5.57	<0.000010	<0.00010	0.00104	0.000720	0.00060	<0.0030
MN-0.5	02/12/2016 14:50	<0.010	<0.0000050	46.5	0.00023	<0.00010	0.00202	0.043	<0.000050	0.0015	12.2	0.00544	<0.0000050	0.00103	0.00079	<0.050	1.61	0.000252	7.71	<0.000010	10.2	0.316	7.02	<0.000010	<0.00010	0.00108	0.00103	0.00055	<0.0030

Appendix C - Water Quality Data - McGinty Creek

Stn.Code	Smpl Date	Zr-T	Al-D	Sb-D	As-D	Ba-D	Be-D	Bi-D	B-D	Cd-D	Ca-D	Cr-D	Co-D	Cu-D	Fe-D	Pb-D	Li-D	Mg-D	Mn-D	Hg-D	Mo-D	Ni-D	P-D	K-D	Se-D	Si-D	Ag-D	Na-D	Sr-D
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MN-0.5	16/10/2013 13:55	<0.00050	0.0221	<0.00050	0.00048	0.0446	<0.00010	<0.0010	<0.05	<0.000010	25.2	<0.0010	<0.00050	0.00183	0.239	<0.00020	<0.0050	6.22	0.0223	<0.000010	<0.0010	0.0011	<0.01	0.571	0.00019	6.61	<0.000020	4.63	0.172
MN-0.5	16/10/2013 13:55																												
MN-0.5	16/05/2014 12:00	<0.00050	0.0216	<0.00050	0.00041	0.0395	<0.00010	<0.0010	<0.05	<0.000010	20.5	<0.0010	<0.00050	0.00193	0.154	<0.00020	<0.0050	5.69	0.011	<0.000010	<0.0010	0.0012	0.014	0.82	0.00023	4.36	<0.000020	4.13	0.158
MN-0.5	03/06/2014 13:00	<0.00050	0.0132	<0.00050	0.00039	0.0417	<0.00010	<0.0010	<0.05	<0.000010	22.5	<0.0010	<0.00050	0.0016	0.104	<0.00020	<0.0050	5.97	0.033	<0.000010	0.001	<0.0010	0.01	0.7	0.0002	4.62	<0.000020	4.65	0.175
MN-0.5	26/07/2014 11:45	<0.00050	0.0114	<0.00050	0.00043	0.0438	<0.00010	<0.0010	<0.05	<0.000010	25	<0.0010	<0.00050	0.00137	0.1	<0.00020	<0.0050	6.85	0.0049	<0.000010	0.001	<0.0010	0.011	0.669	0.00016	5.58	<0.000020	5.09	0.185
MN-0.5	17/08/2014 11:50	<0.00050	0.0093	<0.00050	0.00039	0.0528	<0.00010	<0.0010	<0.05	<0.000010	32.6	<0.0010	<0.00050	0.00132	0.0488	<0.00020	<0.0050	8.04	0.0079	<0.000010	0.0012	<0.0010	<0.01	0.881	0.00018	6.22	<0.000020	6.07	0.227
MN-0.5	20/09/2014 12:00	<0.00050	0.0099	<0.00050	0.00039	0.0476	<0.00010	<0.0010	<0.05	<0.000010	28.5	<0.0010	<0.00050	0.00116	0.0736	<0.00020	<0.0050	7.33	0.0106	0.000011	0.0011	<0.0010	0.011	0.811	0.00017	5.95	<0.000020	5.4	0.205
MN-0.5	10/10/2014 16:00	<0.00050	0.0136	<0.00050	0.00039	0.0418	<0.00010	<0.0010	<0.05	<0.000010	25.5	<0.0010	<0.00050	0.00155	0.119	<0.00020	<0.0050	6.96	0.0097	<0.000010	<0.0010	<0.0010	0.01	0.631	0.00017	5.99	<0.000020	4.98	0.18
MN-0.5	02/03/2015 12:40	<0.00050	<0.0030	<0.00050	0.00045	0.0689	<0.00010	<0.0010	<0.05	<0.000010	49.8	<0.0010	<0.00050	0.0009	0.0062	<0.00020	<0.0050	14.5	0.0018	<0.000010	<0.0010	<0.0010	0.014	2.96	0.00063	9.22	<0.000020	16	0.354
MN-0.5	26/05/2015 12:45	<0.00050	0.0066	<0.00050	0.00037	0.0504	<0.00010	<0.0010	<0.05	<0.000010	29	<0.0010	<0.00050	0.00071	0.0533	<0.00020	<0.0050	7.1	0.0411	<0.000010	<0.0010	<0.0010	0.01	1.07	0.00028	4.78	<0.000020	5.37	0.256
MN-0.5	23/06/2015 15:00	<0.00050	0.0062	<0.00050	0.00037	0.0537	<0.00010	<0.0010	<0.05	<0.000010	33.6	<0.0010	<0.00050	0.00072	0.0204	<0.00020	<0.0050	7.69	0.0103	<0.000010	0.0014	<0.0010	0.01	0.995	0.00021	6.03	<0.000020	5.81	0.243
MN-0.5	13/07/2015 13:00	0.00051	0.0198	<0.00050	0.00042	0.037	<0.00010	<0.0010	<0.05	<0.000010	19.2	<0.0010	<0.00050	0.0019	0.107	<0.00020	<0.0050	5.18	0.0036	<0.000010	<0.0010	0.0011	0.011	0.543	0.00015	5.64	<0.000020	4.23	0.149
MN-0.5	30/08/2015 13:35	0.00085	0.0652	<0.00050	0.00061	0.033	<0.00010	<0.0010	<0.05	<0.000010	16	<0.0010	<0.00050	0.00403	0.254	<0.00020	<0.0050	4.29	0.0081	<0.000010	<0.0010	0.0017	0.024	0.39	<0.00010	6.27	<0.000020	3.58	0.109
MN-0.5	20/09/2015 12:45	<0.00050	0.0194	<0.00050	0.0004	0.041	<0.00010	<0.0010	<0.05	<0.000010	24.4	<0.0010	<0.00050	0.00154	0.128	<0.00020	<0.0050	6.05	0.0067	<0.000010	0.0011	<0.0010	<0.01	0.6	0.00021	5.86	<0.000020	4.68	0.174
MN-0.5	18/10/2015 13:55	<0.00050	0.0209	<0.00050	0.00038	0.0436	<0.00010	<0.0010	<0.05	0.00001	26.8	<0.0010	<0.00050	0.00139	0.104	<0.00020	<0.0050	6.78	0.0065	<0.000010	<0.0010	<0.0010	0.012	0.668	0.00015	6.57	<0.000020	5.25	0.197
MN-0.5	26/11/2015 13:25	<0.00050	0.0101	<0.00050	0.00037	0.0528	<0.00010	<0.0010	<0.05	<0.000010	30.1	<0.0010	<0.00050	0.00441	0.104	<0.00020	<0.0050	8.92	0.128	<0.000010	0.001	0.001	<0.01	0.995	<0.00010	7.46	<0.000020	5.45	0.151
MN-0.5	29/04/2016 17:10	<0.00030	0.0260	<0.00010	0.00040	0.0414	<0.000020	<0.000050	<0.010	<0.0000050	24.3	0.00025	<0.00010	0.00212	0.132	<0.000050	<0.0010	6.12	0.0114	<0.0000050	0.000798	0.00096	<0.050	1.01	0.000184	4.84	<0.000010	3.95	0.174
MN-0.5	28/05/2016 15:55	<0.00030	0.0131	<0.00010	0.00041	0.0443	<0.000020	<0.000050	<0.010	0.0000091	24.2	0.00016	0.00010	0.00141	0.085	<0.000050	<0.0010	5.99	0.0491	<0.0000050	0.00107	0.00101	<0.050	0.85	0.000250	4.82	<0.000010	4.86	0.175
MN-0.5	21/06/2016 15:30	<0.00030	0.0114	<0.00010	0.00042	0.0505	<0.000020	<0.000050	<0.010	<0.0000050	29.7	0.00018	<0.00010	0.00173	0.031	<0.000050	<0.0010	6.86	0.00356	<0.0000050	0.00124	0.00092	<0.050	0.88	0.000188	5.42	<0.000010	5.79	0.204
MN-0.5	04/07/2016 12:40	<0.00030	0.0067	<0.00010	0.00040	0.0536	<0.000020	<0.000050	<0.010	<0.0000050	34.7	0.00013	<0.00010	0.00115	0.020	<0.000050	<0.0010	8.00	0.00332	<0.0000050	0.00134	0.00069	<0.050	0.95	0.000160	5.80	<0.000010	6.13	0.227
MN-0.5	04/08/2016 15:38	<0.00030	0.0111	<0.00010	0.00049	0.0566	<0.000020	<0.000050	<0.010	<0.0000050	31.9	0.00025	<0.00010	0.00160	0.043	<0.000050	<0.0010	7.46	0.00449	<0.0000050	0.00117	0.00102	<0.050	0.84	0.000190	6.21	<0.000010	6.31	0.227
MN-0.5	03/09/2016 15:45	0.00032	0.0176	<0.00010	0.00046	0.0432	<0.000020	<0.000050	<0.010	<0.0000050	24.9	0.00036	<0.00010	0.00162	0.120	<0.000050	<0.0010	6.45	0.00825	<0.0000050	0.000818	0.00108	<0.050	0.65	0.000197	6.45	<0.000010	4.50	0.171
MN-0.5	10/10/2016 16:00	<0.00030	0.0069	<0.00010	0.00034	0.0547	<0.000020	<0.000050	<0.010	<0.0000050	33.1	0.00017	<0.00010	0.00121	0.032	<0.000050	<0.0010	8.36	0.00621	<0.0000050	0.00105	0.00087	<0.050	0.86	0.000198	6.63	<0.000010	6.28	0.240
MN-0.5	10/11/2016 12:47	<0.00030	0.0041	<0.00010	0.00029	0.0634	<0.000020	<0.000050	<0.010	<0.0000050	36.0	0.00014	<0.00010	0.00084	0.023	<0.000050	0.0014	9.22	0.00926	<0.0000050	0.00122	0.00058	<0.050	1.04	0.000244	6.19	<0.000010	7.17	0.266
MN-0.5	02/12/2016 14:50	<0.00030	0.0047	<0.00010	0.00036	0.0747	<0.000020	<0.000050	<0.010	<0.0000050	44.9	0.00015	<0.00010	0.00119	0.016	<0.000050	0.0014	12.0	0.00429	<0.0000050	0.000905	0.00069	<0.050	1.58	0.000256	7.66	<0.000010	9.99	0.304

Appendix C - Water Quality Data - McGinty Creek

Stn.Code	Smpl Date	S-D	Tl-D	Sn-D	Ti-D	U-D	V-D	Zn-D	Zr-D	Alk-B	Alk-C	Alk-OH	Alk-P	Anion	BOD5	Cation	CN-SAD	CN-T	CN-WAD	COD	C-TOC	IB	N-T	N-TKN	Sp-Cond	TDS-F	Wlevel
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	mg/L	meq/L	mg/L	mg/L	mg/L	mg/L	mg/L	%	mg/L	mg/L	µS/cm	mg/L	m
MN-0.5	16/10/2013 13:55	3.3	<0.000050	<0.0050	<0.0050	0.00038	<0.0050	<0.0050	<0.00050	104	<0.50	<0.50	<0.50				0.00076		0.00086		11.6						
MN-0.5	16/10/2013 13:55																								153.3		
MN-0.5	16/05/2014 12:00	3.4	<0.000050	<0.0050	<0.0050	0.00035	<0.0050	<0.0050	<0.00050	85.8	<0.50	<0.50	<0.50				0.00154		0.00127		16.8				184		
MN-0.5	03/06/2014 13:00	<3.0	<0.000050	<0.0050	<0.0050	0.00049	<0.0050	<0.0050	<0.00050	97.8	<0.50	<0.50	<0.50				0.00099		0.00123		12.5				204.8		
MN-0.5	26/07/2014 11:45	<3.0	<0.000050	<0.0050	<0.0050	0.00039	<0.0050	<0.0050	<0.00050	109	<0.50	<0.50	<0.50				0.00055		0.00076		11.1				205.7		
MN-0.5	17/08/2014 11:50	5	<0.000050	<0.0050	<0.0050	0.00059	<0.0050	<0.0050	<0.00050	134	<0.50	<0.50	<0.50				<0.00050		<0.00050						267.5		
MN-0.5	20/09/2014 12:00	3.3	<0.000050	<0.0050	<0.0050	0.00046	<0.0050	<0.0050	<0.00050	119	<0.50	<0.50	<0.50				<0.0010		0.0008		10.8				245.9		
MN-0.5	10/10/2014 16:00	3.5	<0.000050	<0.0050	<0.0050	0.00037	<0.0050	<0.0050	<0.00050	100	<0.50	<0.50	<0.50				0.00102		0.00091		10.9				219.1		
MN-0.5	02/03/2015 12:40	11.9	<0.000050	<0.0050	<0.0050	0.00112	<0.0050	<0.0050	<0.00050	239	<0.50	<0.50	<0.50												397.7		
MN-0.5	26/05/2015 12:45	3.4	<0.000050	<0.0050	<0.0050	0.00074	<0.0050	<0.0050	<0.00050	112	<0.50	<0.50	<0.50				0.00059		0.00062		7.43				214		
MN-0.5	23/06/2015 15:00	6	<0.000050	<0.0050	<0.0050	0.00083	<0.0050	<0.0050	<0.00050	131	<0.50	<0.50	<0.50												233.3		
MN-0.5	13/07/2015 13:00	<3.0	<0.000050	<0.0050	<0.0050	0.0002	<0.0050	<0.0050	<0.00050	83.6	<0.50	<0.50	<0.50												145.8		
MN-0.5	30/08/2015 13:35	<3.0	<0.000050	<0.0050	<0.0050	0.00013	<0.0050	<0.0050	<0.00050	62.7	<0.50	<0.50	<0.50												113.8		
MN-0.5	20/09/2015 12:45	<3.0	<0.000050	<0.0050	<0.0050	0.00035	<0.0050	<0.0050	<0.00050	102	<0.50	<0.50	<0.50												184.2		
MN-0.5	18/10/2015 13:55	3.4	<0.000050	<0.0050	<0.0050	0.0004	<0.0050	<0.0050	<0.00050	106	<0.50	<0.50	<0.50												193.8		
MN-0.5	26/11/2015 13:25	<3.0	<0.000050	<0.0050	<0.0050	0.00025	<0.0050	<0.0050	<0.00050	128	<0.50	<0.50	<0.50												273.5		
MN-0.5	29/04/2016 17:10	3.10	<0.000010	<0.00010	0.00069	0.000295	0.00062	0.0021	<0.00030	74.1	<1.0	<1.0		1.66		1.92						7.5			164.2		
MN-0.5	28/05/2016 15:55	3.17	<0.000010	<0.00010	0.00043	0.000411	0.00086	0.0010	<0.00030	79.1	<1.0	<1.0		1.77		1.94						4.8			175.1		
MN-0.5	21/06/2016 15:30	3.84	<0.000010	<0.00010	0.00035	0.000499	0.00081	0.0019	<0.00030	92.0	<1.0	<1.0		2.07		2.32						5.7			201.9		
MN-0.5	04/07/2016 12:40	4.43	<0.000010	<0.00010	<0.00030	0.000643	0.00072	0.0013	<0.00030	108	<1.0	<1.0		2.42		2.68						5.1			230.7		
MN-0.5	04/08/2016 15:38	3.84	<0.000010	<0.00010	0.00044	0.000419	0.00079	<0.0010	<0.00030	98.6	<1.0	<1.0		2.19		2.51						6.8					
MN-0.5	03/09/2016 15:45	2.87	<0.000010	<0.00010	0.00063	0.000248	0.00060	0.0011	0.00033	84.5	<1.0	<1.0		1.86		1.99						3.5			179.3		
MN-0.5	10/10/2016 16:00	4.19	<0.000010	<0.00010	<0.00030	0.000536	<0.00050	<0.0010	<0.00030	125	<1.0	<1.0		2.79		2.64						-2.8			247.5		
MN-0.5	10/11/2016 12:47	5.28	<0.000010	<0.00010	<0.00030	0.000672	<0.00050	<0.0010	<0.00030	132	<1.0	<1.0		2.97		2.90						-1.3			278.4		
MN-0.5	02/12/2016 14:50	6.88	<0.000010	<0.00010	<0.00030	0.000938	<0.00050	0.0012	<0.00030	159	<1.0	<1.0		3.61		3.70						1.3			339.9		

APPENDIX 1-4A

GROUNDWATER CHARACTERIZATION AND CONCEPTUAL MODEL UPDATE REPORT

Minto Groundwater Characterization and Hydrogeologic Conceptual Model Update Report

Prepared for

Minto Explorations Ltd

Prepared by

SRK Consulting (Canada) Inc.
1CM002.057
January 2018

Minto Groundwater Characterization and Hydrogeologic Conceptual Model Update Report

January 2018

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1 Introduction

The Minto Mine is a high-grade copper mine located in the Yukon, approximately 240 km north of Whitehorse. Operations began in October 2007 and are currently ongoing. Minto Explorations Ltd. (MEL) is currently in the process of preparing an application for expansion of the mine. This report presents groundwater information and an updated hydrogeologic conceptual model as part of the Site Characterization Report in support of this application.

1.1 Scope

This report presents pertinent data collected from the site groundwater monitoring network, a summary of current groundwater conditions (quantity and quality for specific parameters) and an updated hydrogeologic conceptual model for the site. This report largely builds upon the conceptual models presented in the *2013 Hydrogeological Characterization Report* (SRK 2013) and the *Minto 2015 Groundwater Model Update* (SRK 2015) reports by incorporating monitoring data gathered since the submission of those reports together with updated (current) mine infrastructure.

This report does not present any specific predictions for potential future environmental impacts from the project. The report does not provide detailed review of all groundwater quality parameters; selected parameters are used to understand groundwater transport conditions and changes in groundwater quality since the mine has been in operation.

1.2 Report Organization

This report is organized with general background on the mine in Section 2, updated hydrogeological data presented in Section 3 and the updated hydrogeological conceptual model presented in Section 4. Section 3 includes physical hydrogeological data, hydrochemical data (including results of the environmental tracer study) and presentation of constituents that provide insight on potential mine contact water transport within the Minto groundwater system. Throughout Sections 3 and 4, if there are no changes to previous data or interpretations, results from previous reports are provided.

2 Background

2.1 Minto Mine Description

Minto Mine is a high-grade copper and gold mine that is located 240 km north of Whitehorse, Yukon. Operations began in October 2007 and are ongoing at this time (January 2018). Minto processes both open-pit and underground ore using conventional crushing, grinding, and flotation to produce copper concentrates with significant gold and silver credits (Minto 2012).

The Minto Project is found in the north-northwest trending Carmacks Copper Belt along the eastern margin of the Yukon-Tanana Composite Terrain. The belt is host to several intrusion related Cu-Au mineralized hydrothermal systems. The Minto Property and surrounding area are underlain by plutonic rocks of the Granite Mountain Batholith of Early Mesozoic Age.
The component of the batholith represented on the Minto Property is the Minto pluton and is predominantly of granodiorite composition. Hypogene copper sulphide mineralization at Minto is hosted wholly within this pluton in sub-horizontal horizons of structurally affected rock (Minto, 2012).

2.2 Minto Mine Catchment Descriptions

The Minto Mine is situated in the headwaters of Minto Creek and McGinty Creek (Figure 2-1), both of which drain northeast to the Yukon River. The Minto Creek catchment is characterized by moderate to steep slopes to the north, south, and west. The portion of the catchment occupied by the mine is known as Upper Minto Creek; this upper catchment covers approximately 1,040 ha of the larger 4,100 ha Minto Creek catchment, and is defined as the catchment area topographically upgradient of the Water Storage Dam (SRK 2012). The catchment below the Water Storage Dam contains no mine components, and is known as Lower Minto Creek.

The relatively small Minto North Pit is part of the McGinty Creek watershed. The McGinty Creek catchment has a total area of approximately 3,400 ha. The Minto North pit is located in the upper portion of the east tributary of McGinty Creek and itself has a catchment area of about 12 ha, including the pit.

2.3 Site Layout and Mine Infrastructure

Figure 2-2 presents key components of the mine, as well as monitoring stations that are described in Section 2.5. Key features of the Minto Mine operations include:

- Five (5) waste/overburden dumps;
- Three (3) open pits;
- An underground mining operation;
- A dry stack tailings storage facility (DSTSF); and
- A water storage pond (WSP).

The majority of pit voids in the Main and Area 2 pits are filled with tailings. Water partially covers the backfilled tailings, but is generally less than 20 m deep. Subaerial tailings beaches are present in both pits, with an extensive beach in the Area 2 Pit. Note, the Minto North Pit has not been backfilled.

The DSTSF is constructed on a reasonably continuous, thick permafrost layer (see section 3.1.3). Monitoring station W8A represents water from underdrains for the DSTSF and, since the impervious foundations (permafrost) precludes vertical drainage to any deeper groundwater, this station is considered representative of seepage originating from the DSTSF. Previous station W8 also represented DSTSF seepage, but the station has been dry in recent years and has provided no information over that period.

2.4 Mine Sequence History

The different components of the mine and how they were developed and have changed over time are important to understanding potential influence on the groundwater system. Figure 2-3 summarizes the sequence of mining and key water management actions over time. The following points summarize important dates:

- Early 2006 to mid-2011: Mining of the Main Pit (Area 1). Over this time period, the pit reached a depth of 145 mbgs and a bottom elevation of 715 masl. The pit was dewatered and acted as a hydraulic sink during this time.
- Late 2012 to early 2015: Tailings and water deposited in the Main Pit. By the end of 2014, the water level elevation in the pit was approximately 787 masl.
- Early of 2015 to present: Water pumped from Main Pit to the Area 2 Stage 2 pit and vice versa. The Main Pit lake water level reached a high of 787 masl in the first quarter 2015 and has fluctuated with ~5m of that level since that time.
- Early 2011 to end of 2013: Mining of the Area 2 Stage 2 Pit. Over this time period, the pit reached a depth of 180 mbgs and a bottom elevation of 685 masl. The pit was dewatered and acted as a hydraulic sink during this time. The Area 118 Pit was also mined over a short portion of this interval, and produced little to no water during mining.
- Early 2015 to the present: Tailings and water deposited in Area 2 Stage 2 Pit, as well as water pumped from the Main Pit. The A2 pit lake level has been rising steadily with a current water level elevation of 765 masl.
- Mid-2012 to present: Underground development continued relatively unabated to the current time. Except for a brief hiatus between early 2014 and early 2015, Minto South Underground has been the main underground development. During the hiatus, the mining of M Zone occurred, which was accessed from a portal near the base of the Area 2 Stage 2 Pit. Currently, underground access is being driven from the Area 2 workings to the proposed Minto East underground. During all of this time, the underground has acted as a hydraulic sink. Water collected in the underground sump is pumped to A2 Pit.

- Q3 2015 to Q3 2016: Mining of Minto North Pit to a max depth of 105 mbgs and a bottom elevation of 835 masl.
- 2016 to present: Minto North Pit has accumulated water from runoff, capture and later melt of windblown snow, and groundwater inflow only. Currently, the pit lake level is 844 masl; it has filled 9 m since end of mining.

The most significant developments from a hydrogeological perspective are the filling of two of the pits, mining of Minto North, and the development of Minto South underground workings.

2.5 Site Water Management and Monitoring Network

2.5.1 Site Water Management

In general, water that is suitable for release into Minto Creek is conveyed to the Water Storage Pond (WSP). Water collected from active mine areas (including underground workings) is routed to the Main Pit Tailings Management Facility or the Area 2 Tailings Management Facility, where it is stored and treated prior to release. Tailings have been deposited intermittently in the Main Pit since 2012, and intermittently in the Area 2 Pit since around 2015. Water has accumulated in the Main Pit since 2012, and in the Area 2 Pit since 2015. As part of the mine's water management requirements, there has been intermittent pumping of water between the. The water stored in the WSP has been released to lower Minto Creek when license conditions have allowed and water inventories have warranted. The WSP has a maximum storage volume of 320,000 m^3. Water is pumped from multiple sources to the pond. Cumulative rates can exceed 300 m^3/hr or 80 L/s. In 2017, the pond held between 55,000 and 84,000 m^3 of water (average of about 70,000 m^3). In 2017, when water was pumped from the pond to Minto Creek, the average rate was about 37 L/s. Cumulative groundwater inputs to the entire WSP are estimated to be on the order of 4 L/s; groundwater input to the upstream end of the WSP is estimated to be on the order of 2 L/s. For more specific detail of recent site water management routing, the reader is referred to SRK (2017a).

Minto South underground dewatering needs are relatively minor; the average daily dewatering rate during 2017 (as of October) was approximately 1 L/s (100 m^3/day).

2.5.2 Groundwater Monitoring Network

Groundwater monitoring wells are shown on Figure 2-2. Nomenclature of the monitoring wells and zones is:

- The two numeric digits proceeding MW are the install year (i.e., MW12-06 and MW09-01 were installed in 2012 and 2009, respectively).
- Zones of each monitoring well are number sequentially from deepest to shallowest. For example, in order of greatest to shallowest depth, the zones of MW17-08 are Zone 1, Zone 2, Zone 3, and Zone 4. Zone numbers are added as a suffix to the well name. Following the previous example, individual zones are named MW17-08-01, MW17-08-02, MW17-08-03, MW17-08-04.

The monitoring well zones target either overburden, bedrock, or the overburden-bedrock contact. Only one zone, MW12-06-06, targets solely overburden. The monitoring well zones are periodically monitored according to the groundwater monitoring plan which forms part of the site's water licence (QZ14-031). Frequency and type of groundwater monitoring are summarised in Appendix A.

The network includes:

- Baseline data: P93E and P94-20 were installed in the 1990s. P93E was in the center of the Main Pit area. P94-20 was in the area of the Water Storage Pond. Both wells no longer exist as they are within the footprint of developed mine components; minimal well construction data exists for these wells (available details are presented in Appendix A). MW11-04a is a conventional standpipe located in the area of the undeveloped Ridgetop South Pit; it is still monitored and has no active mining in the vicinity. MW09-03 is located topographically downgradient of the Minto North Pit and was installed approximately five years before mining of Minto North occurred; this well provided baseline data up to the start of mining at Minto North. MW17-08 is located topographically upgradient of mine activities. As this well was installed in late 2017, there is only limited data currently available.
- Operational Monitoring: nine (9) Westbay multilevel monitoring wells provide a 3D dataset of hydraulic head and hydrochemistry in 46 discrete monitoring zones across the site. Appendix A summarizes key details of the monitoring wells. Note: a number of multilevel and standard monitoring wells have been installed in the past, but have been destroyed or are frozen. Of the actively monitored wells:
  - MW09-03 and MW17-11 are located in the McGinty Creek catchment, topographically downgradient of the Minto North Pit;
  - MW17-08 is located topographically upgradient of mine activities, representing background groundwater conditions near the western limit of the Minto Creek catchment;
  - MW09-01 and MW17-10 are located between the Main Waste Dump and the Main Pit;
  - MW17-09 is located east of the Ice-Rich Overburden Dump and the Southwest Waste Dump;
  - MW12-07 is located between of the Main Pit and the mill;
  - MW12-06 is located between the DSTSF and the WSP; and
  - MW12-05 and MW17-12 are located east of the Water Storage Pond, and east of the all mine operations;

When installing the 2017 monitoring wells, a bromide tracer was used to establish the efficacy of zone development (SRK, 2017a). Four (4) of the monitoring well zones still register this tracer (as of November 2017), indicating that they are not yet totally representative of the formation water (Table 2.1, ‘Not fully developed’). As such, these zones (MW17-08-01, MW17-10-01, MW17-11-01, and MW17-11-02) are not used in the interpretation of hydrochemistry. However, hydraulic head data are assumed to be representative of formation pressure, and are used in the interpretation of vertical hydraulic head gradients.

Table 2.1 2017 monitoring well zone development status

Zone ID	Status
MW17-08-01	Not fully developed
MW17-08-02	Developed
MW17-08-03	Developed
MW17-10-01	Not fully developed
MW17-10-02	Developed
MW17-10-03	Developed
MW17-11-01	Not fully developed
MW17-11-02	Not fully developed
MW17-11-03	Developed
MW17-11-04	Developed
MW17-11-05	Developed
MW17-12-01	Developed[1]
MW17-12-02	Developed[1]
MW17-12-03	Developed[2]
MW17-12-04	Developed[2]
MW17-12-05	Developed[2]
MW17-12-06	Developed[2]
MW17-12-07	Developed
MW17-12-08	Developed

Note:

[1] Bromide detection limit raised to 1.0 mg/L due to high EC level

[2] Bromide detection limit raised to 0.25 mg/L due to EC level

2.5.3 Referenced Surface Water Monitoring Stations

Surface water monitoring stations are used throughout this report to compare with the groundwater hydrochemistry. A subset of the actively monitored surface water stations are utilized in this report. The subset is considered to reflect potentially important water sources (e.g., open pits), and locations that could be affected by groundwater discharge (Minto Creek and McGinty Creek); the selected stations are locations with sufficient data to assess seasonal trends or other trends over time. The stations monitor drainage from:

- Mine infrastructure (W12, UG1, W16, W14, W45, and W8A);
- Minto Creek downstream of the mine (W3, W6, W7, W46 and MC1), and McGinty Creek downstream of the Minto North Pit (MN-1.5 and MN-2.5).

Table 2.2 details the description of these select surface water stations and the type of data gathered; locations are shown on Figure 2-2

Table 2.2 Surface Station Descriptions

Station ID	Description	Category
W14	Tailings thickener Overflow	Mine Infrastructure
W12	Main Pit	Mine Infrastructure
W45	Area 2 Pit	Mine Infrastructure
UG1	Minto South Underground Mine dewatering sump	Mine Infrastructure
W8A	Dry Stack Tailings Storage Facility drainage	Mine Infrastructure
W16	Water Storage Pond	Mine Infrastructure
W3	MMER(1) final discharge point (Minto Creek)	Minto Creek
W7	North flowing tributary to Minto Creek	Minto Creek
W6	South flowing tributary into Minto Creek	Minto Creek
W46	Minto Creek downstream of W7 and W6	Minto Creek
MC1	Minto Creek, at Minto Canyon	Minto Creek
MN-1.5	Upper East Arm of McGinty Creek downstream of Minto North Pit	McGinty Creek
MN-2.5	East Arm of McGinty Creek just U/S confluence with West Arm	McGinty Creek
MN-4.5	Main Stem of McGinty Creek near confluence with Yukon River	McGinty Creek

Note:

1. MMER: Metal Mining Effluent Regulations

3 Hydrogeology and Hydrochemistry Data

3.1 Hydrostratigraphy

The hydrostratigraphy of the project comprises two units: overburden deposits, and granitic bedrock. Permafrost also impacts the groundwater system, and thus is included here. Appendix B provides a compilation of the monitoring well logs, including lithology.

3.1.1 Overburden

The following text describing overburden lithology and distribution is adapted from SRK (2015).

The distribution of overburden across the site can influence groundwater flow by providing pathways for groundwater flow, where it is permeable and not frozen. Overburden characteristics have been reviewed as part of past hydrogeological studies (SRK 2013), the Main Dam design (SRK 2014a), site geotechnical investigations and field reconnaissance as part of the most recent groundwater model update (SRK 2015).

Overburden thickness was modelled during the groundwater model update (SRK 2015). Figure 3-1 presents this work and is consistent with recent subsurface investigations (e.g., SRK 2017b). Data used to generate this figure includes information collected prior to mining of the open pits, and the figure includes overburden thickness in the pit areas, where that overburden has been removed. In general, overburden thickness is least along topographic highs or ridgelines, and increases towards valley bottoms.

Typically, the ridge tops are dominated by sandy, residual soils grading to weathered bedrock. It is generally observed that fine weathering products have been washed down slope, so sandy silts and clays are found in valley bottoms (SRK 2014a). At MW11-04, near the undeveloped Ridgetop South pit, overburden is only about 1.5m thick. At MW09-03 and MW17-11, just Topographically downgradient of the Minto North Pit, overburden is about 3m and less than 7m thick, respectively, based on casing depths and logging for these wells (no details are available for overburden material characteristics due to drilling method).

Overburden in valley bottoms has thickness ranging between 20m to over 90m. A key feature shown on Figure 3-1 is a paleochannel that diverges from the topographic valley bottom on the west side of the DSTSF and trends in a northeast-southwest direction parallel to, but southeast of, the topographic Minto Creek valley. Topographically upgradient of this channel, below the Southwest Waste Dump, overburden is characterized by interbedded silty sand, silt and sand, most of which is frozen (refer to Section 3.1.3 and lithologic logs included with thermal data in Appendix C).

In the paleochannel itself, overburden can be nearly 100m thick and is characterized by interbedded sand, silt, gravel and clays. An ice-rich clay layer exists at depths between 26 to 64 mbgs in this area, in which local shearing occurred leading to previous instability of the DSTSF. Drill logs indicate that the clay layer typically overlies weathered bedrock or thin sandy units over bedrock. Thermal data indicates that most overburden in this area is frozen (refer to Section 3.1.3).

Fill has been placed in the mine's central area near the Main Pit, the mill, the administration and the camp buildings and extends up to approximately 10 m below current ground surface.

Compared to bedrock, the overburden deposits have not been hydraulically tested to the same extent. SRK (2013) reported a hydraulic conductivity estimate of approximately $5x10^{-9}$ m/s for frozen overburden material. This is indicative of the low permeability effect permafrost has on overburden.

3.1.2 Bedrock

The following text describing bedrock lithology and geologic structures is adapted from SRK (2013).

The Minto Mine site is underlain predominantly by igneous rocks of granodiorite composition. The granodiorite is generally categorized based on textures which are associated with foliation and crystal size. Rock texture ranges from massive granodiorite to foliated granodiorite, with foliated granodiorite typically characterized by increased biotite content. The biotite-rich foliated granodiorite hosts mineralized zones of copper sulphide. Crystal textures range from equigranular to porphyritic.

Other minor lithologies consisting of small dykes of simple quartz-feldspar pegmatite, aplite, and an aphanitic textured intermediate composition rock are also observed. Bodies of these units are relatively thin and rarely exceed one-meter core intersections. These dykes are relatively late, generally postdating the peak ductile deformation event; however, some pegmatite and aplite bodies observed in a rock cut located north of the mill complex are openly folded. There has been evidence of conglomerate and volcanic flows in drill core by past operators, and drilling has demonstrated that a conglomerate unit bearing local granodiorite pebbles occurs across much of the southern part of the project area.

Primary permeability of the granitic bedrock is low, and the majority of groundwater flow through the bedrock is via fractures and joints within the rock mass. Hydraulic testing of the bedrock has been carried out across the project area. Estimates of hydraulic conductivity range between $4x10^{-9}$ and $2x10^{-6}$ m/s, with geometric mean of $7x10^{-8}$ m/s (n=49). While scattered, a general trend of decreasing hydraulic conductivity with depth was noted and successfully utilized to calibrate the updated groundwater model (SRK, 2015). SRK (2013) noted that test zones of fresh joined rock did not exhibit increased hydraulic conductivity when compared to weathered and infilled joints, suggesting that jointing is not well connected through the rock mass.

Structure can have a significant impact on groundwater flow if structures have a higher or lower hydraulic conductivity than that of the surrounding rock. Although there is evidence both regionally and locally of multiple structures and structure types, structures have not been mapped across the entire site. Observations of drill core indicate that the bedrock generally has tight fractures or fractures filled with weathered material including clay and hematite (SRK, 2013).

The position of geologic structures is best delineated in the vicinity of the open pits, where mining has occurred. The presence or location of other potential structures is not well constrained; lineament analysis was completed as part of the 2014 groundwater modelling study (SRK 2014b) to provide an indication of potential structures, but whether or not any actually exist is uncertain. Figure 3-2 presents the findings from that analysis. Additionally, the granodiorite hosting the mineralization is foliated, with biotite-rich shear zones. It is unclear if or how this foliation may influence water movement.

Hydraulic testing conducted at MW12-06 across a fault zone that was characterized with over 1 m of completely altered clay material, yielded a hydraulic conductivity of $4x10^{-9}$ m/s. Artesian conditions below the fault also suggest this could be a confining unit, further supporting fault characteristics to restrict groundwater flow. The DEF fault has been similarly characterized as a groundwater barrier in previous studies (SRK 2009). The low dewatering rate of the Minto South Underground (~100 m^3/day), further suggests that the fractures, joints, and faults of the rock mass are not well connected.

3.1.3 Permafrost

The following text describing permafrost distribution is adapted from SRK (2015). Ground thermal data for certain areas are included in Appendix C.

Discontinuous permafrost is present across the site. Where permafrost is present, it can be expected to act as a barrier to the vertical infiltration of water, or for upwelling of any deeper water; flow within the active zone (shallow zone affected by seasonal temperature fluctuations) will not move vertically downwards through the permafrost. Likewise, permafrost could act as a confining unit for any flow below the permafrost. Figure 3-3 shows the interpreted distribution of permafrost across the site.

The distribution of discontinuous permafrost at site was estimated based on site thermal data, ground observations and air photo interpretation. Distribution of permafrost is not known precisely for the entire site, but in general, permafrost is more likely to occur on north aspects and in valley bottoms. On south aspects or on ridge tops, permafrost is generally not present. The estimated permafrost distribution is shown on from SRK (2015), which is based on studies by EBA (2011). Where ground is permanently frozen, it is rarely colder than -2º C and often warmer than -1º C.

Generally, the west to east trend of the upper Minto Creek valley bottom (extending from topographically downgradient of the Southwest Waste Dump, past the mill and administration buildings, the DSTSF, and along the north facing slopes of the Minto Creek drainage (upstream of the Water Storage Dam) coincides with the permafrost region. The north facing slopes (at the southern edge of the property) have geomorphic features and vegetation suggesting the

presence of permafrost or discontinuous permafrost, except along the crests of the ridges which are generally free of permafrost. The south facing slopes and ridges are generally permafrost-free, although there are localized occurrences of permafrost (based on observations of both frozen and unfrozen ground conditions in these areas) that typically coincide with local valley bottoms thicker organize-rich soils have accumulated.

Ground temperature data at the eastern toe of the Southwest Waste Dump indicate warm permafrost (0° to -1°C) extending to depths of greater than 50m in overburden and into the underlying bedrock. The active zone typically occurs within fill close to ground surface. Ground temperature data, in the paleochannel below the DSTSF, indicate warm permafrost to depths of greater than 60 m, typically to the depth of, or slightly deeper than, the clay layer mentioned in Section 3.1.1. DST-13 is a ground temperature cable located approximately 200m northeast of the DSTSF, within the paleochannel (see Appendix C for location). Weathered bedrock occurs at a depth of approximately 90mbgs; thermal data indicates sub-zero temperatures to a depth of about 67mbgs, within the clay and silt layer (about 30 m thick in this area, overlying bedrock). MW11-02 and -03, located in the area of the proposed Ridgetop South pit (see Figure 3-3) are frozen.

North of the paleochannel, in the Minto Creek valley, permafrost appears to terminate; at MW12-06 (in the Minto Creek valley topographically upgradient of the Water Storage Pond) ground temperatures are positive; permafrost is not present.

3.1.4 Hydraulic Conductivity

Hydraulic conductivity (K) has been measured at different locations across the site through a combination of packer tests, slug tests, recovery tests following airlift well development and through calibration of the existing groundwater numerical model. The K database includes 50 data points. Figure 3-4 presents the distribution of K data by depth below ground surface. 88% of the tests have been completed in bedrock.

3.2 Water Levels

3.2.1 Pit Lake Water Levels

Two of the open pits are partially flooded. The Main Pit and Area 2 Pit lake elevations are 786 and 765 masl, respectively (as of September 2017). Pit lake water levels over time are presented on Figure 3-5. The Main Pit lake elevation increased between mid-2011 to mid-2014, and has remained relatively stable since. The Area 2 pit lake has risen since early-2015 and continues to do so. The figure includes water levels from MW12-07, located just topographically downgradient of the Main Pit. In January 2018, water levels declined rapidly; the timing of this change coincides with underground mining in the vicinity of the monitoring well.

3.2.2 Water Storage Pond Levels

Figure 3-6 presents water level data from the Water Storage Pond and MW12-06, located topographically upgradient of the Water Storage Pond. Groundwater data indicate an upwards hydraulic gradient from bedrock to overburden, and from overburden (and bedrock) towards the Water Storage Pond. Data from MW12-05 (not shown), located topographically downgradient of the pond, indicate water levels between about 660 and 664 masl; there is a hydraulic gradient from the pond towards MW12-05.

3.2.3 Minto South Underground

The Minto South underground represents a groundwater sink at depth below ground surface and the nearby open pits. There are no specific measurements of water levels in the underground. Data presented in Figure 3-5 indicates that water levels within at least a couple of hundred meters of underground developments will be affected. The underground (as of October 2017) had reached depths of 475 masl. Inflow rates as of October 2017 were approximately 100 m^3/d.

3.2.4 Spatial Distribution of Groundwater Head

Water level data are available from the monitoring wells, as well as pit lakes and surface ponds. Groundwater head elevations in the bedrock unit range between approximately 894 and 662 masl, the differences mostly dependent on collar elevation of a given well. Depth to water varies across the site. Monitoring wells topographically upgradient of the mine footprint (MW17-08) and wells close to Minto Creek (MW12-06, MW12-05, and MW17-12) all display relatively shallow depths to groundwater, between 3 and 7 mbgs. In contrast, depth to water at wells closer to the pits are deeper; at wells MW09-03, MW12-07, MW17-10, and MW17-11 the depth to groundwater is greater than 10 mbgs; MW17-10 is the deepest at 70 mbgs.

Groundwater level data are presented in Appendix D.

Figure 3-7 presents a spatial interpretation of groundwater levels. This interpretation reflects the output of the 2015 groundwater numerical model (SRK, 2016). The spatial distribution of groundwater levels has not changed significantly since 2015, with the exception of MW12-07. Groundwater contours generally reflect topography except around the two open pits, which act as hydraulic sinks. The Minto South underground also acts as a sink, though effects are only observed locally. It should be noted that head contours in the vicinity of Minto North Pit reflect the pre-mining condition that existed when the 2015 numerical model was developed.

Water level data from MW12-07 may reflect the effects of pit flooding and, more recently, underground development. Figure 3-5 shows water level data for the three monitored zones in MW12-07, the Main Pit and the Area 2 Pit. MW12-07 is located approximately 250m east of the Main Pit and 400m northeast of the Area 2 Pit. At depth, MW12-07 is approximately 225 m from current underground development activities for Minto East.

When MW12-07 was installed in 2012, data indicated groundwater levels for all three monitoring zones were higher than the Main Pit lake level. In 2013, the Main Pit level rose to be higher than the groundwater level in all zones of MW12-07. Before this time, flow direction at the MW12-07 location would have been towards the pit (i.e. the pit was acting as a sink, even for areas topographically downgradient of the pit). During this time, and up to 2015, water levels in the deepest monitoring zone of MW12-07 (MW12-07-01) were slowly declining. Water levels in this zone started to rise after this, at the time that the Area 2 Pit was starting to be flooded. The two shallower zones also showed this trend, but with much less change over time. Water levels in the deep zone rose until about mid-2017, concurrent with flooding of the Area 2 Pit.

Since mid-2017, water levels of all three zones have dropped. The change is most significant in the deep zone (MW12-07-01), but all three zones have declined. Water levels in the deep zone dropped by about 25m up to the end of 2017; water levels in the two shallower zones (MW12-07-2; MW12-07-03) have dropped by about 6m over the same time period, but the rate of decline may be slowing. This sudden drop in water levels is coincident with underground development access being advanced from the Area 2 underground zone to the Minto East Zone. These observations support a conclusion that the underground areas will act as local hydraulic sinks. The relatively minor changes in water levels as the Main Pit and Area 2 Pit lake levels have increased (for the Main Pit, well above the groundwater levels) suggest that the pit lakes, which are very large water bodies, have a limited but visible effect on groundwater levels within relatively close proximity.

At Minto North, mining of Minto North Pit was completed in late 2016 (Section 4). Since then, water has been collecting in the bottom of the open pit from runoff, from trapping and subsequent melting of windblown snow, and from minor groundwater inflow, and the pit water level has remained low, approximately 84 meters below ground surface. The groundwater level at two topographically downgradient monitoring wells remain elevated well above the pit lake water level, though the influence of pit dewatering is visible from the drop in groundwater levels at MW09-03 (Figure 3-8). Seasonality in the groundwater level is also evident, with higher groundwater levels occurring in the spring of 2016 and 2017. Currently, the groundwater levels north of (and downhill from) the pit remain higher than the pit lake; the pit lake is acting as a local hydraulic sink.

3.2.5 Vertical Groundwater Head Profiles

Water pressure data from different zones in the monitoring wells provide information on vertical hydraulic head gradients in each area. Observed vertical hydraulic gradients across the site are summarized in Table 3.1.

Table 3.1 Vertical hydraulic head gradient direction

Well ID	Location	Vertical Hydraulic Head Gradient	Head Affected by Mine Development?	Comment
MW17-08	Topographically upgradient background well	Variable between zones, and minor, but generally downwards	Not enough data to confirm	Only one set of data available
MW17-10	Between Main Waste Dump and Main Pit	Downwards	Not enough data to confirm	Only one set of data available
MW09-01	Between Main Waste Dump and Main Pit	Mainly dry. Water was present initially, but has frequently become dry	Yes	Occasional trace water in shallow-most zone
MW17-09	Topographically downgradient of Southwest Waste Dump	n/a	Not enough data to confirm	Single monitoring zone Frozen in late 2017
MW12-07	Between Main Pit and Mill	Variable over time Upwards between two shallow zones until recently Downwards from shallow to deep zones until late 2015; upwards from deep to shallow zones until late 2017 Currently strong downwards hydraulic gradient	Yes	Variation over time may be related to nearby pit lake water level and, more recently underground development. Current strong downwards hydraulic gradient suggests hydraulic connection with underground
MW09-02	topographically downgradient of DSTSF	n/a – Destroyed	N/A	Well destroyed soon after installation
MW12-06	Topographically downgradient of pits; up gradient of Water Storage Pond	Small upwards hydraulic gradient in bedrock, with some variability; upwards from bedrock to overburden	No	
MW12-05	Topographically downgradient of Water Storage Pond	Downwards from 3 shallowest zones to 4 deepest zones	No	Hydraulic gradient direction has not changed over time
MW17-12	Topographically downgradient of Water Storage Pond	Variable between zones but generally upwards	Not enough data to confirm	Only one set of data available
MW09-03	Topographically downgradient of Minto North Pit	Downwards	Yes	
MW17-11	Topographically downgradient of Minto North Pit	Variable between deeper zones but overall downwards from shallowest to deepest	Not enough data to confirm	Only one set of data available

3.3 Groundwater Recharge

Groundwater recharge can occur from direct infiltration of precipitation and via losses from surface water features such as ponds, creeks or flooded open pits, to the groundwater system. Estimates of groundwater recharge are taken from results of the 2015 groundwater numerical model (SRK 2016).

3.3.1 Recharge from Precipitation

Estimated average annual precipitation is roughly 329 to 335 mm/year (SRK, 2018a). Runoff is estimated as 135 mm/yr. Recharge to the groundwater system as estimated from the calibrated 2015 numerical model is expected to fall between 10 and 40 mm/yr. This was estimated based on available flow data for Minto Creek and calibration of the numerical model. Creek flow measurements were reviewed (considering managed discharges) to determine a period that would best represent baseflow, when groundwater is assumed to be the dominant contributor to stream flow. The September/October period was found to best represent baseflow. During the winter months, Minto Creek is often frozen to its base (except at W3, which has flow year-round) and flow measurements are not possible (and there may be little to no flow during this period). Baseflow cannot be zero, so the September/October period is used, when climatic conditions are relatively dry but winter has not set in. The baseflow amounts equate to 3% to 12% of annual average precipitation.

3.3.2 Discharge from Open Pits

Estimates of groundwater discharge from the Main Pit and Area 2 pit were estimated using the 2015 groundwater numerical model with updated pit water levels (SRK 2018b). No other changes were made to the model. Discharge from the Main Pit is estimated as 127 m^3/d. Discharge from the Area 2 pit is effectively zero. The Area 2 Pit currently acts as a hydraulic sink.

The magnitudes of these estimates are generally corroborated by results of a sulphate load balance completed to understand the potential cause of increased sulphate concentrations in the pits (SRK 2018b). This work indicates that the sulphate load balance is not sensitive to the estimated groundwater discharge rates. While this does not necessarily confirm the groundwater discharge estimates, it does support a conclusion that groundwater discharge from the pits is likely small compared to water transfers between the pits and mill themselves. Discrepancies in the load balance are within uncertainty on surface or pumped flow measurements.

3.4 Hydrochemistry

3.4.1 pH and Total Dissolved Solids

pH and total dissolved solids (TDS) of groundwater, surface water, and mine infrastructure stations are summarized in Table 3.2. The pH is relatively consistent between site water types. In contrast, the TDS varies the greatest in the current groundwater wells and mine infrastructure, while the creek water and baseline wells display a low variability.

Table 3.2 Physical Parameters of Site Waters

	pH			TDS (mg/L)		
	Mean	**Min**	**Max**	**Mean**	**Min**	**Max**
Groundwater (n=36)	8.0	7.7	8.2	580	71	2170
Creek Water (n=8)	8.2	7.8	8.5	250	200	300
Mine Infrastructure (n=8)	7.9	7.3	8.4	1100	240	2100
Baseline Wells (n=3)	7.8	7.2	8.3	315	178	453

Note:

Number of samples refers to the number of stations

Source: Data provided by Minto Mine

A water quality profile of open water in the Main Pit lake was conducted in October 2017. The physical parameters and major ion lab results did not vary significantly with depth, indicating that there is little variation in water quality with depth in the pit lake (open lake water is fully mixed). Sulphate concentration ranged between 1,200 mg/L and 1,330 mg/L. This is consistent with what one would expect under fully mixed conditions, which could be the result of mixing due to mine water management actions, or a consequence of monitoring subsequent to a fall turn-over (if seasonal stratification does occur).

3.4.2 Major Ion Chemistry

Piper Diagram and Stiff Diagrams were used to asses the different spatial and depth-related major ion signatures of waters across the Minto Creek and McGinty Creek catchments.

Figure 3 9 presents a Piper Diagram (proportional major ion concentration) of the 2017 averaged water quality data from monitoring well zones (Groundwater Wells), the background wells (P93E, P94-20, MW17-08, and MW11-04A), select mine component, drainage or effluent stations (W12, W8A, W16, W14, W45, and UG1), and downstream surface water stations (Minto Creek and McGinty Creek water). Note, MW09-03 is not considered to be background in 2017, thus falls in the ‘Groundwater Wells’ category. The Piper Diagram values presented are the mean values from 2017. The symbol size is scaled by TDS. Data indicates two distinct water facies:

1. A lower TDS Ca-HCO_3 to mixed Mg-Ca-HCO_3 facies, and
2. A higher TDS Ca-SO_4 to Ca-Mg-SO_4 facies.

Tables on Figure 3-9 tabulate which monitoring stations/well zone fall within which water facies. The majority of the stations belong to the Ca-Mg-HCO_3 facies. In all types of samples, higher TDS correlates with a higher proportion of sulphate.

Figures 3-10 and 3-11 present Stiff diagrams of shallow and deep monitoring well zones, using the most recent monitoring data (August and November 2017), respectively. The distinction between shallow and deep is based on zone depth. Shallow zones in Figure 3-10 include representative shallow monitoring zones in a given monitoring well. Deep zones shown on Figure 3-11 include the deepest monitoring zone in a given monitoring well. For the Deep zones,

the 2017 Minto Creek background well (MW17-08) is not included as the most recent samples still show presence of the tracer used to indicate the presence of drill water. Stiff diagrams for representative mine infrastructure and surface water stations are shown for comparison (Figure 3-12). Stiff diagrams of all monitoring well zones are presented in Appendix E.

Comparison of these figures suggest the major ion chemistry of the groundwater system varies across the site, and with depth. It should be noted here that Piper and Stiff diagrams are generally used to show variations amongst select elemental concentrations and milli-equivalents, respectively. In essence, they show comparable variations amongst the elements. For instance, a Ca-HCO_3 type water (Piper diagram) would have corresponding greater amounts of Ca and HCO_3 milliequivalents in a Stiff diagram.

Many of the shallow monitoring zones display a Ca-HCO_3 or Ca-Mg-HCO_3 type water, typical of shallow, fresh groundwaters (Figure 3-9). Deviations from this generalization include MW12-06-05 (topographically upgradient of the Water Storage Pond) and MW12-07-03 (topographically downgradient of the Main Pit) (Figure 3-9). MW12-06-05 has noticeably more sulphate than most of the other shallow groundwater monitoring zones (a mixed Ca-Mg-HCO_3-SO_4 water type), except MW12-07-03 (Figure 3-10). The major ion proportion of MW12-06-05 (Figure 3-10) is similar to that of W8a, the DSTSF underdrain monitoring station (Figure 3-12). In MW12-07-03, the concentrations of the dominant cations (Ca, Mg) and anions (SO_4) are lower (Figure 3-10), but have a similar trend as that of W12 (the Main Pit) and UG1 (the Minto South underground collection station) (Figure 3-12). The shallow zones of MW12-05 and MW17-12 are largely fresh Ca-Mg-HCO3 waters (Fig 3-10) and are similar with the nearby surface water station monitoring Minto Creek (W3; Figure 3-12).

The deepest zone at MW09-03 (topographically downgradient of the Minto North pit; Figure 3-11) contains largely fresh waters having similar dissolved major ion signatures to the majority of the shallow zones (Ca-HCO_3 or Ca-Mg-HCO_3) within the overall monitoring area (Figure 3-10). The remaining deep monitoring well zones vary from their respective shallow zone and largely show a transition from fresher waters to more chemically evolved waters with depth.

As detailed above, there are general depth-related trends observed in the data suggesting that:

- Shallower zones in the majority of the wells in the area are fresher Ca-HCO_3 or Ca-Mg-HCO_3 waters. An exception to this is MW12-07-03 (Figure 3-10).
- Deeper zones in these wells have a more diverse distribution of groundwater, from fresher (Na/K-Ca-HCO_3 or Ca-Mg-HCO_3;) groundwater nearer to operations to more complex, SO_4-bearing (Na/K-Ca-Mg-HCO_3-SO_4) groundwater topographically downgradient of the mine (Figure 3-11).

At MW12-05 and MW17-12, the Ca-Mg-HCO_3 water type of the shallow zones gives way to a Ca-SO_4 water type at depth, which is similar in signature to W12 (Main Pit) and UG1 (Minto South underground). This change occurs between zones 4 and 3 (between 69 and 94 mbgs, respectively) at MW12-05, and zones 3 and 2 (between 102 and 119 mbgs, respectively) at MW17-12 (see Appendix C). This change to the Ca-SO_4 facies with depth is isolated to MW12-05 and MW17-12; no such change is observed at MW12-06.

At MW09-03, topographically downgradient of the Minto North pit, both the shallow and deep monitoring zones are Ca-Mg-HCO_3 water type. These zones have low sulphate concentrations (less than 25 mg/L).

3.4.3 Minto North Nitrate

Nitrate at MW09-03-02 (the shallow zone) has shown an increasing trend since late-2016 (Figure 3-13), while the deeper zone has remained relatively stable with concentrations orders of magnitude lower (note: the shallower zones of MW09-03 are regularly dry). The Minto North pit lake has had nitrate concentrations up to 2 orders of magnitude higher than the highest concentration measured at MW09-03-02. The closest McGinty Creek surface water monitoring station (MN-1.5) has similar nitrate concentrations to that of the deeper zone (MW09-03-01), although the station shows some sign of an increasing nitrate trend in 2017. Despite this recent increasing trend, the highest concentration of nitrate measured in 2017 is still lower than some measurements prior to the start of mining of the Minto North deposit (e.g. during 2012 and 2013).

3.5 Isotopic Environmental Tracers

In 2016 data collection for an environmental tracer study was undertaken to fulfill Condition 90.g of Quartz Mining License QZ14-031. The study included stable isotopes of water (δ^2H and $\delta^{18}O$), $\delta^{34}S_{SO4}$ and tritium from samples collected from a range of groundwater, surface water and seep monitoring stations across the site. Preliminary findings were presented in October 2017 (SRK 2017c). The following summarizes observations and interpretations of the isotope and tritium data.

3.5.1 Stable Isotopes of Water

Observations:

Stable isotopes of water (δ^2H and $\delta^{18}O$) were sampled in surface waters, mine seeps and groundwaters across the site. Figure 3-14 presents results. δ^2H and $\delta^{18}O$ generally plot along the linear best fit line for precipitation data from Mayo, YT (IAEA, 2017), and parallel to, but below the local meteoric water line (LMWL) for Whitehorse, YT (Lacelle, 2011). Some of the surface water samples, as well as one seep (near the Ice Rich Overburden Dump) collected in June 2016 plot to the right of the meteoric water line.

For groundwaters, variation in $\delta^{18}O$ values with depth was observed in MW12-05, and to a lesser extent MW09-03 (Figure 3-15). Depth-related isotopic variations are not evident within MW-12-06 and MW12-07. In MW12-05, shallower ports (15, 26, and 52 m bgs) have enriched $\delta^{18}O$ and $\delta^{2}H$ values, while the lower ports (94, 110, and 132 m bgs) have isotopically depleted values (Figure 3-15). The sampling port at 69 m bgs plots as an intermediate between these two trends.

Interpretations

Stable isotopes of water from the Minto Mine are similar to precipitation measured at Mayo, YT and largely suggest that all have been derived from infiltration of local meteoric water. Seasonal shifts along the Mayo best fit line are also expected due to changes in temperature, which effects the degree of fractionation, and thus the isotopic value (more depleted in heavy isotopes in colder temperatures, less depleted in warmer temperatures). As well, several of the surface waters along with one seep (SS49) trend to the right of the meteoric water line and are consistent with trends in oxygen and hydrogen isotopic values on surficial waters modified by evaporation.

Generally seasonal variation is lost during infiltration through the unsaturated zone, so groundwater is expected to have an isotopic value near the weighted average of annual precipitation (Clark and Fritz 1997). As indicated in Figure 3-15, observed depth-related trends in the isotopic values are either 1) invariant and may be attributable to relatively unimpeded flow in fracture rock (MW 12-06; MW12-07; Clark and Fritz, 1997), or 2) variable and trend from enriched isotopic values near surface to more depleted isotopic values at depth which are comparable with spatially equivalent groundwaters in the area (MW12-05). This variation is likely the result of groundwater mixing between shallower and somewhat evaporation-affected surface water, and deep groundwater.

3.5.2 Sulphur Isotopes

Observations

The $\delta^{34}S_{SO4}$ values range between -2.7 to +16‰ VCDT. When compared with dissolved sulfate values (Figure 3-16), some distinctions can be made amongst the $\delta^{34}S_{SO4}$ values. Waters having lower sulphate concentrations of approximately <500 mg/l generally have a fairly wide range of $\delta^{34}S_{SO4}$ values of approximately 20 per mil (‰). In contrast, at sulphate concentrations of greater than approximately 500 mg/L, $\delta^{34}S_{SO4}$ values are far more constrained with a total variation of only 5 per mil.

Interpretations

The observed $\delta^{34}S_{SO4}$ values in these waters may originate from two sources: 1) oxidation of sulfides in the surrounding host-rocks and 2) dissolution of dissolved sulfates within the host-rocks from either ancient seawater sulfate or oxidized sulfides. Both 1) and 2) are geogenic and associated with the geologic and metallogenic history of the area. For instance, Tafti (2005) analyzed $\delta^{34}S$ values on sulfides within ore specimens from the Minto deposit and found that all samples fell within the range of -4 to +2‰, comparable with the lower end of the range observed in this work. In addition, there is another potential source of sulfate, the reagent sodium sulphide which is added in the mill process circuit for certain ore types. At this time, no sulfur isotopic data has been collected on this reagent sulfate source.

As a result, due to the wide range of $\delta^{34}S_{SO4}$ values, and intermediate $\delta^{34}S_{SO4}$ values for samples with elevated sulphate concentrations, no clear conclusion can currently be made, although it is observed that many of the deep groundwater monitoring zones previously identified with high sulphate (e.g., MW12-05-01, MW12-05-02, MW12-05-03) have $\delta^{34}S_{SO4}$ values that are generally outside the range determined by Tafti (2005) for Minto ore.

3.5.3 Tritium

Observations

Tritium values range from less than detection (0.8) to 8.7 tritium units (TU) (Figure 3-17). Samples from surface water and seeps had values in the range of 4.4 to 8.7 TU. Groundwater samples, on the other hand, had values ranging from 6.8 TU to below detection (<0.7 TU). All samples at depths greater than 60 m bgs have tritium values below 2.0 TU.

Figure 3-18 compares tritium values with $\delta^{18}O$. Samples with low tritium values tend to have similar, relatively depleted $\delta^{18}O$ values, whereas samples with higher tritium values generally have higher (less depleted) $\delta^{18}O$ values. Samples from well MW12-05 plot in two distinct groups; the shallow zones (-05 and -07) have higher tritium values and $\delta^{18}O$ values between -21.5 and -22.0‰. The deeper zones in MW12-05 have low tritium values and $\delta^{18}O$ values of roughly -22.6‰.

Figure 3-19 presents tritium vs. $\delta^{34}S_{SO4.}$ With the exception of the deeper sample from the monitoring well at Minto North (MW09-03-01), sampling locations with low tritium values have $\delta^{34}S_{SO4}$ values that are generally greater than 5.0‰ VCDT.

Figure 3-20 presents tritium vs. sulphate concentration. Low levels of tritium were measured over the entire range of sulphate concentration, indicating that samples with high sulphate concentrations may have tritium values that indicate relatively older waters.

Interpretations

Tritium (^3H) is a commonly employed radioisotope used to identify the presence of modern recharge. Tritium has a half-life of 12.3 years and its incorporation directly into a water molecule (i.e. HTO) results in actual dating of infiltrating groundwaters over the past 100 years. Tritium is produced at low concentrations (≤10 TU) in the upper atmosphere and accumulates within precipitation, however testing of thermonuclear weapons between 1950 and 1980 introduced a large spike of tritium (~5000 to 8000 TU) into the North America atmosphere and attendant hydrosphere through infiltration of meteoric water (Clark and Fritz, 1997).

Long-term records (since approximately 1945) exist for tritium in precipitation (IAEA/WMO, 2017). In Canada, this has mainly been developed for Ottawa, however for Yellowknife and Whitehorse partial records exist between 1984 and 1995. Since approximately 1990, tritium levels have been at pre-thermonuclear testing levels, or about 6 TU for the northerly latitudes of this work.

Using the average value for surface waters in this study of 6.2 TU as the input tritium value, it would take roughly 20 to 36 years for tritium decay to the tritium values of ≤2.0 TU observed in groundwaters deeper than 60 m. However, tritium in precipitation values in 1980 were still influenced by thermonuclear ^3H at approximately 40 TU which is much greater than the decay corrected value of 6 TU used here. This clearly indicates that groundwater in this study occurring at depths of 60 m and greater are a two-component mixture including 1) modern meteoric precipitation and 2) a large component of an older, tritium depleted groundwater. This mixing phenomena is also evident from the distinct groups identified in the tritium vs $\delta^{18}O$ observations above (Figure 3-18).

3.5.4 Ongoing Study

SRK Consulting and Minto are working with the Government of Yukon- Department of Environment to develop an updated plan for the environmental tracer study. The current proposed plan includes the analysis of select samples for $\delta^{34}S_{SO4}$ and $\delta^{18}O_{SO4}$ to determine if difference in sulphate isotopes can be used to distinguish differences in sources of these waters across the site. Samples will be selected to represent potential sulphate sources and key areas of mixing. Sampling of stable isotopes of water at new locations will also be conducted to develop a broader data set for the site, and to see if groundwater trends observed in the 2016 samples also occur in the monitoring wells installed in 2017. The potential to conduct additional tritium analyses, particularly for the deeper, tritium depleted groundwater, is also being considered.

3.6 Mine Water Conservative Transport Tracers

Sulphate and chloride distributions across the site were assessed as indicators of potential transport of mine contact water in the groundwater system. Both sulphate and chloride are commonly accepted to be conservative, meaning that they generally should not be chemically reactive within the groundwater system, and can therefore act as tracers of sources with elevated concentrations of these species. Considering sulphate and chloride as tracers is potentially useful at Minto, where concentrations of both sulphate and chloride are relatively high within the pit lakes (the largest reservoirs of mine contact water on the property). Thus, the tracer concentration distribution across the site provides insight into contact water movement via groundwater, and also aids in understanding the observed high sulphate concentrations at monitoring wells MW12-05 and MW17-12, at the topographically downgradient end of the project.

A range of baseline groundwater concentrations are indicated by 1) historic monitoring wells P94-20 and P93E (which no longer exist), 2) MW11-04a, MW17-08 (recently installed and located topographically upgradient of mine activity in the Minto Creek catchment and 3) MW09-03 prior to mining of Minto North, (topographically downgradient of the pit itself). Well depths and maximum sulphate concentrations are tabulated in Table 3.3.

Table 3.3 Background well maximum sulphate concentration

Well	Depths (m bgs)	Max Sulphate Concentration (mg/L)
P94-02	35.9	32
P93E	82.6	32
Mw11-04A	30.3	7.7
MW17-08	12, 23, 36, and 46	15[1]
MW09-03	5, 19, 40	17[1]

[1] Note: these are an average of the maximum concentrations of all zones of the respective wells

Figure 3-21 presents sulphate concentration at monitoring stations across the site. Plotted values are the highest concentration observed from the beginning of 2012 to the present. Table 3.4 tabulates key stations shown on Figure 3-21. These stations represent potential sources of high sulphate water. The control on seepage from these potential sources is also tabulated.

Table 3.4 Maximum sulphate concentration across site and control on flow

Well/Station	Max. observed sulphate Concentration (mg/L)	Control on Seepage
Main Pit (W12)	1500	K (fracture) distribution Pit lake elevation
Area 2 Pit (W45)	2050	K (fracture) distribution Pit lake elevation
Minto South Underground (UG1)	1550	K (fracture) distribution Dewatering (reduces seepage outflow potential)
Tailings thickener (W14)	2175	No seepage (process water monitoring)
MW12-07	750	K (fracture) distribution Hydraulic Head
Southwest Waste Dump seeps	300 to 350	K distribution of active-layer
Ore Stockpile seeps	Up to 515	K distribution of active-layer
DSTSF seeps	263 to 458	K distribution of active-layer
DSTSF (W8A)	339	K distribution of active-layer
WSP (W16)	125	K (fracture) distribution Pond level elevation
MW12-06	225	K (fracture) distribution Hydraulic Head
MW12-05	1200	K (fracture) distribution Hydraulic Head
MW17-12	1400	K (fracture) distribution Hydraulic Head
Minto North Pit (MN)	190	K (fracture) distribution Pit lake elevation
MW09-03	24	K (fracture) distribution Hydraulic Head
MW17-11	25	K (fracture) distribution Hydraulic Head

Figure 3-22 presents the time series of sulphate for the Main Pit, Area 2 pit and Minto South underground compared to monitoring wells MW12-07, MW12-06 and MW12-05. These data provide a comparison of the highest sulphate concentrations on site to a transect of monitoring wells down the Minto Creek catchment.

Observations from the sulphate trends are as follows:

- Sulphate concentrations at MW12-07 have differed between the deeper and shallower monitoring zones (MW12-07-01 and MW12-07-02), respectively. The shallower zone has shown continued slow increase in sulphate, reaching a current concentration of approximately 705 mg/L. SO_4 concentrations in the deepest zone increased between the time of well installation to mid-2015, and then began a relatively rapid decrease.
- Sulphate concentrations at MW12-06 have remained relatively stable at concentrations no higher than 225 mg/L.
- Sulphate concentrations in the deeper zones at MW12-05 have increased over time since installation of the well. At the beginning of 2015, concentrations in both of the deepest monitoring zones (Zone 1 and Zone 3) were about 800 mg/L. At the same time, concentrations in the Main Pit, Area 2 Pit and underground ranged from about 200 mg/L to 400 mg/L, respectively. Concentrations in both the monitoring wells and the pits have increased since 2015 but at different rates, only having similar concentrations since about 2017.

The trends observed in sulphate (increases or decreases) of the mine pits and underground are either not observed or out of equilibrium with all three monitoring wells. For example, the increase in concentrations observed at MW12-05-01 and MW12-05-03 began before concentrations at the pits or underground had reached similar concentrations.

A balance of the sulphate source ladings is presented in SRK 2018a. Results of that work indicate that concentrations increased initially in the underground, and have become similar in the pits over time due to pumping between pits and contributions from milling of ore. During milling of POX (partially oxidised ore), sodium sulphide is used as a reagent in the processing circuit, which has also contributed to the overall sulphate load. Sodium sulphide has only been added over two periods of POX ore processing: January 2015 to November 2015, and November 2016 to November 2017. The results of this work (SRK, 2018a) indicate that the total sulphate load that has accumulated in the pit reservoirs can be explained by combined loadings from underground dewatering and loading from milling of POX ore, and that the reservoirs are essentially mixed due to water transfers between pits and to/ from the mill.

Figure 3-23 presents the recent average groundwater SO_4 concentration with depth from monitoring wells across the site. Two groups emerge that correspond to the two water types identified in Section 3.4.2. First, a group with low SO_4 concentrations (<300 mg/L) which remains invariant with increasing depth, and a second group with higher SO_4 concentrations which increase with increasing depth. The wells in the latter group include MW12-05-01, MW12-05-02, MW12-05-03, MW12-07-02, MW12-07-03, MW17-12-01, and MW17-12-02, and are the same wells that fall into the Ca-SO_4 facies described previously (Section 3.4.2).

For comparison, Figure 3-24 present temporal chloride trends for the same stations used for SO_4 (Figure 3-22). If SO_4 concentrations observed at MW12-05 were a result of seepage from the pits (the only known sources of sufficient concentration) it would be expected that chloride concentrations would show similar trends. The chloride concentration at MW12-05 and MW12-06

has been relatively stable, as is MW12-07-02. In contrast, MW12-07-01 increased in 2015, before decreasing again at the beginning of 2016, which coincides with the temporal trend observed in SO_4.

The contrast in chloride trend between the mine pits and underground vs. monitoring wells is comparable to that for SO_4 in that the trends are disparate. Interestingly, while the chloride trend of the Main and A2 pits is similar to that for SO_4, the Underground workings show a stable trend, with concentrations similar to that of the deeper zones in MW12-05. Chloride concentrations at MW12-05 have not shown the same change over time as observed for SO_4.

3.7 Groundwater-Surface Water Interactions

Groundwater discharges to Minto Creek as baseflow. Determination of the natural flow of Minto Creek is difficult since the managed discharge from the WSP overprints the natural hydraulic regime (freshet dominated) of the creek. Furthermore, the creek freezes during the winter months- flow is essentially zero, and as such winter stream flow measurements cannot be relied on to estimate base flows. SRK (2015) constrained analysis of baseflow using low flow periods following the freshet, but before winter (September/October). Baseflow for this late summer/autumn period were estimated to be between 14 to 53 L/s (or 3 to 12% of annual precipitation). The work concluded, that while local variations exist, overall, Minto Creek is a gaining stream down to station MC1. From MC1 to W1 (just upstream of the Yukon River), Minto Creek is a generally a losing stream (i.e. surface water leaves the channel and entries the shallow groundwater system). Table 3.5 presents cumulative groundwater discharge (i.e. water from the Upper Minto Creek catchment and contributions from catchments below the mine) to the Minto Creek valley and Yukon River as presented in the 2015 model report. The cumulative increase of simulated groundwater discharge along Minto Creek to MC1 reflects the assumption of a gaining system. This assumption is considered to be conservative and should be maintained for the purpose of assessing effects from mining.

Table 3.5 Summary of Groundwater Flow Quantities from 2015 Model in Minto Creek Catchment

Catchment	Model Node	Model Node Description	Cumulative Groundwater Discharge (L/s)
Minto Creek	WSP_u	Topographically upgradient (W) end of WSP	1.7
	WSP_{dg}	Topographically downgradient (E) end of WSP	2.4
	W3	Surface water monitoring station W3	3.6
	W46	Surface water monitoring station W46	8.4
	MC1	Surface water monitoring station MC1	15.6
	YR	Yukon River near mouth of Minto Creek	20.4

No baseflow estimates of McGinty Creek have been made; it is assumed that the creek is a gaining system over it's entire length.

4 Hydrogeological Conceptual Model

The BC MOE Groundwater Modelling Guidelines (BC MOE, 2012) provide the following definition of a conceptual model:

> *A conceptual model is a simplified representation of the essential features of the physical hydrogeological system, and its hydraulic behavior.*
>
> *In scientific terms, a conceptual model is a hypothesis which is formulated on the basis of the available data, experience and the professional judgment of the modeller.*

It is expected that conceptual models will be updated over time as additional data becomes available or a specific need is defined.

The following sections describe components of the updated conceptual models for the Minto and McGinty catchments, relative to the conceptual model presented in the 2015 groundwater numerical model update report.

4.1 Minto Creek Catchment

The following sections present key components of the hydrogeological conceptual model for the Minto Creek catchment. Section 4.1.5 presents a summary of the conceptual model.

4.1.1 Hydrostratigraphic Units

Hydrostratigraphic units were discussed in Section 3.1. There is no change in hydrostratigraphic units based on recent data. The two hydrostratigraphic units are:

1. Overburden: Overburden deposits are not spatially continuous, and are thickest along the alignment of the pre-mining Minto Creek valley bottom, until the area around the DSTSF, where the paleochannel exists. In the paleochannel, overburden can be greater than 90m thick. Typically, the ridge tops are dominated by sandy, residual soils grading to weathered bedrock and overburden in the valley bottoms consists of fine materials dominated by sandy silts and clays. Permafrost can occur within the overburden unit and act as an aquiclude. The spatial distribution of permafrost is not well known, but in general, it is more likely to occur on north aspects and in valley bottoms. In the area around the DSTSF, overburden appears to be mostly frozen. Hydraulic testing data is limited in this unit, with only one test conducted on frozen overburden.
2. Bedrock: Bedrock is of granodiorite composition with low primary permeability. Groundwater occurs in secondary permeability along joints and fractures. Observations indicate the presence of a weathered zone, and hydraulic testing generally supports relatively higher hydraulic conductivity at shallow depths below ground, but not always. Hydraulic testing at greater depths indicate permeable features can exist, though are no more permeable than weathered zones (on average). Fault zone distribution is not well constrained away from the pits, however, zones tested thus far indicate that they more commonly act as barriers to flow.

Estimates of hydraulic conductivity range between $4x10^{-9}$ and $2x10^{-6}$ m/s, with a geometric mean of $7x10^{-8}$ m/s, and display a general trend of decreasing hydraulic conductivity with depth. Bedrock can be frozen locally.

4.1.2 Hydraulic Gradients

Groundwater flow generally follows topographic gradients overprinted by the effects of open pits or underground areas. The overall flow direction is from the mine area towards the Minto Creek valley and Yukon River. Open pits can act as both groundwater sinks (for water from areas hydraulically upgradient of the pits) or sources of recharge to groundwater (for areas hydraulically downgradient of the pits – although the Area 2 Pit is considered only a sink under prior and current conditions). Underground areas are groundwater sinks when dewatering (and to a lesser extent filling) is occurring, and will act to intercept at least some flow from hydraulically upgradient areas and the pits.

Vertical hydraulic gradients were presented in Section 3.2.5. Topographically upgradient of the pits, vertical hydraulic gradients are generally downwards, indicating recharge zones. Topographically downgradient of the pits, at MW12-07, water levels have varied over time. Until about mid-2013, data indicates there was a hydraulic gradient towards the Main pit and the Area 2 pit. Post-2013, there was a hydraulic gradient from the Main Pit towards MW12-07, but also from MW12-07 towards the Area 2 pit. Data from MW12-07 also indicates that, more recently, the hydraulic gradient towards the underground development is more pronounced.

Topographically upgradient of the Water Storage Pond, data for MW12-06 presented in Figure 3-6 indicate a hydraulic gradient from groundwater towards the Water Storage Pond. Figure 4-1 presents a cross section from the 2015 groundwater model for this area. Permafrost is present on the south side of the valley, as discussed in Section 3.1.3creating an aquitard in overburden over deeper bedrock. Groundwater data suggest discharge topographically upgradient of, or to, the Water Storage Pond. Water quality in the Water Storage Pond, as indicated by sulphate, generally shows lower concentrations than groundwater at MW12-06. Sulphate concentrations for these stations were presented in Figure 3-20. Due to the flows (and loads) actively managed through the Water Storage Pond, it is not possible to identify a specific groundwater component.

Downstream of the Water Storage Pond, it is assumed that groundwater will discharge to Minto Creek. Data collected since 2012 at MW12-05 indicate a downwards hydraulic gradient in bedrock, from shallow groundwater to deeper groundwater. Initial data from MW12-07 suggests an upwards hydraulic gradient, but further data will be needed over time to determine if this gradient is real, or if it reflects on-going stabilization of water levels at that location. While the exact locations where groundwater discharge to Minto Creek could occur are not known, baseflow in Minto Creek during the winter period is very low as Minto Creek can freeze to bottom during the late winter period. Flow at station W3 emanates as seepage from the WSP not collected by the WSP sump; this flow is interpreted to represent shallow groundwater flow, clearly discharges to Minto Creek, and indicates that there is a shallow groundwater system in this area (presumably at shallower depths than monitored by MW12-05). For the purposes of water quality predictions, a conservative assumption should be adopted, and that any water from the site would discharge to Minto Creek above MC1.

4.1.3 Groundwater Flow Quantity

Groundwater flow quantities are not changed significantly from values presented in the 2015 groundwater model report:

- Groundwater recharge is expected to be between 10 and 40 mm/yr, or 13 to 53 L/s.
- The majority of groundwater leaving the mine area is expected to discharge to surface water by the location of the Water Storage Pond; less than 1% of mine area groundwater is modelled to bypass the pond via the groundwater system.
- Discharge to groundwater from the Main Pit is estimated as 127 m^3/d.
- There is no discharge to groundwater from the Area 2 Pit.
- Inflow to the Minto South underground area is approximately 100 m^3/d.

4.1.4 Contact Water Transport

Water seeping from waste rock dumps, the flooded pits and the DSTSF can be assumed to flow down valley, but will be inhibited in overburden due to permafrost and in bedrock by the overall low hydraulic conductivity of the fractured bedrock. Permafrost underlying the DSTSF is believed to keep water from infiltrating to any deeper groundwater system. Seepage from the Southwest Waste Dump enters the Minto Creek pre-mining alignment topographically upgradient of the pits and is pumped to the Main Pit or the Water Storage Pond. Most water seeping from the Main Pit will daylight as discharge by the Water Storage Pond, with a very small percentage possibly bypassing the pond. All water is effectively assumed to discharge eventually to Minto Creek above MC1.

High concentrations of sulphate observed in specific deep monitoring zones at MW12-05 and, more recently, MW17-12, have previously been inferred to indicate possible effects of mine contact water reaching these locations. To assess this hypothesis, it is informative to ask a key question:

> *What would have to occur for sulphate concentrations observed at the open pits to be observed at only deep zones in monitoring wells approximately 2,000m topographically downgradient of the pits?*

Based on currently available data, the only way that this could occur is if there were a very discrete set of fractures that directly connect the pit to each of the monitoring well zones. This would need to be a high hydraulic conductivity feature with effectively no storage, such that water quality in the pit was essentially instantaneously observed at the monitoring wells, with essentially no dilution along the pathway. Ignoring the fact that the timing of sulphate increases in the monitoring wells and the pits suggests that this could not have occurred, and that no such high permeability features have been identified, one would expect that conservative parameters other than sulphate would show the same concentration characteristics as sulphate. Chloride does not do this. Chloride concentrations in the pits are not observed at these monitoring wells and, in fact, have remained stable despite the increasing concentrations in the pit.

Seepage from the pits is not interpreted to have travelled significantly topographically downgradient, at least not at any rate that can be distinguished from managed mine water discharges in receiving waters.

Analysis of multiple isotopic tracers indicates mixing of modern, meteoric surface and shallow groundwater with older, deeper groundwater. Data characterizing likely end member sources is currently incomplete, thus exact mixing pathways are unable to be constrained by the existing data, but tritium results show that the older waters (likely with elevated sulphate concentrations) are older than the Minto Mine. Ongoing investigations aim to provide better definition of these waters. However, provisional interpretation suggests that distinct isotopic differences exist between mine sources and deep downstream groundwater.

Seepage from other mine sources, such as waste rock dumps or the DSTSF, does not have sulphate concentrations as high as the pits and is believed to discharge near the WSP, due to permafrost controls on flow paths and active pumping of surface water streams.

4.1.5 Conceptual Model Summary: Minto Creek Catchment

Figure 4-2 presents an overview schematic of the conceptual model for the Minto Creek catchment. The conceptual model has not changed significantly from that presented in the ***Minto 2015 Groundwater Model Update report (SRK 2015)***.

The groundwater system is believed to be a relatively low flow, low conductivity, fracture-controlled flow system. A majority of flow is expected to occur relatively near to ground surface, where not frozen. Groundwater can flow into and out of the flooded Main Pit, and is also intercepted by underground workings. The Area 2 Pit is currently a hydraulic sink. The large majority of mine contact water is expected to discharge to ground surface by the area of the Water Storage Pond. Groundwater that does pass the Water Storage Pond has a limited flow rate and is expected to discharge to Minto Creek with contributions from unaffected catchments increasing progressively downstream.

The conceptual section shows schematically the observed distribution of sulphate in the groundwater system. High concentrations can occur across the length of the site, but are not directly correlated to any known mine (or non-mine) source.

4.2 McGinty Creek Catchment

The following sections present key components of the hydrogeological conceptual model for the McGinty Creek catchment. Section 4.1.5 presents a summary of the conceptual model.

4.2.1 Hydrostratigraphic Units

Hydrostratigraphic units are generally the same as for Minto Creek. Hydraulic conductivity had to be lowered for the 2015 groundwater model to achieve calibration, and is inferred to indicate a less significant zone of weathered bedrock at shallow depths. Permafrost is not as evident as in the Minto Creek valley, at least not around Minto North.

4.2.2 Hydraulic Gradients

Groundwater flow will follow topography, overprinted with effects of the Minto North pit.

Data at MW09-03 indicates a downwards hydraulic gradient. Preliminary data from MW17-11 also shows an overall downwards hydraulic gradient but more data will be needed to confirm this finding.

Water levels at MW09-03 have declined due to mining of the Minto North Pit, but remain higher than the pit lake level. These data indicate that there is presently a hydraulic barrier on the topographically down-hill side of the Minto North Pit; the Minto North pit is acting as a hydraulic sink.

4.2.3 Groundwater Flow Quantity

Groundwater flow quantities are not changed from values presented in the 2015 groundwater model report. No groundwater currently discharges from the Minto North pit.

Table 4.1 presents cumulative groundwater discharge to the McGinty Creek as presented in the 2015 model report.

Table 4.1 Summary of Groundwater Flow Quantities from 2015 Model in McGinty Creek Catchment

Catchment	Model Node	Model Node Description	Cumulative Groundwater Discharge (L/s)
McGinty Creek	McG	McGinty Creek at topographically downgradient edge of model domain	2.4

4.2.4 Contact Water Transport

As discussed previously, the Minto North Pit is a hydraulic sink. Water quality data at MW09-03 have shown increases in certain parameters (e.g., nitrate) since mining of the Minto North Pit. Physical data indicates that this cannot be a result of seepage from the pit. The likely explanation for the observed water quality at MW09-03 is flushing of the rock used to construct the mine haul road on the topographically downgradient side of the Minto North Pit, and immediately adjacent to the monitoring well. The road construction rock is classified as non-PAG (non-potentially acid generating (or clean rock)); the observed nitrate trends at MW09-03 are interpreted to represent leaching of residual nitrogen species present in blasting residues as precipitation and snow melt flush through the rock. This water is interpreted to be infiltrating into the groundwater system in the vicinity of MW09-03. This effect is expected to be relatively short-lived, as blasting residuals represent a modest overall load source; as flushing progresses, topographically downgradient water quality is expected to improve. Data from monitoring in the nearest McGinty Creek surface water monitoring station (MN2.5) indicate nitrate concentrations remain within the range observed during baseline monitoring.

4.2.5 Conceptual Model Summary

Figure 4-3 presents an overview schematic of the conceptual model for the McGinty Creek catchment. The conceptual model has not changed significantly from that presented in the ***Minto 2015 Groundwater Model Update report (SRK 2015)***.

The groundwater system is believed to be a relatively low flow, low conductivity, fracture-controlled flow system. Weathered bedrock does not appear to be as significant as in the Minto Creek catchment. Groundwater recharged at higher elevations is assumed to discharge to McGinty Creek.

The Minto North pit currently acts as a hydraulic sink. No loading to the groundwater system currently occurs. Changes in water quality observed at MW09-03 are interpreted to represent flushing of the haul road construction materials and are expected to improve over time.

5 Conclusions

This report provides an update on the conceptual model presented in *2013 Hydrogeological Characterization Report* (SRK 2013) and the *Minto 2015 Groundwater Model Update* (SRK 2015). It provides a summary of current groundwater conditions (quantity and quality) incorporating the monitoring data gathered since submission the aforementioned reports.

The groundwater system is believed to be a relatively low flow, low conductivity, fracture-controlled flow system. A majority of flow is expected to occur relatively near to ground surface, where not frozen. Groundwater that does pass the Water Storage Pond is expected to discharge to Minto Creek with contributions from unaffected catchments increasing progressively downstream.

Two differing groundwater facies exist on at Minto: a) a Ca-Mg-HCO_3 type, and b) Ca-SO_4 type water. Type A is associated with low TDS shallow groundwater, while type B comprises high TDS mine sources and deep groundwater topographically downgradient of the mine site. Increases in SO_4 are associated with increases in TDS, and within groundwater, increases in SO_4 correlate with increases in depth.

Trends in conservative tracers (sulphate and chloride) indicate that high sulphate mine pit lake waters have not migrated topographically downgradient.

Preliminary analysis of isotopic data suggests that modern, meteoric shallow groundwater is mixing with old, deeper groundwater. Further data would be required to identify all potential mix sources, should that be necessary.

Overall, the Minto Creek and McGinty Creek conceptual models have not changed significantly from that presented in the Minto 2015 Groundwater Model Update report (SRK 2015).

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The opinions expressed in this report have been based on the information available to SRK at the time of preparation. SRK has exercised all due care in reviewing information supplied by others for use on this project. Whilst SRK has compared key supplied data with expected values, the accuracy of the results and conclusions from the review are entirely reliant on the accuracy and completeness of the supplied data. SRK does not accept responsibility for any errors or omissions in the supplied information, except to the extent that SRK was hired to verify the data.

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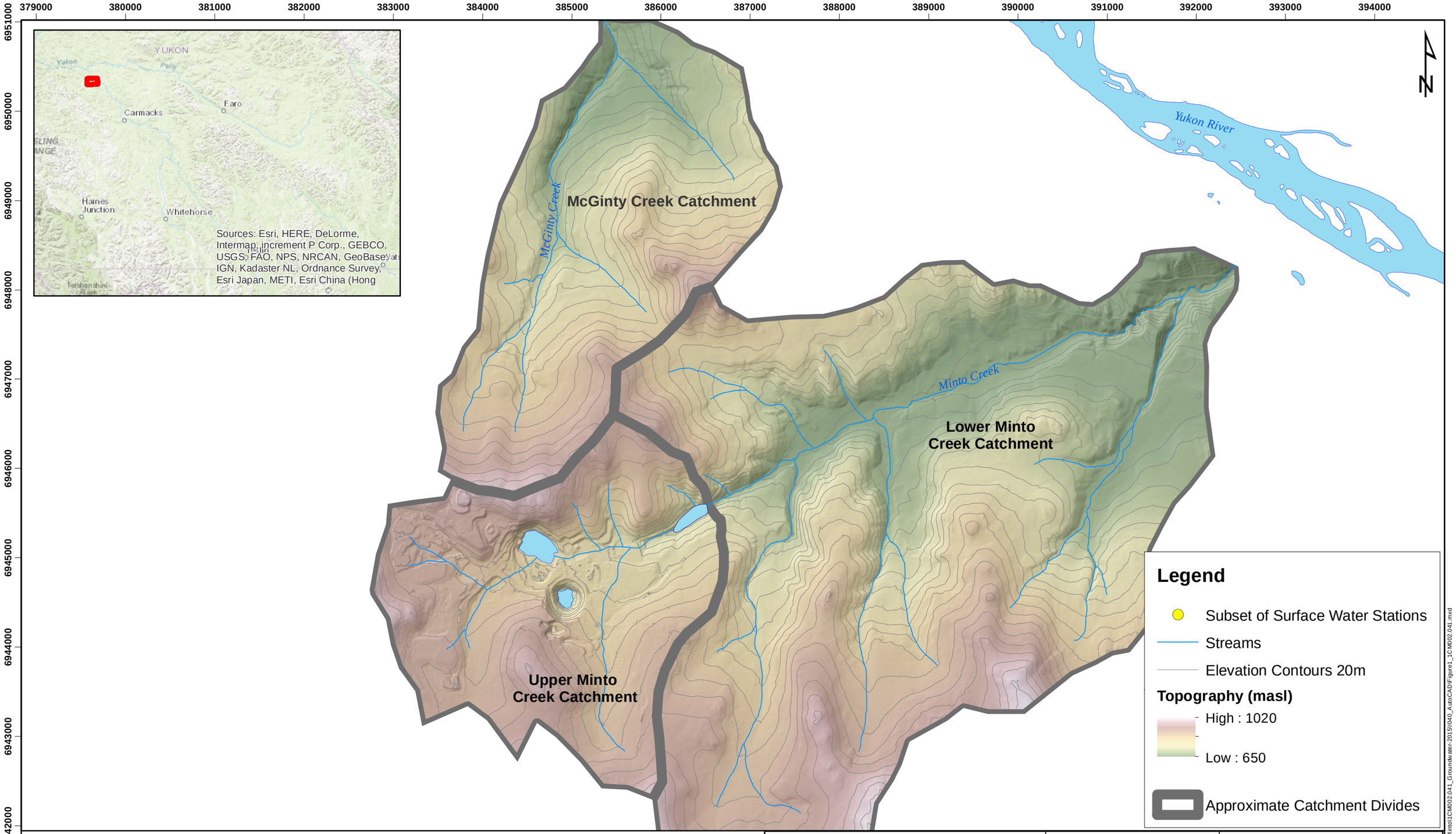
Figures



Notes:
1. Data presented in NAD 1983 UTM Zone 8N.
2. Topography provided by Minto Mine, 2017.

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Filename: Regional_Context_1CM002.057_rev2.mxd

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Groundwater Characterization Report

Regional Catchment Topography

Date:	Approved:	Figure:
December 2017	ROB	2-1

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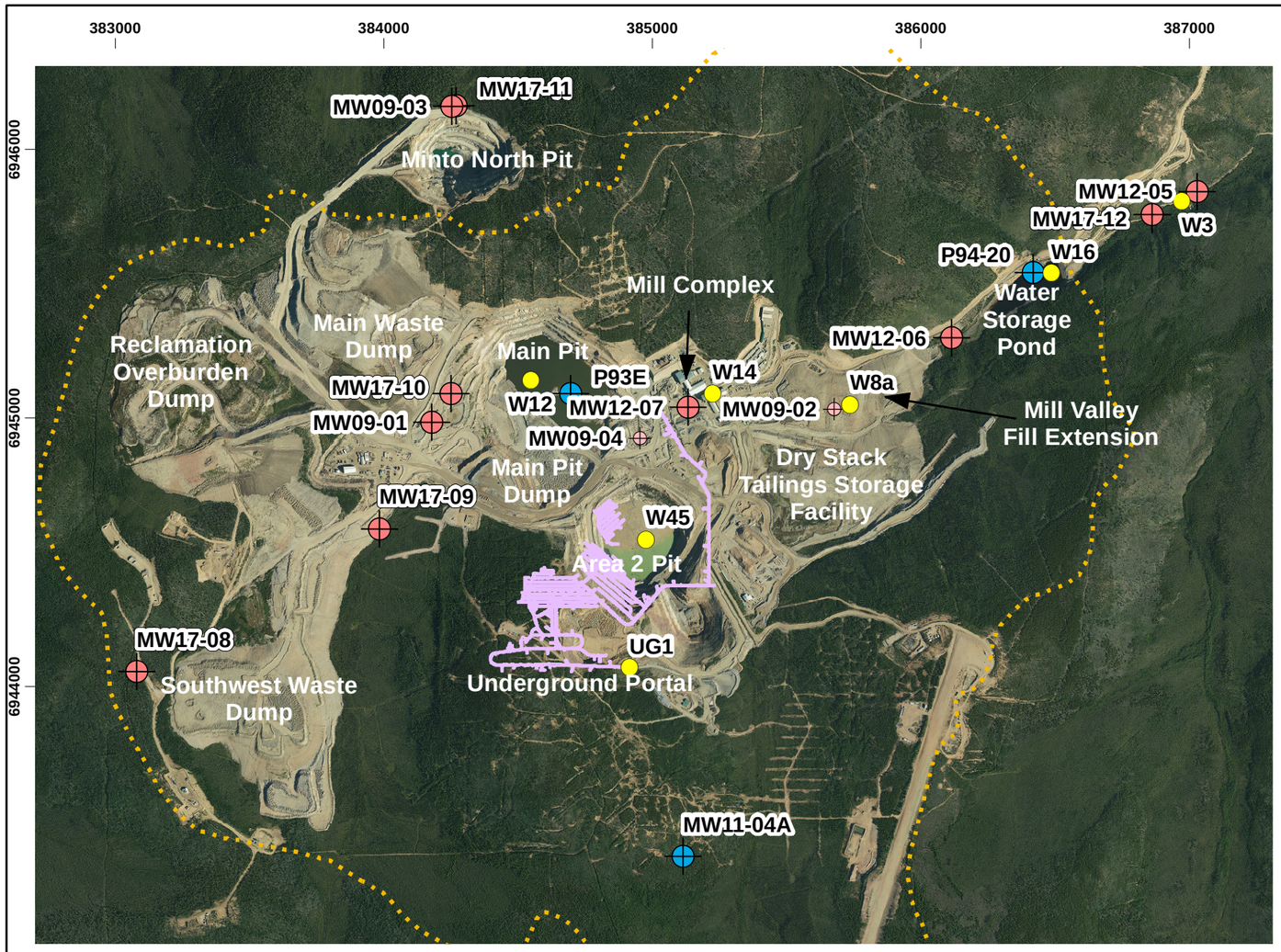

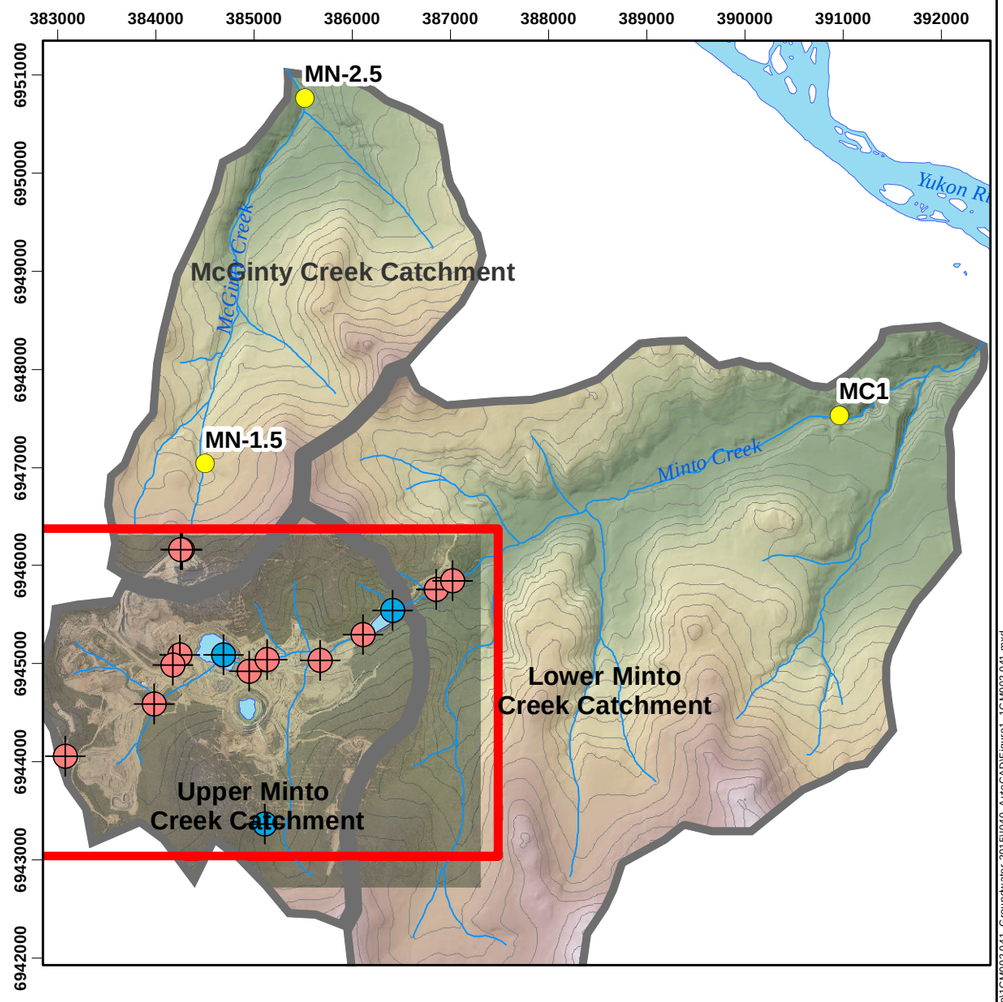

Legend

- Streams
- Elevation Contours 20m
- As Built Underground
- Upper Minto Creek Catchment
- MP Monitoring Wells
- Background Wells
- Subset of Surface Water Stations

Topography (masl)

High : 1020

Low : 650

Notes:
1. Data presented in NAD 1983 UTM Zone 8N.
2. Topography provided by Minto Mine, 2017.
3. Base orthophoto provided by Minto Mine, 2017.

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Job No: 1CM002.057

Filename: Monitoring_Sites_1CM002.057_rev03.mxd

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Groundwater Characterization Report

Mine Layout and Monitoring Network

Date:	Approved:	Figure:
January 2018	ROB	2-2

\\VAN-SVR01\Projects\01_SITES\Minto\1CM002.041_Groundwater-2015\1040_Auto CAD\Figure1_1CM002.041.mxd

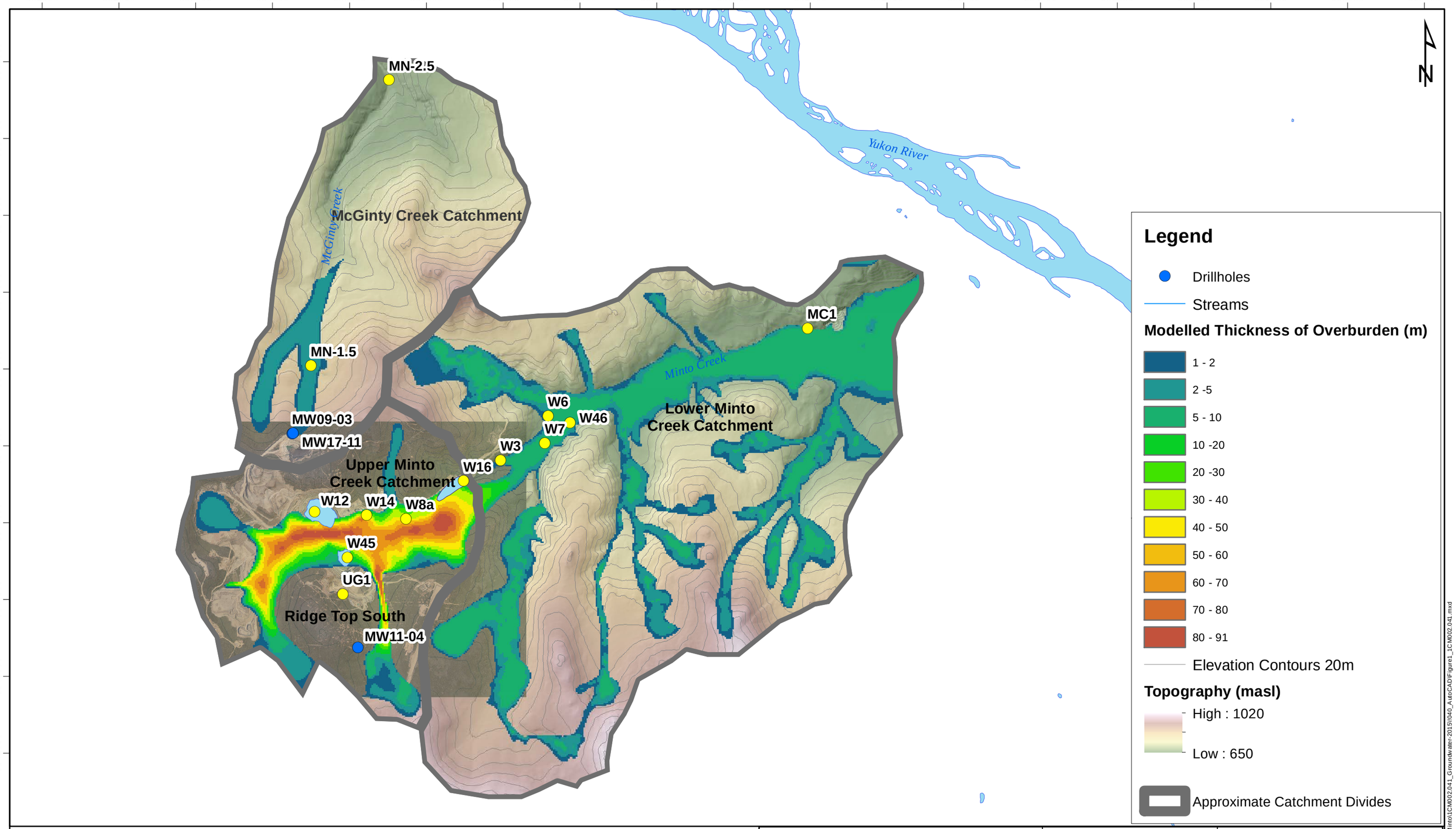
		Main Pit (MP)	Area 2 Stage 2 (A2S2)	Area 2 Stage 3 (A2S3)	Area 118 (118)	Minto North (MN)	MZone UG (MZUG)	Minto South UG (MSUG)
2005	Q1							
	Q2							
	Q3							
	Q4							
2006	Q1	Mining						
	Q2	Mining						
	Q3	Mining						
	Q4	Mining						
2007	Q1	Mining						
	Q2	Mining						
	Q3	Mining						
	Q4	Mining						
2008	Q1	Mining						
	Q2	Mining						
	Q3	Mining						
	Q4	Mining						
2009	Q1	Mining						
	Q2	Mining						
	Q3	Mining						
	Q4	Mining						
2010	Q1	Mining						
	Q2	Mining						
	Q3	Mining						
	Q4	Mining						
2011	Q1	Mining						
	Q2	Mining	Mining					
	Q3	Water accum.	Mining					
	Q4	Water accum.	Mining					
2012	Q1	Water accum.	Mining					
	Q2	Water accum.	Mining					
	Q3	Water accum.	Mining					Mining
	Q4	T+W	Mining					Mining
2013	Q1	T+W	Mining					Mining
	Q2	T+W	Mining					Mining
	Q3	T+W	Mining					Mining
	Q4	T+W	Mining					Mining
2014	Q1	T+W	Mining		Mining		Mining	Mining
	Q2	T+W	Mining		Mining		Mining	
	Q3	T+W	Mining		Mining		Mining	
	Q4	T+W	Mining				Mining	
2015	Q1	T+W	Mining				Mining	
	Q2	T+W	Mining				Flooded by A2S2	Mining
	Q3	T+W, P from/to A2S2	T+W, P from/to MP			Mining	Flooded by A2S2	Mining
	Q4	T+W, P from/to A2S2	T+W, P from/to MP			Mining	Flooded by A2S2	Mining
2016	Q1	T+W, P from/to A2S2	T+W, P from/to MP			Mining	Flooded by A2S2	Mining
	Q2	T+W, P from/to A2S2	T+W, P from/to MP			Mining	Flooded by A2S2	Mining
	Q3	T+W, P from/to A2S2	T+W, P from/to MP			Mining	Flooded by A2S2	Mining
	Q4	T+W, P from/to A2S2	T+W, P from/to MP		Ovb backfill	Mining	Flooded by A2S2	Mining
2017	Q1	T+W, P from/to A2S2	T+W, P from/to MP	Mining	Ovb backfill	Water accum.	Flooded by A2S2	Mining
	Q2	T+W, P from/to A2S2	T+W, P from/to MP	Mining	Ovb backfill	Water accum.	Flooded by A2S2	Mining
	Q3	T+W, P from/to A2S2	T+W, P from/to MP	Mining	Ovb backfill	Water accum.	Flooded by A2S2	Mining
	Q4	T+W, P from/to A2S2	T+W, P from/to MP	Mining	Ovb backfill	Water accum.	Flooded by A2S2	Mining

Notes:

- T+W : Deposition of tailings and collection of water
- P to/from A2S2: Pumping of water to and from A2S2
- P to/from MP: Pumping of water to and from Main Pit
- Ovb backfill: Overburden backfill
- Water accum.: Slowly accumulating water
- Flooded by A2S2: Flooded by water deposited in A2S2
- Main Pit also received waste rock in South Wall Buttress and Main Pit Dump since end of mining to present day

Adapted from SRK (2015)

Source: \\van-svr0\Projects\01_SITES\Minto\1CM002.057_Enviro_Tracer_Study\!080_Deliverables\Full_Site_Interpretation_Report\Figures\Mine History



Notes:
1. Data presented in NAD 1983 UTM Zone 8N.
2. Topography provided by Minto Mine, 2017.
3. Base orthophoto provided by Minto Mine, 2017.
4. Overburden thickness apdapted form SRK (2015)

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Job No: 1CM002.057

Filename: OB_Thickness_1CM002.057_rev3.mxd

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Groundwater Characterization Report

Overburden Thickness

Date:	Approved:	Figure:
December 2017	ROB	3-1

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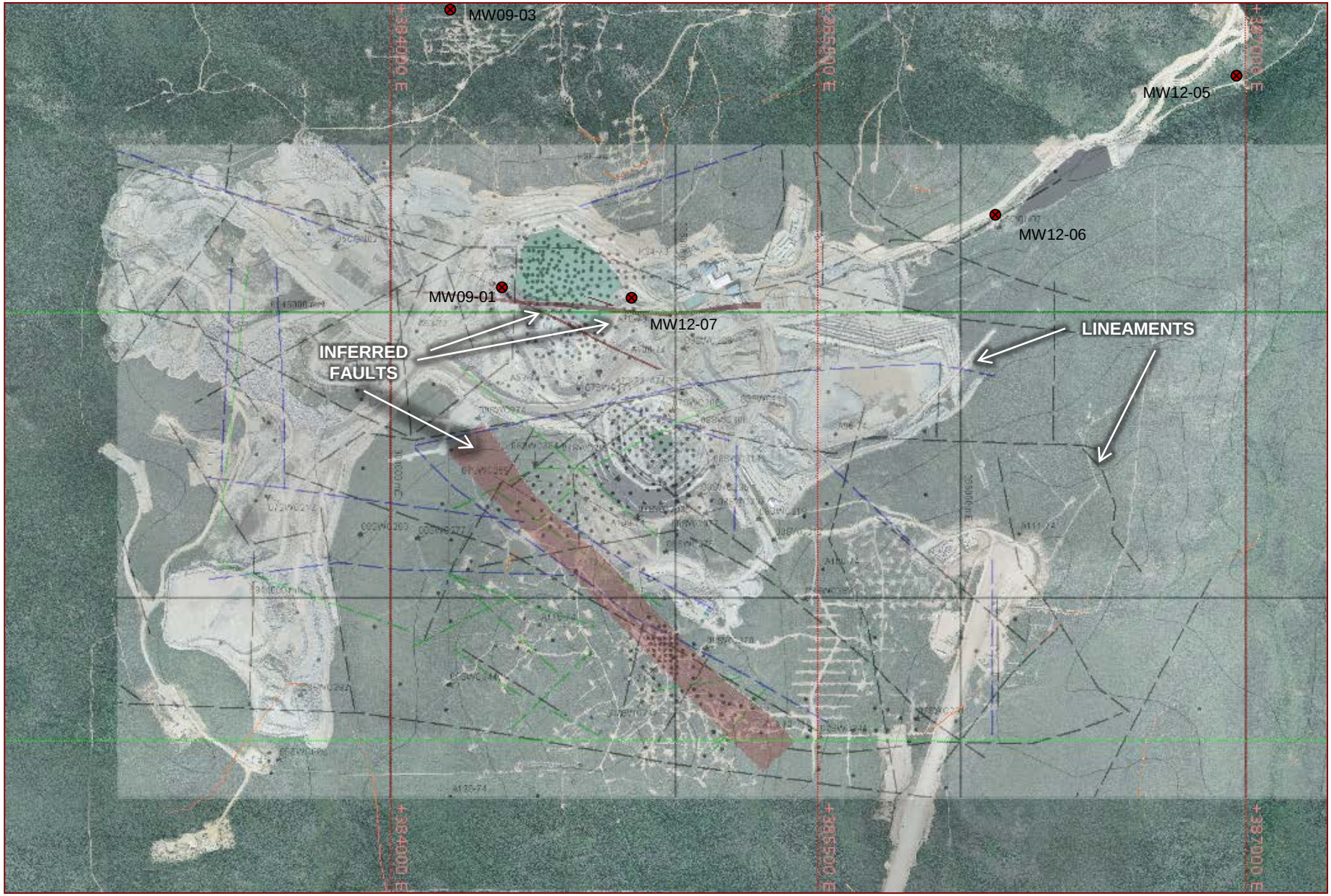

Reproduced from SRK 2014b

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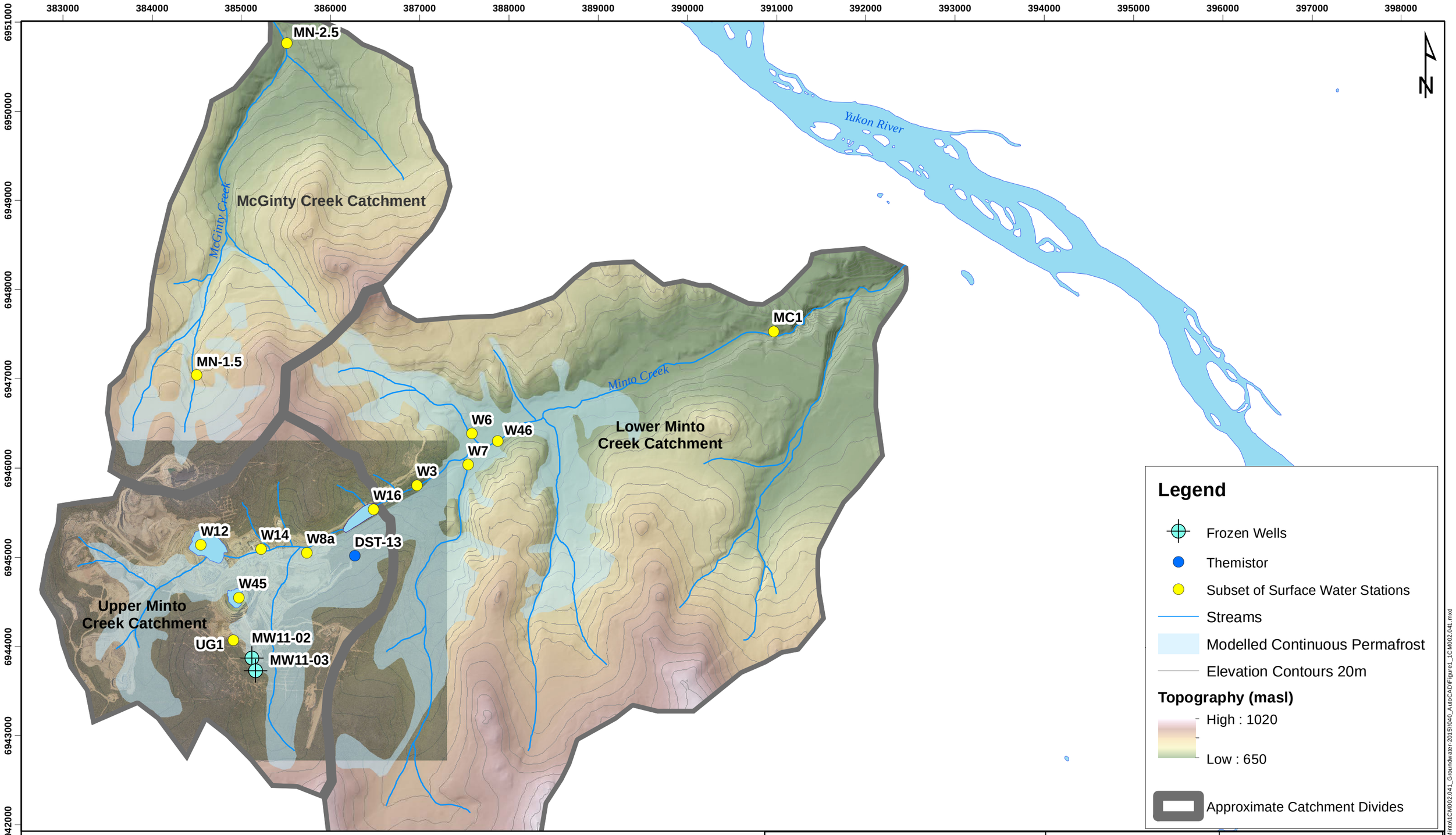
Groundwater Characterization Report

Geologic Structures and Lineament Mapping

Job No:	1CM002.057
Filename:	11x8_Landscape_Figures_DRAFT_rev01.pptx

Minto Mine

Date:	Approved:	Figure:
December 2017	ROB	3-2



Notes:
1. Data presented in NAD 1983 UTM Zone 8N.
2. Topography provided by Minto Mine, 2017.
3. Base orthophoto provided by Minto Mine, 2017.
4. Modelled permafrost distribution from SRK (2015) based on permafrost mapping conducted by EBA (2011).

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Job No: 1CM002.057

Filename: Permafrost_1CM002.057_rev03.mxd

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Groundwater Characterization Report

Continuous Permafrost Distribution

Date: December 2017 | Approved: ROB | Figure: **3-3**

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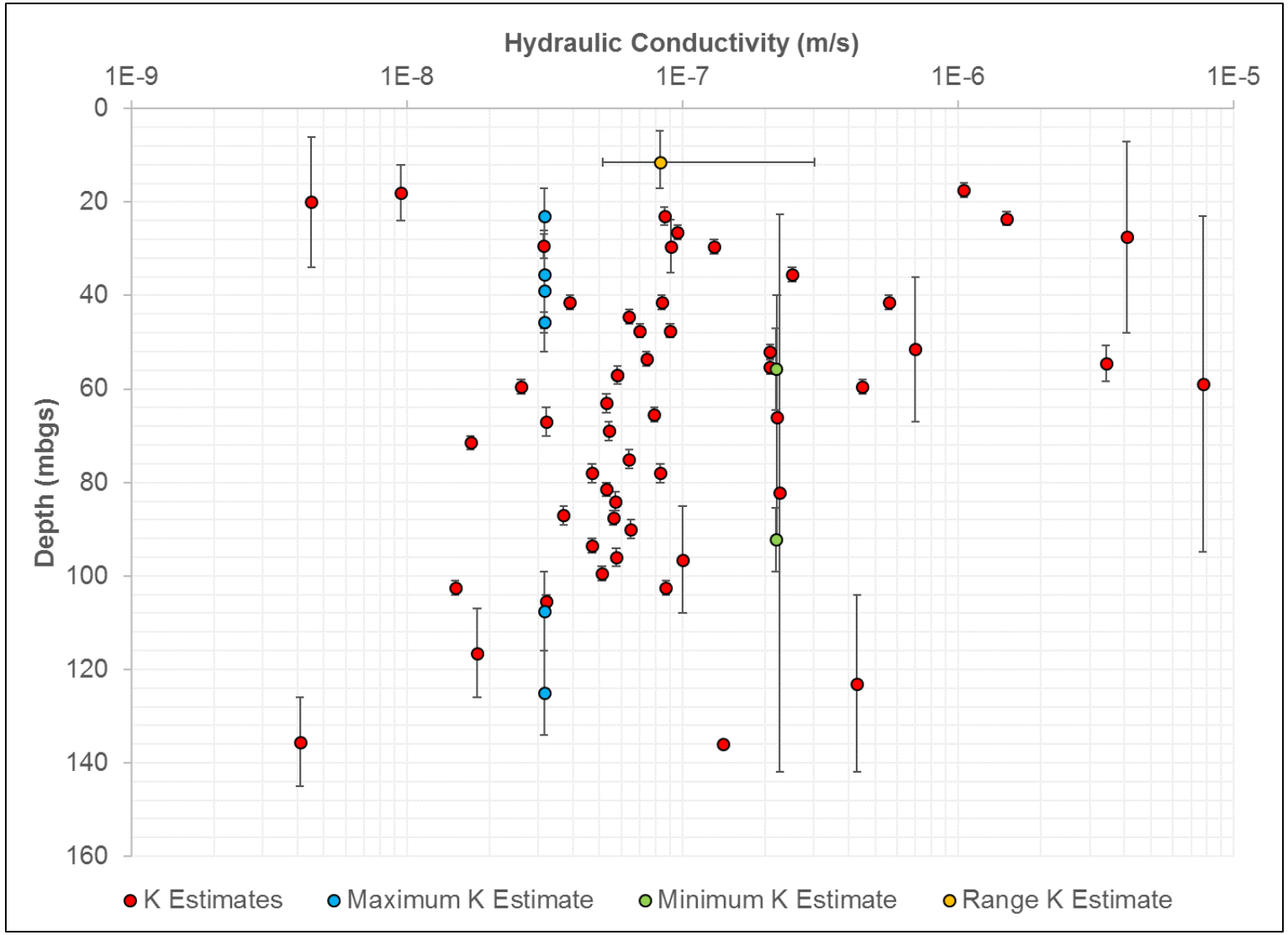

Note: vertical error bars indicate hydraulic test depth range

Source: \\van-svr0\Projects\01_SITES\Minto\1CM002.057_Enviro_Tracer_Study\!020_Project_Data\010_SRK\Minto K Data Summary

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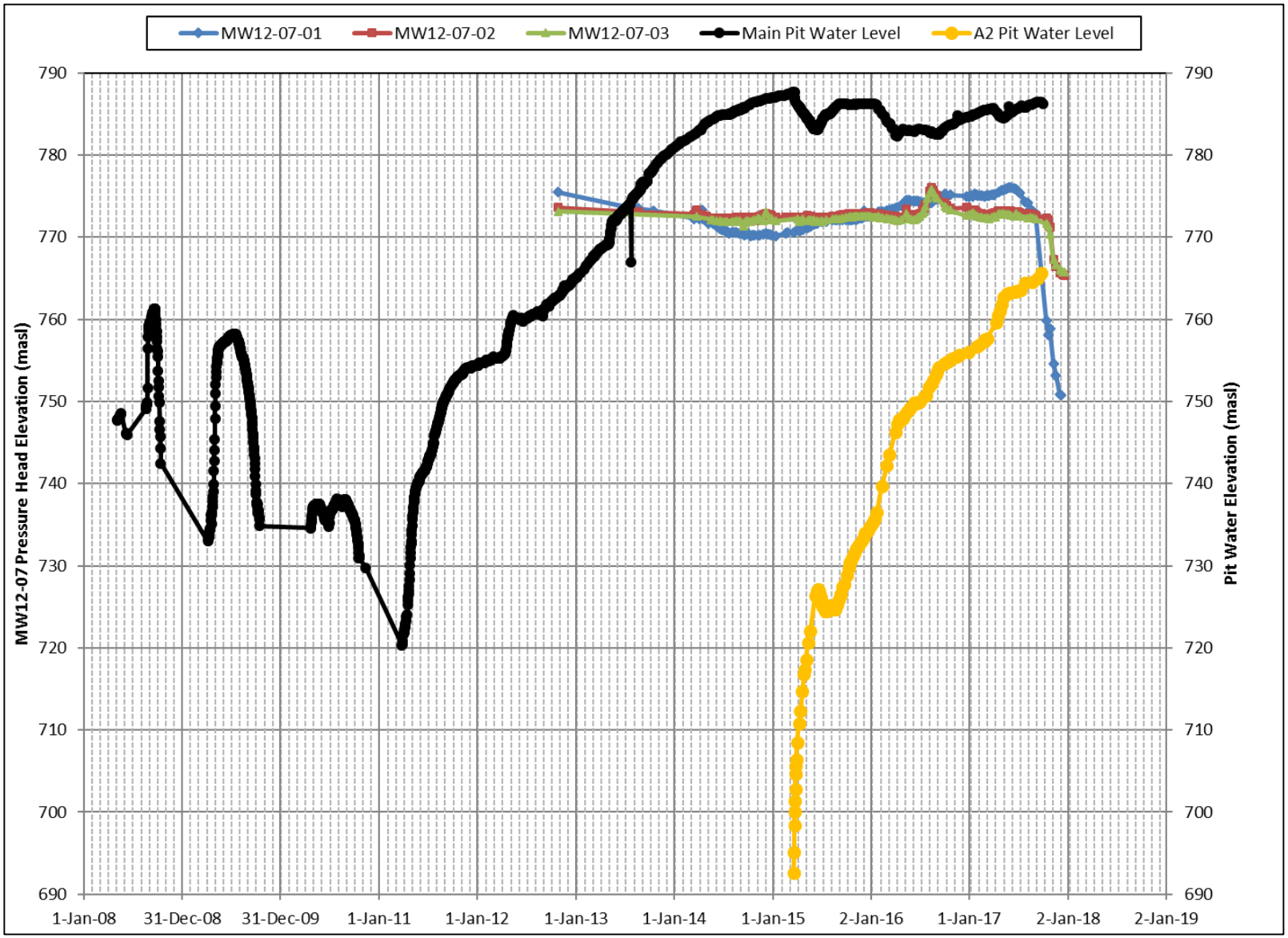
		Hydraulic Conductivity Data
Job No: 1CM002.057 Filename: 11x8_Landscape_Figures_DRAFT_rev01.pptx	Minto Mine	Date: Jan 2018 / Approved: ROB / Figure: **3-4**



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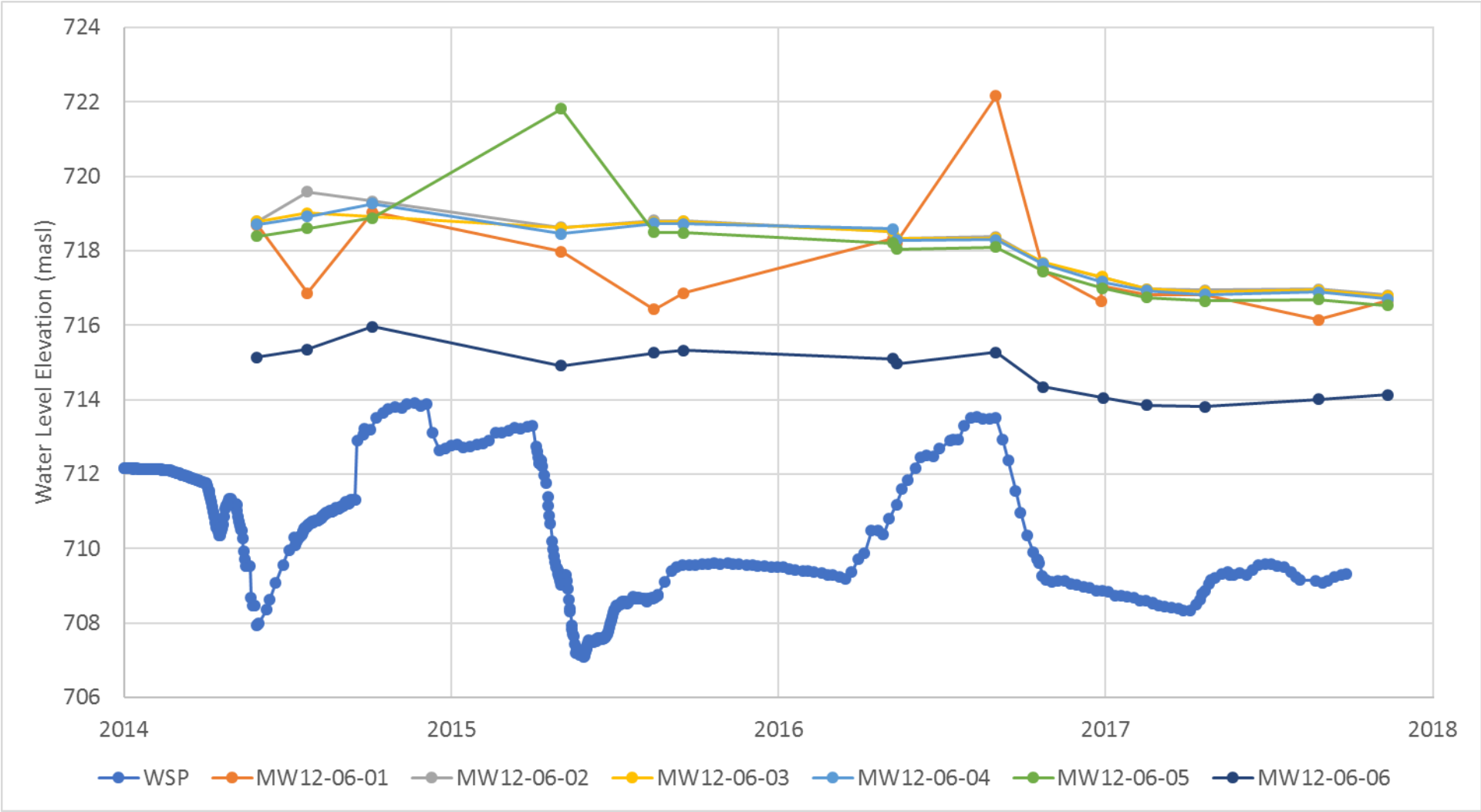
Job No: 1CM002.057 Filename: 11x8_Landscape_Figures_DRAFT_rev01.pptx	Minto Mine	**MW12-07 Head Data and Pit Lake Levels** Date: Jan 2018 · Approved: ROB · Figure: **3-5**



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		Water level comparison between WSP and MW12-06
Job No: 1CM002.057 Filename: 11x8_Landscape_Figures_DRAFT_rev01.pptx	Minto Mine	Date: Jan 2018 / Approved: ROB / Figure: **3-6**

Notes:
1. Data presented in NAD 1983 UTM Zone 8N.
2. Base orthophoto provided by Minto Mine, 2017.
3. Head contours are 20 m intervals

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Job No: 1CM002.057
Filename: 2015 Model WT Contours_1CM002.057.mxd

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Groundwater Characterization DRAFT Report

2015 GW Model Head Contours

Date:	Approved:	Figure:
December 2017	ROB	3-7

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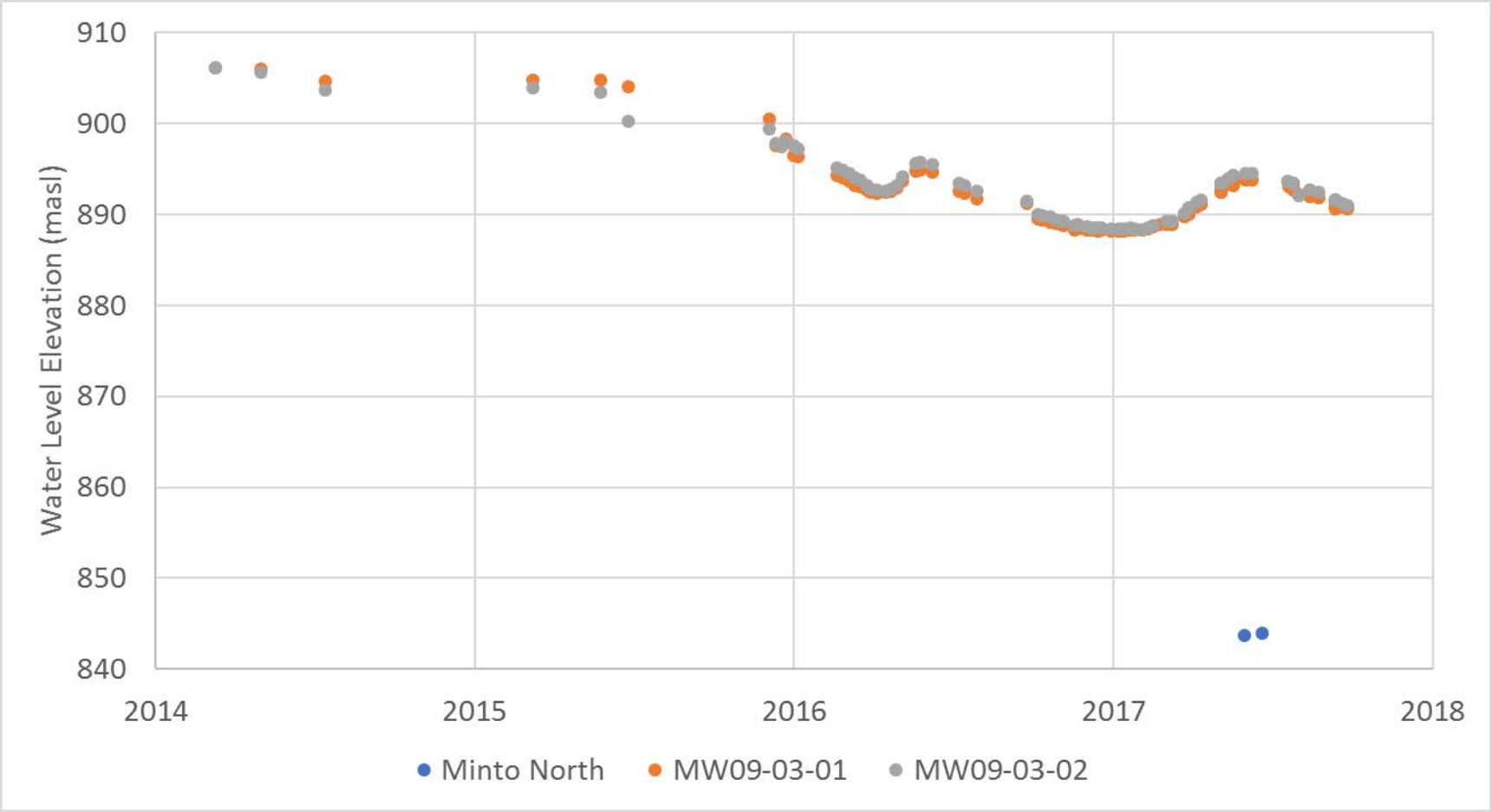

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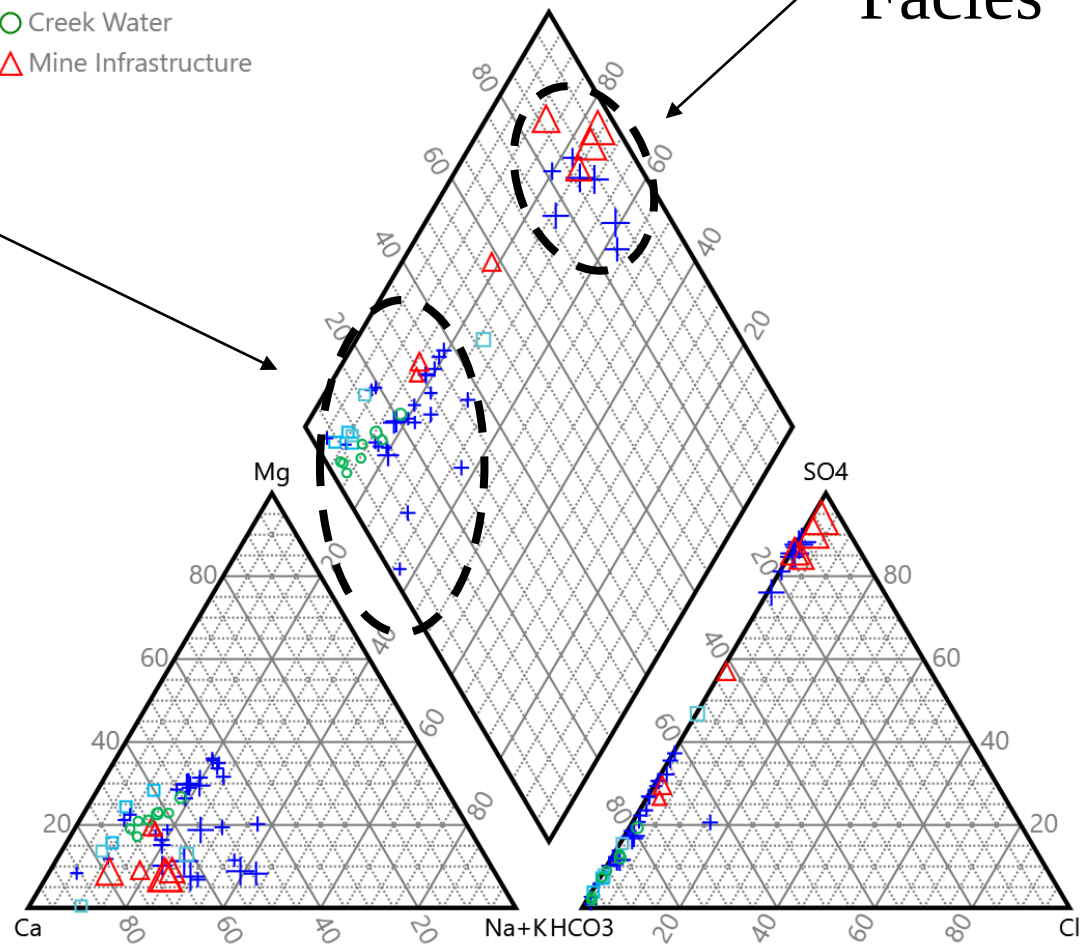
srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	Groundwater Characterization Report
		Minto North Pit and MW09-03 Water Levels
Job No: 1CM002.057 Filename: 11x8_Landscape_Figures_DRAFT_rev01.pptx	Minto Mine	Date: Jan 2018 / Approved: ROB / Figure: **3-8**

Ca-Mg-HCO_3 Facies

MW09-03-02	MC1
MW09-03-03	MN-1.5
MW09-03-04	MN-2.5
MW09-03-05	MN-4.5
MW12-05-04	P39E
MW12-05-05	P94-20
MW12-05-06	W16
MW12-05-07	W3
MW12-06-01	W46
MW12-06-02	W6
MW12-06-03	W7
MW12-06-04	W8A
MW12-06-05	MW17-11-03
MW12-06-06	MW17-11-04
MW12-07-01	MW17-12-03
MW17-08-02	MW17-12-04
MW17-08-03	MW17-12-05
MW17-08-04	MW17-12-06
MW17-09-01	MW17-12-07
MW17-10-02	MW17-12-08
MW17-10-03	MW11-04A

Legend

- Groundwater Wells
- Background Wells
- Creek Water
- Mine Infrastructure



Ca-Na-SO_4 Facies

MW12-05-01
MW12-05-02
MW12-05-03
MW12-07-02
MW12-07-03
MW17-12-01
MW17-12-02
UG1
W12
W14
W45

Source: \\van-svr0\Projects\01_SITES\Minto\1CM002.057_Enviro_Tracer_Study\!020_Project_Data\010_SRK\GW_Characterization\

Note: Symbol size is scaled to TDS

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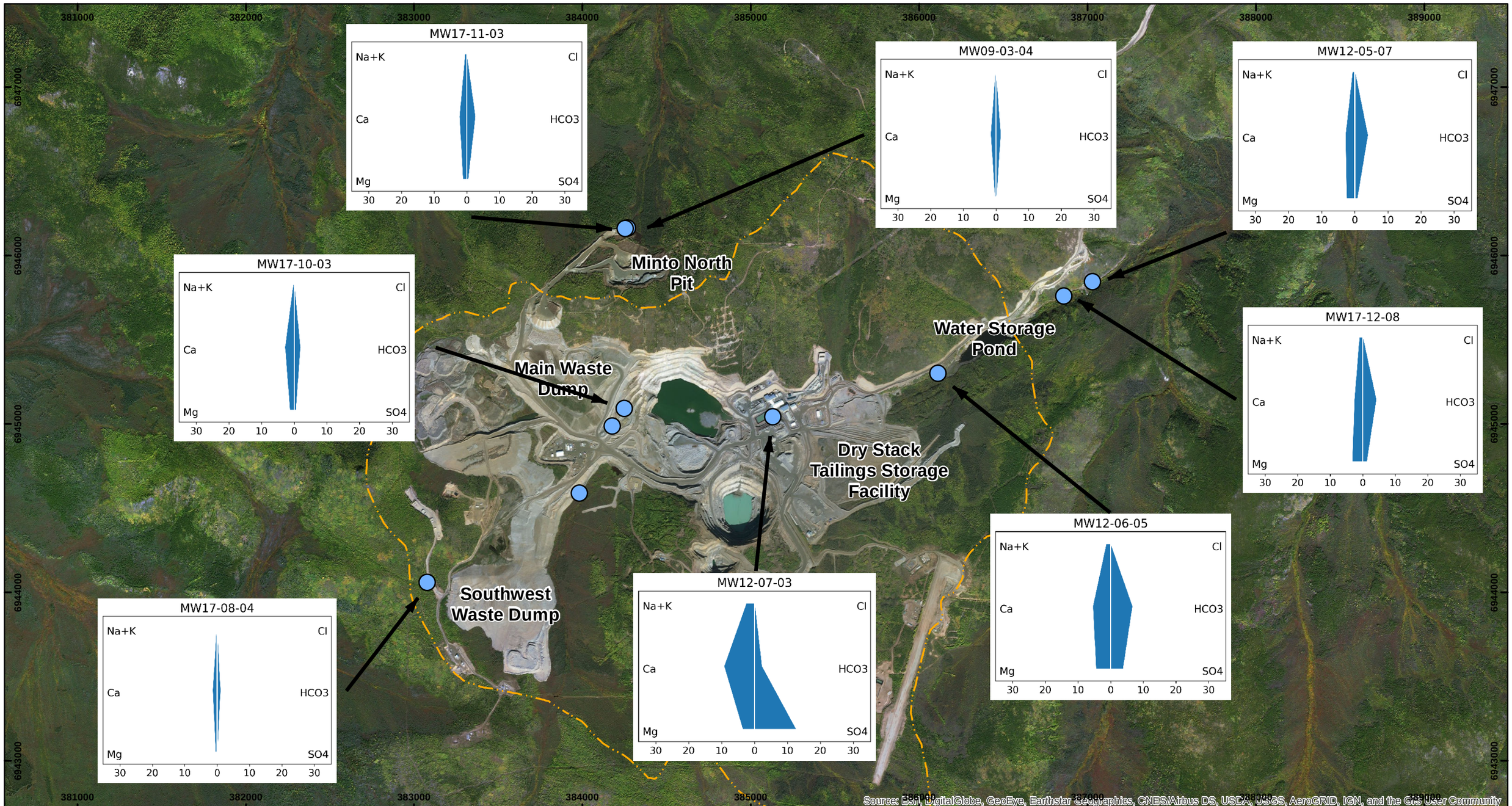
Groundwater Characterization Report

Piper Diagram

Job No: 1CM002.057
Filename: 11x8_Landscape_Figures_DRAFT_rev01.pptx

Minto Mine

Date: December 2017 | Approved: ROB | Figure: **3-9**



N

Meters
0 180 360 720 1,080

Legend
- Monitoring Wells
- Catchment Boundary

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Job No: 1CM002.057
Filename: Minto_20171107_Stiff_Diagrams_Shallow_rev00

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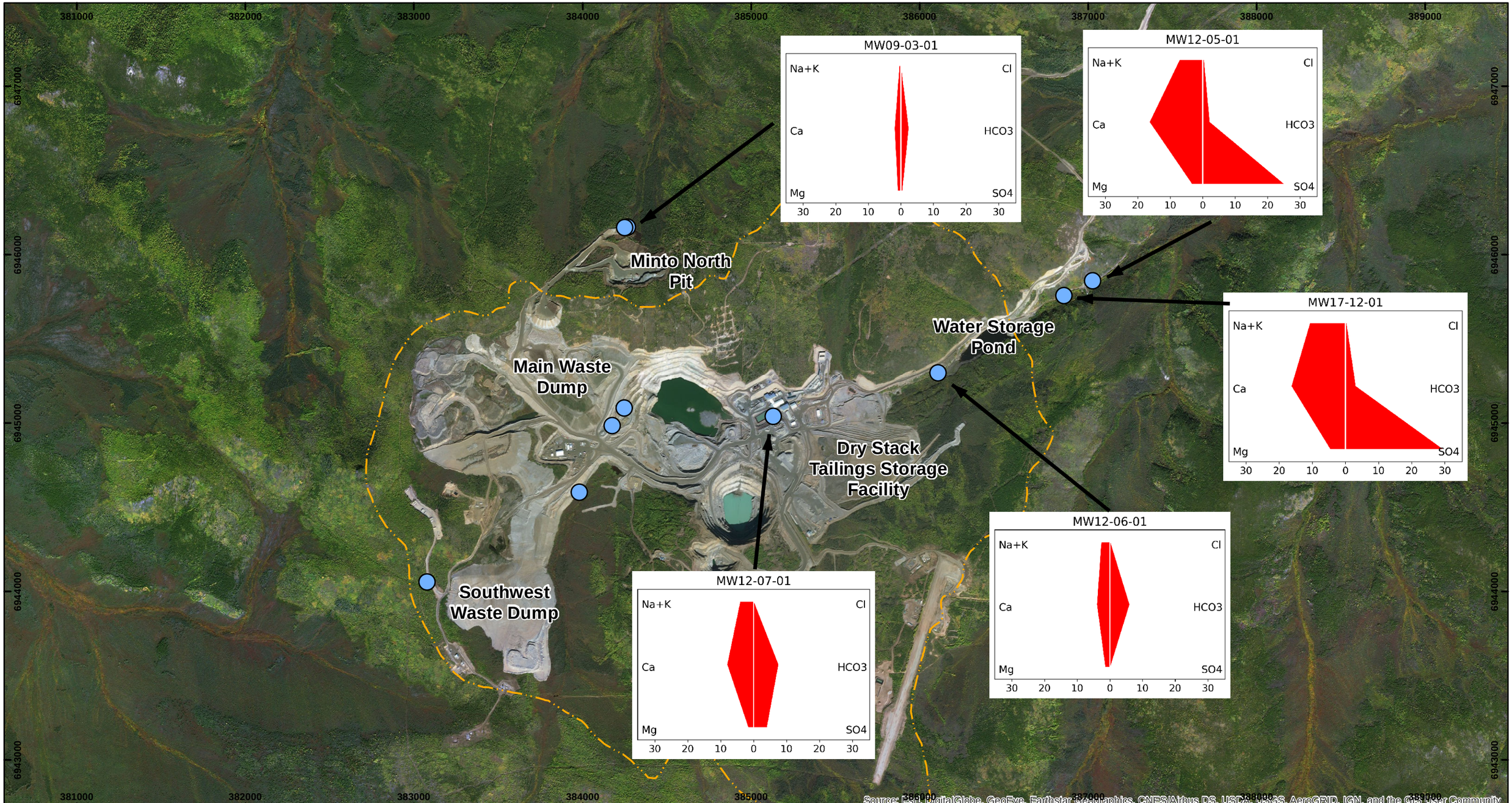
Minto Mine

Groundwater Characterization Report

Shallow Groundwater Geochemical Signature

Date:	Approved:	Figure:
Nov 2017	ROB	3-10

Document Path: X:\!020_Site_Wide_Data\!GIS\0.figures\Minto_20171107_Stiff_Diagrams_Shallow_rev00.mxd



N

0 180 360 720 1,080 Meters

Legend

- Monitoring Wells
- Catchment Boundary

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Job No: 1CM002.057

Filename: Minto_20171107_Stiff_Diagrams_Deep_rev02

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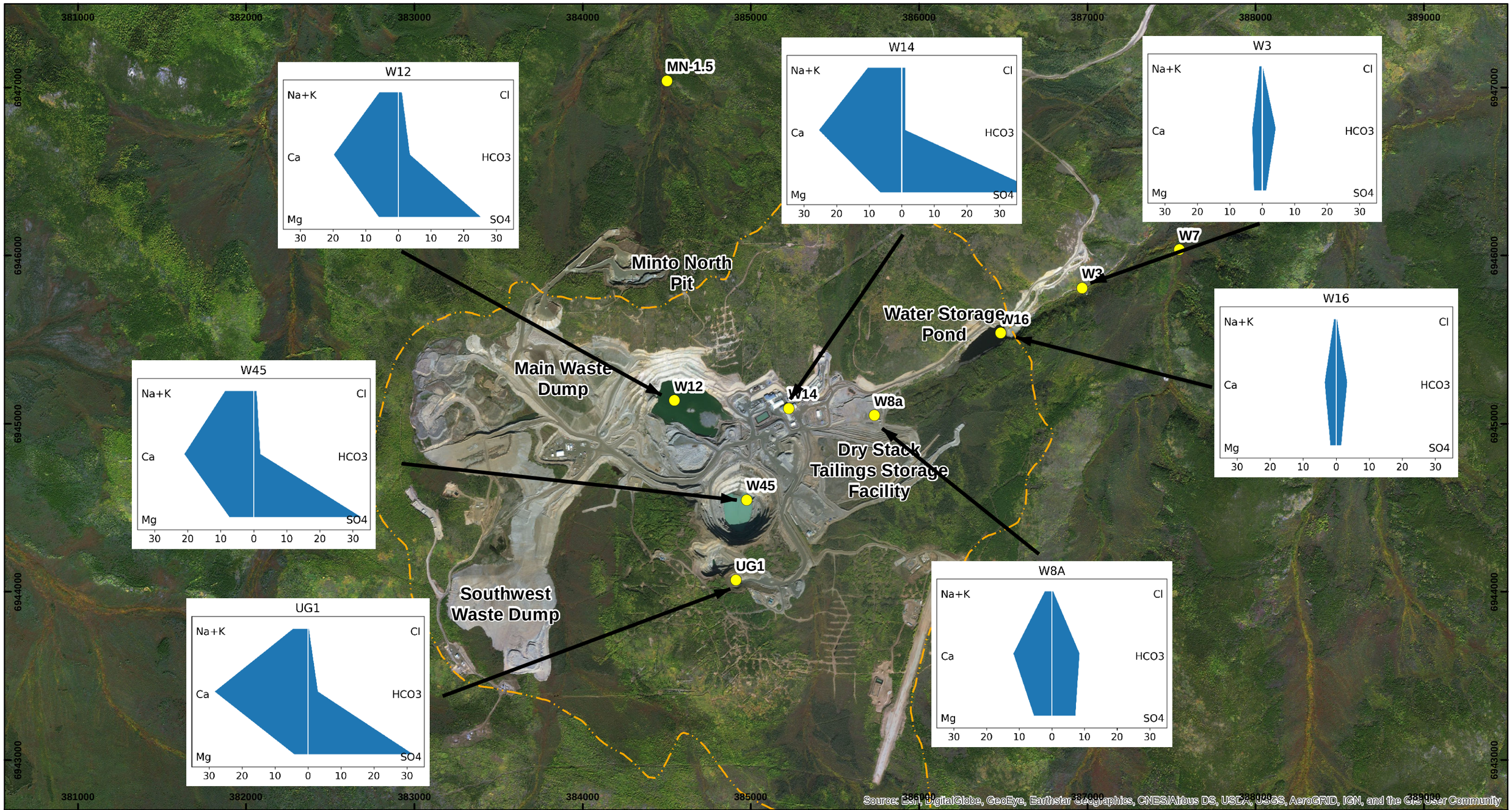
Minto Mine

Groundwater Characterization Report

Deep Groundwater Geochemical Signature

Date:	Approved:	Figure:
December 2017	ROB	3-11

Document Path: X:\!020_Site_Wide_Data\!GIS\0.figures\Minto_20171107_Stiff_Diagrams_Deep_rev02.mxd



N

0 180 360 720 1,080 Meters

Legend

Catchment Boundary

Subset of Surface Water Stations

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Job No: 1CM002.057

Filename: Minto_20171107_Stiff_Diagrams_Stations_rev01

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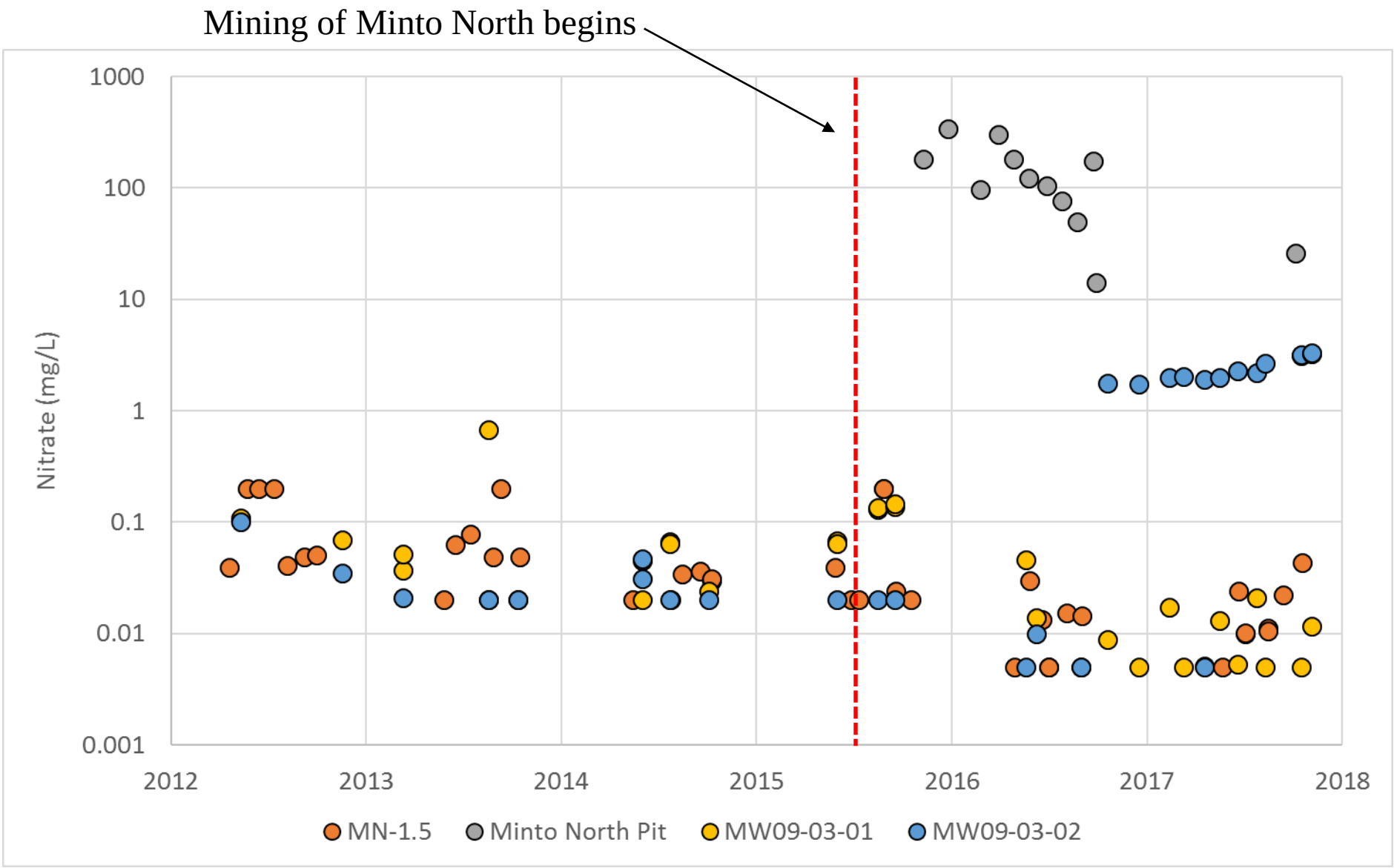
Minto Mine

Groundwater Characterization Report

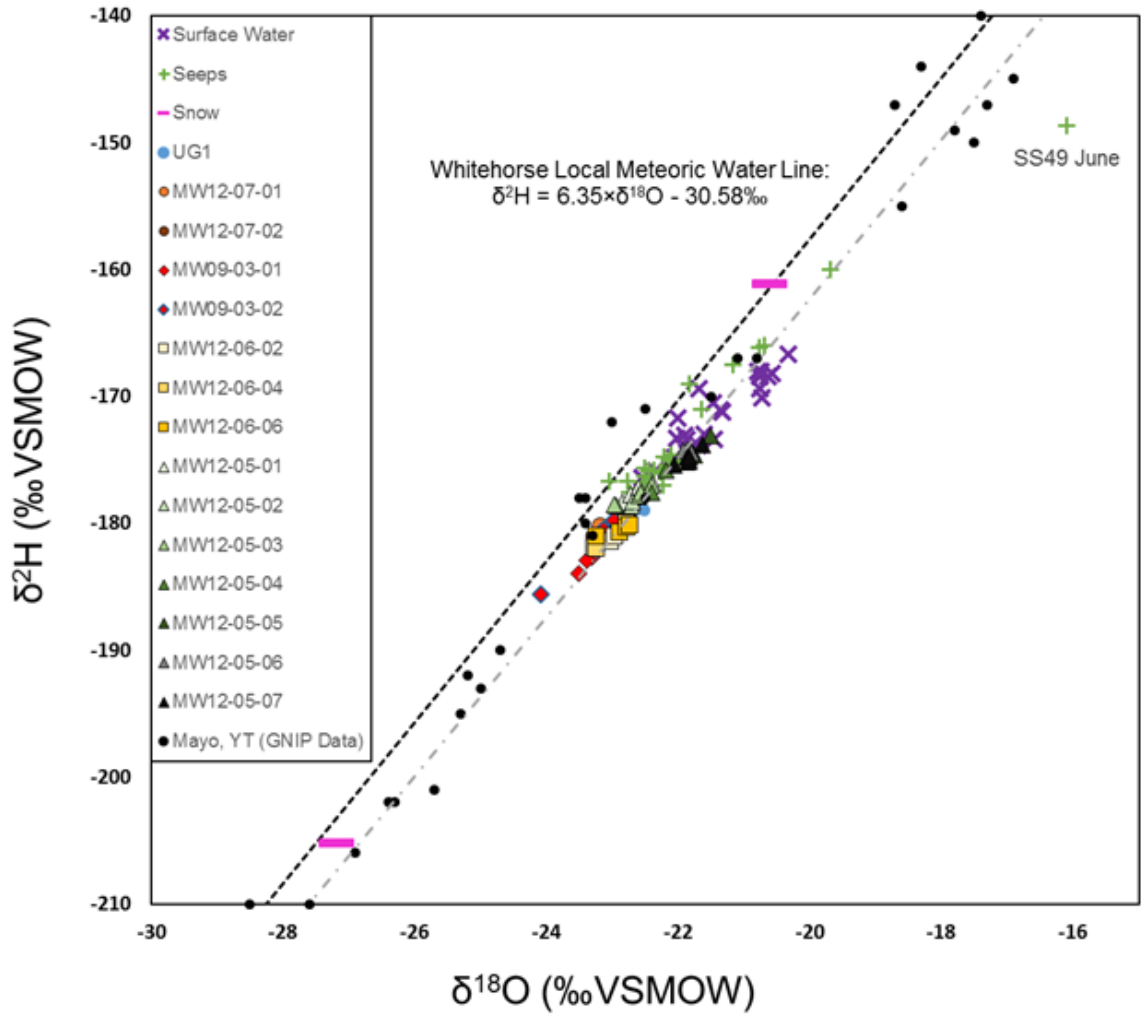
Site Water Stations Geochemical Signature

Date:	Approved:	Figure:
Dec 2017	ROB	3-12

Document Path: X:\!020_Site_Wide_Data\!GIS\0.figures\Minto_20171107_Stiff_Diagrams_Stations_rev01.mxd



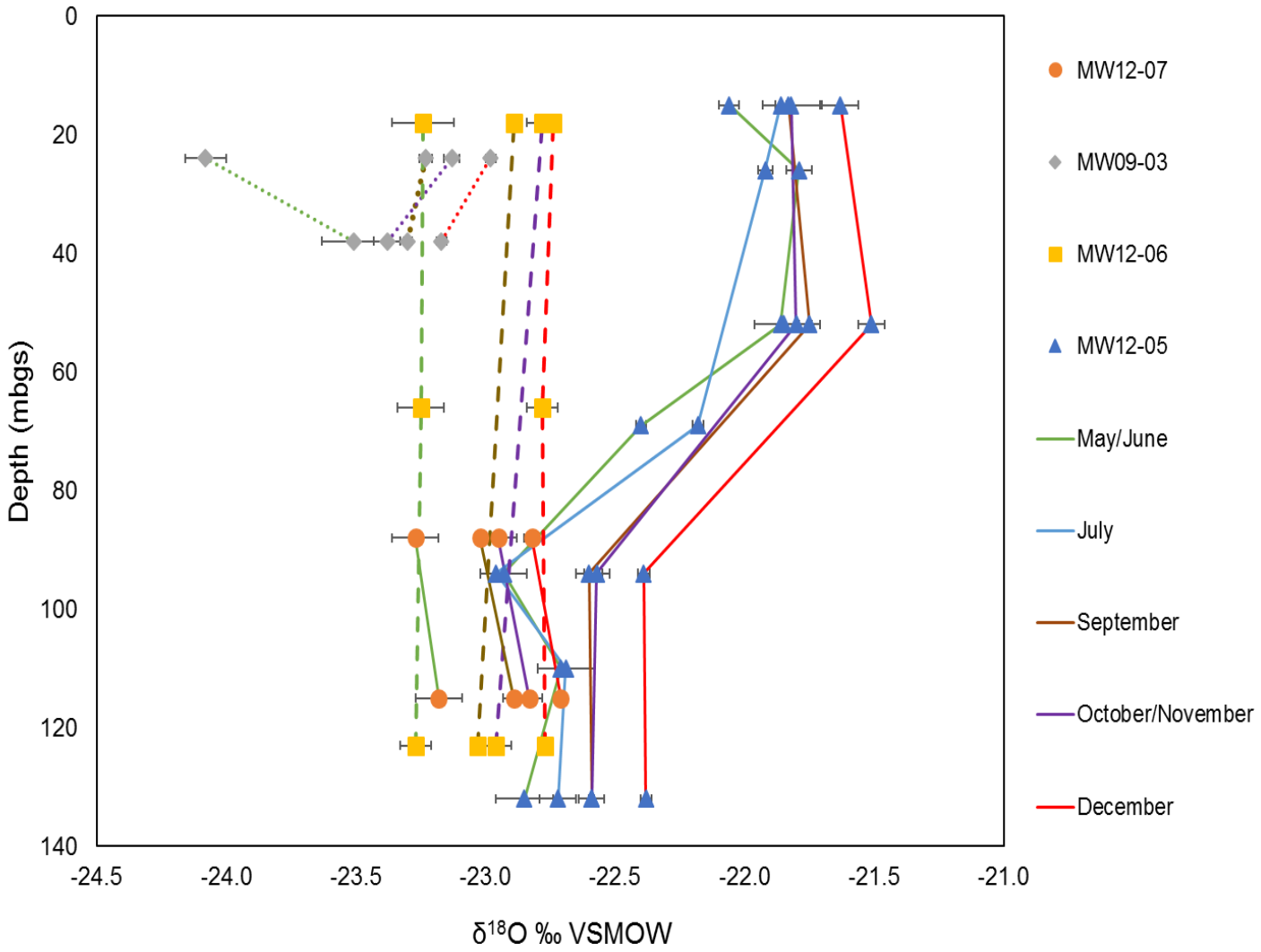
srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	Groundwater Characterization Report		
		Minto North Nitrate Trends		
Job No: 1CM002.057 Filename: 11x8_Landscape_Figures_DRAFT_rev01.pptx	Minto Mine	Date: Jan 2018	Approved: ROB	Figure: **3-13**



\\srk.ad\dfs\na\van\Projects\01_SITES\Minto\1CM002.051_Minto_2016GroundwaterSupport\[MintoIsotopes_1CM002.051_REV06_MSS.xlsx]

NOTE: Whitehorse local meteoric water line (black dashed line)

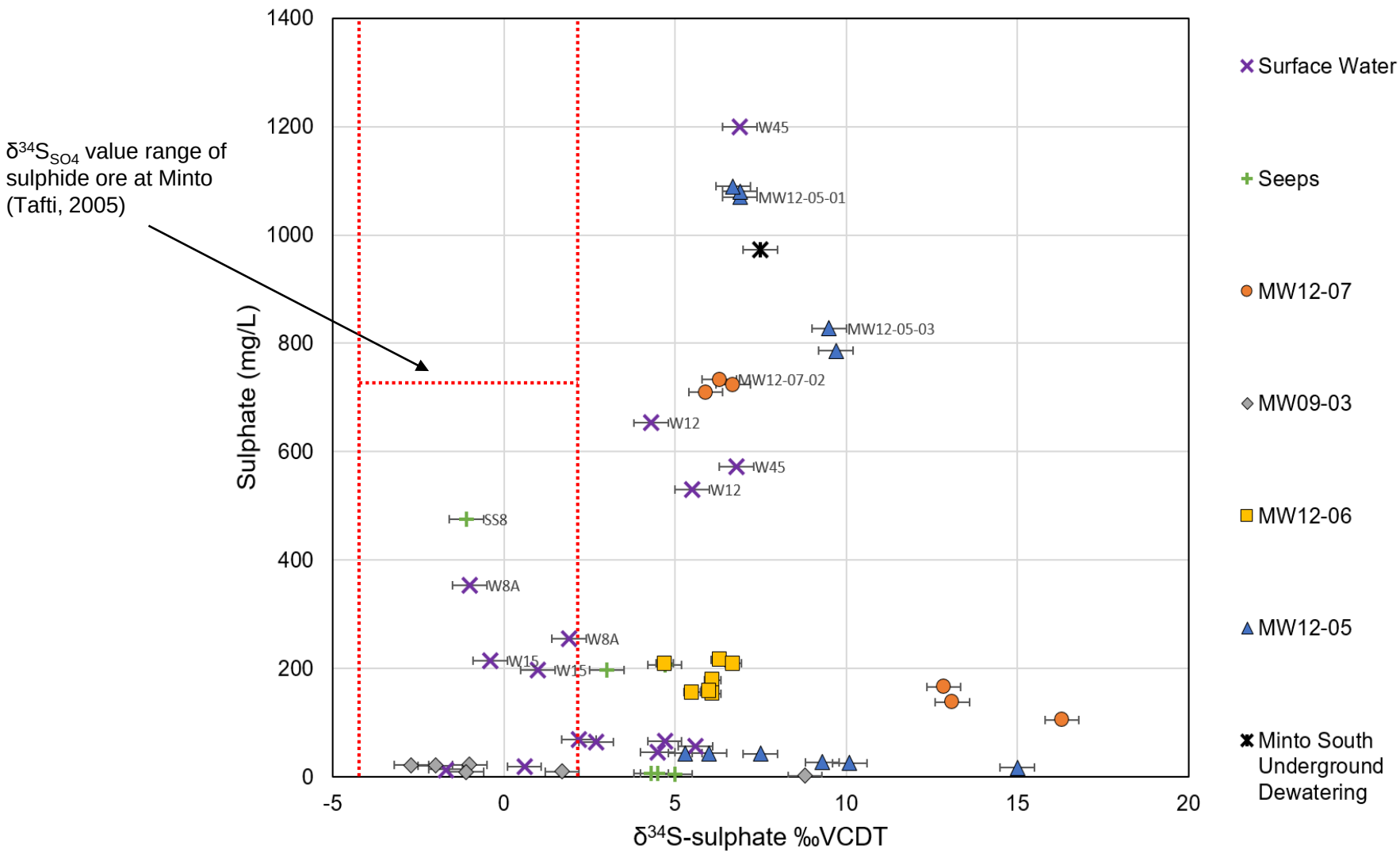
srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	Groundwater Characterization Report
		δ^2H vs $\delta^{18}O$
Job No: 1CM002.057 Filename: 11x8_Landscape_Figures_DRAFT_rev01.pptx	Minto Mine	Date: Jan 2018 / Approved: ROB / Figure: **3-14**



\\srk.ad\dfs\na\van\Projects\01_SITES\Minto\1CM002.051_Minto_2016GroundwaterSupport\[MintoIsotopes_1CM002.051_REV04_MSS.xlsx]

NOTE: Note: Error bars are plotted as the standard deviation based on three to six analyses per sample.

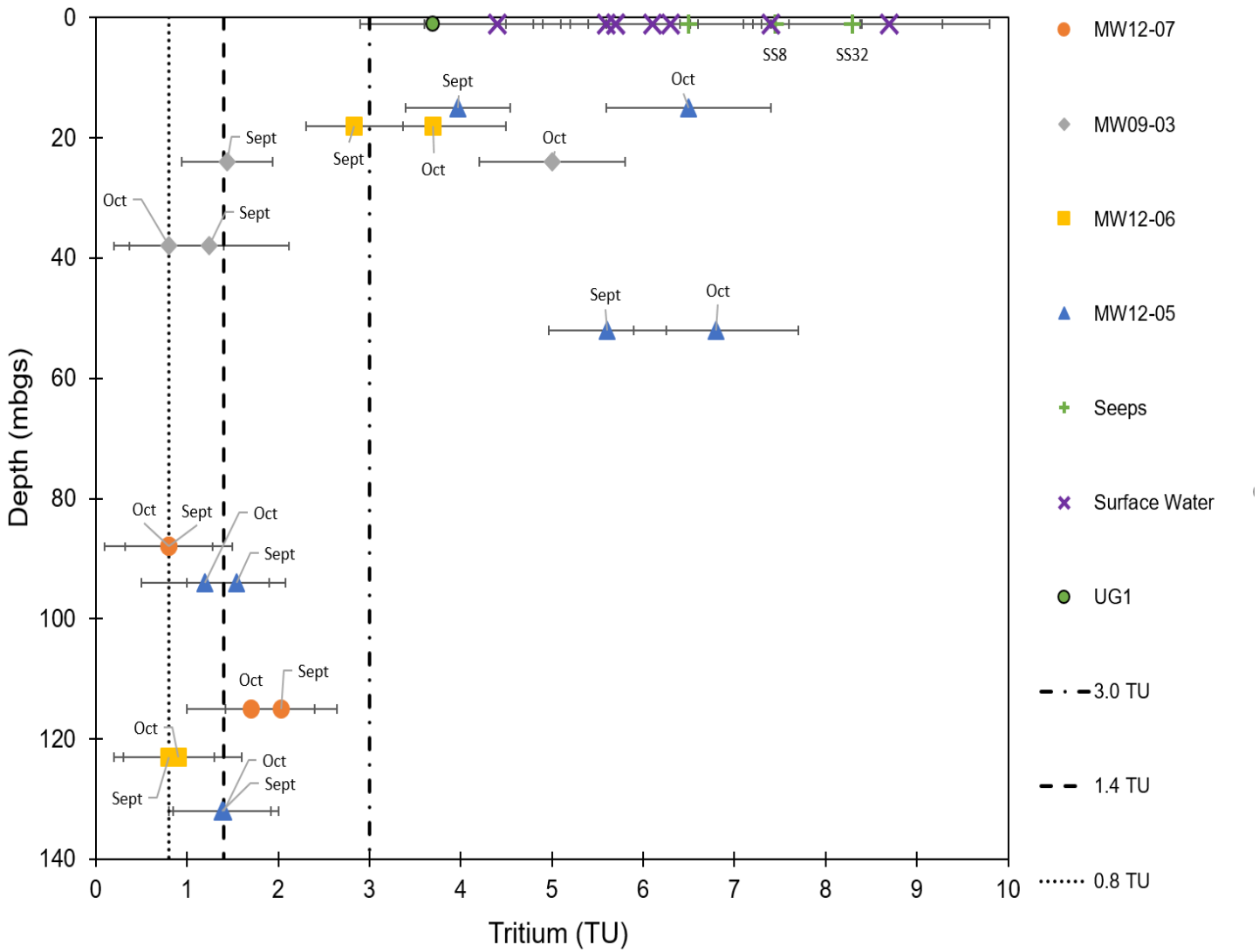
srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	Groundwater Characterization Report
Job No: 1CM002.057 Filename: 11x8_Landscape_Figures_DRAFT_rev01.pptx	Minto Mine	**Results of $\delta^{18}O$ of water analysis vs depth for monitoring wells** Date: Jan 2018 · Approved: ROB · Figure: **3-15**



\\srk.ad\dfs\na\van\Projects\01_SITES\Minto\1CM002.051_Minto_2016GroundwaterSupport\[EnvironmentalTracerStudy_1CM002.057_rev03_mss_rob.xlsx]

NOTE: Error bars are plotted as expected error for this type of analysis as provided by the laboratory (±0.5‰).

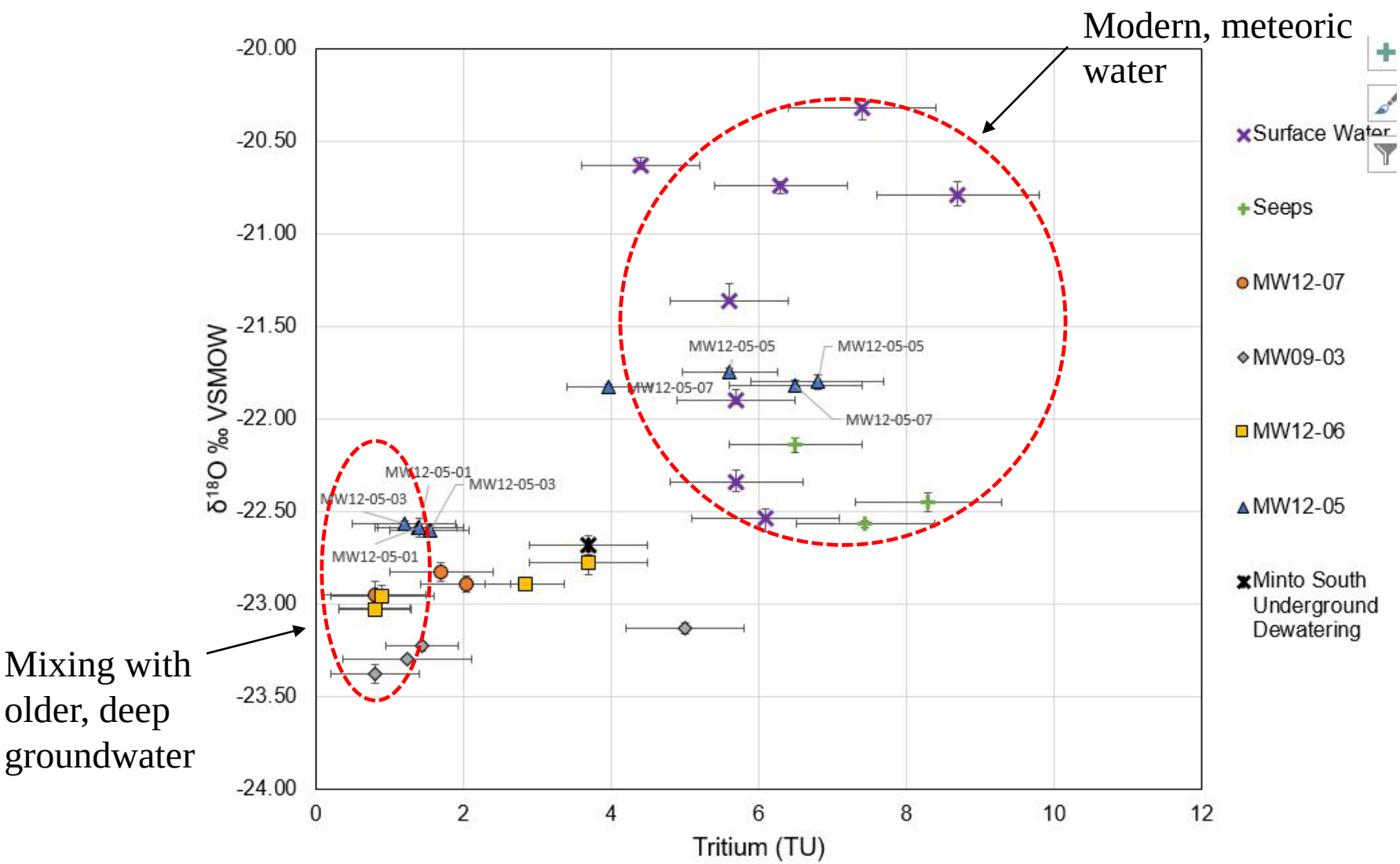
srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	Groundwater Characterization Report
		$\delta^{34}S_{SO4}$ vs Sulphate
Job No: 1CM002.057 Filename: 11x8_Landscape_Figures_DRAFT_rev01.pptx	Minto Mine	Date: Jan 2018 / Approved: ROB / Figure: **3-16**



NOTE: Note all seep, surface water, and precipitation is plotted at zero
Error bars are plotted as the standard deviation based on ten analysis per sample.
Values less than the detection limit (0.8 TU) are plotted at the detection limit.
All surface water samples were collected in October and all seep samples were collected in September

\\srk.ad\dfs\na\van\Projects\01_SITES\Minto\1CM002.051_Minto_2016GroundwaterSupport\[MintoIsotopes_1CM002.051_REV04_MSS.xlsx]

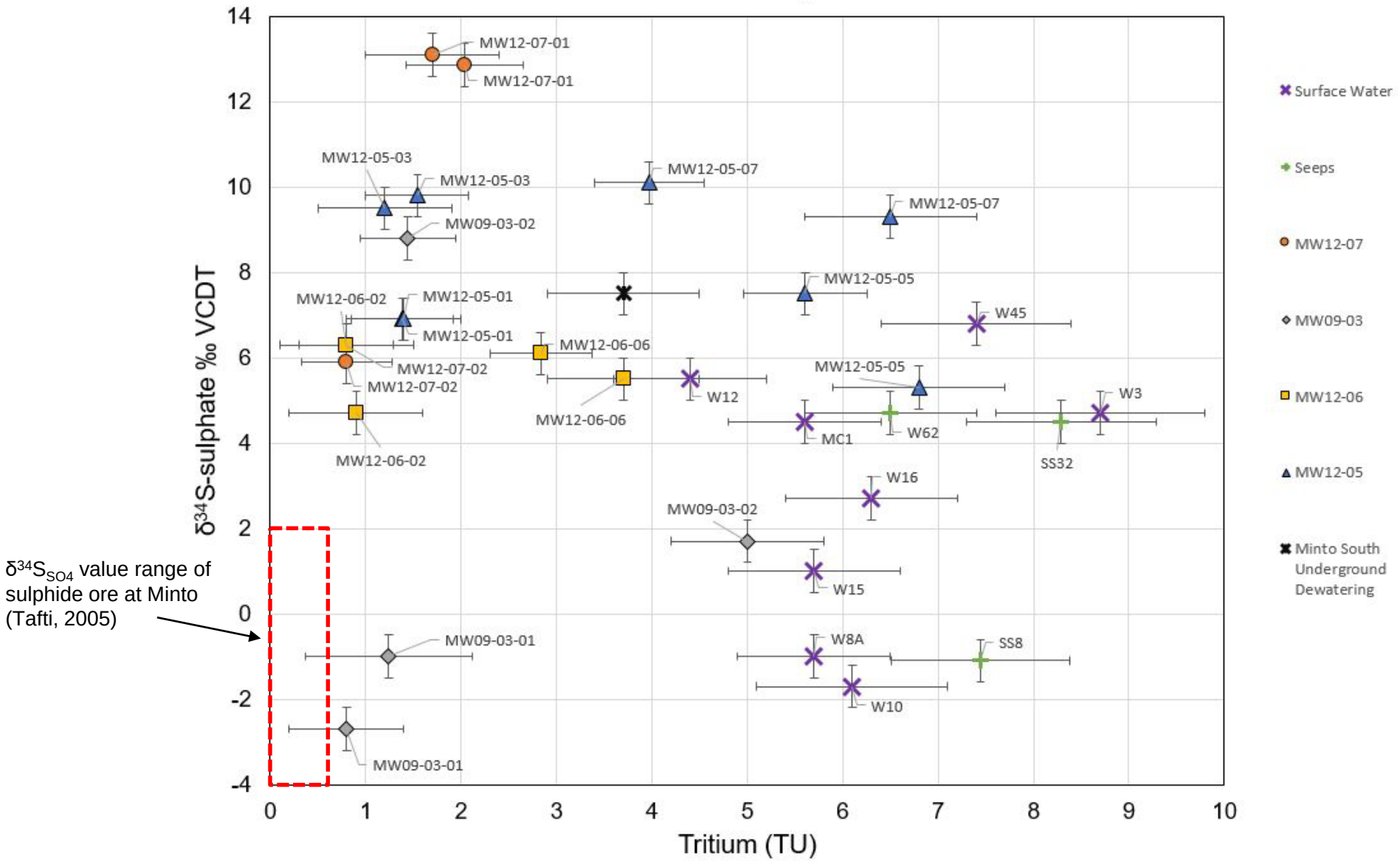
srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	Groundwater Characterization Report
		Tritium vs depth
Job No: 1CM002.057 Filename: 11x8_Landscape_Figures_DRAFT_rev01.pptx	Minto Mine	Date: Jan 2018 / Approved: ROB / Figure: **3-17**



\\van-svr0\Projects\01_SITES\Minto\1CM002.051_Minto_2016GroundwaterSupport\[EnvironmentalTracerStudy_1CM002.057_rev03_mss_rob.xlsx]

NOTE:
Error bars are plotted as the standard deviation based on ten analysis per sample.
Values less than the detection limit (0.8 TU) are plotted at the detection limit.
All surface water samples were collected in October and all seep samples were collected in September

srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	Groundwater Characterization Report	
		Tritium vs $\delta^{18}O$	
Job No: 1CM002.057 Filename: 11x8_Landscape_Figures_DRAFT_rev01.pptx	Minto Mine	Date: Jan 2018	Approved: ROB	Figure: **3-18**

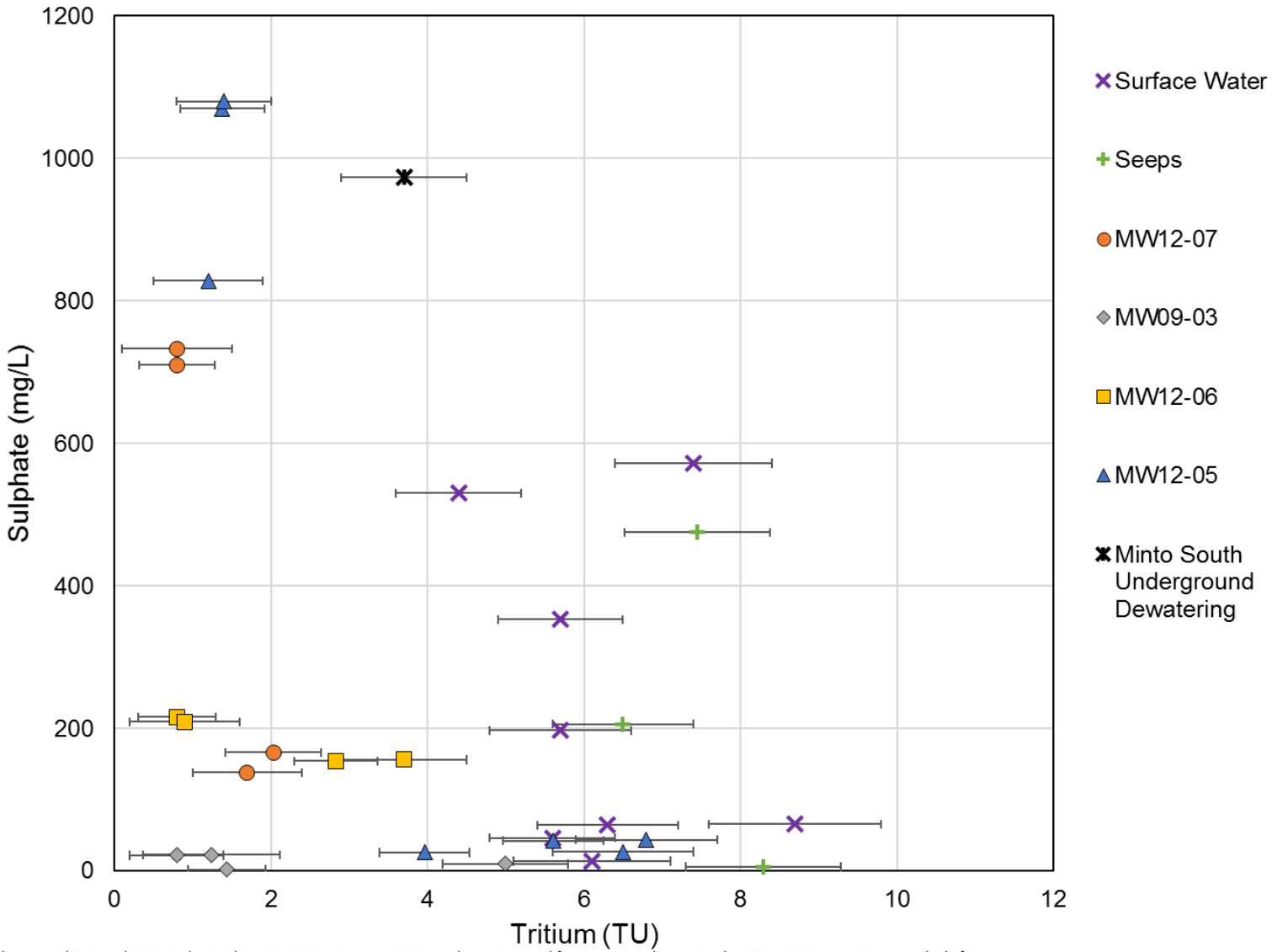


$\delta^{34}S_{SO4}$ value range of sulphide ore at Minto (Tafti, 2005)

NOTE:
Error bars are plotted as the standard deviation based on ten analysis per sample.
Values less than the detection limit (0.8 TU) are plotted at the detection limit.
All surface water samples were collected in October and all seep samples were collected in September

\\van-svr0\Projects\01_SITES\Minto\1CM002.051_Minto_2016GroundwaterSupport\[EnvironmentalTracerStudy_1CM002.057_rev03_mss_rob.xlsx]

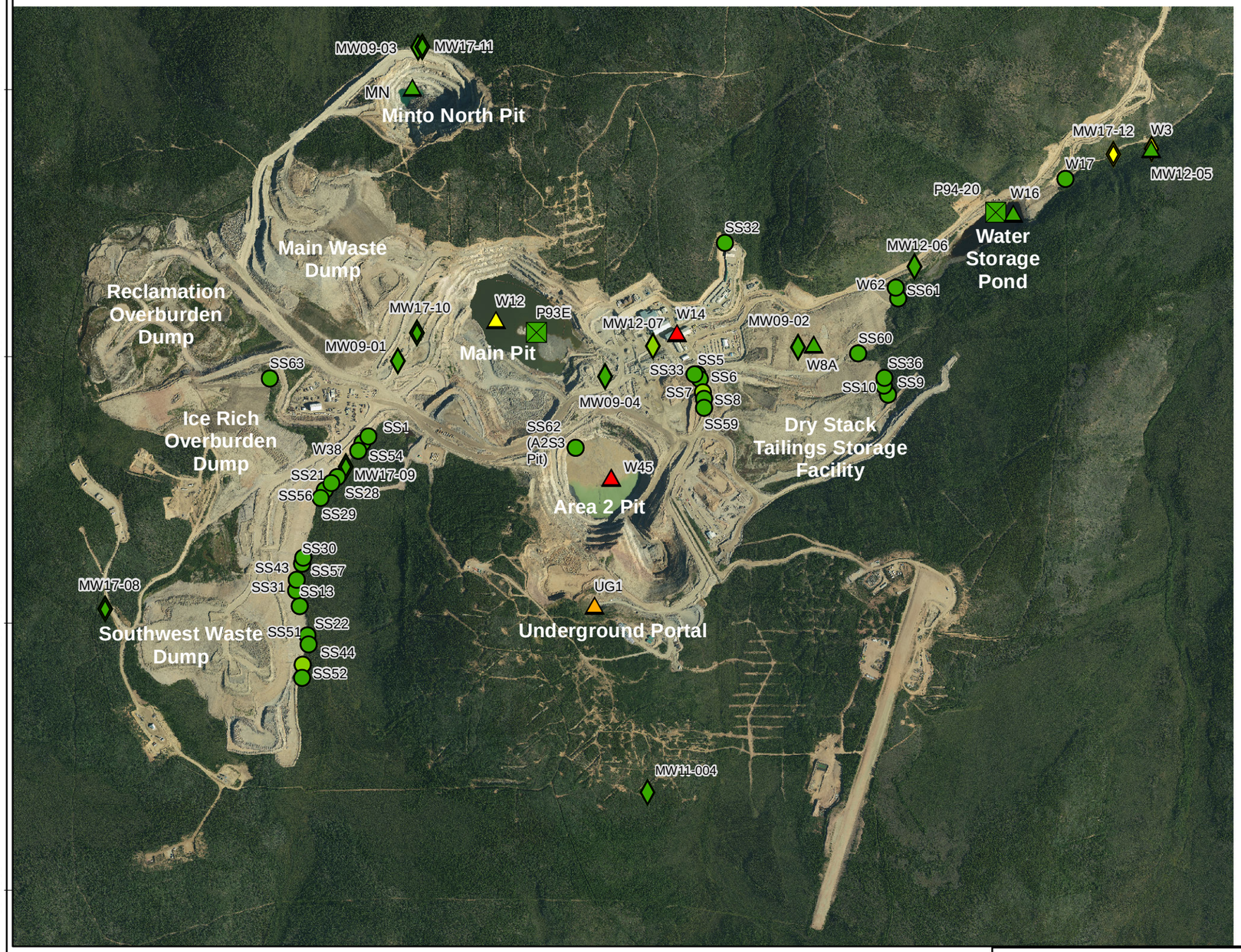
srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	Groundwater Characterization Report
Job No: 1CM002.057 Filename: 11x8_Landscape_Figures_DRAFT_rev01.pptx	Minto Mine	**Tritium vs $\delta^{34}S_{SO4}$** Date: Jan 2018 · Approved: ROB · Figure: **3-19**



\\van-svr0\Projects\01_SITES\Minto\1CM002.051_Minto_2016GroundwaterSupport\[EnvironmentalTracerStudy_1CM002.057_rev03_mss_rob.xlsx]

NOTE:
Error bars are plotted as the standard deviation based on ten analysis per sample.
Values less than the detection limit (0.8 TU) are plotted at the detection limit.
All surface water samples were collected in October and all seep samples were collected in September

srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	Groundwater Characterization Report
Job No: 1CM002.057 Filename: 11x8_Landscape_Figures_DRAFT_rev01.pptx	Minto Mine	**Tritium vs Sulphate** Date: Jan 2018 · Approved: ROB · Figure: **3-20**



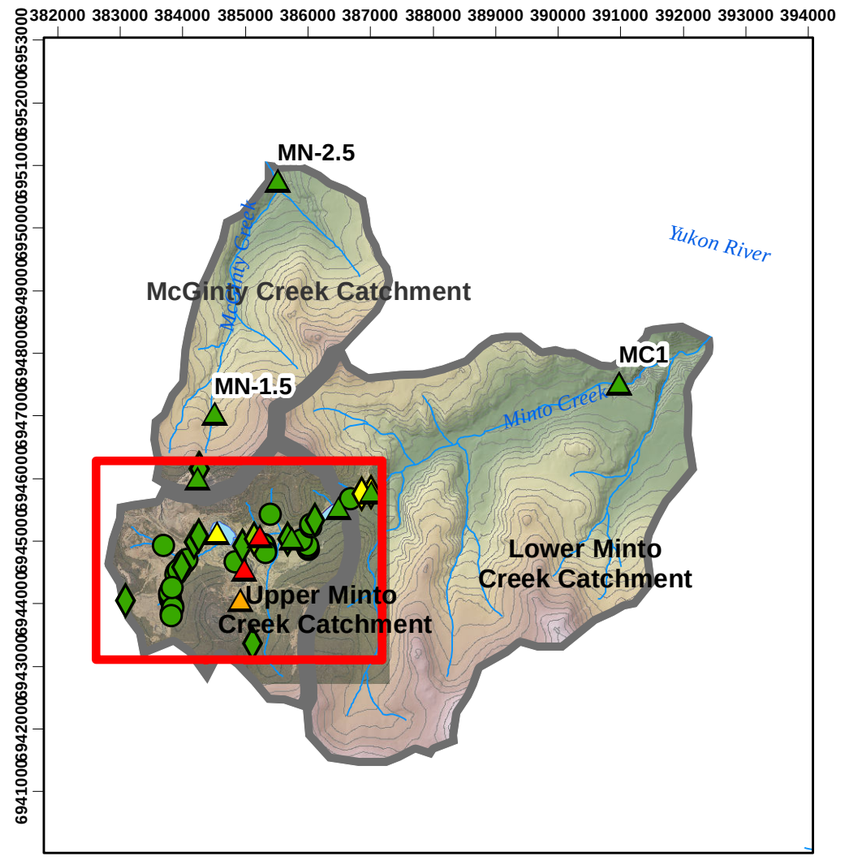
Legend

Sulphate Concentration

- <500
- 500 - 1000
- 1000 - 1500
- 1500 - 2000
- 2000+

- Background Well
- Surface Station
- Seep Stations
- Groundwater Well

N



Notes:
1. Data presented in NAD 1983 UTM Zone 8N.
2. Base orthophoto provided by Minto Mine, 2017.
3. Posted sulphate concentrations are maximum observed at a given location between January 2012 and December 2017 with visual anomalies censored

475 237.5 0 475 Meters

1:13,000

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Job No: 1CM002.057

Filename: GW_so4_colour_1CM002.057.mxd

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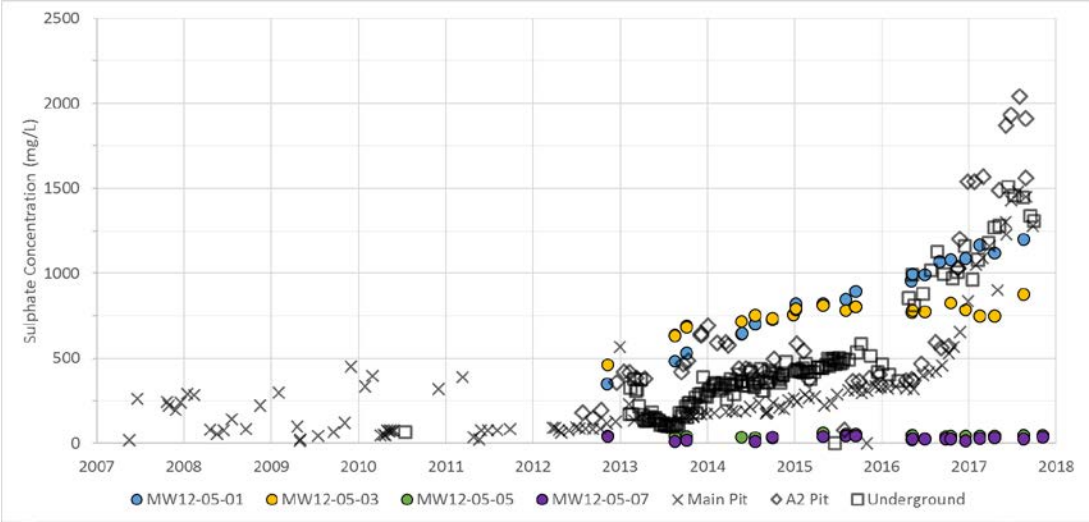
MINTO MINE

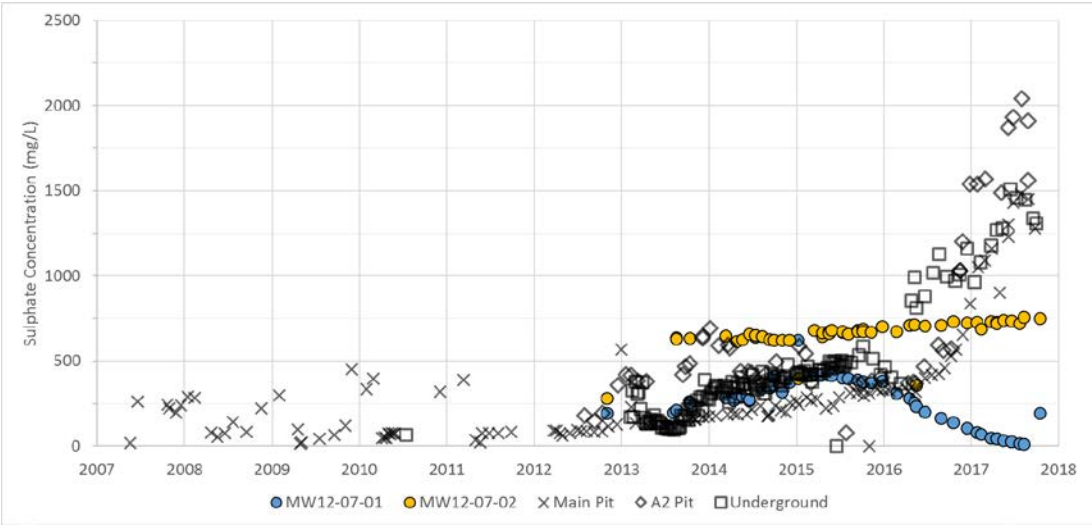
Groundwater Characterization Report

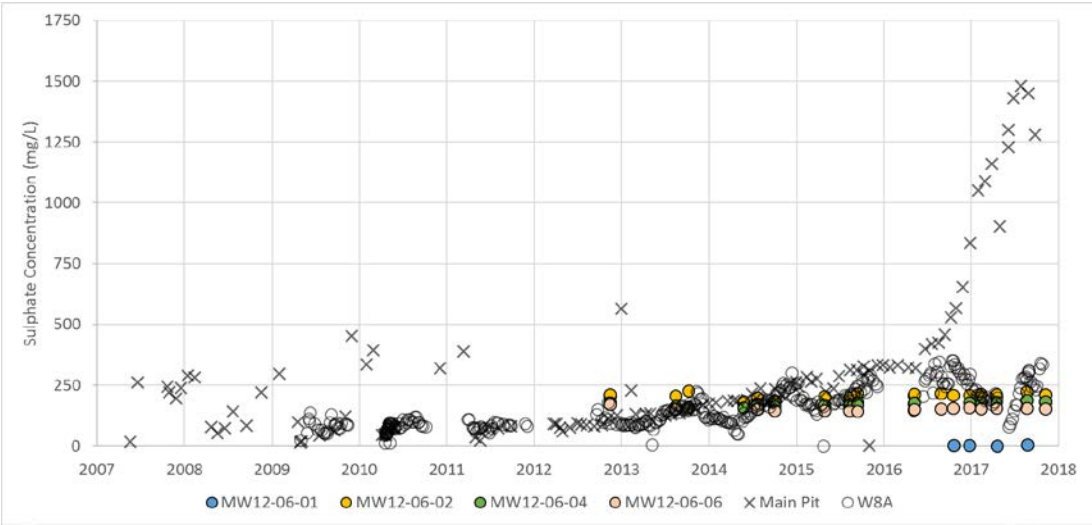
Maximum Sulphate Concentration 2012 thru 2017

Date: January 2018 | Approved: ROB | Figure: 3-21

\\VAN-SVR01\Projects\01_SITES\Minto\1CM002.041_Groundwater-2015\1040_AutoCAD\Figure1_1CM002.041.mxd

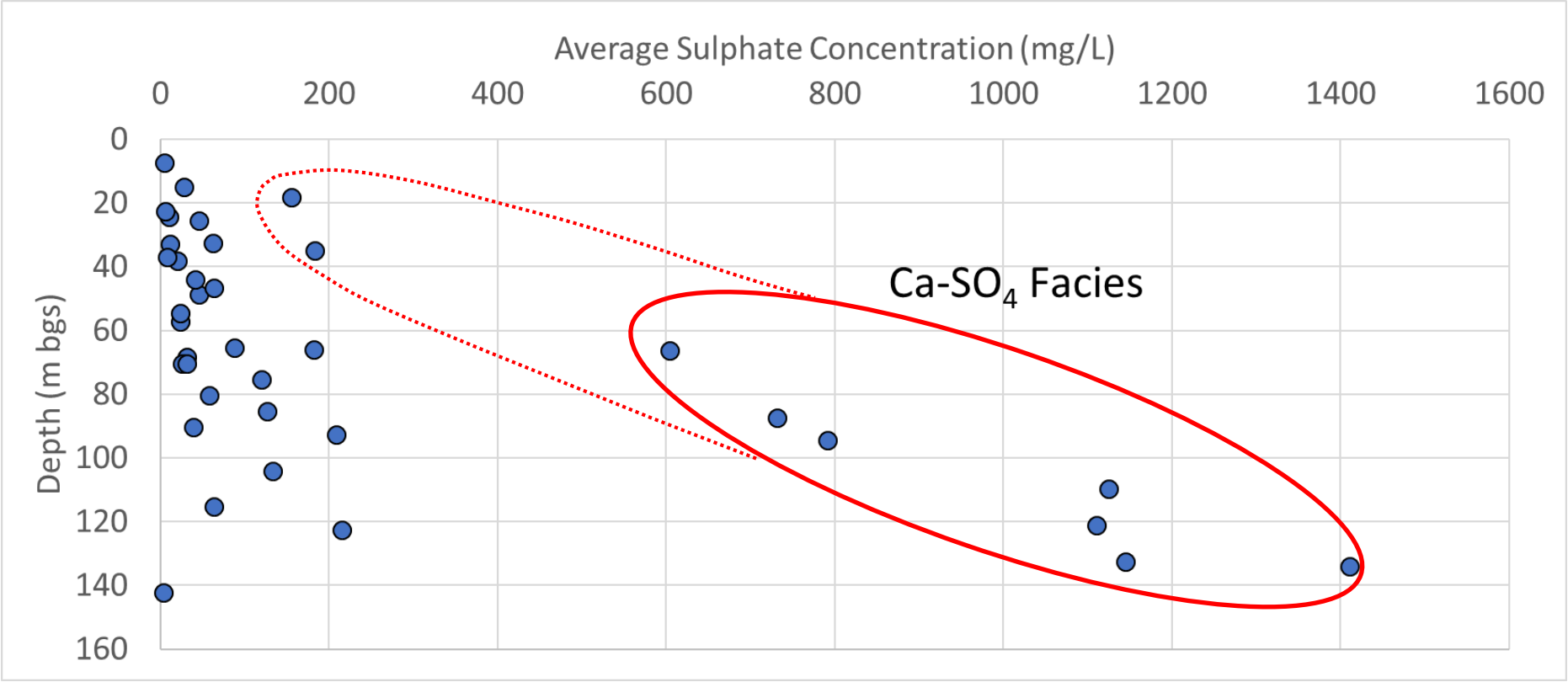






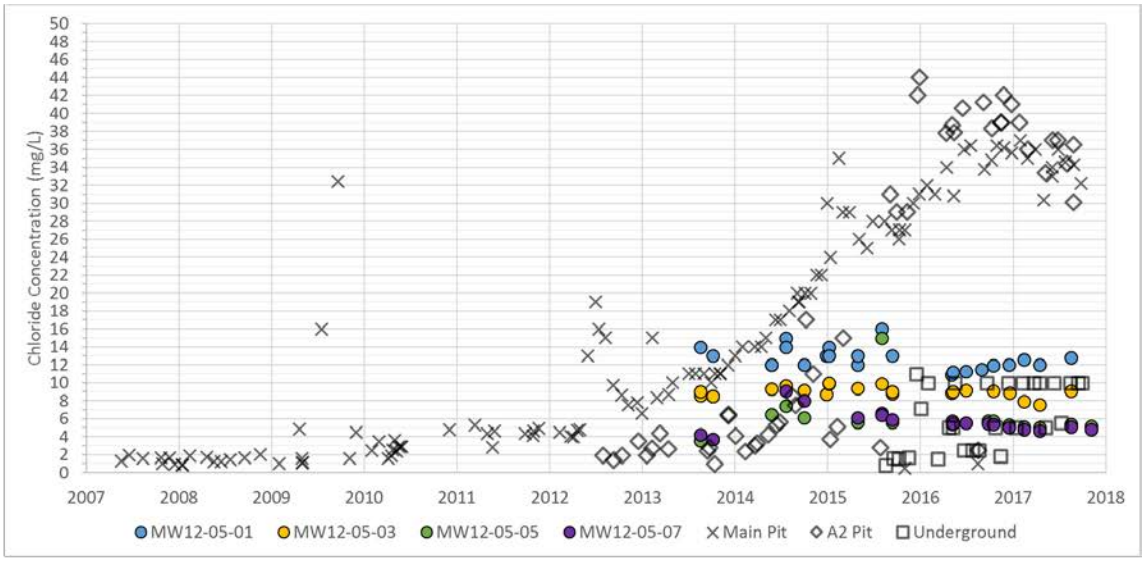
\\van-svr0\Projects\01_SITES\Minto\1CM002.057_Enviro_Tracer_Study\!020_Project_Data\010_SRK\WQ_Working

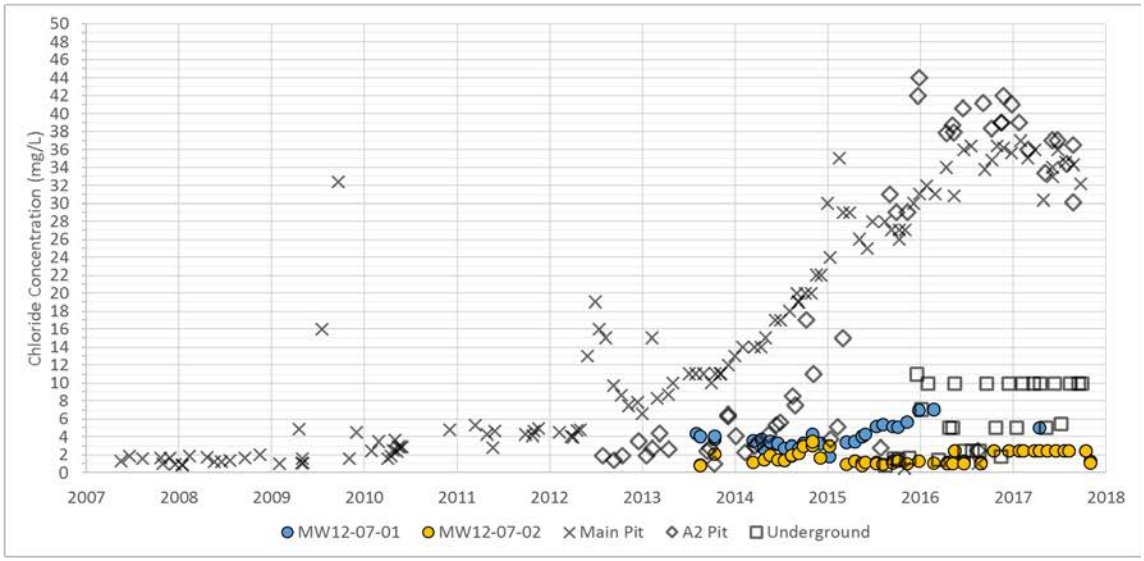
srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	Groundwater Characterization Report
		Sulphate Trend Comparison
Job No: 1CM002.057 Filename: 11x8Portrait_Figures_DRAFT_rev02.pptx	Minto Mine	Date: January 2018 / Approved: ROB / Figure: **3-22**

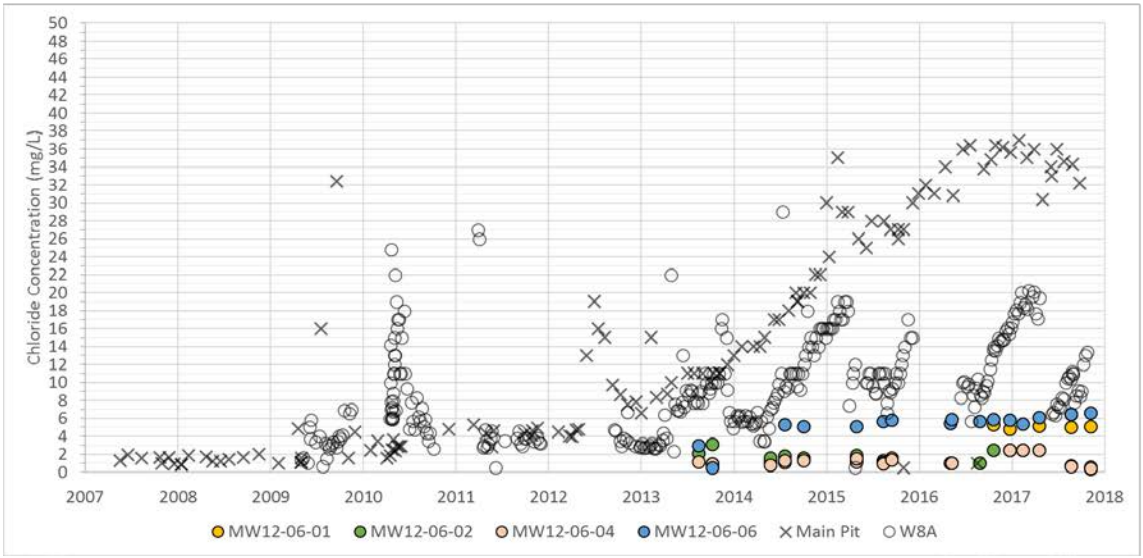


Source: \\van-svr0\Projects\01_SITES\Minto\1CM002.057_Enviro_Tracer_Study\!020_Project_Data\010_SRK\GW_Characterization\Depth to SO4_rev2.xlsx

srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	Groundwater Characterization Report
		Depth vs Sulphate in Groundwater
Job No: 1CM002.057 Filename: 11x8_Landscape_Figures_DRAFT_rev01.pptx	Minto Mine	Date: Jan 2018 / Approved: ROB / Figure: **3-23**

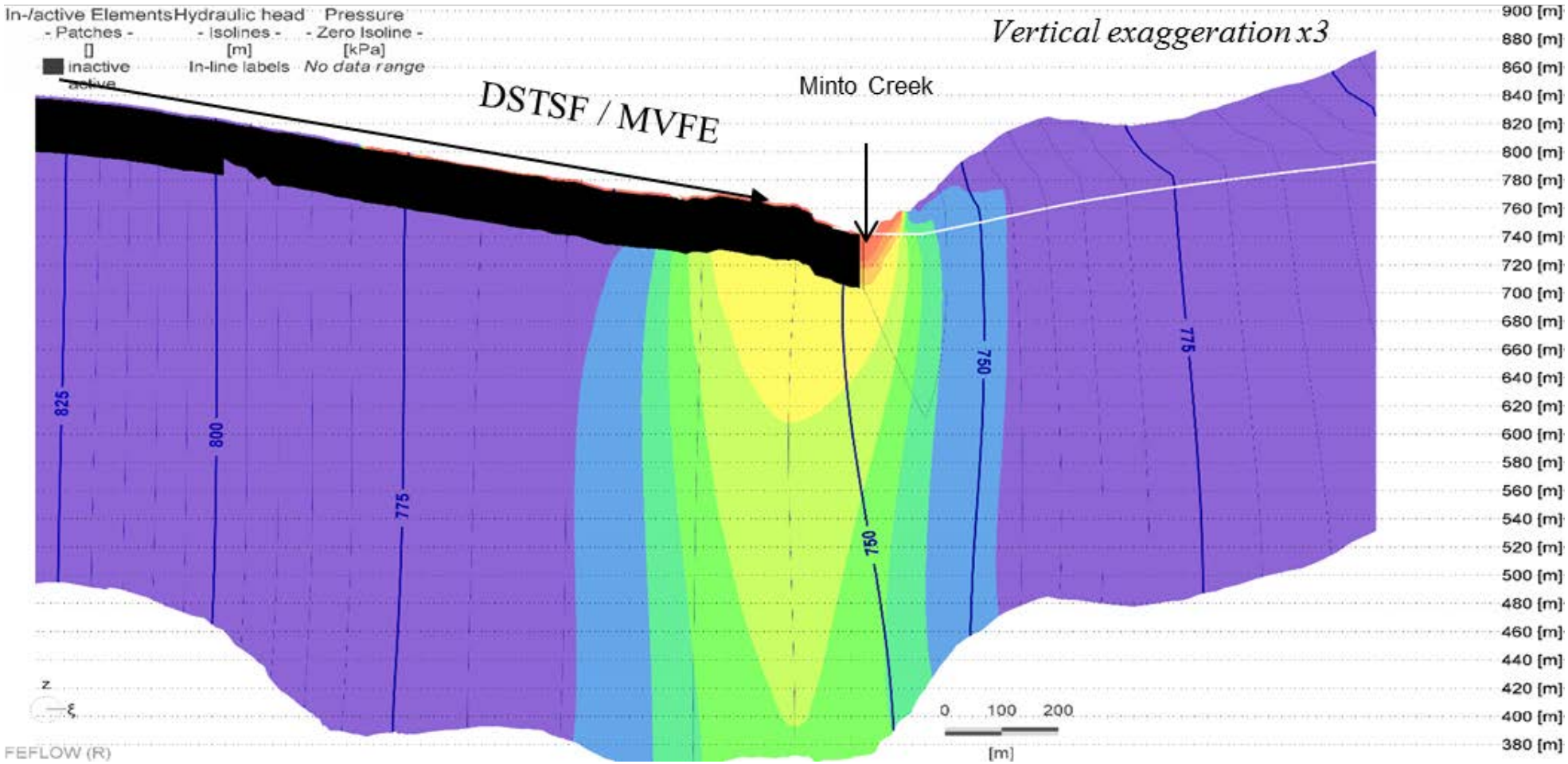






\\van-svr0\Projects\01_SITES\Minto\1CM002.057_Enviro_Tracer_Study\!020_Project_Data\010_SRK\GW_Characterization

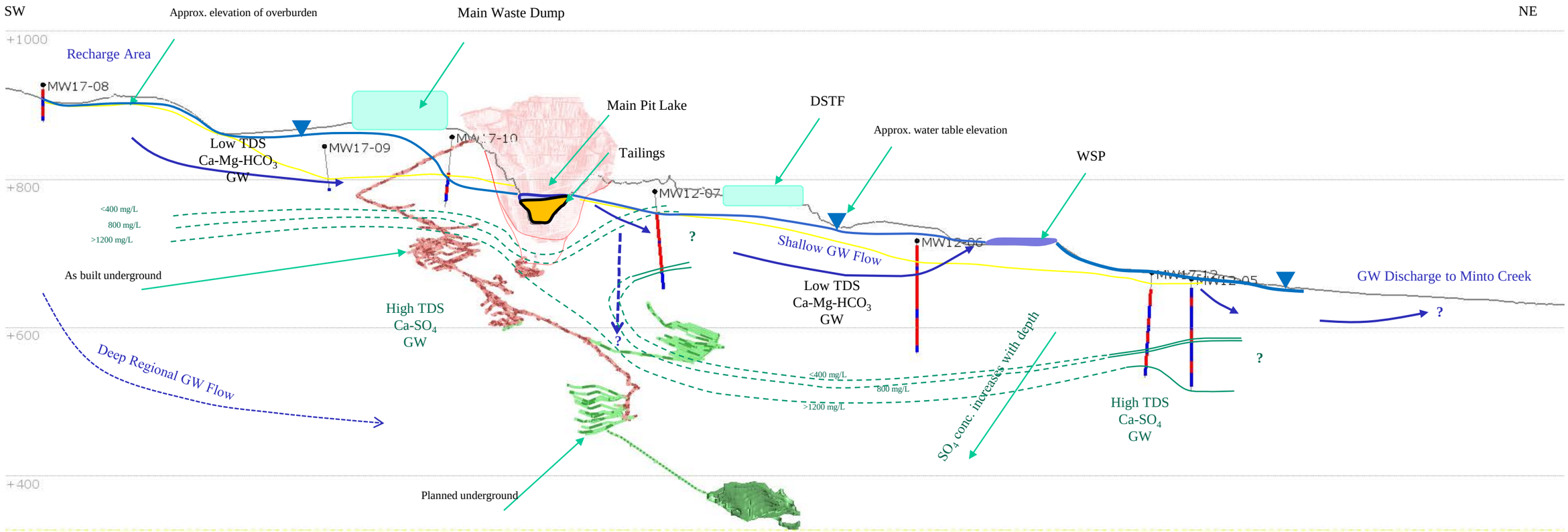
srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	Groundwater Characterization Report
		Chloride Trend Comparison
Job No: 1CM002.057 Filename: 11x8Portrait_Figures_DRAFT_rev02.pptx	Minto Mine	Date: January 2018 / Approved: ROB / Figure: **3-24**



Detailed view of section EF in the DSTSF and MVFE areas; Scenario with permafrost

Source: SRK (2015), Figure 20

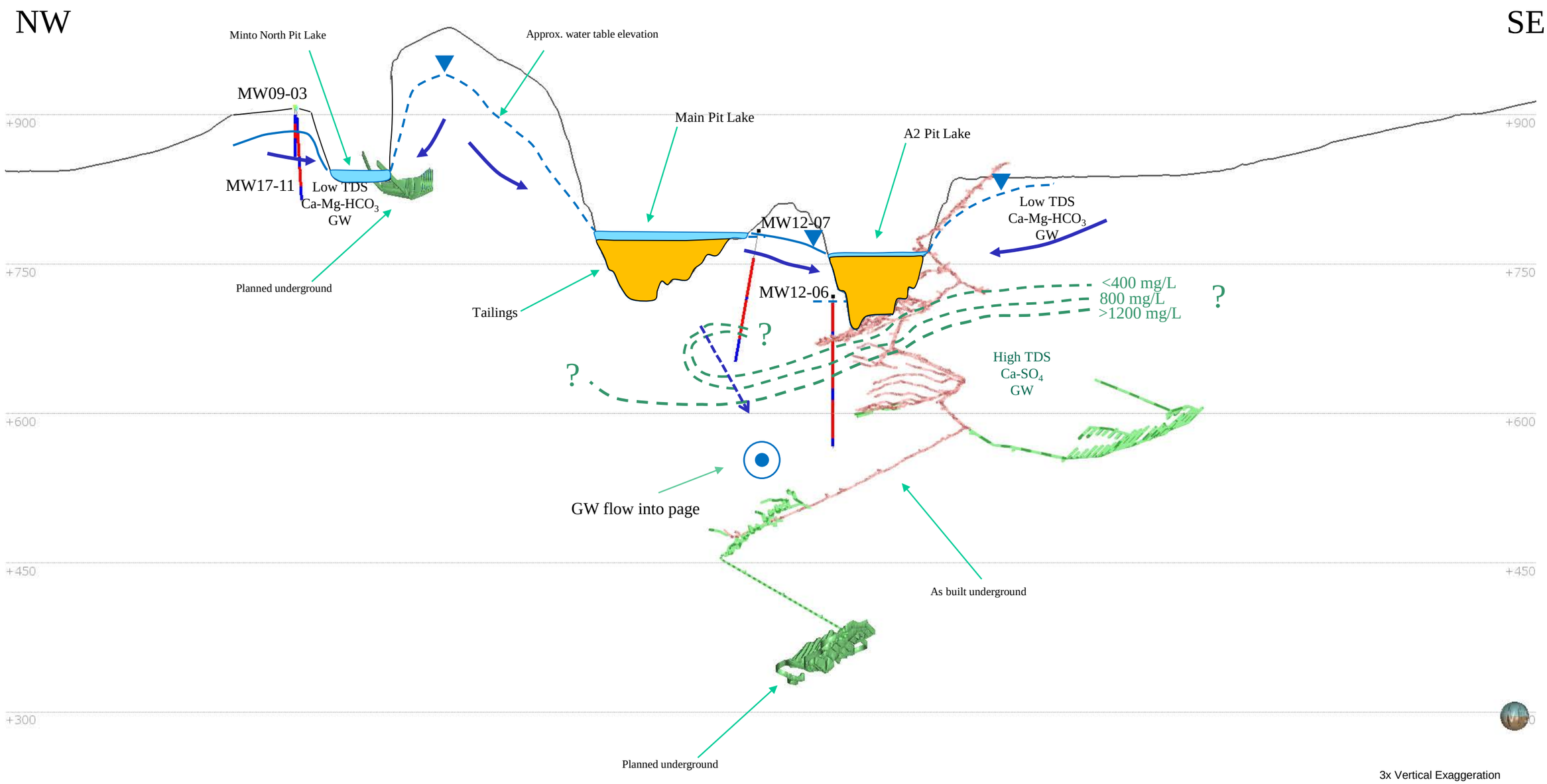
srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	Groundwater Characterization Report
		Model cross section MW12-06 from 2015 Model Report
Job No: 1CM002.057 Filename: 11x8_Landscape_Figures_DRAFT_rev01.pptx	Minto Mine	Date: December 2017 / Approved: ROB / Figure: **4-1**



3 x Vertical Exaggeration

Note:
- Shallow GW refers to relatively shallow GW flow through bedrock, not via active layer
- Concentration contours are of SO_4

srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	Groundwater Characterization Report	
		Minto Creek Conceptual Model	
Job No: 1CM002.057 Filename: Minto_Concept_Model_rev04.pptx	Minto Mine	Date: December 2017	Approved: ROB	Figure: **4-2**



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Groundwater Characterization Report

Minto North Schematic Conceptual Model

Job No: 1CM002.057
Filename: Minto North_Concept_Model_DRAFT.pptx

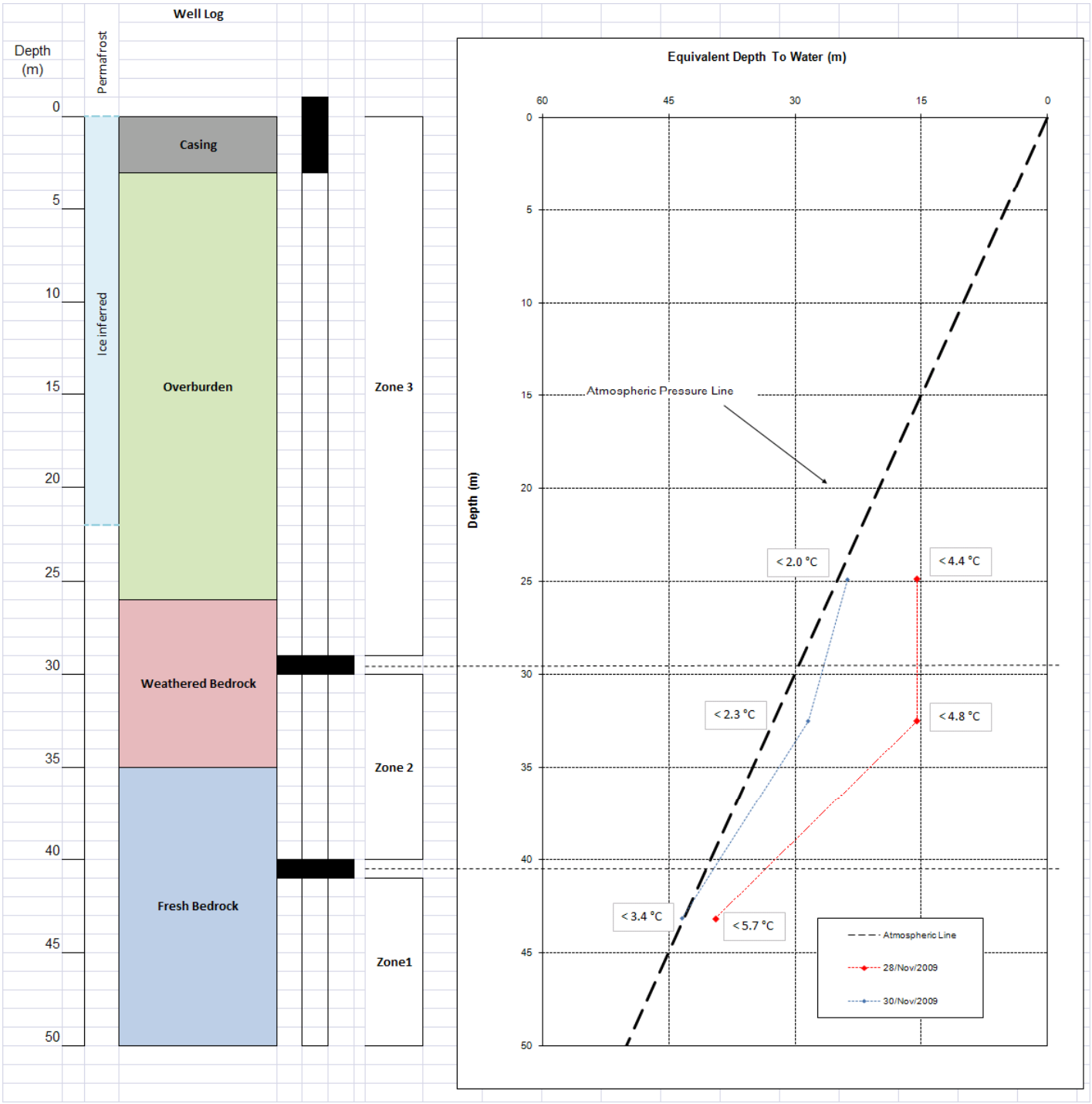
Minto Mine

Date: January 2018
Approved: ROB
Figure: **4-3**

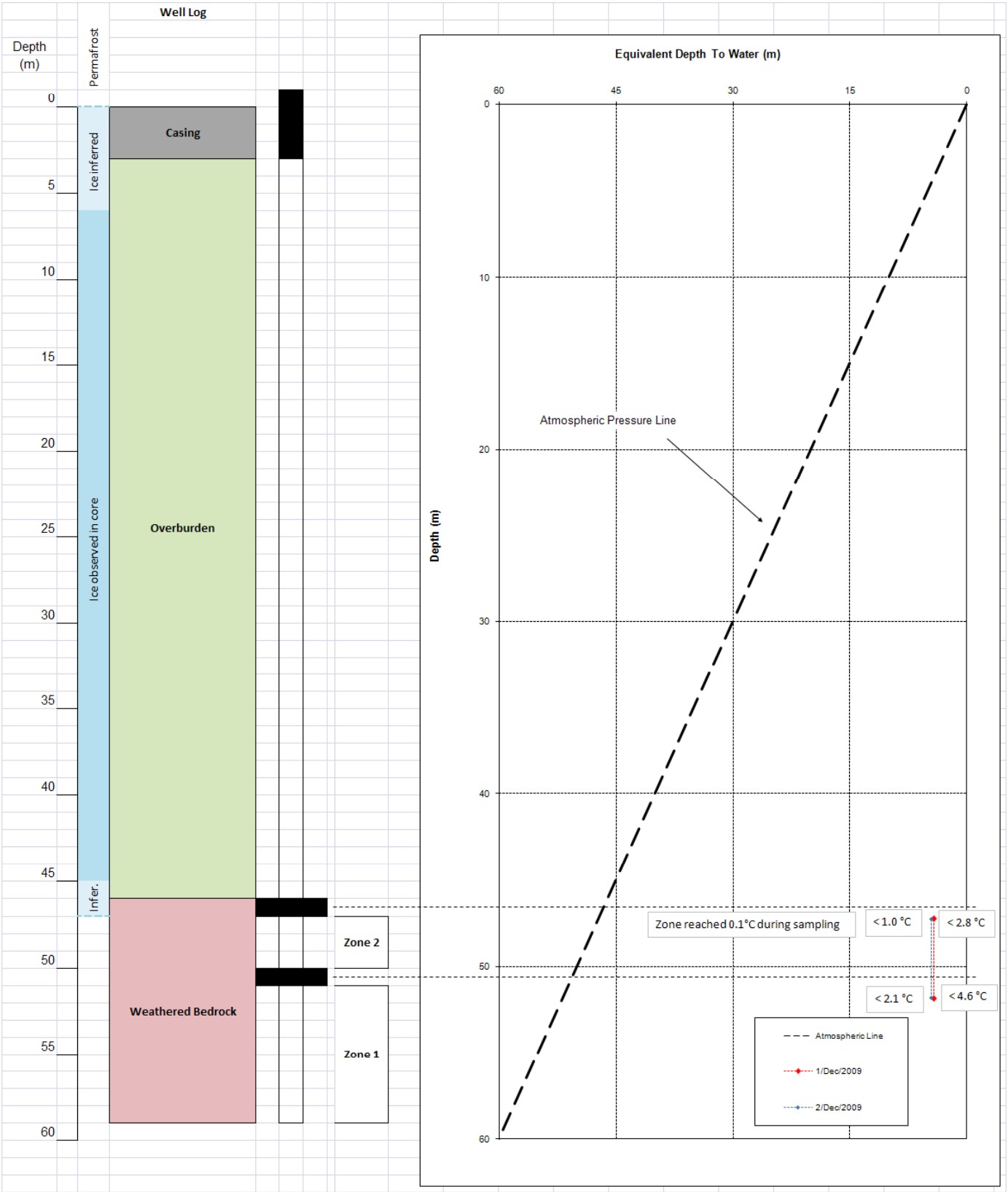
Appendix A – Monitoring Well Details and Sampling Plan

Well ID	Zone	Total Depth (mtoc)	Azimuth	Dip	Zone Top (mbtoc)	Zone Bottom (mbtoc)	Zone Bottom (masl)	Zone Bottom (masl)	Lithology	Quality	Level
MW09-01	1	50.3	-	90	41.2	50.3	823.0	813.8	Fresh Bedrock	Q	Q
	2		-	90	29.6	41.2	832.1	820.5	Weathered Bedrock/Fresh Bedrock	Q	Q
	3		-	90	3.1	29.6	855.0	828.4	Overburden/Weathered Bedrock	Q	Q
MW09-02	1	59.4	-	90	50.3	59.4	711.3	702.1	Weathered Bedrock		Q
	2		-	90	45.7	50.3	711.3	706.7	Weathered Bedrock		Q
MW09-03	1	50.3	-	90	30.5	50.3	877.5	857.7	Fresh Bedrock	Q	Q
	2		-	90	7.6	30.5	900.4	877.5	Fresh Bedrock	Q	Q
	3		-	90	3.1	7.6	905.0	900.4	Weathered Bedrock/Fresh Bedrock		
MW09-04	1	76.2	-	90	62.5	76.2	736.1	722.4	Fresh Bedrock		
	2		-	90	54.9	62.5	749.8	742.2	Weathered Bedrock/Fresh Bedrock		
	3		-	90	44.2	54.9	749.8	739.1	Weathered Bedrock		
MW12-05	1	145.0	-	90	126.0	145.0	558.5	539.5	Bedrock	Q	Q
	2		-	90	110.0	125.0	573.5	558.5	Bedrock	Q	Q
	3		-	90	85.0	108.0	596.5	573.5	Weathered Bedrock	Q	Q
	4		-	90	68.0	84.0	612.5	596.5	Weathered Bedrock	Q	Q
	5		-	90	36.0	67.0	643.5	612.5	Weathered Bedrock	Q	Q
	6		-	90	25.0	35.0	653.5	643.5	Weathered Bedrock	Q	Q
	7		-	90	12.0	24.0	665.5	653.5	Overburden/Weathered Bedrock	Q	Q
MW12-06	1	150.2	-	90	142.0	150.2	585.7	577.5	Bedrock		Q
	2		-	90	104.0	142.0	623.7	585.7	Bedrock/Fault Zone	Q	Q
	3		-	90	92.5	102.0	633.2	623.7	Bedrock		Q
	4		-	90	40.0	92.0	685.2	633.2	Weathered Bedrock/Bedrock	Q	Q
	5		-	90	34.9	39.0	689.3	685.2	Weathered Bedrock		Q
	6		-	90	6.0	34.0	717.3	689.3	Overburden/Weathered Bedrock	Q	Q
MW12-07	1	126.0	352	60	107.0	126.0	700.5	681.5	Bedrock	Q	Q
	2		352	60	69.0	106.0	737.5	700.5	Weathered Bedrock	Q	Q
	3		352	60	66.2	68.4	739.7	737.5	Overburden/Weathered Bedrock		Q
	4		352	60	32.0	76.0	783.7	739.7	Overburden		Q
MW17-08	1	50.5	-	90	43.5	48.0	823.7	819.2	Bedrock	Q	Q
	2		-	90	29.0	43.5	838.2	823.7	Bedrock/Fault Zone	Q	Q
	3		-	90	17.0	29.0	850.2	838.2	Bedrock	Q	Q
	4		-	90	6.0	17.0	861.2	850.2	Bedrock	Q	Q
MW17-09	1	63.6	90	70	54.0	60.0	867.2	861.2	Bedrock	Q	Q
MW17-10	1	100.8	200	70	82.0	92.0	773.8	763.8	Bedrock	Q	Q
	2		200	70	71.0	82.0	784.8	773.8	Bedrock	Q	Q
	3		200	70	60.5	71.0	795.3	784.8	Bedrock	Q	Q
	4		200	70	51.0	60.5	804.8	795.3	Bedrock	Q	Q
	5		200	70	0.0	52.0	856.8	804.8	Overburden-Bedrock Contact	Q	Q
MW17-11	1	101.0	90	70	83.5	98.0	822.5	808.0	Bedrock	Q	Q
	2		90	70	62.5	83.5	843.5	822.5	Bedrock/Fault Zone	Q	Q
	3		90	70	52.0	62.5	854.0	843.5	Bedrock	Q	Q
	4		90	70	26.0	52.0	880.0	854.0	Bedrock/Diorite Dyke	Q	Q
	5		90	70	9.0	26.0	897.0	880.0	Bedrock	Q	Q
MW17-12	1	151.0	180	70	134.0	148.0	539.6	525.6	Bedrock	Q	Q
	2		180	70	116.0	134.0	557.6	539.6	Bedrock	Q	Q
	3		180	70	99.0	116.0	574.6	557.6	Bedrock/Diorite Dyke	Q	Q
	4		180	70	85.5	99.0	588.1	574.6	Bedrock	Q	Q
	5		180	70	75.0	85.5	598.6	588.1	Bedrock	Q	Q
	6		180	70	64.5	75.0	609.1	598.6	Bedrock	Q	Q
	7		180	70	47.0	64.5	626.6	609.1	Bedrock	Q	Q
	8		180	70	24.0	47.0	649.6	626.6	Bedrock	Q	Q
P93E	-	82.6	-	-	-	-	-	-	Uncertain - assumed bedrock	-	-
P94-20	-	35.9	-	-	-	-	-	-	Uncertain - assumed bedrock	-	-
MW11-04a	-	30.3	-	-	27.3	30.3			Bedrock	-	-

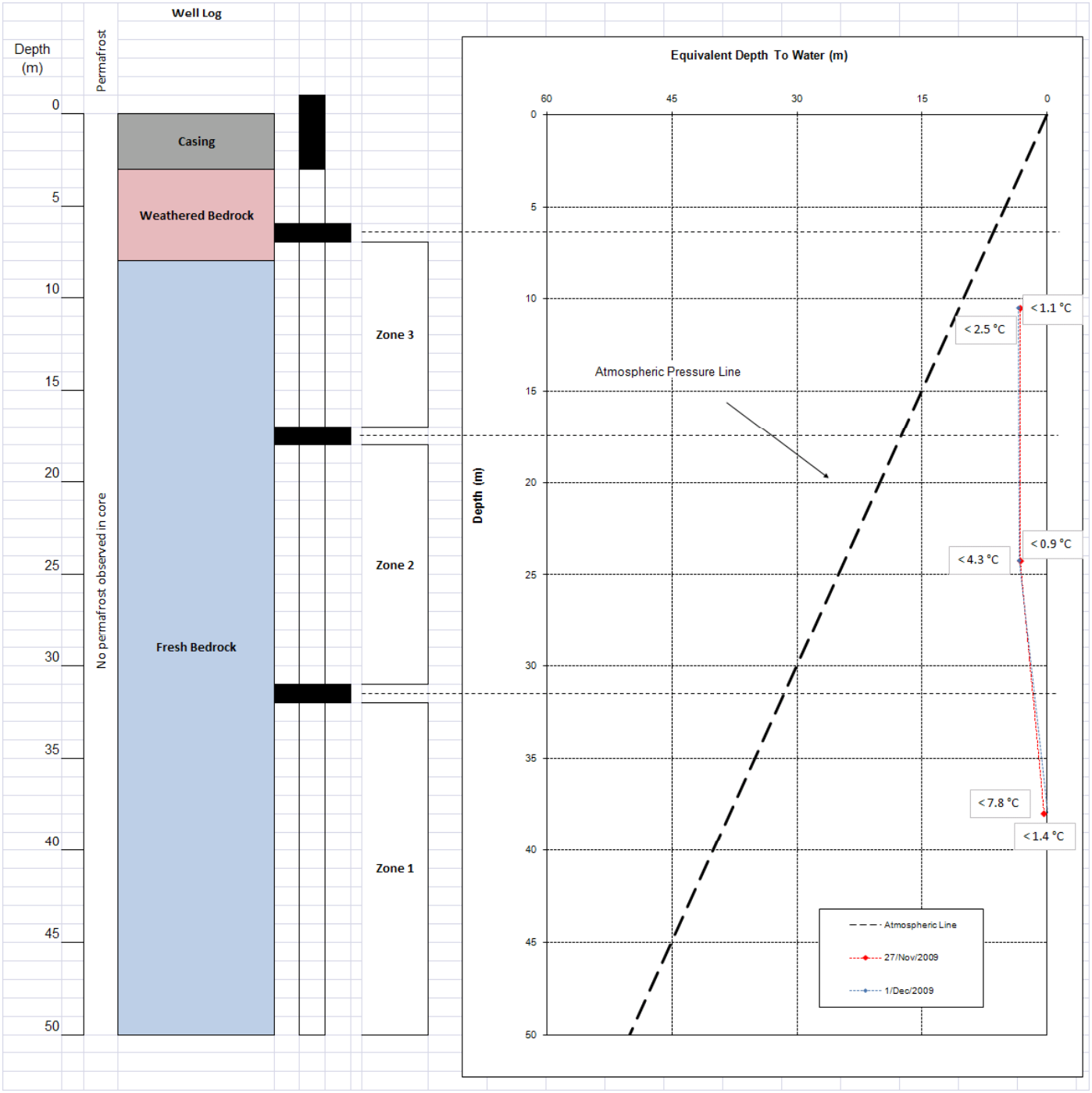
Appendix B – Compilation of Monitoring Well Logs



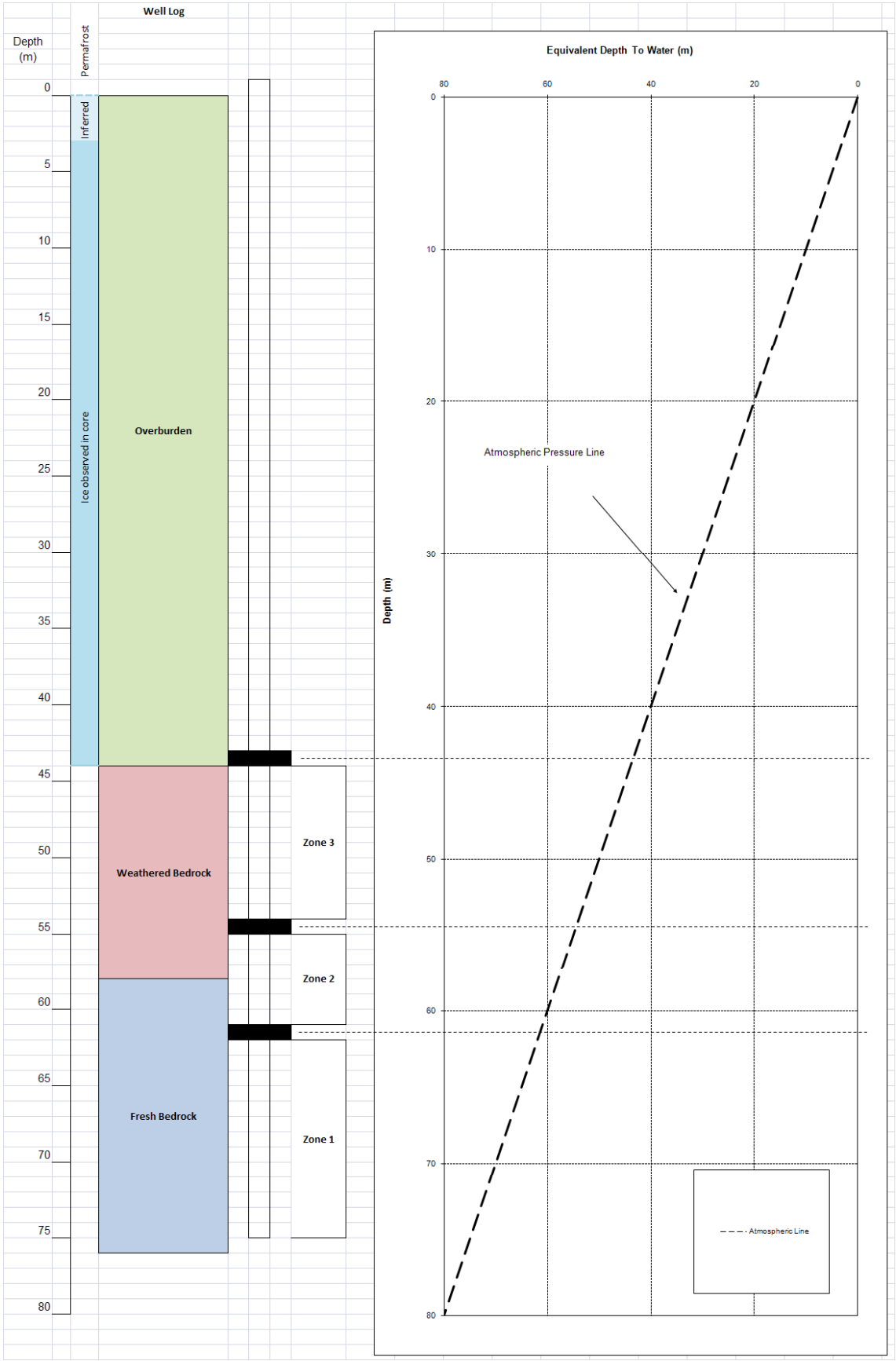
SRK Consulting Engineers and Scientists VANCOUVER	**Minto Explorations Ltd.**	**Groundwater Monitoring Locations**
Job No: 2CM022.001 Filename: Fig 2_SRK-09-01_MP Casing Log and Pressure Data	Minto Groundwater Monitoring Plan	Date: February 9, 2010 / Approved: MDR / Figure: **2**



SRK Consulting Engineers and Scientists VANCOUVER	**Minto Explorations Ltd.**	**Groundwater Monitoring Locations**
Job No: 2CM022.001 Filename: Fig 3_SRK-09-02_MP Casing Log and Pressure Data	Minto Groundwater Monitoring Plan	Date: February 9, 2010 / Approved: MDR / Figure: **3**



SRK Consulting Engineers and Scientists VANCOUVER	**Minto Explorations Ltd.**	**Groundwater Monitoring Locations**
Job No: 2CM022.001 Filename: Fig 4_SRK-09-03_MP Casing Log and Pressure Data	Minto Groundwater Monitoring Plan	Date: February 9, 2010 / Approved: MDR / Figure: **4**



SRK Consulting Engineers and Scientists VANCOUVER	**Minto Explorations Ltd**	**Groundwater Monitoring Locations**
Job No: 2CM022.001 Filename: Fig 5_SRK-09-04_MP Casing Log.ppt	Minto Groundwater Monitoring Plan	Date: February 9, 2010 / Approved: MDR / Figure: **5**

srk consulting

PROJECT: Minto Mine
CLIENT: Capstone Mining

CAPSTONE MINING CORP. MINTO MINE

HOLE ID: MW12-05
LOCATION: Minto, Yukon, Canada
PROJECT No: 1CM002.008
DATE START: 17-Oct-2012 **DATE COMPLETE:** 21-Oct-2012
DIP: -90 **AZIMUTH:** 0
COORDINATES: 387001 6945779 **DATUM:** NAD83

TOTAL DEPTH (m): 152.2
PAGE: 1 **OF** 6
DRILL TYPE: HQ
CORE DIA. (mm): 61.1

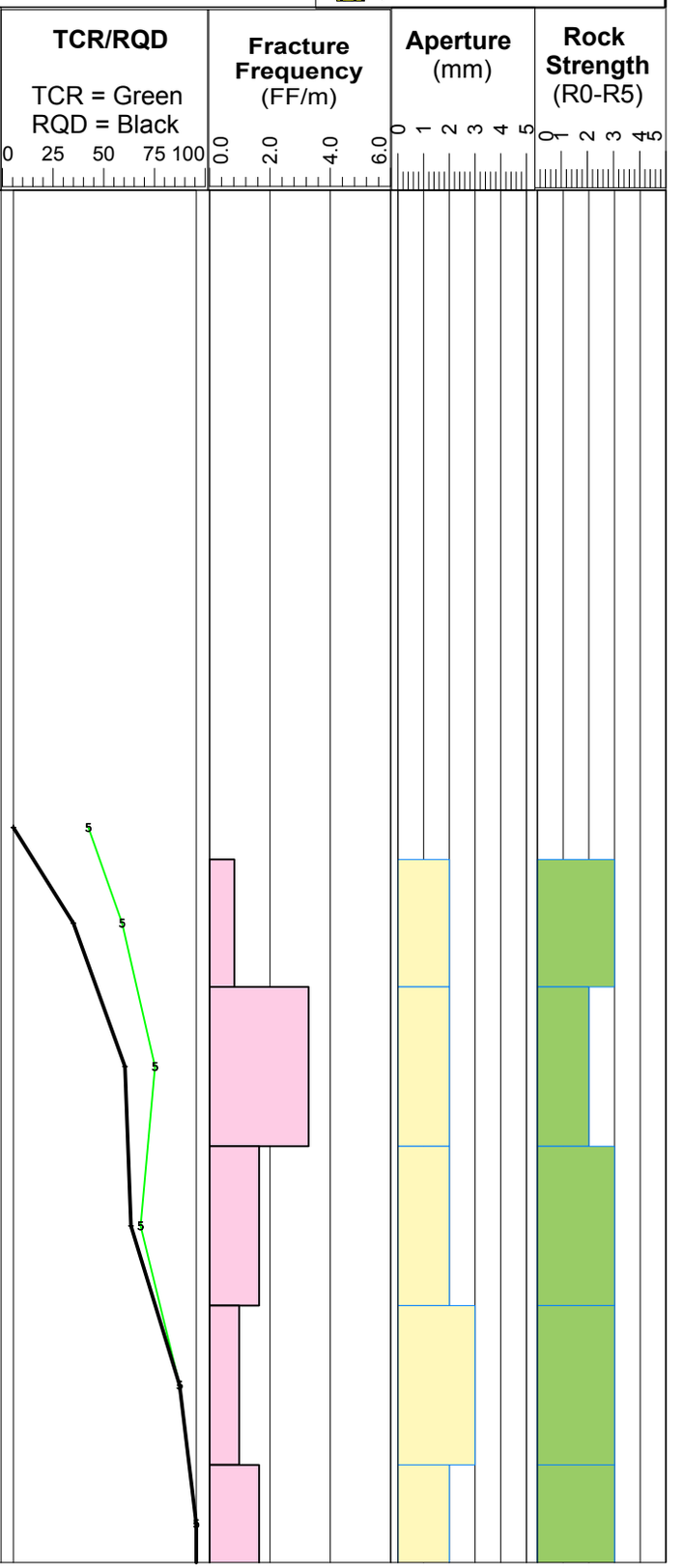
DEFINITIONS
FF/m: Fracture Frequency per metre
TCR: Total Core Recovery
RQD: Rock Quality Designation
IRS: Intact Rock Strength (field est.)

Lithology
Overburden, Weathered Granodiorite, Mafic Intrusive, Granodiorite

MP components
Casing, PVC, PPort, Packer, MPort

Major Structures Legend
gouge, broken gouge, broken, contact, jointed

DEPTH (m)	SYMBOL	STRATIGRAPHY: Lithology and Drilling Notes
0		
		Casing set in bedrock
10		
		Gouge with cobbles and gravel
		Jointed and highly weathered zone
		Minor feldspathic veining
20		



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PROJECT: Minto Mine
CLIENT: Capstone Mining

CAPSTONE MINING CORP. MINTO MINE

HOLE ID: MW12-05
LOCATION: Minto, Yukon, Canada
PROJECT No: 1CM002.008
DATE START: 17-Oct-2012 **DATE COMPLETE:** 21-Oct-2012
DIP: -90 **AZIMUTH:** 0
COORDINATES: 387001 6945779 **DATUM:** NAD83

TOTAL DEPTH (m): 152.2
PAGE: 2 **OF** 6
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CORE DIA. (mm): 61.1

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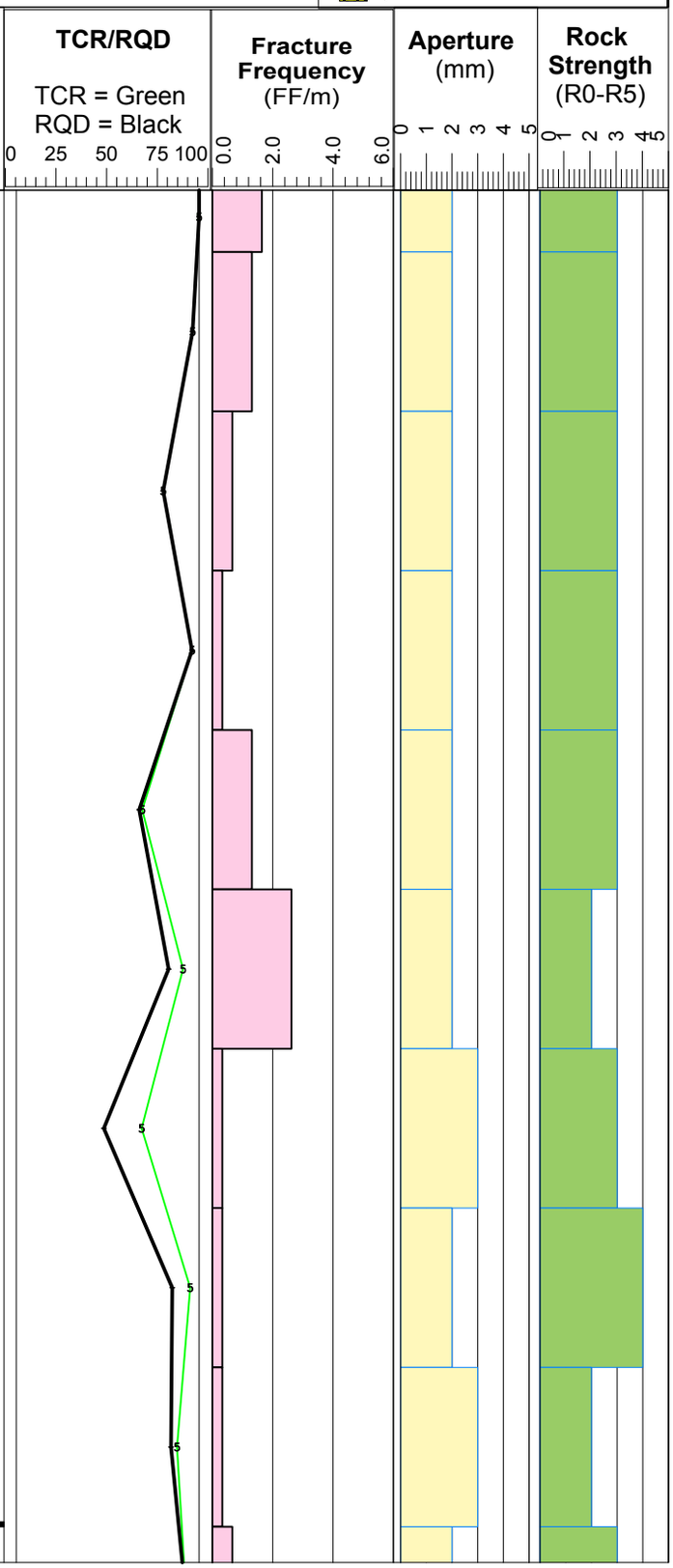
Lithology
Overburden, Weathered Granodiorite, Mafic Intrusive, Granodiorite

MP components
Casing, PVC, PPort, Packer, MPort

Major Structures Legend
gouge, broken gouge, broken, contact, jointed

DEPTH (m)	STRATIGRAPHY: SYMBOL	STRATIGRAPHY: Lithology and Drilling Notes	MP Design	Major Structures	TCR/RQD (TCR = Green, RQD = Black)	Fracture Frequency (FF/m)	Aperture (mm)	Rock Strength (R0-R5)
30		Core grading to stick rock						
		Run blocked at 39.4 m						
40								
		Very jointed zone						
50								



srk consulting

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CLIENT: Capstone Mining

CAPSTONE MINING CORP. MINTO MINE

HOLE ID: MW12-05
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DIP: -90 **AZIMUTH:** 0
COORDINATES: 387001 6945779 **DATUM:** NAD83

TOTAL DEPTH (m): 152.2
PAGE: 3 **OF** 6
DRILL TYPE: HQ
CORE DIA. (mm): 61.1

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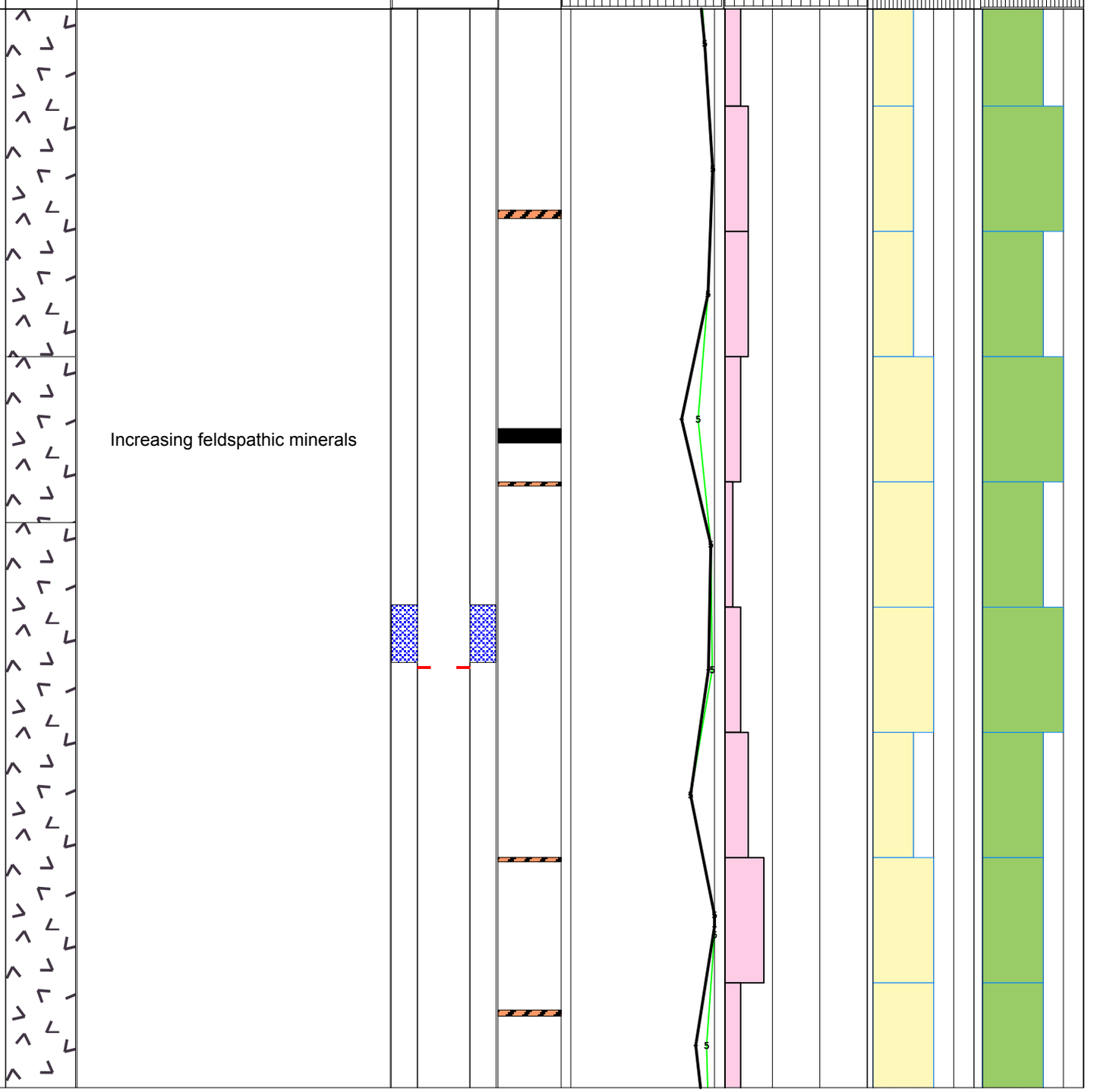
MP components
Casing, PVC, PPort, Packer, MPort

Major Structures Legend
gouge, broken gouge, broken, contact, jointed

DEPTH (m)	STRATIGRAPHY: SYMBOL	STRATIGRAPHY: Lithology and Drilling Notes	MP Design	Major Structures	TCR/RQD (TCR = Green, RQD = Black)	Fracture Frequency (FF/m)	Aperture (mm)	Rock Strength (R0-R5)
60		Increasing feldspathic minerals						
70								



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PROJECT: Minto Mine
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CAPSTONE MINING CORP. MINTO MINE

HOLE ID: MW12-05
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PROJECT No: 1CM002.008
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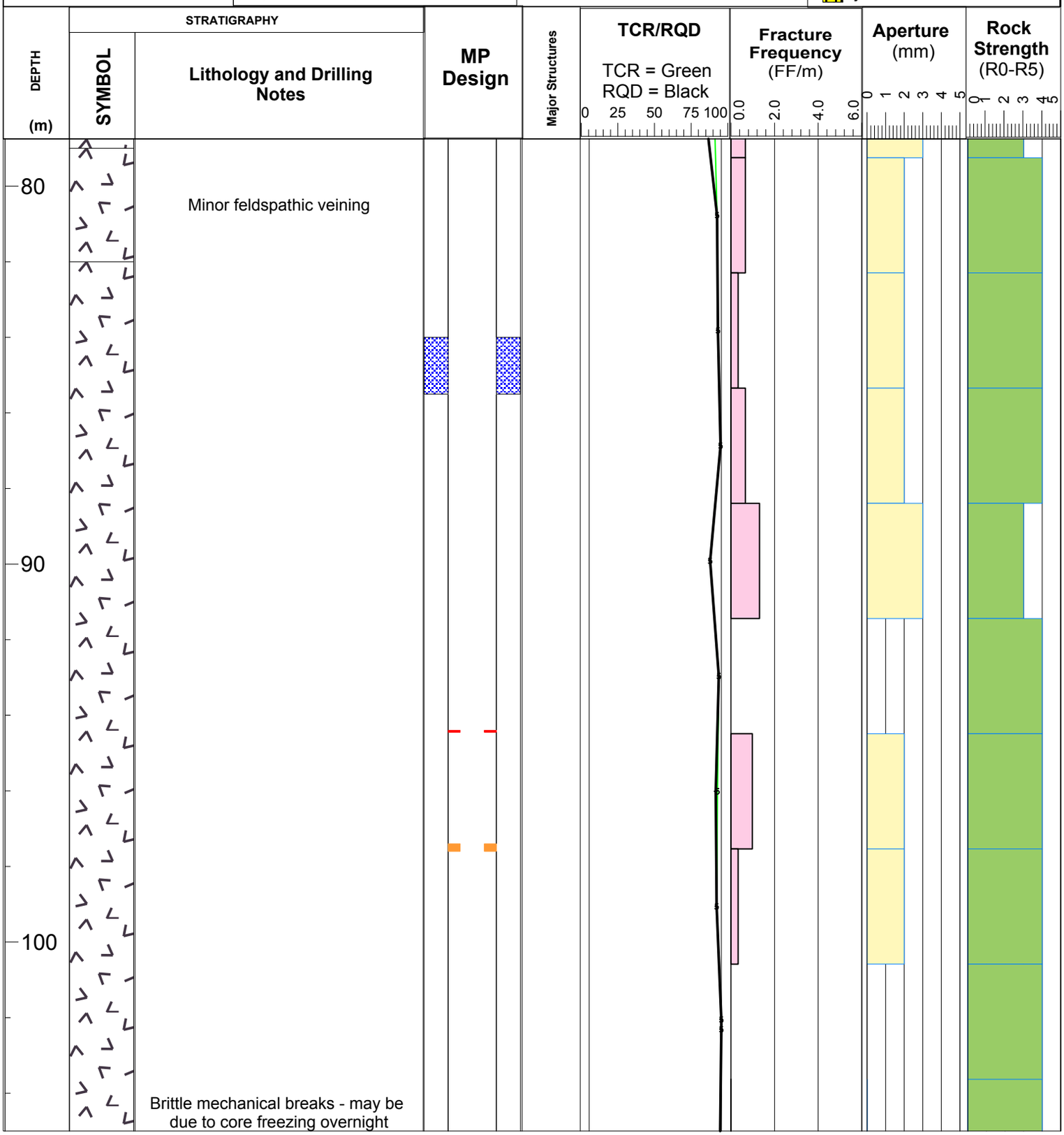
Major Structures Legend
gouge, broken gouge, broken, contact, jointed

DEPTH (m)	STRATIGRAPHY: SYMBOL	STRATIGRAPHY: Lithology and Drilling Notes	MP Design	Major Structures	TCR/RQD (TCR = Green, RQD = Black)	Fracture Frequency (FF/m)	Aperture (mm)	Rock Strength (R0-R5)
80		Minor feldspathic veining						
90								
100		Brittle mechanical breaks - may be due to core freezing overnight						



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PROJECT: Minto Mine
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CAPSTONE MINING CORP. MINTO MINE

HOLE ID: MW12-05
LOCATION: Minto, Yukon, Canada
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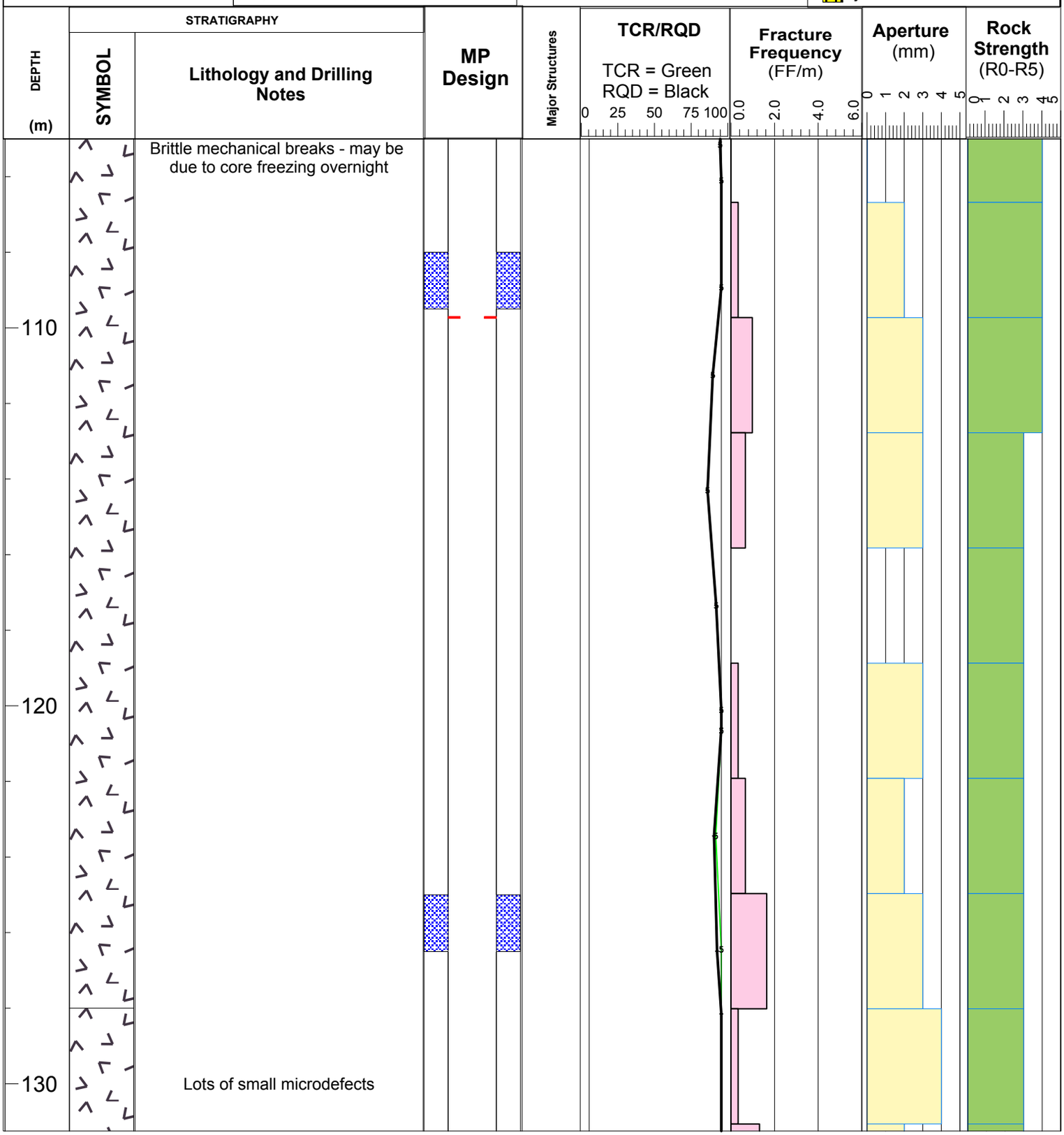
MP components
Casing, PVC, PPort, Packer, MPort

Major Structures Legend
gouge, broken gouge, broken, contact, jointed

DEPTH (m)	STRATIGRAPHY: SYMBOL	STRATIGRAPHY: Lithology and Drilling Notes	MP Design	Major Structures	TCR/RQD (TCR = Green, RQD = Black)	Fracture Frequency (FF/m)	Aperture (mm)	Rock Strength (R0-R5)
110		Brittle mechanical breaks - may be due to core freezing overnight						
120								
130		Lots of small microdefects						



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CLIENT: Capstone Mining

CAPSTONE MINING CORP. MINTO MINE

HOLE ID: MW12-05
LOCATION: Minto, Yukon, Canada
PROJECT No: 1CM002.008
DATE START: 17-Oct-2012 **DATE COMPLETE:** 21-Oct-2012
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COORDINATES: 387001 6945779 **DATUM:** NAD83

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PAGE: 6 **OF** 6
DRILL TYPE: HQ
CORE DIA. (mm): 61.1

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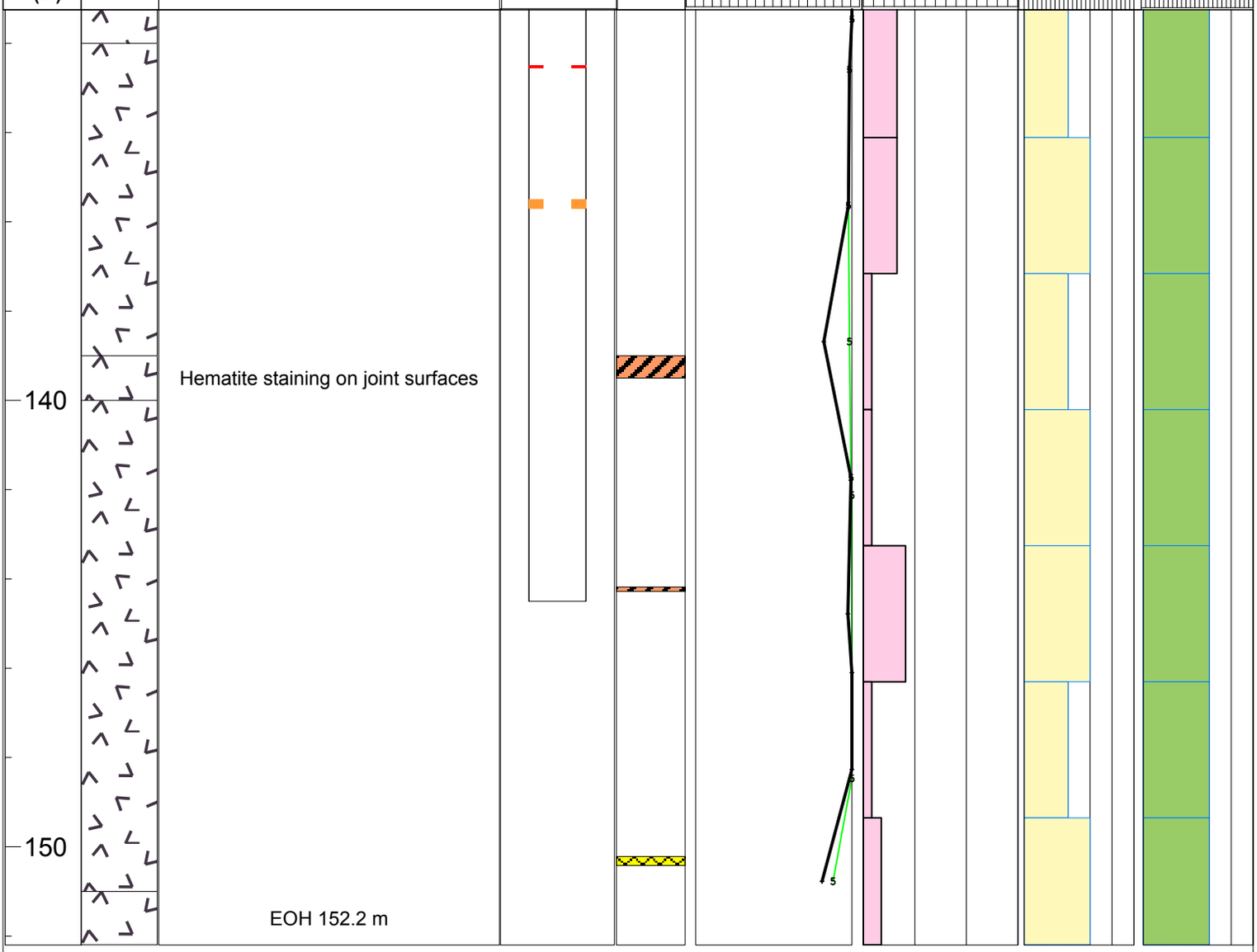
MP components
Casing, PVC, PPort, Packer, MPort

Major Structures Legend
gouge, broken gouge, broken, contact, jointed

DEPTH (m)	STRATIGRAPHY: SYMBOL	STRATIGRAPHY: Lithology and Drilling Notes	MP Design	Major Structures	TCR/RQD (TCR = Green, RQD = Black)	Fracture Frequency (FF/m)	Aperture (mm)	Rock Strength (R0-R5)
140		Hematite staining on joint surfaces						
150		EOH 152.2 m						



srk consulting

PROJECT: Minto Mine
CLIENT: Capstone Mining

CAPSTONE MINING CORP. MINTO MINE

HOLE ID: MW12-06
LOCATION: Minto, Yukon, Canada
PROJECT No: 1CM002.008
DATE START: 21-Oct-2012 **DATE COMPLETE:** 24-Oct-2012
DIP: -90 **AZIMUTH:** 0
COORDINATES: 386113 6945336 **DATUM:** NAD83

TOTAL DEPTH (m): 152.4
PAGE: 1 **OF** 6
DRILL TYPE: HQ
CORE DIA. (mm): 61.1

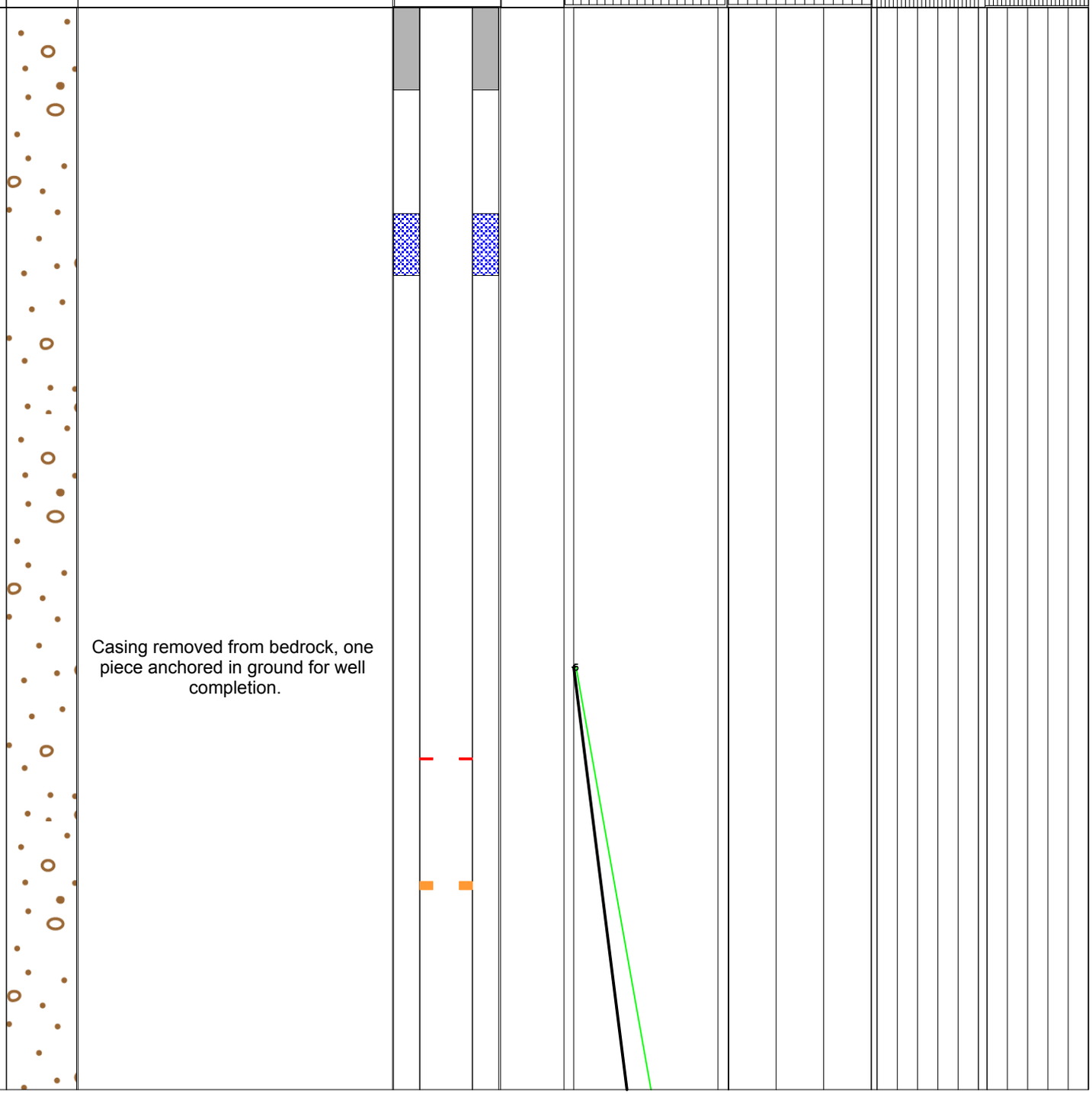
DEFINITIONS
FF/m: Fracture Frequency per metre
TCR: Total Core Recovery
RQD: Rock Quality Designation
IRS: Intact Rock Strength (field est.)

Lithology
Overburden, Weathered Granodiorite, Mafic Intrusive, Granodiorite

MP components
Casing, PVC, PPort, Packer, MPort

Major Structures Legend
gouge, broken gouge, broken, contact, jointed

DEPTH (m)	STRATIGRAPHY: SYMBOL	STRATIGRAPHY: Lithology and Drilling Notes	MP Design	Major Structures	TCR/RQD (TCR = Green, RQD = Black)	Fracture Frequency (FF/m)	Aperture (mm)	Rock Strength (R0-R5)
0		Casing removed from bedrock, one piece anchored in ground for well completion.						
10								
20								



srk consulting

PROJECT: Minto Mine
CLIENT: Capstone Mining

CAPSTONE MINING CORP. MINTO MINE

HOLE ID: MW12-06
LOCATION: Minto, Yukon, Canada
PROJECT No: 1CM002.008
DATE START: 21-Oct-2012 **DATE COMPLETE:** 24-Oct-2012
DIP: -90 **AZIMUTH:** 0
COORDINATES: 386113 6945336 **DATUM:** NAD83

TOTAL DEPTH (m): 152.4
PAGE: 2 **OF** 6
DRILL TYPE: HQ
CORE DIA. (mm): 61.1

DEFINITIONS
FF/m: Fracture Frequency per metre
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Lithology
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MP components
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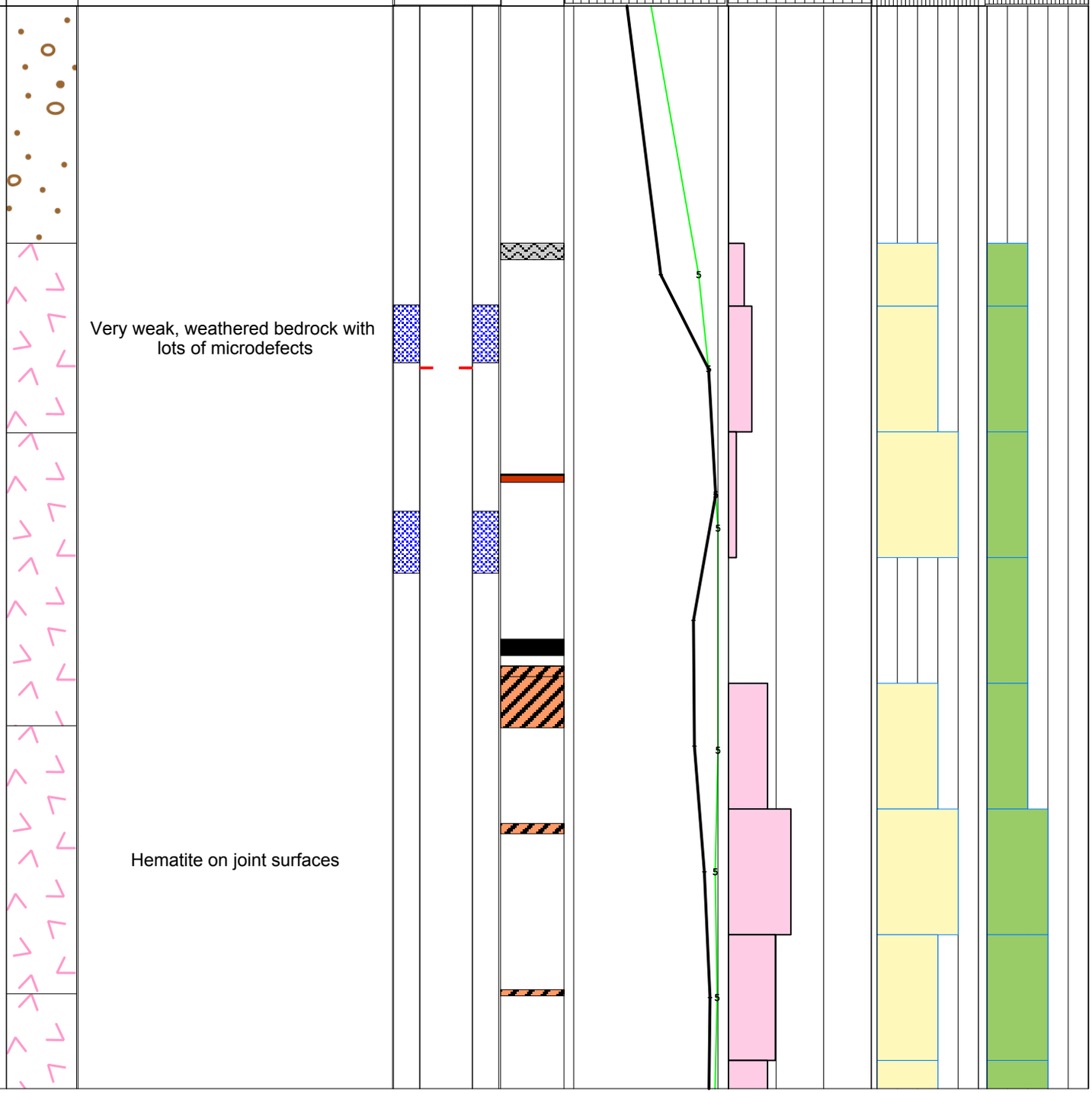
Major Structures Legend
gouge, broken gouge, broken, contact, jointed

DEPTH (m)	STRATIGRAPHY: SYMBOL	STRATIGRAPHY: Lithology and Drilling Notes	MP Design	Major Structures	TCR/RQD (TCR = Green, RQD = Black)	Fracture Frequency (FF/m)	Aperture (mm)	Rock Strength (R0-R5)
30								
		Very weak, weathered bedrock with lots of microdefects						
40								
		Hematite on joint surfaces						
50								



srk consulting

PROJECT: Minto Mine
CLIENT: Capstone Mining

CAPSTONE MINING CORP. MINTO MINE

HOLE ID: MW12-06
LOCATION: Minto, Yukon, Canada
PROJECT No: 1CM002.008
DATE START: 21-Oct-2012 **DATE COMPLETE:** 24-Oct-2012
DIP: -90 **AZIMUTH:** 0
COORDINATES: 386113 6945336 **DATUM:** NAD83

TOTAL DEPTH (m): 152.4
PAGE: 3 **OF** 6
DRILL TYPE: HQ
CORE DIA. (mm): 61.1

DEFINITIONS
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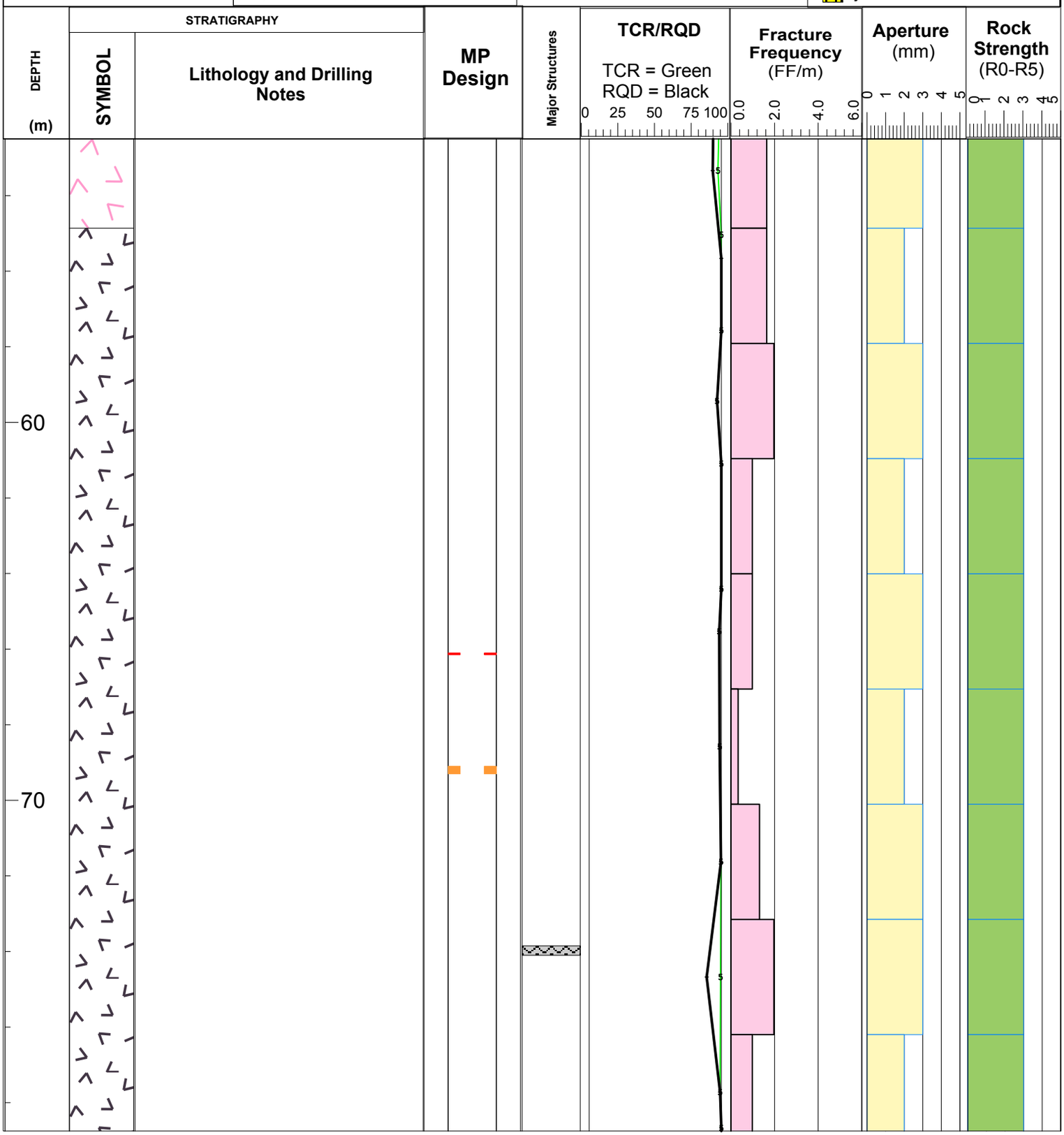
MP components
Casing, PVC, PPort, Packer, MPort

Major Structures Legend
gouge, broken gouge, broken, contact, jointed



srk consulting

PROJECT: Minto Mine
CLIENT: Capstone Mining

CAPSTONE MINING CORP. MINTO MINE

HOLE ID: MW12-06
LOCATION: Minto, Yukon, Canada
PROJECT No: 1CM002.008
DATE START: 21-Oct-2012 **DATE COMPLETE:** 24-Oct-2012
DIP: -90 **AZIMUTH:** 0
COORDINATES: 386113 6945336 **DATUM:** NAD83

TOTAL DEPTH (m): 152.4
PAGE: 4 **OF** 6
DRILL TYPE: HQ
CORE DIA. (mm): 61.1

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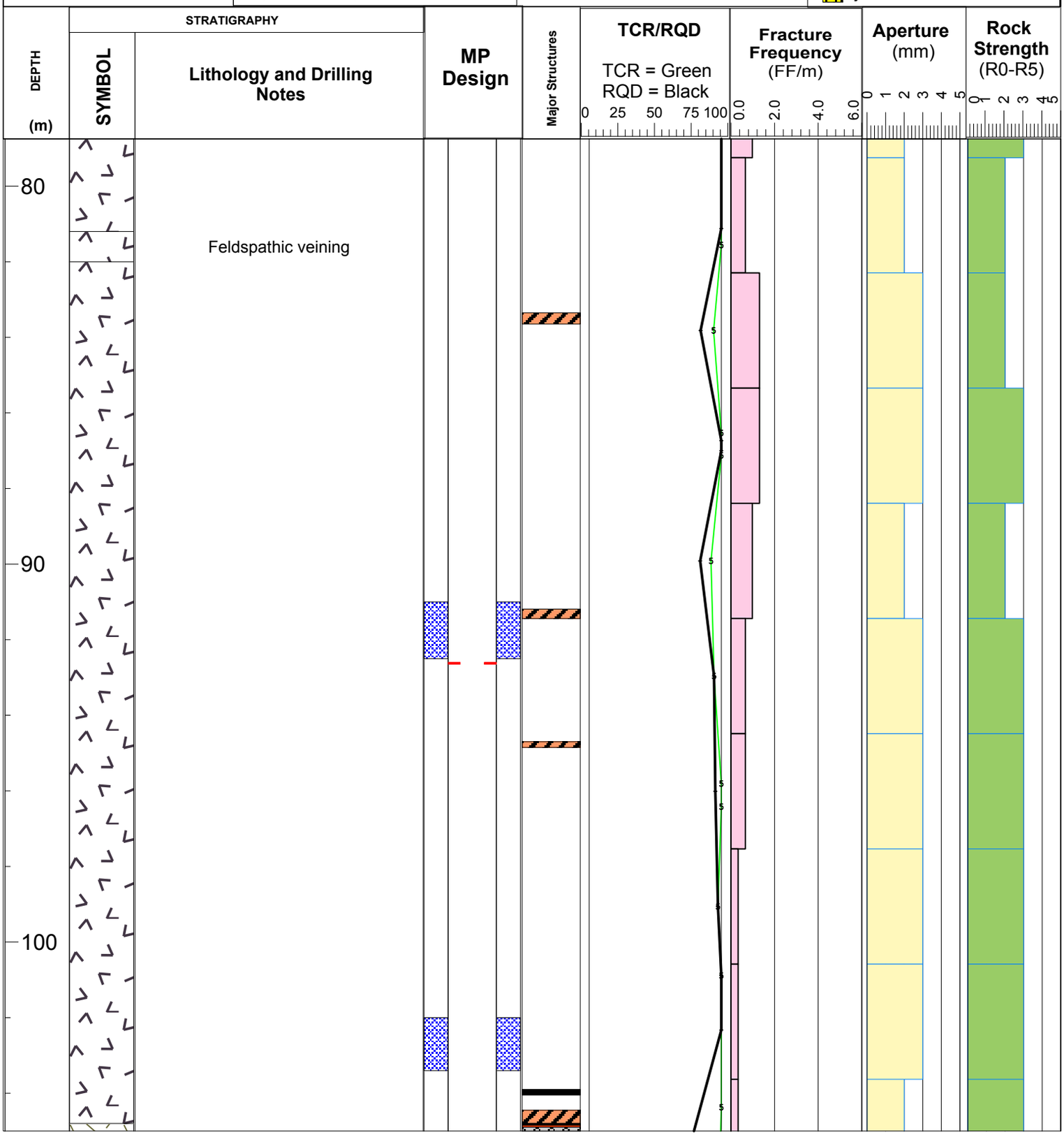
gouge, broken gouge, broken, contact, jointed

DEPTH (m)	STRATIGRAPHY: SYMBOL	STRATIGRAPHY: Lithology and Drilling Notes	MP Design	Major Structures	TCR/RQD (TCR = Green, RQD = Black)	Fracture Frequency (FF/m)	Aperture (mm)	Rock Strength (R0-R5)
80		Feldspathic veining						
90								
100								



srk consulting

PROJECT: Minto Mine
CLIENT: Capstone Mining

CAPSTONE MINING CORP. MINTO MINE

HOLE ID: MW12-06
LOCATION: Minto, Yukon, Canada
PROJECT No: 1CM002.008
DATE START: 21-Oct-2012 **DATE COMPLETE:** 24-Oct-2012
DIP: -90 **AZIMUTH:** 0
COORDINATES: 386113 6945336 **DATUM:** NAD83

TOTAL DEPTH (m): 152.4
PAGE: 5 **OF** 6
DRILL TYPE: HQ
CORE DIA. (mm): 61.1

DEFINITIONS
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RQD: Rock Quality Designation
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Lithology
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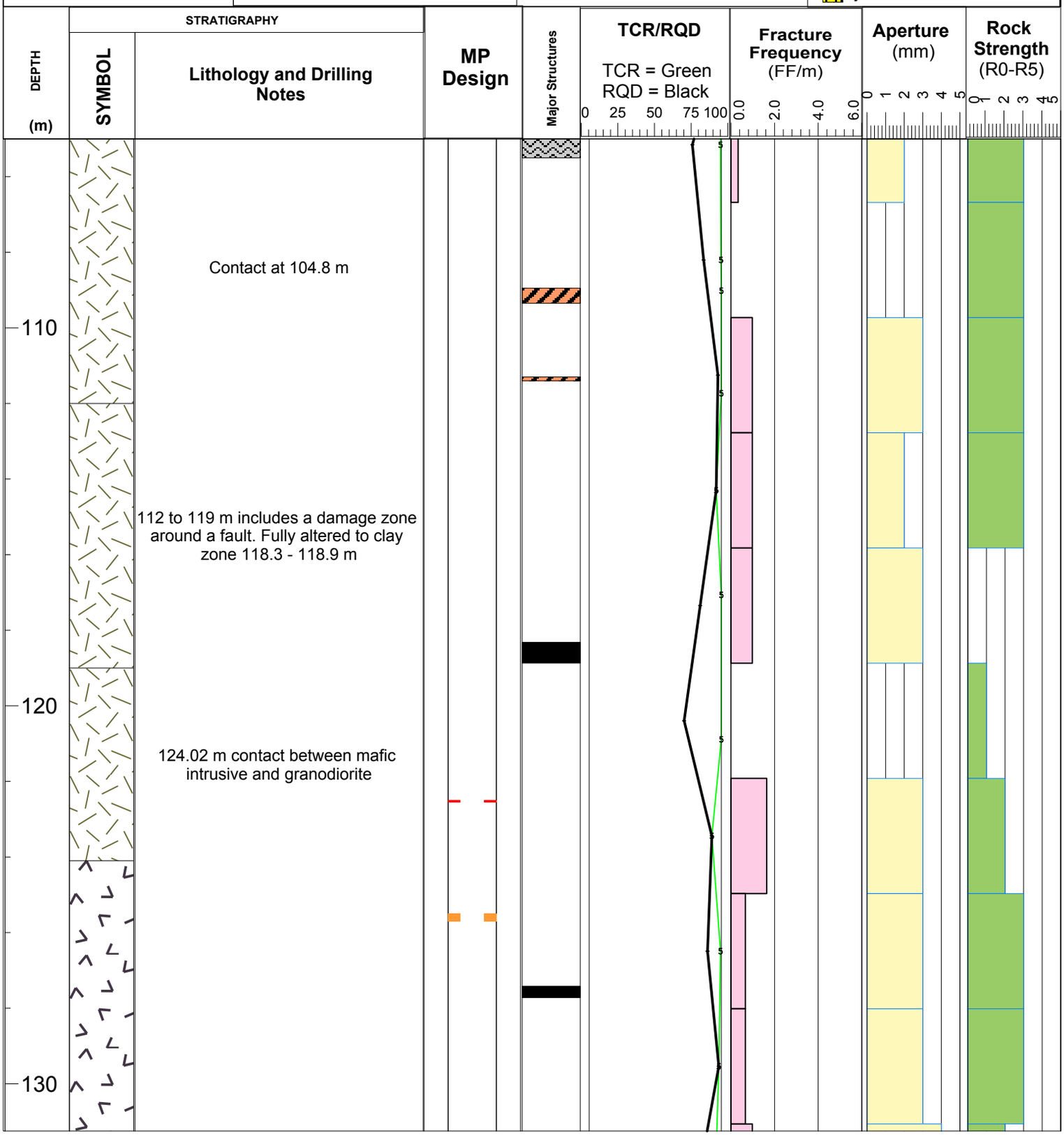
MP components
Casing, PVC, PPort, Packer, MPort

Major Structures Legend
gouge, broken gouge, broken, contact, jointed



srk consulting

PROJECT: Minto Mine
CLIENT: Capstone Mining

CAPSTONE MINING CORP. MINTO MINE

HOLE ID: MW12-06
LOCATION: Minto, Yukon, Canada
PROJECT No: 1CM002.008
DATE START: 21-Oct-2012 **DATE COMPLETE:** 24-Oct-2012
DIP: -90 **AZIMUTH:** 0
COORDINATES: 386113 6945336 **DATUM:** NAD83

TOTAL DEPTH (m): 152.4
PAGE: 6 **OF** 6
DRILL TYPE: HQ
CORE DIA. (mm): 61.1

DEFINITIONS
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TCR: Total Core Recovery
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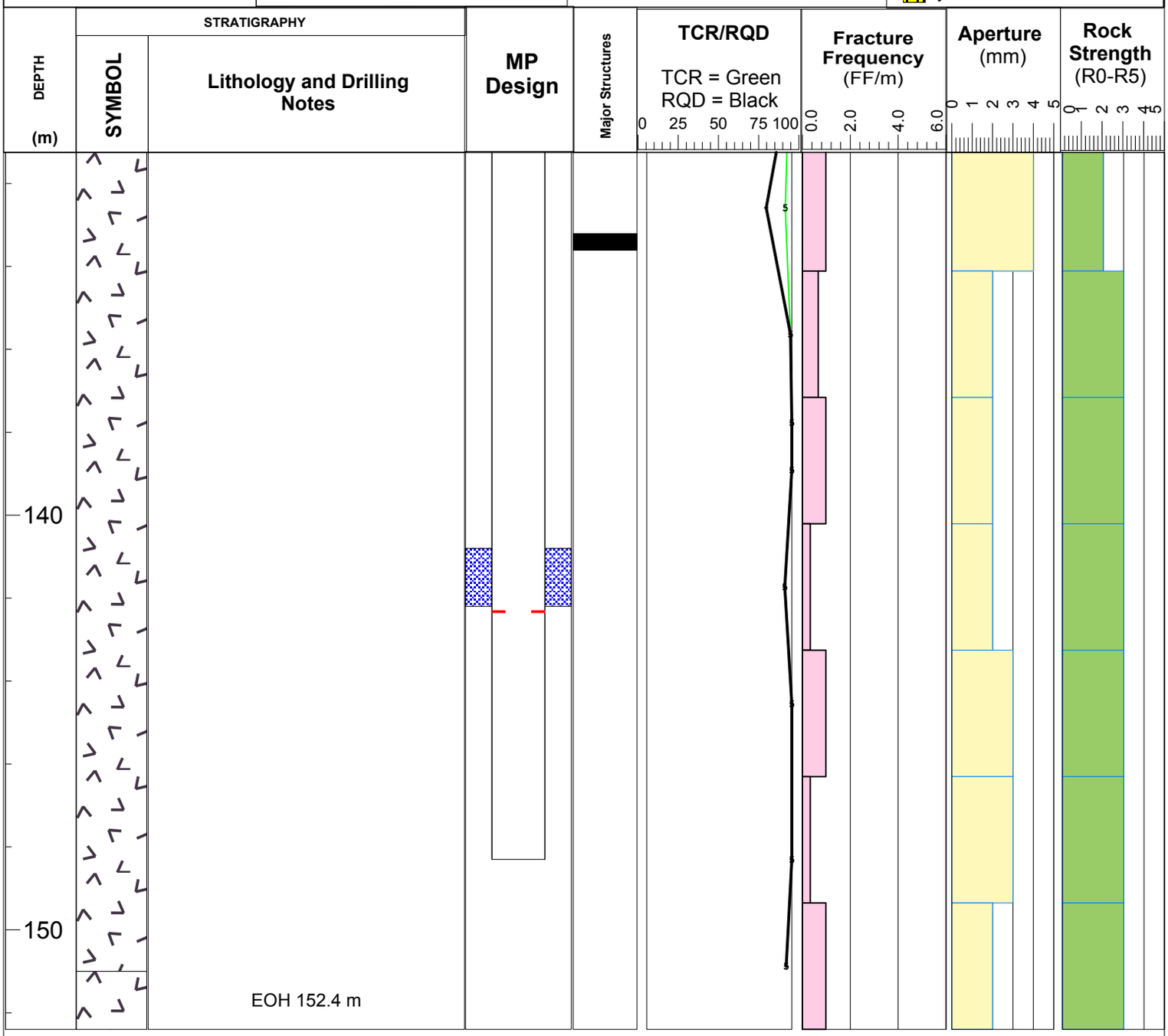

srk consulting

PROJECT: Minto Mine
CLIENT: Capstone Mining

CAPSTONE MINING CORP. MINTO MINE

HOLE ID: MW12-07
LOCATION: Minto, Yukon, Canada
PROJECT No: 1CM002.008
DATE START: 25-Oct-2012 **DATE COMPLETE:** 27-Oct-2012
DIP: -60 **AZIMUTH:** 352
COORDINATES: 385132 6945040 **DATUM:** NAD83

TOTAL DEPTH (m): 152.4
PAGE: 1 **OF** 6
DRILL TYPE: HQ
CORE DIA. (mm): 61.1

DEFINITIONS
FF/m: Fracture Frequency per metre
TCR: Total Core Recovery
RQD: Rock Quality Designation
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MP components
Casing, PVC, PPort, Packer, MPort

Major Structures Legend
gouge, broken gouge, broken, contact, jointed

DEPTH (m)	STRATIGRAPHY: SYMBOL	STRATIGRAPHY: Lithology and Drilling Notes	MP Design	Major Structures	TCR/RQD (TCR = Green, RQD = Black) 0 25 50 75 100	Fracture Frequency (FF/m) 0.0 2.0 4.0 6.0	Aperture (mm) 0 1 2 3 4 5	Rock Strength (R0-R5) 0 1 2 3 4 5
0		No data collected in bedrock due to significant depth of fill and difficult drilling conditions that could cause loss of hole.						
10								
20								

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PROJECT: Minto Mine
CLIENT: Capstone Mining

CAPSTONE MINING CORP. MINTO MINE

HOLE ID: MW12-07
LOCATION: Minto, Yukon, Canada
PROJECT No: 1CM002.008
DATE START: 25-Oct-2012 **DATE COMPLETE:** 27-Oct-2012
DIP: -60 **AZIMUTH:** 352
COORDINATES: 385132 6945040 **DATUM:** NAD83

TOTAL DEPTH (m): 152.4
PAGE: 2 **OF** 6
DRILL TYPE: HQ
CORE DIA. (mm): 61.1

DEFINITIONS
FF/m: Fracture Frequency per metre
TCR: Total Core Recovery
RQD: Rock Quality Designation
IRS: Intact Rock Strength (field est.)

Lithology
Overburden, Weathered Granodiorite, Mafic Intrusive, Granodiorite

MP components
Casing, PVC, PPort, Packer, MPort

Major Structures Legend
gouge, broken gouge, broken, contact, jointed

DEPTH (m)	STRATIGRAPHY: SYMBOL	STRATIGRAPHY: Lithology and Drilling Notes	MP Design	Major Structures	TCR/RQD (TCR = Green, RQD = Black; 0, 25, 50, 75, 100)	Fracture Frequency (FF/m) (0.0, 2.0, 4.0, 6.0)	Aperture (mm) (0, 1, 2, 3, 4, 5)	Rock Strength (R0-R5) (0, 1, 2, 3, 4, 5)
30								
40		Casing into bedrock. Could not remove casing after MP installation, so it was left in the ground.						
50								

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PROJECT: Minto Mine
CLIENT: Capstone Mining

CAPSTONE MINING CORP. MINTO MINE

HOLE ID: MW12-07
LOCATION: Minto, Yukon, Canada
PROJECT No: 1CM002.008
DATE START: 25-Oct-2012 **DATE COMPLETE:** 27-Oct-2012
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TOTAL DEPTH (m): 152.4
PAGE: 3 **OF** 6
DRILL TYPE: HQ
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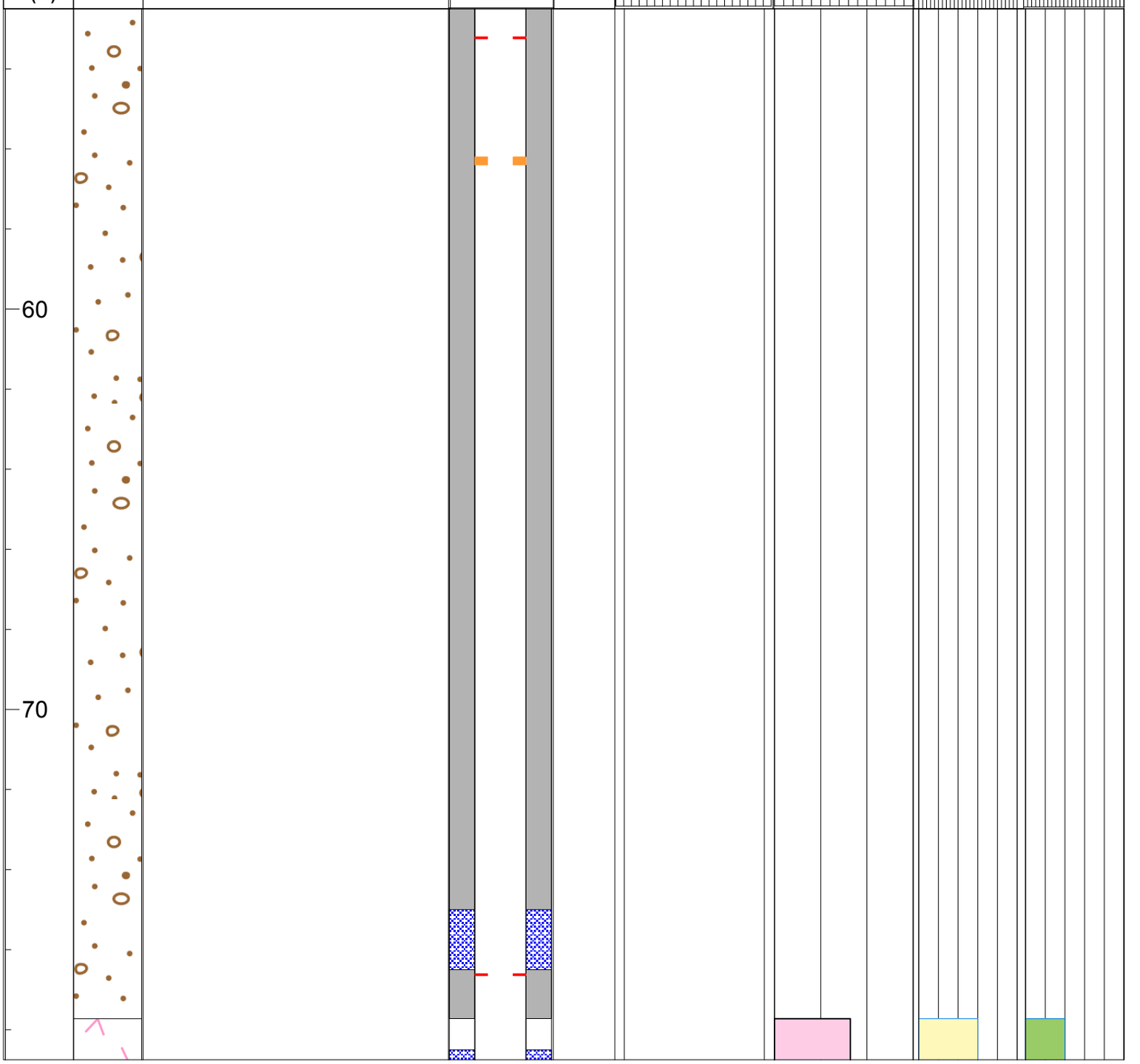
Overburden, Weathered Granodiorite, Mafic Intrusive, Granodiorite

MP components
Casing, PVC, PPort, Packer, MPort

Major Structures Legend
gouge, broken gouge, broken, contact, jointed

DEPTH (m)	STRATIGRAPHY: SYMBOL	STRATIGRAPHY: Lithology and Drilling Notes	MP Design	Major Structures	TCR/RQD (TCR = Green, RQD = Black)	Fracture Frequency (FF/m)	Aperture (mm)	Rock Strength (R0-R5)



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PROJECT: Minto Mine
CLIENT: Capstone Mining

CAPSTONE MINING CORP. MINTO MINE

HOLE ID: MW12-07
LOCATION: Minto, Yukon, Canada
PROJECT No: 1CM002.008
DATE START: 25-Oct-2012 **DATE COMPLETE:** 27-Oct-2012
DIP: -60 **AZIMUTH:** 352
COORDINATES: 385132 6945040 **DATUM:** NAD83

TOTAL DEPTH (m): 152.4
PAGE: 4 **OF** 6
DRILL TYPE: HQ
CORE DIA. (mm): 61.1

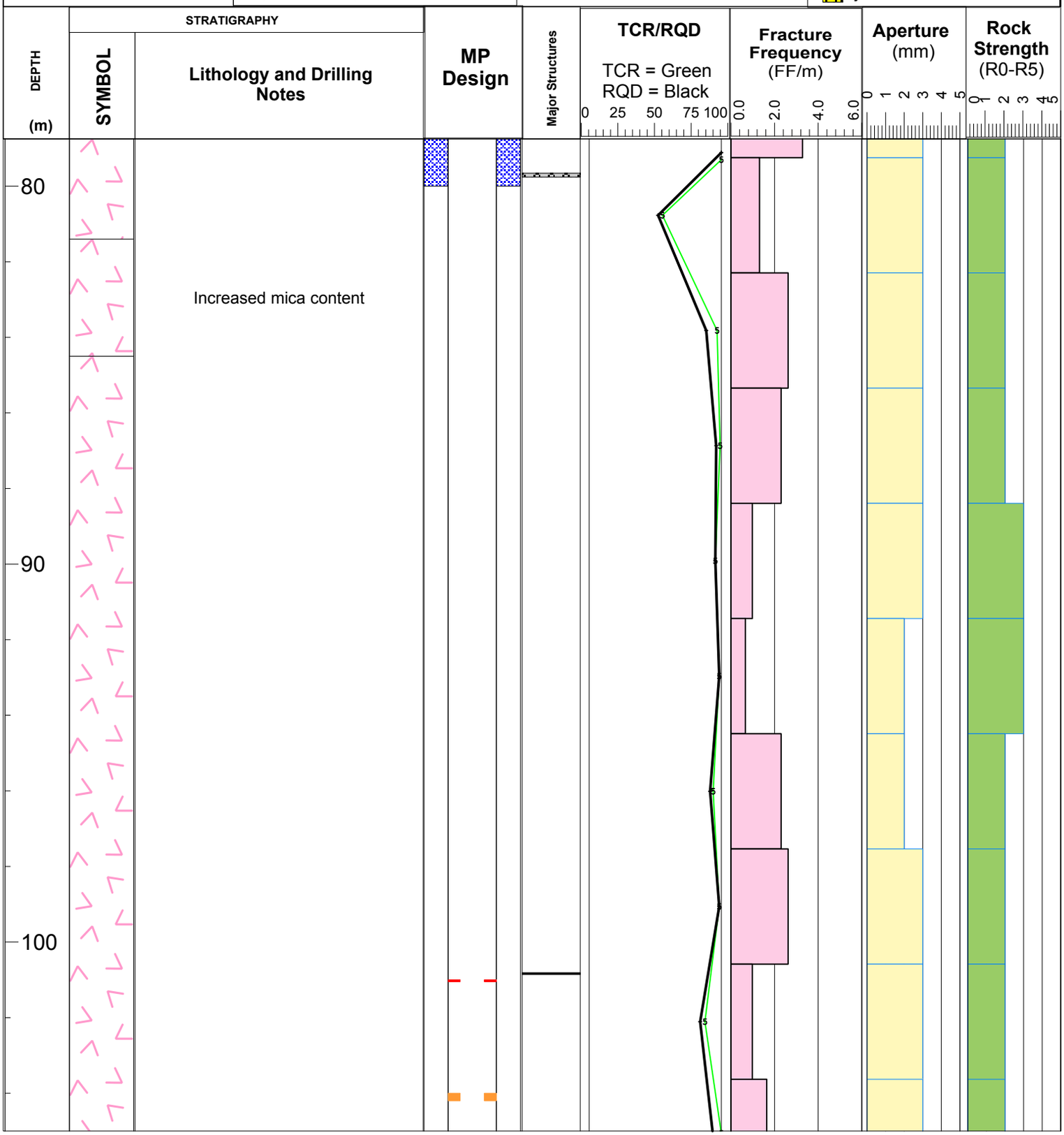
DEFINITIONS
FF/m: Fracture Frequency per metre
TCR: Total Core Recovery
RQD: Rock Quality Designation
IRS: Intact Rock Strength (field est.)

Lithology
Overburden, Weathered Granodiorite, Mafic Intrusive, Granodiorite

MP components
Casing, PVC, PPort, Packer, MPort

Major Structures Legend
gouge, broken gouge, broken, contact, jointed

DEPTH (m)	STRATIGRAPHY: SYMBOL	STRATIGRAPHY: Lithology and Drilling Notes	MP Design	Major Structures	TCR/RQD (TCR = Green, RQD = Black)	Fracture Frequency (FF/m)	Aperture (mm)	Rock Strength (R0-R5)
80		Increased mica content						
90								
100								



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PROJECT: Minto Mine
CLIENT: Capstone Mining

CAPSTONE MINING CORP. MINTO MINE

HOLE ID: MW12-07
LOCATION: Minto, Yukon, Canada
PROJECT No: 1CM002.008
DATE START: 25-Oct-2012 **DATE COMPLETE:** 27-Oct-2012
DIP: -60 **AZIMUTH:** 352
COORDINATES: 385132 6945040 **DATUM:** NAD83

TOTAL DEPTH (m): 152.4
PAGE: 5 **OF** 6
DRILL TYPE: HQ
CORE DIA. (mm): 61.1

DEFINITIONS
FF/m: Fracture Frequency per metre
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RQD: Rock Quality Designation
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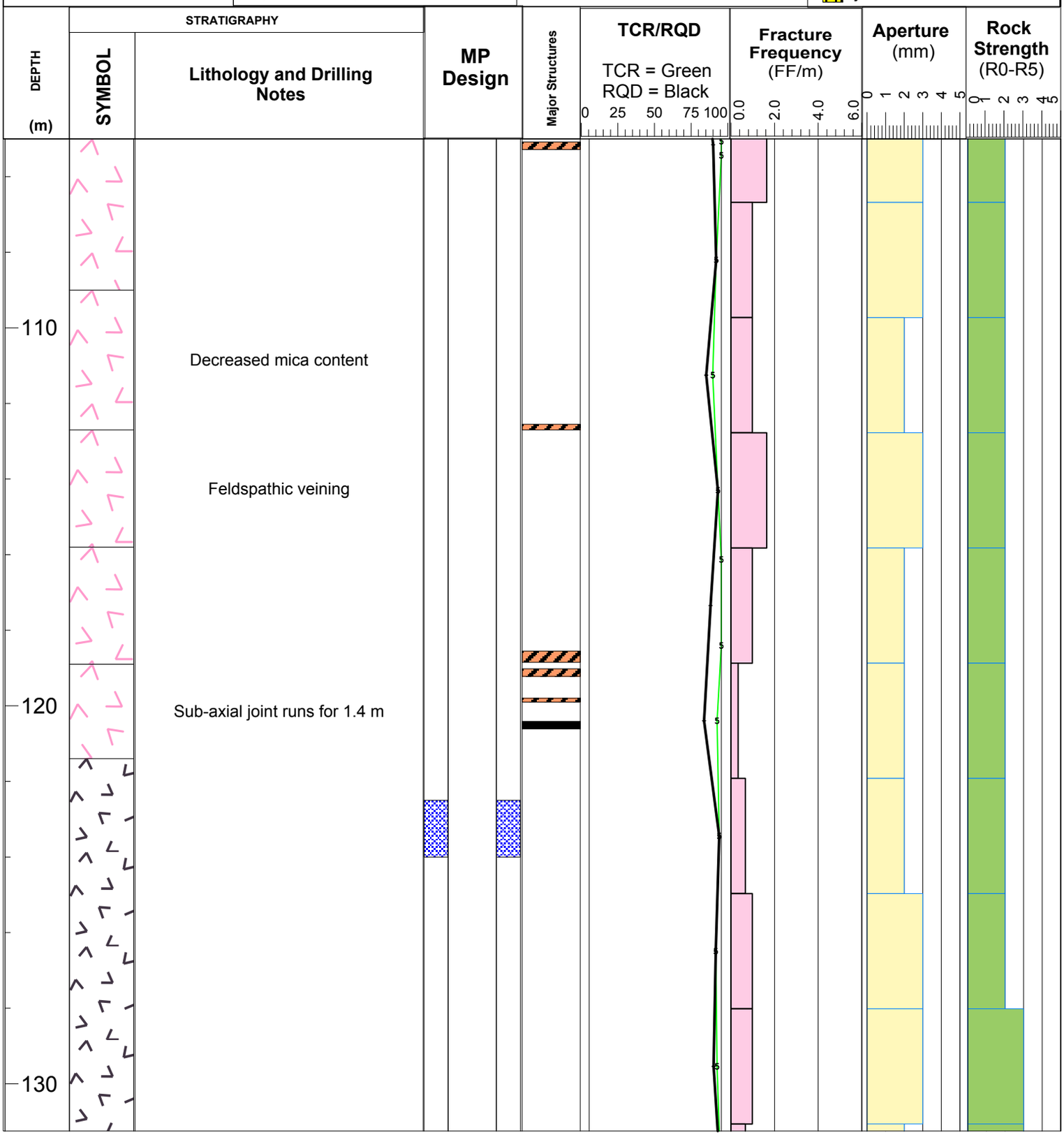
Lithology
Overburden, Weathered Granodiorite, Mafic Intrusive, Granodiorite

MP components
Casing, PVC, PPort, Packer, MPort

Major Structures Legend
gouge, broken gouge, broken, contact, jointed



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PROJECT: Minto Mine
CLIENT: Capstone Mining

CAPSTONE MINING CORP. MINTO MINE

HOLE ID: MW12-07
LOCATION: Minto, Yukon, Canada
PROJECT No: 1CM002.008
DATE START: 25-Oct-2012 **DATE COMPLETE:** 27-Oct-2012
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TOTAL DEPTH (m): 152.4
PAGE: 6 **OF** 6
DRILL TYPE: HQ
CORE DIA. (mm): 61.1

DEFINITIONS
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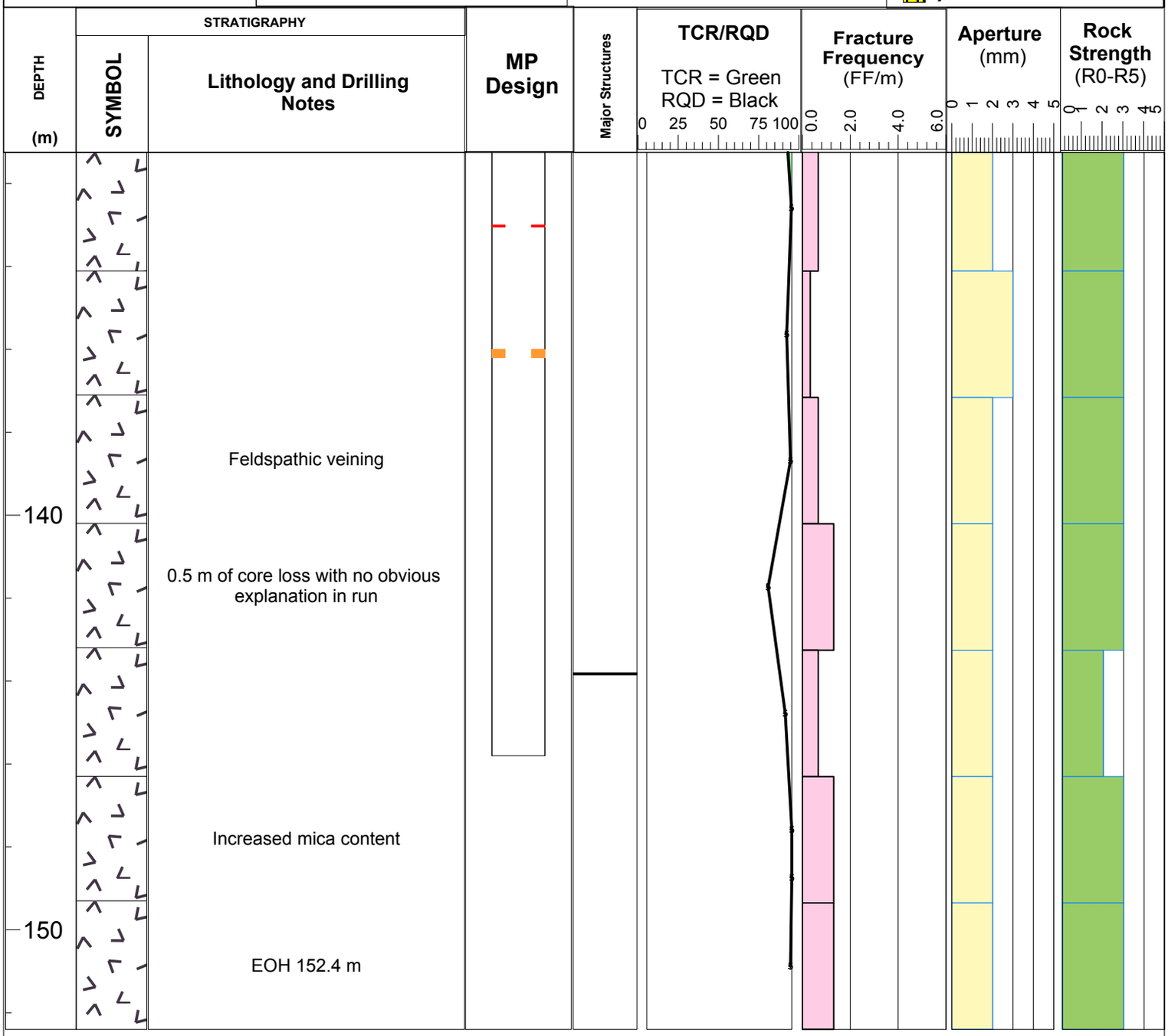
IRS: Intact Rock Strength (field est.)

Lithology
Overburden, Weathered Granodiorite, Mafic Intrusive, Granodiorite

MP components
Casing, PVC, PPort, Packer, MPort

Major Structures Legend
gouge, broken gouge, broken, contact, jointed

DEPTH (m)	SYMBOL	Lithology and Drilling Notes
140		Feldspathic veining
		0.5 m of core loss with no obvious explanation in run
150		Increased mica content
		EOH 152.4 m



DRAFT

Borehole Number: **MW17-08**
Location: **Minto Mine**

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capstone MINTO MINE

Project No.: **1CM002.058** Client: **Capstone Mining Inc** Project: **2017 MP Install**	Drilling Contractor: **Driftwood Drilling** Drilling Equipment: **Diamond** Logged By: **JJ**	Depth to Water: **mbtoc** Depth to Rock: **3 m** Final Depth: **50.5 m**	Start Date: **7/5/2017** End Date: **7/9/2017**

Borehole Coordinates: **E: 383,982 (m) N: 6,944,587 (m)** Top of Casing Elevation (mamsl): **844.6**

Collar Dip (deg): **90** Azimuth (deg): **-** Number of Zones: **4** Casing Stickup (m): **0.41**

LITHOLOGY

Andesite, Granodiorite, Overburden, Clay

Depth (m)	TCLP Sample	Legend	Lithology Description	Recovery (%)	Fracture Frequency (per m)	Zone	Installation
0			No Core				
4							
8							
12						Zone 4	
16			Granodiorite: Felsic dominant light white grey color, slightly high fracture frequency, multiple fracture zones, filling course grained sand, rusty red surface weathering iron stained				
20							

Installation Legend

Measurement Port, Pumping Port, Packer, PVC Casing, Sufrace Casing

DRAFT

Borehole Number: **MW17-08**
Location: **Minto Mine**

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Project No.: **1CM002.058** Client: **Capstone Mining Inc** Project: **2017 MP Install**	Drilling Contractor: **Driftwood Drilling** Drilling Equipment: **Diamond** Logged By: **JJ**	Depth to Water: **mbtoc** Depth to Rock: **3 m** Final Depth: **50.5 m**	Start Date: **7/5/2017** End Date: **7/9/2017**

Borehole Coordinates: **E: 383,982 (m)** **N: 6,944,587 (m)** Top of Casing Elevation (mamsl): **844.6**

Collar Dip (deg): **90** Azimuth (deg): **-** Number of Zones: **4** Casing Stickup (m): **0.41**

Depth (m)	TCLP Sample	Legend	Lithology Description	Recovery (%)	Fracture Frequency (per m)	Zone	Installation
20						Zone 3	
24							
28							
32			Granodiorite: Broken Zones, low RQD, high FF, low TCR, K-feldspar macro crystals, iron stain and weathering on the joints			Zone 2	
36							
40							

LITHOLOGY: Andesite, Granodiorite, Overburden, Clay

Recovery (%): 0, 25, 50, 75, 100

Fracture Frequency (per m): 0, 10, 20, 30, 40

Installation Legend

Measurement Port | Pumping Port | Packer | PVC Casing | Sufrace Casing

DRAFT

Borehole Number: **MW17-08**
Location: **Minto Mine**

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Project No.: **1CM002.058** Client: **Capstone Mining Inc** Project: **2017 MP Install**	Drilling Contractor: **Driftwood Drilling** Drilling Equipment: **Diamond** Logged By: **JJ**	Depth to Water: **mbtoc** Depth to Rock: **3 m** Final Depth: **50.5 m**	Start Date: **7/5/2017** End Date: **7/9/2017**

Borehole Coordinates: **E: 383,982 (m) N: 6,944,587 (m)** Top of Casing Elevation (mamsl): **844.6**

Collar Dip (deg): **90** Azimuth (deg): **-** Number of Zones: **4** Casing Stickup (m): **0.41**

LITHOLOGY

Andesite, Granodiorite, Overburden, Clay

Depth (m)	TCLP Sample	Legend	Lithology Description	Recovery (%)	Fracture Frequency (per m)	Zone	Installation
44			Granodiorite: Light pink stained, granite rock, altered, jointed, cemented joints filled with fine grain dark rusty brown infill			Zone 1	
			Granodiorite: Light yellow, rusty,zero RQD, completely weathered				
48			Granodiorite: Light pink stained, granite rock, altered, jointed, cemented joints filled with fine grain dark rusty brown infill				

Recovery (%): 0, 25, 50, 75, 100

Fracture Frequency (per m): 0, 10, 20, 30, 40

Installation Legend

Measurement Port, Pumping Port, Packer, PVC Casing, Sufrace Casing

DRAFT

Borehole Number: **MW17-09**
Location: **Minto Mine**

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Project No.: **1CM002.058** Client: **Capstone Mining Inc** Project: **2017 MP Install**	Drilling Contractor: **Driftwood Drilling** Drilling Equipment: **Diamond** Logged By: **JJ**	Depth to Water: **mbtoc** Depth to Rock: **51.6 m** Final Depth: **63.6 m**	Start Date: **7/9/2017** End Date: **7/16/201**

Borehole Coordinates: **E: 383,079 (m)** **N: 6,944,055 (m)** Top of Casing Elevation (mamsl): **927.5**

Collar Dip (deg): **70** Azimuth (deg): **90** Number of Zones: **1** Casing Stickup (m): **0.38**

LITHOLOGY

Andesite, Granodiorite, Overburden, Clay

Depth (m)	TCLP Sample	Legend	Lithology Description	Recovery (%)	Fracture Frequency (per m)	Zone	Installation
0							
4			No core				
			Overburden: broken core, waste rock, boulders				
8							
12							
16							
20							

Recovery (%): 0, 25, 50, 75, 100

Fracture Frequency (per m): 0, 10, 20, 30, 40

Installation Legend

Measurement Port, Pumping Port, Packer, PVC Casing, Sufrace Casing

DRAFT

Borehole Number: **MW17-09**
Location: **Minto Mine**

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capstone MINTO MINE

Project No.: **1CM002.058** Client: **Capstone Mining Inc** Project: **2017 MP Install**	Drilling Contractor: **Driftwood Drilling** Drilling Equipment: **Diamond** Logged By: **JJ**	Depth to Water: **mbtoc** Depth to Rock: **51.6 m** Final Depth: **63.6 m**	Start Date: **7/9/2017** End Date: **7/16/201**

Borehole Coordinates: **E: 383,079 (m) N: 6,944,055 (m)** Top of Casing Elevation (mamsl): **927.5**

Collar Dip (deg): **70** Azimuth (deg): **90** Number of Zones: **1** Casing Stickup (m): **0.38**

Depth (m)	TCLP Sample	LITHOLOGY Legend	Lithology Description	Recovery (%)	Fracture Frequency (per m)	Zone	Installation
20			Clay: Dark grey brown stiff clay, included well rounded to rounded cobbles to boulders size rocks, indications of permafrost -obseved ice chunks during the drilling	0 25 50 75 100	0 10 20 30 40		
24							
28							
32							
36							
40							

LITHOLOGY: Andesite, Granodiorite, Overburden, Clay

Installation Legend

Measurement Port, Pumping Port, Packer, PVC Casing, Sufrace Casing

DRAFT

Borehole Number: **MW17-09**
Location: **Minto Mine**

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capstone MINTO MINE

Project No.: **1CM002.058** Client: **Capstone Mining Inc** Project: **2017 MP Install**	Drilling Contractor: **Driftwood Drilling** Drilling Equipment: **Diamond** Logged By: **JJ**	Depth to Water: **mbtoc** Depth to Rock: **51.6 m** Final Depth: **63.6 m**	Start Date: **7/9/2017** End Date: **7/16/201**

Borehole Coordinates: **E: 383,079 (m)** **N: 6,944,055 (m)** Top of Casing Elevation (mamsl): **927.5**

Collar Dip (deg): **70** Azimuth (deg): **90** Number of Zones: **1** Casing Stickup (m): **0.38**

LITHOLOGY

Andesite, Granodiorite, Overburden, Clay

Depth (m)	TCLP Sample	Legend	Lithology Description	Recovery (%)	Fracture Frequency (per m)	Zone	Installation
44							
48							
52			Granodiorite: Weathered Light white granite, extremely weak at the contact, joited, course inflille, light brown red Fe stain on the joints			Zone 1	
56							
60							

Recovery (%): 0, 25, 50, 75, 100

Fracture Frequency (per m): 0, 10, 20, 30, 40

Installation Legend

Measurement Port, Pumping Port, Packer, PVC Casing, Sufrace Casing

DRAFT

Borehole Number: **MW17-09**
Location: **Minto Mine**

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capstone MINTO MINE

Project No.: **1CM002.058** Client: **Capstone Mining Inc** Project: **2017 MP Install**	Drilling Contractor: **Driftwood Drilling** Drilling Equipment: **Diamond** Logged By: **JJ**	Depth to Water: **mbtoc** Depth to Rock: **51.6 m** Final Depth: **63.6 m**	Start Date: **7/9/2017** End Date: **7/16/201**

Borehole Coordinates: **E: 383,079 (m)** **N: 6,944,055 (m)** Top of Casing Elevation (mamsl): **927.5**

Collar Dip (deg): **70** Azimuth (deg): **90** Number of Zones: **1** Casing Stickup (m): **0.38**

Depth (m)	TCLP Sample	LITHOLOGY Andesite, Granodiorite, Overburden, Clay Legend	Lithology Description	Recovery (%)	Fracture Frequency (per m)	Zone	Installation
				0 25 50 75 100	0 10 20 30 40		

Installation Legend

Measurement Port | Pumping Port | Packer | PVC Casing | Sufrace Casing

DRAFT

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capstone MINTO MINE

Borehole Number: **MW17-10** Location: **Minto Mine**			
Project No.: **1CM002.058** Client: **Capstone Mining Inc** Project: **2017 MP Install**	Drilling Contractor: **Driftwood Drilling** Drilling Equipment: **Diamond** Logged By: **JJ**	Depth to Water: **mbtoc** Depth to Rock: **54.3 m** Final Depth: **100.8 m**	Start Date: **7/13/201** End Date: **7/19/201**

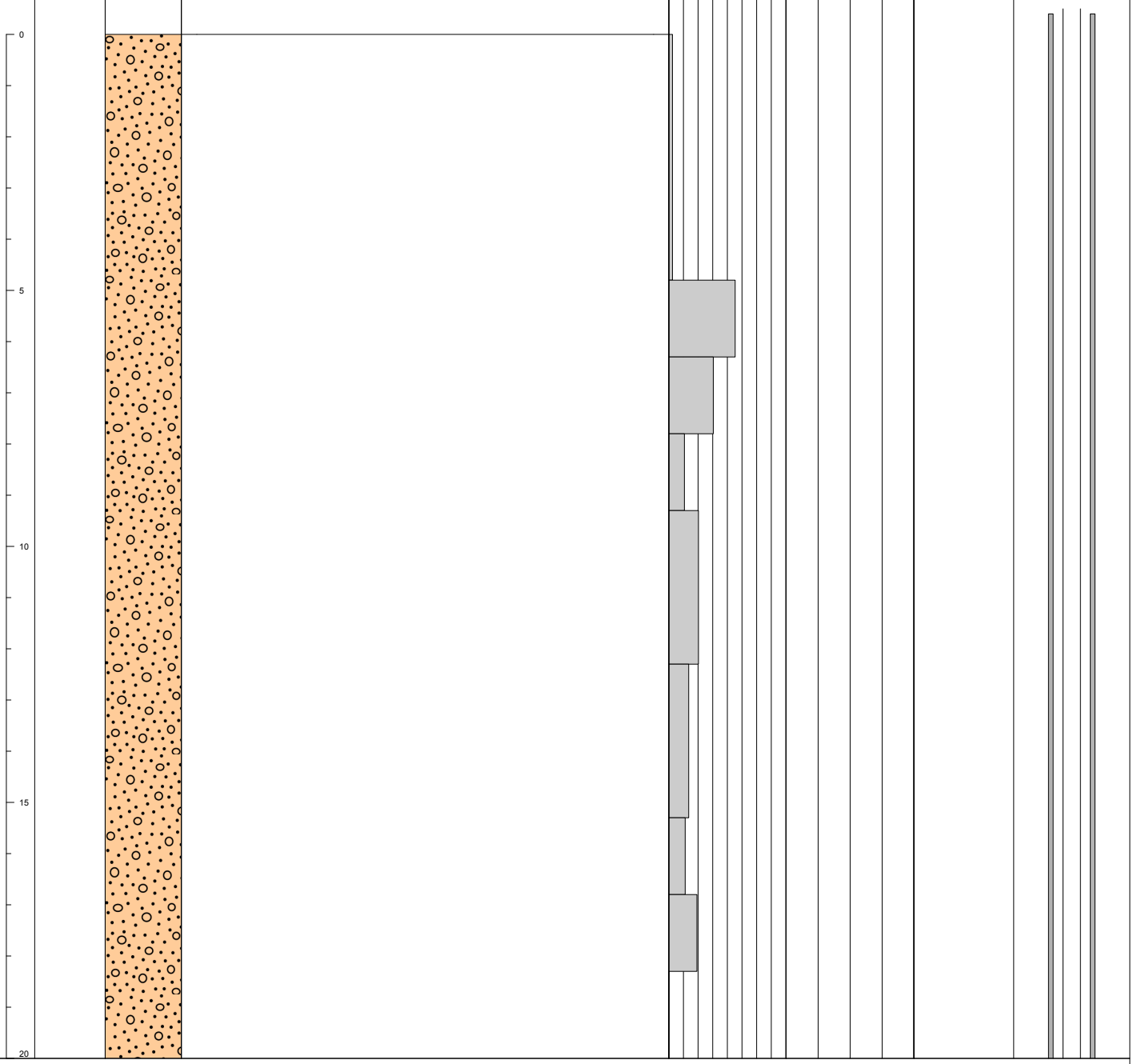
Borehole Coordinates: **E: 384,248 (m)** **N: 6,945,089 (m)** Top of Casing Elevation (mamsl): **857.2**

Collar Dip (deg): **70** Azimuth (deg): **200** Number of Zones: **4** Casing Stickup (m): **0.41**

LITHOLOGY

Andesite, Granodiorite, Overburden, Clay

Depth (m)	TCLP Sample	Legend	Lithology Description	Recovery (%)	Fracture Frequency (per m)	Zone	Installation



Installation Legend

Measurement Port, Pumping Port, Packer, PVC Casing, Sufrace Casing

DRAFT

Borehole Number: **MW17-10**
Location: **Minto Mine**

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capstone MINTO MINE

Project No.: **1CM002.058** Client: **Capstone Mining Inc** Project: **2017 MP Install**	Drilling Contractor: **Driftwood Drilling** Drilling Equipment: **Diamond** Logged By: **JJ**	Depth to Water: **mbtoc** Depth to Rock: **54.3 m** Final Depth: **100.8 m**	Start Date: **7/13/201** End Date: **7/19/201**

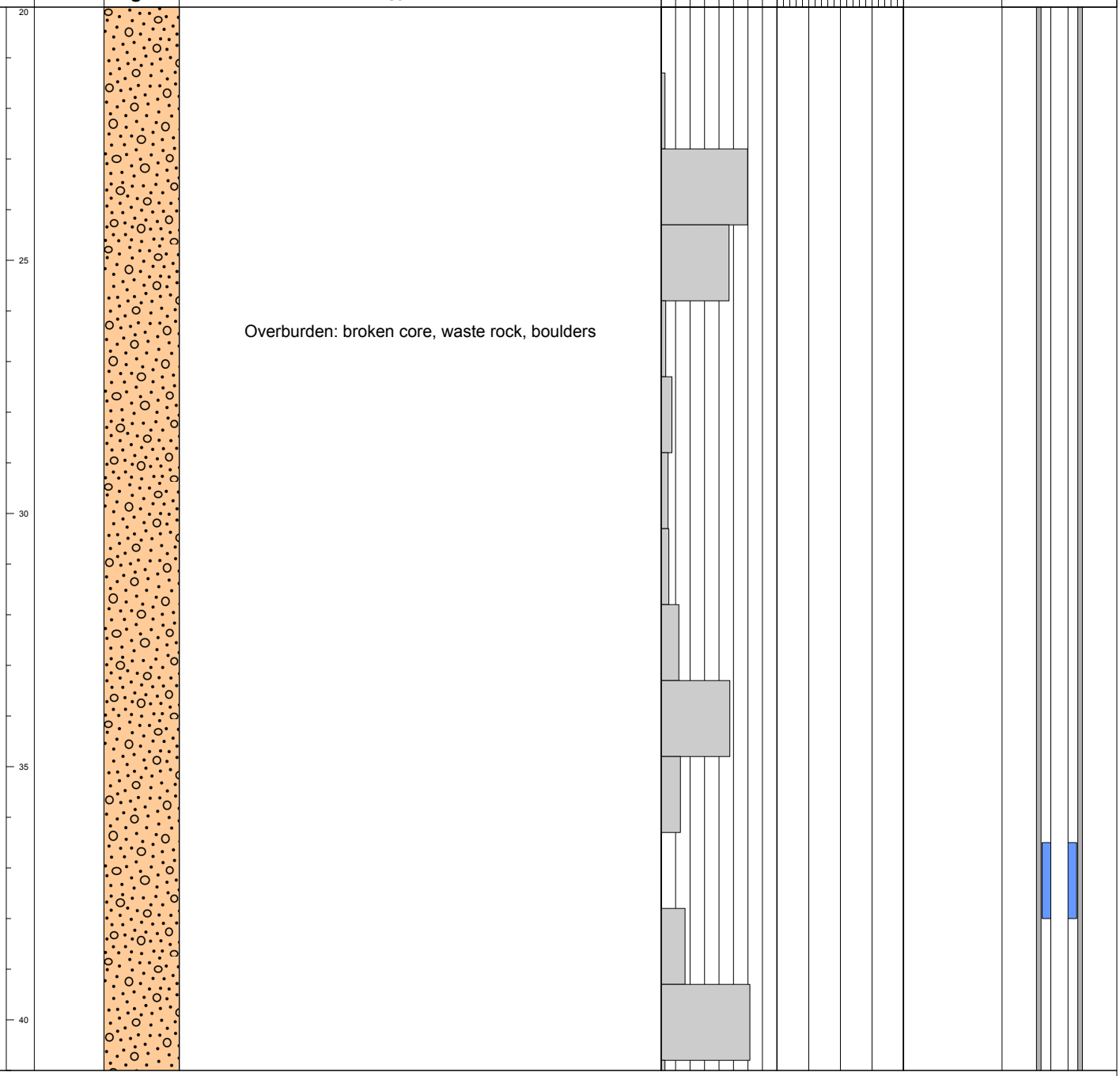
Borehole Coordinates: **E: 384,248 (m) N: 6,945,089 (m)** Top of Casing Elevation (mamsl): **857.2**

Collar Dip (deg): **70** Azimuth (deg): **200** Number of Zones: **4** Casing Stickup (m): **0.41**

LITHOLOGY

Andesite, Granodiorite, Overburden, Clay

Depth (m)	TCLP Sample	Legend	Lithology Description	Recovery (%)	Fracture Frequency (per m)	Zone	Installation
20–40			Overburden: broken core, waste rock, boulders				



Installation Legend

Measurement Port, Pumping Port, Packer, PVC Casing, Sufrace Casing

DRAFT

Borehole Number: **MW17-10**
Location: **Minto Mine**

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capstone MINTO MINE

Project No.: **1CM002.058** Client: **Capstone Mining Inc** Project: **2017 MP Install**	Drilling Contractor: **Driftwood Drilling** Drilling Equipment: **Diamond** Logged By: **JJ**	Depth to Water: **mbtoc** Depth to Rock: **54.3 m** Final Depth: **100.8 m**	Start Date: **7/13/201** End Date: **7/19/201**

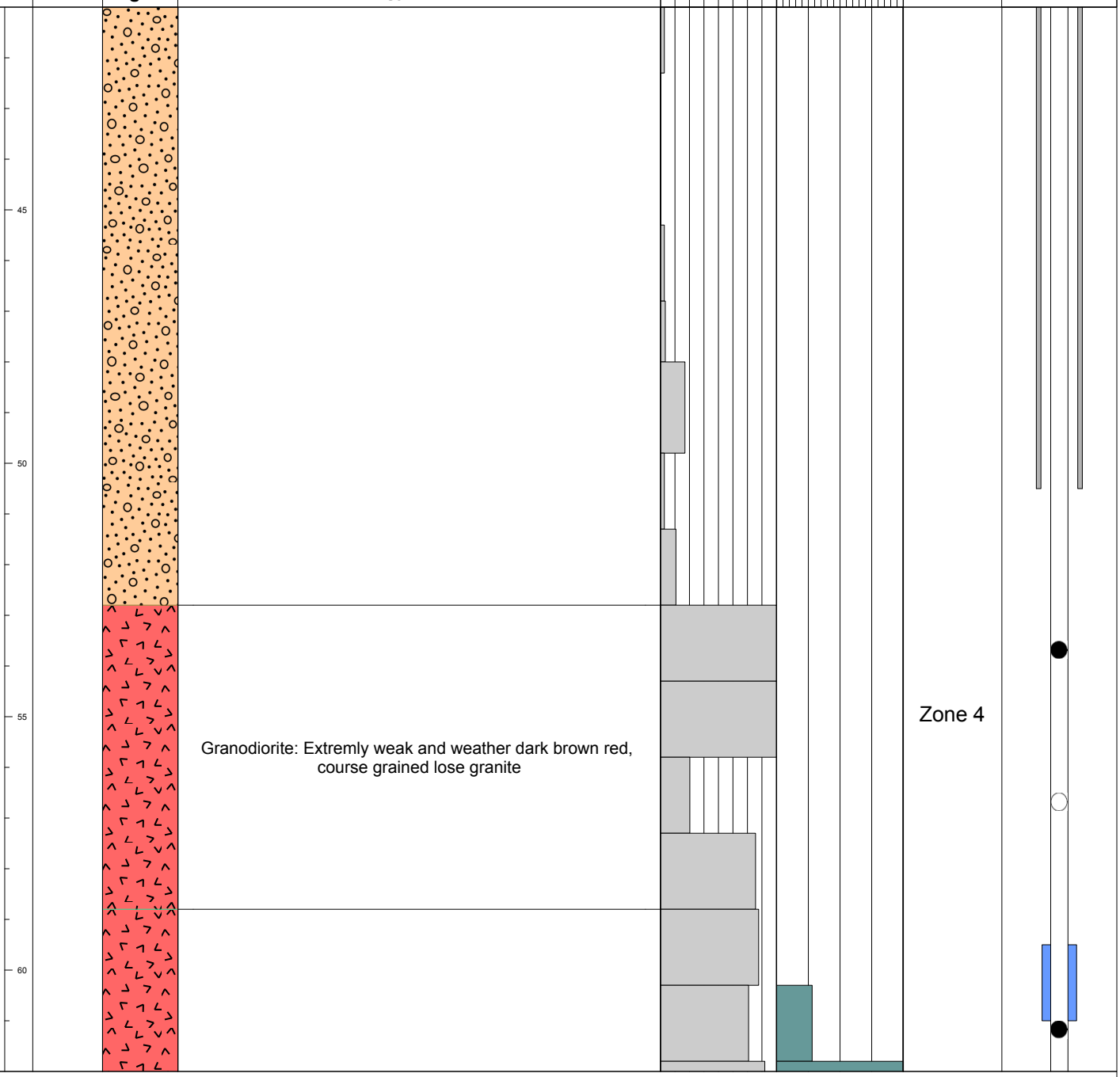
Borehole Coordinates: **E: 384,248 (m)** **N: 6,945,089 (m)** Top of Casing Elevation (mamsl): **857.2**

Collar Dip (deg): **70** Azimuth (deg): **200** Number of Zones: **4** Casing Stickup (m): **0.41**

LITHOLOGY

Andesite, Granodiorite, Overburden, Clay

Depth (m)	TCLP Sample	Legend	Lithology Description	Recovery (%)	Fracture Frequency (per m)	Zone	Installation
45, 50, 55, 60			Granodiorite: Extremly weak and weather dark brown red, course grained lose granite	0, 25, 50, 75, 100	0, 10, 20, 30, 40	Zone 4	



Installation Legend

Measurement Port, Pumping Port, Packer, PVC Casing, Sufrace Casing

DRAFT

Borehole Number: **MW17-10**
Location: **Minto Mine**

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capstone MINTO MINE

Project No.: **1CM002.058** Client: **Capstone Mining Inc** Project: **2017 MP Install**	Drilling Contractor: **Driftwood Drilling** Drilling Equipment: **Diamond** Logged By: **JJ**	Depth to Water: **mbtoc** Depth to Rock: **54.3 m** Final Depth: **100.8 m**	Start Date: **7/13/201** End Date: **7/19/201**

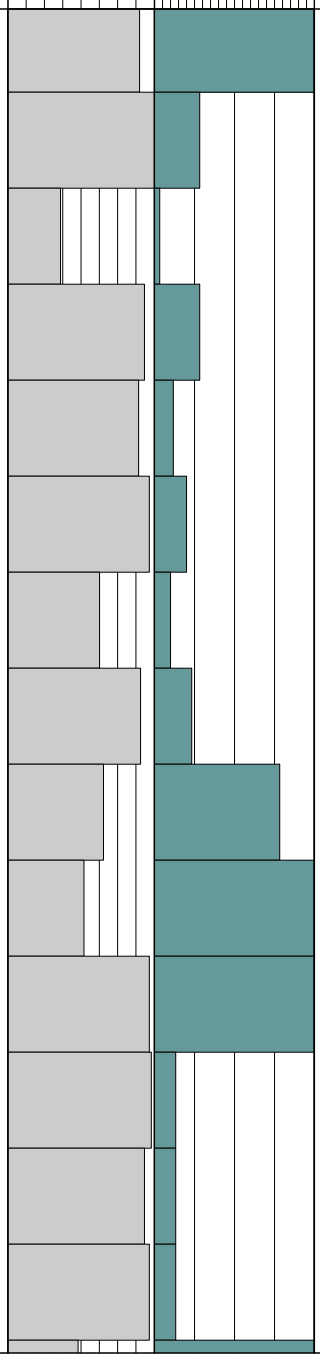
Borehole Coordinates: **E: 384,248 (m)** **N: 6,945,089 (m)** Top of Casing Elevation (mamsl): **857.2**

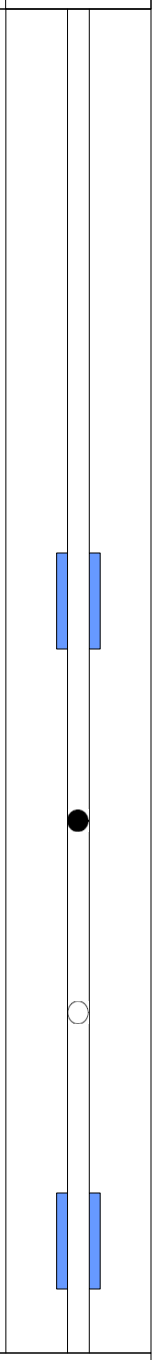
Collar Dip (deg): **70** Azimuth (deg): **200** Number of Zones: **4** Casing Stickup (m): **0.41**

LITHOLOGY

Andesite, Granodiorite, Overburden, Clay

Depth (m)	TCLP Sample	Legend	Lithology Description	Zone
65				Zone 3
70				
75				Zone 2
80			Granodiorite: More competent but jointed Granite, slightly weathered light reddish pink K-feldspar, biotite crystals deformed, frequent rubble (61.8-62.60m, 63-63.30m) zones or alter zones (61.8-62.60m)	





Installation Legend

Measurement Port, Pumping Port, Packer, PVC Casing, Sufrace Casing

DRAFT

Borehole Number: **MW17-10**
Location: **Minto Mine**

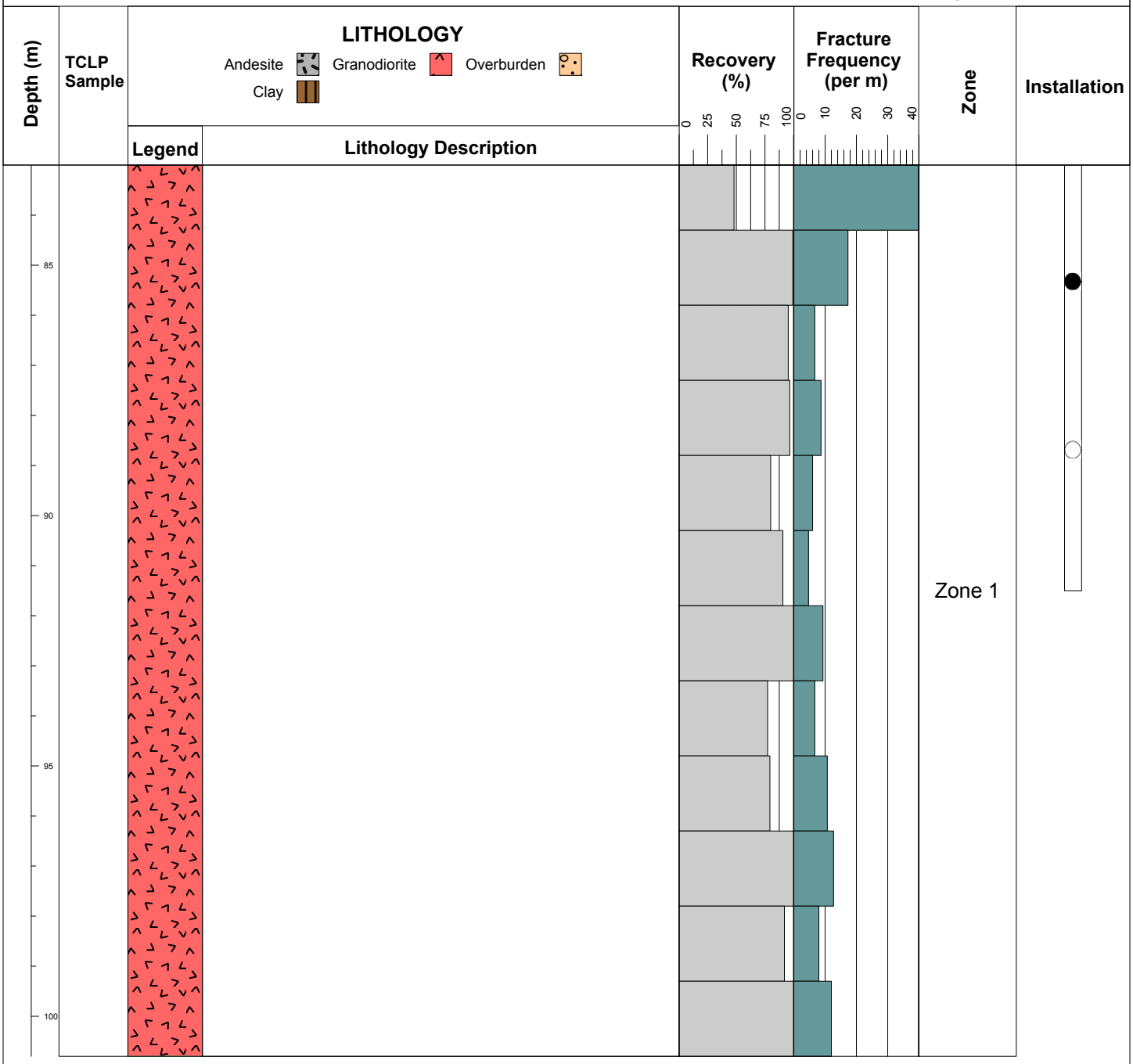
srk consulting

capstone MINTO MINE

Project No.: **1CM002.058** Client: **Capstone Mining Inc** Project: **2017 MP Install**	Drilling Contractor: **Driftwood Drilling** Drilling Equipment: **Diamond** Logged By: **JJ**	Depth to Water: **mbtoc** Depth to Rock: **54.3 m** Final Depth: **100.8 m**	Start Date: **7/13/201** End Date: **7/19/201**

Borehole Coordinates: **E: 384,248 (m)** **N: 6,945,089 (m)** Top of Casing Elevation (mamsl): **857.2**

Collar Dip (deg): **70** Azimuth (deg): **200** Number of Zones: **4** Casing Stickup (m): **0.41**



Installation Legend

Measurement Port | Pumping Port | Packer | PVC Casing | Sufrace Casing

DRAFT

Borehole Number: **MW17-11**
Location: **Minto Mine**

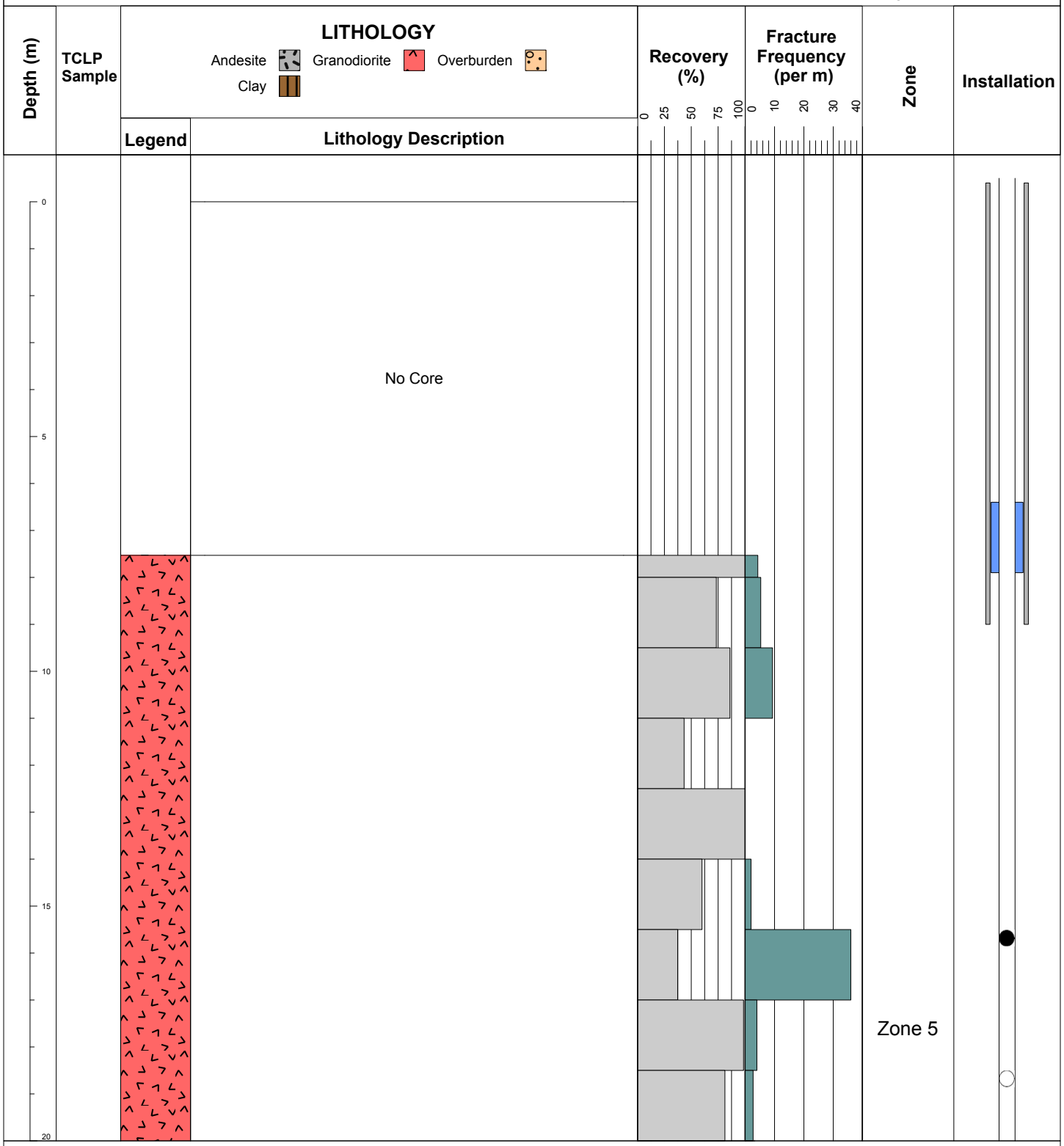
srk consulting

capstone MINTO MINE

Project No.: **1CM002.058** Client: **Capstone Mining Inc** Project: **2017 MP Install**	Drilling Contractor: **Driftwood Drilling** Drilling Equipment: **Diamond** Logged By: **JJ**	Depth to Water: **mbtoc** Depth to Rock: **7.5 m** Final Depth: **101 m**	Start Date: **7/16/201** End Date: **7/20/201**

Borehole Coordinates: **E: 384,268 (m)** **N: 6,946,161 (m)** Top of Casing Elevation (mamsl): **906.4**

Collar Dip (deg): **70** Azimuth (deg): **90** Number of Zones: **5** Casing Stickup (m): **0.45**



Installation Legend

Measurement Port | Pumping Port | Packer | PVC Casing | Sufrace Casing

DRAFT

Borehole Number: **MW17-11**
Location: **Minto Mine**

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Project No.: **1CM002.058** Client: **Capstone Mining Inc** Project: **2017 MP Install**	Drilling Contractor: **Driftwood Drilling** Drilling Equipment: **Diamond** Logged By: **JJ**	Depth to Water: **mbtoc** Depth to Rock: **7.5 m** Final Depth: **101 m**	Start Date: **7/16/201** End Date: **7/20/201**

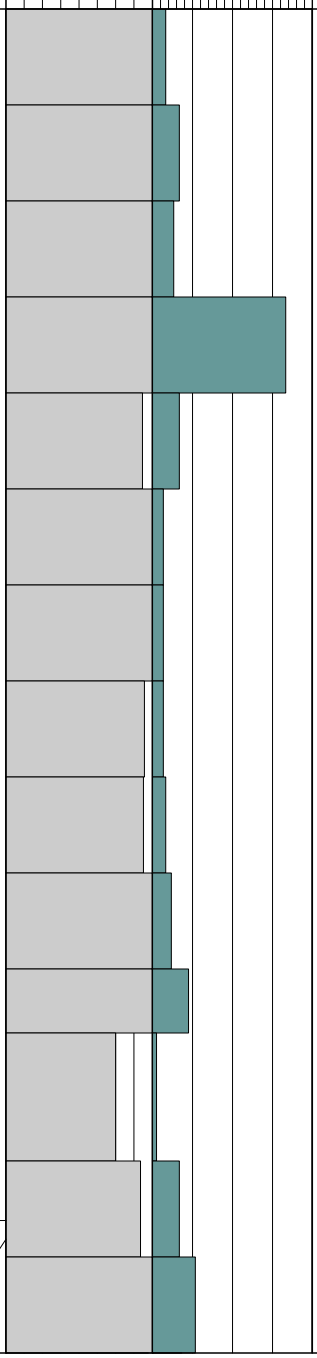
Borehole Coordinates: **E: 384,268 (m) N: 6,946,161 (m)** Top of Casing Elevation (mamsl): **906.4**

Collar Dip (deg): **70** Azimuth (deg): **90** Number of Zones: **5** Casing Stickup (m): **0.45**

LITHOLOGY

Andesite, Granodiorite, Overburden, Clay

Depth (m)	TCLP Sample	Legend	Lithology Description	Zone
20–40	1		Granodiorite: Felsic light white granite, deformed crystals of biotite (3-5mm), rusty brown red surface weathering, disk joints (6 cm space), strength 4-5, pegmatite vein at 21.93 to 29.9 m	
	2		Andesite: Fine grained, light blueish grey, deformed or compress crystals, strength 4-5	Zone 4



Installation Legend

Measurement Port, Pumping Port, Packer, PVC Casing, Sufrace Casing

DRAFT

Borehole Number: **MW17-11**
Location: **Minto Mine**

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Project No.: **1CM002.058** Client: **Capstone Mining Inc** Project: **2017 MP Install**	Drilling Contractor: **Driftwood Drilling** Drilling Equipment: **Diamond** Logged By: **JJ**	Depth to Water: **mbtoc** Depth to Rock: **7.5 m** Final Depth: **101 m**	Start Date: **7/16/201** End Date: **7/20/201**

Borehole Coordinates: **E: 384,268 (m)** **N: 6,946,161 (m)** Top of Casing Elevation (mamsl): **906.4**

Collar Dip (deg): **70** Azimuth (deg): **90** Number of Zones: **5** Casing Stickup (m): **0.45**

LITHOLOGY

Andesite, Granodiorite, Overburden, Clay

Depth (m)	TCLP Sample	Legend	Lithology Description	Zone
45			Granodiorite: Felsic light white granite, deformed crystals of biotite (3-5mm), rusty brown red surface weathering, disk joints (6 cm space), strength 4-5, broken zone (40.6-40.9m), pegmatite vein at 50.2 to 50.4 m	
50				
55			Granodiorite: Felsic light white granite, deformed crystals of biotite (3-5mm), pegmatite vein at 56.4 to 57.5 m	
60	3			Zone 3

Recovery (%): 0, 25, 50, 75, 100

Fracture Frequency (per m): 0, 10, 20, 30, 40

Installation

Installation Legend

Measurement Port, Pumping Port, Packer, PVC Casing, Sufrace Casing

DRAFT

Borehole Number: **MW17-11**
Location: **Minto Mine**

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Project No.: **1CM002.058**	Drilling Contractor: **Driftwood Drilling**	Depth to Water: **mbtoc**	Start Date: **7/16/201**
Client: **Capstone Mining Inc**	Drilling Equipment: **Diamond**	Depth to Rock: **7.5 m**	End Date: **7/20/201**
Project: **2017 MP Install**	Logged By: **JJ**	Final Depth: **101 m**	

Borehole Coordinates: **E: 384,268 (m)** **N: 6,946,161 (m)** Top of Casing Elevation (mamsl): **906.4**

Collar Dip (deg): **70** Azimuth (deg): **90** Number of Zones: **5** Casing Stickup (m): **0.45**

LITHOLOGY

Andesite, Granodiorite, Overburden, Clay

Depth (m)	TCLP Sample	Legend	Lithology Description	Zone
65			Granodiorite: Felsic light white granite, deformed crystals of biotite (3-5mm), strength 2-4.5, broken zones, rubble zones, breccia, pegmatite vein at 79.8 to 80.0 m	Zone 2
70				
75				
80	4			

Recovery (%): 0, 25, 50, 75, 100

Fracture Frequency (per m): 0, 10, 20, 30, 40

Installation

Installation Legend

Measurement Port, Pumping Port, Packer, PVC Casing, Sufrace Casing

DRAFT

Borehole Number: **MW17-11**
Location: **Minto Mine**

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Project No.: **1CM002.058** Client: **Capstone Mining Inc** Project: **2017 MP Install**	Drilling Contractor: **Driftwood Drilling** Drilling Equipment: **Diamond** Logged By: **JJ**	Depth to Water: **mbtoc** Depth to Rock: **7.5 m** Final Depth: **101 m**	Start Date: **7/16/201** End Date: **7/20/201**

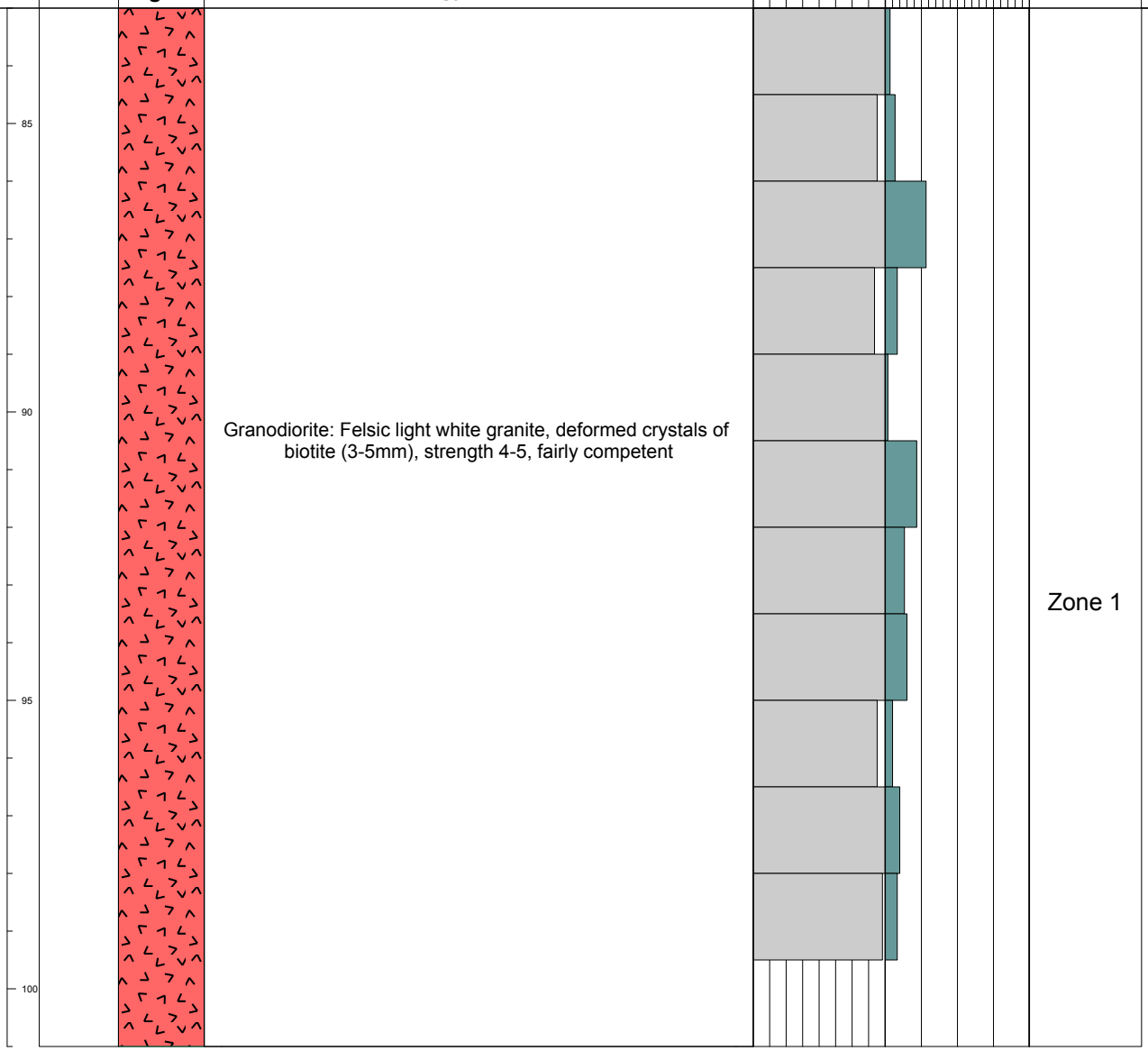
Borehole Coordinates: **E: 384,268 (m) N: 6,946,161 (m)** Top of Casing Elevation (mamsl): **906.4**

Collar Dip (deg): **70** Azimuth (deg): **90** Number of Zones: **5** Casing Stickup (m): **0.45**

LITHOLOGY

Andesite, Granodiorite, Overburden, Clay

Depth (m)	TCLP Sample	Legend	Lithology Description	Recovery (%)	Fracture Frequency (per m)	Zone	Installation
85–100			Granodiorite: Felsic light white granite, deformed crystals of biotite (3-5mm), strength 4-5, fairly competent	0, 25, 50, 75, 100	0, 10, 20, 30, 40	Zone 1	



Installation Legend

Measurement Port, Pumping Port, Packer, PVC Casing, Sufrace Casing

DRAFT

Borehole Number: **MW17-12**
Location: **Minto Mine**

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Project No.: **1CM002.058** Client: **Capstone Mining Inc** Project: **2017 MP Install**	Drilling Contractor: **Driftwood Drilling** Drilling Equipment: **Diamond** Logged By: **JJ**	Depth to Water: **mbtoc** Depth to Rock: **19 m** Final Depth: **151 m**	Start Date: **7/18/201** End Date: **7/22/201**

Borehole Coordinates: **E: 386,859 (m)** **N: 6,945,757 (m)** Top of Casing Elevation (mamsl): **674.0**

Collar Dip (deg): **70** Azimuth (deg): **180** Number of Zones: **8** Casing Stickup (m): **0.38**

Depth (m)	TCLP Sample	Legend	Lithology Description	Recovery (%)	Fracture Frequency (per m)	Zone	Installation
0							
10			No core				
20							

LITHOLOGY: Andesite, Granodiorite, Overburden, Clay

Recovery (%): 0, 25, 50, 75, 100

Fracture Frequency (per m): 0, 10, 20, 30, 40

Installation Legend

Measurement Port, Pumping Port, Packer, PVC Casing, Sufrace Casing

DRAFT

Borehole Number: **MW17-12**
Location: **Minto Mine**

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Project No.: **1CM002.058** Client: **Capstone Mining Inc** Project: **2017 MP Install**	Drilling Contractor: **Driftwood Drilling** Drilling Equipment: **Diamond** Logged By: **JJ**	Depth to Water: **mbtoc** Depth to Rock: **19 m** Final Depth: **151 m**	Start Date: **7/18/201** End Date: **7/22/201**

Borehole Coordinates: **E: 386,859 (m)** **N: 6,945,757 (m)** Top of Casing Elevation (mamsl): **674.0**

Collar Dip (deg): **70** Azimuth (deg): **180** Number of Zones: **8** Casing Stickup (m): **0.38**

Depth (m)	TCLP Sample	Legend	Lithology Description	Recovery (%)	Fracture Frequency (per m)	Zone	Installation
20				0 25 50 75 100	0 10 20 30 40		
	1						
30						Zone 8	
40							

LITHOLOGY: Andesite, Granodiorite, Overburden, Clay

Installation Legend

Measurement Port, Pumping Port, Packer, PVC Casing, Sufrace Casing

DRAFT

Borehole Number: **MW17-12**
Location: **Minto Mine**

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Project No.: **1CM002.058** Client: **Capstone Mining Inc** Project: **2017 MP Install**	Drilling Contractor: **Driftwood Drilling** Drilling Equipment: **Diamond** Logged By: **JJ**	Depth to Water: **mbtoc** Depth to Rock: **19 m** Final Depth: **151 m**	Start Date: **7/18/201** End Date: **7/22/201**

Borehole Coordinates: **E: 386,859 (m)** **N: 6,945,757 (m)** Top of Casing Elevation (mamsl): **674.0**

Collar Dip (deg): **70** Azimuth (deg): **180** Number of Zones: **8** Casing Stickup (m): **0.38**

Depth (m)	TCLP Sample	Legend	Lithology Description	Recovery (%)	Fracture Frequency (per m)	Zone	Installation
50	2		Granodiorite: Felsic light white granite, rusty brown red surface weathering, shear zone (52 to 52.2 m), pegmatite vein at 71.66 to 72.4 m			Zone 7	
60							

LITHOLOGY: Andesite, Granodiorite, Overburden, Clay

Recovery (%): 0, 25, 50, 75, 100

Fracture Frequency (per m): 0, 10, 20, 30, 40

Installation Legend

Measurement Port, Pumping Port, Packer, PVC Casing, Sufrace Casing

DRAFT

Borehole Number: **MW17-12**
Location: **Minto Mine**

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Project No.: **1CM002.058** Client: **Capstone Mining Inc** Project: **2017 MP Install**	Drilling Contractor: **Driftwood Drilling** Drilling Equipment: **Diamond** Logged By: **JJ**	Depth to Water: **mbtoc** Depth to Rock: **19 m** Final Depth: **151 m**	Start Date: **7/18/201** End Date: **7/22/201**

Borehole Coordinates: **E: 386,859 (m)** **N: 6,945,757 (m)** Top of Casing Elevation (mamsl): **674.0**

Collar Dip (deg): **70** Azimuth (deg): **180** Number of Zones: **8** Casing Stickup (m): **0.38**

Depth (m)	TCLP Sample	LITHOLOGY Legend	Lithology Description	Recovery (%)	Fracture Frequency (per m)	Zone	Installation
70						Zone 6	
	3						
80						Zone 5	

LITHOLOGY: Andesite, Granodiorite, Overburden, Clay

Recovery (%): 0, 25, 50, 75, 100

Fracture Frequency (per m): 0, 10, 20, 30, 40

Installation Legend

Measurement Port, Pumping Port, Packer, PVC Casing, Sufrace Casing

DRAFT

Borehole Number: **MW17-12**
Location: **Minto Mine**

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Project No.: **1CM002.058** Client: **Capstone Mining Inc** Project: **2017 MP Install**	Drilling Contractor: **Driftwood Drilling** Drilling Equipment: **Diamond** Logged By: **JJ**	Depth to Water: **mbtoc** Depth to Rock: **19 m** Final Depth: **151 m**	Start Date: **7/18/201** End Date: **7/22/201**

Borehole Coordinates: **E: 386,859 (m)** **N: 6,945,757 (m)** Top of Casing Elevation (mamsl): **674.0**

Collar Dip (deg): **70** Azimuth (deg): **180** Number of Zones: **8** Casing Stickup (m): **0.38**

LITHOLOGY

Andesite, Granodiorite, Overburden, Clay

Depth (m)	TCLP Sample	Legend	Lithology Description	Recovery (%)	Fracture Frequency (per m)	Zone	Installation
90			Granodiorite: Felsic light white granite, rusty brown red surface weathering, shear zone (89.5 to 90.0 m), pegmatite vein at 94.14 to 94.66 m			Zone 4	
100	4		Granodiorite: Felsic light white granite, rusty brown red surface weathering				

Recovery (%): 0, 25, 50, 75, 100

Fracture Frequency (per m): 0, 10, 20, 30, 40

Installation Legend

Measurement Port, Pumping Port, Packer, PVC Casing, Sufrace Casing

DRAFT

Borehole Number: **MW17-12**
Location: **Minto Mine**

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Project No.: **1CM002.058** Client: **Capstone Mining Inc** Project: **2017 MP Install**	Drilling Contractor: **Driftwood Drilling** Drilling Equipment: **Diamond** Logged By: **JJ**	Depth to Water: **mbtoc** Depth to Rock: **19 m** Final Depth: **151 m**	Start Date: **7/18/201** End Date: **7/22/201**

Borehole Coordinates: **E: 386,859 (m)** **N: 6,945,757 (m)** Top of Casing Elevation (mamsl): **674.0**

Collar Dip (deg): **70** Azimuth (deg): **180** Number of Zones: **8** Casing Stickup (m): **0.38**

Depth (m)	TCLP Sample	Legend	Lithology Description	Recovery (%)	Fracture Frequency (per m)	Zone	Installation
			Andesite: Fine grained, light blueish grey			Zone 3	

LITHOLOGY: Andesite, Granodiorite, Overburden, Clay

Recovery (%): 0, 25, 50, 75, 100

Fracture Frequency (per m): 0, 10, 20, 30, 40

Depth (m): 110, 120

Installation Legend

Measurement Port, Pumping Port, Packer, PVC Casing, Sufrace Casing

DRAFT

Borehole Number: **MW17-12**
Location: **Minto Mine**

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Project No.: **1CM002.058** Client: **Capstone Mining Inc** Project: **2017 MP Install**	Drilling Contractor: **Driftwood Drilling** Drilling Equipment: **Diamond** Logged By: **JJ**	Depth to Water: **mbtoc** Depth to Rock: **19 m** Final Depth: **151 m**	Start Date: **7/18/201** End Date: **7/22/201**

Borehole Coordinates: **E: 386,859 (m)** **N: 6,945,757 (m)** Top of Casing Elevation (mamsl): **674.0**

Collar Dip (deg): **70** Azimuth (deg): **180** Number of Zones: **8** Casing Stickup (m): **0.38**

LITHOLOGY

Andesite, Granodiorite, Overburden, Clay

Depth (m)	TCLP Sample	Legend	Lithology Description	Recovery (%)	Fracture Frequency (per m)	Zone	Installation
	5		Granodiorite: Felsic light white granite, rusty brown red surface weathering, pegmatite vein at 140.5 to 140.9 m			Zone 2	
130							
140	6						
			Granodiorite: Felsic light white granite, rusty brown red			Zone 1	

Recovery (%): 0, 25, 50, 75, 100

Fracture Frequency (per m): 0, 10, 20, 30, 40

Installation Legend

Measurement Port, Pumping Port, Packer, PVC Casing, Sufrace Casing

DRAFT

Borehole Number: **MW17-12**
Location: **Minto Mine**

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Project No.: **1CM002.058** Client: **Capstone Mining Inc** Project: **2017 MP Install**	Drilling Contractor: **Driftwood Drilling** Drilling Equipment: **Diamond** Logged By: **JJ**	Depth to Water: **mbtoc** Depth to Rock: **19 m** Final Depth: **151 m**	Start Date: **7/18/201** End Date: **7/22/201**

Borehole Coordinates: **E: 386,859 (m)** **N: 6,945,757 (m)** Top of Casing Elevation (mamsl): **674.0**

Collar Dip (deg): **70** Azimuth (deg): **180** Number of Zones: **8** Casing Stickup (m): **0.38**

Depth (m)	TCLP Sample	Legend	Lithology Description	Recovery (%)	Fracture Frequency (per m)	Zone	Installation
150			surface weathering, shear zones (141.6 to 141.9 m and 148.7 to 148.9 m)				

LITHOLOGY: Andesite, Granodiorite, Overburden, Clay

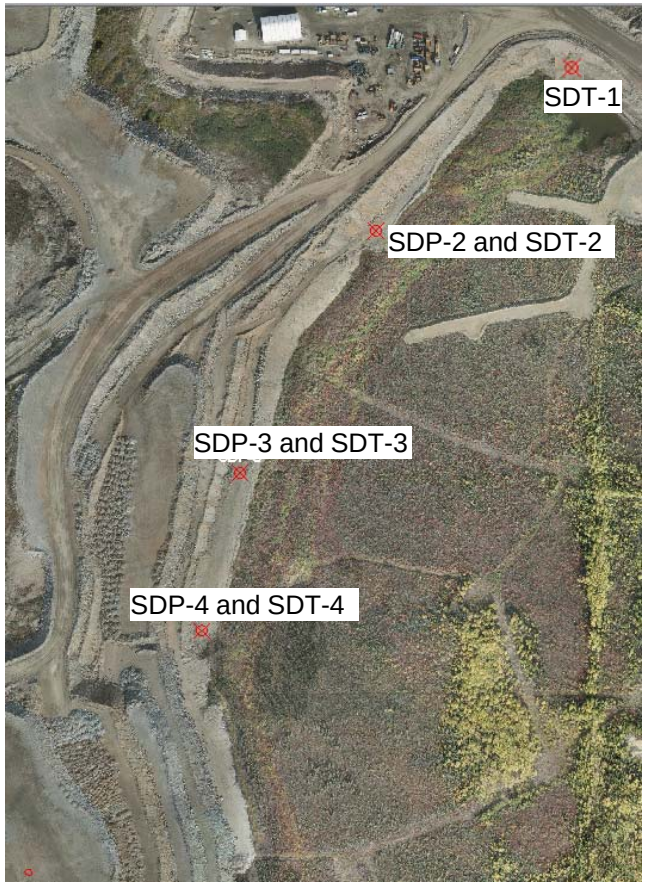
Recovery (%): 0, 25, 50, 75, 100

Fracture Frequency (per m): 0, 10, 20, 30, 40

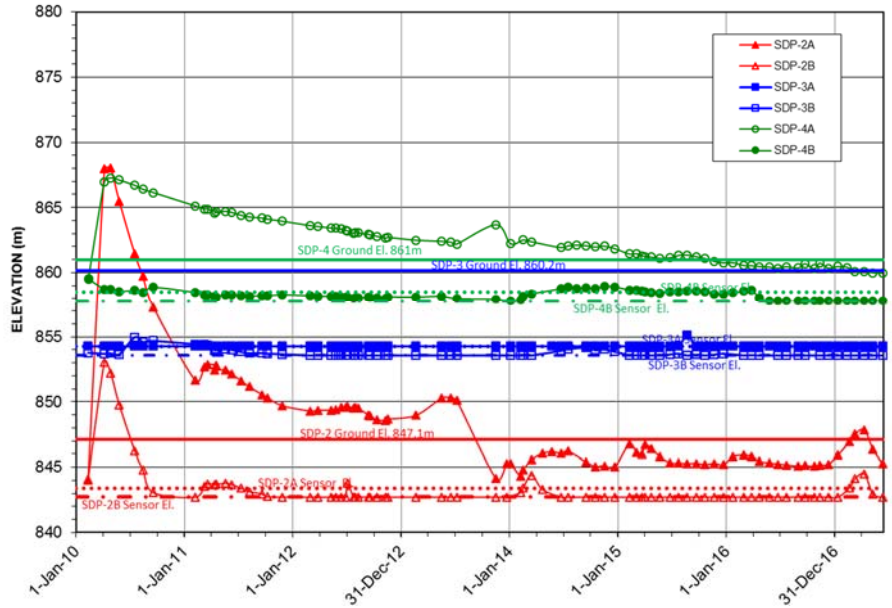
Installation Legend

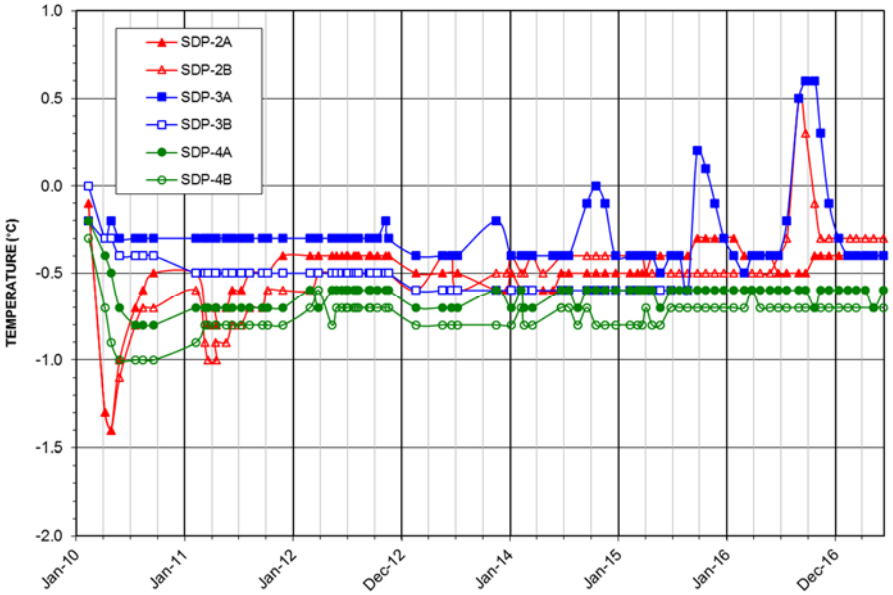
Measurement Port, Pumping Port, Packer, PVC Casing, Sufrace Casing

Appendix C – Ground Thermal Data



Southwest Dump Piezometers and Ground Temperature Cables





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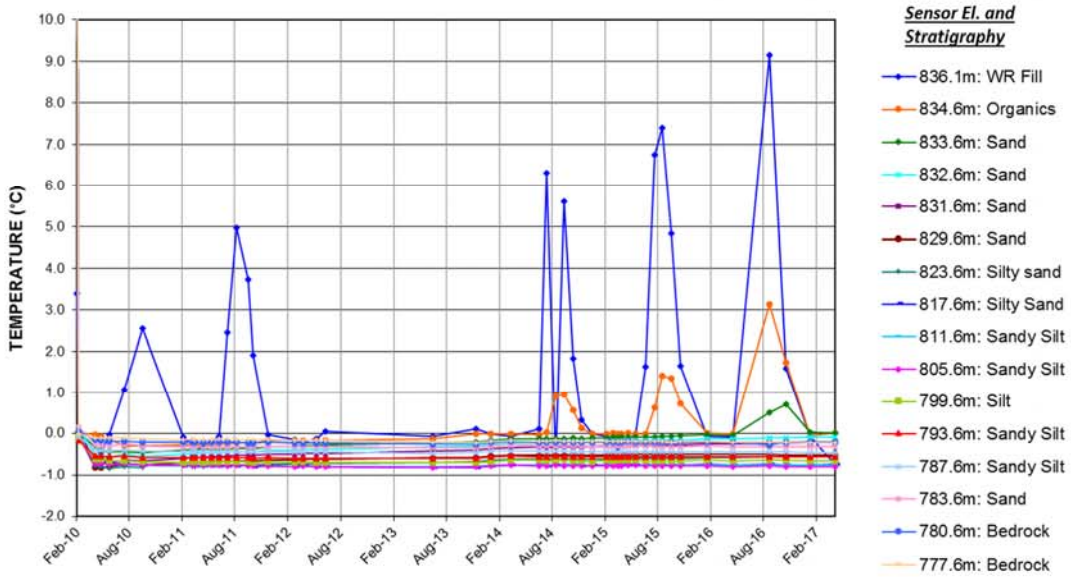
Job No: 1CM002.059
Filename: ApF_2017SWD Instrumentation.pptx

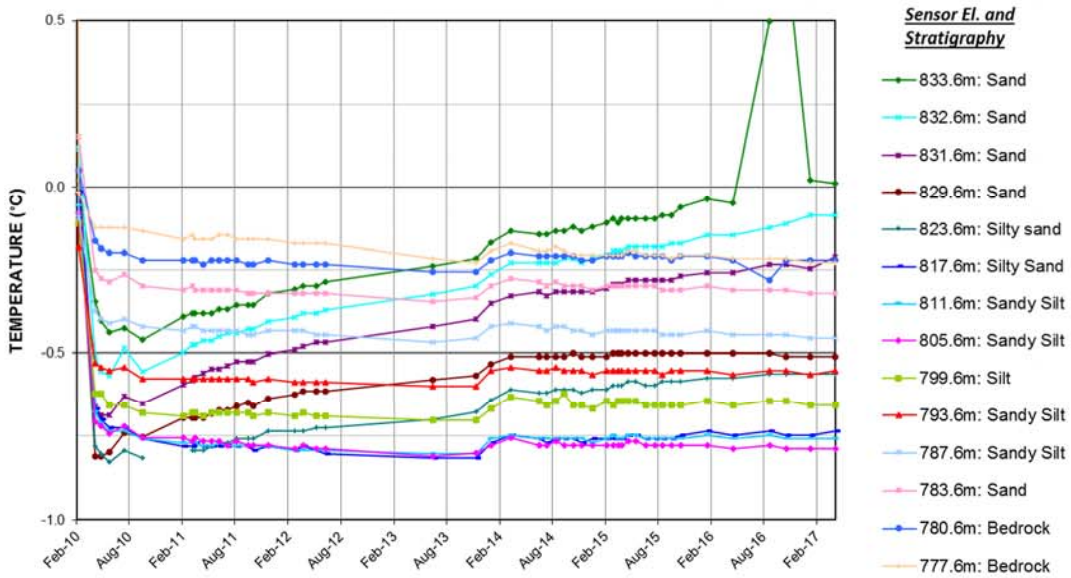
Minto Mine

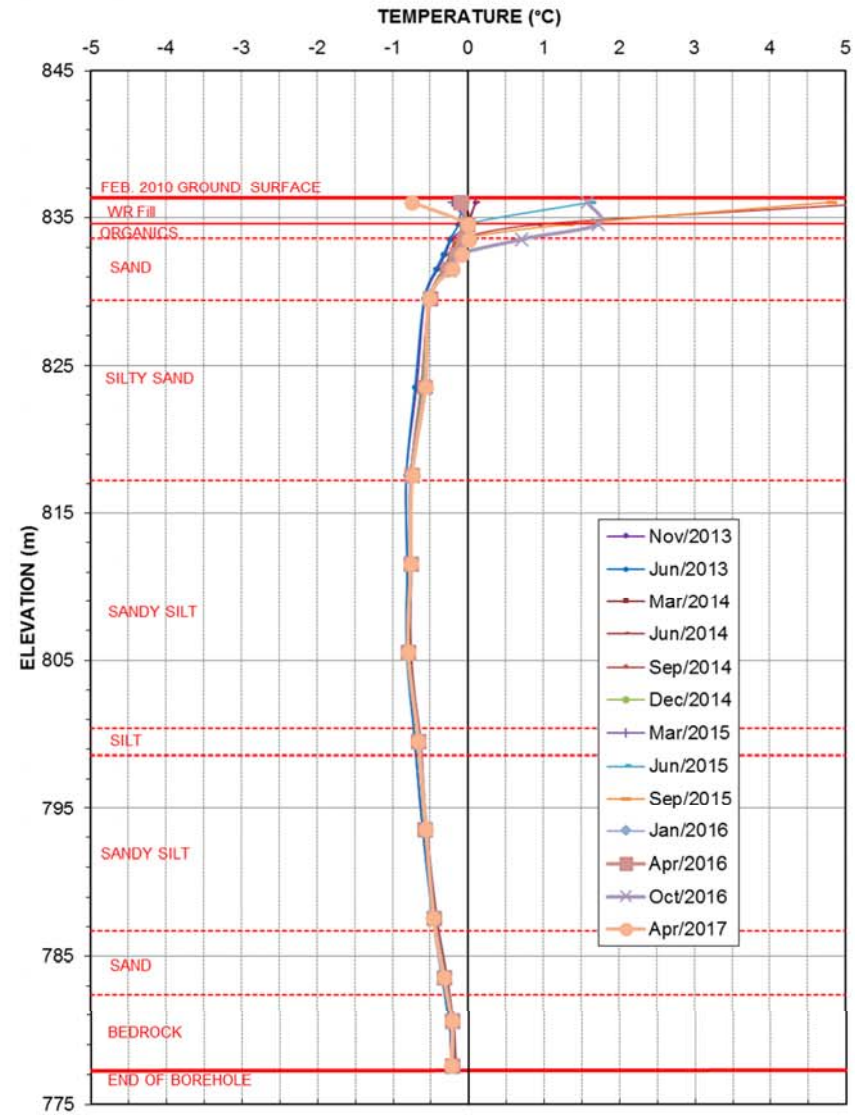
SWD Instrumentation Data

Southwest Dump Piezometers

Date:	Prepared by	Figure:
August 2017	PHM	17







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OPERATED BY MINTO EXPLORATIONS LTD.

SWD Instrumentation Data

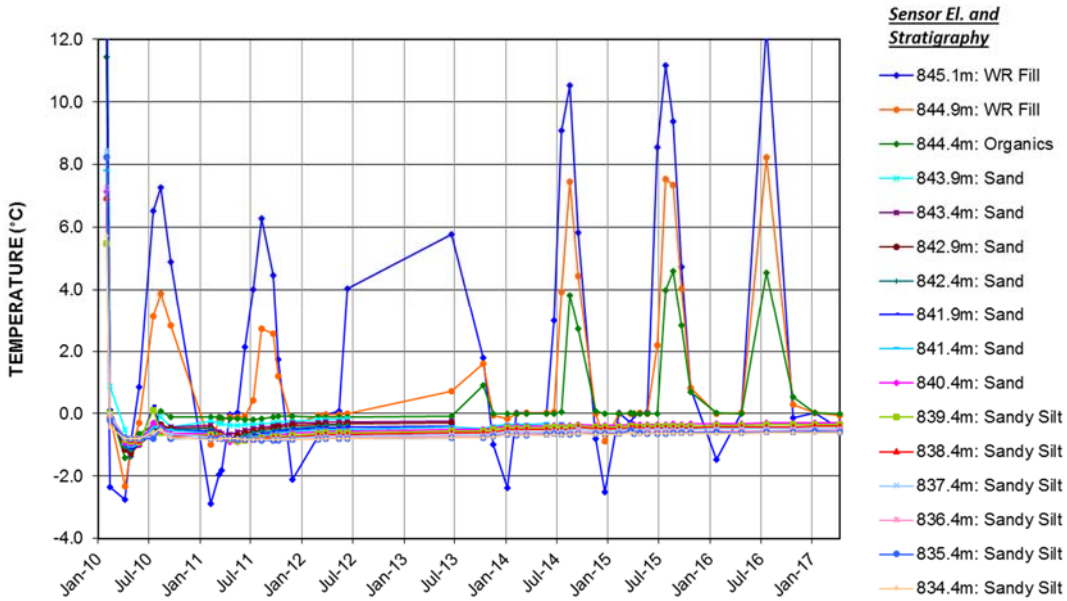
Temperature Cable – SDT-1

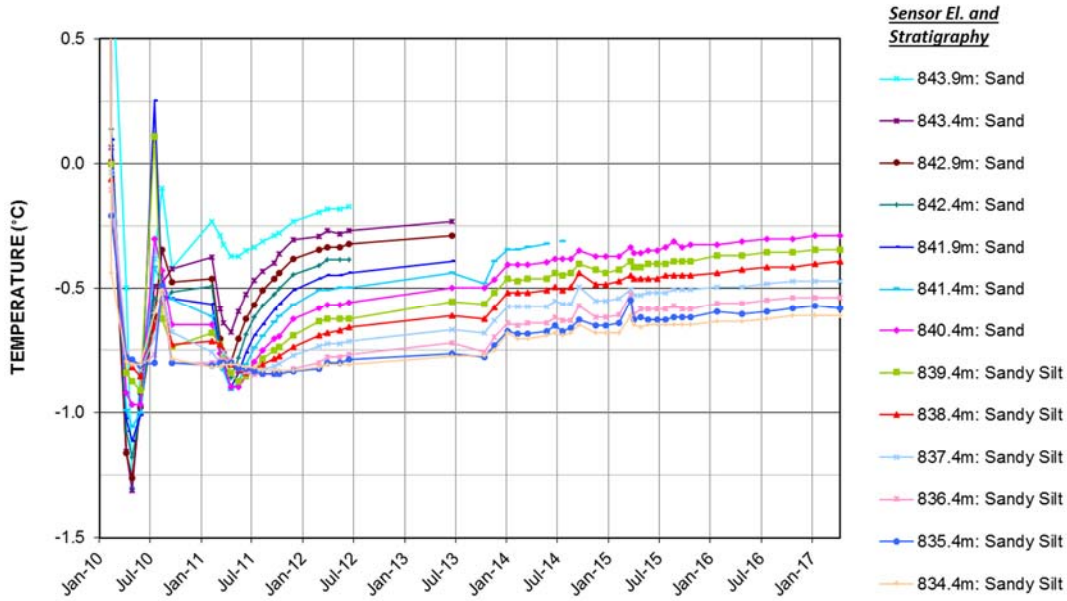
Job No: 1CM002.059

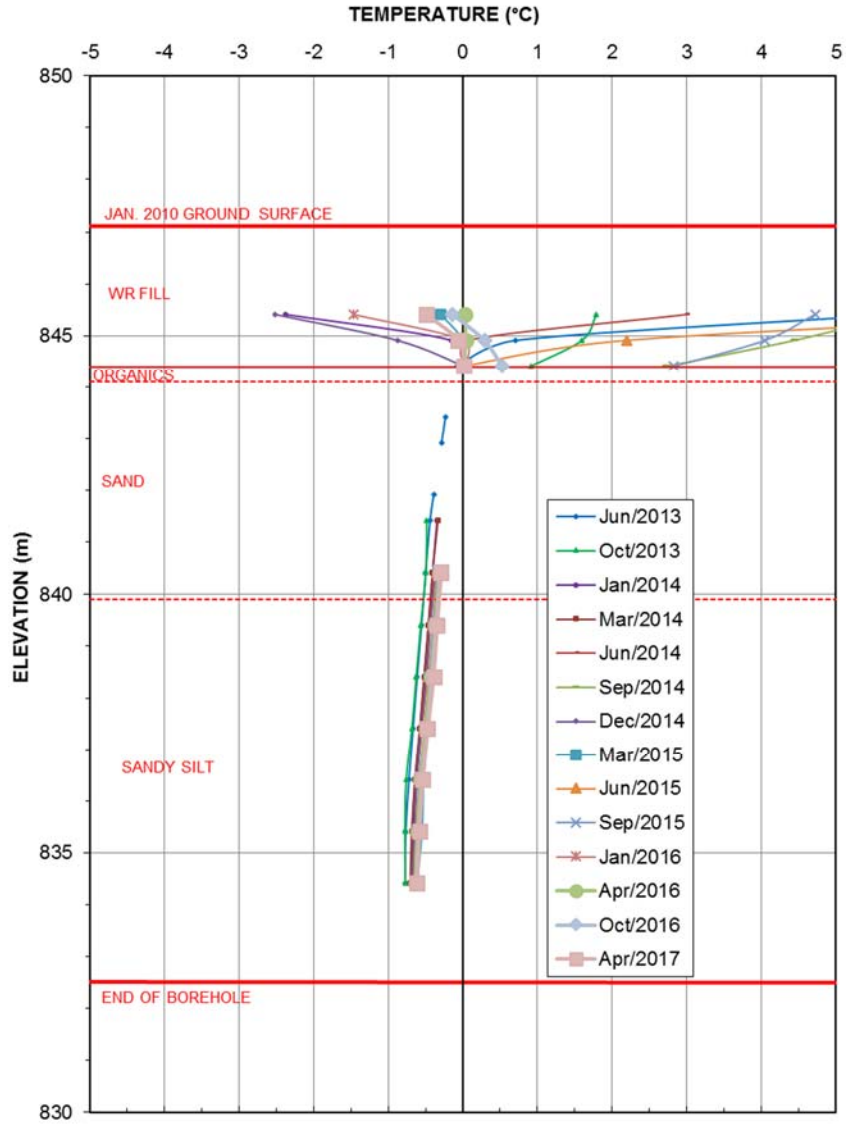
Filename: ApF_2017SWD Instrumentation.pptx

Minto Mine

Date:	Prepared by	Figure:
August 2017	PHM	13







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OPERATED BY MINTO EXPLORATIONS LTD.

SWD Instrumentation Data

Temperature Cable – SDT-2

Job No: 1CM002.059

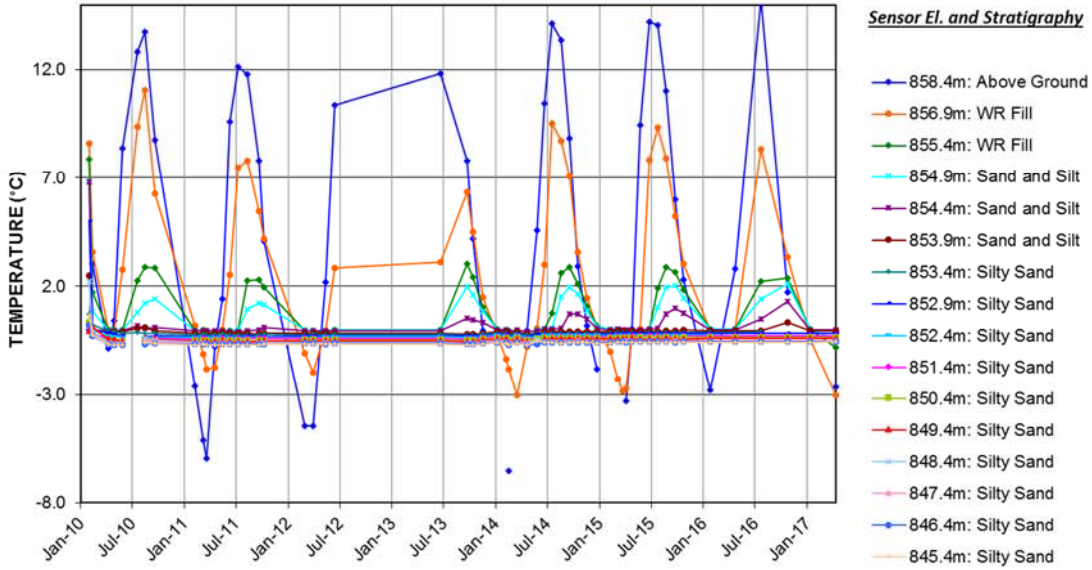
Filename: ApF_2017SWD Instrumentation.pptx

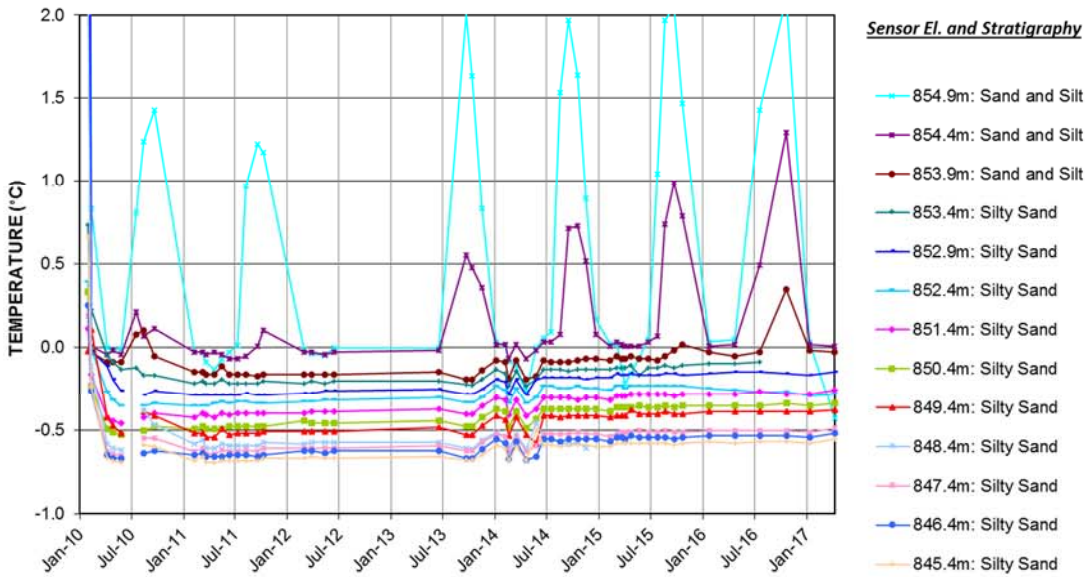
Minto Mine

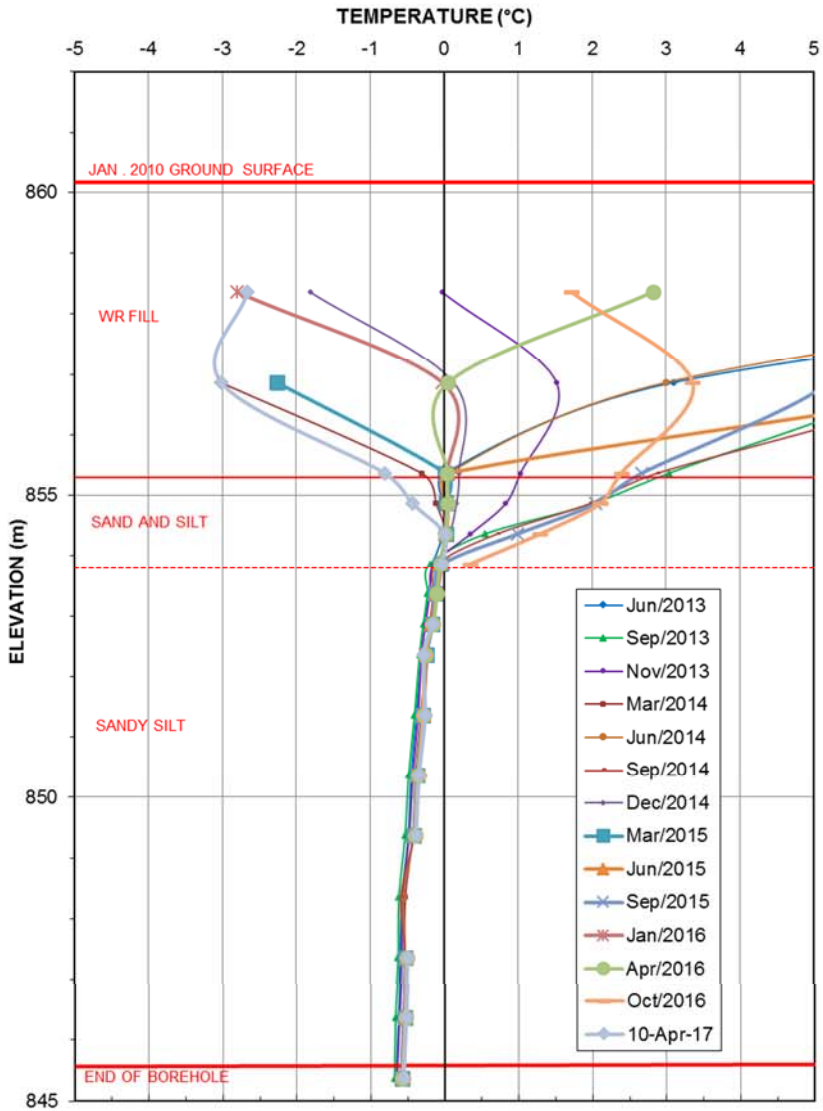
Date: August 2017

Prepared by PHM

Figure: 14







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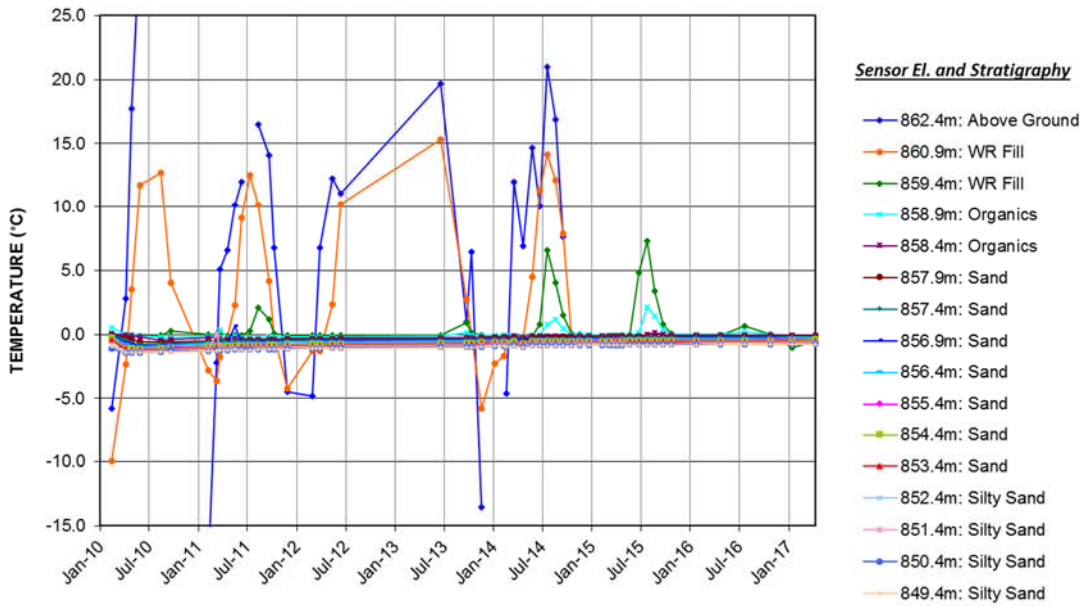
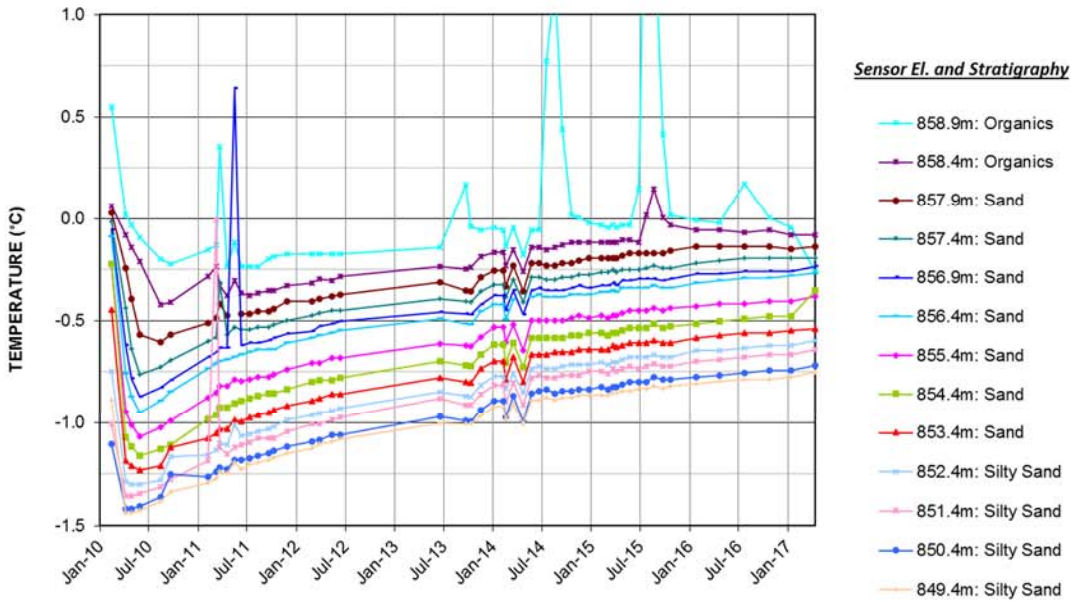
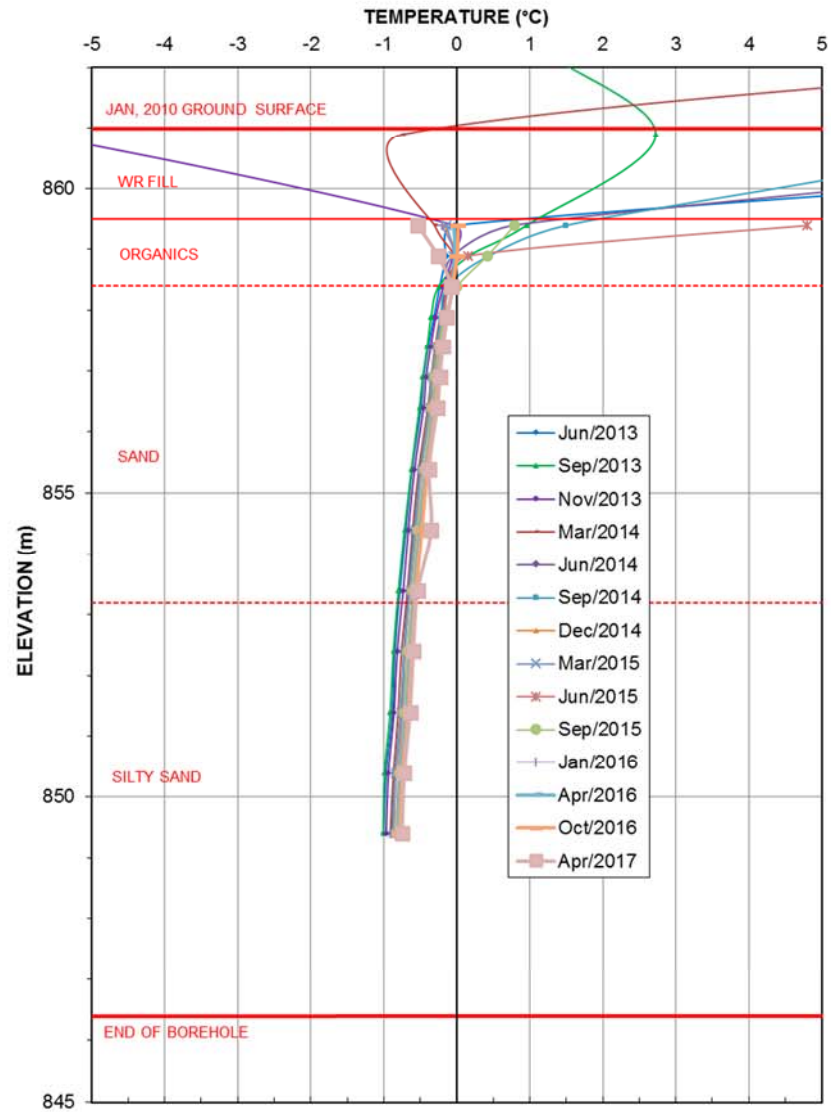
srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	SWD Instrumentation Data	
		Temperature Cable – SDT-3	
Job No: 1CM002.059 Filename: ApF_2017SWD Instrumentation.pptx	Minto Mine	Date: August 2017	Prepared by PHM	Figure: **15**







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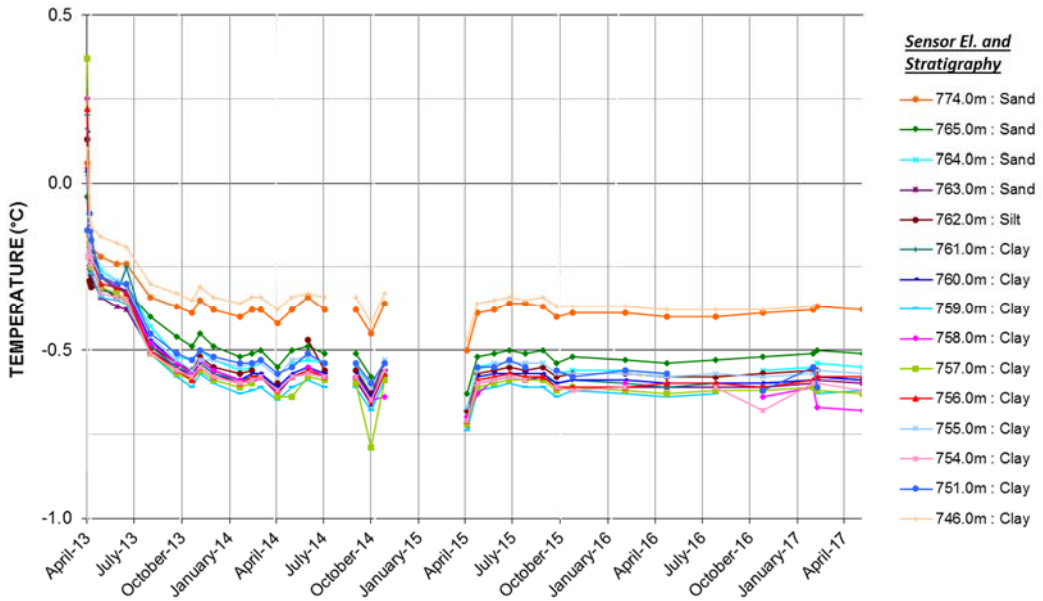
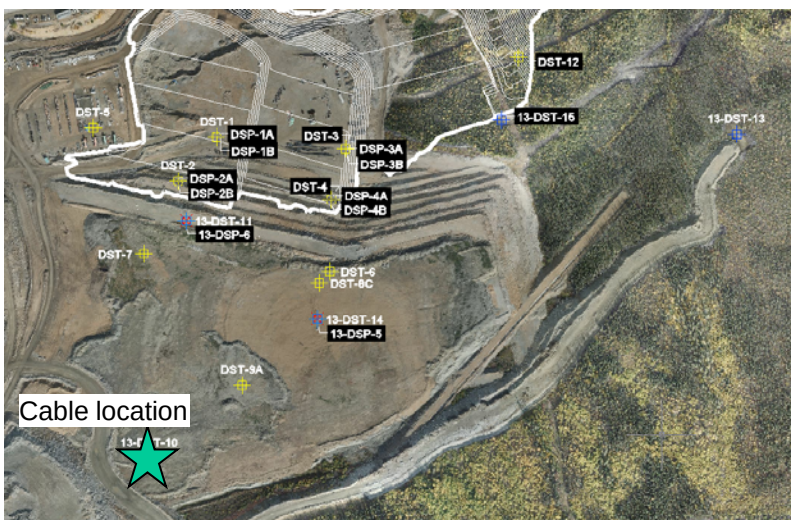
OPERATED BY MINTO EXPLORATIONS LTD.

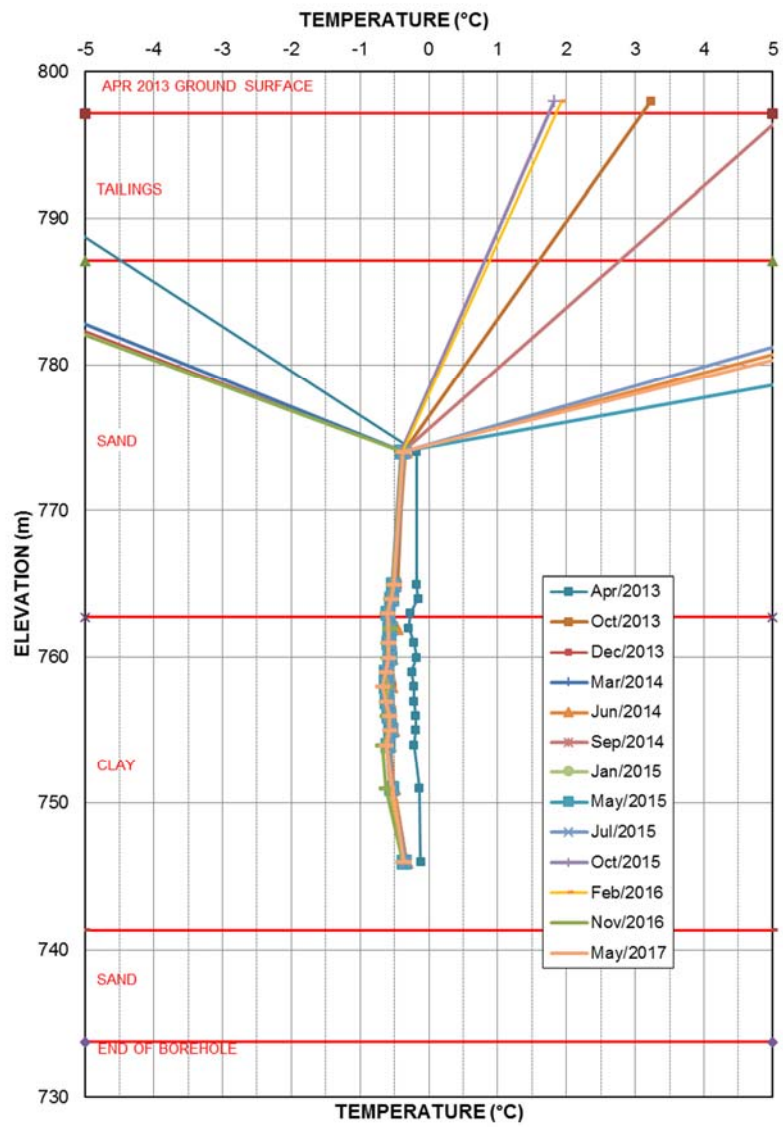
SWD Instrumentation Data

Temperature Cable – SDT-4

Job No: 1CM002.059	Minto Mine	Date: August 2017	Prepared by PHM	Figure: 16
Filename: ApF_2017SWD Instrumentation.pptx			







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2. Excel instrumentation data: \\VAN-SVR0\Projects\01_SITES\Minto\!020_Site_Wide_Data\Geotechnical\Geotech Monitoring Data\GTC + Piezometer Instrumentation - DSTSF_2016-Geotech.xlsm

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DSTSF Instrumentation Data

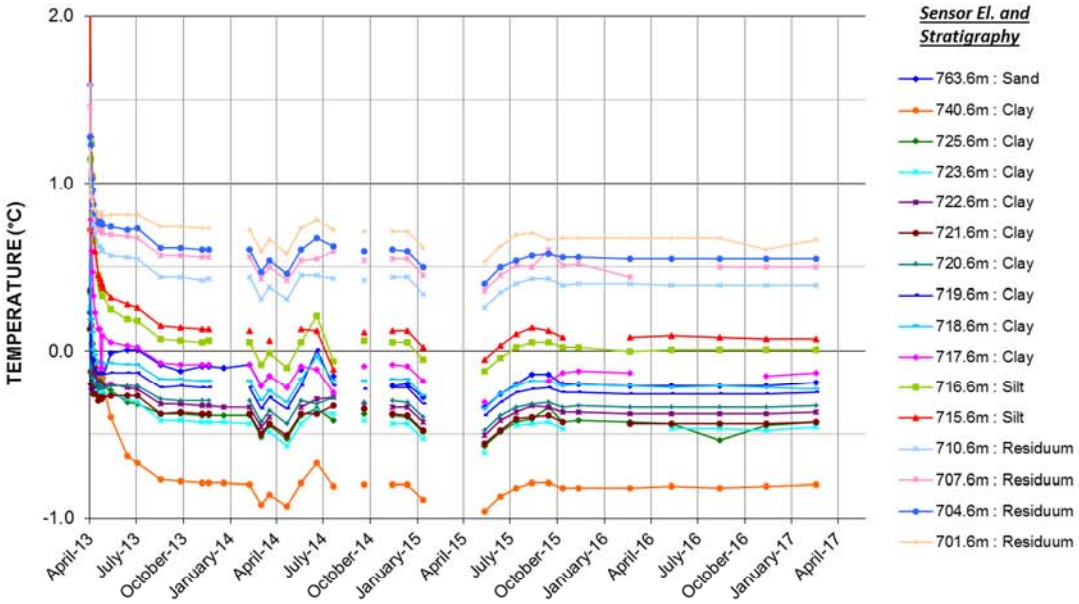
Temperature Cable – DST-10

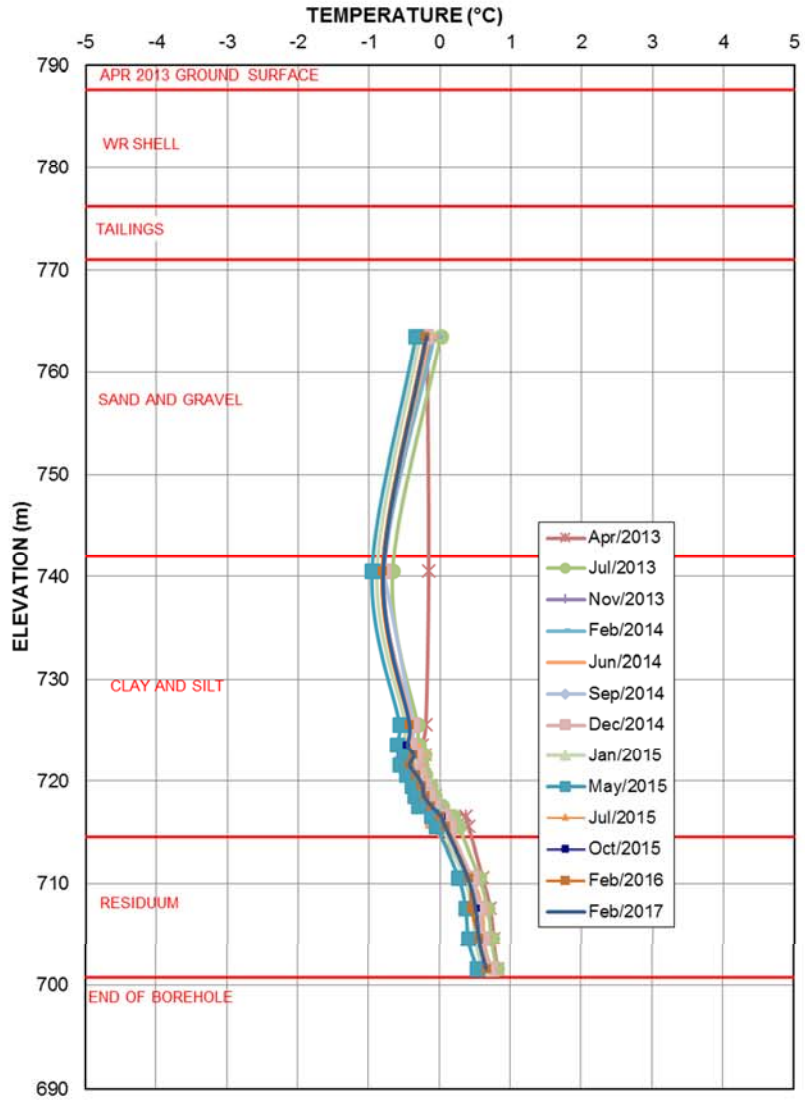
Job No: 1CM002.059

Filename: ApD_2017DSTSFLandscape.pptx

Minto Mine

Date:	Prepared by	Figure:
August 2017	PHM	25





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2. Excel instrumentation data: \\VAN-SVR0\Projects\01_SITES\Minto\!020_Site_Wide_Data\Geotechnical\Geotech Monitoring Data\GTC + Piezometer Instrumentation - DSTSF_2016-Geotech.xlsm

srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	DSTSF Instrumentation Data
		Temperature Cable – DST-11
Job No: 1CM002.059	Minto Mine	Date: August 2017 / Prepared by PHM / Figure: **26**
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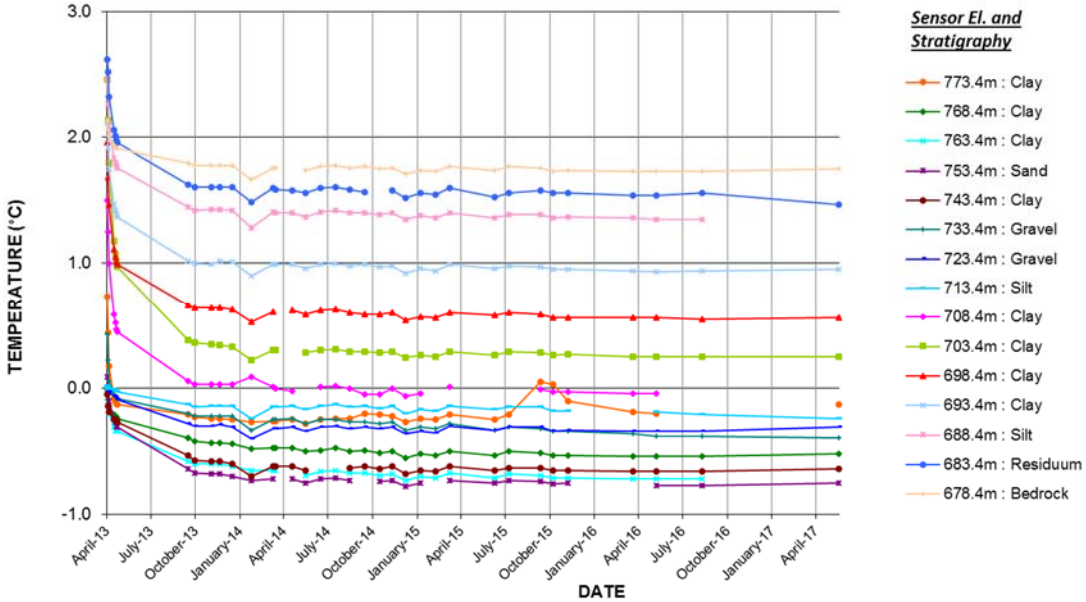

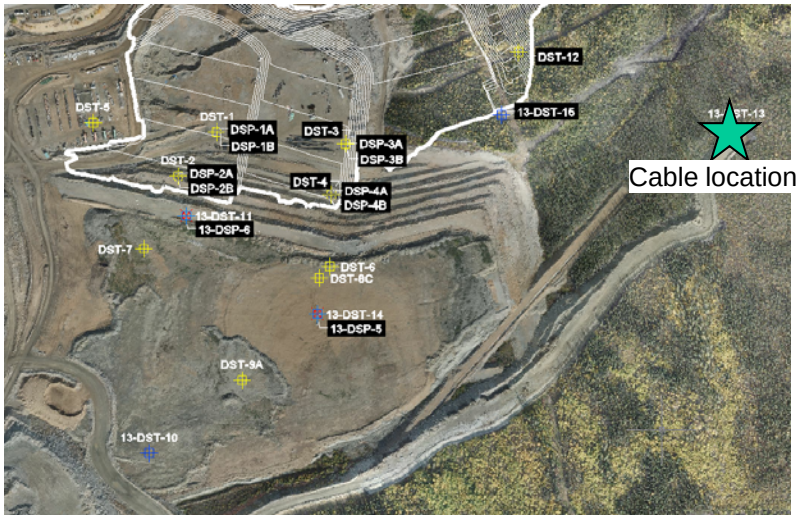

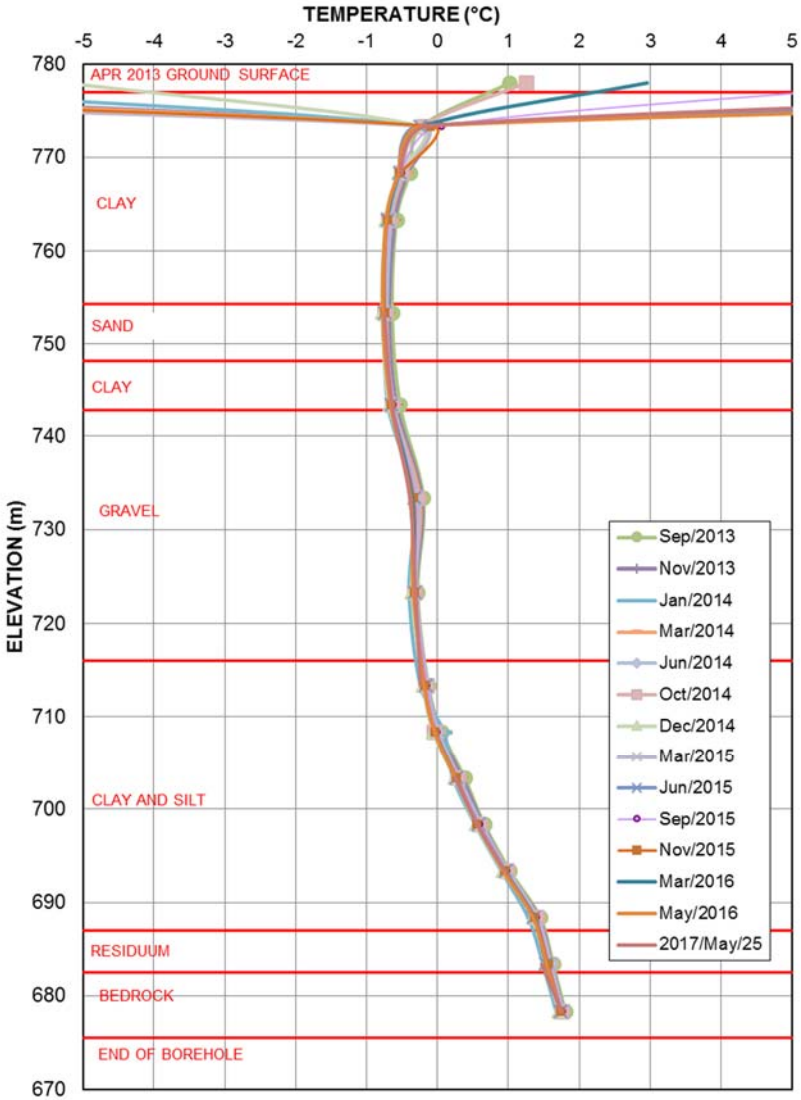

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DSTSF Instrumentation Data

Temperature Cable – DST-13

Job No: 1CM002.059

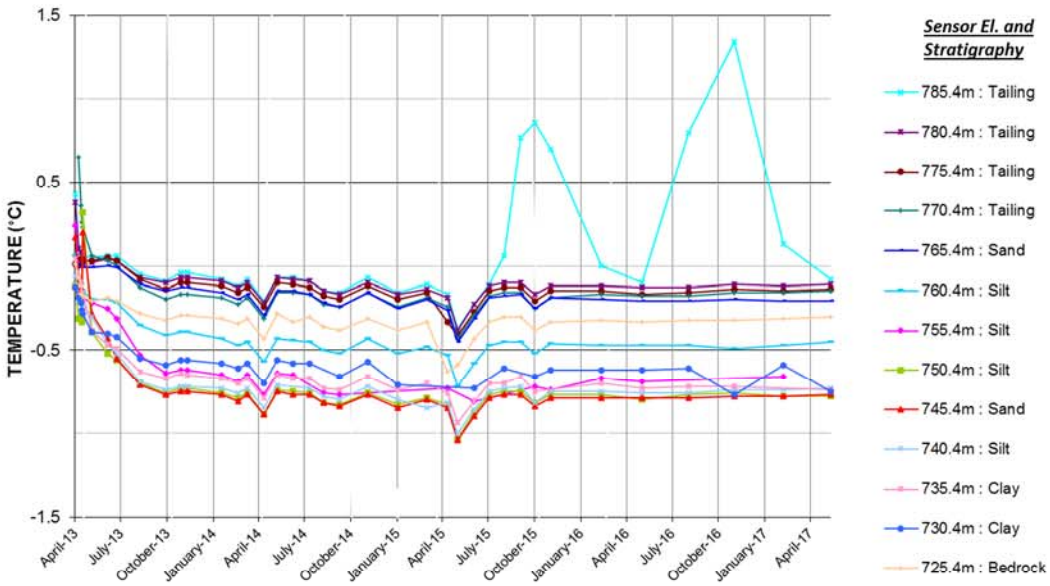
Filename: ApD_2017DSTSFLandscape.pptx

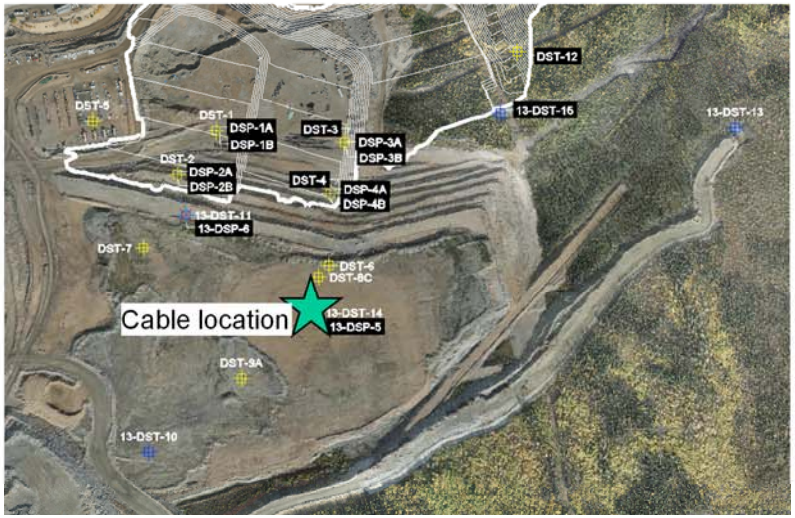
Minto Mine

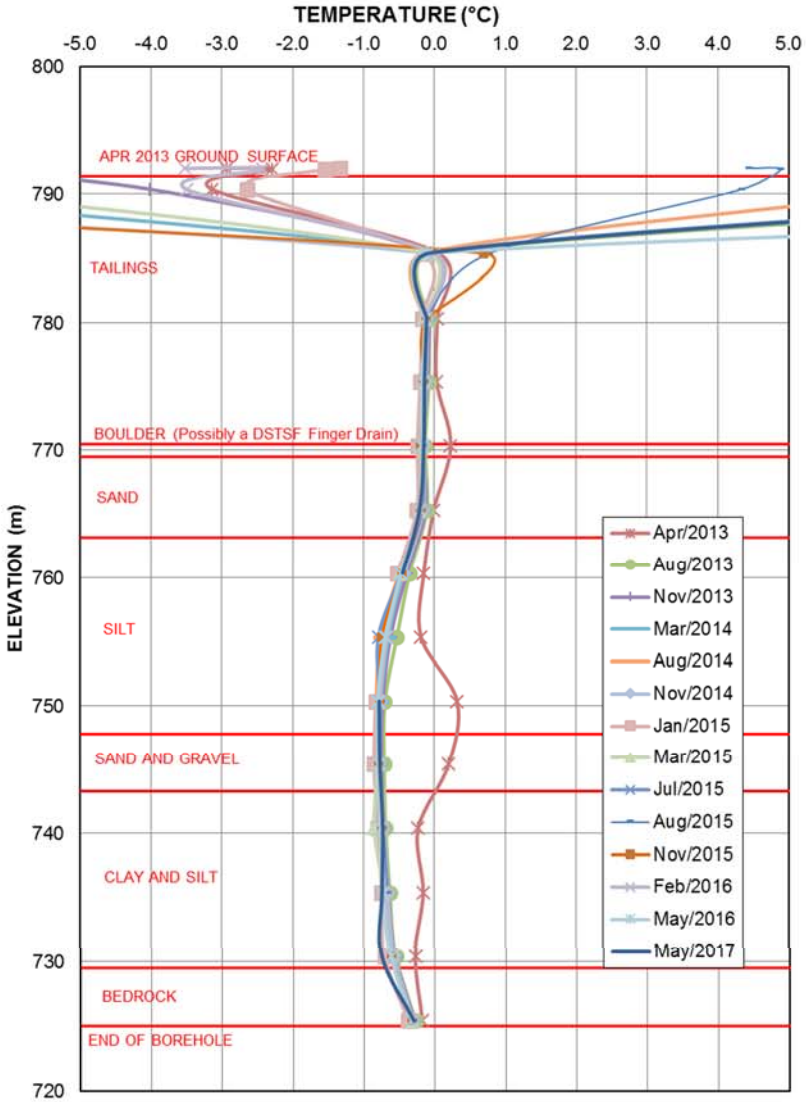
Date: August 2017

Prepared by PHM

Figure: **27**







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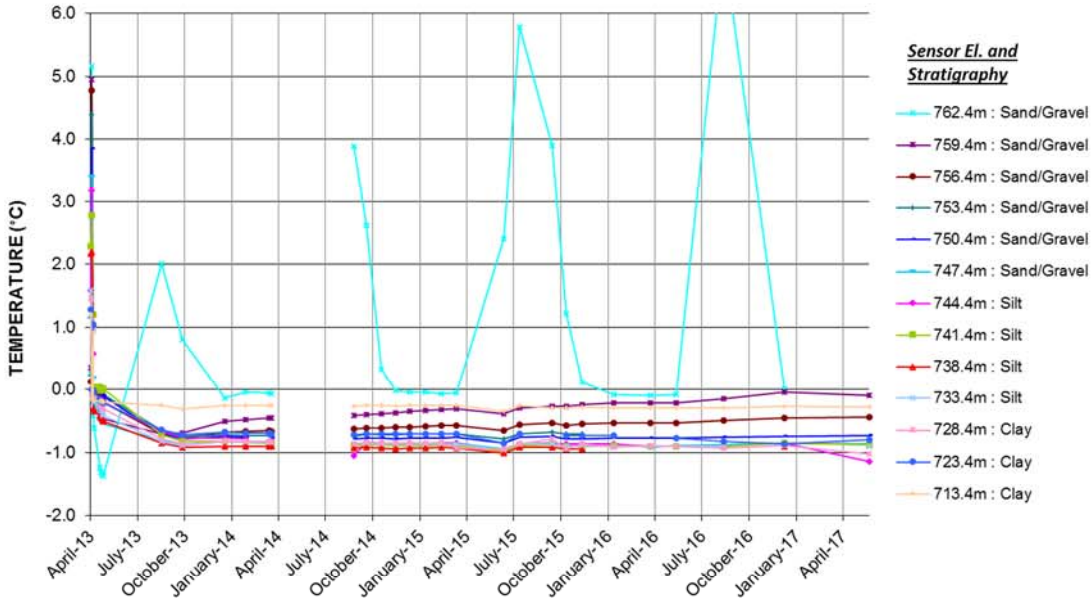
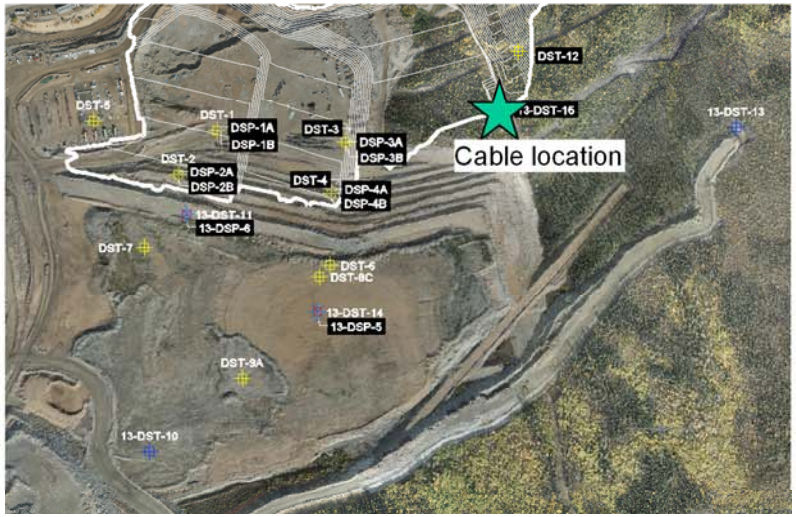
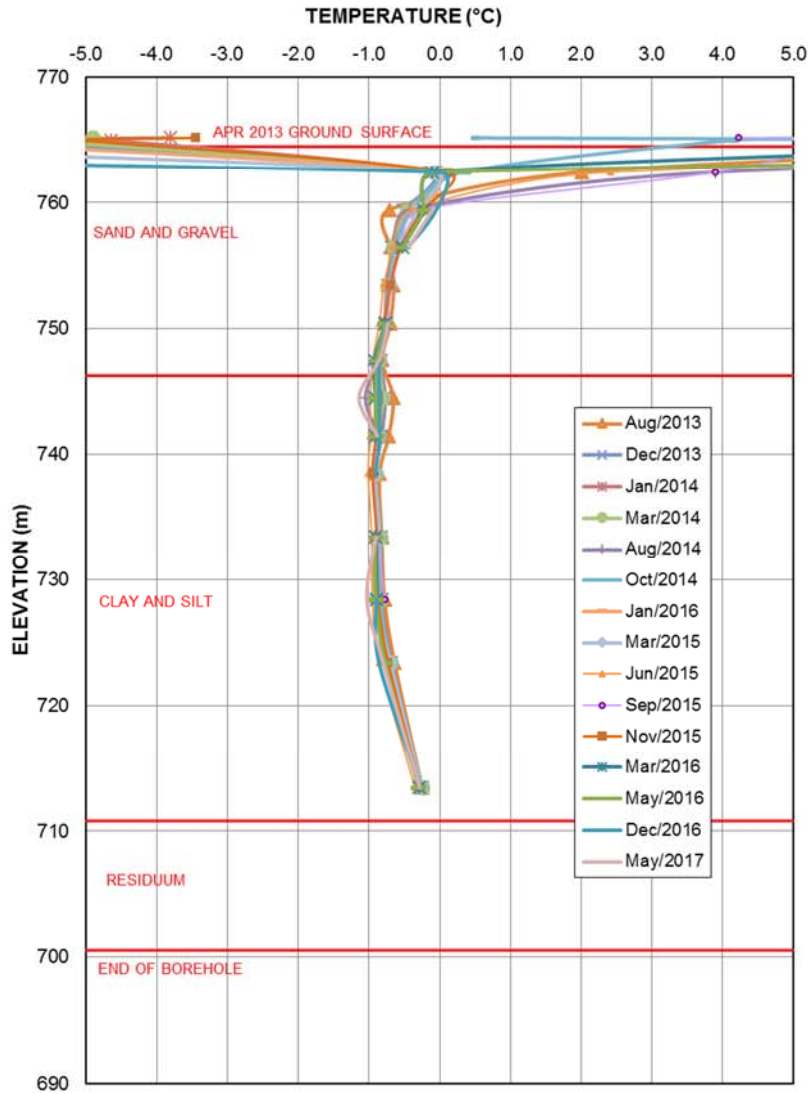
2. Excel instrumentation data: \\VAN-SVR0\Projects\01_SITES\Minto\!020_Site_Wide_Data\Geotechnical\Geotech Monitoring Data\GTC + Piezometer Instrumentation - DSTSF_2016-Geotech.xlsm

srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	DSTSF Instrumentation Data
		Temperature Cable– DST-14
Job No: 1CM002.059	Minto Mine	Date: August 2017 / Prepared by PHM / Figure: **28**
Filename: ApD_2017DSTSFLandscape.pptx		







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2. Excel instrumentation data: \\VAN-SVR0\Projects\01_SITES\Minto\!020_Site_Wide_Data\Geotechnical\Geotech Monitoring Data\GTC + Piezometer Instrumentation - DSTSF_2016-Geotech.xlsm

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OPERATED BY MINTO EXPLORATIONS LTD.

DSTSF Instrumentation Data

Temperature Cable – DST-15

Job No: 1CM002.059

Filename: ApD_2017DSTSFLandscape.pptx

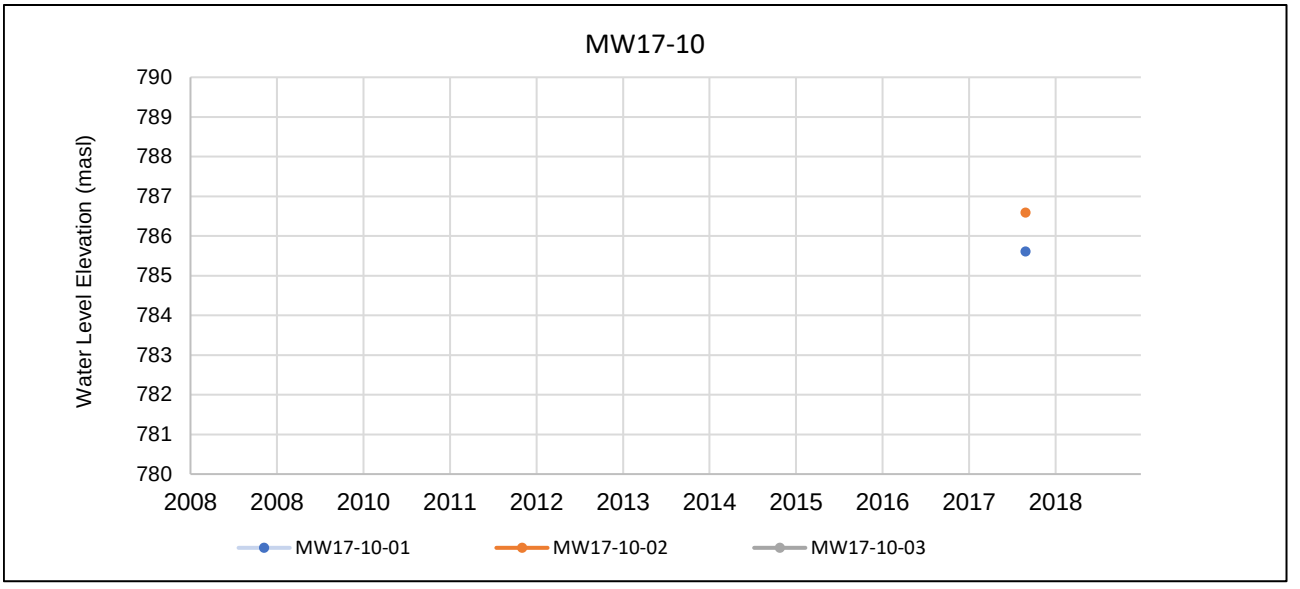
Minto Mine

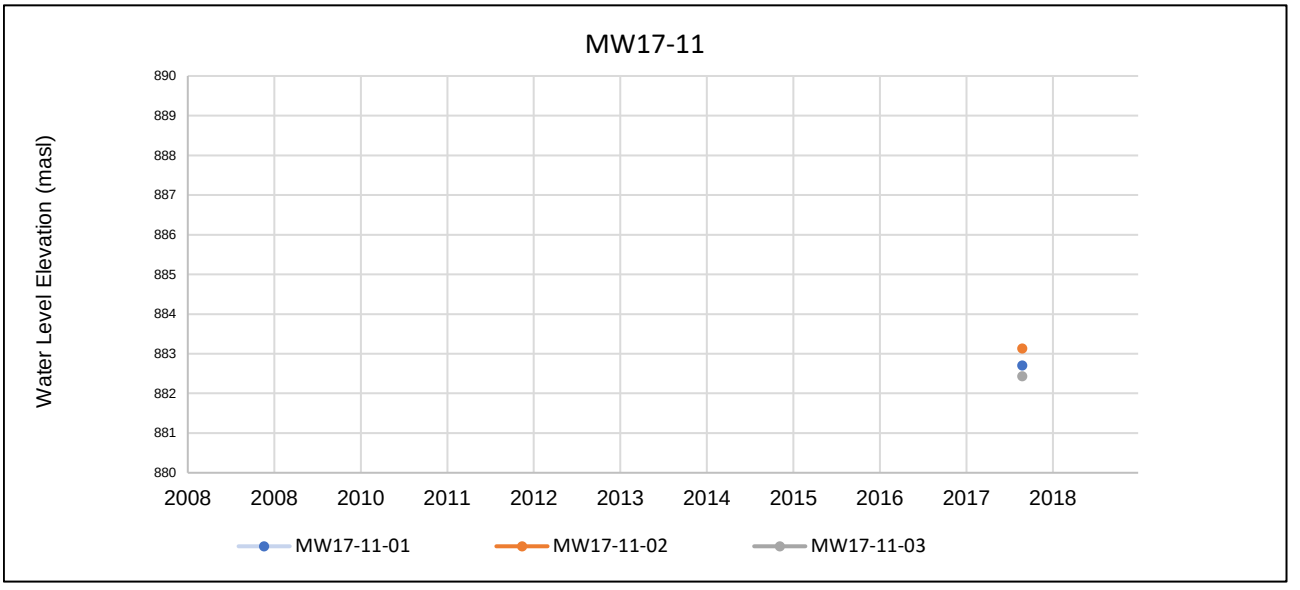
Date: August 2017

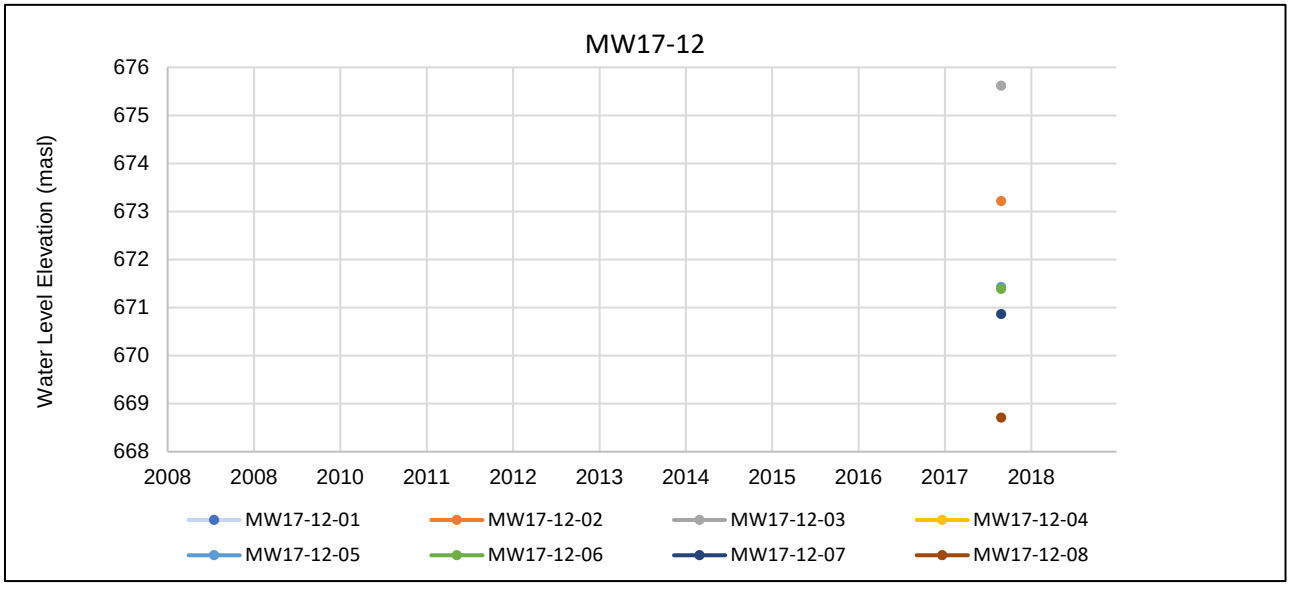
Prepared by PHM

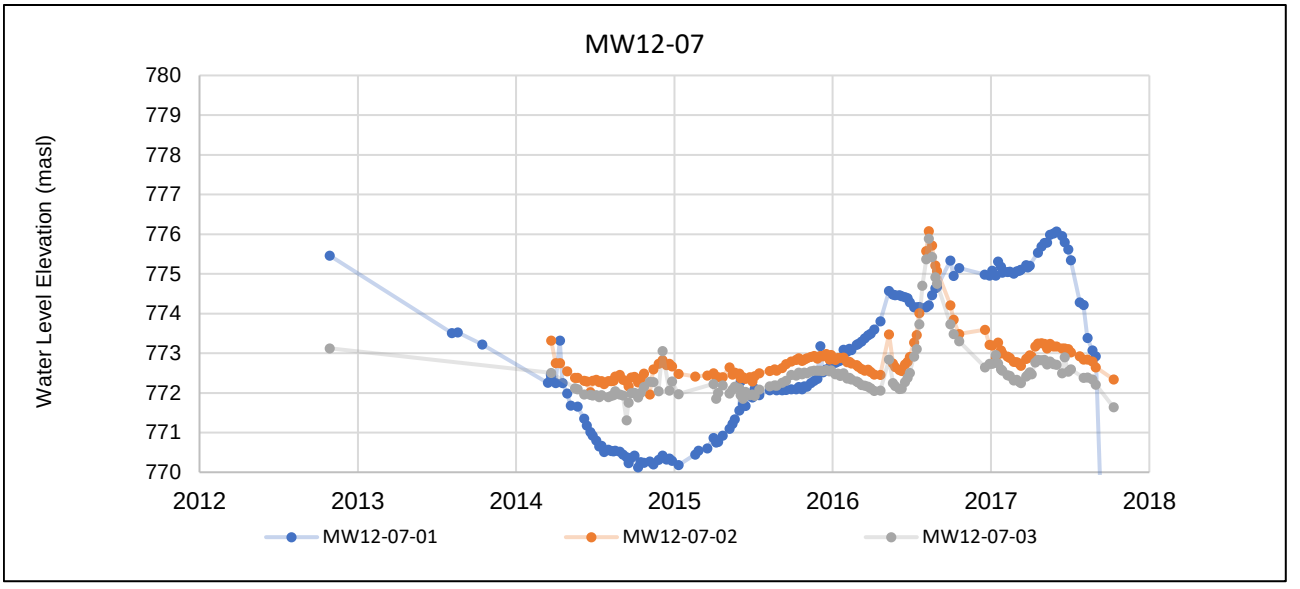
Figure: **29**

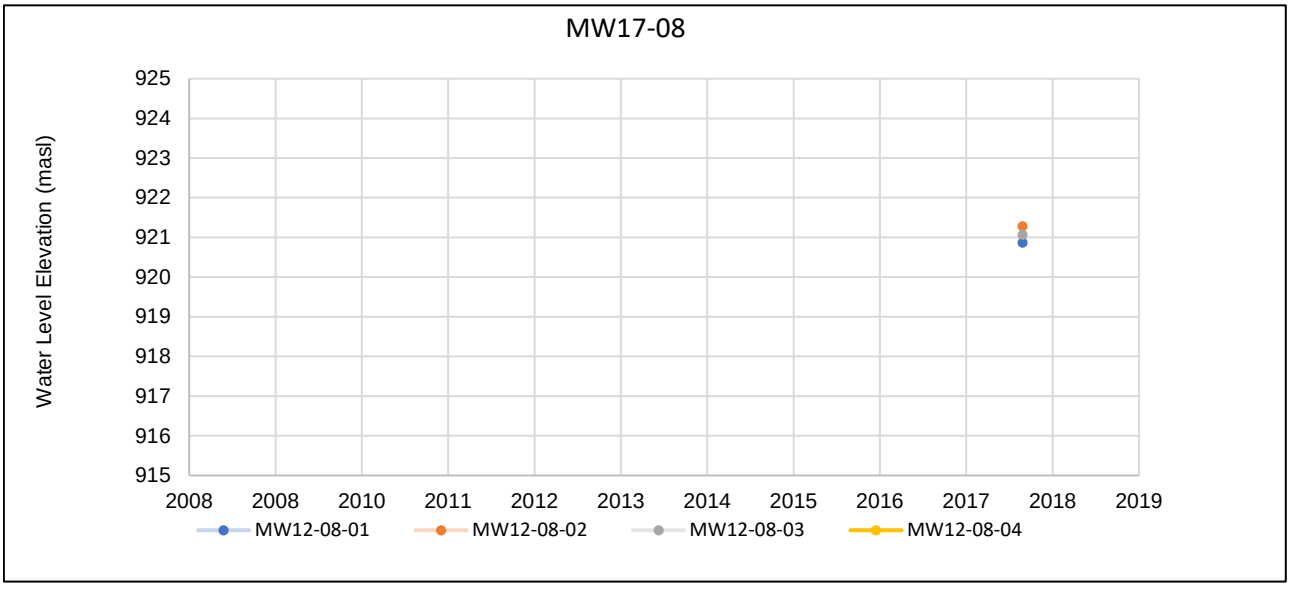
Appendix D – Time Series of Hydraulic Head

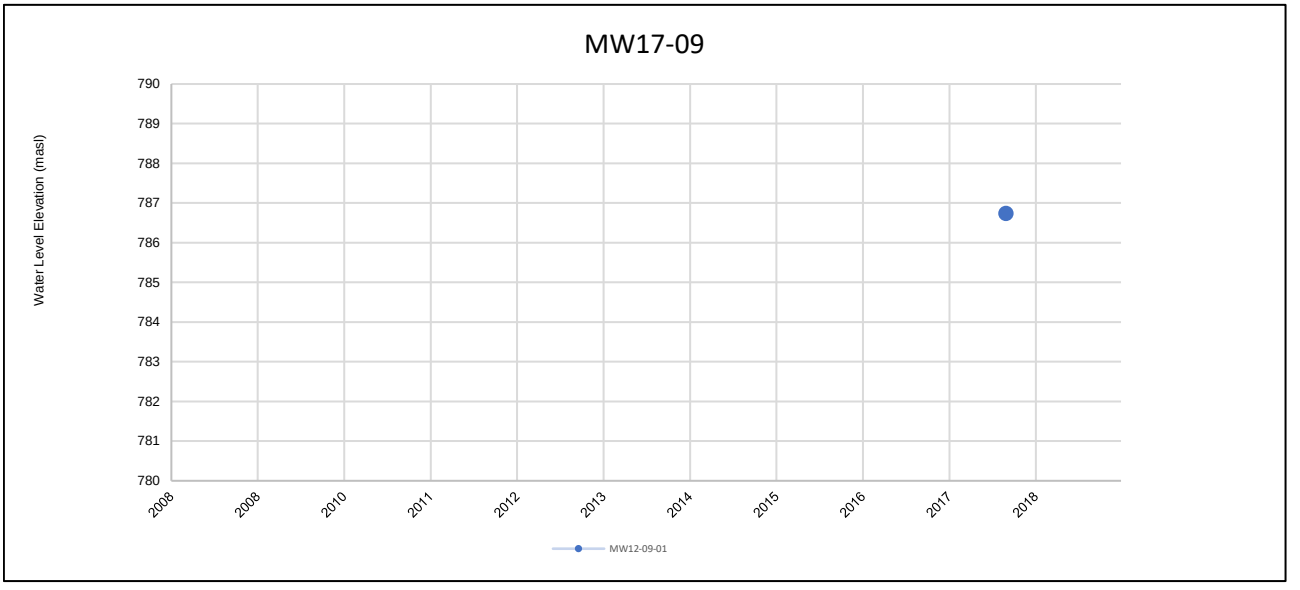

MW17-10
Water Level Elevation (masl)
790
789
788
787
786
785
784
783
782
781
780
2008
2008
2010
2011
2012
2013
2014
2015
2016
2017
2018
MW17-10-01
MW17-10-02
MW17-10-03

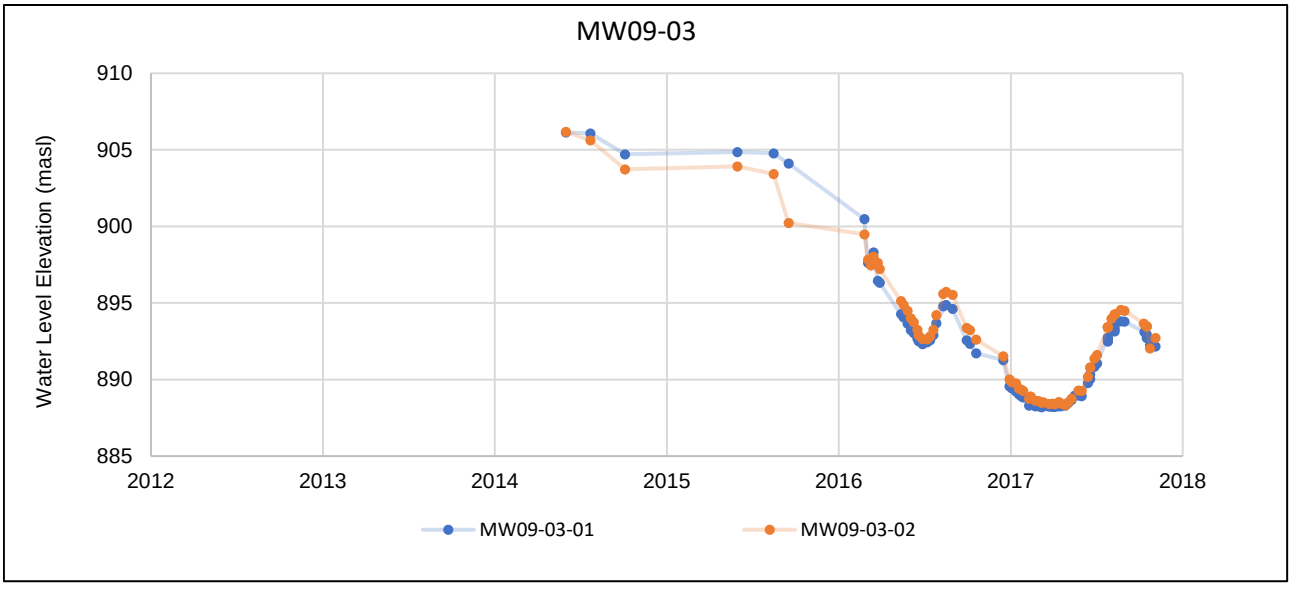

MW17-11
Water Level Elevation (masl)
890
889
888
887
886
885
884
883
882
881
880
2008
2008
2010
2011
2012
2013
2014
2015
2016
2017
2018
MW17-11-01
MW17-11-02
MW17-11-03

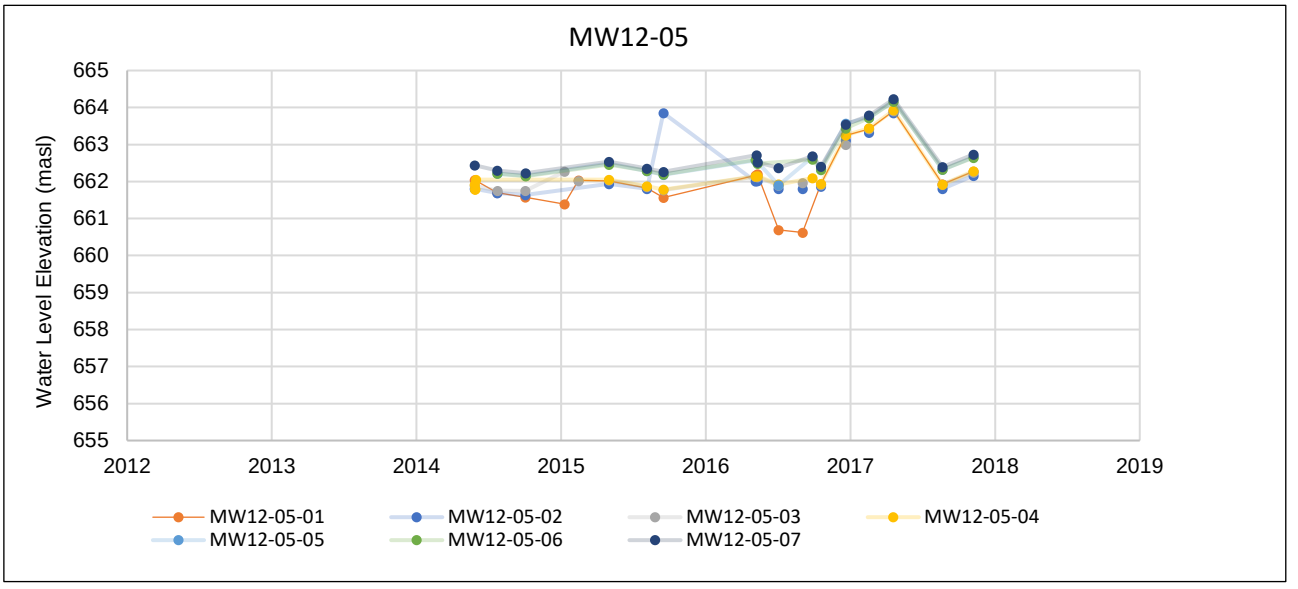

MW17-12
Water Level Elevation (masl)
676
675
674
673
672
671
670
669
668
2008
2008
2010
2011
2012
2013
2014
2015
2016
2017
2018
MW17-12-01
MW17-12-02
MW17-12-03
MW17-12-04
MW17-12-05
MW17-12-06
MW17-12-07
MW17-12-08

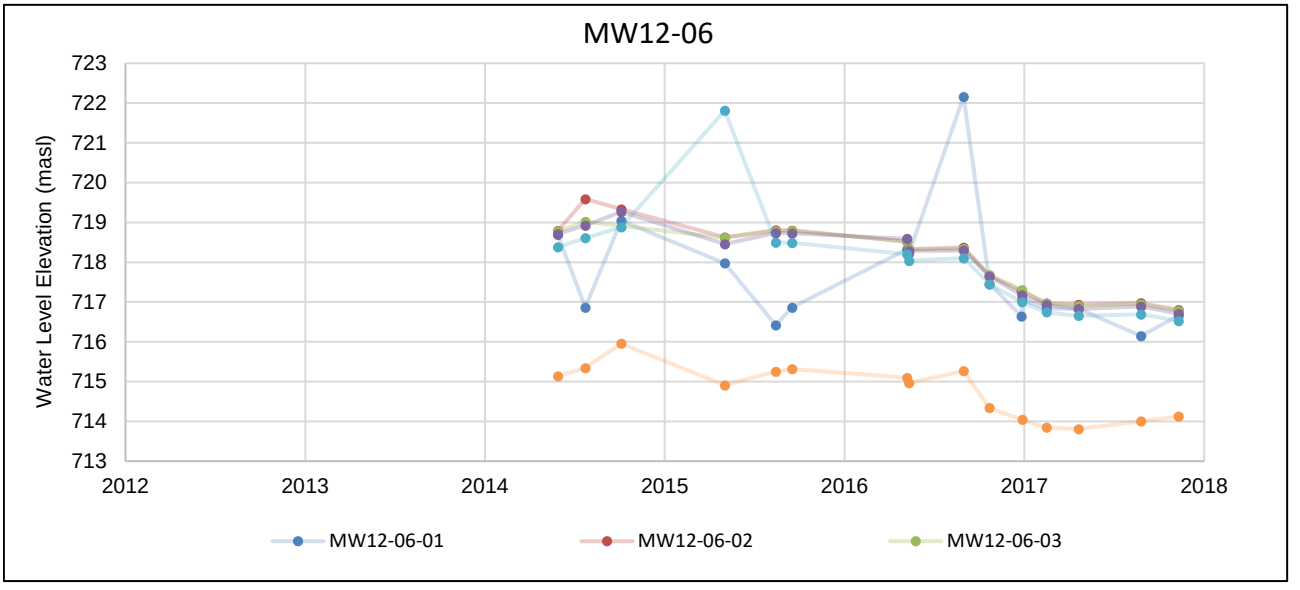

MW12-07
Water Level Elevation (masl)
780
779
778
777
776
775
774
773
772
771
770
2012
2013
2014
2015
2016
2017
2018
MW12-07-01
MW12-07-02
MW12-07-03


MW17-08
Water Level Elevation (masl)
925
924
923
922
921
920
919
918
917
916
915
2008
2008
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
MW12-08-01
MW12-08-02
MW12-08-03
MW12-08-04

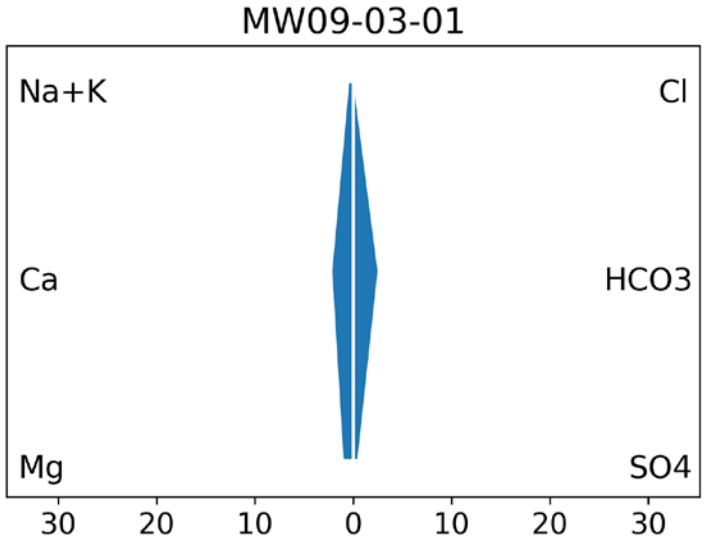

MW17-09
Water Level Elevation (masl)
790
789
788
787
786
785
784
783
782
781
780
2008
2008
2010
2011
2012
2013
2014
2015
2016
2017
2018
MW12-09-01

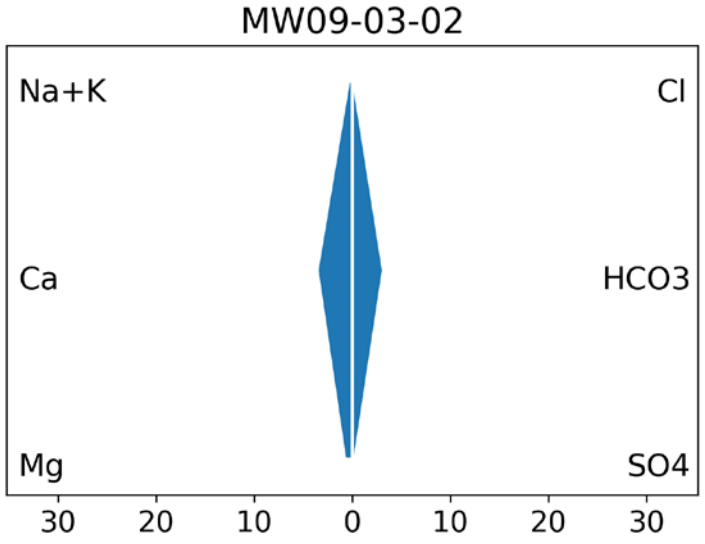

MW09-03
Water Level Elevation (masl)
910
905
900
895
890
885
2012
2013
2014
2015
2016
2017
2018
MW09-03-01
MW09-03-02

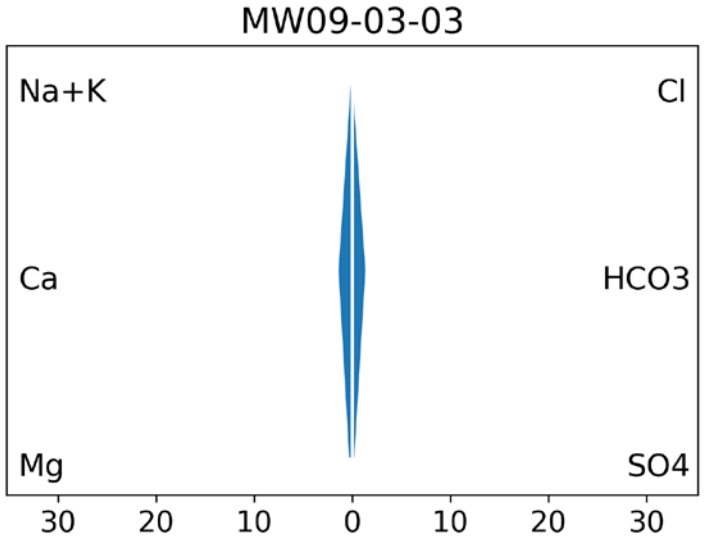

MW12-05
Water Level Elevation (masl)
665
664
663
662
661
660
659
658
657
656
655
2012
2013
2014
2015
2016
2017
2018
2019
MW12-05-01
MW12-05-02
MW12-05-03
MW12-05-04
MW12-05-05
MW12-05-06
MW12-05-07

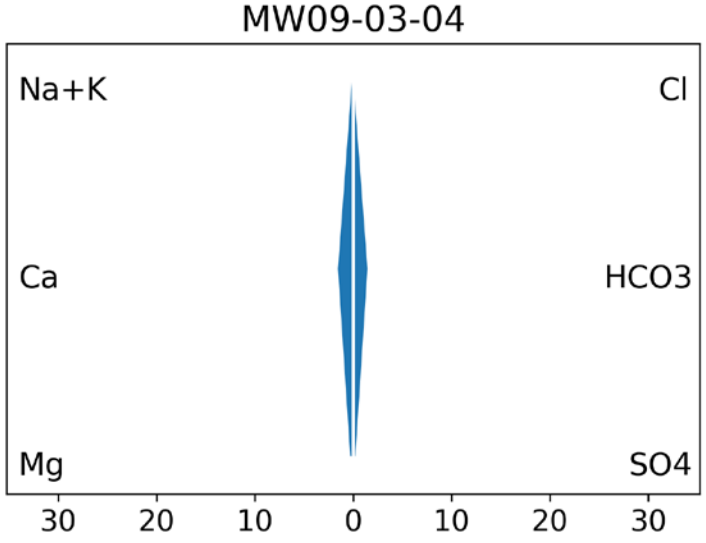

MW12-06
Water Level Elevation (masl)
723
722
721
720
719
718
717
716
715
714
713
2012
2013
2014
2015
2016
2017
2018
MW12-06-01
MW12-06-02
MW12-06-03

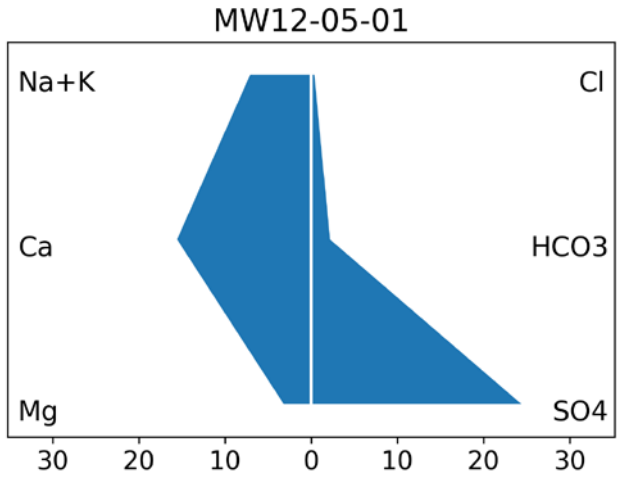
Appendix E – Stiff Diagrams

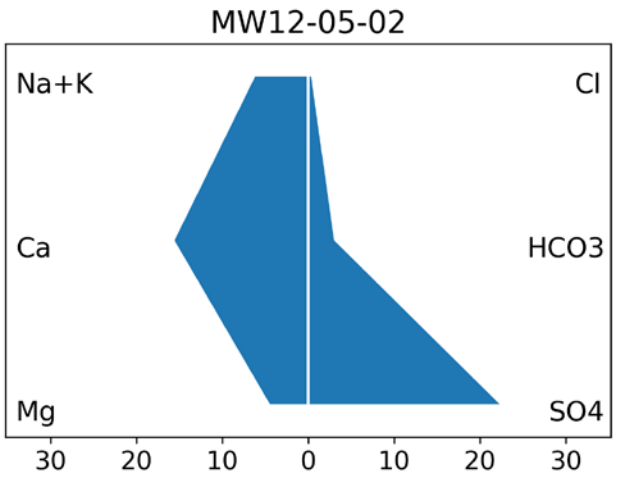

MW09-03-01
Na+K
Cl
Ca
HCO3
Mg
SO4
30 20 10 0 10 20 30

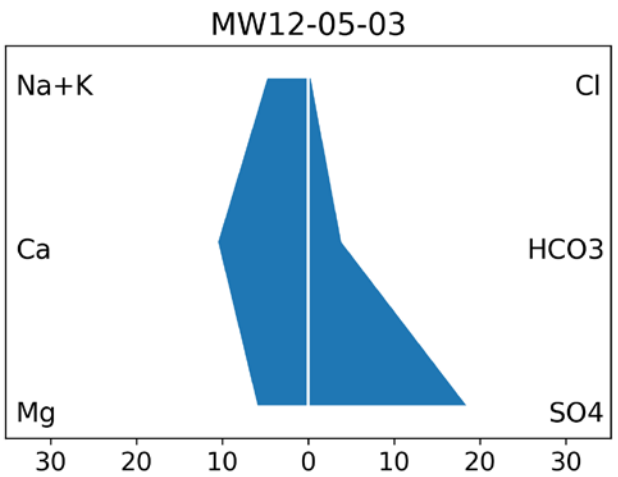

MW09-03-02
Na+K
Cl
Ca
HCO3
Mg
SO4
30 20 10 0 10 20 30

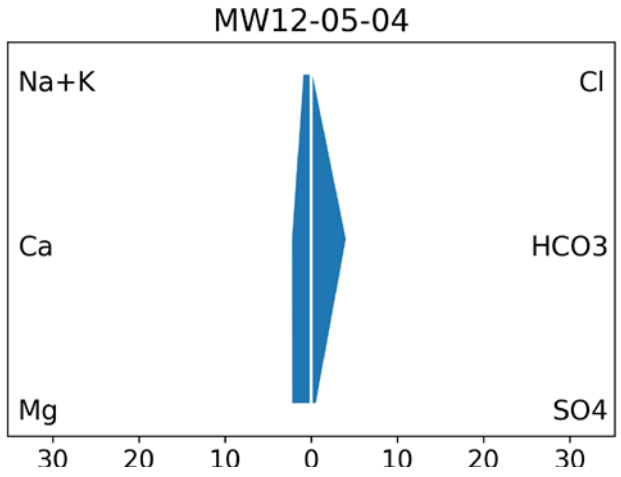

MW09-03-03
Na+K
Cl
Ca
HCO3
Mg
SO4
30 20 10 0 10 20 30

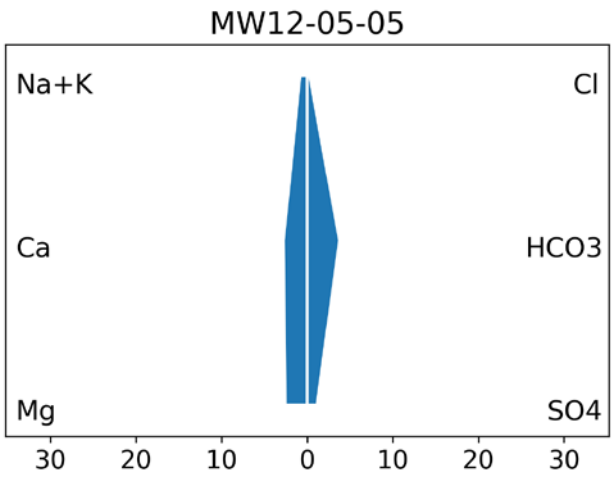

MW09-03-04
Na+K
Cl
Ca
HCO3
Mg
SO4
30 20 10 0 10 20 30

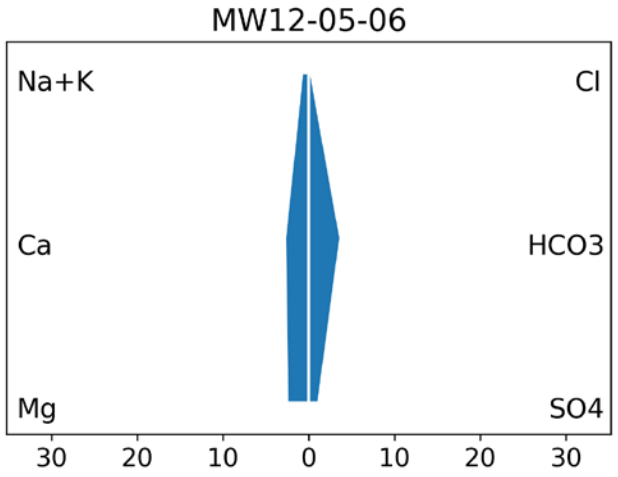

MW12-05-01
Na+K
Cl
Ca
HCO3
Mg
SO4
30 20 10 0 10 20 30

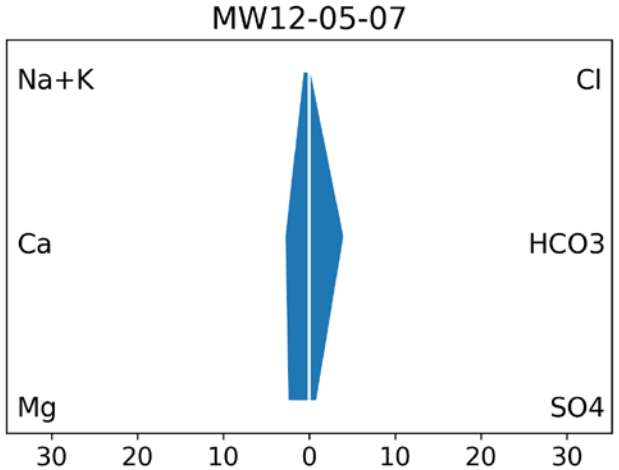

MW12-05-02
Na+K
Cl
Ca
HCO3
Mg
SO4
30 20 10 0 10 20 30

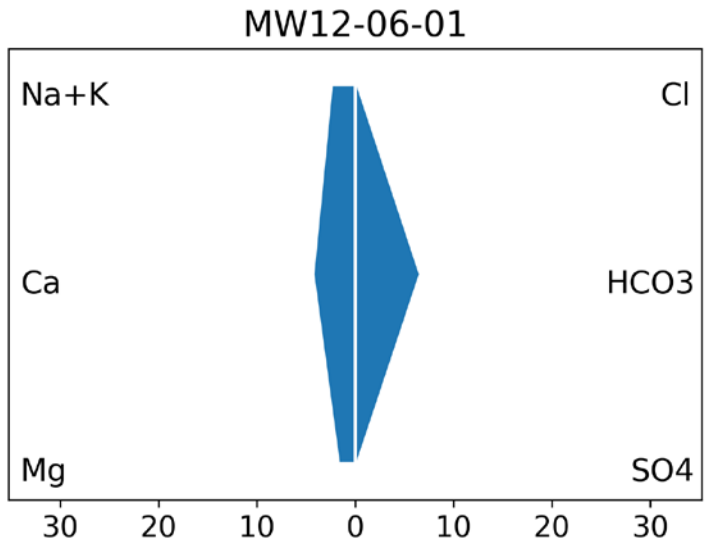

MW12-05-03
Na+K
Cl
Ca
HCO3
Mg
SO4
30 20 10 0 10 20 30

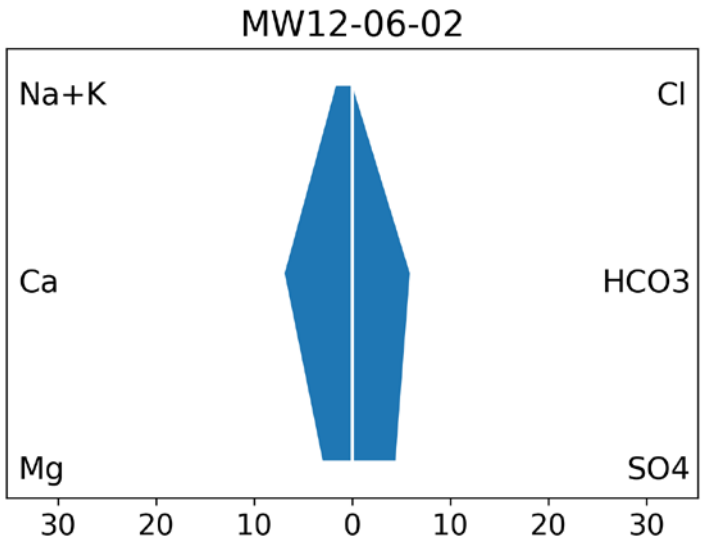

MW12-05-04
Na+K
Cl
Ca
HCO3
Mg
SO4
30 20 10 0 10 20 30

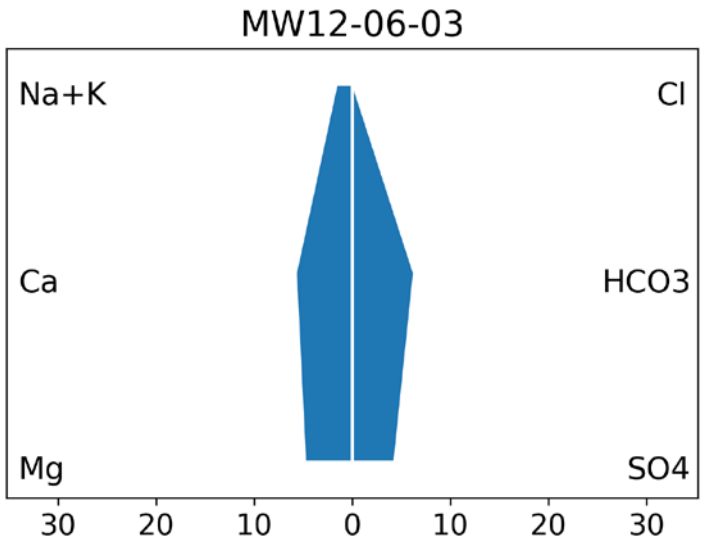

MW12-05-05
Na+K
Cl
Ca
HCO3
Mg
SO4
30 20 10 0 10 20 30


MW12-05-06
Na+K
Cl
Ca
HCO3
Mg
SO4
30 20 10 0 10 20 30


MW12-05-07
Na+K
Cl
Ca
HCO3
Mg
SO4
30 20 10 0 10 20 30


MW12-06-01
Na+K
Cl
Ca
HCO3
Mg
SO4
30 20 10 0 10 20 30


MW12-06-02
Na+K
Cl
Ca
HCO3
Mg
SO4
30 20 10 0 10 20 30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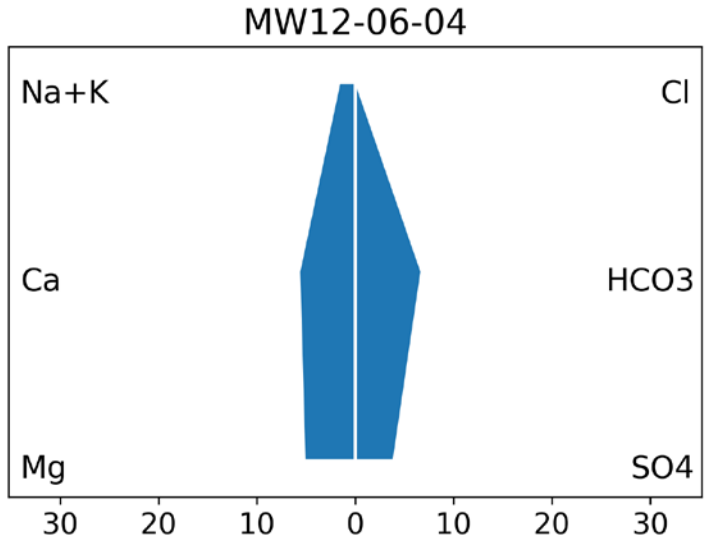
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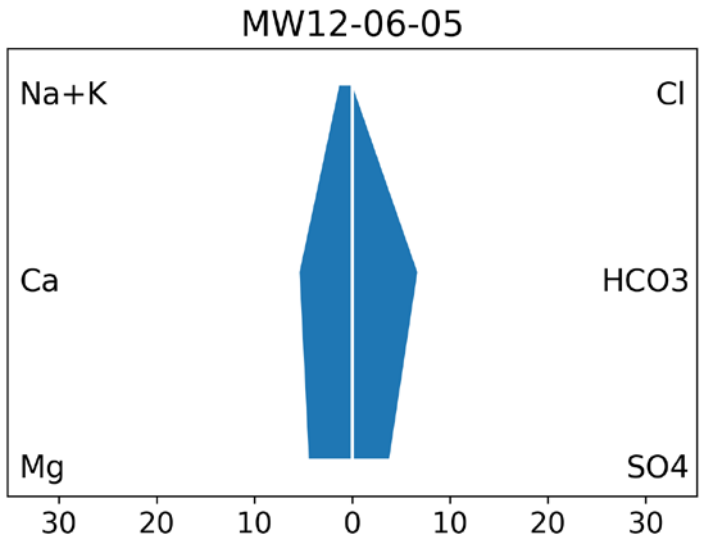
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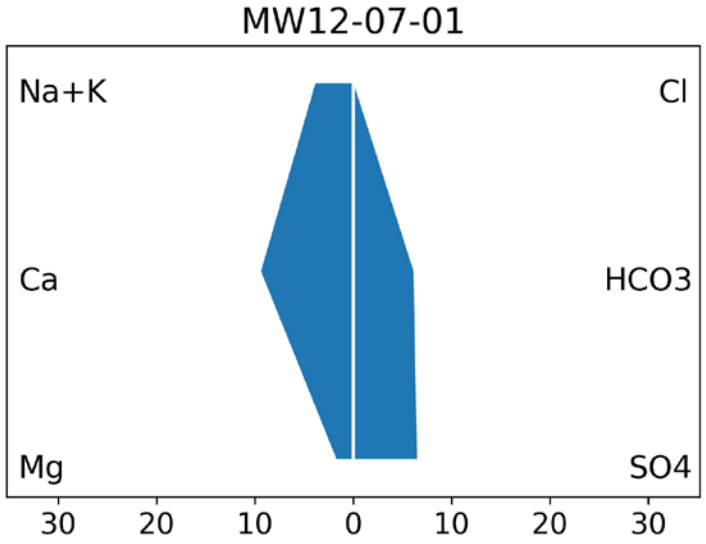
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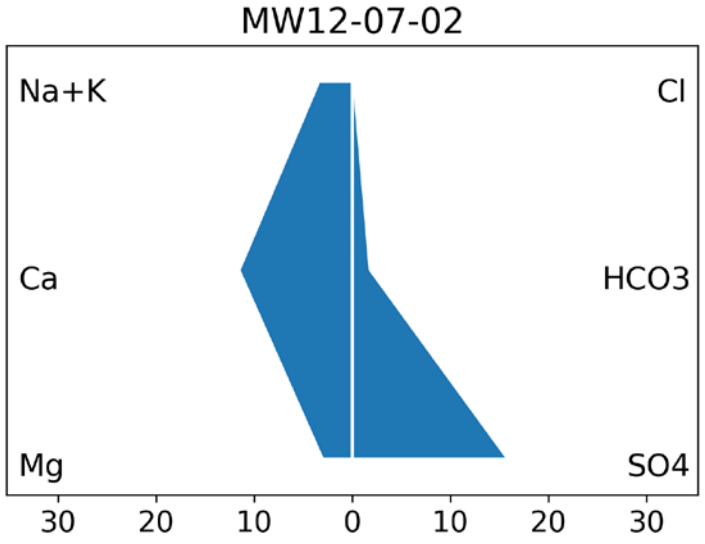
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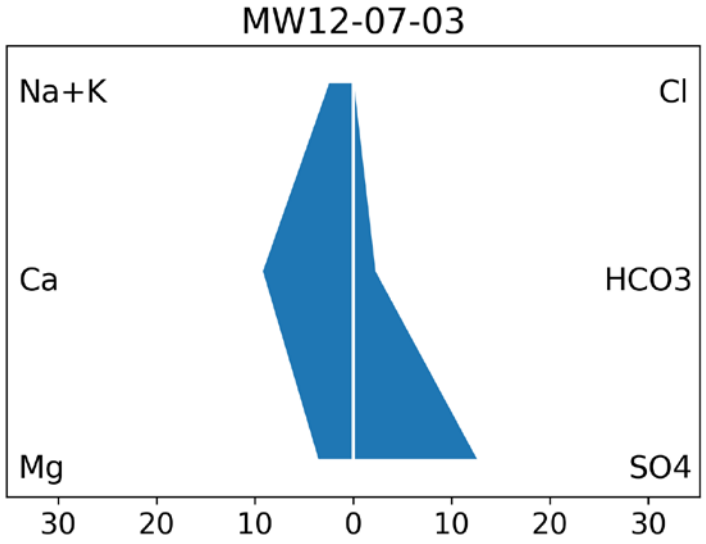
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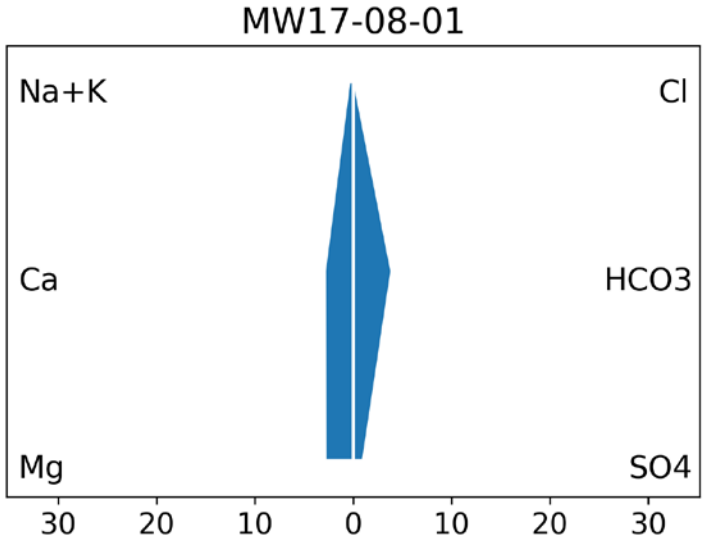
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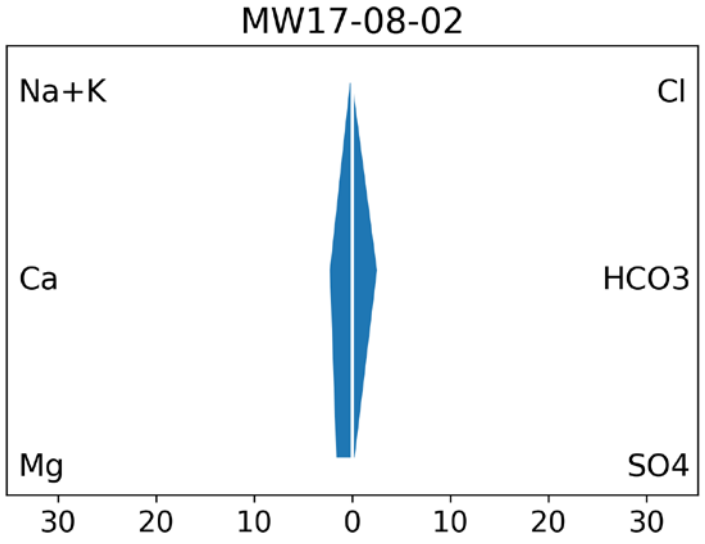
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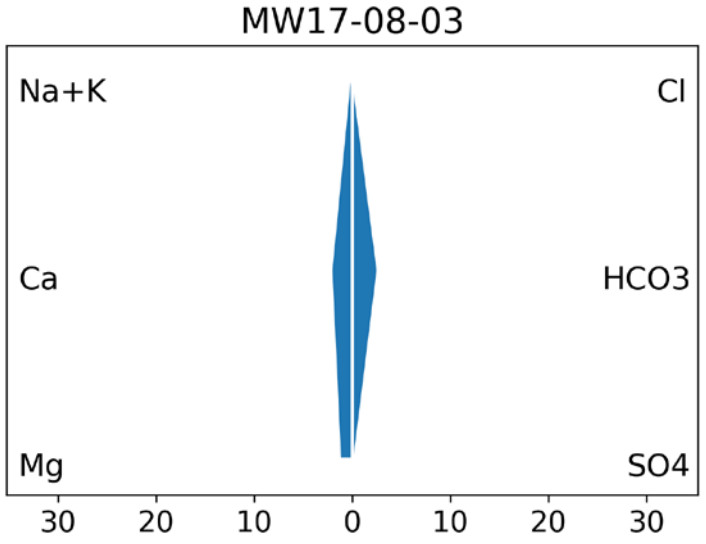
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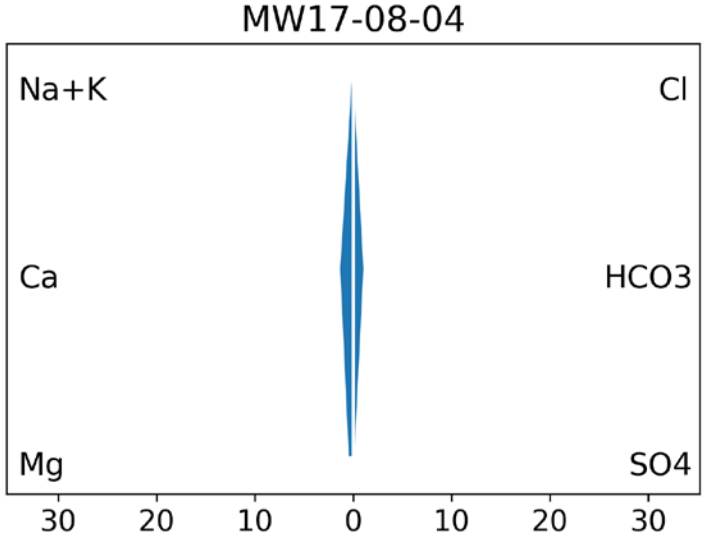
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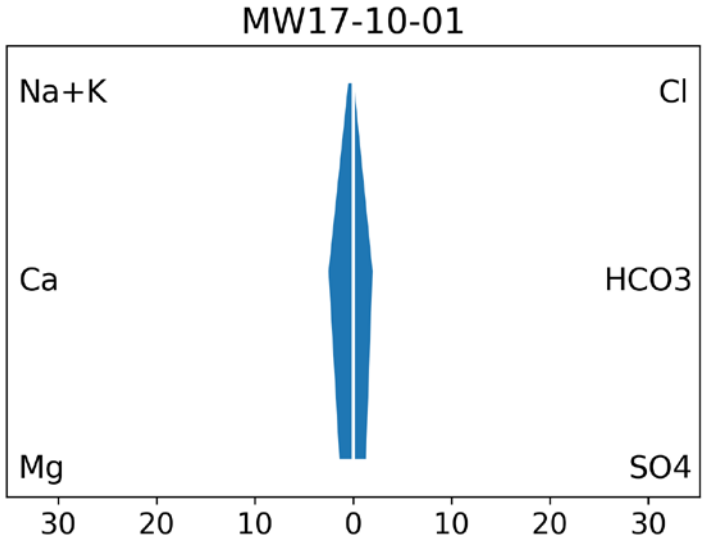
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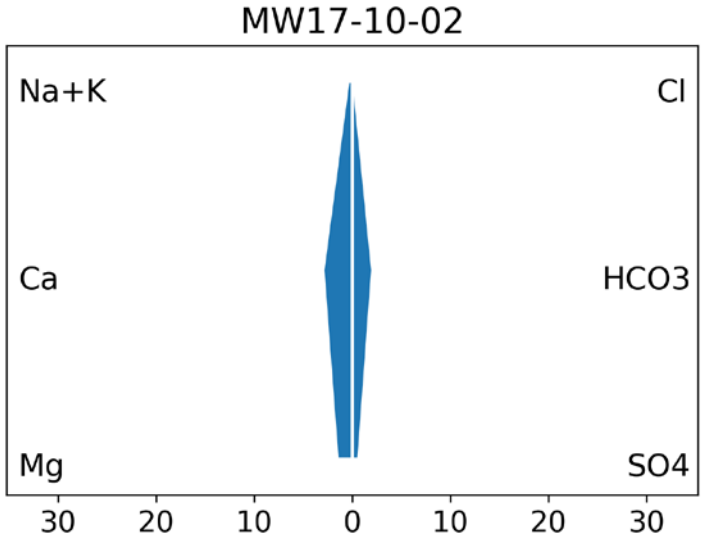
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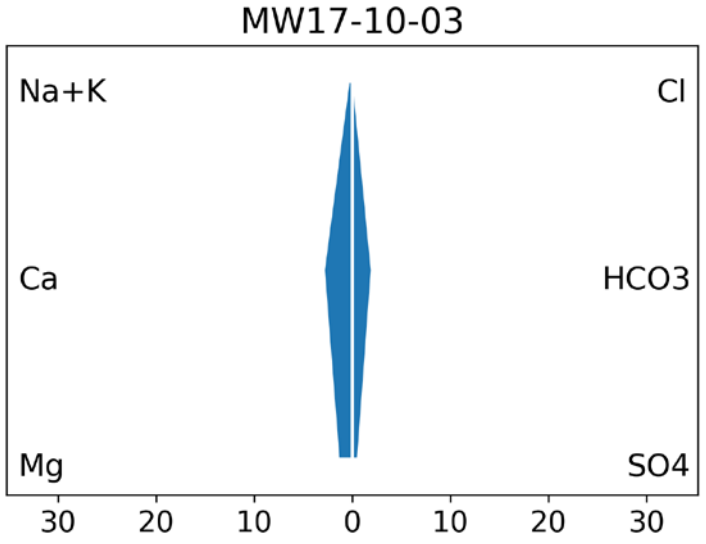
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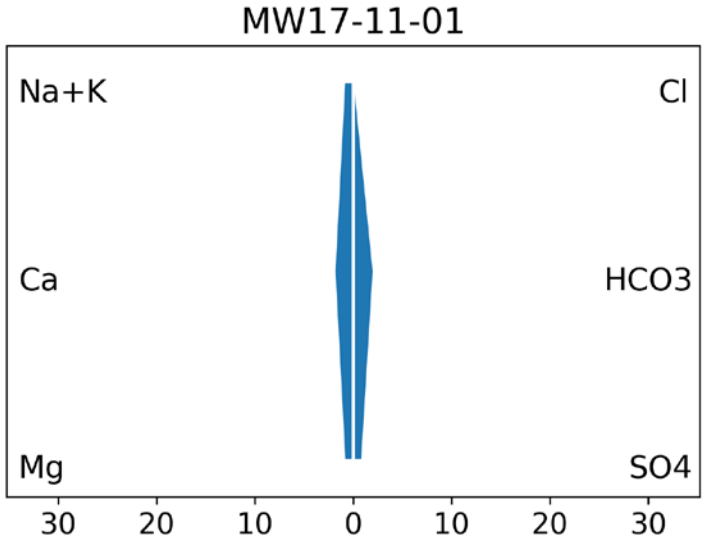
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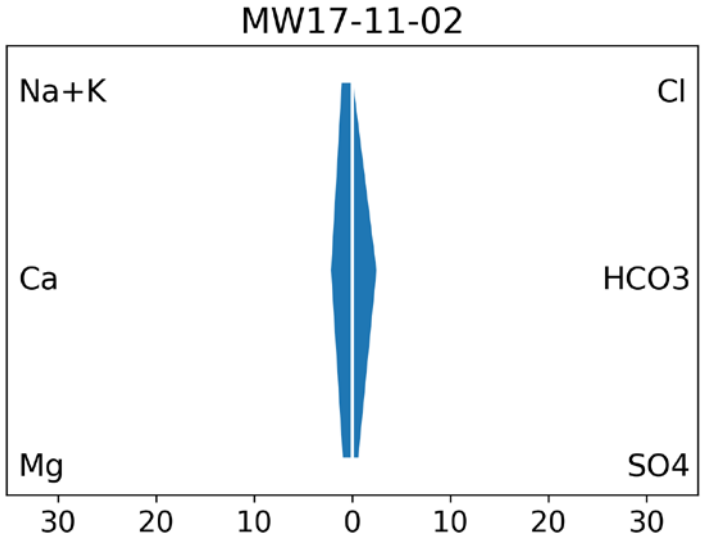
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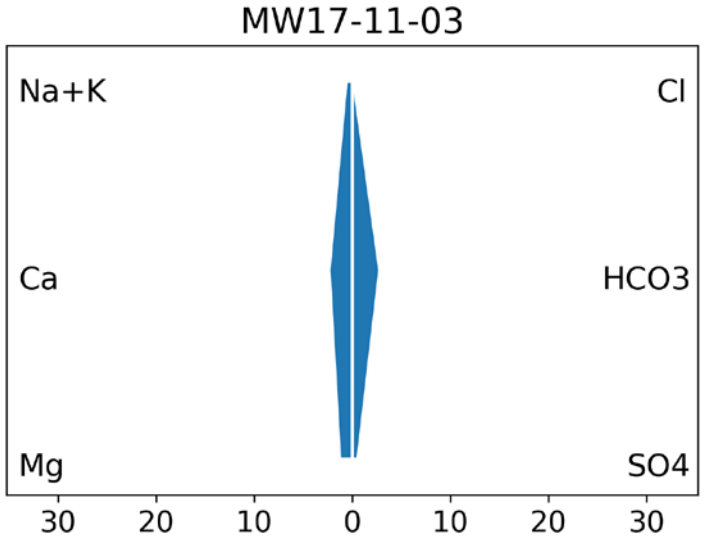
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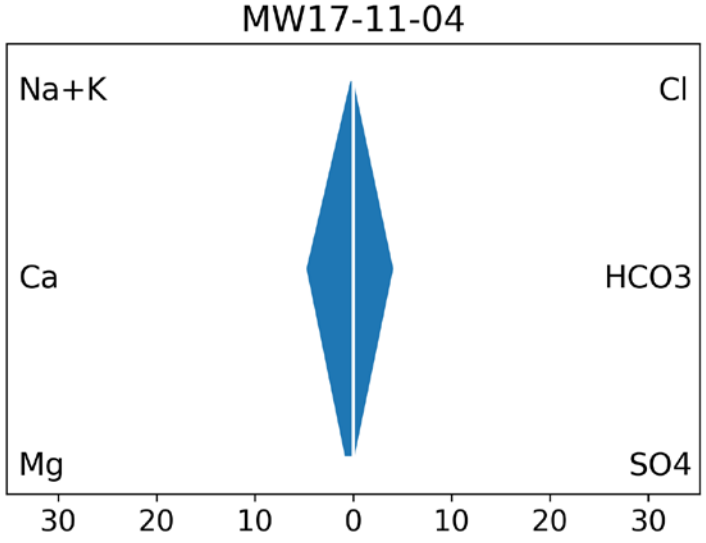
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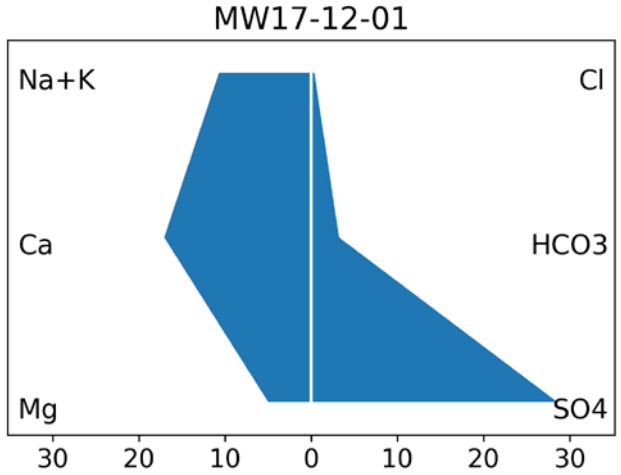
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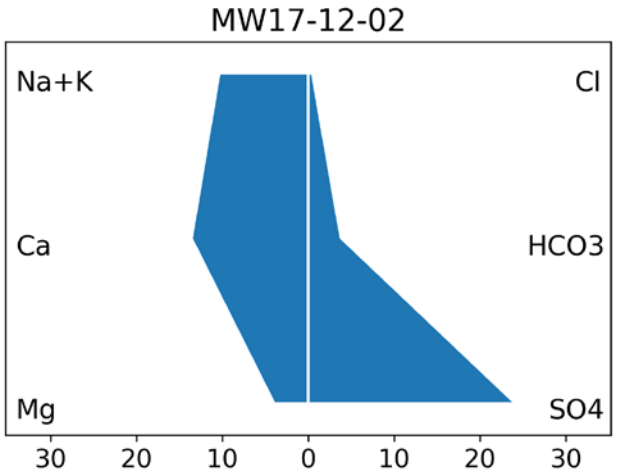
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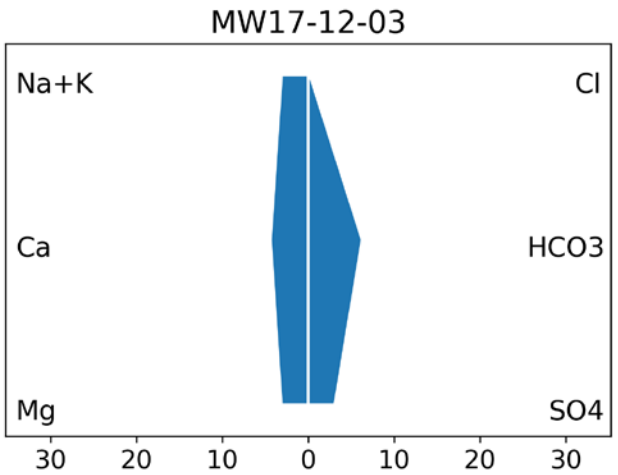
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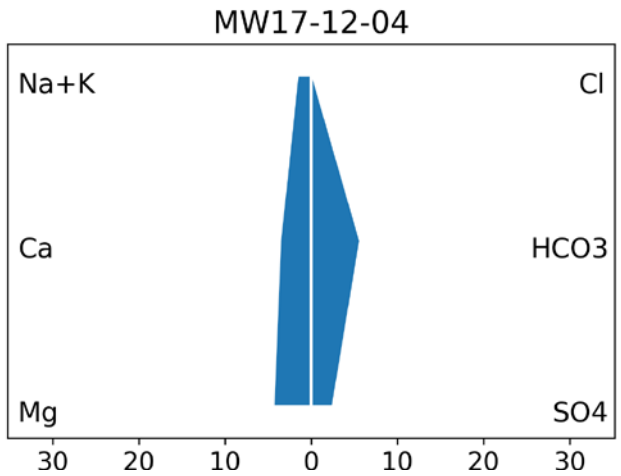
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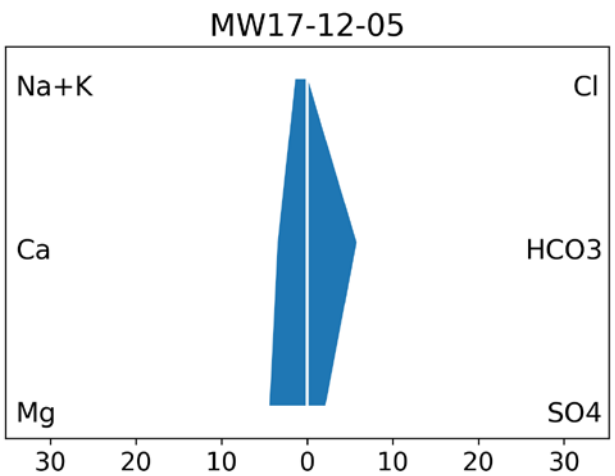
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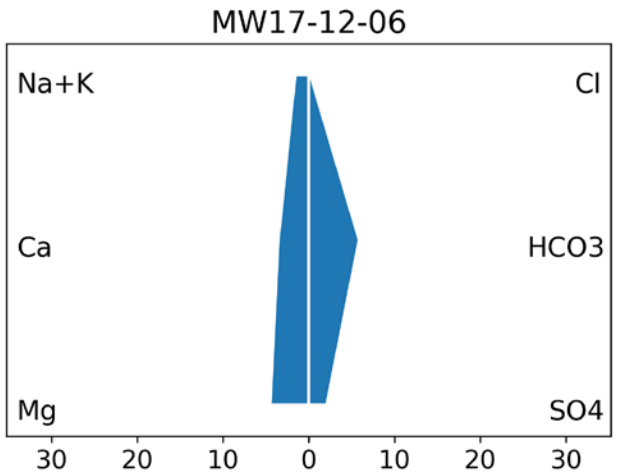
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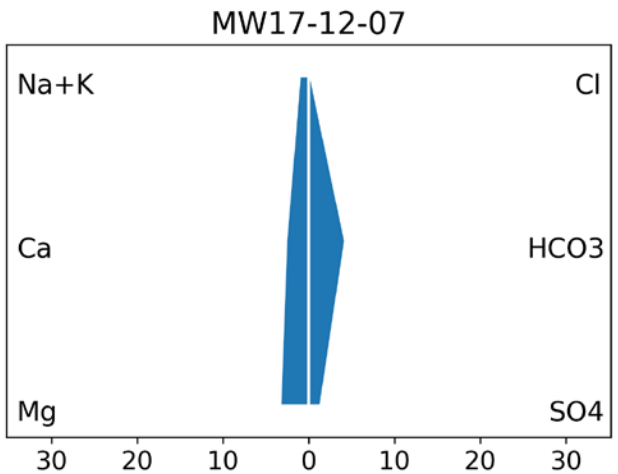
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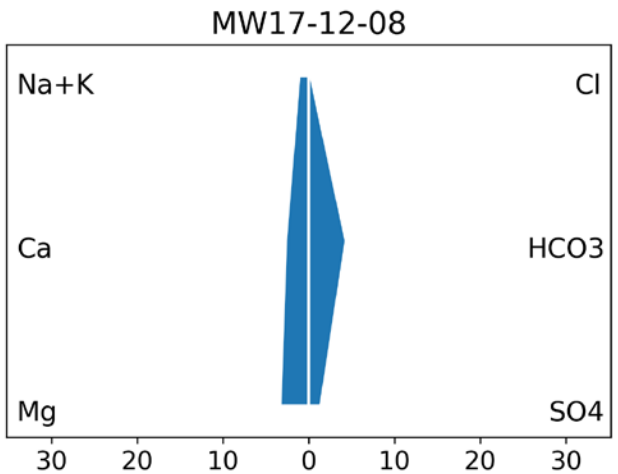
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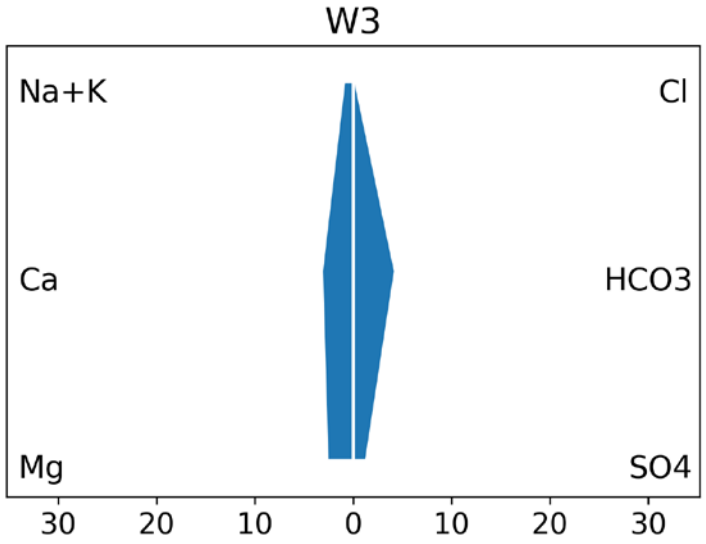
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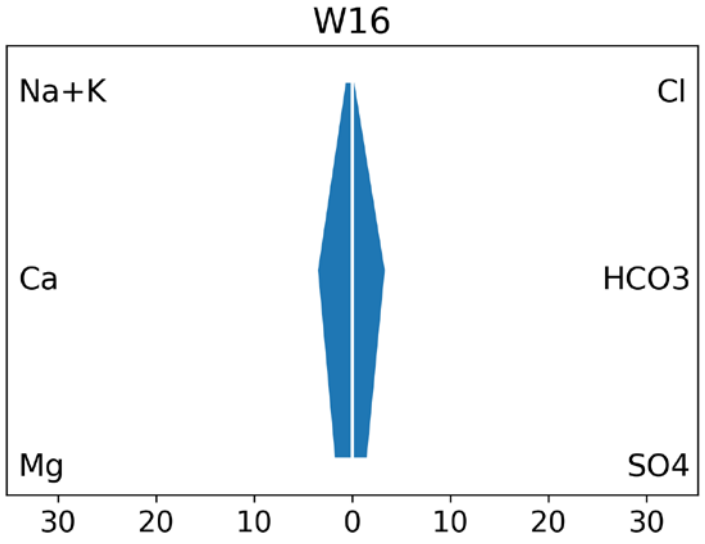
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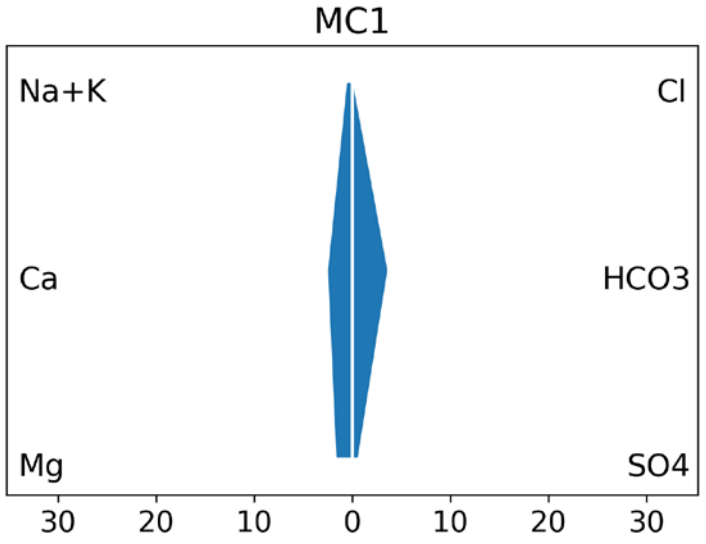
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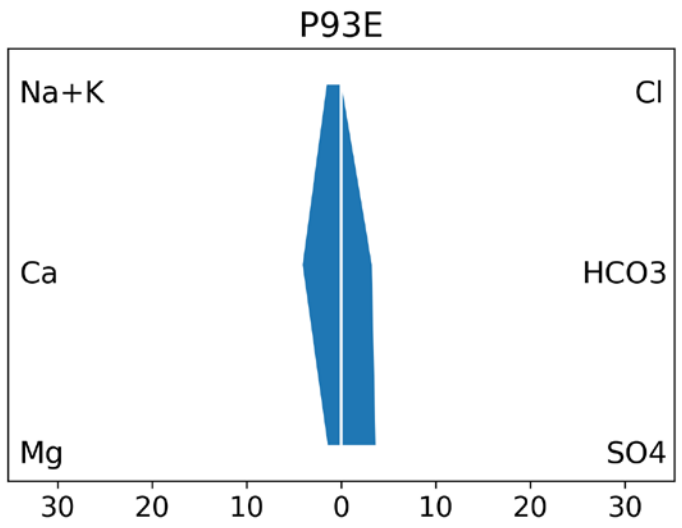
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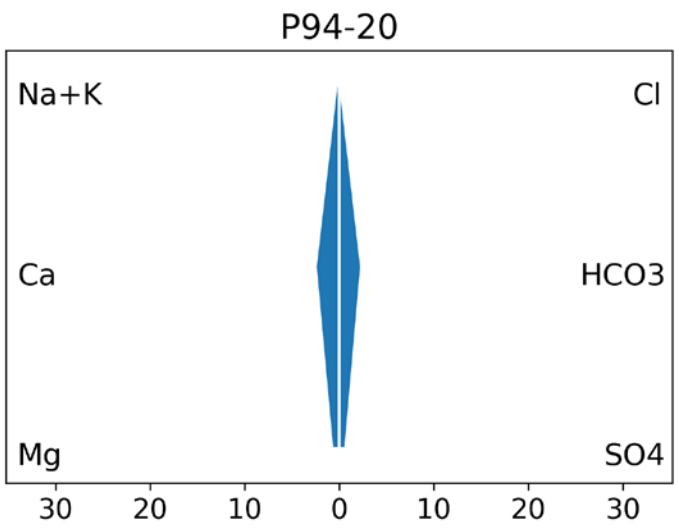
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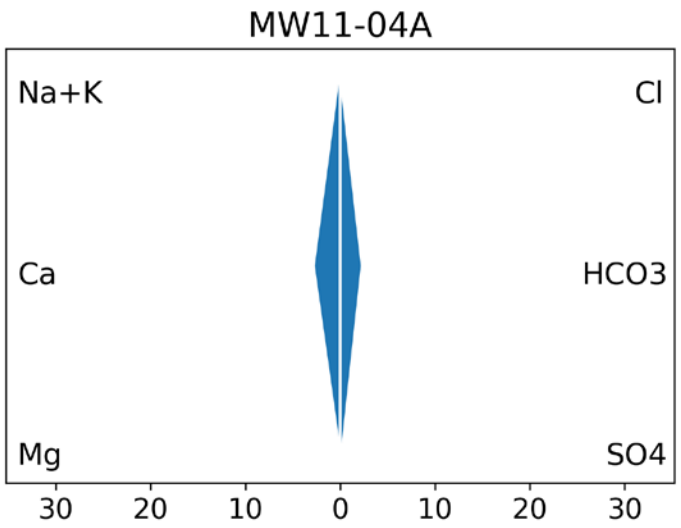
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APPENDIX 1-4B

MINTO MINE – SUMMARY OF 2017 GROUNDWATER OAMP SPT EXCEEDANCES

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Memo

To:	Ryan Herbert, Minto Explorations Ltd.	**Client:**	Minto Explorations Ltd.
From:	Dan Mackie, PGeo Ryan Burgess, MSc	**Project No:**	1CM002.057
Cc:		**Date:**	January 31, 2018
Subject:	Minto Mine – Summary of 2017 Groundwater OAMP SPT Exceedances		

1 Purpose

Groundwater monitoring at the Minto Mine, Yukon, is conducted and reviewed through the Minto Mine Groundwater Monitoring Plan (Minto, 2016) and the Operational Adaptive Management Plan (OAMP; Minto, 2017). The purpose of this memo is to summarize groundwater quality (and locations) at Minto that have exceeded a specific performance threshold (SPT) of the OAMP in 2017.

2 Background

The groundwater monitoring network at Minto includes 10 active multi-level monitoring wells that have been installed between 2009 and 2017. The monitoring wells are located across the site, both outside of the current mining footprint and topographically (and hydraulically) down gradient of mining activities. Monitoring locations are shown on Figure 1. All of these monitoring wells were installed after the start of mining (except MW09-03, which was installed after the main Minto operations began, but before mining at the adjacent Minto North Pit started). Details of groundwater monitoring locations can be found in SRK (2018).

Groundwater monitoring is conducted as required by the Groundwater Monitoring Plan. Review of groundwater monitoring results is carried out as part of the OAMP. In the OAMP, performance thresholds have been defined to establish changes in concentration and concentration values for specific constituents of concern (CoCs) at which actions may need to be taken by Minto to avoid potential impacts to the environment. Specifically, the OAMP states:

> *Specific Performance Thresholds (SPTs) are defined for each of the Effluent Quality Standards (EQS) parameters identified in Clause 9 (a), Table 1 of Water Use Licence QZ14-031, with the exception of pH, oil and grease, iron and nitrite.*

There are three SPT levels for groundwater quality defined in the OAMP for the Minto Creek Catchment, and two for the McGinty Creek Catchment. Of the 10 multi-port monitoring wells active in the monitoring network, only three are compared to the SPT in the AMP. They are MW12-05 and MW12-06 (Minto Creek Catchment), and MW09-03 (McGinty Creek Catchment). All three of these monitoring wells are located hydraulically or topographically down gradient of certain mine components:

- MW09-03 – topographically down gradient of the Minto North Pit in the McGinty Creek catchment;
- MW12-06 – hydraulically and/or topographically down gradient of the Main and Area 2 open pits, DSTSF and MVFE, in the Minto Creek catchment;
- MW12-05 – hydraulically and topographically down gradient of all mine activities in the Minto Creek catchment.

Attachment 1 provides table of SPT threshold concentrations. SPTs for each catchment are summarized below:

Minto Creek Catchment

1. SPT-1 corresponds to a trend-based assessment designed to flag potential rapidly-increasing groundwater concentrations that have not yet exceeded concentration-based thresholds.
2. SPT-2 generally corresponds to the EQS concentrations defined in the OAMP (with four exceptions: Cr-D, Cu-D, Ni-D and sulphate).
3. SPT-3 generally corresponds to the estimated concentrations in groundwater that would be necessary to cause exceedance of the Water Quality Objectives in lower Minto Creek under long term steady state conditions.

McGinty Creek Catchment

1. SPT-1 is triggered when there are three consecutive exceedances of the 75th percentile background level in a single monitoring port.
2. SPT-2 is triggered when there are three consecutive exceedances of the 95th percentile background level in a single monitoring port.

Groundwater monitoring results are reviewed monthly and, if a SPT is reached or exceeded, data are reviewed, interpretations are made, the risk narrative is assessed (in terms of the receiving environment), and management actions are defined. If an OAMP SPT has not been reached for any parameter at any location, no further action is taken on the assumption that there has been no change of significance from defined baseline conditions. Monthly OAMP reports are provided to the Yukon Government as per the OAMP.

3 Groundwater AMP SPT Events

Table 1 and Table 2 summarize groundwater locations and parameters for which OAMP SPTs have been reached for the 2017 monitoring year. CoCs at any groundwater monitoring location that are not identified in this table are assumed to not have changed by a significant amount relative to established baseline conditions. Baseline groundwater conditions are defined in the OAMP based on data from MW09-03 prior to 2015 (start of Minto North mining).

Groundwater monitoring data for all CoCs are included in Attachment 2.

Table 1 Minto Creek Catchment threshold exceedances

Monitoring Well Zone	Parameter	SPT	Context
MW12-05-01	SO_4	2	4 out of 4 samples exceeded threshold concentration
MW12-05-02		2	4 out of 4 samples exceeded threshold concentration
MW12-05-03		1	Increase in concentration has stabilized
MW12-06-01	Se	1	Isolated variation in data resulted in exceedance; see Attachment 2
	As	1	Isolated variation in data resulted in exceedance; see Attachment 2
	Cr	3	3 out of 3 samples exceeded threshold concentration

Table 2 McGinty Creek Catchment threshold exceedances

Monitoring Well Zone	Parameter	SPT	Context
MW09-03-01	As	1	9 out of 9 samples exceeded threshold concentration
		2	4 out of 9 samples exceeded threshold concentration
	Zn	1	5 out of 9 samples exceeded threshold concentration
		2	3 out of 9 samples exceeded threshold concentration
	Mo	1	2 out of 9 samples exceeded threshold concentration
	Se	1	3 out of 9 samples exceeded threshold concentration
MW09-03-02	SO_4	1	6 out of 9 samples exceeded threshold concentration but concentration is < 5 mg/L
	NO_3	2	9 out of 9 samples exceeded threshold concentration
	Cd	1	5 out of 9 samples exceeded threshold concentration
	Zn	1	8 out of 9 samples exceeded threshold concentration
	Zn	2	7 out of 9 samples exceeded threshold concentration

4 Discussion

Monitoring results for CoCs are routinely reviewed to provide context on potential impacts of mining activities to groundwater. Groundwater SPT exceedances (events) have occurred for a limited number of parameters and do not necessarily correlate with distance from mining activities (i.e., events have not necessarily all occurred at monitoring wells in relatively close proximity to mining activities). Some of these events may reflect elevated background concentrations that were not identified prior to start of mining because monitoring wells were not in place at that time.

Ongoing events are addressed specifically as follows:

- Sulphate SPT events in MW12-05 have been restricted to the deeper zones (MW12-05-01, MW12-05-02, and MW12-05-03) which monitor depths greater than 85 meters below ground surface (m bgs). Recently, the MW12-05-03 sulphate trend appears to have stabilised at a concentration below that of Minto Creek catchment SPT-2. The sulphate trend at MW12-05-01 continues to increase, but at a slower rate than previously. This may suggest that Zone 1 may be approaching equilibrium with groundwater. Zones shallower than Zone 3 all record stable and far lower sulphate concentrations (<100 mg/L). Surface water stations in the Minto Creek catchment downstream of the mine footprint (e.g. MC1) display stable trends in sulphate at similar concentrations to those observed in the shallow zones at MW12-05 (SRK, 2018).
- Nitrate at MW09-03-02 has increased recently, and has exceeded the McGinty Creek SPT-2. The nitrate concentration of the deeper zone, MW09-03-01, remains stable and below both SPTs. Presently, the Minto North Pit acts as a hydraulic sink, capturing (locally) groundwater topographically downgradient (including MW09-03). Therefore, migration of pit water is not the cause of the nitrate increase observed at MW09-03-02. The likely explanation for the observed water quality at MW09-03 is flushing of blasting residuals from the rock used to construct the mine haul road on the topographically downgradient side of the Minto North Pit, and immediately adjacent to the monitoring well. This effect is expected to be relatively short-lived, as blasting residuals will flush out over time. Data from the nearest McGinty Creek surface water monitoring station (MN-1.5) indicate nitrate concentrations remain within the range observed during baseline monitoring (SRK, 2018).
- As with nitrate, since the Minto North Pit is acting as a hydraulic sink, the other SPT events at MW09-03 (As, Cd, Se, Mo, sulphate, and Zn) are also likely to be caused by flushing of the rock used to construct the mine haul road. The concentration of these parameters at MN-1.5 are within pre-mining conditions, indicating no identifiable impact from SPT events.
- Events occurring at MW12-06-01 (As, Se and Cr) are likely caused by parameter concentrations that are reflective of background concentrations. MW12-06-01 was not sampled prior to October 2016, and only sampled four times in total since. In addition, the data are rather scattered (As and Se) or display a possible decreasing trend (Cr). Further regular sampling, as per the OAMP, will provide further information to assess changes over time.

5 Conclusions

Groundwater exceedances of the OAMP SPTs in 2017 have been limited. SPT exceedance is not widespread; most wells (~70%) did not exceed OAMP SPTs in 2017.

Where regular exceedances have been identified (As and Zn at MW09-03-01; Cd, Zn, nitrate, and sulphate at MW09-03-02; sulphate at MW12-05-01; Cr at MW12-06-01), the likely cause is either a lack of characterization or the range of pre-mining groundwater concentrations (MW12-05-01 and MW12-06-01), or local, temporary mine-related sources of CoCs (i.e., apparent influence of the haul road rock on groundwater in the MW09-03 zones).

Overall, the groundwater CoC exceedances of the OAMP SPTs have not required mitigation. Groundwater monitoring should continue as per the Minto Mine Groundwater Monitoring Plan, and results should continue to be evaluated against the Operational Adaptive Management Plan SPTs and compared with other studies assessing natural background conditions.

Regards,
SRK Consulting (Canada) Inc.

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its use in this particular document.
The original signature is held on file.

Ryan Burgess, MSc.
Consultant

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The original signature is held on file.

Dan Mackie, PGeo
Principal Consultant

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The opinions expressed in this report have been based on the information available to SRK at the time of preparation. SRK has exercised all due care in reviewing information supplied by others for use on this project. Whilst SRK has compared key supplied data with expected values, the accuracy of the results and conclusions from the review are entirely reliant on the accuracy and completeness of the supplied data. SRK does not accept responsibility for any errors or omissions in the supplied information, except to the extent that SRK was hired to verify the data.

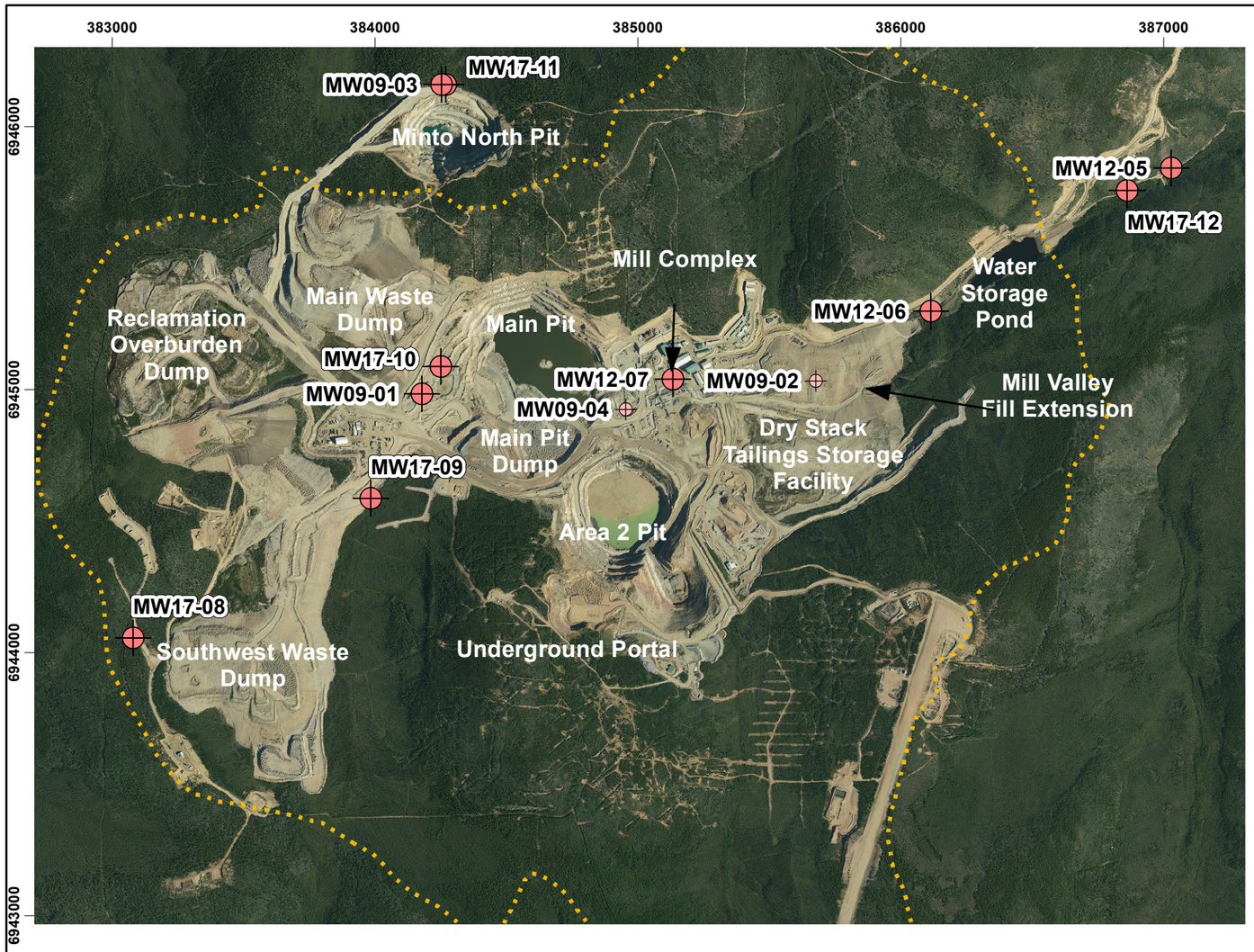
6 References

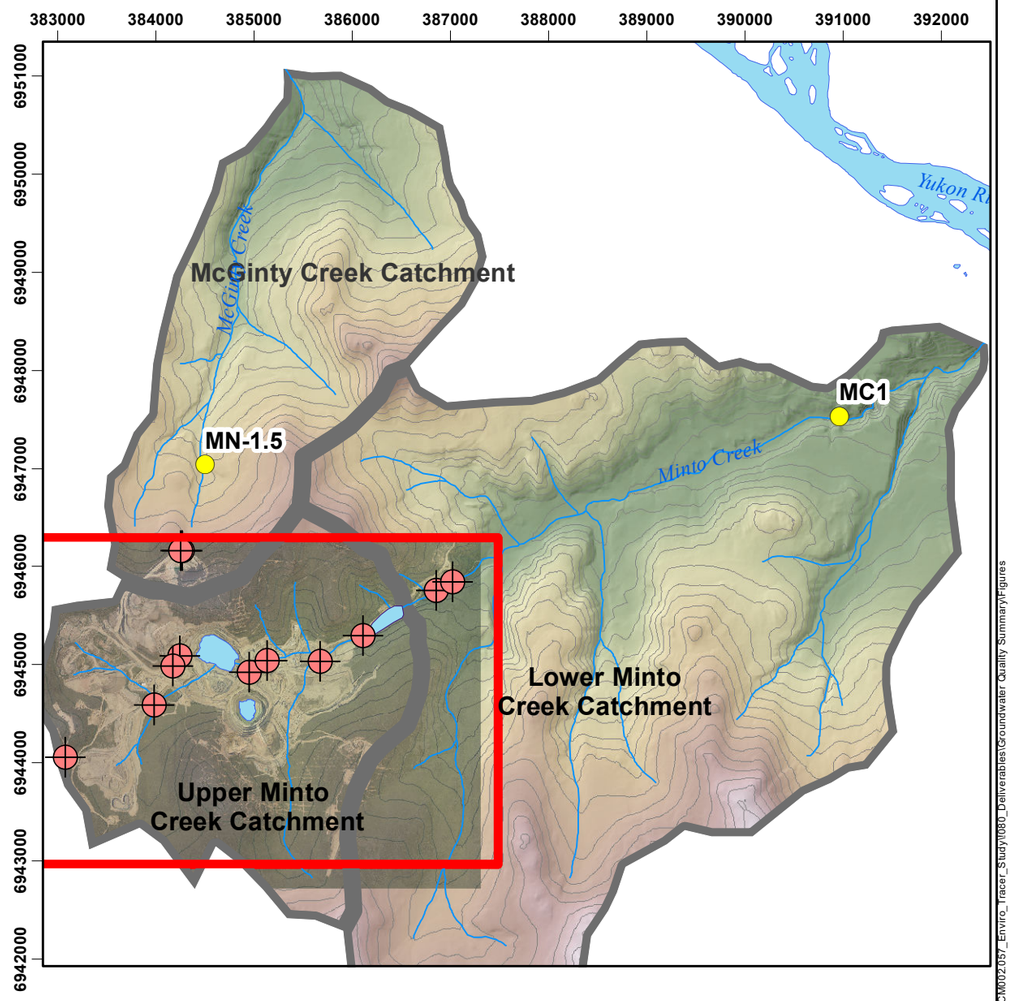
Minto Explorations Ltd., 2016. Minto Mine Groundwater Monitoring Plan, Version 2016-01. Report prepared by Minto Explorations Limited, with contributions form SRK Consulting. July 2016.

Minto Explorations Ltd., 2017. Minto Mine Operations Adaptive Management Plan 2017-02. April 2017.

SRK Consulting (Canada) Inc., 2018. Minto Groundwater Characterization and Hydrogeologic Conceptual Model Update Report. Report submitted to Minto Explorations Ltd. SRK project number 1CM002.057. January 2018. 35 pages.

Figures





Legend

- Streams
- Elevation Contours 20m
- Upper Minto Creek Catchment
- MP Monitoring Wells
- Surface Water Stations

Topography (masl)

High : 1020

Low : 650

Notes:
1. Data presented in NAD 1983 UTM Zone 8N.
2. Topography provided by Minto Mine, 2017.
3. Base orthophoto provided by Minto Mine, 2017.

1,600 800 0 1,600 Meters

1:13,000

srk consulting

Job No: 1CM002.057

Filename: Monitoring_Sites_rev01_rob.mxd

capstone MINTO MINE

OPERATED BY MINTO EXPLORATIONS LTD.

MINTO MINE

Summary of 2017 Groundwater OAMP SPT Exceedances

Groundwater Monitoring Stations

Date:	Approved:	Figure:
January 2018	ROB	1

\\van-svr\Projects\01_SITES\Minto\1CM002.057_Enviro_Tracer_Study\080_Deliverables\Groundwater Quality_Summary\Figures

Attachment 1: SPT Threshold Concentrations

Appendix A

Minto Creek SPTs

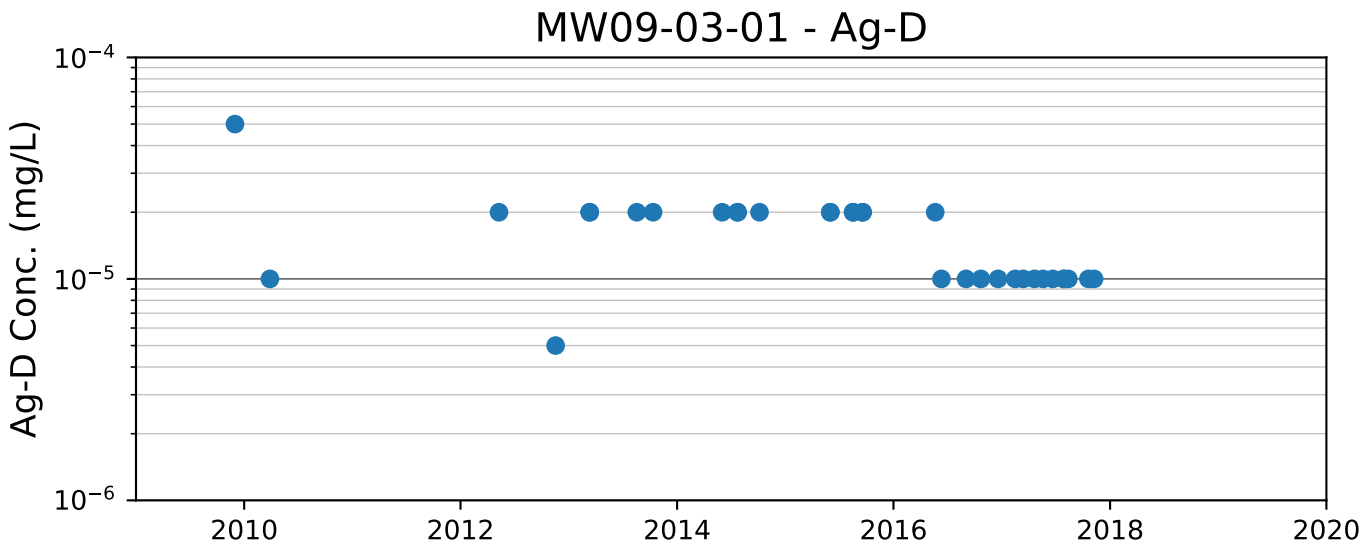
	Ag-D	Al-D	As-D	Cd-D	Cr-D	Cu-D	Pb-D	Mo-D	Ni-D	Se-D	Zn-D	N-NO3	Ammonia	Sulphate
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SPT-2	0.00030	0.30	0.015	0.003	0.0015	0.030	0.012	0.22	0.165	0.0060	0.090	27	0.75	1000
SPT-3	0.00046	0.48	0.025	0.006	0.0030	0.060	0.020	0.34	0.34	0.0093	0.13	45	1.0	4951

McGinty Creek SPTs

		Ag-D	Al-D	As-D	Cd-D	Cr-D	Cu-D	Pb-D	Mo-D	Ni-D	Se-D	Zn-D	N-NO3	Ammonia	Sulphate
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MW09-03-01	SPT-1	0.000010	0.0065	0.00011	0.000075	0.000500	0.00155	0.0001	0.005	0.0021	0.0001	0.013	0.13	0.067	24
	SPT-2	0.000016	0.0101	0.00081	0.000272	0.000575	0.00625	0.0003	0.026	0.0060	0.0015	0.022	0.28	0.133	38
MW09-03-02	SPT-1	0.000018	0.0073	0.00074	0.000031	0.000500	0.00263	0.0001	0.018	0.0009	0.0005	0.010	0.03	0.230	7
	SPT-2	0.000034	0.0095	0.00092	0.000272	0.000796	0.01080	0.0002	0.062	0.0026	0.0040	0.015	0.07	0.282	67
MW09-03-03	SPT-1	0.000010	0.0047	0.00005	0.000023	0.000500	0.00247	0.0001	0.006	0.0005	0.0004	0.008	0.50	0.020	12
	SPT-2	0.000010	0.0075	0.00014	0.000069	0.000500	0.00500	0.0003	0.018	0.0011	0.0004	0.011	0.54	0.058	13

Source: Minto 2017-02 OAMP, pages 21 and 25 (Minto, 2017)

Attachment 2: Groundwater Monitoring Data for All CoCs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Ag-D Conc. (mg/L)
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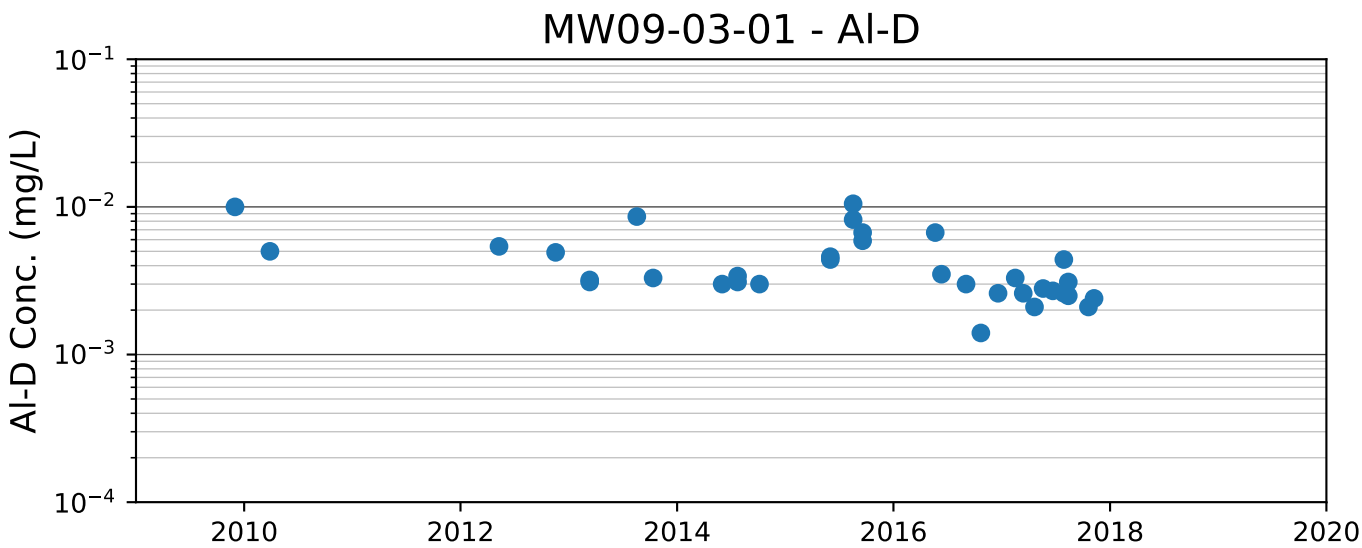
10^{-5}
10^{-6}
2010
2012
2014
2016
2018
2020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2016
2018
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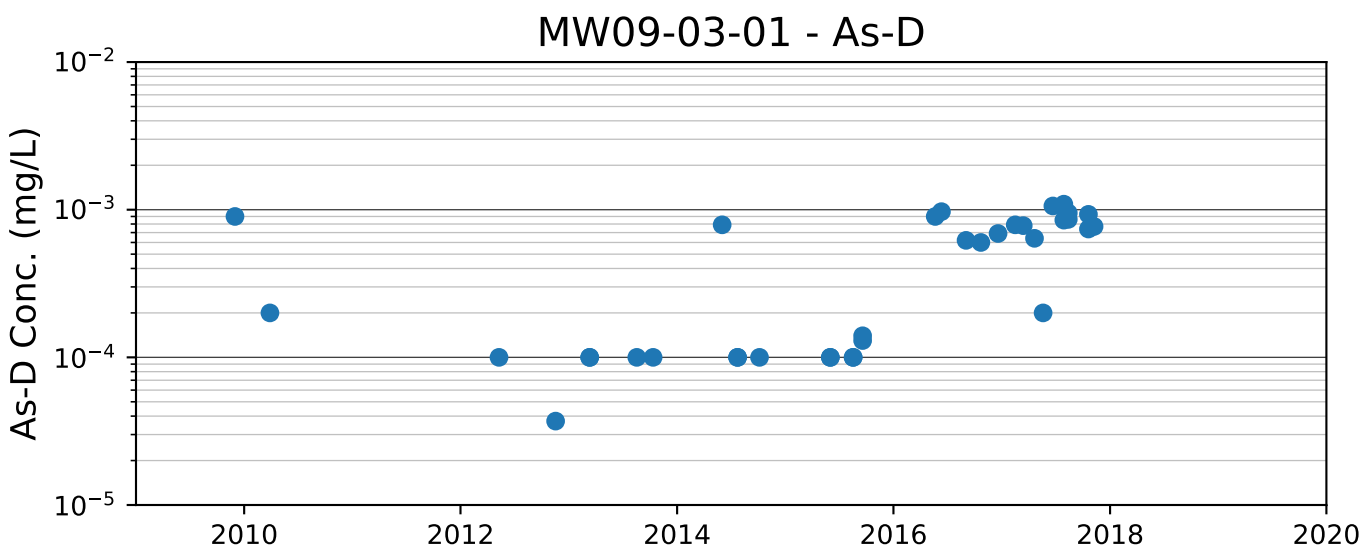
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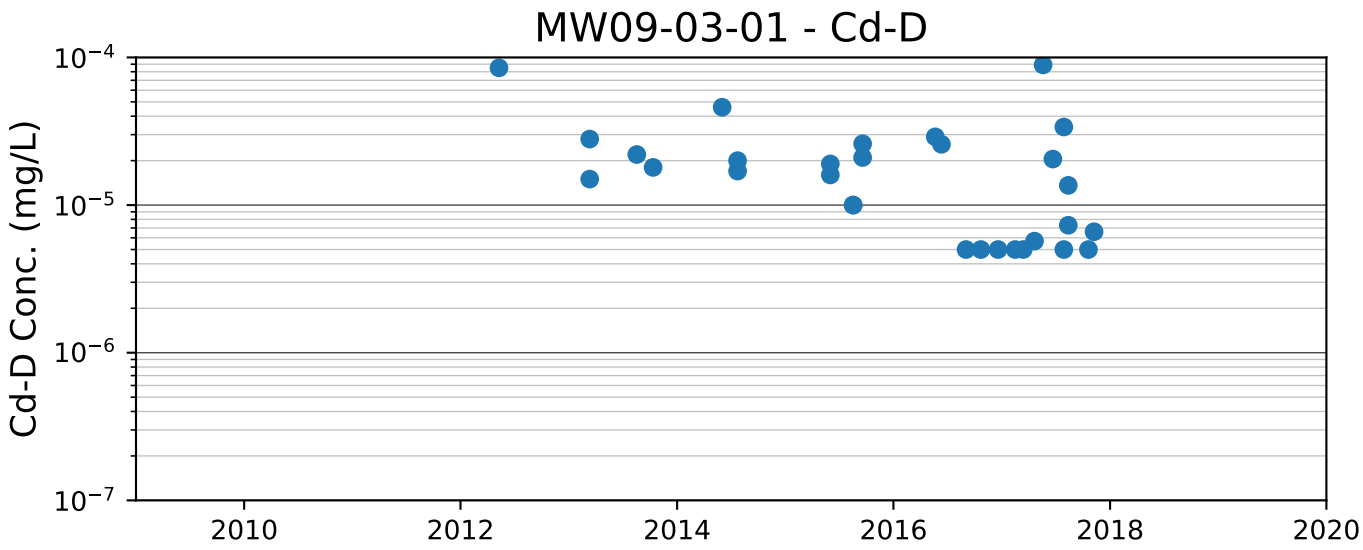
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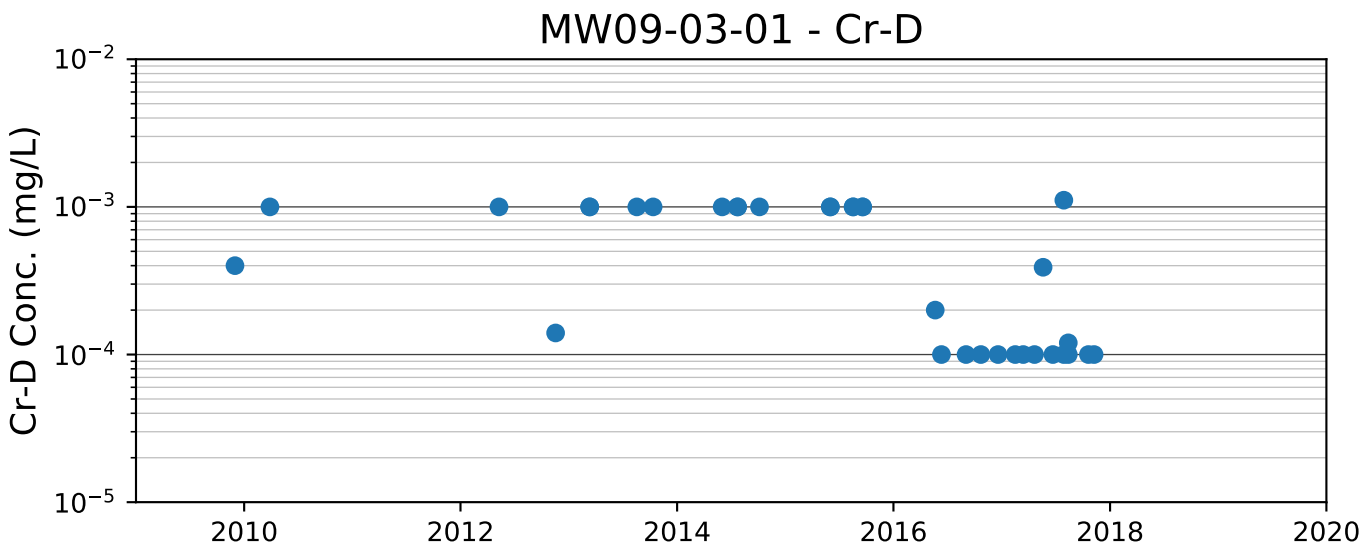
2020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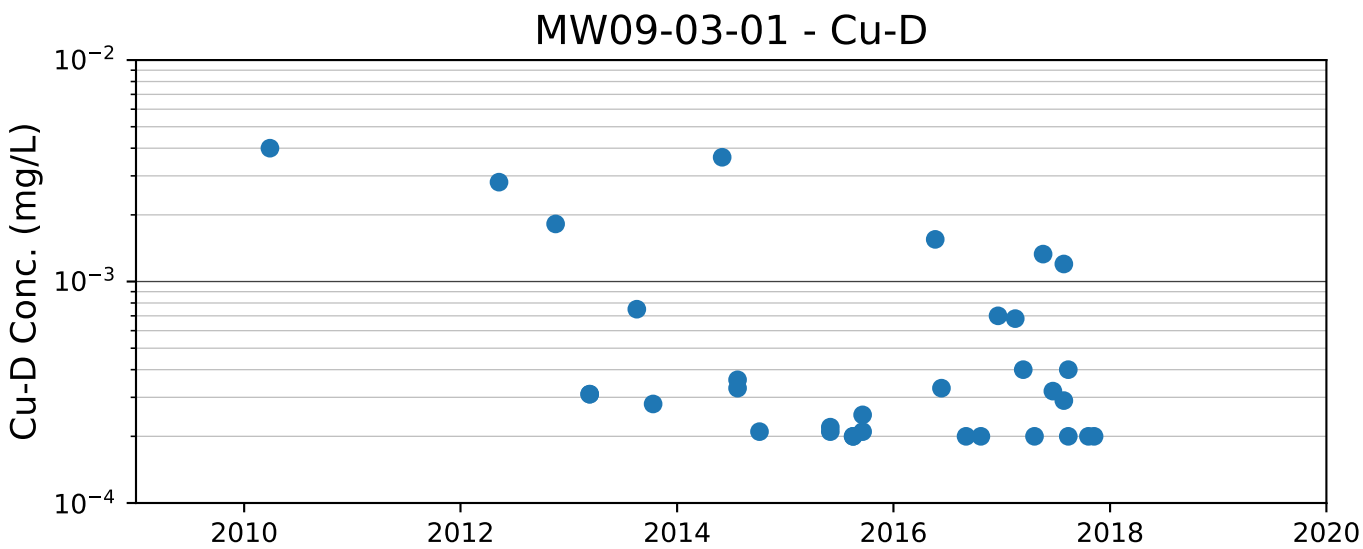
2020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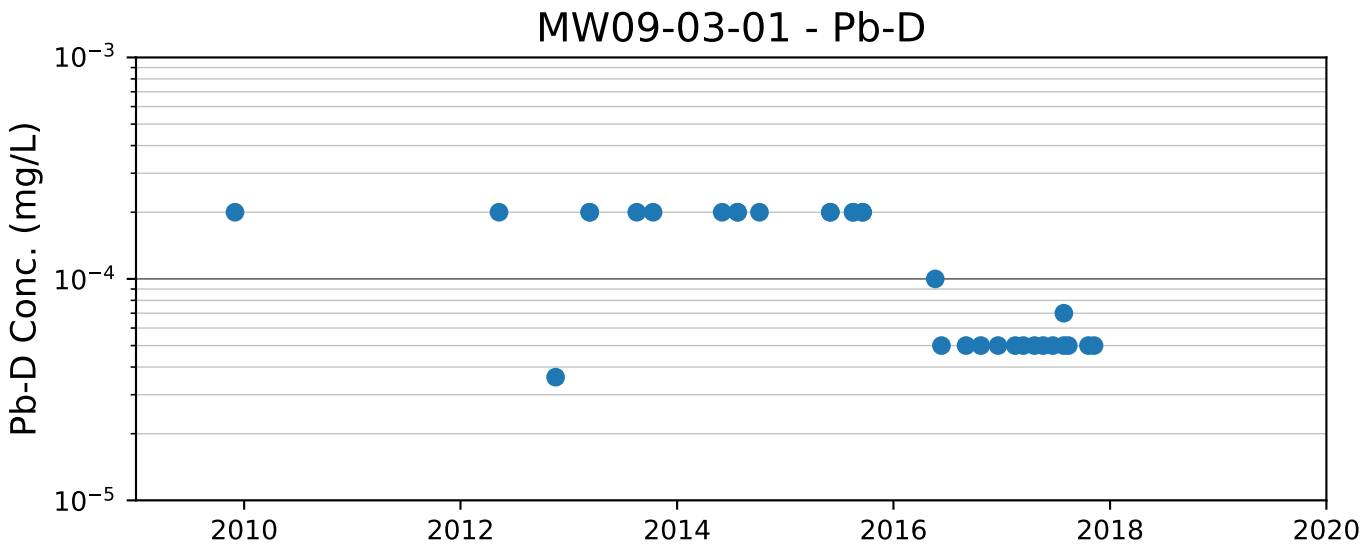
2018
2020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2014
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2018
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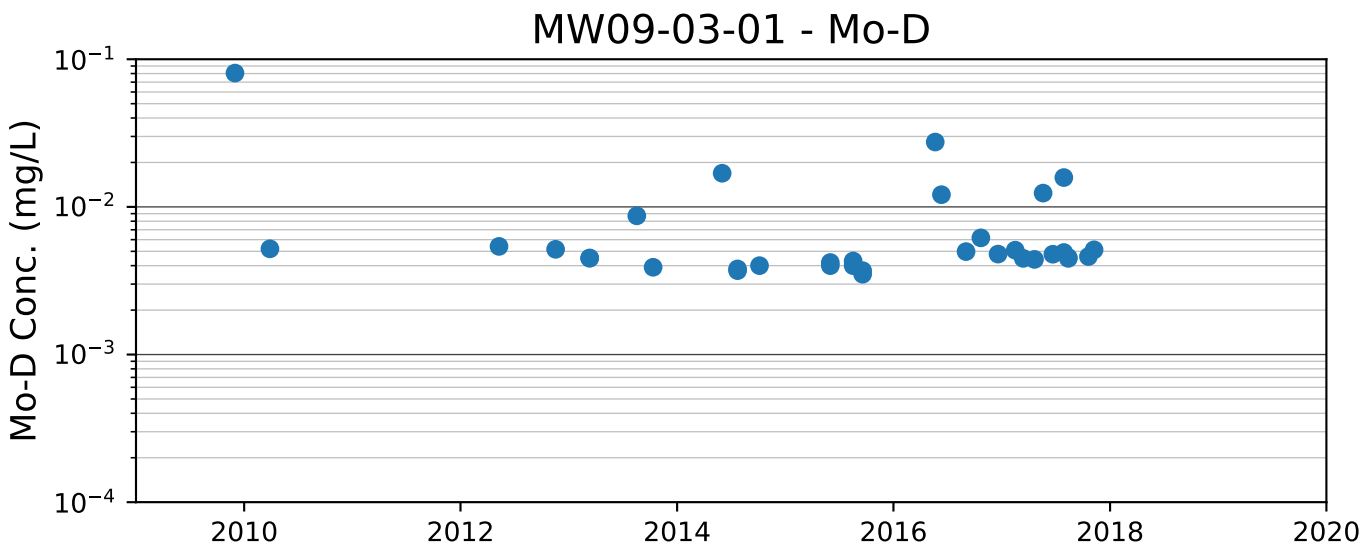
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10^{-4}
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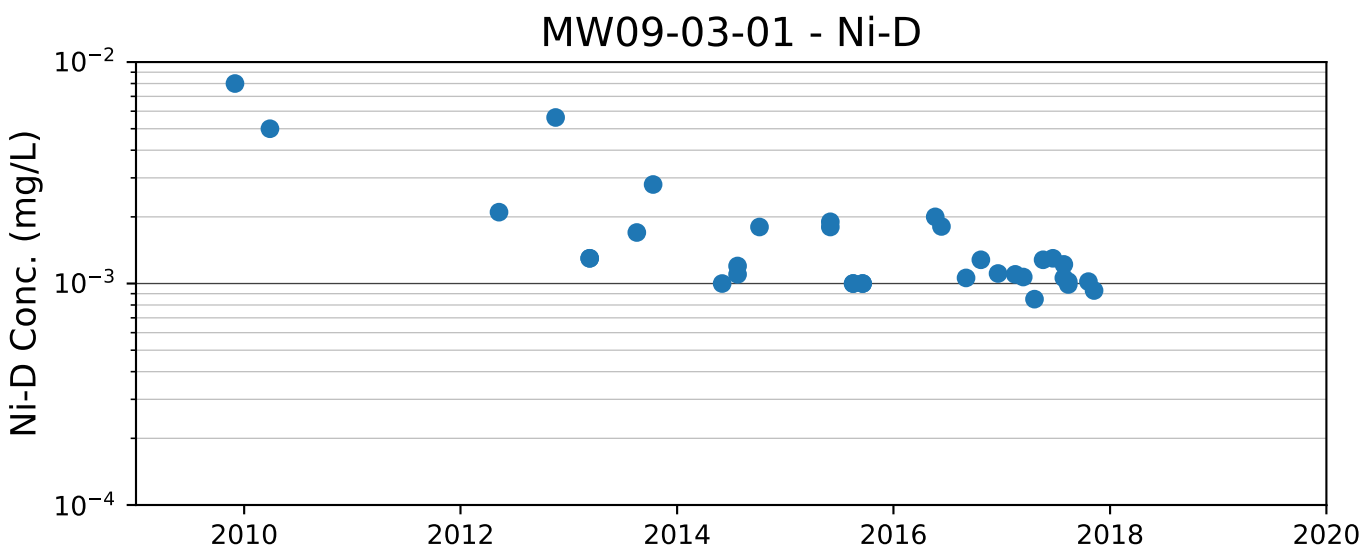
2016
2018
2020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2018
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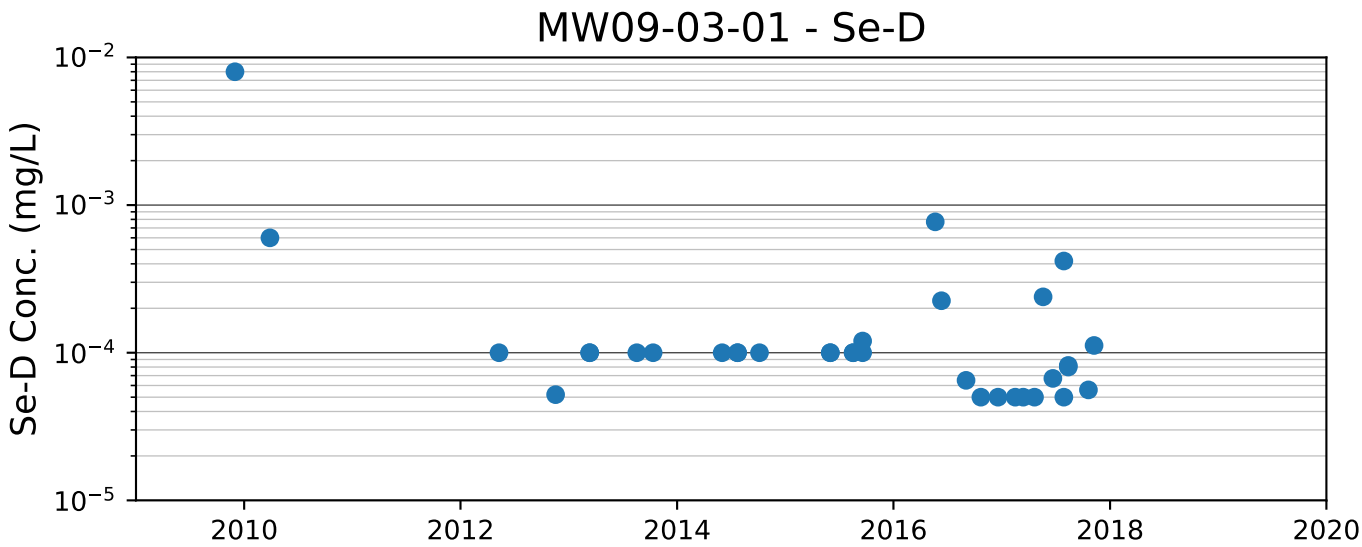
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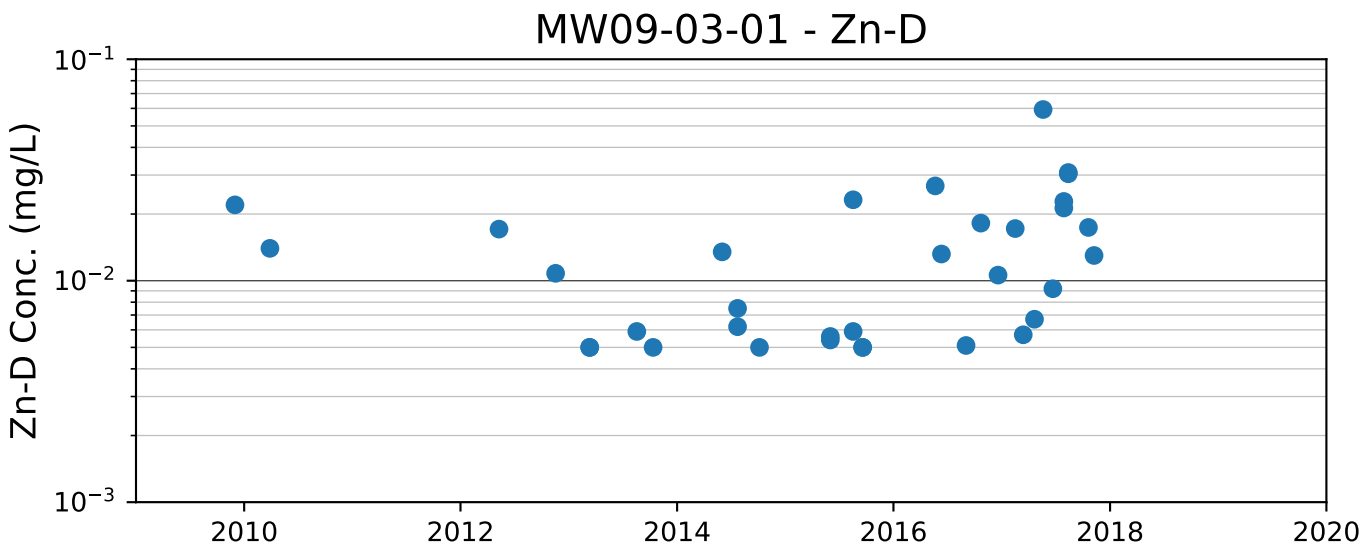
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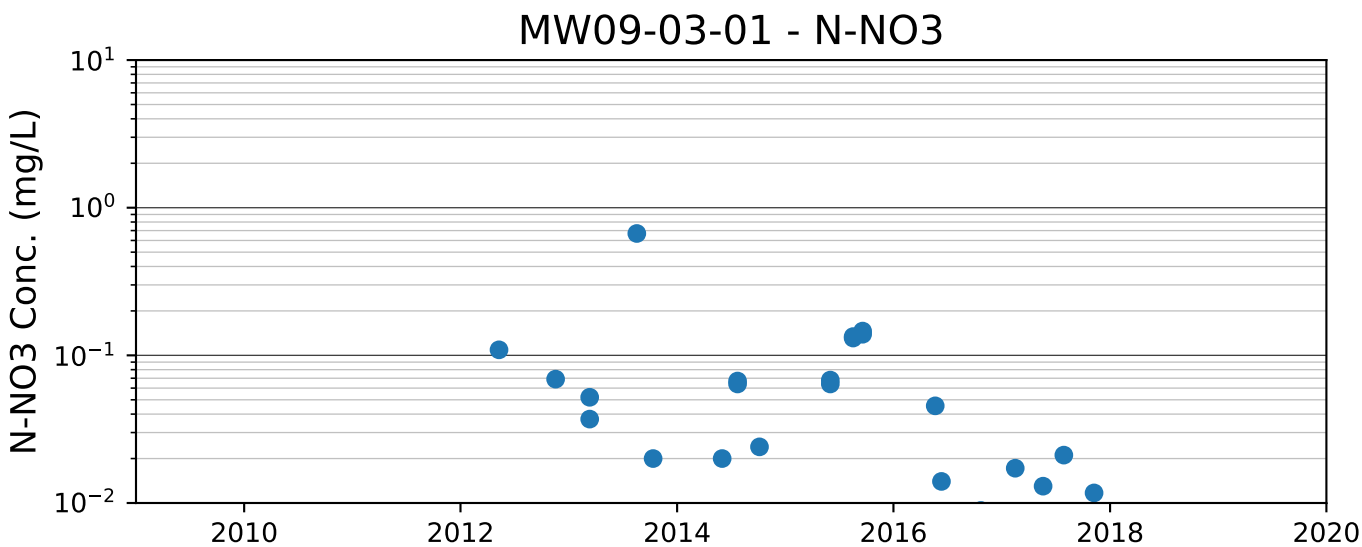
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2014
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2018
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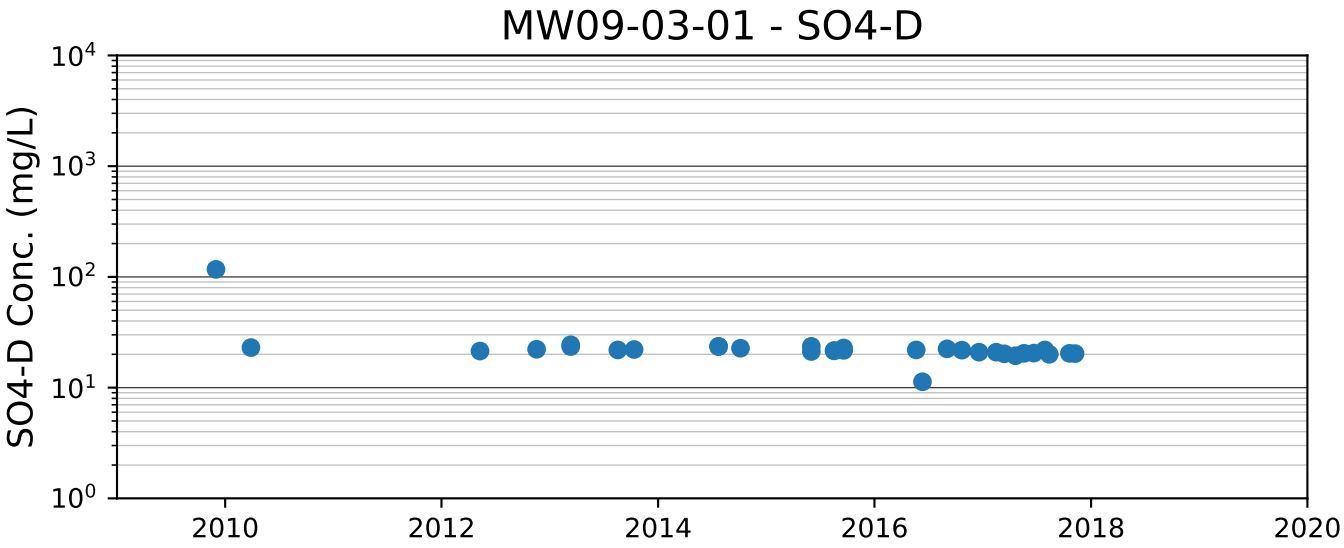
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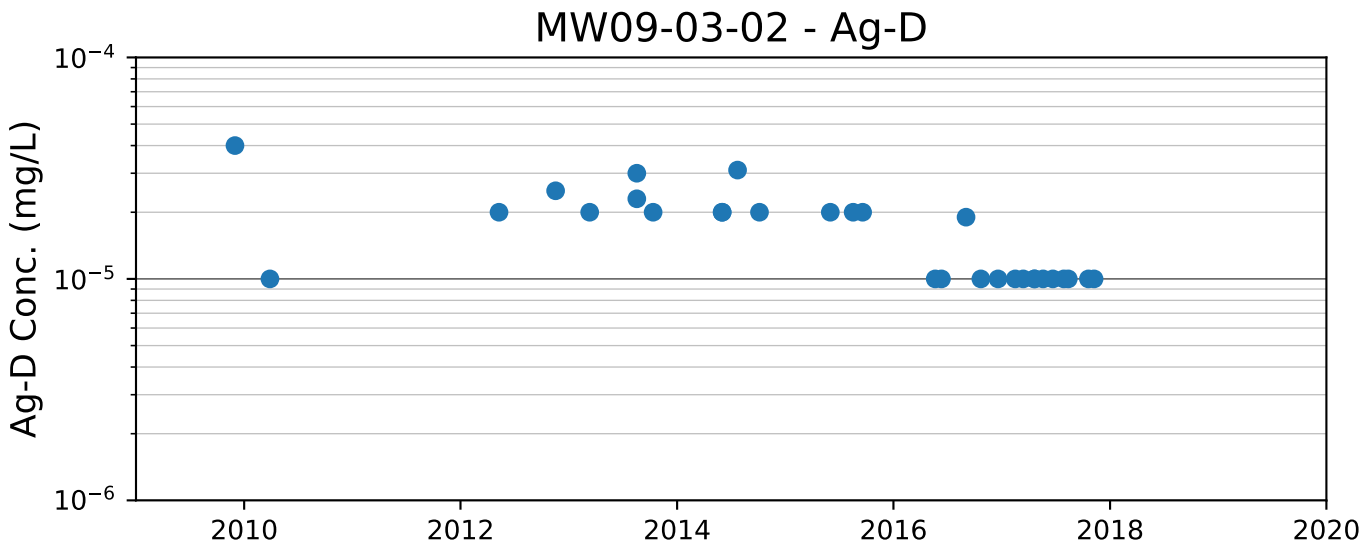
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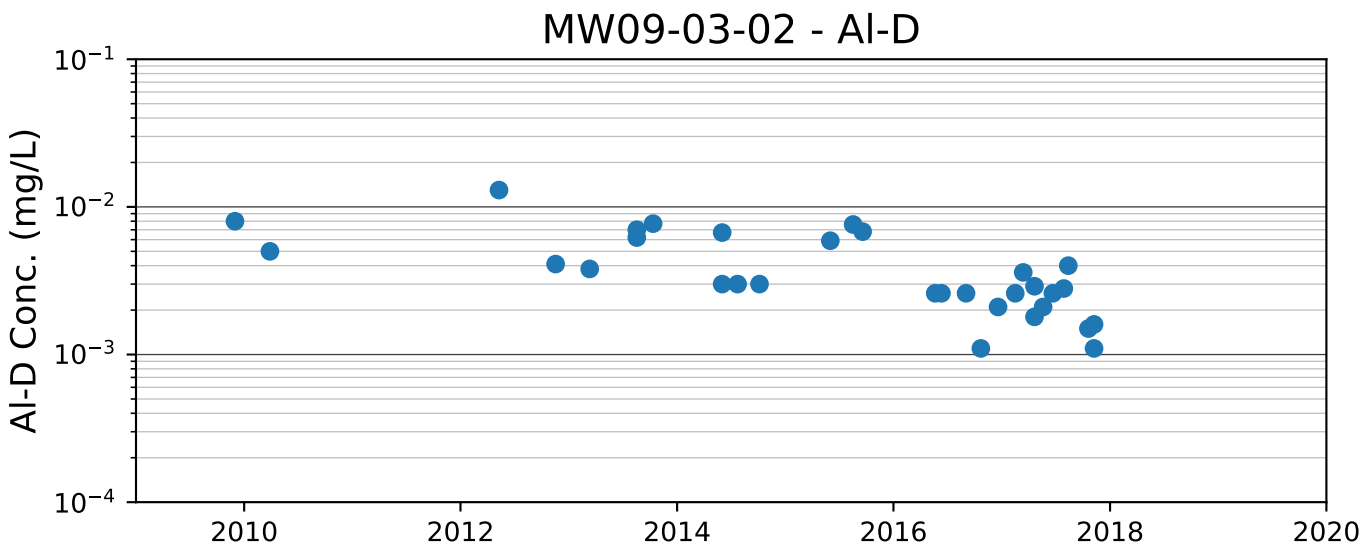
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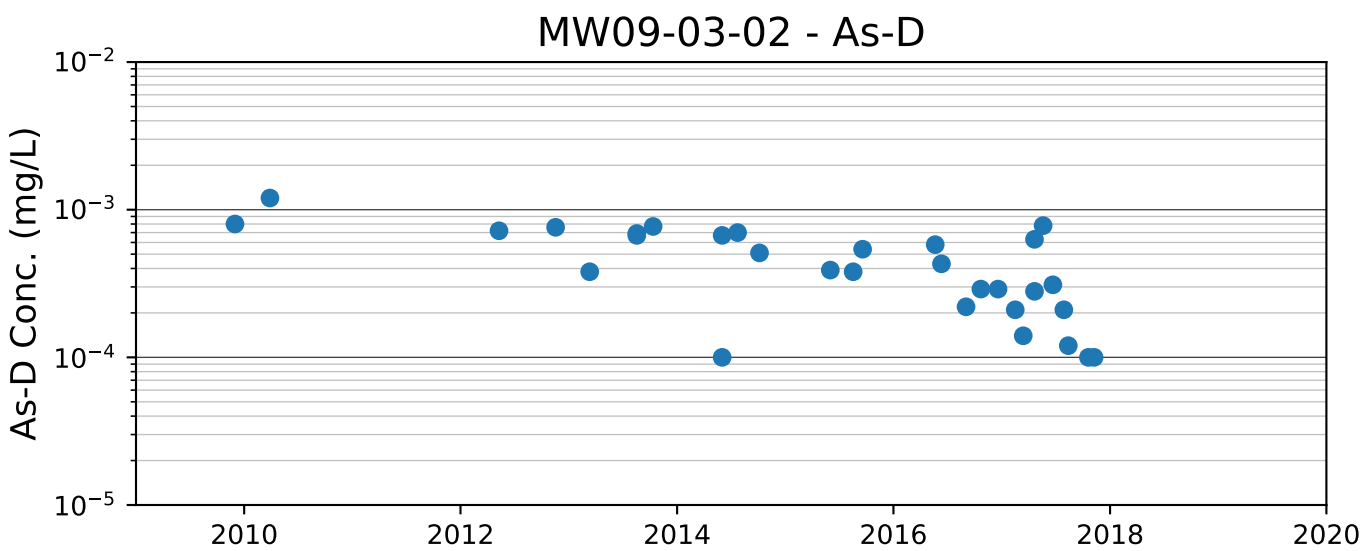
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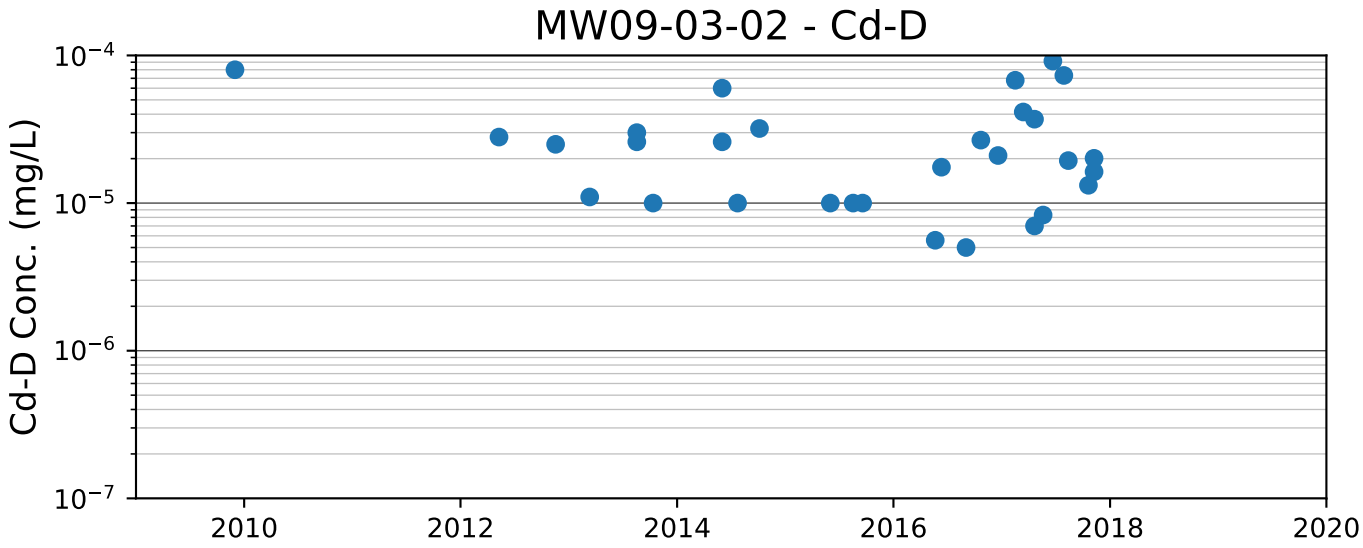
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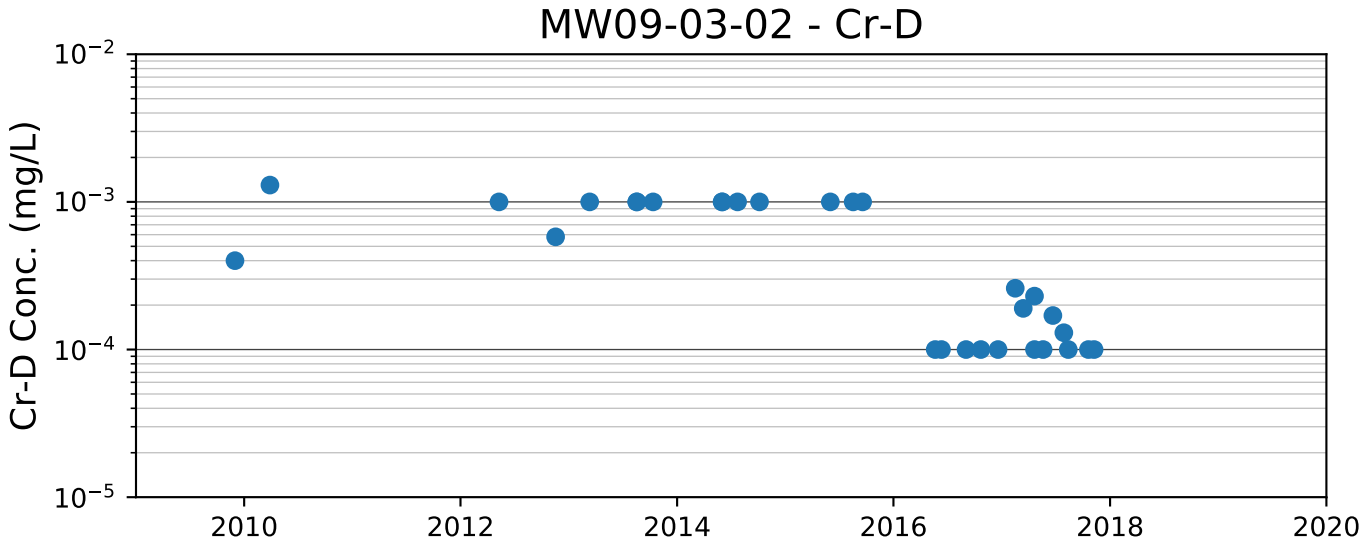
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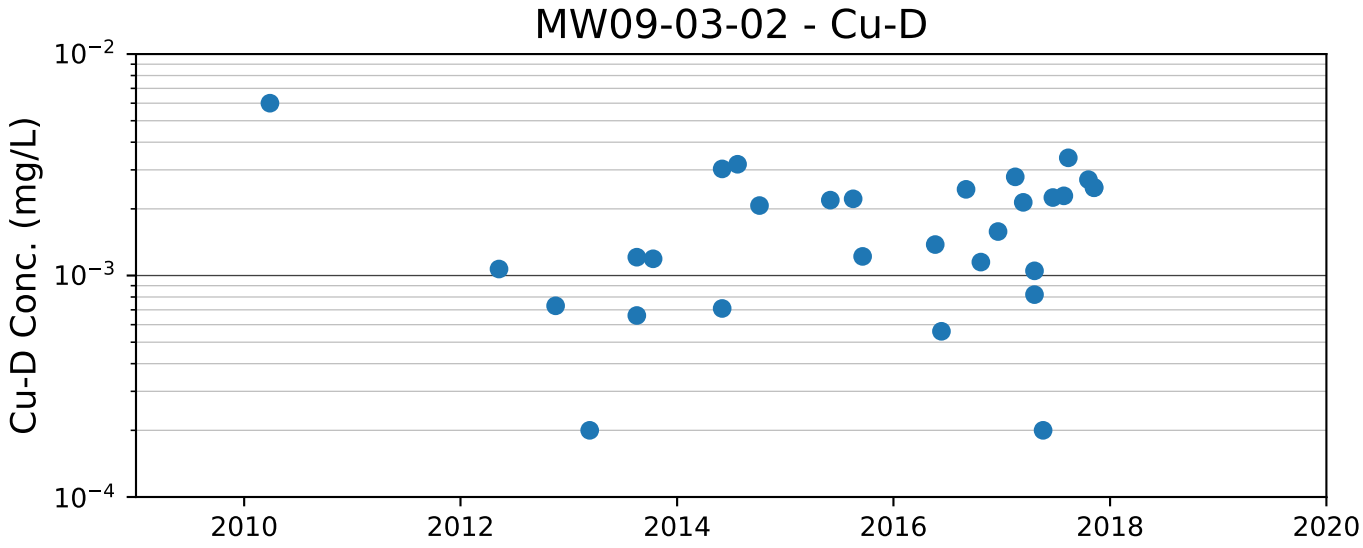
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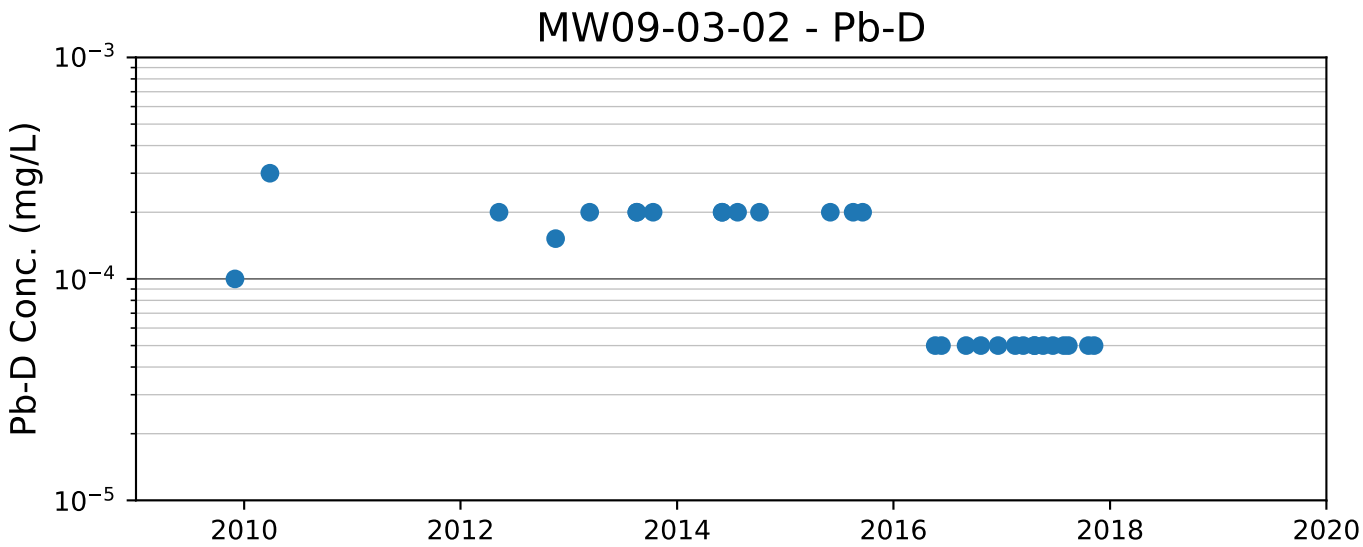
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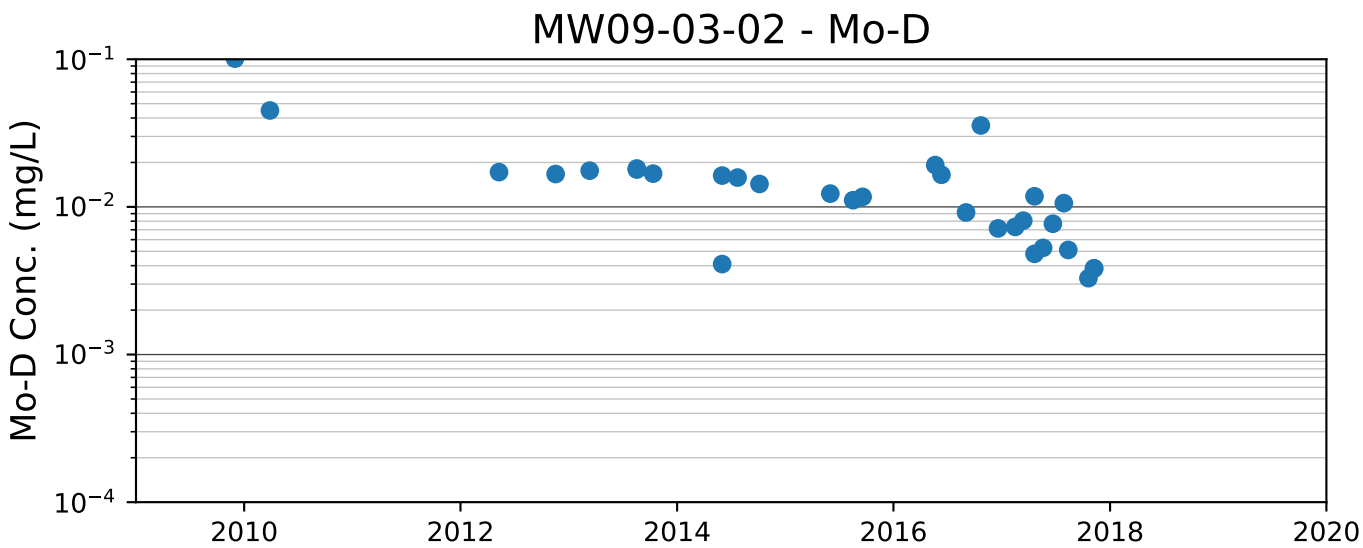
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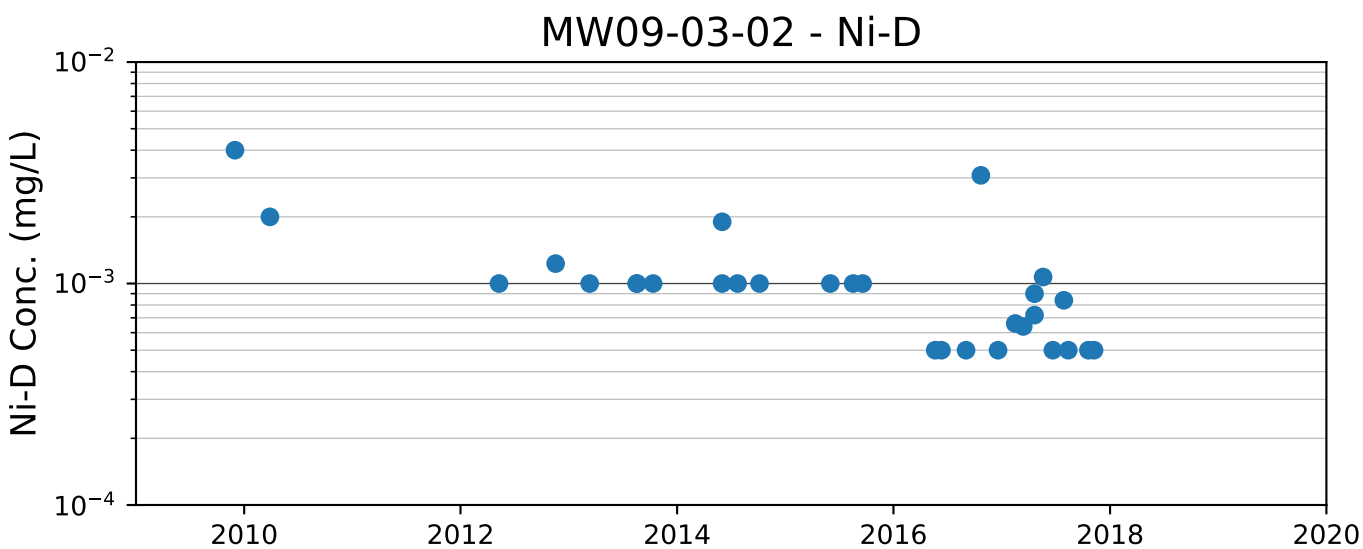
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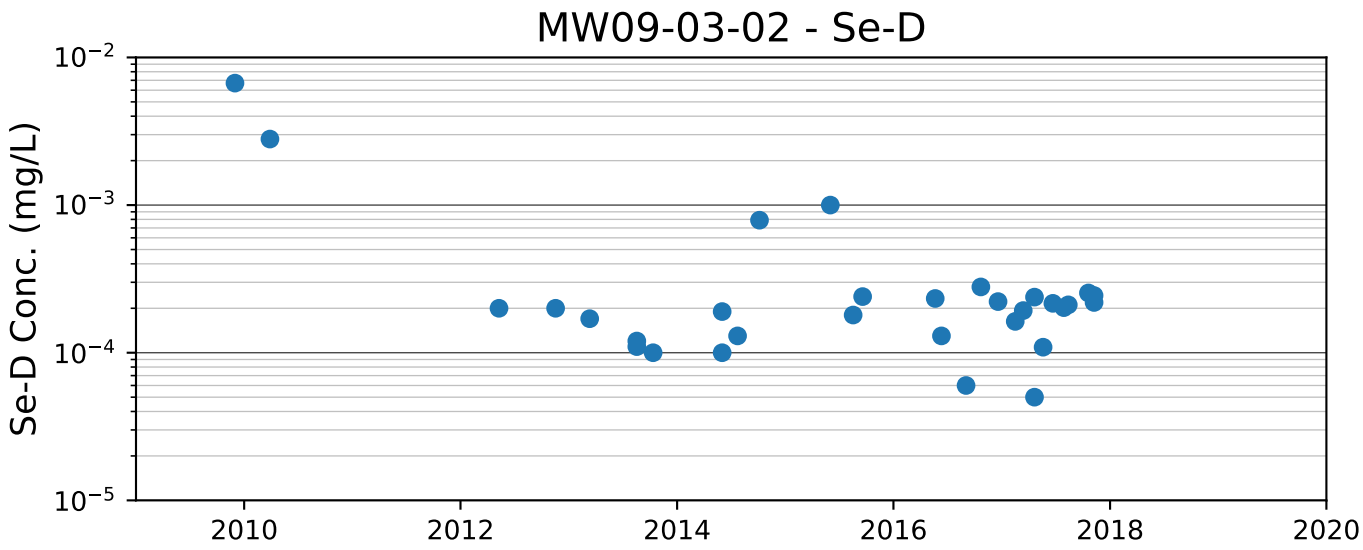
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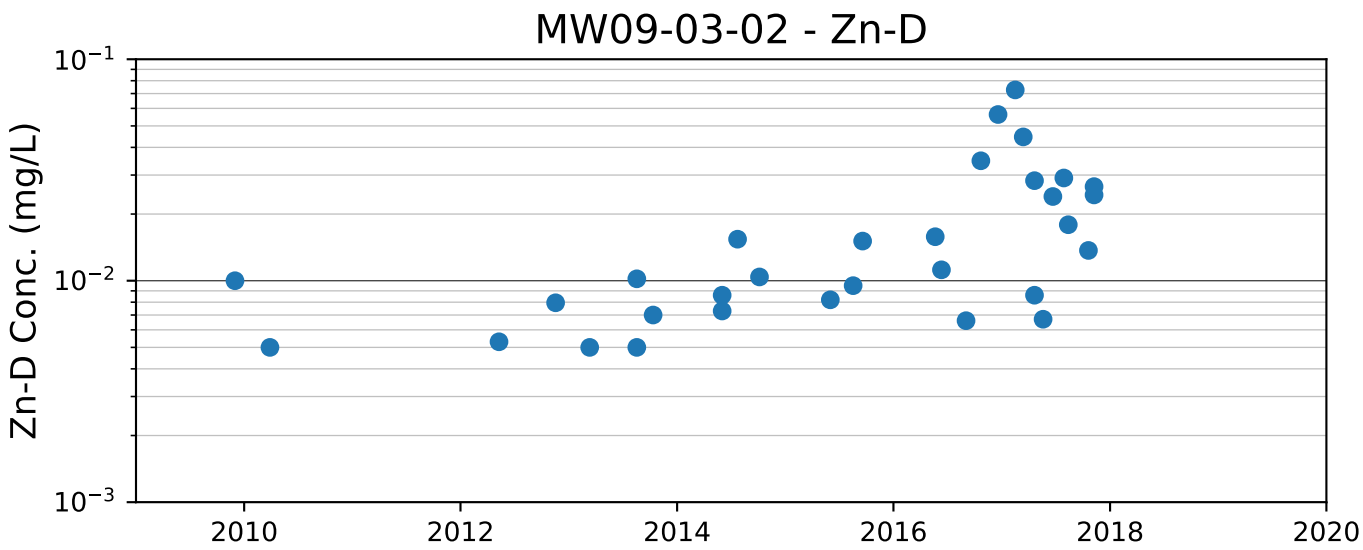
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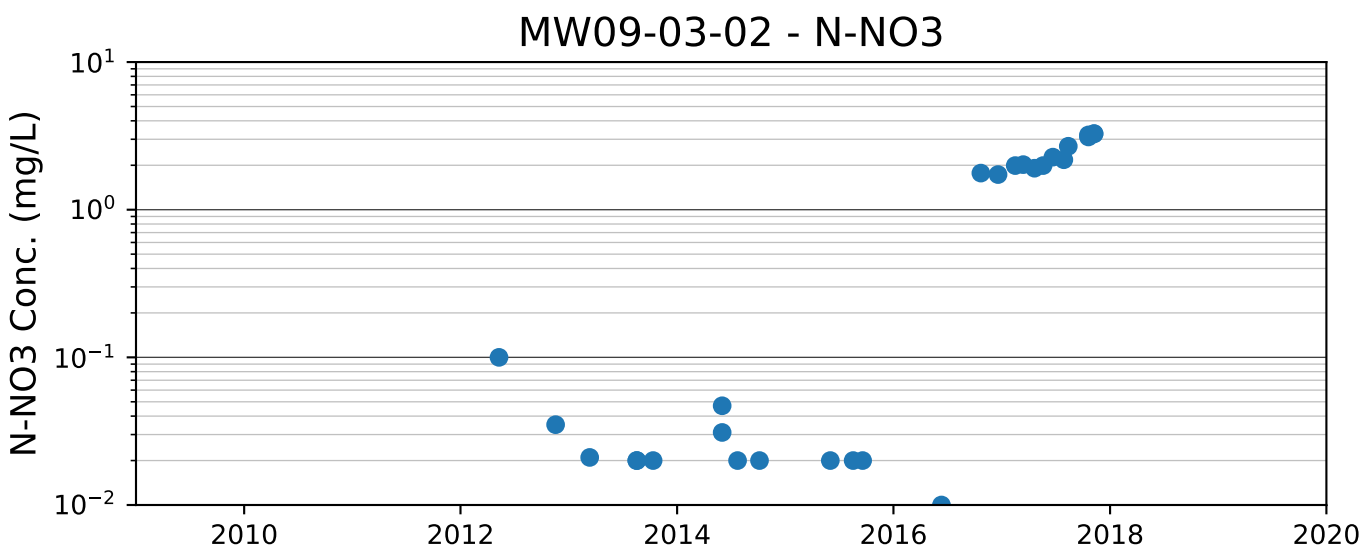
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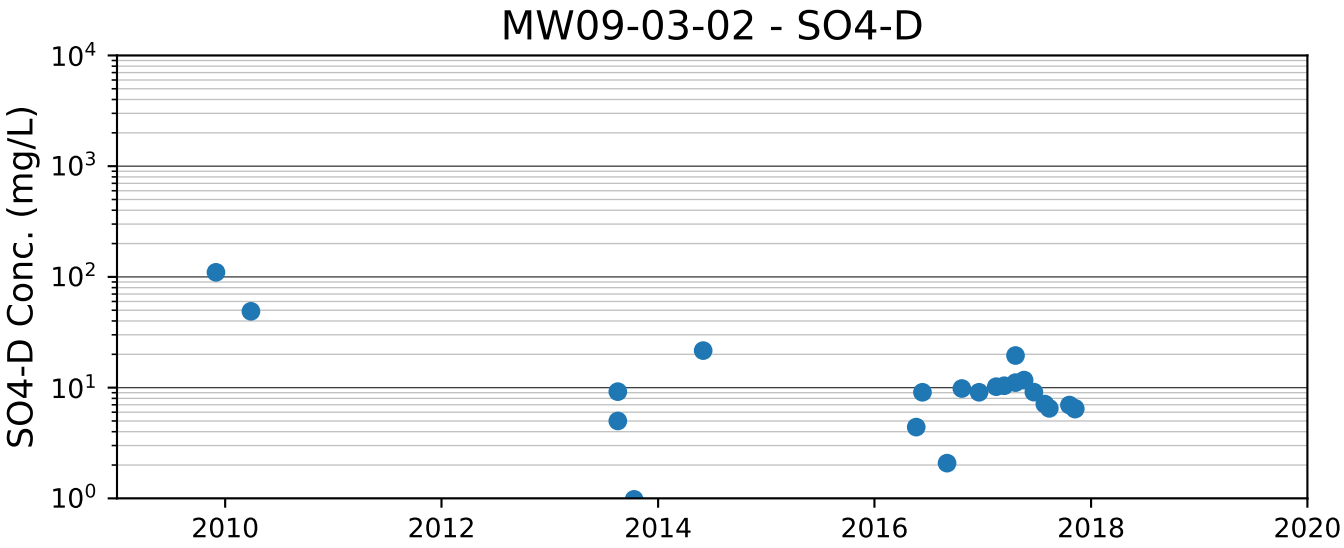
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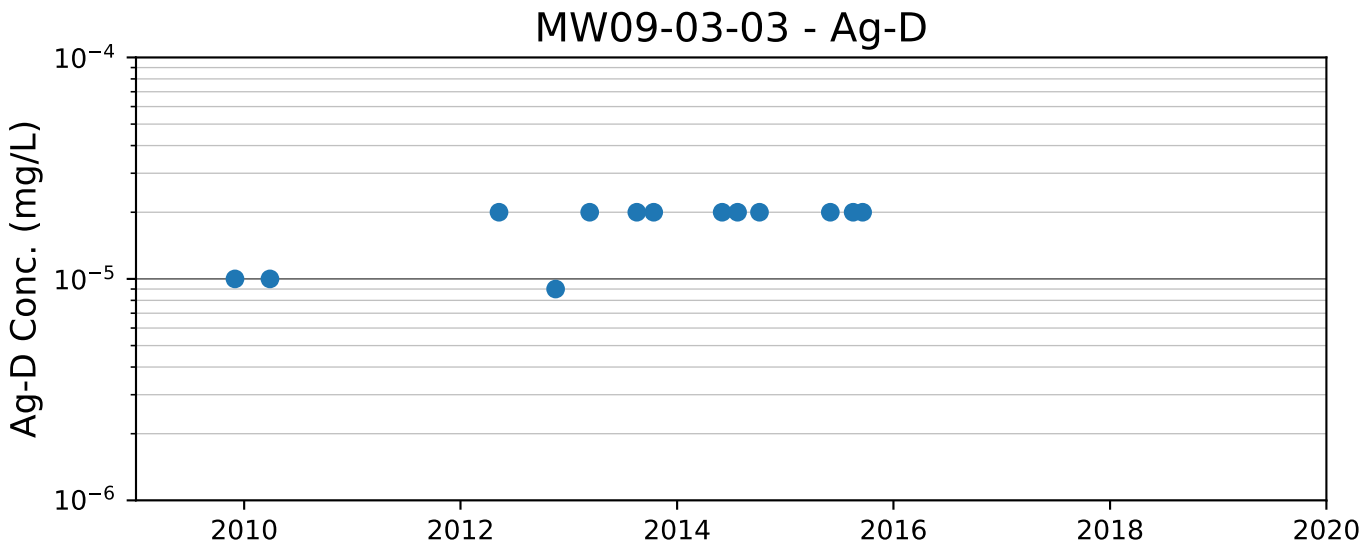
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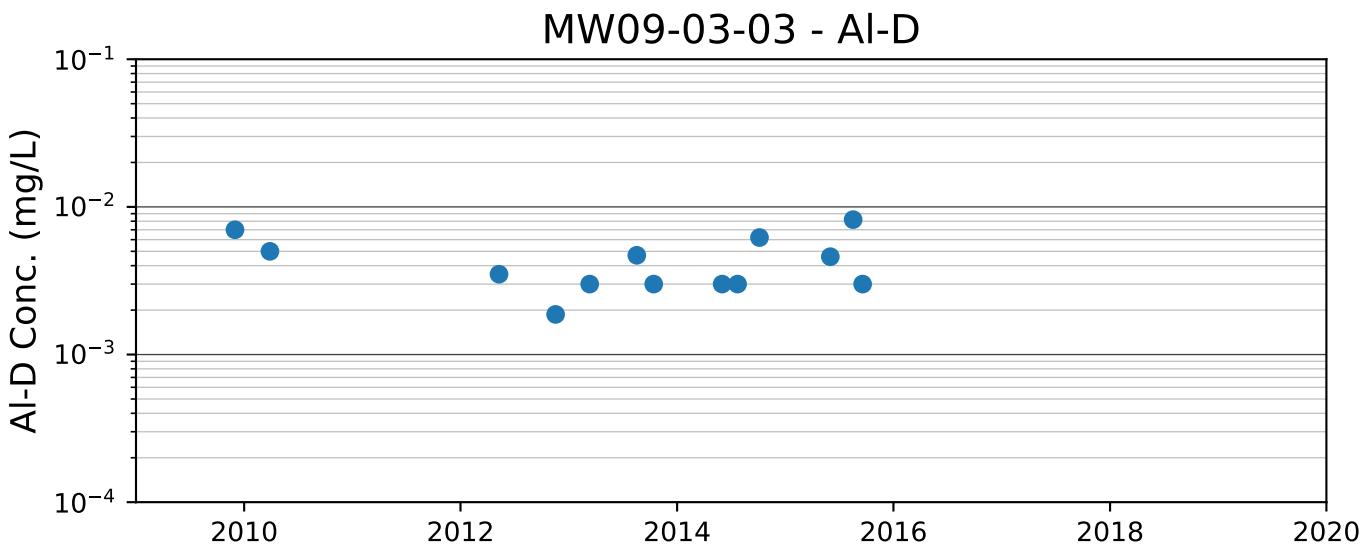
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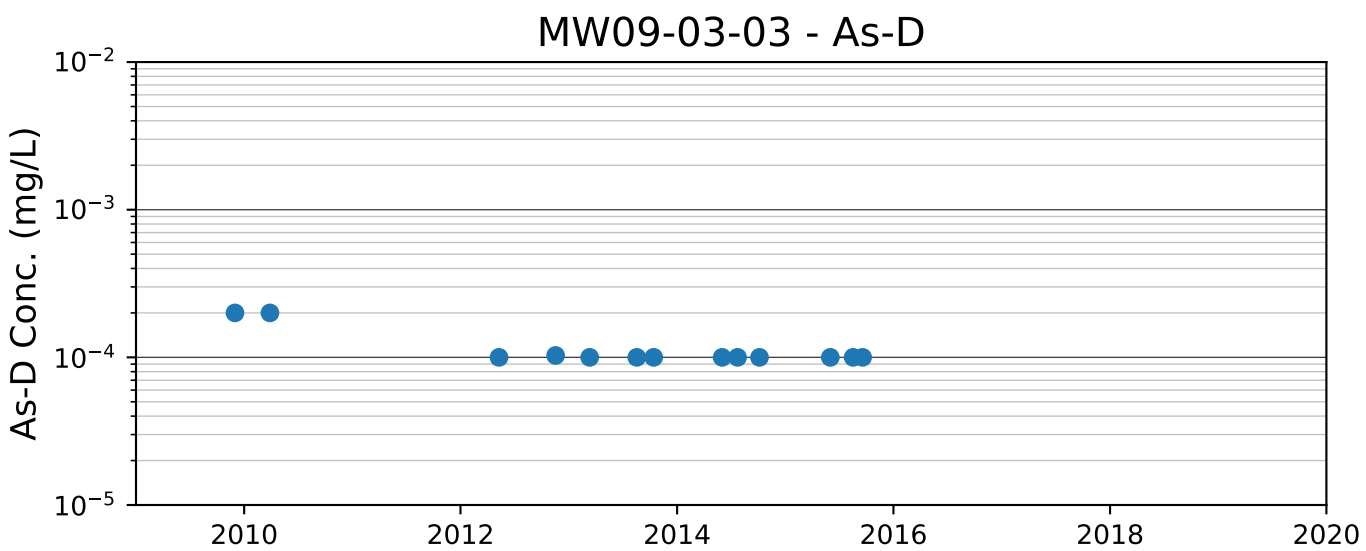
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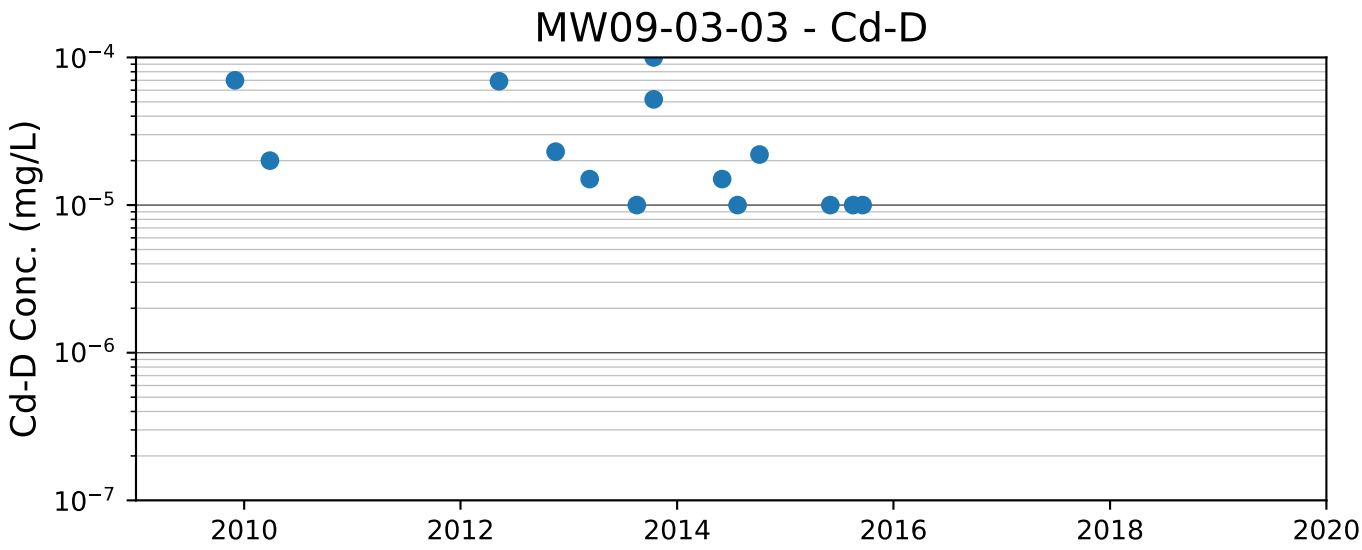
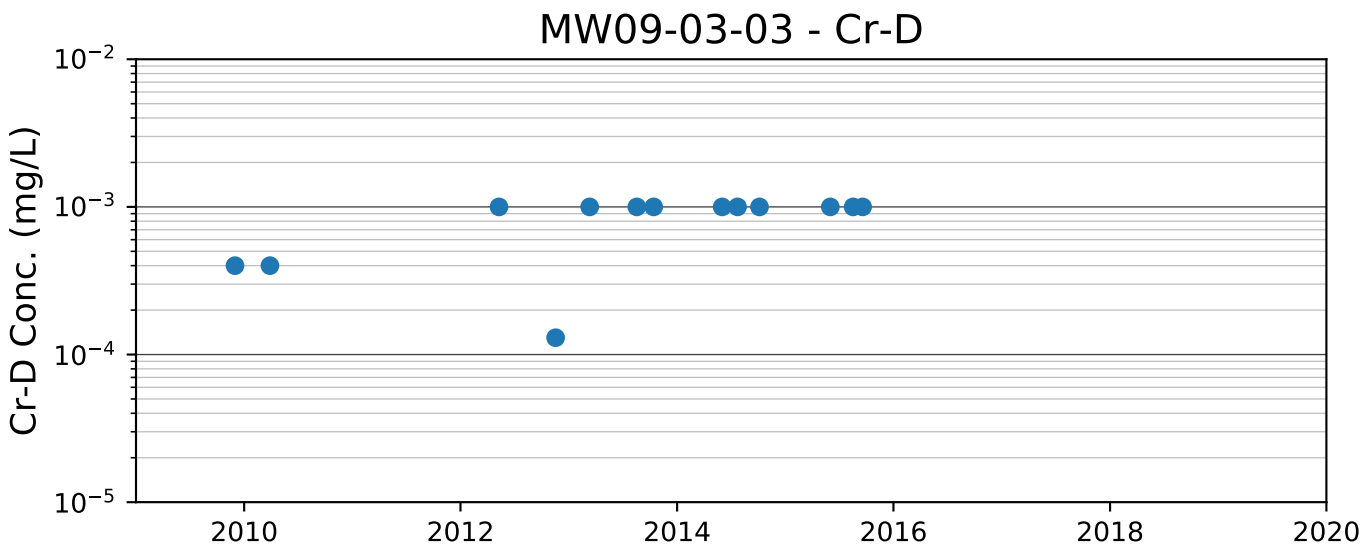
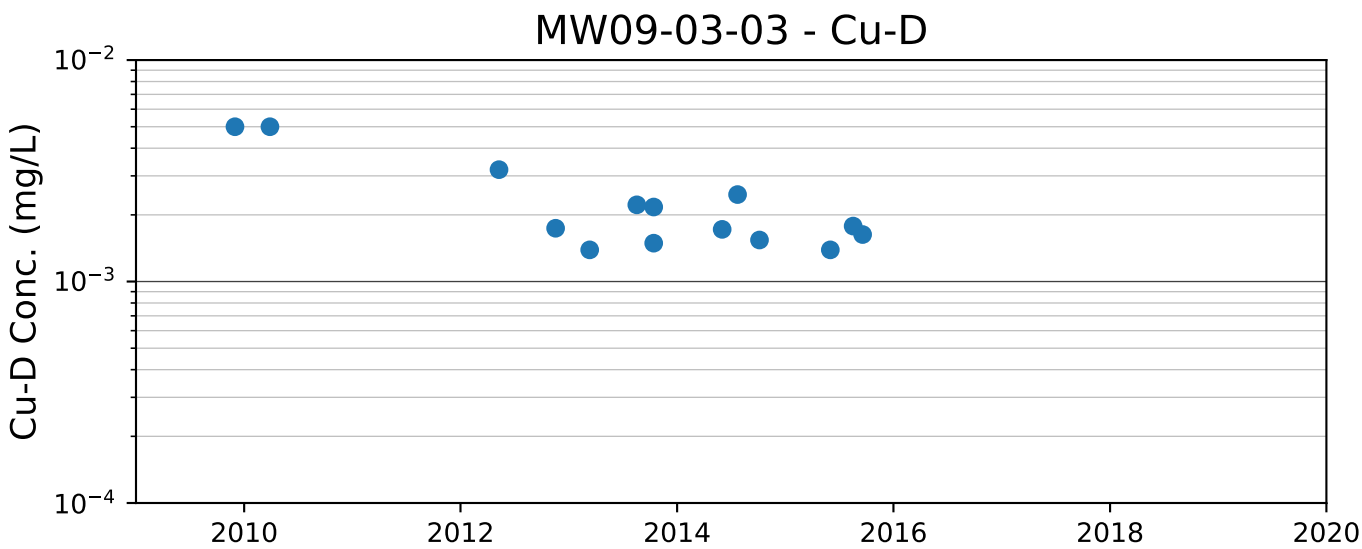
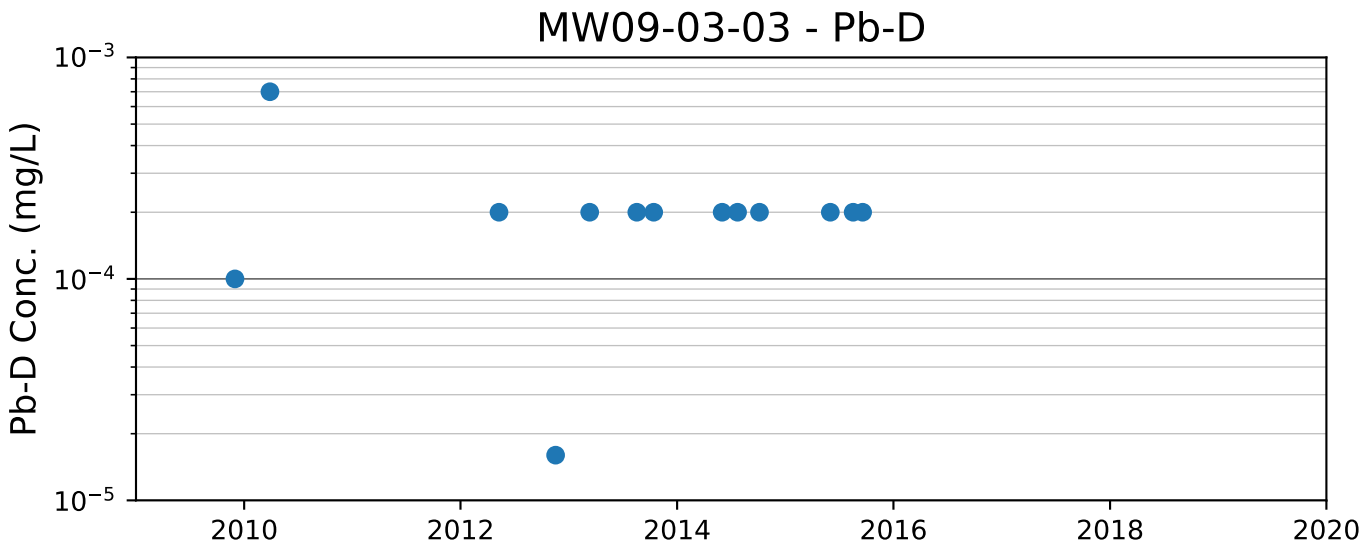
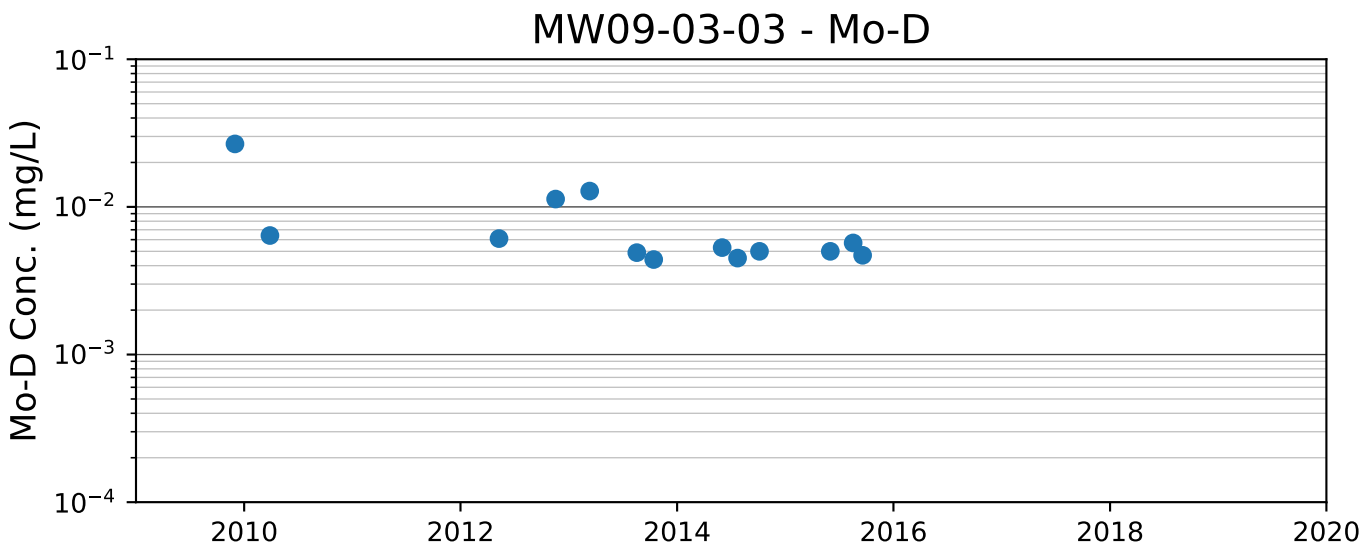
2014
2016
2018
2020

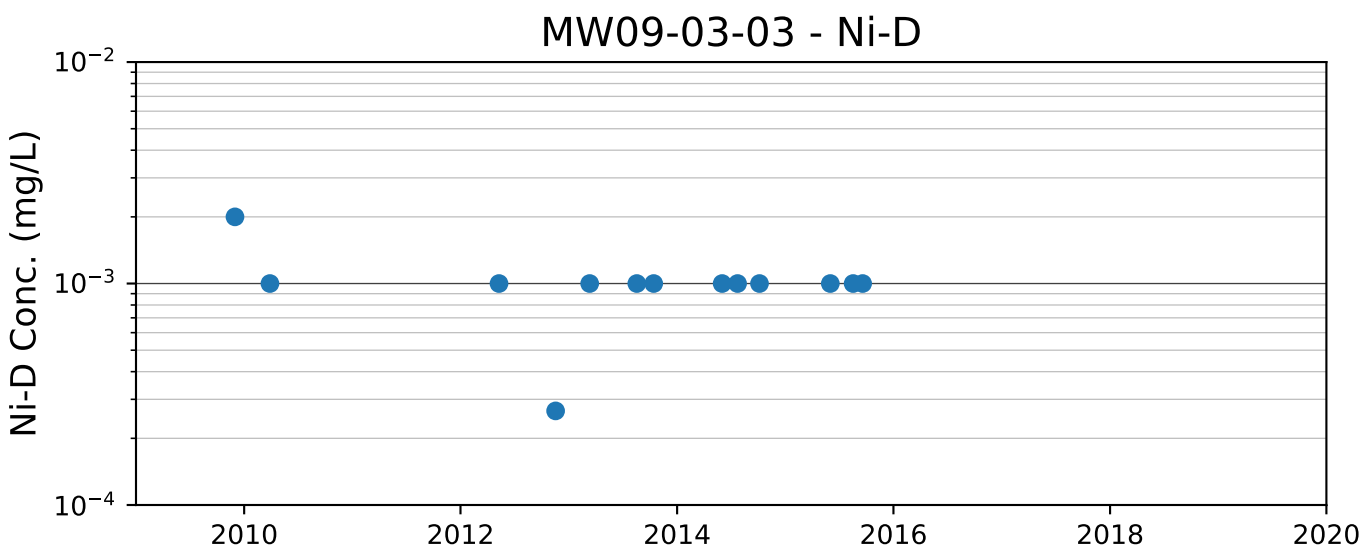

MW09-03-03 - Cd-D
Cd-D Conc. (mg/L)
10^{-4}
10^{-5}
10^{-6}
10^{-7}
2010
2012
2014
2016
2018
2020

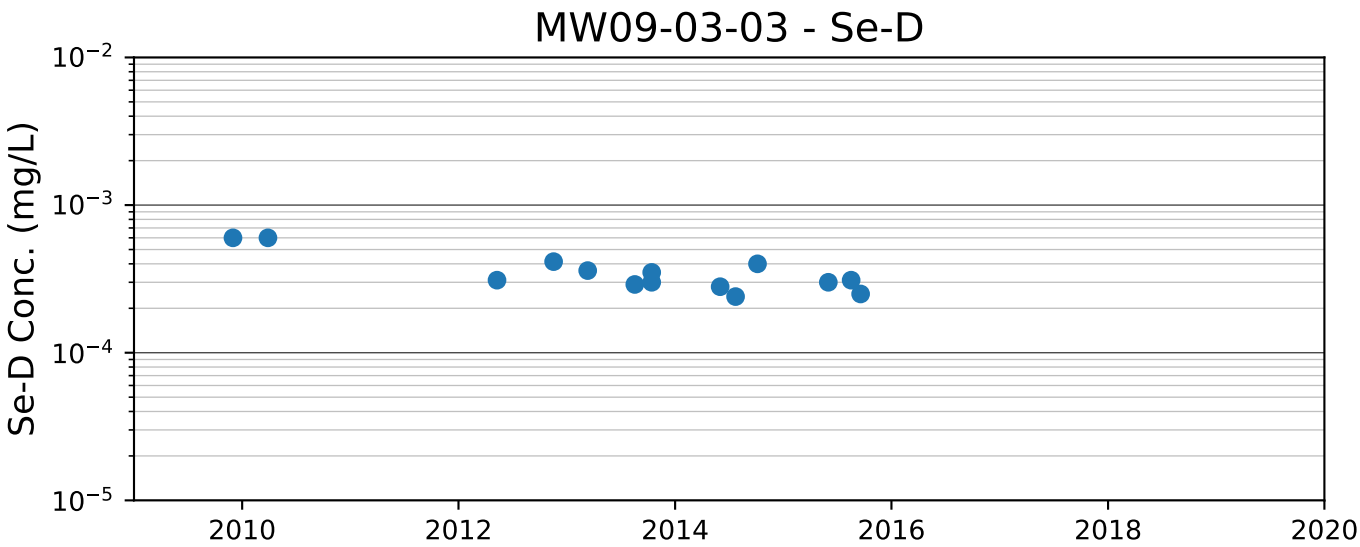

MW09-03-03 - Cr-D
Cr-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

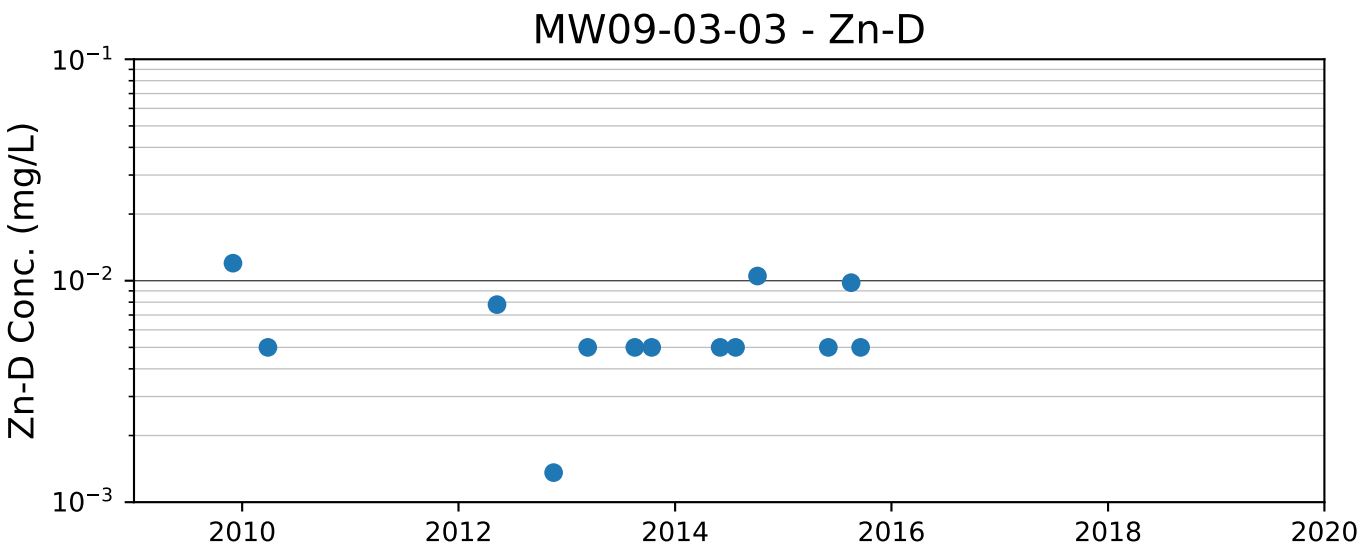

MW09-03-03 - Cu-D
Cu-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

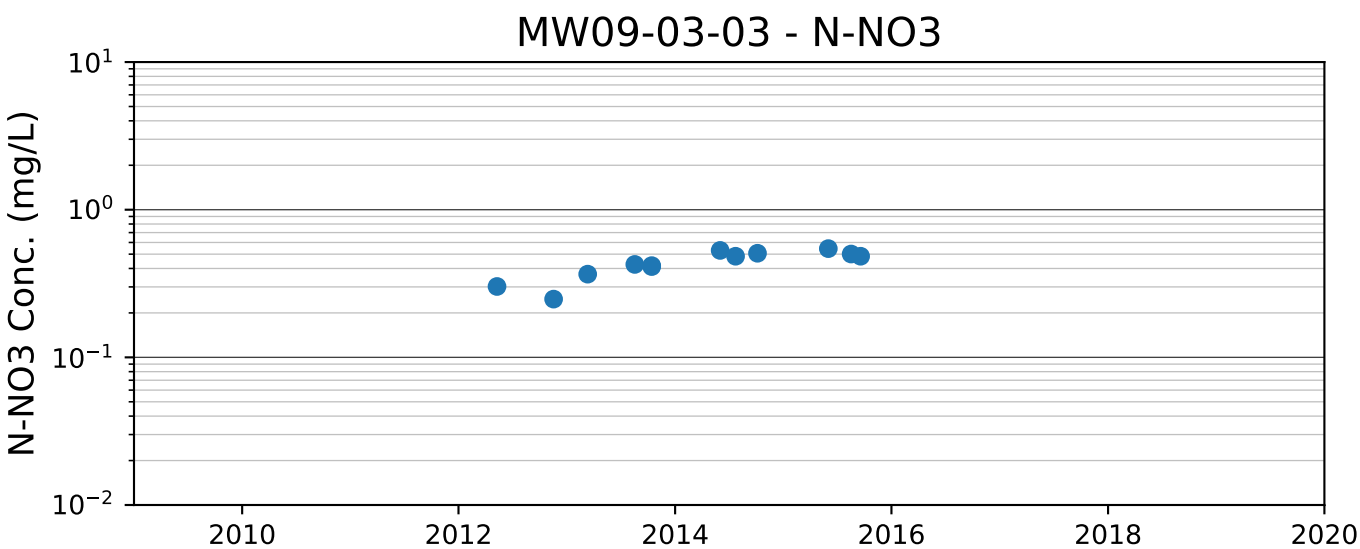

MW09-03-03 - Pb-D
Pb-D Conc. (mg/L)
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

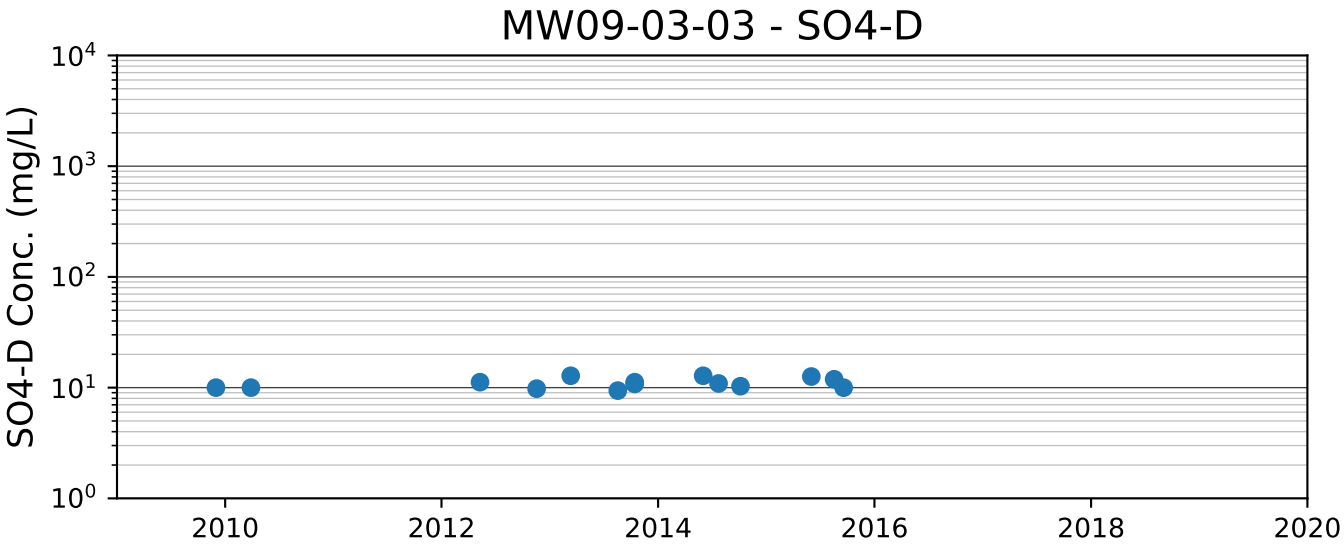

MW09-03-03 - Mo-D
Mo-D Conc. (mg/L)
10^{-1}
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

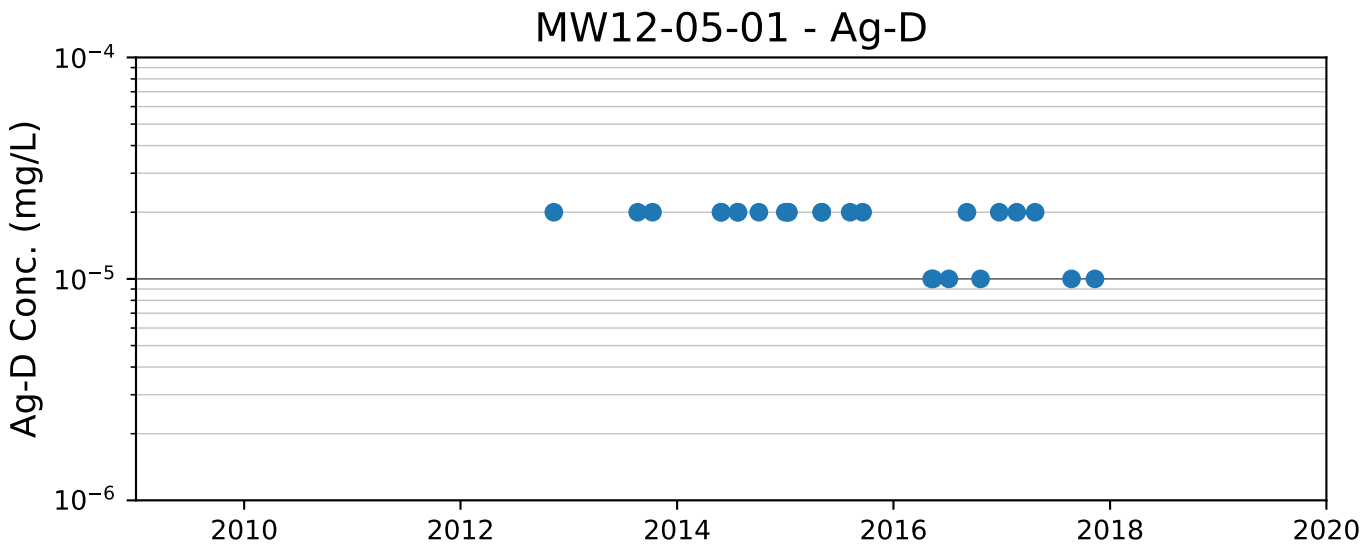

MW09-03-03 - Ni-D
Ni-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

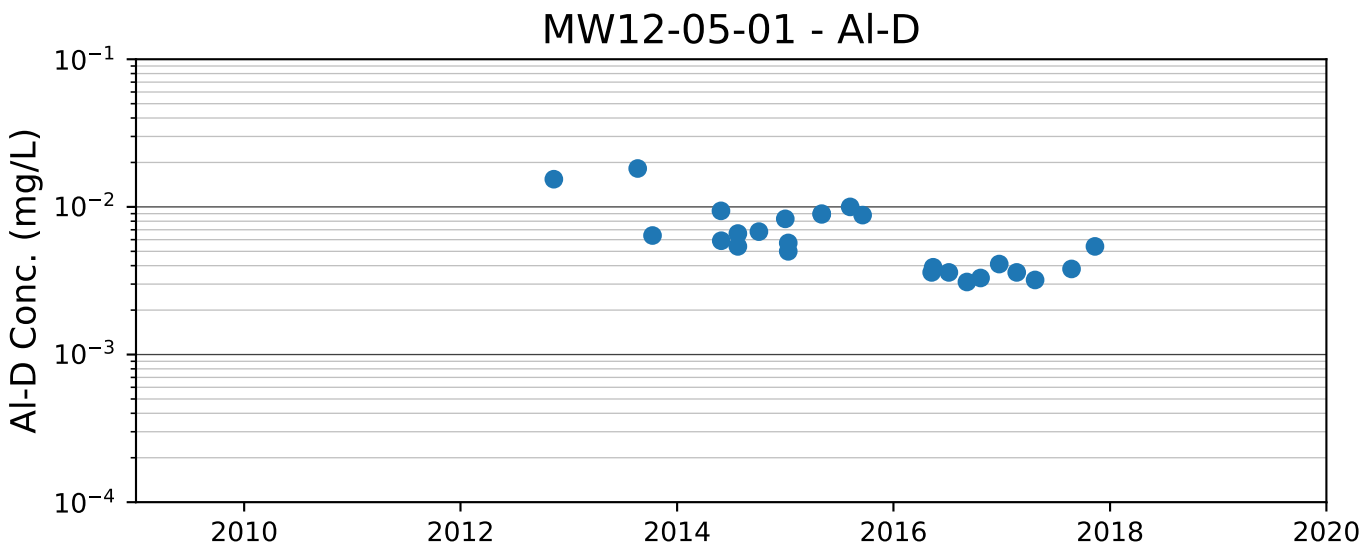

MW09-03-03 - Se-D
Se-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

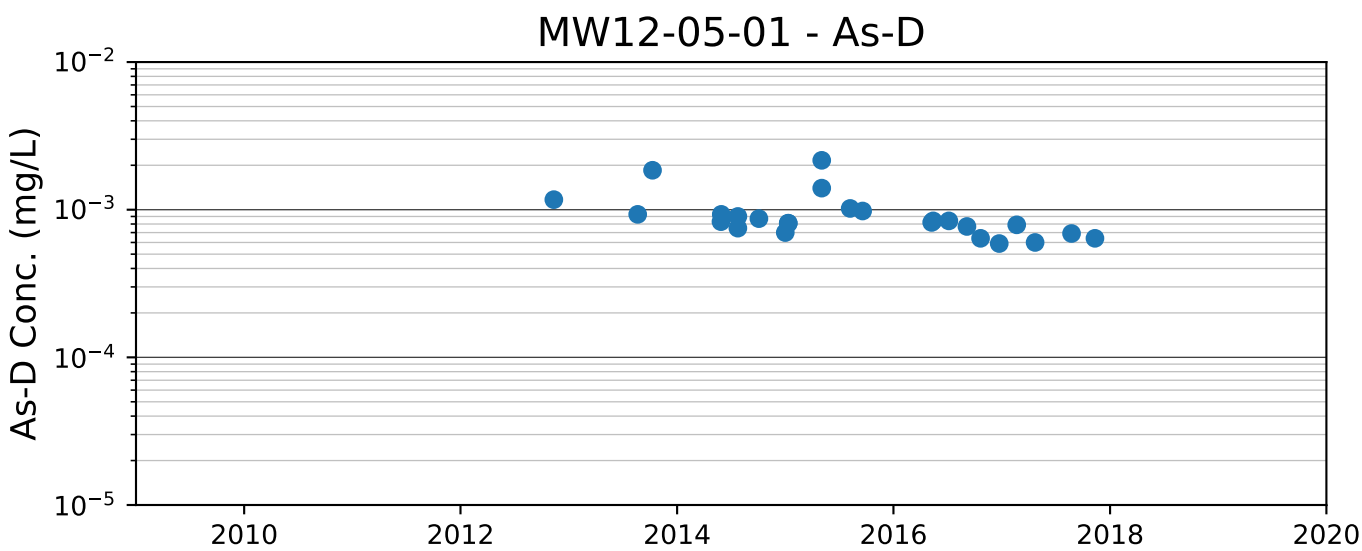

MW09-03-03 - Zn-D
Zn-D Conc. (mg/L)
10^{-1}
10^{-2}
10^{-3}
2010
2012
2014
2016
2018
2020

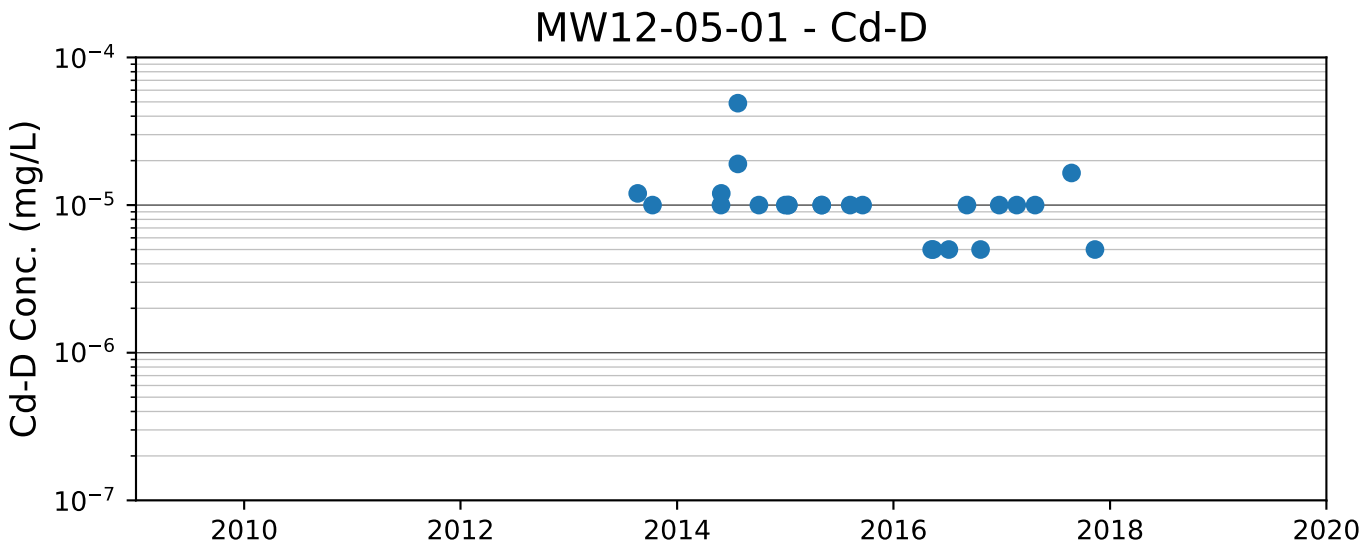

MW09-03-03 - N-NO3
N-NO3 Conc. (mg/L)
10^{1}
10^{0}
10^{-1}
10^{-2}
2010
2012
2014
2016
2018
2020

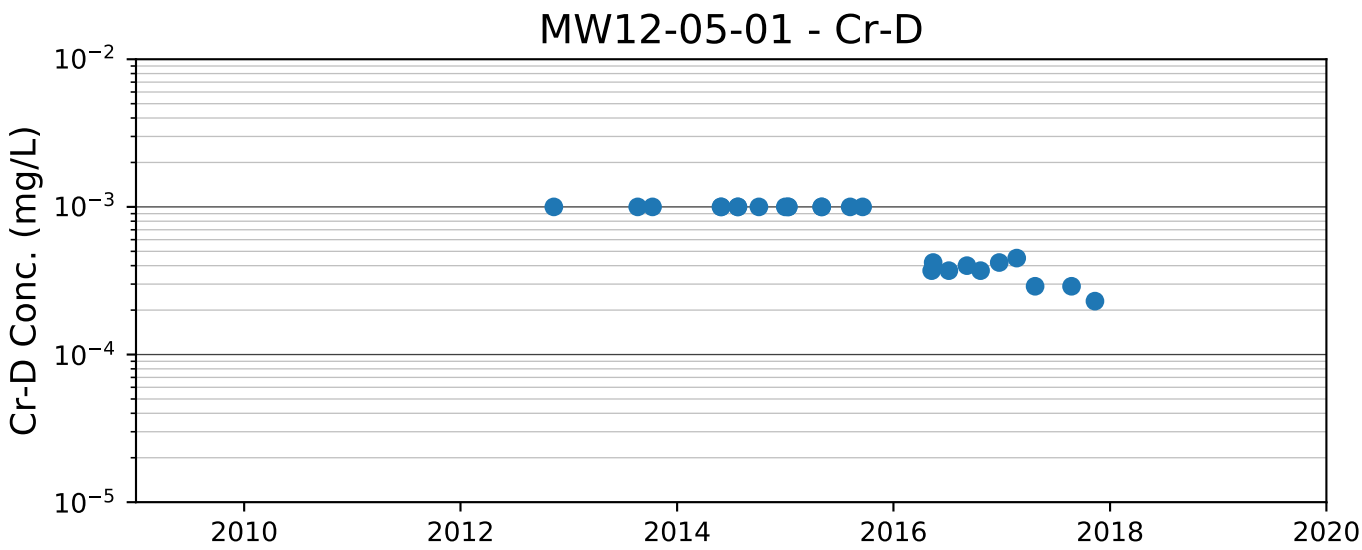

MW09-03-03 - SO4-D
SO4-D Conc. (mg/L)
10^4
10^3
10^2
10^1
10^0
2010
2012
2014
2016
2018
2020

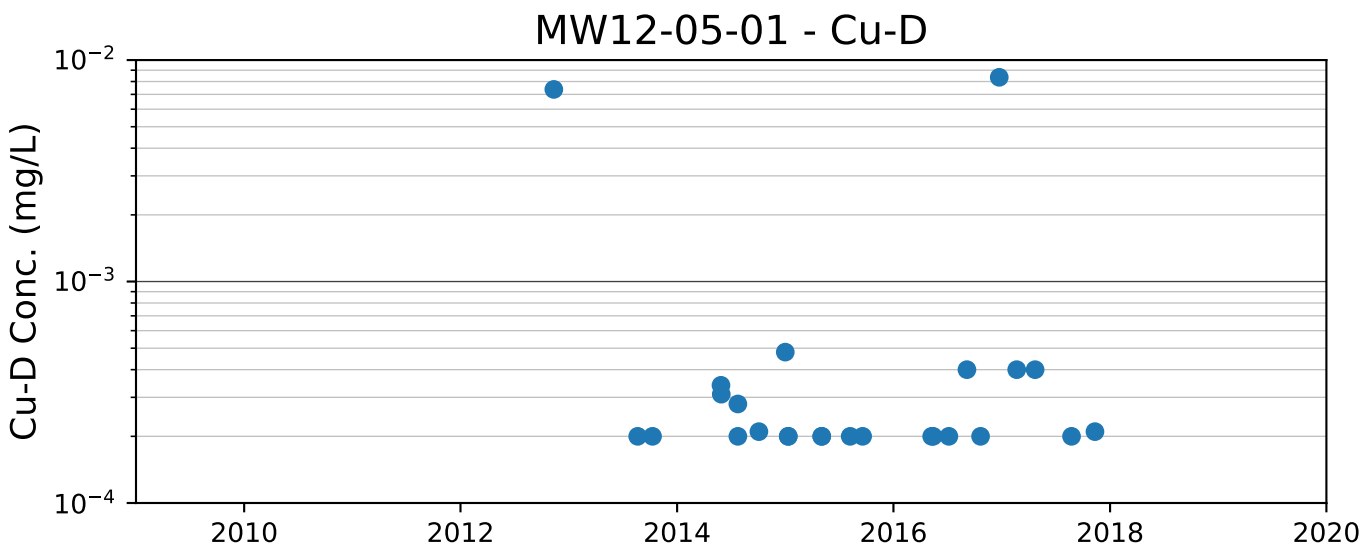

MW12-05-01 - Ag-D
Ag-D Conc. (mg/L)
10^{-4}
10^{-5}
10^{-6}
2010
2012
2014
2016
2018
2020

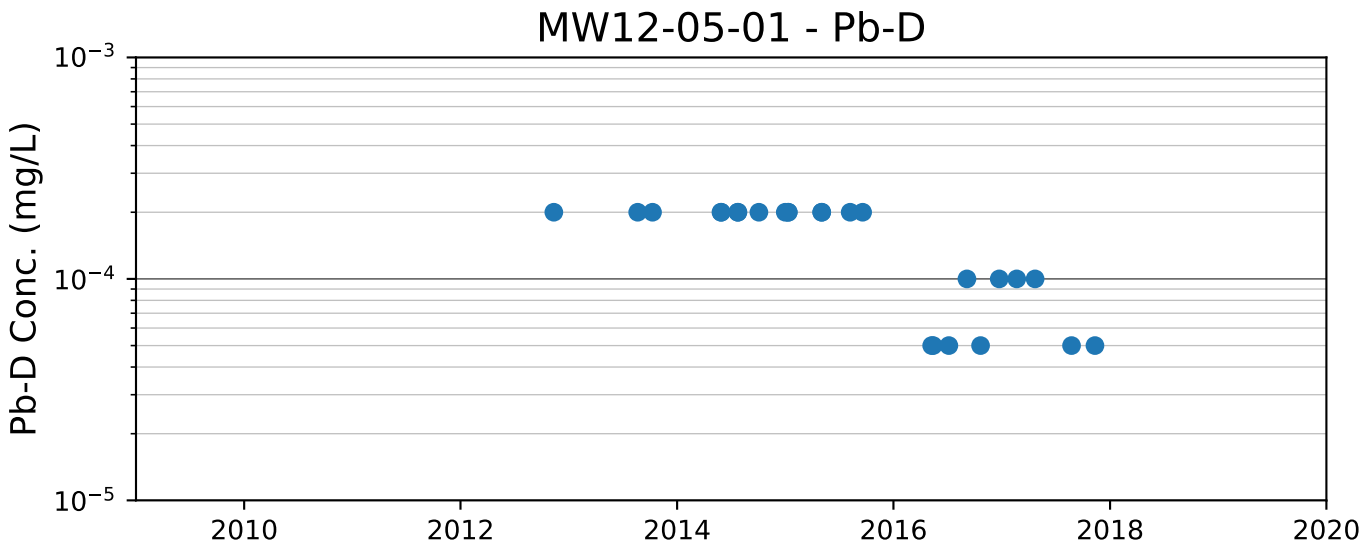

MW12-05-01 - Al-D
Al-D Conc. (mg/L)
10^{-1}
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

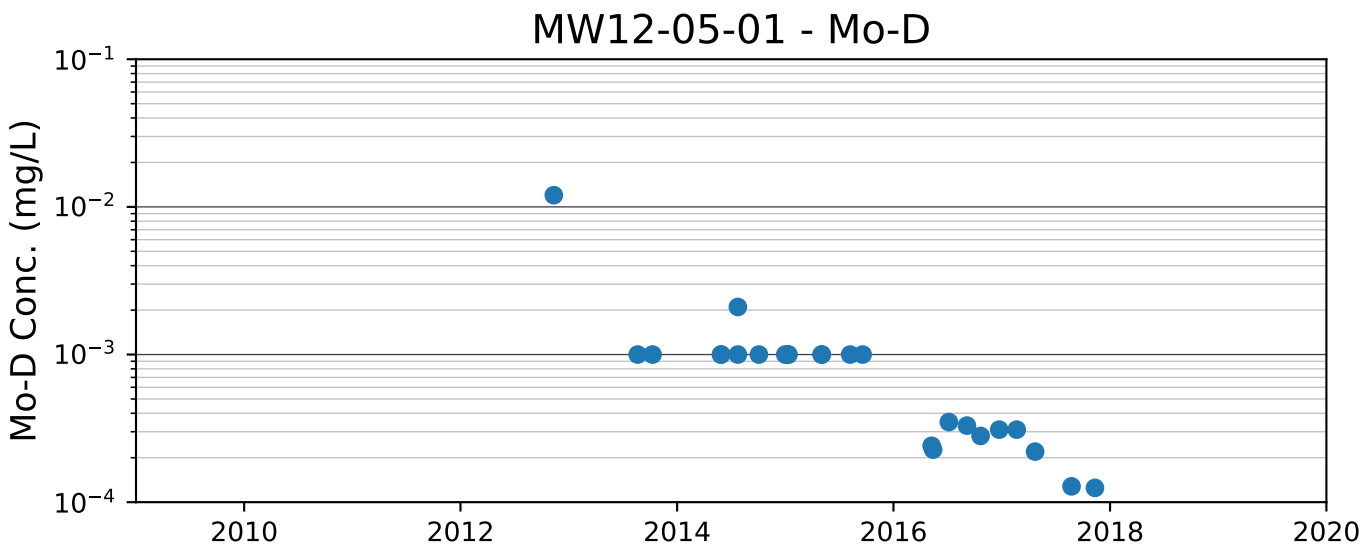

MW12-05-01 - As-D
As-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

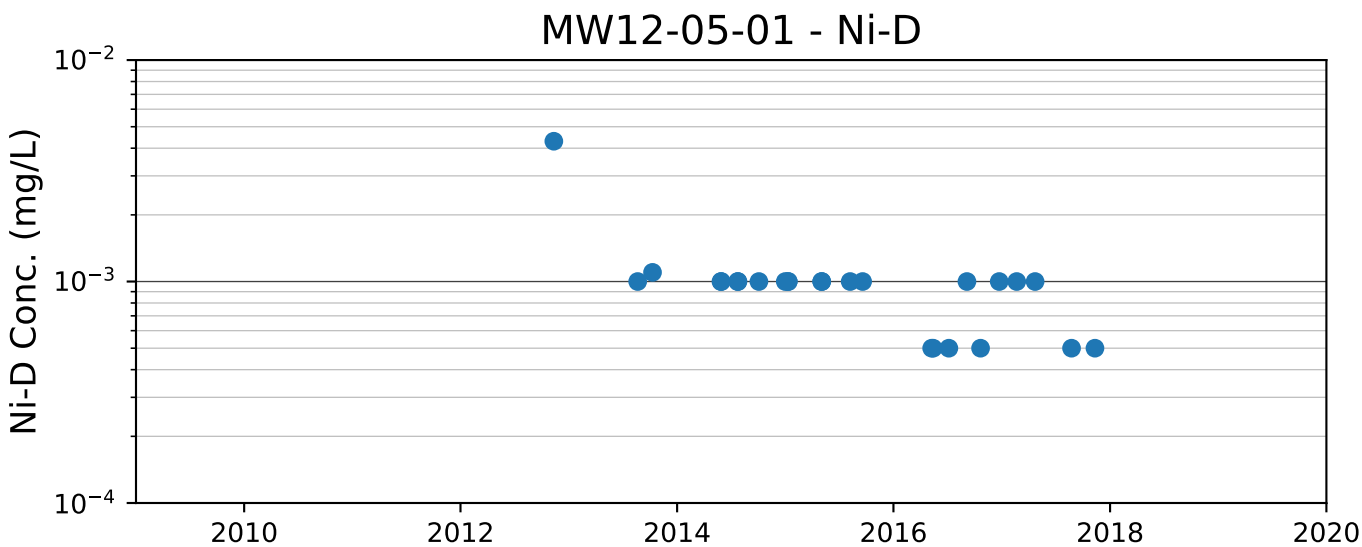

MW12-05-01 - Cd-D
Cd-D Conc. (mg/L)
10^{-4}
10^{-5}
10^{-6}
10^{-7}
2010
2012
2014
2016
2018
2020

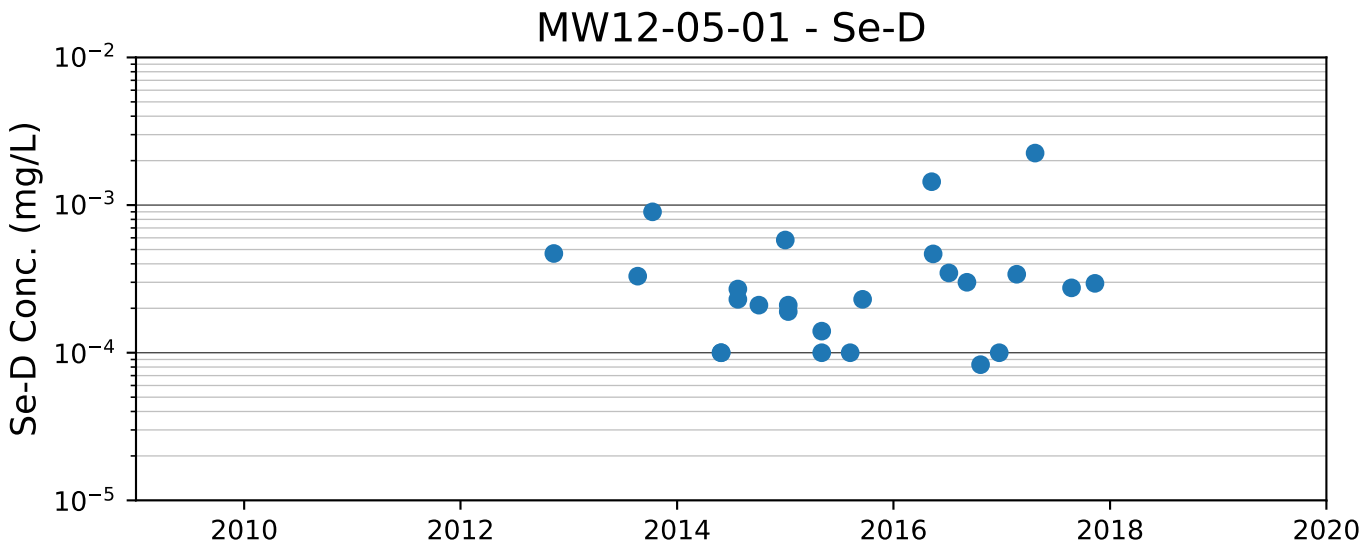

MW12-05-01 - Cr-D
Cr-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

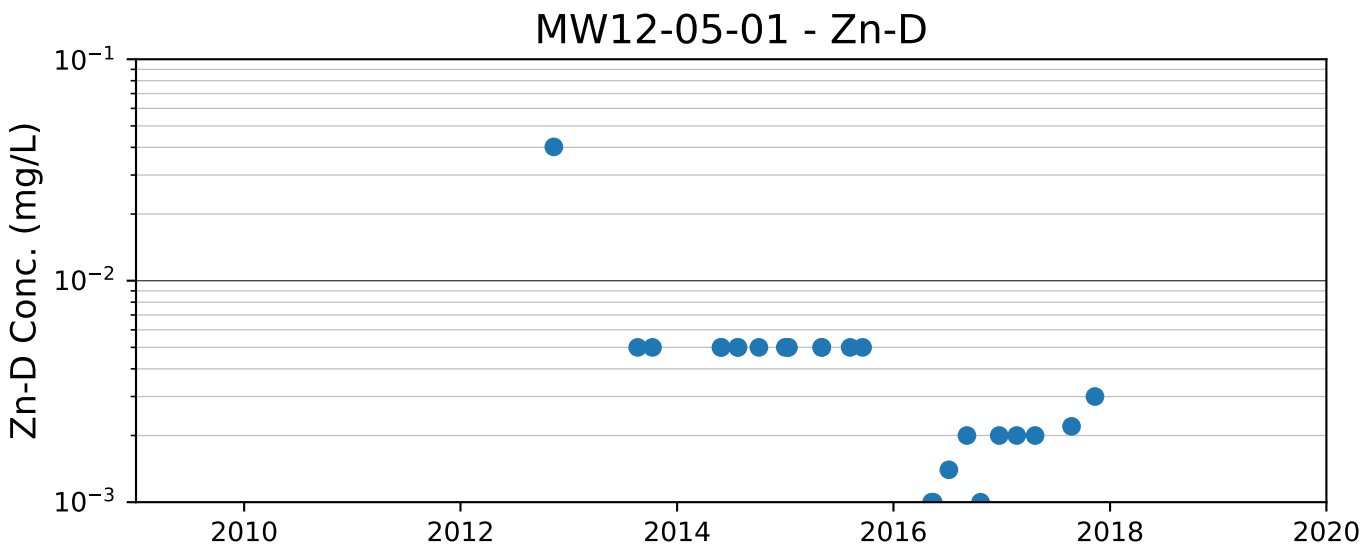

MW12-05-01 - Cu-D
Cu-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

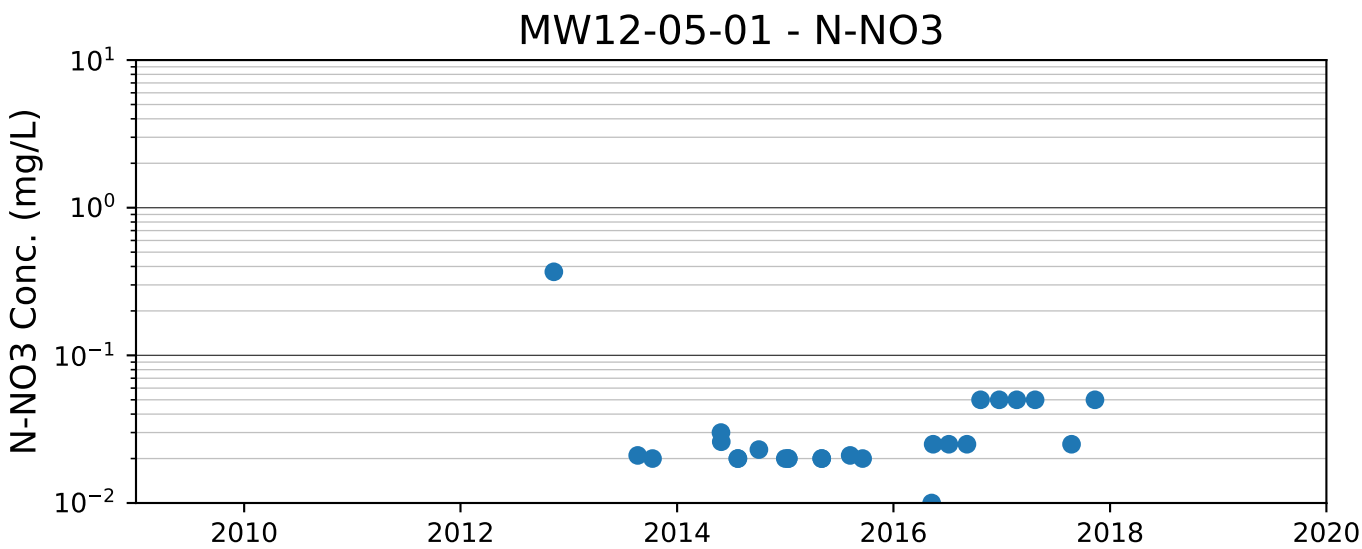

MW12-05-01 - Pb-D
Pb-D Conc. (mg/L)
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

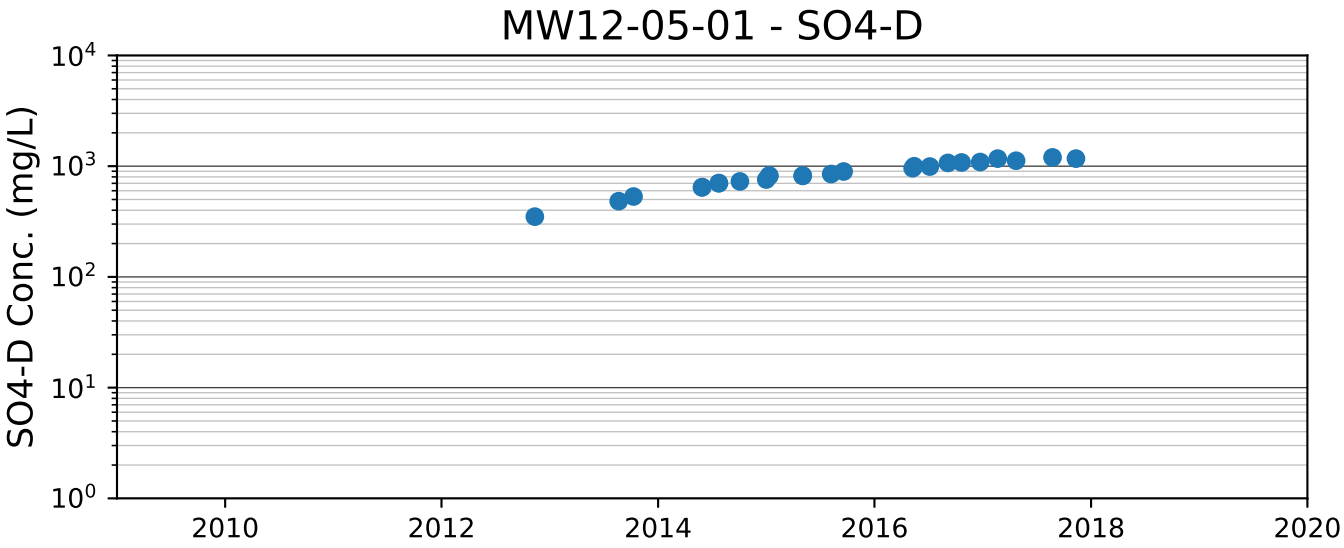

MW12-05-01 - Mo-D
Mo-D Conc. (mg/L)
10^{-1}
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

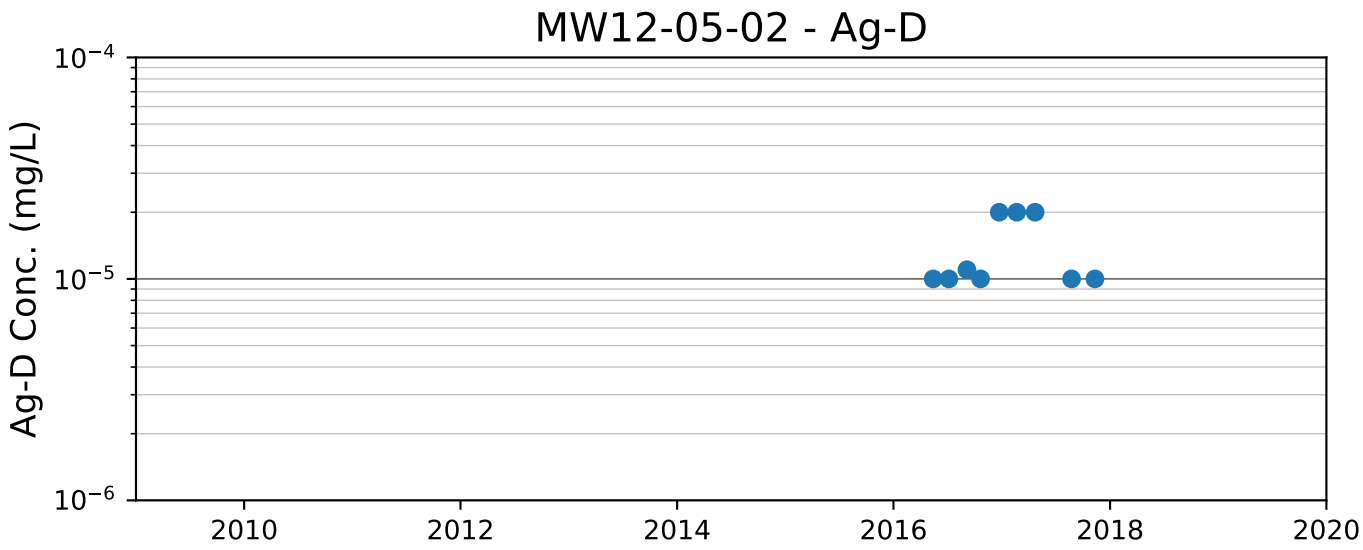

MW12-05-01 - Ni-D
Ni-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

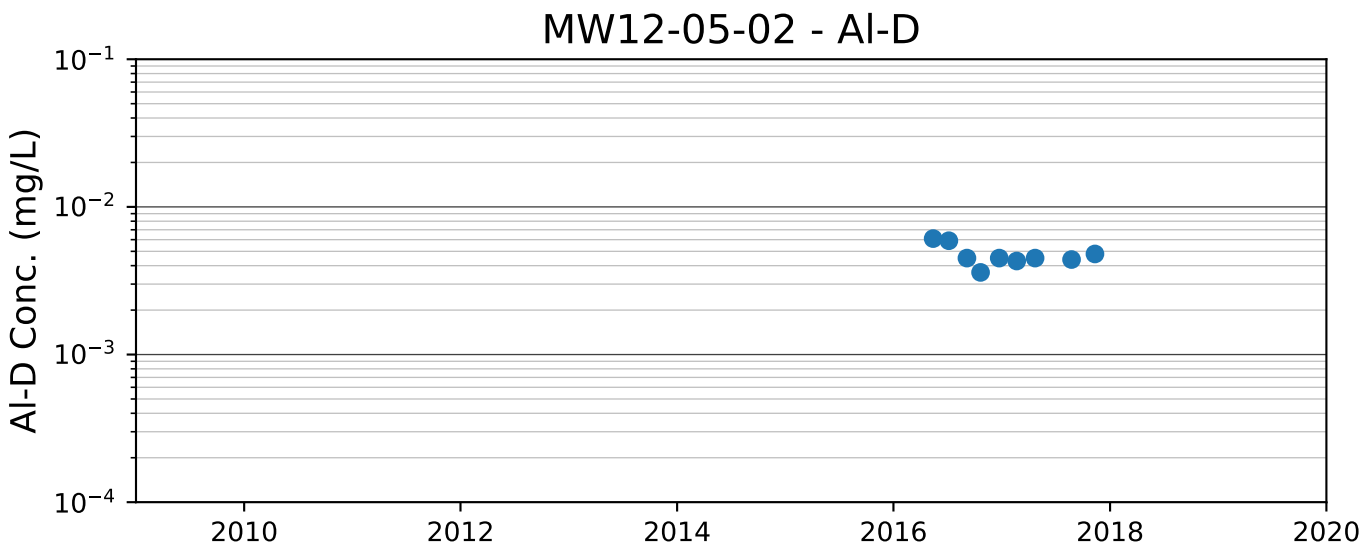

MW12-05-01 - Se-D
Se-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020


MW12-05-01 - Zn-D
Zn-D Conc. (mg/L)
10^{-1}
10^{-2}
10^{-3}
2010
2012
2014
2016
2018
2020


MW12-05-01 - N-NO3
N-NO3 Conc. (mg/L)
10^{1}
10^{0}
10^{-1}
10^{-2}
2010
2012
2014
2016
2018
2020


MW12-05-01 - SO4-D
SO4-D Conc. (mg/L)
10^4
10^3
10^2
10^1
10^0
2010
2012
2014
2016
2018
2020


MW12-05-02 - Ag-D
Ag-D Conc. (mg/L)
10^{-4}
10^{-5}
10^{-6}
2010
2012
2014
2016
2018
2020


MW12-05-02 - Al-D
Al-D Conc. (mg/L)
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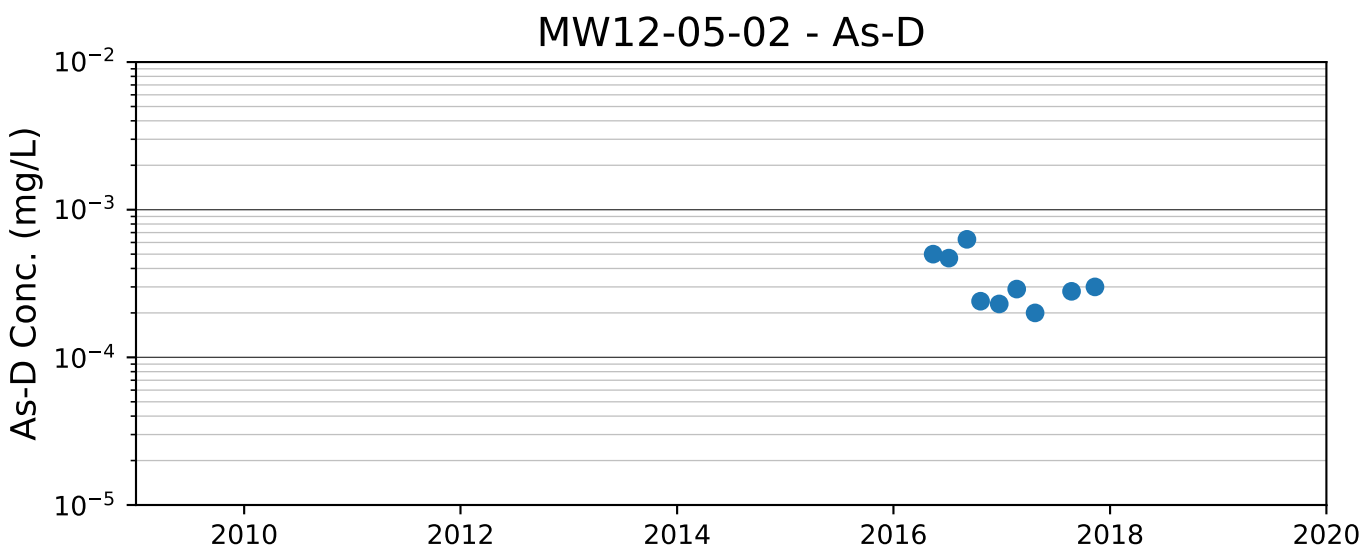
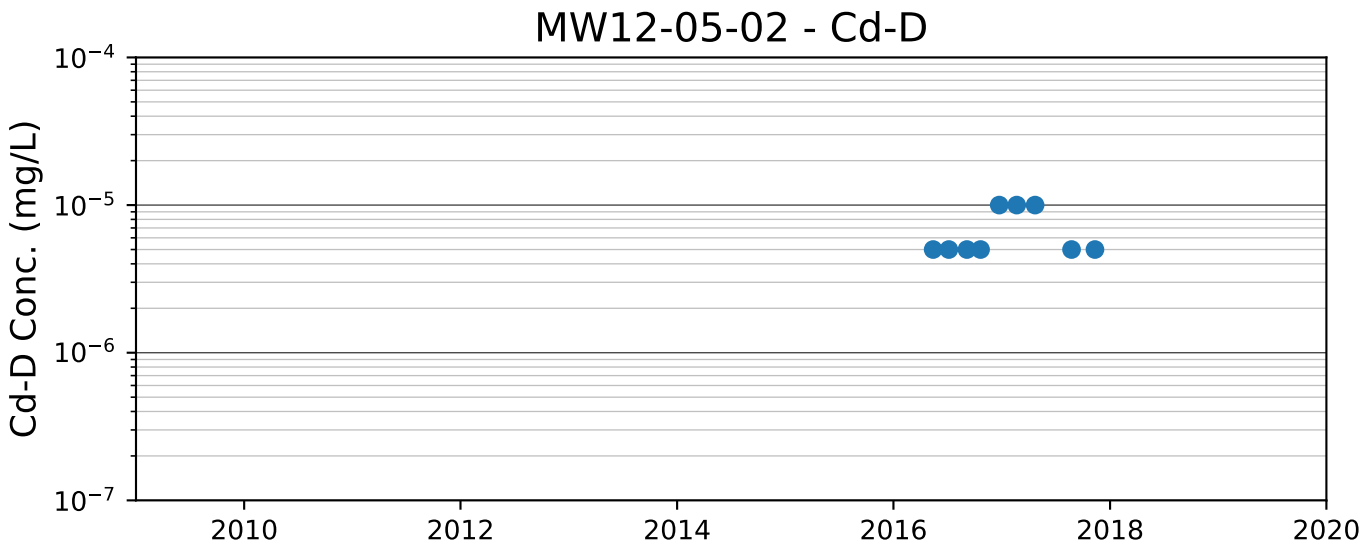
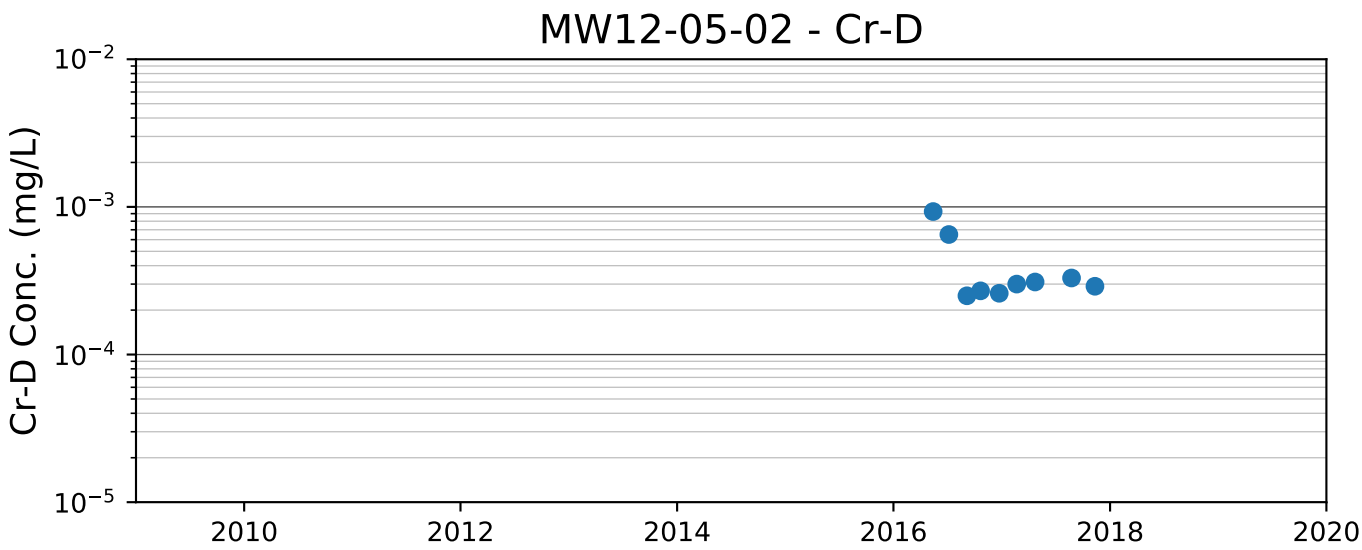
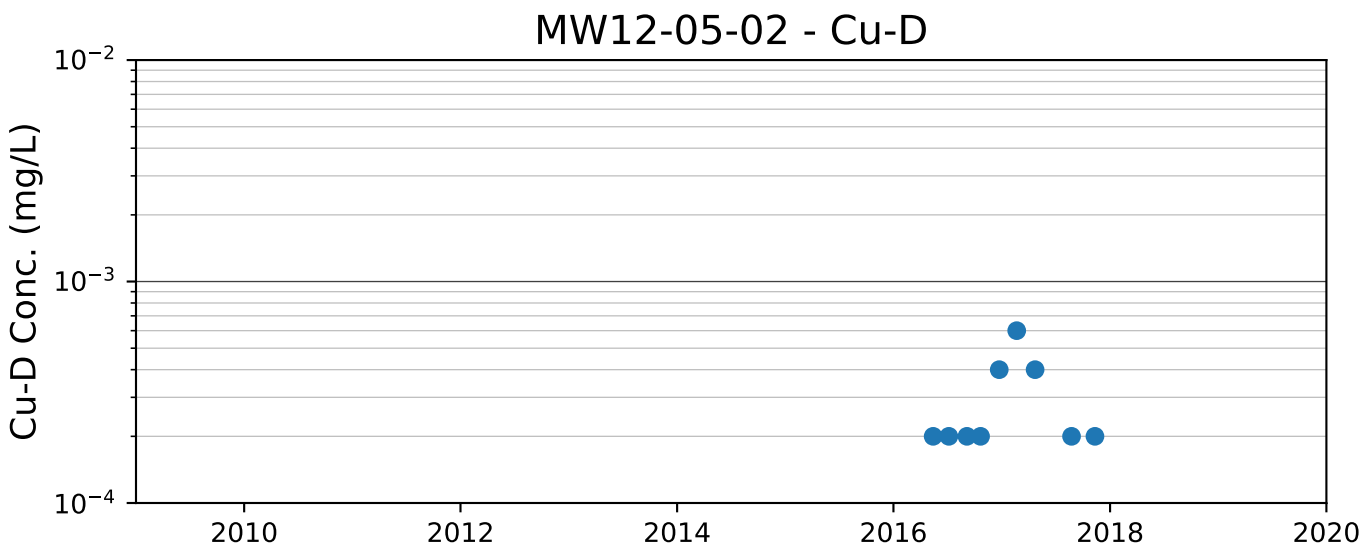
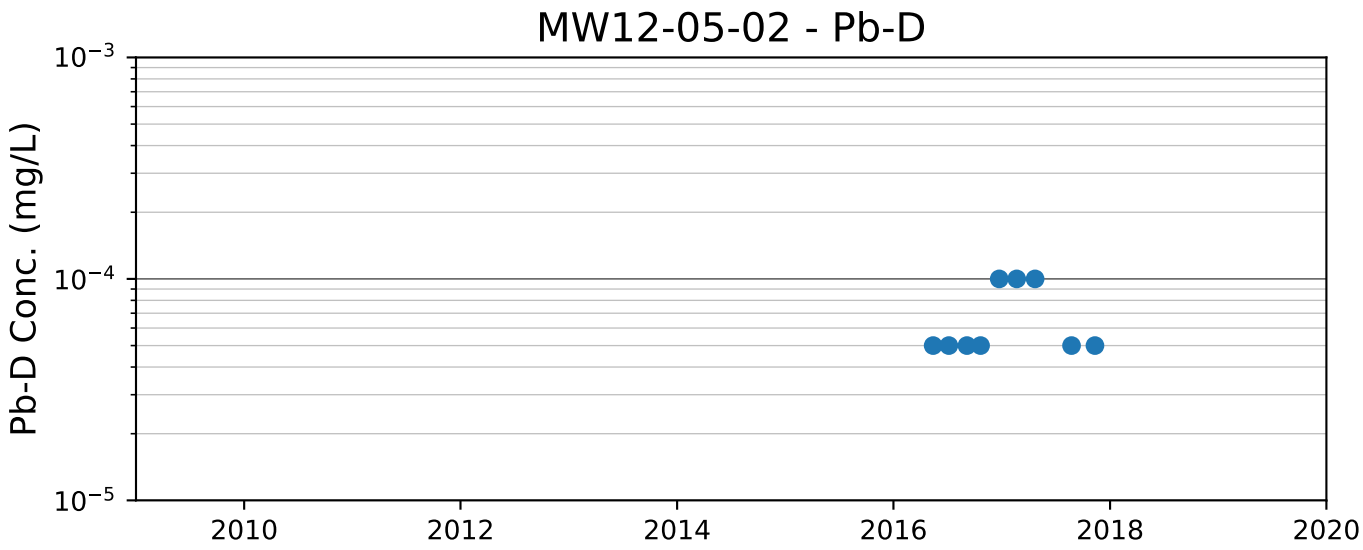
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

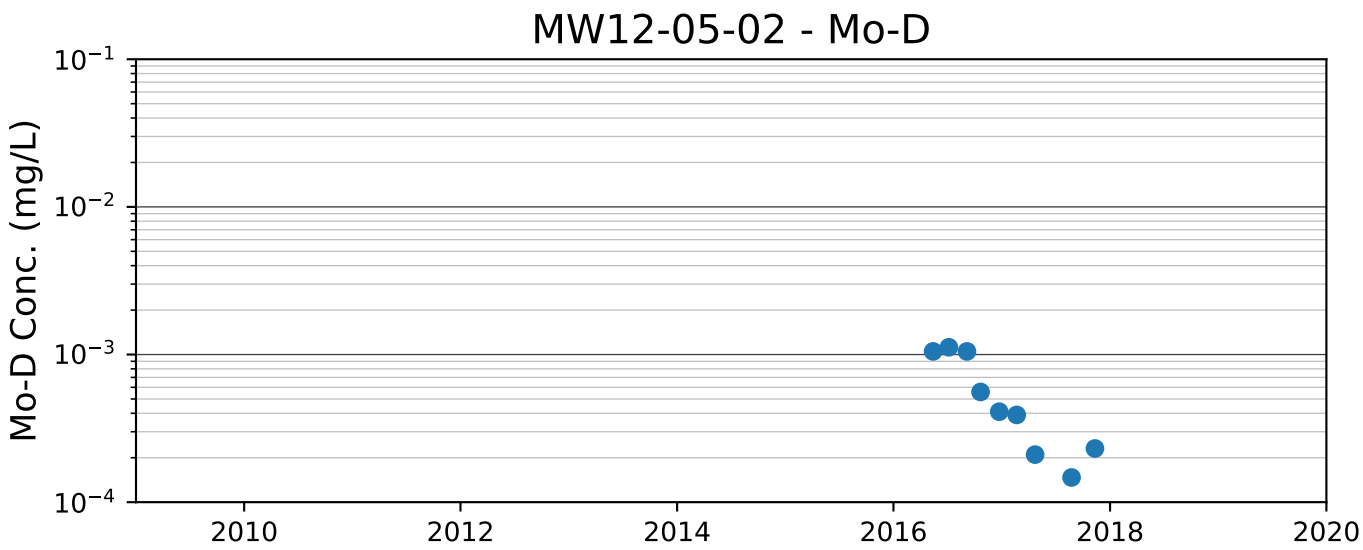

MW12-05-02 - As-D
As-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

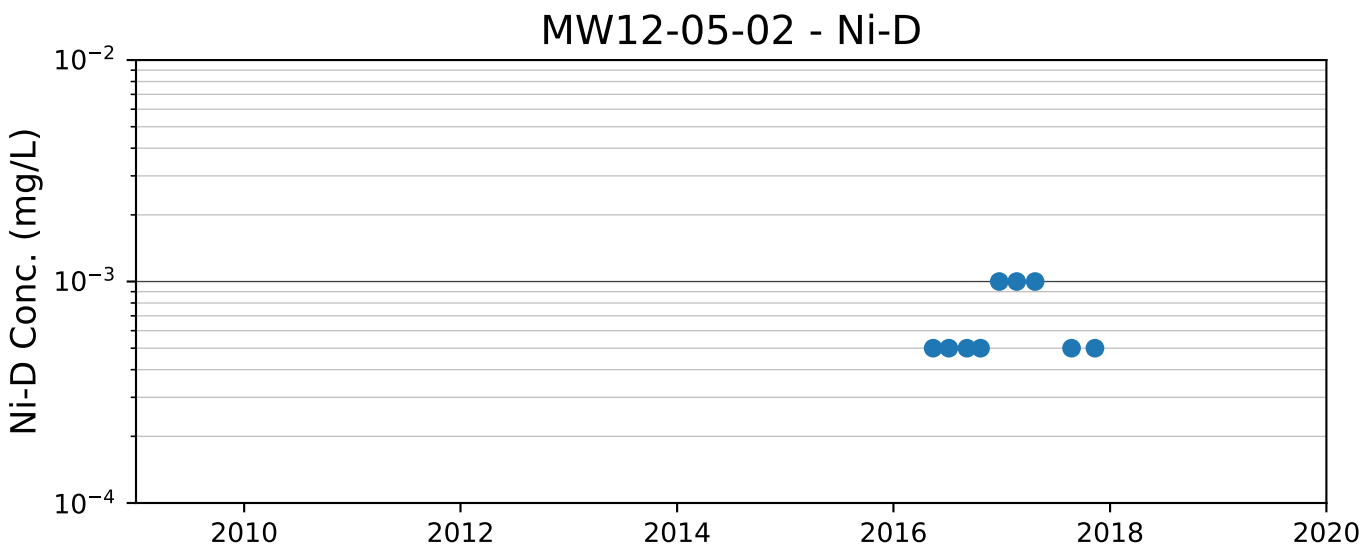

MW12-05-02 - Cd-D
Cd-D Conc. (mg/L)
10^{-4}
10^{-5}
10^{-6}
10^{-7}
2010
2012
2014
2016
2018
2020

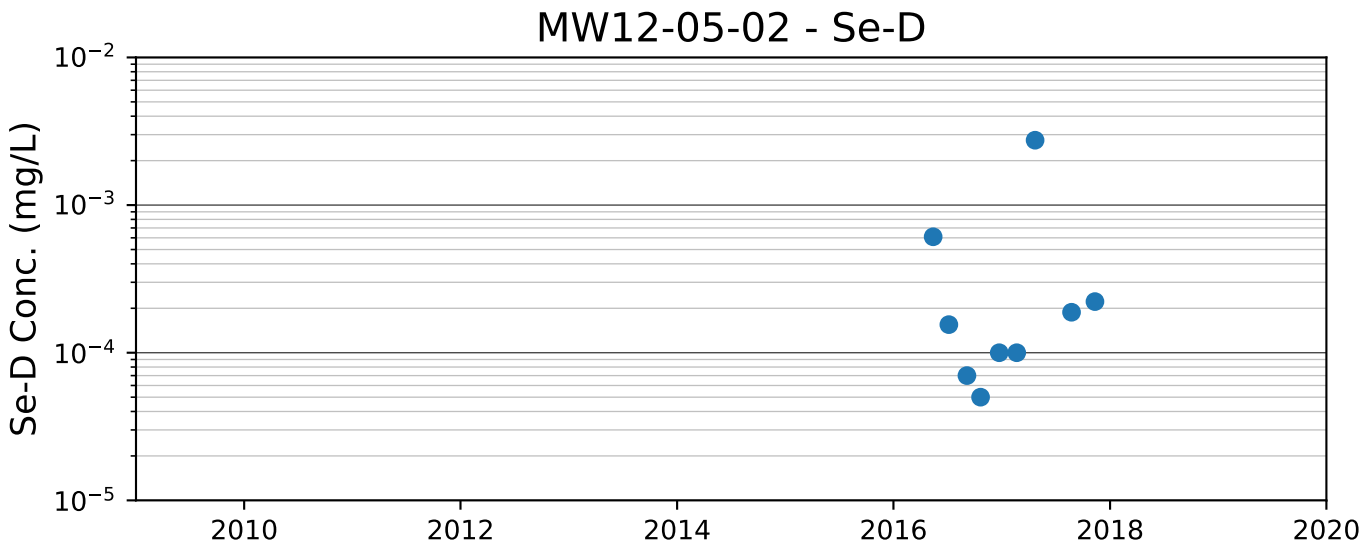

MW12-05-02 - Cr-D
Cr-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

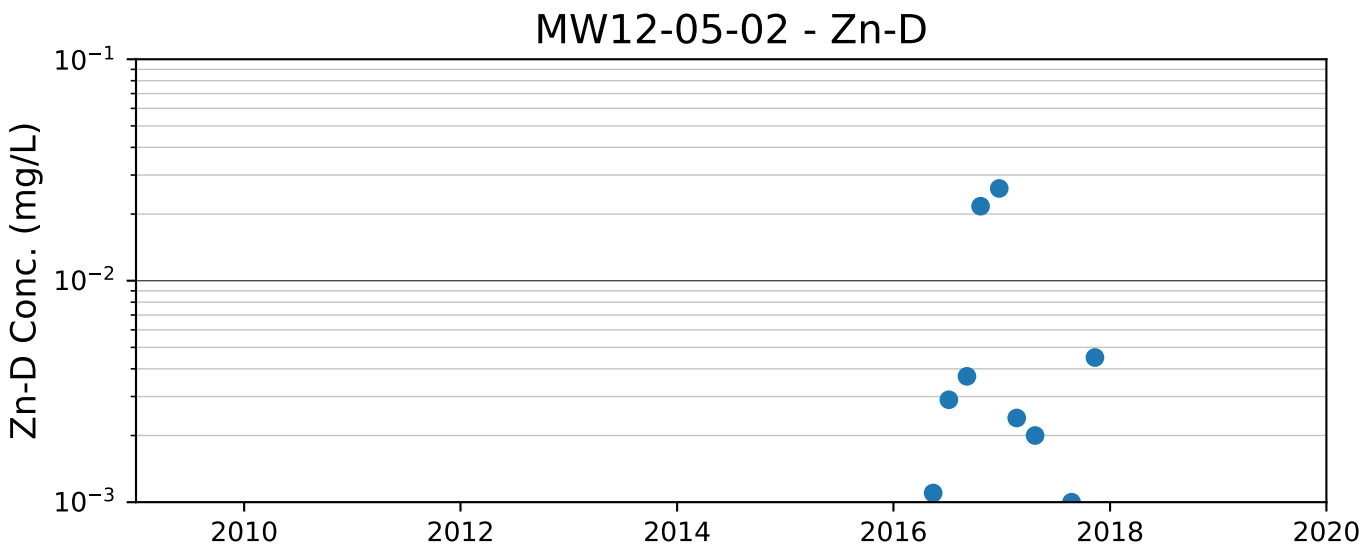

MW12-05-02 - Cu-D
Cu-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

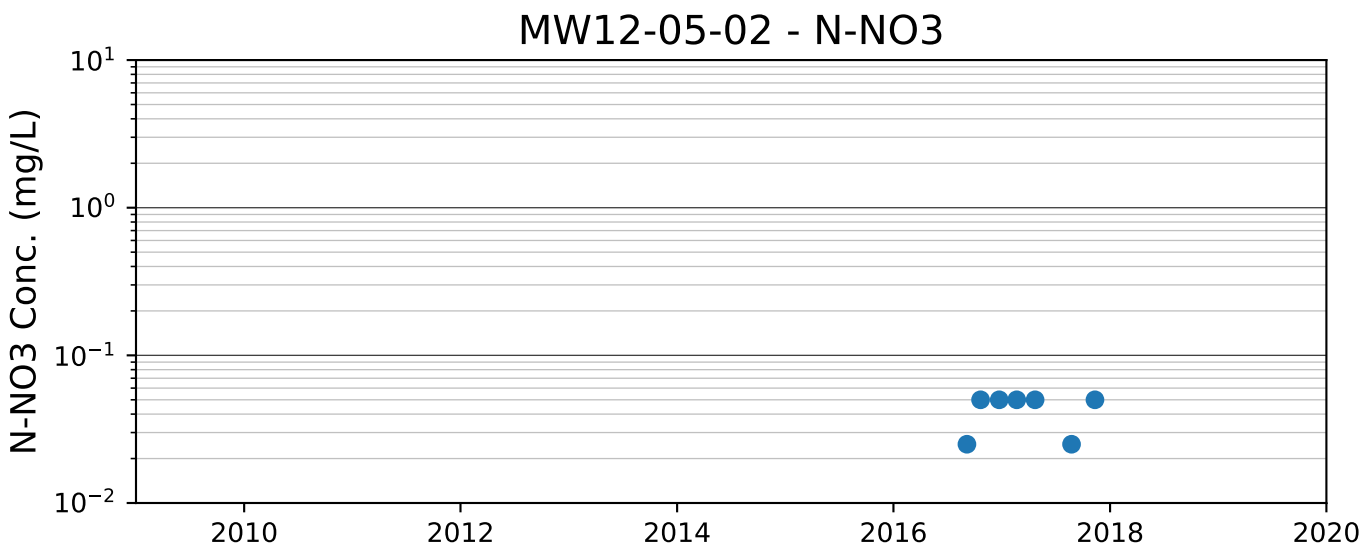

MW12-05-02 - Pb-D
Pb-D Conc. (mg/L)
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

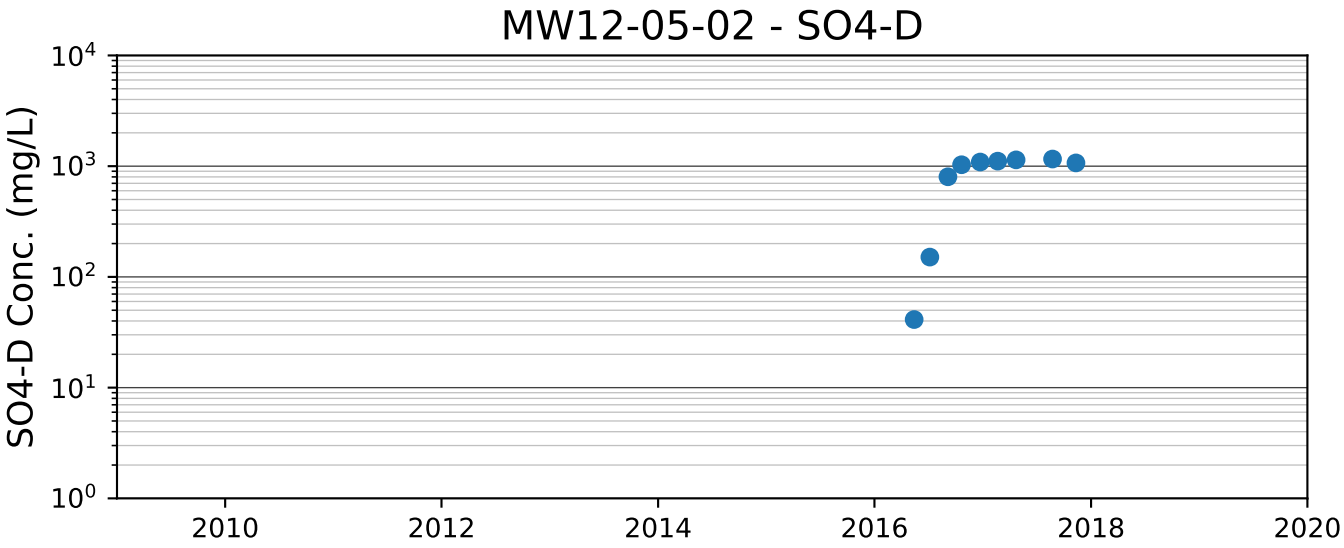

MW12-05-02 - Mo-D
Mo-D Conc. (mg/L)
10^{-1}
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

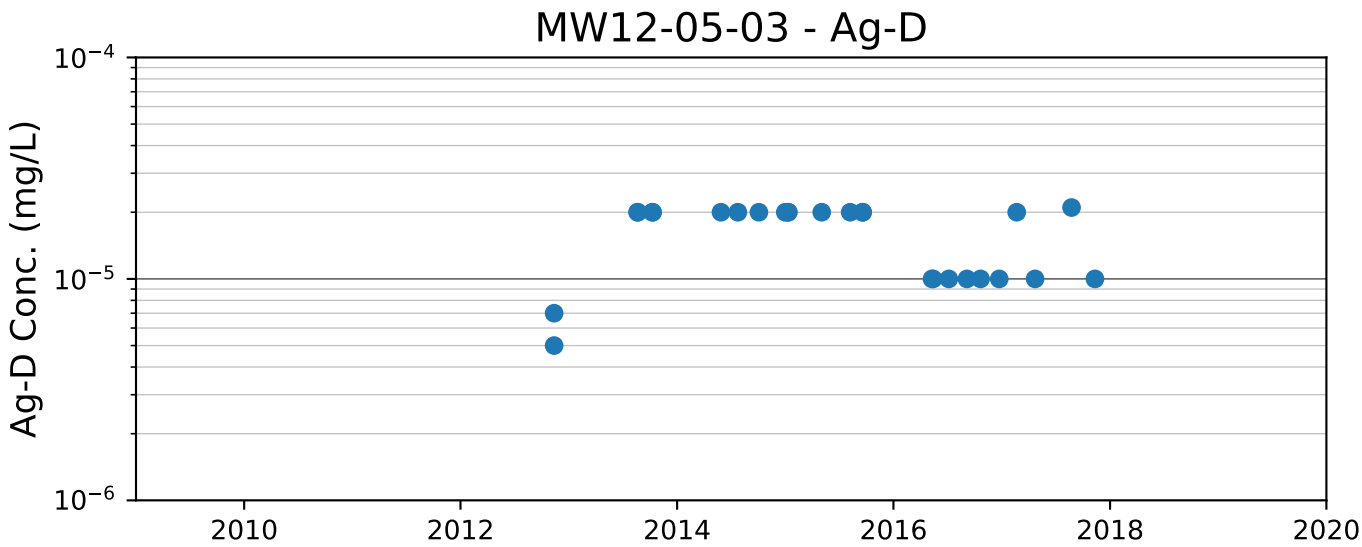

MW12-05-02 - Ni-D
Ni-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

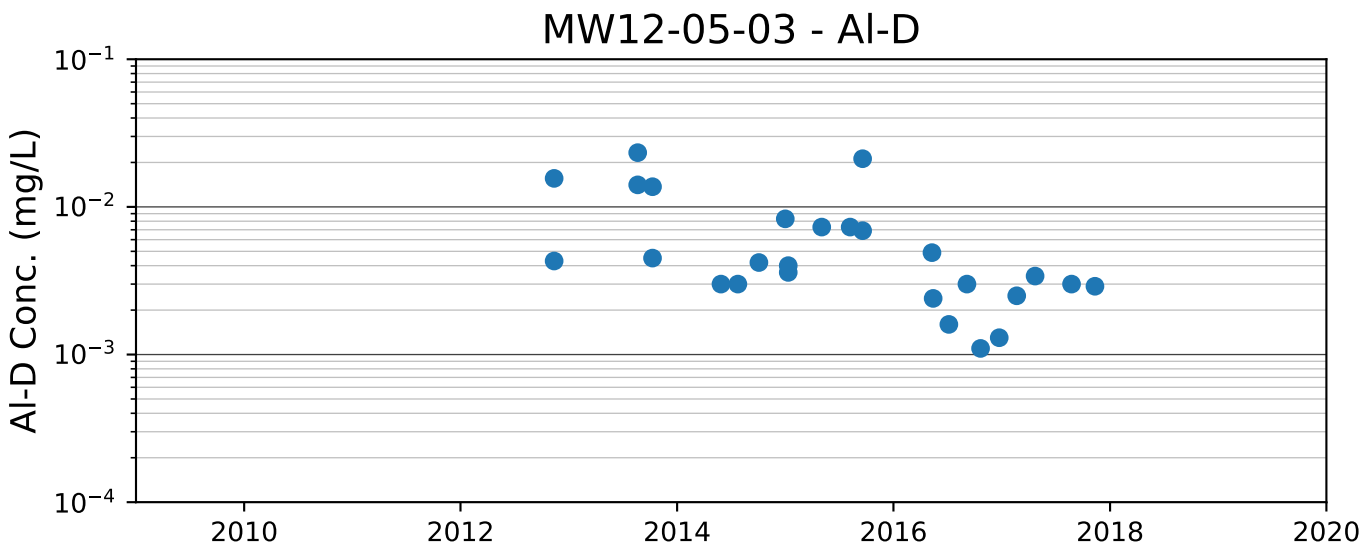

MW12-05-02 - Se-D
Se-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

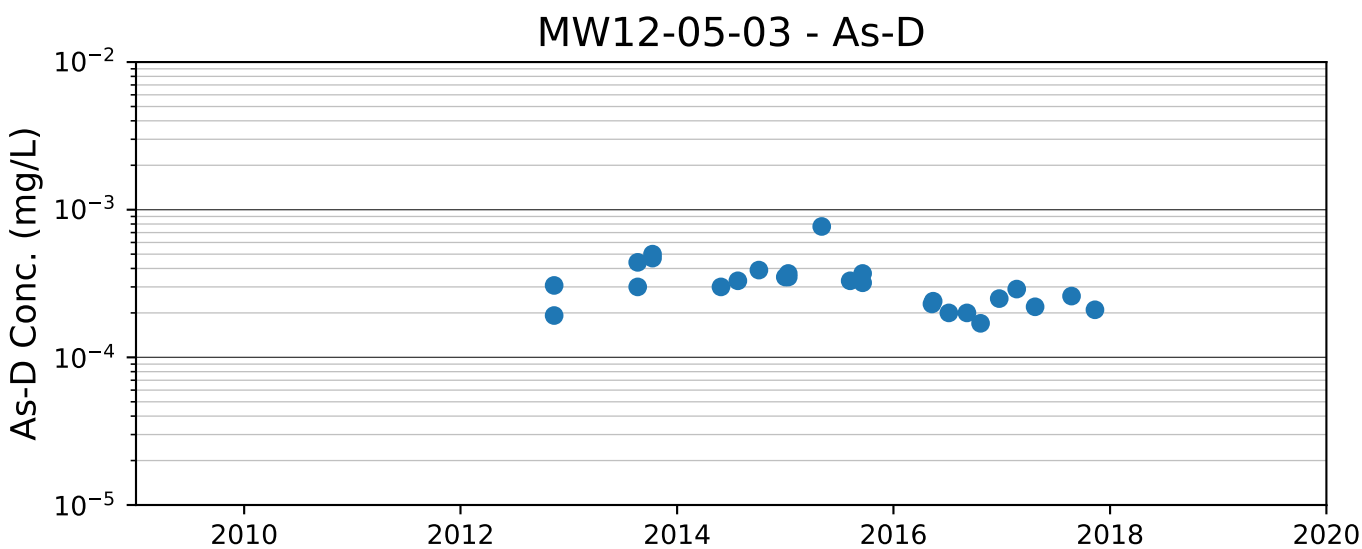

MW12-05-02 - Zn-D
Zn-D Conc. (mg/L)
10^{-1}
10^{-2}
10^{-3}
2010
2012
2014
2016
2018
2020

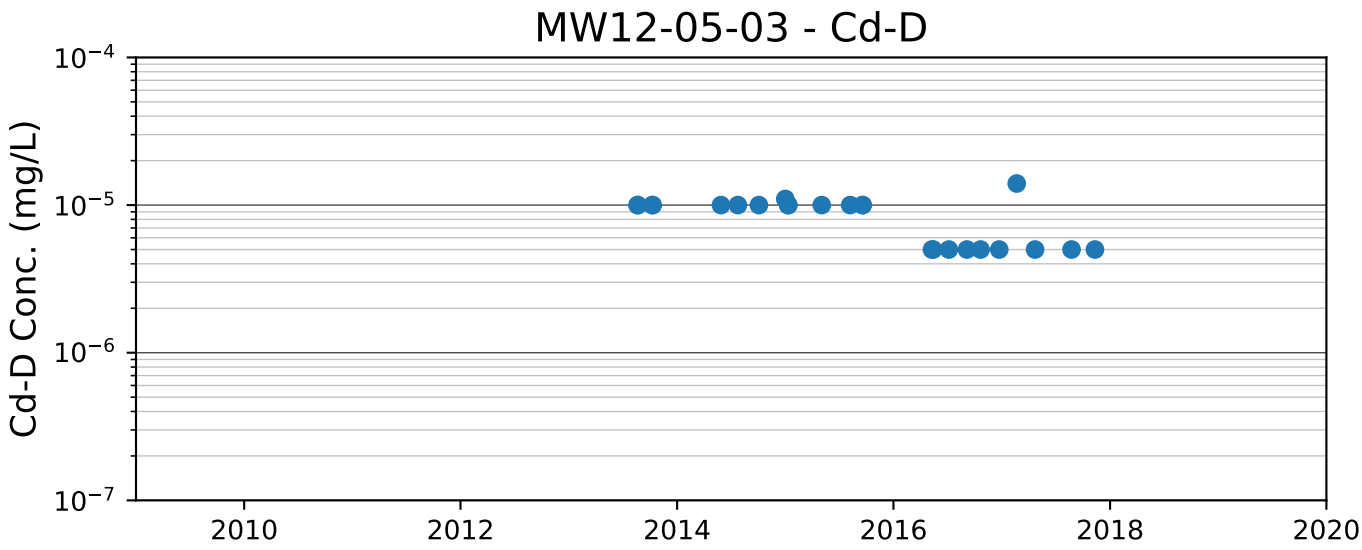

MW12-05-02 - N-NO3
N-NO3 Conc. (mg/L)
10^{1}
10^{0}
10^{-1}
10^{-2}
2010
2012
2014
2016
2018
2020

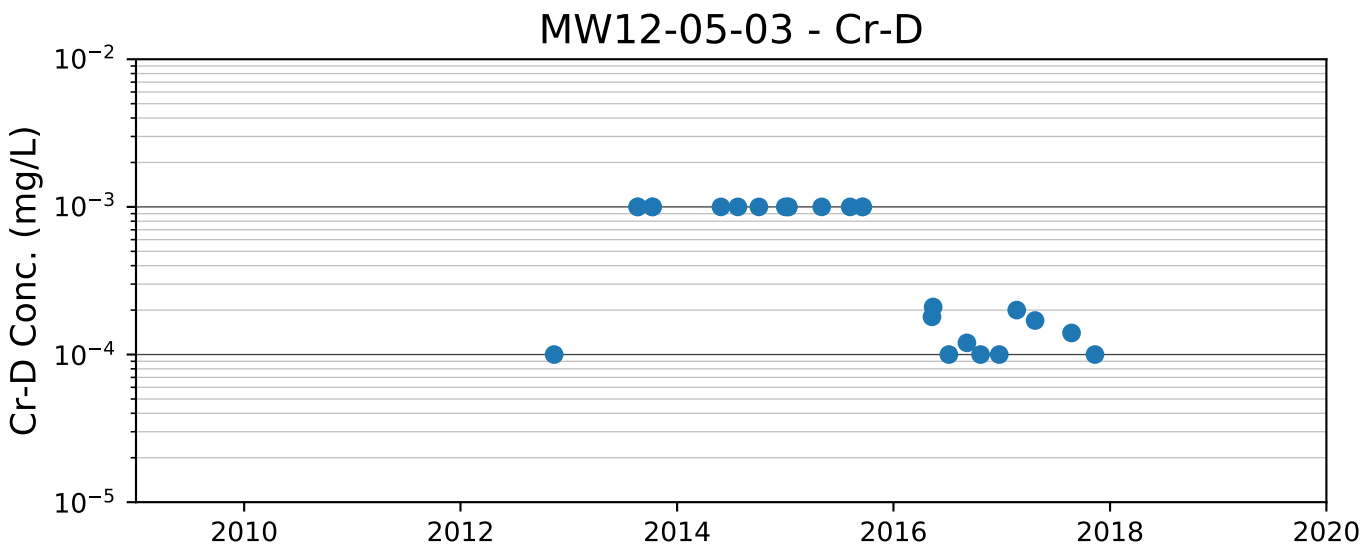

MW12-05-02 - SO4-D
SO4-D Conc. (mg/L)
10^4
10^3
10^2
10^1
10^0
2010
2012
2014
2016
2018
2020

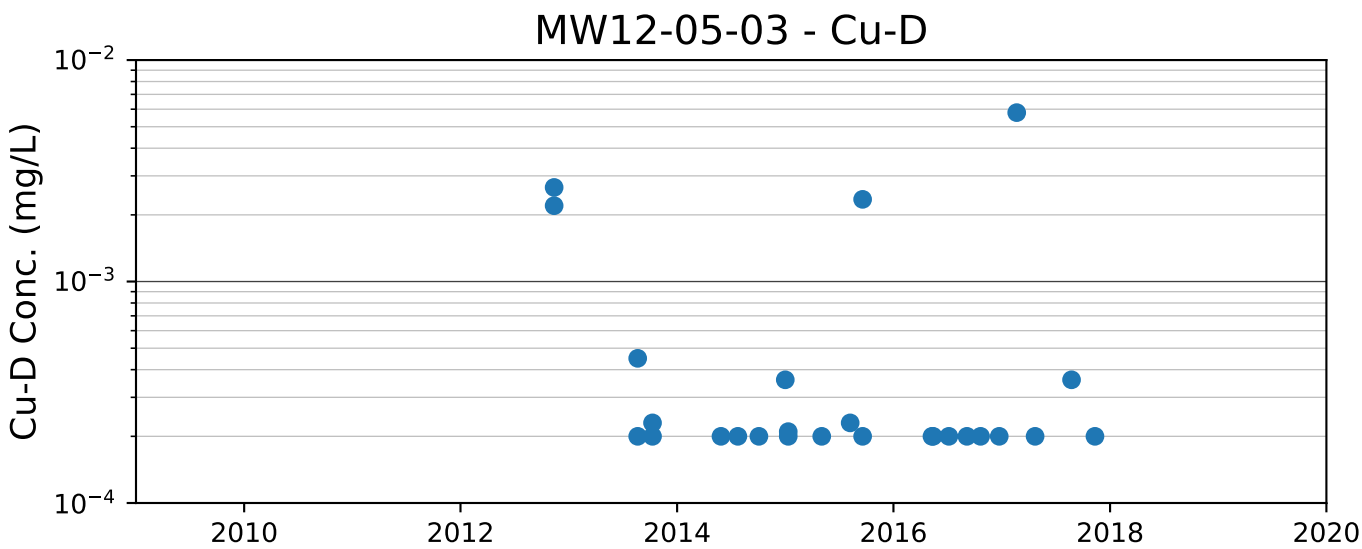

MW12-05-03 - Ag-D
Ag-D Conc. (mg/L)
10^{-4}
10^{-5}
10^{-6}
2010
2012
2014
2016
2018
2020

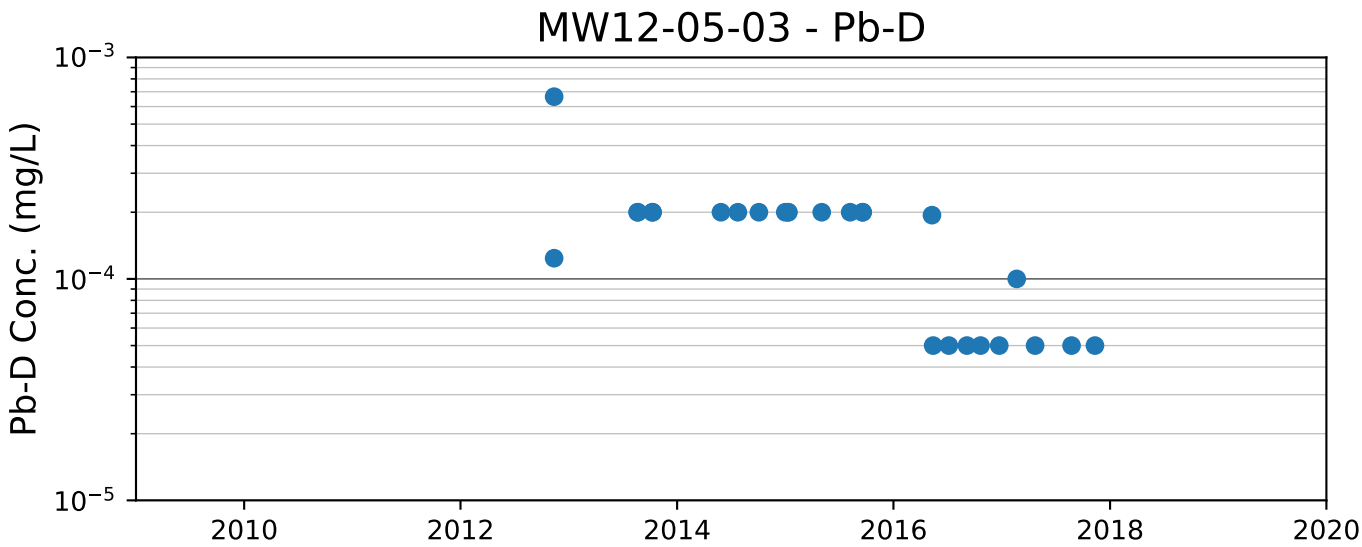

MW12-05-03 - Al-D
Al-D Conc. (mg/L)
10^{-1}
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

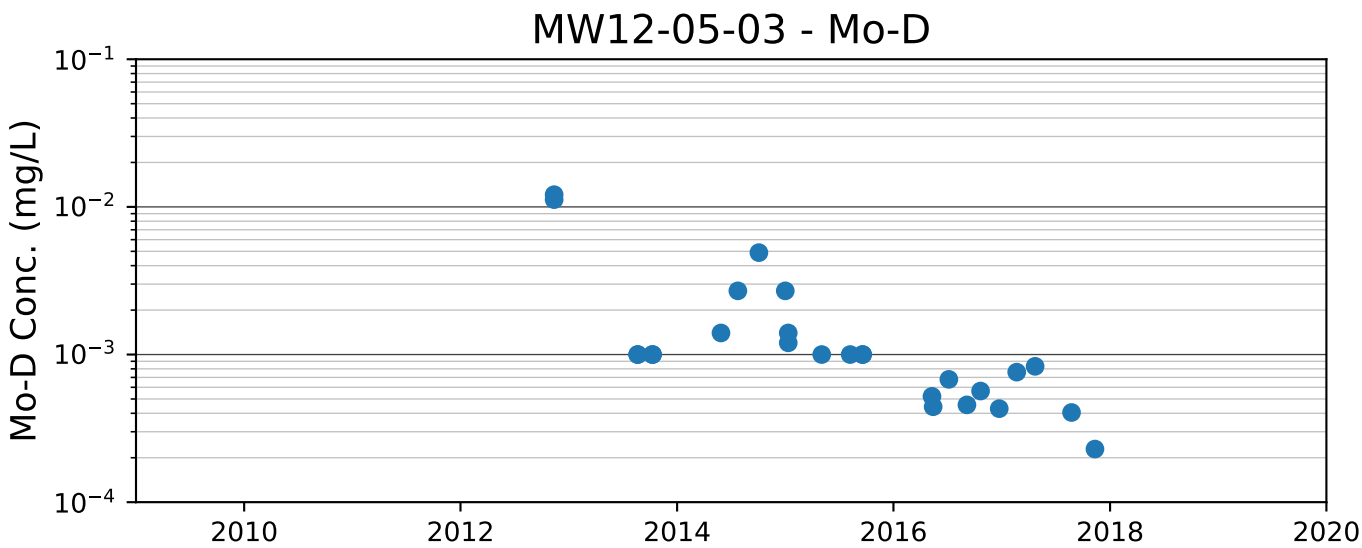

MW12-05-03 - As-D
As-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

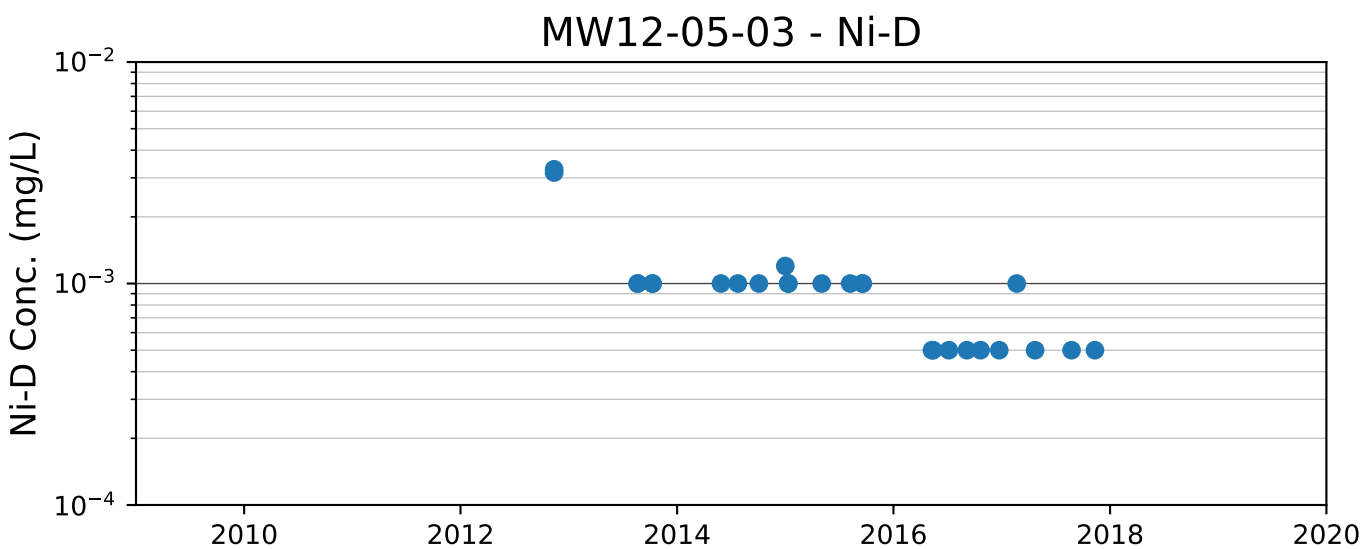

MW12-05-03 - Cd-D
Cd-D Conc. (mg/L)
10^{-4}
10^{-5}
10^{-6}
10^{-7}
2010
2012
2014
2016
2018
2020

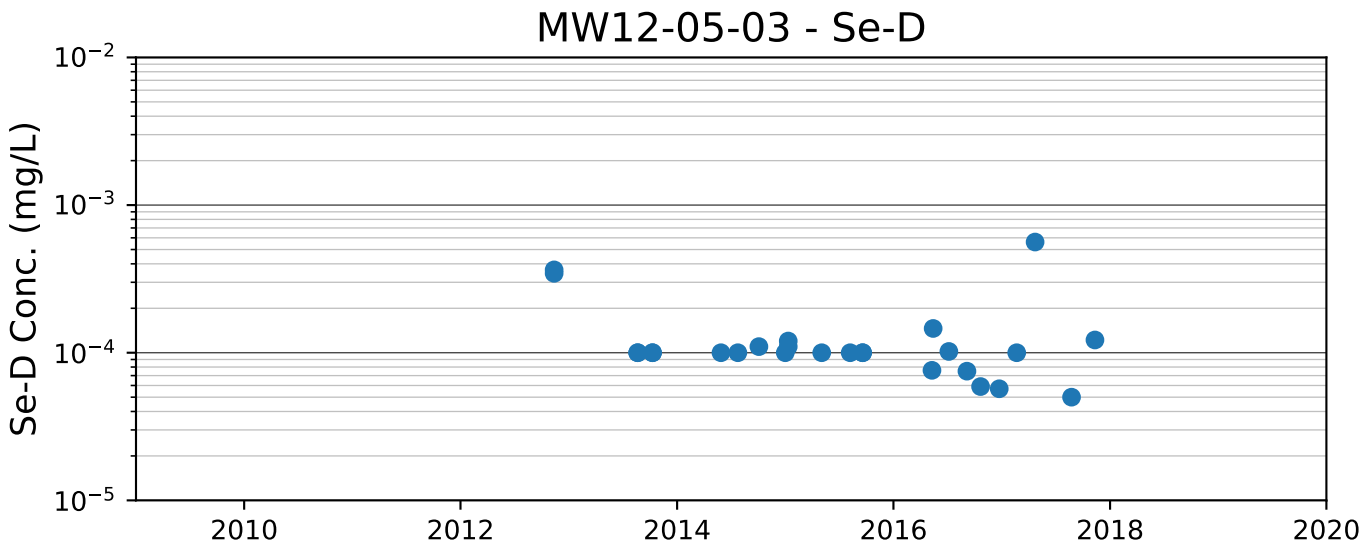

MW12-05-03 - Cr-D
Cr-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

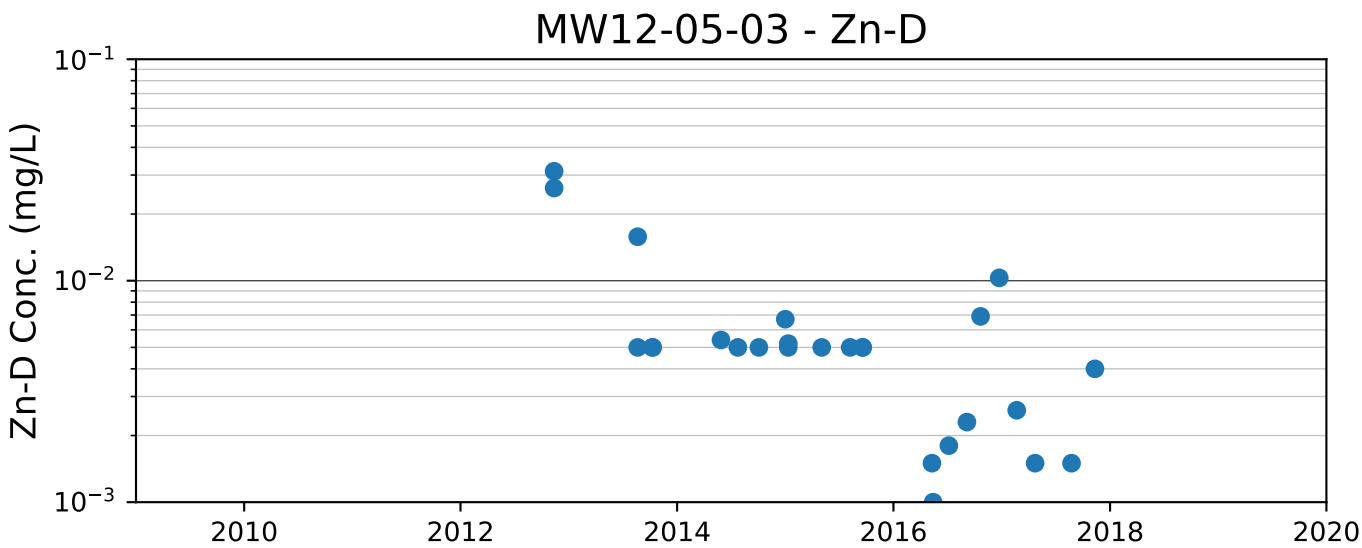

MW12-05-03 - Cu-D
Cu-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

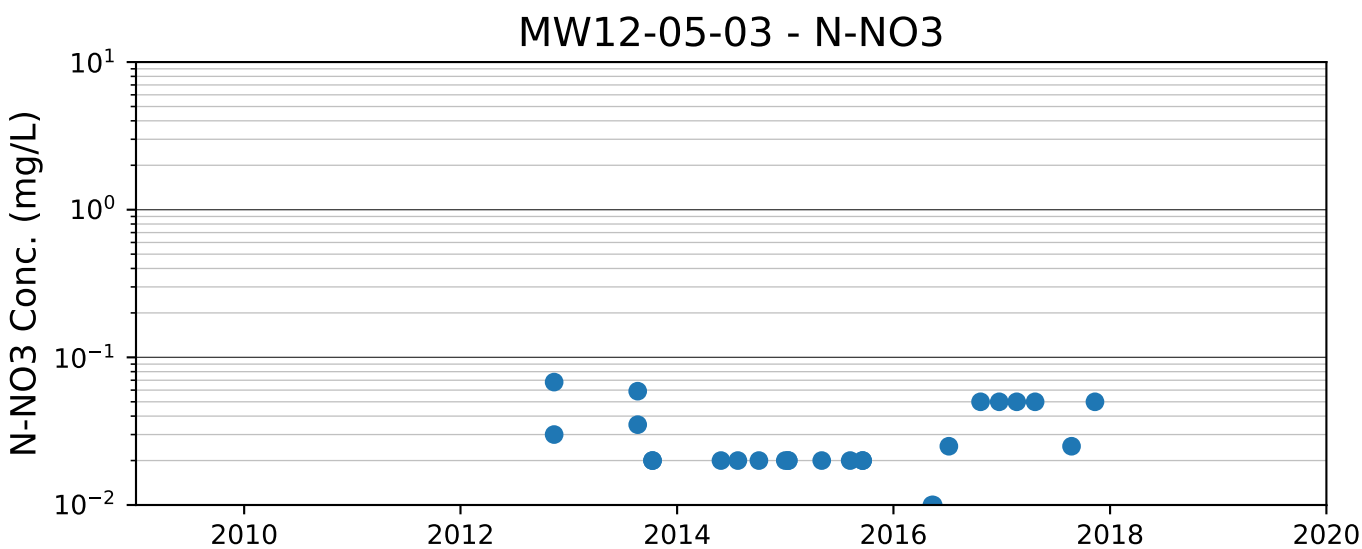

MW12-05-03 - Pb-D
Pb-D Conc. (mg/L)
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

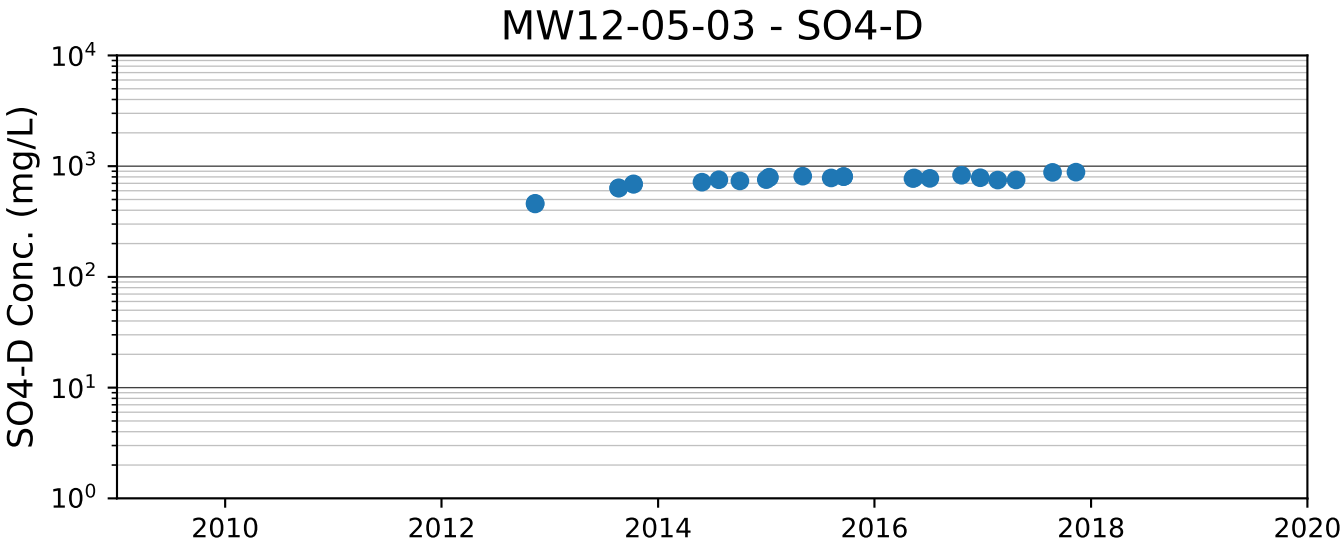

MW12-05-03 - Mo-D
Mo-D Conc. (mg/L)
10^{-1}
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

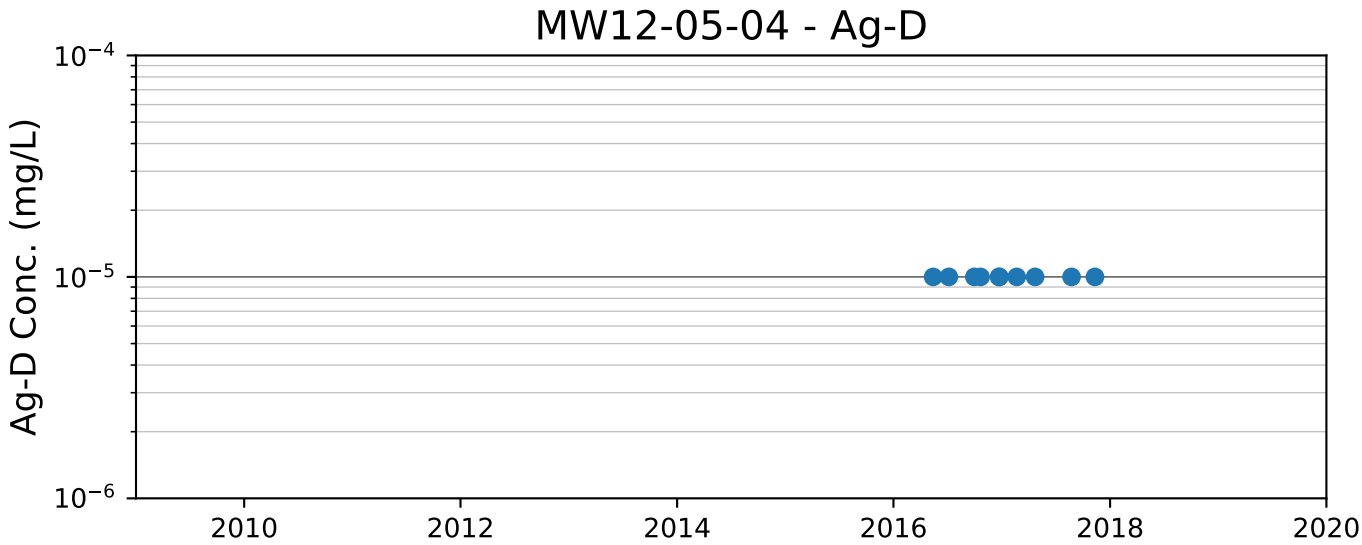

MW12-05-03 - Ni-D
Ni-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

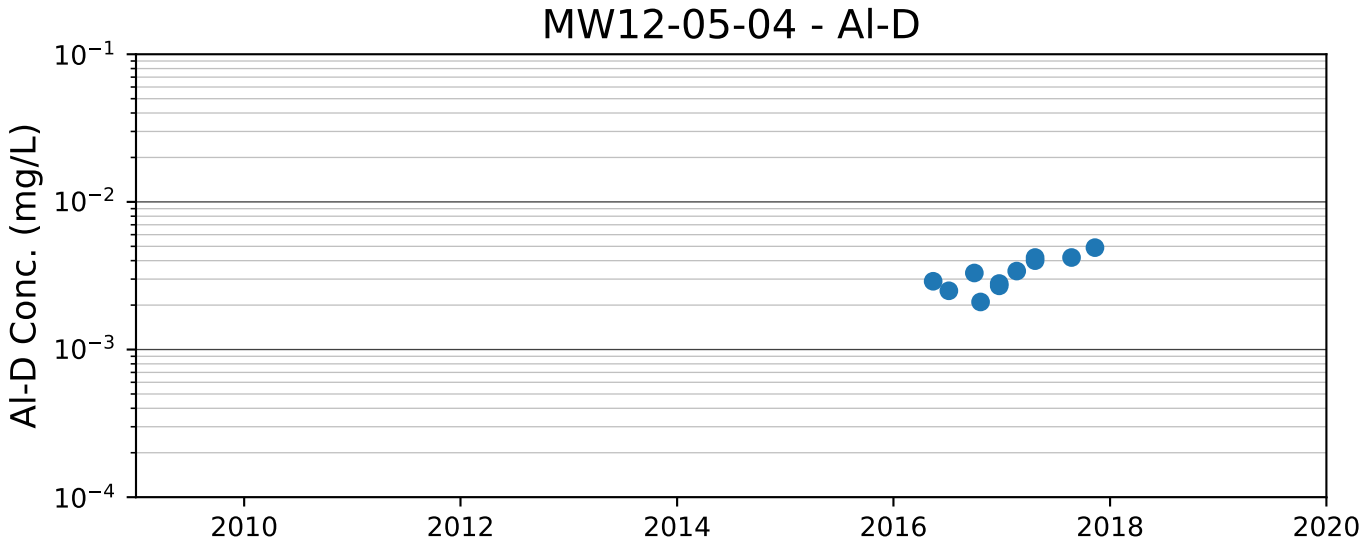

MW12-05-03 - Se-D
Se-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

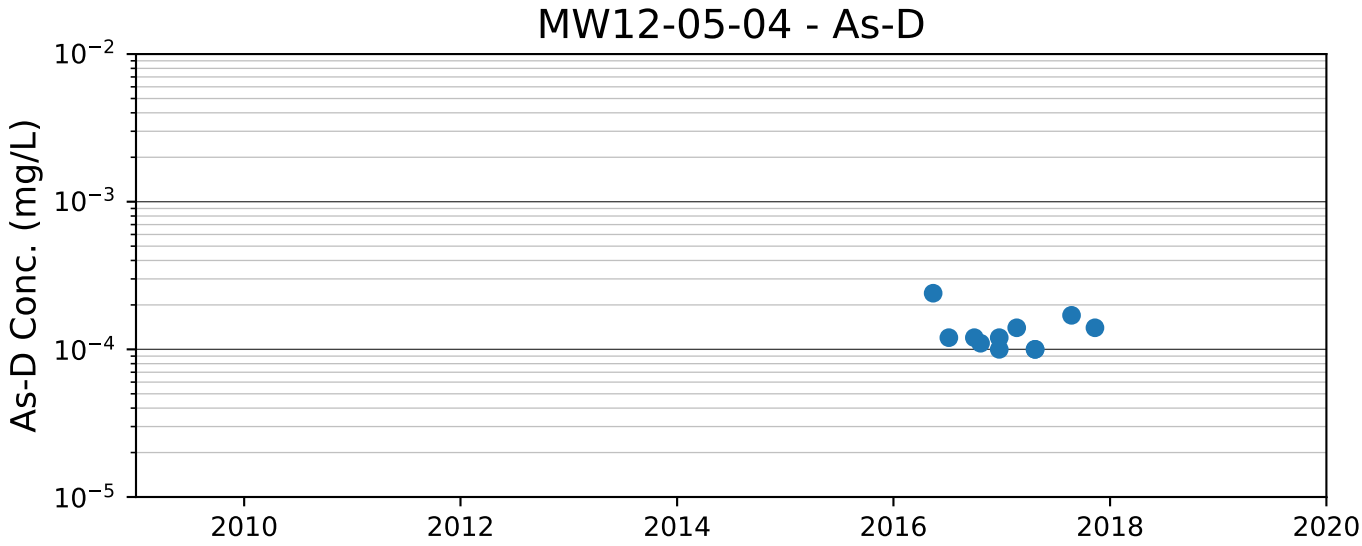

MW12-05-03 - Zn-D
Zn-D Conc. (mg/L)
10^{-1}
10^{-2}
10^{-3}
2010
2012
2014
2016
2018
2020

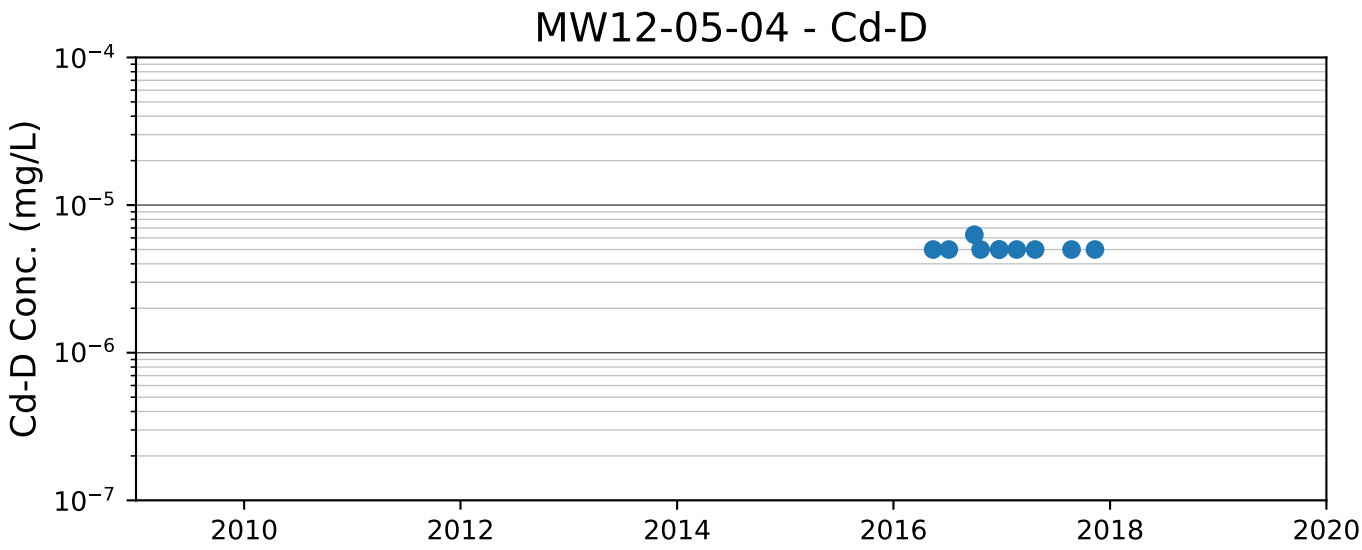

MW12-05-03 - N-NO3
N-NO3 Conc. (mg/L)
10^{1}
10^{0}
10^{-1}
10^{-2}
2010
2012
2014
2016
2018
2020

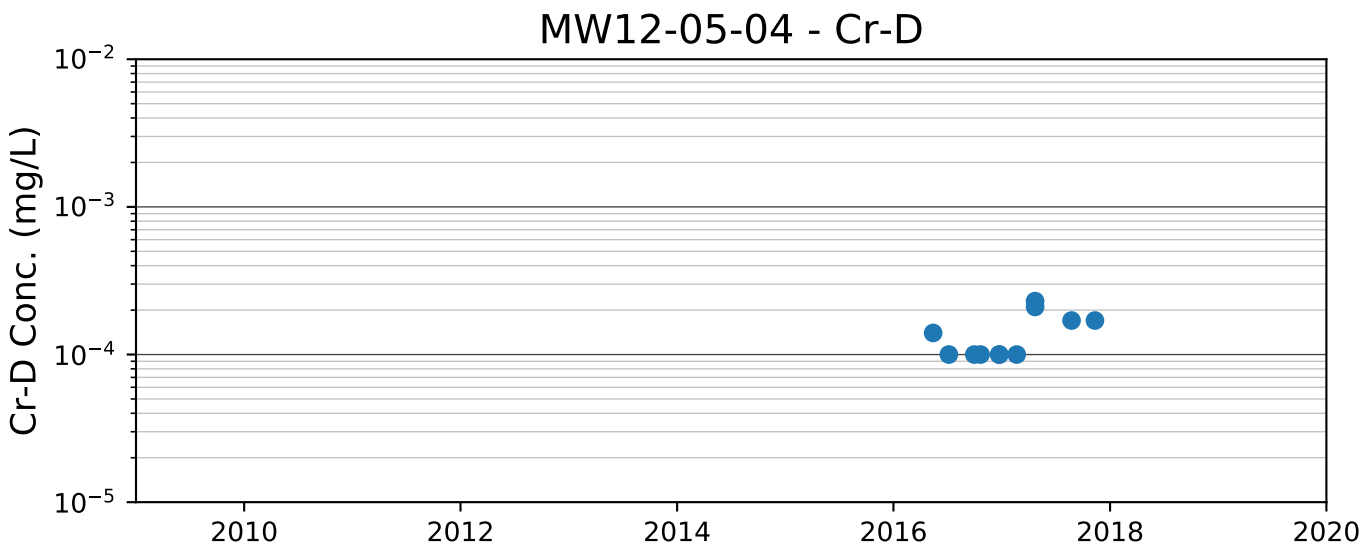

MW12-05-03 - SO4-D
SO4-D Conc. (mg/L)
10^4
10^3
10^2
10^1
10^0
2010
2012
2014
2016
2018
2020

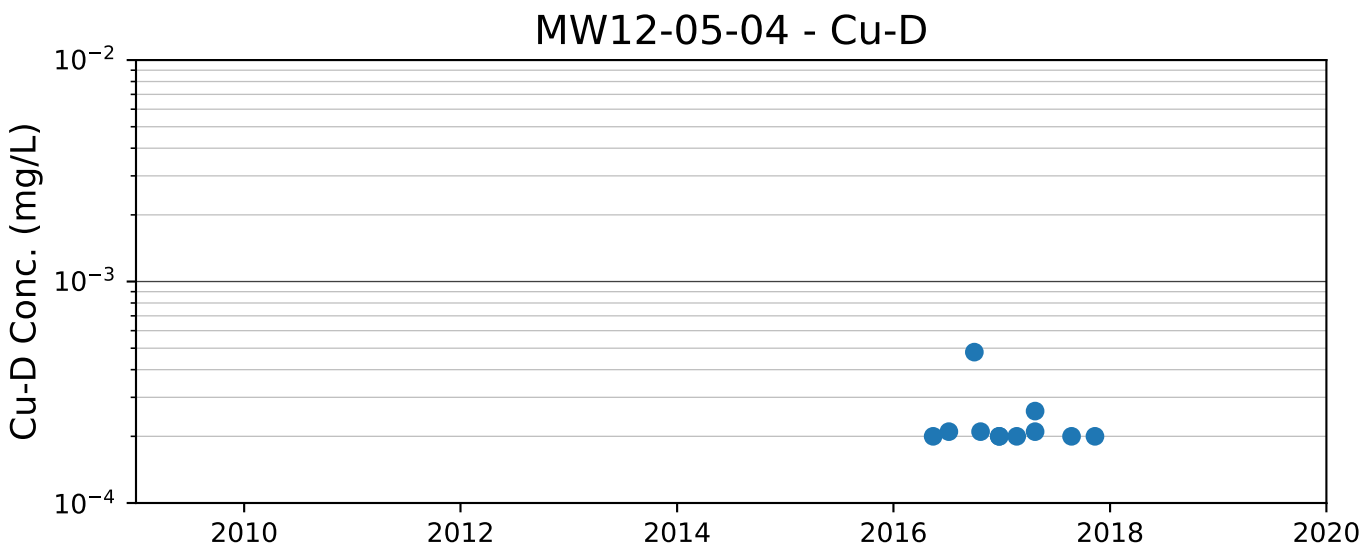

MW12-05-04 - Ag-D
Ag-D Conc. (mg/L)
10^{-4}
10^{-5}
10^{-6}
2010
2012
2014
2016
2018
2020

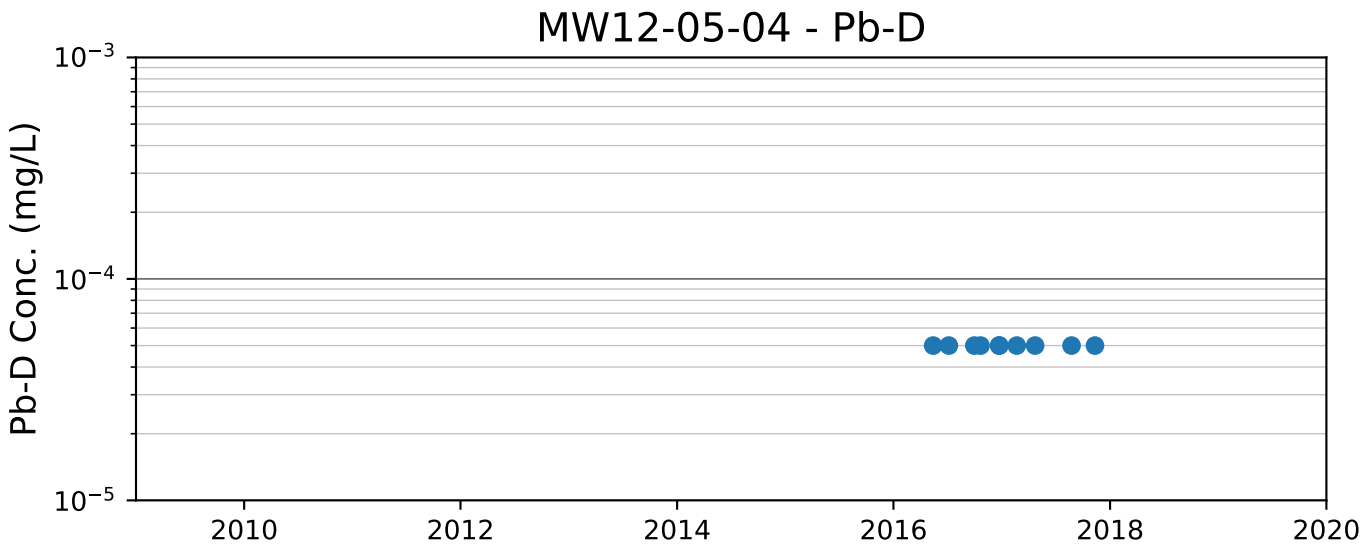

MW12-05-04 - Al-D
Al-D Conc. (mg/L)
10^{-1}
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

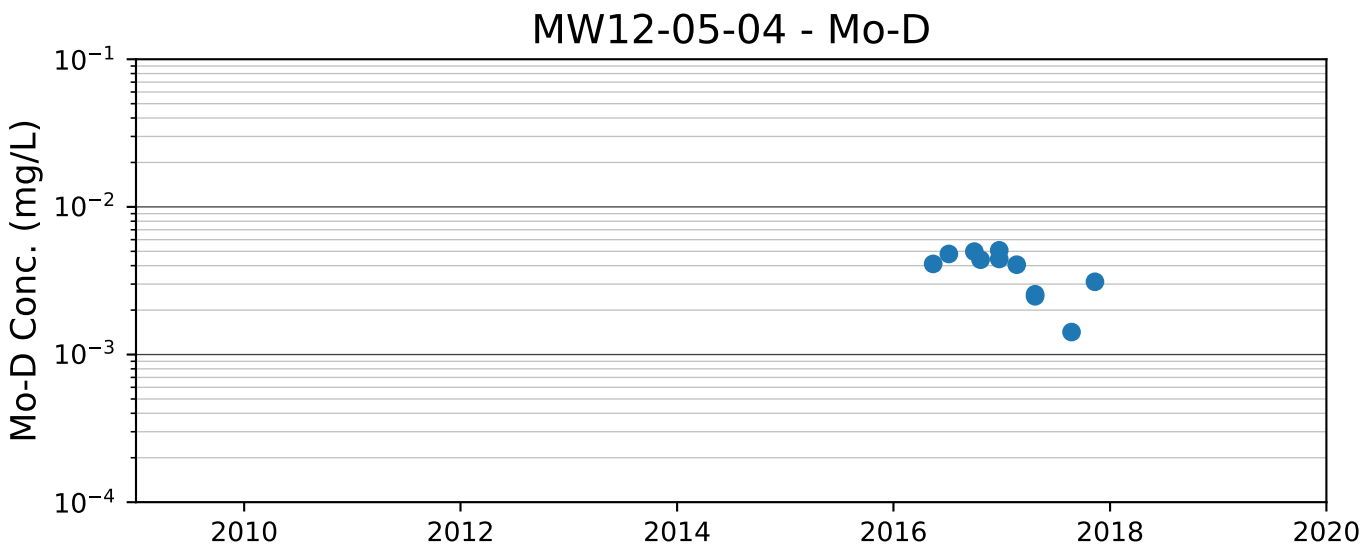

MW12-05-04 - As-D
As-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

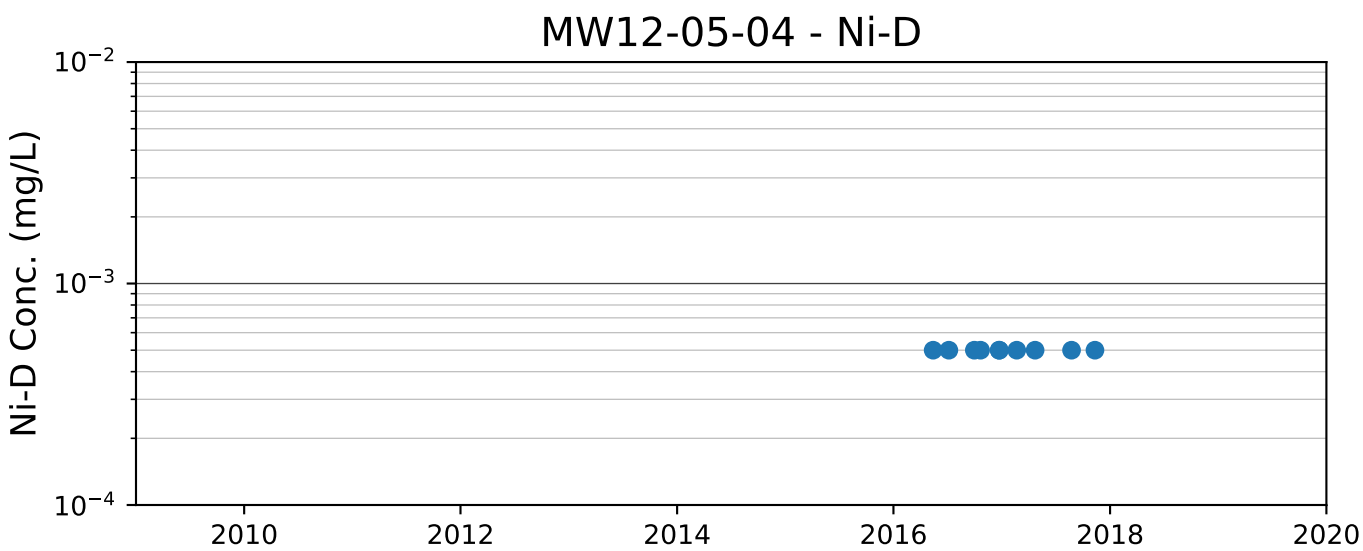

MW12-05-04 - Cd-D
Cd-D Conc. (mg/L)
10^{-4}
10^{-5}
10^{-6}
10^{-7}
2010
2012
2014
2016
2018
2020

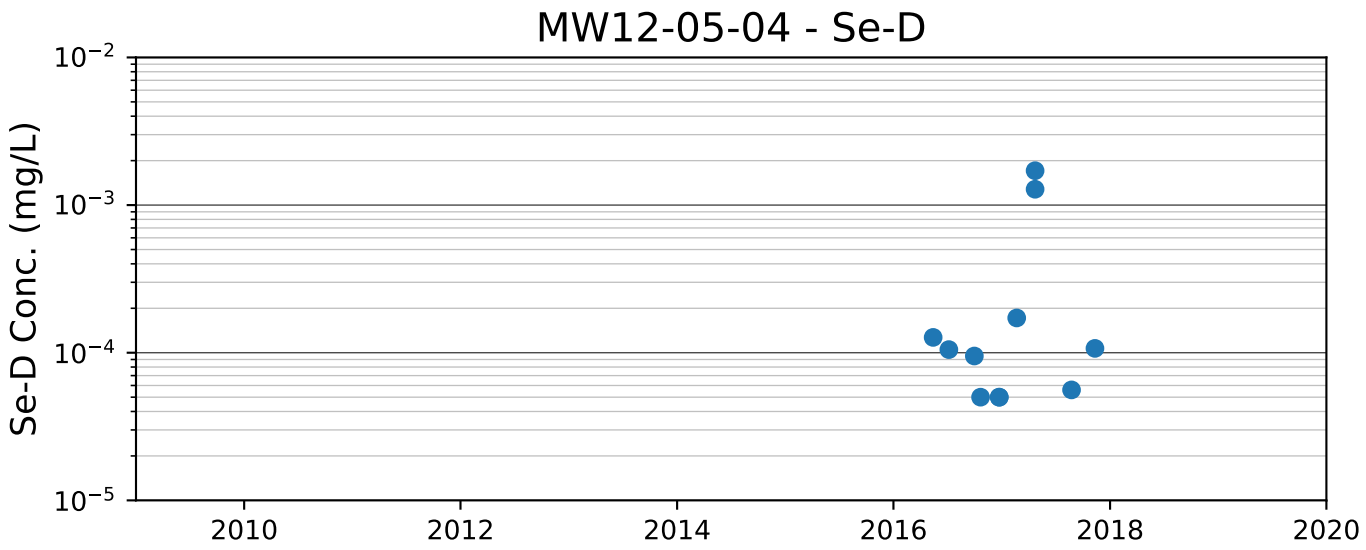

MW12-05-04 - Cr-D
Cr-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

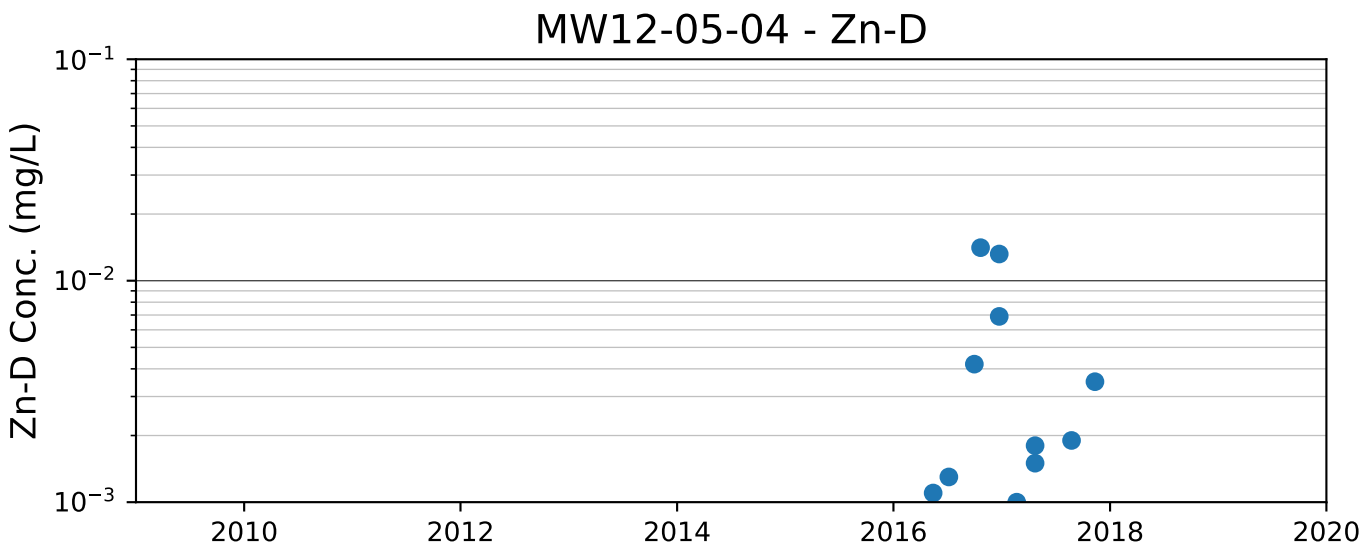

MW12-05-04 - Cu-D
Cu-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

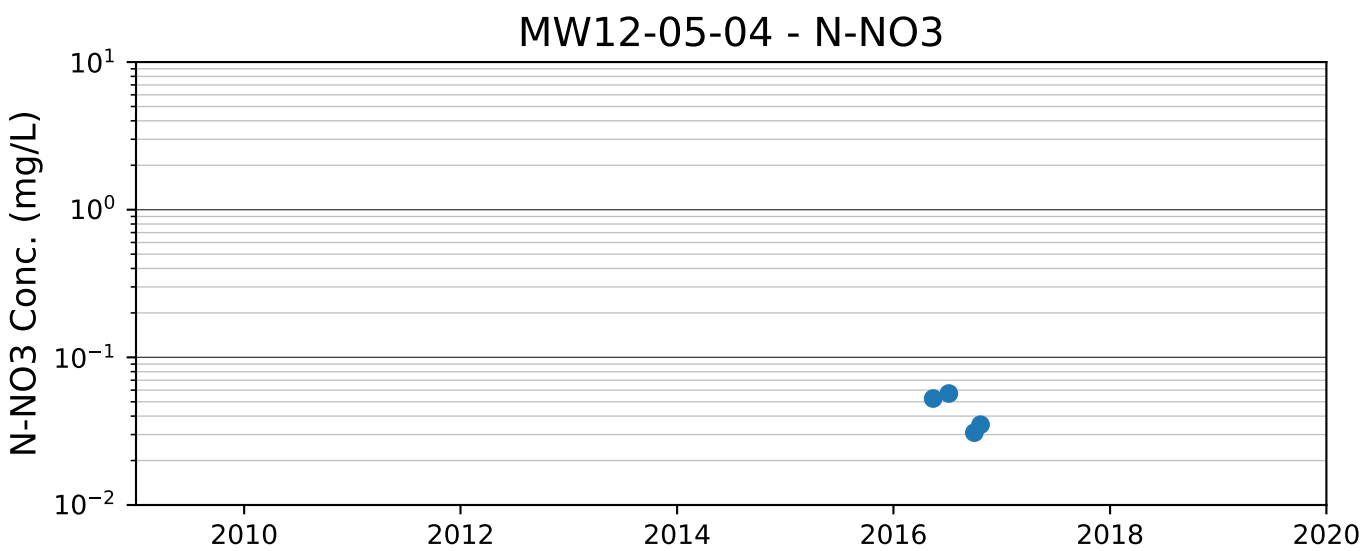

MW12-05-04 - Pb-D
Pb-D Conc. (mg/L)
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

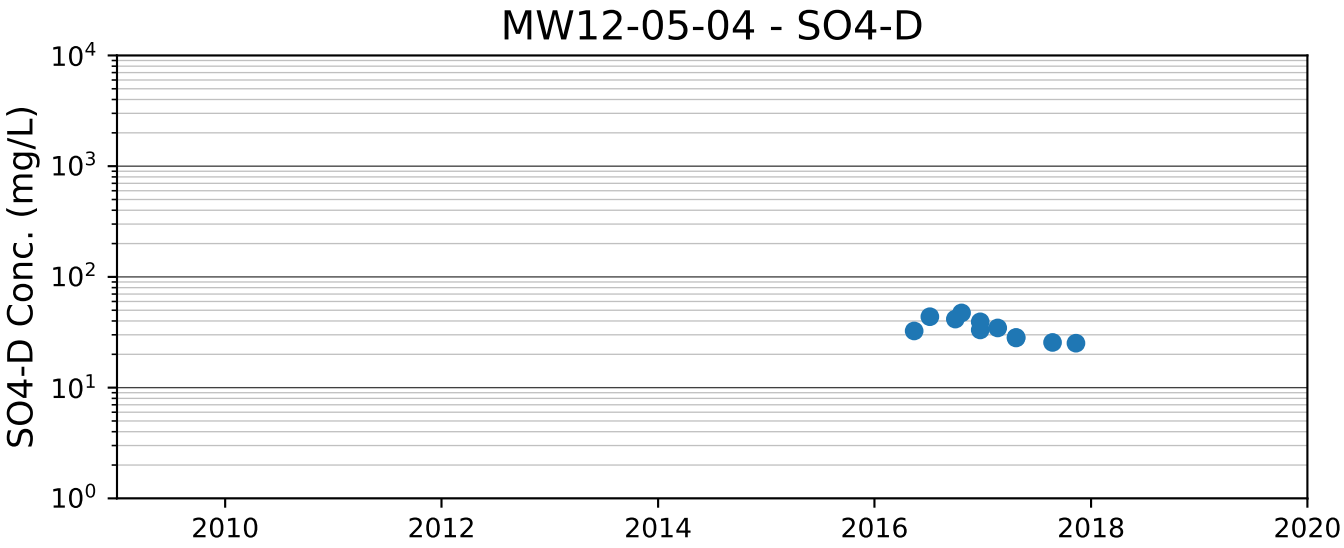

MW12-05-04 - Mo-D
Mo-D Conc. (mg/L)
10^{-1}
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

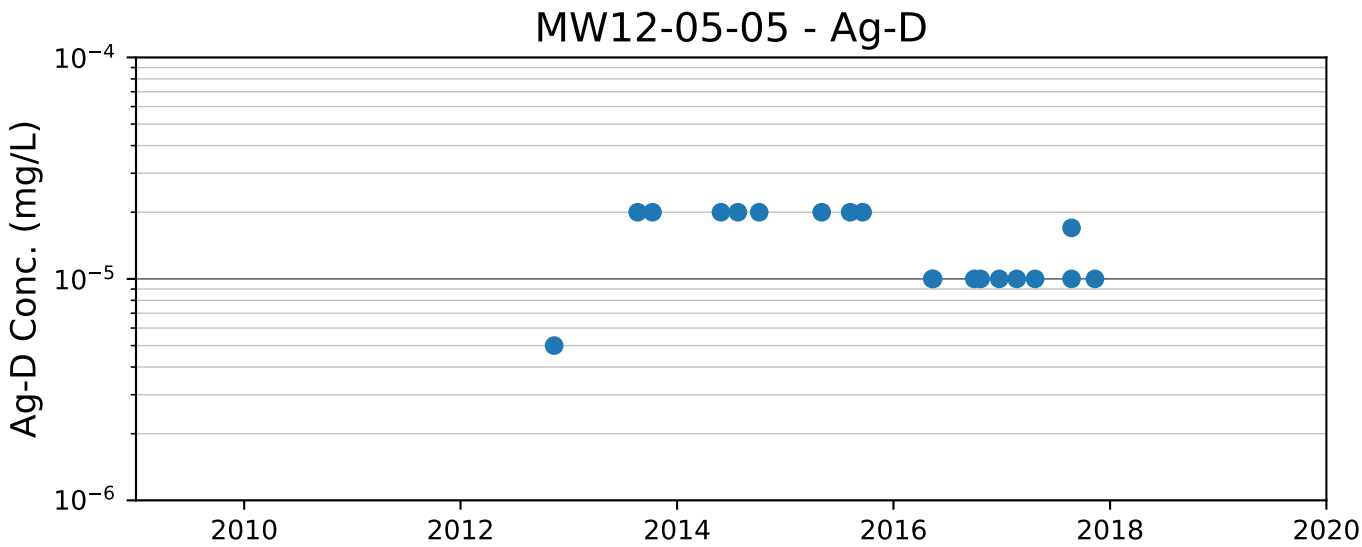

MW12-05-04 - Ni-D
Ni-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

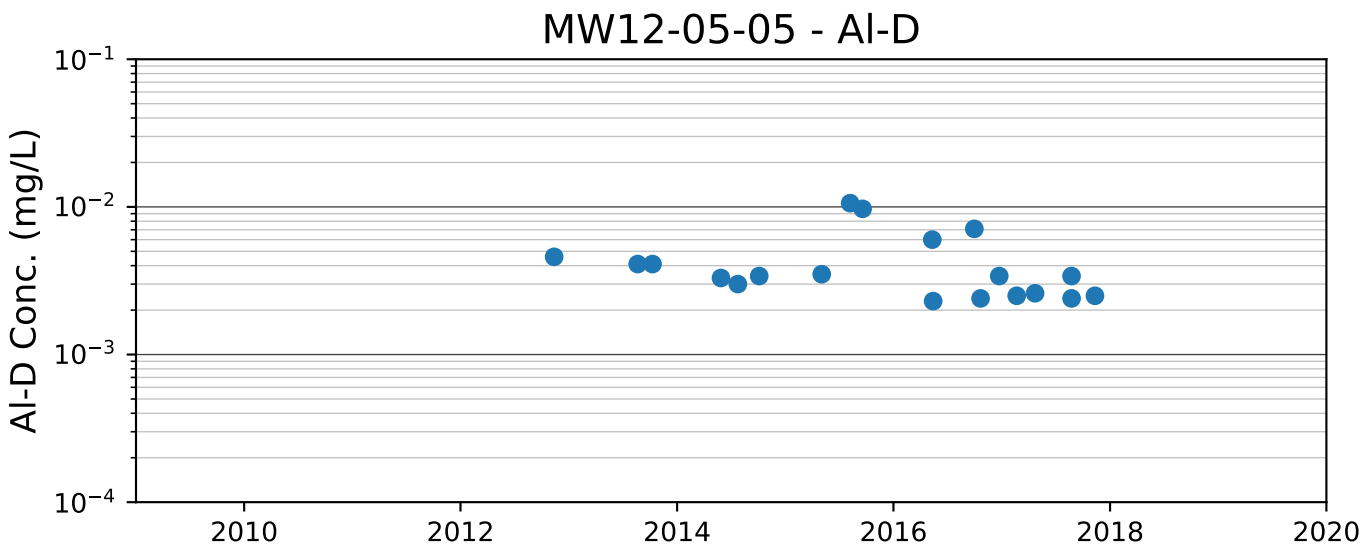

MW12-05-04 - Se-D
Se-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

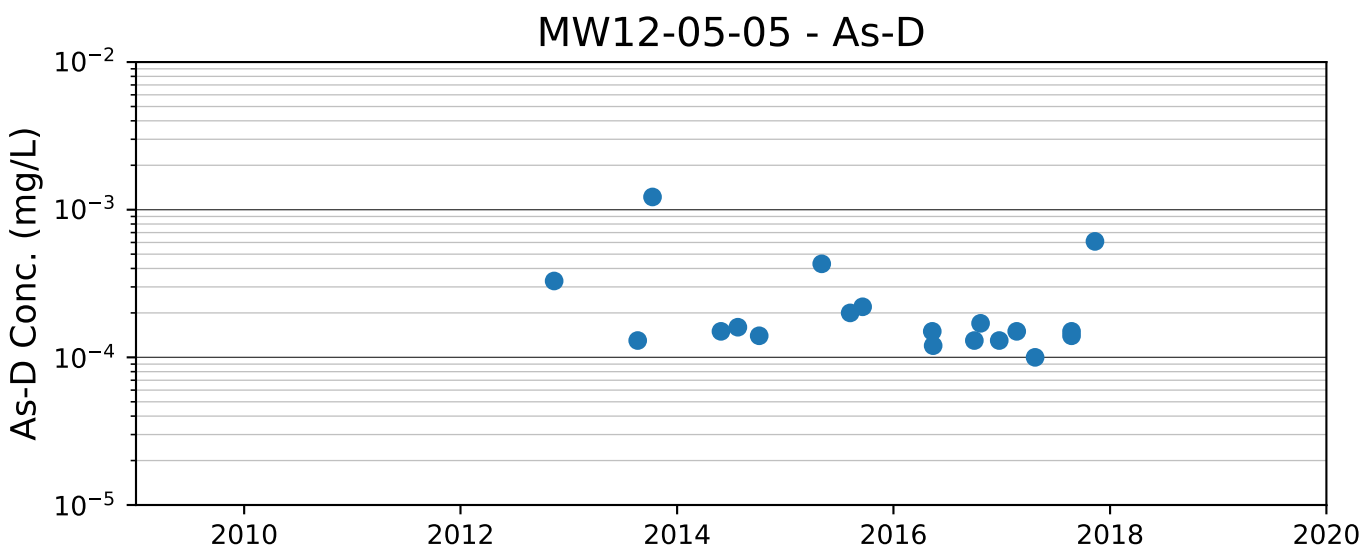

MW12-05-04 - Zn-D
Zn-D Conc. (mg/L)
10^{-1}
10^{-2}
10^{-3}
2010
2012
2014
2016
2018
2020

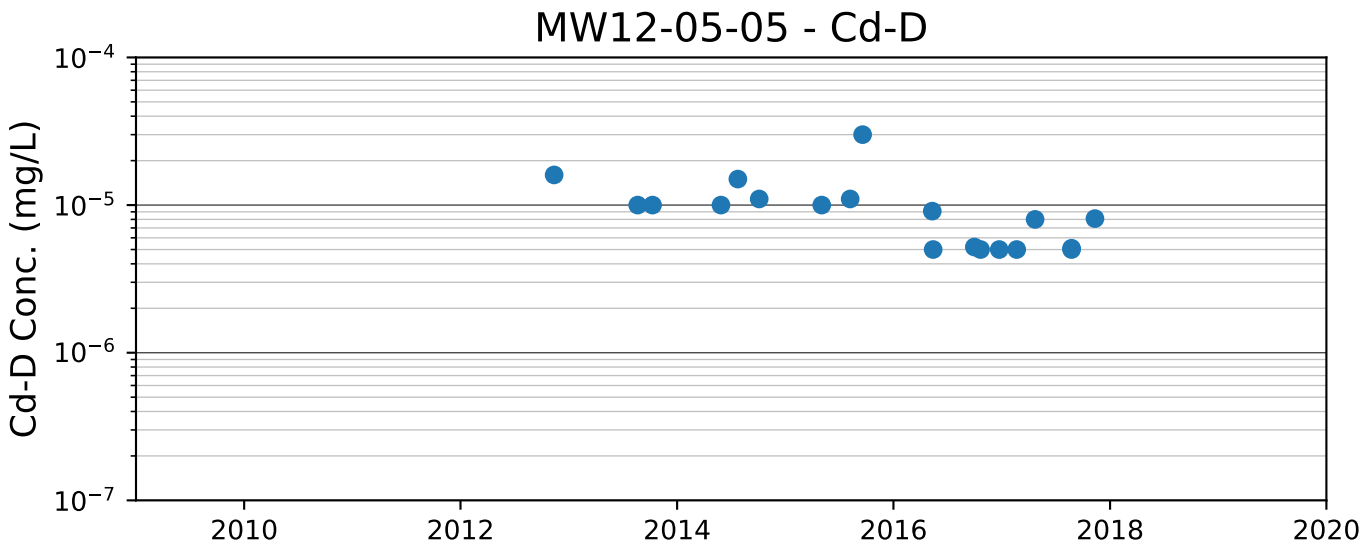

MW12-05-04 - N-NO3
N-NO3 Conc. (mg/L)
10^{1}
10^{0}
10^{-1}
10^{-2}
2010
2012
2014
2016
2018
2020

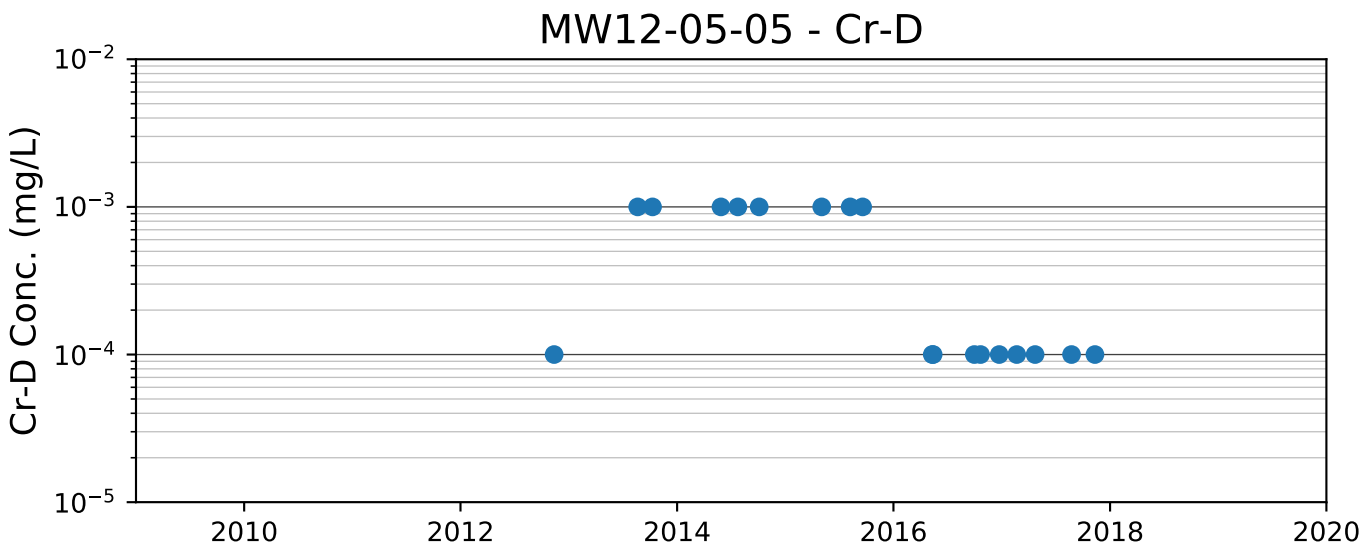

MW12-05-04 - SO4-D
SO4-D Conc. (mg/L)
10^4
10^3
10^2
10^1
10^0
2010
2012
2014
2016
2018
2020

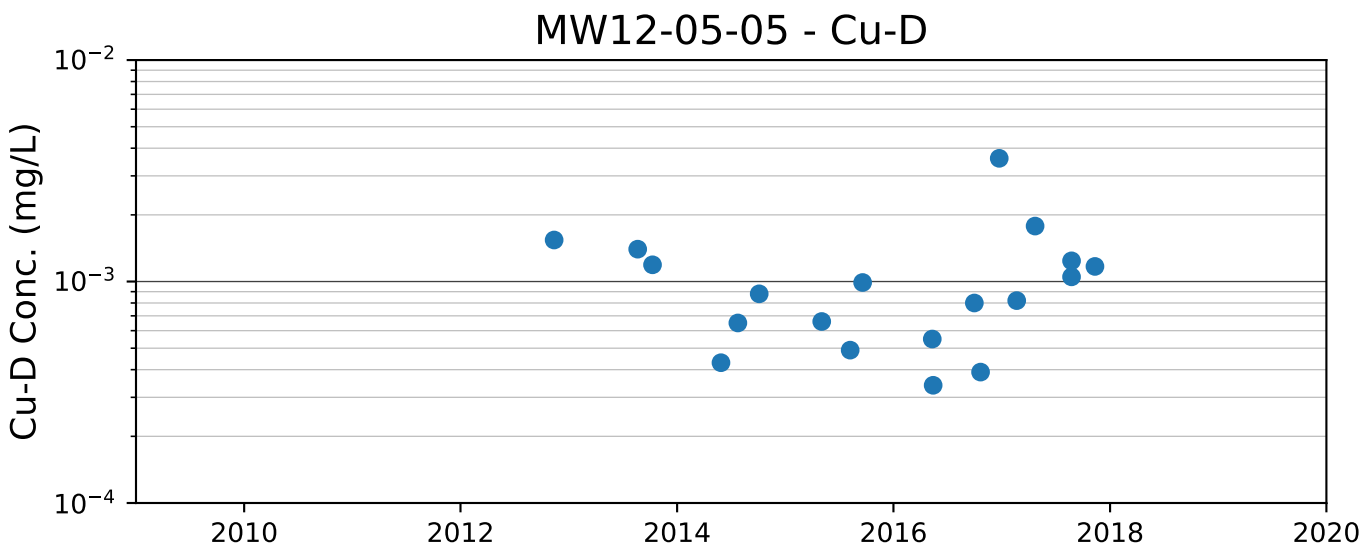

MW12-05-05 - Ag-D
Ag-D Conc. (mg/L)
10^{-4}
10^{-5}
10^{-6}
2010
2012
2014
2016
2018
2020

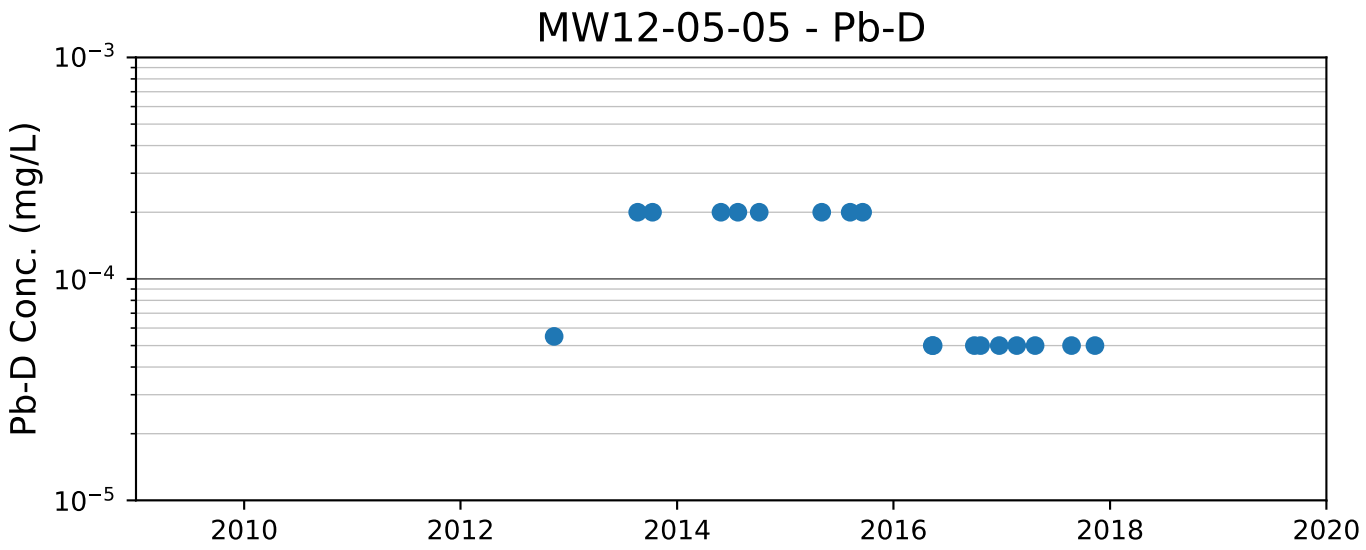

MW12-05-05 - Al-D
Al-D Conc. (mg/L)
10^{-1}
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

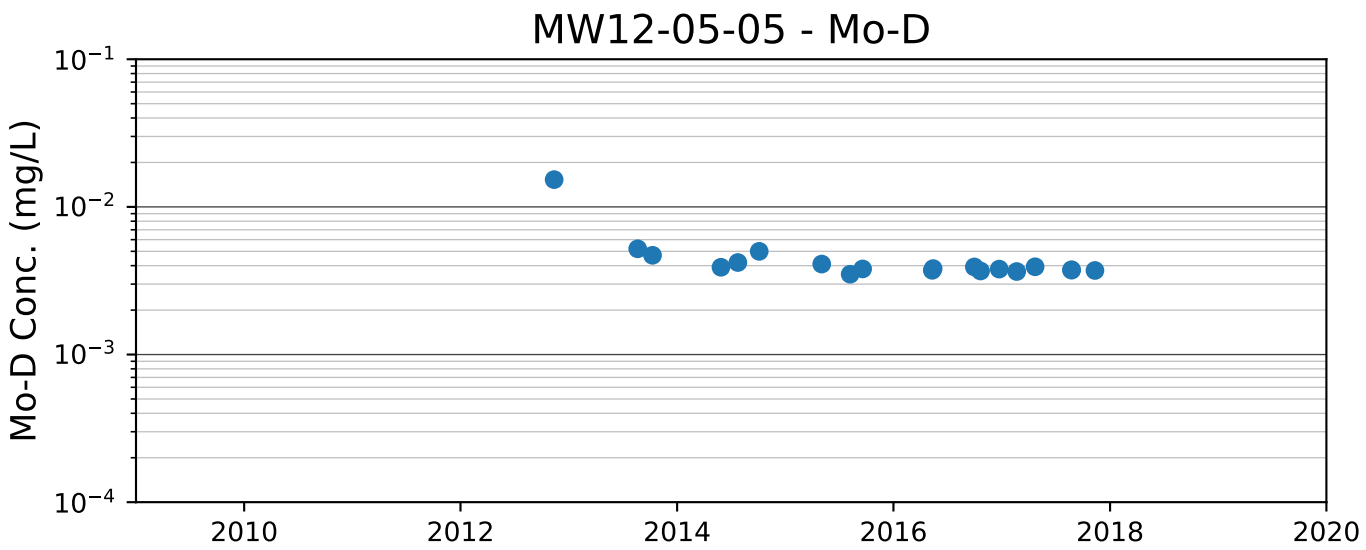

MW12-05-05 - As-D
As-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

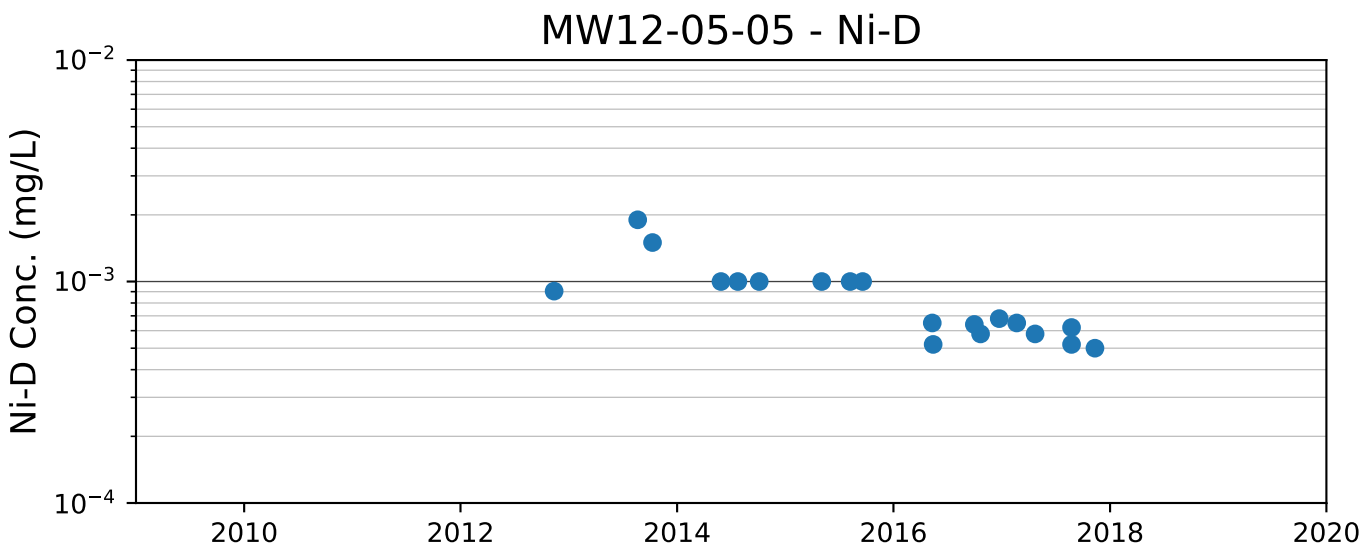

MW12-05-05 - Cd-D
Cd-D Conc. (mg/L)
10^{-4}
10^{-5}
10^{-6}
10^{-7}
2010
2012
2014
2016
2018
2020

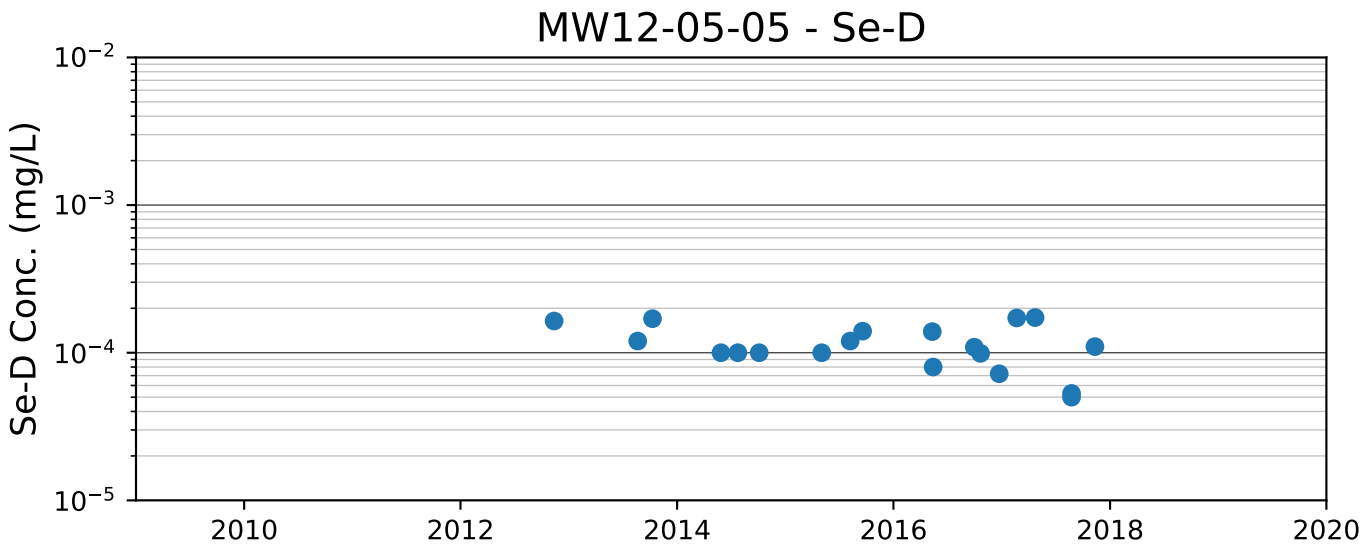

MW12-05-05 - Cr-D
Cr-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

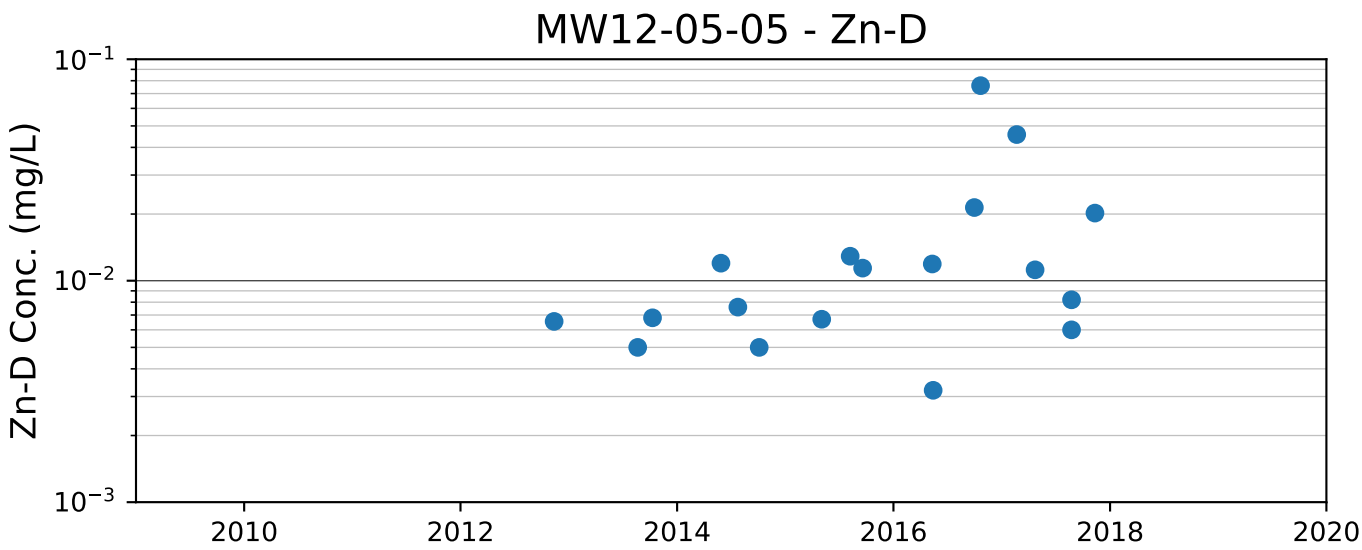

MW12-05-05 - Cu-D
Cu-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

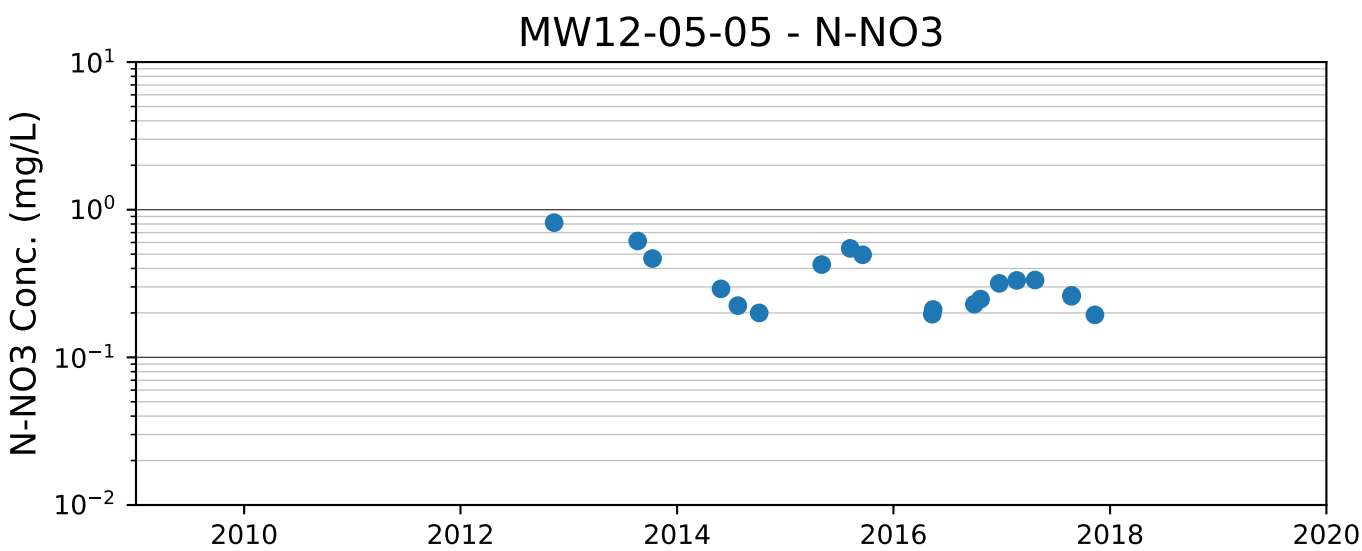

MW12-05-05 - Pb-D
Pb-D Conc. (mg/L)
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

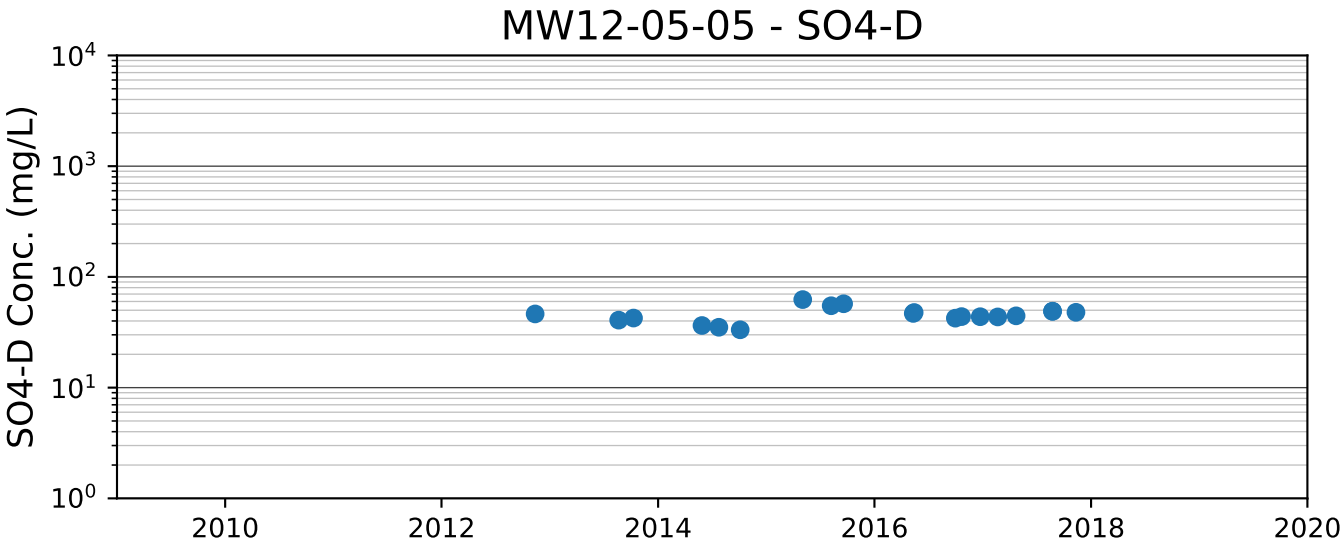

MW12-05-05 - Mo-D
Mo-D Conc. (mg/L)
10^{-1}
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

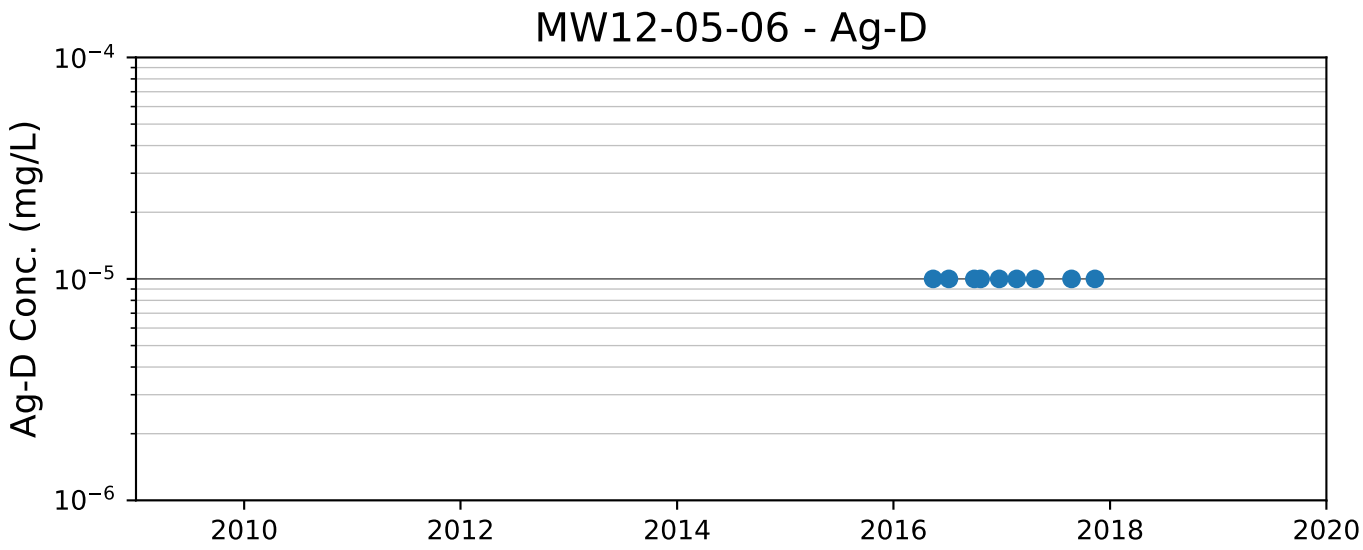

MW12-05-05 - Ni-D
Ni-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

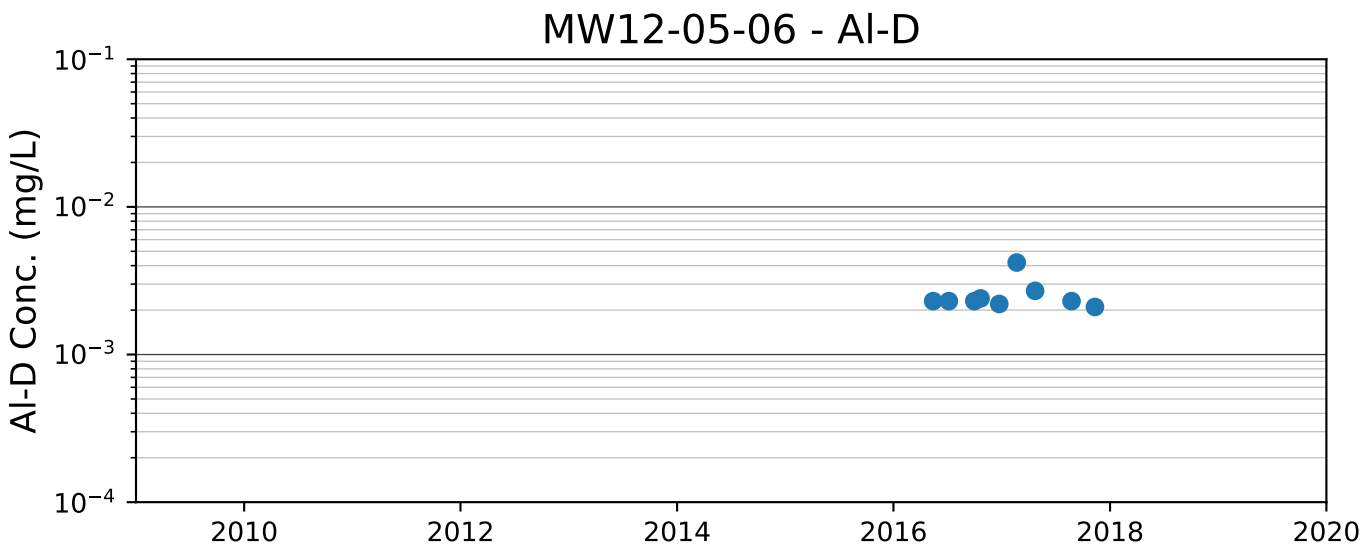

MW12-05-05 - Se-D
Se-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

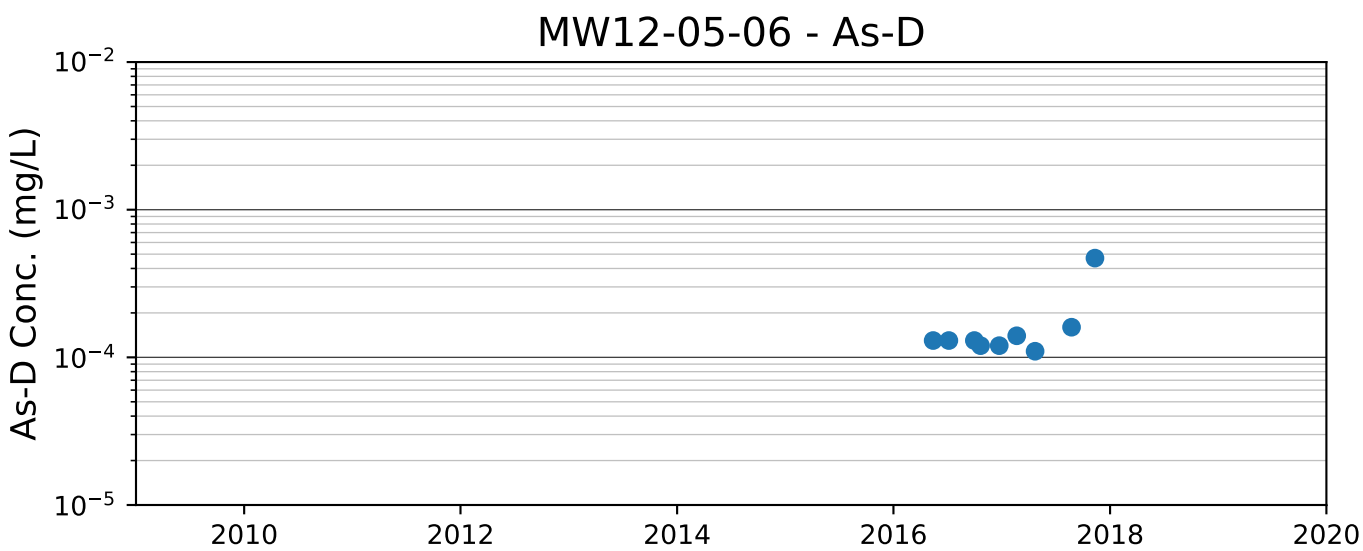

MW12-05-05 - Zn-D
Zn-D Conc. (mg/L)
10^{-1}
10^{-2}
10^{-3}
2010
2012
2014
2016
2018
2020

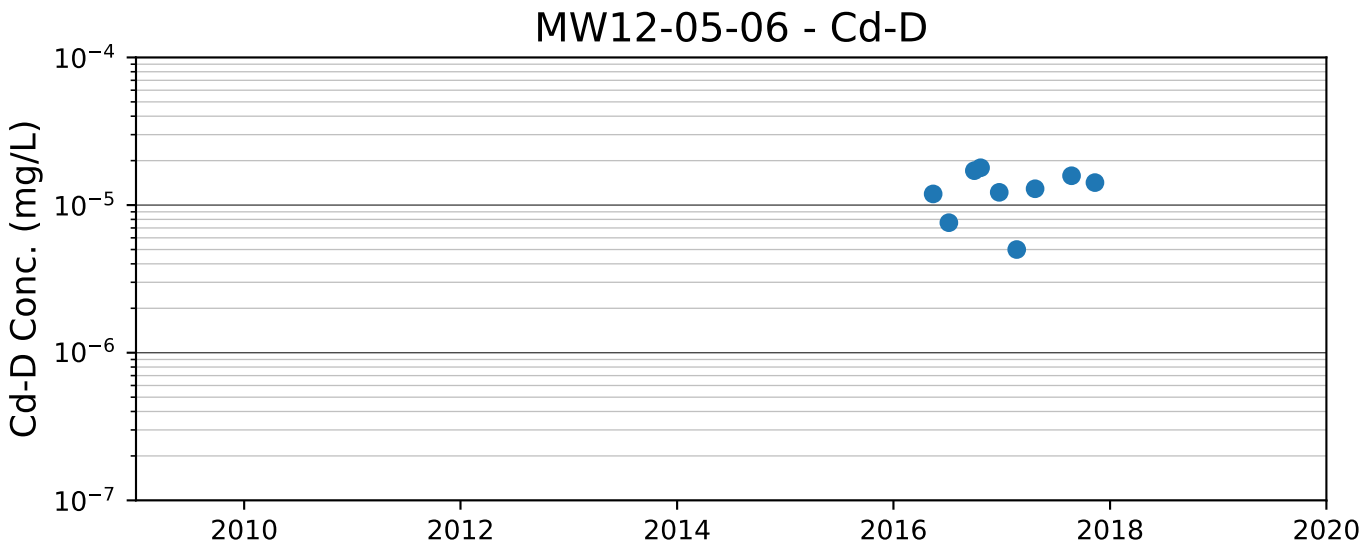

MW12-05-05 - N-NO3
N-NO3 Conc. (mg/L)
10^{1}
10^{0}
10^{-1}
10^{-2}
2010
2012
2014
2016
2018
2020

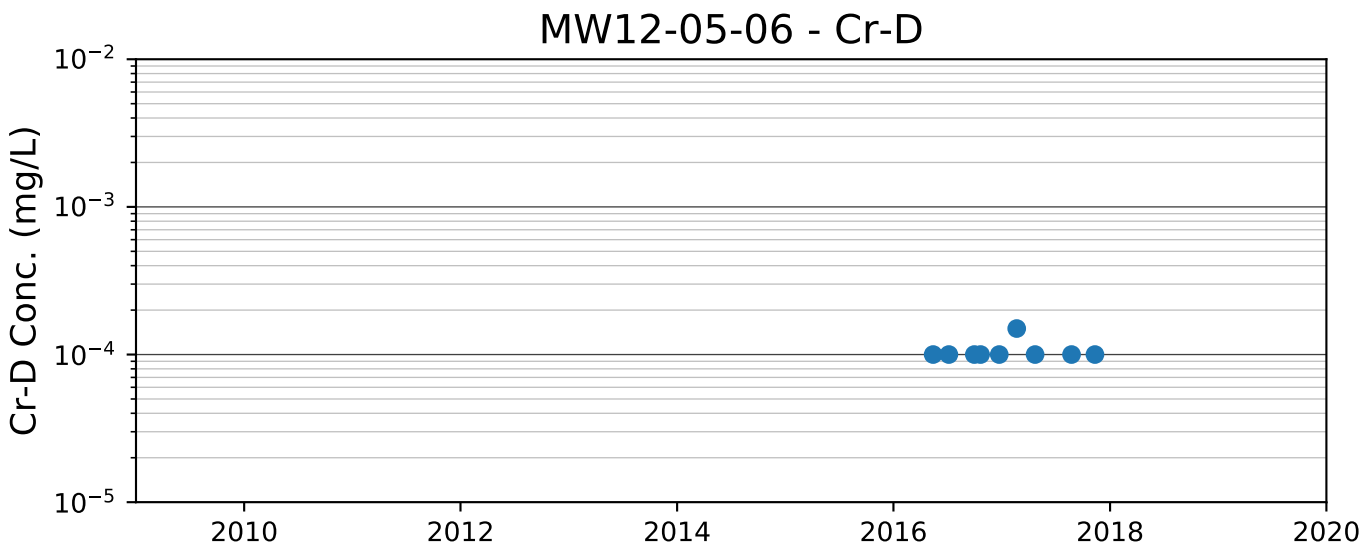

MW12-05-05 - SO4-D
SO4-D Conc. (mg/L)
10^4
10^3
10^2
10^1
10^0
2010
2012
2014
2016
2018
2020

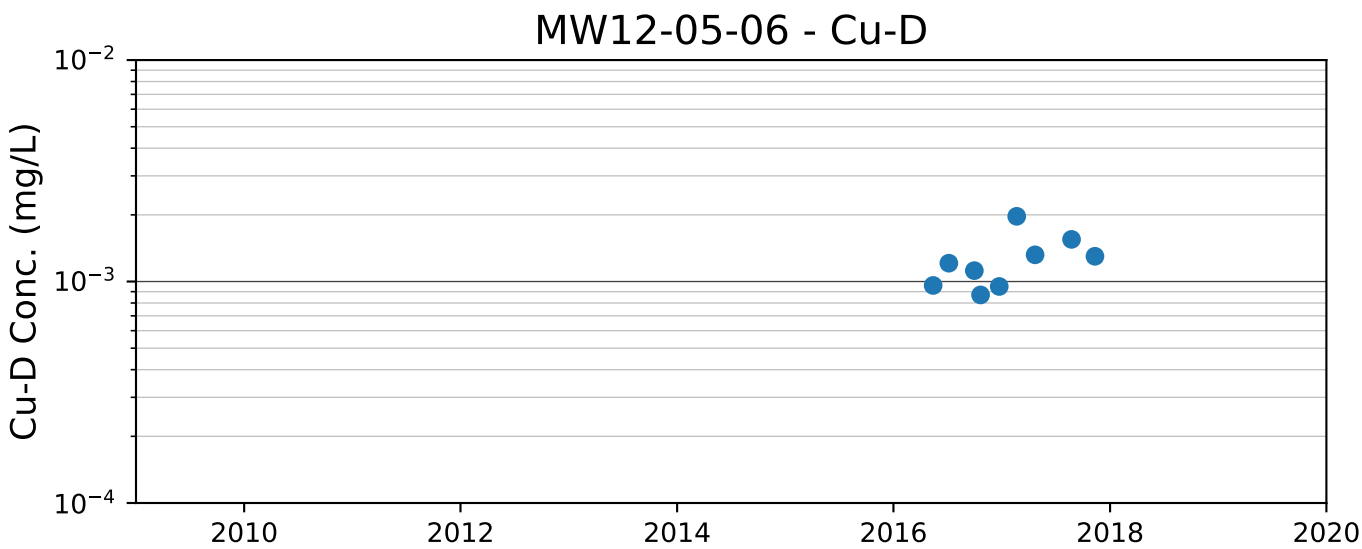

MW12-05-06 - Ag-D
Ag-D Conc. (mg/L)
10^{-4}
10^{-5}
10^{-6}
2010
2012
2014
2016
2018
2020

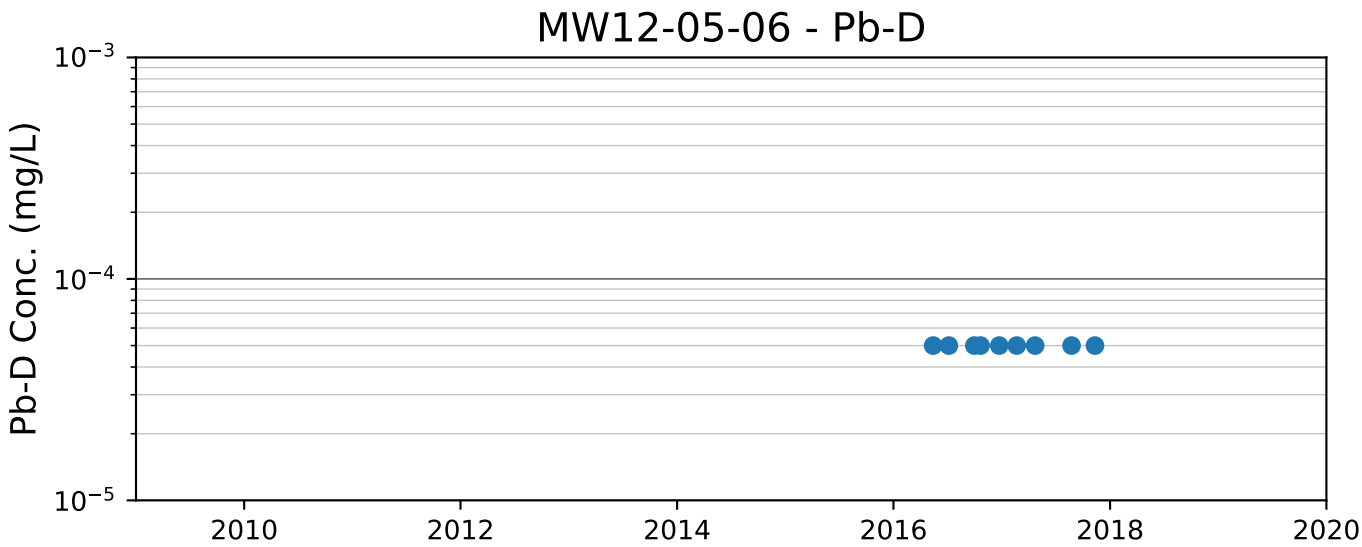

MW12-05-06 - Al-D
Al-D Conc. (mg/L)
10^{-1}
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

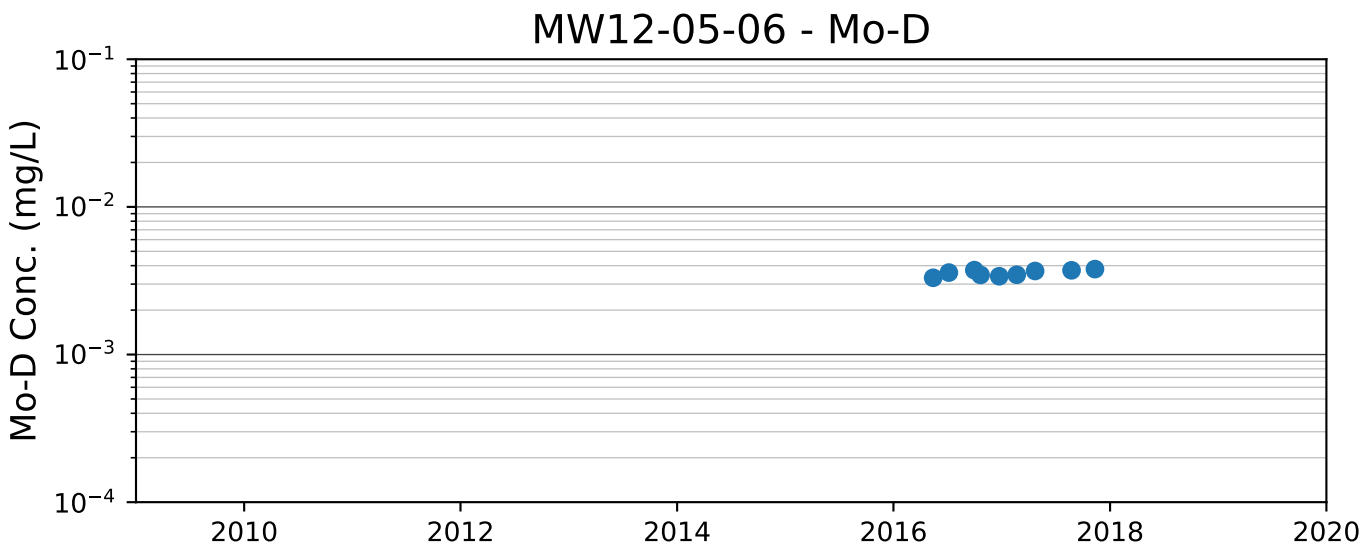

MW12-05-06 - As-D
As-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

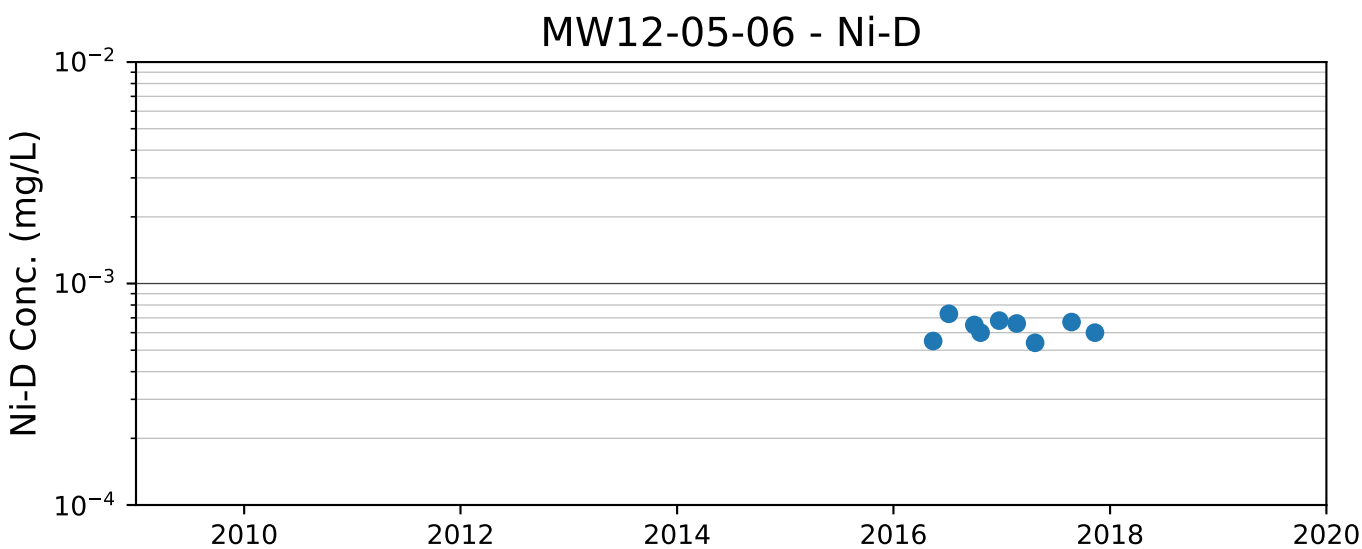

MW12-05-06 - Cd-D
Cd-D Conc. (mg/L)
10^{-4}
10^{-5}
10^{-6}
10^{-7}
2010
2012
2014
2016
2018
2020

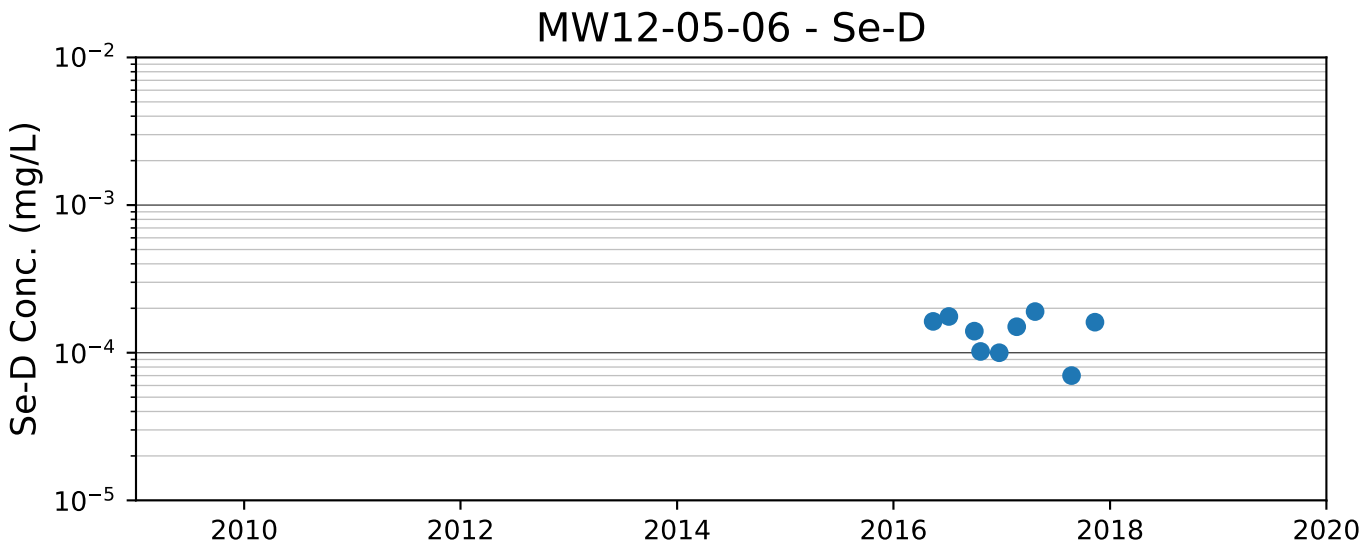

MW12-05-06 - Cr-D
Cr-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

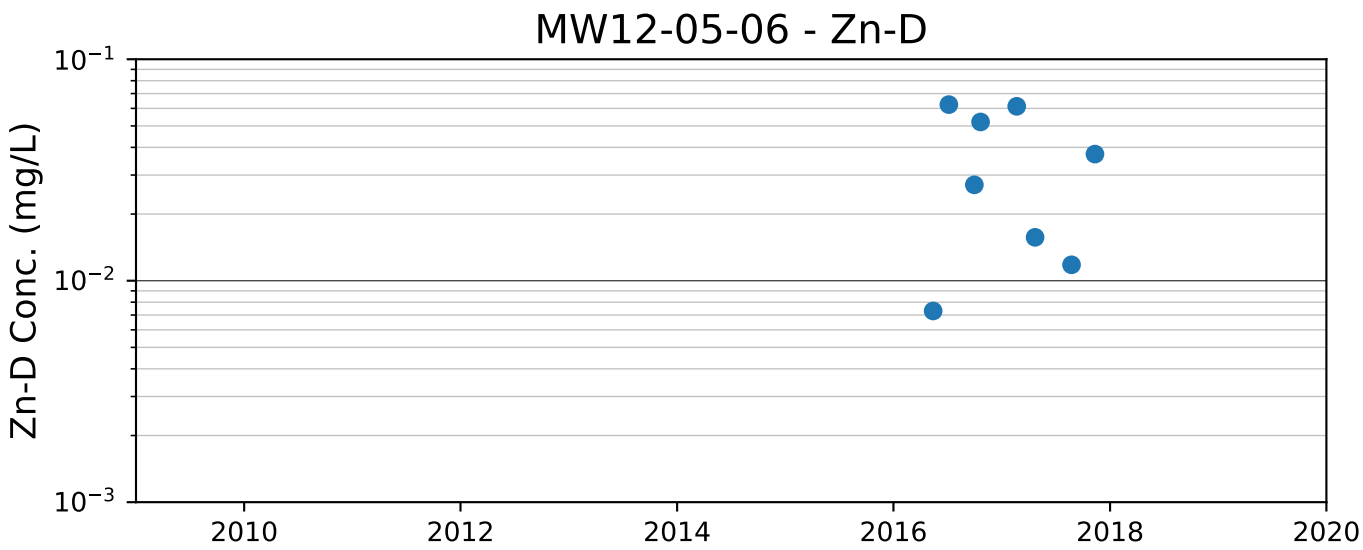

MW12-05-06 - Cu-D
Cu-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

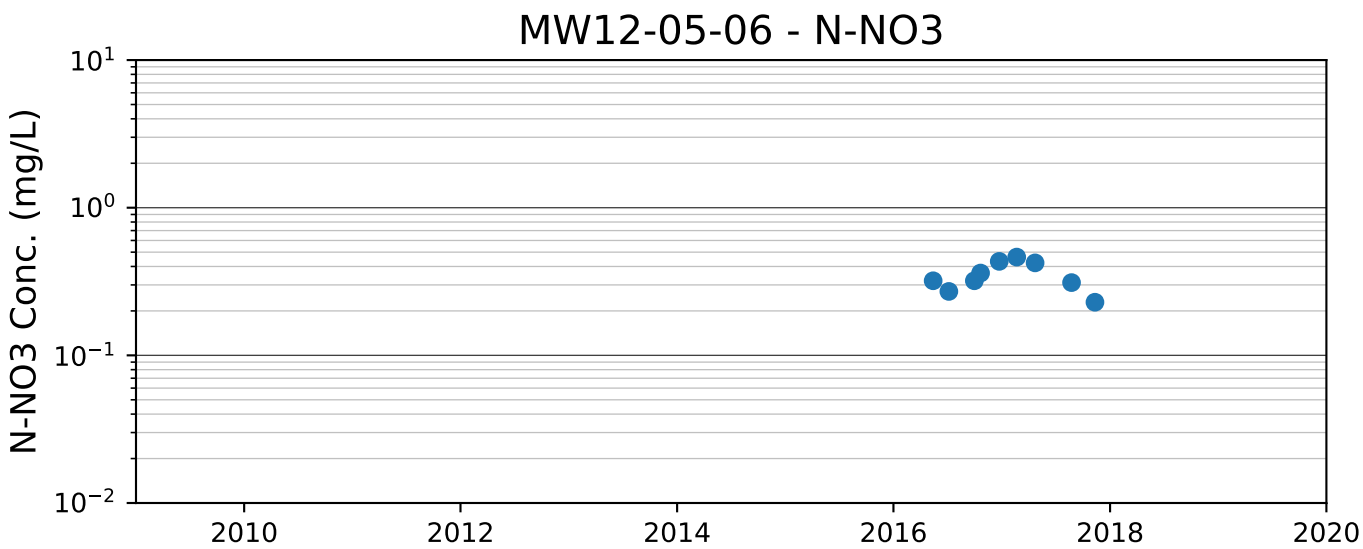

MW12-05-06 - Pb-D
Pb-D Conc. (mg/L)
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

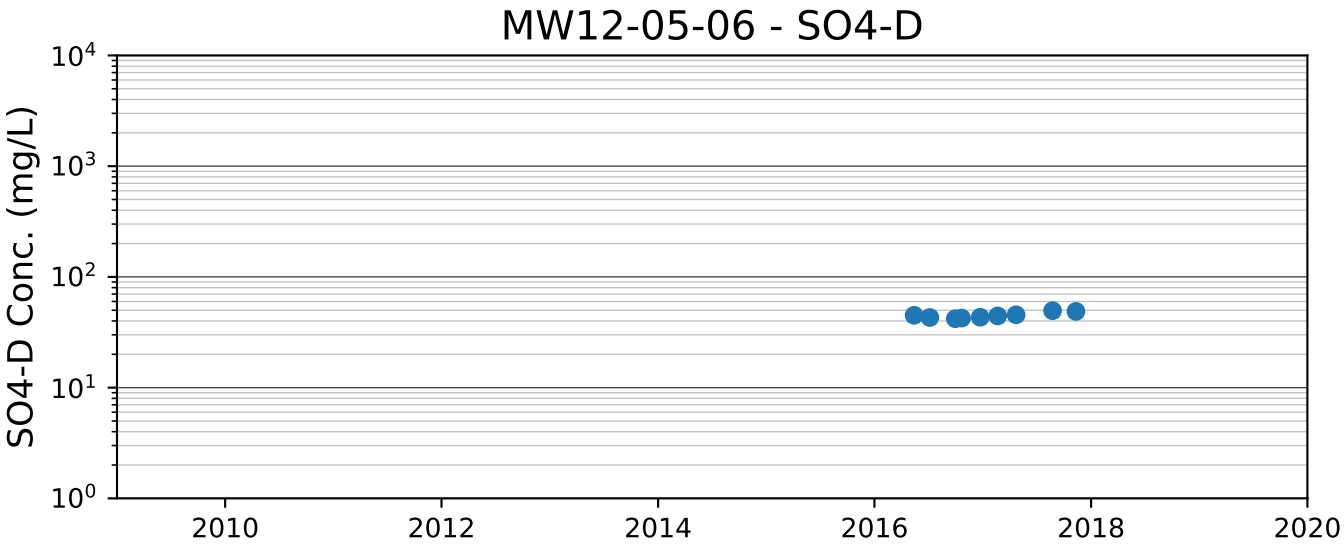

MW12-05-06 - Mo-D
Mo-D Conc. (mg/L)
10^{-1}
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

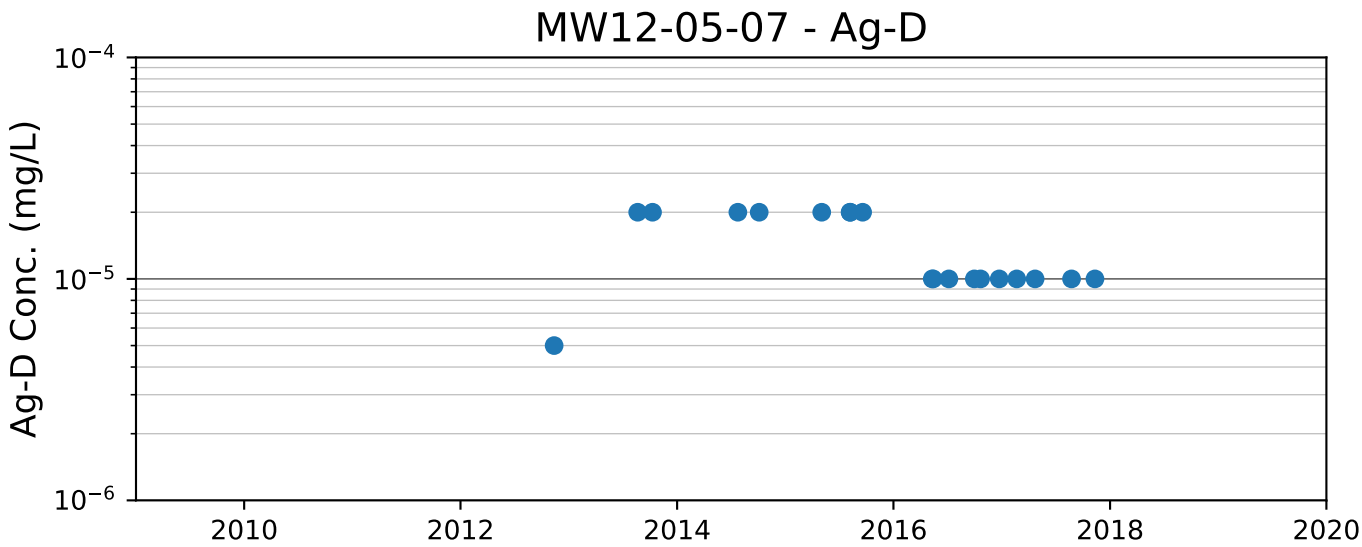

MW12-05-06 - Ni-D
Ni-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

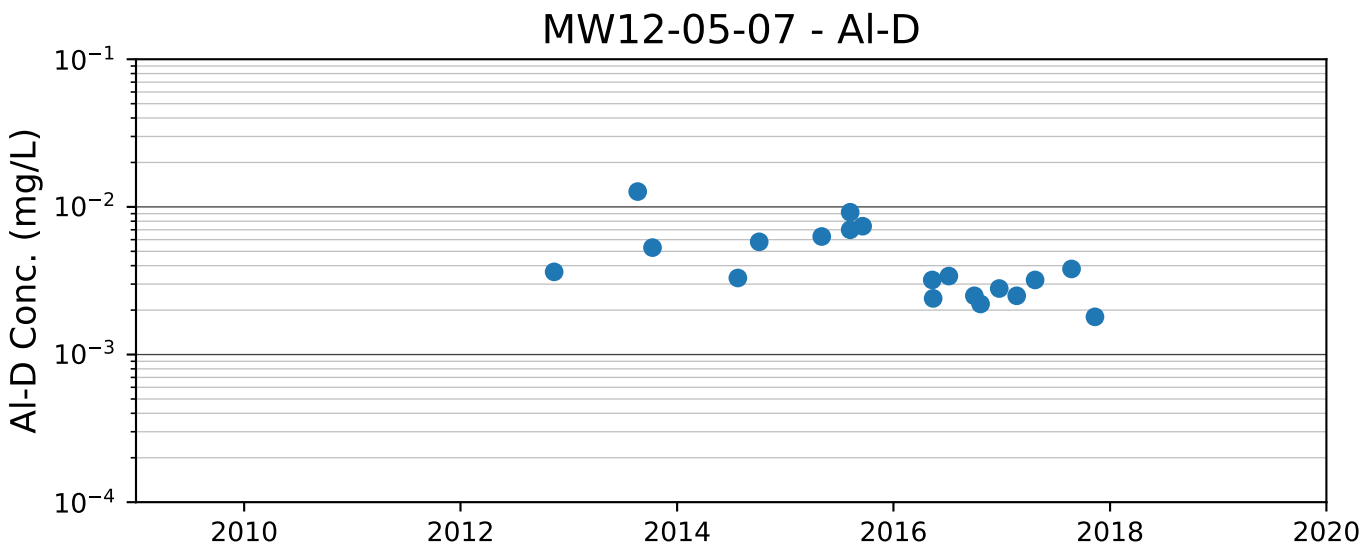

MW12-05-06 - Se-D
Se-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

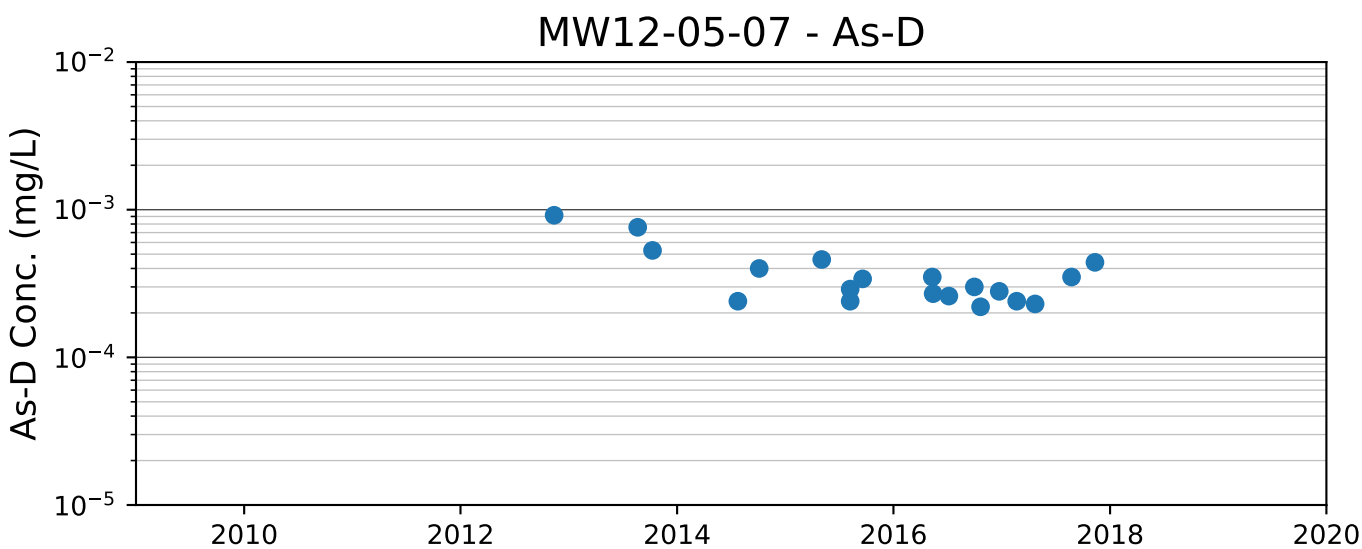

MW12-05-06 - Zn-D
Zn-D Conc. (mg/L)
10^{-1}
10^{-2}
10^{-3}
2010
2012
2014
2016
2018
2020

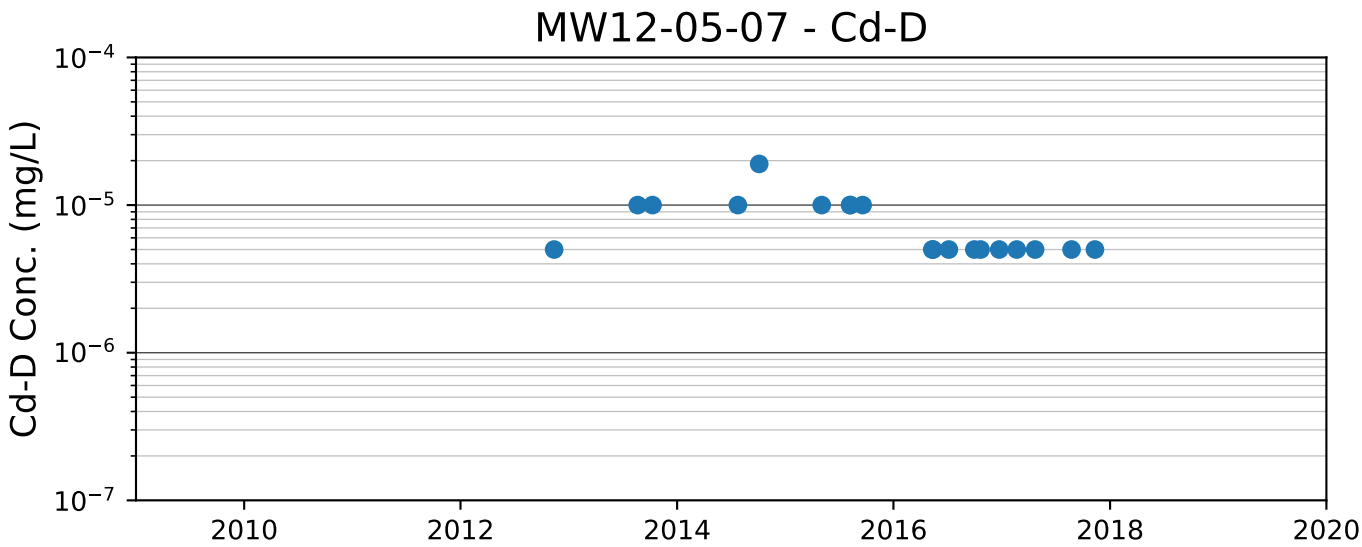

MW12-05-06 - N-NO3
N-NO3 Conc. (mg/L)
10^{1}
10^{0}
10^{-1}
10^{-2}
2010
2012
2014
2016
2018
2020

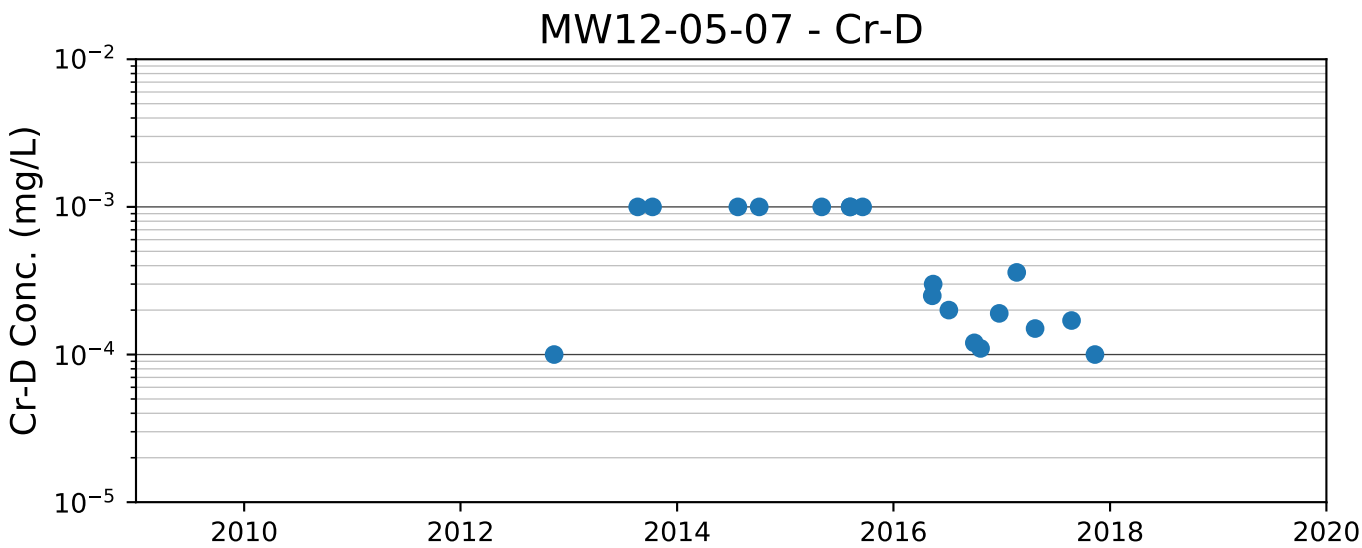

MW12-05-06 - SO4-D
SO4-D Conc. (mg/L)
10^4
10^3
10^2
10^1
10^0
2010
2012
2014
2016
2018
2020

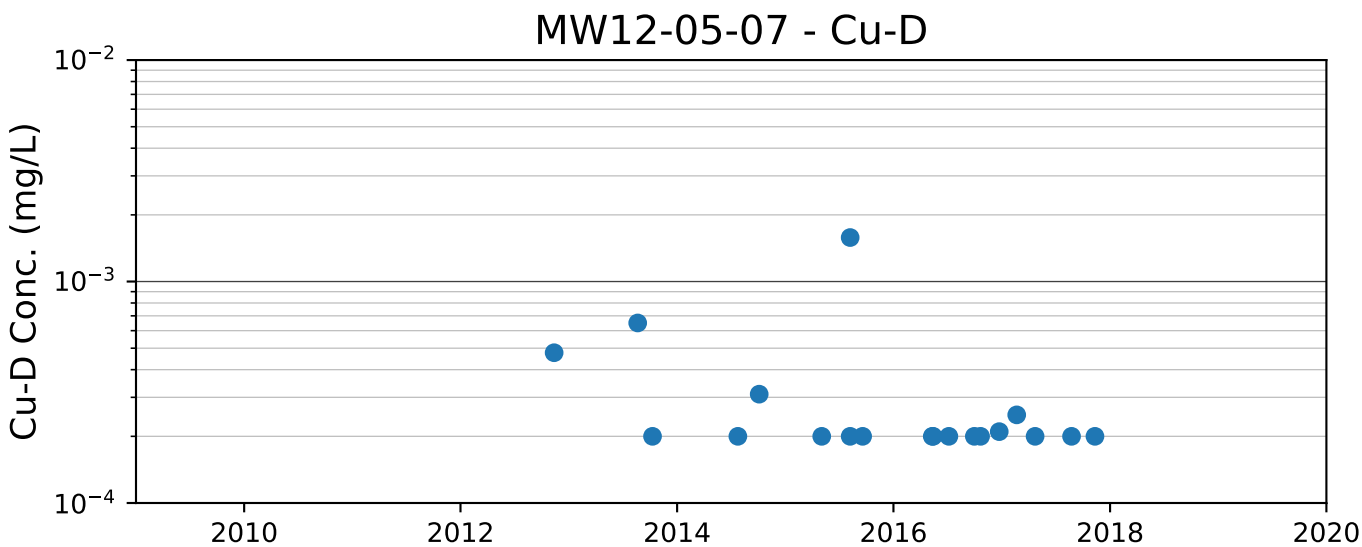

MW12-05-07 - Ag-D
Ag-D Conc. (mg/L)
10^{-4}
10^{-5}
10^{-6}
2010
2012
2014
2016
2018
2020

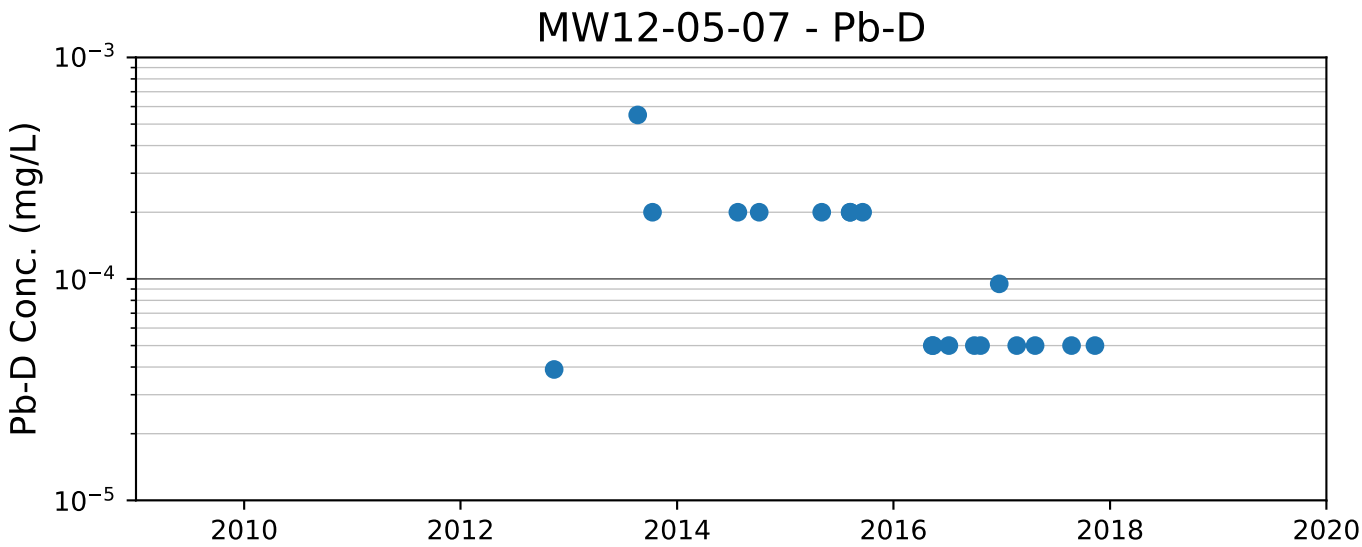

MW12-05-07 - Al-D
Al-D Conc. (mg/L)
10^{-1}
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

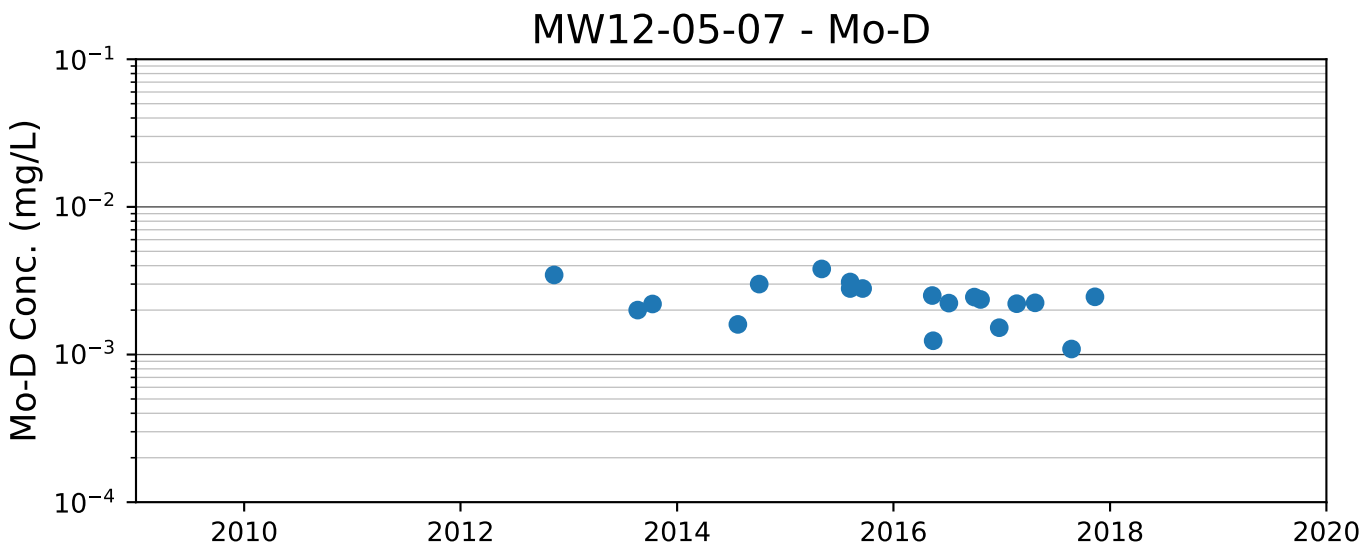

MW12-05-07 - As-D
As-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

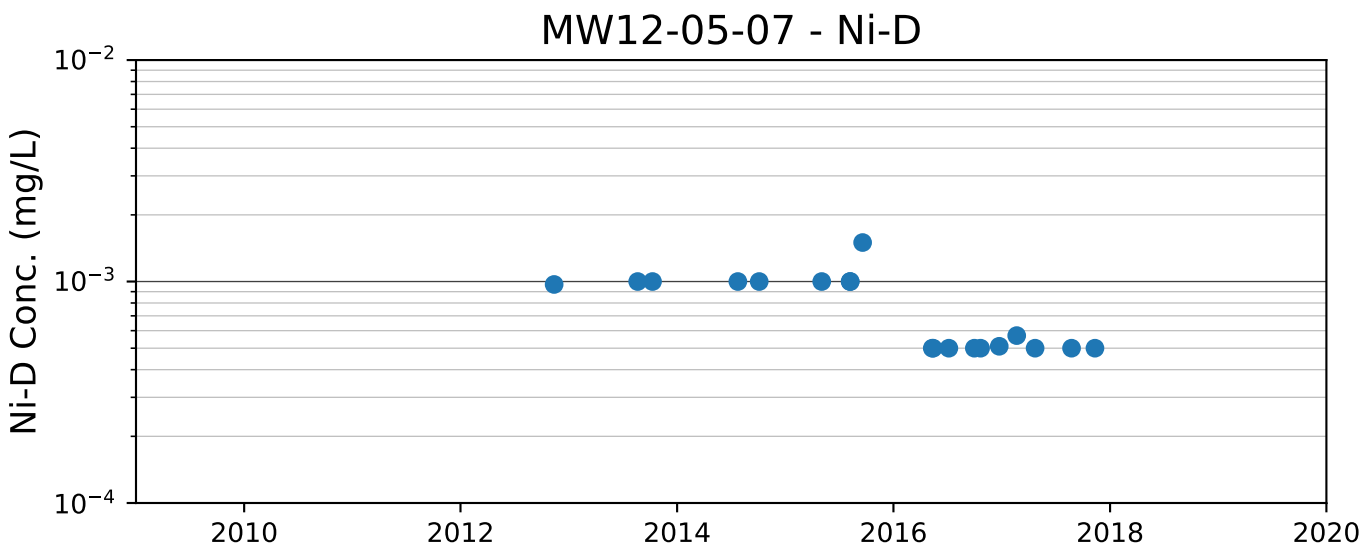

MW12-05-07 - Cd-D
Cd-D Conc. (mg/L)
10^{-4}
10^{-5}
10^{-6}
10^{-7}
2010
2012
2014
2016
2018
2020

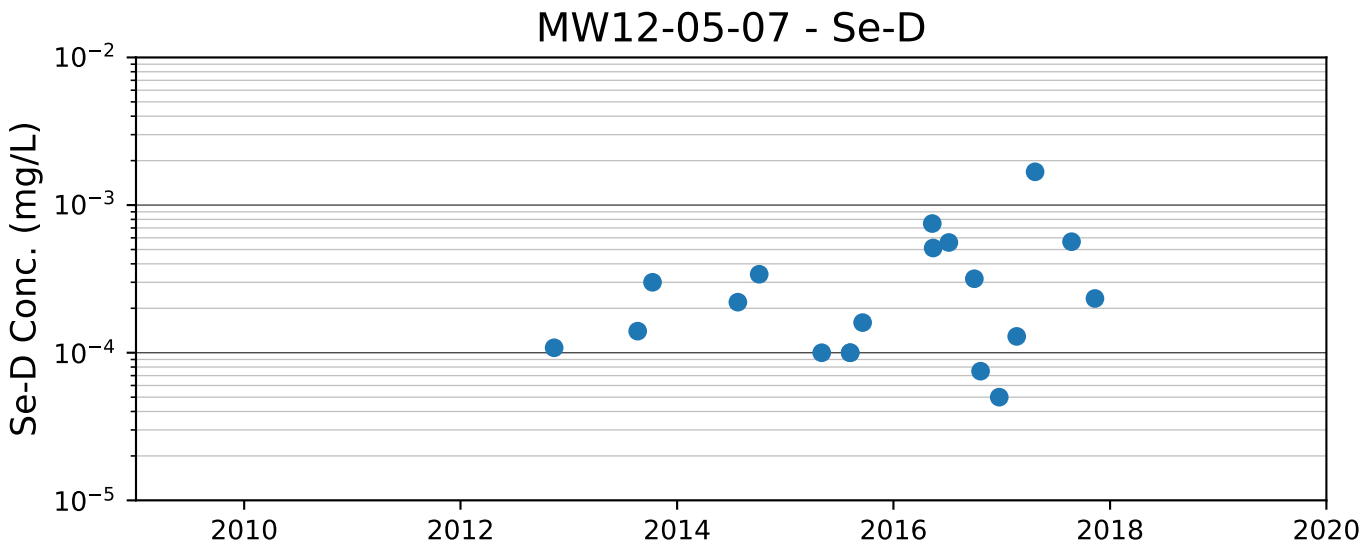

MW12-05-07 - Cr-D
Cr-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

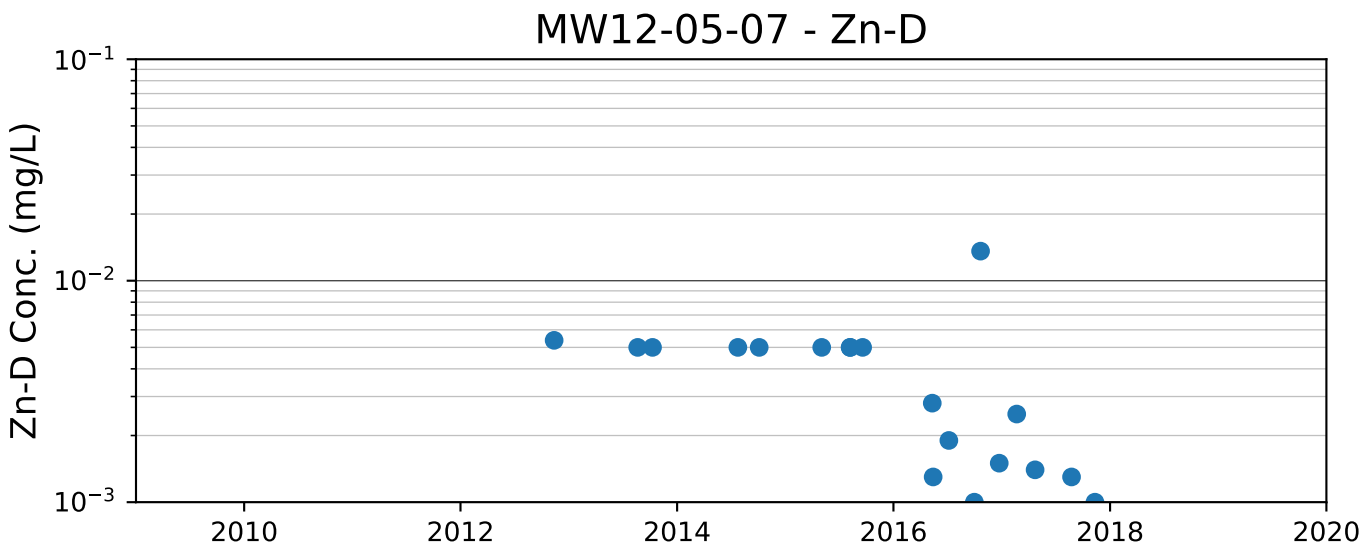

MW12-05-07 - Cu-D
Cu-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

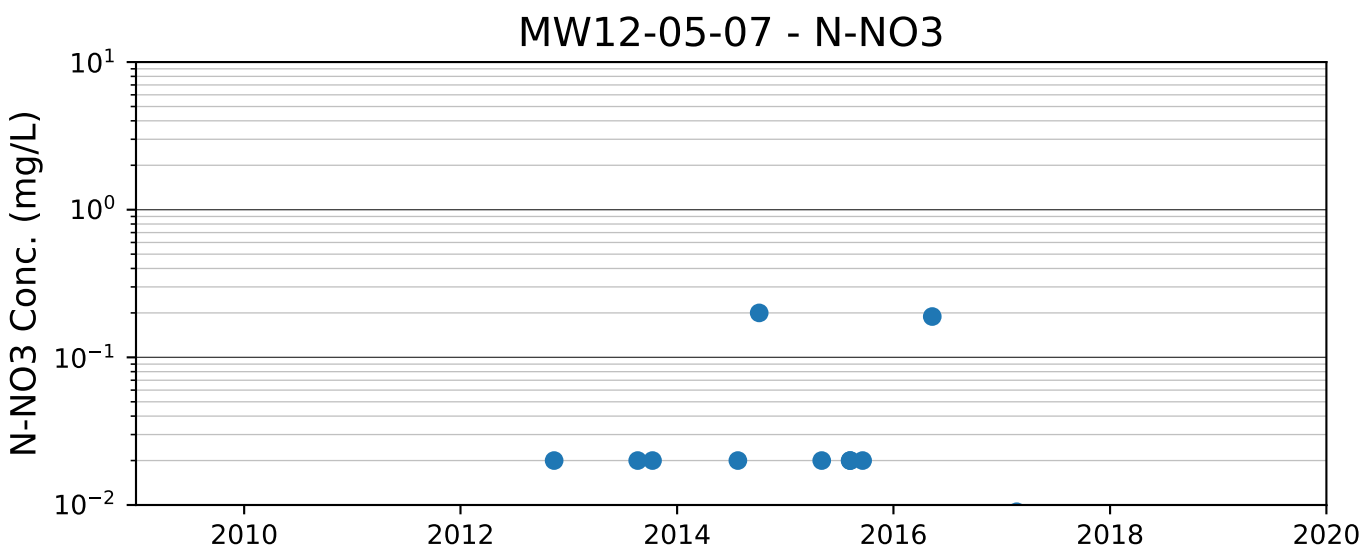

MW12-05-07 - Pb-D
Pb-D Conc. (mg/L)
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

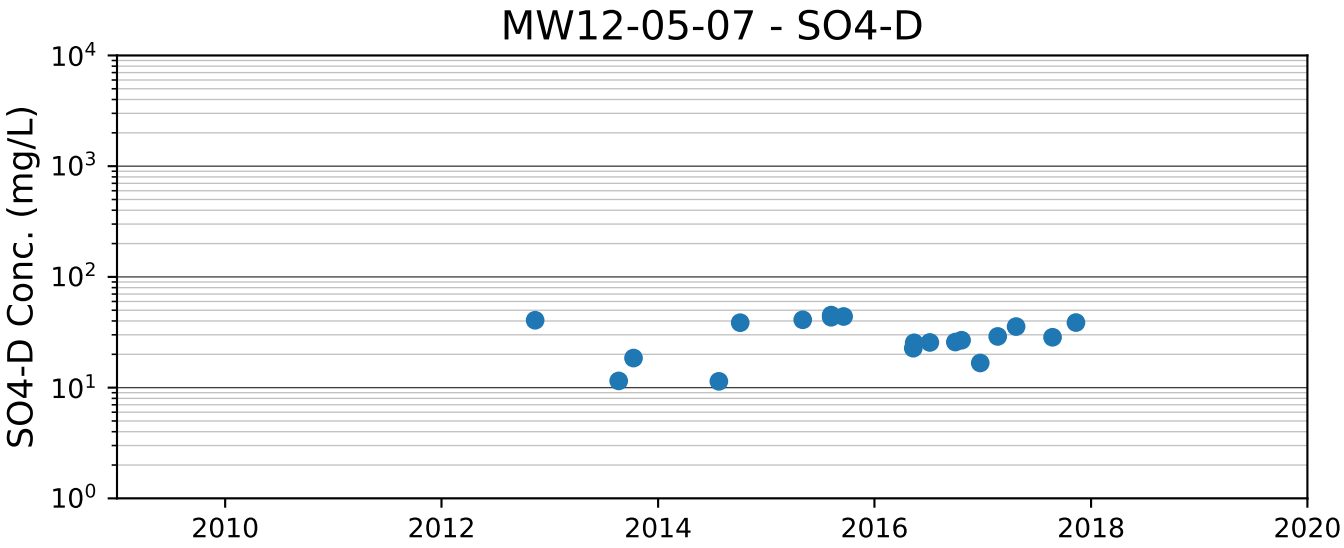

MW12-05-07 - Mo-D
Mo-D Conc. (mg/L)
10^{-1}
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

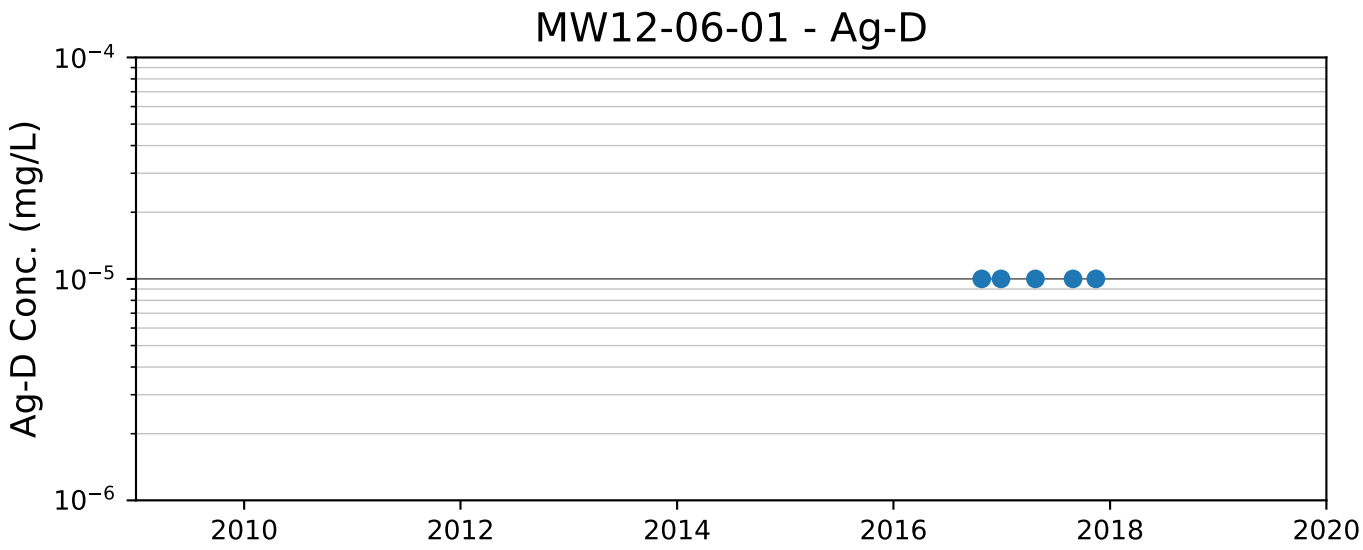

MW12-05-07 - Ni-D
Ni-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

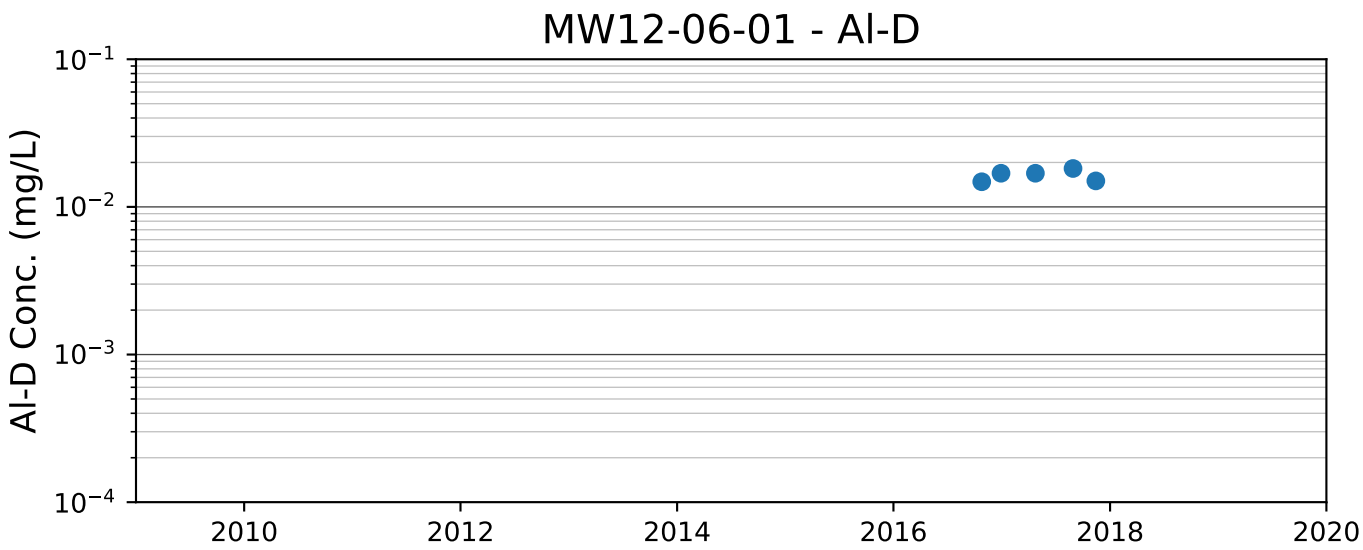

MW12-05-07 - Se-D
Se-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

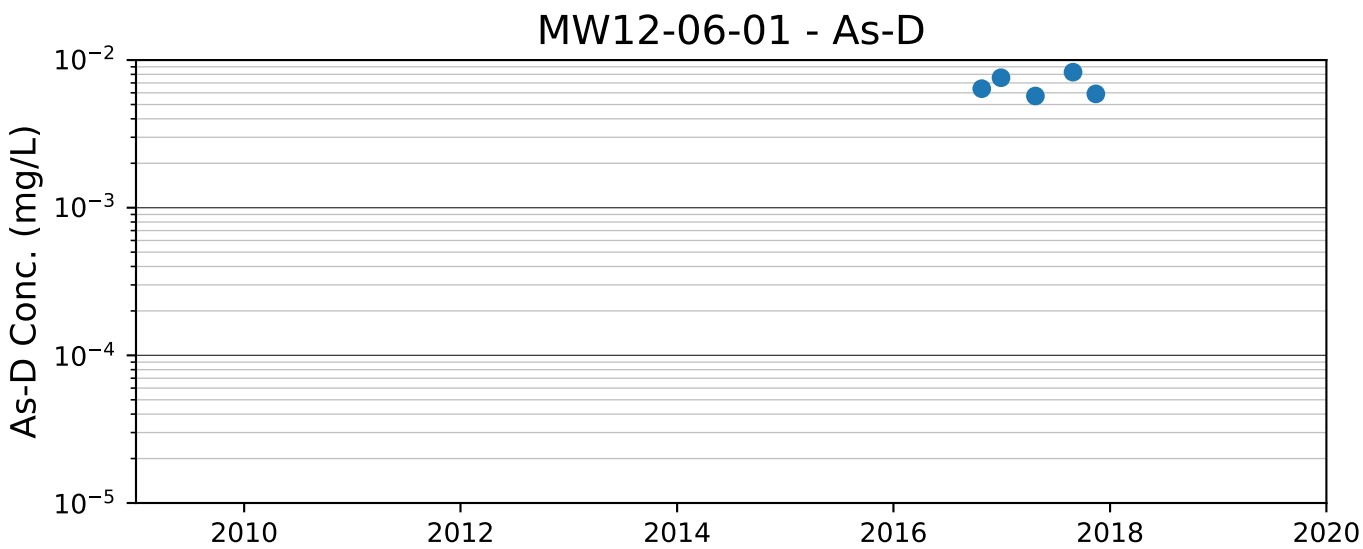

MW12-05-07 - Zn-D
Zn-D Conc. (mg/L)
10^{-1}
10^{-2}
10^{-3}
2010
2012
2014
2016
2018
2020

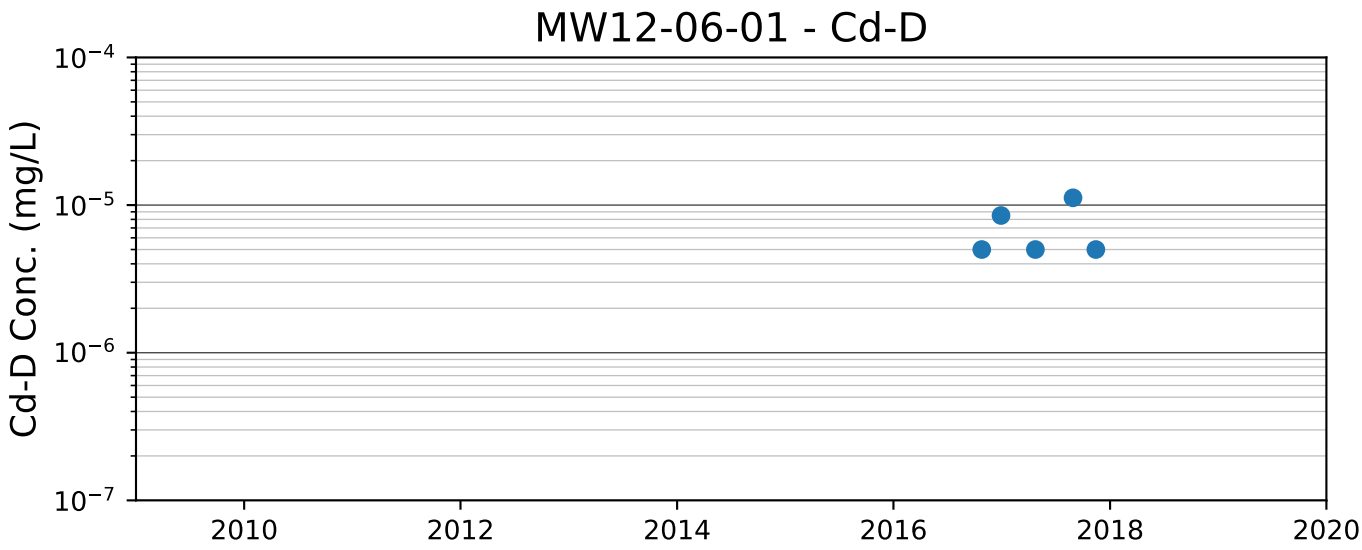

MW12-05-07 - N-NO3
N-NO3 Conc. (mg/L)
10^{1}
10^{0}
10^{-1}
10^{-2}
2010
2012
2014
2016
2018
2020

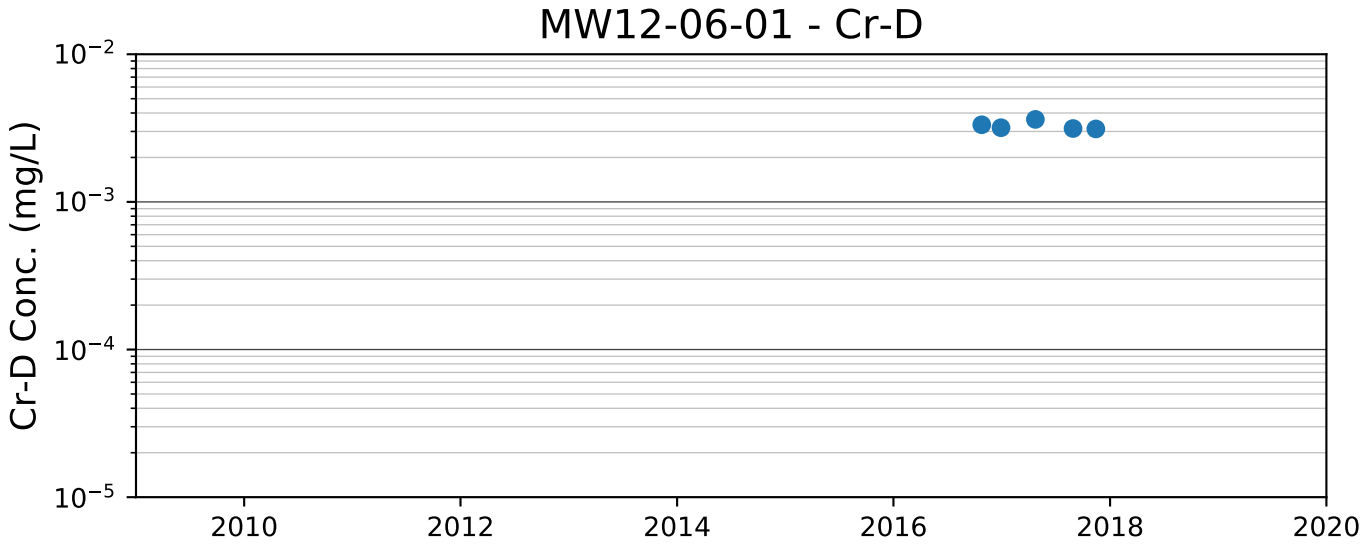

MW12-05-07 - SO4-D
SO4-D Conc. (mg/L)
10^4
10^3
10^2
10^1
10^0
2010
2012
2014
2016
2018
2020

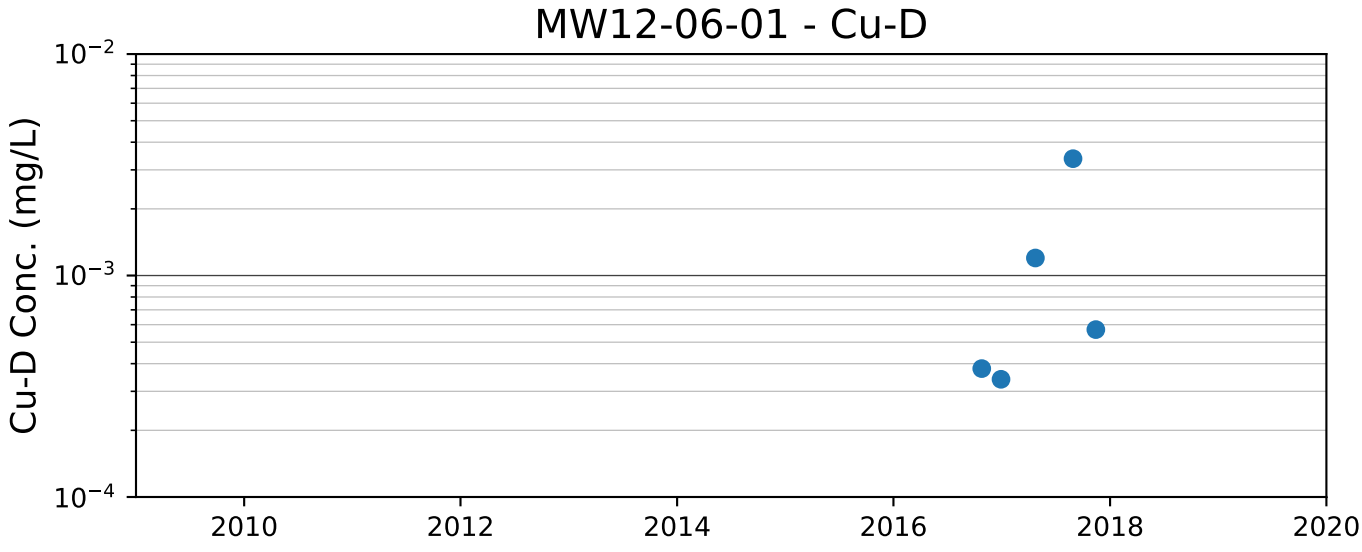

MW12-06-01 - Ag-D
Ag-D Conc. (mg/L)
10^{-4}
10^{-5}
10^{-6}
2010
2012
2014
2016
2018
2020

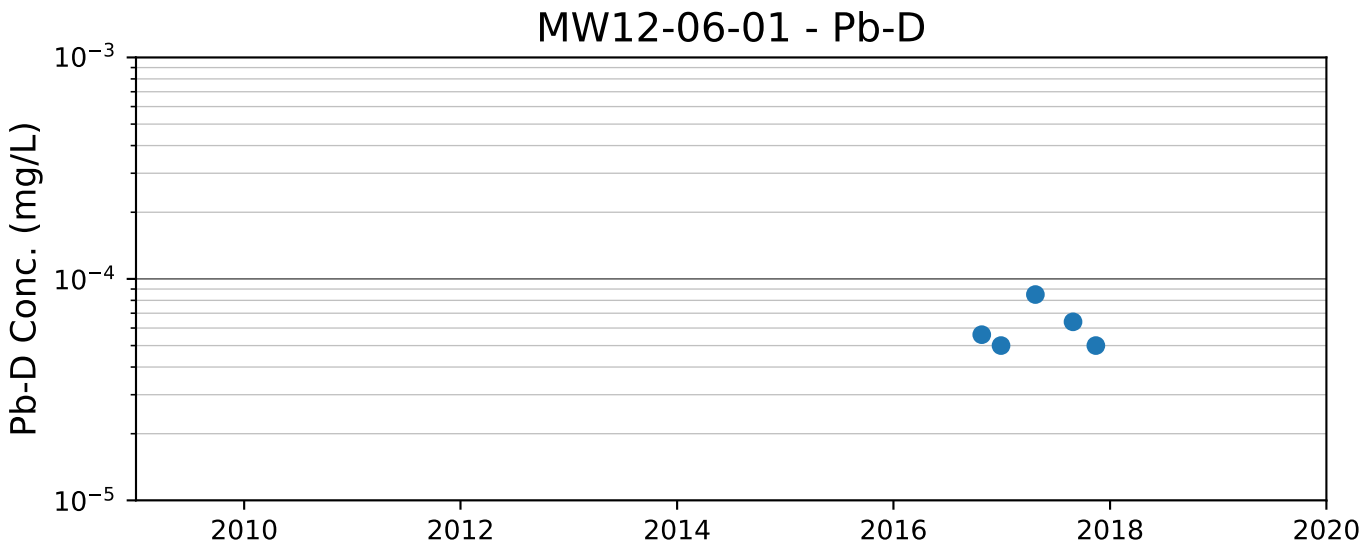

MW12-06-01 - Al-D
Al-D Conc. (mg/L)
10^{-1}
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

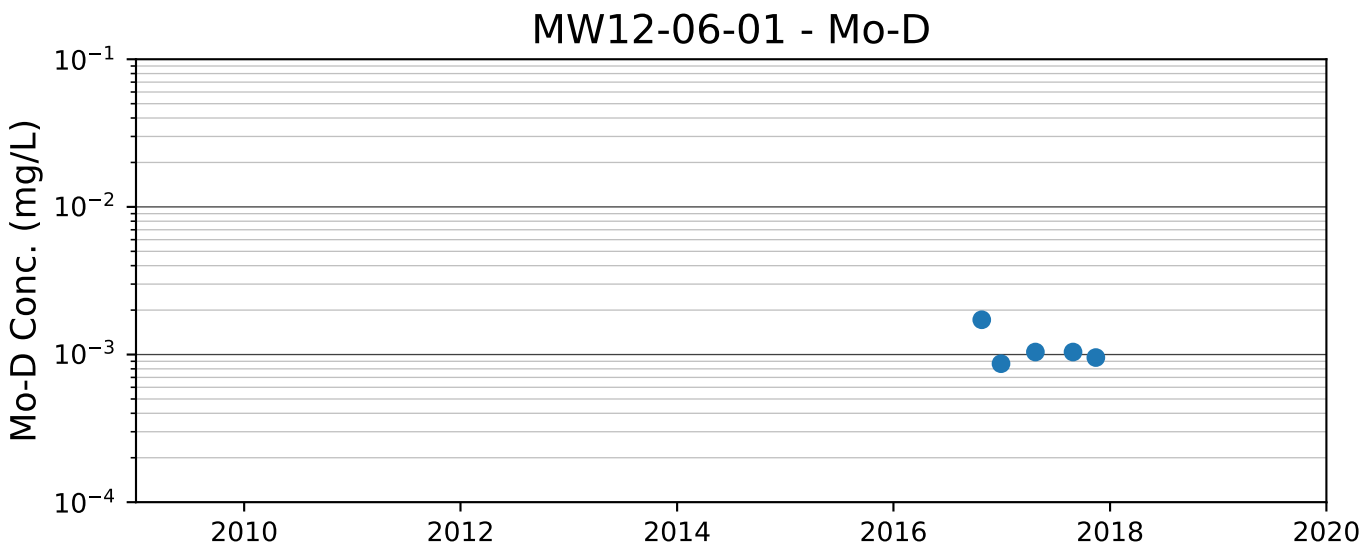

MW12-06-01 - As-D
As-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

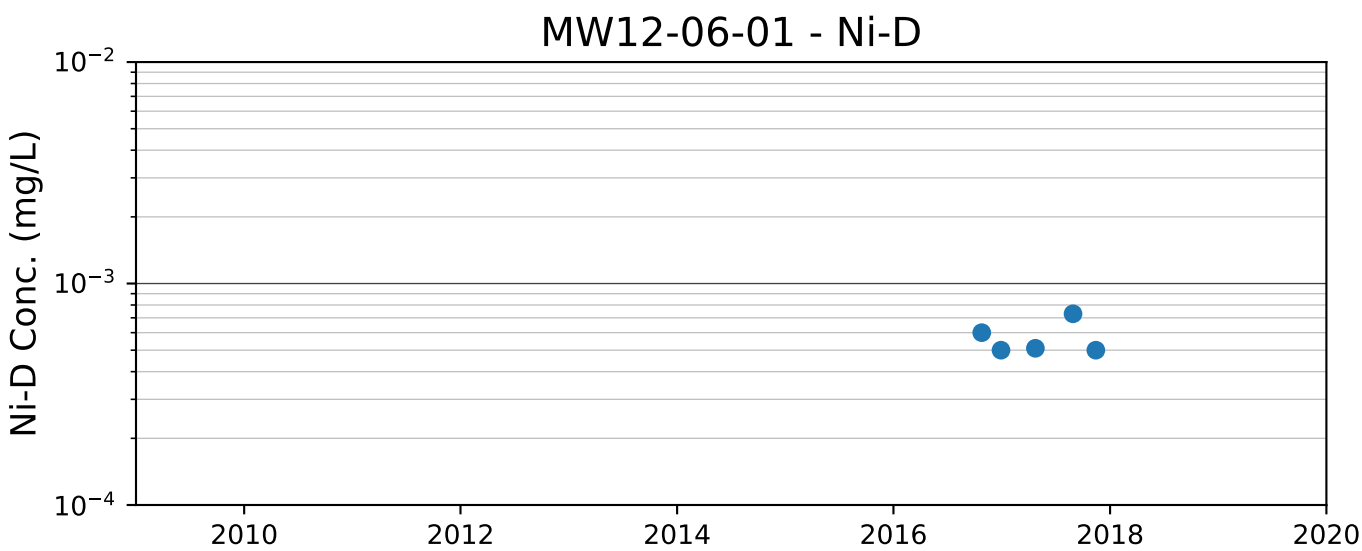

MW12-06-01 - Cd-D
Cd-D Conc. (mg/L)
10^{-4}
10^{-5}
10^{-6}
10^{-7}
2010
2012
2014
2016
2018
2020

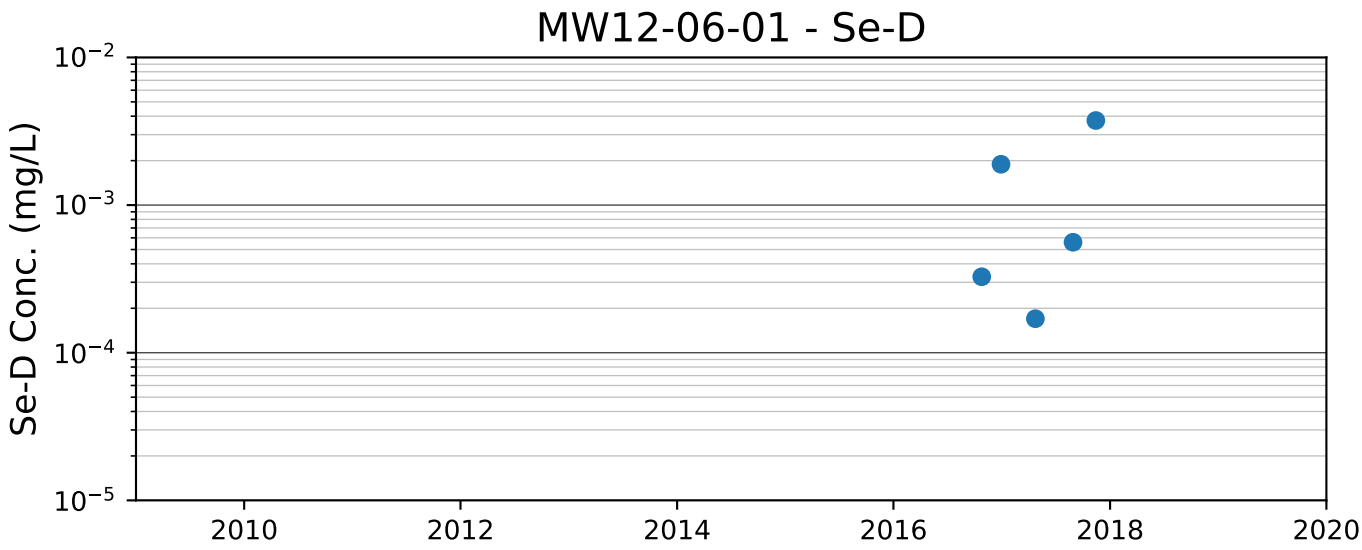

MW12-06-01 - Cr-D
Cr-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

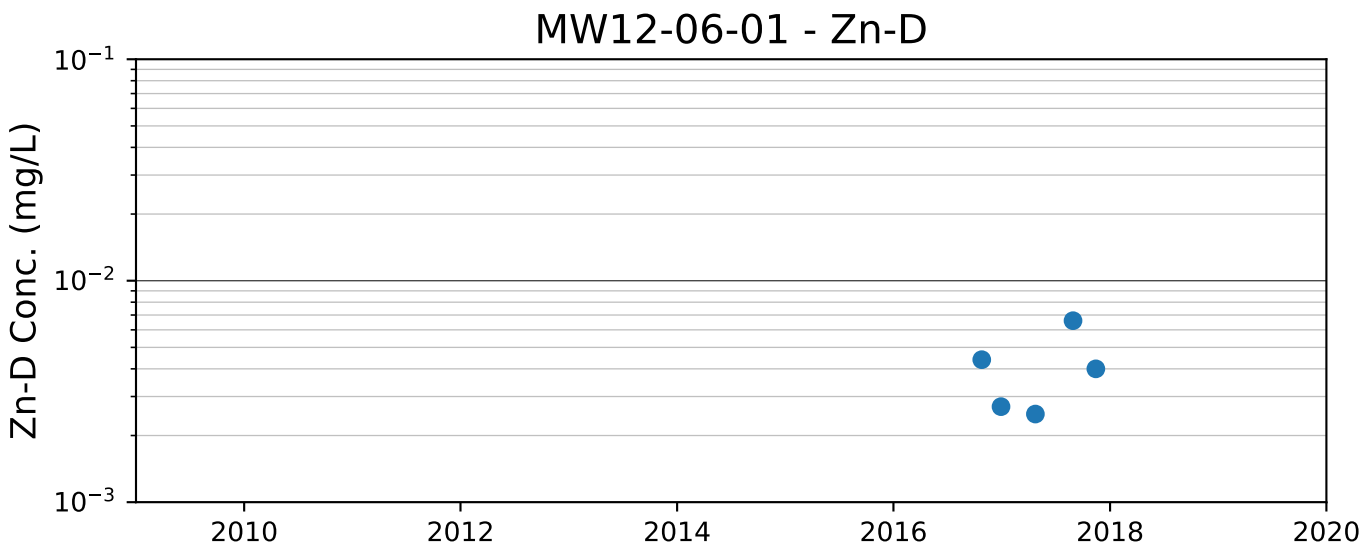

MW12-06-01 - Cu-D
Cu-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

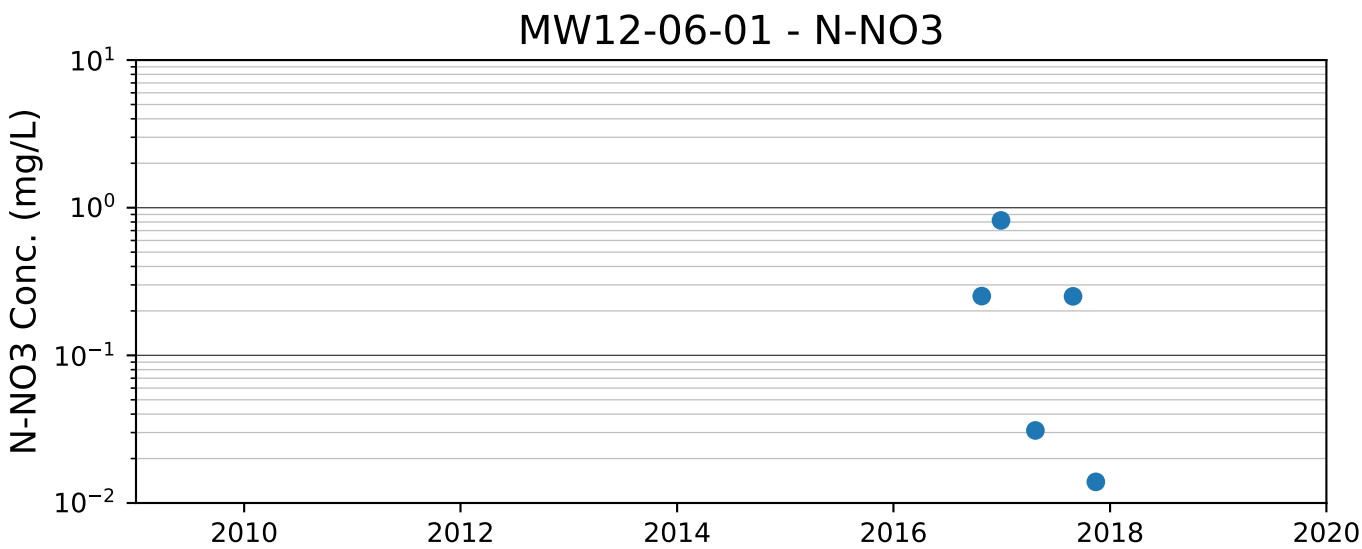

MW12-06-01 - Pb-D
Pb-D Conc. (mg/L)
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

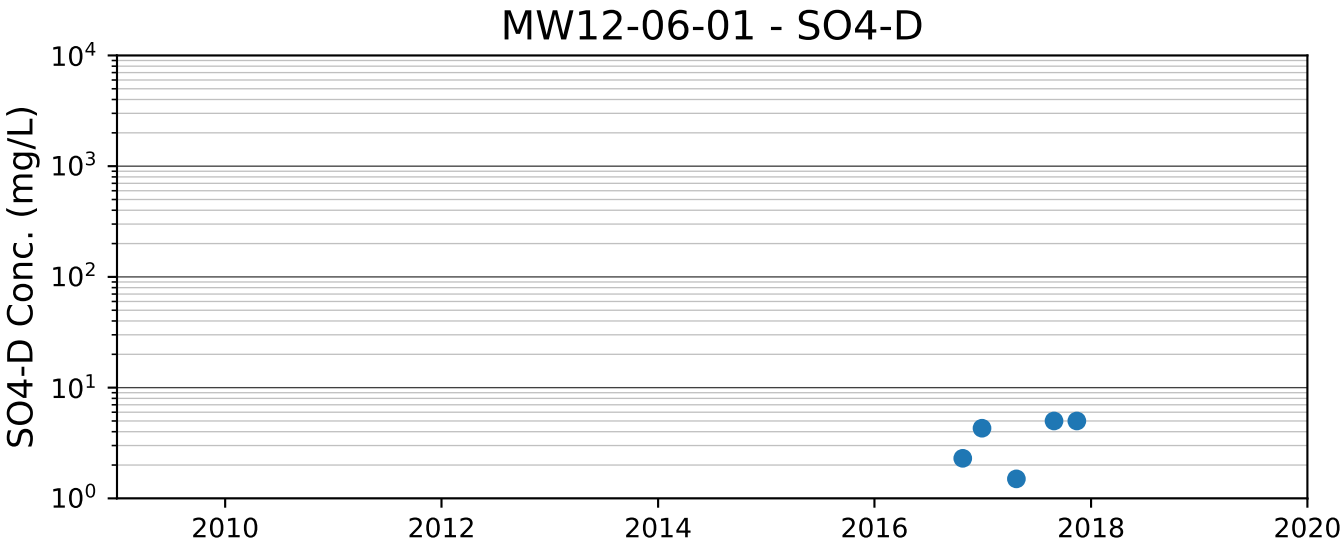

MW12-06-01 - Mo-D
Mo-D Conc. (mg/L)
10^{-1}
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

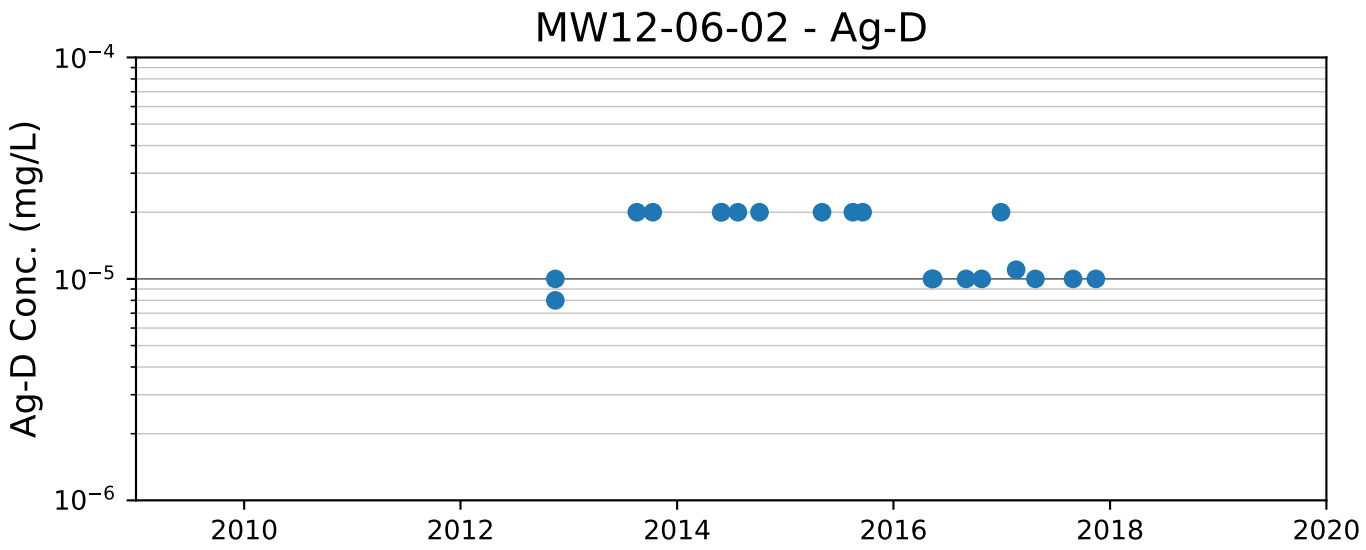

MW12-06-01 - Ni-D
Ni-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

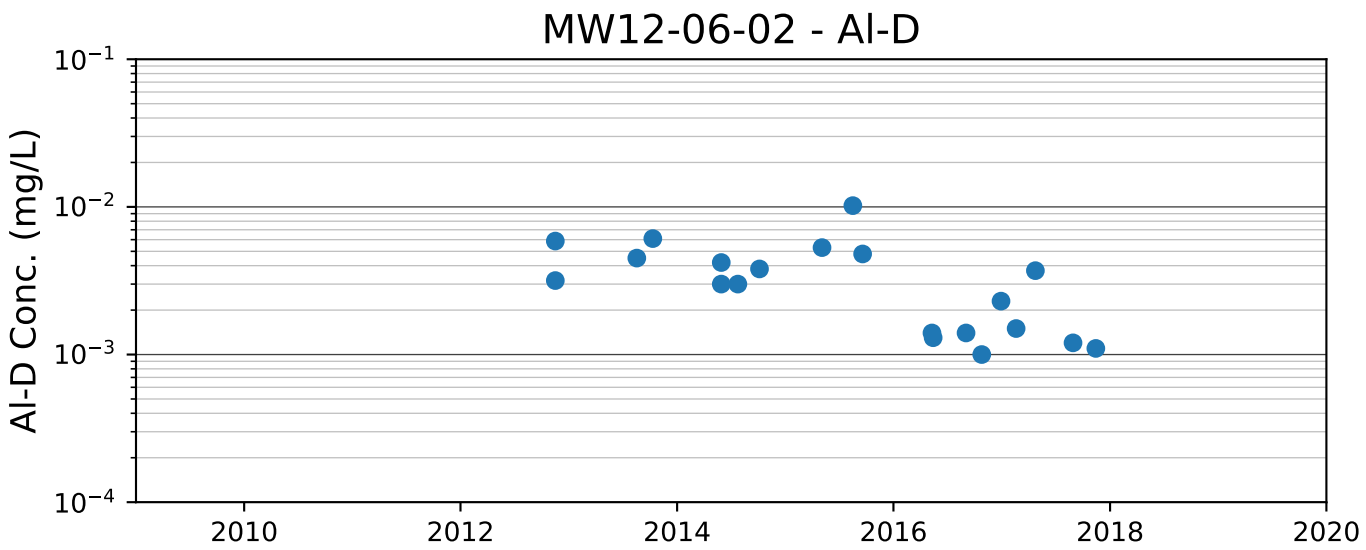

MW12-06-01 - Se-D
Se-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

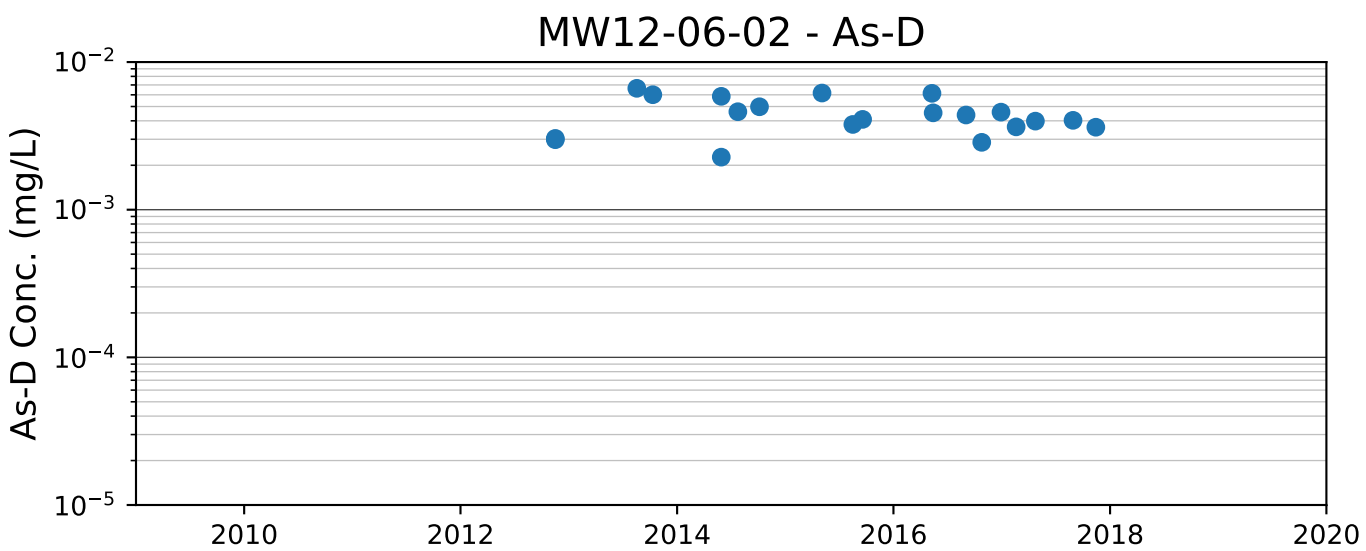

MW12-06-01 - Zn-D
Zn-D Conc. (mg/L)
10^{-1}
10^{-2}
10^{-3}
2010
2012
2014
2016
2018
2020

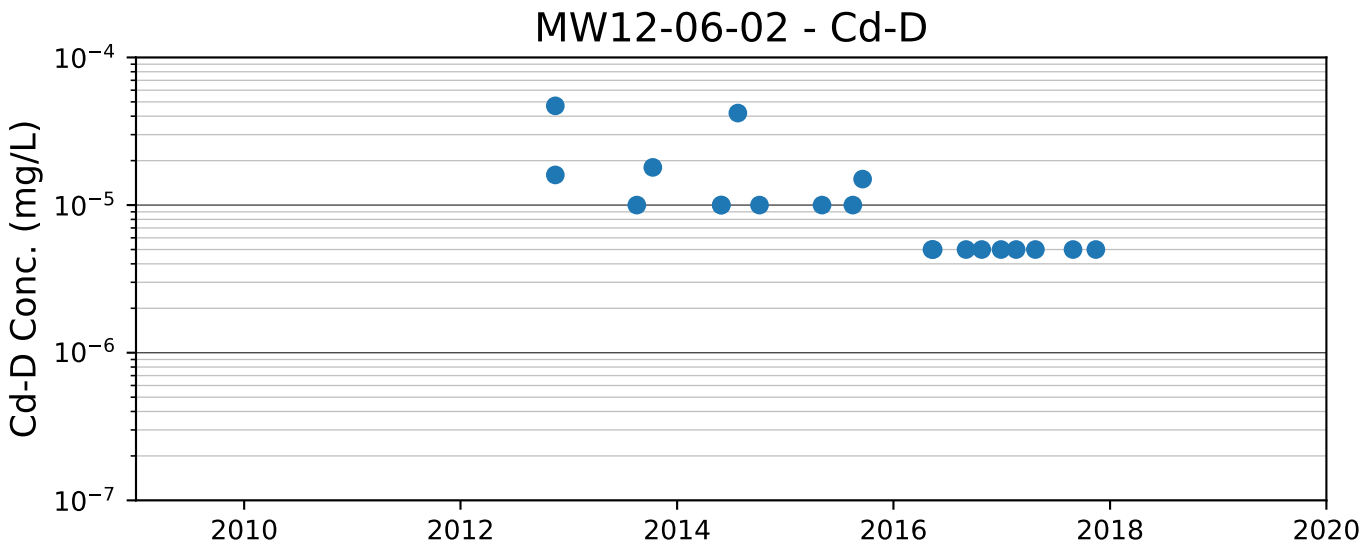

MW12-06-01 - N-NO3
N-NO3 Conc. (mg/L)
10^{1}
10^{0}
10^{-1}
10^{-2}
2010
2012
2014
2016
2018
2020

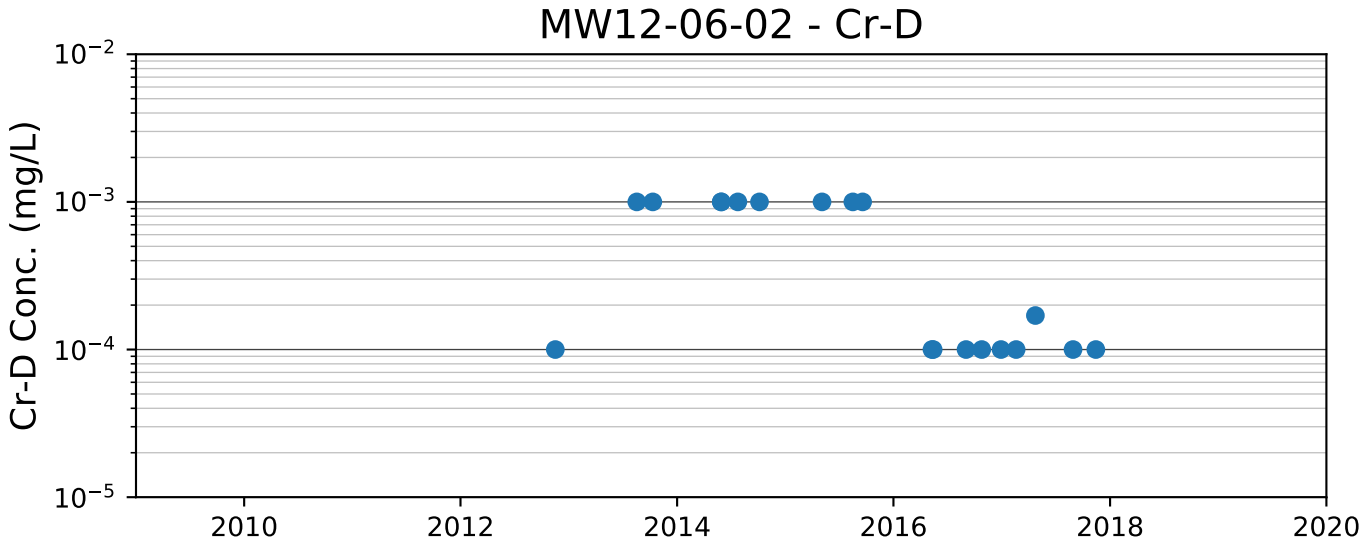

MW12-06-01 - SO4-D
SO4-D Conc. (mg/L)
10^4
10^3
10^2
10^1
10^0
2010
2012
2014
2016
2018
2020

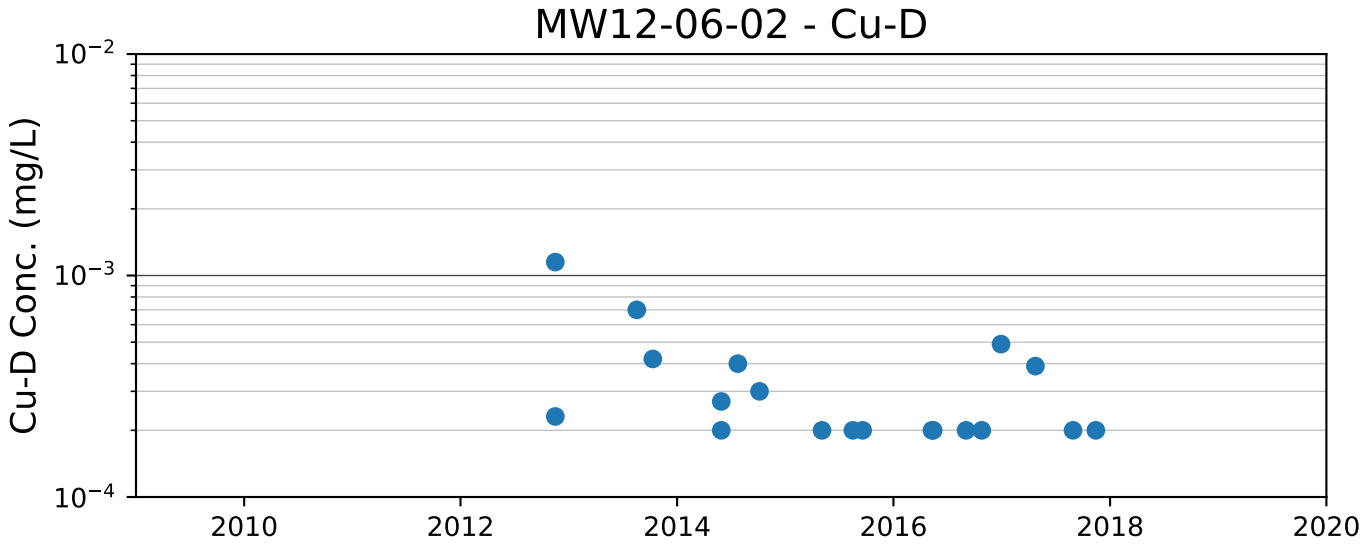

MW12-06-02 - Ag-D
Ag-D Conc. (mg/L)
10^{-4}
10^{-5}
10^{-6}
2010
2012
2014
2016
2018
2020

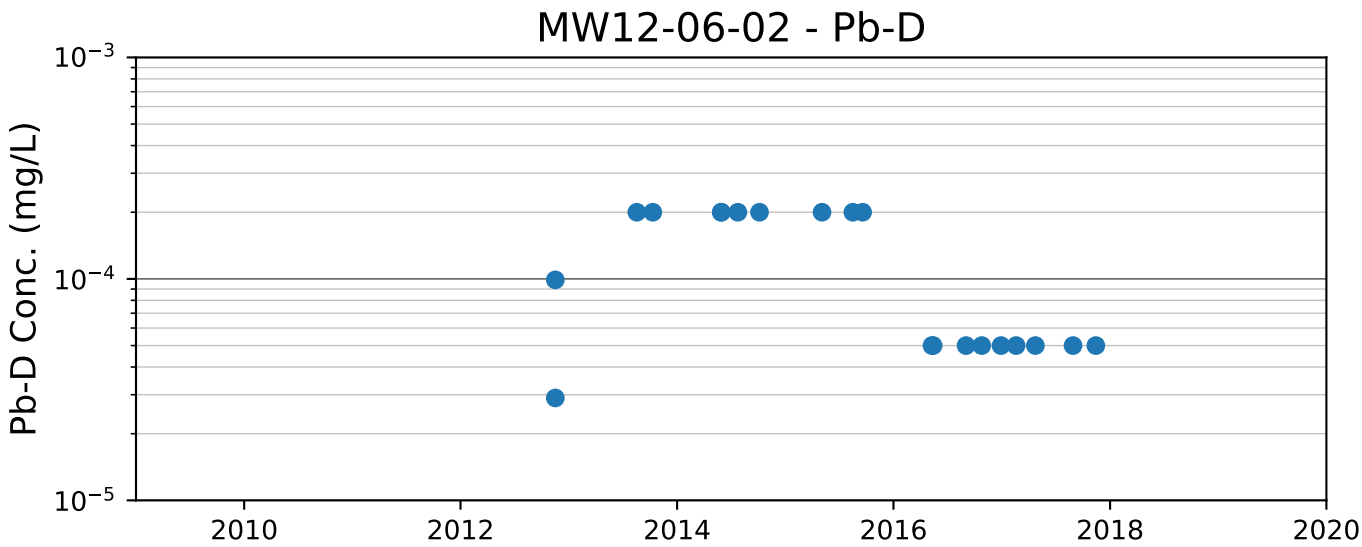

MW12-06-02 - Al-D
Al-D Conc. (mg/L)
10^{-1}
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

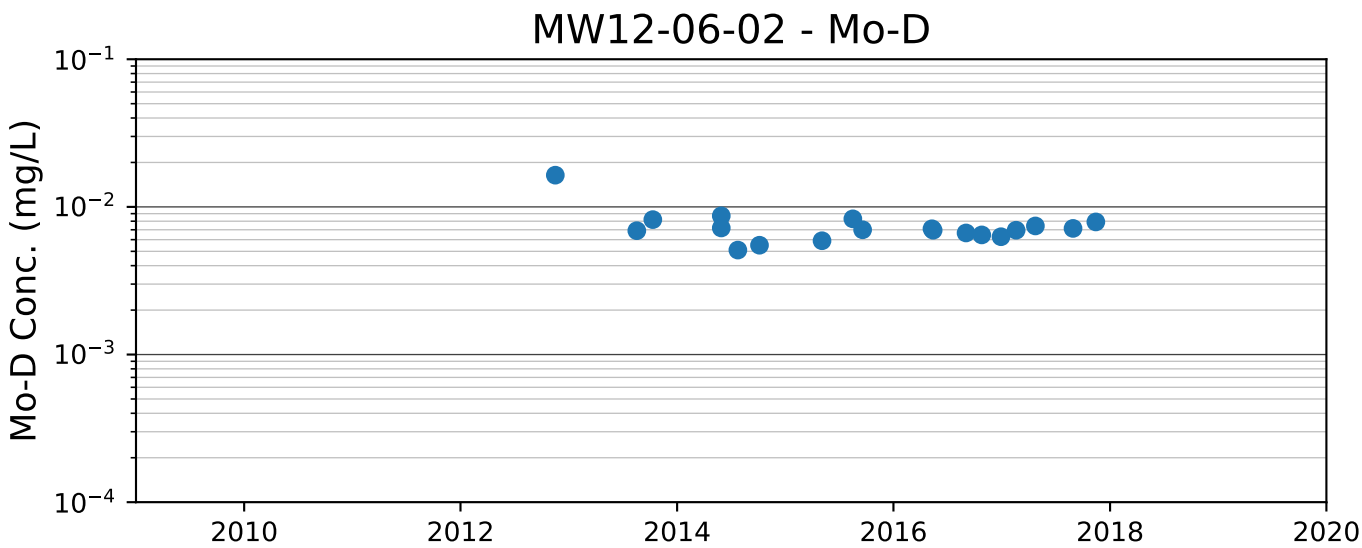

MW12-06-02 - As-D
As-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

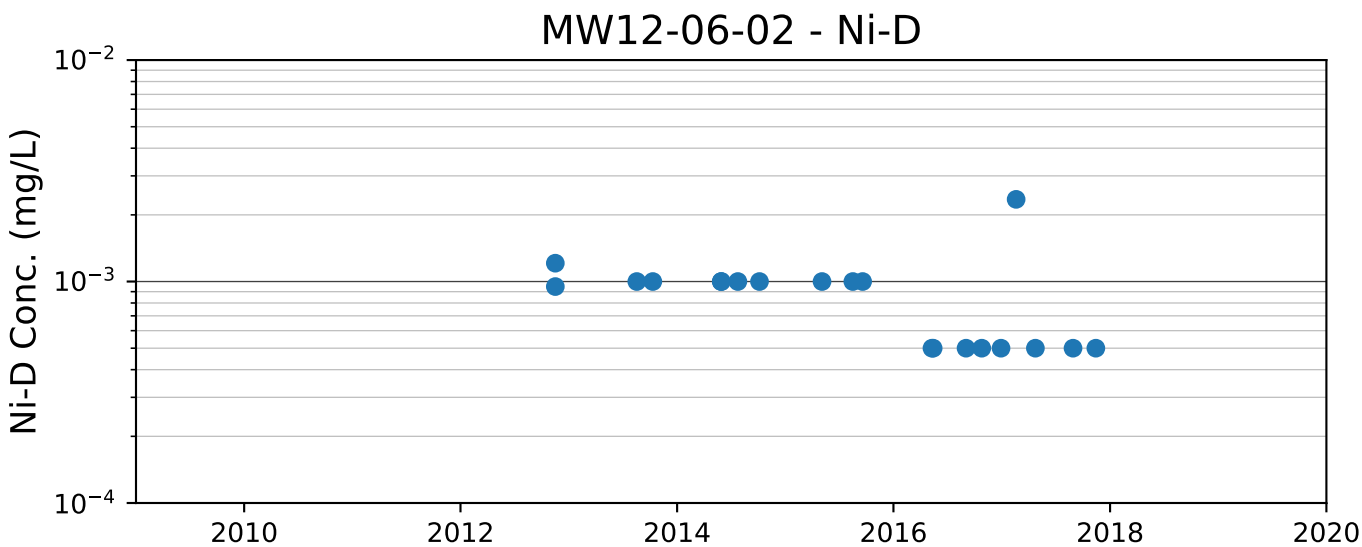

MW12-06-02 - Cd-D
Cd-D Conc. (mg/L)
10^{-4}
10^{-5}
10^{-6}
10^{-7}
2010
2012
2014
2016
2018
2020

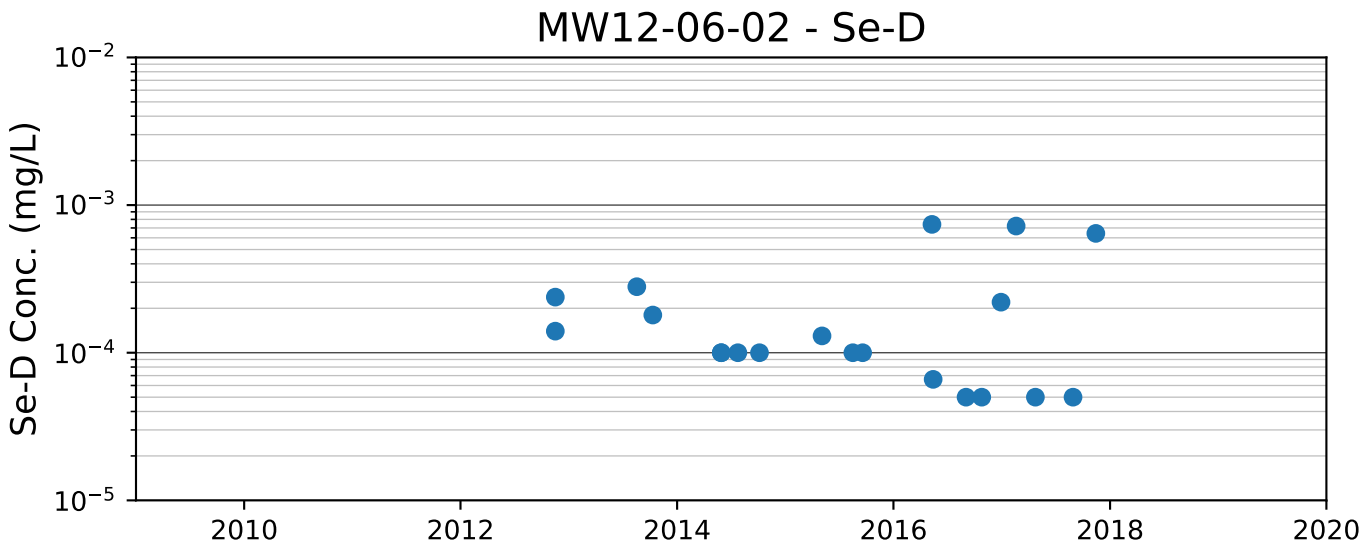

MW12-06-02 - Cr-D
Cr-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

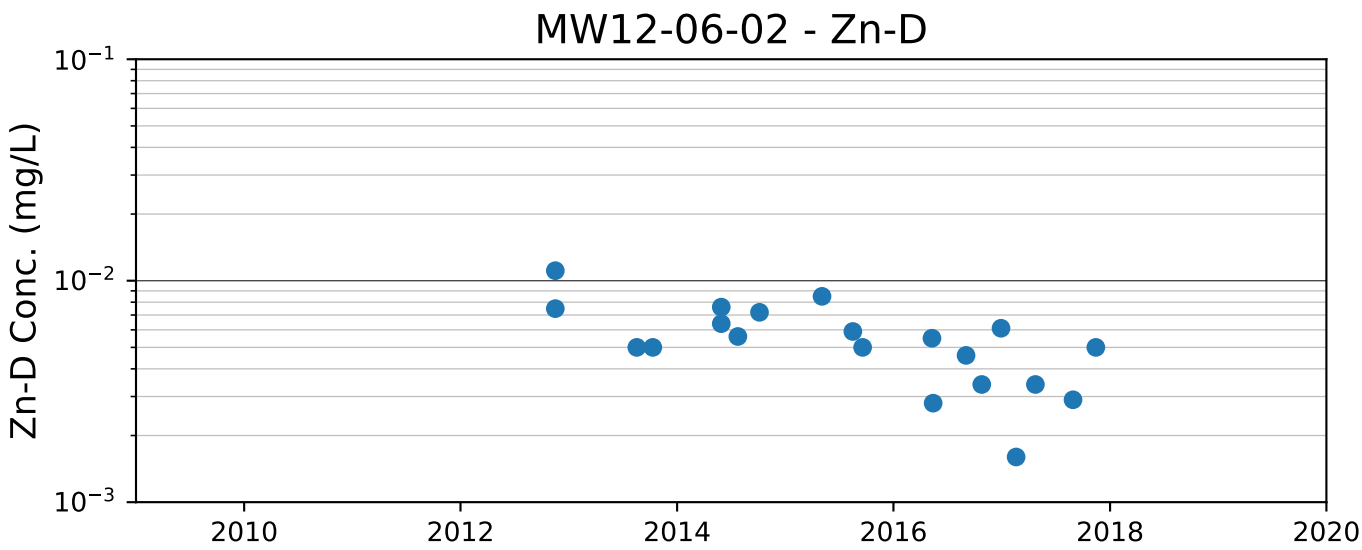

MW12-06-02 - Cu-D
Cu-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

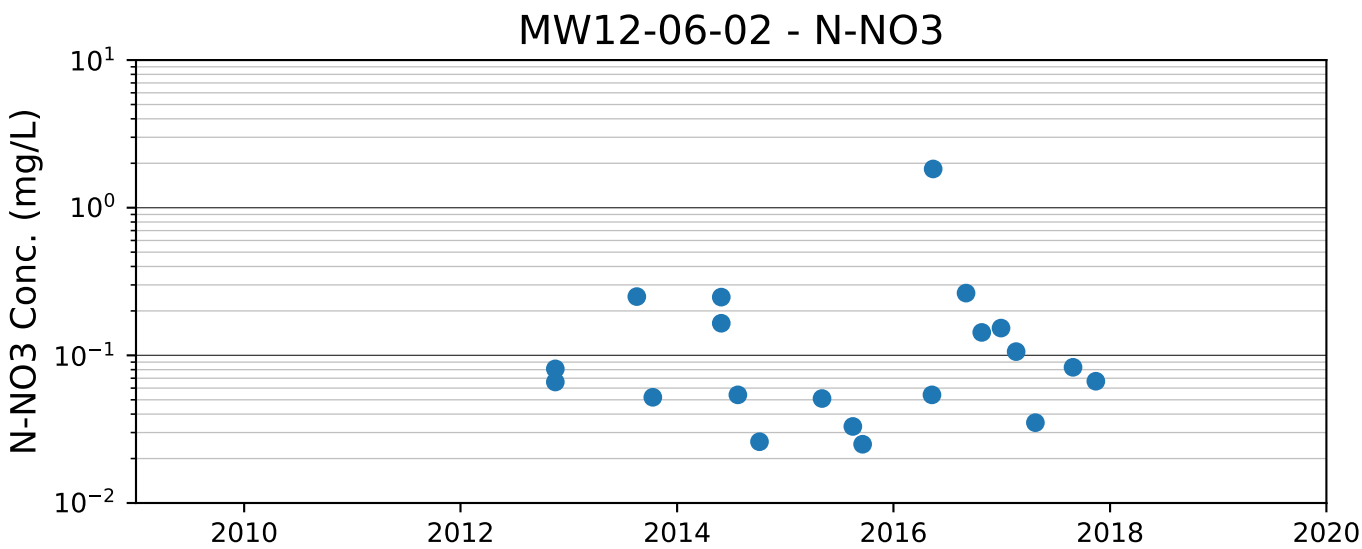

MW12-06-02 - Pb-D
Pb-D Conc. (mg/L)
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

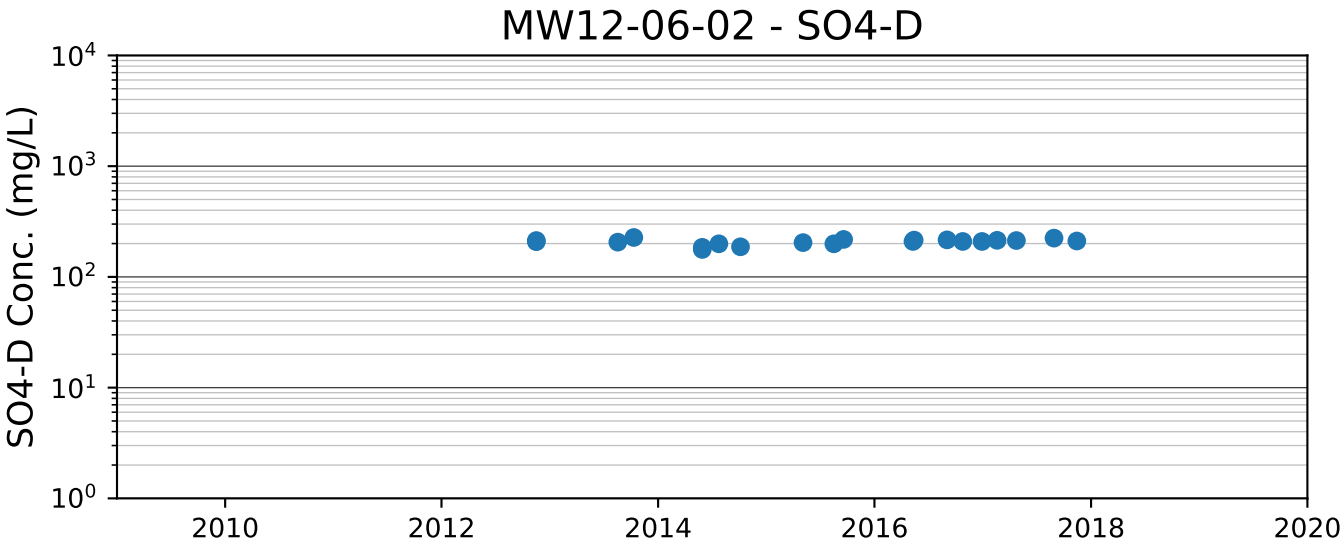

MW12-06-02 - Mo-D
Mo-D Conc. (mg/L)
10^{-1}
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

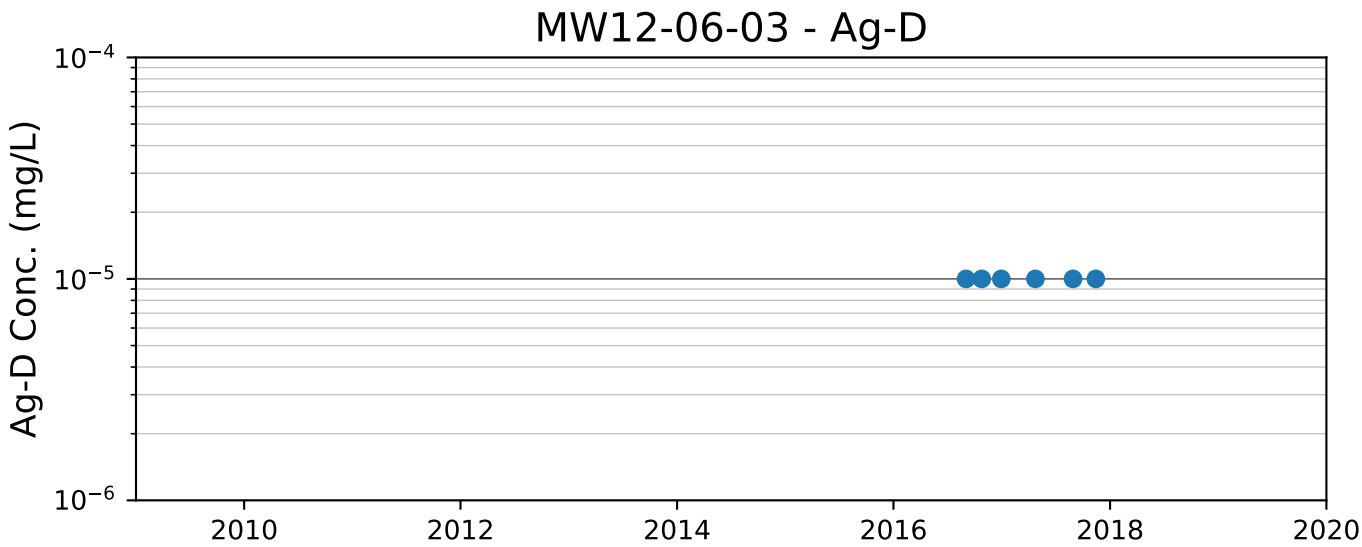

MW12-06-02 - Ni-D
Ni-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

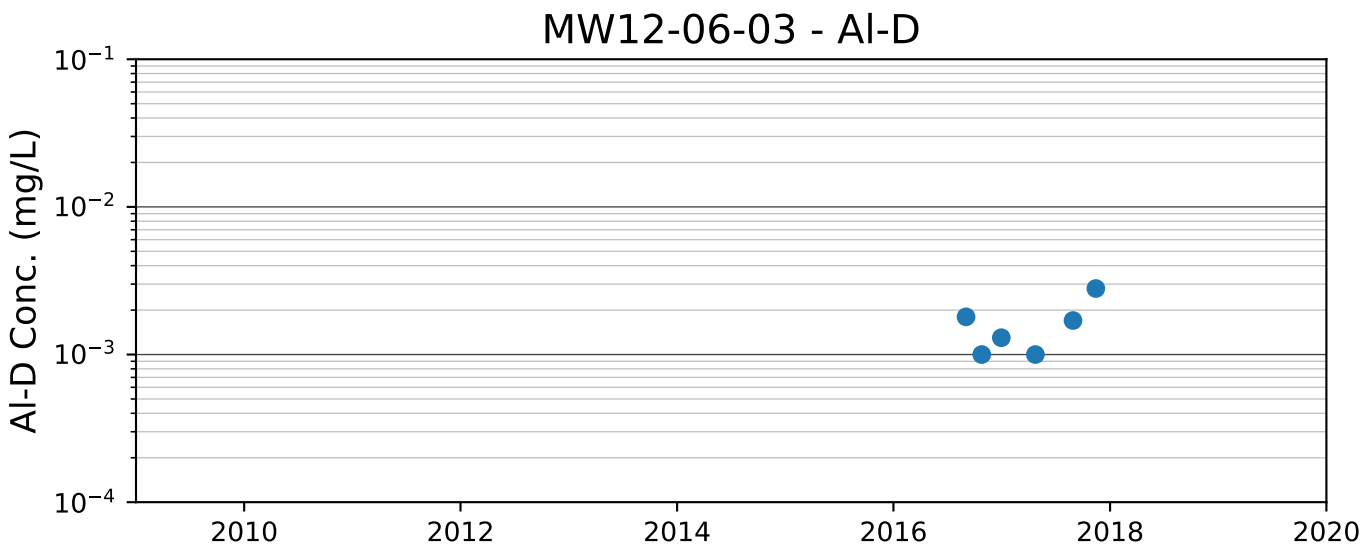

MW12-06-02 - Se-D
Se-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

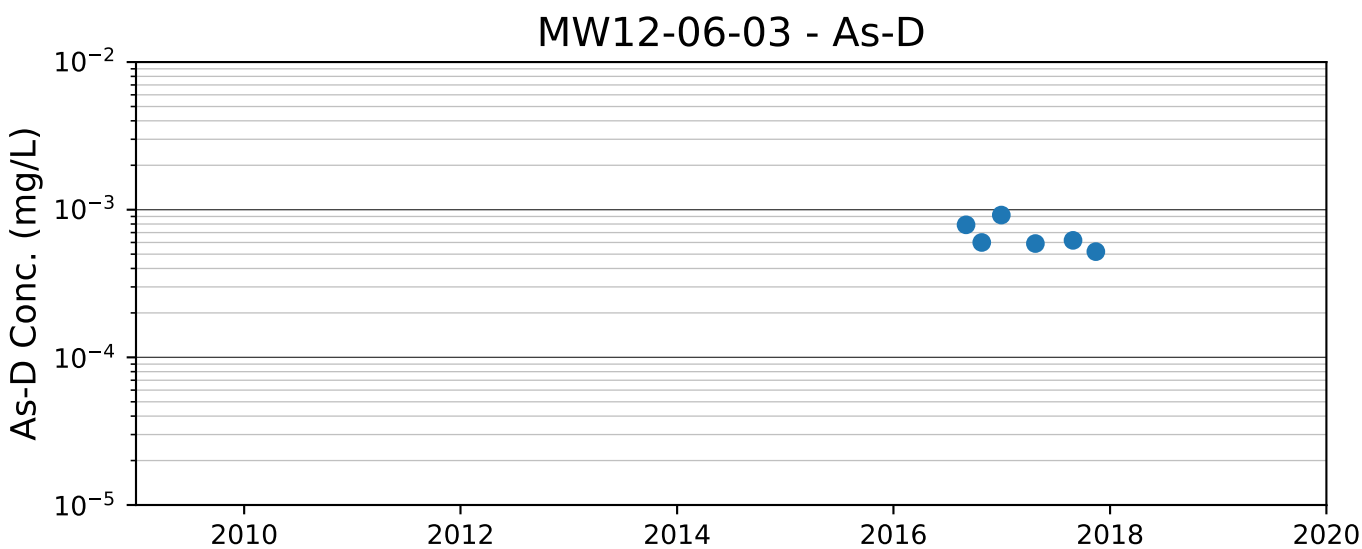

MW12-06-02 - Zn-D
Zn-D Conc. (mg/L)
10^{-1}
10^{-2}
10^{-3}
2010
2012
2014
2016
2018
2020

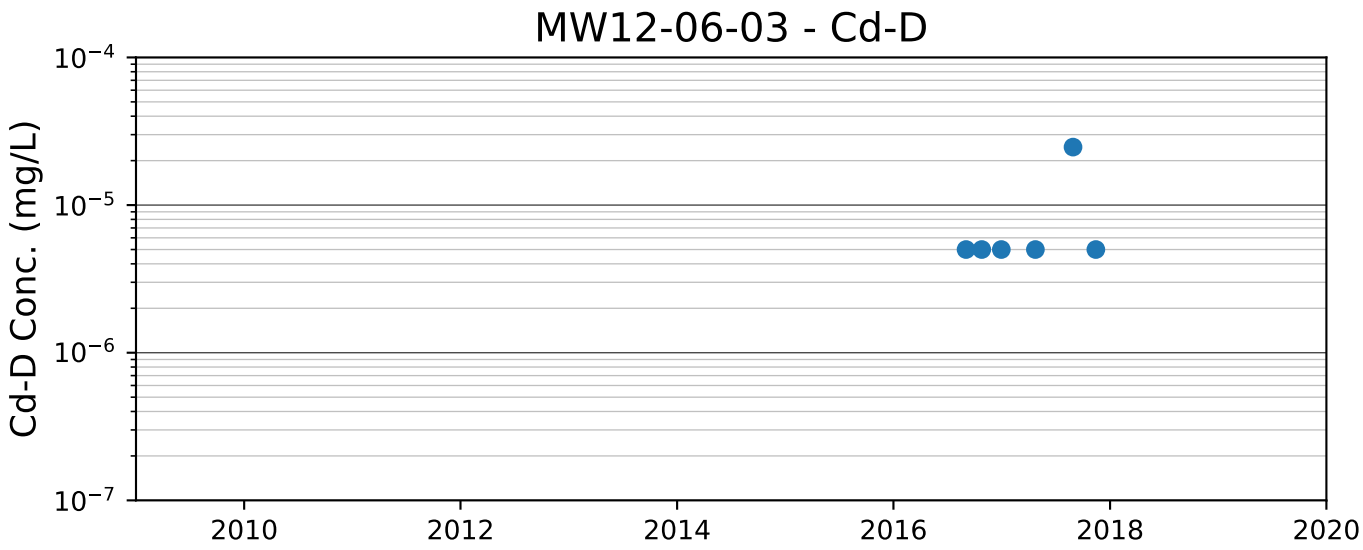

MW12-06-02 - N-NO3
N-NO3 Conc. (mg/L)
10^{1}
10^{0}
10^{-1}
10^{-2}
2010
2012
2014
2016
2018
2020

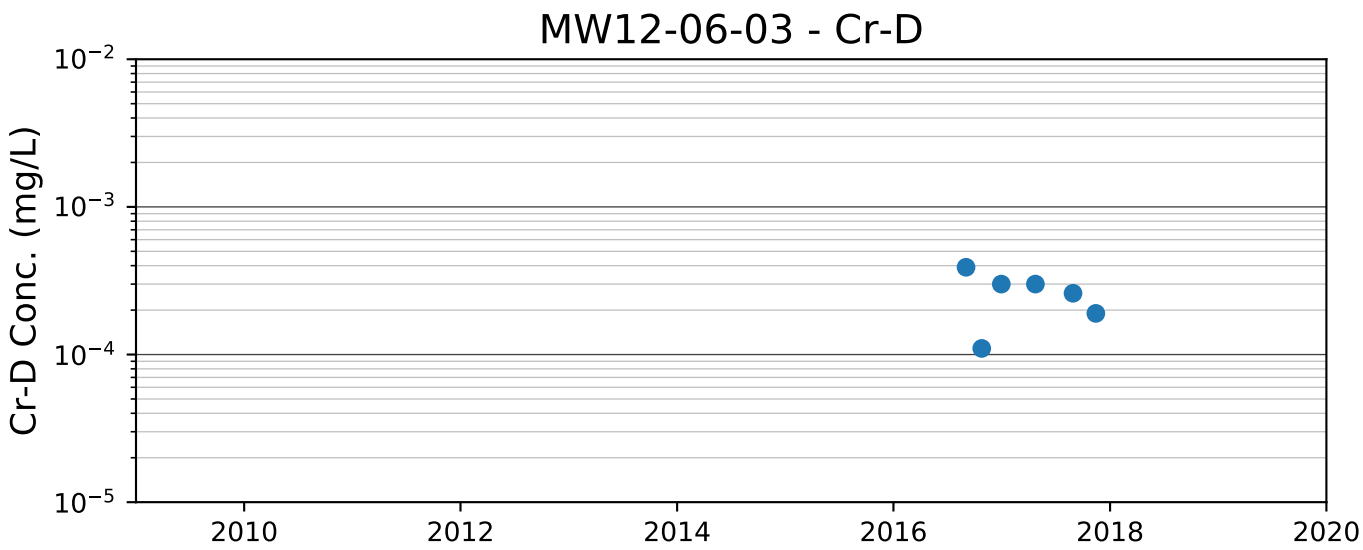

MW12-06-02 - SO4-D
SO4-D Conc. (mg/L)
10^4
10^3
10^2
10^1
10^0
2010
2012
2014
2016
2018
2020

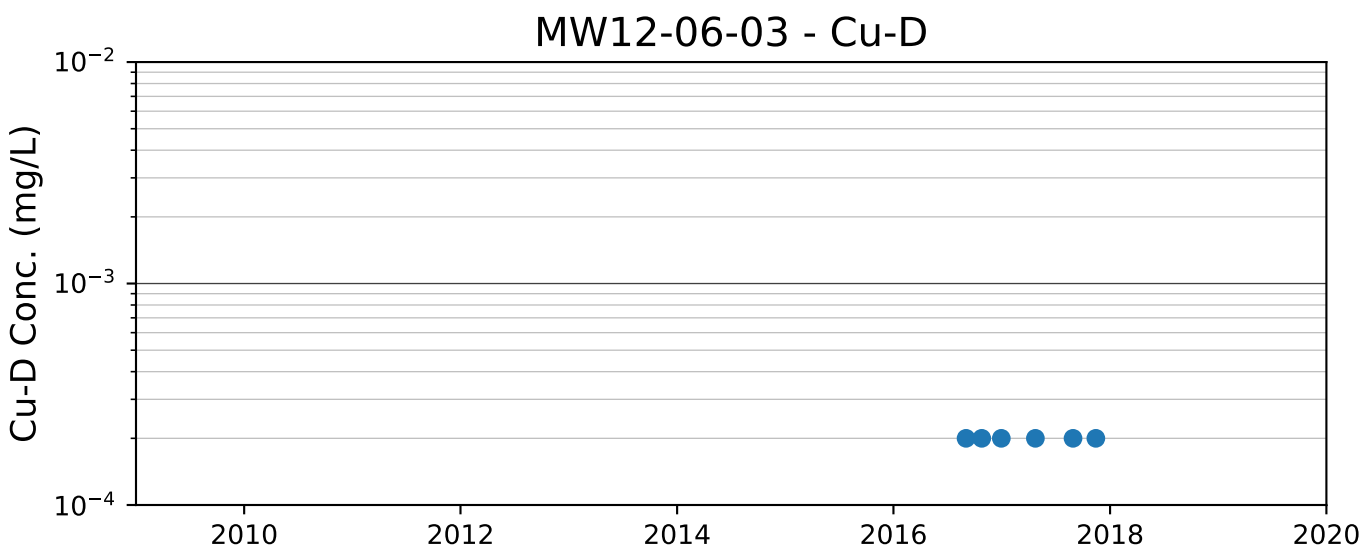

MW12-06-03 - Ag-D
Ag-D Conc. (mg/L)
10^{-4}
10^{-5}
10^{-6}
2010
2012
2014
2016
2018
2020

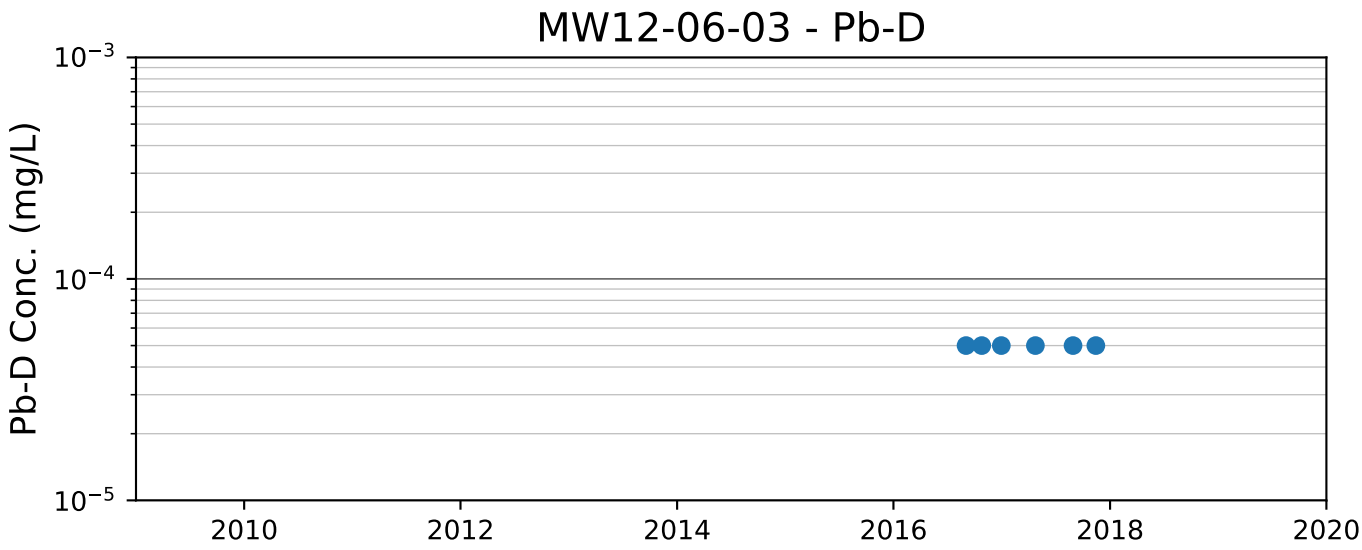

MW12-06-03 - Al-D
Al-D Conc. (mg/L)
10^{-1}
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

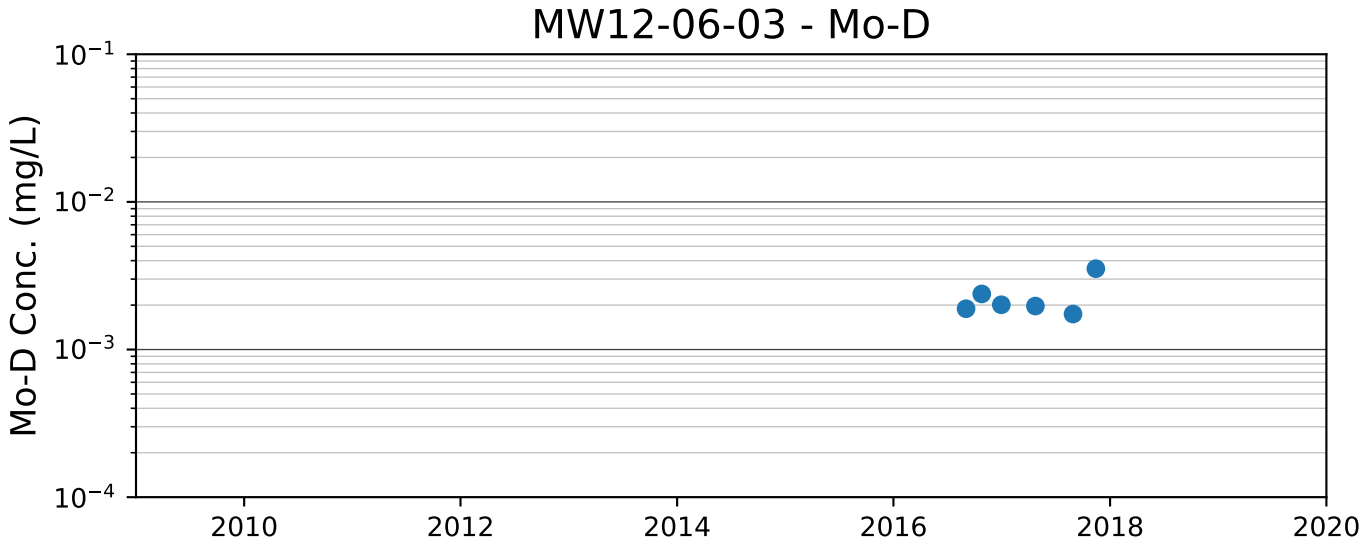

MW12-06-03 - As-D
As-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

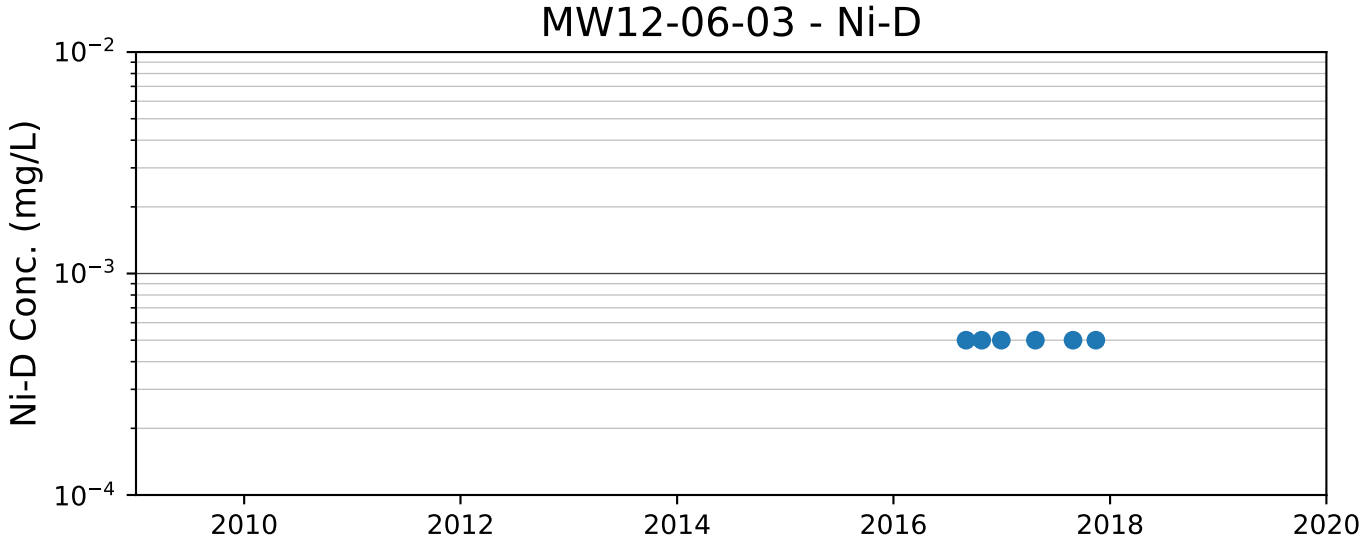

MW12-06-03 - Cd-D
Cd-D Conc. (mg/L)
10^{-4}
10^{-5}
10^{-6}
10^{-7}
2010
2012
2014
2016
2018
2020

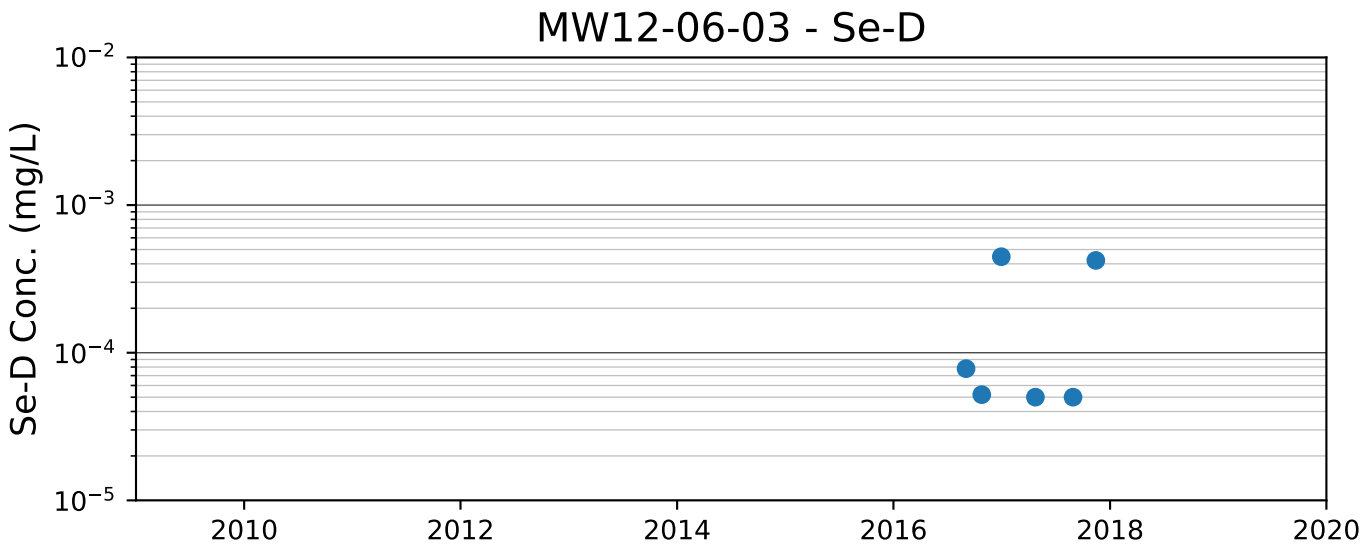

MW12-06-03 - Cr-D
Cr-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

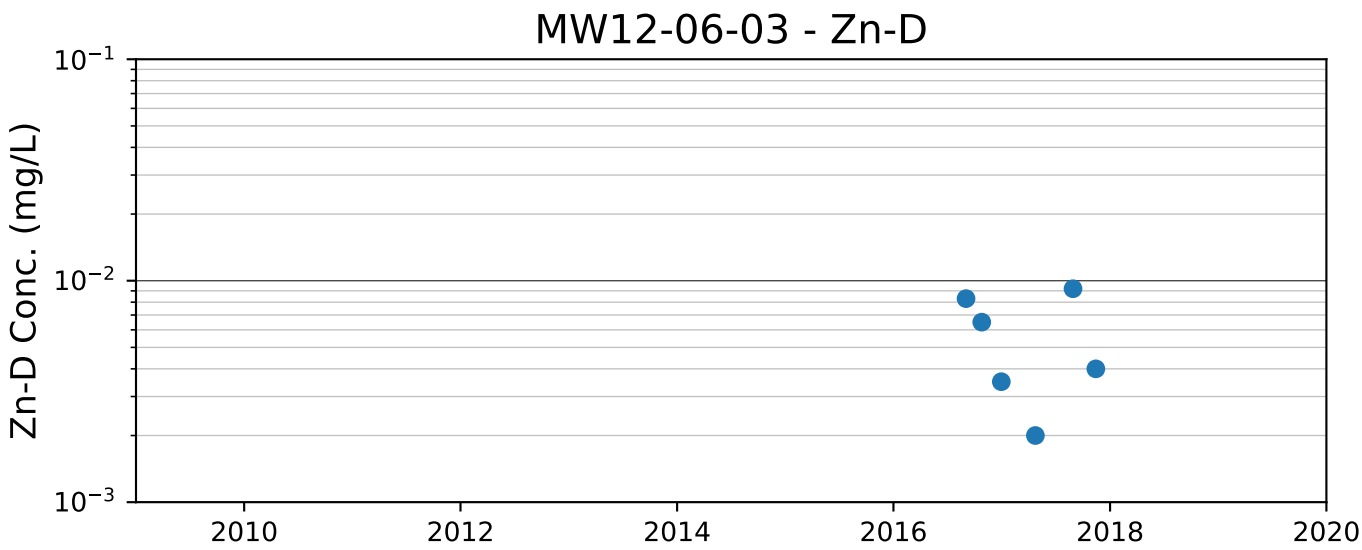

MW12-06-03 - Cu-D
Cu-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

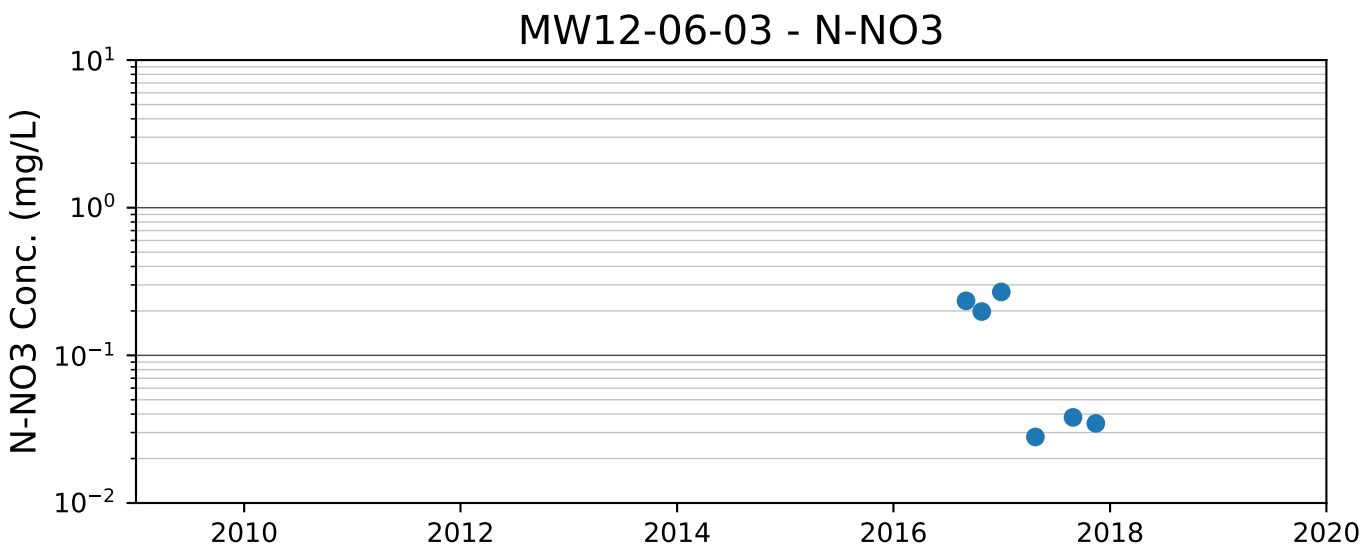

MW12-06-03 - Pb-D
Pb-D Conc. (mg/L)
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

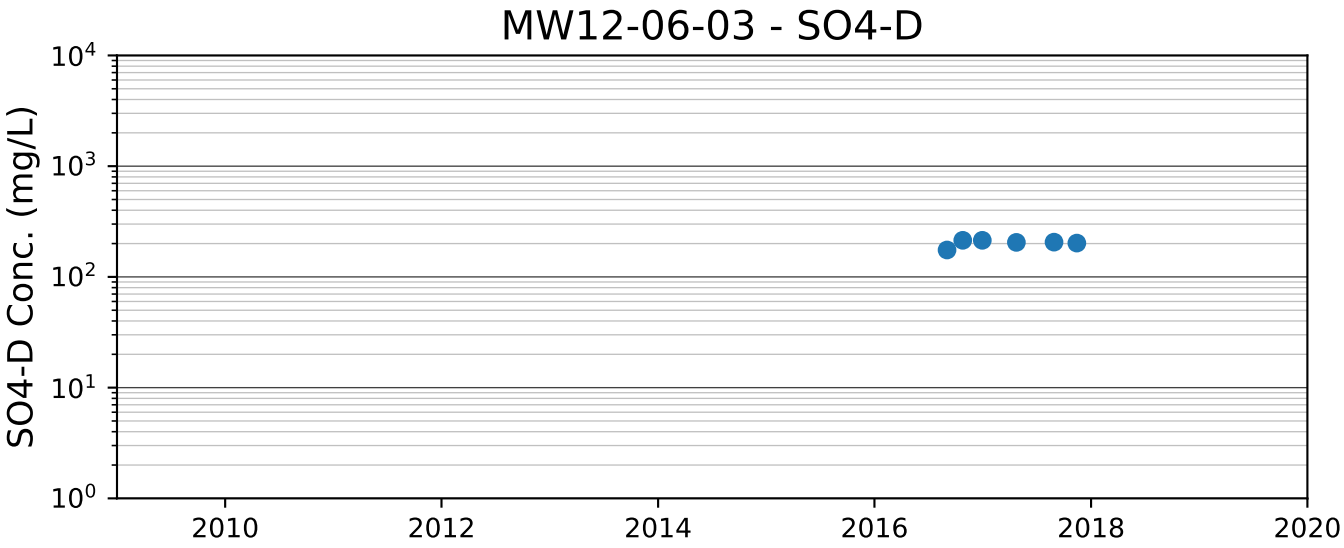

MW12-06-03 - Mo-D
Mo-D Conc. (mg/L)
10^{-1}
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

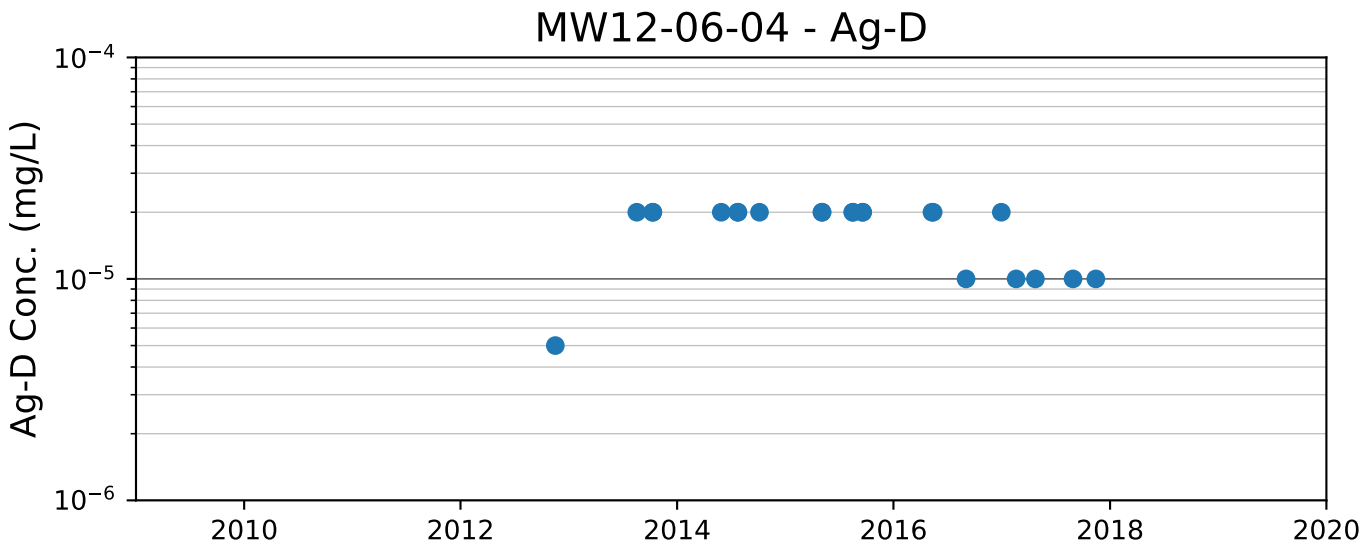

MW12-06-03 - Ni-D
Ni-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

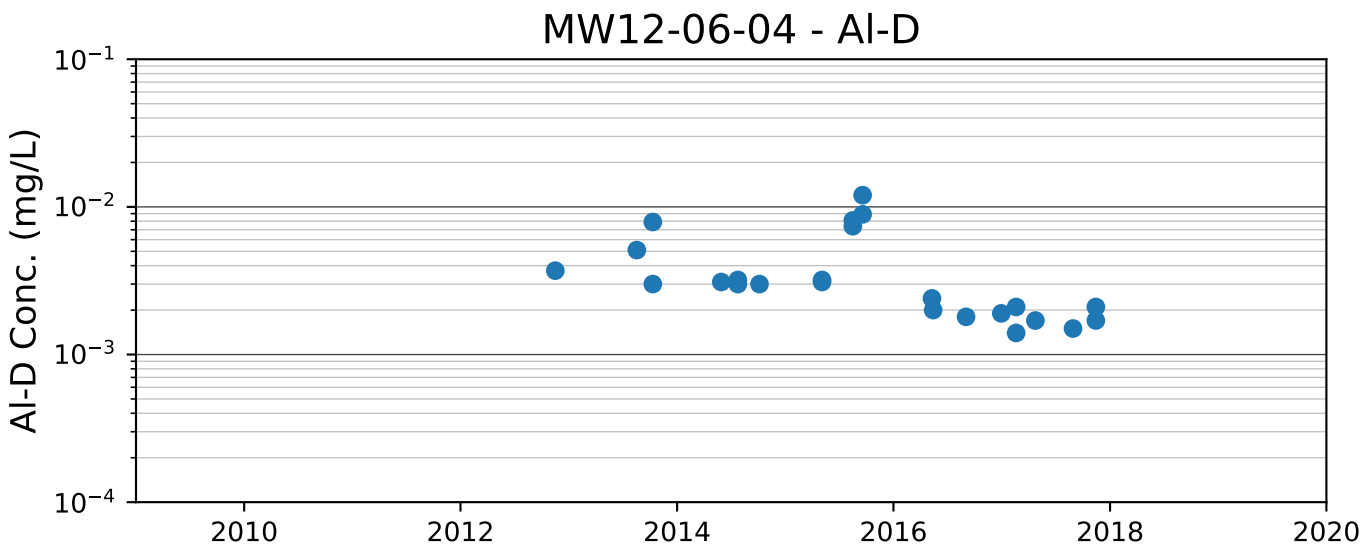

MW12-06-03 - Se-D
Se-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

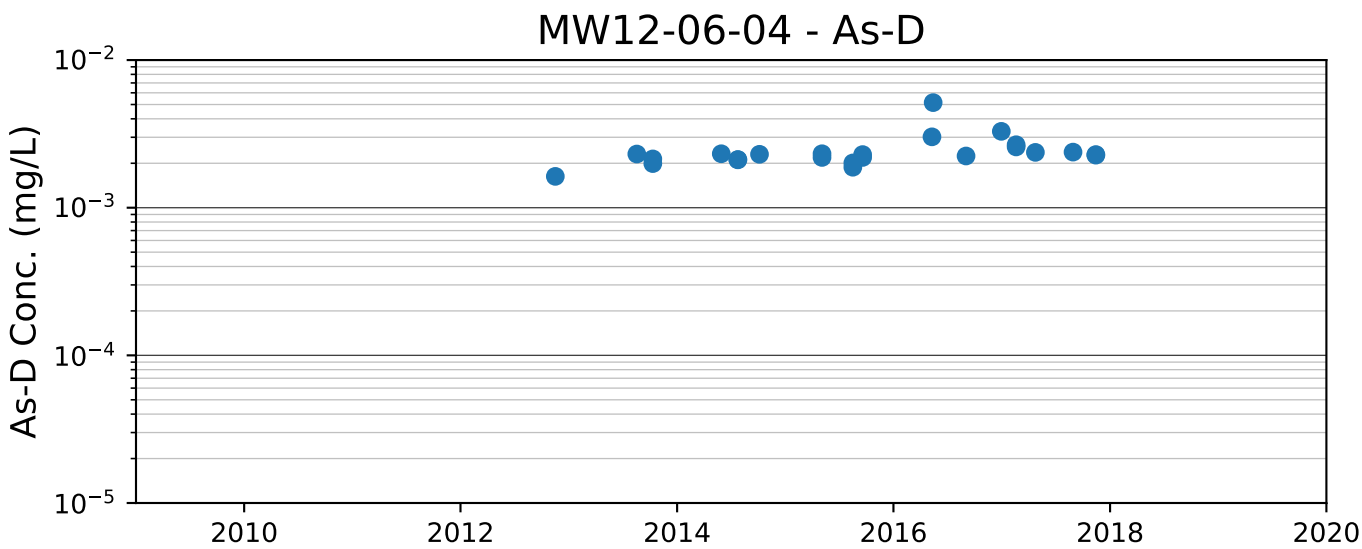

MW12-06-03 - Zn-D
Zn-D Conc. (mg/L)
10^{-1}
10^{-2}
10^{-3}
2010
2012
2014
2016
2018
2020

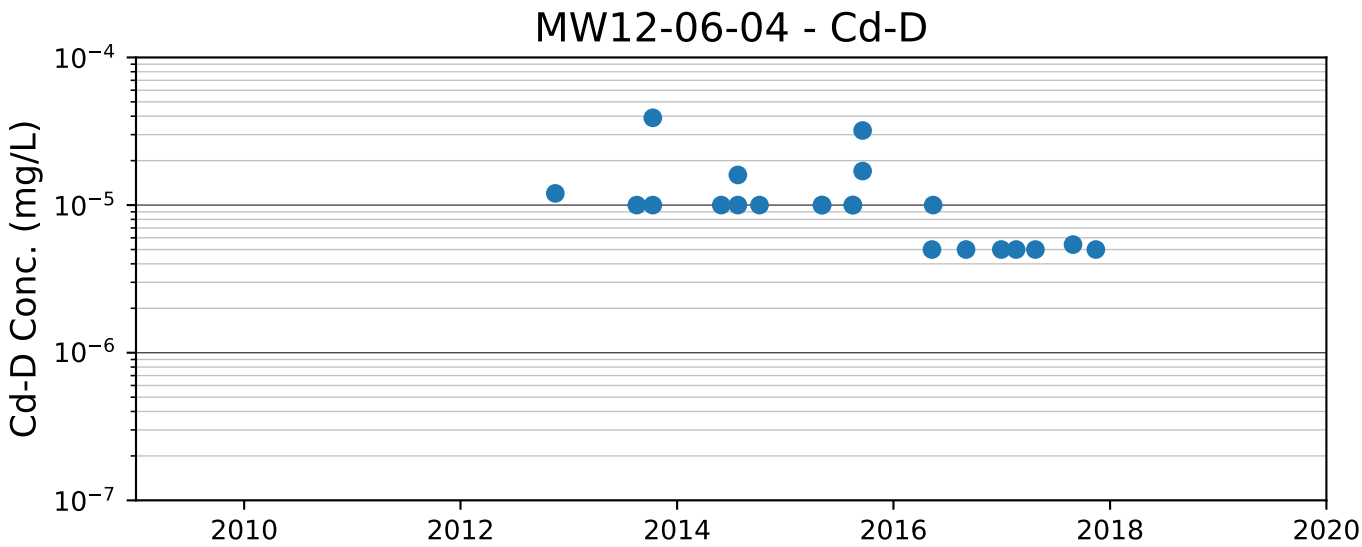

MW12-06-03 - N-NO3
N-NO3 Conc. (mg/L)
10^{1}
10^{0}
10^{-1}
10^{-2}
2010
2012
2014
2016
2018
2020

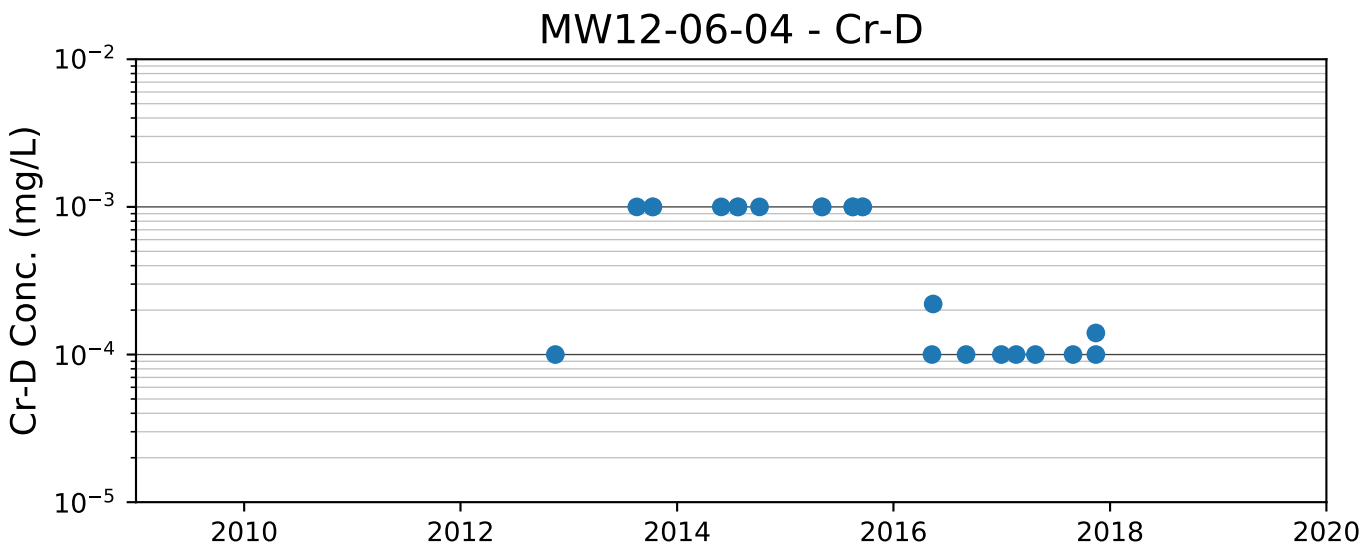

MW12-06-03 - SO4-D
SO4-D Conc. (mg/L)
10^4
10^3
10^2
10^1
10^0
2010
2012
2014
2016
2018
2020

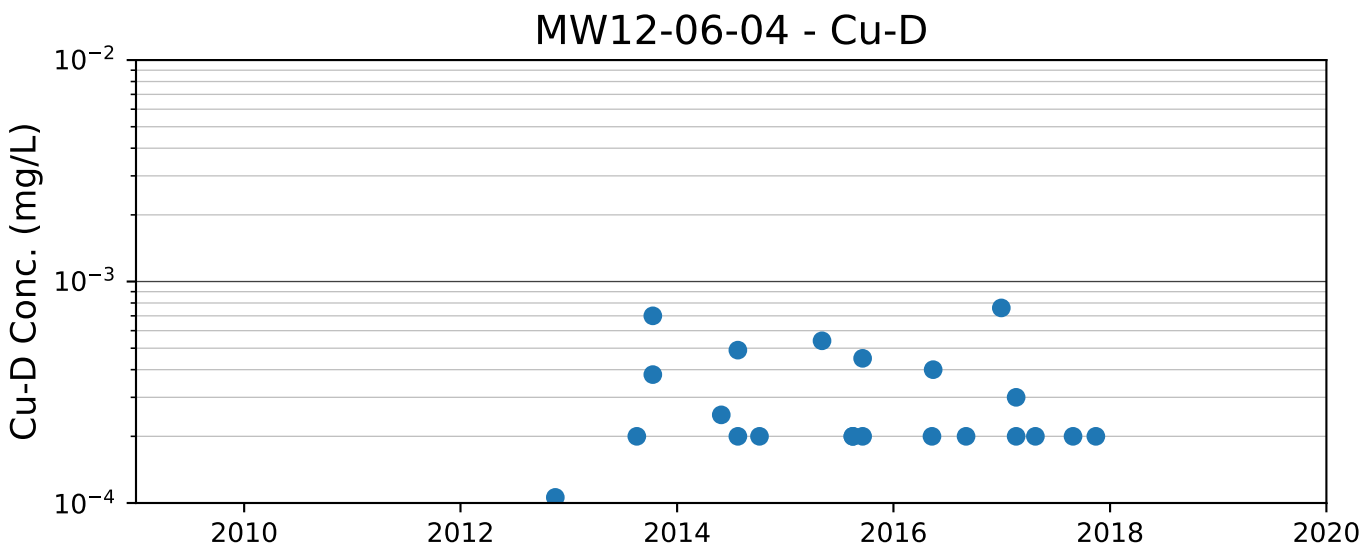

MW12-06-04 - Ag-D
Ag-D Conc. (mg/L)
10^{-4}
10^{-5}
10^{-6}
2010
2012
2014
2016
2018
2020

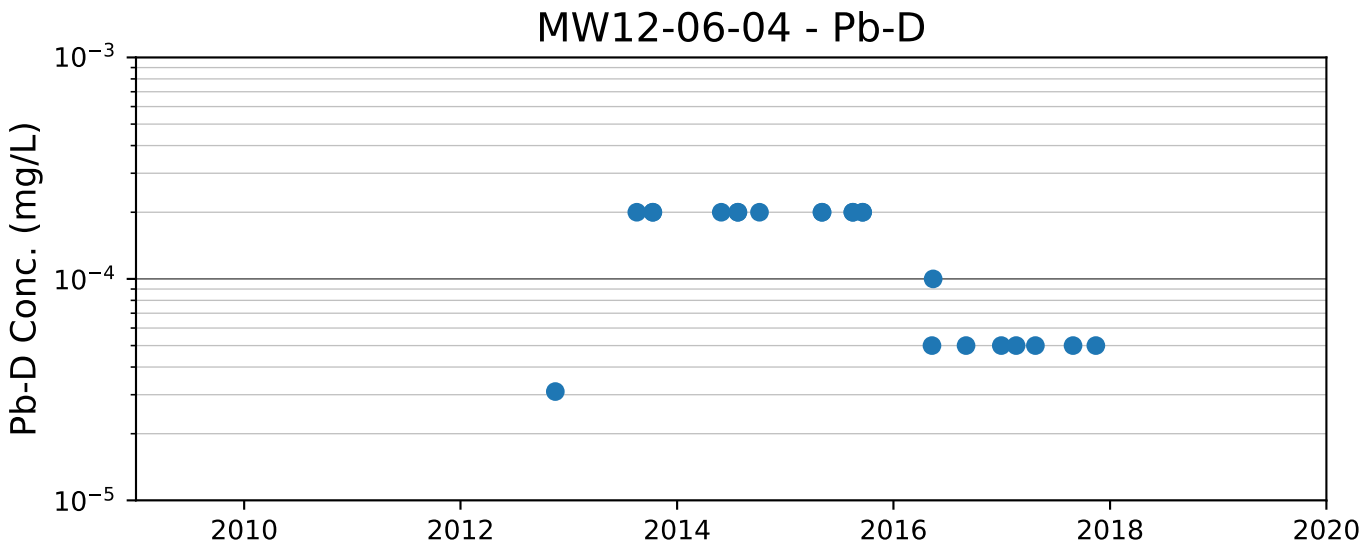

MW12-06-04 - Al-D
Al-D Conc. (mg/L)
10^{-1}
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

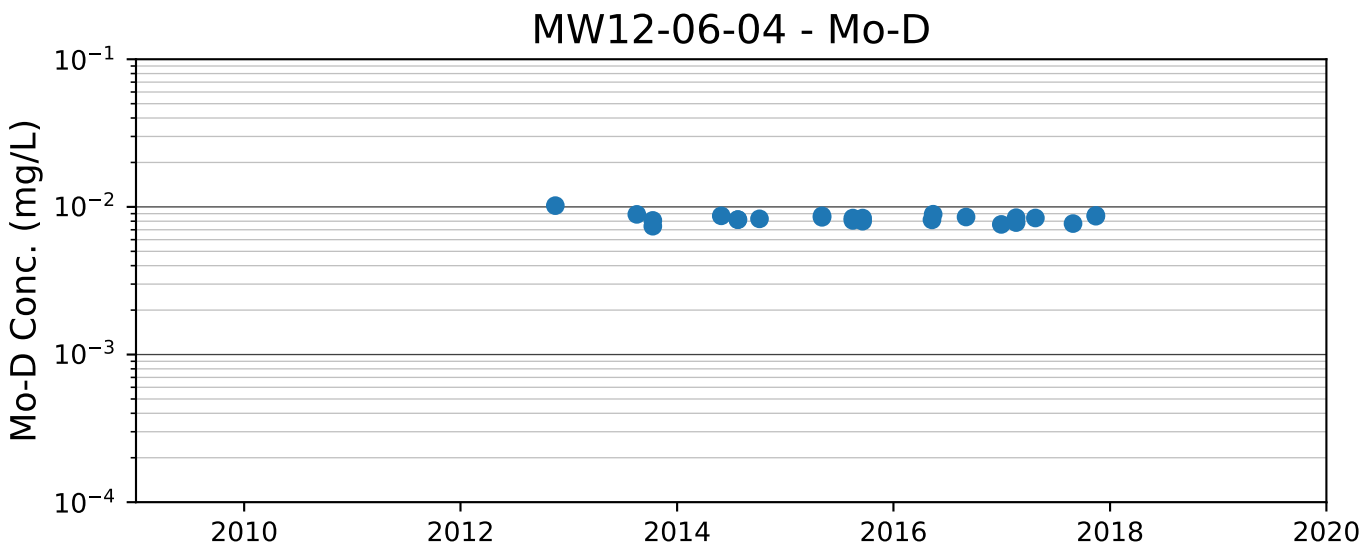

MW12-06-04 - As-D
As-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

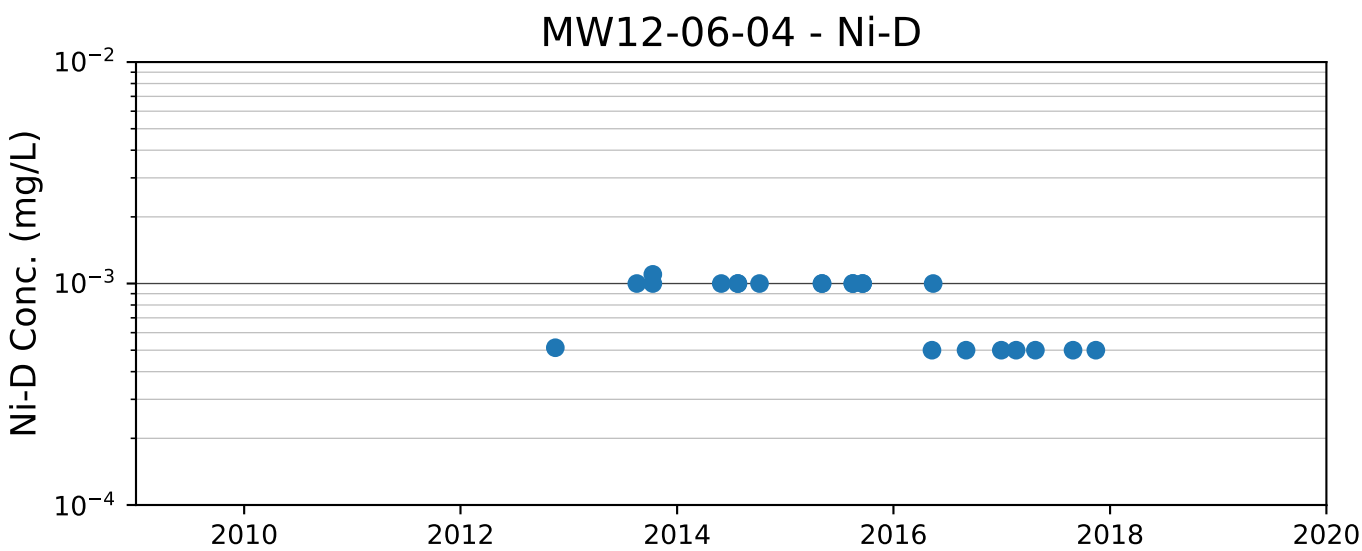

MW12-06-04 - Cd-D
Cd-D Conc. (mg/L)
10^{-4}
10^{-5}
10^{-6}
10^{-7}
2010
2012
2014
2016
2018
2020

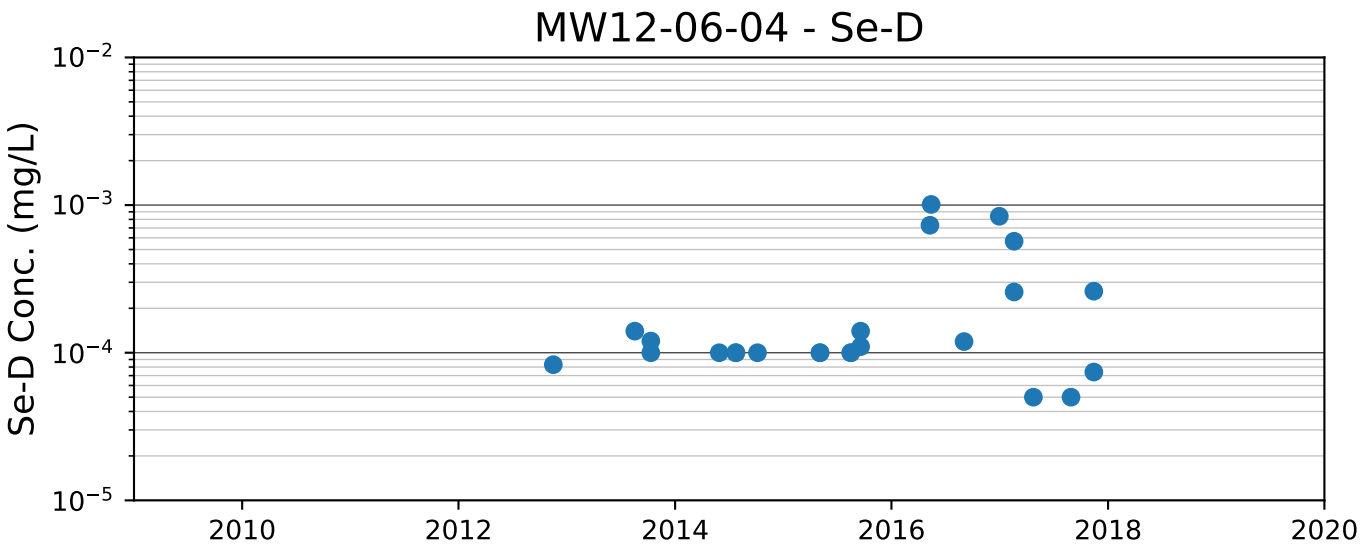

MW12-06-04 - Cr-D
Cr-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

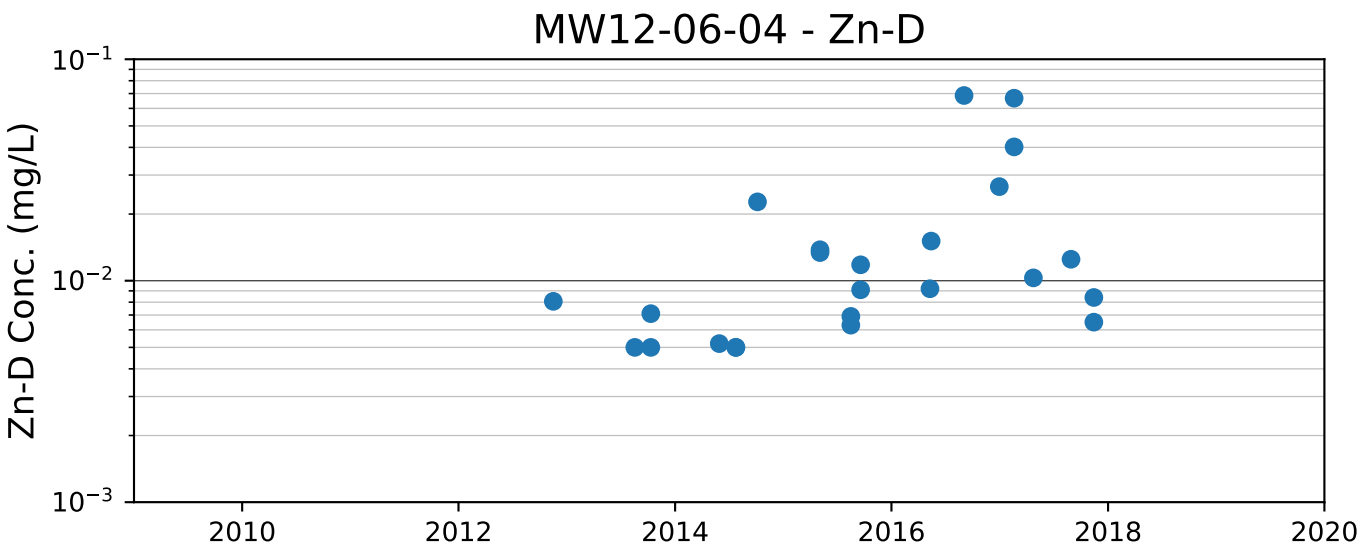

MW12-06-04 - Cu-D
Cu-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

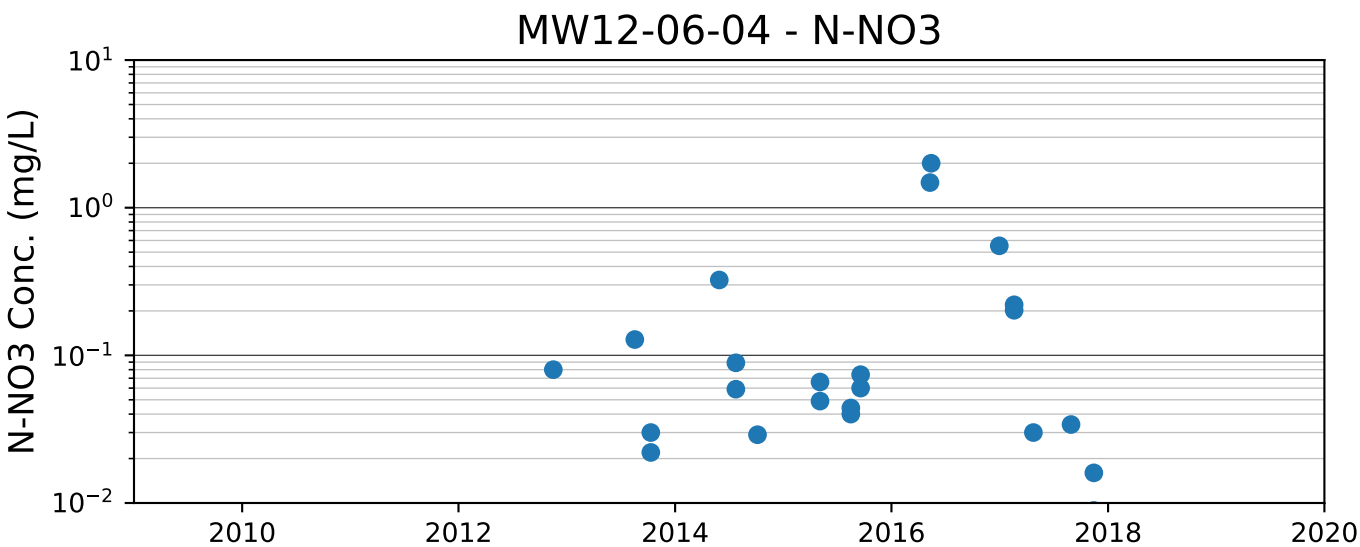

MW12-06-04 - Pb-D
Pb-D Conc. (mg/L)
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

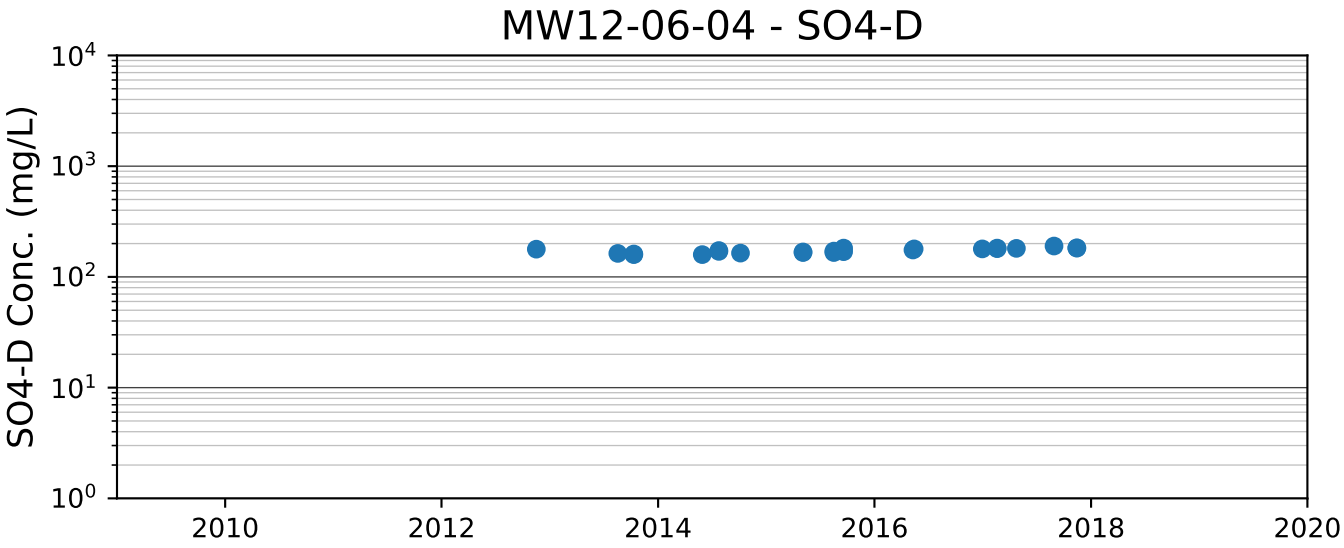

MW12-06-04 - Mo-D
Mo-D Conc. (mg/L)
10^{-1}
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

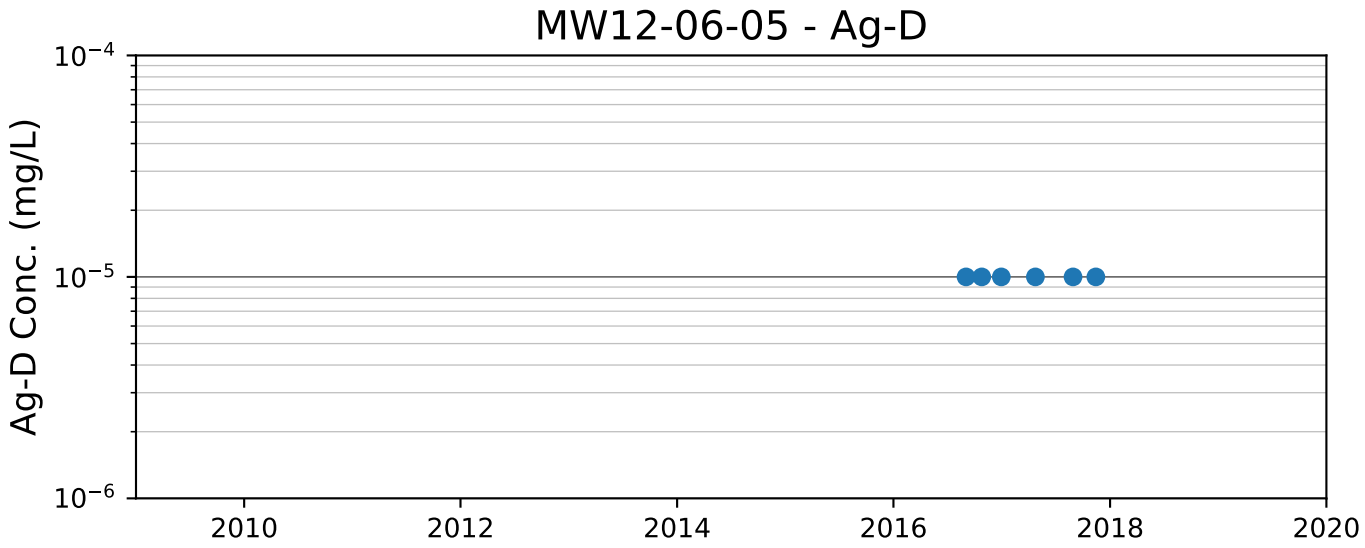

MW12-06-04 - Ni-D
Ni-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020

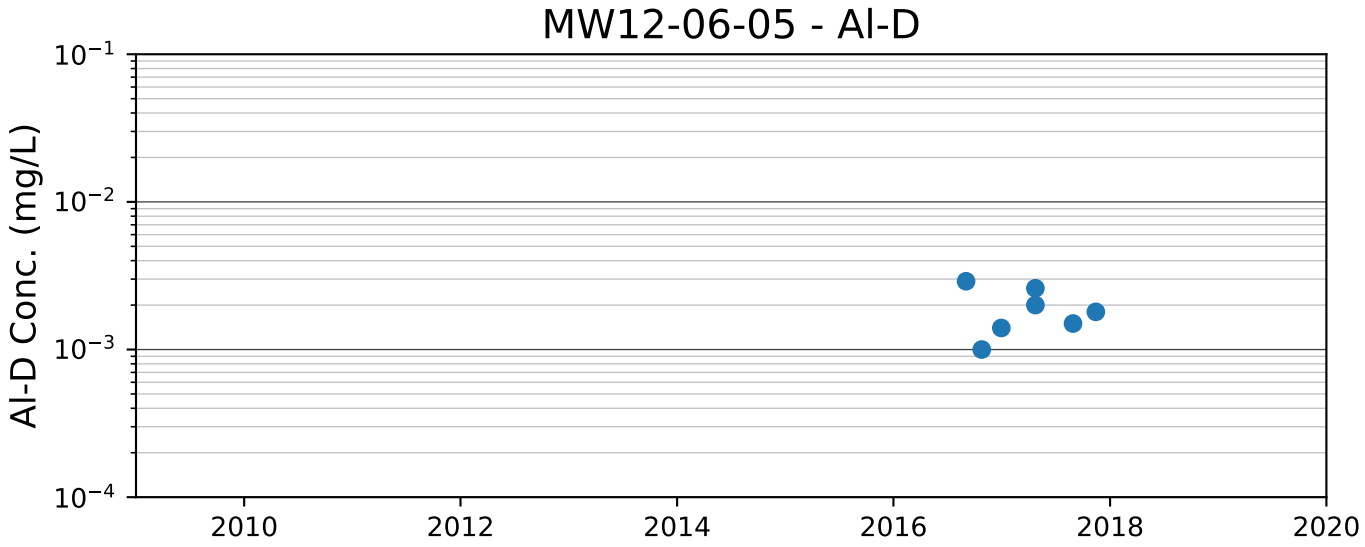

MW12-06-04 - Se-D
Se-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020

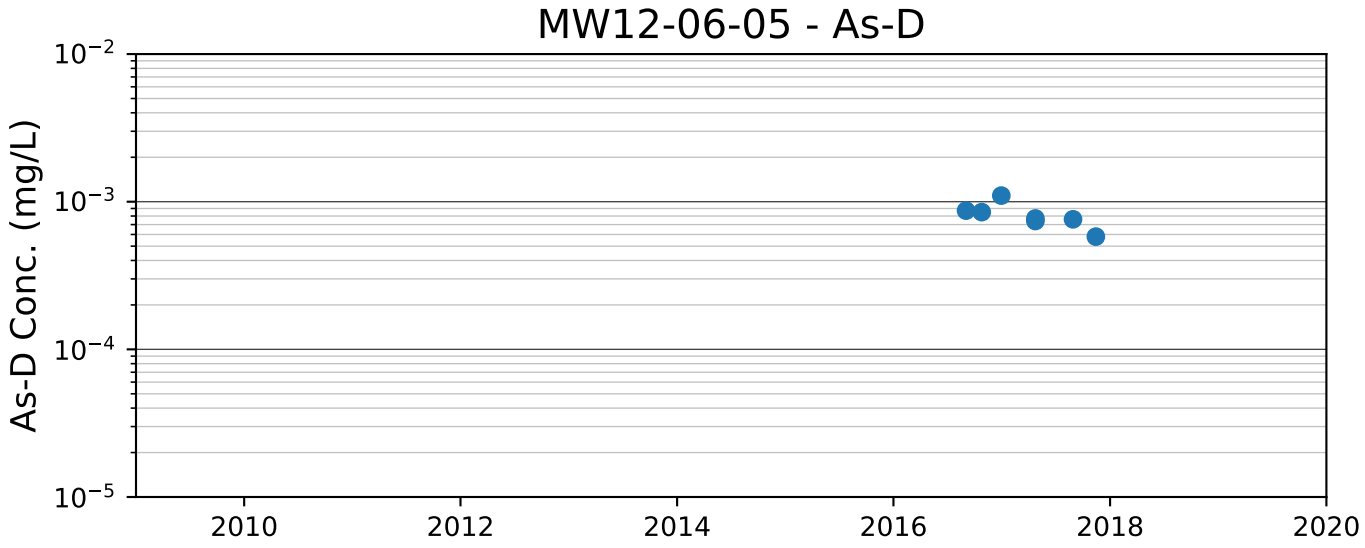

MW12-06-04 - Zn-D
Zn-D Conc. (mg/L)
10^{-1}
10^{-2}
10^{-3}
2010
2012
2014
2016
2018
2020

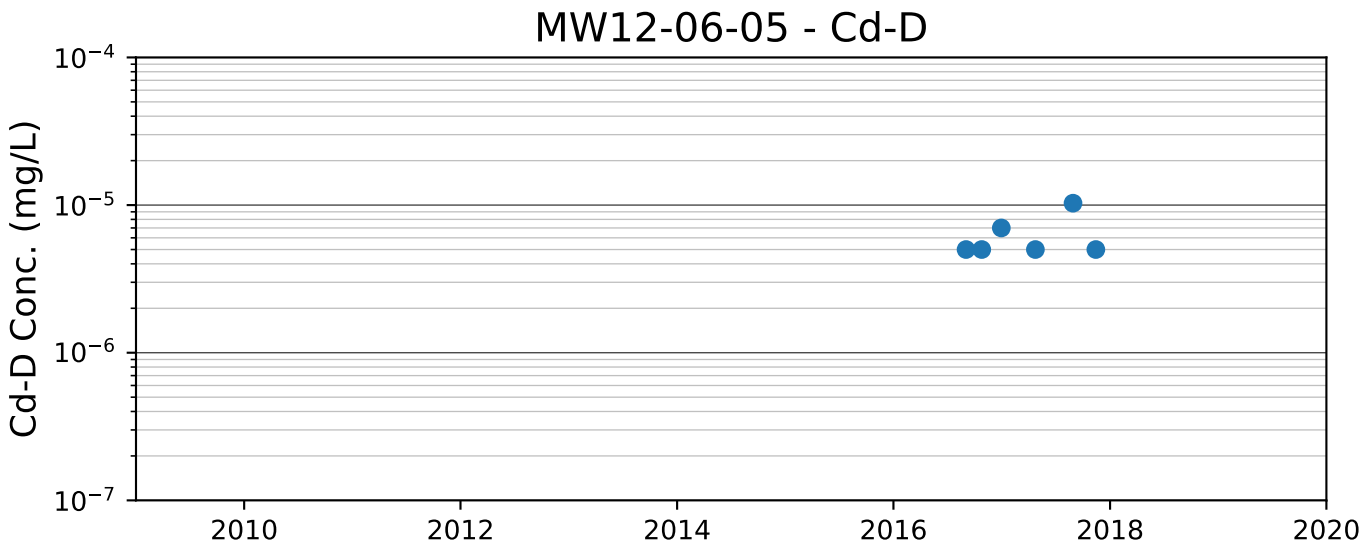

MW12-06-04 - N-NO3
N-NO3 Conc. (mg/L)
10^{1}
10^{0}
10^{-1}
10^{-2}
2010
2012
2014
2016
2018
2020


MW12-06-04 - SO4-D
SO4-D Conc. (mg/L)
10^4
10^3
10^2
10^1
10^0
2010
2012
2014
2016
2018
2020


MW12-06-05 - Ag-D
Ag-D Conc. (mg/L)
10^{-4}
10^{-5}
10^{-6}
2010
2012
2014
2016
2018
2020


MW12-06-05 - Al-D
Al-D Conc. (mg/L)
10^{-1}
10^{-2}
10^{-3}
10^{-4}
2010
2012
2014
2016
2018
2020


MW12-06-05 - As-D
As-D Conc. (mg/L)
10^{-2}
10^{-3}
10^{-4}
10^{-5}
2010
2012
2014
2016
2018
2020


MW12-06-05 - Cd-D
Cd-D Conc. (mg/L)
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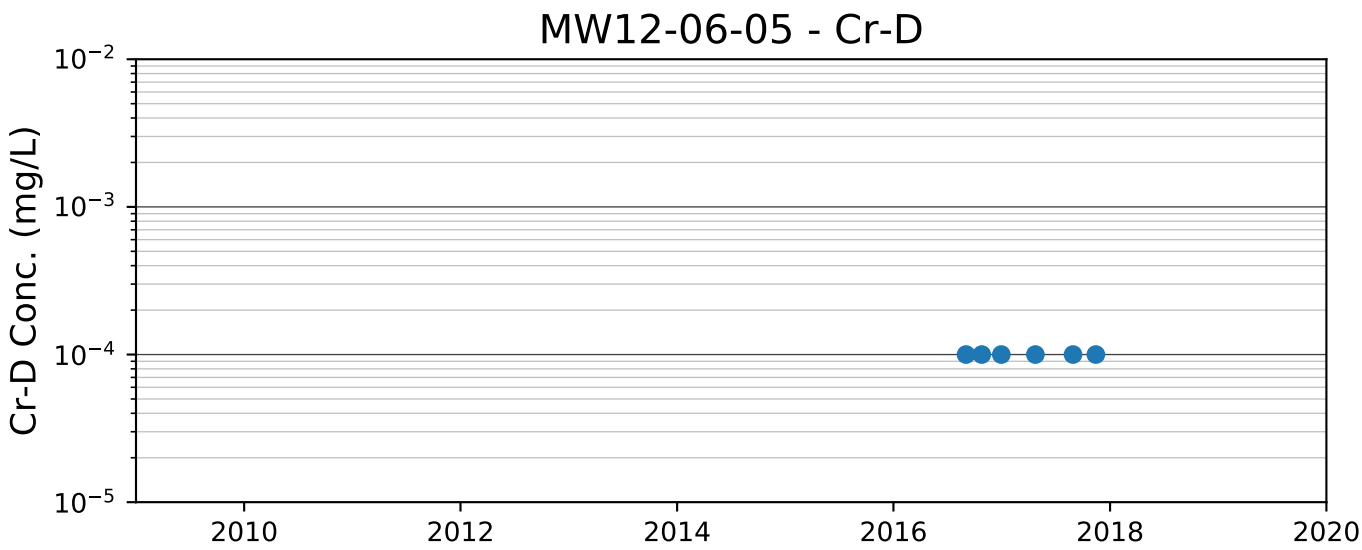
MW12-06-05 - Cr-D
Cr-D Conc. (mg/L)
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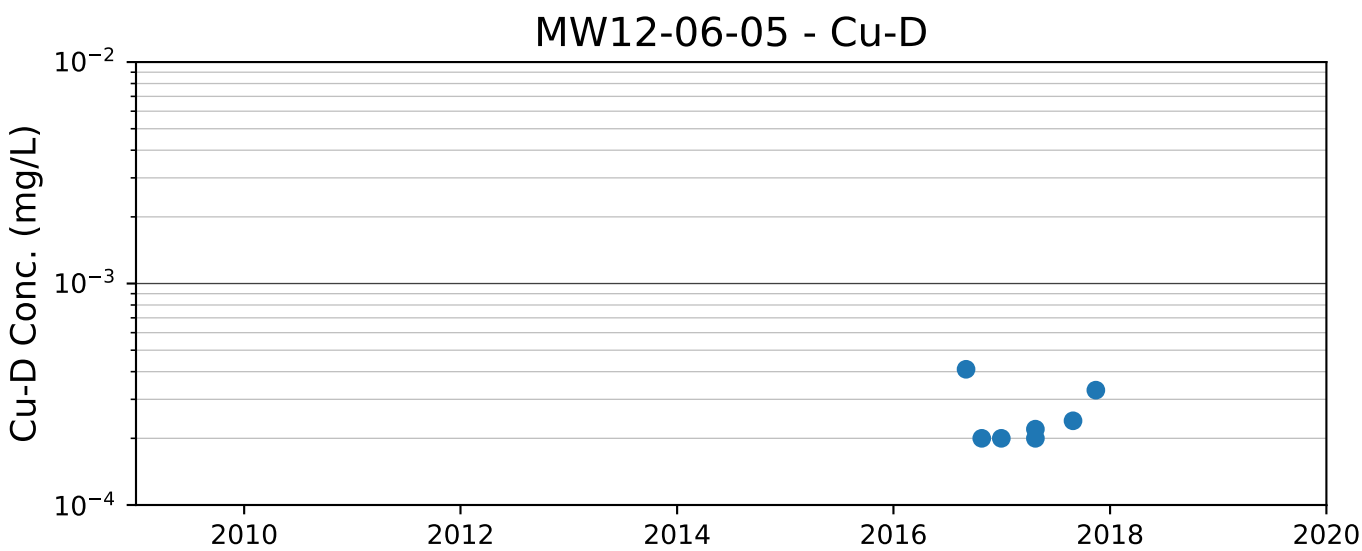
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Cu-D Conc. (mg/L)
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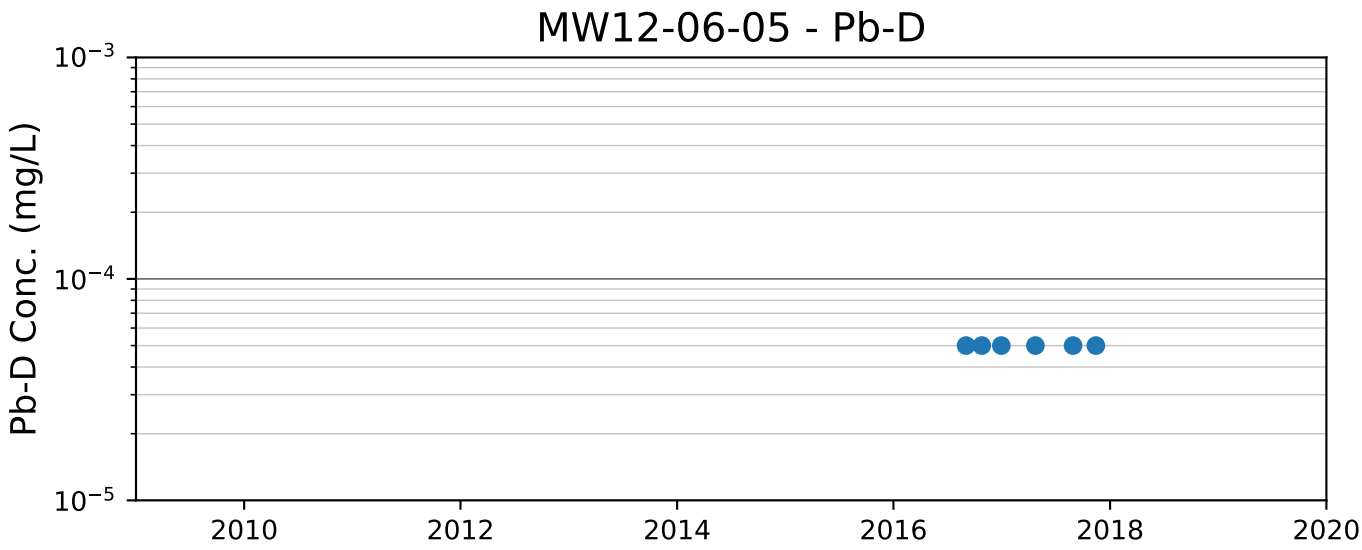
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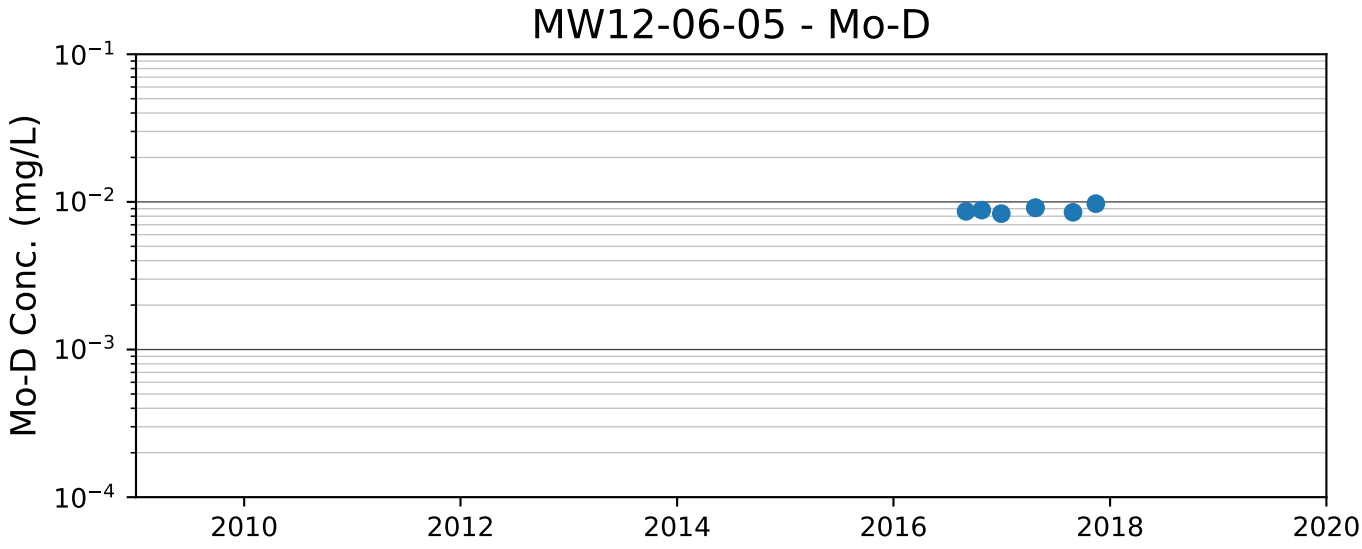
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Mo-D Conc. (mg/L)
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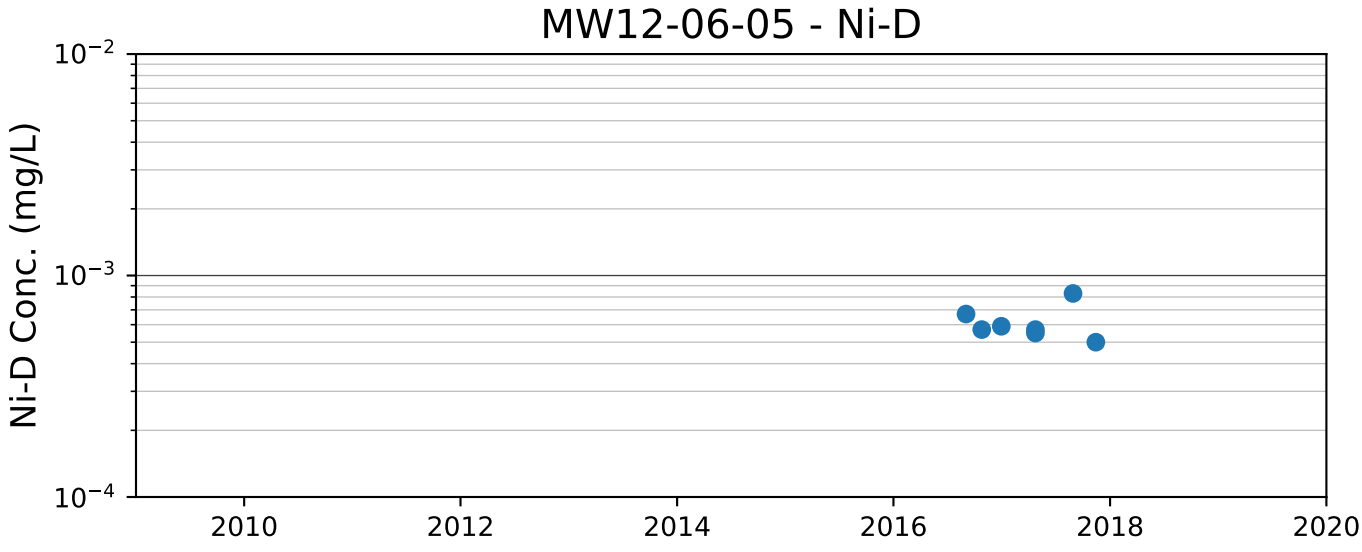
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Ni-D Conc. (mg/L)
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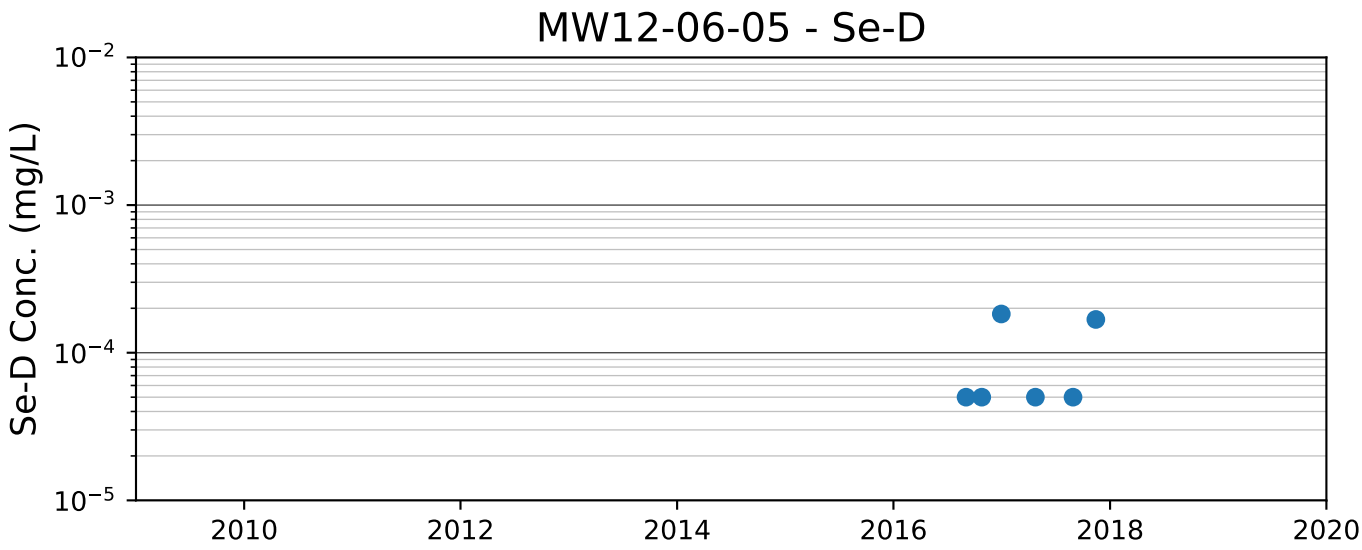
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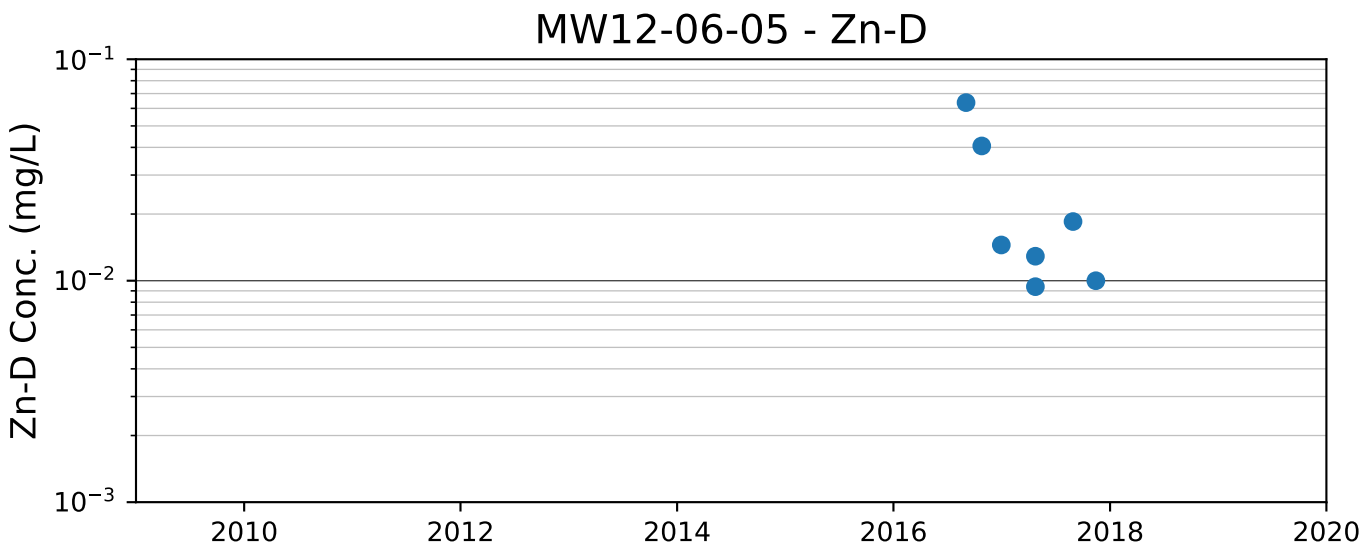
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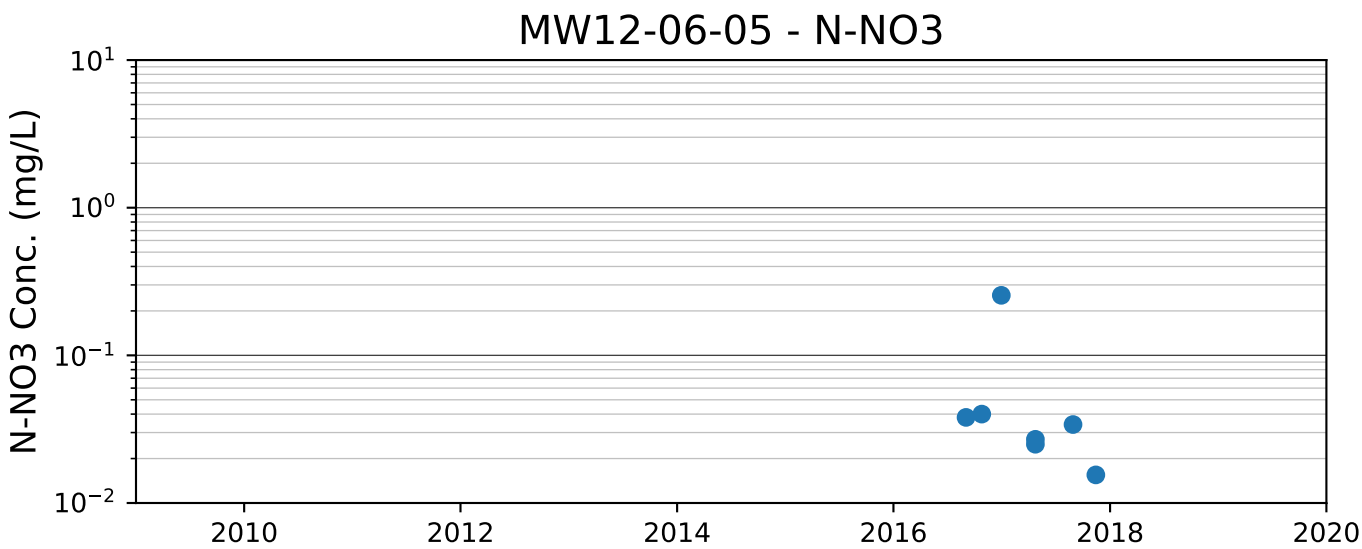
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N-NO3 Conc. (mg/L)
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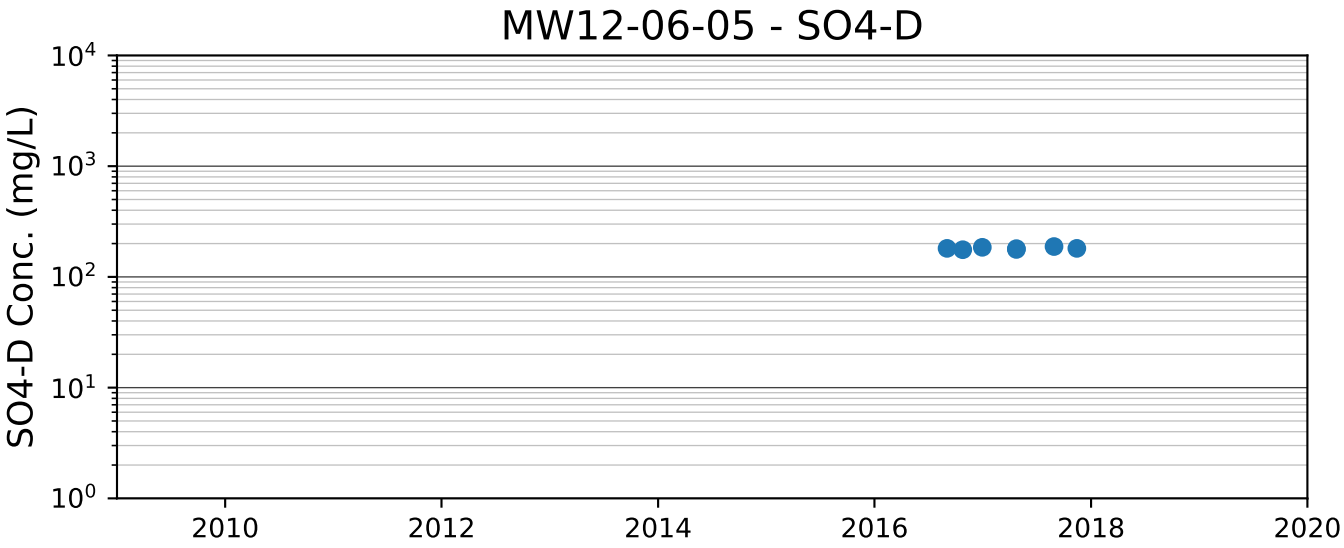
MW12-06-05 - SO4-D
SO4-D Conc. (mg/L)
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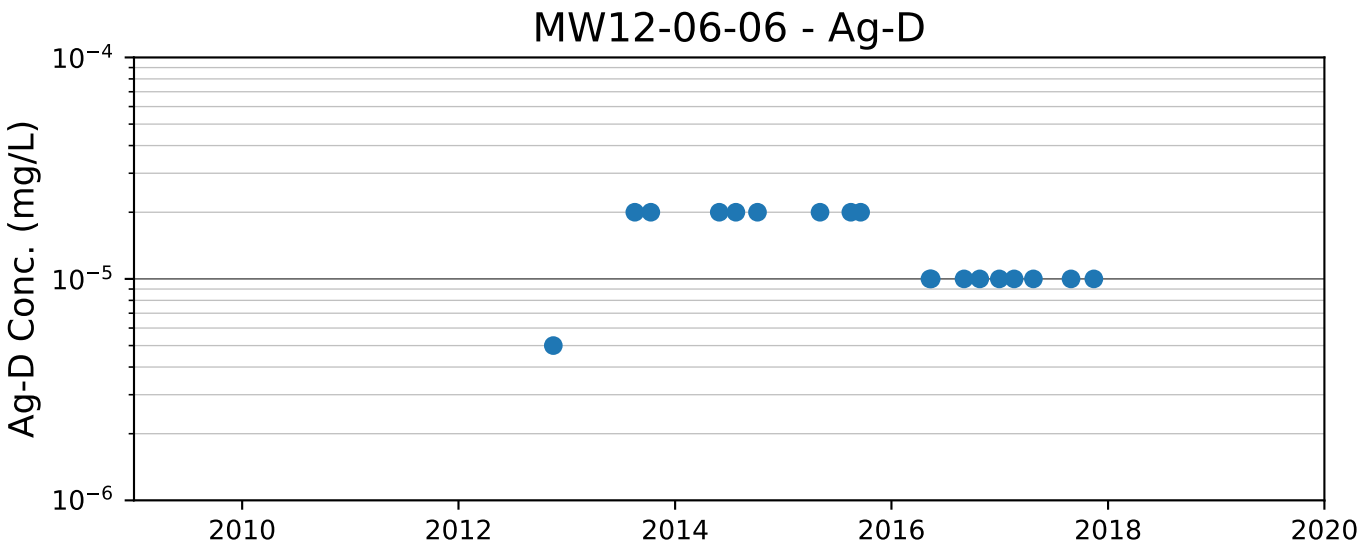
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Ag-D Conc. (mg/L)
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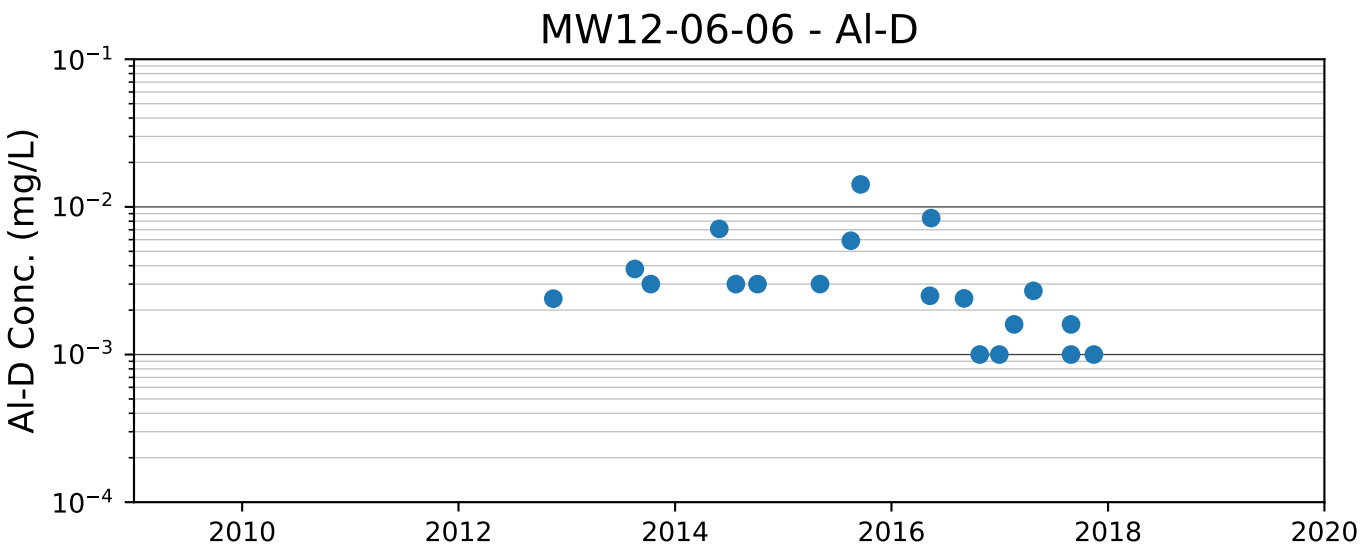
MW12-06-06 - Al-D
Al-D Conc. (mg/L)
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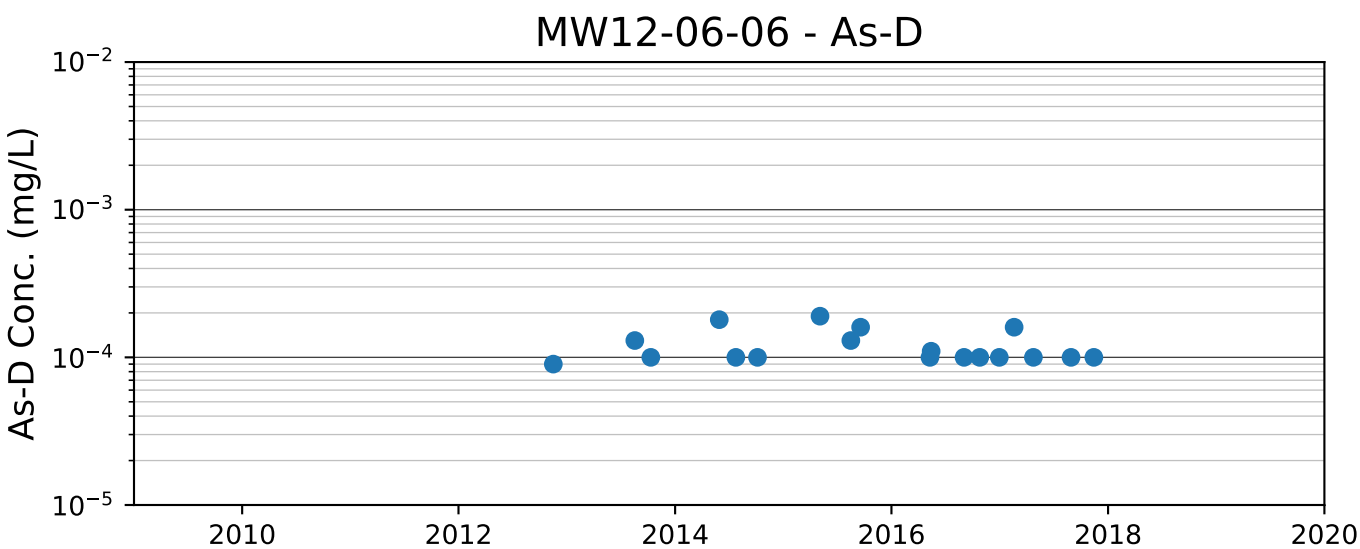
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As-D Conc. (mg/L)
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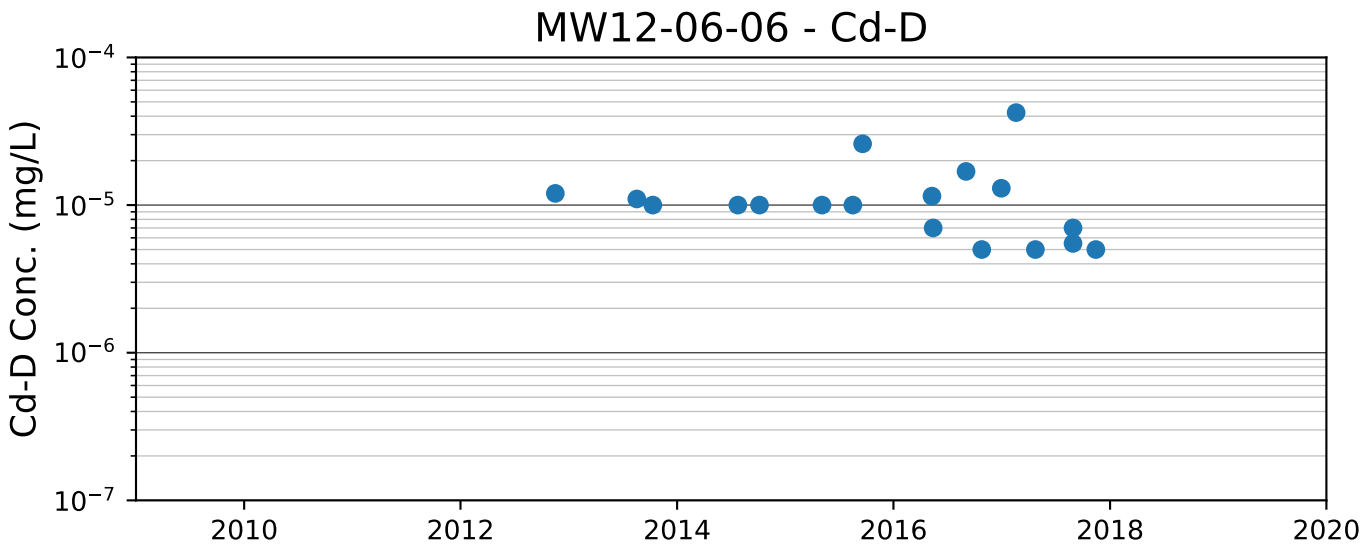
MW12-06-06 - Cd-D
Cd-D Conc. (mg/L)
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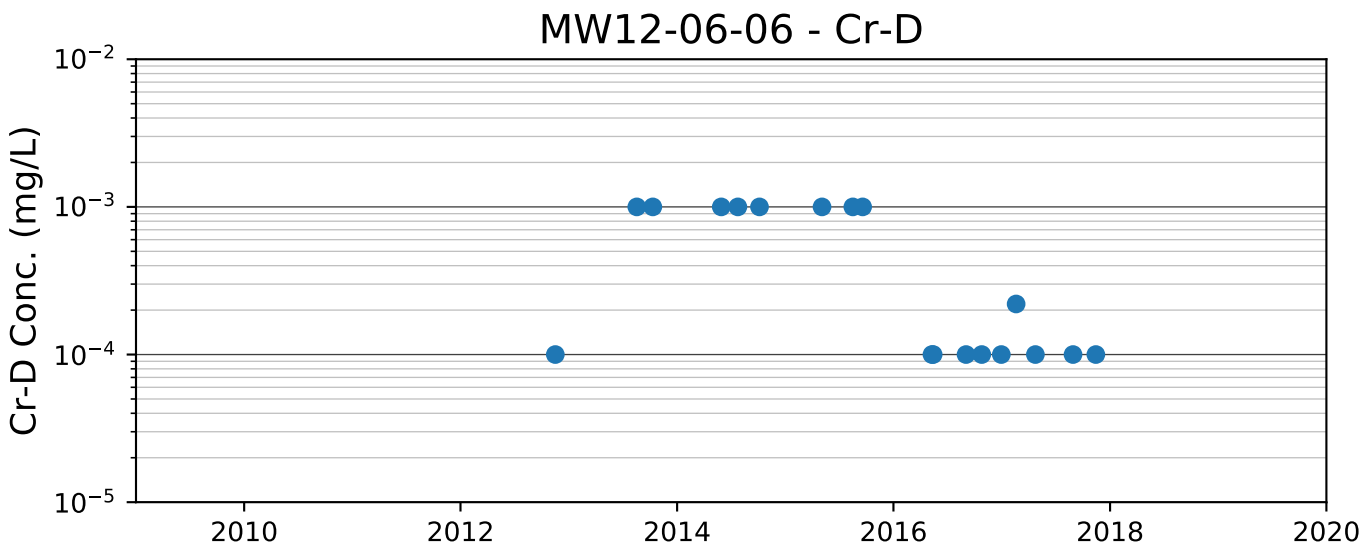
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Cr-D Conc. (mg/L)
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10^{-5}
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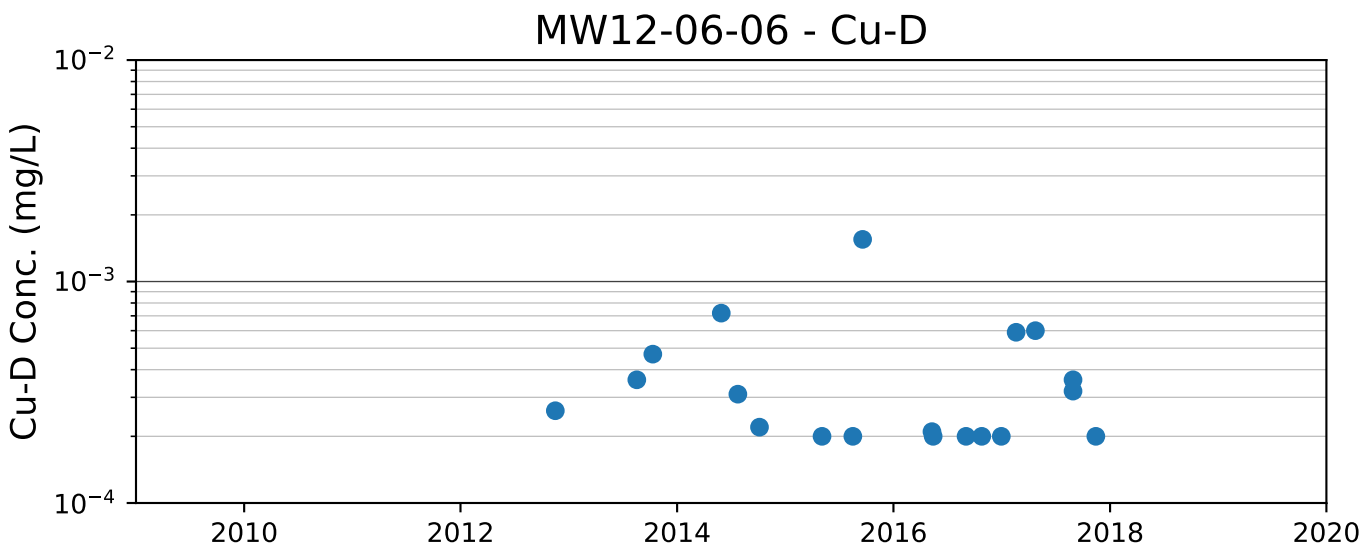
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Cu-D Conc. (mg/L)
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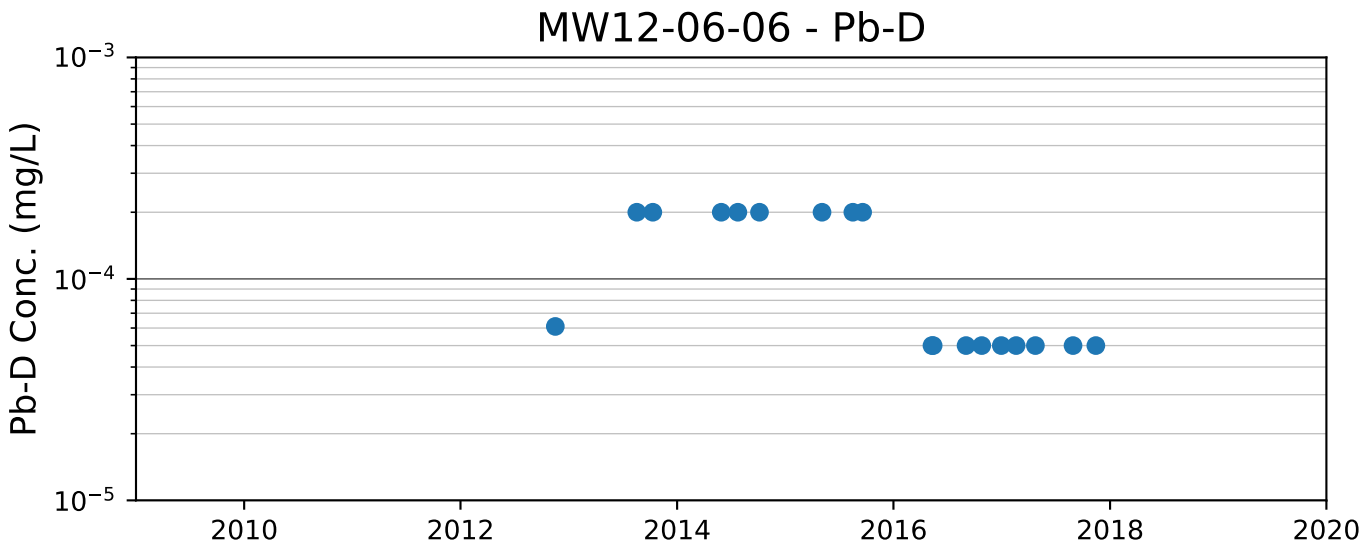
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Pb-D Conc. (mg/L)
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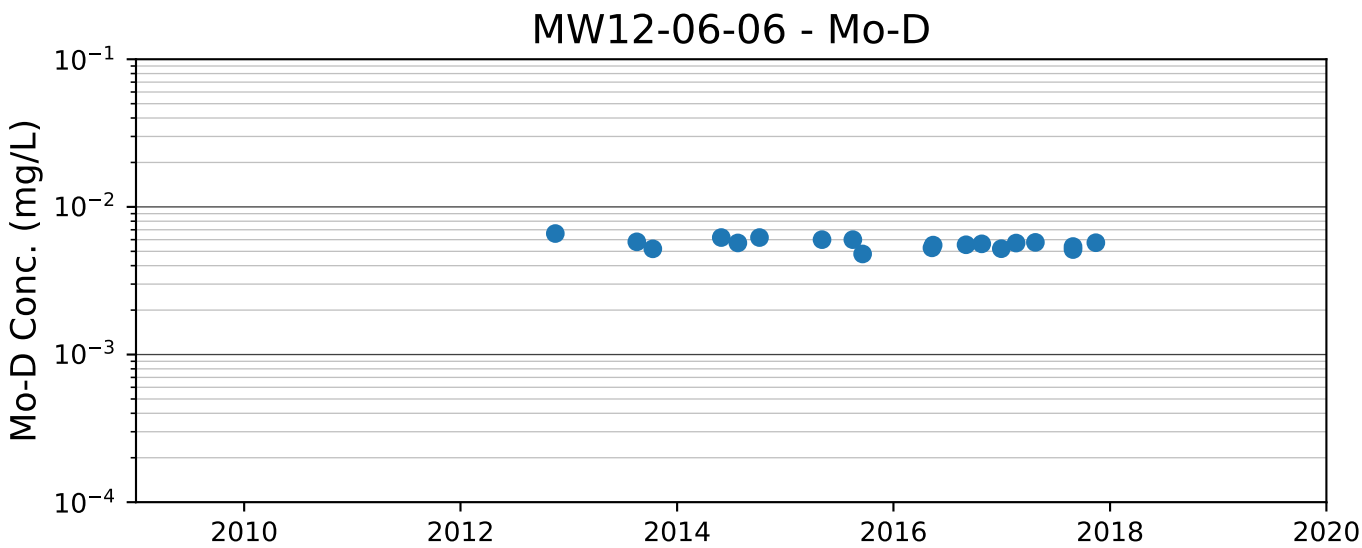
MW12-06-06 - Mo-D
Mo-D Conc. (mg/L)
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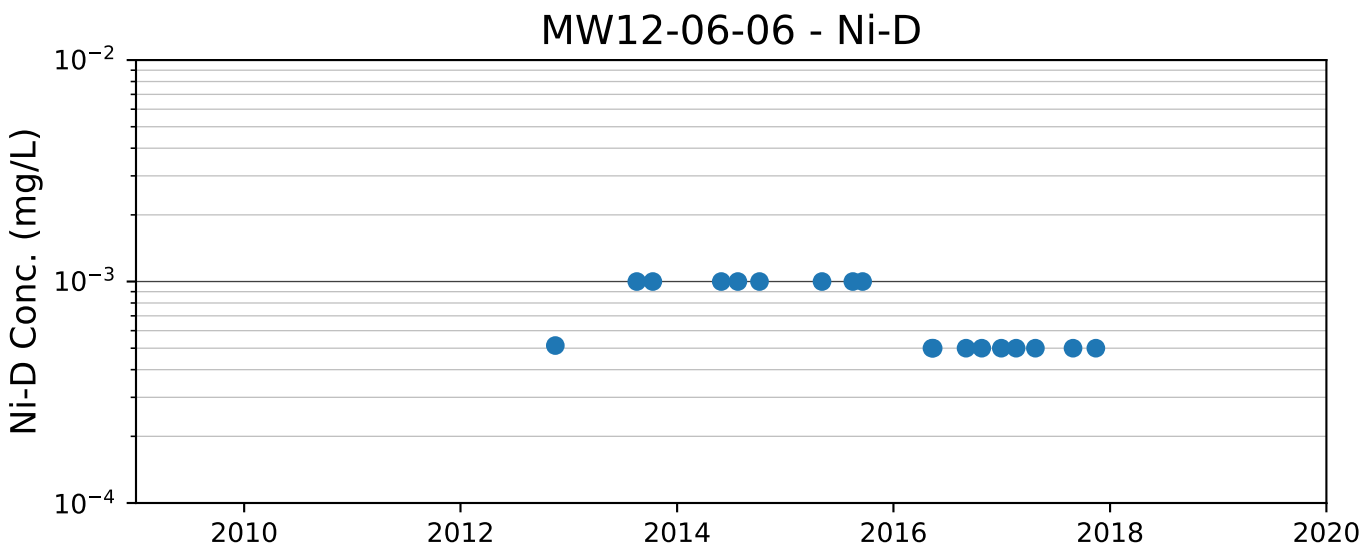
MW12-06-06 - Ni-D
Ni-D Conc. (mg/L)
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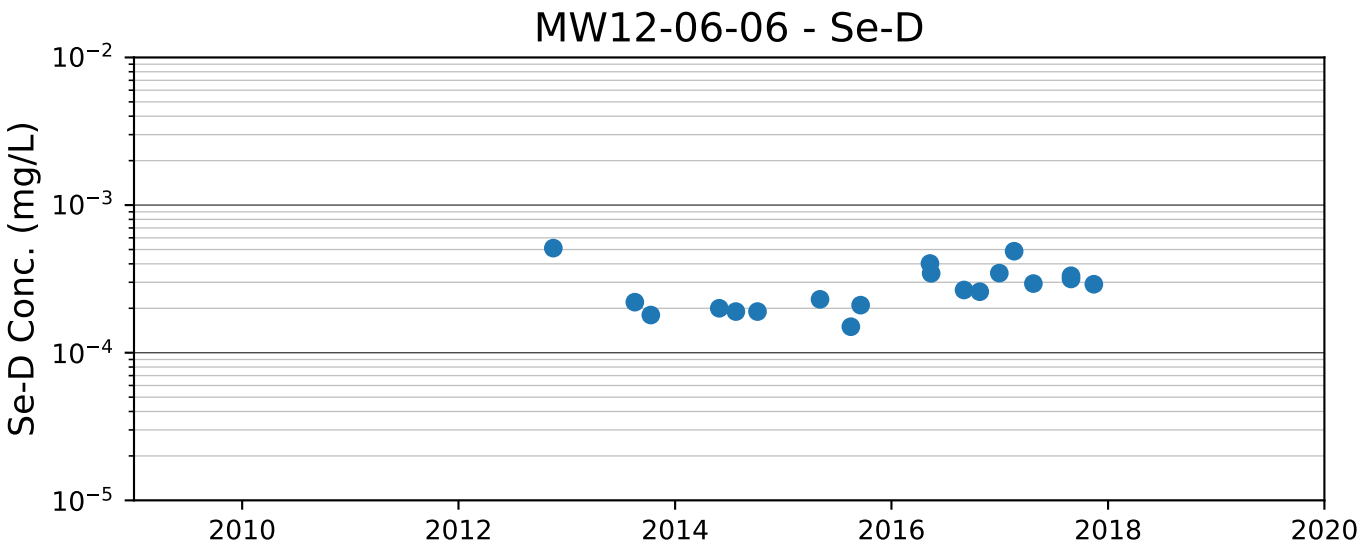
MW12-06-06 - Se-D
Se-D Conc. (mg/L)
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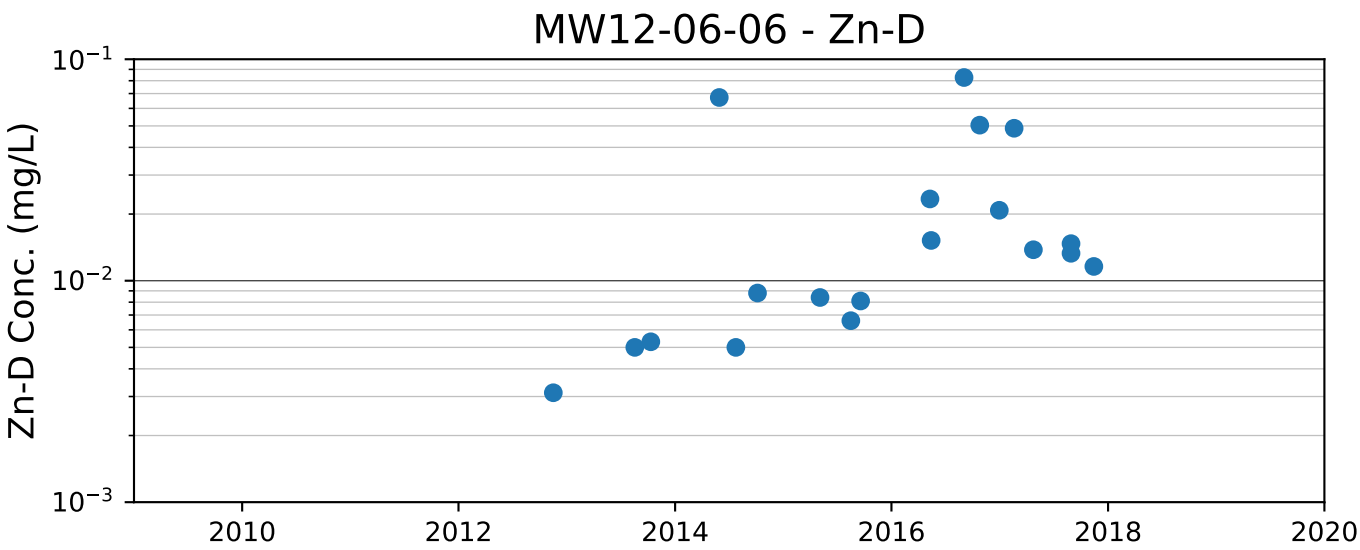
MW12-06-06 - Zn-D
Zn-D Conc. (mg/L)
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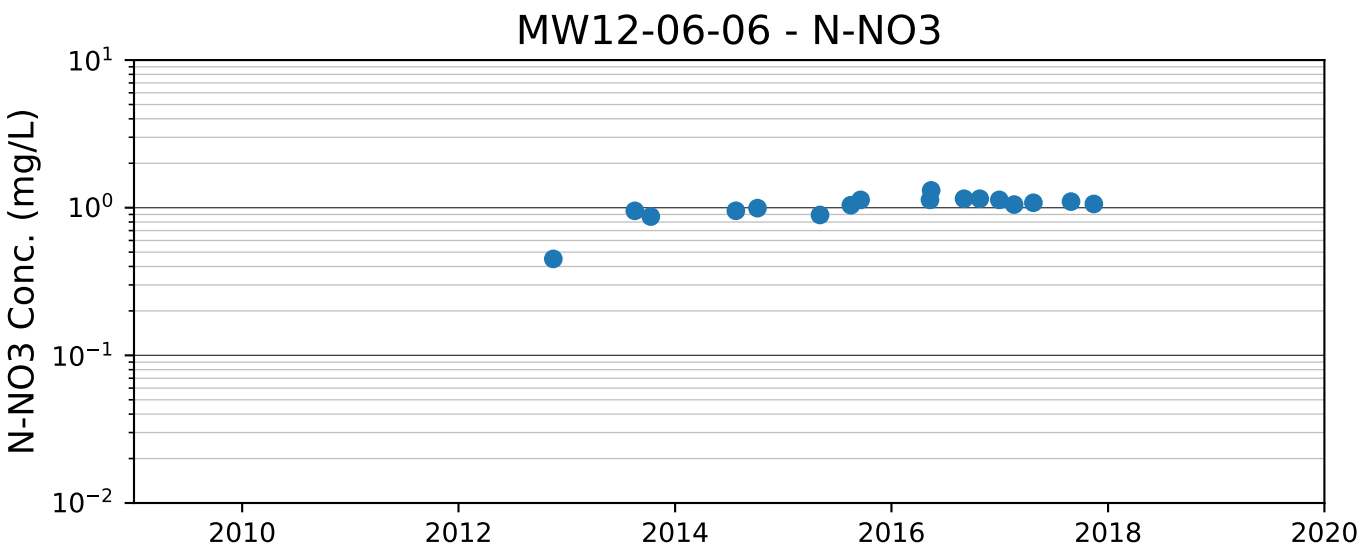
MW12-06-06 - N-NO3
N-NO3 Conc. (mg/L)
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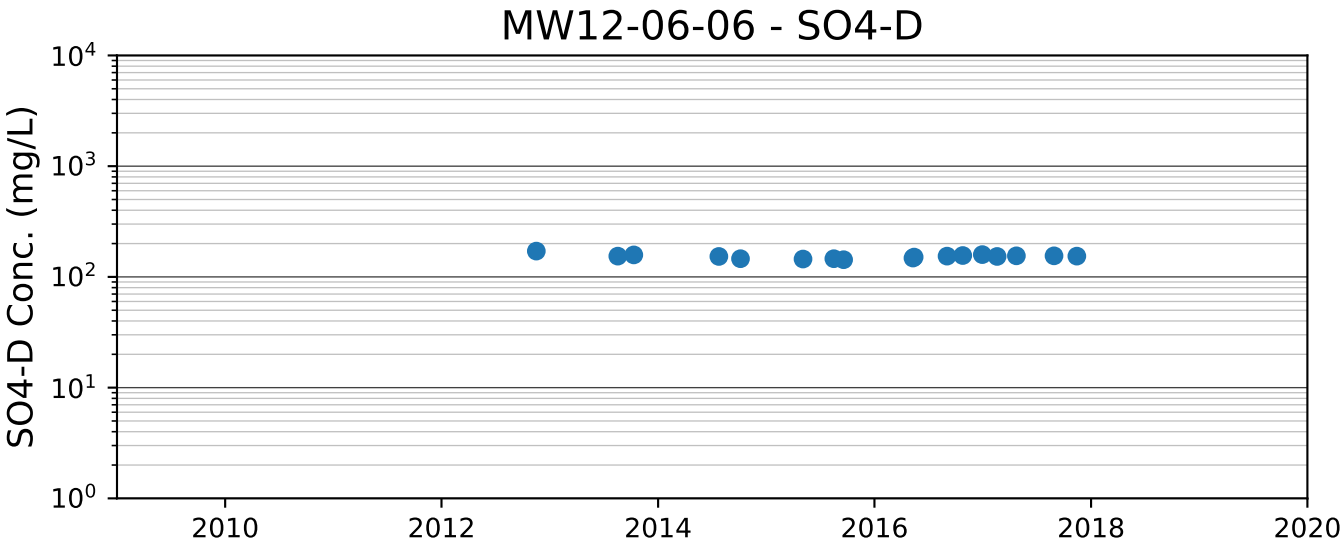
MW12-06-06 - SO4-D
SO4-D Conc. (mg/L)
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2018
2020

APPENDIX 1-5

MINTO MINE SITE CHARACTERIZATION – WILDLIFE LOG

Date	Time	Type of Animal	# of individuals	Location	Description: Size/Color/Markings and Additional Notes	Reportable Incident Yes
27/02/2012	10:45	Moose	2	In slough close to km 10.5 of access road.	Cow and calf, feeding on bushes in slough. Had gone an hour later.	
16/05/2012	8:00	Wolf	1	On hill above Pelly laydown.	Running away on hill.	
18/06/2012	morning	Moose	2	Big creek.	Moose and calf.	
26/03/2013	5:15	Fox	1	Dumas	Red, average size with some grey on it's leg.	
27/03/2013	5:15	Wolf	1	Km 3 powerline access road.	Black.	
27/03/2013	5:48	Porcupine	1	Exploration yard.	Normal.	
31/03/2013	12:00	Grizzly	3	Km 17 access road.	Cubs- Chocolate (Small) Sow-Dark brown/Tan.	
01/04/2013	4:30	Black bear	1	W37	200 lbs	
03/04/2013	7:10	Fox	2	Laydown on airport road.	1 black and 1 orange fox kits, small.	
05/04/2013	5:40	Moose	2	Portal	Moose and calf, healthy.	
10/04/2013	3:00	Wolf	1	At km 5.	Lone wolf, skinny, eating plants.	
10/04/2013	19:30	Fox	1	Fuel farm.	Dark.	
11/04/2013	16:00	Grouse	2	River crossing highway side.	Spruce grouse, adult, good shape.	
11/04/2013	15:10	Ducks	7	Km 25 (River)	Golden eye, black/white, weather cool.	
15/04/2013	8:50	Bear	1	Km 10 side hill.	Dark brown, scruffy.	
27/04/2013	23:30	Fox	1	At portal near compressor	Adult, not afraid.	
28/04/2013	20:00	Geese	50	Dyno powder MAG	Flock of geese, flying north.	
29/04/2013	1:15	Bear	1	Behind Dumas shop	Black.	
02/05/2013	17:00	Bear	1	Near burn pit	Black bear, ran into the bush.	
03/05/2013	15:30	Fox	1	Front of Dumas shop	Unconcerned with people.	
06/05/2013	20:30	Bear	1	Road leading to tent	Brown bear, 200 lbs. Darted out onto road, then ran back down hill.	
07/05/2013	16:45	Bear	1	Km 6 on access road	Young black bear, running down road.	
07/05/2013	7:45	Moose	1	Km 10.5 at hair pin	Cow moose covered in ticks.	
07/05/2013	16:00	Bear	1	Behind camp	Small brown bear, moving up the drainage towards Minto north.	
07/05/2013	15:40	Yellow warbler	1	Km 10 access road	Foraging	
09/05/2013	15:40	Dark eyed Junco	1	Km 10 access road	Foraging	
10/05/2013	18:00	Lynx	1	Km 9 access road		
11/05/2013	17:15	Bear	1	Km 7		
11/05/2013	22:00	Eagle	1	Landing	Bald eagle, flying around looking for food.	
12/05/2013	15:10	Bear	1	Km 7-8	Black, in great shape.	
12/05/2013	13:10	Grizzly	1	Km 9 access road	Great shape.	
12/05/2013	18:45	Bear	1	Km 2, heading towards km 1	Black, great shape and off the trail.	
13/05/2013	8:30	Fox	1	W 37	Not scared, ran right up to truck.	
13/05/2013	9:48	Fox	1	Crusher pad	Adult.	
16/05/2013	9:00	Squirrel	1	Minto dry room steps	Ground squirrel, running away.	
16/05/2013	9:00	Grouse	2			
17/05/2013	16:07	Porcupine	1	Km 16.5	Big healthy new quills, sunny day.	
17/05/2013	16:31	Bear	1	Km 9	2 year old brown/black bear, healthy coat. Sunny day.	
17/05/2013	13:00	Fox	1	Km 8-12 access road	Foraging, healthy looking.	
19/05/2013	14:00	Chipmunk	1	Km 8-12 access road	Foraging, healthy looking.	
19/05/2013	15:30	Wilson's warbler	1	Km 8-12 access road	Foraging, healthy looking.	
21/05/2013	16:30	Sandpiper	1	Km 8-12 access road	Foraging, healthy looking.	
21/05/2013	18:45	Wolf	1	Km 3.5	Black and grey, good looking, trotting away looking over it's shoulder.	
21/05/2013	7:30	Rabbit	1	Km 12	Running across road, sunny.	

Date	Time	Type of Animal	# of individuals	Location	Description: Size/Color/Markings and Additional Notes	Reportable Incident Yes
22/05/2013	8:00	Grouse	1	Km 18	Running across road, sunny.	
22/05/2013	5:00	Porcupine	1	Km 3.5	Big, calm, slow moving.	
22/05/2013	9:00	Moose	3	Km 10.5	In marsh.	
22/05/2013	9:30	Fox	1	Km 23	Crossing road, sunny, adult, healthy, red.	
24/05/2013	6:20	Fox	1	W 37 Mill valley fill pond	Good condtionion, adult, cloudy.	
24/05/2013	5:30	Fox	1	Airport laydown	Healthy.	
28/05/2013	8:00	Fox	1	Barge landing	Healhy, blondish.	
28/05/2013	3:00	Bear	1	Dyno	Black medium sized, walking towards hill behind dyno. Called enviroment	
28/05/2013	3:00	Fox	1	Front of mill	Healthy, adult, jumped into ert waste bin.	
28/05/2013	2:00	Fox	1	Yukon river Km 14	Healthy and curious.	
30/05/2013	1:50	Fox	1	Front of mill	Snooping around wasted bins.	
04/06/2013	11:00	Bear	1	W3	In creek bed by W3 shack.	
04/06/2013	9:00	Deer	1	Km 20	Running into the bush, looked healthy, young buck.	
05/06/2013	3:30	Fox	1	Assay Lab	skinny, skittish.	
06/06/2013	17:00	Bear	1	Behind camp	Adult black bear.	
06/06/2013	8:33	Moose	1	Km 11.5	Looked healthy, behaviour normal, beautiful day.	
08/06/2013	6:00	Bear	1	Km 5.5	Confident adult beside/on road, brown/black.	
09/06/2013	11:30	Grizzly	1	Km 14	Mature male adult bear, 7' , chocolate brown/black.	
10/06/2013	7:00	Bear feces	1	4.20 Access road (summit)	Located on shoulder of access road, tracks leading west along shoulder of road.	
10/06/2013	14:00	Deer	1	By Pelly manor	Adult, calm, healthy.	
15/06/2013	8:15	Owl	1	Up by Dyno	Sitting in tree watching.	
16/06/2013	7:15	Moose	3	Km 19	Cow moose and 2 calfs standing in big creek.	
17/06/2013	7:00	Beaver	1	Barge landing	Crusing around barge landing.	
19/06/2013	13:00	Bear	1	Core shack	Small brown bear, took one look at the truck and trailor, turned around and gum booted.	
21/06/2013	10:15	Bear	1	Burn pit	Same brown bear that was at the core shack, he knew the person was there and still walked out in the open.	
23/06/2013	5:20	Deer	1	Km 19	Mature buck, crossed road.	
25/06/2013	8:25	Bear	1	Incinerator gate	Wouldn’t move away from electrical fence until approached using the horn.	
28/06/2013	10:14	Cyote	1	Km 11.5		
03/07/2013	6:20	Fox	1	Km 7.5	Brown, small w/prey.	
06/07/2013	Various	Fox	1	Pelly yard	Had prey.	
10/07/2013	Various	Fox	1	W15 w/prey	Had prey.	
11/07/2013	Various	Fox	1	WMA		
12/07/2013	3:30	Bear	1	W15	Med, foraging.	
14/07/2013	22:00	Fox	2	On dump road next to laydown in pipe	Baby foxes, cute and cuddly.	
15/07/2013	7:20	Porcupine	1	Airport road	Just waddling along.	
15/07/2013	1:30	Fox	1	Core shack	Sniffing around garbage can, chased him out - was not scared.	
16/07/2013	10:00	Fox	1	Access road km 6	Black fox spotted.	
17/07/2013	9:30	Deer	1	Camp	Behind Pelly lodge.	
17/07/2013	9:00	Fox	3	Airport Laydown	Fox with 2 kits	
19/07/2013	13:00	Moose	2	SWD	Moose with calf	
19/07/2013	6:30	Fox	1	Pelly office	Not afraid of humans	
19/07/2013	6:00	Swallow	A Lot	Tailings chute	Not afraid of pickup. They were flying	
20/07/2013	9:30	Black Bear	1	Km 15 of Access Rd	Black head & brown body	
22/07/2013	11:00	Fox	2	SWD	2 kits: one black & orange, one orange	

Date	Time	Type of Animal	# of individuals	Location	Description: Size/Color/Markings and Additional Notes	Reportable Incident Yes
22/07/2013	14:30	Grizzly bear	1	SWD	Ran as soon as I yelled	
25/07/2013	9:30	Red Fox	1	W15	Walking. Young adult.	
25/07/2013	8:25	Red Fox	1	Airstrip	Exploring, foraging	
25/07/2013	9:30	Deer	2	Barge landing	2 adult bucks, in good shape. Large 4 pt antlers. Drining water	
26/07/2013	15:50	Bear	1	Lower airport Rd	Young (2yr old) cub. Brownish blond. Skinny	
26/07/2013	16:00	Fox	1	Dumas yard	Got scared when I yelled at it. Ran away	
27/07/2013	5:30	Fox	1	Mill Parking Lot	Young	
28/07/2013	4:00	Red Fox	1	Sherwood bunkhouse	Looked good. Skittish	
29/07/2013	10:30	Grey Jay	2	Dyno	Landed on truck & then flew away	
01/08/2013	7:45	Bear	1	Km 11 of Access Rd	Young. Brownish/blond	
07/08/2013	6:00	Red Fox	1	Mill Parking Lot	Looked scared & was looking for a way out	
09/08/2013	1:55	Red Fox	1	Mill Parking Lot	Looking for food/healthy	
10/08/2013	6:00	Fox	1	Pelly office	Running around, inspecting people	
11/08/2013	2:00	Fox	2	Minto office	On & around garbage can. Then followed me to office door	
12/08/2013	6:30	Fox	1	South Stockpile	skinny	
13/08/2013	7:00	Red Fox	1	Mill parking lot	Underneath a parked truck	
13/08/2013	6:00	Wolf	1	Km 15 of Access Rd		
15/08/2013	11:45	Merlin	1	Km 5.5 of Access Rd	Hunting	
16/08/2013	16:15	Red fox	1	Mill parking lot	Looked good. Just checking things out.	
17/08/2013	5:55	Red fox	1	Right outside main mill door	Looked healthy. It approached me and I yelled at it.	
18/08/2013	16:00	Deer	1	Km 11 of Access Rd	Ran away: just saw its back	
19/08/2013	8:00	Fox	1	Airstrip	Black & Brown with white tip on tail	
20/08/2013	6:00	Fox	1	Between Mine Tech and ERT buildings	Red/white. Kept its distance but stopped to look as we passed	
27/08/2013	19:00	Black bear	3	Km 2 of Access Rd	Sow & 2 cubs	
28/08/2013	evening	Deer	1	Access road	Eating grass	
31/08/2013	5:55	Fox	1	Front of Pelly camp	Young, easily spooked	
31/08/2013	evening	Fox	1	Access road	Observing	
01/09/2013	11:45	Fox	1	Inside 16" pipe at Valley Fill laydown	Hiding out. Watching us work	
01/09/2013	15:30	Porcupine	1	airport road	BIG	
02/09/2013	10:45	Bald Eagle	1	Km 10 of Access Rd	Flying high, riding thermals	
03/09/2013	16:00	Northern Goshawk	1	Km 9 of Access Rd	Perched on tree top	
03/09/2013	12:30	Red fox	1	Camp-Minto bunkhouse	Healthy-looking. Young. Almost tame.	
03/09/2013	10:30	Red fox	1	Land fill bin	Digging old lunches out of garbage. Not scared at all	
05/09/2013	13:00	Sandhill cranes	approx 100	Flying over mine site	Migrating south	
07/09/2013	8:30	Red fox	1	Mill parking area	Looking for scraps, sniffing, on the move	
07/09/2013	9:40	Fox	1	North road to crusher	looking	
07/09/2013	6:00	Red fox	1	Pedestrian walk way down from camp	Young, small, watching us pass	
07/09/2013	7:00	Red fox	1	In front of ERT	Staying away. Went behind assay lab	
07/09/2013	7:15	Red fox	1	clarke building	looks young, fluffy	
07/09/2013	7:15	Black Bear	3	Km2.5 of Access Road	Sow & 2 cubs	
08/09/2013	7:15	Red fox	1	Minto smoke shack	good shape, young, hunting	
08/09/2013	23:59	Red fox	1	Crusher pad	We shouted at it	
08/09/2013	16:00	Brown-headed cow bird	1	Mill parking lot	Flying from vehicle to vehicle	

Date	Time	Type of Animal	# of individuals	Location	Description: Size/Color/Markings and Additional Notes	Reportable Incident Yes
08/09/2013	18:30	Fox	1	Across from Gym		
09/09/2013	9:30	Black bear	1	Km 10 of Access Rd	Walking on road	
09/09/2013	5:55	Fox	1	Camp - next to Capstone bunkhouse	Walking toward propane tanks at Km 0	
10/09/2013	15:45	Black bear	1	Between Area 2 Pit and W15	Walking. Ran into bush when truck approached. Large.	
11/09/2013	16:00	Black bear	1	TDD	In ditch. Small bear, 1-2 yr old. Ran when honked horn.	
12/09/2013	22:30	Black bear	1	Camp - behind kitchen	Wandering around trailers. Ran away when shouted at. Midsize, no distinguishing marks.	
12/09/2013	9:30	Black bear	1	Airport Rd	Ran down TDD	
13/09/2013	11:00	Black bear	1	Dyno	Running	
14/09/2013	10:30	Wolf	1	Mag-Dyno junction	Adult , limping back legs, cloudy	
14/09/2013	10:00	Kingfisher	1	W5		
15/09/2013	13:50	Fox	1	ERT	Fox snuck under the bay doors and then stole some garbage and hid under the Ambulance. Brazen and very tame.	
15/09/2013	7:50	Fox	1	Mill Building	Fox snuck around and in to the Mill and defacted on the floor. Not afraid had to shoo the fox out.	
16/09/2013	2:50	Fox	1	Portal	A fox was struck by a Mine Cat Light Vehicle coming out of the portal. The animal was killed on impact. Dean Mclean was called at 9:30AM and again at 2Pm (On Oct 4) with no response. It was decided to incinerate the animal as there was no way to store the animal safely over the weekend to have it shipped out to the Conservation Officer.	Yes
17/09/2013	18:30	Fox	1	Area 2 Pit	Fox seen hiding among rocks before blast. Would not come out. Found dead two days later among rocks.	Yes
17/09/2013	6:00	Red fox	1	clarke building	looks young. Fluffy	
17/09/2013	all day	Fox	1	in between site services and kitchen		
18/09/2013	8:00	Black Bear	1	Km 9 of Access Rd	Big	
19/09/2013	12:00	Wolf tracks	many	Km 19 - Beach at Big Creek	Lot of wolf tracks in sand on east shoreline	
20/09/2013	10:00	Cranes	2500+	Sky	heading south	
20/09/2013	13:30	Bear black/brown	1	dump above Pelly	heading to eskay	
20/09/2013	11:30	Black Bear	1	Km 9 of Access Rd	Small. Ran away	
20/09/2013	9:45	Wolf tracks	many	W5	Large	
20/09/2013	8:00	Black Bear	1	corner going up to airport		Yes
21/09/2013	12:00	Trumpeter Swan	1	Airstrip	Airstrip just above dense fog layer. Swan looking to land. Landed on airstrip, walked back to apron & sat down.	
22/09/2013	7:30	Black bear	1	9.5 haul road	crossing road	
24/09/2013	10:30	Grey Jay	1	Anfo Silos	Adult. On ground. Sunny	
26/09/2013	16:00	Redpolls	2	Road to Anfo silos	Looking for something to eat	
26/09/2013	7:30	Red Fox	1	Dyno Access Rd	Sitting on road. Leg up. Cleaning ass. Sunny. Purrrfect.	
27/09/2013	11:00	Bear tracks	1	Around Dumas office	Took photos. Front feet the size of a spread hand	
27/09/2013	6:30	Bear	2	Underground mag	Ran away	
27/09/2013	9:00	Bear	1	Dyno access D51 rd	Foraging. Stood upright when vehicle approached. Cinamon	
27/09/2013	18:10	Fox	1	In camp		
27/09/2013	9:45	Fox	1	STP heading for camp site		
30/09/2013	9:00	Bear	1	Km7	Running	
30/09/2013	12:30	Bear	1	D51 dump	Heading east	
02/10/2013	8:00	Red Fox	1	Mill parking lot in front of assay lab	Looked healty	
03/10/2013	14:30	Red Fox	1	Microwave tower.	Looked healthy	
07/10/2013	12:15	Red Fox	1	Under jaw crusher	Healthy, furry, not so afraid	
10/10/2013	8:30	Black bear	1	Km 9.5	Going up N side of Minto road	

Date	Time	Type of Animal	# of individuals	Location	Description: Size/Color/Markings and Additional Notes	Reportable Incident Yes
10/10/2013	13:00	Ptarmigan	1	Between Km 5 & 6 on access rd	Plumage beginning to change	
11/10/2013	12:35	Black bear	1	Km12.5 gravel pit	in pit	
11/10/2013	12:00	Whiskey Jack	1	Minto Landing	Looks good and plump	
11/10/2013	5:55	Fox	1	Camp	Ran away when I approached	
16/10/2013	13:00	Red fox	1	Dyno shop	in shop	
16/10/2013	9:45	Black bear	1	Km 9	side of the road	
16/10/2013	10:30	Fox	1	Mill parking lot	scrounging garbage	
16/10/2013	7:15	Fox	3	Pelly office	1 adult, 2 kits	
16/10/2013	16:00	Black Bear	1	D51		
17/10/2013	19:30	Geese	flock	D 51		
19/10/2013	9:20	Fox	1	Road at crusher	running between mill pond and crusher, heading towards mill. Looked in good condition	
22/10/2013	19:15	Black Bear	3	km 2.5 access road	1 sow and 3cubs . Cubs on road	
22/10/2013	18:10	Fox	1	in campbetween minto wing and dry	adorable	
24/10/2013	16:30	Mule deer	3	9.75km haul road	eating on side hill	
24/10/2013	16:30	Fox	1	in camp, smoke pit	looked healthy, lying down and walking around smoke shack, not afraid.	
24/10/2013	5:55	Fox	1	front of Pelly construction camp	young/ easily spooked	
26/10/2013	9:30	Moose	3	old mag site	crossing road	
26/10/2013	9:00	Bear	1	km 7	running	
27/10/2013	8:30	Black bear	1	km 9.5	going up the north side of minto road	
31/10/2013	12:15	Black Bear	1	km 12.5 pit	in gravel pit	
01/11/2013	9:45	Black Bear	1	km 9	side of road	
04/11/2013	6:30	Fox	1	Mill parking lot	Passing by	
08/11/2013	22:00	Red Fox	1	Mill Parking lot	Looked good. Just snooping around	
08/11/2013	17:00	Red fox	1	SS buliding parking	Chewing on extension cords	
10/11/2013	5:30	Red fox	1	ERT bldng	Overly friendy. Came close	
13/11/2013	15:00	Red fox	1	camp parking nr smoke shack	looking healthy, unafraid	
14/11/2013	20:00	Red fox	1	Mill garbage cans	healthy looking. Looking for garbage	
14/11/2013	16:30	Moose calf	1	Side of access road at Km6		
17/11/2013	6:30	Fox	1	Pelly office	Sitting outside office, unafraid	
18/11/2013	20:30	Red fox	1	smoke shack near Pelly bus parking	Curled up sleeping on picnic table. Looked at us. Yawned. Went back to sleep.	
19/11/2013	13:00	Black fox	1	Burn Pit	Friendly. Taking a poop by the pole barn	
20/11/2013	14:00	Red fox	1	W1	Healthy, unaffraid	
22/11/2013	9:00	Fox	1	Electrical shop	Pooped on back step	
23/11/2013	9:00	Fox	1	Beside HD shop	scavenging	
23/11/2013	16:00	Red fox	1	By Pelly manor	Adult, curious, cautious but came up close	
27/11/2013	10:15	Moose	2	Runway	On runway. Plane trying to land. Not skittish	
30/11/2013	1:00	Fox	2	Main pit	Nipped glacier driver	
02/12/2013	18:10	Fox	1	Area 2 Pit	Nipping at coveralls 3 nights in a row, permission to deter the animal without intention to harm, ensure no food is present.	
09/12/2013	5:00	Fox	1	Mill parking lot	sitting on dumpster	
12/12/2013	7:30	Fox	1	North hillside	running up hill	
14/12/2013	11:30	Moose	2	KM7	Ciw and calf on side of road	
14/12/2013	4:30	Moose	2	KM6	Mother and calf standing on side of road	
15/12/2013	10:00	Fox	2	Airport Rd.	2 young reds frolicking	
19/12/2013	9:40	Fox	2	Dumas door steps	Sitting witing to be fed	

Date	Time	Type of Animal	# of individuals	Location	Description: Size/Color/Markings and Additional Notes	Reportable Incident Yes
20/12/2013	0:30	Lynx tracks	1	MVF laydown	Fresh tracks around equipment	
20/12/2013	9:00	Fox	1	ERT building	Trapped in live trap. CO Dean McLean came and picked him up and released it 1/2 way to Pelly.	
20/12/2013	6:30	Fox	1	on hay pile at airport laydown		
21/12/2013	1:00	Fox	1	Airport Laydown - straw bales	Trapped in live trap. CO Dean McLean came and picked him up and released it. See photo in next tabl of excel sheet.	
22/12/2013	11:30	Fox	1	A2 Pit	full hair, not scared	
23/12/2013	5:30	Fox	1	Land fill box in mill parking lot	Jumped in landfill box. V tame and unafraid	
23/12/2013	12:15	Snowshoe hare	1	Road from Airport laydown to mill	Running fast	
24/12/2013	8:00	Fox	1	Outside tech office	Red/white tail, running away toward propane tanks	
28/12/2013	6:20	Fox	1	Pelly office	runnign around office , not scared	
30/12/2013	8:00	Fox	1	Outside Dumas shop	Red/white tail.	

Date	Time	Type of Animal	# of individuals	Location	Description: Size/Color/Markings and Additional Notes	Reported By (Name)	Reportable Incident (Yes/No)
04/01/2014	6:00	Fox	1	Capstone and Pelly lodge	Med. Size I yelled and it darted away	Victoria C	No
12/01/2014	7:55	Fox	1	Main dry stair case		Shayne Gerald	No
13/01/2014	19:00	Fox	1	Climbing on Neway Pile	Moving quickly up hill	Jim D	No
18/01/2014	16:00	Fox	1	Area 118 pit	Middle of pit	Dave Avar	No
24/01/2014	5:30	Fox	1	Roadway by Capstone Lodge	Running away	R.Proc	No
29/01/2014	15:30	Wolf tracks		W3/W17/W50	Tracks near W3 and along W3 access W17, W50	CH	No
07/02/2014	17:30	Wolf tracks		Mill Valley Laydown	Near the Copco parts trailer. Wandering by all the garbage bins	Kevin Fletcher	No
10/02/2014	morning	Owl with rabbit	1	KM1	Brown owl flying with rabbit	Sebastian T	No
12/02/2014	11:00	Fox	1	Landfill	Checking out the garbage	Las.M	No
13/02/2014	4:30	Rabbit	1	SK	Sitting.	Garry Brown	No
14/02/2014	22:00	Fox	1	In front of waste in front of mill	Looking for food in garbage	Ross	No
25/02/2014	morning	Hawk Owl	1	w17	Dead. Marks in snow show it had fallen down bank	Phill E	No
02/03/2014	17:30	Red fox	1	D51 Ramp	Sitting there	Rene M	No
02/03/2014	10:30	Red fox	1	Pelly Laydown	Crossing road	Rene M	No
08/03/2014	17:30	Red fox	1	Pelly Laydown	Crossing road into pelly yard	Rene M	No
14/03/2014	7:00	Fox	1	Smoke shack	Not scared looking for food	Jim Pillronra	No
19/03/2014	5:20	Fox	1	Bottom of M zone 708 Sump	Sat there staring at me	Rick Jager	No
20/03/2014	5:00	Fox	1	At camp by main entrance	Healthy not afraid of me	Kattleen	No
30/03/2014	17:00	Bear	1	On road	Brown, not afraid	Cody Goebel	No
05/04/2014	23:00	Fox	1	Pit1	Looks to have a broken leg	Rick S	No
11/04/2014	7:00	Fox	1	118	Same fox as above	Rick S	No
14/04/2014	evening	Bear	3	New warehouse building	Sow and two cubs		No
14/04/2014	10PM	Black bear	2	Parking lot behide new warehouse	looked healthy adult.	Rick S	No
15/04/2014	19:00	Bear	1	Big Creek	Black/ Brown bear. Male size. No shoulder hump		No
17/04/2014	20:00	Black Bear	1	Above camp cut bank	Black bear and brown muzzle - sniffing at camp odours deterred with pistol		No
17/04/2014	20:30	Black Bear	1	lower warehouse pad	Dark cinnamon bear med-size - deterred with truck and pistol, good response to deterrent		No
18/04/2014	evening	Bear	1	DST Tailings	Safety got call of bear on tailings but did not see it		No
18/04/2014	evening	Bear tracks	1	TDD	Dear tracks		No
19/04/2014	22:00	Black Bear	1	Behind Sherwood near cutbank	Too dark to telll. Bear responded well to the air horn and took off into bush….did not return to camp.		No
19/04/2014		Black bear	1	KM.5	same as above	Rock s	No

Date	Time	Type of Animal	# of individuals	Location	Description: Size/Color/Markings and Additional Notes	Reported By (Name)	Reportable Incident (Yes/No)
21/04/2014	4:03	Black bear	1	Portal Road	Walking down road from water shack	Rick S	No
22/04/2014	15:00	Bear	1	WMA	Big russet coloured. Investigating landfill and WMA area	Martin C	No
23/04/2014	19:00	Black bear	1	Camp new construction	Ran at sight of truck. Brown	Ryan H	No
27/04/2014	20:00	Black bear	1	Camp new construction	same as previous bear. Hazed.	Ryan H	No
28/04/2014	15:00	Black bear	1	WMA	Large, good condition, chocolate brown. Walked away as soon as I arrived.		No
28/04/2014	8PM	Black bear	1	W3	Tracks. med/sm size	Chirs H	No
30/04/2014	7:45	Black bear	1	.5 KM Cut back	Hazed with bangers bear did not respond. Slowly walked away	Ryan H	No
01/05/2014	11:00	Black bear	1	Landfill	Calm, scared easy when yelled at	Phil E	No
01/05/2014	19:30	Black bear	1	Fuel farm	Calm scared easy when yelled at		No.
01/05/2014	11:00	Black Bear	1	Landfill	He was along the tree line of the landfill	Phill E	No
01/05/2014	19:30	Black bear	1	Fuel farm	walking aorund fuel farm	Mill operator	No
07/05/2014	19:00	Bear	1	W2	Right at water quality station. Observed by Seb as he drove down the road.	Seb	No
08/05/2014	20:00	Bear	1	Above Pelly laydown	When enviro got there the bear could not be located	Pelly - Justin	no
09/05/2014	14:00	Black bear	1	Was spotted at D-51 bench above Pelly (by Pelly) and then just before the magazine road	Large bear, dark chocolate brown colour. Ran when truck approached it and then calmy walked away when screamers were used	Pelly - Greg	no
09/05/2014	10:00	Swallows	1	Pipe sticking out of tailings building facing tailings chute.	Nesting in pipe.	Ryan Faulds	no
10/05/2014	14:00	Black bear	1	MWD on the grass. Was chased across the top of the dump and into the forest	Looks like the same bear from the day before. Large bear, dark chocolate brown colour. Ran when truck approached and calmy left when screamers/ air horn and yelling were used.	Pelly - Greg	no
10/05/2014	4PM	Fox	1	Dry stack	Sleeping	RickS	no
11/05/2014	10:00	Black Bear	2	D-51 and then up at Sewage lagoon	Same chocolately brown coloured bear that has been seen the last few days.	Pelly - Greg	no
11/05/2014	15:00	Black bear	1	W3	Looked like and behaved like the bear that has been seen around the Pelly yard. Walked away slowly when hazed.	Jasmin and Shaun	no
12/05/2014	13:00	Swallows	0	New warehouse building	We realized the new warehouse building would be prime habitat for swallows due to the open space and open doors. Talked to Bob in warehouse to cover up the entrances to prevent nesting.	Shaun and Jasmin	no
13/05/2014	9:00	Bear	1	On Dyno access road	Enviro did not go check out. Asked Greg to call again if Bear started to approach Pelly laydown.	Pelly - Greg	no
13/05/2014	17:20	Hare	1	on side of raod KM2	White grey changing colour	Ross	no

Date	Time	Type of Animal	# of individuals	Location	Description: Size/Color/Markings and Additional Notes	Reported By (Name)	Reportable Incident (Yes/No)
14/05/2014	11:30	Fox	1	MCDS	Hopping on 3 legs, back left leg injured. Adult redfox looked healthy.	Enviro-Shaun	no
14/05/2014	14:30	Black Bear	1	Pad 2 then behind Dumas	Black bear spotted at Pad 2. Moved down to corner of airport rd behind laydown. Could not be located after that. Jasmin went in to Dumas to let them know to use the air horn when working behind the shop and to haze with air horn if they see the bear again.	Numerous individuals called this in.	no
14/05/2014	16:00	Black Bear	1	Corner of airport access rd.			no
14/05/2014	15:00	Black Bear	1	beside airstrip	Grazing its way along valley above TDD	MC	
14/05/2014	12:30	Black Bear	1	d-51	walking to pelly laydown unconcerned about truck	Dale W	
15/05/2014	9:00	Black Bear	1	Mill Valley Laydown	Dave Crottey went to haze with rubber bullets. Got to the bear and yelled at it and it ran away; did not get the rubber.	Ryan Faulds	no
15/05/2014	18:00	Black Bear	1	KM 3	Ran off when yelled at. One smaller sized bear, assumed it was a yearling. Did not see mother around.	Eamon Mauer	no
16/05/2014	8:30	Swallows	0	Potential nesting site on missing soffit on Dumas shop, west side of the building	Potential nesting area pointed out by Ryan Faulds. Potential work going to happen in that area late summer. No birds nesting but if Ryan notices them nesting in that area he will let us know in case work does get planned.	Ryan Faulds	no
16/05/2014	12:30	Swallows	1	Pipe in behind of mill	Birds seen nesting in a pipe behind the mill. Jasmin went to look at it with Darrly, Bill and Eric and the valves leading to this pipe are shut off. The pipe is used to purge air from the mill but has not been used in 6 years. Going to leave the birds for the spring and once they have left Jasmin will manage getting the pipe capped so they don't nest in that spot next year.	Ryan Faulds	no
17/05/2014	10:00	Black Bear	1	Corner of airport rd, by Dumas	Very black bear, medium size, good condition. Eating greenery. Reluctant to move off when yelled at. Hazed with screamers, air horn. Ran small way and resumed eating. Gary van B (on May 19th) says that he saw he had a rip on his back, like he had been in a fight. Maybe this one has been edged out of territory.	SS-Gary	no
17/05/2014	17:00	Black Bear	1	Corner of airport rd, by Dumas	Same black bear as this earlier on the same day. Very black bear, medium size, good condition. Eating greenery and stretching on the powerline pole. Alert to horn honking, picked head up. Hazed with screamers, air horn. Ran off into the bush and was not observed thereafter.	Unkown caller on radio	no

Date	Time	Type of Animal	# of individuals	Location	Description: Size/Color/Markings and Additional Notes	Reported By (Name)	Reportable Incident (Yes/No)
17/05/2014	20:00	Black Bear	1	Corner of airport rd, by Dumas	Same black bear as this earlier on the same day. Very black bear, medium size, good condition. Eating greenery and stretching on the powerline pole. Alert to horn honking, picked head up.	Ryan Faulds	no
17/05/2014	10:00	Swallows	1	Behide mill	building nest in pipe on mill building	R.Faulds.	no
17/05/2014	19:50	Black bear	1	Road up to airstrip	Eating still there ten minutes later	David A	no
18/05/2014	15:00	Black Bear	1	Corner of airport rd, by Dumas	Black bear with a bit of brown. Different bear on the grass than yesterday, could be the one that was seen up near the Pelly yard last week. Shaun hazed and it ran for a short bit and then started to walk. Headed up old exploration road.	Collin Moonen	no
19/05/2014	10:30	Black Bear	1	WMA	Large, brown. Same one from April 28th. Dave Crottey came up and fired a cracker shell, but he had just gone down bank by where barrels are stacked.	SS-Gary	no
20/05/2014	22:00	Black bear tacks	1	Portal Road	bear tracks around wooden shack up at portal where we hook up water truck	Rick S	no
21/05/2014	20:00	Black Bear	1	In camp: near Pelly Manor	Brown, medium size. Took off down bank toward access road. Reported after half hour delay by Sodexo house keeping staff - they didn't know who to call. Followed up with John. He met with staff and explained call-in procedure. Bear was thought by observer to be grizzly cub, but more likely a black bear.	Rona -Sodexo housekeeper	no
21/05/2014	14:00	Black Bear	1	Beside airstrip		CH	no
22/05/2014	7:30	Black Bear	1	Near new camp	Unknown size & colour. Investigated by PE & CH but not seen again.	M&L Contracting	no
22/05/2014	8:00	Black Bear	1	On bank between Dunas shop and airport road.	MC & Mark Goebel went and found medium sized brown bear grazing amonst willows between pole barn and Dumas shop. Hit with a rubber bullet and crackers. Ran but we couldn't find tracks so don't know where he went.	Dumas	no
22/05/2014	8:15	Black Bear	1	At 118 Pit, above chain link fence	MC went to investigate but did not find. Unsure if it was the same one that had just been hazed at airport laydown. Dave C arrived but didn't see it either.	Pelly (Declan)	no
22/05/2014	9:30	Black Bear	1	300m North of Dyno yard call point	Medium sized brown bear with caramel coloured snout. Eating grass and roots around pond. Danny vanB had seen him at same spot 5 days before. Dale at Dyno informed.	Pelly dewatering crew	no

Date	Time	Type of Animal	# of individuals	Location	Description: Size/Color/Markings and Additional Notes	Reported By (Name)	Reportable Incident (Yes/No)
23/05/2014	7:30	Black bear		Corner of airport rd, by Dumas	Good sized jet black bear grazing on veg by the power pole. Did not respond to shouts. Hit with a rubber bullet and crackers. Ran but stooped after a few yards, acting dopey. Climbed up onto road. We chased him down off road with truck and hit him again with rubber bullet and crackers and he disappeared into bushes. This is not our regular visitor to this corner.	Unidentified (Dumas)	no
23/05/2014	17:00	Black bear	2	KM 2/ KM 5	Large and healthy looking	Javad A.	no
24/05/2014	8:50	Otter	1	Big Creek	Adult heading up stream	K Tutin	no
25/05/2014	13:00	Mule Deer	1	AN laydown	looking at me	Ron Galagas	no
27/05/2014	6:30	Black Bear	1	Corner of airport rd, by Dumas	Small to medium sized, light brown bear, grazing by power pole. Air horn and screamers chased him onto road and along the old road to the grounding grid. After a couple of screamers, he ignored them, but grazed his way away from the road.	Unidentified (Site Services)	no
27/05/2014	7:00	Brown Bear	1	pond below Eskay site	Eating plants- unconcered	Dale W	no
30/05/2014	13:00	Brown Bear	1	pond below Eskay site	Eating plants- unconcered	Rene M	no
31/05/2014	11:00	Black bear	1	Airport laydown	walking foragraing	Ron Galagas	no
09/06/2014	5:30	Fox	1	Dumas Shop	Not afraid, Just wary	Jean Lagarde	no
09/06/2014	14:50	Brown bear	1	KM1 Access Road	Minding his own business	David Grennan	no
09/06/2014	11:25	Fox	1	Camp ,new construction	Yelping on outer grounds	Sabrina	no
10/06/2014	15:45	Black Bear	1	Portal Road	Ran when appraoched with truck. Fair size(med) shot banger and screamer at it and ran down hill side	CH / RM	no
13/06/2014	17:15	Black Bear	1	300m North of Dyno yard call point	Good sized light brown bear foraging and relaxing, not going anywhere. Let him be and called Dyno to let them know it was there.	Unidentified radio caller	no
15/06/2014		Black Bear	1	Near incinerator at WMA	Small black coloured bear. New visitor. Went to haze, but did not find. Was in trees beteen airstrip road and incinerator. Unresponsive to shouts and people working on	Danny van B	no
15/06/2014	7:00	Black Bear	1	Underground shop	eating grass/ not scared	Cody	no
15/06/2014	8:10	Mule deer doe	1	KM .5	On road moving along towards WSP	Ross	no
15/06/2014	9:00	Fox	1	KM9	Skittish/ mottled coat, running off road and up hill	Ross	no
17/06/2014	7:00	Moose	3	Airsprip	cow and 2 calves, ran down the airstrip	Rob T	no
18/06/2014	9:00	Rabbit	1	KM3	Ran as soon as it noticed us	Victoria	no
20/06/2014	19:00	Deer	1	KM2	Ran across access road	Victoria	no
26/06/2014	13:00	Brown bear	1	DSI road	Ran into bush. Good size	CH/ RM	no
27/06/2014	9:35	Moose	2	Airport road	Cow and calf, beside core shack	CH/Rm	no
27/06/2014	8:30	Black bear	1	DSI road	same bear	CH/RM	no
28/06/2014	15:30	Black bear	1	Dumas SHop	Took off after we yelled and clapped up exploration Rd.	CH /RM	no

Date	Time	Type of Animal	# of individuals	Location	Description: Size/Color/Markings and Additional Notes	Reported By (Name)	Reportable Incident (Yes/No)
01/07/2014	6:30	Fox	1	KM6	Standing mid road, ran to the side when vehicle approached	Karoline	no
03/07/2014	20:30	Grey wolf	1	Powerline Road	Beautiful	RobinW	no
09/07/2014	13:30	Eagle	1	KM21	Big and hungry looking	Robin W	no
12/07/2014		Black bear	1	Near incinerator at WMA	Called in by Site Services. Went to look but was gone.	Unidentified radio caller	no
12/07/2014	13:00	Fox	1	At tug	Skinny	Robin W	no
13/07/2014	10:00	Young grizzly	1	KM12	Running across road	Robin W	no
13/07/2014	14:30	Ptarmigan	1	KM 21	good	Robin W	no
14/07/2014	11:00	Mule deer	4	KM10	3 fawn, 1 doe hopping along to road	James Spencer	no
16/07/2014		Black Bear	1	In front of Dumas shop	Medium sized brown coloured bear. Called in an hour after the fact. Dumas staff scared it off. It went round to the back of the shop. Scared again and took off toward airstrip. Gone by the thime I went to look (MC).	Veronica at Dumas	no
16/07/2014	7:00	Black bear	1	KM6.5	Did not run away until we were beside it	CH	no
16/07/2014	16:15	Grizzly Bear	1	KM5	looked curious, didn't move when vehicle passed by	Karoline Monkvik	no
16/07/2014	7:00	Brown bear	1	Dumas Shop	Bear scared off to rear of shop	Hector,Veronica,Joe	no
17/07/2014	6:00	Black bear	1	KM16	Ran into bushes as soon as it noticed vehicles approaching	Karoline Monkvik	no
18/07/2014	13:00	Black bear	1	KM6.5	Relaxing by the roadside laying in the sun	PE	no
18/07/2014	11:30	black bear	1	West landing	Bear was swimming across the yukon river got out of the water just down stream of the barge.	PE	no
18/07/2014	5:55	Black bear	1	KM13	Stood still while driving by	Karoline monkvik	no
23/07/2014	4:30	Brown bear	1	KM5	Brown bear up at 5KM sitting in pong , must have been hot	Garry brown	no
01/08/2014	10:00	Bald eagle	1	Airport Lay Down	Fighting with ravens over food waste from overflowing bin	Ryan faulds	no
01/08/2014	14:45	Deer, Fawns	4	Fuel Farm	Good healthy, 3 Fawns 2.5ft.,Doe 5ft. tall,	Collin Moonen	no
01/08/2014	11:00	Brown Bear	1	Dyno	Walking around	Collin Moonen	no
02/08/2014	7:00	Grouse	4	Above Camp cut bank	Healthy looking	Javad Azanchi	no
07/08/2014	19:00	Rabbit	3	KM3.5	Hares hanging out on the road		no
08/08/2014	19:40	Brown Bear	1	Airstrip	Coming from core shack area	Danny Vanbibber	no
09/08/2014	15:40	Black bear	1	Near #2 pad at 118 portal	Brown coloured bear eating grass by road. Had gone by the time I got there (MC). Pic from Matt S.	Matt Skanes	no
11/08/2014	20:00	Bald eagle	1	KM2		Rob Proc	no
12/08/2014	20:00	Deer	1	New warehouse building	Healthy, curious	Ian Henry	no
16/08/2014	19:00	Grouse	13	KM25-KM15		Rob Proc	no
16/08/2014	20:00	Porcupine	1	KM5		Rob Proc	no
20/08/2014	7:30	Moose	3	KM21	2 Cows, 1Bull	Stephen	no
20/08/2014	9:00	Black Bear	1	Km 5	Big bear	Stephen	no

Date	Time	Type of Animal	# of individuals	Location	Description: Size/Color/Markings and Additional Notes	Reported By (Name)	Reportable Incident (Yes/No)
23/08/2014	7:00	Sandhill Cranes	150	Over Camp	3 big V formations, looking for thermals or somwhere to land	Martin Crill	no
27/08/2014	5:30	Moose	1	Km 11	Cow moose jogging down road	Collin Moonen	no
01/09/2014	10:30	Black Bear	1	Km10	Small, on road by disabled machine(looking for lunch)	Ron Light, Ron Bertrand	no
02/09/2014	16:30	Black Bear	1	Km25	Large Black Bear limping on left foot	Kevin Tutin	no
03/09/2014	3:00	Fox	1	Behind kitchen ,smoke area	Running, medium size	Jennifer	no
05/09/2014	?	Wolf	5	North Dyno yard	2 Adults, 3 pups, seen crossing yard ,black+tan marks, reported by Dyno Dale	Martin Crill	no
06/09/2014	15:20	Fox	1	Barge	Skinny looking for food, young ,muddy	Helaina M.	no
10/09/2014	9:45	Moose	3	KM7	Cow and two calfs	Sean Darcy	no
12/09/2014	19:00	Fox	1	Km3	Black/Ginger	Victoria C.	no
13/09/2014	8:30	Hawk	1	Km6	Brown/White	RProc	no
17/09/2014	9:00	Moose	1	KM 5	Lg cow	Collin Moonen	no
22/09/2014	8:30	Moose	1	KM 8	Young adult	Sean Darcy	no
28/09/2014	10:00	Wolf	1	km11	Headed to KM 10	Corey Vaudine	no
01/10/2014	9:00	Unknown Bird	3	New warehouse building	3 birds in building	Ryan Faulds	no
03/10/2014	13:30	Bear Tracks		KM 24	Bear tracks on Access rd.	Ian Young	no
12/10/2014	4:30	Mule Deer (does)	7	9Km	2 lg, 5 small	KTOTIN	no
13/10/2014	7:30	Fox	1	Arctic Corridor	ran underneath corridor heading south	Molly Harrison	no
17/10/2014	3:20	Moose	2	KM 12.5	2 young bulls	Barry Hager Sr.	no
20/10/2014	12:30	Squirrel	1	smoke shack at camp	Heading towards luggage stoage	wendy willis	no
23/10/2014	15:00	Ptarmigan	5	Airport rd. Corner of W35	Saw them when they flew away	Jasmin Dobson	no
23/10/2014	6:45	Fox	1	on slope behide new camp	Walked up slope ; didn’t approch	D.Avar	no
27/10/2014	10:00	Loon	1	Main pit	Swimming/diving around near tails line	S.Dunfield	no
27/10/2014	17:00	Duck	1	ERT shack	Landed on ERT shack, fell off. Walking around looking injured, flew away!	S.Dunfield	no
27/10/2014	13:00	Fox	1	outside mine tech office	Adult red fox, not too concerned with people	D.Mckeen	no
01/11/2014	5:45	Fox	1	Assay lab		RPROC	no
01/11/2014	10:00	Fox	1	Barge Km 27	Red, yellowish, orange, black paws	Victoria	no
01/11/2014	9:00	Coyote Tracks	1	chemical tent laydown area	1 set of tracks	Sean Darcy	no
02/11/2014	8:00	Red fox	1	Out back of kitchen smoke area	walked right by me when sitting out back "good condition"	Chef Reid	no
04/11/2014	9:00	Red fox	1	out back of kitchen smoke area	Good behaviour	Chef Reid	no
13/11/2014	14:00	Wolf	1	Dyno	Scared running away from vehicle	HM	no
03/12/2014	7:30	Fox	1	Km2	followed me while I was jogging for approx 1/4 KM	Gary Parrup	no
2014-09	13:00	Gray Jays	2	Dumas Shop	Very curious birds	Ryan Faulds	no
09/11/2014	10:00	Wolf	3	KM 22	2 black wolfs and 1 grey one	Shaun Roberts	no
26/12/2014		Moose	1	Km3	Big brown		

Date	Time	Type of Animal	Number of Animals	Location	Description: Size/Color/Markings and Additional Notes	Reported By (Name)	Was the animal hazed?	What hazing technique was used?	What was the animals response?
06-Jan-15	14:30	Fox	1	Dyno Rd	Orange/ black	Helaina Moses	no	N/a	N/a
18-Jan-15	14:00	Fox	1	KM 1.5	Not too scared hazed down road	Ron B	no	N/a	N/a
23-Jan-15	16:00	Moose	2	Vent raise road	One cow and one calf	Dave Peters	No	N/a	N/a
09-Mar-15	5:00	Moose	1	In camp	Looking at me	Don Hannus	No	N/a	N/a
28-Mar-15	19:30	Hare	1	Km 3.5 Access Road	Dead hare on Access Road. Observed by a runner on road. Reported to Conservation Officer.	Rob Proc	No	N/a	N/a
28-Mar-15	19:00	Rabbit/Hare	1	3.5 Km	Dead hare on Access Road. Observed by a runner on road. Reported to Conservation Officer.	Rob. Proc	No	N/a	N/a
28-Mar-15	19:15	Whiskey Jack	3	3.5 Km	Eating rabbit	Rob. Proc	No	N/a	N/a
02-Apr-15	9:00	Squirrel	1	Mine tech	Running around looking for food	Helaina Moses	No	N/a	N/a
15-Apr-15	19:00	Wolf tracks	1	4 Km	walking towards 4.5	Rob. Proc	No	N/a	N/a
23-Apr-15	15:00	Grouse	1	Km 13 Access Road	Vehicle hit and killed Grouse. Grouse was moved off the road after it had been killed.	Helaina Moses	No	N/a	N/a
25-Apr-15	13:00	Moose	1	Bench on the Main Pit	Calf moose carcass	Jonathon Silverfox	No	N/a	N/a
25-Apr-15	21:30	Black bear	1	Pelly Yard	Black bear (brown) Medium size	Shane Pilsworth	Yes	Yelling, Honking, Air Horn	Ran a little ways and then stopped
26-Apr-15	17:30	Black bear	1	Landfill	Large, Brown	Danny Van Bibber	Yes	Yelling, Honking, Air Horn, Bear Banger, Bear Screamer	Reluctantly walked away
27-Apr-15	15:00	Black bear	1	Camp	Medium, Brown	Unknown	Yes	Yelling, Honking, Air Horn, Bear Banger	Reluctantly walked away
27-Apr-15	16:00	Black bear	1	Camp	Medium, Brown	Unknown	Yes	Yelling, Honking, Air Horn, Bear Banger	Reluctantly walked away
28-Apr-15	13:00	Black bear	1	Camp	Medium, Brown	Unknown	Yes	Yelling, Honking, Air Horn, Bear Banger	Ran away and not seen again
29-Apr-15	17:30	Black bear	1	IROD Dump	Medium, Brown	Dale (Dyno)	Yes	Other	Ran away and not seen again
04-May-15	17:30	Black bear	1	Landfill area	Large brown	Site services	Yes	Yelling, Honking	Ran away and not seen again
05-May-15	8:00	Black bear	1	MWD	Large brown	Flo	Yes	Yelling, Honking, Air Horn, Bear Banger, Bear Screamer	Other (detail in notes)

Date	Time	Type of Animal	Number of Animals	Location	Description: Size/Color/Markings and Additional Notes	Reported By (Name)	Was the animal hazed?	What hazing technique was used?	What was the animals response?
07-May-15	10:30	Black bear	1	In ditch behind Dumas shop	Large, Cinnamon	Unknown	No	N/a	N/a
07-May-15	11:15	Black bear	1	Pelly Yard	Large brown	Niles	Yes	Yelling, Honking, Air Horn, Bear Banger, Bear Screamer	Reluctantly walked away
12-May-15	20:00	Black bear	1	Main Waste Dump	Brown	Dave Heemskerk	No		
14-May-15	11:00	Marten	1	W50	Light brown fur with white fur on chest	Shaun and Helaina	No		
14-May-15	16:00	Black bear	1	Corner of airport road by Dumas	Didn't see it	Unknown	Yes	Bear Banger	Reluctantly walked away
14-May-15	18:00	Black bear	1	Corner of airport road by Dumas	Medium, black fur	Dave crottey	Yes	Rubber Bullet	Other (detail in notes)
15-May-15	8:15	Black bear	1	Corner of airport road by Dumas	Medium, black fur	No one	Yes	Yelling, Honking, Air Horn, Bear Banger, Bear Screamer	Reluctantly walked away
15-May-15	10:40	Black Bear	1	Beside Dumas Shop	Medium Brown fur, very heathly and young adult	Terry Rickard	yes	Yelling, Honking, Air Horn, Bear Banger, Bear Screamer	Other (detail in notes)
16-May-15	5:58	Black bear	1	Corner of airport road by Dumas	Medium to large. Brown	Control Room	Yes	Yelling, Honking, Air Horn, Bear Banger, Bear Screamer	Reluctantly walked away
16-May-15	10:00	Black bear	1	Corner of airport road by Dumas	Medium to large. Brown	Terry Rickard	Yes	Yelling, Honking, Air Horn	Reluctantly walked away
16-May-15	11:00	Black bear	1	On portal road	Medium to large. Brown	Ben from Dewatering	Yes	Yelling, Honking, Air Horn	Ran away and not seen again
16-May-15	17:00	Black bear	1	Vent raise road	Medium to large. Brown	Shawn Regina	No		
17-May-15	20:00	Black bear	1	Corner of airport road by Dumas	Medium black bear with tan face.	Dumas	Yes	Yelling, Honking, Air Horn, Bear Banger, Bear Screamer	Ran a little ways and then stopped
22-May-15	9:00	Black bear	1	Southwest Dump	medium, black	Ralph Harper	Yes	yelling	Other (detail in notes)

Date	Time	Type of Animal	Number of Animals	Location	Description: Size/Color/Markings and Additional Notes	Reported By (Name)	Was the animal hazed?	What hazing technique was used?	What was the animals response?
22-May-15	14:00	Black bear	1	Aiport road	Medium, Brown	Zoom boom Gary	Yes	Yelling, Honking	Reluctantly walked away
23-May-15	17:00	Black bear	1	Corner of airport road by Dumas	Medium, black	Garry Paarup	Yes	Rubber Bullet	Other (detail in notes)
24-May-15	8:00	Black bear	1	Corner of airport road by Dumas	Medium, black	Dumas?	Yes	Rubber Bullet	Ran away and not seen again
02-Jun-15	7:00	Black bear	1	Km 1.5 Access Road	Black bear	Smalls	No	N/a	N/a
02-Jun-15	12:15	Moose	2	Camp	Cow moose and calf	Warehouse	Yes	Bear Banger	Other (detail in notes)
02-Jun-15	16:00	Black bear	1	km 11	350 lb black bear				
02-Jun-15	16:00	Moose	1	km 9	had pretty heavy tick load w big patches of fue rubbed off its flanks				
23-Mar-15		Snow bunting	>20	hillside west of STP	flocks gathering	Rob Proc			
20-Apr-15	7:30	Wolf	1	km 2	black wolf	Martin Crill			
21-Apr-15	9:30	Trumpeter swans and brandt geese	<150	LTF	flying north high 1/4 had black wings immature brant geese	Martin Crill			
07-May-15	10:45	Mountain blue bird	1	km 27	flew across the road to nest	Norma Alfred/Shaun Roberts			
08-May-15	5:45	Black bear	1	east end of MVF	small black walking away from camp down exploration road	Martin Crill			
09-May-15	10:30	Porcupine	1	km 3	black w/ gold trim	Martin Crill			
10-May-15	8:00	Water shrew	1	W3	swimming on bottom of creek	Shaun Roberts			
09-Jun-15	15:20	Black bear	1	km3	Large, cinnamon coloured	SR/NA	No		
11-Jun-15	14:30	Swallows	>20	Tailings Chute	Flying in and out of mud nests on Tailings Chute	Dan Avar	No	N/a	N/a
10-Apr-15	2:00	Black Bear		KM 19	Heathly good size	Sean, Rocky, Damien	No	n/a	n/a
14-Apr-15	14:30	Brown Bear	1	KM 3	Ran into bush	K Tutin	No	n/a	n/a
16-May-15	16:00	Brown Bear	1	Vent raise road	Ran into Bush	Shawn Regina	No	n/a	n/a
16-May-15	12:30	Black Bear	1	Corner of airport road	He was Relaxing	Barry Hager Sr.	No	n/a	n/a
09-Jun-15	11:50	Black Bear	1	KM 0.5	Walked down the road	Todd, Curt	No	n/a	n/a
06-May-15		Black Bear	1	KM 8.5		Seb T	No	n/a	n/a
08-May-15	9:00	Bank Swallow	1	MVF	1st of the season	Martin Crill	No	n/a	n/a
15-May-15	19:30	Bear& Moose tracks	Lots	7Km-8KM	Fresh tracks on Access rd	R Proc	No	n/a	n/a
24-May-15	11:00	Black bear	1	3KM	Black	J.Reading	No	n/a	n/a
29-May-15	6:00	Black Bear	1	Km11	On road	R.Legh	No	n/a	n/a

Date	Time	Type of Animal	Number of Animals	Location	Description: Size/Color/Markings and Additional Notes	Reported By (Name)	Was the animal hazed?	What hazing technique was used?	What was the animals response?
08-Jun-15	10:30	Bear	1	Airport	Light carmel black bear, walking down air strip	Martin Crill	No	n/a	n/a
12-Jun-15	14:00	Duck and 3 duckling	3	KM0.5	walking across road, Healthy maybe a mallard?	Jasmin Dobson	No	N/a	N/a
29-Jun-15	8:30	Fox	1	Km 13		James Cummings	No	n/a	n/a
30-Jun-15	8:30	Ravens	2	Camp	Two ravens found dead in camp below powerlines.		No	n/a	n/a
30-Jun-15	15:30	Grizzly Bear	1	Km 7	Dissapeared into bush	Seb T	No	n/a	n/a
05-Jul-15	10:30	Mule deer	1	On hill behind ERT	Adult	Dave Heemskerk	No	n/a	n/a
06-Jul-15	20:15	Black bear	1	KM 9	Yearling	Ryan Herbert	No	N/a	N/a
06-Jul-15	20:20	Rabbit/Hare	4	KM 3.5	Medium size	Ryan Herbert	No	N/a	N/a
07-Jul-15	13:00	Deer	1	CWTS	Adult	Daryl Johnston	No	N/a	N/a
07-Jul-15	15:15	Black bear	1	11.5KM	Adult	Truck Driver	No	N/a	N/a
09-Jul-15	19:30	Hare	2	KM 3.5	Medium size. On the road.	Jasmin Dobson	No	N/a	N/a
10-Jul-15	19:00	Hare	1	KM 3.5	Medium size. On the road.	Jasmin Dobson	No	N/a	N/a
11-Jul-15	19:30	Hare	3	KM 3.5	Medium size. On the road.	Jasmin Dobson	No	N/a	N/a
12-Jul-15	12:30	Swallow	2	Fuel farm, generator building	Two nestlings inside a hole in building.	Ryan Silverfox	No	N/a	N/a
14-Jul-15	12:15	Black bear	1	KM 10.5	Small black running into bush	Helaina Moses	No	N/a	N/a
14-Jul-15	13:20	Brown Bear	1	KM 19 on the bridge	Big brown bear heathly.	Helaina Moses	No	N/a	N/a
16-Jul-15	6:00	Grizzly Bear	1	KM 21	Heathly good size	Phillyis	No	N/a	N/a
16-Jul-15	13:30	Black bear	1	KM 12.5	Small black bear running into the bush on the side of the road	Ryan Herbert	No	N/a	N/a
17-Jul-15	13:20	Deer	1	W3 Flume	By flume ran into bushes when spotted me and Phyllis	Helaina Moses	no	N/a	N/a
18-Jul-15	17:45	Black bear	1	Airport road	medium cinnamon. Ran into bush upon seeing vehicle	Chris Harry	yes	Yelling, Honking, Air Horn, Bear Banger	Ran away and not seen again
19-Jan-15	7:45	Red Fox	1	Km 18	on road	Correy Vandine	no	N/A	N/A
19-Jan-15	9:00	Ptarmigan	2	Dyno Rd	Eating willow buds	Correy Vandine	No	N/A	N/A
25-Jan-15	9:03	Ptarmigan	2	Dyno Rd	On Road	Correy Vandine	No	N/A	N/a
09-Mar-15	4:45	Moose	1	Main Camp	In Parking lot	A.Rice	No	N/a	N/a
19-May-15	1:20	Bear	1	Access Road	on the road	A.Rice	No	N/a	N/a
25-Jun-15	1:30	Rabbit/Hare	4	Access Road	on road	Correy Vandine	No	N/a	N/a
23-Jun-15	11:30	Cougar	1	Km 17	walking across road	Barry Hager Sr.	No	N/a	N/a
23-Jun-15	3:30	Brown Bear	1	Km 20	side of road	Wade Howe	No	N/a	N/a
24-Jun-15	10:45	Deer with two fawn	3	Km 4	running down the road	Garry Brown	No	N/a	N/a
17-Jun-15	9:00	Deer	1	Km 9.5	young, healthy, male deer with white tail.	Javad A	No	N/a	N/a
10-Jul-15	5:40	Black Bear	1	Km 22	Adult, Healthy	Ron L	No	N/a	N/a
10-Jul-15	5:55	Moose	1	Km 6	Cow moose and calf	Ron L	No	N/a	N/a
09-Jul-15	19:40	Fox	1	Km 11	Black/Silver	R.Proc	No	N/a	N/a
11-Jul-15	0:10	Porcupine	1	Sherwood	Black/Grey	Devin	No	N/a	N/a
14-Jul-15	12:15	Black bear	1	KM 10.5	Small, ran into bush	Helaina Moses	No	N/a	N/a
14-Jul-15	13:20	Brown Bear	1	Km 19	Big & Healthy	Helaina Moses	No	N/a	N/a
15-Jul-15	12:30	Fox	1	Barge	Skinny, looking for food. Hopped into box off truck. Black/ Orange	Helaina Moses	No	N/a	N/a
17-Jul-15	18:00	Deer	1	Km 1.5			No	N/a	N/a
09-May-15	10:30	Porcupine	1	KM 3	Black wit gold trim	Martin Crill	No	N/a	N/a
10/May/2015	8:00	Water Shrew	1	W3	swimming on bottom of creek	Shawn Roberts	No	N/a	N/a

Date	Time	Type of Animal	Number of Animals	Location	Description: Size/Color/Markings and Additional Notes	Reported By (Name)	Was the animal hazed?	What hazing technique was used?	What was the animals response?
24/Jun/2015	9:00	Blacks Bears	2	KM 13/12	Side of road	Norma Alfred	No	N/a	N/a
14/Jun/2015	9:00	Fox	1	Barge landing		norma Alfred	No	N/a	N/a
4/Jul/2015	9:00	Fawn	1	KM 9	Running on Access road without mom	Ryan Herbert/ Norma Alfred	No	N/a	N/a
7/Jul/2015	11:00	Bear	1		Creeping behide willow bush	ShawnR, NormaA	No	N/a	N/a
20/Apr/2015	7:30	Wolf	1	Km2		Martin crill			
18/Jul/2015	1:00	Bear	2	Dyno Rd	2 bear heading twd duck pond.	Flo Foster	No		
26/Jul/2015	13:00	bear	1	Dumas yard	Cinnamon(black bear) Medium	Dumas	YES	yelling, honking, air horn, bear banger	Ran away and not seen again
27/Jul/2015	6:00	Bear	1	Dumas yard	Cinnamon(black bear) Medium	Dumas	Yes	Bear Banger	Other (detail in notes)
2/Aug/2015	9:00	Mule Deer	1	Infront of ERT	Large beige deer	Colin M	Yes	Other	Ran a little ways and then stopped
2/Aug/2015	14:35	Wolf	1	WMA airstrip corner	med. Grey and white colored wolf. Standing there staring not displaying any type of intimidation	Norma /Jasmin	Yes	Yelling, Honking, Air Horn, Bear Banger	Ran away and not seen again
2/Aug/2015	15:20	Swallows	0	Tailings Chute	All of the swallows have left around the 25th of July	Jasmin Dobson	No	N/a	N/a
4/Aug/2015	8:00	Fox	1	km 5	small, black	Ron Light	No	N/a	N/a
4/Aug/2015	8:05	Rabbit/Hare	2	km 3		Ron Light	No	N/a	N/a
6/Aug/2015	8:00	Ducks	4	A2 Pit		Shaun	No	N/a	N/a
6/Aug/2015	10:00	Swallow	1	Mill Valley Fill	Dead in an empty tote	Jasmin Dobson	No	N/a	N/a
15/Aug/2015	6:00	Deer	1	Safety and Mine Office	Deer tracks only	James Cummings	No	n/a	n/a
20/Aug/2015	14:00	Black bear	1	side of the hill km 9.5	huge size black bear walking up on the hill side into the trees	Chris, Norma, Philly	No	n/a	n/a
22/Aug/2015	10:30	Fox	1	km 6 side of the rd	black and orange, walking into the bushes	Chris, Norma, Philly, Shelby, colin	No	n/a	n/a
24/Aug/2015	10:30	Brown Bears	3	In the bush near 13.5 KM	Sow with two yearlign cubs	Ryan Herbert	No	n/a	n/a
10/Apr/2015	2:00	Black bear	1	crossing single lane bridge	young bear, good condition	rocky, Jean damian	No	N/a	N/a
16/May/2015	7:00	Black bear	1	trail at 4.5 km			No	N/a	N/a
16/May/2015	7:00	Rabbits	4	trail at 4.5 km			No	N/a	N/a
16/May/2015	7:00	Grouse	8	trail at 4.5 km			No	N/a	N/a
21/Jul/2015	7:00	Rabbit	1	road @ 1.5km	good condition	Jim Davis	No	N/a	N/a
6/Jul/2015	11:00	Deer	2	Between ERT and Capstone lodge, heading up to fuel farm	Mother and fawn	Daniel Avar	No	N/a	N/a
8/Jul/2015	19:45:00 AM	Bear	1	water storage pond	grazing in grass close to where 2 blue 45 gallon drums are located	D. Macveen	No	N/a	N/a
9/Jul/2015	8:20	Rabbit	1	km 3	bouncing by across the road		No	N/a	N/a
19/Jul/2015	11:10	Deer	1	south of mill valley	young doe	Benjamin Anderson	No	N/a	N/a
3/Aug/2015	9:30	Deer	1	Mill Valley	ok I guess ran away when I drove by	s. dunfield	No	N/a	N/a
10/Aug/2015	4:30	Fox	1	south wall buttress	walking across buttress, too far away to see any detail	D. Avar	No	N/a	N/a
28/Jul/2015	4:15	Bear	2	km 14	Grizzlies, playing	Jean	No	N/a	N/a
24/May/2015	20:15	Brown bear	1	3.5 km	side of the road, up into trees	James Cummings	No	N/a	N/a
7/May/2015	20:20	Black bear	1	km 1	came up bank to cross road	kelly friensen	No	N/a	N/a

Date	Time	Type of Animal	Number of Animals	Location	Description: Size/Color/Markings and Additional Notes	Reported By (Name)	Was the animal hazed?	What hazing technique was used?	What was the animals response?
27/Jul/2015	20:30	Fox	1	12.5 km	cloudy, rough looking	Pam Blanden	No	N/a	N/a
22/Jul/2015	10:00	Deer	1	21 km	buck on the road	Jennie	No	N/a	N/a
8/Aug/2015	15:00	Fox	1	buttress	walking	heather	No	N/a	N/a
16/Aug/2015	15:30	Bald eagles	2	km 24.5	sitting in tree	R Proc	No	N/a	N/a
16/Aug/2015	16:30	Sandhill cranes	12	D-51	resting/chilling	c.harry	No	N/a	N/a
29/Aug/2015	19:00	Sandhill cranes	Flock	MWD	Flew in and landed on MWD	Jasmin Dobson	No	N/a	N/a
30/Aug/2015	19:00	Fox	1	km16	seemed satisfied with himself, rabbit in mouth	D.Avar	no	N/a	N/a
30/Aug/2015	19:00	Rabbit	1	km16	dead in fox mouth (above)	D.Avar	No	N/a	N/a
6/Sep/2015	19:00	Red fox	1	Km2	Healthy looking, lots of fur. Approached and was not scared	Jennifer Johannsen	Yes	Other	Stayed put and didn't move
6/Sep/2015	19:30	Red fox	1	Km2	Healthy looking, lots of fur. Approached and was not scared	Jasmin Dobson	Yes	Other	Reluctantly walked away
14/Sep/2015	10:30	Black bear	1	Km 9	Healthy looking, big	Ryan Herbert	Yes	Other	Ran a little ways and then stopped
19/Sep/2015	17:30	Red Fox	1	WMA airstrip corner	Healthy looking, ran into bush.	S.Charlie	Yes	Other	Ran a little ways and then stopped
27/Sep/2015	8:00	Deer	3	Behind Mine Tech building	Healthy looking mom and 2 fawns.	Temes Teshale	No	N/a	N/a
27/Sep/2015	9:30	Deer	3	Ramp from ERT to fuel farm	mother and two babies	R. Kerr	No	N/a	N/a
2/Oct/2015	14:00	Deer	3	KM 17	Doe with 2 fawns	Shaun Roberts	No	N/a	n/a
9/Oct/2015	9:30	Moose	3	KM19	Looked like Cow and 2 two older calves	Chris Harry	No	n/a	n/a
10/Oct/2015	0:00	Red Fox	1	East of Warehouse	Pelt approaching prime.	Rob Thompson	Yes	Other	Ran away and not seen again
11/Oct/2015	14:00	Grizzly Bear	1	KM 18	Adult	Truck Driver	No	n/a	Ran away and not seen again
13/Oct/2015	11:00	Wolf	1	KM8	Large black white	Truck Driver	No	n/a	Ran away and not seen again
22/Oct/2015	13:15	Deer	6	KM16	2 does with 2 fawns each	Shaun	No	n/a	Stayed put and didn't move
30/Oct/2015	15:00	Fox	1	Minto North Pit	looked like a fox	Roger	No	n/a	n/a
30/Oct/2015	16:00	Fox	1	Minto North Pit Crest	seemed fine, ran away quickly	Roger H	No	N/a	N/a
30/Aug/2015	11:30	Porcupine	1	beside rec room	large adult	Patrick L	No	N/a	N/a
13/Sep/2015	10:30	Deer	3	Minto North Pit		G. Jackson	No	N/a	N/a
5/Oct/2015	15:40	Fox	1	behind arctic corridor		Kelly Friesen	No	N/a	N/a
8/Oct/2015	19:30	Owl	1	KM3 access road	Big creepy looking, yellow eyes. Brown	Darin Kennedy	No	N/a	N/a
16/Sep/2015	8:00	Fox	1	KM 14.5		James Cummings	No	N/a	N/a
23/Sep/2015	15:00	Sandhill cranes	500+	over the mine		Jasmin Dobson	No	N/a	N/a
4/Oct/2015	13:30	Deer	2	km 16.5	grey brown	Ron Light	No	N/a	N/a
7/Nov/2015	16:00	Cross fox	1	km 10	medium sized	Chris Harry	No	N/a	N/a
8/Nov/2015	13:30	Red fox	1	landfill area	medium sized	Chris Harry	No	N/a	N/a
8/Nov/2015	13:40	Peregrine falcon	1	landfill road	large adult	Chris Harry	No	N/a	N/a
23/Sep/2015	21:00	Fox	1	ore pad		Mark St. Germain	No	N/a	N/a
2/Nov/2015	23:00	Fox	1	garbage cans by portal	adult	Mark St. Germain	No	N/a	N/a
18/Nov/2015	12:00	Fox	1	Area 2 Pit and Nuway intersection	adult	Rick Baker	No	N/a	N/a

Date	Time	Type of Animal	Number of Animals	Location	Description: Size/Color/Markings and Additional Notes	Reported By (Name)	Was the animal hazed?	What hazing technique was used?	What was the animals response?
19/Nov/2015	11:00	Fox	1	Intersection at Area2, Nuway, Main Pit	sniffing around	Kaylie R	No	n/a	n/a
20/Nov/2015	13:00	Fox	1	Airport Road	healthy and fuzzy	Ron L	no	N/a	N/a
21/Nov/2015	9:00	Fox	1	Near Pelly	Healthy, orange, walking toward Nuway	DMc?	No	N/a	N/a
21/Nov/2015	13:00	Fox	1	Selkirk Towers	adult	Todd Epps	No	N/a	N/a
22/Nov/2015	7:45	Fox	1	118 Portal bins	Greyish in colour	Rick baker	No	N/a	N/a
7/Dec/2015	15:00	Fox	1	Bench of Mine Pit	healthy	James Cummings			
9/Dec/2015	15:45	Fox	1	KM 14	red fox	Shelby Charlie	No	N/a	N/a
9/Dec/2015	16:00	Lynx	1	KM9	adult. Healthy looking. Grey/white colour	Shelby Charlie	No	N/a	N/a
14/Dec/2015	9:00	Fox	1	Portal Road/Portal Ore Pad	Walking over freshly dumpled ore piles	R Kerr, D Avar	No	N/a	N/a
22/Dec/2015	15:15	Fox	1	Portal Muster Station		D Avar	No		
27/Dec/2015	13:00	Fox	1	Outside Capstone Parking lot		Qing, Sophie	No		
5/Oct/2016	10:45	Fox	1	between capstone and Mine tech	silver/ black	Sean Darcy	No		
5/Dec/2016	18:15	Fox	1	coming down to mine tech	Red adult, good condition	Serge Pitre	No		
30/Dec/2016	15:00	Fox	1	portal ore pad	Red adult, good condition	T. Monteith	No		

Date	Time	Type of Animal	Who performed the hazing?	Has this animal been hazed in 2015?	Reportable Incident (Yes/No)	Notes
06-Jan-15	14:30	Fox	N/a	n/a	No	Running away with rabbits foot in mouth
18-Jan-15	14:00	Fox	N/a	n/a	No	Not too scared, hazed down road
23-Jan-15	16:00	Moose	N/a	N/a	No	
09-Mar-15	5:00	Moose	N/a	n/a	No	Looking at me
28-Mar-15	19:30	Hare	N/a	N/a	Yes	
28-Mar-15	19:00	Rabbit/Hare	N/a	n/a	No	
28-Mar-15	19:15	Whiskey Jack	N/a	n/a	No	
02-Apr-15	9:00	Squirrel	N/a	n/a	No	
15-Apr-15	19:00	Wolf tracks	N/a	n/a	No	
23-Apr-15	15:00	Grouse	N/a	N/a	No	
25-Apr-15	13:00	Moose	N/a	N/a	Yes	Deceased calf moose carcass visible on a bench on the Main Pit. About a month ago ravens were observed in the same area and individuals saw that they were eating a carcass. Information was just recently passed on to Environment. The bench is not accessible and the carcass is just barely visible.
25-Apr-15	21:30	Black bear	CH	No	No	
26-Apr-15	17:30	Black bear	CH	Potentially	No	Bear was not very scared upon initial hazing, but upon seeing truck the second time around (same hazing event), bear ran immediately
27-Apr-15	15:00	Black bear	JD	Potentially	No	Bear first observed behind camp and walked up on hill behind ERT building. After being hazed it popped up on top of small cliffs above Selkirk Towers. After it saw JD again it walked away and could not be spotted.
27-Apr-15	16:00	Black bear	Safety	Yes	No	Mark Goebel came to haze bear with rubber bullet but was not able to get the shot in
28-Apr-15	13:00	Black bear	Safety	Yes	No	Ryan Silverfox chased into bush with truck. Mark arrived and shot bangers towrds wodded area where bear entered.
29-Apr-15	17:30	Black bear	RH	Potentially	No	Honked horn on truck and chased bear into bush.
04-May-15	17:30	Black bear	CH	Yes	No	honked and yelled bear ran into bush
05-May-15	8:00	Black bear	CH	Yes	No	bear ran away out of site, followed and hazed into bush away from mine site. Stopped hazing when bear went into bush.

Date	Time	Type of Animal	Who performed the hazing?	Has this animal been hazed in 2015?	Reportable Incident (Yes/No)	Notes
07-May-15	10:30	Black bear	N/a	Unknown	No	MC was called out. Went with Dave C, but couldn't find bear. Confirmed that it had been in the TDD, at the Dumas shop end, but had likely moved away when equipment was moved in area.
07-May-15	11:15	Black bear	SR	Yes	No	Bear didn't seemed to worried of noise deterrents, but ran away when chased by the truck. Ran down the SW dump and continued along the base of the dump past the W32 sampling site.
12-May-15	20:00	Black bear		No	No	Bear was on Main Waste Dump in the evening
14-May-15	11:00	Marten		No	No	Ran by us while we were taking a flow at W50
14-May-15	16:00	Black bear	MC	No	No	Sean Darcy got there first and fired off a couple of crackers. Said on radio it wasn't moving, but it soon disappeared.
14-May-15	18:00	Black bear	Safety	Unknown	No	Dave Hazed bear with rubber bullets, and it took off into the trees.
15-May-15	8:15	Black bear	SR	Yes	No	Used bear bangers and screamers, bear ran onto the road and then was chased off the road with the truck. Walked up through the trees towards WMA
15-May-15	10:40	Black Bear	HM	No	No	Bear was sitting in the bushes eating willows didn’t budge to loud noises so Dave C deployed a Rubber Bullet. Bear than starting making his way back to the bushes and away from camp
16-May-15	5:58	Black bear	MC	Yes	No	Bear backed off into the bushes but didn't want to leave. I went to Dumas shop & Dave Crottey was there. We discussed and DC said he didn't want to haze bears from the corner - only if they came down the bank towards Dumas shop. He had communicated that to Dumas staff.
16-May-15	10:00	Black bear	JD	Yes	No	Bear only moved over a few feet. The bear was eating grass and keeping to itself. Jasmin went to Dumas shop and gave them an airhorn and asked them to use it and their voices if they are working at the back of the shop. Reminded Jeff and Terry about garbage/food waste with a bear being so close. Left the bear up on the corner and if it got closer asked Dumas to call.
16-May-15	11:00	Black bear	JD	Yes	No	Chased bear with truck off the road and into the woods.
16-May-15	17:00	Black bear		Yes	No	Bear eating grass peacefully near vent raise road.
17-May-15	20:00	Black bear	JD	No	No	Hazed the bear until it left the area near the Dumas shop
22-May-15	9:00	Black bear	Other	Unknown	No	Ralph saw bear by his truck, he yelled and it walked away

Date	Time	Type of Animal	Who performed the hazing?	Has this animal been hazed in 2015?	Reportable Incident (Yes/No)	Notes
22-May-15	14:00	Black bear	Other	Unknown	No	Gary saw bear on road, drove ahead and honked bear walked into bush
23-May-15	17:00	Black bear	Safety	Yes	No	Bear ran into bush after getting rubber bullet, came out down the TDD and got another bullet, ran into bush and was not seen after
24-May-15	8:00	Black bear	Safety	Yes	No	Mark got rubber on the bear and bear ran across road into bush on airport road
02-Jun-15	7:00	Black bear	N/a	Unknown	No	
02-Jun-15	12:15	Moose	JD	No	No	Moose was reported by the propane tanks at the warehouse. Safety/Enviro went to investigate and found the moose at the STP/Selkirk Tower rd intersection turning in towards camp. Safety/Enviro then travelled through camp and by this time the animals had turned back around and went over the bank and into the bush by Selkirk Towers. Shot off one bear banger just in case.
02-Jun-15	16:00	Black bear				
02-Jun-15	16:00	Moose				
23-Mar-15		Snow bunting				
20-Apr-15	7:30	Wolf				
21-Apr-15	9:30	Trumpeter swans and brandt geese				
07-May-15	10:45	Mountain blue bird				
08-May-15	5:45	Black bear				
09-May-15	10:30	Porcupine				
10-May-15	8:00	Water shrew				
09-Jun-15	15:20	Black bear		Unknown	No	Bear was eating grass on the side of the road at km 3. When it saw us it turned around and walked slowly down the power line cut.
11-Jun-15	14:30	Swallows	N/a	No	No	
10-Apr-15	2:00	Black Bear	n/a	No	No	
14-Apr-15	14:30	Brown Bear	n/a	No	No	
16-May-15	16:00	Brown Bear	n/a	No	No	
16-May-15	12:30	Black Bear	n/a	No	No	
09-Jun-15	11:50	Black Bear	n/a	No	No	
06-May-15		Black Bear	n/a	No	No	
08-May-15	9:00	Bank Swallow	n/a	No	No	
15-May-15	19:30	Bear& Moose tracks	n/a	No	No	
24-May-15	11:00	Black bear	n/a	No	No	
29-May-15	6:00	Black Bear	n/a	No	No	

Date	Time	Type of Animal	Who performed the hazing?	Has this animal been hazed in 2015?	Reportable Incident (Yes/No)	Notes
08-Jun-15	10:30	Bear	n/a	No	No	
12-Jun-15	14:00	Duck and 3 duckling	N/a	No	No	
29-Jun-15	8:30	Fox	n/a	No	No	
30-Jun-15	8:30	Ravens	n/a	No	No	Reported to CO, who advised to dispose of carcasses by incineration
30-Jun-15	15:30	Grizzly Bear	n/a	No	No	
05-Jul-15	10:30	Mule deer	n/a	No	No	
06-Jul-15	20:15	Black bear	N/a	No	No	
06-Jul-15	20:20	Rabbit/Hare	N/a	No	No	Hanging out on the side of the road.
07-Jul-15	13:00	Deer	N/a	No	No	
07-Jul-15	15:15	Black bear	N/a	No	No	Reported on radio at 11.5 KM
09-Jul-15	19:30	Hare	N/a	No	No	
10-Jul-15	19:00	Hare	N/a	No	No	
11-Jul-15	19:30	Hare	N/a	No	No	
12-Jul-15	12:30	Swallow	N/a	No	No	
14-Jul-15	12:15	Black bear	N/a	No	No	
14-Jul-15	13:20	Brown Bear	N/a	No	No	
16-Jul-15	6:00	Grizzly Bear	N/a	No	No	
16-Jul-15	13:30	Black bear	N/a	No	No	
17-Jul-15	13:20	Deer	N/a	No	No	Deer has been hanging around in that area, by STP few days ago.
18-Jul-15	17:45	Black bear	HM	No	No	
19-Jan-15	7:45	Red Fox	N/A	No	No	
19-Jan-15	9:00	Ptarmigan	N/A	No	No	
25-Jan-15	9:03	Ptarmigan	N/a	No	No	
09-Mar-15	4:45	Moose	N/a	No	No	
19-May-15	1:20	Bear	N/a	No	No	
25-Jun-15	1:30	Rabbit/Hare	N/a	No	No	
23-Jun-15	11:30	Cougar	N/a	No	No	Second party Beleives it was a grizzly Bear. SS Wade
23-Jun-15	3:30	Brown Bear	N/a	No	No	
24-Jun-15	10:45	Deer with two fawn	N/a	No	No	
17-Jun-15	9:00	Deer	N/a	No	No	
10-Jul-15	5:40	Black Bear	N/a	No	No	
10-Jul-15	5:55	Moose	N/a	No	No	
09-Jul-15	19:40	Fox	N/a	No	No	
11-Jul-15	0:10	Porcupine	N/a	No	No	
14-Jul-15	12:15	Black bear	N/a	No	No	
14-Jul-15	13:20	Brown Bear	N/a	No	No	
15-Jul-15	12:30	Fox	N/a	No	No	
17-Jul-15	18:00	Deer	N/a	No	No	
09-May-15	10:30	Porcupine	N/a	No	No	
10/May/2015	8:00	Water Shrew	N/a	No	No	

Date	Time	Type of Animal	Who performed the hazing?	Has this animal been hazed in 2015?	Reportable Incident (Yes/No)	Notes
24/Jun/2015	9:00	Blacks Bears	N/a	No	No	
14/Jun/2015	9:00	Fox	N/a	No	No	
4/Jul/2015	9:00	Fawn	N/a	No	No	
7/Jul/2015	11:00	Bear	N/a	No	No	
20/Apr/2015	7:30	Wolf				
18/Jul/2015	1:00	Bear			No	
26/Jul/2015	13:00	bear	CP	No		
27/Jul/2015	6:00	Bear	CH	Yes		bear was hiding in bush uopon arrival. Fired banger and screamer in general area
2/Aug/2015	9:00	Mule Deer	SR	Potentially	No	
2/Aug/2015	14:35	Wolf	JD	Yes	No	Might have been same wolf Helaina seen last winter.
2/Aug/2015	15:20	Swallows	N/a	No	No	Note that birds have left site before the end of July
4/Aug/2015	8:00	Fox	N/a	No	No	
4/Aug/2015	8:05	Rabbit/Hare	N/a	No	No	
6/Aug/2015	8:00	Ducks	N/a	No	No	Floating around on the water.
6/Aug/2015	10:00	Swallow	N/a	No	No	Dead. Looked like it had been there for some time.
15/Aug/2015	6:00	Deer	n/a	No	No	
20/Aug/2015	14:00	Black bear	n/a	N/a	No	
22/Aug/2015	10:30	Fox	n/a	N/a	No	
24/Aug/2015	10:30	Brown Bears	n/a	N/a	No	They all ran when they saw truck
10/Apr/2015	2:00	Black bear	N/a	N/a	No	
16/May/2015	7:00	Black bear	N/a	N/a	No	
16/May/2015	7:00	Rabbits	N/a	N/a	No	
16/May/2015	7:00	Grouse	N/a	N/a	No	
21/Jul/2015	7:00	Rabbit	N/a	N/a	No	
6/Jul/2015	11:00	Deer	N/a	N/a	No	
8/Jul/2015	19:45:00 AM	Bear	N/a	N/a	No	
9/Jul/2015	8:20	Rabbit	N/a	N/a	No	
19/Jul/2015	11:10	Deer	N/a	N/a	No	
3/Aug/2015	9:30	Deer	N/a	N/a	No	
10/Aug/2015	4:30	Fox	N/a	N/a	No	
28/Jul/2015	4:15	Bear	N/a	N/a	No	
24/May/2015	20:15	Brown bear	N/a	N/a	No	
7/May/2015	20:20	Black bear	N/a	N/a	No	

Date	Time	Type of Animal	Who performed the hazing?	Has this animal been hazed in 2015?	Reportable Incident (Yes/No)	Notes
27/Jul/2015	20:30	Fox	N/a	N/a	No	
22/Jul/2015	10:00	Deer	N/a	N/a	No	
8/Aug/2015	15:00	Fox	N/a	N/a	No	
16/Aug/2015	15:30	Bald eagles	N/a	N/a	No	
16/Aug/2015	16:30	Sandhill cranes	N/a	N/a	No	
29/Aug/2015	19:00	Sandhill cranes	N/a	N/a	No	
30/Aug/2015	19:00	Fox	N/a	N/a	No	
30/Aug/2015	19:00	Rabbit	N/a	N/a	No	
6/Sep/2015	19:00	Red fox	Other	Unknown	No	Fox had just caught a rabbit and then approached Jen as she was biking by. Did not get fazed by her yelling at it.
6/Sep/2015	19:30	Red fox	JD	Yes		Same fox reported by Jen. Ran across the road in front of us and then stared at us as we went by then started trotting up the road.
14/Sep/2015	10:30	Black bear	RH	Unknown	No	honked at bear and chased it into bush.
19/Sep/2015	17:30	Red Fox	SC	Unknown	No	
27/Sep/2015	8:00	Deer	N/a	N/a	No	Deer ran off site before Environment arrived
27/Sep/2015	9:30	Deer	N/a	N/a	No	
2/Oct/2015	14:00	Deer	n/a	Unknown	No	Ran into the trees and just stood there and watched me
9/Oct/2015	9:30	Moose	n/a	n/a	No	Went into bush when vehicle approached
10/Oct/2015	0:00	Red Fox	Other	Unknown	No	
11/Oct/2015	14:00	Grizzly Bear	n/a	Unknown	No	
13/Oct/2015	11:00	Wolf	n/a	Unknown	No	Biggest wolf ever seen by truck driver.
22/Oct/2015	13:15	Deer	n/a	Unknown	No	
30/Oct/2015	15:00	Fox	n/a	Unknown	No	
30/Oct/2015	16:00	Fox	N/a	Unknown	No	
30/Aug/2015	11:30	Porcupine	N/a	N/a	No	
13/Sep/2015	10:30	Deer	N/a	n/a	No	Doe and 2 fawns
5/Oct/2015	15:40	Fox	N/a	n/a	No	running into woods
8/Oct/2015	19:30	Owl	N/a	n/a	No	
16/Sep/2015	8:00	Fox	N/a	n/a	No	healthy silver fox
23/Sep/2015	15:00	Sandhill cranes	N/a	n/a	No	2 flocks
4/Oct/2015	13:30	Deer	N/a	n/a	No	
7/Nov/2015	16:00	Cross fox	N/a	n/a	No	hunting
8/Nov/2015	13:30	Red fox	N/a	n/a	No	walking around. Ran when I approached with truck
8/Nov/2015	13:40	Peregrine falcon	N/a	n/a	No	flying/ hunting. Landed in tree, took off when truck approached
23/Sep/2015	21:00	Fox	N/a	n/a	No	
2/Nov/2015	23:00	Fox	N/a	n/a	No	seeemed to be an adult. Snowing lightly
18/Nov/2015	12:00	Fox	N/a	n/a	No	

Date	Time	Type of Animal	Who performed the hazing?	Has this animal been hazed in 2015?	Reportable Incident (Yes/No)	Notes
19/Nov/2015	11:00	Fox	n/a	N/a	No	
20/Nov/2015	13:00	Fox	N/a	N/a	No	
21/Nov/2015	9:00	Fox	N/a	N/a	No	
21/Nov/2015	13:00	Fox	N/a	n/a	No	
22/Nov/2015	7:45	Fox	N/a	n/a	No	Hanging around the waste bins at the portal
7/Dec/2015	15:00	Fox				
9/Dec/2015	15:45	Fox	N/a	N/a	No	Ran across to the road to the river.
9/Dec/2015	16:00	Lynx	N/a	N/a	No	Hanging out on the side of the road.
14/Dec/2015	9:00	Fox	N/a	N/a	No	
22/Dec/2015	15:15	Fox			No	
27/Dec/2015	13:00	Fox			No	
5/Oct/2016	10:45	Fox			No	adult in good condition
5/Dec/2016	18:15	Fox			No	
30/Dec/2016	15:00	Fox			No	

Date	Time	Type of Animal	Number of Animals	Location	Description: Size/Color/Markings and Additional Notes	Reported By (Name)	Was the animal hazed?	What hazing technique was used?	What was the animals response?	Who performed the hazing?	Has this animal been hazed in 2016?	Reportable Incident (Yes/No)	Notes
1-Jan-16	16:00	Fox	2	Road to MCDS	Two healthy looking red fox	SC	Yes	Yelling, Honking, Air Horn	Reluctantly walked away	CH	Unknown	No	One fox ran up the hill and watched but the second did not seem nervous of the vehicle or people.
12-Jan-16	13:00	Wolf tracks	4+	LTF	tracks throughout site	GB	no					no	Garry Brown reported tracks at LTF area ,he suspects a pack came through. Track evidence confirms.
12-Jan-16	late night	Wolves	8	Landfill	Looking around for moose or rabbits	Unknown	no						
19-Jan-16	11:30	Wolf tracks	unkown	MN repeater shack	tracks throughout site	Shawn Regina	no					No	no animal seen, only multiple sets of tracks
21-Jan-16	11:15	Wolf	1	Big creek bridge	Black	Shaun	no					No	Trotted along road in front of me till it got to the other side of the bridge and then ran down into the ditch.
17-Feb-16	11:30	Squirrel	1	Camp	Good condition-nice coat. Adult.	Molly	No						
9-Mar-16	19:00	Fox	1	Behind Selkirk Towers	Looked healthy, dark coat. Adult.	Javad	No						
21-Mar-16	9:00	Dunlin	40	Portal	Flock of sandpiper/dunlin	Jasmin	No						
21-Mar-16	14:00	Mule Deer	3	km 24	Doe. Good Shape.	K. Tutin	No					No	
25-Mar-16	11:30	Squirrel	1	ERT Building	Ran past building	DK	No						
18-Apr-16	17:50	Bear	1	km 3	Nice and healthy black bear	Barry Hager	No						
18-Apr-16	11:00	Bear	1	New LTF	Big brown bear (black bear)	Danny Toews	Yes	Bear Banger	Ran away and not seen again	Safety	No	No	First haze of the season. Bear headed into forest below LTF.
18-Apr-16	19:00	Bear	1	km 6.5 Access Rd	Black Bear	James Cummings	No				Unknown	No	
18-Apr-16	19:00	bear	1	6.5km	black	James C							
22-Apr-16	17:00	Bear	1	km 25	Black Bear. Fat. Ran across road.	K. Tutin	No					No	
22-Apr-16	22:00	Bear	1	Pelly Laydown/ MWD	black bear (cinnamon)	Lucas Macleod	no				Unknown	No	Lucas reported bear jumped berm and went into Pelly laydown, by the time Chris got there Pelly shifter Greg Copp said that the bear had gone back to the MWD area, took a drive around and did not spot the bear. Apparently this bear is seen eating grass on the MWD almost nightly.
23-Apr-16	11:00	Bear	1	Dumas/ Airport corner	black bear (cinnamon)	Zoom boom Garry	no				No	No	bear spotted by operator, enviro responded and observed bear in bush eating willows. Informed all personnel working in area of bear in area.
23-Apr-16	13:00	Grouse	1	dyno access road	ruffed grouse hen	Corey Van D							sitting in middle of road
24-Apr-16	16:00	Bear	1	Dumas/ Airport corner	black bear (cinnamon)	Enviro	Yes	Bear Banger	Other (detail in notes)	CH	No	No	Bear ran across road towards portal. Followed it and shot another bear banger scaring it into thick bush. Was not seen again after.
25-Apr-16	7:30	Moose	2	km 10.5	Scruffy. Thin.	K Tutin	No					No	
25-Apr-16	20:00	Bear	1	WSP	Black bear. Seen from a distance.	Javad	No						
26-Apr-16	14:00	Geese	7	Yukon River	Heading up river	K. Tutin	No					No	
27-Apr-16	8:45	Black Bear	1	Dumas	Side of Dumas shop	Daniel Alfred	No						
27-Apr-16	8:45	Grizzly Bear	1	Km 23.5	Blonde feeding on hillside	K. Tutin	No						
29-Apr-16	11:30	Black Bear	1	Dumas/ Airport corner	black bear (cinnamon)	Dumas	Yes	Rubber Bullet	Other (detail in notes)	Safety	Yes	No	Bear was hazed out of area but returned the next day.
29-Apr-16	14:30	Bear	1	magazine access	brown	Dale W						No	walking up access road to magazines
2-May-16	10:00	Bear	1	Pelly Laydown/ MWD	black bear (cinnamon)	Fountain Tire / Pellu	Yes	Yelling, Honking, Air Horn, Bear Banger	Other (detail in notes)	CH	Yes	NO	Bear had moved from the Pelly laydown by the time we arricved and was spotted on the IROD area heading west. It was hazed and took off toward the sewage lagoon running.
5-May-16	0:30	Bear	1	Dumas/Airport Corner	Big brown bear (black bear)	Dumas	Yes	Bear Banger		CB	Yes	No	Bear got into food garbage. Hazed with bangers to move away from area.
5-May-16	9:25	Bear	1	Dumas/Airport Corner	Big brown bear (black bear)	Dumas	Yes	Bear Banger		DF	Yes	No	Bear was seen behind the shop. Responded with Safety, did not see the bear but used banger to ensure bear had moved from the area.
6-May-16	18:00	Bear	1	around km1	black bear		Yes	Bear Banger	Reluctantly walked away	SC	Unknown	No	the bear reacted with little more than a slight startle response before slowly ambling away.
7-May-16	11:00	Bear	1	lagoon area north of SWD	silver-brown black bear (colouration looks like grizzly, no notable grizzly morphology though)	Unknown	Yes	Bear Banger	Ran a little ways and then stopped	CP	Unknown	No	bear's response was sufficient given the area and distance from hazer.
9-May-16	11:00	Black Bear	1	Southwest dump near Pelly Laydown		Mine Tech	No					No	
11-May-16	18:00	Black Bear	1	Road to airstrip near Dumas shop	medium black bear with lighter fur right around the nose	site services	yes	Rubber Bullet	Reluctantly walked away, but immediately began trying to make its way towards Dumas shop once pursuit ceased. This behaviour continued after the bear was shot with 4-5 rubber bullets	CP	Yes	No	This is likely the same bear SC and SR saw at km 1, and the same bear that has been getting into garbage at Dumas shop last year and this year.
12-May-16	18:00	Rabbits	3	road down from radio repeater	All looked healhty and plump.	Chris	No						
12-May-16	18:00	Squirrel	2	road down from radio repeater	All looked healhty and plump.								
12-May-16	11:30	Bear	3	Airstip	Sow and 2 cubs	Pilots	no	N/a	N/a	N/a	No	No	Bears had move off before responders arrived.
14-May-16	6:30	Bear	1	dyno access road	Brown	Cris						no	big, brown in good shape
17-May-16	20:00	Dall Sheep	26	Yukon River	Healthy looking heard. 3 new lambs.	DK	No						
20-May-16	6:40	Moose	1	km 20	Skinny. 2" spike antler - bull	K. Tutin	No						
20-May-16	19:30	Rabbit	1	Km 3.5	Appeared healthy.		No						
21-May-16	20:00	Rabbit	2	Trail	Healthy	R	No						
26-May-16	12:45	Bear	2	Dyno road	2 young bears	Dewatering Tim	Yes	Yelling, Honking, Air Horn	Reluctantly walked away	CH	Unknown	No	Black bears. One brown one black. Approx. 1.5 yrs old
26-May-16	13:30	Bear	2	Dyno gate	one brown , one black	Dale, Corey, Tim, Brendan, Chris H						No	
27-May-16	9:00	Fox	1	KM 1			Yes				Unknown	No	packing dead rabbit, Sunny, chased it away by driiving towards it and honking
28-May-16	17:30	Bear	1	dyno road	brown	Corey, Dale						No	brown bear on road
29-May-16	10:00	Fox	1	Minto North haul road		Roger / Brendan	No					NO	just normal fox
31-May-16	13:00	Bear	1	dyno road	black	Corey						No	black bear on road
2-Jun-16	14:38	Moose	3	km 9.5	cow and two calves	CP	no	N/a	Ran away and not seen again	N/a	No	No	The cow was quite wary of any approach
5-Jun-16	19:30	Bear	1	Km 12	Young adult black bear. In ditch.	Molly	no						
5-Jun-16	20:00	Deer	1	Km 16	Female - adult	Molly	no						
6-Jun-16	18:30	Wolf	1	Near Minto North	Adult at the Yield sign at top of Minto north haul road	Emma/Steve/Jason	No					No	walked across haul road
11-Jun-16	6:30	Deer	2	Confluence		Steve/Roger/Emma/Curtis	No					No	
14-Jun-16	6:30	Deer	2	MWDE		Steve/Roger/Emma/Curtis	Yes	yelling	Reluctantly walked away	Steve/Roger/Emma/Curtis	Unknown	No	Yekled at them to get out of here!
20-Jun-16	12:30	Bear	1	km 8	brown	Javad A						No	young looking , black bear but in brown
20-Jun-16	6:15	Deer	1	UG ore stockpile		Ryan/Dave/Emma/Matt						No	Running through stockpile, startled by pickup
21-Jun-16	8:45	Bear	1	near portal	small/ med. Black (brown) bear	Brandon M	Yes	Yelling, Honking, Air Horn, Bear Banger	Ran away and not seen again	CH	Yes	No	
24-Jun-16	10:30	Fox	1	KM 5		Molly	No					No	eating a rabbit (road kill)
27-Jun-16	11:45	Deer	1	above electrical dept. on cliff		Georgie-Ann S						No	eating plants
30-Jun-16	10:15	Black Bear	1	km 6.5 Access Rd		Kelly							
30-Jun-16	10:18	Rabbit	1	km 5		Kelly	No					No	crossed the road
1-Jul-16	10:00	Deer	1	warehouse laydown	medium sized doe	Shaun	no						Ran through warehouse laydown onto drystack tailings
2-Jul-16	9:00	Mouse	1	office		Rob/Roisin/Brandon	No					No	scared little guy, caught and set free outside, he is now happy

Date	Time	Type of Animal	Number of Animals	Location	Description: Size/Color/Markings and Additional Notes	Reported By (Name)	Was the animal hazed?	What hazing technique was used?	What was the animals response?	Who performed the hazing?	Has this animal been hazed in 2016?	Reportable Incident (Yes/No)	Notes
4-Jul-16	6:00	Deer	2	mine tech building	small	Shaun	no						Ran up towards fuel farm when I drove by
7-Jul-16	19:45	Moose	2	By pelly office		Melanie Jim							Cow and Calf
8-Jul-16	12:40	Moose	2	960 bench headed toward pit		Melanie Jim							Cow and Calf
9-Jul-16	10:00	Black Bear	1	Barge landing		Kevin Tutin	no						Swam across river (east) at 10am and back across (west) at 4pm
10-Jul-16	20:00	Deer	3	Beside sewage treatment plant	A doe and 2 fawns	Anthony Grennan	No	n/a					
13-Jul-16	10:30	Deer	1	Between capstone and ERT	brown and white	Manny	No					No	
15-Jul-16	7:00	Grizzly Bear	2	Vent raise (portal area)	Sow and 1 cub	site services	No	n/a	Ran away and not seen again	n/a	Unknown	No	
16-Jul-16	8:20	Deer	1	warehouse laydown	Female - adult	Chris Harry	Yes	Yelling, Honking		CH		No	ran on to drystack
16-Jul-16	10:00	Black Bear	1	Landfill	small/med. (2-3 yr) black bear (golden on top).	Chris Blurton	Yes	Yelling, Honking	Other (detail in notes)	CB	Potentially	No	Ran away and not seen in landfill area again. Ran up hill into trees on airstrip side of landfill
16-Jul-16	13:30	Black Bear	1	Exploration laydown	small/med. (2-3 yr) black bear (golden on top).	Chris Blurton	Yes	Yelling, Honking	Ran away and not seen again	CB	Yes	No	Assay lab technician working in area cutting cores. Was told by others prior that bear had been seen in area.
16-Jul-16	2:30	Rabbit	1	821 bench		Melanie Jim							
17-Jul-16	15:30	Bear	1	Dyno AN storage		Cris							brown colored black bear
18-Jul-16	3:35	Mouse	1	above office		Melanie Jim							
19-Jul-16	22:50	Deer	1	948 bench, went off on ATV trail		Melanie Jim							
19-Jul-16	23:55	Bear	1	948	brown	Melanie Jim							brown bear cub
19-Jul-16	13:00	Bear	1	Portal ore pad			No				Unknown	No	smallish black bear with brown coat, kept wandering past
20-Jul-16	6:30	Mouse	1	Mine tech office corridor	very large mouse		no					No	Roger/Matt
29-Jul-16	12:51	Wolf	1	behind DSTF on TDD	large, grey,	Dal e hefferan	No					No	looked healthy, took off right away
7-Aug-16	19:00	Fox	1	Ramp to nuway stockpiles	sooty black coat	Emma trusz	No					No	Not enjoying the hot weather.
11-Aug-16	10:00	Chipmunk	1	rec room		Kelly	No					No	Ended up in camp. Got it out by directing it to an exit.
22-Aug-16	9:45	Black Bear	1	6.75km		James C	No					No	Big and healthy
30-Aug-16	19:00	Wolverine	1	between W3-W7	Tracks along the road	Shelby B	No						
5-Sep-16	13:00	Black bear	1	Dyno	good, walking, adult	Yogi	No	n/a	n/a	n/a	N/A	No	
20-Sep-16	10:00	Bear	1	WSP		Tim piironen	no					No	swimming from one side to the other side.
24-Sep-16	10:00	Wolf	1	waste dump	bull moose waste dump	Casey & Dave	No	n/a	n/a	n/a	N/A	No	
17-Oct-16	20:30	Fox	1	Kitchen smoke shack		Harley	No					no	Standing there looking around
20-Oct-16	15:00	Fox	1	capstone bunk	Young, healthy	Javad A	No					No	
20-Oct-16	17:00	Fox	1	capstone bunk	Healthy	JM Glynn	No					No	not afraid
24-Oct-16	14:00	Fox	1	SWD	Healthy, good size	Dale heffernan	No					No	
31-Oct-16	15:00	Fox	1	Km 15 on access rd	Young, healthy	Shelby B	Yes	Yelling	Ran a little ways and then stopped	SC	Unknown	No	
31-Oct-16	16:30	Fox	1	ERT Building		Melissa Cook	No						
2-Nov-16	10:00	Fox	1	S. Selkirk tower	Small, red, good condition	Sean D	No					No	Ran away
7-Nov-16	13:00	Fox	1	KM 4 on access road	Found dead (ran over)	Steve Maunder	No	n/a		n/a	Unknown	Yes	Reported to Environment Yukon (Conservation Office)
7-Nov-16	13:00	Fox	1	Dumas	reddy brown and white	Chris Blurton	No	n/a	Ran away and not seen again	n/a	Unknown	No	Was crossing Dumas yard. Ran away when I passed in the vehicle.
7-Nov-16	14:30	Grizzly Bear	1	KM 12.5 on access rd	Large	Michael Janssens (General Waste Mgmt)	No	n/a	Ran away and not seen again	n/a	Unknown	No	Crossed the road
18-Nov-16	17:00	Fox	1	Camp	red medium sized. Darker(brown) patch on top of lower back.	The Todd	Yes	Yelling, Honking, Air Horn	Reluctantly walked away	SC	Unknown	No	Eventually went down the access road. Possibly will come back.
22-Nov-16	14:30	Fox	1	Kitchen smoke shack		Harley	no					No	Walking by
28-Nov-16	17:00	Fox	1	Mine road by Dumas	Red Medium. Darker spot on lower back.	Shelby B	Yes	Yelling, Honking	Other (detail in notes)	SC	Yes	No	Charged at us when hazing. Does not seem to have fear of humans.
5-Dec-16	14:00	Lynx	1	Fresh air / vent raise	Large, healthy looking, grey	David Crottey	No	n/a	Ran away and not seen again		Unknown	No	It bound across the road and into the bushes.
9-Dec-16	11:30	Red fox	1	main pit	healthy looking, oung	Javad A	No	n/a	n/a	n/a	N/A	No	
10-Dec-16	10:30	Wolf	2	DYNO	one mostly grey and medium/large. One larger and grey with brown fur	Austin	Yes	Yelling	Reluctantly walked away	CH	Unknown	No	jumped up bank from behind shop when I entered the yard with truck. Stood at top of bank in willows and looked at us for a bit then walked into the willows and out of sight when I yelled.
10-Dec-16	10:00	Wolves	2	dyno yard	dark brown, black/grey	Dustin, Chris Harry	No	n/a	n/a	n/a	N/A	No	
12-Dec-16	14:30	Red fox	1	camp (between gym and smoke pit)	healthy	Georgie-Ann S	No	n/a	n/a	n/a	N/A	No	
13-Dec-16	12:00	Fox	1	Underground fuel tank pad		David Avar	No					No	
13-Dec-16	14:30	Ptarmigan	1	Met station	White	Chris Blurton	No	n/a		n/a	Unknown	No	Was eating / searching for food
17-Dec-16	11:15	Lynx	1	KM 16	Large, Grey, healthy	Shaun	No	n/a		n/a		No	sat on the side of the road and watched me drive by
17-Dec-16	13:40	Lynx	5	W3	Small, grey	Shaun	No	n/a		n/a		No	4 young ones and the mother
23-Dec-16	14:00	Fox	1	Behind Portal Road, around area 2	Healthy, good size	D. Hefferman	No						
31-Dec-16	15:00	Caribou	unk	km21	Tracks from small herd	Larry Smith / Dan Toewes	No	n/a		n/a	N/A	No	The tracks were reported to have been seen near km 21 on the Minto Mine Access Road. Approx coordinates: 62 35’ 57.23N 136 58’ 55.82W Reported to Environment Yukon

Date	Time	Type of Animal	Number of Animals	Location	Description: Size/Color/Markings and Additional Notes	Reported By (Name)	Was the animal hazed?	What hazing technique was used?	What was the animals response?
1-Jan-17	7:50	Fox	1	Capstone East entrance	Red	Jean Lagarde	No	N/A	Other (detail in notes)
5-Jan-17	11:30	Fox	1	Airport Road near the core shack	Red	Roger H.	No	N/A	Other (detail in notes)
5-Jan-17	13:30	Fox	1	Minto North	Red/Orange	Chris Blurton	Yes	Yelling, Honking	Ran away and not seen again
8-Jan-17	10:30	Fox	1	Surface Magazine		Ryan S.	No		
15-Jan-17	12:40	Fox	1	Burn Pit	Red	Deborah Flemming	Yes	Yelling	Ran away and not seen again
19-Jan-17	16:00	Fox	1	Portal		Roger H.	No		
20-Jan-17	13:00	Fox	1	Surface Magazine		Emma T.	No		
10-Feb-17	17:30	Fox	1	A2S3 Pit		Kathy Alfred	No		
11-Feb-17	9:40	Moose	2	Jump ramp A2S3	Large moose	Doug McIlveen	No		
24-Feb-17	9:00	Fox	1	Access Rd. Km 0.8		Dale H.	No		
24-Feb-17	17:35	Fox	2	KM 0.75	Red	Ryan/ Chris	No		
24-Feb-17	21:30	Fox	1	Pit, 823 Bench		Kevin F. (Kerri F.)	No		
25-Feb-17	14:25	Lynx	5	W3 area	momma and four kittens	Chris Harry	No		
11-Mar-17	13:45	Fox	1	Dry Stack	Healthy, red	Shelby Black	Yes	Yelling, Honking	Ran a little ways and then stopped
22-Mar-17	10:00	Lynx	1	km 16		Ryan H	No		
25-Mar-17	16:15	Bald Eagle	1	km 22	Healthy adult in tree	Chris Harry	No		
25-Mar-17	15:30	Otter	1	Big Creek Bridge	Tracks in snow on river	Todd Swenson	No		

Date	Time	Type of Animal	Number of Animals	Location	Description: Size/Color/Markings and Additional Notes	Reported By (Name)	Was the animal hazed?	What hazing technique was used?	What was the animals response?
31-Mar-17	15:45	Deer	8+	KM 24	on side of road	CH/EB	No		
1-Apr-17	10:00	Rabbit	1	Airstrip SS course	white	CH/EB	No		
1-Apr-17	11:00	Rabbit	1	Dyno SS course	white	CH	No		
17-Apr-17	17:30	Bear	1	0.5 km	Cinnamon Black Bear	Maintenance	Yes	Bear Banger	Ran from banger a little ways and then slowly walked off
19-Apr-17	14:38	Bear	1	3.5Km	Cinnamon Black Bear	Chris Harry	No		
19-Apr-17	16:45	Lynx	1	Landfill/LTF entrance	Adult	Chris Harry	No		
1-May-17	19:00	Bear	2	near km2	Sow and Cub (black bear)	Chad Bustin	No		
5-May-17	11:00	Bear	1	Airport Road (top of Dumas)	Light brown, healthy (Black Bear)	Garry Brown	Yes	Bear Banger	No reaction to first BB, walked off after others into bush towards landfill.
5-May-17	11:30	Bear	3	KM 9 hill	Sow and 2 cubs	Shaun	No		
6-May-17	12:20	Lynx	1	W2	Light grey	Shaun	No		
6-May-17	11:50	Bear	1	Airport Road behind Dumas	Light brown, healthy (Black Bear)	Dumas	Yes	Rubber Bullet	We tried bear bangers first, it didn't affect him too much. When he got hit by the bullet fired by Sean Darcy he ran.
7-May-17	18:30	Bear	1	Behind Selkirk Tower	Dark Brown (Black Bear)	Electrical Larry	Yes	Bear Banger	Bear went into bushes behind Dry
8-May-17	19:00	Bear	1	Sewage Lagoon Road	Light brown, healthy (Black Bear)	Greg from Pelly	Yes	Bear Banger	Ran into bishes behind Mags
9-May-17	13:00	Moose (Cow and Calf)	2	Km 2.5	Healthy Cow moose and year old calf. Both healthy and grazing	Shelby Black	Yes		Honked to try and get them to move off the road
19-May-17	13:30	Bear	1	Dyno road	Large Cinnamon Black bear	Austin	No		
19-May-17	9:00	Black Bear	1	airport road	small black bear w/ tan on nose	unknown	Yes	Other	ran immediately
20-May-17	10:15	Black Bear	2	Dyno	one was larger cinnamon, the other was slightly smaller and all black with tan on the muzzle.	Brett (mechanic)	Yes	Rubber Bullet	the cinnamon bear ran immediately, the black one moved away slowly at first, but began responding much better after being hit with a rubber

Date	Time	Type of Animal	Number of Animals	Location	Description: Size/Color/Markings and Additional Notes	Reported By (Name)	Was the animal hazed?	What hazing technique was used?	What was the animals response?
24-May-17	16:30	Black Bear	1	Willows behind Dumas Shop	Small Black Bear ~250 lbs	unknown	Yes	Other	Animal responded hesitantly to being chased by vehicle. Showed respect for humans and wandered away. Chased beyond open areas into bush.
24-May-17	22:15	Black Bear	1	Willows behind Dumas Shop	black bear - approx 300-350 lb, light brown with silver/grey	Dumas	Yes	rubber bullet, bangers	bear quickly moved away after being shot with rubber. Continued to show warieness and moved away when confronted.
28-May-17	23:00	Black Bear	1	Willows behind Dumas Shop	small black bear w/ tan on nose	Dumas	Yes	rubber bullet, bangers	bear began running before hazing began, was hit by rubber bullets.
1-Jun-17	14:00	Black Bear	1	Km 0.75	Dark Brown (Black Bear)	Deborah Flemming	Yes	Other	bear wondered up the bank towards
1-Jun-17	14:15	Fox	1	WSP	cross-fox, dark colouring with white-ended tail	Deborah Flemming	No		seen going around the WSP
3-Jun-17	15:00	Ermine	1	top of WSP dam	small weasal, approx. 15 cm.long, brown back and head, white belly, dark tipped tail	Deborah Flemming	No		
24-Jun-17	7:45	Bear	1	Dumas shop (behind)	Light brown, healthy (Black Bear)	Driver	Yes	rubber bullet, bangers	ran into bush and then across clear cut into woods
25-Jun-17	19:30	Black Bear	1	Km 1.7	Young, tall/lanky very aggressive and predatory male.	Darrin Kennedy	Yes	Other	Approached and charged worker
27-Jun-17	8:00	Fox	1	Km 10	Dark grey fox, with a rabbit in its mouth	Emilie Bouchard / Chris Harry	Yes	Other	Hid and ran away with its breakfast
23-Mar-17	9:00	Red fox	1	Selkirk Towers		Rob Proc	No	N/A	n/a
8-Apr-17	5:30	Rabbit	1	warehouse		Marcus Lenz	No	N/A	n/a
3-May-17	10:00	Bear	1	airport road	passing through going north	Garry Brown	No	N/A	n/a
14-May-17	12:30	Black Bear	1	access road between 0.5 and 1.0	just chilling	Thomas Gammel	No	N/A	n/a
25-Jun-17	11:00	Deer	1	crusher pad	walking around	stan gostel	No	N/A	n/a
23-Jun-17	13:00	Seagull	1	barge	seagull ate 5 ducklings	Garry Brown	No	N/A	n/a
3-Jun-17	11:30	Bear	1	km 0.8			No	N/A	n/a
8-Jan-17	10:00	Fox	1	bicycle shack	ran away	Wendy Bade	No	N/A	n/a

Date	Time	Type of Animal	Number of Animals	Location	Description: Size/Color/Markings and Additional Notes	Reported By (Name)	Was the animal hazed?	What hazing technique was used?	What was the animals response?
16-May-17	19:30	Black Bear	1	km 3.5	headed south	Ryan Herbert	No	N/A	n/a
18-May-17	20:30	Black Bear	1	km 3		Troy Loren	No	N/A	n/a
13-Jun-17	2:30	Fox	1	haul road by buttress	ran down towards buttress	Robin Ellis	No	N/A	n/a
25-Jun-17	7:58	Bear	1	km 1.7		PK	No	N/A	n/a
26-Jun-17	21:15	Deer	1	in camp	skittish	Troy Loren	No	N/A	n/a
18-Jan-17	10:45	Bull moose	1	Airstrip	walking around	Ryan S.	No	N/A	n/a
17-Feb-17	5:00	Lynx	1	km 6	good shape, running for hills	K Tutin	No	N/A	n/a
15-Apr-17	6:30	Porcupine	1	walking along berm by W15	great big sucker	Ryan S.	No	N/A	n/a
17-Apr-17	17:20	Bear	1	km 0.5	walking around	Todd Epps	No	N/A	n/a
22-Apr-17	17:05	Bear	1	WMA	checking out pallet of buckets	Danny VB	No	N/A	n/a
3-May-17	10:15	Black Bear	1	below air strip		Robin R	No	N/A	n/a
26-May-17	14:00	Wolf	1	km 18	white, scruffy	Robin R	No	N/A	n/a
27-May-17	8:10	Mule deer	1	0.5	healthy looking doe	Robin R	No	N/A	n/a
5-May-17	2:00	Grey wolf	1	Pelly	ran away	Janet	No	N/A	n/a
3-Jun-17	14:00	Black Bear	2	airport road	left towards the bush opposite side of dumas	Janet	No	N/A	n/a
20-May-17	11:00	Black bears	2	black, cinnamon		Foster, Chris H	Yes	Rubber Bullet	both bears showed significant wariness and ran from hazer
25-Jun-17	8:00	Porcupine	1	Dyno gate		gerard	No	N/A	n/a
30-Jun-17	8:30	Black Bear	1	Portal Road	Beautiful cinnamon coloured, big black bear	Emilie Bouchard	Yes	Other	Noise making with the truck honk, was sufficient to get him moving,
30-Jun-17	8:35	Fox	1	Dumas shop (behind)	Dark grey fos with a mouse/rodent in its mouth	Emilie Bouchard	Yes	Yelling, Honking	Ran away
4-Jul-17	13:20	Ravens	3	Warehouse Yard	3 Ravens were picking in the calcium chloride bag	Ryan Faulds	Yes	Yelling	They flew away, not very far but nonetheless away. Hopefully they
12-Jul-17	21:30	Black bear	1	In front of camp, DSTF and Dumas	Large brown bear	Sodexo	yes	Yelling, Honking	Walked into bush
27-Jul-17	8:15	Black Bear	1	Access Road 18.75km	black bear	Ron Light	No	N/a	n/a
9-Jul-17	9:15	Black Bear	2	Access Road 7km	Sow & Cub	Site Services	No	N/a	n/a
9-Jul-17	8:30	Black Bear	1	Access Road 15km	black bear	Site Services	No	N/a	n/a
20-Jul-17	8:45	Black bear	1	Behind Selkirk Tower	black bear	Colin Prentice	Yes	bear banger	n/a
24-Jul-17	20:30	Black Bear	1	Trails above camp	Tall thin Black bear (young)	David Grennan	Yes	Yelling, Throwing Rocks, Charging	At first was non-responsive and aggressive. After David and Dan elevated their own aggression, the
27-Jul-17	15:00	Frog	1	Tailings Pond	Body ~7cm long	Jen Johannson	No	N/a	n/a
28-Jul-17	6:30	Black Bear	1	Dumas shop (behind)		Tim	No		wondered off into bush
29-Jul-17	10:35	Black Bear	3	Landfill	Sow and 2 cubs	Site Services	Yes	Bear Banger	All 3 wandered off as soon as the vehicle pull in

Date	Time	Type of Animal	Number of Animals	Location	Description: Size/Color/Markings and Additional Notes	Reported By (Name)	Was the animal hazed?	What hazing technique was used?	What was the animals response?
29-Jul-17	11:00	Black Bear	1	Dumas shop (behind)	Black bear	Emilie Bouchard	No	N/A	He took off by the time I got to him. I just saw him from the corner of my
1-Aug-17	10:30	Black Bear	1	Corner between Driftwood and Airstrip	Smaller bear, possibly young, sandy coloured body with darker legs	Ryan Faulds	Yes	Bear Banger	The bear moved slowly away towards the WMA, we lost sight of the bear but used a bear banger at 11am in the direction to encourage continued movement from the area.
1-Aug-17	16:30	Black Bear	1	Main Waste Dump Expansion	black	Pelly	No	N/A	n/a
2-Aug-17	14:05	Black Bear	1	W33	Light body with dark legs	Emilie Bouchard	Yes	Bear Banger	The bear wandered off into the brush when the banger went off
4-Aug-17	8:00	Black Bear	1	Core Shack	Light body with dark legs	Danny VB	Yes	Bear Screamer	The bear moved slowly towards the airstrip following the 1st screamer. Hazing continued with a banger - moving the bear the to the east of the strip where it sat and started to eat berries. Hazing continued with a blank banger and then a banger that moved the bear off in a down valley
4-Aug-17	16:00	Black Bear	1	Portal	no description provided	Frank Z	No	N/a	n/a
6-Aug-17	5:50	Fox	2	OB dump behind Pelly	red foxes	Deborah Flemming	No	N/a	n/a
6-Aug-17	13:30	Deer	1	WMA	Small adult deer	Danny VB	No	N/A	n
19-Aug-17	10:30	Fox	1	Main Waste Dump east of Pelly	Friendly Red Fox	Todd Swenson	Yes	Yelling	Ran off a short distance. Animal was looking expectantly and curious about rocks tossed near it. Showing potential signs of improper conditioning.
21-Aug-17	8:00	Bear	1	Dumas Corner	unknown	Tim (Dewatering)	Yes	bear banger	unknown
22-Aug-17	8:00	Black Bear	1	WMA	black throughout, 250-300lbs	David Grennan	Yes	rubber bullets	The bear did not want to leave the WMA. After being shot once, it seemed to retreat into the bush. However, after a few minutes it
22-Aug-17	17:00	Black Bear	1	WMA	black throughout, 250-300lbs	Jean Lagarde	Yes	rubber bullets	The bear appeared to be warier than this morning. Ran a few feet when hit the first time, continued running when we approached. Still didn't go far, as it was spotted on the airport
23-Aug-17	15:00	Black Bear	1	STP	Black throughout	Gary Brown	Yes	Bear Bangers	the bear ddint stick around when the banger went off
23-Aug-17	17:25	Black Bear	1	STP/Camp	Dark brown with a light chest patch	David Grennan	Yes	Bear Bangers	The bear mosied off up the hill in no great hurry. He was spotted by the smoke shack close to the ice rink, but when someone opened the door he hurried down the hill towards the STP. That's where Safety and

Date	Time	Type of Animal	Number of Animals	Location	Description: Size/Color/Markings and Additional Notes	Reported By (Name)	Was the animal hazed?	What hazing technique was used?	What was the animals response?
23-Aug-17	19:00	Black Bear	2	STP/Camp	Dark brown with a light chest patch	Chris Harry	Yes	Bear Bangers	Dark brown with a light patch on his chest, went down the bank, close to camp. In the thick bushes by the
24-Aug-17	18:45	Black bear	1	behind camp (sherwood)	Large healthy black	Kelly Friesen	Yes	rubber bullets, bear banger	ran away
24-Aug-17	23:00	Black bear	1	behind camp (sherwood), in camp by main parking (gym)	Large healthy black	Mill ops	Yes	screamer	went into bush
25-Aug-17	18:45	Black bears	2	Behind camp	2 black bears: 1 black in colour and one brown in colour	Sean Darcy	Yes	Bear bangers	Around 6h45 pm Sean spotted the black one walking up on the ridge, we went out and saw the brown one too. They kept walking on the ridge and moving back towards the
25-Aug-17	19:45	Black bears	2	Behind camp	2 black bears: 1 black in colour and one brown in colour	Sodexo	Yes	Rubber bullets	Around 7h45 pm Safety was called again to answer a bear call. Both Sean and Kevin were armed. The black one was shot in the ribs with a
25-Aug-17	20:30	Black Bear	1	In camp, by the ice rink	The brown coloured bear in the dynamic duo	Tim Biernan (Dewatering Tim)	Yes	Rubber bullets	Tim called safety/enviro, the bear took off behind the electrical (orange) container. Sean and Kevin were armed. They got 2 rubbers on it. The bear took off down the hill
25-Aug-17	22:20	Black Bear	1	In camp by the bicycle shack	The brown coloured bear in the dynamic duo	Sodexo Serge	No	N/A	Serge called environment because the bear was in camp again. As soon as Serge had opened the door the bear took off down the hill to the
26-Aug-17	0:00	Black Bear	1	In camp , by the STP road	Not clear which one as it was dark, but most likely one of our pair	Benoit Gervais	Yes	Yelling, car noises	It got spooked by the truck and ran back down the hill in the bushes
26-Aug-17	0:25	Black Bear	1	By the Dumas shop	Black throughout	Greg from Pelly	Yes	Honking	It moved up the hill towards the
26-Aug-17	6:45	Black Bear	1	STP/Selkirk towers	Large healthy black	Sodexo	Yes	rubber bullets, bear banger	ran into bush and east up hillside
26-Aug-17	7:30	Fox	1	Nuway corner where we store the drill	Red in colour, pretty srawny	Tim Biernan (Dewatering Tim)	Yes	Air horns and rocks	Wasn't impressed with the airhorn, it did budge at all. When we threw the 1st rock it checked if it was food, and finally took off after the 3rd
26-Aug-17	9:30	Black Bears	2	At the underground fuel farm	Black sow, with a brown young cub	Geotech Dale	Yes	Bear banger	I took off up the hill behind the underground fuel farm
28-Aug-17	10:30	Black Bear	1	Up the hill at KM1.5	All black	Emilie Bouchard	No	N/A	I honked a little bit, he walked up
29-Aug-17	10:00	Black Bear	1	At the emergency pullout at KM9.5	All black	Emilie Bouchard	Yes	Honking	We honked at it from the ramp, he walked up the hill a little farther
29-Aug-17	15:00	Black Bear	1	Up on the ridge behind camp	All Black	Sodexo Probably	Yes	Bear bangers	By the time safety got there the bear had moved up the hill, they fired 2
29-Aug-17	19:45	Black Bear	1	At the fuel farm	All black	Mill Control	Yes	Bear Bangers	We fired 2 bear bangers and he disappeared into the woods.
30-Aug-17	8:30	Black Bear	1	Up on the ridge behind camp-behind the Selkirk Tower Corridor	Small brown bear	Sodexo Probably	Yes	Rubber bullet	Safety shot it on the butt with a rubber bullet, he ran up the hill away from camp.

Date	Time	Type of Animal	Number of Animals	Location	Description: Size/Color/Markings and Additional Notes	Reported By (Name)	Was the animal hazed?	What hazing technique was used?	What was the animals response?
1-Sep-17	17:00	Black Bear	1	Km 1.5 on the hill	Black	Morris Morrison	No	N/A	Morris called it in. We deemed it not to be a emergency.
20-Sep-17	12:15	Deers	2	On the walkway behind Mine Tech	Light brown, one doe and her offspring	Craig	Yes	Yelling	They moved around through the warehouse laydown and up to the
21-Sep-17	12:40	Wolf	1	between 4 & 5km	Grey with some black, medium size	Truck Driver	No	N/A	went into bush
21-Sep-17	14:00	Black Bear	1	Km 3 access road	Black	Larry	No	N/A	
13-Aug-17	12:00	Black Bear	1	between 11 & 12 km	Black	Jenny P	No	N/A	
22-Sep-17	8:00	Black Bear	1	between 11 & 12 km	Black	Truck Driver	No	N/A	
23-Sep-17	8:00	Black Bear	1	Km 1	Large black	Todd Epps	No	N/A	
25-Sep-17	18:10	Deer	5	A2 ramp	mule	Dale H.	Yes	honking, directing with truck	ran away towards confluence and could not be found
26-Sep-17	9:20	Deer	1	Nuway	small, possibly female	Nuway / Dewatering	Yes	honking, directing with truck	ran away over DST and MVF
28-Sep-17	4:45	Porcupine	1	In front of 840 dump	Porcupine colour	Pelly	No	N/A	The animal was hit by a rock truck, and incinerated the following day
28-Sep-17	22:00	Wolf	1	Between Nuway and the Mill	Small, black	Kevin Suits	Yes	Honking, directing with the truck	He trotted across to the southwest duversion ditch and went up in the
12-Jul-17	21:30	Bear	1	In big field in back of camp		Jean Lagarde	No		
22-Jul-17	10:00	Black Bear	1	smoking area beside the rink		Joanne Felix	Yes	bear bangers and air horns	ran over towards the STP tanks
23-Sep-17	16:00	Fox	1	minto north road		M.Martin	No		
25-Aug-17	6:45	Porcupine	1	Portal pad	"large for a porcupine"	Roge H	No		
25-Aug-17	13:00	Black Bear	1	Km 1.5 on the hill	large	Dale H.	No		
26-Aug-17	9:00	Black Bear	2	UG fuel tanks	one sow and one cub healthy and brown in colour	Dale H.	No		
27-Aug-17	7:00	Fox	1			Roger H.	No		
25-Sep-17	5:00	Wolves	2	haul raod behind dumas	one grey, one black	Kevin Fletcher	No		ran up raod towards airport
1-Jul-17	5:45	Deer	1	Offices		Kevin Fletcher	No		walked up behind ERT and off into
27-Jun-17	16:00	Porcupine	1	SWD		Dale H.	No		
1-Jul-17	9:00	Black Bear	1	km 1	Skinny	Dale H.	No		
2-Jul-17	6:30	fox	1	near A2 radar		Dale H.	No		
3-Jul-17	17:00	Deer	1	between mine tech office and warehouse		jeremy vincent	No		
6-Jul-17	15:00	Deer	1	between mine tech office and bunk house	Adult in healthy condition	Dan P.	No		
19-Jul-17	9:15	Wolf	1	km 12	adult	Dale H.	No		
21-Jul-17	2:00	Porcupine	1	by green tents		Kevin Fletcher	No		
21-Aug-17	6:30	Fox	1	A253 Access road		Roger H.	No		
21-Jul-17	2:30	Black Bear	1	km 7		Marcus Lenz	No		
22-Jul-17	13:30	Black Bear	2	river lannding	healthy and young	Javad	No		
4-Aug-17	16:15	Black Bear	1	km 17	healthy and young	Justin M.	No		
3-Sep-17	7:10	Fox	1	airport	healthy	L. Linnick	No		
26-Sep-17	10:30	Deer	1	nuway	young and skinny	stan gostel	No		
6-Oct-17	14:30	Wolf	1	KM 9 hill	Healthy	SR	No		
22-Oct-17	12:15	Black Bear	1	Camp	Adult in healthy condition	CR	Yes	Yelling	Ran away toward STP tanks

Date	Time	Type of Animal	Who performed the hazing?	Has this animal been hazed in 2017?	Reportable Incident (Yes/No)	Notes
1-Jan-17	7:50	Fox		Unknown	No	Report called in by Jean Lagarde. This fox has been seen hanging around camp near the Sherwood dry and Capstone barracks. Tracks from this morning were present in the new blown snow underneath the Sherwood dry. Inspection discovered a small fox sized hole in the hot water tank insulation that was used to prevent cold exterior air from entering beneath the Sherwood barracks. There is a high likelyhood that the fox is using the crawlspace as a den or for hunting. If the case, I suggest we have site services more effectively close off the hole to the crawlspace to prevent access after the crawl space has been cleared of the fox. Trapping the fox is an option however, engineering a control more humane. DR
5-Jan-17	11:30	Fox		Unknown	No	Just sniffing around like a fox
5-Jan-17	13:30	Fox	CB	Unknown	No	Fox was eating a rabbit's foot at access turn-off down to MW09-03. Drove towards fox honking horn, encouragin it to run away. It looked healthy.
8-Jan-17	10:30	Fox		Unknown	No	"Watched me walk back to my truck. Was not startled by loud noise."
15-Jan-17	12:40	Fox	DF	Unknown	No	Noticed the fox sniffing around the burn pit, yelled at it to encourage it to move away from the area. The fox looked healthy and moved away immediately.
19-Jan-17	16:00	Fox		Unknown	No	Not shy around vehicle
20-Jan-17	13:00	Fox		Unknown	No	"Just passing through."
10-Feb-17	17:30	Fox		Unknown	No	Fox reported by truck driver. May be becoming habituated. Did not seem scared.
11-Feb-17	9:40	Moose		N/a	No	Responded to ensure they did not get on the pit haul roads but did not see them again.
24-Feb-17	9:00	Fox				Walking towards MVFE 2 sump, spooked by truck and took off.
24-Feb-17	17:35	Fox			No	Tied togetrher due to mating
24-Feb-17	21:30	Fox		Unknown	No	Just walking through
25-Feb-17	14:25	Lynx			No	Sitting on the road, slowly scattered when I approached.
11-Mar-17	13:45	Fox	SB	Unknown	No	Fox ran away in the end.
22-Mar-17	10:00	Lynx			No	Spotted from bus
25-Mar-17	16:15	Bald Eagle			No	Spotted in tree near Bear Rock
25-Mar-17	15:30	Otter				Spotted tracks of running and belly sliding along river

Date	Time	Type of Animal	Who performed the hazing?	Has this animal been hazed in 2017?	Reportable Incident (Yes/No)	Notes
31-Mar-17	15:45	Deer			No	on side of road, ran away when we approached
1-Apr-17	10:00	Rabbit				hopping
1-Apr-17	11:00	Rabbit			No	hopping
17-Apr-17	17:30	Bear	Safety	No	No	Appears to be the same cinnamon bear that goes through every year. He continued on his way after hazing.
19-Apr-17	14:38	Bear		Potentially	No	spotted bear and stopped vehicle, bear looked at vehicle for a bit then ran a little ways and turned around and looked again, then wandered into bush.
19-Apr-17	16:45	Lynx			No	Lynx saw vehicle and took off into bush
1-May-17	19:00	Bear			No	Chad was running and saw the bewars cross the road on this side of the KM2 sign, the bears went up the slope and in the direction of camp. CH went to investigate and only saw tracks.
5-May-17	11:00	Bear	SB	Unknown	No	Was was seen by Site Services. Was on road munching on bushes. When Enviro showed up it went down to Dumas. Enviro chased back up from Dumas and then used Bear bangers until it went off into bush towards landfill.
5-May-17	11:30	Bear				Grazing on grass up on the hillside
6-May-17	12:20	Lynx				
6-May-17	11:50	Bear	Safety	Unknown	No	Same bear as yesterday.
7-May-17	18:30	Bear	SR	No	No	
8-May-17	19:00	Bear	SR	Yes	No	Same bear from Dumas
9-May-17	13:00	Moose (Cow and Calf)	SR	No	No	
19-May-17	13:30	Bear		Unknown	No	Bear feeding just off dyno road. Went into bush when truck approached. Enviro responded and did not see the bear.
19-May-17	9:00	Black Bear	CP	Unknown	No	bear initially approached truck but quickly ran as soon as hazing commenced. Hazed using only voice and body language.
20-May-17	10:15	Black Bear	CH/CP/Safety	Unknown	No	the two bears seem to be staying together, as though they are siblings or something.

Date	Time	Type of Animal	Who performed the hazing?	Has this animal been hazed in 2017?	Reportable Incident (Yes/No)	Notes
24-May-17	16:30	Black Bear	TS	Yes	No	This animal is thought to have been previously hazed and needs to be hit with Rubber bullets for proper conditioning (TS)
24-May-17	22:15	Black Bear	CP/safety	Yes	No	
28-May-17	23:00	Black Bear	CP/Safety	Yes	No	
1-Jun-17	14:00	Black Bear	DF	Unknown	No	Healthy looking bear, not overly concerned by the vehicle
1-Jun-17	14:15	Fox		Unknown	No	Seen before in the same area.
3-Jun-17	15:00	Ermine		no	no	
24-Jun-17	7:45	Bear	CH/Safety	Yes	No	after hazing, bear responded to me yelling (ran away)
25-Jun-17	19:30	Black Bear	Worker	Unknown	No	Reported to YG CO's and stopped recreational activity at mine for 1 week.
27-Jun-17	8:00	Fox	CH	Unknown	No	We also saw bear tracks at W2 and moose tracks on the W1 trail
23-Mar-17	9:00	Red fox	n/a	Unknown	No	
8-Apr-17	5:30	Rabbit	n/a	Unknown	No	
3-May-17	10:00	Bear	n/a	Unknown	No	
14-May-17	12:30	Black Bear	n/a	Unknown	No	
25-Jun-17	11:00	Deer	n/a	Unknown	No	
23-Jun-17	13:00	Seagull	n/a	Unknown	No	
3-Jun-17	11:30	Bear	n/a	Unknown	No	
8-Jan-17	10:00	Fox	n/a	Unknown	No	

Date	Time	Type of Animal	Who performed the hazing?	Has this animal been hazed in 2017?	Reportable Incident (Yes/No)	Notes
16-May-17	19:30	Black Bear	n/a	Unknown	No	
18-May-17	20:30	Black Bear	n/a	Unknown	No	
13-Jun-17	2:30	Fox	n/a	Unknown	No	
25-Jun-17	7:58	Bear	n/a	Unknown	No	
26-Jun-17	21:15	Deer	n/a	Unknown	No	
18-Jan-17	10:45	Bull moose	n/a	Unknown	No	
17-Feb-17	5:00	Lynx	n/a	Unknown	No	
15-Apr-17	6:30	Porcupine	n/a	Unknown	No	
17-Apr-17	17:20	Bear	n/a	Unknown	No	
22-Apr-17	17:05	Bear	n/a	Unknown	No	
3-May-17	10:15	Black Bear	n/a	Unknown	No	
26-May-17	14:00	Wolf	n/a	Unknown	No	
27-May-17	8:10	Mule deer	n/a	Unknown	No	
5-May-17	2:00	Grey wolf	n/a	Unknown	No	
3-Jun-17	14:00	Black Bear	n/a	Unknown	No	
20-May-17	11:00	Black bears	CP	Yes	No	
25-Jun-17	8:00	Porcupine	n/a	Unknown	No	
30-Jun-17	8:30	Black Bear	EB	Unknown	No	
30-Jun-17	8:35	Fox	EB	Unknown	No	
4-Jul-17	13:20	Ravens	EB	Unknown	No	
12-Jul-17	21:30	Black bear	CH	Potentially	No	bear reported in front of camp, when CH responded it had made its way to DSTF and towards Dumas, CH drove to Dumas yard and spotted the bear walking on TDD road near Dumas. Cut it off and honked and yelled, then it walked over the bank and disappeared into thick bush.
27-Jul-17	8:15	Black Bear	n/a	N/a	No	
9-Jul-17	9:15	Black Bear	n/a	N/a	No	
9-Jul-17	8:30	Black Bear	n/a	N/a	No	
20-Jul-17	8:45	Black bear	CH	n/a	No	After receiving word of black bear behind towers CH visited the site but the bear was gone, fired a screamer in direction bear went into bush.
24-Jul-17	20:30	Black Bear	David and Dan	Yes	No	This is potentially the same bear as stalked Darin Kennedy on June 25th.
27-Jul-17	15:00	Frog	n/a	N/a	No	Released to W3 area
28-Jul-17	6:30	Black Bear		Yes	No	Due to frequency this bear has been seen, a proactive approach will be used in the morning to deter the bear from the area
29-Jul-17	10:35	Black Bear	Safety and EB	N/A	No	I don't know where they ran to, we patrolled the area but couldn't find them. All three were had black fur.

Date	Time	Type of Animal	Who performed the hazing?	Has this animal been hazed in 2017?	Reportable Incident (Yes/No)	Notes
29-Jul-17	11:00	Black Bear	n/a	n/a	No	I'm pretty sure it's the same one as this morning spotted by Tim.
1-Aug-17	10:30	Black Bear	Safety and DF	no	No	This appears to be a new bear to the area this year as it does not meet the description of the other that have been seen in the past week.
1-Aug-17	16:30	Black Bear	n/a	N/a	No	Enviro response did not see bear as it had moved out of the area.
2-Aug-17	14:05	Black Bear	EB	Potentially	No	
4-Aug-17	8:00	Black Bear	DF	Yes	No	There are lots of berries and natural foods in the area that will caus the bears to want to stay. Due to the slow response to the bangers it is recommended that the next hazing be with rubber bullets if possible.
4-Aug-17	16:00	Black Bear		Potentially	No	Report said the bear was near the portal with no other available information. There is a lot of natural food in the area and it is away from active work areas so no hazing was conducted.
6-Aug-17	5:50	Fox		No	No	They ran off as the truck turned towards them and when I got out of the truck to continued to move away.
6-Aug-17	13:30	Deer		No	No	Was in the area for over an hour.
19-Aug-17	10:30	Fox	TS	No	no	Email reminder sent out to site to NOT feed any animals and to haze (condition) any animals we see around our living/working areas.
21-Aug-17	8:00	Bear	CH	Unknown	no	Bear was spotted but
22-Aug-17	8:00	Black Bear	SD/CP/CH	Unknown	No	The bear was originally spotted in the recycling seacan. The doors currently do not securely close, creating an attractant. A WO (#051938) has been submitted to correct this. This may signal the beginning of hyperphagy for the year.
22-Aug-17	17:00	Black Bear	SD/CP/CH	Yes	No	reports suggested that the bear was accompanied by a smaller lighter coloured bear (possibly a cub).
23-Aug-17	15:00	Black Bear	EB/CR	Unknown	No	
23-Aug-17	17:25	Black Bear	EB/CR/CH and Saftey	Unknown	No	This bear was way too close to camp. Rubber bullets will be used on him next time he is spotted.

Date	Time	Type of Animal	Who performed the hazing?	Has this animal been hazed in 2017?	Reportable Incident (Yes/No)	Notes
23-Aug-17	19:00	Black Bear	CH and Safety	Yes	No	Was not visible enough to use rubber bullets but multiple bangers were shot at him.
24-Aug-17	18:45	Black bear	CH and Safety	Yes	No	bear did not seem to care when I was at bottom of hill, made moves like he was going to climb down anyway. SD hit with rubber and I fired bear banger with yelling right after.
24-Aug-17	23:00	Black bear	CH	Yes	No	bear ran up hillside behind sherwood, spotted it peeking out and fired a sdcreamer at it. Was not seen again by me.
25-Aug-17	18:45	Black bears	SD/EB	Yes	No	
25-Aug-17	19:45	Black bears	KR/SD/EB	Yes	No	
25-Aug-17	20:30	Black Bear	KR/SD/EB	Yes	No	
25-Aug-17	22:20	Black Bear	SD/EB	Yes	No	It was dark so it could have potentially been the black one as well.
26-Aug-17	0:00	Black Bear	BG	Potentially	No	It was dark so we're not 100% sure which one it is… but its one of the 2 we're pretty sure.
26-Aug-17	0:25	Black Bear	Pelly	Yes	No	It's the Green Tent problem bear
26-Aug-17	6:45	Black Bear	Safety	Potentially	No	bear was on hillside below selkirk towers, then on road by the rink, safety was able to hit with rubber, then again when in bush.
26-Aug-17	7:30	Fox	EB/CR	Potentially	No	I documented with pictures, this fox is habituated. We found wrappers of food and he peed on it, whatever that means. It is not scared of humans and has been hanging around that corner.
26-Aug-17	9:30	Black Bears	CH/CR	Potentially	No	
28-Aug-17	10:30	Black Bear	EB	Potentially	No	
29-Aug-17	10:00	Black Bear	EB/RH	Potentially	No	
29-Aug-17	15:00	Black Bear	Safety	Potentially	No	
29-Aug-17	19:45	Black Bear	EB/Safety	Potentially	No	
30-Aug-17	8:30	Black Bear	Safety	No	No	Enviro couldn't be there, we were busy at the LTF spill response.

Date	Time	Type of Animal	Who performed the hazing?	Has this animal been hazed in 2017?	Reportable Incident (Yes/No)	Notes
1-Sep-17	17:00	Black Bear		Potentially	No	
20-Sep-17	12:15	Deers	enviro	No	No	
21-Sep-17	12:40	Wolf		No	No	
21-Sep-17	14:00	Black Bear		Unknown	No	
13-Aug-17	12:00	Black Bear		No	No	
22-Sep-17	8:00	Black Bear		No	No	
23-Sep-17	8:00	Black Bear		Unknown	No	CH responded 10 mins later, bear was on hillside @km 1.5 eating plants. When I pulled up the bear ran a little way up the hill upon seeing me.
25-Sep-17	18:10	Deer	enviro	Unknown	No	when enviro responded only one small deeer was seen. Directed deer towards the fuel farm treeline. It ran to confluence and was not seen afterwards
26-Sep-17	9:20	Deer	DF	Potentially	No	
28-Sep-17	4:45	Porcupine	n/a	n/a	Yes	CO was informed shortly after Environment found out. The CO supported our method of disposal.
28-Sep-17	22:00	Wolf	Kevin Suits	No	No	
12-Jul-17	21:30	Bear		Potentially	No	
22-Jul-17	10:00	Black Bear		Potentially	No	
23-Sep-17	16:00	Fox		Unknown	No	
25-Aug-17	6:45	Porcupine		Unknown	No	
25-Aug-17	13:00	Black Bear		Unknown	No	
26-Aug-17	9:00	Black Bear		Unknown	No	
27-Aug-17	7:00	Fox		Unknown	No	
25-Sep-17	5:00	Wolves		Unknown	No	
1-Jul-17	5:45	Deer		Unknown	No	
27-Jun-17	16:00	Porcupine		Unknown	No	
1-Jul-17	9:00	Black Bear		Unknown	No	
2-Jul-17	6:30	fox		Unknown	No	
3-Jul-17	17:00	Deer		Unknown	No	
6-Jul-17	15:00	Deer		Unknown	No	
19-Jul-17	9:15	Wolf		Unknown	No	
21-Jul-17	2:00	Porcupine		Unknown	No	
21-Aug-17	6:30	Fox		Unknown	No	
21-Jul-17	2:30	Black Bear		Unknown	No	
22-Jul-17	13:30	Black Bear		Unknown	No	
4-Aug-17	16:15	Black Bear		Unknown	No	
3-Sep-17	7:10	Fox		Unknown	No	
26-Sep-17	10:30	Deer		Unknown	No	
6-Oct-17	14:30	Wolf				
22-Oct-17	12:15	Black Bear	Corey Roberts	Unknown	No	

APPENDIX 1-6

MINTO MINE SITE CHARACTERIZATION – AQUATIC RESOURCES

MINTO MINE - SITE CHARACTERIZATION

AQUATIC RESOURCES

MIN-17-01-700_005_Minto Site Characterization Aquatic Resources_RevC_180130

January 30, 2018

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EXECUTIVE SUMMARY

The Minto Mine is a high grade copper mine located approximately 240 km northwest of Whitehorse, Yukon Territory. The Mine has been in operation since October 2007, and it's currently anticipated operating life is to 2020. This Report provides a characterization of aquatic environmental resources in the vicinity of the mine in support of permitting of a Phase VII expansion. The aquatic environment characterized in this report includes several creeks with drainages influenced by the mine (Minto Creek, Creek A, McGinty Creek), associated reference creeks (e.g., Big Creek and Wolverine Creek), and the Yukon River (which receives flows from these creeks). The area of interest within the Yukon is the 20 kilometer stretch between Big Creek (7 kilometers upstream of the Minto Creek mouth) and Wolverine Creek (13 kilometers downstream of the Minto Creek mouth). Aquatic environmental data considered in this report include those collected from 1994 (baseline) to 2016.

Minto Creek, with its headwaters in the mine area, is the primary drainage affected by the Minto Phase VII project. Minto Creek flows northeast from the mine site over roughly 17 km to the Yukon River, and covers an approximate area of 41 km^2. The creek has five primary tributaries along its length, and flows through large tracts of land that have been influenced by a forest fire in 2010. Water from the mine area flows into the upper reaches of Minto Creek through the water storage pond and other conveyances. Investigations into the physical characteristics of Minto Creek have found it to be generally shallow, ephemeral in nature, and to have frequent build-ups of layered ice during the winter (sometimes to the substrate). Creek A is a small watercourse that drains an area adjacent to, and traversed by, the Minto Mine access road, into the Yukon River. The headwaters of Creek A are approximately 4 km southeast of Minto Creek and it flows for 7 km northeast along a riparian floodplain into the Yukon River. McGinty Creek (formerly referred to as Unnamed Creek B) is located to the north of Minto Creek and flows north-northeast for 9.5 km to the Yukon River confluence. Both McGinty Creek and Creek A are potentially influenced by the mine or associated activities.

Aquatic Environment and Habitat

Stream sediments were collected during baseline studies (1994) and have been collected annually since 2006. Concentrations of copper greater than the Canadian Sediment Quality Guideline (CSQG) were observed during baseline data collection and have been observed annually since then. Recent data collections (2010 to present) have focussed on whole sediments and have indicated copper concentrations greater than guidelines and reference in upper and lower Minto Creek, including some concentrations in upper Minto Creek greater than the ISQG Probable Effect Level. Due to the predominantly erosional habitat in upper Minto Creek, there are relatively few areas where sediment is deposited and then only in small quantities that likely wash away each year during freshet. Therefore, elevated sediment copper in the upper reaches of Minto Creek may be of limited importance in terms of exposure and potential toxicity to biota. Conversely, some depositional habitat is present in lower Minto Creek and is of greater importance in terms of exposure and potential toxicity to biota. Sediment toxicity tests completed in lower Minto Creek in 2011, 2015 and 2016 indicated no toxicity to the amphipod *Hyalella azteca* or to the midge *Chironomus dilutus*.

Periphytic algae were collected during baseline studies (1994) and have been collected annually since 2012. Periphytic algae are simple aquatic plants that inhabit the substrate of shallow water bodies and can provide a valuable biological monitoring tool to assess potential impacts of nutrient enrichment and metal toxicity. Periphyton chlorophyll-a (an index of primary production) data have indicated low to moderate production, with concentrations below the British Columbia Water Quality Guideline (BCWQG). Highest recorded chlorophyll a concentrations were observed in 2016, in lower Minto Creek and also at reference (lower Wolverine Creek) and was therefore likely due to climactic and/or seasonal factors. Periphyton community monitoring indicated substantial variability in community composition among years in lower Minto Creek and at reference (lower Wolverine Creek). This variability resulted in inconsistent findings among years when comparing the two creeks.

Benthic macroinvertebrate community data were collected during baseline studies (1994), were collected in 2006, 2008 and annually since 2010, and have also been collected as part of federal Environmental Effects Monitoring (EEM) in 2008, 2011, and 2014. Benthic macroinvertebrates are non-backboned animals inhabiting the bottom substrates of aquatic habitats. The abundance, diversity, and taxonomic composition of benthic invertebrates can be used as indicators of changing environmental conditions and anthropogenic influence as their distribution and abundance can be influenced by a wide variety of physical parameters. Benthic invertebrate community monitoring of lower Minto Creek (annually since 2010) has indicated that, following a methodological change made in 2012 to align with federal EEM requirements, key benthic invertebrate community metrics of density, taxon richness, and Simpson's evenness have been stable over time. Results for the most recent sampling indicated that these metrics were within historical ranges. Benthic invertebrate community monitoring under EEM in 2008 (Phase 1 EEM) indicated that upper Minto Creek (effluent-exposed) had a significantly higher benthic invertebrate density and slightly lower number of taxa compared to McGinty Creek (reference), but it was unclear whether the differences were due to the influence of effluent or due to natural habitat differences between the two creeks. In the Phase 2 EEM, a second reference area was added (a tributary to upper Wolverine Creek), and upper Minto Creek was found to have significantly more taxa, greater mean Bray-Curtis dissimilarity, and significantly lower Simpson's Evenness compared to reference. Benthic invertebrate density was also greater in upper Minto Creek than reference, but not significantly so due to high variability. In the Phase 3 EEM, an alternate design was applied to determine if differences in the benthic invertebrate community of upper Minto Creek (relative to McGinty Creek and the Wolveribne Creek tributary) observed in Phase 1 and 2 apply in comparison to a larger reference dataset. Specifically, a Reference Condition Approach (RCA) was applied by which sites on upper Minto Creek were compared to 12 reference sites. RCA evaluation indicated that 2 of 3 sites on upper Minot Creek were within reference condition for all effect endpoints and that one site (UMC-3) had a greater density (greater than the reference condition). Relative to the range of reference, upper Minto Creek sites had lower proportions of Ephemeroptera (mayflies) and Plecoptera (stoneflies), but more Trichoptera (caddisflies) and dipterans (flies) excluding midges.

Fish and Fish Habitat

A variety of resident and migratory fish species inhabit the Yukon River near Minto Mine. These include Chinook, Coho and chum salmon, lake trout, least cisco, Bering cisco, round whitefish, lake whitefish, inconnu, Arctic grayling, northern pike, burbot, longnose sucker, and slimy sculpin. Previous studies on the Yukon River within the vicinity of Minto Mine have identified spawning and rearing areas for salmon. Spawning shoals are present at the Ingersoll Islands (downstream of the project area) as well as around islands upstream of the Minto Mine near Big Creek. These offer an extensive network of side channels and sloughs which provide good spawning gravel.

The portion of the Yukon River near the mouth of Minto Creek (i.e., the 20 kilometer stretch defined above) also provides rearing habitat for Chinook salmon. Juvenile Chinook salmon (JCS) generally spend up to 1.5 years feeding and growing in fresh water tributaries prior to out-migrating to the ocean, and feed or stage in various tributaries to the Yukon River during this slow outmigration. Fish and fish habitat studies of lower Minto Creek have been ongoing for many years, with contemporary studies including those from 1994 through 2016. Generally, Minto Creek has been noted to provide only limited habitat to fish. Flows within the stream are quite variable on a yearly basis, with intermittent flows and extensive ice build-up during winter that eliminates any potential for overwintering habitat for fish. The distribution of fish within Minto Creek has been observed to be limited to the lower 1.5 km of the watercourse, as there is a barrier and steep canyon that prohibits upstream movement. Chinook salmon, slimy sculpin, Arctic grayling, longnose sucker, burbot, and round whitefish have been captured in lower Minto Creek (although the latter have not been observed since the original baseline studies in 1994). Juvenile chinook salmon use the lower Creek consistently in summer and early fall, and slimy sculpin have been observed in summer and fall, but at a low density.

Fish and fish habitat studies were conducted during baseline studies (1994), and have been conducted annually since 2006. Fish studies were also conducted as part of the Cycle 1 and Cycle 2 EEM in 2008 and 2011. During baseline studies, it was noted that inter-annual patterns of Chinook salmon occurrence in Minto Creek can be related to water temperature on a seasonal basis. During the early summer (e.g., May/ June), the occurrence of JCS has been low, with individuals captured more frequently near the Yukon River confluence. Catches in July, August, and September have generally been higher, presumably because out-migrating Chinook seek out non-natal tributaries as foraging habitat. During the summer of 2009, there was a marked increase in Chinook salmon captures which coincided with an emergency release of water from the Minto Mine tailings dam (catch per unit effort; CPUE) of at least three times the previous highest catch records). Similarly, high numbers of JCS were captured in 2010, when the mine was discharging water into Minto Creek. It is believed that the stable, elevated flow and warmer, more consistent temperature regime (i.e. a narrower diurnal temperature fluctuation) associated with the release may have attracted JCS into the system from the Yukon River. In response to the observed high density of JCS in Minto Creek during these releases, a fish transfer program was initiated during the fall of 2009 and 2010 to prevent these fish being stranded by the onset of winter. Monitoring of fish within Minto Creek from 2011 to 2016 has shown that JCS use of Minto Creek is relatively low, and can vary year to year depending on the water temperature and creek flows during the summer months. Fish studies were also completed as part of federal EEM in 2008 and 2011 (a fish study was not required in the Phase 3 EEM in 2014). The Phase 1 EEM indicated/confirmed that fish abundance in Minto Creek was too low to support a conventional EEM fish survey. Therefore, the Phase 2 EEM fish survey involved exposure of juvenile chinook salmon to Minto Mine effluent in a laboratory environment (i.e., in large rearing tanks). The laboratory-based study indicated that exposure to Minto Mine effluent (12% effluent concentration) resulted in slight increases in the size and condition of exposed fish (maximum responses were 5% and 3% respectively, simply indicating very slight stimulation at levels below "critical effect sizes" that are considered to be biologically meaningful.

In addition Minto Creek, Creek A and McGinty Creek were both evaluated during baseline (1994), and McGinty Creek was evaluated in 2009-2011 in association with the Phase V/VI expansion. No fish were observed or captured in Creek A during baseline studies (including a site at the road crossing location) and it is not considered to offer high quality habitat for fish. Arctic grayling and slimy sculpin were captured in McGinty Creek in 1994. Because substantial deadfall caused by a forest fire in 2010 changed creek conditions, only minnow trapping was used in 2009–2011, yielding very low numbers of slimy sculpin and no JCS. Since these captures were made in near the mouth of McGinty Creek, these fish were presumed to be associated with the Yukon River, as opposed to McGinty Creek. These results are similar to those found in the 1994 survey, in that fish were only captured in close proximity to the Yukon River confluence. The physical nature of the McGinty Creek drainage is not conducive to a consistent year-round use by fish. Many factors, including gradient, discharge volume, depth, configuration, and paucity of an upstream reservoir, limit wintering habitat potential for fish. In addition, several potential natural fish barriers were observed and documented in the lower reach of McGinty Creek.

An assessment of metal concentrations in fish muscle tissue was completed during the baseline studies (1994) as well as in 2012 as part of a study looking at selenium accumulation of spawning fish within Minto Creek. Metal concentrations for muscle tissue were found to be below the Health and Welfare Canada, Food and Drug Relations at the time the study occurred. The study conducted in 2012 was unable to determine for certain if any mine-related influence or potential adverse effects to fish of Minto Creek. Periphyton tissue sampling conducted in 2013 resulted in no significant differences between Minto Creek and reference areas, whereas from 2014 – 2016 periphyton selenium concentrations were significantly greater in lower Minto creek compared to reference areas. Significantly higher concentrations of selenium over the last three years could indicate an influence of the mine on Minto Creek. Benthic tissue sampling within Minto Creek has shown high variability of copper concentrations over the years. This lack of consistency among years suggests that the observed differences likely represent natural variability.

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LIST OF ACRONYMS AND ABBREVIATIONS

ACG	Access Consulting Group
AEG	Alexco Environmental Group Inc.
AEMP	Aquatic Environment Monitoring Plan
BC	Bray-Curtis
BCWQG	British Columbia Water Quality Guidelines
CPUE	Catch Per Unit Effort
CWQG	Canadian Water Quality Guidelines
DFO	Department of Fisheries and Oceans
EEM	Environmental Effects Monitoring
EPT	Ephemeroptera, Plecoptera, Trichoptera
EMSRP	Environmental Monitoring Surveillance and Reporting Plan
HKP	Hallam Knight Piesold
IOC	Investigation of Cause
ISQG	Interim Sediment Quality Guidelines
JCS	Juvenile Chinook Salmon
LOD	Large Organic Debris
MMER	Metal Mining Effluent Regulations
MVFE	Mill Valley Fill Expansion
PEL	Probable Effects Level
PCA	Principal Component Analysis
RCA	Reference Conditions Approach
SFN	Selkirk First Nation
TSF	Tailings Storage Facility
TSS	Total Suspended Solids
WSP	Water Storage Pond
WUL	Water Use Licence
YESAB	Yukon Environmental and Socio-Economic Assessment Board
YOY	Young of Year

1. INTRODUCTION

The Minto Mine is a high grade copper mine located within Selkirk First Nation (SFN) Category A Settlement Land Parcel R-6A approximately 240 km northwest of Whitehorse, Yukon Territory (62° 37' N latitude and 137 °15' W longitude; Figure 1-1). It is owned and operated by the Minto Explorations Ltd. a wholly owned subsidiary of Capstone Mining Corporation. Development of the mine was initiated in 1997, commercial operations started in October 2007, and the currently anticipated operating life is to 2020 with permitted resources to 2022. The Minto Mine is permitted to conduct open pit and underground mining, and to mill the copper/gold/silver ore at a rate of 4,200 tonnes of per day. In 2016 (the most recent year of record), the Minto Mine produced 69.3 million pounds of copper from milling approximately 1.49 million tones or ore.

In addition to open pit mines, underground mines, and the mill, the Minto Mine site includes a number of waste rock dumps, a concentrate storage shed, a dry stack tailings storage facility (DSTSF), a water retention dam with a water storage pond (WSP), a water treatment plant, administrative offices, an airstrip, and a camp (Figure 1-2). Mill tailings are stored in the DSTSF and in mined-out open pits. Mine-impacted seepage from the DSTSF and under the Mill Valley Fill (MVF) is collected at the toe of the MVF in sump W62 and is pumped to the Main Pit (Figure 1-2). Non-impacted water and treated mine-impacted water are collected in the WSP (Figure 1-2). Effluent from the WSP is periodically discharged to Minto Creek under conditions specified in Water Use Licence (WUL) QZ14-031 (August 2015). Minto Creek, in turn, discharges to the Yukon River approximately 7.7 km south-east of the WSP (Figure 1-2).

1.1 BACKGROUND

Biological monitoring under the Aquatic Environment Monitoring Plan (AEMP) is implemented annually, and includes monitoring of water, sediment, periphyton, benthic invertebrates, fish, and fish habitat. The biological monitoring program has been modified over time, but data from 1994 (baseline; HKP 1994) and 2006-2015 have been reported previously (e.g., Minnow 2016a). Concentrations of copper in Minto Creek were greater than the Interim Sediment Quality Guidelines (ISQGs) for the protection of aquatic life, but were also greater than ISQG at reference areas. Over the previous several years these concentrations were observed to be similar. Differences between lower Minto Creek and lower Wolverine Creek periphyton community summary metrics and composition were observed among years indicating temporal variability. High temporal variability in benthic invertebrate metrics have also been observed; presumably due to inter-annual variability in environmental conditions.

Minto Mine also implements Environmental Effects Monitoring (EEM) in accordance with federal requirements under the Metal Mining Effluent Regulations (MMER) of the *Fisheries Act*. Biological monitoring under EEM is implemented every three years and is currently in the fourth phase - the study design has been completed for Phase 4 of EEM (Minnow 2016b). Field work has been completed but the interpretive report is in progress and was not available at the time this report was written. The most recent completed EEM (Phase 3) was an Investigation of Cause (IOC) study into differences in benthic invertebrate community structure of upper Minto Creek (relative to reference) observed in the first two EEM studies and was implemented in 2014 (Minnow 2015a). Some mine influence on Minto Creek water quality was documented in the IOC study. Conductivity, hardness, nitrate, arsenic, and copper were higher in Minto Creek than at reference areas but analytes were below Canadian Water Quality Guidelines (CWQG) for the protection of aquatic life, except for copper. Concentrations of nitrate were most strongly associated with the release of water from the Water Storage Pond, but remained below the CWQG. Despite the differences in water quality, a Reference Condition Approach (RCA)

benthic invertebrate community survey indicated that the benthic invertebrate community of upper Minto Creek was within reference condition (Minnow 2015a).

1.2 REPORT OBJECTIVE

The objective of this report is to provide a comprehensive summary of the aquatic resources in the Minto Mine area. It is based on the 2013 Aquatic Resources Baseline Report which was compiled by Access Consulting Group (ACG) and Minnow Environmental as part of the Phase V/VI Yukon Environmental and Socio-Economic Assessment Board (YESAB) Project Proposal. That 2013 report includes material modified from many baseline study reports and regulatory/assessment documents produced since 1994 by Hallam Knight Piesold (HKP), R&D Environmental, Access Consulting Group, Alexco Environmental Group (AEG), and Minnow Environmental. Further work conducted in Minto Creek and surrounding tributaries since the 2013 report was produced is included in this report.

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MINTO MINE

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MINTO MINE

AQUATIC RESOURCES SITE CHARACTERIZATION

FIGURE 1-1
PROJECT LOCATION

DECEMBER 2017

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MINTO MINE
AQUATIC RESOURCES
SITE CHARACTERIZATION

FIGURE 1-2

MINE SITE FACILITIES

DECEMBER 2017

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MINTO MINE

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Meters

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2. ENVIRONMENTAL SETTING

2.1 MINE CHRONOLOGY

Copper deposits at the Minto Mine were first discovered in 1970 and claims were staked in 1971. Extensive exploration yielded the first significant drill intersection in July 1973. The Minto Mine claims and leases cover an area of approximately 25.9 km^2. As of December 31, 2014, mineable reserves at the Minto Mine included 2,857,000 tonnes proven and 4,802,000 tonnes probable at average grades of 1.71% copper, 0.74 grams/tonne (g/t) gold and 6.0 g/t silver.

The Minto mine has been assessed and permitted in phases, which have included incremental increases in processing capacity of the Minto Mill. Currently, the mine is developing deposits assessed and permitted in the Phase V/VI Project Proposal, and has been since August 2015. This mine plan extends surface mining at Minto to 2018, underground mining to 2020, and milling of run-of-mine and stockpiled ore to 2020.

2.2 STUDY AREA

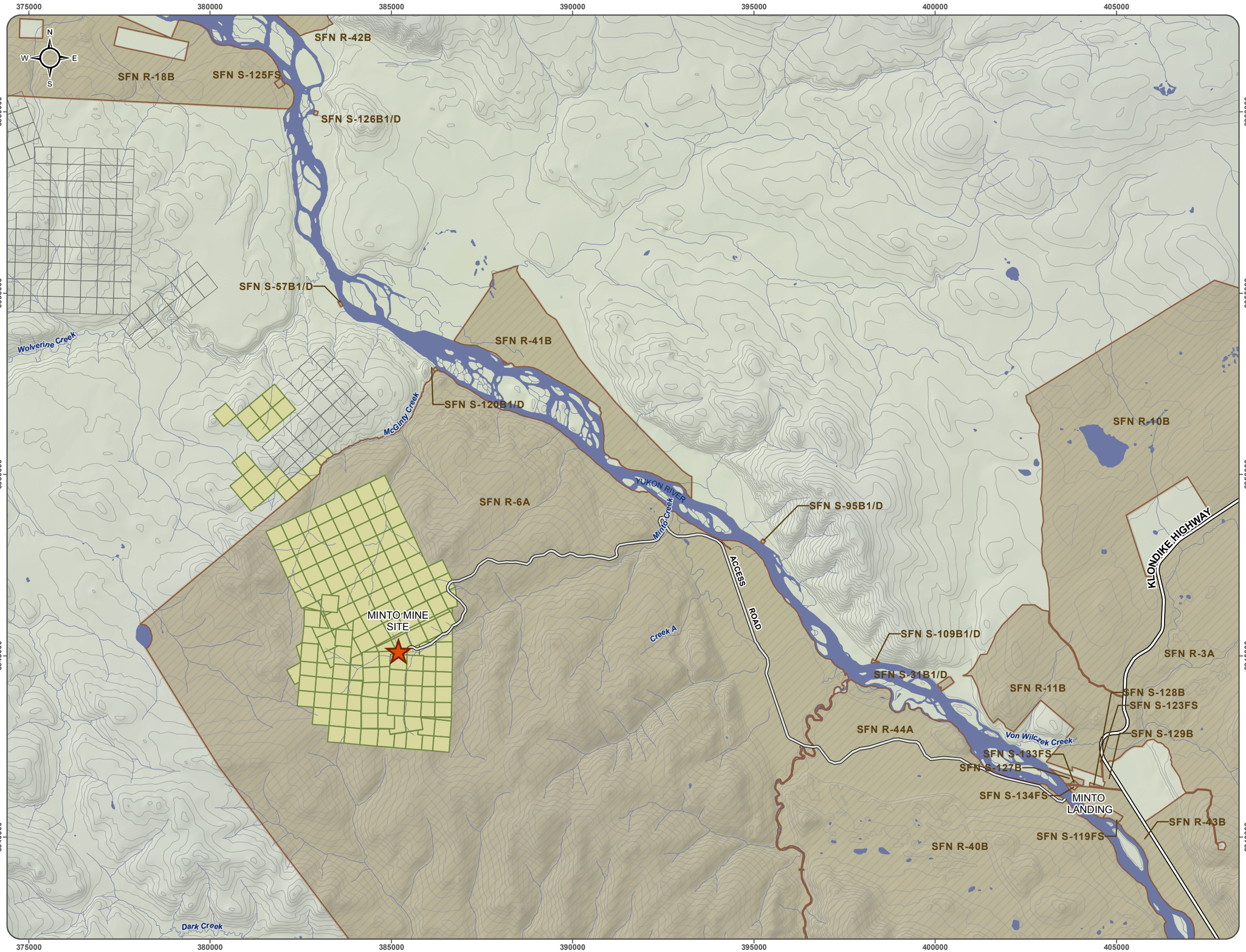
Information on fisheries and aquatic resources has been assembled from both the local and regional areas surrounding Minto Mine.

2.2.1 REGIONAL STUDY AREA

The Minto Mine regional area includes the Yukon River and its smaller tributaries near the project area, from 7 km upstream to Big Creek to 13 km downstream to Wolverine Creek.

2.2.2 LOCAL STUDY AREA

The local study area of the Minto Mine centres on four small drainages c that drain directly into the Yukon River: Minto Creek, an unnamed creek (referred to as Creek A), McGinty Creek and Big Creek. The primary drainage, Minto Creek, flows northeast from the existing mine site over approximately 17 km to the Yukon River, and covers an area of roughly 41 km^2. Creek A flows to the north over about 7 km near the lower end of Minto Creek, drains an area of roughly 9 km^2, and is crossed by the Minto Project access road. The third drainage is McGinty Creek (formerly referred to as Unnamed Creek B), which is located to the north of Minto Creek and flows north-northeast nearly 9.5 km to the Yukon River confluence, and covers an area of about 34 km^2 (Figure 2-1). The fourth drainage, Big Creek flows to the northeast over about 97 km and is crossed by the Minto Project access road. Operational data was collected for Minto Mine's Annual WUL (Figure 2-2) and through 3 Phases of EEM (Figure 2-3). The location of the baseline study data collected by Hallam Knight Piesold in 1994 is illustrated in Figure 2-4.



MINTO MINE

AQUATIC RESOURCES SITE CHARACTERIZATION

FIGURE 2-1
AREA OVERVIEW

DECEMBER 2017

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Minto Mine Site

Mine Access Road

Selkirk First Nation Settlement Lands

MInto Exploration Ltd. Claims

Other Claims

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0 1 2 3 4 5

kelometres

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First Nation Settlement land obtained from Natural Resource Canada. Quartz claim boundaires and ownership are current as of 28 December 2017. Data obtained from Mineral Resources Branch, Energy Mines and Resources Department, Government of Yukon.
Site hydrology data provided by Minto Explorations Ltd, May 2009.

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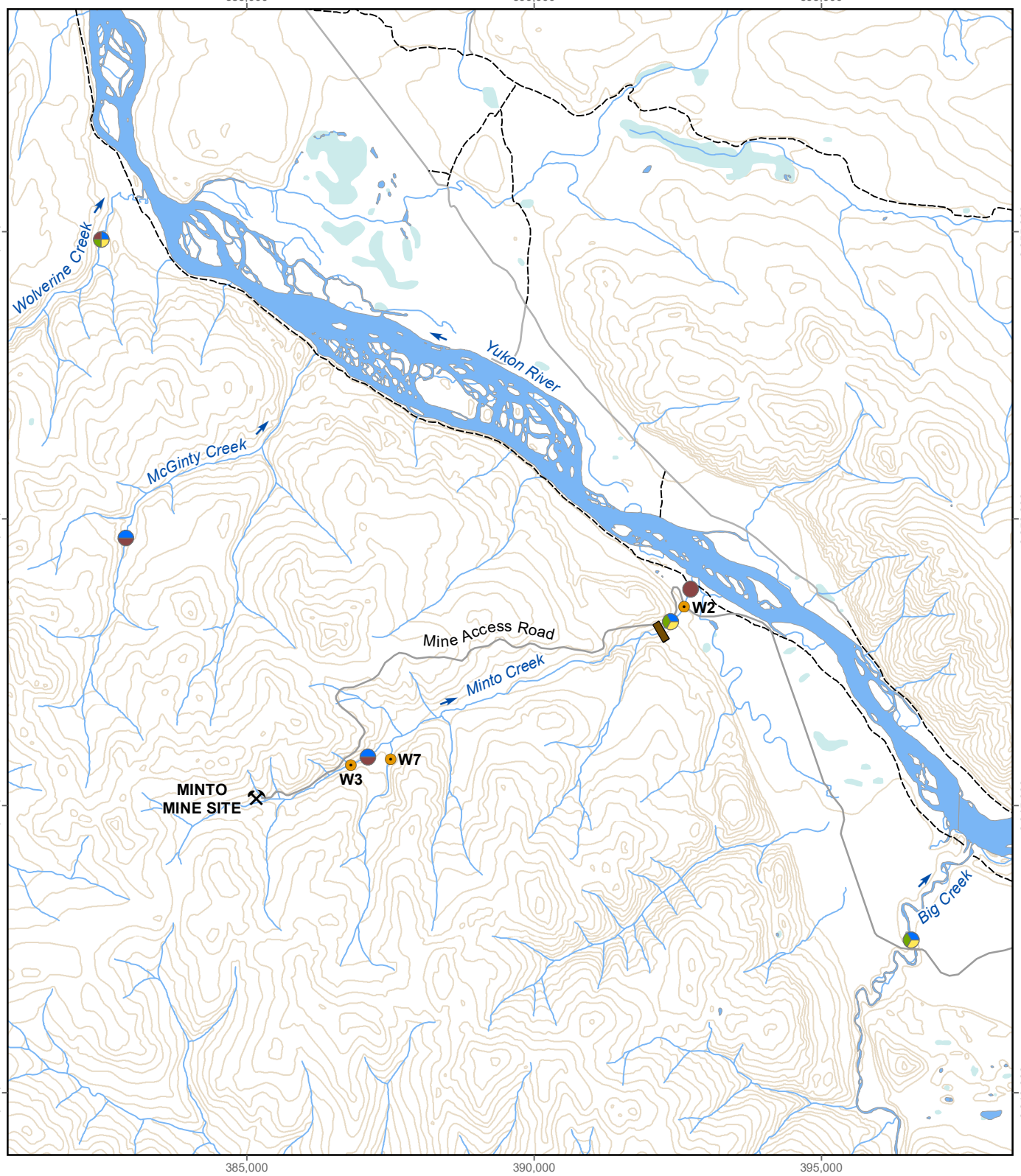

Samples Collected

- Water
- Sediment
- Periphyton
- Benthos

- Routine Water Station
- Fish Barrier

Monitoring Areas for the Minto Creek WUL Assessment

0 1.5 3 6 km

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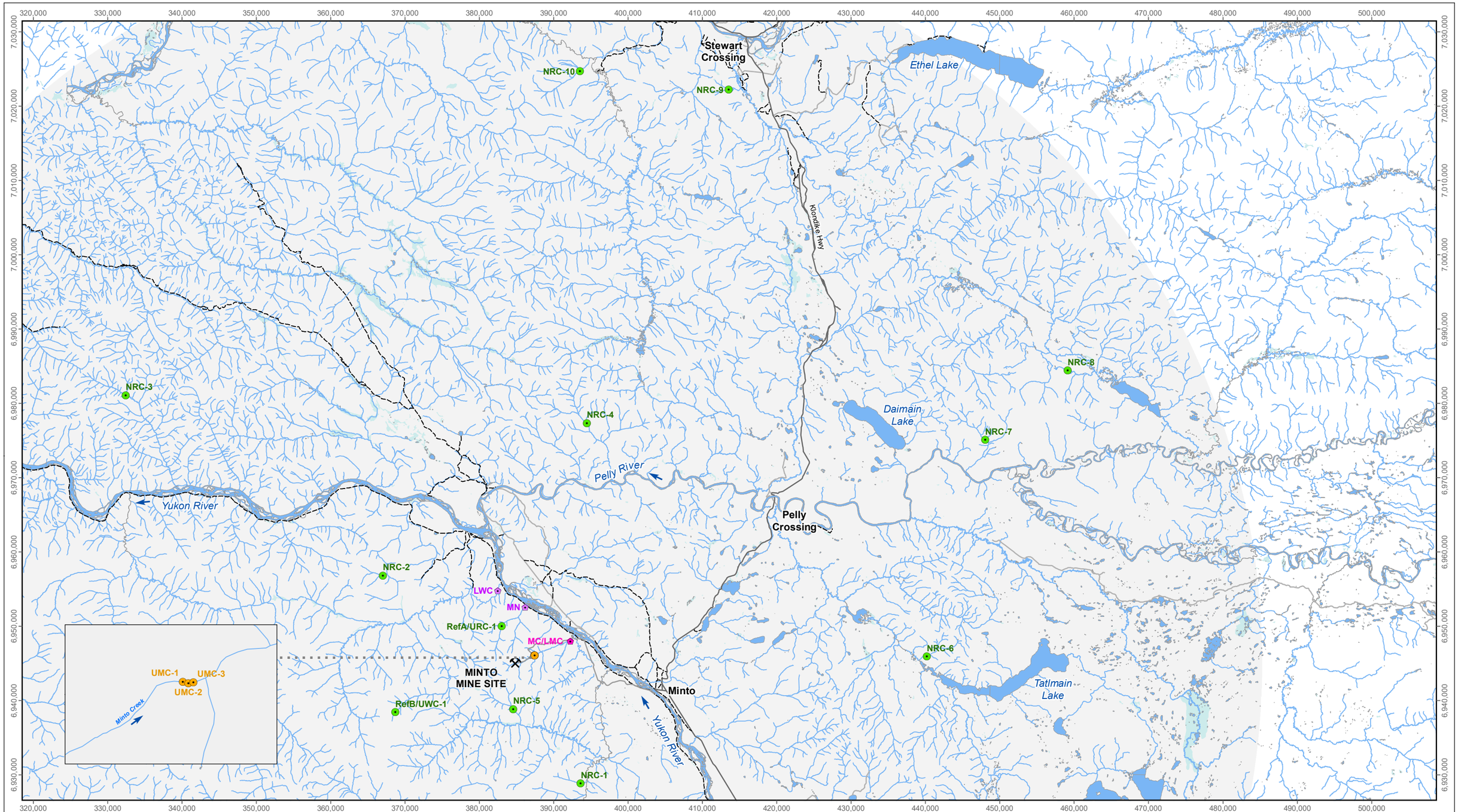
N W E S

Date November 2017
Project 177202.0047

minnow environmental inc.

Figure 2-2

Document Path: S:\Projects\177202\177202.0047 - Minto Mine Phase 7 Permitting\GIS\17-47 Figure 2-2 Monitoring Areas.mxd



- WUL Exposure Area
- WUL Reference Area
- EEM Exposure Site
- EEM Reference Site
- Search Area (100 kilometers)

0 5 10 20
km

N W E S

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Minto Mine EEM Sampling Sites/Areas

Date November 2017
Project 177202.0047

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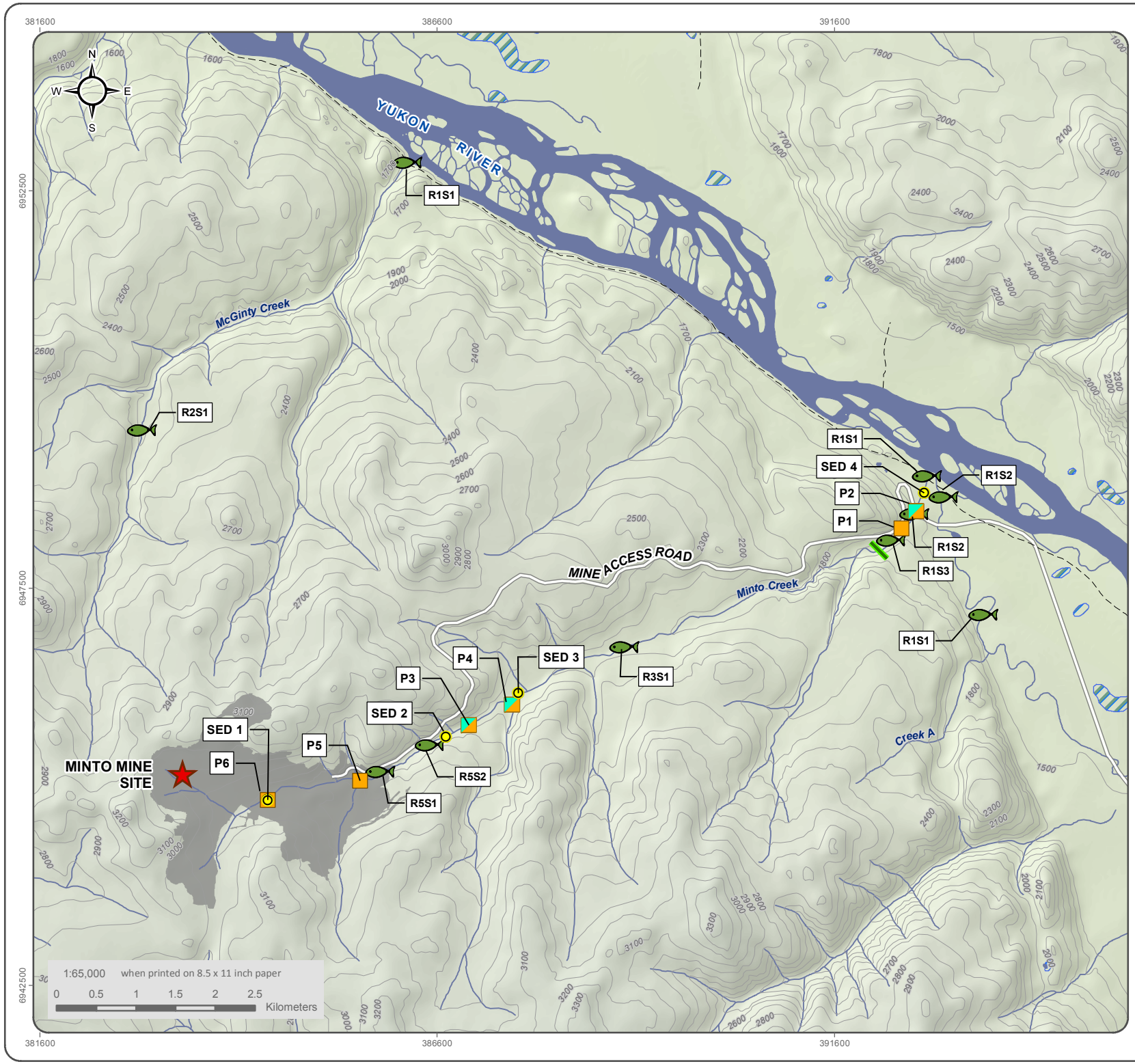
Figure 2-3



MINTO MINE
AQUATIC RESOURCES
SITE CHARACTERIZATION

FIGURE 2-4

1994 BASELINE STUDY SAMPLING SITES

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- Periphyton Sample
- Benthic/Periphyton Sample
- Fisheries Sampling Site
- Sediment Sample Sites
- Observed Fish Barrier
- Mine Footprint
- Wetland
- Mine Access Road
- Trail

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3. WATER QUALITY

The characteristics, trends and patterns associated with the geochemistry of surface waters within Minto Creek and McGinty Creek is summarized below. Figures 3-1 and 3-2 present the locations of the water quality stations for Minto Creek and McGinty Creek, respectively.

3.1 MINTO CREEK

- The Minto Creek waters were typically circumneutral to slightly alkaline pH and well-oxygenated;
- Nitrogen species concentrations were generally higher during and following periods of mine discharge likely due to blasting activity within the mine site. Aside from discharge periods, seasonal trends were observed, particularly for nitrate-N, with lower nitrate-N concentrations typically observed in summer months when primary producers that uptake nitrogen species would be most active;
- Concentrations of DOC at W3 were typically higher during April/May likely due to high flows caused by spring meltwater mobilizing organic carbon that had accumulated over the following year. DOC concentrations also appeared to be higher during mine discharge periods but as many of these periods occurred in early spring, it is difficult to discern the effects of mine discharge on DOC. At downstream stations MC1 and W2, DOC concentrations were higher in mid to late summer and were generally lower in spring and winter;
- Hardness was often lowest in April and May and increased through the summer and fall suggesting dilution in spring from meltwater of the groundwater source of hardness. This trend was more marked at W50 and downstream stations MC1 and W2 while W3 returned higher hardness concentrations with less seasonality;
- Dissolved aluminum concentrations were higher in the spring and decreased through the year, likely due to mobilization by high flows from spring meltwater;
- Dissolved arsenic and iron concentrations were typically higher at downstream stations MC1 and W2 than upstream stations and were highest in mid to late summer. A reasonable correlation with DOC concentrations suggests DOC likely aids in keeping elevated arsenic and iron concentrations in solution at MC1 and W2;
- Since 2010, dissolved chromium, lead, silver and zinc has generally been closer to or below detection levels with and without mine discharge;
- Dissolved copper, molybdenum and selenium concentrations were higher during and following periods of mine discharge. Dissolved copper concentrations also appeared to vary seasonally with higher concentrations observed in the spring with higher flows from meltwater. Dissolved molybdenum concentrations were consistently higher at W3 than W2 in pre-operations and during non-discharge periods.

3.2 MCGINTY CREEK

- Field pH was generally circumneutral to slightly alkaline and increased further downstream in both arms of McGinty Creek and the Minto North Pit;

- The waters were fairly well-oxygenated with occasional troughs of dissolved oxygen measured in winter months when ice cover likely inhibited ingress of oxygen to McGinty Creek;

- Nitrogen species were present in much higher concentrations in the Minto North Pit than in either arm of McGinty Creek likely due to nitrogen residue from blasting activities. Nitrate-N concentrations were typically lower in April/May due likely to dilution from meltwater and higher values were typically observed in the winter when uptake by primary producers would have been lowest. Nitrite-N was predominantly below detection level in McGinty Creek;

- Concentrations of DOC were typically higher during April/May likely due to mobilization by high flows caused by spring meltwater. Higher concentrations were also commonly observed in mid to late summer;

- Dissolved hardness in the Minto North Pit was much higher than in McGinty Creek and appears to be decreasing over the record of monitoring. In McGinty Creek, dissolved hardness concentration increases further downstream and varies seasonally with lowest concentrations in the spring and increasing concentrations through to the winter, suggesting a significant proportion of hardness from baseflow that is diluted by spring meltwater;

- Dissolved aluminum concentrations were higher in the upstream stations of the east and west arms of McGinty Creek and were erratic, perhaps varying with precipitation events as concentrations were typically higher in April and May when higher flows caused by spring meltwater could mobilize aluminum;

- Dissolved arsenic and iron concentrations were higher in upstream stations of the east and west arm of McGinty Creek and often peaked in August or September. A negative correlation between iron and ORP suggests the presence of a groundwater seep with reducing conditions that could have provided elevated concentrations of iron to McGinty Creek. DOC could also be a factor in maintaining higher iron and arsenic concentrations in solution. Dissolved arsenic and iron concentrations were fairly similar in the Minto North Pit as in McGinty Creek;

- Dissolved cadmium and zinc concentrations appeared to decrease from 2010 to 2013 and have been fairly low throughout all McGinty Creek stations post-2013. Higher concentrations of both cadmium and zinc were observed in Minto North Pit;

- Dissolved chromium concentrations were higher in upstream stations of the east and west arms of McGinty Creek and are predominantly below detection in the Minto North Pit;

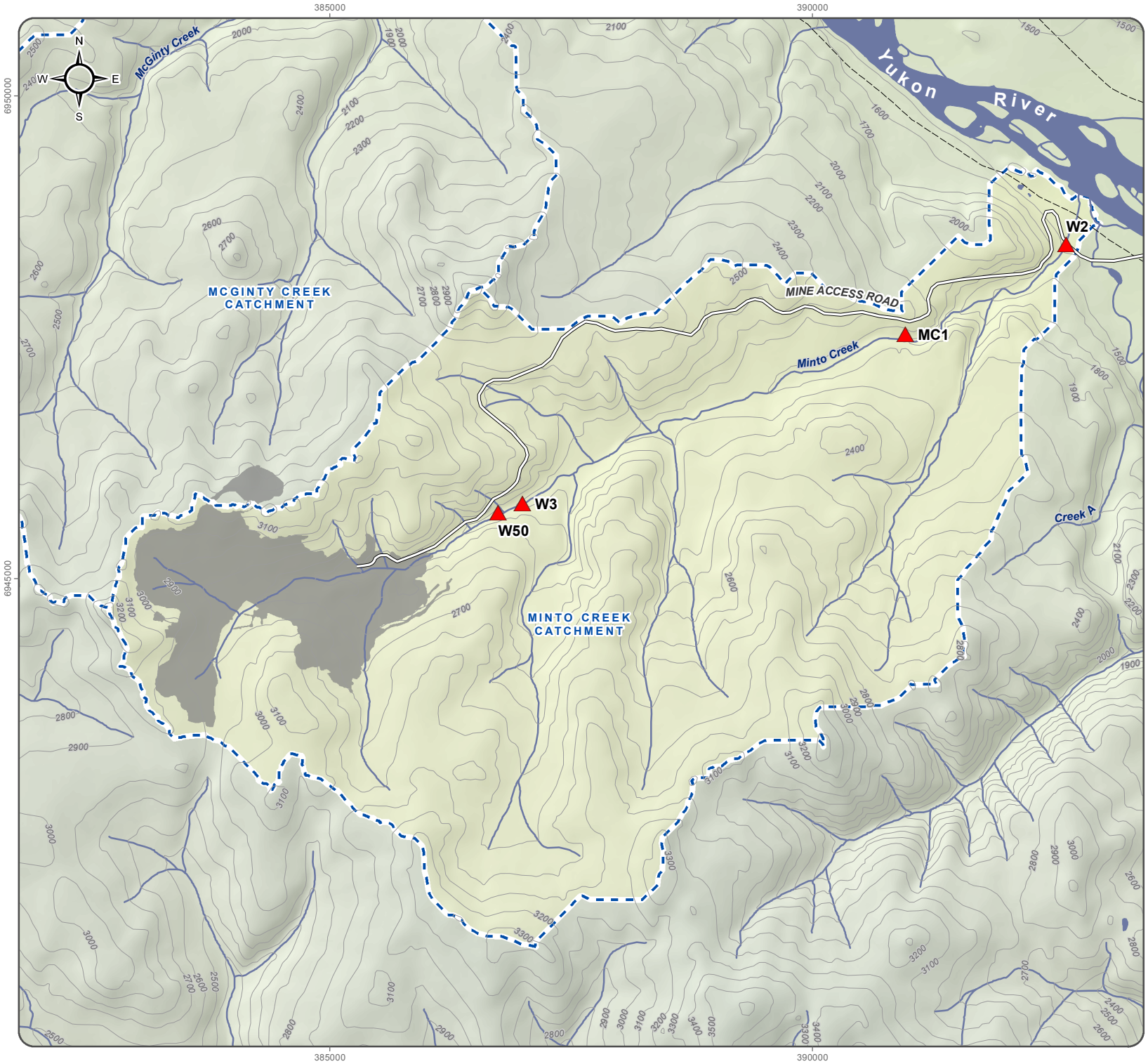
- Dissolved copper concentrations were much higher in Minto North Pit than in McGinty Creek. The upstream-most station MN-0.5 (reference tributary) consistently had the highest dissolved copper concentrations in McGinty Creek which generally were higher in April/May likely due to mobilization from spring melt and decreased throughout the year;

- Dissolved molybdenum was an order of magnitude greater in Minto North Pit than McGinty Creek stations. Concentrations typically increased moving downstream in McGinty Creek and varied seasonally such that lower concentrations were observed in the spring and higher concentrations were observed in the winter, suggestive of dilution of baseflow providing the bulk of molybdenum to McGinty Creek in the spring;

- Dissolved nickel concentrations were erratic in Minto North Pit but fairly similar to those observed in McGinty Creek.

- Dissolved lead and silver concentrations have generally been close to or below their respective detection levels in McGinty Creek and Minto North Pit since 2013;

- Dissolved selenium concentrations were one to two orders of magnitude greater in Minto North Pit than in McGinty Creek. In McGinty Creek, concentrations were generally highest in the west arm (reference tributary) at MN-0.5 suggesting a significant proportion of loading occurs from the west arm to McGinty Creek downstream of MN-2.5 and upstream of MN-4.5.



MINTO MINE
AQUATIC RESOURCES SITE CHARACTERIZATION

FIGURE 3-1
MINTO CREEK MONITORING STATION LOCATIONS

JANUARY 2018

capstone MINTO MINE

- Surface Water Surveillance Program Monitoring Station Locations
- Catchment
- Mine Footprint
- Minto Access Road
- Trail

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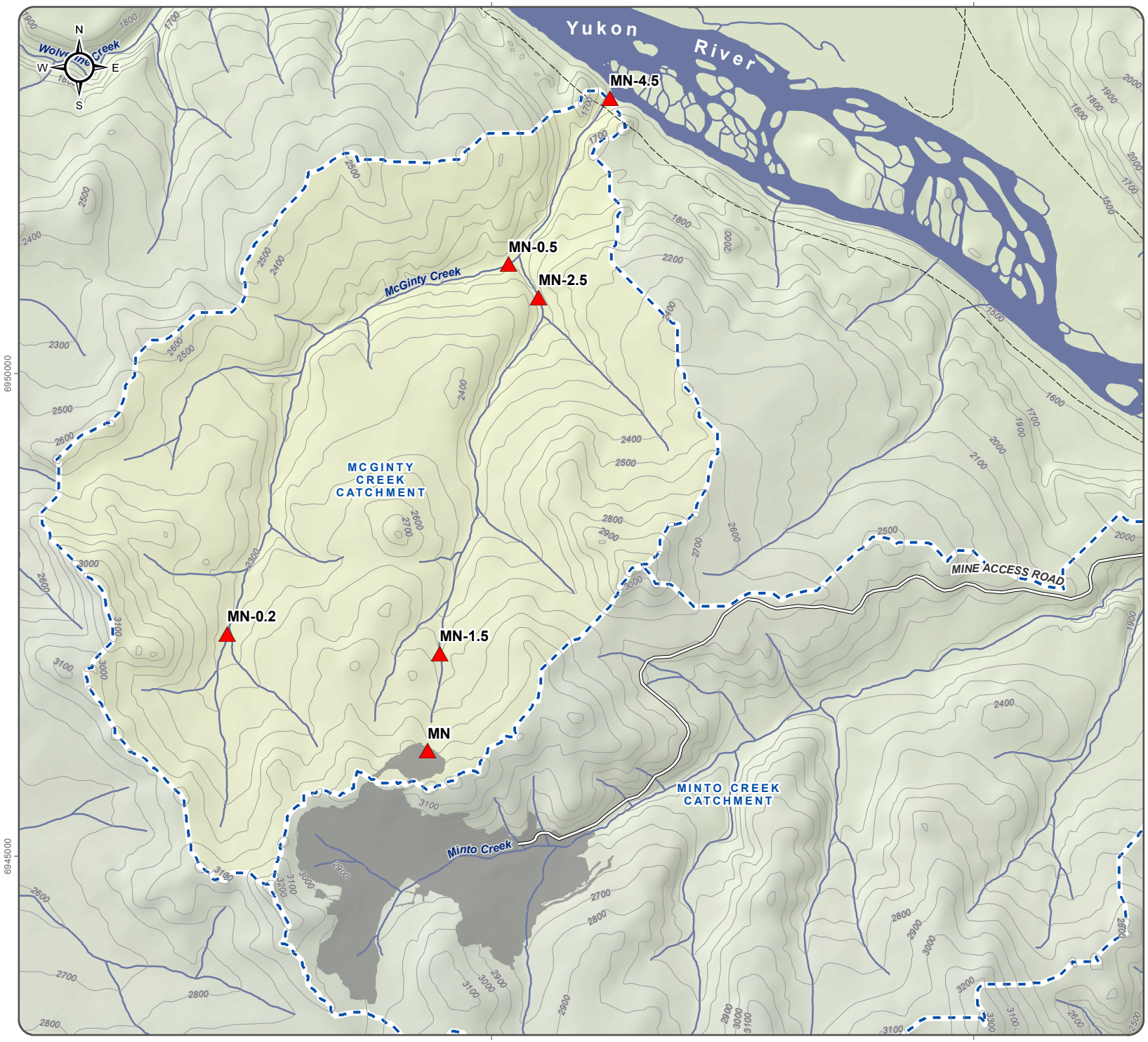

MINTO MINE
AQUATIC RESOURCES SITE CHARACTERIZATION

FIGURE 3-2
MCGINTY CREEK MONITORING STATION LOCATIONS

JANUARY 2018

capstone MINTO MINE

- Surface Water Surveillance Program Monitoring Station Locations
- Catchment
- Mine Footprint
- Minto Access Road
- Trail

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4. SEDIMENT QUALITY

4.1 BASELINE DATA

During the baseline sampling, sediment was comprised of gravel and minimal sand/clay which was not present in later years of sampling (Figure 4-1). The difference reflected a change of methodology that occurred in 2010. Copper exceeded the ISQG during the 1994 baseline monitoring (Figure 4-2). This could indicate that there are naturally high levels of copper in the region.

4.2 OPERATIONAL DATA- ANNUAL MONITORING

Particle size distribution was comprised of more sand/silt in 2010-2016, which is notably different from data collected prior to 2010 (Figure 4-1). This difference is consistent with the change in collection methodology from a scoop at slow-flowing locations (prior to 2010) to a petite ponar grab at quiescent locations (2010 to 2016) . Mean copper concentration at lower Minto Creek have been greater than ISQG during most of the sampling events as well as over probable effect levels (PEL) in 2016 (Figure 4-2). Copper concentrations at lower Minto Creek might not necessarily indicate a Minto Mine influence as copper concentrations were higher than ISQG in 1994. Due to the predominantly erosional habitat in upper Minto Creek, there are relatively few areas where sediment is deposited and then only in small quantities that likely wash away each year during freshet. Therefore, elevated sediment copper in the upper reaches of Minto Creek may be of limited importance in terms of exposure and potential toxicity to biota. However, continued sampling in this area is relevant from a monitoring perspective (Minnow 2012).

4.3 OPERATIONAL DATA- SEDIMENT TOXICITY TESTING

Two sediment toxicity tests, a 10-day Chironomus dilutus survival and growth, and a 14-day *Hyalella azteca* survival and growth test, were performed in 2011, 2015, and 2016. Lower Minto Creek sediment did not result in any effects to survival or growth of either test organism relative to the laboratory control or the field reference sediment (lower Wolverine Creek; Table 4-1). In fact, growth of *C. dilutus* was greater in lower Minto Creek sediment than in the laboratory control sediment (sand) and reference sediment (Table 4-1) in all years of study. The only significant differences observed were between lower Wolverine Creek and laboratory control sediment in 2011 (Hyalella azteca survival) and in 2015 (*Hyalella azteca* growth).

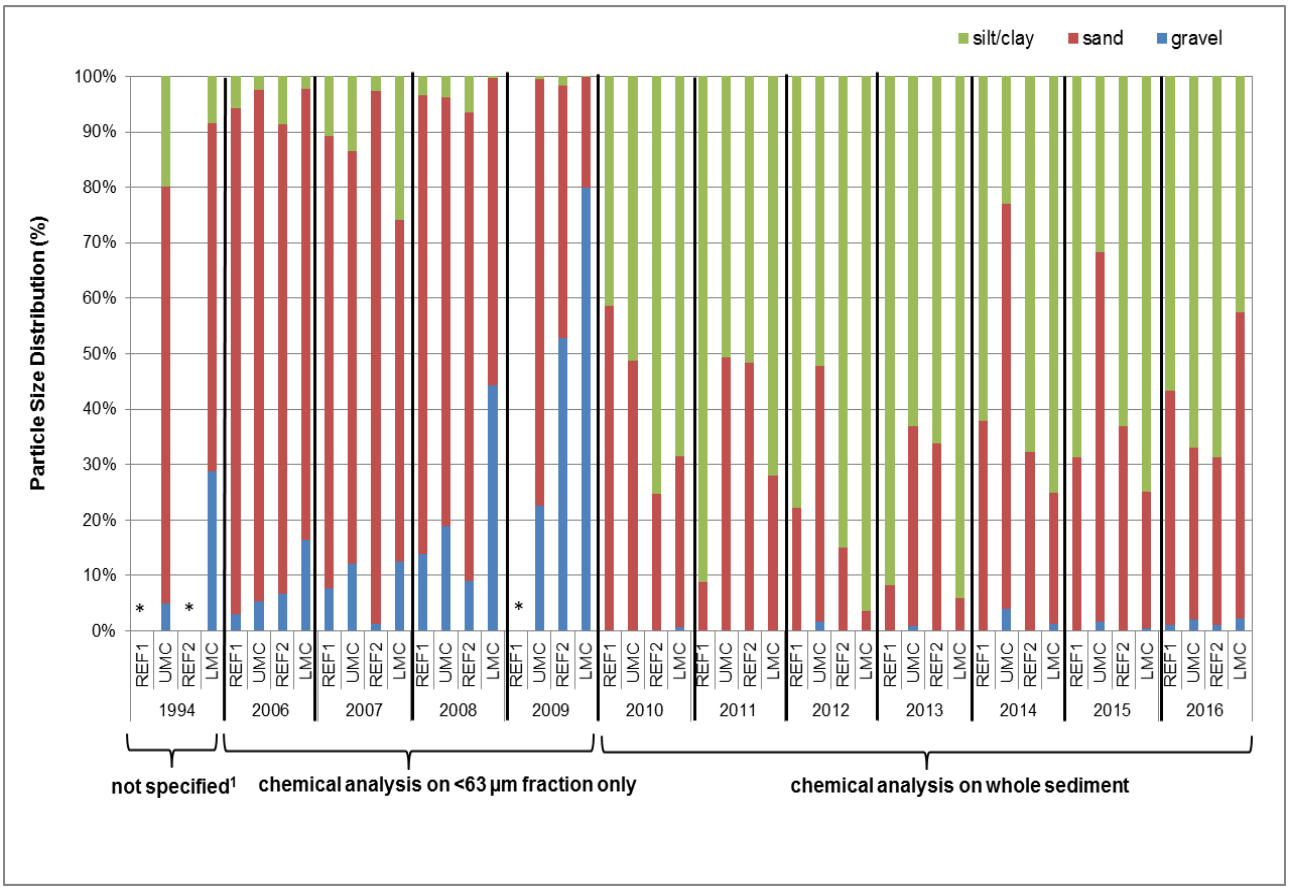


Figure 4-1: Particle Size Distribution of Sediment Collected in Minto Creek and Reference Locations, 1994-2016[a]

[1] Methods were not specified, fine sediment was collected in triplicate in the mainstem of Minto Creek (HKP 1994).
[a] REF1 = Station W6 (south-flowing tributary) in 2006 to 2008 and McGinty Creek in 2010 to 2016; UMC = Upper Minto Creek; REF2 = Station W7 (north-flowing tributary) in 2006 to 2009 and Wolverine Creek in 2010 to 2016; LMC = Lower Minto Creek.
* No data.

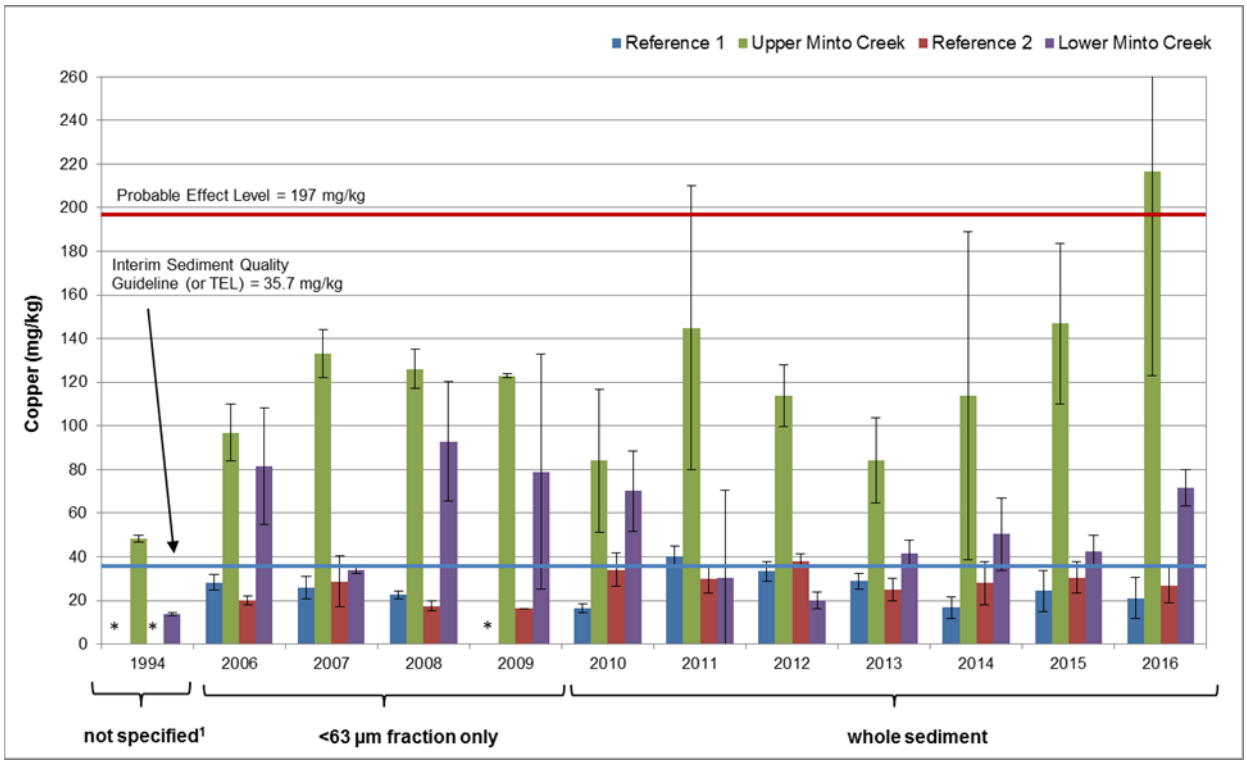


Figure 4-2: Copper Concentrations (Mean ± Standard Deviation) in Sediment Collected in Minto Creek and Reference Locations, 1994-2016[a]

[1] Methods were not specified, fine sediment was collected in triplicate in the mainstem of Minto Creek (HKP 1994).
[a] Reference 1 = Station W6 (south-flowing tributary) in 2006 to 2008 and McGinty Creek in 2010 to 2016; Reference 2 = Station W7 (north-flowing tributary) in 2006 to 2009 and Wolverine Creek in 2010 to 2016.
* = no data.

Table 4.1: Minto Mine Effluent Sediment Toxicity Test Results for Lower Wolverine Creek and Lower Minto Creek, September 2016

Endpoint	Year	*Hyalella azteca*			*Chironomus dilutus*		
		Control Sediment	Lower Wolverine Creek	Lower Minto Creek	Control Sediment	Lower Wolverine Creek	Lower Minto Creek
Survival (%)	2011	90 ± 7.1	66 ± 22	98 ± 4.5	76 ± 8.9	80 ± 8.2	80 ± 7.1
	2015	98 ± 4.5	100 ± 0	100 ± 0	100 ± 0	96 ± 8.9	96 ± 5.5
	2016	100 ± 0	100 ± 0	100 ± 0	94 ± 8.9	90 ± 7.1	82 ± 16
Dry Weight (mg)	2011	0.11 ± 0.020	0.090 ± 0.040	0.12 ± 0.030	2.35 ± 0.58	2.24 ± 0.53	2.60 ± 0.59
	2015	0.26 ± 0.050	0.20 ± 0.050	0.25 ± 0.080	1.71 ± 0.17	2.31 ± 0.13	2.66 ± 0.26
	2016	0.24 ± 0.060	0.30 ± 0.020	0.31 ± 0.070	2.35 ± 0.20	2.65 ± 0.30	3.39 ± 0.47

Significantly different than control sediment.
Significantly different than reference sediment.

5. PERIPHYTON

5.1 BASELINE DATA

Mean chlorophyll-a values ranged from 0.079 µg/cm² at station P3 to 0.392 µg/cm² at station P5 (Table 5-1). The highest mean concentration of chlorophyll-a was detected at P5 in the upper reaches of the Minto Creek watershed in an area of disturbance. Very little cover vegetation exists in this region due to mining exploration activities and forest fire. Therefore, an abundance of sunlight is allowed into the water column. A thick algal mat was observed on the creek substrate. The lowest value was detected in an area with thick overgrowth consisting of willows and alder. High variability was observed between replicates at sites P3 and P5.

Table 5.1: Chlorophyll-a Content of Periphyton (µg/cm²).

Replicate	Site P1	Site P2	Site P3	Site P4	Site P5
1	0.187	0.059	0.094	0.352	0.375
2	0.208	0.112	0.141	<0.01	0.181
3	0.132	0.637	0.098	0.153	1.104
4	0.059	0.077	0.073	0.092	0.189
5	0.941	0.473	0.022	0.081	0.167
6	0.061	0.312	0.047	0.077	0.334
Mean	**0.265**	**0.278**	**0.079**	**0.126**	**0.392**
S.D.	**0.045**	**0.053**	**0.206**	**0.109**	**0.142**

Note: Adapted from Table 8.1 in HKP 1994

In general, samples from most sites contained very little periphyton, which likely indicates a relatively unproductive stream or a stream subject to scouring from high flows during freshet. Species composition was similar to other creeks observed in southwest Yukon. High proportions of the diatoms *Nitzschia spp*. were found at sites P2 and P3 (Table 5-2). *Nitzschia* species, in abundance, are often associated with organic or nutrient enrichment. Although periphyton abundance was low, *Nitzschia* predominance at sites P2 and P3 may indicate locations with a potential sensitivity to enrichment.

Table 5.2: Stream Periphyton Results from Minto Creek as Described by HKP, 1994.

Site	Results
Site P1 (W1)	Three samples from site B1 contained very little visible sediment and three contained a moderate amount, which consisted mostly of detritus, silt, and small amounts of algae. Diatoms comprised 50 to 95% of the periphyton. *Navicula spp*. were predominant. The red alga *Audouinella violacea* was predominant in some samples, comprising 5 to 50% of the alga.
Site P2 (W2)	Four samples contained very little visible sediment and two contained a moderate amount (silt, detritus, and algae). Diatoms comprised 59 to 99% of the periphyton; *Nitzschian spp*. were predominant. The blue- green algae *Chamaesiphon incrustans*, *Lyngbya diguetii*, and *Plectonema notatum* were common in two samples and comprised up to 25% of the sample.
Site P3 (W3)	All samples contained very little visible sediment or algae. Only two samples contained enough algae to estimate percent abundance. Diatoms comprised 30 and 90% of the periphyton in these two samples. Common diatoms in all six samples included *Nitzschia spp*., *Navicula spp*., *Synedra cf. incisa,* and *Synedra rumpens*. *Audouinella violacea* and *Phormidium sp*. were common (5 to 35%) in the two samples where abundance was estimated.
Site P4 (W7)	Samples from P4 were not collected quantitatively because of limited substrate, but were analyzed in the usual manner for periphyton composition. Three samples contained coarse sand and were comprised almost completely of diatoms. *Nitzschia spp*. were predominant and *Navicula spp*. were common. Two samples contained large amounts of moss (*Fontinalis sp*.) and were covered by the epiphytic blue-green alga *Lyngbya nordgaardii*. One sample was composed of filamentous algae and contained the chrysophyte *Hydrurus foetidus* (50%), *Nitzschia spp*. and *Navicula spp*.
Site P5 (W8)	Samples from P5 contained very small amounts of fine sediment and very little algae. Two samples contained too little periphyton to estimate percent abundance. Diatoms comprised 90 to 99% of the periphyton in the other four samples. The most common diatom species were *Navicula spp*., *Synedra rumpens*, and *Nitzschia spp*. The blue-green alga *Nostoc sp*. was common in one sample. *Audouinella violacea* was common in another.
Site P6 (W9)	Samples from P6 contained very small amounts of sediment. Diatoms comprised 45 to 93% of the periphyton. *Gomphonema spp*. were predominant. *Meridion circulaire*, *Navicula spp.* and *Synedra rumpens* were common. The chrysophyte *Hydrurus foetidus* was predominant in two samples (25 to 40%) and common (5%) in three others. The crustose blue-green alga *Chamaesiphon incrustans* was predominant in two samples and common in two others. Other common species included *Lyngbya diguetii* and an unidentified filamentous blue-green algae.

Note: Adapted from Table 8.1 in HKP 1994

5.2 OPERATIONAL DATA – PERIPHYTON

Concentrations of chlorophyll-a have been variable among areas over time. Significant differences between areas only occurred in 2014 and 2015 (Figure 5-1). In 2016, concentrations were higher but as in previous years mean concentrations were below the British Columbia Water Quality Guideline (BCWQG) of 100 mg/m^2 for the protection of aquatic life (BCMOE 1985).

Temporal variability in periphyton community composition was evident among samples taken in 1994 and 2011-2016 (Figure 5-2). For example, at lower Minto Creek, Bacillariophycae (diatom) were dominant in 1994, 2013, 2014, 2016; Rhodophyta (red algae) in 2012 and Cyanophyta (blue-green algae) in 2011, 2015 (Figure 5-1). This lack of temporal consistency was also observed at lower Wolverine Creek, with Cyanophyta dominant in 2011, 2013 and Bacillariophycae in 2012, 2014-2016 (Minnow 2013; 2014, 2015b, 2016a).

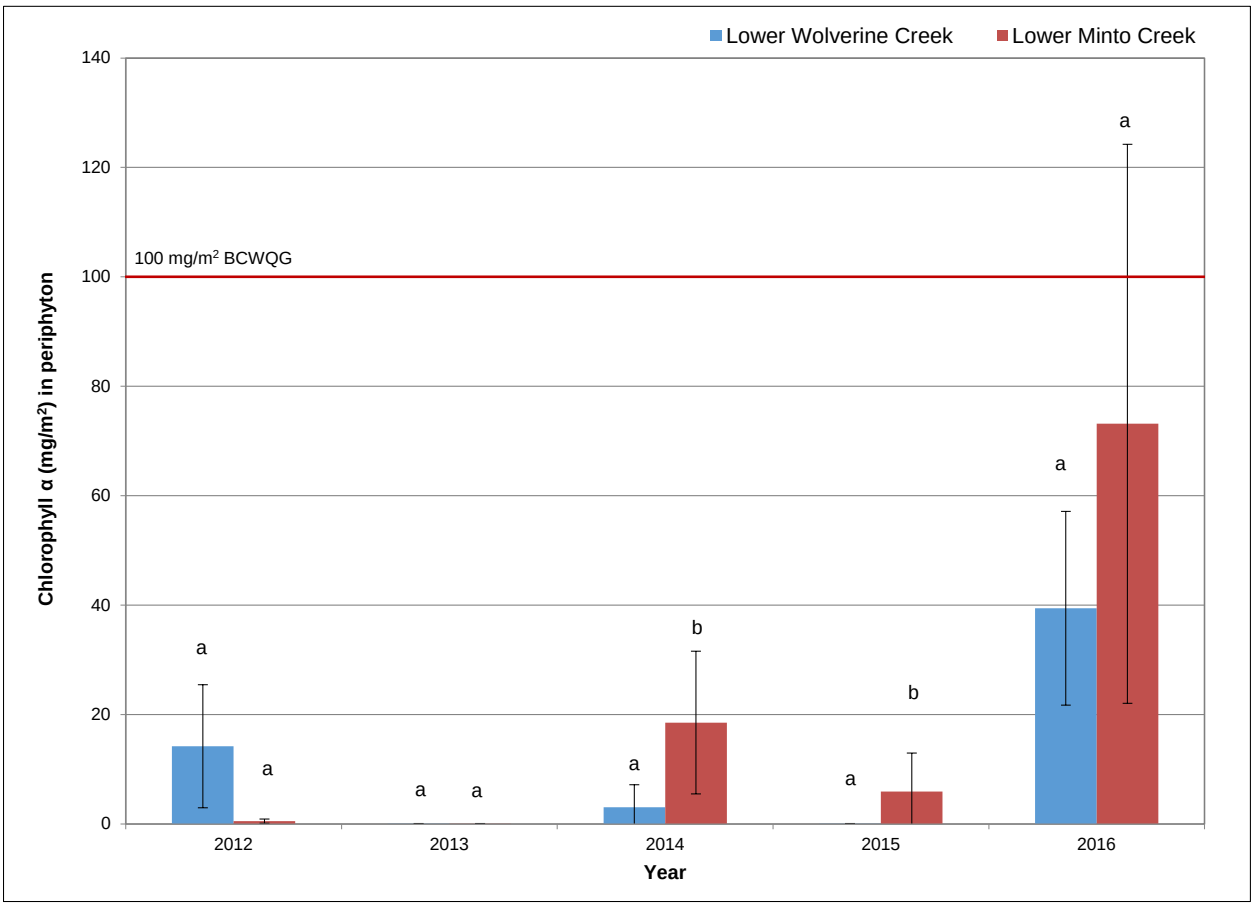


Figure 5-1: Concentrations of Chlorophyll-a (Mean ± Standard Deviation) in Periphyton Measured in Lower Wolverine and Lower Minto Creeks, Minto Mine WUL, 2012 - 2016

Note: Different letters represent significant differences and similar letters represent no significant differences between sites within years.

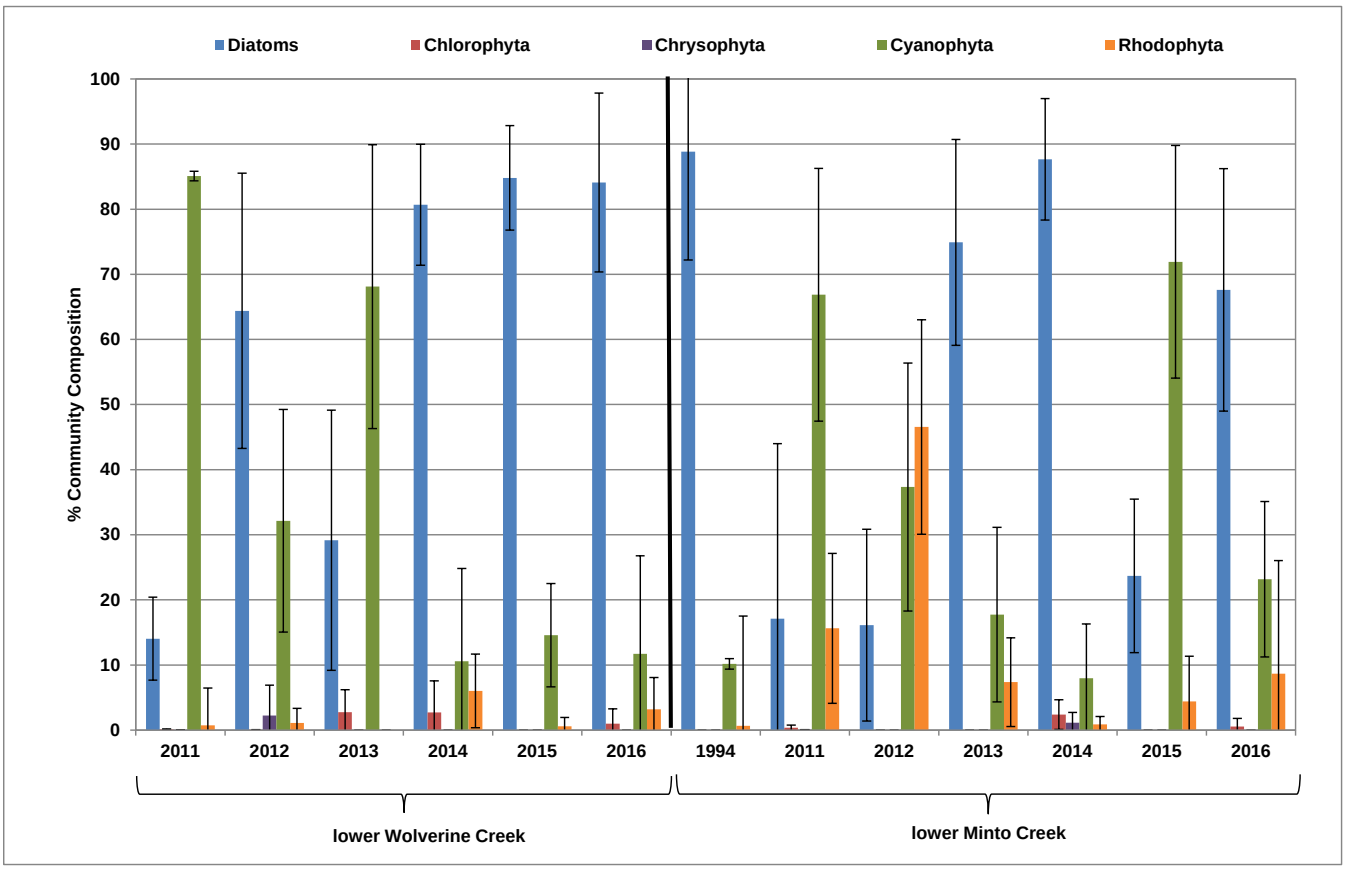


Figure 5-2: Periphyton Community (cells/cm^2) (Mean ± Standard Deviation) Composition in Lower Minto Creek (1994, 2011-2016) and Lower Wolverine Creek (2011-2016)

6. BENTHIC INVERTEBRATE COMMUNITY

6.1 BASELINE DATA

During the baseline study benthic invertebrate community was calculated for a variety of metrics: density (m^2), diversity, EPT index, richness index, and percent species which are sensitive, facultative, and tolerant (Table 6-1).

Table 6.1: Summary of Benthic Invertebrate Data Collected in 1994

	W2	W3	W7
Density (m2)	9,327	2,637	20,140
Diversity	43	38	34
EPT Index	7	6	6
Richness Index	5.3	5.6	3.8
% sensitive	37.4	49.4	71.8
% facultative	62.2	44.5	23.2
% tolerant	0.4	6.1	5

6.2 OPERATIONAL DATA – ANNUAL MONITORING

Temporal comparisons of benthic invertebrate community condition of lower Minto Creek were made in order to augment data interpretation, but their power was tempered by temporal changes in sampling location, sampling methodology, level of replication and analytical processing techniques. For example, 1994 baseline data were collected near the mouth of Minto Creek as three single grab samples, 2006 data were collected at Station W2 in the same manner, 2008 and 2010 data were collected at Station W2 as three-grab composites whereas 2011-2016 data were collected as five replicate three-grab samples from a large area upstream of Station W2. Only in the later years (2011-2016) do data represent an area (i.e., lower Minto Creek) rather than a station. In addition, data collected in 2013-2016 were sieved using 500 µm mesh, whereas all years prior to 2011 used smaller mesh (both 250 µm and 500 µm were used in 2012 to assist in transition). This was expected to result in lower densities in 2013 and later. The methodology change was implemented in order to avoid gross temporal differences in densities due to organisms in the 250 µm size range and to align with recommendations of EEM under the MMER (Environment Canada 2012)

Benthic invertebrate density at lower Minto Creek in 2016 was lower than in 2014 and 2015 but higher than in 2013 (Figure 6-1). Number of taxa at lower Minto Creek in 2016 was within the historical range from 2006 onwards, but moderately lower than in 1994 (Figure 6-1). Lastly, Simpson's Evenness was within the historical range documented after methodological change in 2011 (Figure 6-1). Over the 2012-2016 period benthic invertebrate community metrics parameters were stable, any differences between this time period and earlier sampling was more likely due to a change in mesh size of the Hess sampler, with 2012 used as a bridge.

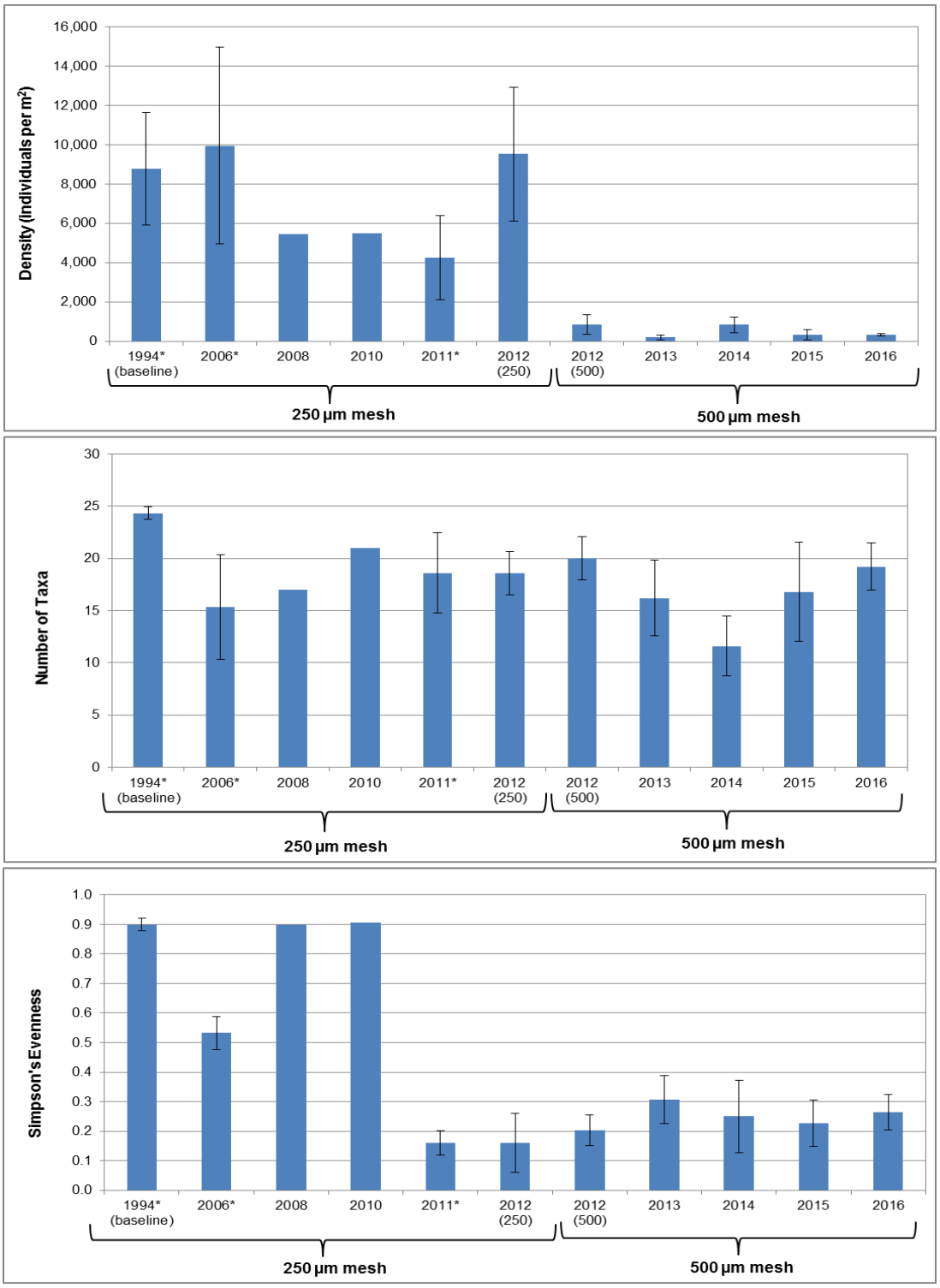


Figure 6-1: Primary Benthic Invertebrate Community Metrics (Mean ± Standard Deviation where replicated) at Lower Minto Creek, 1994-2016

Note: Asterisk (*) indicates a year the mine was not discharging.

6.3 OPERATIONAL DATA – ENVIRONMENTAL EFFECTS MONITORING

The 2008 EEM (Phase 1) benthic analyses indicated that Minto Creek (treatment) had a significantly higher benthic invertebrate density and slightly lower number of taxa (not significant) compared to McGinty Creek. The mean abundance of oligochaetes was higher in Minto Creek, while the mean abundance of ephemeroptera, plecoptera, and trichoptera (EPT), and chironomids (not significant) were lower in Minto Creek. Primary metrics are provided in Table 6-2.

Table 6.2: Primary Metrics Summary from 2008 Phase 1 EEM Program Benthic Data (Mean ± Standard Deviation)

Parameter	2008 (Phase 1)			
	Reference Area (McGinty Creek)	Exposure Area (Minto Creek)	Significant Difference Among Areas? (p-value)[a]	
Density (Ind./m^2)	1,011 ± 413	6,750 ± 1,844	Yes	<0.001
Number of taxa	20.6 ± 3.2	18.6 ± 2.9	No	0.330
Oligochaetes (%)	6.9 ± 2.0	34.6 ± 24.3	Yes	0.035
EPT (%)	32.1 ± 8.0	9.0 ± 3.3	Yes	0.000
Chironomids (%)	44.8 ± 6.0	38.1 ± 21.3	No	0.521
Simpson's D	0.85 ± 0.25	0.82 ± 0.094	No	0.501
Simpson's E (Smith & Wilson 1996)	0.34 ± 0.07	0.34 ± 0.094	No	0.961

[a] *p-value obtained from 1-way ANOVA, $p < 0.1$*

Phase 2 (2011) compared benthic invertebrate community results between Minto Creek and two reference areas (reference area A [McGinty Creek], reference area B [Wolverine Creek Tributary]) with two mesh sizes. Based on the 250 µm mesh size, Minto Creek had significantly higher density, number of taxa (not significant between McGinty Creek), and Bray-Curtis distance than reference areas (Table 6-3). Simpson's Diversity and Evenness were significantly lower at Minto Creek compared to the reference areas (Table 6-3). Based on the 500 µm mesh size Minto Creek had significantly more taxa and Bray-Curtis distance compared to the reference areas (Table 6-3). Simpson's Evenness was significantly lower at Minto Creek compared to the reference areas (Table 6-3). Based on the 500 µm mesh size, proportion of EPT and oligochaetes were significantly lower (not significant for oligochaetes compared to McGinty Creek) and proportion of chironomids were significantly higher at Minto Creek compared to both reference areas (Table 6-3).

Table 6.3: Basic Metrics Summary from 2011 Phase 2 EEM Program Benthic Data (Mean ± Standard Deviation)

Parameter	2011 (Phase 2)													
	250 µm							500 µm						
	Reference Area A (McGinty Creek)	Reference Area B (Wolverine Creek Trib.)	Exposure Area (Minto Creek)	Significant Difference? (p-value)[a]				Reference Area A (McGinty Creek)	Reference Area B (Wolverine Creek Trib.)	Exposure Area (Minto Creek)	Significant Difference? (p-value)[a]			
				Reference Area A vs. Exposure Area		Reference Area B vs. Exposure Area					Reference Area A vs. Exposure Area		Reference Area B vs. Exposure Area	
Density (Ind./m²)	3,884 ± 746	4,076 ± 1,515	38,278 ± 22,128	Yes	0.074	Yes	0.075	1,871 ± 449	2,097 ± 805	14, 014 ± 11,846	No	0.231	No	0.240
Number of taxa	20 ± 2.4	18 ± 2.4	23 ± 2.4	No	0.141	Yes	0.012	16 ± 0.84	15 ± 1.8	19 ± 2.0	Yes	0.027	Yes	0.004
Simpson's D	0.78 ± 0.028	0.84 ± 0.026	0.58 ± 0.13	Yes	0.068	Yes	0.029	0.77 ± 0.027	0.75 ± 0.071	0.69 ± 0.073	No	0.164	No	0.454
Simpson's E (Smith & Wilson 1996)	0.24 ± 0.051	0.35 ± 0.068	0.12 ± 0.044	Yes	0.013	Yes	<0.001	0.28 ± 0.035	0.29 ± 0.069	0.18 ± 0.062	Yes	0.055	Yes	0.045
BC Distance to Reference Area A	0.14 ± 0.063	0.44 ± 0.55	0.86 ± 0.072	Yes	<0.001	Yes	<0.001	0.14 ± 0.067	0.60± 0.72	0.85 ± 0.075	Yes	<0.001	Yes	<0.001
BC Distance to Reference Area B	0.42 ± 0.038	0.25 ± 0.10	0.85 ± 0.069	Yes	<0.001	Yes	<0.001	0.63 ± 0.044	0.26 ± 0.076	0.74 ± 0.16	No	0.312	Yes	<0.001
Oligochaetes (%)	-	-	-	-	-	-	-	2.3 ± 1.5	5.0 ± 2.5	1.5 ± 1.2	No	1.000	Yes	0.033
EPT (%)	-	-	-	-	-	-	-	57 ± 7.5	31 ± 12	12 ± 6.0	Yes	<0.001	Yes	0.017
Chironomids (%)	-	-	-	-	-	-	-	31 ± 8.3	53 ± 8.8	81 ± 9.4	Yes	<0.0001	Yes	0.001

[a] *p-value obtained from 1-way ANOVA, $p < 0.1$*

Overall, the analysis of benthic metrics and supporting measures (by ANOVA and correlation) showed that there were clear differences between the Minto Creek exposure area and the McGinty Creek reference area. These differences appeared to be related to a combination of subtle habitat differences (water depth at sampling stations) and effluent exposure (as evident in higher temperature, conductivity, and principal component-1 [PC-1] water quality parameters). Principal component analysis (PCA) was used to assist with the interpretation of general trends and to collapse the large dataset for correlation with benthic community conditions. Water quality data was used in conducting the PCA. Detailed information regarding the sampling program or other results are available in the First Interpretive Report for Cycle 1 (Minnow/Access 2009).

During the EEM investigation of cause (IOC) study (Phase 3), the benthic invertebrate community of three mine-exposed sites on upper Minto Creek were compared to the reference condition (defined by 12 reference areas; Figure 2-3) for four primary EEM metrics: density, taxon richness, Simpson's evenness and Bray-Curtis (BC) distance. Replicates UMC-1 and UMC-2 were within reference condition (ncP > 0.9) for all four primary metrics (Table 6-3). Replicate UMC-3 had significantly higher abundance (ncP < 0.1) than the reference condition and was possibly outside the range of reference (0.1 < ncP < 0.9) relative to BC distance (Figure 6-2, Table 6-3). Replicate UMC-3 was within reference condition for richness and Simpson's evenness.

Abundance/density of organisms in benthic communities often declines in response to a stressor, but can also vary widely or increase (e.g., if effluent has a stimulating effect on aquatic productivity). Accordingly, the greater abundance at UMC-3 was not necessarily indicative of an adverse effect.

The average reference community was composed of approximately 40% EPT and approximately 45% Diptera (true flies; Figure 6-3). The replicate upper Minto Creek samples had 10-20% EPT taxa and 60-70% Diptera. No statistically significant differences were evident for any mine-exposed replicate (relative to reference) for the following supporting endpoints: Simpson's diversity, % Ephemeroptera, % Plecoptera, % Chironomidae, % Arachnida, % Oligocheata, or CA axes 1 and 2 (Figure 6-4 and Table 6-3). Replicate UMC-1 had significantly higher proportions of Trichoptera (caddisflies) relative to the reference condition. Inspection of the raw data indicated that the Trichopteran Eccilsomyia sp. was by far the dominant trichopteran at UMC. The dominance of Eccilsomyia sp. is not indicative of an effluent effect as it has a tolerance value of 2, with 0 being most sensitive and 10 being most tolerant of adverse conditions (Barbour 1999). Replicate UMC-2 had significantly higher proportions of Diptera (excluding chironomidae) and uncertainty regarding % EPT taxa and % Trichoptera relative to the reference condition.

Lastly, replicate UMC-3 had significantly higher proportions of Diptera (excluding chironomidae) relative to the reference condition and uncertainty regarding % EPT relative to the reference condition. The majority of these differences were attributable to the families Limnephilidae (caddisflies), Psychodidae (drain flies) and Tipulidae (crane flies; Figure 6-5); specifically, the Limnephilidae Ecclisomyia sp., the Psychodidae Telmatoscopus sp., and the Tipulidae Dicranota species. Most benthic invertebrates can feed at multiple functional groups (Merritt et al. 2008) and the three genera listed above are of no exception; however, the Psychodidae can thrive and feed in harsh conditions (Merritt et al. 2008). Psychodidae prevalence at UMC could be due to an effluent-related effect or due to the fact that riffle areas are sparse in UMC, as the predominant stream substrate is sand.

Table 6.4: Statistical Comparisons of Benthic Community Metrics for Mine-exposed Stations UMC-1, UMC-2, and UMC-3, Relative to the Reference Condition, Minto Mine September 2014

Type	Endpoint	Reference Mean (n = 12) (URC-1, UWC-1, NRC-1, NRC-2, NRC-3, NRC-4, NRC-5, NRC-6, NRC-7, NRC-8, NRC-9, NRC-10)	Upper Minto Creek		
			UMC-1	UMC-2	UMC-3
Primary Metrics	Density/Abundance	177	136	309	652
	Richness	11	11	11	10
	Evenness (Simpson's)	0.40	0.32	0.39	0.33
	B-C Distance	0.58	0.71	0.84	0.90
Supporting Metrics	Diversity (Simpson's)	0.7	0.71	0.77	0.70
	%EPT	40.7	22.8	10.4	8.3
	%Ephemeroptera	13.1	0.7	0.6	0.3
	%Plecoptera	24.8	2.9	1.9	2.8
	%Trichoptera	2.8	19.1	7.8	5.2
	%Diptera (excluding Chironomidae)	14.2	21.3	40.1	39.3
	%Chironomidae	29.9	47.1	36.9	44.5
	%Arachnida	3.5	0.0	5.2	1.8
	%Oligocheata	11.27818906	8.1	7.4	6.1
	CA1	4.37 / 5.84 / 5.32 *	-69.68	-78.69	-74.37
	CA2	-3.88 / -5.92 / -3.76 *	49.87	60.16	41.37

* CA is conducted seperately for each exposure site, therefore reference CA values are calculated for each exposure analysis.

Reference means are presented for UMC-1, UMC-,2 and UMC-3, respectively.

Note. Family level taxonomic resolution was used to calculate richness, diversity, evenness, and CA values.

ncP - probability that metric value at exposure area is inside the range of reference values.

Within reference range (ncP>0.9)

Possibly outside of reference range (0.1<ncP<0.9)

Outside of reference range (ncP<0.1)

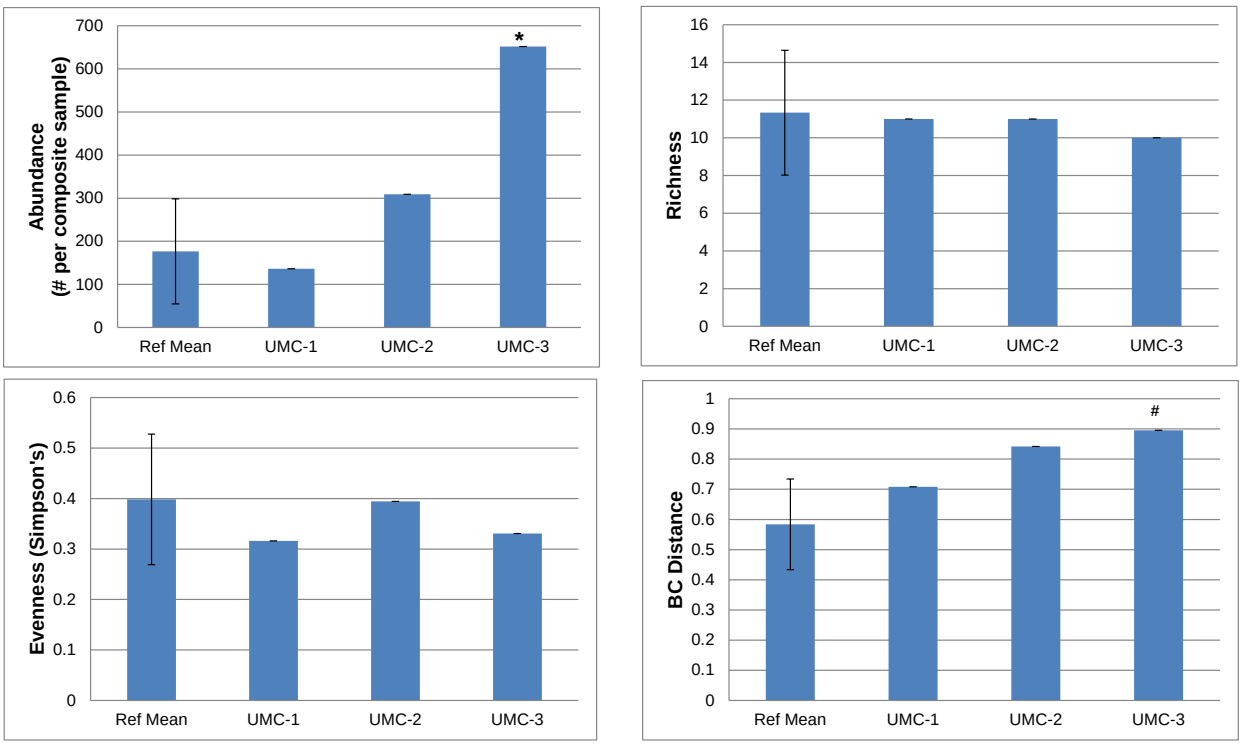


Figure 6-2: Primary Benthic Invertebrate Metrics of Reference Group Mean (Ref Mean; n = 12; ± 1SD) and Mine-exposed Upper Minto Creek Stations, Minto Mine, September 2014

Notes: Exposed stations that are significantly different ncP < 0.1) and possibly different (0.1 < ncP < 0.9) from the grouped reference stations are identified using "*" and "#", respectively.
Analyses conducted at the family level of taxonomy and processed at 500 µm.

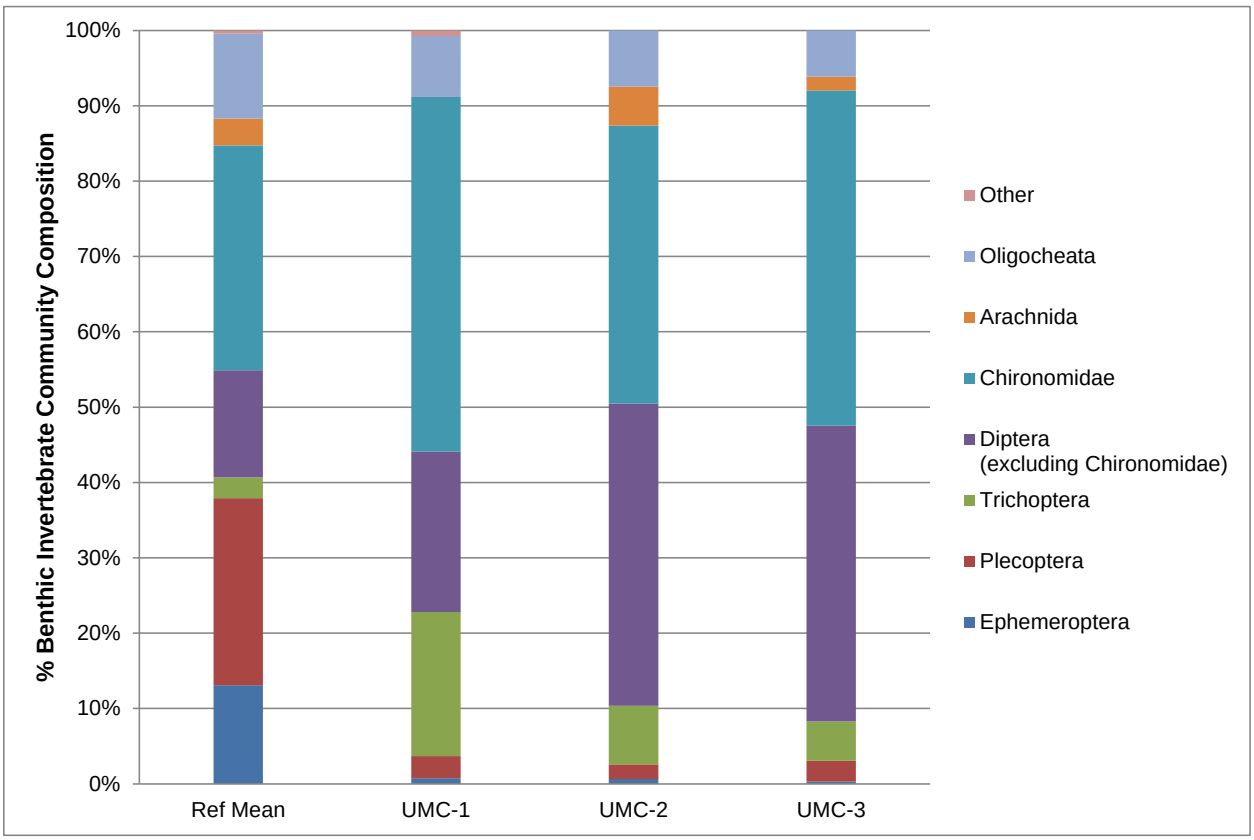


Figure 6-3: Benthic Invertebrate Community Composition of the Most Dominant Taxa at the RCA Stations

Notes: The 'REF mean' value is the mean of 12 reference stations; URC-1, UWC-1, and NRC-(1 to 10).

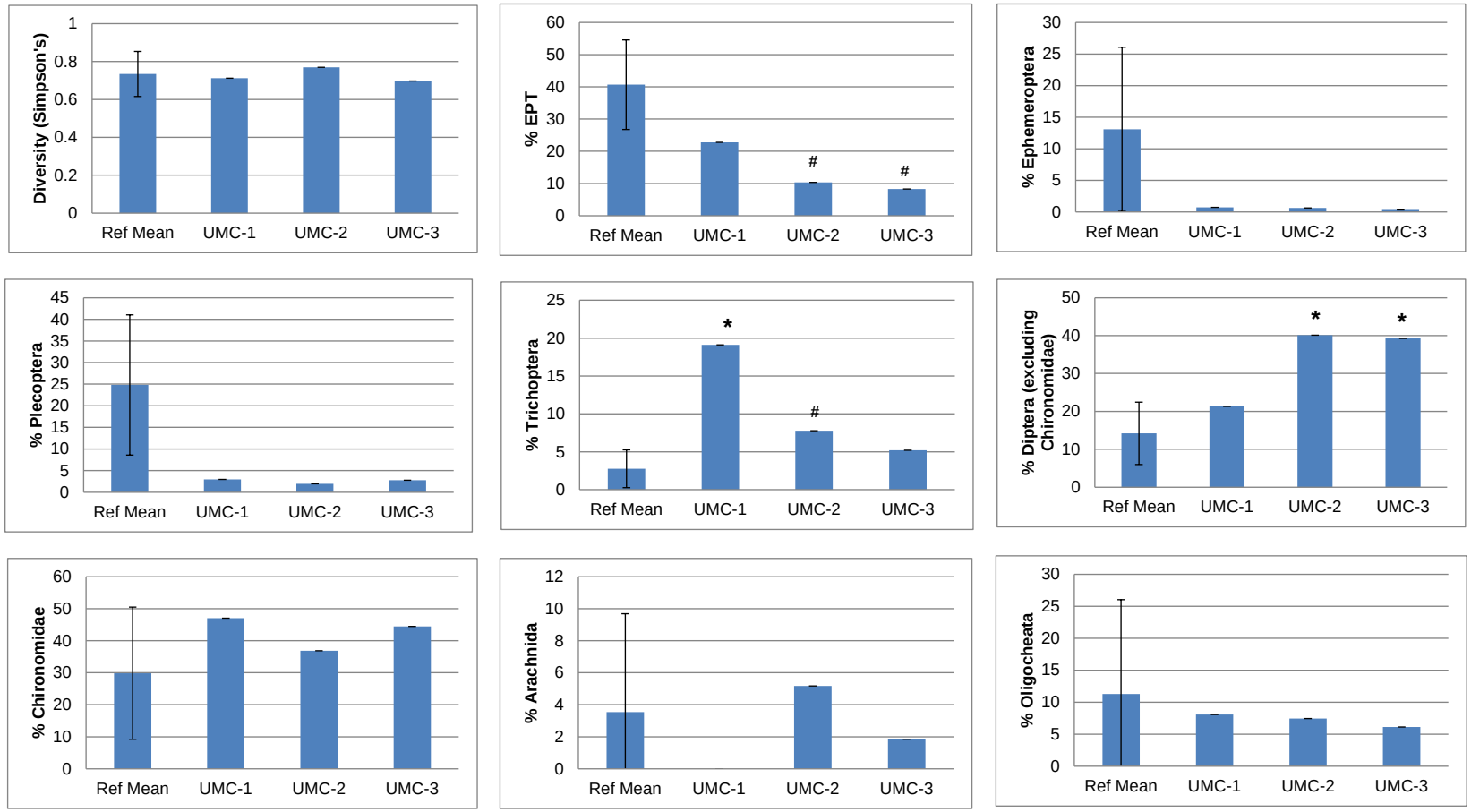


Figure 6-4: Dominant Taxa of Reference Group Mean (Ref Mean; n = 12; ± 1SD) and Mine-exposed Upper Minto Creek Stations, Minto Mine IOC, September 2014

Notes: Exposed stations that are significantly different (ncP <0.1) and possibly different (0.1 < ncP < 0.9) from the grouped reference stations are identified using "*" and "#", respectively.
Analyses conducted at the family level of taxonomy and processed at 500 µm.

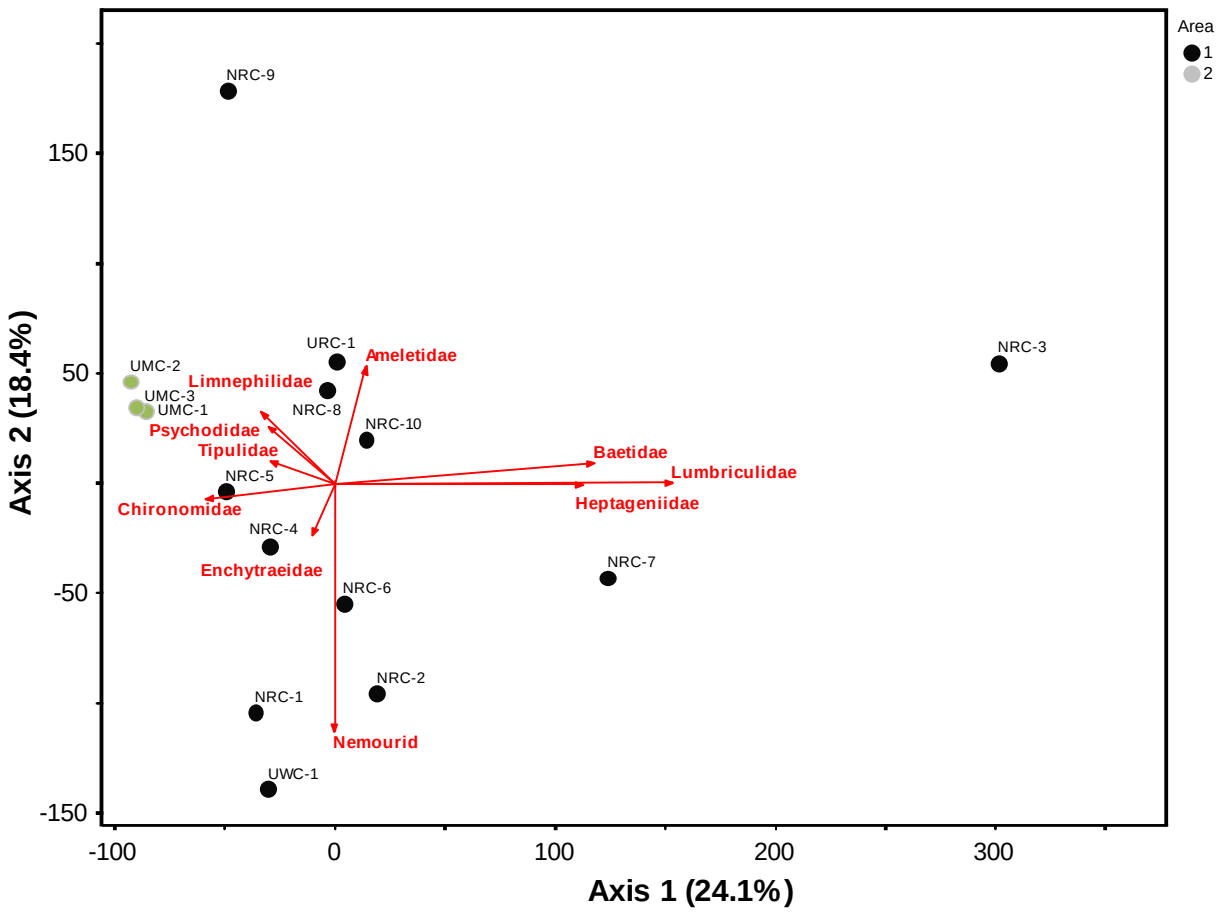


Figure 6-5: Biplot of Correspondence Analyses of RCA study Areas, Minto Mine, September 2014

Notes: A green circle represents mine-exposed stations and black circle represents reference stations.
Vector length is proportional to the magnitude of family proportion correlation with each axis.
Analyses conducted at the family level of taxonomy and processed at 500 µm.
Only families with Spearman correlation P-values < 0.10 are displayed.

7. FISH COMMUNITY

7.1 CHRONOLOGY OF KEY STUDIES

Numerous studies on fish and fish habitat have been conducted in the vicinity of the Minto Mine over the pre-mining and operational periods. These studies are summarized chronologically in Table 7-1, below.

Table 7.1: Summary of Key Fish and Fish Habitat Studies, Minto Mine

Year	Firm and Study Name	Scope of Studies
1994	Hallam Knight Piesold (HKP) – IEE for Minto Project Area (HKP 1994)	• Fisheries investigations on Minto Creek and Creek A. • Backpack electrofishing, minnow trapping. • Reach definition and description, identification of barriers to fish passage.
2006–2007	Access Consulting Group (ACG), R&D Environmental – Various Fisheries Investigations for Minto Explorations Ltd. (Minnow/ACG, 2007)	• Fisheries investigations in Minto Creek to support the permitting of the Minto Mine. • Backpack electrofishing, minnow trapping.
2008	ACG, Minnow Environmental – EEM Program, Cycle 1 (Minnow/ACG, 2009)	• Fisheries investigation of Minto Creek. • Backpack electrofishing and minnow trapping.
2009	ACG – Fish Relocation Program (ACG, 2009)	• Minnow trapping in Minto Creek and transfer of fish to the Yukon River.
2010	ACG – Fish Mark and Recapture Program (ACG, 2010)	• Minnow trapping in Minto Creek and marking of captured fish (release back into Minto Creek).
2009–2011	ACG, Minnow Environmental – EEM Program, Cycle 2 (Minnow/ACG, 2012)	• Integrated assessment of effluent sub-lethal toxicity, water quality, benthic invertebrate community condition, and fish health (hatchery-based exposure study).
2011–2012	ACG – Minto Creek Fisheries Monitoring Program (ACG, 2012/ ACG, 2013)	• Minnow trapping in Minto Creek.
2009–2011	ACG – Fisheries Monitoring Program in McGinty Creek	• Fisheries Investigation of McGinty Creek through Minnow trapping.
2012	ACG- Fisheries Monitoring in Minto Creek and Big Creek	• Fisheries investigation of Minto Creek and Big Creek through minnow trapping and backpack electrofishing
2013	ACG- Fisheries Monitoring in Minto Creek and Big Creek, EEM Program Cycle 3	• Fisheries investigation of Minto Creek and Big Creek through minnow trapping and backpack electrofishing
2014	ACG- Fisheries Monitoring in Minto Creek and Big Creek	• Fisheries investigation of Minto Creek and Big Creek through minnow trapping.

Year	Firm and Study Name	Scope of Studies
2015	ACG- Fisheries Monitoring in Minto Creek and Big Creek	• Fisheries investigation of Minto Creek and Big Creek through minnow trapping.
2016	Capstone- Fisheries Monitoring in Minto Creek and Big Creek	• Fisheries investigation of Minto Creek and Big Creek through minnow trapping.

7.2 REGIONAL OVERVIEW

7.2.1 YUKON RIVER FISH AND FISHERIES

7.2.1.1 Fish Species

A variety of resident and migratory fish species inhabit the Yukon River near the Minto Mine. These include Chinook, Coho and Chum salmon, lake trout, least cisco, Bering cisco, round whitefish, lake whitefish, inconnu, Arctic grayling, northern pike, burbot, longnose sucker, and slimy sculpin. The scientific names and general life history descriptions for these species are attached in Appendix A.

7.2.1.2 Local Habitat Use by Salmon

The Yukon River near the Minto Mine provides important salmon spawning and rearing areas. Spawning shoals are present in the Ingersoll Islands (downstream of the project area) and the islands upstream of the Minto Mine, near Big Creek. These offer an extensive network of side channels and sloughs which provide good spawning gravel. In support of this, spaghetti tags applied by the Department of Fisheries and Oceans (DFO) to fall chum salmon were recovered in the area along the Yukon River between Minto and Fort Selkirk in 2008 (de Graff 2008).

The Yukon River in the project vicinity also provides rearing habitat for Chinook salmon, as evidenced by numerous studies in the project area tributaries. Juvenile Chinook salmon (JCS) generally spend up to 1.5 years feeding and growing within fresh water tributaries prior to out-migrating to the ocean, and feed or stage in the Yukon River and its various tributaries during this protracted outmigration (Yukon River Panel 2008).

7.3 BASELINE DATA

7.3.1 1994 BASELINE STUDIES

7.3.1.1 Fish Habitat Assessment Methods

The primary fish habitat data collected for the Minto Mine area was acquired by HKP for the Initial Environmental Evaluation of the Minto Mine in 1994. During these studies, Minto Creek, McGinty Creek, Creek A, and Dark Creek were all assessed (Figure 2-1); however, only information for Minto Creek, McGinty Creek (referred to as Unnamed Creek B in HKP's report), and Creek A are summarized in this report.

Each of the above watercourses was first traversed via helicopter to observe and record obstructions such as beaver dams, log jams or waterfalls, and to determine the biophysical homogeneity of the system so that reaches could be defined. General physical attributes of the individual reaches were later determined during fish assessments, and gradients for individual reaches are assumed to have been calculated from topographic maps. Stream-based habitat assessments and surveys were later also conducted in conjunction with fish presence assessments, in order to identify spawning, rearing and overwintering areas, and barriers to fish migration.

7.3.1.2 Fish Habitat Assessment Results

Minto Creek

Minto Creek originates at the Minto Mine site and flows northeast roughly 17 km before entering the Yukon River (Figure 2-2). The creek has five major tributaries which were designated as T1 through T5 by HKP (1994). The Minto Creek mainstem was described as having seven primary reaches. HKP's original reach descriptions have been transcribed, and are included in Appendix B with original photographs from the 1994 report. Reach breaks are also shown in Figure 7-1.

In Minto Creek, reach 1 leads upstream from the Yukon River confluence and is approximately 2 km in length with an average gradient of 1.7% and a wetted width of 3.3 m. Three habitat and fisheries sample sites were located in reach 1: site 1 located 30 m upstream from the Yukon River confluence (Appendix B, Plate 1), site 2 located approximately 300 m upstream from the Yukon River confluence (Appendix B, Plate 2) and site 3 located at the upper reach break. Reach 2 was approximately 2 km in length and had an average wetted width of 3 m. Within this reach, a steep canyon with a gradient 21% was noted. Reach 3 was 4 km long, had an average gradient of 1.2%, and an average wetted width of 3 m. This reach drains an area which had been severely burnt at the time, and had an abundance of debris that had accumulated in the creek mainstem. Reach 4 was 2 km long and had an average gradient of 2%. The average wetted width was 3 m. Reach 5 was 4 km in length, had a gradient of 3.5%, and a wetted width of 3 m. Two sample sites were established in reach 5: site 1, located 1.8 km upstream of the reach break, and site 2 located 800 m downstream of site 1. Reach 6 was 2 km long and had a gradient of 3.5% and average wetted width of 1.5 m. Reach 7 contained the headwaters of Minto Creek, and had a length of approximately 1 km, and average gradient of 6.9%, and a wetted width of 1 m.

The surface water in Minto Creek has been noted to have a high sediment and organic load due to the fact that a large proportion of the watershed has been burned by forest fires in the recent past. The entire creek is ephemeral with no flows and abundant glaciation (aufeis) during the coldest winter period and therefore provides no overwintering fish habitat.

Based on an assessment of Minto Creek completed under the former Yukon Fisheries Protection Authorization (1988) the creek was classified as Type II habitat, salmonid rearing stream. From an assessment of topographic maps and site habitat assessment, this Type II habitat is restricted to the lower 1.5 km of creek immediately upstream of the Yukon River and downstream of the canyon. Steep gradients above this point prevent fish from further upstream migration. The possibility of overwintering habitat is questionable, as the creek freezes completely during the winter and no flows are present within the watershed. A survey of Minto Creek conducted by Environment Canada (1977) concluded that the absence of fish in the watershed was likely attributable to the intermittent nature of the creek. During that 1977 study, Minto Creek was classified as a salmonid rearing stream, and all previous fisheries investigations had confirmed that this habitat was found in

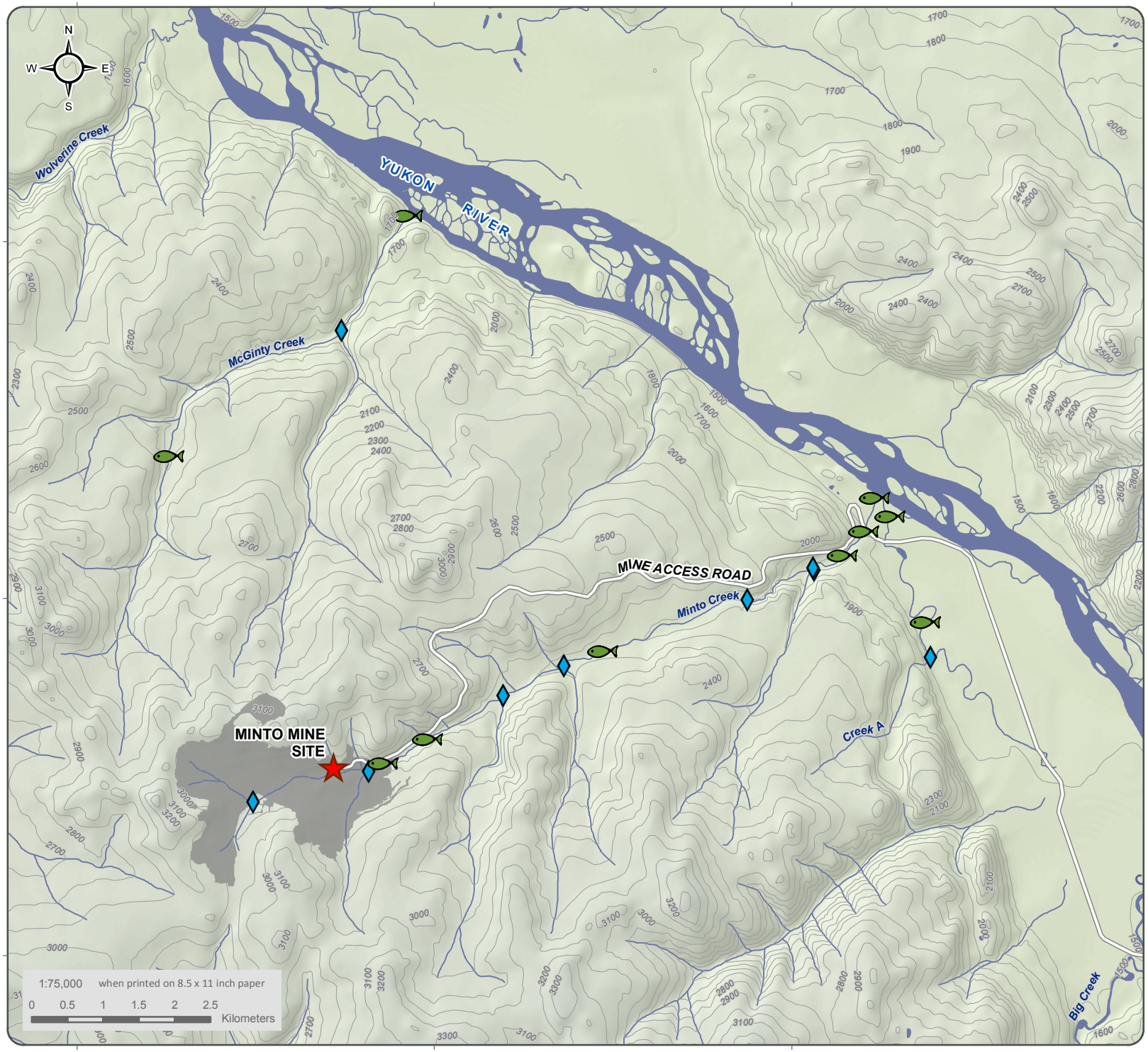
the lower sections of that watercourse. It was also previously noted that a steep canyon 1.5 km upstream of the confluence with the Yukon River represented a barrier to fish migration. The effects of forest fire (reduced cover and substrate siltation) in the upper reaches of Minto Creek have also reduced the quality of the habitat upstream of the canyon. The ephemeral nature of the creek also prohibits overwintering of fish populations in the lower reaches of the creek (HKP 1994).

Creek A

Creek A is a small watercourse that drains an area adjacent to the Minto Mine access road and the Yukon River (Figure 2-2). The headwaters of Creek A originate approximately 4 km southeast of Minto Creek and flow for 7 km along a riparian floodplain into the Yukon River. This watercourse was defined as having two reaches when surveyed by HKP (1994). Reach 1 leads from the Yukon River confluence to roughly 3 km upstream, where another tributary joins from the northeast. Reach 2 is roughly 4 km long, and flows through riparian floodplain. Two fish habitat sampling sites were established in reach 1 by HKP: site 1 located approximately 2 km upstream of the Yukon River confluence and site 2 located approximately 1.5 km downstream of site 1 (at the road crossing).

McGinty Creek

McGinty Creek (referred to as Unnamed Creek B in HKP's report) headwaters originate north of the Minto Mine and flow north-northeast 9.5 km to the Yukon River confluence. Three reaches were identified when surveyed by HKP (1994). Reach 1 begins at the river confluence and stretches 2 km before the creek forks. The western fork of the creek is considered reach 2 and the eastern fork is considered reach 3. Fisheries sites were established in reaches 1 and 2. The sample site in reach 1 was located at the confluence with the Yukon River and the sample site in reach 2 was located a further 4 km upstream.



MINTO MINE
AQUATIC RESOURCES
CHARACTERIZATION

FIGURE 7-1

FISHERIES SAMPLING LOCATIONS

DECEMBER 2017

capstone
MINTO MINE

Minto Mine Site

Fisheries Sampling Site (HKP 1994)

Reach Break (HKP 1994)

Mine Footprint

Mine Access Road

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7.3.1.3 Fish Assessment Methods

HKP performed basic fisheries investigations in 1994 at a selection of fish habitat sites described in section 7.3.1.1 above. These investigations took place from June 4 to 7, August 10 to 14, and September 13 to 15, 1994. At those times, a combination of multiple pass electrofishing and minnow trapping was conducted. Electrofishing was accomplished using a Smith Root Model 12 backpack electrofisher, and electrofishing effort was recorded in seconds of current applied and area surveyed. Detailed methodologies are available in HKP (1994).

7.3.1.4 Fish Assessment Results and Discussion

Minto Creek

A total of five sites in Minto Creek were assessed for the presence and abundance of fish in 1994, and detailed results outlining the timing, individual efforts, and numbers of fish captured are provided in Table 7-2 (below). No JCS were captured and no observations of spawning salmon were made. During the June 1994 surveys, only two slimy sculpin and one round whitefish were captured, at the most downstream site (reach 1, site 1). In August of 1994, slimy sculpin were again captured at the two most downstream sites (reach 1, sites 1 and 2), and two Arctic grayling were captured at site 3 of reach 1. Two Arctic grayling were again captured at site 3 of reach 1 in September. Of the Arctic grayling captured in Minto Creek during these studies, three were classified as being young of year (0+), while one was an adult. No speculation was made as to whether Minto Creek was their natal stream.

Table 7.2 Summary of Fisheries Effort and Capture Data for Minto Creek 1994.

Month	Stream/ Site	Method	Effort (s or h)	Species	Round Whitefish	Slimy Sculpin	Arctic Grayling	Chinook Salmon
June	Minto Creek, reach 1, site 1	Electrofishing	210 s	Number	1	-	-	-
				#/min	0.29	-	-	-
		Minnow Trap	NR	Number	-	2	-	-
	Minto Creek, reach 1, site 2	Electrofishing	270 s	Number	-	-	-	-
				#/min	-	-	-	-
		Minnow Trap	NR	Number	-	-	-	-
	Minto Creek, reach 5, site 1	Electrofishing	124s	Number	-	-	-	-
				#/min	-	-	-	-
		Minnow Trap	NR	Number	-	-	-	-
August	Minto Creek, reach 1, site 1	Angling	3600 s	Number	-	-	-	-
				#/min	-	-	-	-
		Minnow Trap	NR	Number	-	2	-	-
			390 s	Number	-	2	-	-

Month	Stream/ Site	Method	Effort (s or h)	Species	Round Whitefish	Slimy Sculpin	Arctic Grayling	Chinook Salmon
	Minto Creek, reach 1, site 2	Electrofishing		#/min	-	0.31	-	-
		Minnow Trap	NR	Number	-	2	-	-
	Minto Creek, reach 1, site 3	Electrofishing	150 s	Number	-	-	2	-
				#/min	-	-	0.21	-
	Minto Creek, reach 5, site 2	Electrofishing	292 s	Number	-	-	-	-
				#/min	-	-	-	-
		Minnow Trap	NR	Number	-	-	-	-
September	Minto Creek, reach 1, site 2	Electrofishing	270 s	Number	-	-	-	-
				#/min	-	-	-	-
		Minnow Trap	NR	Number	-	-	-	-
	Minto Creek, reach 1, site 3	Electrofishing	564 s	Number	-	-	2	-
				#/min	-	-	0.8	-
	Minto Creek, reach 5, site 1	Electrofishing	312 s	Number	-	-	-	-
				#/min	-	-	-	-
		Minnow Trap	NR	Number	-	-	-	-

At the time of the 1994 investigation, the Minto Creek valley below the canyon had not been burned by forest fire, so the creek cover (and consequent water temperatures/food source) and clean substrate in the area below the canyon provided good habitat for Arctic grayling. This area was part of a 1995 burn that impacted the majority of the watershed, resulting in a degradation of creek habitat primarily in the lower section, including reduced vegetative cover, a significant increase in large organic debris (LOD) loading and increased siltation of downstream reaches. Another forest fire in 2011 had similar effects.

Creek A

Two sites in Creek A were sampled during the 1994 studies; site 1 of reach 1 in June, and site 2 of reach 1 in August and September. No fish were captured. Details regarding the efforts employed are summarized in Table 7-3, below.

Table 7.3: Summary of Fish Assessment Efforts and Data for Creek A, 1994.

Month	Stream/ Site	Method	Effort (s or h)	Species	Round Whitefish	Slimy Sculpin	Arctic Grayling	Chinook Salmon
June	Creek A, site 2	Electrofishing	71 s	Number	-	-	-	-
				#/min	-	-	-	-
August	Creek A, site 2	Electrofishing	80 s	Number	-	-	-	-

Month	Stream/ Site	Method	Effort (s or h)	Species	Round Whitefish	Slimy Sculpin	Arctic Grayling	Chinook Salmon
				#/min	-	-	-	-
September	Creek A, site 2	Electrofishing	342 s	Number	-	-	-	-
				#/min	-	-	-	-

McGinty Creek

A waterfall was noted approximately 500 m upstream of the Yukon River confluence on McGinty Creek, and several log jams were also observed, the lowest one positioned approximately 100 m upstream of the river confluence. Fish were not observed in reach 2 throughout the survey. Below this barrier, the creek provides good rearing habitat for Arctic grayling. During the August survey, 16 juvenile Arctic grayling (age 0+ to 1 year) were caught using electroshocking and minnow traps. The average length of the fish was 65 mm. Three slimy sculpin were also caught. The lower reaches of McGinty Creek appeared to provide good habitat for Arctic grayling. Details regarding the efforts employed are summarized in Table 7-4, below.

Table 7.4: Summary of Fish Assessment Efforts for McGinty Creek, 1994.

Month	Stream/ Site	Method	Effort (s or h)	Species	Round Whitefish	Slimy Sculpin	Arctic Grayling	Chinook Salmon
June	McGinty Creek, site 1	Electrofishing	71 s	Number	-	-	1	-
				#/min	-	-	0.23	-
		Minnow Trap	NR	Number		1		
	McGinty Creek, site 2	Electrofishing	123 s	Number	-	-	-	-
				#/min	-	-	-	-
August	McGinty Creek, site 1	Electrofishing	80 s	Number	-	3	8	-
				#/min	-	0.69	1.85	-
		Minnow Trap	NR	Number	-	-	16	-
September	McGinty Creek, site 2	Electrofishing	342 s	Number	-	-	-	-
				#/min	-	-	-	-

7.4 OPERATIONAL DATA – ANNUAL MONITORING

7.4.1 2006-2007 FISHERIES INVESTIGATIONS

7.4.1.1 Methods

During late 2006 and the summer of 2007, R&D Environmental performed fisheries investigations in Minto Creek as part of the permitting process for Minto Mine. These studies entailed electrofishing and minnow trapping, and efforts were all focused in reach 1 of the creek through June and August 2007, and September of both years.

7.4.1.2 Results and Discussion

During the 2006/2007 studies of Minto Creek, JCS, Arctic grayling, and slimy sculpin were captured. Overall details regarding specific effort levels are provided in Table 7-5, below.

During spring assessments in May and June 2007, 36 JCS and six slimy sculpin were captured by minnow trapping. The majority of Chinook captured were at a site roughly 1 km upstream of the Yukon River confluence.

In August 2007, the only fish species captured were young of year (YOY) Chinook salmon at the mouth of Minto Creek in the upper reach of the flood zone (backwater) of the Yukon River, a single Arctic grayling, and slimy sculpin in the same location and further upstream near the road crossing and culvert. Sculpin were only captured in the June and August 2007 sampling events. Another 29 Chinook salmon were captured by minnow trapping in September of 2007.

Changes in stream features and the expected changes in fish usage were confirmed by fisheries investigations in 2006 and 2007. Catches and catch per unit effort (CPUE) have been low in all fish studies conducted on Minto Creek between 1994 and 2007 (Tables 7-2 and 7-5). Significant effort in both trapping and electrofishing has returned very few results, most notably in the surveys of 2006 and 2007.

In addition, there is little consistency in the presence of species in the lower reaches of Minto Creek, suggesting the lack of a resident fish population. Minto Creek does not provide preferred spawning habitat for fish and the fact that it completely freezes during winter months, with no winter flow in lower Minto Creek, negates its suitability for spawning by Chinook salmon. Tellingly, there is no evidence of spawning in Minto Creek (HKP 1994; R&D 2006, 2007), nor is there traditional knowledge indicating spawning occurring in the system (HKP 1994). Lower Minto Creek is also subject to low or zero flow conditions during periods in the summer when a portion (or all) of the flow sometimes infiltrates the ground, following passage through a canyon located approximately 2.0 km upstream of the Yukon River, preventing the establishment of resident fish populations in this section of the stream. The morphological changes related to forest fire activity in the Minto Creek basin have likely also contributed to fish population changes since the initial surveys of 1994.

Table 7.5: Summary of Fish Assessment Efforts for Minto Creek 2006–2007.

Year, Study	Month	Stream/ Site	Method	Effort (s or h)	Species	Round Whitefish	Slimy Sculpin	Arctic Grayling	Chinook Salmon
2006 (R&D Environmental)	September	Minto Creek	Minnow Trap	24 h	Number	-	-	-	-
					#/trap/h	-	-	-	-
2007 (R&D Environmental)	May	Yukon River backwater at mouth of Minto Creek	Electrofishing	191 s	Number	-	-	-	8
					#/min	-	-	-	2.51
			Minnow Trap (x6)	5.5 h	Number	-	-	-	4
					#/trap/h	-	-	-	0.12
		Minto Creek, d/s Haul Road	Electrofishing	460 s	Number	-	-	-	-
					#/min	-	-	-	-
			Minnow Trap (x8)	15 h	Number	-	-	-	-
					#/trap/h	-	-	-	-
				15 h	Number	-	-	-	-

Year, Study	Month	Stream/ Site	Method	Effort (s or h)	Species	Round Whitefish	Slimy Sculpin	Arctic Grayling	Chinook Salmon
		Minto Creek, ~100m u/s Haul Road	Minnow Trap (x8)		#/trap/h	-	-	-	-
		Minto Creek, @ base of canyon	Minnow Trap (x5)	15 h	Number	-	-	-	-
					#/trap/h	-	-	-	-
	June	Minto Creek, ~100m u/s Yukon River	Minnow Trap (x5)	18 h	Number	-	1	-	24
					#/trap/h	-	0.01	-	0.27
		Minto Creek, d/s Haul Road	Electrofishing	212 s	Number	-	-	-	-
					#/min	-	-	-	-
			Minnow Trap (x8)	22 h	Number	-	4	-	-
					#/trap/h	-	0.02	-	-
		Minto Creek, ~100m u/s Haul Road	Minnow Trap (x2)	22 h	Number	-	1	-	-
					#/trap/h	-	0.02	-	-
		Minto Creek, @ base of canyon	Minnow Trap (x5)	20 h	Number	-	-	-	-
					#/trap/h	-	-	-	-
	August	Minto Creek, ~100m u/s Yukon River	Minnow Trap (x5)	22 h	Number	-	-	1	3
					#/trap/h	-	-	0.01	0.01
		Minto Creek, d/s Haul Road	Minnow Trap (x5)	27 h	Number	-	-	-	3
					#/trap/h	-	-	-	0.02
		Minto Creek, ~100m u/s Haul Road	Minnow Trap (x5)	27 h	Number	-	2	-	32
					#/trap/h	-	0.01	-	0.24
		Minto Creek, @ base of canyon	Minnow Trap (x0)	0	Number	-	-	-	-
					#/trap/h	-	-	-	-
	September	Minto Creek,	Minnow Trap (x1)	23 h	Number	-	-	-	5
					#/trap/h	-	-	-	0.22

Year, Study	Month	Stream/ Site	Method	Effort (s or h)	Species	Round Whitefish	Slimy Sculpin	Arctic Grayling	Chinook Salmon
		~100m u/s Yukon River							
		Minto Creek, d/s Haul Road	Minnow Trap (x4)	23 h	Number	-	-	-	-
					#/trap/h	-	-	-	-
		Minto Creek, ~100m u/s Haul Road	Minnow Trap (x5)	23 h	Number	-	-	-	24
					#/trap/h	-	-	-	0.21
		Minto Creek, @ base of canyon	Minnow Trap (x0)	0	Number	-	-	-	-
					#/trap/h	-	-	-	-

7.4.2 2009 FISH SAMPLE COLLECTION AND FISH RELOCATION PROGRAM

7.4.2.1 Methods

During work by ACG at the Minto Mine site during the summer of 2009, efforts to again determine the use of Minto Creek by fish were undertaken. On June 25 and 26 of that year, a total of 6 minnow traps were deployed in Minto Creek for 24 hours (3 upstream and 3 downstream of the culvert at the road crossing). In July of 2009, an additional trapping session of 10 trap days was undertaken during an emergency release of water from the Minto Mine. All non-consumptive trapping was carried out using 0.635cm mesh minnow traps. Traps were baited with Yukon River-origin Chinook salmon roe and soaked for a nominal 24 hour period at each location. All captured specimens were identified, measured, enumerated, and released in the immediate area of their capture.

Under the assumption that increased flow in Minto Creek resulting from the emergency water discharge during the summer/fall of 2009 was attracting JCS into that watercourse and the fact that the discharge was to occur until late October, DFO identified the potential that many of the fish could get stranded once the discharge ended and the creek froze. Therefore, DFO recommended that Minto conduct a program to capture and relocate fish from lower Minto Creek to another open system. Minto, working with their consultants, executed this program from September 29 to October 14, 2009. The program also involved establishing a temporary fish barrier on Minto Creek near the Yukon River in order to prevent additional recruitment of fish into the system.

7.4.2.2 Results and Discussion

During June sampling in 2009, no fish were captured in Minto Creek. In contrast, 142 fish were captured during the sampling event in late July, with only a 60% increase in sampling effort (Table 7-6). No other sampling event to date had yielded such a high CPUE. In fact, the CPUE for this event was at least an order of magnitude higher than any previous sampling event.

As noted, this July sampling occurred while Minto was conducting an emergency release of water from the mine site, which resulted in stable, high flow conditions in lower Minto Creek. It is believed that this stable, elevated flow and warmer, more consistent temperature regime (i.e., narrow diurnal temperature fluctuation) may have attracted JCS into the system from the Yukon River.

Table 7.6: Summary of Effort and Data from June and July 2009 Fish Assessment in Minto Creek.

Period	Method	Effort	Summary Statistics	Units	Juvenile Chinook Salmon	Slimy Sculpin
June	Baited Minnow Trapping	6 Days	CPUE	#	0	0
				Fish/day	0	0
July	Baited Minnow Trapping	10 Days	CPUE	#	136	6
				Fish/day	13.6	0.6

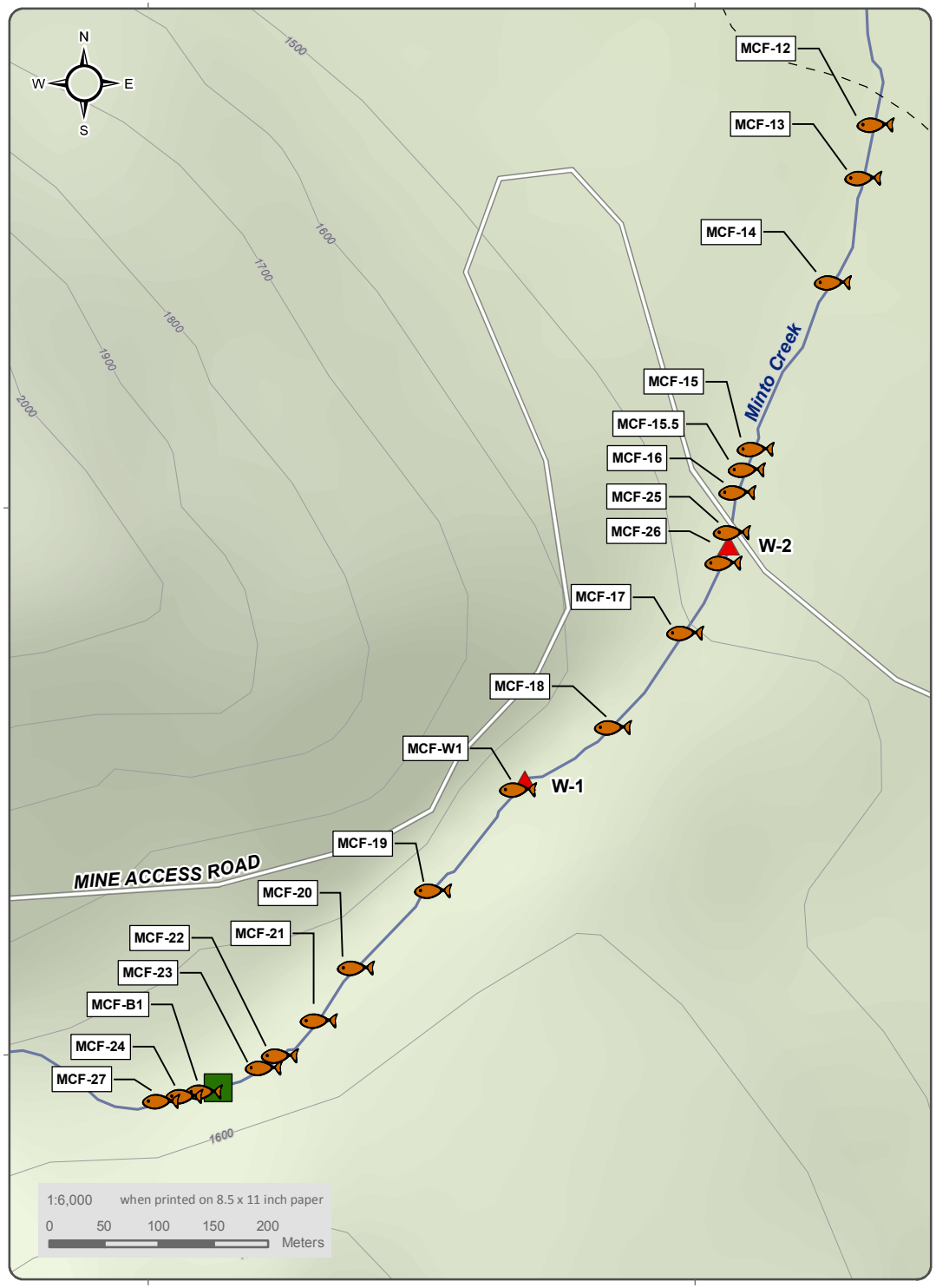
During the relocation program, a total of 986 JCS were captured and released into the Yukon River and/or Big Creek. This included 822 Chinook salmon in 114 traps set from September 30 to October 2, 2009, and 165 Chinook salmon in 66 traps set from October 12 to 14, 2009. In addition to the salmon only one sculpin and one juvenile burbot were caught. A natural upstream fish barrier was identified during the program and confirmed by zero fish captured in traps set upstream. Fish capture and relocation continued until CPUE dropped well below 10% of the CPUE established during the first day of capture. A detailed summary of the fish relocation program is attached to this report as Appendix C.

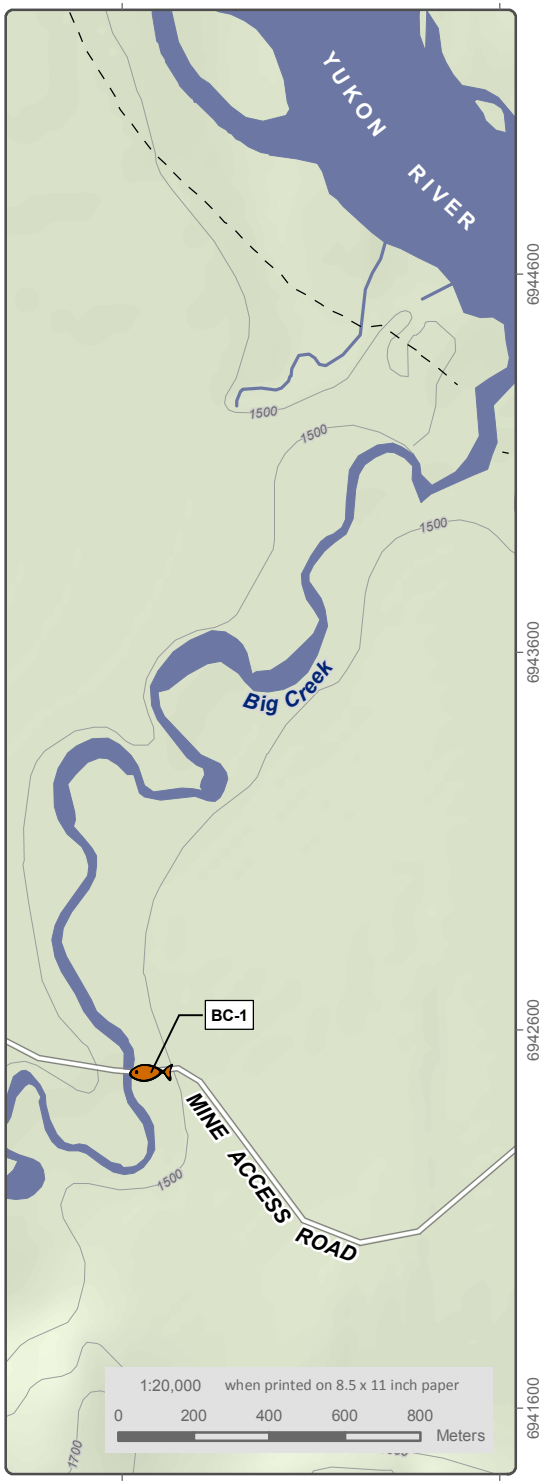
7.4.3 2010 MINTO CREEK MARK-RECAPTURE STUDY

In order to better understand the dynamics of the JCS population using Minto Creek, a mark-recapture study was undertaken in the summer and fall of 2010. The study was developed to determine how use of the system by JCS changes throughout the open-water season and to determine how long individual fish may stay in the creek system (i.e. residency time).

7.4.3.1 Methods

The study was conducted between June 28 and November 3, 2010, period during which the mine was discharging water into Minto Creek. During this time frame, the study involved 9 trapping events. Of these, the first six events involved marking of fish at approximately two-week intervals. No further marking was done after the September 9 marking; however, three further trapping events were conducted in order to re-capture marked fish. During each trapping event, minnow traps baited with Yukon River salmon roe were placed in 16 suitable trapping locations in lower Minto Creek, from immediately upstream of the natural fish barrier (MCF-24), to about 400m downstream of the culvert at km 11 of the Minto Mine Road (MCF-13), and left overnight (soak time ranging from 18 to 26 hours). The same sites (Figure 7-2) were used throughout the duration of the project.





MINTO MINE
AQUATIC RESOURCES SITE CHARACTERIZATION

FIGURE 7-4
MINTO CREEK AND BIG CREEK FISHERIES MONITORING STATIONS

DECEMBER 2017

capstone
MINTO MINE

- Observed Fish Barrier
- Fish Monitoring Station
- Water Quality Monitoring Station
- Mine Access Road

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7.4.3.2 Results and Discussion

No JCS or other species were encountered in Minto Creek during a late June sampling event. This is consistent with previous studies in that few fish if any have been encountered in the creek prior to July. During this study fish were still present in the system in early November.

Numbers of Chinook salmon increased on subsequent events from July 14 until August 11 when the peak number were captured. The estimated population of JCS in the creek at this time (based on the 2009 CPUE ratio) was 1,500 after which the numbers declined. Figure 7-3 below shows the number of JCS caught at each sampling event, as well as the estimated population size. The number of fish captured in 2009 and 2010 were much higher on a CPUE basis than in years previous to 2009. As in 2009, Minto Mine was influencing the flow regime in Minto Creek through a controlled water discharge from the mine site throughout much of the summer until early November 2010. This likely influenced an increased use of the system by JCS.

Analysis of marked fish recaptured indicates that much of the population does not remain in the creek for an extended period of time and that there is a high degree of immigration and emigration of the population in the creek. The data suggests that 90% of the population may only spend up to approximately two weeks in the system. Only a few individuals (1%) spent an extended period of time (> 12 weeks) in the system.

JCS growth leveled off towards the end of August, likely a reflection of cooling water temperatures. Overall however, the growth of individuals in the system is consistent with JCS populations in other tributaries of the Yukon River. Note that the November event is not included in the above graph as it consisted mostly in the relocation of JCS from Minto Creek to Yukon River, in anticipation of stopping water discharge in Minto Creek.

A more comprehensive report on this study is available in Appendix D.

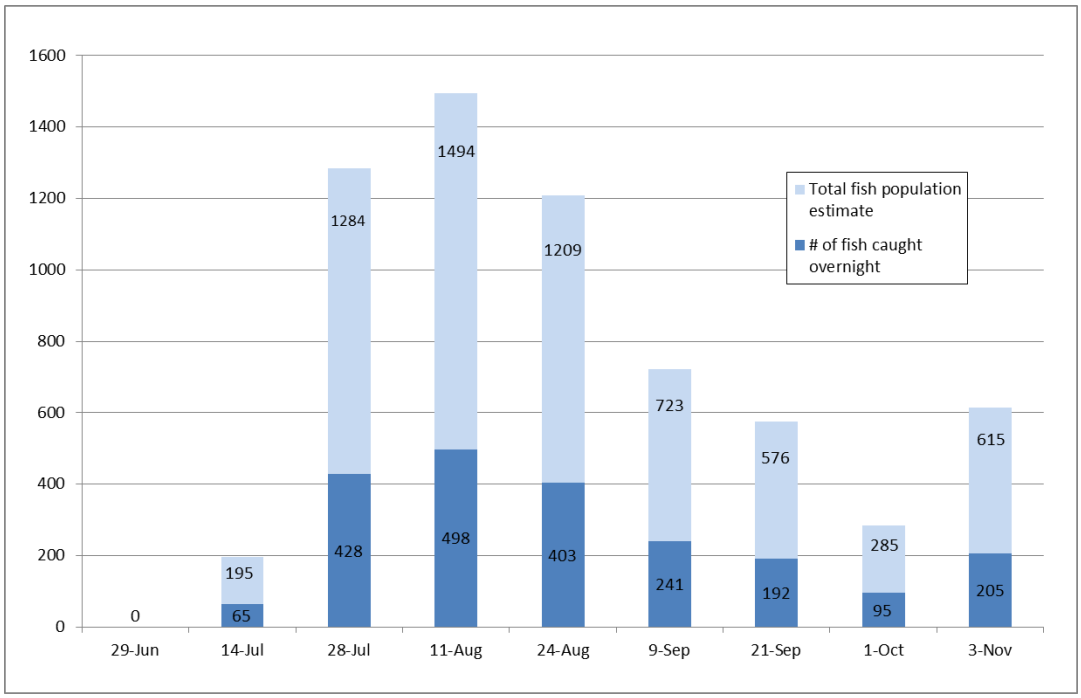


Figure 7-3: Number of Juvenile Chinook Salmon Captured during the 2010 Mark/Recapture Study (Catch Based on Consistent Catch Per Unit Effort) and Estimated Population Size.

7.4.4 2011-2012 FISHERIES MONITORING PROGRAM IN MINTO CREEK

7.4.4.1 Methods

Minnow trapping was conducted monthly at the same trapping sites as for the 2010 mark-recapture study (Figure 7-2), from July to October 2011, and from June to September 2012. Between 12 and 22 traps (depending on creek conditions) were set at each sampling event and left to soak overnight. Fish were then counted, measured, and weighed whenever possible. Fish were subsequently released at the site where they were caught. In addition to minnow trapping, electrofishing was employed in June 2012.

Big Creek was also sampled for fish in 2012, and used as a reference site. Five or six minnow traps were set in the vicinity of the bridge at each sampling event, and electrofishing was employed in July 2012.

7.4.4.2 Results and Discussion

Three species of fish were caught in the minnow traps throughout the course of the study, namely JCS salmon, slimy sculpin, and longnose suckers, all in relatively low numbers. Table 7-7 summarizes the results for Minto Creek. Note that fish length refers to fork length for Chinook salmon, and to total length for other species.

Fisheries assessments conducted in Minto Creek have relied on the use of electrofishing and minnow trapping technique to determine presence/absence. The creek however has a lot deadfall (as a result of recent forest fire activity) that has fallen across and into the system in the lower fish-bearing reach. This has limited the use of an electrofisher for reasons of both access and safety. Electrofishing effort has been applied to the creek during several of the studies but this first required that sections of the creek be cleared of fallen trees and debris. It was not practical or environmentally desirable to clear large sections of the creek to allow for the application of electrofishing. Additionally, electrofishing is much more intrusive than minnow trapping, requiring two persons walking in the creek (it has steep banks) and applying an electro-shock to the fish present. The species of fish most prevalent in the system however are Chinook salmon and slimy sculpin which are readily captured in minnow traps. Arctic grayling have also been encountered in the creek on occasion but not in the numbers observed for salmon or sculpin.

Consideration was given to whether or not low Arctic grayling numbers are attributable to sampling methodology as they may not be as readily captured in minnow traps as are salmon juveniles or sculpin. Electrofishing was used for fish sampling in the system during studies in 1994, 2007, 2008, and 2012. During these electrofishing sampling events, Arctic grayling were only encountered during 1994 and 2012 and in very low numbers. No Arctic grayling were encountered during other electrofishing sampling events but were captured on occasion via minnow traps. Arctic grayling can readily access Minto Creek from the Yukon River and therefore likely migrate in and out of the system on occasion throughout the open water season. However, their use of the system appears to be more transitory and they do not use it for rearing and/or reproduction, as indicated by observations and numbers captured over the sampling years.

Table 7.7: Summary of Effort and Data from 2011 and 2012 Fish Assessment in Minto Creek.

Year	Period	Method	Effort	*Units*	Juvenile Chinook Salmon			Slimy Sculpin			Longnose Suckers		Arctic Grayling	
					#	Avg Length (mm)	Avg Weight (g)	#	Avg Length (mm)	Avg Weight (g)	#	Avg Length (mm)	#	Avg Length (mm)
2011	July	Minnow Trapping	22 Days	#	1	56	n/r	2	96.5	n/r	0	n/a	0	n/a
				Fish/day	0.05			0.09			0		0	
	August	Minnow Trapping	19 Days	#	3	66.3	n/r	0	n/a	n/a	9	108.4	0	n/a
				Fish/day	0.16			0			0.47		0	
	Sept	Minnow Trapping	14 Days	#	6	74.3	4.410	4	81.3	n/r	1	105.0	0	n/a
				Fish/day	0.43			0.29			0.07		0	
	Oct	Minnow Trapping	16 Days	#	2	86.5	5.540	1	97.0	n/r	0	n/a	0	n/a
				Fish/day	0.13			0.06			0		0	
2012	June	Minnow Trapping	15 Days	#	0	n/a	n/a	4	74.3	4.9	0	n/a	0	n/a
				Fish/day	0			0.27			0		0	
		Electrofishing	1051 s	#	0	n/a	n/a	3	103.7	9.9	0	n/a	1	215
				Fish/min	0			0.17			0		0.06	
	July	Minnow Trapping	16 Days	#	0	n/a	n/a	1	79	n/r	0	n/a	0	n/a
				Fish/day	0			0.06			0		0	
	August	Minnow Trapping	12 Days	#	0	n/a	n/a	0	n/a	n/a	0	n/a	0	n/a
				Fish/day	0			0			0		0	
	Sept	Minnow Trapping	16 Days	#	3	7.4	4.4	1	7.8	n/r	0	n/a	0	n/a
				Fish/day	0.19			0.06			0		0	

Notes: n/r = not recorded n/a = not applicable

7.4.5 2009-2011 FISHERIES MONITORING PROGRAM IN MCGINTY CREEK

7.4.5.1 Methods

All non-consumptive trapping was carried out using 0.635 cm mesh minnow traps. Traps were baited with Yukon River-origin Chinook salmon roe and soaked for a nominal 24-hour period at each location. All captured specimens were identified, measured, enumerated, and released in the immediate area of their capture.

Whenever possible, traps were placed in areas of the creek where the flow was minimal, such as back eddies. Areas with back eddies and small pools were difficult to find or non-existent, particularly in the upper reaches of the drainage, because of the narrow, high gradient nature of the creek.

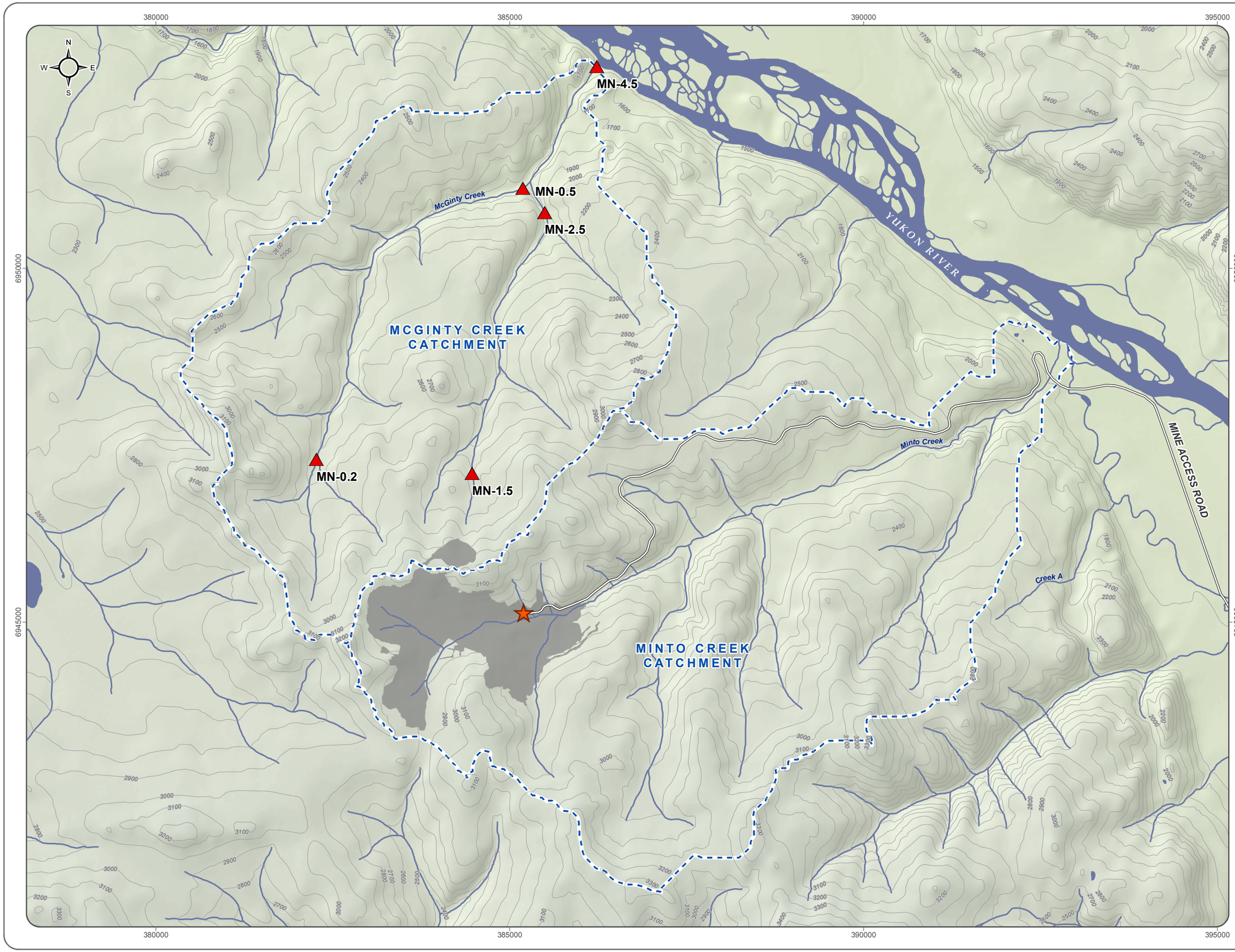
A visual assessment was made during the initial investigation in May 2009 to determine the potential for additional fish sampling methods, such as electrofishing, beach seining, and/or angling. It was determined that additional sampling methods were not practical and/or safe because of the very limited creek access, the small size of the creek, and the associated physical hazards (i.e., large amount of deadfall across the creek as a result of forest fires in the area). The lack of suitable pools and/or back eddies, and the very shallow average depth of the creek, were also limiting factors. Subsequent sampling events were limited to minnow trapping, and trapping locations varied from one sampling event to another according to creek conditions and previous results. Note that a sampling event was attempted in August 2010 but as a result of elevated flows and turbid waters, no suitable eddies to place fish traps were found. The map in Figure 7-4 shows all the trapping locations used in 2009, 2010, and 2011. Note that trapping efforts in 2011 were focused around the mouth of McGinty Creek based on previous results, and on fish barriers documented during that trip.

MINTO MINE
AQUATIC RESOURCES CHARACTERIZATION

FIGURE 7-4

MCGINTY CREEK CATCHMENT AND MONITORING STATION LOCATIONS

DECEMBER 2017



capstone MINTO MINE

- Surface Water Quality Station
- Mine Footprint
- Catchment
- Minto Access Road
- Contours (100ft)

1:50,000 *when printed on 11 x 17 inch paper*

0 500 1,000 1,500 2,000 Meters

ALEXCO ENVIRONMENTAL GROUP

National Topographic Data Base (NTDB) compiled by Natural Resources Canada at a scale of 1:50,000. Cadastral data compiled by Natural Resources Canada. Reproduced underlicense from Her Majesty the Queen in Right of Canada, Department of Natural Resources Canada. All rights reserved.

Datum: NAD 83 Projection: UTM Zone 8N

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(*Last edited by: amatlashevska;28/12/2017/11:37 AM*)

7.4.5.2 Results and Discussion

Results for the trapping events conducted during the 2009, 2010, and 2011 sampling seasons are presented in Table 7-8.

Table 7.8: Minnow Trapping Results - McGinty Creek 2009-2011

Stations	Date	# Traps	Soak Time (hrs)	Results
F-4.5	May 29, 2009	2	23	1 SS
	June 26, 2009	2	24	5 SS
	September 29, 2009	2	24	Nil
	July 2, 2010	1	21	2 SS
	September 13, 2011	1	21	Nil
F-Canyon	May 29, 2009	2	23	Nil
	June 26, 2009	2	24	Nil
F-RF	May 29, 2009	2	22	Nil
MN-0.5	June 26, 2009	2	24	Nil
	July 2, 2010	1	23	Nil
MN-1.5	June 26, 2009	2	24	Nil
MN-2.5	May 29, 2009	2	20.5	Nil
	June 26, 2009	2	24	Nil
	July 2, 2010	1	23.5	Nil
MN-4.5	May 29, 2009	2	23	Nil
	September 29, 2009	2	24	Nil
	July 2, 2010	1	21	Nil
F-4.0	July 2, 2010	1	21	Nil
MNF1	September 13, 2011	1	22	Nil
MNF2	September 13, 2011	1	22	Nil
MNF3	September 13, 2011	1	21.5	Nil
MNF4	September 13, 2011	1	21	Nil
MNF5	September 13, 2011	1	21	Nil

Note: SS = Slimy Sculpin (Cottus cognattus)

The fisheries assessment (minnow trapping) events indicated that a low number of fish use McGinty Creek. Only one species, the Slimy Sculpin, was documented over three sampling seasons (2009 to 2011), and due to the consistent location of the captures, these fish were presumed to be associated with the Yukon River as opposed to McGinty Creek. These results are similar to those found in the 1994 survey, in that fish were only captured in close proximity to the Yukon River confluence. No JCS were encountered during the 1994 or 2009–2011 surveys. However, during the 1994 investigations, Arctic grayling were also captured (HKP 1994).

As with Minto Creek, McGinty Creek has been subject to forest fire activity resulting in significant amount of deadfall falling across the creek. This has largely prevented the use of an electrofisher in the system for fisheries sampling in response to access and safety concerns. Barriers to fish passage were noted in the 1994 investigations and since 1994 additional forest fire activity and subsequent debris build-up has resulted in additional barriers forming closer to the Yukon River. These barriers limit fish use of the system to its lowest reach and this reach is characterized by a high gradient resulting in a cascading system with few pools and resting areas for fish. Since 1994 no fish have been captured in the creek except immediate to its confluence with the Yukon River. It should be noted that 24 Arctic grayling were captured in the lower reach of McGinty during the 1994 investigations but that 16 (66%) of these were captured in minnow traps. This may reflect the fact that at that time there were very few suitable locations for setting traps in the system as is currently the case and that any grayling in the system were congregating in the limited pool habitat that is also best suited for placement of minnow traps. Suitable minnow trap placement sites in the lower fish bearing reach is very limited based on the cascading, high gradient nature of the creek. As with Minto Creek Arctic grayling and other species can migrate into the lower reach of McGinty Creek but their use of the creek appears to be very low and transitory only.

The physical nature of the McGinty Creek drainage is not conducive to a consistent year-round use by fish. The gradient, discharge volume, depth, configuration and absence of an upstream reservoir limit the wintering habitat potential. Very minimal to no flows were observed in McGinty Creek during the winter. Fish likely make use of the creek only after temperatures between the creek and Yukon River equilibrate, as is the case in similar systems along the Yukon River. Also, McGinty Creek offers very minimal pool/resting habitat and fish would have to exert much energy to sustain themselves in the system for any period of time. This is likely a strong deterrent for fish to enter and/or remain in the creek for any length of time.

Several potential natural fish barriers were also observed and documented in the lower reach of McGinty Creek during the September 2011 sampling event. One is located just upstream of the water quality station MN-4.5, or between trapping sites MNF5 and MNF1, and was found to be 25cm high. Two more potential barriers were located between trapping sites MNF2 and MNF3, roughly 30m apart, and represented drops of 45cm and 36cm respectively.

7.4.6 2013 FISHERIES MONITORING PROGRAM IN MINTO CREEK AND BIG CREEK

7.4.6.1 Methods

Fish monitoring of Minto Creek and Big Creek was conducted monthly during open water season, from May to October 2013, at trapping sites consistent with the 2010 mark-recapture study and the 2011 and 2012 fish monitoring programs (Figure 7-2). Capture effort included the use of minnow traps with 0.635 cm wire mesh size baited with Yukon River origin Chinook salmon roe or fish food pellets. Between 9 and 17 minnow traps were set in Minto Creek, depending on water levels and availability of pools and backwater areas. Approximately four traps were set each time in Big Creek, in the vicinity of the Minto road bridge.

In addition, electrofishing was conducted in Minto Creek downstream of W2 and between W2 and W1 over approximately 1 km in May and June 2013. Electrofishing was conducted in Big Creek in June only.

Aerial reconnaissance survey for potential fish spawning activity was conducted by ACG on August 28th, 2013 for approximately 21 minutes. The survey was completed from a helicopter and included the mouth of McGinty Creek, Minto Creek, and the Yukon River between the barge landing and McGinty Creek, including the Ingersoll Islands located downstream of the mine area.

7.4.6.2 Results and Discussion

A total of 132 fish were captured in Minto Creek, including 121 JCS, which were all were captured in August, September and October. In addition, nine slimy sculpins, one burbot and one Arctic grayling were also captured. The average CPUE for JCS was 1.247 fish/trap-day throughout the open water season, but was as high as 5.005 fish/trap-day in October. The following table (Table 7-9) presents the effort applied and the summary of fish capture in Minto Creek in 2013.

Table 7.9: Summary Statistics of Fish Monitoring Program in Minto Creek in 2013.

Month	Method*	Effort	Juvenile Chinook Salmon		Slimy Sculpin		Arctic Grayling		Burbot	
			Results	CPUE**	Results	CPUE**	Results	CPUE**	Results	CPUE**
May	EF	1624 s. (27.1 min.)	0	0.000	0	0.000	1	0.037	0	0.000
	MT	121 trap-hours (5.0 trap-days)	0	0.000	1	0.198	0	0.000	0	0.000
June	EF	1778 s. (29.6 min.)	0	0.000	2	0.067	0	0.000	1	0.034
	MT	241.3 trap-hours (10.1 trap-days)	0	0.000	0	0.000	0	0.000	0	0.000
July	MT	244 trap-hours (10.2 trap-days)	0	0.000	0	0.000	0	0.000	0	0.000
August	MT	372.6 trap-hours (15.5 trap-days)	19	1.224	6	0.386	0	0.000	0	0.000
September	MT	363.6 trap-hours (15.2 trap-days)	19	1.254	0	0.000	0	0.000	0	0.000
October	MT	398.0 trap-hours (16.6 trap-days)	83	5.005	0	0.000	0	0.000	0	0.000
TOTAL	**EF**	**3402 s. (56.7 min.)**	**0**	**0.000**	**2**	**0.034**	**1**	**0.018**	**1**	**0.017**
	MT	**1499.2 trap-hours (62.5 trap-days)**	**121**	**1.247**	**7**	**0.097**	**0**	**0.000**	**0**	**0.000**

** EF=Electrofishing, MT=Minnow Trapping*
*** CPUE = fish/minute for EF and fish/trap-day for MT*

Fisheries effort in Big Creek was initiated in June, and conducted monthly until October, resulting in the capture of 48 fish, 19 of which were juvenile Chinook salmon. As for Minto Creek, all the JCS were captured in August, September and October. In addition, 28 slimy sculpins and one burbot were also captured. 27 out of the 28

slimy sculpins were captured via electrofishing in June. The catch per unit effort for JCS in Big Creek was on average lower than in Minto Creek at 0.998 JCS/trap-day and was highest in September (1.39 fish/trap-day). The following table, Table 7-10 presents the effort undertaken and the resulting fish capture in Big Creek in 2013.

Table 7.10: Fisheries Data in Big Creek in 2013.

Month	Method*	Effort	Juvenile Chinook Salmon		Slimy Sculpin		Burbot	
			Results	CPUE**	Results	CPUE**	Results	CPUE**
June	EF	911 s. (15.2 min.)	0	0.000	27	1.778	0	0.000
	MT	65.3 trap-hours (2.7 trap-days)	0	0.000	0	0.000	0	0.000
July	MT	74.0 trap-hours (3.1 trap-days)	0	0.000	0	0.000	0	0.000
August	MT	90.9 trap-hours (3.8 trap-days)	11	2.904	0	0.000	1	0.264
September	MT	86.3 trap-hours (3.6 trap-days)	5	1.390	1	0.278	0	0.000
October	MT	103.2 trap-hours (4.3 trap-days)	3	0.698	0	0.000	0	0.000
TOTAL	**EF**	**911 s. (15.2 min.)**	**0**	**0**	**27**	**1.778**	**0**	**0**
	MT	**354.4 trap-hours (14.8 trap-days)**	**19**	**0.998**	**1**	**0.056**	**1**	**0.053**

** EF=Electrofishing, MT=Minnow Trapping*
*** CPUE = fish/minute for EF and fish/trap-day for MT*

The average fork length of JCS captured in Minto Creek was 70.2 mm and the average weight was 4.0 g while the average fork length of JCS captured in Big Creek was 71.9 mm and the average weight was 4.3 g. Figure 7-5 presents the monthly averages for both Creeks.

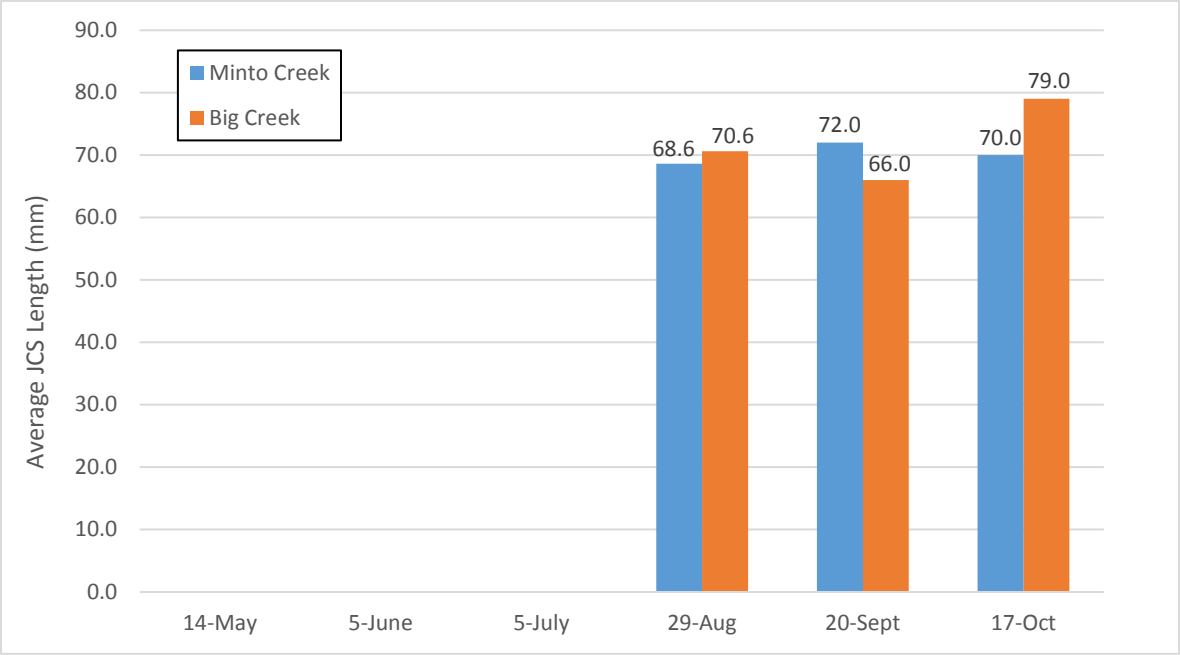

Figure 7-5: Average JCS length (fork) in Minto Creek and Big Creek, 2013.

In 2013, no JCS were captured in Minto Creek or Big Creek before August. This is generally consistent with previous findings that JCS do not tend to enter Minto Creek until the water temperature has equilibrated with that of the Yukon River, however in previous years JCS had entered the creeks by mid-July. Contrary to 2012 however, the average CPUE for JCS was found to be slightly higher in Minto Creek than in Big Creek, and much higher in October. The CPUE for JCS showed a decreasing trend in Big Creek from August to October, while the trend was increasing in Minto Creek over the same period. The CPUE in both Minto Creek and Big Creek was on average higher than in 2012 and was also higher than in 2011 in the case of Minto Creek. In 2010 however, the average CPUE in Minto Creek was 16.7 fish/trap-day and some trapping events returned over 400 JCS. In 2010, the mine was discharging water in Minto Creek, causing higher and more consistent flows and temperature regimes in lower Minto Creek, conditions which may have been more attractive to JCS, while mine water discharge only occurred during freshet in 2012 and 2013 and no discharge occurred in 2011. Also, following a forest fire in 2010, more sediment entered Minto Creek through runoff in 2011 and 2012 increasing water turbidity. A small landslide was also documented by Minto personnel in an upstream tributary in May 2012, possibly contributing to high TSS levels observed downstream. The elevated turbidity may have deterred fish from entering Minto Creek. Average TSS values at W2 in 2013 were similar to those of 2011, and much lower than those of 2012.

No adult fish were observed spawning in the vicinity of the Minto Creek/Yukon River confluence during 2013 or in the area downstream and upstream of Minto Creek. Bottom substrate in the confluence area consists primarily of silt and mud which is not suitable substrate for salmon spawning. The natural barrier identified in previous years was confirmed in 2013. Therefore, the area of usable fish habitat in Minto Creek is limited to the lower 1.2 km of the creek.

7.4.7 2014 FISHERIES MONITORING PROGRAM IN MINTO CREEK AND BIG CREEK

7.4.7.1 Methods

Fish monitoring of Minto Creek and Big Creek was conducted monthly during open water season, from June to October 2014, at trapping sites consistent with the 2010 mark-recapture study and the 2011 to 2013 fish monitoring programs (Figure 7-2). Capture effort included the use of minnow traps with 0.635 cm wire mesh size baited with Yukon River origin Chinook salmon roe. A total of 17 or 18 minnow traps were set each time in Minto Creek, depending on water levels and availability of pools and backwater areas. Four traps were set each time in Big Creek, in the vicinity of the Minto road bridge.

Aerial reconnaissance survey for potential fish spawning activity was conducted by ACG/Minnow on September 10th, 2014 for approximately 10 minutes. The survey was completed from a helicopter which flew over the mouth of McGinty Creek, Minto Creek, and the Yukon River between the barge landing and McGinty Creek, including the Ingersoll Islands located downstream of the mine area.

7.4.7.2 Results and Discussion

Minto Creek was assessed monthly between June and October 2014. A total of 154 fish were captured in Minto Creek, including 151 JCS, which were all were captured in August, September and October. In addition, two slimy sculpins and one burbot were also captured. The average CPUE for JCS was 2.153 fish/trap-day throughout the open water season, but was as high as 5.047 fish/trap-day in September. In comparison, the average JCS CPUE for the same period (June to October) in 2013 was 2.104 fish/trap-day (1.936 fish/trap-day when including the May 2013 sampling event) and a maximum of 5.005 fish/trap-day was reached in October. The following table (Table 7-11) presents the effort applied and the summary of fish capture in Minto Creek in 2014.

Table 7.11: Summary statistics of Minnow Trapping in Minto Creek in 2014.

Month	Effort	Juvenile Chinook Salmon (*Onchoryhnchus tshawytscha*)		Slimy Sculpin (*Cottus cognatus*)		Burbot (*Lota lota*)	
		Results	CPUE*	Results	CPUE*	Results	CPUE*
June	288 trap-hours (12 trap-days)	0	0.000	0	0.000	0	0.000
July	337.8 trap-hours (14.1 trap-days)	0	0.000	0	0.000	0	0.000
August	320.8 trap-hours (13.4 trap-days)	58	4.339	2	0.149	1	0.075
September	423.2 trap-hours (17.6 trap-days)	89	5.047	0	0.000	0	0.000
October	313.8 trap-hours (13.1 trap-days)	4	0.306	0	0.000	0	0.000
TOTAL	**1683.6 trap-hours (70.2 trap-days)**	**151**	**2.153**	**2**	**0.029**	**1**	**0.014**

** CPUE = fish/trap-day*

Fisheries effort in Big Creek was initiated in June, and conducted monthly until October, resulting in the capture of 99 fish, 96 of which were juvenile Chinook salmon. As for Minto Creek, all the JCS were captured in August, September and October. In addition, one slimy sculpin, one burbot and one longnose sucker were also captured. The CPUE for JCS in Big Creek was on average higher than in Minto Creek at 5.863 JCS/trap-day and was highest in September (23.010 fish/trap-day). In comparison, the average JCS CPUE for the same period (June to October) in 2013 was much lower at 1.284 JCS/trap-day (which was also lower than the average CPUE in Minto Creek) and the maximum was attained in August but was only 2.904 fish/trap-day. The following table (Table 7-12) presents the effort undertaken and the resulting fish capture in Big Creek in 2014.

Table 7.12: Summary statistics of Minnow trapping in Big Creek in 2014.

Month	Effort	Juvenile Chinook Salmon (*Onchoryhnchus tshawytscha*)		Slimy Sculpin (*Cottus cognatus*)		Burbot (*Lota lota*)		**Longnose Sucker** *(Catostomus catostomus)*	
		Results	CPUE*	Results	CPUE*	Results	CPUE*	Results	CPUE*
June	77.1 trap-hours (3.2 trap-days)	0	0.000	0	0.000	0	0.000	0	0.000
July	77.0 trap-hours (3.2 trap-days)	0	0.000	0	0.000	0	0.000	0	0.000
August	70.4 trap-hours (2.9 trap-days)	4	1.364	0	0.000	0	0.000	1	0.341
Septembe r	89.7 trap-hours (3.7 trap-days)	86	23.010	1	0.268	1	0.268	0	0.000
October	78.8 trap-hours (3.3 trap-days)	6	1.827	0	0.000	0	0.000	0	0.000

Month	Effort	Juvenile Chinook Salmon (*Onchorhynchus tshawytscha*)		Slimy Sculpin (*Cottus cognatus*)		Burbot (*Lota lota*)		**Longnose Sucker** *(Catostomus catostomus)*	
		Results	CPUE*	Results	CPUE*	Results	CPUE*	Results	CPUE*
TOTAL	393 trap-hours (16.4 trap-days)	**96**	**5.863**	**1**	**0.054**	**1**	**0.054**	**1**	**0.061**

**CPUE = fish/trap-day*

The average fork length of JCS captured in Minto Creek was 71.9 mm and the average weight was 4.36 g while the average fork length of JCS captured in Big Creek was 73.4 mm and the average weight was 4.62 g. Figure 7-6 presents the monthly averages for both Creeks.

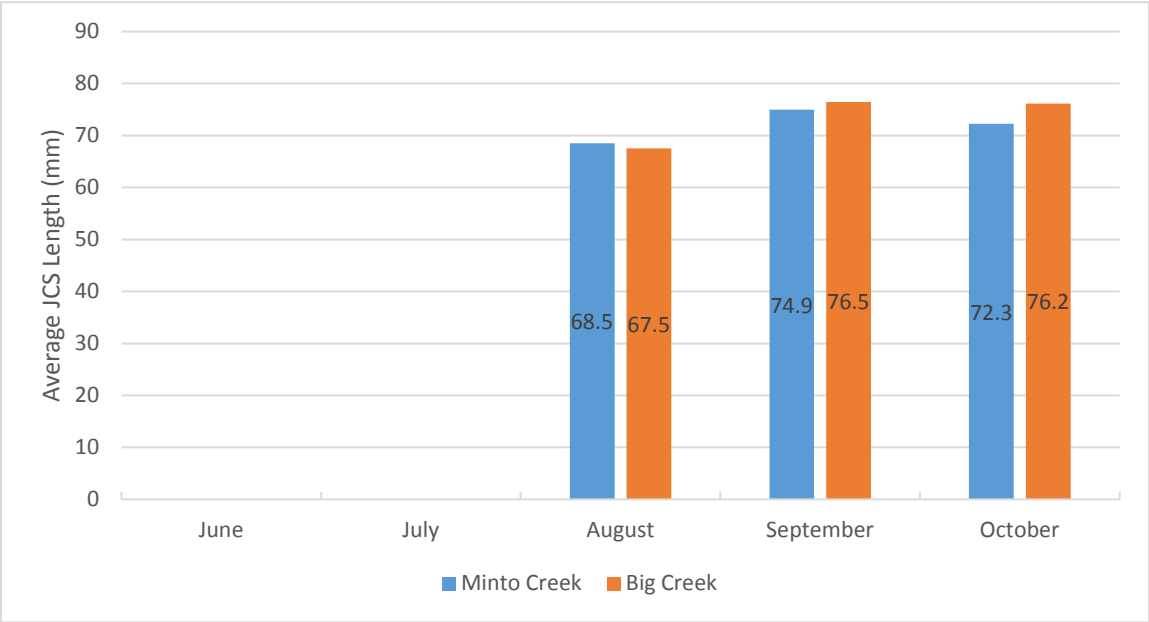

Figure 7-6: Average JCS length (fork) in Minto Creek and Big Creek, 2014.

In 2014, no JCS were captured in Minto Creek or Big Creek before August. In general, this is consistent with previous findings that JCS do not tend to enter Minto Creek until the water temperature has equilibrated with that of the Yukon River or reached a minimum threshold temperature, however in some years JCS had entered the creeks by mid-July. The 2014 July sampling results may have been influenced by the concurrent high precipitation event causing high flows and turbidity.

No adult fish were observed spawning in the vicinity of the Minto Creek/Yukon River confluence or in the area downstream and upstream of Minto Creek during 2014. Bottom substrate in the confluence area consists primarily of silt and mud which is not suitable substrate for salmon spawning. The natural barrier identified in previous years was confirmed in 2014. Therefore, the area of usable fish habitat in Minto Creek is limited to the lower 1.2 km of the creek.

7.4.8 2015 FISHERIES MONITORING PROGRAM IN MINTO CREEK AND BIG CREEK

7.4.8.1 Methods

Fish monitoring of Minto Creek and Big Creek was conducted monthly during open water season, from June to October 2015, at trapping sites consistent with the 2010 mark-recapture study and the 2011 to 2014 fish monitoring programs (**Error! Reference source not found.**). Capture effort included the use of minnow traps with 0.635 cm wire mesh size baited with Yukon River origin Chinook salmon roe. A total of 17 or 18 minnow traps were set each time in Minto Creek, depending on water levels and availability of pools and backwater areas. Four traps were set each time in Big Creek, in the vicinity of the Minto road bridge.

7.4.8.2 Results and Discussion

Minto Creek was assessed monthly between June and October 2015. A total of 6 fish were captured in Minto Creek, all of which were JCS. Four were captured in July and two in September, and all fish were found in the trap located the most downstream. The average CPUE for JCS was 0.089 fish/trap-day throughout the open water season, but was the highest in June at 0.301 fish/trap-day. In comparison, the average JCS CPUE for the same period (June to October) in 2014 was 2.153 fish/trap-day and a maximum of 5.047 fish/trap-day was reached in September. Of note is the fact that a portion of Minto Creek was found to be dry during the fish monitoring events in June and in August 2015, which could have played an important role in preventing fish movement up and down Minto Creek. The following table (Table 7-13) presents the effort applied and the summary of fish capture in Minto Creek in 2015.

Table 7.13: Summary Statistics of Minnow trapping in Minto Creek in 2015.

Month	Effort (trap-hours)	Effort (trap-days)	Juvenile Chinook Salmon (*Onchorhynchus tshawytscha*)	
			Results	CPUE*
June	304.6	12.7	0	0
July	319.1	13.3	4	0.301
August	320.3	13.3	0	0
September	322.8	13.5	2	0.149
October	347.5	14.5	0	0
TOTAL	1614.3	67.3	6	0.089

** CPUE = fish/trap-day*

Fisheries effort in Big Creek was initiated in June, and conducted monthly until October, resulting in the capture of 63 fish, 58 of which were juvenile Chinook salmon. JCS were captured during every monthly sampling event in 2015, with highest numbers in September (35). In addition, two slimy sculpins and three burbot were also captured. The average CPUE for JCS in Big Creek was much higher than in Minto Creek at 3.393 JCS/trap-day and was highest in September (10.448 fish/trap-day). In comparison, the average JCS CPUE for the same period (June to October) in 2014 was higher at 5.863 JCS/trap-day and was as high as 23.010 fish/trap-day in September 2014. In 2012, 2014 and 2015, the average JCS CPUE was much higher in Big Creek than in Minto Creek but it was the opposite situation in 2013. The following Table (7-14) presents the effort undertaken and the resulting fish capture in Big Creek in 2015.

Table 7.14: Summary Statistics of Minnow Trapping in Big Creek in 2015.

Month	Effort (trap-hours)	Effort (trap-days)	Juvenile Chinook Salmon (*Onchoryhnchus tshawytscha*)		Slimy Sculpin (*Cottus cognatus*)		Burbot (*Lota lota*)	
			Results	CPUE*	Results	CPUE*	Results	CPUE*
June**	81.4	3.4	6	1.769	0	0	1	0.295
July	79.3	3.3	1	0.303	1	0.303	0	0
August	83.2	3.5	5	1.442	1	0.288	0	0
September	80.4	3.4	35	10.448	0	0	1	0.299
October	86	3.6	11	3.070	0	0	1	0.000
TOTAL	**410.3**	**17.1**	**58**	**3.393**	**2**	**0.118**	**3**	**0.175**

**CPUE = fish/trap-day*
*** Several small fish (10-25 mm in length) were observed near one of the minnow traps but not captured*

The average fork length of JCS captured in Minto Creek was 59.3 mm and the average weight was 2.73 g while the average fork length of JCS captured in Big Creek was 66.0 mm and the average weight was 3.24 g. The lengths and weights observed throughout the season were consistent with 0+ aged fish (young of year). Figure 7-7 presents the monthly averages for both creeks. These weights and lengths are much smaller than average values obtained in 2014 for both creeks. The difference could be biased by the fact that no fish were captured in early summer in 2014, when they are generally smaller and by the limited number of fish captured in 2015. However, when comparing only the month of September of both years we still find that the average JCS length and weight are smaller in 2015. This could indicate that growth conditions were suboptimal this year.

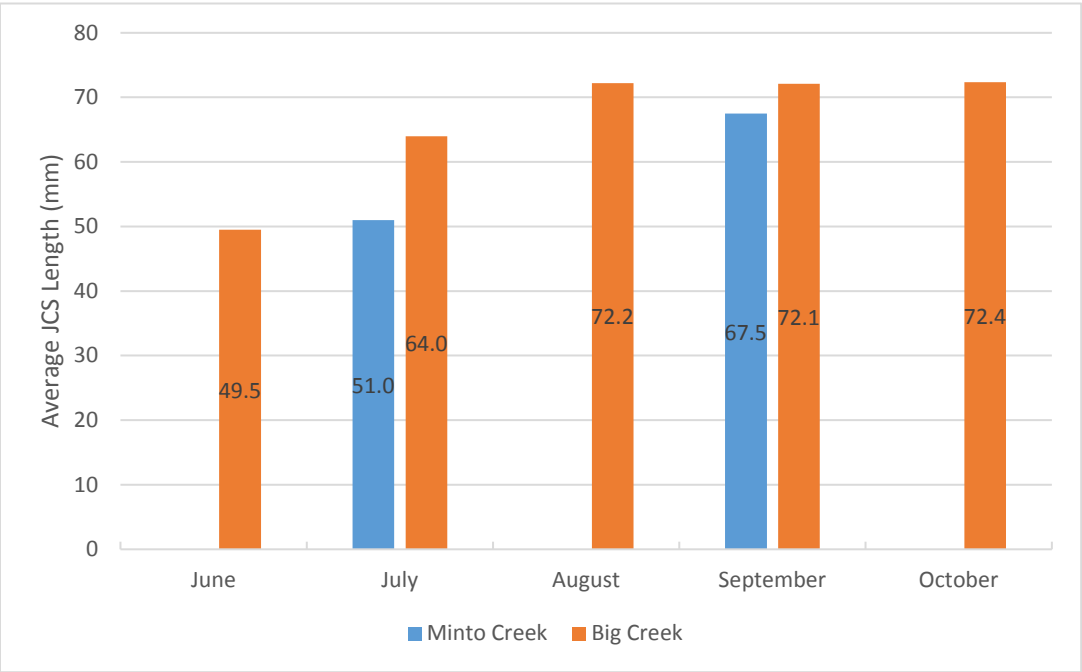

Figure 7-7: Average JCS length (fork) in Minto Creek and Big Creek, 2015.

In 2015, no JCS were captured in Minto Creek in June, as has been the case in previous years, however six JCS were captured in Big Creek in June, indicating that fish may start to move up the Big Creek system earlier than in Minto Creek. More generally this supports previous findings that that JCS do not tend to enter Minto Creek (or Big Creek) until the water temperature has equilibrated with that of the Yukon River or reached a minimum threshold temperature. An important factor to note is the fact that a section of lower Minto Creek was dry during the June 2015 sampling event, preventing fish movement up the system. The period of time during which this section of the creek was going to ground in unknown, however this situation was also observed during the August sampling event, and could have occurred on other occasions during the summer. The highest JCS CPUE was observed in July in Minto Creek and in September in Big Creek.

In Big Creek, the average CPUE for 2015 was less than in 2014 but greater than in 2012 or 2013 (Figure 7-8). The CPUE was generally higher in Big Creek than in Minto Creek, except in 2013 where it was the opposite. A higher CPUE in Big Creek than in Minto Creek could be explained by the fact that Big Creek is a larger system, with a higher water temperature, generally providing a better rearing habitat for JCS.

7.4.9 2016 FISHERIES MONITORING PROGRAM IN MINTO CREEK AND BIG CREEK

7.4.9.1 Methods

Fish monitoring of Minto Creek and Big Creek was conducted monthly during open water season, from June to September 2016, at trapping sites consistent with the 2010 mark-recapture study and the 2011 to 2015 fish monitoring programs (Figure 7-2). Capture effort included the use of minnow traps with 0.635 cm wire mesh size, baited with Yukon River origin chinook salmon roe. A total of 17 to 20 minnow traps were set during each event in Minto Creek, depending on water levels and availability of pools and backwater areas. Four traps were set during each event in Big Creek, in the vicinity of the Minto access road bridge.

7.4.9.2 Results and Discussion

Minto Creek was assessed monthly between June and September 2016. A total of 6 fish were captured in Minto Creek, all of which were JCS. All 6 JCS were captured in September, and all fish were found in the trap located the most downstream site (MCF-12). The average CPUE for JCS was 0.085 fish/trap-day throughout the open water season in Minto Creek, but was the highest in September at 0.339 fish/trap-day. In comparison, the average JCS CPUE (June to October) in 2015 was 0.089 JCS/trap-day and a maximum of 0.301 JCS/trap-day was reached in July. Of note is that a portion of Minto Creek was found to be dry during the fish monitoring event in July 2016 and in 2015, which could have played an important role in preventing fish movement up and down Minto Creek. The following table (7-15) presents the effort applied and the summary of fish capture in Minto Creek in 2016.

Table 7.15: Summary Statistics of Minnow Trapping in Minto Creek

Month	Effort (trap-hours)	Effort(trap-days)	Juvenile Chinook Salmon (*Onchoryhnchus tshawytscha*)	
			Results	CPUE*
June	424.2	17.7	0	0
July	390.9	16.3	0	0
August	424	17.7	0	0

Month	Effort (trap-hours)	Effort(trap-days)	Juvenile Chinook Salmon (*Onchoryhnchus tshawytscha*)	
			Results	CPUE*
September	424	17.7	6	0.339
Total	1663.1	69.4	6	0.085

** CPUE = fish/trap-day*

Fisheries sampling effort in Big Creek was initiated in June, and conducted monthly until September, concurrent with sampling in Minto Creek, resulting in the capture of 60 fish, 51 of which were JCS. JCS were captured during every monthly sampling event in 2016, with highest numbers (21) captured in July. In addition, nine slimy sculpins were captured during the 2016 sampling season.

The average catch per unit effort for JCS in Big Creek was much higher than in Minto Creek at 3.400 JCS/trap-day and was highest in July (5.250 JCS/trap-day). In comparison, the average JCS CPUE (June to October) in 2015 was similar at 3.393 JCS/trap-day and was as high as 10.448 JCS/trap-day in September 2015. In 2012, 2014, 2015, and 2016, the average JCS CPUE was much higher in Big Creek than in Minto Creek but it was the opposite situation in 2013 due to a discharging event. The following table (7-16) presents the effort undertaken and the resulting fish capture in Big Creek in 2016.

Table 7.16: Summary Statistics for Minnow Trapping in Big Creek

Month	Effort (trap-hours)	Effort(trap-days)	Juvenile Chinook Salmon (*Onchoryhnchus tshawytscha*)		Slimy Sculpin (*Cottus cognatus*)	
			Results	CPUE*	Results	CPUE*
June	76.8	3.2	2	0.625	7	2.188
July	96.0	4.0	21	5.250	2	0.500
August	92.0	3.8	16	4.211	0	0
September	94.4	3.9	12	3.077	0	0
Total	359.2	15.0	51	3.400	9	0.601

** CPUE = fish/trap-day*

Fork lengths of JCS captured in Minto Creek ranged from 62 to 87 mm and their weights ranged from 3.03 to 7.20 g, while in Big Creek, JCS fork lengths ranged from 48 to 81 mm and their weights ranged from 1.10 to 6.37 g. There was a notable difference between the JCS lengths and widths during each sampling event. The JCS observed in June were smaller than the JCS captured in September. The lengths and weights observed throughout the season were consistent with 0+ aged fish (young of year). Figure 7-8 presents the monthly averages for both creeks.

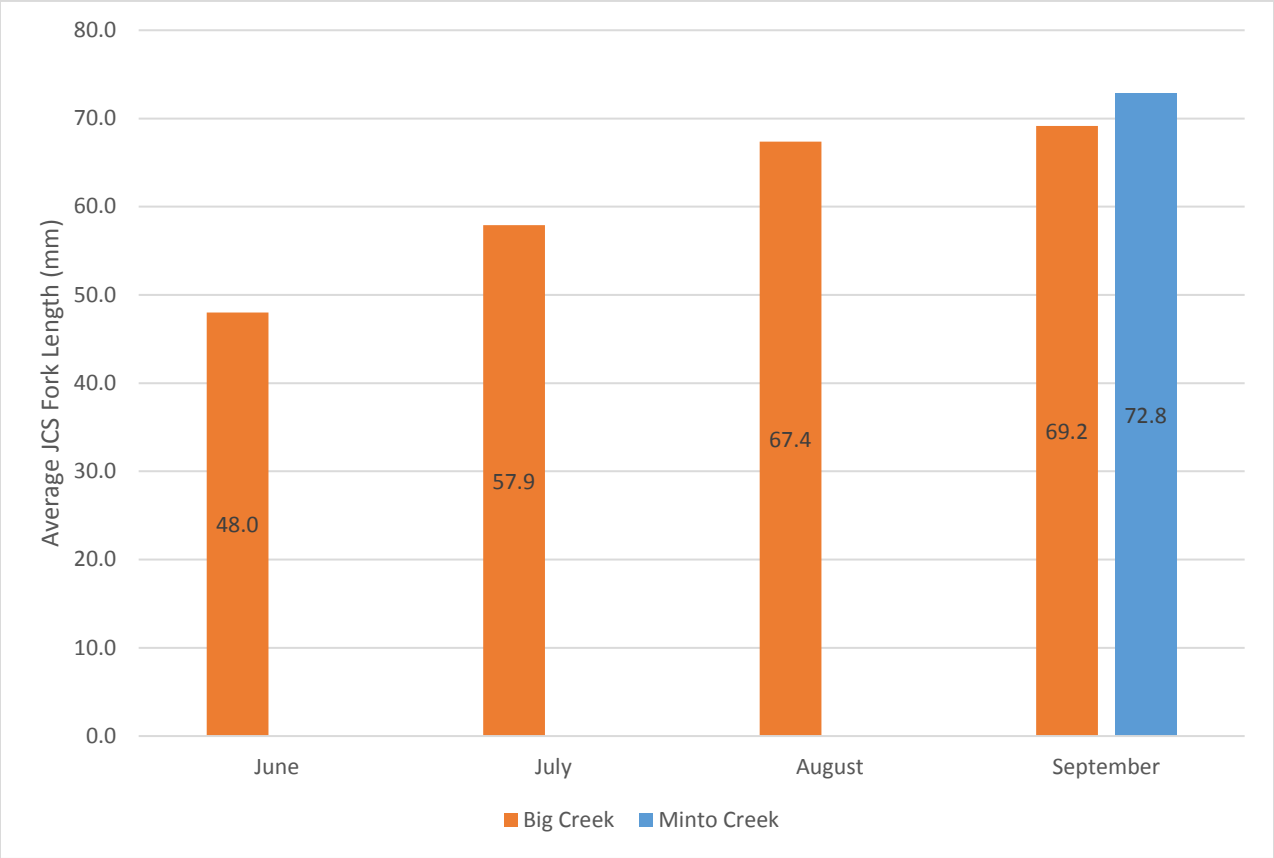

Figure 7-8: Average JCS Length (fork) in Minto Creek and Big Creek, 2016.

In 2016, no JCS were captured in Minto Creek during June, July, and August sampling events and only 6 JCS were captured in September's event. This may be related in part to the higher water temperatures observed in Big Creek and the lower temperatures observed in Minto Creek during this season. More generally this supports previous findings that JCS do not tend to enter Minto Creek (or Big Creek) until the water temperature has equilibrated with that of the Yukon River or reached a minimum threshold temperature, which was not observed in 2016.

The highest JCS catch per unit effort (CPUE) was observed in July in Big Creek. Figure 7-9 shows the CPUE trends since 2008 for JCS (minnow trapping only) in Minto Creek and since 2012 in Big Creek. The average CPUE in Minto Creek has shown some variability since 2008 but has generally been relatively low. One exception is the year 2010 where the average CPUE in Minto Creek was 15.7 JCS/trap-day and some trapping events returned over 400 JCS. Those high numbers are thought to be associated with mine water discharge occurring throughout the open water season in Minto Creek that year, the more consistent temperature and flow regimes possibly acting as attractants to fish.

The average CPUE for JCS in Minto Creek in 2016 was the lowest since 2008. This could be explained by a section of the lower creek going dry in July, preventing fish movement up or down the creek, combined with a relatively low temperature profile in 2016. In some years, water temperature of Minto Creek and Yukon River reach equilibrium for a short period in June, however this did not happen in 2014, 2015, or 2016. In 2016,

Minto Creek's maximum water temperature stayed below 10°C, whereas the Yukon River minimum temperature largely stayed above 10°C throughout the summer. The colder temperature profile of Minto Creek in 2016 may have deterred the movement of JCS into the system.

In Big Creek, the average CPUE for 2016 was the second highest recording since 2012. The CPUE was generally higher in Big Creek than in Minto Creek, except in 2013 where it was the opposite. A higher CPUE in Big Creek than in Minto Creek could be explained by the fact that Big Creek is a larger system, with a higher water temperature, generally providing better rearing conditions for JCS. The CPUE has also been noted as following the same trend within both Minto Creek and Big Creek since 2008.

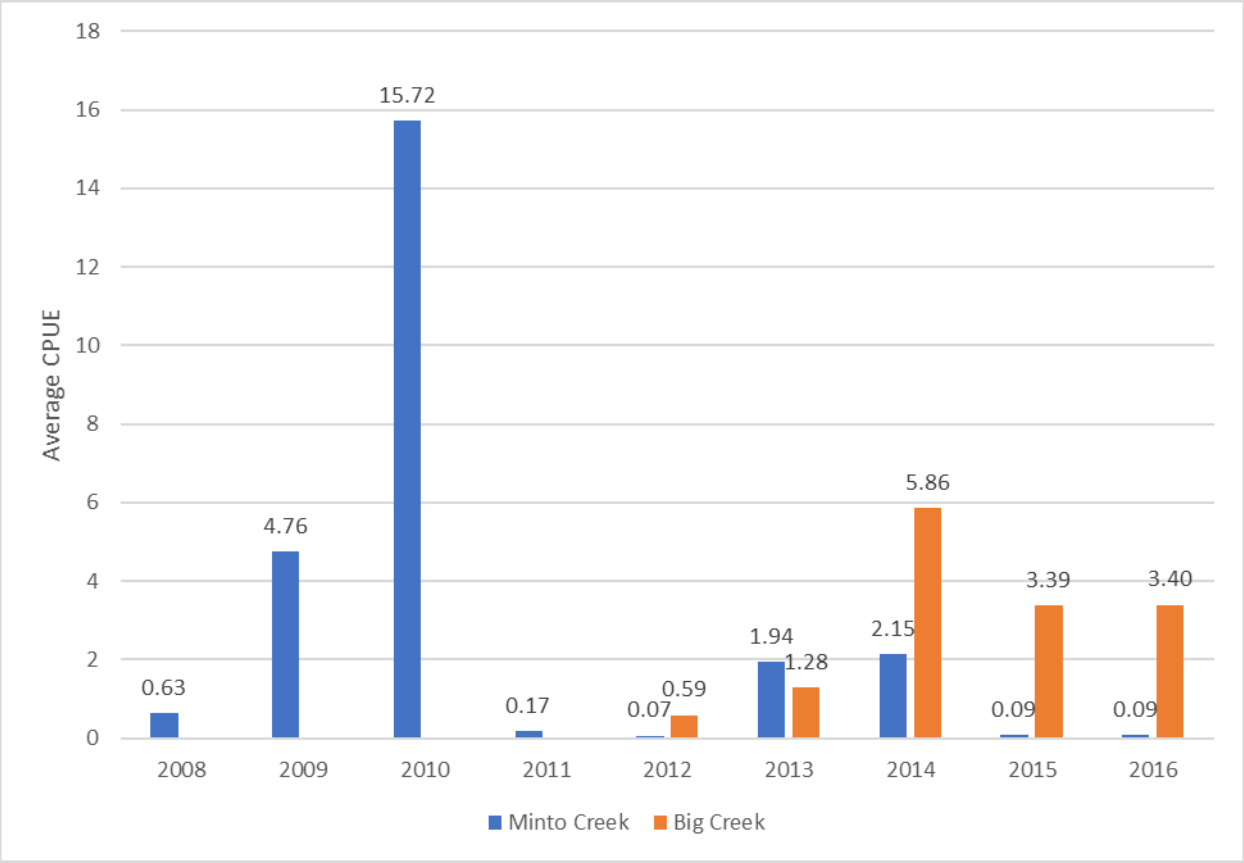

Figure 7-9: JCS Average CPUE, Minnow Trapping, in Minto Creek (2008-2016) and Big Creek (2012-2016)

7.5 OPERATIONAL DATA – ENVIRONMENTAL EFFECTS MONITORING

The Minto Mine is required to undertake EEM (environmental effects monitoring) under the federal Metal Mining Effluent Regulations (MMER). Three phases of EEM have been completed. The Phase 1 EEM attempted an in-situ fish survey but yielded insufficient numbers. Therefore, the Phase 2 EEM fish study consisted of a hatchery-based exposure of juvenile chinook salmon. No fish study was required in Phase 3, and Phase 4 included fish exposure in a laboratory that was set up at the Minto Mine.

7.5.1 MMER ENVIRONMENTAL EFFECTS MONITORING CYCLE 1 -2008 FISH SAMPLE COLLECTION

7.5.1.1 Methods

In accordance with the approved study design of the Cycle 1 EEM (environmental effects monitoring) program, a fish population survey was undertaken in lower Minto Creek in June and September of 2008. During that study, fish communities of Minto Creek were sampled by backpack electrofishing and minnow trapping from June 26 to 27, 2008, and from September 9 to 11, 2008. Electrofishing was conducted as a combination of both closed station (quantitative) and open station, and minnow trapping was conducted using standard minnow traps baited with salmon roe. Detailed information regarding sampling methods is available in the EEM Interpretive Report (Minnow/ACG 2009).

7.5.1.2 Results and Discussion

No fish were captured during the June sampling event, despite electrofishing effort of 393 seconds of applied current and coverage of approximately 289 m^2 of lower Minto Creek. Ten trap-days of minnow trapping effort were also applied (Table 7-17). JCS were the only fish captured in September 2008 and were found in low abundance. Backpack electrofishing yielded one fish (observed and shocked but not captured) in 403 seconds of applied current and coverage of approximately 340 m^2. Minnow trapping in September yielded a total of 17 JCS in a total effort of 18.6 minnow trap-days. It should be noted that the spatial coverage of fishing in June and September represents approximately 40% of the area of lower Minto Creek downstream of an observed fish barrier that is believed to prohibit fish passage to upper Minto Creek.

Table 7.17: Summary of Fish Assessment Effort and Data from the 2008 EEM Cycle 1 Program.

Period	Method	Effort[1]	Summary Statistics	Units	Juvenile Chinook Salmon
June	Backpack electrofishing	393 s 289 m2	Catch	#	0
			CPUE2	Fish/min	0.00
			CPUA3	Fish/100m2	0.00
	Baited minnow trapping	10 days	Catch	#	0
			CPUE2	Fish/day	0.00
September	Backpack electrofishing	403 s 340 m2	Catch4	#	1
			CPUE2	Fish/min	0.15
			CPUA3	Fish/100m2	0.74
	Baited minnow trapping	18.6 days	Catch	#	17
			CPUE2	Fish/day	0.91

Note:
[1] Effort refers to number of seconds electrofishing current was applied to the water.
[2] Catch per unit effort represented in specified units.
[3] Catch per unit area represented in specified units.
[4] In the September electrofishing, one fish was observed and electroshocked but not captured.

Both the absence of Chinook salmon in June and their presence in low abundance later in the summer are supported by the scientific knowledge of Chinook salmon life history and the documented physical

characteristics of Minto Creek. Briefly, Chinook salmon spawn in the fall, preferentially in larger streams, but also in river main stems and small streams (Eiler et al. 2004 and 2006; McPhail 2007). They typically prefer faster water and coarser spawning substrate than other salmon, and require well oxygenated sub-gravel water flow (McPhail 2007). Minto Creek does not provide preferred spawning habitat and becomes completely glaciated (covered with layered ice (aufeis)) in the winter and therefore provides no suitable over-wintering habitat for eggs, fry, or juveniles. Accordingly, there is no evidence of spawning into Minto Creek (HKP 1994, R&D 2006 and 2007), nor is there traditional knowledge of spawning in Minto Creek (HKP 1994). Thus, use of Minto Creek by Chinook salmon appears to be limited to transient use by out-migrating young of year whose natal streams are tributaries of the Yukon River upstream of Minto Creek. Juvenile Chinook of the Yukon River drainage typically emerge in spring and early summer (e.g., mid-May) and enter non-natal tributaries (such as Minto Creek) in late June following temperature equilibration of the river and tributaries (Bradford et al. 2001). This is supported by the findings of this study. Use of non-natal streams may be saltatory, with fish stopping in suitable feeding areas as they move downstream (Bradford et al. 2001). There is little information in the scientific literature on the duration of saltatory use of creeks although it appears that this use can range from days (e.g., Scrivener et al. 1994) to complete over-wintering (Bradford et al. 2001). Because over-wintering appears not to occur in Minto Creek, use of the creek by out-migrating JCS is likely of short duration and is often restricted by the drying of lower Minto Creek in summer months.

Based on this information, the EEM program interpretation concluded that out-migrating JCS are not exposed to mine effluent for significant periods of time, nor are they distinct from out-migrating Chinook salmon temporarily populating other regional creeks draining into the Yukon River.

JCS captured in lower Minto Creek in September 2008 were of similar size (mean fork length of 76 mm). This is consistent with the expectation that all of the juvenile Chinook were of the same out-migrating cohort (of 2008 hatches, spawned in 2007). Due to the timing of the catches and the size of the fish, the captured juvenile Chinook were all likely young of year (YOY; i.e., 0+ fish). Specifically, although YOY can over-winter in the Yukon River and some tributaries, all 1+ fish are out of the upper areas by June (e.g., Duncan & Bradford 2004). As previously indicated, the water of Minto Creek is much colder in June than that of the Yukon River, so use of Minto Creek by 1+ fish would not be expected at that time of year. This was generally confirmed by the fact that no fish were captured in June 2008.

In summary, the fish survey implemented in 2008 under the EEM indicated and confirmed that Minto Creek is not used by fish in June and was used by very small numbers of JCS in September. The JCS captured in Minto Creek in August were out-migrating 0+ fish, that use Minto Creek and other creeks flowing into the Yukon River transiently, so exposure to Minto Creek likely occurs only for very short periods.

7.5.2 MMER ENVIRONMENTAL EFFECTS MONITORING CYCLE 2

7.5.2.1 Methods

Based on previously documented low Chinook salmon captures in Minto Creek, a hatchery-based study was undertaken at the McIntyre Creek Hatchery in Whitehorse from July 7 to August 18, 2011, and was supported by concurrent field-based fish collection and processing. On July 5, a total of approximately 420 fry from the McIntyre Creek fish hatchery were randomly selected from a larger group of approximately 7,000 fry for inclusion in the hatchery exposure. The tank for the control fish was supplied with water provided by the artesian spring at the facility site, the same water that was used to complete incubation of this group of fish and initiate rearing. The tank for the exposure group was supplied with water hauled to the McIntyre Creek facility from the Minto Mine site on a weekly basis. Water from the WSP was diluted with water from lower Minto

Creek to achieve an effluent concentration in the exposure tank which was equivalent to that typically observed in lower Minto Creek. Fish in the two tanks were fed the same amount at the same frequency and water flow; dissolved oxygen, temperature and pH were monitored in the control and exposed tanks.

On July 7 (pre-exposure date or day 0), approximately 420 fish were measured (length and weight), assessed for abnormalities and then randomly and equally distributed between the two tanks (i.e., exposure and control). On two occasions during the exposure (day 14 and day 28) a sub-sample of about 100 fry were randomly captured in their respective tanks, removed, measured, and examined for abnormalities. On the last day of the trial (day 42), all fish were removed from each tank, examined, and measured. Fish were checked daily for mortalities and any visible signs of impaired health (e.g., abnormal behaviour, fungal growth on body). Mortalities were removed, measured, and assessed for abnormalities. Chinook salmon fry collected from each tank were held in aerated buckets, measured, and examined at the hatchery. Following measurements, all live fish were placed in recovery buckets containing aerated McIntyre Creek water. On August 21, all fish were released into Fox Creek, a tributary of the Yukon River.

7.5.2.2 Results and Discussion

Summary statistics of length, weight, mortalities, and abnormalities were calculated for the effluent-exposed and control fish for each sampling period. Very few differences in fish health endpoints were indicated between the exposure and control groups at days 14 and 28 of the experiment. Following 42 days of hatchery exposure (i.e., experiment conclusion on August 18, 2011), Chinook salmon mortality rates were comparable between the effluent-exposed and control groups. In addition, abnormality rates between groups were similar, with a variety of abnormality types noted but no noticeable pattern appearing among either the effluent-exposed or control fish. Although effluent-exposed fish were significantly heavier and had significantly greater body condition compared to the control fish, the magnitude of difference between groups was small (<10%). (Minnow/Access, 2012)

"Overall, the results suggested that exposure to mine-influenced water may result in a very slight increase in fish size and body condition, but that a minimum of five to six weeks of constant effluent exposure would be required to elicit this response. Although this result was consistent with enrichment response observed in the benthic invertebrate community survey, the mechanism for increased fish growth in the hatchery experiment was unclear (i.e., no clear mechanism was evident explaining how slightly higher water nutrient concentrations could result in increased fish growth in the hatchery-based exposure)." (Minnow/Access, 2012).

7.6 TRADITIONAL KNOWLEDGE SURVEYS

7.6.1 1999 FIRST NATIONS INTERVIEW (PELLY CROSSING)

An interview was conducted with 12 members of the Selkirk First Nation residing in Pelly Crossing between November 25 and 30, 1999. Each person was provided with a brief background of the project and then asked to answer a series of questions. The purpose of this questionnaire was to integrate local knowledge into Minto's understanding of the local environment and to help document environmental conditions in the project area. The key fisheries-related information acquired during these interviews is summarized below:

- All interviewees have fished within their traditional territory in the Minto Mine area;
- The fishing area considered most important is the stretch from Minto to Fort Selkirk on the Yukon River, including the creek mouths in this region;

- Minto Landing is fished for grayling, spring salmon and dog salmon (chum salmon) from May to November with rod and reel, stickline hook and net; Fort Selkirk is fished for whitefish and salmon from May to November using the net and stick method; Carpenter Slough is fished for whitefish and salmon from July to November with nets; and the Yukon River area is fished for grayling, whitefish and pike from July to November with nets;

- Known spawning locations are Big Creek for Chinook salmon (king, spring), dog salmon (chum), and Arctic grayling; the Yukon River for burbot, inconnu, lake whitefish, longnose sucker, mountain whitefish, and northern pike; and Slough Creek for lake whitefish, longnose sucker and northern pike;

- Most of the interviewees noticed that over the years, fish populations have grown smaller and runs are taking place later, and one participant also noted that fish body size was getting smaller;

- Table 7-18 outlines the answers of interviewees when questioned about the quality of fish caught in the river or tributaries and if they had noticed any changes.

Table 7.18: Selkirk First Nation Summary of Yukon River System Fish Quality

Species	Fish Quality (Number of Answers)
Whitefish	Less fat (2)
King Salmon	100% good (6) 25% soft and deformed (7) 75–85% good (4)
Dog Salmon	100% good (4) 70–80% good (8) 25% soft and deformed (4) 35% less fat (1)
Inconnu	Small (4) Soft (1)
Grayling	Small (7) Not so fat (9) Some not so fat (2)

8. TISSUE QUALITY

8.1 BASELINE DATA

8.1.1 FISH TISSUE

During the baseline study, fish muscle and liver tissue were analyzed in order to determine baseline levels of bioaccumulated metals in the organs and flesh. Fish were retained during the June and August sampling events. Individual muscle tissue analyses was conducted, although due to the small size of the fish livers, composites were required (HKP 1994).

Metals concentrations for muscle tissue were found to be below the Health and Welfare Canada, Food and Drug Relations at the time the report was written. The highest levels of arsenic (0.48 mg/wet kg) were detected from a total fish analyses of Slimy sculpins from Reach 1, the mouth of Minto Creek. The highest levels of copper (17.1 mg/wet kg), mercury (0.303 mg/wet kg) and zinc (162 mg/wet kg) were detected in Arctic grayling muscle tissue from the mouth of McGinty Creek (HKP 1994). Results of the study are presented below in Table 8-1 and Table 8-2.

Table 8.1: Fish Tissue Analysis Minto Creek, June and August 1994.

Minto Creek							
Parameter	Reach 1, Site 1- Fish 1(1) Round whitefish		Reach 1, Site 1- Composite(2) Slimy Sculpin	Reach 1, Site 2- Composite (2) Slimy Sculpin	Reach 1, Site 3 - Fish 1(2) Arctic grayling	Reach 1, Site 3- Fish 2(2) Arctic grayling	
Total Metals mg/wet kg	**Muscle**	**Liver**	**Total Fish**	**Total Fish**	**Muscle**	**Muscle**	**Liver**
Antimony	<0.05	0.2	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	0.09	0.2	0.48	0.15	0.29	0.06	<0.05
Copper	0.47	6.3	4.47	5.11	2.85	2.14	0.53
Lead	0.05	0.2	0.18	0.08	<0.05	<0.05	<0.05
Mercury	0.07	0.106	0.112	0.100	0.128	0.125	0.021
Silver	<0.05	0.2	<0.05	<0.05	<0.05	<0.05	<0.05
Zinc	7.91	20.1	126	111	42.8	18.7	6.16

1 -Fish collected in June 1994
2- Fish Collected in August 1994

Table 8.2: Fish Tissue Analysis, Unnamed Creek "B", June and August 1994.

Unnamed Creek "B"		
Parameter	**Reach 1, Site 1- Composite (2) Slimy Sculpin**	**Reach 1, Site 2- Composite (2) Slimy Sculpin**
Total Metals mg/wet kg	**Total Fish**	**Total Fish**
Antimony	<0.05	<0.05

Unnamed Creek "B"		
Arsenic	0.36	0.26
Copper	17.1	3.7
Lead	<0.05	0.06
Mercury	0.303	0.071
Silver	0.07	<0.05
Zinc	162	95.8

1 -Fish collected in June 1994
2- Fish Collected in August 1994

8.2 OPERATIONAL DATA - PERIPHYTON TISSUE

There were no significant differences between areas for selenium in 2013 (Minnow 2014), whereas in 2014-2016, periphyton selenium concentrations were significantly greater at lower Minto Creek than at the reference areas (Figure 8-1; Minnow 2015b). Significantly higher concentrations of selenium at lower Minto Creek compared to reference areas over the last three years could indicate an influence of the mine on Minto Creek (Figure 8-1).

8.3 OPERATIONAL DATA - BENTHIC INVERTEBRATE TISSUE

Variability in concentrations of copper in benthic invertebrate tissue has been high among years. In 2013, copper was significantly higher in benthic invertebrates from lower Minto Creek compared to lower Wolverine Creek, but in 2014 and 2015 copper did not differ significantly among areas (Figure 8-2). This lack of consistency suggests that the observed differences likely represent natural variability.

8.4 OPERATIONAL DATA – FISH TISSUE

A selenium study was conducted in 2012 to determine if Minto Creek is used as spawning habitat by any fish species and if so, if selenium is accumulating in their body tissue. The results were unable to determine any mine-related influence or potential adverse effects to slimy sculpin of Minto Creek. A more detailed description of the study is available in Appendix E.

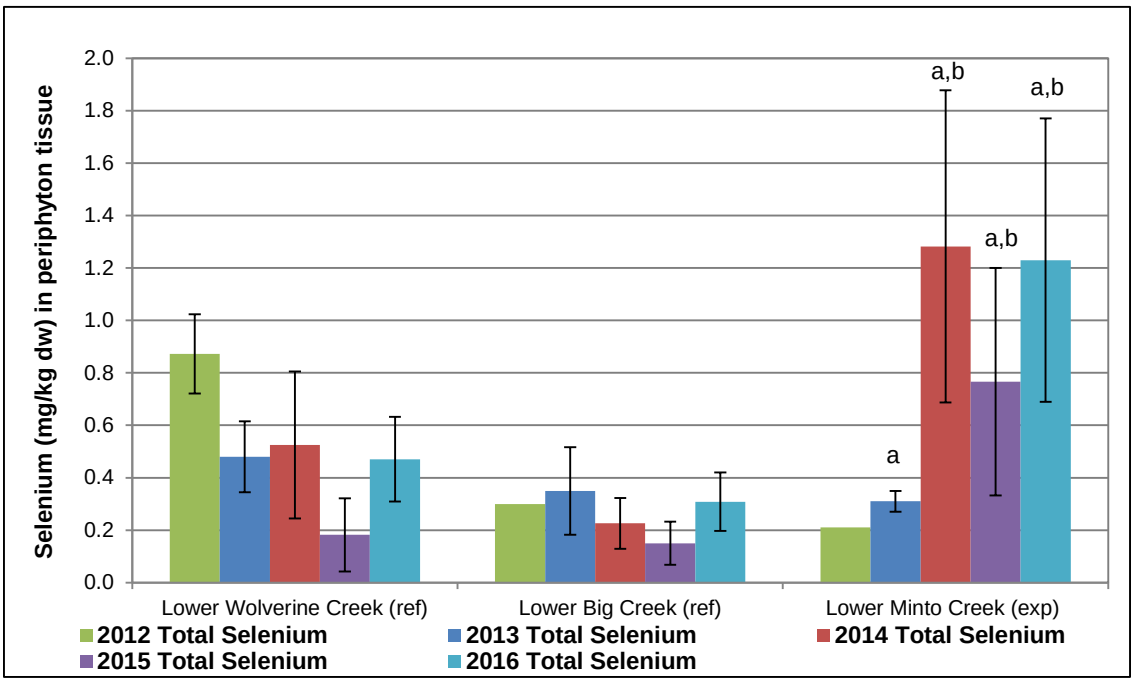

Figure 8-1: Mean Selenium Concentrations (mg/kg dw) in Periphyton Tissue, 2012 - 2016 (± 95% Confidence Intervals)

Notes: n = 5 except for 2012 lower Minto Creek and lower Big Creek, n = 1.
Mean concentrations at the exposure area that differ significantly ($p < 0.05$) within year from a reference area are marked with an "a" for differences between lower Wolverine Creek and "b" for differences between lower Big Creek.

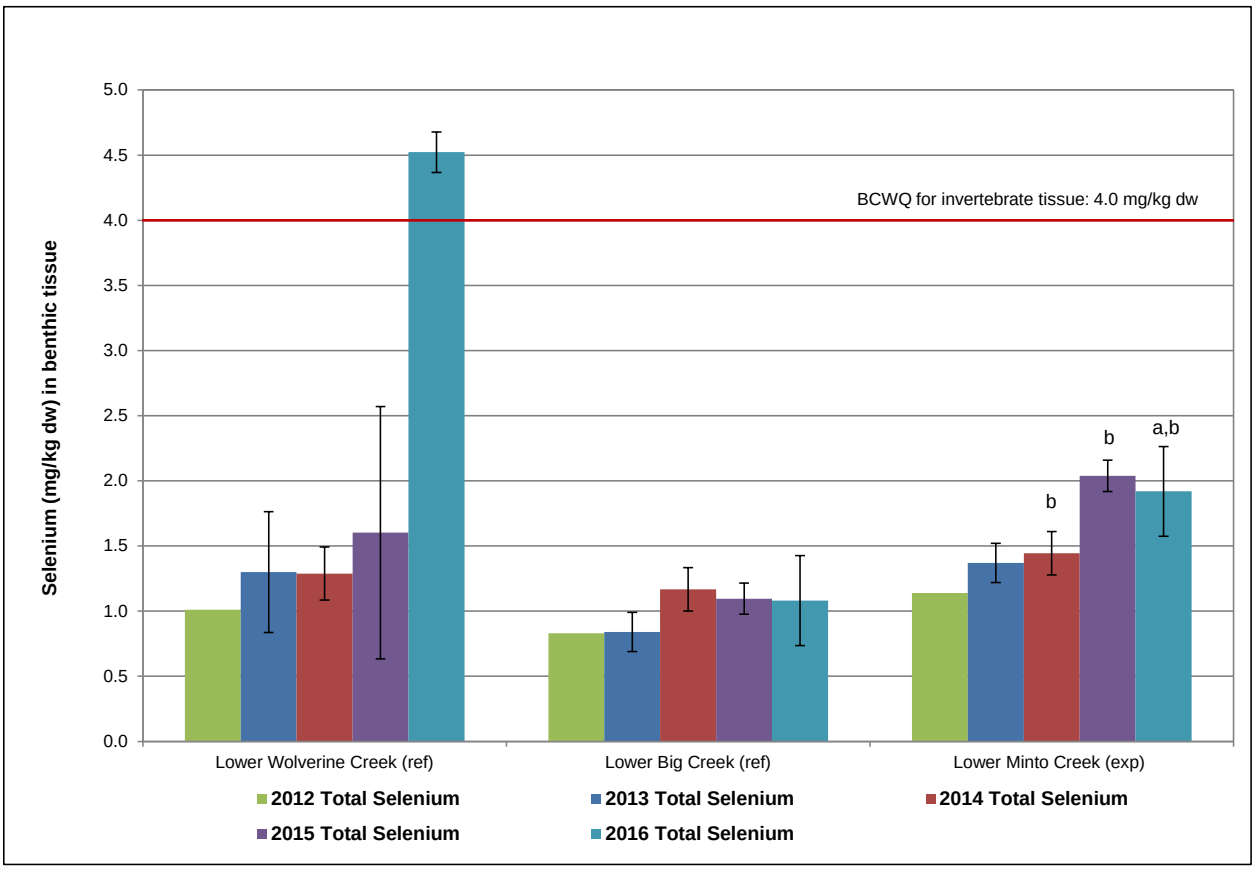

Figure 8-2: Mean Selenium Concentrations (mg/kg dw) in Benthic Invertebrate Tissue, 2012 - 2016 (± 95% Confidence Intervals)

Notes: n = 5, except in 2012 where n = 1.
Mean concentrations at the exposure area that differ significantly ($p < 0.05$) within year from a reference area are marked with an "a" for differences between lower Wolverine Creek and "b" for differences between lower Big Creek.

9. REFERENCES

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APPENDIX A.

Yukon River Fish Life Histories

The following life history summaries have been modified from HKP (1994) using information from sources including the Yukon Territorial Government's website (2009).

Coho salmon *Onocorhynchus kisutch*

Starting in October, Coho salmon spawn in swift flowing tributaries with gravel substrate as far inland as Dawson. They are brood hiders and, although they do not guard the deposited eggs, females often guard the redd throughout the spawning period. Exogenous feeding starts at the alevin phase and prey includes insects and other invertebrates. As the smolt phase is reached, fish become an important food source. While in the Yukon River system, the juveniles inhabit shallow gravel areas and in late summer or fall, move to deeper pools. The majority of juvenile Coho salmon reach the ocean as smolts by the end of their first year and return to spawn after a further year and some months in the ocean. The presence of Coho salmon in the Minto region has not yet been documented.

Chum salmon *Oncorhynchus keta*

Two chum salmon spawning runs take place in the Yukon River: one in late summer and one in late fall. Their range extends into the major tributaries of the Yukon River (White, Stewart, Pelly, and Teslin Rivers) and into the Minto region. Chum salmon are brood hiders and the female partially covers the redd after spawning. Hatching occurs in winter and free embryos remain in the gravel until they are able to migrate to the sea. The freshwater rearing period for chum salmon alevins and juveniles has been reduced and migration to the sea may take only a few days to a few weeks. Alevins and juveniles may or may not feed during their migration. Chum salmon return to spawn their third or fourth year.

Chinook salmon *Oncorhynchus tshawytacha*

Chinook salmon migrate up the Yukon River at a rate greater than 30 km per day and reach their spawning areas by July or August. They are brood hiders and the redds are covered with gravel after spawning. Females may dig several redds and spawn with more than one male; and guard the nest as long as possible before dying. Hatching occurs in the following spring and free embryos remain in the gravel until the yolk is absorbed. Alevins and juveniles prey on various invertebrate organisms during their first year in freshwater and then migrate downstream as smolts, becoming primarily piscivorous at sea. While in freshwater, alevins will school but juveniles soon become defensive of territories. Adults return to spawn in the Yukon River usually after 4 to 7 years in the ocean. The presence of JCS was detected in the lower section of the Minto Creek (near its confluence with the Yukon River) during the 2007 and 2009 surveys conducted for Minto Explorations.

Burbot *Lota lota*

Burbot spawn in mid-winter, usually between January and March. They are bottom-dwellers, open substrate spawners, and produce pelagic larvae. At night during spawning, several individuals roll together in a constantly moving ball over sand or gravel substrate. Larger females may produce over a million small eggs (approximately 1 mm in diameter) which are not guarded. Eggs are semi-pelagic and are easily transported by water movement. Free embryos lack embryonic respiratory organs, similar to those belonging to the pelagic spawning guild. Feeding actively at night, small burbot prey on aquatic insects, crustaceans, plankton, and fish eggs, whereas larger individuals prey predominantly on fish. The adult stage is reached at 3 or 4 years of age.

Arctic grayling *Thymallus Arcticus*

Arctic grayling spawn in small streams as soon as ice break up has commenced. Males defend territories while on the spawning ground. Arctic grayling spawn over unprepared cobble or gravel and produce benthic embryos and larvae. Hatching occurs fairly quickly and exogenous feeding starts while the yolk is still present. At this phase, prey consists largely of zooplankton, while bottom nymphs, snails, small fish and eggs, and a high percentage of terrestrial insects make up the diet of older juveniles and adults. Spawning populations consist of individuals four years of age and older. A small number of juvenile Arctic grayling were detected in the lower section of the Minto Creek (near its confluence with the Yukon River) during the 1994 and 2007 surveys conducted for Minto Explorations.

Inconnu *Stenodus leucichthys*

Inconnu are relatively abundant in the Yukon, Pelly, Stewart, and Porcupine River systems. They are rock and gravel spawners and brood hiders, and no protection is given to the embryos once spawning is completed. Spawning takes place between late summer and early winter in tributary streams, producing free embryos that remain in the spawning substrate until they emerge as fully formed alevins. Young inconnu prey on various invertebrates such as insect larvae and planktonic crustaceans, whereas fish, including the Chinook salmon, comprise much of the diet of larger individuals.

Bering cisco *Coregonus laurettae*

In Canada, Bering cisco are only found in the Yukon River. They spawn in fast-flowing water on open rock and gravel substrates and do not attempt to hide their brood. Hatching occurs in the spring and the free embryos are photophobic and retreat into the substrate. Being an anadramous species, juvenile Bering cisco do not appear to spend much time rearing in freshwater and migrate out of the river as fry. Their diet likely consists of a variety of benthic and planktonic foods and adults return to spawn probably in early fall. Bering cisco reach sexual maturity between 4 and 9 years of age.

Least cisco *Coregonus sardinella*

Least cisco are rock and gravel, open substrate spawners. Spawning usually occurs in September and adults abandon the eggs after spawning has been completed. Hatching occurs the following spring and free embryos move into the substrate. The least cisco diet consists of aquatic insects, mollusks, crustaceans, aquatic worms, and small fish. There are both anadramous and freshwater populations.

Lake whitefish *Coregonus clupeaformis*

Lake whitefish spawn on rock and gravel substrates in the shallow water of lakes and rivers. Embryos are benthic and are not guarded by the spawning adults. The diet of adult lake whitefish includes aquatic insects, mollusks, crustaceans, fish eggs, and small fish. Spawning occurs in fall or early winter.

Round whitefish *Prosopium cylindraceum*

Round whitefish, like many other coregonids, are rock and gravel, open substrate spawners. Round whitefish do not guard their broods and embryos are benthic. Their diet consists of benthic invertebrates including mayfly larvae and pupae, chironomid and caddisfly larvae, amphipods, mollusks, crustaceans, fish eggs, and small fish. Spawning occurs during the fall in both lakes and rivers.

Northern pike *Esox lucius*

Northern pike are spring, obligatory plant spawners and do not guard their young. Spawning occurs in shallow weedy areas close to shore or calm rivers over a two to five-day period. During this time, females release a small number of eggs in many spawning acts. After each episode, the highly adhesive eggs are scattered by a tail thrust and attach to macrophytes. Eggs hatch in approximately two weeks and the non-photophobic, free embryos are shaped so that they swim upwards. Cement glands are present on the heads of free embryos. These strategies have evolved so that embryos are not subject to the often hypoxic conditions of the spawning ground bottom. Small juveniles feed on zooplankton and sub-adult aquatic insects, while larger juveniles and adults prey on various larger organisms such as fish and amphibians as well as small mammals and aquatic birds. In northern areas, males and females usually mature at five and six years of age, respectively. Northern pike typically winter in deeper rivers and lakes.

Slimy sculpin *Cottus cognatus*

Slimy sculpin are spring, nest spawners and guard their young. Eggs are deposited in natural rock cavities or clean, constructed burrows where the male guards the embryos. These areas are generally well oxygenated and therefore, respiratory organs of the embryos are only partially developed. The adult diet consists of aquatic insects, crustaceans, fish eggs, and small fish. Throughout the year, the slimy sculpin lives in rock- or cobble-bottomed streams and lakes and sometimes in brackish waters.

Longnose sucker *Catostomus catostomus*

Longnose suckers are rock and gravel spawners and produce benthic larvae. Their spring spawning runs commence when stream water temperatures reach 5°C. Spawning usually occurs in streams at an approximate mean depth of 20 cm with a 30 to 45 cm/s flow rate and a gravel and cobble substrate size range from 5 to 10 cm. Longnose suckers will spawn in shoal areas of lakes if streams are not present. Hatching occurs in approximately two weeks and photophobic, free embryos remain in the substrate for one to two weeks. Prey for the longnose sucker is almost exclusively benthic invertebrates including amphipods, caddisfly, midge, mayfly, ostracods, gastropods, beetles, pelecypods, as well as copepods and cladocerans. They will also occasionally feed on fish eggs and vegetation. Longnose suckers reach sexual maturity at varying ages, the youngest possibly at five years.

APPENDIX B.

Hallam Knight Piesold 1994 Reach Assessments

Minto Creek	
Reach 1, site 1 (Plate 1):	The stream gradient is 1.5%. Bed material consists of clays, silts and small gravel. This section of the creek is in an area of backwater from the Yukon River, and therefore, the water is relatively static. The stream cover was approximated at 45% and was comprised of large organic debris (LOD), undercut banks and deep pools. In addition, the water was extremely turbid. The average depth of the creek was 1.3 m. The average wetted width was 4.5 m. The creek banks are very unstable.
Reach 1, site 2 (Plate 2):	The stream gradient is 2.5%. Bed material consists of mostly fines (40%), gravel (35%) and small cobble (30%). The stream is composed mostly of run (45%), with areas of riffle (35%), and several pools (20%). Cover was provided by cutbanks, deep pools and LOD. The average wetted width was 2.5 m. Flows were estimated at 0.612 m3/s. The water was clearer than site #1, but was dark brown in colour.
Reach 1, site 3 (Plate 3):	Due to Limited access a new site was established approximately 1.5 km downstream of site 1. Unlike site 1, site 2 did not appear to be in the burn zone which covers the majority of the Minto Creek watershed. The stream gradient at site 2 is 6% and the average wetted width is 3 m. Bed material consists of mostly large cobble with some boulders. The creek is primarily composed of pools and chutes. Stream cover was approximated at 20% and was comprised of overvegetation and large boulders.
Reach 3, site 1 (Plate 4):	The stream gradient is 3.0% and the average wetted width is 3.0 m. Bed material consists of mostly fines (85%) with some small gravel (15%). The creek is primarily composed of run with some pools. Stream cover was approximated at 65% and was comprised of LOD, deep pools, overstream vegetation and cutbanks.
Reach 5, site 1 (Plate 5):	The stream gradient is 4% and the average wetted width is 3.0 m. Bed material consists mostly of fines (60%) with some gravel and small cobble. The stream is composed of mostly riffle (45%), with some areas of pool and run. Substantial cover (50%) is provided by LOD, overstream vegetation, cutbanks and deep pools.
Reach 5, site 2 (Plate 6):	An alternate site was also designated for reach 5 so that it could be accessed by vehicle. The stream gradient is 4% and the average wetted width is 3.0 m. Bed material consists mostly of fines (60%) with some gravel and small cobble. The stream is composed of mostly riffle (45%), with some areas of pool and run. Substantial cover (50%) is provided by LOD, overstream vegetation, cutbanks and deep pools.

Creek A	
Reach 1, site 1 (Plate 7):	The creek has an approximate gradient of 0.5% and an average wetted width of 0.5 m. The stream is composed mainly of run (88%) and the stream bed consists exclusively of fines. The Stream cover is provided mostly by cutbanks, with some areas of deep pools, and occasional in-stream and over-stream vegetation.
Reach 1, site 2 (Plate 8):	An alternate site adjacent to the road was chosen so the site could be accessed by truck. The creek has an average wetted width of 0.50 m. The stream is composed mainly of run (88%) and the stream bed consists exclusively of fines. The stream cover is provided mostly by cutbanks, with some areas of deep pools, and occasional in-stream and over-stream vegetation. The creek meanders throughout an area which consists mostly of sedge. Many small ponds exist in the area.

McGinty Creek (referred to as Unnamed Creek B)	
Reach 1, site 1 (Plate 9):	The average wetted width was 2.5 m and the gradient was 3%. The bed material consisted of mostly fines, gravels and small cobble with some large cobble and boulders. The stream was composed mostly of run with equal amounts of riffle and pool. Stream cover (30%) was comprised of cutbank, deep pool and LOD.
Reach 2, site 1 (Plate 10):	The average wetted width of the creek was 2.0 m and the stream gradient was 4.5%. the stream was Composed mostly of run (60%) with areas of riffle and few pools. The creek bed was comprised mostly of fines, gravels and small cobbles. Stream cover was extensive (80%) and was comprised of over-stream vegetation, cutbanks, LOD and deep pools.

Plates 1-13: Fisheries Sample Sites in Minto Creek and Tributaries (HKP 1994)

Plate 1: Minto Creek, Reach 1, Site 1 (at Yukon River)

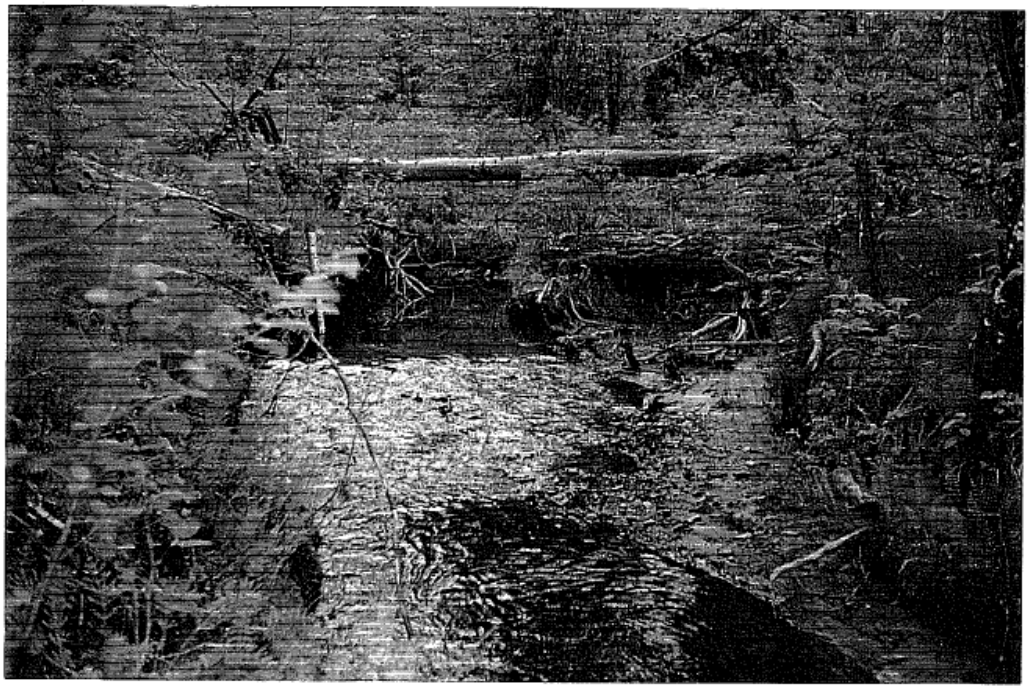

Plate 2: Minto Creek, Reach 1, Site 2.

Plate 3: Minto Creek, Reach 1, Site 3.

Plate 4: Minto Creek, Reach 3, Site 1.

Plate 5: Minto Creek, Reach 5, Site 1.

Plate 6: Minto Creek, Reach 5, Site 2 (at H3/W3).

Plate 7: Creek A, Reach 1, Site 1.

Plate 8: Creek A, Reach 1, Site 2.

Plate 9: Creek B, Reach 1, Site 1.

Plate 10: Creek B, Reach 2, Site 1.

Plate 11: Dark Creek Tributary, Site 1

Plate 12: Dark Creek, Site 1.

Plate 13: Fish Barrier in Minto Creek, Reach 2

APPENDIX C.

Minto Creek Fish Relocation Project

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Letter Report

MINTO CREEK FISH RELOCATION PROJECT
September 29 – October 2, 2009
October 12 – 14, 2009

Background

There was some expectation that, due to increased flows occurring in the lower Minto Creek system (from the emergency discharge program), Chinook salmon young of the year (YOY), as well as other naturally occurring species (Slimy Sculpins), might have been attracted into lower Minto Creek from the Yukon River. The Department of Fisheries and Oceans Canada (DFO) submitted a letter to the Yukon Water Board dated June 23, 2009 in response to an application Minto Explorations Ltd. made requesting permission to discharge water. DFO's letter recommended installation of a temporary fish barrier to prevent fish from entering Minto Creek during elevated discharge periods. In addition a fish relocation program was conducted to prevent fish from being trapped in the system at freeze-up and/or following a substantial reduction in flow.

Accordingly, the Minto Creek Fish Relocation Project was conceived, organized and executed as described below.

Authority

DFO Permit #CL-09-45

Relocation Project

Physical Layout

The Lower Minto Creek System (project area) was arbitrarily divided into two parts for the purpose of this project. The division was set at the culvert crossing of Minto Creek at km 11 of the Minto Mine Road. The area upstream of that point, Minto Creek upstream (upstream aspect), constituted a potential linear Creek distance of approximately 1.5 km. The area downstream from the road crossing (downstream aspect) incorporated a linear Creek distance of approximately 500 m, terminating at its confluence with the Yukon River.

The section of lower Minto Creek where fish have been captured in the past is a small, low gradient stream, averaging approximately 2 m in width. Access to the Creek is substantially compromised due to the very dense bush and abundant deadfall bordering the lower Creek on both sides, for much of its length. There is an existing, minimally maintained walking trail along about 600 m of the eastern upstream aspect of the project

area. No such access existed along the downstream aspect, which is even more heavily inundated with vegetation and deadfall than the upstream aspect.

Approval had been given (Selkirk First Nation Access and Land Use Permit #09-03/Sept. 24, 2009) to construct a basic ATV accessible trail into the downstream portion, in order to accommodate some access to the Creek, and also to allow for the transport of sandbags and related equipment and materials for the purpose of constructing a temporary fish barrier near the Minto Creek confluence with the Yukon River. This barrier was conceived, designed and installed to prevent the migration of additional fish into Minto Creek during the emergency discharge and fish re-location program

Methodology

Minnow trapping with Gee's minnow traps had been determined to be the primary method for fish capture, with the possibility for electrofishing as applicable, although actual access to, and subsequent use within, the Creek with an electrofishing unit was generally considered to entail a substantial safety risk.

All minnow traps were baited with Yukon River origin Chinook salmon roe. All captured fish during Phase I were released into Big Creek, approximately 150 m upstream of the confluence of Big Creek with the Yukon River. Big Creek is a substantial tributary to the Yukon River, located eight road kilometres upstream on the Yukon River from Minto Creek. All captured fish during Phase II were released directly into the Yukon River at a point approximately 1.5 road kilometers upstream from its confluence with Minto Creek.

PHASE I

<u>September 29</u>

The actual hands-on project was initiated on September 29, 2009. The route of the proposed ATV access trail, having been evaluated a substantial time previously, was identified and flagged that morning. Cutting of the trail was intended to have begun at the same time, but circumstances delayed the trail clearing crew until the following day.

Trapping began on the upstream aspect of the project area on September 29. An extensive reconnaissance had already been conducted on this portion of the Creek, and a rough walking trail had been identified and flagged. The Creek was followed on foot to a point approximately 600 m upstream from the culvert crossing at km 11. At this point, due to the enclosing canyon wall on the east, it was necessary to cross the Creek. The Creek was followed for another approximate 400 m until another crossing would have been required due to the impending canyon wall to the west.

In between the first and second Creek crossings, three natural in-stream barriers were encountered. The first two were considered substantial but likely only partial fish barriers; the third was considered to be a complete fish barrier.

Plate 1. Natural existing fish barrier approximately 900 m upstream of km 11.

The barrier was approximately 0.6 m high and spanned the entire width of the Creek.

Three traps were set upstream of the natural barrier, and the installation of an additional 29 traps was undertaken, spaced somewhat evenly (allowing for stream configuration and access) over the entire distance all the way back downstream to the Minto Mine Road.

All traps were flagged in a specific and highly visible manner so that none would be missed during re-setting and/or recovery.

After the setting of the upstream traps was completed, a temporary fish barrier was constructed at the outlet of each of the two culverts (Minto Creek) at the road crossing at km 11. A total of 20 sandbags were used for the two barriers.

Plate 2. Temporary fish barriers placed at the outlets of Road crossing culverts – Km. 11, Minto Mine Road.

A layer of plastic Vexar® screening (1/4 “) was added and extended downstream from the barrier, aiding in the prevention of upstream fish migration. This allowed for isolation of the upstream section of the project area in terms of trapping and monitoring Catch per Unit Effort (CPUE)

September 30

Checking of the upstream traps began at approximately 11:30, starting with the upstream extent of the sets. The results from the first set of upstream traps are presented in Table 1. Traps were not set in the downstream aspect on September 29 as the access trail had not been completed at that time.

TABLE 1: Overnight Minnow Trapping Results – September 30.

Location	Date of Catch	Set Duration	Fish Captured	# Traps	Average Catch per Trap (ch)
Upstream of Culvert	September 30	Overnight	292 Ch; 1 SS	32	9.13
Downstream of Culvert	N/A	N/A	N/A	N/A	N/A

Ch = Chinook salmon fry; SS = Slimy Sculpin

No fish were captured in the traps set upstream of the suspected natural barrier, confirming it as a barrier to fish migration. Each of the 29 remaining traps, with the exception of three, contained at least one salmon fry. One trap contained 80 salmon fry.

One trap contained a single dead salmon fry. That trap was pulled and placed at another location. All traps, with the exception of the three upstream of the complete fish barrier, were re-set. No other mortalities were encountered.

During the afternoon, a fish barrier was constructed in Minto Creek in the downstream aspect of the project, near its confluence with the Yukon River. A total of 29 sandbags were used for this barrier.

Plate 3. Temporary fish barrier placed in Minto Creek near its confluence with the Yukon River.

Plate 4. Different view of the same temporary fish barrier as in Plate 3.

Location of terminal downstream Minto Creek fish barrier: 0392846 6948664

A layer of plastic Vexar® screening extended downstream from the barrier, aiding in the prevention of upstream fish migration.

This downstream barrier measured 251 cm in width and spanned the entirety of Minto Creek while providing a minimum drop of 50 cm from the surface of the water to the bottom of the sandbags.

The site for the barrier was chosen due to its relative closeness to the Yukon River, and a manageable width and depth for the purpose of installing an artificial barrier. From this point downstream to the Yukon River, Minto Creek was extremely heavily inundated with deadfall and large woody debris, to the extent that any reasonable access to and within the Creek was not available.

Immediately after the construction of the downstream barrier, a total of 16 minnow traps were set in the downstream aspect (from km 11 downstream to the barrier) of the project area. The first nine set sites were accessible by walking within the Creek, downstream from the Minto Mine Road. The remaining seven were set upstream from the barrier with the assistance of ATV access on the newly cut trail.

<u>October 1</u>

On the morning of October 1, all minnow traps throughout the entire project area were checked, and most were re-set with fresh bait.

At approximately 6:00 am that morning, the flow into Minto Creek had been reduced by approximately 60%, according to the pre-determined procedure for this project. A significant reduction in flow was not noticeable at this time.

The results of the overnight trapping on October 1 are presented in Table 2.

TABLE 2: Overnight Minnow Trapping Results – October 1.

Location	Date of Catch	Set Duration	Fish Captured	# Traps	Average Catch per Trap (ch)
Upstream of Culvert	October 1	Overnight	69 Ch	25	2.76
Downstream of Culvert			142 Ch	16	8.875

Ch = Chinook salmon fry

All artificial fish barriers were inspected for soundness and function.

All minnow traps were supplied with fresh bait and re-set.

<u>October 2</u>

All minnow traps were checked and then removed from Minto Creek, and the relocation project was suspended, pending additional supplies and personnel.

The results of the overnight trapping on October 2 are presented in Table 3.

TABLE 3: Overnight Minnow Trapping Results – October 2.

Location	Date of Catch	Set Duration	Fish Captured	# Traps	Average Catch per Trap (ch)
Upstream of Culvert	October 2	Overnight	175 Ch; 1 BB	25	7.0
Downstream of Culvert			144 Ch	16	9.0

Ch = Chinook salmon fry; BB = Burbot

A summary of effort and results from Phase I is presented in Table 4.

TABLE 4: Summary of Minnow Trapping Effort and Results – Phase I

Minto Creek Total	Trapping Period	Set Duration	Fish Captured	# Traps Set	Average Catch per Trap (ch)

Upstream @ natural fish barrier ► downstream to artificial fish barrier near Yukon River	Sept. 29 – Oct. 2	Three nights upstream; two nights downstream	822 Ch (1 found dead)	114	7.21

Ch = Chinook salmon fry

During this phase of the relocation project, a total of 822 Chinook salmon fry were captured. Eight hundred and twenty-one (821) Chinook salmon fry were released unharmed into Big Creek, a tributary of the Yukon River in the same general area as Minto Creek. One slimy sculpin and one juvenile burbot were also captured and released unharmed. Two sub-samples of Chinook fry were measured for fork length (mm). The sample sizes were 36 and 25. The respective averages of the two sub-samples (fork length) were 73.1 mm and 70.8 mm.

Nineteen Chinook salmon fry were retained for metals analyses (DFO permit #CL-09-54), but were included in the total count of 822.

Plate 5. Salmon fry about to be sampled for fork length prior to release.

Plate 6. Salmon fry captured in Minto Creek being relocated into Big Creek.

PHASE II

For a variety of reasons, including availability of necessary resources, both personnel and material, the fish relocation project was suspended for one week. Water flow in Minto Creek from the discharge continued during this interval ensuring survival of any remaining fish. The barriers only prevented fish from migrating upstream and did not prevent them from migrating downstream past the barriers and out of Minto Creek.

<u>October 12</u>

Phase II was initiated on the morning of October 12, employing the same basic methodology that was used during Phase I.

A total of 24 minnow traps were set in the area upstream of the culvert at km 11 on the Minto Mine Road.

A total of 17 minnow traps were set in the area downstream of the culvert at km 11. These traps were somewhat evenly distributed from the culvert to the previously installed downstream barrier.

All traps were baited with Yukon River Chinook salmon roe. All captured fish were released unharmed into the Yukon River. During Phase I, fish were released into Big Creek. This was done at the time in order to prevent the possibility of fish moving a short distance downstream from the release site on the Yukon River and being attracted back up into Minto Creek. During Phase II, the downstream barrier on Minto Creek had proven to hold fast, and all indications were that it provided a complete and formidable barrier to upstream migration. The Yukon River release site was a much closer and more conveniently accessible release site than Big Creek.

October 13

The morning of October 13 was clear and cold. The ambient temperature was approximately – 12 °C. Ice had formed overnight along the edges of Minto Creek, and the water level had risen noticeably due to downstream ice blockages. Ice had to be chipped away at almost every minnow trap site in order to retrieve them. As the water was super-chilled (below freezing), a substantial amount of crystallized, or frazzle, ice immediately formed on each minnow trap as it was removed from the water. While this caused no apparent damage to any fish trapped inside, it made the entire process of checking and re-setting traps more difficult and time consuming.

The cold ambient temperature also presented another problem. When the plastic containers used to transport captured fish out to the Mine Road were filled with Creek water, the super-chilled water immediately began to freeze when exposed to the sub-freezing air temperature. Captured fish would not be able to survive for long, as the container water immediately began to form ice crystals as it progressed to a solid block of ice. In order to circumvent this problem, several containers were filled with water taken from the Yukon River, which was still well above 0 °C. Then the containers were driven back to the culvert at km 11, and left in the vehicle with the heater on for approximately 20 minutes. This process warmed the water sufficiently to allow for the walk to the upstream terminus and back to the road without the water forming any substantial amount of ice. Also, as the day progressed, the air temperature began to rise, and eventually the sun broke into the canyon and provided moderate warmth to the opaque fish containers. The project crew made it a point to place the containers in the sun whenever they stopped to check traps. This method proved to be successful and was employed both mornings that the traps were checked (Oct. 13 and 14).

The results of the overnight trapping as collected on October 13 are listed in Table 5.

TABLE 5: Overnight Minnow Trapping Results – October 13.

Location	Date of Catch	Set Duration	Fish Captured	# Traps	Average Catch per Trap (ch)
Upstream of Culvert	October 13	Overnight	102 Ch	24	4.25
Downstream of Culvert			52 Ch	17	3.06

Ch = Chinook salmon fry

All artificial fish barriers were inspected for soundness and function. Minto Creek was just at about the same level as the top of the barrier on the morning of October 13, in the higher flow culvert. As previously mentioned, the Creek had risen overnight due to ice dam blockages downstream. The extreme downstream barrier was evaluated and determined to still be functioning as a complete fish barrier.

All minnow traps were supplied with fresh bait. Due to a very low catch rate in the upstream aspect of the upstream area of the project, eleven traps were removed from that area. The upper 2/3 of the upstream area yielded a very small number of fish, therefore emphasis was placed on the first 200 metres or so upstream of the culvert at km 11. A total of 13 traps were set overnight in the overall upstream aspect.

Due to the substantial rise in the level of Minto Creek, four traps were removed from the downstream aspect of the project area, out of concern for having safe access to them should the Creek continue to rise. As it turned out, this concern was justified. An additional trap was removed from the vicinity of the terminal downstream barrier, as it was damaged while attempting to remove it through the surface ice. A total of 12 traps were set overnight in the downstream aspect.

October 14

All minnow traps were removed from Minto Creek, and due to the significant reduction in the number of fish captured as compared to the previous day, the relocation project was considered successful, and therefore terminated at that point.

The ambient air temperature was -15 °C that morning, and the same precautions regarding water freezing in the fish containers were taken as were the previous morning.

Minto Creek had risen again overnight. The water level in the high flow culvert was measured, and found to be 28 cm above the uppermost aspect of the barrier.

The results of the overnight trapping as collected on October 14 are listed in Table 6.

TABLE 6: Overnight Minnow Trapping Results – October 14.

Location	Date of Catch	Set Duration	Fish Captured	# Traps	Average Catch per Trap (ch)	Catch Compared to previous day
Upstream of Culvert	October 14	Overnight	10 Ch	13	0.77	9.8%
Downstream of Culvert			1 Ch	12	0.08	1.9%

Ch = Chinook salmon fry

A summary of effort and results from Phase II is presented in Table 7.

Table 7: Summary of Minnow Trapping Effort and Results – Phase II

Minto Creek Total	Trapping Period	Set Duration	Fish Captured	# Traps Set	Average Catch per Trap (ch)
Upstream @ natural fish barrier ► downstream to artificial fish barrier near	Oct. 12 – Oct. 14	Two nights upstream; two nights downstream	165 Ch	66	2.5

Yukon River					

Ch = Chinook salmon fry

During this phase of the relocation project, a total of 165 Chinook salmon fry were captured. All captured fish were released unharmed into the Yukon River just upstream of the Minto Creek confluence.

Summary

During both phases of the relocation project, a collective total of 987 Chinook salmon fry were captured from Minto Creek. Accounting for one salmon mortality in the trap, and 19 retained for "metals in tissue" analysis, 967 Chinook salmon fry were removed from Minto Creek and relocated unharmed into either Big Creek or the Yukon River. In addition, one slimy sculpin and one juvenile burbot were captured and released unharmed.

During the entire relocation project, a total of 180 overnight minnow trap sets was accomplished. The last collection day yielded a total of 11 fish constituting about 1% of the number captured overall, providing confidence that well over 90% of the fish occurring in lower Minto Creek, between the natural and man-made barrier, at the time of this project had been captured and re-located

The man-made fish barriers located at the culverts at km 11, installed on September 29, were removed at approximately 2:00 pm on October 14. The barrier near the Yukon River was left in place and was to be removed following cessation of discharge of water from the mine site.

APPENDIX D.

2010 Juvenile Chinook Salmon Mark-Recapture Project

JUVENILE CHINOOK SALMON MARK/RECAPTURE STUDY

MINTO CREEK 2010

Prepared for:

MINTO EXPLORATIONS LTD.

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1 INTRODUCTION

Minto Explorations Ltd. (Minto), a wholly owned subsidiary of Capstone Mining Corp. (Capstone), owns and operates a high-grade copper mine (the Minto Mine), located approximately 240 km northwest of Whitehorse, Yukon(Figure 1). The project is located within Selkirk First Nation (Selkirk) Category A Settlement Land Parcel R-6A, and is centered at approximately 62°37'N latitude and 137°15'W longitude. The Minto Mine commenced commercial operation in October 2007 and is permitted to conduct mining and milling operations at a rate of 3,600 tonnes of ore per day (tpd). Minto is currently mining the Minto "Main" deposit as an open pit, which is expected to produce a total of 6.1 million tonnes (Mt) of ore and 30.5 Mt of waste during its operating life to 2011. The operating life of the mine will total 3.5 years of operation and another seven months of processing low grade ore stockpiles. The Minto orebody (copper/gold/silver) currently being mined is located in the upper reaches of the Minto Creek watershed approximately 12 km to the west of the Minto Creek confluence with the Yukon River (Figure 2).

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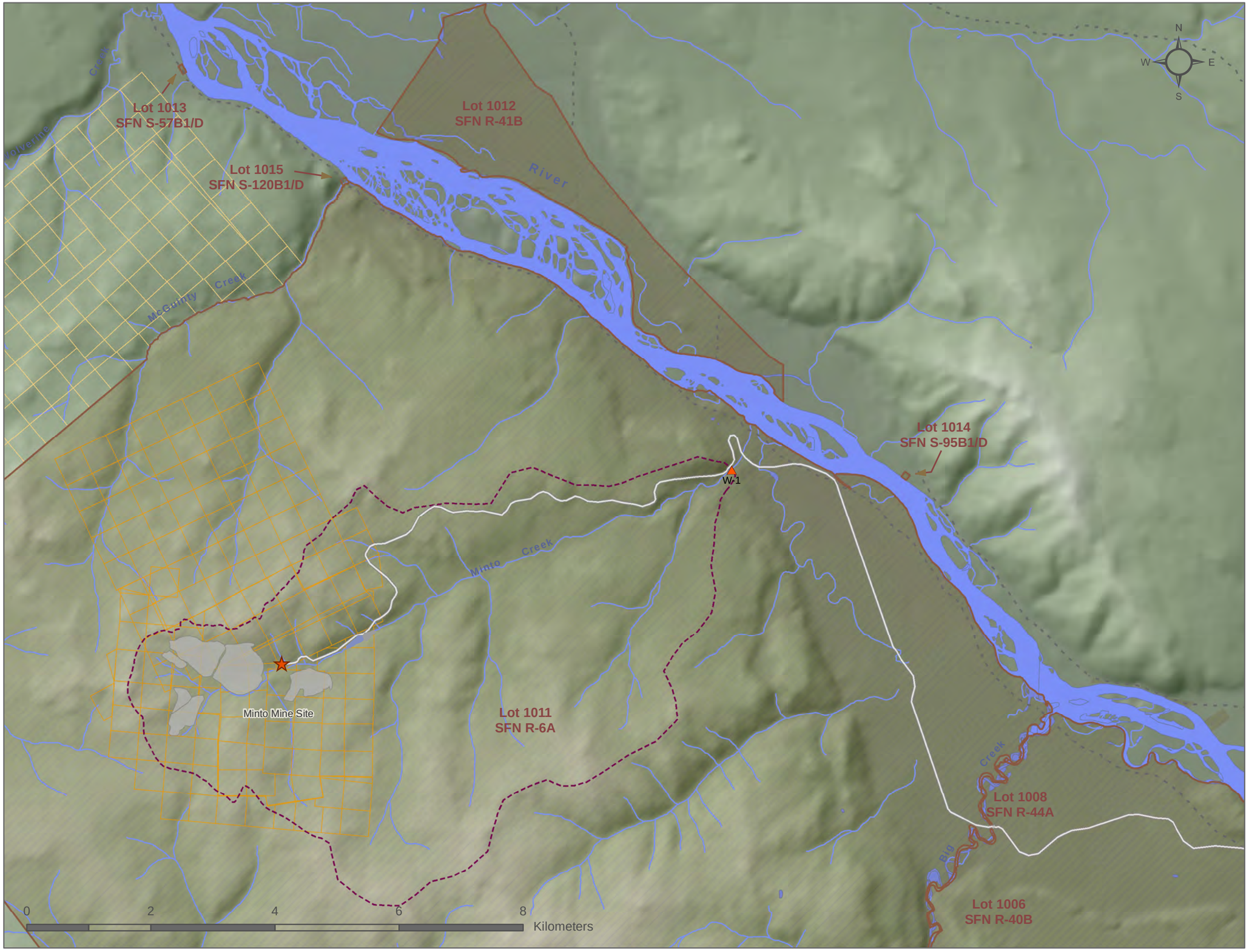
JUVENILE CHINOOK SALMON MARK/RECAPTURE PROGRAM MINTO CREEK 2010

FIGURE 1

PROPERTY LOCATION



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JUVENILE CHINOOK SALMON MARK/RECAPTURE PROGRAM MINTO CREEK 2010

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- Minto Mine Site
- Water Quality Station
- Mine Access Road
- Road
- Trail
- Watercourse
- Contour
- Minto Creek Catchment
- First Nation Settlement Land
- Minto Explorations Ltd. Claims
- Other Claims
- Waterbody

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Data currrent as of December 4th 2009.
First Nation Settlement Land obtained from Geomatics Yukon, December 2010.

NAD 83 UTM Zone 8N

FIGURE 2
PROPERTY OVERVIEW

ACCESS Consulting Group

DRAWN BY MD	NOV 2010	VERIFIED BY DP

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2 BACKGROUND

Based on fish studies conducted in Minto Creek over previous years it was determined that the system is used by several species of fish during the open-water season including juvenile chinook salmon (JCS). These studies have been intermittent throughout the open water season over several years and although they give a good indication of fish usage and presence in the system they do not indicate how that usage varies throughout the season and how dynamic the JCS population, the most prominent group, is in terms of its migratory pattern in and out of the creek.

In order to better understand the dynamics of the JCS population using Minto Creek, a mark/recapture study was undertaken in the summer/fall of 2010. The study was developed to determine how use of the system by JCS changes throughout the open-water season and to determine how long individual fish may stay in the creek system (i.e. residency time).

2.1 FISH COMMUNITY

Attempts to collect fish in lower Minto Creek while conducting the Phase 1 Metal Mining Effluent Regulation, Environmental Effects Monitoring (EEM) study in 2008 resulted in the capture of no fish during the month of June and very few fish during the month of September. This is consistent with the findings of previous fish investigations conducted in the creek (HKP 1994; R&D 2006, 2007). Fish use of Minto Creek is transient and likely short-lived as has been found in other non-natal Chinook rearing creeks (Walker 1976; Scrivener et al. 1994). Minto Creek does not provide preferred spawning habitat for fish and the fact that it completely freezes during winter months, with no winter flow in lower Minto Creek, negates its suitability for spawning by Chinook salmon. Accordingly, there is no evidence of spawning in Minto Creek (HKP 1994; R&D 2006, 2007), nor is there traditional knowledge indicating spawning occurring in the system (HKP 1994).

Although water flows are adequate to support fish during the spring it appears that fish do not enter Minto Creek until early summer (late June/early July), once water temperatures in the creek rise and equilibrate with that of the Yukon River. Lower Minto Creek is also subject to low or zero flow conditions during periods in the summer when a portion (or all) of the flow sometimes infiltrates the ground following passage through a canyon located approximately 2.0 km upstream of the Yukon River.

When fish have been captured in the creek, the majority of them tend to be juvenile chinook salmon (Onchoryhnchus tshawytscha). Other species that have been found in the creek in low numbers include round whitefish (Prosopium cylindraceum), arctic grayling (Thymallus arcticus), slimy sculpin (Cottus cognatus) and burbot (Lota lota). Fish sampling events conducted in 1994, 2006, 2007 (summarized in the Phase 1 EEM study design; Minnow/Access 2007) and as part of the Phase I EEM study in 2008 (Minnow/Access 2009; Table 2.6) yielded both low numbers of fish and catch-per-unit-effort (CPUE).

During the summer of 2009, the Minto Mine was given authorization to discharge effluent from the site under an amendment to its Water Use License. This resulted in a substantial increase in water flow-rate in Minto Creek for a sustained period from June 26th through October 30th. Fish sampling conducted during this discharge period indicated that fish (juvenile Chinook salmon in particular), were possibly being attracted by the higher flow in Minto Creek and/or the temperature differential between Minto Creek and the Yukon River resulting from the discharge. This was apparent in a marked increase in CPUE using minnow traps. The

numbers of fish entering Minto Creek as a result of the discharge were substantial enough for Fisheries and Oceans Canada (DFO), Whitehorse Office, to direct the company to undertake a fish re-location program on lower Minto Creek and establish a fish barrier near the Yukon River confluence in order to prevent additional fish from moving into Minto Creek. DFO was concerned that the fish could become stranded in Minto Creek following cessation of the discharge. The fish re-location project was undertaken from late September through early October and resulted in the capture of 987 juvenile Chinook salmon. At the beginning of the re-location, some minnow traps were yielding catches as high as 80 individuals per minnow trap in an overnight set. Prior to this, the most salmon captured in a sampling event (excluding those captured at the Yukon River confluence), including the application of both electrofishing and multiple minnow trapping effort was 17 (Minnow/Access 2009).

2.2 RECEIVING ENVIRONMENT (LOWER MINTO CREEK)

Minto Creek is an ephemeral watercourse with a mainstem length of approximately 17 km, flowing northeast to its confluence with the Yukon River (Figure 2). Flows in Minto Creek are generally characterized by peaks in the spring during freshet and lows in the summer. Minto Creek freezes and glaciates in the winter and has been observed to be entirely dry in the lower reaches in the mid-late summer. Sizeable floods may also occur in the summer as a result of significant precipitation events. Minto Creek has five main tributaries, four of which join the Minto Creek mainstem upstream of the canyon (Figure 2).

Using the Cowardin et al. (1979) classification system, Minto Creek is an upper perennial riverine system with a sand-gravel-cobble substrate. The topography of the area is dominated by rounded hills, with discontinuous permafrost areas on most of the north-facing slopes in the upper watershed. In-stream aquatic vegetation is sparse, likely due to seasonal scouring and glaciation.

The creek ranges from 2-3 m in wetted width and 0.5-1.5 m in depth. Minto Creek has two distinct reaches – upper and lower – which are divided by a steep canyon of gradient 21%. The upper reach ranges in gradient from 6% at the headwaters to 1.5% just above the canyon. The history of forest fires in the vicinity has contributed significant large organic debris (LOD) loading to this reach, and vegetative cover is still recovering from the last burn in 1995. The substrate is primarily fine (silt/sand) with some cobble/gravel sections in this area of primarily riffle/run morphology with few pools. Recent investigations have also documented areas where creek flows in whole or in part migrate below the surface (hyporheic flow) and re-emerge downstream. This has been observed at low-flow conditions. The lower reach is approximately 2 km long, with substantial large organic debris (LOD) and vegetative cover, with mostly silt/sand substrate, with few cobbles and gravels. The lower section of this reach contains backwater from the Yukon River, and the access road to the Mine site crosses the creek which flows through a double culvert. Cut-banks and riffle/run morphology, with some pools, dominate the habitat of this reach. Gradient in this section ranges from 1.5% to 6% at the base of the canyon, where the substrate changes to mostly cobbles and boulders and the habitat is erosional. Elevations of the lower reach drop from 493 m at the base of the canyon to 448 m at the mouth of the creek at the Yukon River confluence.

During fish studies conducted in 2009 a natural barrier to fish passage was located approximately 1.2 km up from the Yukon River confluence. This barrier consists of a buildup of organic debris resulting in a small waterfall > 40 cm in height. This barrier may not be permanent and subject to change in future years due to erosion and/or high water events.

3 2010 FISH MARK-RECAPTURE PROJECT – MINTO CREEK

The mark-recapture study was conducted during the summer/fall of 2010 between June 28 to November 3, 2010. During this time frame the study involved 9 site visits and trapping events. Of these the first six events, up until September 9 involved marking of fish at approximately two week intervals. No further marking was done after the September 9 marking, however three further trapping events were conducted in order to re-capture marked fish. Procedures used for the mark/recapture program are presented below.

3.1 MARK-RECAPTURE PROCEDURE

During each trapping event, minnow traps baited with Yukon River salmon roe were placed in 16 suitable trapping locations in lower Minto Creek, from immediately upstream of the natural fish barrier (site 024), to about 400m downstream of the culvert at km 11 of the Minto Mine Road (site 013), and left overnight (soak time ranging from 18 to 26 hours). The same sites (Figure 3) were used throughout the duration of the project.

The general procedure for checking the traps and subsequent fish marking is outlined below:

- Due to the time and effort required to set up a "marking" site, and the actual fish marking procedure, all fish were transported to one of the two designated fish marking sites at a) the culvert at km 11 and b) site 019, as indicated above.

- Fish captured in the downstream portion below the culvert (4 traps), and two traps immediately upstream of and in the vicinity of the culvert (2 traps), were collected and transported by bucket to the culvert at km 11, where they were distributed into two – three minnow traps and placed back into the Creek in a calm, shady backwater area. They were held in this location until the marking procedure was initiated, which occurred later in the day.

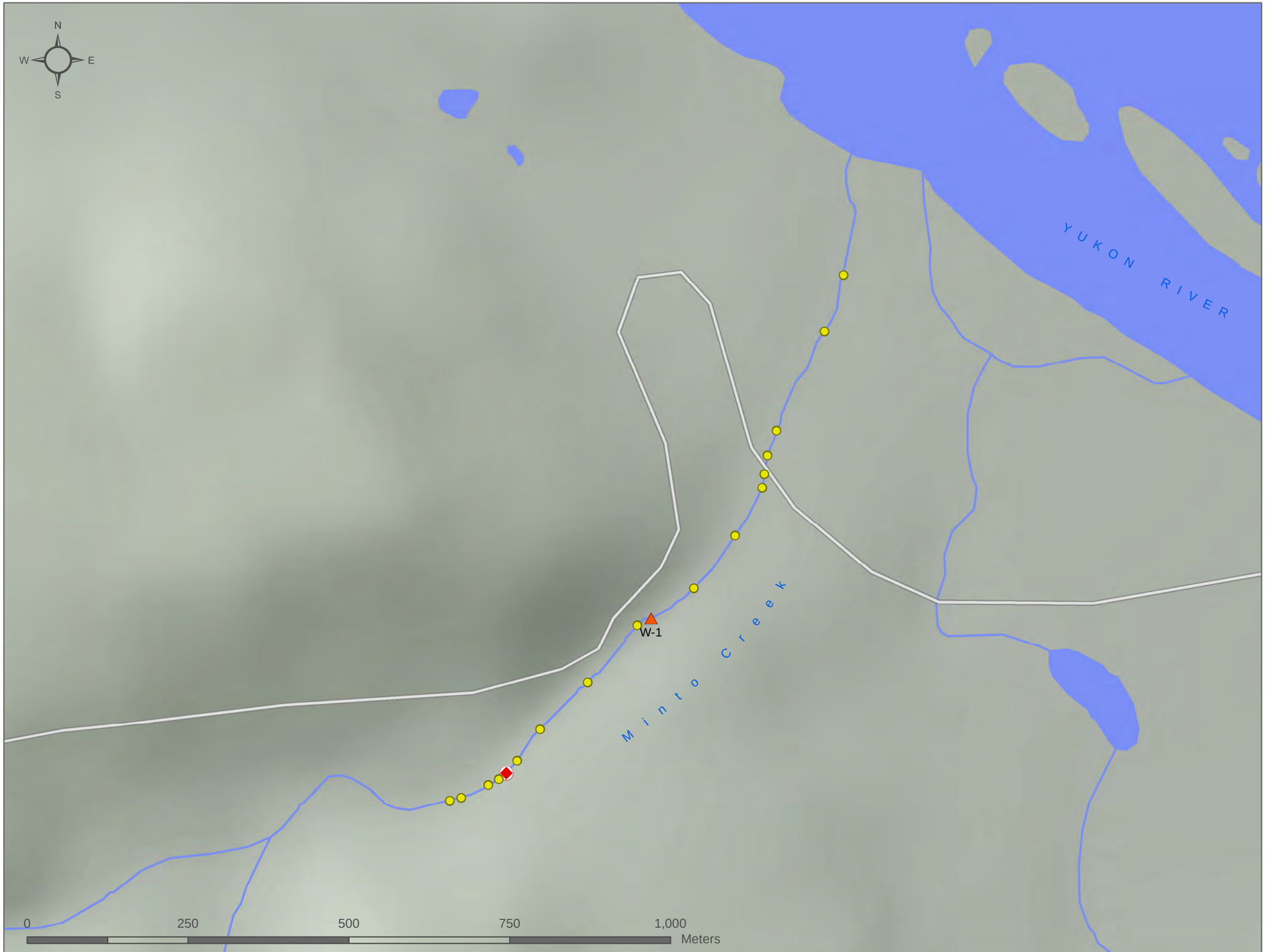
- Fish captured at sites 017, MIN-W1, and 018 were transported via bucket upstream to 019 where they were distributed among minnow traps and left in a large pool, along with the fish already captured at 019.

- Fish captured from the upstream extent of the sampling area (sites 020 – 024 and MCb1) and transported back downstream to site 019.

- The marker dye used was the commercially available fluorescent Visible Implant Elastomer (VIE – Northwest Marine Technologies®), and had been previously used and approved by DFO Canada. The marker was prepared by mixing two components together. This was done immediately prior to marking in order to obtain the maximum amount of use before the polymer began to harden. Throughout the course of the marking events, it was determined that the useful life of the polymer was approximately 1.5 hours, depending on ambient temperatures. Higher temperatures caused the polymer to harden more quickly, and rendered unsuitable for injection.

- The fish that had been left in the traps in the Creek for holding were moved to a holding bucket in appropriate numbers.

- Approximately 10 - 15 fish were moved to a pre-anesthetic bucket containing a measured amount of an approved fish anesthetic, MS-222 (Tricaine Methanesulfonate).
- A small number of fish were moved from the pre-anesthetic bucket to the anesthetic bucket, which contained a higher concentration of MS-222.
- As the fish began to experience advanced Stage II level of anesthesia, they were removed from the anesthesia bucket individually and the marker was injected just under the outer epidermal layer. The marking procedure involved injecting a miniscule amount of a fluorescent marker dye just under the skin.
- Each marked fish was then passed to a second operator and measured for fork length.
- The fish were then placed into the recovery bucket.
- The recovery bucket, as well as the anesthetic and holding buckets, were monitored constantly by a third operator. Once the fish had recovered adequately, they were released back into the Creek.
- Care was taken at all times to ensure that the level of anesthesia, the progression of recovery, the temperature, and oxygen levels of the water in all holding containers were optimum.



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JUVENILE CHINOOK SALMON MARK/RECAPTURE PROGRAM MINTO CREEK 2010

Minto Explorations Ltd.
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- Capture Location
- Fish Barrier
- Water Quality Station
- Mine Access Road
- Watercourse
- Waterbody

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NAD 83 UTM Zone 8N

FIGURE 3
CAPTURE LOCATIONS

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4 RESULTS AND DISCUSSION

The colors used for marking (fluorescent pink and fluorescent orange) and locations of the marker varied at each event, allowing for the identification of the marking date in the event that fish were recaptured. Only one combination of marker color and location was used on two different marking events, i.e. pink marker behind the left eye. Table 1 below summarizes the number of fish caught and marked and the specific marking designation during each event.

Table 1 Fish Marking Summary

Date	Marker Color	Mark Location	# chinook caught	# caught cumulative	# marked	% marked	# marked cumulative
29-Jun	n/a	n/a	0	0	0	0.0	0
14-Jul	Orange	Right Eye	65	65	61	93.8	61
28-Jul	Pink	Left Eye	428	493	254	59.3	315
11-Aug	Pink	Right Eye	498	991	284	57.0	599
24-Aug	Pink	Left Eye	403	1394	270	67.0	869
9-Sep	Pink or Orange	Dorsal fin - right side	241	1635	199	82.6	1068
21-Sep	n/a	n/a	192	1827	0	0.0	1068

Right eye = immediately posterior to the eye on the right side
Left eye = immediately posterior to the eye on the left side
Dorsal fin = adjacent to the base of the dorsal fin on the indicated side

All 16 trapping sites, with their general characteristics, are listed in Table 2. Note that the water depth indicated was measured on September 30, and that it varied somewhat throughout the duration of the project, primarily due to precipitation events.

Table 2 - Trapping Site Locations and General Characteristics

Site	Latitude	Longitude	Depth (cm)	Substrate	Cover	Flow
013	62.65420477	-137.09300992	41	sand (75%), silt (25%)	sparse/open	pool
014	62.65340874	-137.09371467	63	gravel (10%), sand (75%), silt (15%)	sparse/open	pool
015	62.65201760	-137.09498713	59	gravel (50%), sand (50%)	sparse/open	pool
016	62.65168064	-137.09540446	29	gravel, sand	open	pool
025	62.65154402	-137.09554612	33	cobble, gravel	open	pool
026	62.65139088	-137.09560764	33	cobble, gravel, sand	sparse/open	pool/slight flow
017	62.65049737	-137.09603688	30	boulder, cobble, gravel, sand	moderate	pool
018	62.64954946	-137.09681036	25	fine gravel, sand	open	pool
Minto W1	62.64909759	-137.09856184	30	sand, silt	open	pool
019	62.64834833	-137.10028114	44	sand, silt	open	slight
020	62.64768155	-137.10165116	28	fine gravel, sand	moderate/sparse	pool
021	62.64720546	-137.10215835	52	gravel, sand	sparse	pool/slight flow
022	62.64693883	-137.10293116	28	cobble, gravel, sand	sparse/open	slight/ moderate flow

Site	Latitude	Longitude	Depth (cm)	Substrate	Cover	Flow
023	62.64707990	-137.10340457	43	sand	moderate	pool
MCb1	62.64699390	-137.10436120	39	gravel, sand	moderate	slight
024	62.64722717	-137.10454049	n/a	n/a	moderate	pool

4.1 FISH CAPTURE

In 2010, Minto Mine conducted a controlled discharge of treated water into Minto Creek from July 15 until November 2. This resulted in a more consistent flow regime throughout this period with a mean daily average discharge of 0.114 m3/s in lower Minto Creek (W1). Minimum daily average discharge during this period was 0.052 m3/s. It appears – as during a controlled discharge in 2009 – that more fish (JCS in particular) may have been attracted into the system than under a normal natural flow regime. Thus the numbers of fish captured over the course of the study were much higher than in previous years (except for 2009).

A total of 1,635 chinook salmon were captured throughout the mark/recapture study over 7 trapping events from June 29 to September 9. Of these, 1,068 received a mark representing approximately 65.3% of the number of fish captured during the marking portion of the study. An additional 671 fish were captured during three subsequent trapping sessions (September 21, October 1 and November 3.) Fish captured during these sessions were observed for marks.

No fish were captured during the first sampling event on June 29. The maximum number captured was 498 on August 11. Numbers captured after this date dropped up until the October 1 sampling event (Figure 1). The last sampling event (November 1 to 3) was conducted in order to re-locate fish from Minto Creek to the Yukon River and thus more traps were set, and left soaking over a longer period, than during the mark/recapture program. Expectedly, this returned a higher catch (371 JCS) relative to the previous trapping events throughout the season.

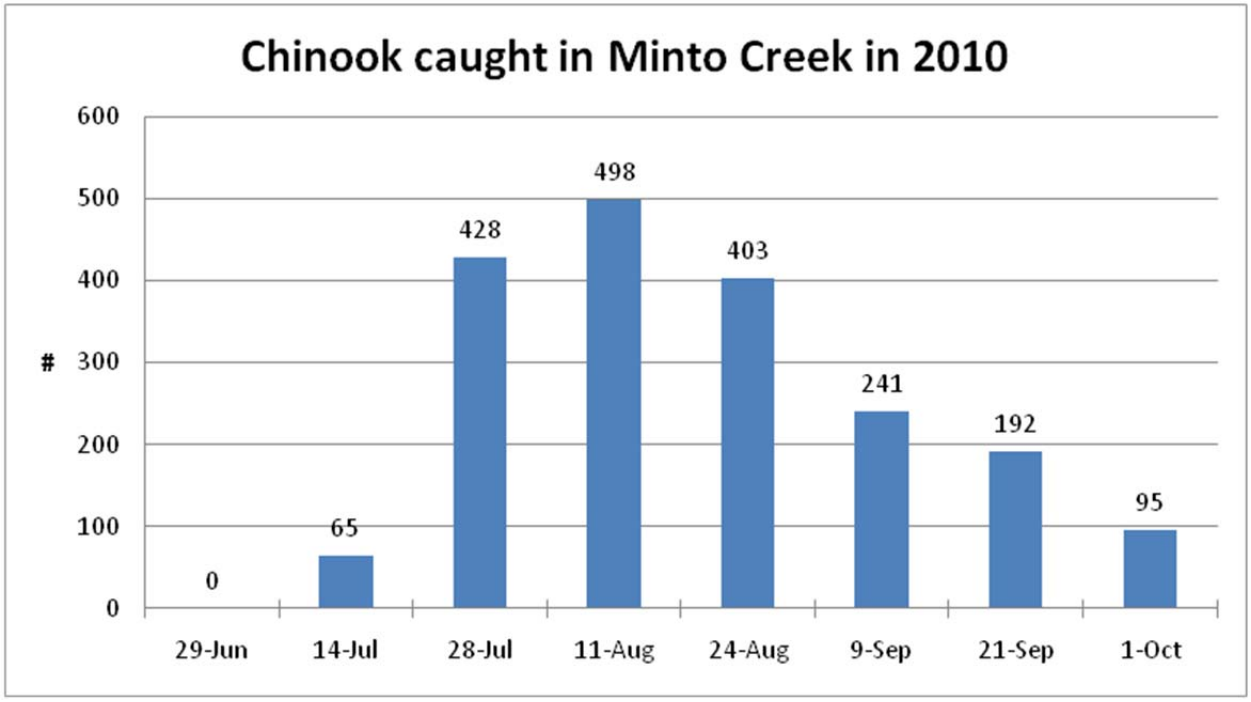

Figure 4 Actual number of juvenile chinook salmon captured during the 2010 mark/recapture study. Catch based on consistent catch per unit effort

During a fish re-location program conducted in 2009 a fish barrier was identified on Minto Creek approximately 1.2 km up from the haul road (see Figure 2) . Traps were set above this barrier during each of the trapping sessions in 2010, and as in 2009 no fish were captured upstream of this barrier.

In 2009 a fish re-location program was undertaken in order to avoid potential stranding of fish in Minto Creek subsequent to cessation of flow from a controlled discharge from the mine site. This re-location program involved constructing a barrier on Minto Creek near the Yukon River which prevented fish from migrating upstream. Following establishment of the barrier, most fish (estimated > 95%) were captured and released in a new location. The capture data from the first 24 hours of this program was used to develop a 24 hour Catch per Unit Effort Index for estimating total population of JCS in Minto Creek during the 2010 program as the total population (within 5%) was determined in 2009.

Fish re-location program 2009:

Total Overnight Capture (First Set):	434
Total Number Captured:	987
CPUE Ratio:	2.3

For the purpose of this population estimate the ratio has been adjusted to 3:1 (est. population: # captured in first overnight set) to account for the fact that more traps were set during 2009 fish re-location program first overnight set. Trap sites selected during the 2010 mark/recapture program however were biased towards

the best capture locations and therefore the adjusted ratio is not a direct multiple of the number of traps used between years.

Using the population estimate ratio the maximum population estimated for Minto Creek during 2010 is approximately 1500 JCS on August 11 (Figure 5).

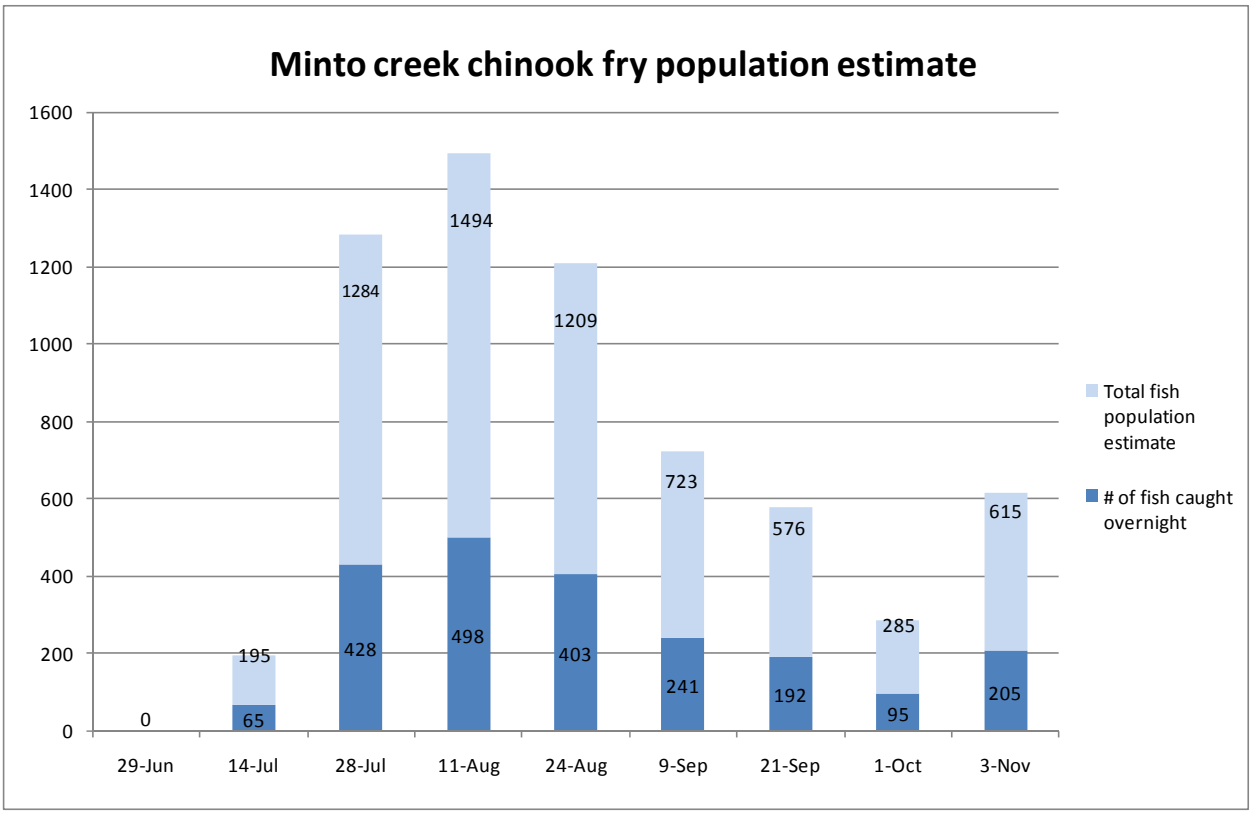

Figure 5 Juvenile Chinook salmon fry population estimate in Minto Creek 2010

After the first event when fish were marked (July 14) each fish captured was observed for presence of mark on all subsequent capture events. A total of 109 previously marked fish over seven sampling events (after July 14) were captured (Table 1). Of these nine fish had been marked twice (i.e. recaptured on two events subsequent to being marked).

The 100 unique individuals that were recaptured were considered in terms of the length of time, at a minimum, they were resident in Minto Creek. Taking into account that a duplicate tag (colour and mark location) were used on 28th of July and 24th of August a range of residency as a percentage of total estimated population is presented in Figure 6. This data indicates that most individuals do not spend an extended amount of time in Minto creek. Less than 10% of the population remained in Minto Creek for more than two weeks after being marked. Less than 1% remained for 10 weeks or more. Conversely this suggests that 90% of the population left the creek after two weeks and 99% were gone after 10 weeks. A few of the marked

individuals (3) were still present in the creek after 12 weeks. It is important to note a number of assumptions that have been made when reviewing the data. These assumptions include:

- No lost marks
- All re-captured marked fish were noted
- No increase in mortality associated with marking the fish
- The population estimate is reasonably accurate

It is also important to note that the residence time is based on the length of time between when the fish was marked and recaptured. The amount of time the fish had been in the creek prior to being marked is unknown. However it is known that any fish marked were not likely in the creek prior to June 30 as no fish were captured during the June 29th sampling event.

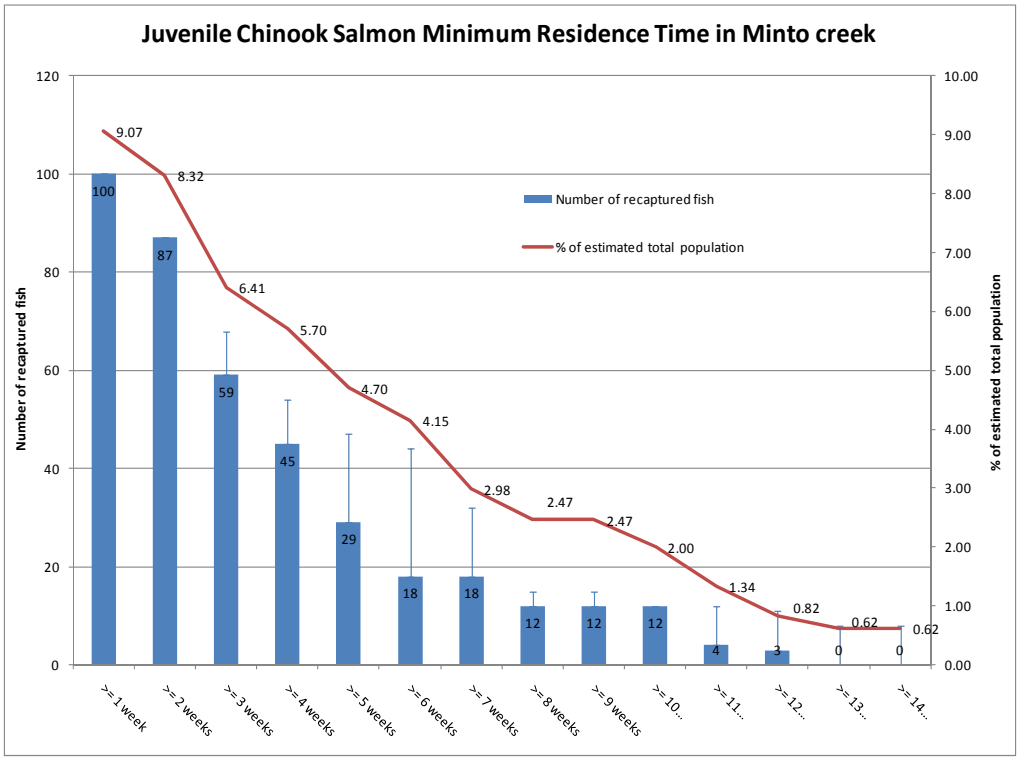

Figure 6 Minimum residence time of recaptured juvenile Chinook salmon in Minto Creek, 2010

This is consistent with research done on other groups of JCS using non-natal streams for rearing. Scrivener et al. determined the average residency time for JCS rearing in a non-natal stream in the upper Fraser River watershed to be 9 days.

4.2 FISH GROWTH

During the mark/recapture study a subsample of fish captured were measured for fork-length (FL) in order to monitor their growth over the course of the study. Average FL at the beginning of the study (July 14) when JCS were first captured was 64.2 mm (Figure 7). Growth rate leveled off towards the end of August, (likely a reflection of cooling water temperature) with a maximum FL noted on September 21 of 74.6 mm. Average FL was slightly lower in the sample measured on October 1 which may reflect the transient nature of the population. A study conducted in Croucher Creek Yukon in 1993 (Moodie et. Al.) determined a mean FL of 71 mm for JSC in that system at the end of October.

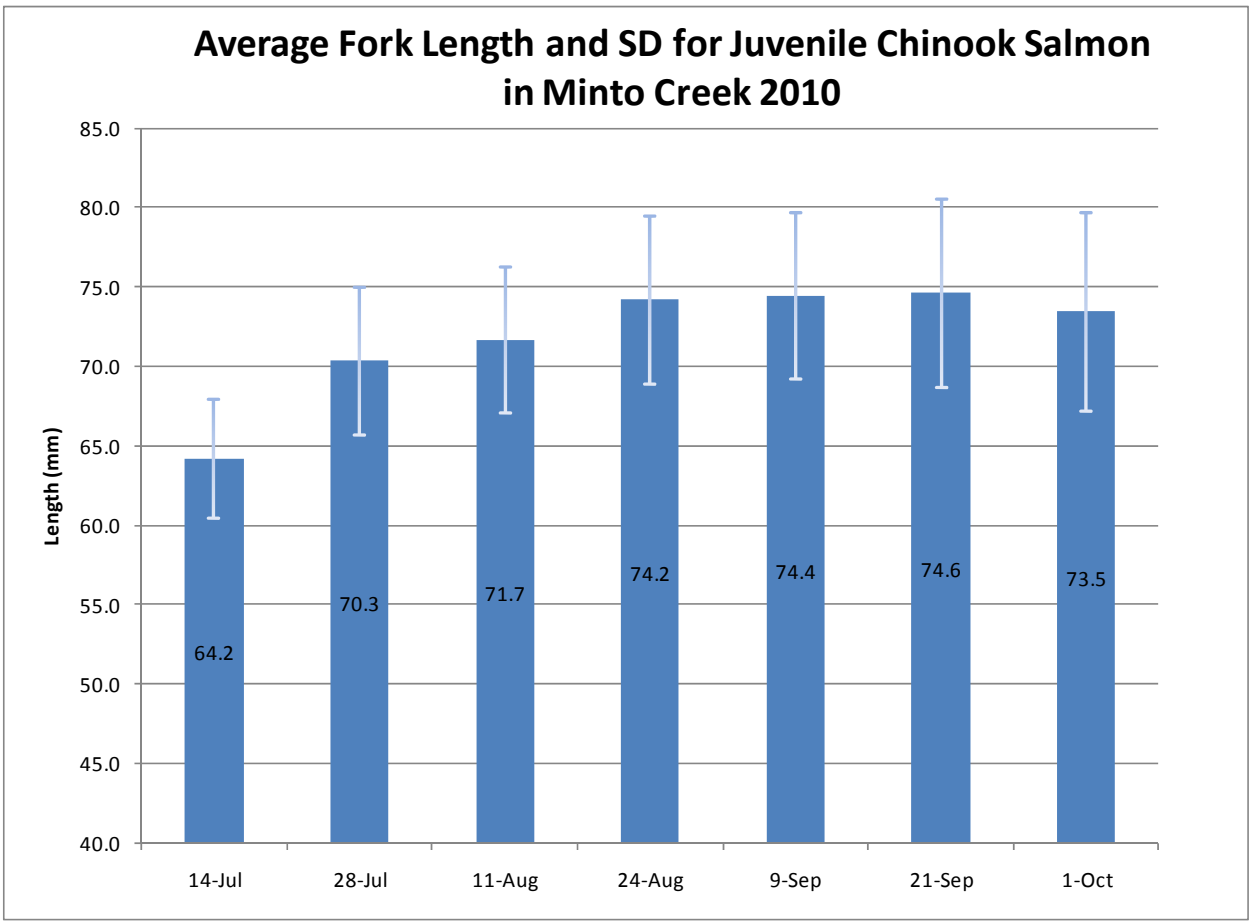

Figure 7 Average fork length (mm) and standard deviation for juvenile Chinook salmon captured in Minto Creek, 2010.

5 SUMMARY

No juvenile chinook salmon or other species were encountered in Minto Creek during a late June sampling event. This is consistent with previous studies in that few fish if any have been encountered in the creek prior to July. During this study fish were still present in the system in early November.

Numbers of chinook salmon increased on subsequent events from July 14 until August 11 when the peak number were captured. The estimated population of JCS in the creek at this time was about 1,500 after which the numbers declined. The number of fish captured in 2009 and 2010 were much higher on a "catch per unit effort" basis than in years previous to 2009. As in 2009 Minto Mine was influencing the flow regime in Minto Creek through a controlled water discharge from the mine site throughout much of the summer until early November 2010. This likely influenced an increased use of the system by juvenile chinook salmon.

Analysis of marked fish recaptured indicates that much of the population does not remain in the creek for an extended period of time and that there is a high degree of immigration and emigration of the population in the creek. The data suggests that 90% of the population may only spend up to approximately two weeks in the system. Only a few individuals (1%) spent an extended period of time (> 12 weeks) in the system.

JCS growth leveled off towards the end of August, likely a reflection of cooling water temperatures. Overall however, the growth of individuals in the system is consistent with JCS populations in other tributaries of the Yukon River.

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APPENDIX E.

Minnow Letter on Selenium in Minto Creek

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January 29, 2013

Ms. Jennie Gjertsen
Environmental Manager
Minto Mine
Minto Explorations Ltd.
Suite 900 - 999 West Hastings Street
Vancouver, BC
V6C 2W2

Dear Ms. Gjertsen,

Re: Results of Selenium Monitoring in Minto Creek - 2012

Selenium was identified in the Yukon Government's intervention to the Minto Mine's Amendment 7 Water Use Licence (WUL) Application QZ09-094 as a parameter of concern and was subsequently included in the WUL (QZ96-006 Amendment 7, April 2011) with a water quality standard of 0.001 mg/L at Station W2 (in lower Minto Creek). This represents the adoption of the Canadian Water Quality Guideline (CWQG; CCME 1999) as a water quality standard for lower Minto Creek. The selenium standard for Station W2 was also used to back-calculate an effluent quality standard for the Minto Mine (0.003 mg/L) based on effluent dilution within Minto Creek. Critical differences in the development and application of standards versus guidelines aside, there is substantial recent evidence to indicate that water-based guidelines for selenium are poor predictors of potential adverse effects to aquatic life (e.g., Stewart et al. 2010; Hodson et al. 2010; Ohlendorf et al. 2011; DeForest et al. 2012) and that better tools for the assessment of effects to sensitive organisms are available, the best of which are effect thresholds for ripe egg and/or ovary tissue in fish (e.g., Janz et al. 2010; DeForest et al. 2012).

In response to the uncertainty over application of a water-based guideline or standard, the Minto Mine requested an integrated assessment of selenium in Minto Creek. Accordingly, Access Consulting Group (ACG) and Minnow Environmental Inc. (Minnow) undertook monitoring of selenium in additional aquatic environmental compartments in 2012, including water, sediment, periphyton, benthic invertebrates and fish tissue. ACG monitored selenium in fish tissue in the spring and summer of 2012, and Minnow monitored selenium in water, sediment, periphyton and benthic invertebrates in September, 2012 (Figure 1). This brief letter report provides the results of the monitoring, a brief interpretation of results and recommendations for selenium monitoring and assessment in 2013.

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Water Quality

Water quality data collected routinely by the Minto Mine in 2012 indicate that the Minto WUL receiving water standard (CWQG; 0.001 mg/L) was not exceeded despite the discharge of 175,000 m^3 of water from the Water Storage Pond in 2012 (Figure 2; Appendix Table 1). Concentrations of dissolved selenium were consistently below 0.0002 mg/L (2012 mean and standard deviation of 0.00014 ± 0.00005 mg/L); whereas concentrations of total selenium were more variable, with a maximum of 0.00094 observed on June 13th (in association with high total suspended solids) and a 2012 mean and standard deviation of 0.00027 ± 0.00019 mg/L. Water quality data collected during the sediment, periphyton and benthic invertebrate sample collections in September 2012 documented highest concentration of total selenium (0.00044 mg/L) in Upper Minto Creek (Figure 3; Appendix Table 2). Although there is compelling evidence to indicate that ripe egg/ovary tissue represents the best means of evaluating potential for effects, it is nonetheless notable that selenium concentrations were below the CWQG at all stations from which water samples were collected in September 2012.

Sediment Quality

Sediment quality data collected in September 2012 indicated that concentrations of selenium in the sediments of Minto Creek were lower than in the sediments of both reference creeks (Wolverine Creek and Big Creek; Figure 4; Appendix Table 2). Furthermore, all sediment selenium concentrations were well below the British Columbia guideline for aquatic sediment (BCSQG; 2.0 mg/kg dw [dry weight]; BCMOE 2012a,b).

Tissue Quality

Periphyton Tissue

Periphyton has been identified as having an important role in the incorporation of selenium into the aquatic food chain (e.g., Stewart et al. 2010; Presser and Luoma 2010; Ohlendorf et al. 2011). In both Minto and Big creeks, periphyton was very sparsely distributed and therefore only one sample was obtained from each of these two areas. Periphyton coverage was substantially greater in Wolverine Creek and five samples were obtained. Selenium concentration in periphyton collected from lower Minto Creek was similar to that of Big Creek and lower than that of lower Wolverine Creek indicating no apparent mine-related influence (Figure 5; Appendix Table 2).

Benthic Macroinvertebrate Tissue

Benthic invertebrates are important diet items for selenium-sensitive fish (Janz et al. 2010). Low benthic macroinvertebrate biomass in local creeks made it impossible to

collect replicate samples within an economically reasonable time frame, so only one composite sample was obtained per area. Selenium concentration in benthic macroinvertebrates collected from lower Minto Creek were similar to those collected in the reference areas (lower Wolverine Creek and lower Big Creek; Figure 6; Appendix Table 2). Furthermore, all benthic macroinvertebrate (fish diet) selenium concentrations were well below the new draft British Columbia guideline for invertebrate tissue (4.0 mg/kg dw; BCMOE 2012b).

Fish Tissue

As previously indicated, there is reasonable scientific consensus that ripe fish egg and/or ovary tissue in fish provide the best (most certain) means of evaluating potential adverse effects associated with selenium (Stewart et al. 2010; Hodson et al. 2010; Ohlendorf et al. 2011; DeForest et al. 2012). Recent findings of effect thresholds (i.e., concentrations above which effects may start to occur in sensitive species) support a lowest effect threshold of approximately 20 mg/kg dw in these tissues (e.g., Janz et al. 2010; DeForest et al. 2012). Unfortunately, fishing was initiated too late in the spring of 2012 to obtain these critical tissues. Nonetheless, slimy sculpin were captured in lower Minto Creek and in lower Big Creek in 2012. Slimy sculpin of lower Minto Creek had moderately, but significantly, higher selenium concentrations (headless body) than those of lower Big Creek (Figure 7; Appendix Table 2). Furthermore, the mean concentration of selenium in sculpin collected in lower Minto Creek (5.3 ± 1.1 mg/kg dw) was slightly greater than the British Columbia guideline for fish tissue (4.0 mg/kg dw; BCMOE 2012a,b; subject to the same cautions as above), whereas the mean concentration of selenium in those collected in lower Big Creek (3.4 ± 0.7 mg/kg dw) was slightly lower than the British Columbia guideline for fish tissue. These results indicate that selenium concentrations in Minto Creek slimy sculpin are within a grey area where it cannot be definitively stated that there has been no mine-related influence nor can it be definitively stated that there is no potential for adverse effect. However, both of these issues can be relatively easily addressed by improvement of the study design in 2013 and by obtaining the critical ovary tissue.

<u>Recommendations</u>

It is recommended that selenium monitoring in water, sediment, periphyton, benthic macroinvertebrates and fish is repeated in 2013. The importance of fish ovary tissue (slimy sculpin ovary tissue) to the utility of this monitoring cannot be over-stated. Fish eggs/ovaries are the most useful monitor to determine the potential for adverse effects (or to put such concerns to rest). Conversely, guidelines for other aquatic monitors (water, sediment, fish food and fish muscle/whole body), although they exist (CCME 1999; BCMOE 2012a,b) and are therefore tempting to apply, are of lesser utility in

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evaluating the potential for effects. It is therefore recommended that slimy sculpin are collected as soon as possible after water begins flowing in lower Minto Creek in the spring of 2013. It is also recommended that a second reference area for slimy sculpin collection is added in 2013, perhaps even in the Yukon River itself.

I trust that this brief letter effectively communicates the results of the 2012 selenium monitoring program and the recommendations for selenium monitoring in 2013. If you have any comments or questions on the content of this letter, I would be pleased to discuss them with you.

Sincerely,
Minnow Environmental Inc.

Pierre Stecko, M.Sc., EP, RPBio
Senior Aquatic Scientist / Principal

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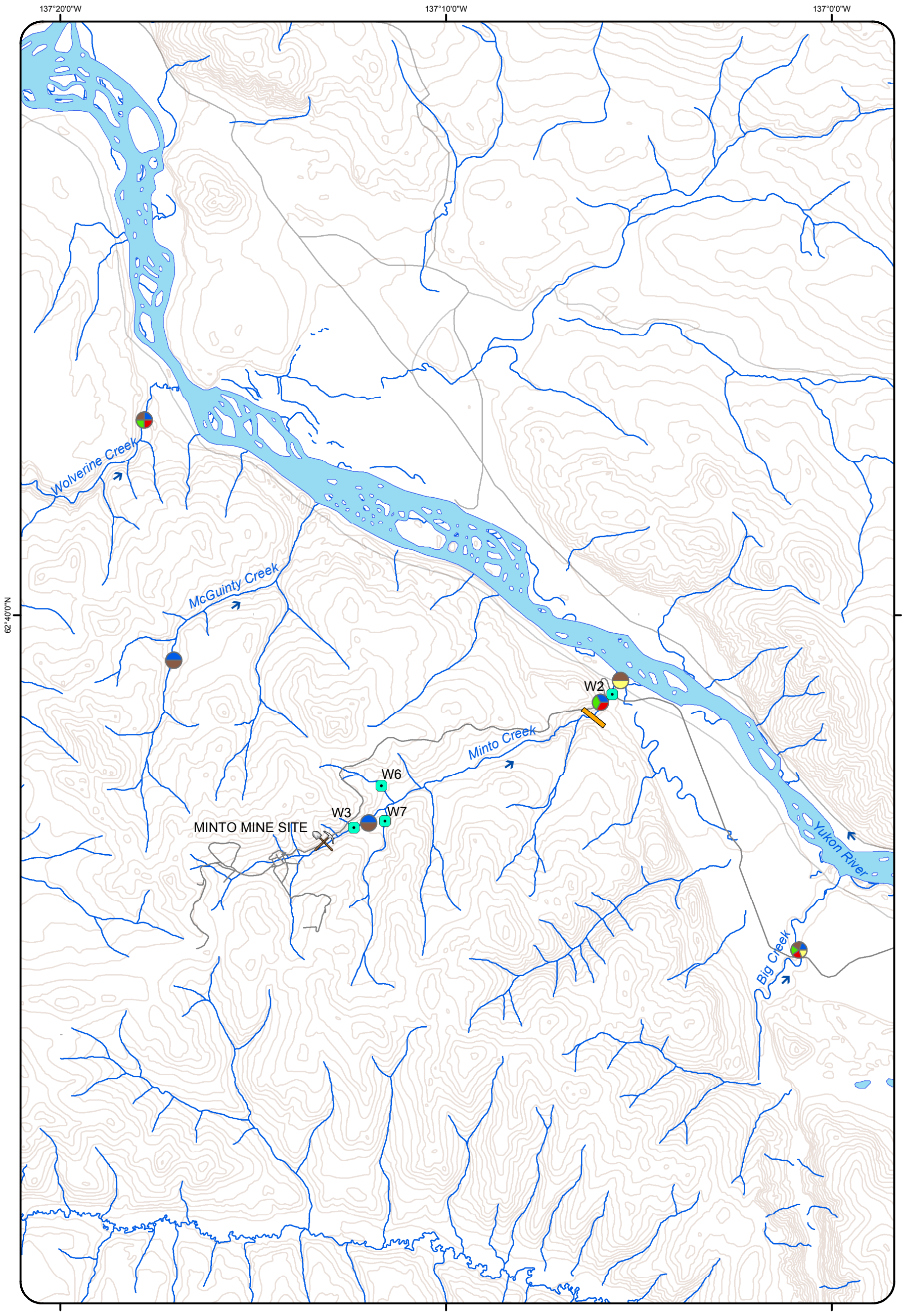

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MAP INFORMATION
Map Projection: NAD 1983
Data Source: Department of Natural Resources Canada. All rights reserved.
Created By: J.Wilson
Creation Date: January 2013

Features

Mine Site

SAMPLES COLLECTED

Water
Sediment
Periphyton
Benthos
Fish

Water Quality Station
Fish Barrier
Water Flow
Contours (30m interval)
Roads

Figure 1: Sampling Locations for the Minto Mine Selenium Monitoring Program, 2012

Created by:

minnow environmental inc.

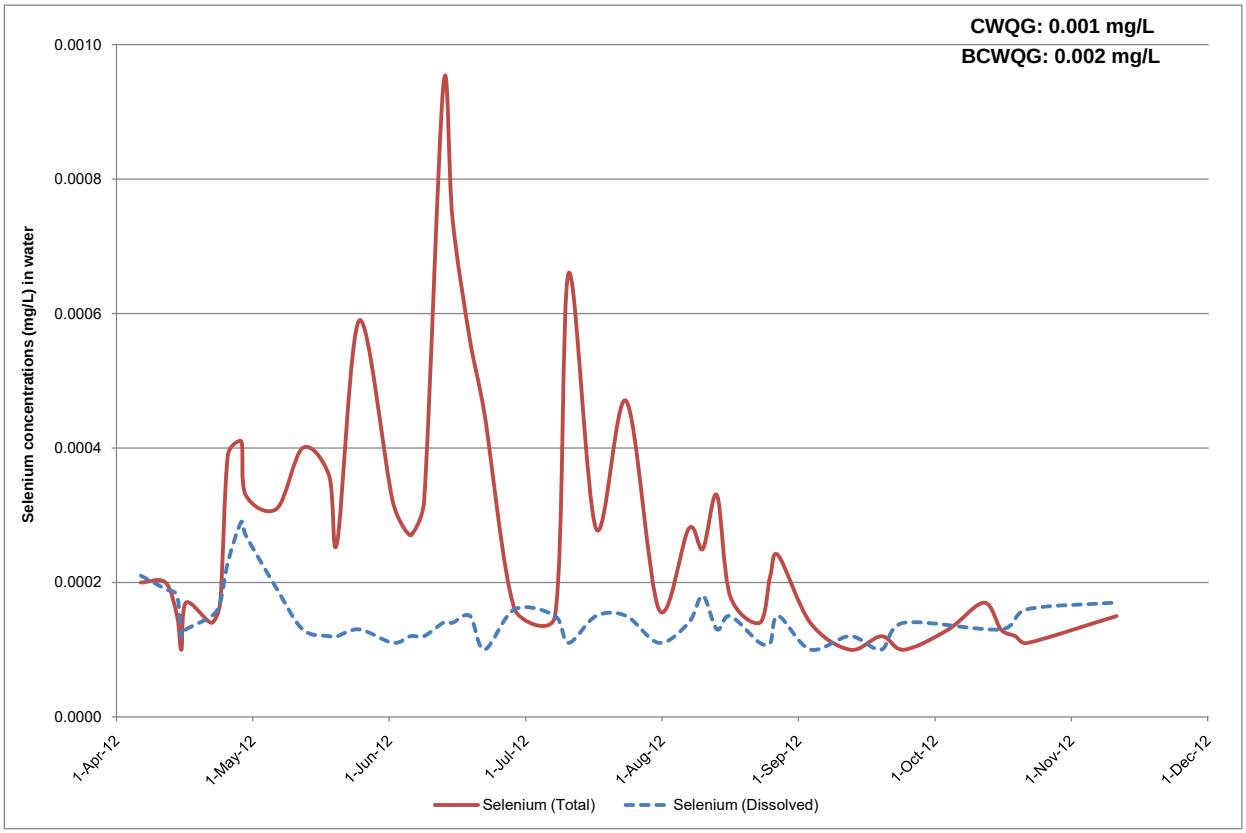

Figure 2: Selenium Concentrations in water at lower Minto Creek in 2012, Minto Mine Routine Monitoring

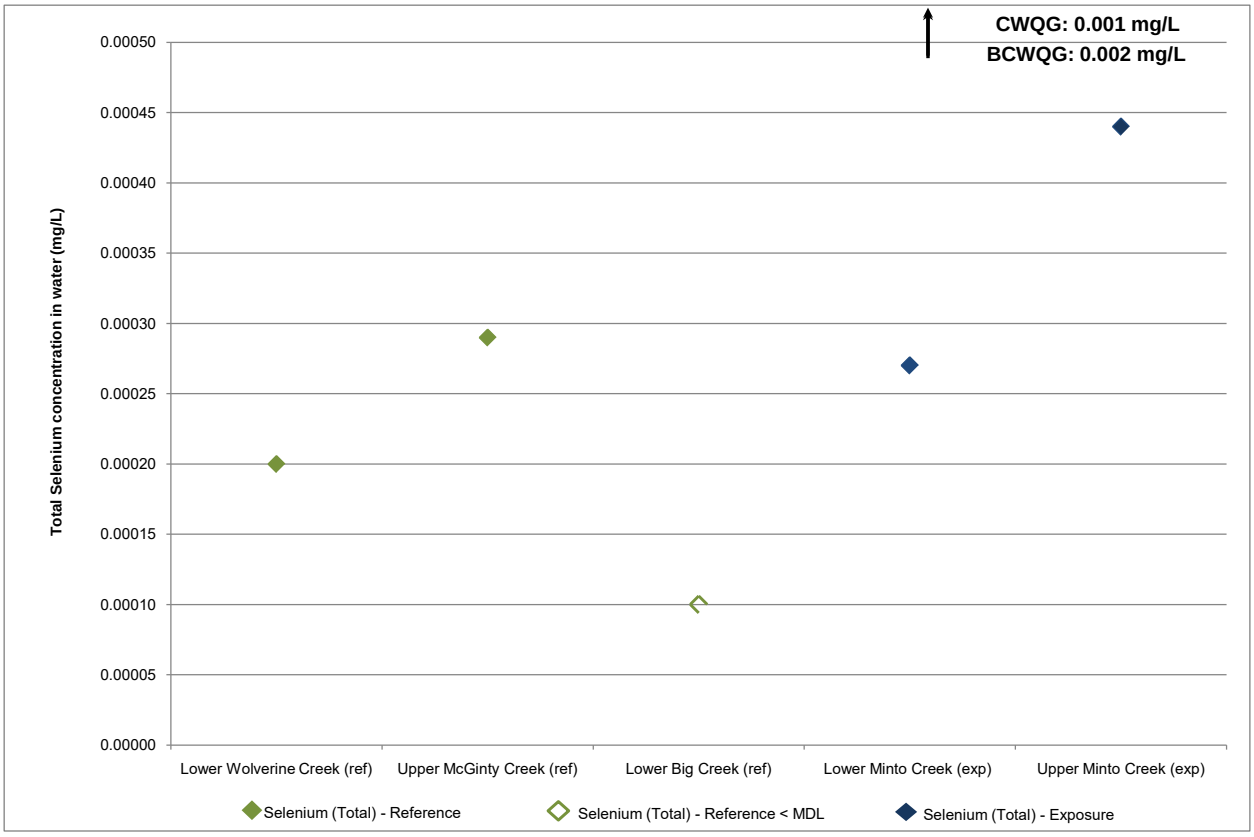

Figure 3: Total selenium concentrations (mg/L) in water, n = 1, September 2012.

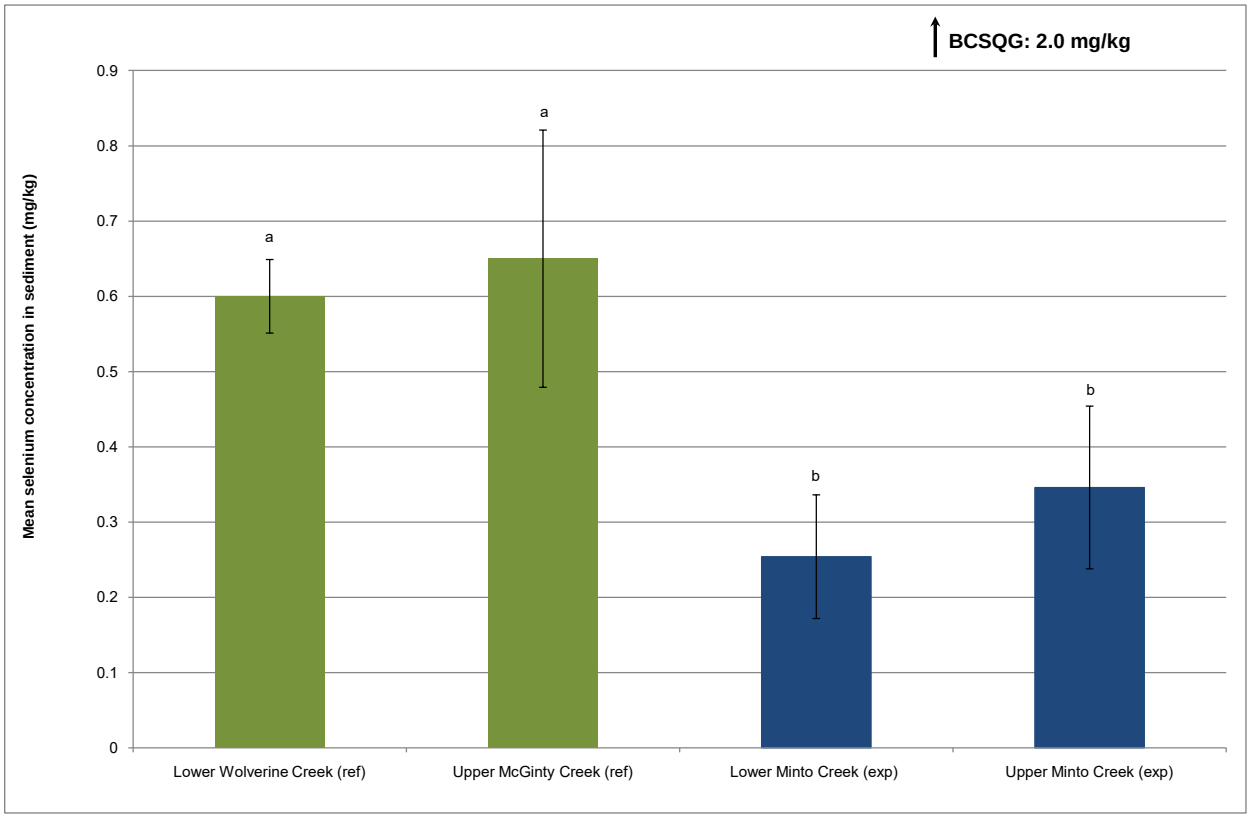

Figure 4: Selenium concentrations (mg/L) and 95% confidence limits in sediment, n = 5, September 2012. Green bars represent reference sites and blue bars represent exposure sites.

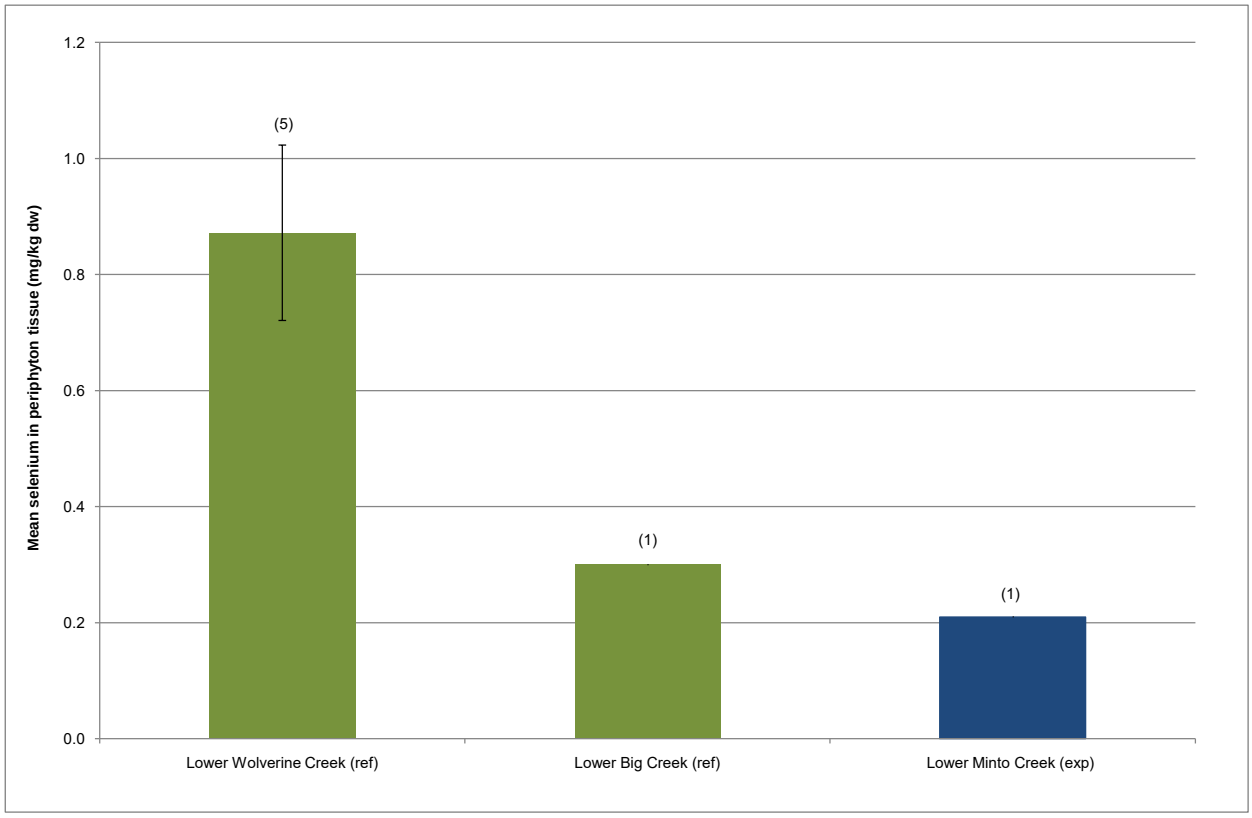

Figure 5: Selenium concentrations (mg/kg dw) and 95% confidence limits in periphyton tissue, September 2012. Green bars represent reference sites and blue bars represent exposure sites.

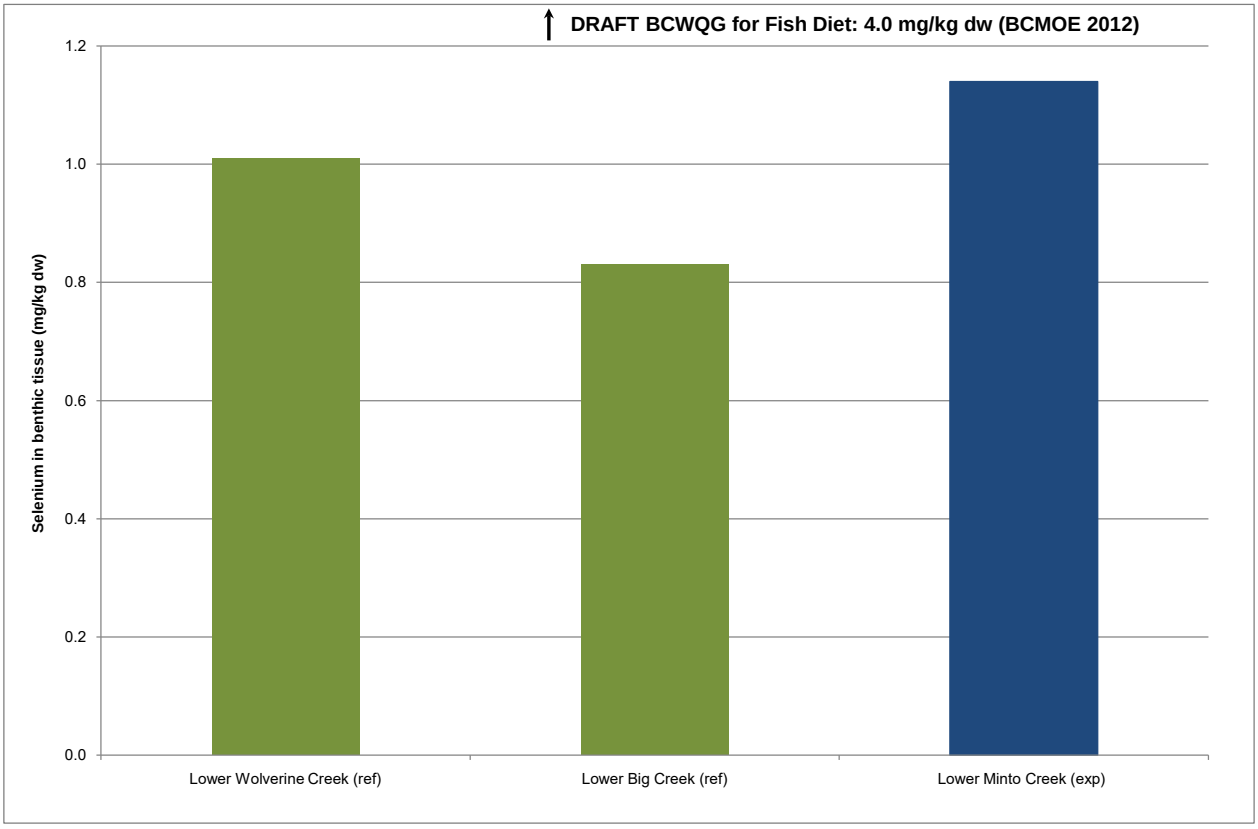

Figure 6: Selenium concentrations (mg/kg dw) in benthic tissue, n = 1, September 2012. Green bars represent reference sites and blue bars represent exposure sites

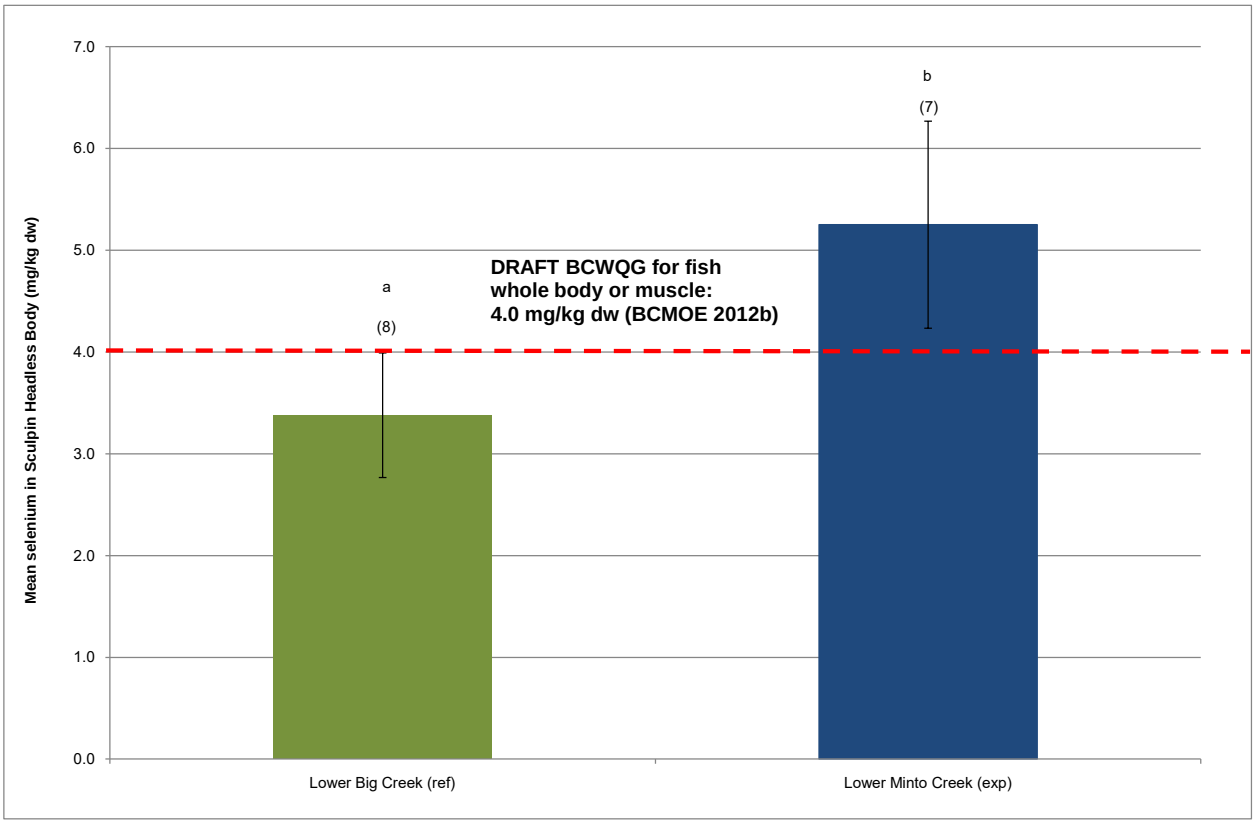

Figure 7: Selenium concentrations (mg/kg dw) and 95% confidence limits in fish whole body, September 2012. Green bars represent reference sites and blue bars represent exposure sites

Appendix A

Chemical Data

Appendix Table 1: Concentrations of selenium and suspended solids at Minto Creek routine water quality monitoring Station W2 (lower Minto Creek), 2012

Sampling Date	Selenium - Total	Selenium - Dissolved	Total Suspended Solids
	mg/L	mg/L	mg/L
4/6/2012	0.0002	0.00021	4.3
4/12/2012	0.0002	0.00019	2.0
4/14/2012	0.00015	0.00018	7.1
4/15/2012	0.0001	0.00012	31.2
4/16/2012	0.00017	0.00013	39.9
4/22/2012	0.00014	0.00015	29.6
4/24/2012	0.00017	0.00017	32.3
4/26/2012	0.00039	0.00023	202
4/29/2012	0.00041	0.00029	390
4/30/2012	0.00033	0.00027	597
5/7/2012	0.00031	0.00019	581
5/12/2012	0.0004	0.00013	619
5/18/2012	0.00036	0.00012	276
5/20/2012	0.00026	0.00012	207
5/25/2012	0.00059	0.00013	897
6/2/2012	0.00032	0.00011	301
6/6/2012	0.00027	0.00012	272
6/9/2012	0.00032	0.00012	540
6/13/2012	0.00094	0.00014	2,600
6/15/2012	0.00074	0.00014	1,410
6/19/2012	0.00056	0.00015	1,030
6/22/2012	0.00045	<0.00010	385
6/29/2012	0.00016	0.00016	157
7/8/2012	0.00015	0.00015	150
7/11/2012	0.00066	0.00011	1,010
7/17/2012	0.00028	0.00015	557
7/24/2012	0.00047	0.00015	1,150
7/31/2012	0.00016	0.00011	165
8/7/2012	0.00028	0.00014	2,100
8/10/2012	<0.00025	0.00018	228
8/13/2012	0.00033	0.00013	224
8/16/2012	0.00018	0.00015	124
8/23/2012	0.00014	0.00011	75.8
8/25/2012	0.00021	0.00011	443
8/27/2012	0.00024	0.00015	169
9/3/2012	0.00014	<0.00010	85.1
9/12/2012	<0.00010	0.00012	401
9/19/2012	0.00012	<0.00010	11.7
9/24/2012	<0.00010	0.00014	9.3
10/4/2012	0.00013		62.8
10/12/2012	0.00017		21
10/16/2012	0.00013	0.00013	30
10/19/2012	0.00012		32.4
10/22/2012	0.00011	0.00016	4.1
11/11/2012	0.00015	0.00017	<1.0

Count	45	42	45
Count <DL	3	3	1
Mean	0.00027	0.00014	393
Standard Deviation	0.00019	0.00005	551
Minimum	0.00005	0.00005	0.5
Maximum	0.00094	0.00029	2,600
1st Quartile	0.00014	0.00012	32
Median	0.00020	0.00014	202
3rd Quartile	0.00033	0.00016	540
95th Percentile	0.00066	0.00023	1,371

Appendix Table 2: Selenium concentrations by replicate sample, Minto Mine, 2012.

Site		Compartment				
		Water (mg/L)	Sediment (mg/kg)	Periphyton Tissue (mg/kg)	Invertebrate Tissue (mg/kg)	Fish Whole Body (mg/kg)
Lower Wolverine Creek	LWC-1	0.0002	0.64	0.97	0.139	-
	LWC-2	-	0.59	0.92	0.187	-
	LWC-3	-	0.63	0.67	0.161	-
	LWC-4	-	0.54	0.95	0.125	-
	LWC-5	-	0.60	0.85	0.149	-
Mean		-	**0.60**	**0.87**	**0.152**	-
Standard Deviation		-	**0.04**	**0.12**	**0.024**	-
Upper McGinty Creek	URC-1	0.0003	0.77	-	-	-
	URC-2	-	0.80	-	-	-
	URC-3	-	0.64	-	-	-
	URC-4	-	0.47	-	-	-
	URC-5	-	0.57	-	-	-
Mean		-	**0.65**	-	-	-
Standard Deviation		-	**0.14**	-	-	-
Lower Big Creek	LBC-1	< 0.0001	-	0.30	0.122	3.79
	LBC-2	-	-	-	-	4.18
	LBC-3	-	-	-	-	2.73
	LBC-4	-	-	-	-	4.52
	LBC-5	-	-	-	-	3.39
	LBC-6	-	-	-	-	3.19
	LBC-7	-	-	-	-	2.62
	LBC-8	-	-	-	-	2.60
Mean		-	-	-	-	3.38
Standard Deviation		-	-	-	-	0.73
Lower Minto Creek	LMC-1	0.0003	0.24	0.21	0.102	4.50
	LMC-2	-	< 0.20	-	-	5.31
	LMC-3	-	0.27	-	-	5.39
	LMC-4	-	0.36	-	-	5.35
	LMC-5	-	< 0.20	-	-	7.44
	LMC-6	-	-	-	-	4.81
	LMC-7	-	-	-	-	3.96
Mean		-	**0.25**	-	-	**5.25**
Standard Deviation		-	**0.07**	-	-	**1.10**
Upper Minto Creek	UMC-1	0.0004	0.36	-	-	-
	UMC-2	-	0.28	-	-	-
	UMC-3	-	0.28	-	-	-
	UMC-4	-	0.49	-	-	-
	UMC-5	-	0.32	-	-	-
Mean		-	**0.35**	-	-	-
Standard Deviation		-	**0.09**	-	-	-

APPENDIX 1-7

MINTO MINE SITE CHARACTERIZATION – VEGETATION

ALEXCO ENVIRONMENTAL GROUP

MINTO MINE – SITE CHARACTERIZATION

VEGETATION

MIN-17-01-600_002_Minto Site Characterization Vegetation_RevB_180123

January 2018

Prepared for:

MINTO EXPLORATIONS LTD.

capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.

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1 INTRODUCTION

Minto Explorations Ltd., a wholly owned subsidiary of Capstone Mining Corp. (Capstone), owns and operates the Minto Mine, a high-grade copper mine, located approximately 240 km northwest of Whitehorse, Yukon Territory (Figure 1-1). The project is located within Selkirk First Nation (SFN) Category A Settlement Land Parcel R6A, and is centered at approximately 62°37'N latitude and 137°15'W). The Minto Mine commenced commercial operation in October 2007 and is permitted to conduct mining and milling operations at a rate of 4,200 tonnes of ore per day (tpd). Mining activities at the Minto mine consist of multiple open pits and an underground mine. In addition to the mining areas, the Minto mine site includes a number of other facilities and infrastructure, including waste rock storage areas, ore stockpiles, a crusher, a mill for processing the ore, and a dry stack tailings storage facility (Figure 1-2).

Capstone has characterized the baseline vegetation conditions for the project area by commissioning a vegetation survey and mapping project in 2010 and a vegetation metal uptake program in 2016.

Prior to the work conducted in 2010 a historical vegetative study was completed in 1994 for the Minto mine area by Hallam Knight Piesold Ltd., as part of the initial environmental evaluation. In the intervening years the area has been altered by the footprint of the present mine site, roads, further explorations, and three major fires. In order to update the information on the forest communities that are adjacent to the Minto mine, the 2010 vegetative study area concentrated on an approximately 3km-wide radius around the present Minto mine footprint and encompassed a total of 3,626 hectares (Figure 1-3). Recent (2010) burn areas in the southeast quadrant were also measured and delineated and presented in Figure 1-4. Plots were not established in the proposed expansion or recent burn areas, but a reconnaissance was conducted to determine if there were any unique features or sensitive ecosystems within them.

This report summarizes the 2010 and 2016 data and observation for vegetation baseline and ecosystem conditions along with vegetation metal uptake.

capstone
MINTO MINE

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MINTO MINE

MINTO MINE-SITE CHARACTERIZATION VEGETATION

FIGURE 1-1
PROJECT LOCATION

DECEMBER 2017

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MINTO MINE

MINTO MINE - SITE CHARACTERIZATION
VEGETATION

FIGURE 1-2

SITE CONFIGURATION AND EXISTING INFRASTRUCTURE

DECEMBER 2017

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1:18,000 *when printed on 8x11 inch paper*

0 100 200 300 400 500 Meters

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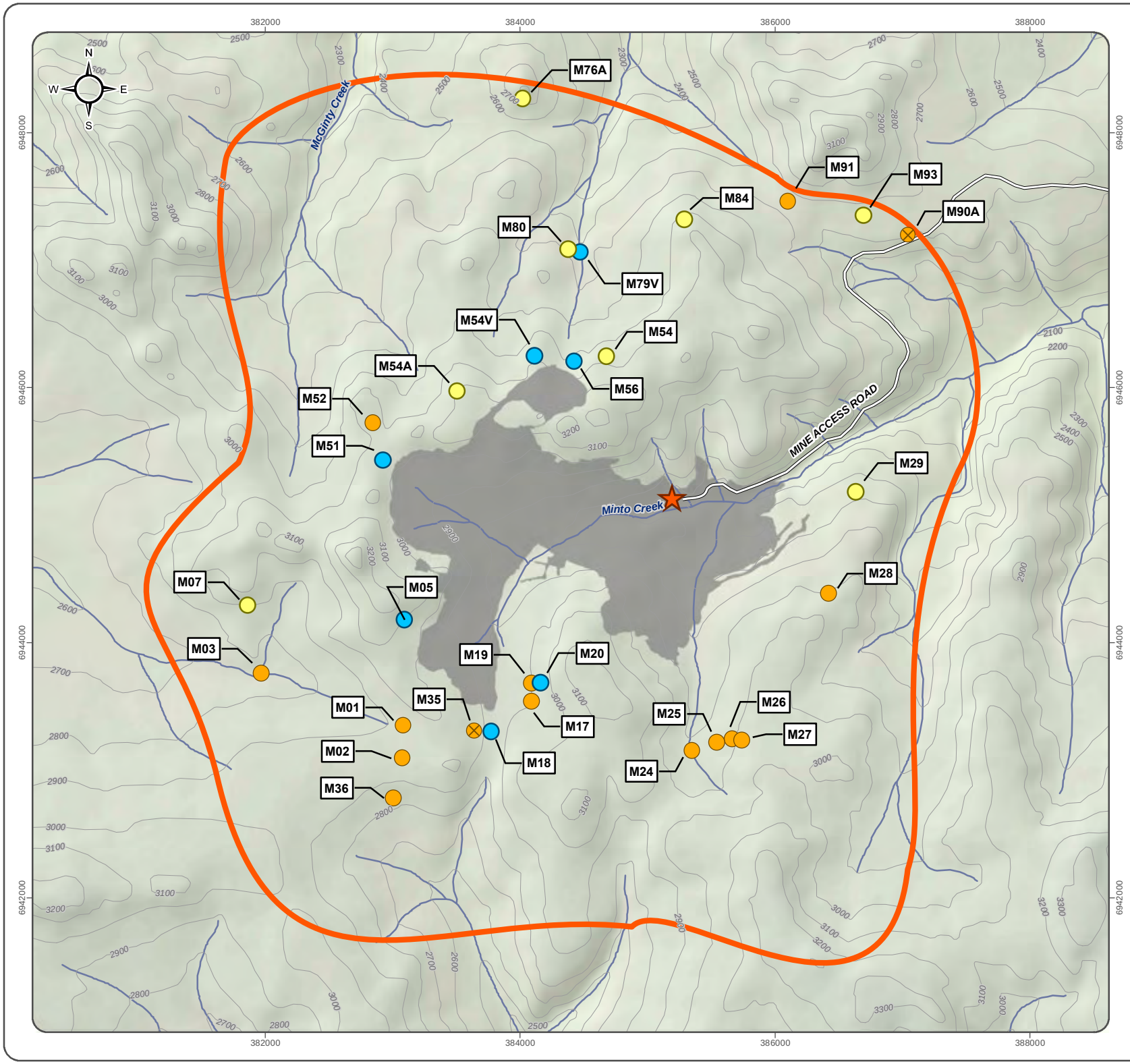

MINTO MINE

MINTO MINE - SITE CHARACTERIZATION
VEGETATION

FIGURE 1-3

VEGETATION STUDY AREA AND ECOSYSTEM PLOTS

DECEMBER 2017

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MINTO MINE

Ecosystem Plots

- Field Check
- Control Plot (Soil Sample Collected)
- Permanent Plot
- Permanent Plot (Soil Sample Collected)
- Minto Mine Site
- Study Area
- Mine Footprint
- Minto Access Road

1:40,000

when printed on 11 x 17 inch paper

0 500 1,000 1,500

Meters

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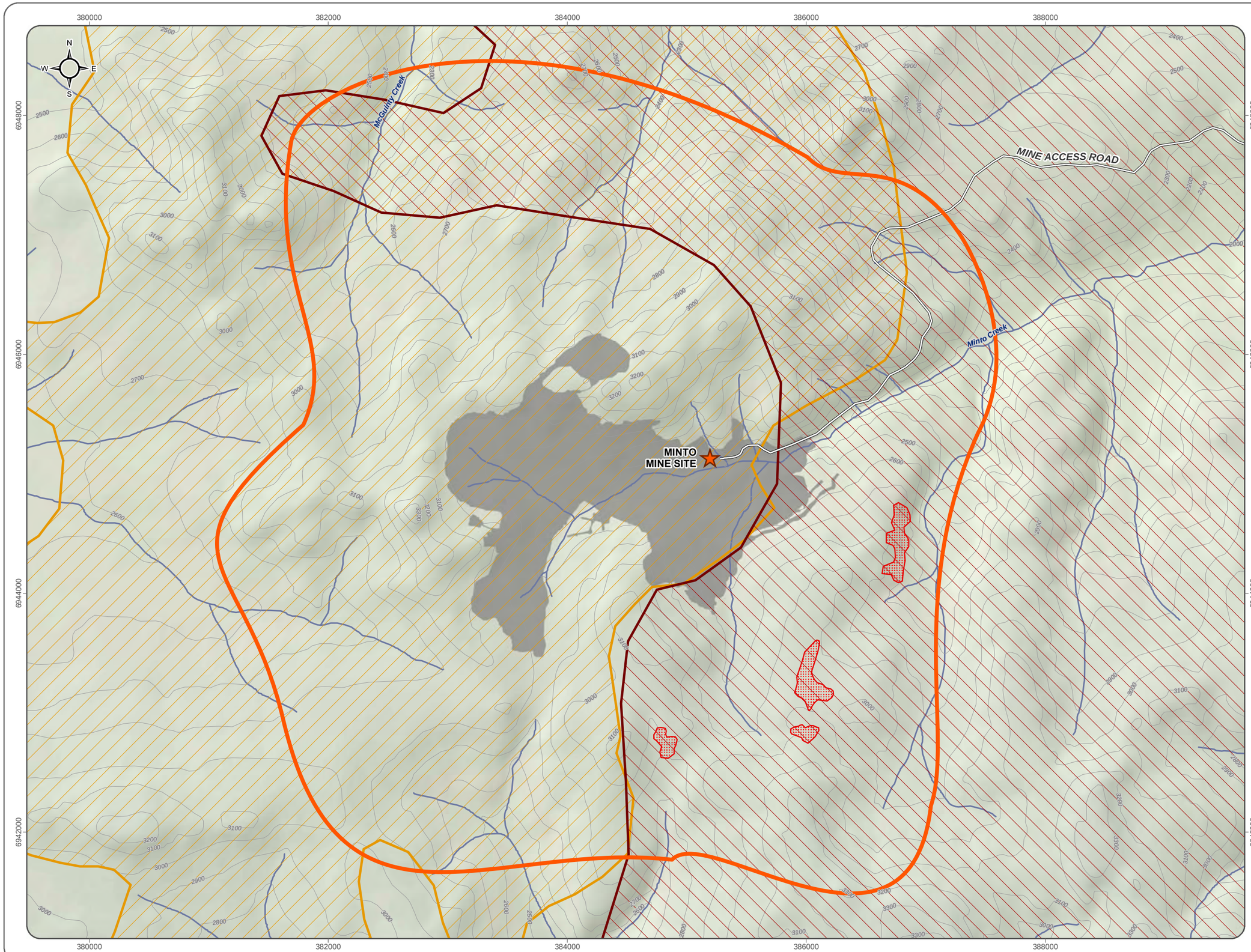

MINTO MINE

MINTO MINE - SITE CHARACTERIZATION VEGETATION

FIGURE 1-4

FIRE HISTORY

DECEMBER 2017

capstone MINTO MINE

- Minto Mine Site
- Minto Access Road
- Control Burn 2010
- 1980 Fire
- 1995 Fire
- Mine Footprint
- Study Area

1:30,000 *when printed on 11 x 17 inch paper*

0 250 500 750 1,000 1,250 Meters

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2 BIOPHYSICAL BACKGROUND

The Minto mine lies within the Boreal Cordillera Ecozone and Yukon Plateau Ecoregion (Smith et al., 2004). The Minto Mine is situated in the far western part of the Yukon Plateau Ecoregion near the Dawson Range and adjacent to the Klondike Plateau Ecoregion in the west. This area was part of the eastern extent of Beringia, which remained ice free approximately twenty to fifteen thousand years ago (Smith et al., 2004).

Forest fires are frequent in this part of the Yukon Territory as it lies in the rain shadow of the St. Elias-Coast Mountains and receives less than 300 mm of precipitation per year (Smith et al., 2004). As a result, the study area around Minto Mine has experienced numerous fires over the last forty years rendering it a complex mosaic of plant communities at varying stages of succession. Young mixed lodgepole pine and trembling aspen forests are the most common forest type, and willow species are ubiquitous in the understory as well as in the main canopy in shrub dominated areas. Black and white spruce with shrub and feathermoss understories can be found on northerly aspects and in moist drainages. The study area is in the eastern part of the Dawson Range foothills with elevation range of 700 metres above sea level (masl) to 950 masl. The landscape has rounded mountains intersected by broad valleys and drainages that are part of the Yukon River watershed. The project is in the sporadic discontinuous permafrost zone where permafrost is encountered on northern slopes and in low lying areas where solar radiation is reduced (Smith et al., 2004).

3 VEGETATION BASELINE SURVEY AND ECOSYSTEM MAPPING

The 2010 baseline vegetation survey and mapping project was commissioned by Minto to capture the current biophysical conditions prior to expansion activities. The scope of the survey, mapping, and reporting includes classifying forest and vegetation types, identifying sensitive ecosystems, and compiling vegetation and some surficial soils information into a single comprehensive document. It was determined that an ecosystem mapping approach would best satisfy the informational needs for this evolving mining development in a forested landscape prone to frequent fire disturbances. Through ecosystem mapping protocols, changes in floristic coverage can be monitored by aerial photography; and a framework of permanently-established ground plots can enable monitoring of soil chemistry changes, successional growth, wildlife usage, and impacts. The vegetation surveying and GIS ecosystem mapping project was undertaken by Access Consulting Group and Horizon Ecosystem Consulting; their findings are presented in this report.

Thirty plots were visited, and site descriptions and floristic cover estimates recorded. Notes were also taken between plots to clarify polygonal boundaries. Twenty-three permanent plots were established that can be easily relocated and monitored for changes. Seven plots outside the proposed mine expansion footprint were selected as controls to represent different slope aspects and plant associations. As controls, these plots can be compared with other sites closer to the mine, over time, for changes and impacts. Detailed plot descriptions can be found in Appendix B. Soils samples were taken from ten plots around the mine and the raw laboratory data is presented in Appendix D. These will inform future monitoring of plant growth/success and may be useful for comparison to effects from any downwind transportation of mineral dust from mining operations. Data and observations over the lifetime of the mine will also be useful when developing a successful reclamation plan.

3.1 METHODOLOGY

3.1.1 Photo Interpretation

Aerial photos received from Geographic Air Surveys Ltd. were taken in the summer of 2009 at a scale of 1:10,000. Stereographic pairs were examined and delineated into polygons of vegetation cover types based on the Vegetation Resource Inventory (VRI) Photo Interpretation Procedures, version 2.6. The elements considered for polygon delineation include: species composition, crown closure, stand structure, aspect, elevation, slope, tree age, height, and soil nutrient/moisture regimes.

Classification of vegetated polygons was based on protocols developed by Yukon Forest Management Branch (2005) and British Columbia Terrestrial Ecosystem Mapping Standards (1998). A polygon is considered vegetated when the total cover of trees, shrubs, herbs and bryoids is more than 5% of the total surface of the polygon. The polygon is considered forested if more than 10% of the cover is treed. Aside from the footprint of the existing mine, all the polygons identified within the study area were vegetated. In total, 99 polygons were delineated and interpreted. Tree and shrub polygons are labelled in decreasing order of crown closure, with the highest proportion first (i.e., 60% aspen, 30% pine and 20% willow is represented as At6Pl3W2). The map polygons represent the spatial distribution of these vegetation communities within the study area.

3.1.2 Mapping

Mapping was accomplished using ArcGIS software and air photos combined with cadastral mine infrastructure data provided by Minto. The previously identified aerial photo polygons were then overlaid onto the base map (scanned and orthorectified in ArcGIS's ArcMap software). The delineated boundaries of forest cover were then traced and digitized using a tablet stylus to create the polygons. Each of these polygons has a unique identifying number (e.g., M45). The estimated forest stand characteristics for each of these polygons were then attached to the shape file as attributes. The results from the field work were used to modify the vegetation map and improve accuracy in boundary locations and species cover estimates. The attributes for the forest stand polygons that were visited in the field were updated and the raw data sheets are hyperlinked to these particular polygons. The UTM locations and types of plots (field checked, permanent, and control) are also indicated on the Terrestrial Ecosystem Map (TEM) located in Appendix E. Although the initial map interpretation used the 2009 aerial imagery of the site, the final TEM used the more recent 2012 aerial imagery of the site.

3.1.3 Plot Samples

Thirty plots (23 of which are permanent plots) were visited to determine the accuracy of photo interpretation and are presented in Figure 1-3. An aluminum stake with a metal identifier tag was installed to mark the plot centre. A radius of 11.29m was measured and marked with flagging tape, resulting in a 400m^2 area within which information and measurements can be gathered. These plots are GPS-referenced and designed to be easily relocated for future monitoring. At each plot, plant species were identified, percentage of cover estimated, site attributes recorded, and an overview photograph taken. Summaries of surveyed sites are included in Appendix D and completed field data sheets have been scanned and are available in digital format. The established set of permanent plots can be monitored for floristic and soil chemistry changes over the lifetime of the mine and through the reclamation period.

Information recorded on plot data sheets included (Ecological Plot Survey Form, Appendix C):

- Plant species
- Percent cover
- Coarse woody debris/snags estimates
- Site features
    - Diagram of plot
    - Surface shape
    - Plot position
    - Aspect
    - Elevation

- Slope
- Drainage
- Soil moisture/nutrient regimes
- Types of disturbances

Tree coverage is also divided by height on field cards as this helps determine the structural stage of each site/polygon. Tall trees (TT) are over 5m tall and little trees (LT) are less than 5m in height. Shrubs have four divisions: tall shrubs (TS) are 2m to 5m tall, medium shrubs (MS) are 0.5m to 2.0m tall, little shrubs (LS) are 0.1 to 0.5m, and ground shrubs (GS) are <0.1m tall.

Plant species that had 0.5% or greater coverage were identified and recorded on data sheets. Rare or uncommon species as well as uncommon ecosystems, i.e. wetlands and grasslands, were searched for within and between plots. While no rare plants were found during the field investigations, this does not mean that rare species do not exist within the study area; only that they were not located in the areas during the season that the field work was undertaken.

3.2 RESULTS

By integrating the aerial photo interpretation and vegetation survey information, an ecosystem map was produced and is presented in six distinct sheets in Appendix E. The map is the stratification of the landscape into polygons according to a combination of ecological features primarily comprising climate, soil, and vegetation. In general, an ecosystem map provides (B.C. Resources Inventory Committee 1998):

- a biological and ecological framework for land management;
- a means of integrating abiotic and biotic ecosystem components on one map;
- basic information on the distribution of ecosystems from which land management decisions can be based;
- a basis for rating values of resources or indicating sensitivities in the landscape;
- a historic record of ecological site conditions that can be used as a framework for monitoring ecosystem response to development, natural disturbances or reclamation, and
- a demonstration tool for portraying ecosystem and landscape diversity.

On the ecosystem maps, each polygon is assigned a unique number according to species in order of decreasing coverage; with plot location and type also indicated. Further information about plot site descriptions can be found in Appendix B.

3.2.1 Accuracy and Error

Polygon boundaries are not exact as stereo photographs are distorted due to lens curvature and transfer of photo boundaries from actual photos to GIS. Also, gradual changes in slope and vegetation makes it difficult to determine a defining line between vegetative types. Error between polygon delineation is estimated to be ± 15 m.

Larger polygons have a higher degree of error as more micro-sites exist within the topography included in a larger area. Remnant patches of mature growth not burnt during recent fires may also be captured. Fire mosaics are complex and not easily delineated. As the study area has been disturbed by fires three times in the last thirty years, polygons have a degree of variability due to different successional stages. Polygonal accuracy can be increased during monitoring visits with more ground calls made to verify boundaries; and, changes caused by mine expansion or other disturbances can be noted.

3.2.2 Plot Information Summary

Universal Transverse Mercator (UTM) coordinates for the 30 field plots, vegetation species percent cover, elevation, plot status and soil sample assignment are presented in Table 3-1. See Plant List Appendix A for tree and shrub codes. Further details for each surveyed plot can be found in Appendix B and on Figure 1-3.

Table 3-1: Plot locations, vegetation type and status.

Plot#	Northing	Easting	Veg Type	Altitude (m)	Plot Status	Soil Sample
M01	6943349	383085.7	Sb_6W_4	904	permanent	n
M02	6943093	383078.0	$D_4W_4Ea_2$	910	permanent	n
M03	6943759	381970.3	W_6Es_4	841	permanent	n
M05	6944177	383095.4	$At_5W_3D_2$	943	visit	n
M07	6944289	381864.2	$At_5Pl_4W_1$	890	control	y
M17	6943539	384092.6	$Sb_7Sw_2W_1$	899	permanent	n
M18	6943302	383777.1	$Es_5S_3W_2$	892	visit	n
M19	6943678	384090.6	$W_8Ea_1Sw_1$	894	permanent	n
M20	6943683	384161.0	$W_5At_4Pl_1$	904	visit	n
M24	6943153	385352.9	Es_6W_4	872	permanent	n
M25	6943216	385545.4	Sb_9W_1	891	permanent	n
M26	6943242	385666.2	W_6D_4	890	permanent	n
M27	6943234	385742.5	$Pl_4AT_4W_2$	894	permanent	n
M28	6944384	386420.7	$Pl_7At_2W_1$	864	permanent	n
M29	6945182	386636.2	Sb_6Sw_4	798	control	y
M35	6943307	383641.8	At_8W_2	891	permanent	y
M36	6942781	383007.3	$At_5W_4D_1$	866	permanent	n
M51	6945428	382926.0	$Pl_6At_2W_2$	924	visit	n

M52	6945724	382846.6	$Pl_3G_3At_2W_2$	931	permanent	n
M54	6946246	384682.0	$Pl_4W_2Sw_2Ea_2$	929	control	y
M54A	6945971	383509.8	$W_5Pl_3D_2$	959	control	y
M54v	6946250	384116.2	$W_5Pl_3D_2$	912	visit	n
M56	6946205	384428.1	Sb_9w_1	921	visit	n
M76A	6948266	384025.0	$At_5G_3Pl_2$	837	control	y
M79v	6947061	384473.0	W_8Sb_2	801	visit	n
M80	6947083	384380.2	$Pl_5W_3At_2$	817	control	y
M84	6947320	385289.7	$At_5Pl_3G_2$	894	control	y
M90A	6947197	387045.2	$At_5Sw_3Pl_2$	792	permanent	y
M91	6947461	386101.7	$Pl_5Sw_4At_1$	817	permanent	n
M93	6947350	386696.1	$D_5W_4At_1$	816	control	y

3.2.3 Area Calculations

The area covered per leading species within the study area was calculated in ArcGIS. The total area for each species was corrected by polygon composition within the forested portion of the study area for crown closure. This was performed in ArcMap and Microsoft Excel. The area covered per dominant plant species is calculated to show the relative abundance of each species within the study area (Table 3-2).

Table 3-2: Area of individual tree/shrub species coverage as leading (s1), secondary (s2) and tertiary (s3) components of polygons (percent cover per individual species for entire study area).

Species	s1	s2	s3	Total Area (ha)	Percent Composition
At	198.08	91.90	47.01	337.00	24.59
D	37.29	15.89	19.69	76.23	5.56
Ea	20.85	13.90	12.28	47.03	3.43
Es	5.42	10.01	-	15.43	1.13
G	7.79	10.97	50.77	69.53	5.07
Pl	96.74	74.39	68.12	242.47	17.69
Sb	78.86	3.83	3.60	86.29	6.30
Sw	28.44	35.91	30.59	96.74	7.06
W	177.26	178.94	35.78	399.89	29.18

Total Forested Vegetation Coverage = 1370.62 ha

Area of species coverage = Species * percentage * cc * area of polygon

3.2.4 Soil Analysis

Ten soil samples were collected from the following plots: M07, M29, M35, M54, M54A, M76A, M80, M84, M85, M90A, and M93. The analysis was performed by Maxxam Analytics and Exova (Appendix D).

In general, the cation exchange capacity (CEC) of the soils around the Minto site is low; however, this is typical for coarse sandy silt soils, which are common throughout the study area. The soil analysis indicates positively charged mineral nutrients are not retained by the soil particles; therefore, there is a reduced availability of nutrients for plant growth because there are less organics and clays in the soil matrix. Of the samples taken, plot M29 had the highest CEC at 19 cmol/Kg, while the other plots were approximately 10 cmol/Kg or less.

Total Sulphur (S) was high across all soil samples. Sulphur is an essential plant nutrient necessary for protein synthesis and the formation of chlorophyll. Organic matter is the primary source of plant-available SO4-S. Soils that are sandy, low in organic matter, and found in upper to mid-slope positions are especially prone to sulphur deficiency since the small amount of SO4-S released from organic matter is susceptible to leaching loss. Also, organic sulphur is lost during forest fire events, where it is volatized and released into the atmosphere. The higher concentration of inorganic sulphur found in soil samples is likely being contributed to by bedrock mineralization. The highest concentration of sulphur was found in plot M84 with 82mg/kg, while the lowest concentration was the M93 plot sample at 36 mg/kg.

Most plots are low in nitrogen due to poor humus development, particularly in places where recent fires have burnt off forest floor organics.

Soil samples had a range of pH 4.98 to 7.19, i.e., slightly acidic to slightly alkaline but no extremes were found. Soil analysis profiles for each of the 10 samples taken are in Appendix D, this provides a baseline for comparison in the future.

There was a high copper valuation found in the soil analysis for plot M84. This result was relayed to site geology for interest's sake.

3.3 DISCUSSION

Most of the study area is regenerative young forest or shrub-dominated ecosystems where tree and shrub species are at a uniform height, as is common in fire disturbed areas (Oswald and Brown 1990). Willows and trembling aspen are the most represented species in crown cover (Table 3-2) at the time of the survey. Lodgepole pine is a later successional species and will gradually dominate mid and upper slopes that are well drained. Shade-tolerant white spruce was often found in the understory as seedlings and is a climax species that will eventually overgrow the pine and trembling aspen communities on northern aspects. Black spruce is also a climax species that is adapted to wetter, cooler sites, and is often the persistent species in white/black spruce mixed areas along slope toes and valley bottoms. Small areas of grasslands are scattered along dry crests and steep south facing slopes as these locations do not retain enough moisture to sustain tree growth and are more likely to contain rare or uncommon plants.

Most of the planned expansion is along ridge tops and mid slopes. The main vegetation types in these areas are upland willow species, trembling aspen, lodgepole pine, and associated understory growth. The potentially impacted polygons were surveyed for rare and endemic plants (Appendix A); and while none were found at the time of survey, does not mean that none exist.

3.3.1 Vegetation Types

Vegetation types are based on reoccurring patterns of plant associations dictated by site attributes such as: moisture and nutrient availability, aspect, and elevation. Polygons were delineated based on tree/shrub composition, cover, and structural stage. Plot descriptions are more detailed, but most polygons will fit in one of the following general forest types:

Trembling Aspen/Lodgepole Pine/White Spruce

This association is found in young successional forests on well drained coarse soils, mesic to subxeric sites along upper and middle slopes. Lodgepole pine (Pinus contorta latifolia) is more dominant on drier south facing slopes and terraces. White spruce regeneration is commonly younger and growing in the understory. Ground cover is a mix of low growing shrubs such as lingonberry (Vaccinum vitis idaea), kinnikinick (Arctostaphylos uva-ursi), and bog blueberry (Vaccinum uliginosum). Prickly rose (Rosa acicularis) is often present in the understory as well. Earlier succession on the same site conditions has a higher component of shrub species including willow (Salix sp.), mountain alder (Alnus crispa crispa) and Alaskan birch (Betula neoalaskana). Herbaceous cover is sparse with scattered fireweed (Epilobium angustifolium), tall bluebells (Mertensia paniculata) and lupine (Lupinus arcticus). Lichens are well represented on drier sites.

Black Spruce/Labrador Tea/Sphagnum

This association is found along north facing lower slopes and toes (cool sites) that are usually sparse to open forests (<50% crown cover). Common shrubs in this ecosystem include Labrador tea (*Ledum groenlandicum*), scrub birch (*Betula glandulosa*), willow (*Salix sp.),* and bog blueberry (*Vaccinum uliginosum*). Herbs commonly present are sweet coltsfoot (Petasites frigidus), cloudberry (Rubus chamaemorus), and horsetail (Equisetum sp.) growing on sphagnum hummocks. Sites are poorly drained (hydric to mesic) with peat horizons over mineral soils, which are often associated with permafrost. These are mature to old forests (>100 yrs) that have escaped repeated fires due to the high moisture content held in the organic layer.

White/Black Spruce

This association is typically located on south facing lower slopes with willow species (Salix sp.) and Labrador tea (Ledum groenlandicum) in the understory. A thick carpet of feather moss and sphagnum covers the mineral soil. Ground cover shrubs include lingonberry (*Vaccinum vitis idaea*), bog blueberry (*Vaccinum uliginosum*) and crowberry (*Empetrum nigrum*). Herbs found were bastard toadflax (*Geocaulon lividum*) and horsetail (*Equisetum sp.).* Moisture regime is mesic to subhydric.

Willow/Trembling Aspen

This was the most common vegetation association in the study area, indicative of later regenerative growth (>10yrs) after a fire event. Most trees and shrubs are less than 5m tall; and the cover can vary from open to closed, as the canopy layer is of uniform height. Other species that may be present include: Alder (*Alnus crispa*), Balsam poplar (*Populus balsamifera*) and Alaskan birch (*Betula neoalaskan*) on north facing slopes. Lodgepole pine and white spruce may also be present in low numbers. The moisture regime ranges from subhygric to subxeric situated along mid slopes and terraces.

Willow/Scrub Birch

Willow (*Salix sp.)* and scrub birch (*Betula glandulosa*) occur in fluvial ecosystems adjacent to streams and fens, making them prone to flooding. Other shrubs present are bog blueberry (*Vaccinum uliginosum*), Labrador tea (*Ledum groenlandicum*) and shrubby cinquefoil (*Potentilla fruticosa*). Associated graminoids include water sedge (*Carex aquatilis*), bluejoint grass (*Calamagrostis canadensis*) and rushes (*Juncus sp.).* Sphagnum, feather and glow mosses are common.

Trembling Aspen/Grasslands

This association features sparse to open cover of trembling aspen (*Populus tremuloides*) with lodgepole pine (*Pinus contorta latifolia*) often present as a minor component. Found on steep south and southwest facing slopes, understory shrubs include prickly rose (*Rosa acicularis*), soapberry (*Shepherdia canadensis*) and kinnikinick (*Arctostaphylos uva-ursi*). Herb cover is diverse, with some common plants being purple reedgrass (*Calamagrostis purpurascens*), death camas (*Zygadenus elegans*), common yarrow (*Acillea millefolium*), goldenrod (*Solidago simplex*), pussytoes (*Antennaria sp.),* prickly saxifrage (*Saxifraga tricuspidata*), rough cinquefoil (*Potentilla norvegica*), and fireweed (*Epilobium angustifolia*).

Grasslands

This association is found on hillcrests and steep south facing slopes as well as on shallow rocky soils that are nutrient poor and very dry. An uncommon plant community was surveyed within the study area, 7.79 hectares (Table 2). Purple reedgrass (*Calamagrostis purpurascens*) was most common, with scattered Rocky Mountain Fescue grass noted as well (*Festuca saximontana*). Similar herbs as mentioned above in trembling aspen (*Populus tremuloides*) and grassland communities were also found.

3.3.2 Application of Survey Network and Results

The ecosystem map was designed to be used as a land management and planning tool. As the mine expands its footprint, the map can be referred to for a quick assessment of what type of vegetation communities will be directly disturbed.

The ecosystem survey data can also be applied to future re-vegetation and reclamation efforts in the following ways:

- Early successional vegetation communities can be used as a template for developing re-vegetation prescriptions.

- Certain plant communities can be easily found on the ecosystem map and field accessed.
- Plant seed and root stock resources can be quickly located and harvested.
- Natural soil conditions and nutrient cycling information can be used in designing soil covers needed in reclamation phase.
- Improved understanding of type and extent of disturbance of natural ecosystems.
- Monitoring of invasive species by comparing species colonization in natural systems to re-vegetated sites.
- Topsoil salvage.
- High value wildlife habitat can be identified, avoided, and buffered.

4 VEGETATION METAL UPTAKE

Heavy metal contamination on mine sites is a common issue due to both the extraction of highly mineralized rock, which is transported, milled and stored in these areas, and the exposure of mined materials to environmental influences. Metals can leach from mining waste into the immediate aquatic environment via direct surface water runoff or infiltration of precipitation (aqueous transport). In terrestrial systems, in-situ soils may already have heightened concentrations of metals due to local mineralization of the surficial parent material. Dust from blasting, ore crushing and waste dumping, can be transported by wind (aeolian) to surrounding terrestrial areas, settling on the ground and the surface of plant leaves, stems and fruits. These receiving environments can, over time, accumulate contaminants to the point that biological functioning can be affected in aquatic and terrestrial ecosystems.

The potential for these effects, and the degree to which they occur, are a function of many variables, and the accumulation processes can be highly complex. Plants can become intermediaries or vectors in transferring heavy metals to higher trophic levels when consumed by herbivores, which in turn become prey for carnivorous species. Harvesting and consumption of country foods by humans can also present an exposure pathway.

Monitoring of metal uptake in plants in mining areas has been used to assess potential and ongoing risks to these receptors. Understanding this potential can be useful in guiding mine operations. The monitoring of metal uptake in plant tissue around other mines is a typical permit requirement requested to assess potential and ongoing risks to humans and wildlife. However, the interactions between soil, plants, particulate matter and the surrounding environment are very interconnected and complex, making the understanding of metal uptake difficult. Furthermore, concentrations and metal uptake vary from species to species and vary geographically as plants adapt to their environments (Kabata-Pendias et al., 2011).

4.1 CONSTITUENTS (METALS) OF POTENTIAL CONCERN

Based on the Canadian Council of Ministers of the Environment (CCME), and the *Yukon Environment Act*, certain metals are identified as Constituents of Potential Concern (COPC), since exposure and/or bioaccumulation to high concentrations of these elements can result in damage to plants, aquatic organisms, terrestrial wildlife, and human health. Of these COPC's, the metals of interest that were selected for the VMU program are those known to have elevated levels specific to the minerals in the Minto deposit. It should be noted that toxic effects usually require persistent exposure to high concentrations of the metals, and that as a confirmed mineralized area, elevated metal concentrations in soil (and to some degree in vegetation) are expected in the baseline condition in the vicinity of the mine site.

Laboratory analyses were completed for the full ICP suite of metals as reported in Appendix G; however, the results discussed in Section 4.2 focus on the following COCPs that list that may be revised as the program is optimized in the future:

- COPCs include Antimony (Sb), Arsenic (As), Cadmium (Cd), Chromium (Cr), Copper (Cu), Lead (Pb), Manganese (Mn), Molybdenum (Mo), Nickle (Ni), Selenium (Se), and Zinc (Zn); and,
- Metals related to dust include Aluminum (Al) and Iron (Fe).

4.2 METHODOLOGY

4.2.1 Study Area and Monitoring Network

The VMU monitoring network was established through compiling existing monitoring and spatial data in a desktop exercise. The identification of a study area took the following five elements into consideration:

1. Area of direct disturbance (and reclamation) by mining activities;
2. Previous monitoring locations;
3. Prevailing wind direction;
4. Access – road/ground based access to monitored areas was preferential; and
5. Anticipated dispersal mechanisms and extent of metal contamination.

The VMU monitoring network (sampling sites) is presented in Figure 4-4 below. The sampling sites were selected in the areas anticipated to receive higher density dust fallout, and control or outlying stations were positioned outside of the projected zone of influence (based on prevailing wind direction and air dispersion modelling). The plot selection process involved utilizing, where possible and accessible, ecosystem plots established in 2010 where soil and vegetation information data were collected. The stations to be monitored are divided into 'exposure' stations (within or upon the direct mine footprint area) and 'control' stations (outside the anticipated zone of influence of the mining activities.) A review of existing documents (Table 4-1) also assisted in the establishment of the proposed monitoring network.

The meteorological data collected on site, over a five-year period, shows that predominant annual wind direction for the Minto site is from the northwest and the southeast with some deviation to the west as presented in Figure 4-1. The areas that have been observed to generate the greatest loads of dust are the crushing and conveying infrastructure areas near the mill. To a much lesser degree, pit blasting and waste rock dumping would also contribute to dust loading and dispersion. To this end, the VMU sampling sites have been placed in vegetated areas near the perimeter of these dust sources and extend roughly along a NW to SE axis.

Air dispersion modelling was conducted by RWDI Consulting Engineers in 2013 to model particulate matter emissions from current mining conditions as of 2012 as well as predicted emission from the Phase V/VI expansion. Predicted concentration and extents for total suspended particulates (TSP) and $PM_{2.5}$ were modelled for each scenario and were compared to Yukon Ambient Air Quality Standards (RWDI, 2013). Results of annual concentration for TSP at baseline (mining as of 2012) and future (proposed phase V/VI) are presented in Figure 4-2 and Figure 4-3, respectively. Additional information regarding the particulate matter dispersion modelling is in Appendix I.

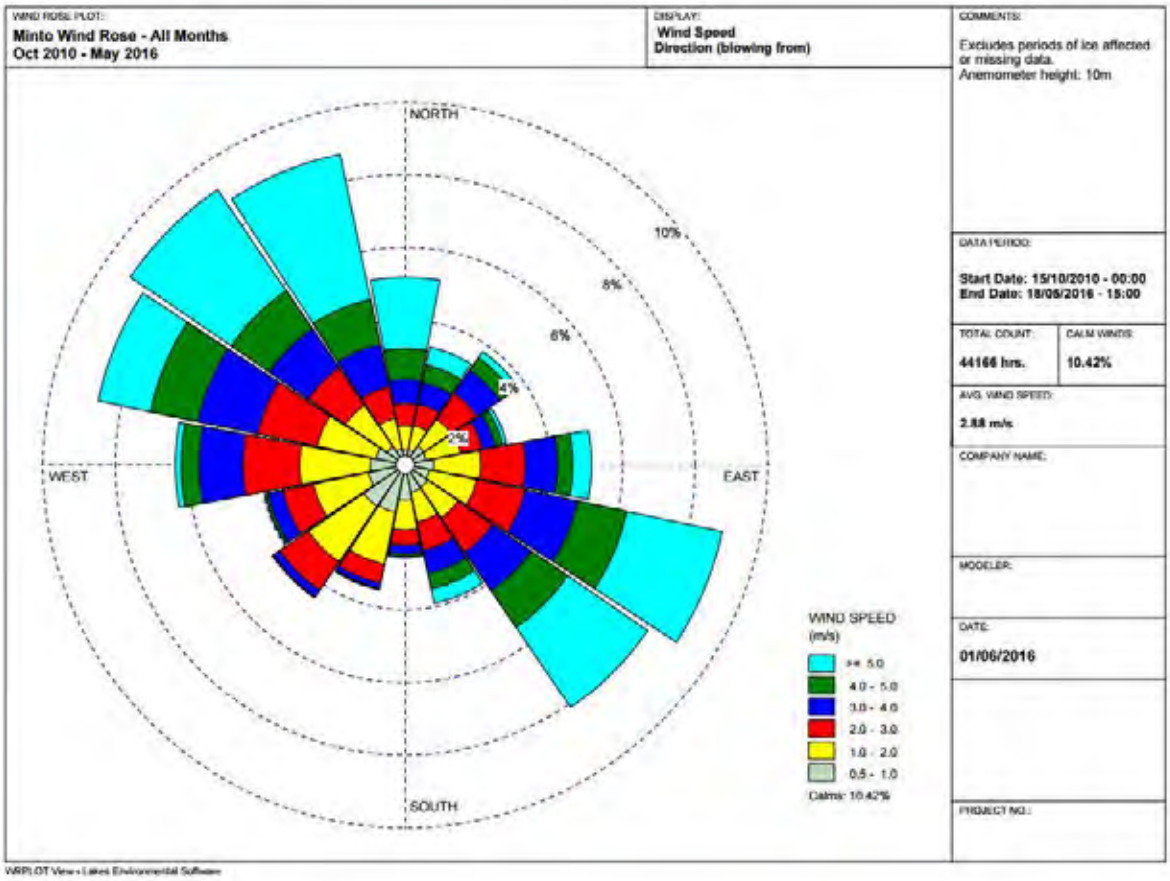


Figure 4-1: Minto Wind Rose - All months October 2010 - May 2016 (AEG)

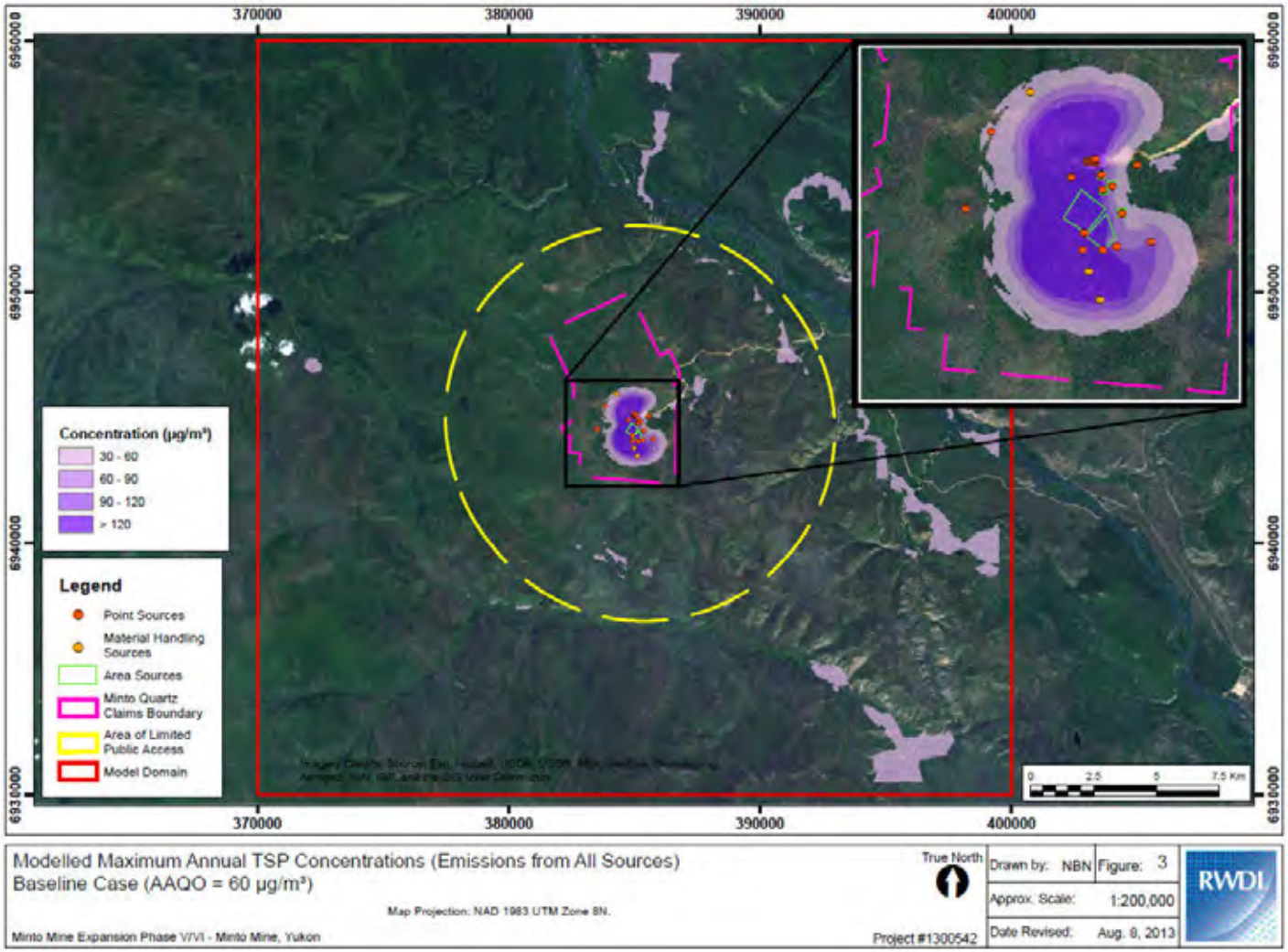


Figure 4-2: Modelled Maximum Annual TSP Concentrations Baseline Case (RWDI, 2013)

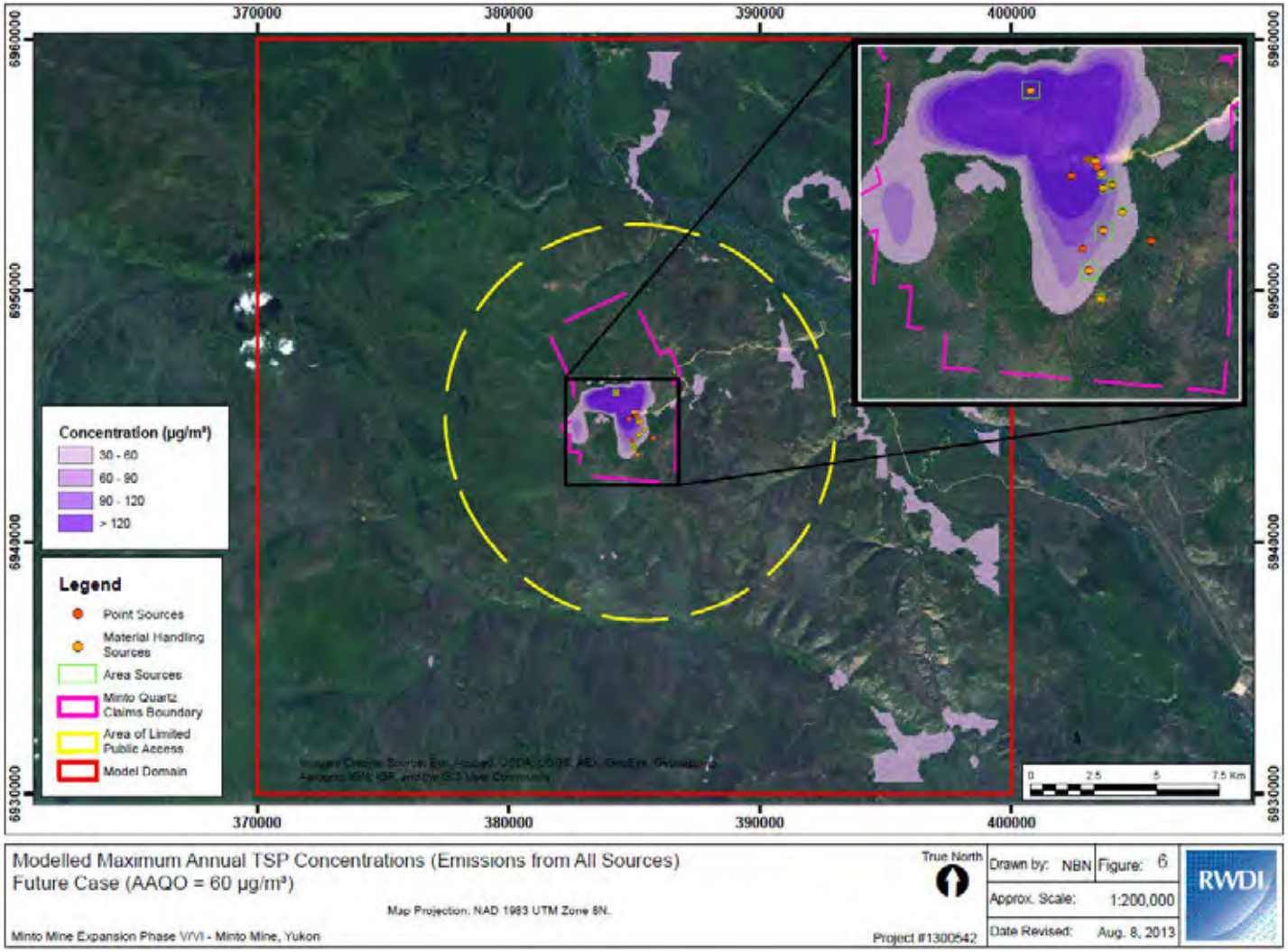


Figure 4-3: Modelled Maximum Annual TSP Concentrations Future Case (RWDI, 2013)

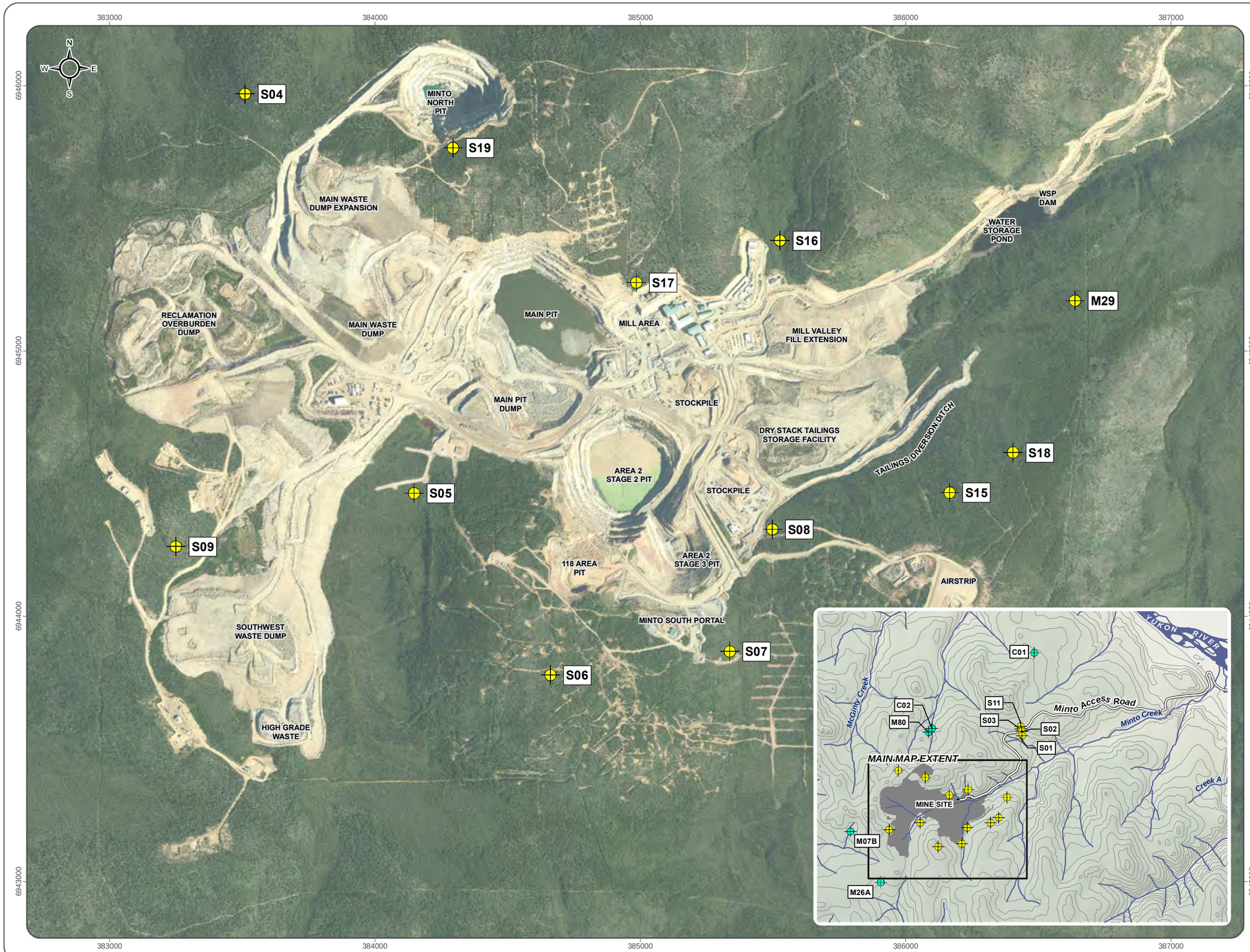
MINTO MINE

MINTO MINE - SITE CHARACTERIZATION
VEGETATION

FIGURE 4-4

2016 VEGETATION METAL UPTAKE MONITORING NETWORK

DECEMBER 2017



Control Plot
Exposure Plot
Minto Access Road
Mine Footprint
Waterbody
Watercourse

1:13,500 *when printed on 11 x 17 inch paper*

0 50 100 200 300 400 500 Meters

Aerial imagery obtained from Challenger Geomatics. Imagery acquired August 9rd 2017

Datum: NAD 83 Projection: UTM Zone 8N

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(*Last edited by: amatlashevska;31/01/2018/14:08 PM*)

Table 4-1: Documents Reviewed Prior to Vegetation Metal Uptake Program Execution

Document Reviewed	Relevant Information	Incorporation in VMU Program
Minto Mine Environmental Baseline Ecosystems and Vegetation Report (Horizon Ecosystem Consultants, 2010)	Ten soil samples were collected from the following ecological plots: M07, M29, M35, M54, M54A, M76A, M80, M84, M85, M90A, and M93. Metals analysis were not conducted on these samples but ecological site descriptions were recorded providing valuable site information	Sites were revisited when appropriate ecological conditions were present and the plant species of interest were present within the area,
2010 Reclamation Research Report by Access Consulting Group (Access Consulting Group, 2010)	Lab analysis of 12 soil samples for metals, nutrient levels and texture. Soil samples from revegetation plots. Metal analysis of grasses used in revegetation and naturally regenerating willows.	Minimal incorporation into the VMU program as samples were collected on disturbed and reclaimed soil and could not accurately represent the existing natural condition.
2007, 2008 and 2009 Revegetation Trial Reports by Stu Withers/Access Consulting Group (Access Consulting Group, 2007, 20085, 2009)	Two soil samples were collected from the overburden stockpile in late March 2007 and were analyze for texture, metals (ICP Method) and nutrients. The analysis results were similar for both samples, with both looking reasonably good for reclamation purposes. (ACG, 2007)	Data was not incorporated into VMU program. After review it was noted that the source location of the soil samples could not be accurately identified. Samples do not confidently confirm the natural soil condition.
Minto Mine Phase V/VI, YESAB Project Proposal, Minto Climate Baseline Report, 2014 (Access Consulting Group, 2014)	Provides meteorology data and climate trends, such as prevailing wind directions, precipitation and temperature.	Predominant wind direction was used in determining the location of control and exposure plots.
Minto Mine Phase V/VI Reclamation and Closure Plan version 5.1	Reclamation schedule indicates timing of closure for specific dust sources. Health and safety objectives.	Guided the VMU program objectives and contributed an understanding of projected revegetation efforts and waste cover prescriptions, that will reduce dust sources and runoff.
2013 Particulate Matter Dispersion Modelling (RWDI, 2013).	Modeled extent of TSP concentration relating to existing mining activities	Used determine the location of exposure and control plot locations.
Vegetation Metal Uptake studies completed for Casino baseline (EDI, 2013), Keno closure (Access Consulting Group, 2012) and during Red Dog (Teck, 2005) mine operations.	To ensure the degree of detail for VMU is consistent with other mineral extraction projects in northern jurisdictions.	reviewed as a means to compare VMU procedures and EMR expectations.

4.2.2 Selected Target Vegetation Species

Active mine sites by their nature are often situated in highly mineralized areas. In-situ soils and vegetation growing in the soils may have naturally elevated concentrations of metals due to local mineralization of the surficial parent material or near surface lithic layers. During the development and operation of a mine site, metals can mobilize from mined material by aqueous transport into immediate aquatic environments, and dust can be transported by wind to terrestrial areas. Metals can accumulate in these receiving environments over time; while accretion processes are highly complex, plants can become intermediaries or vectors in conveying metals to higher trophic levels when consumed by herbivores, which subsequently become prey for carnivores (CCME, 2006).

The potential for bioaccumulation of metals, and the degree to which it can occur, is a function of a number of variables, and the accumulation process is highly complex. In addition, harvesting and consumption of vegetation and mammals by people can present an exposure pathway for metals to humans. Two predominant pathways for metal uptake to occur in vegetation are uptake through plant roots from the soil and uptake through the leaves from airborne dust dispersion (Kabata-Pendias et al., 2011). Additionally, there are two effects pathways of concern from metal accumulation in vegetation: effects to wildlife, and effects to humans. There are numerous plants species that are either known or expected to be consumed directly by wildlife in the study area. To a lesser degree, there are some plant species in the study area which are known to be consumed by humans as part of traditional gathering.

Target species selection was based on a review of the vegetation metal uptake programs outlined in Table 4-1 and through consultation with Selkirk First Nation (SFN). Five species, existing within the project site, were selected to be representative of the two pathways and their effects on wildlife and humans that utilize the area. The selected species, the vegetation sample type, and the rationale are provided in Table 4-2 below.

Table 4-2: Selected Target Vegetation Species for Metal Uptake

Target Plants	Plant Part to be Collected	Rationale for Selection
Willows (*Salix* spp.)	Leaves	Willows are common in the project site. Willows hyper-accumulate cadmium (Cd) in leaves. Are important browse species for moose.
Horsetail (*Equisetum* spp.)	Plant	An accumulator of zinc (Zn). Consumed by moose and bear.
Blueberries (*Vaccinium* ssp.) or Soapberries	Fruit	Human gathering/bear and bird forage.
Labrador tea (*Rhododendron* ssp.)	Leaves	Medicinal uses. Bog Labrador teas leaves and twigs are browsed by caribou and moose in small quantities.
Lichen (*Cladonia, Cladina*, and *Stereocaulon* spp.)	Thallus	Lichen does not vary with the seasons, and accumulation of dust can occur throughout the year with the exception of snow cover. Caribou browse.

4.2.3 Field Investigation

Field site selection and collection of samples took place during the week of August 8th – 12th, 2016 by Mitchell Heynen of AEG and one of Minto's Environmental Officers. Sites selected during the initial development of the monitoring network were adjusted in the field when necessary to include multiple target vegetation species for sampling. Adjustment often involved moving 50-150 m to a position on the landscape that had a greater soil moisture regime, therefore promoting greater species diversity. The newly selected site was placed in a uniform and continuous landscape to best represent the ecosystem conditions being sampled. The geographical coordinates were recorded for future monitoring. The 2016 VMU sampling program resulted in the establishment of five control monitoring sites outside the mine effected area and sixteen exposure monitoring sites in close proximity to mine infrastructure and the access road. At each of the established monitoring sites soil and vegetation samples were collected. A summary of the site locations and associated samples to be collected are presented in Table 4-3 and Figure 4-4, respectively.

Key components of the monitoring program at each station included the following four items:

1. Selection of an appropriate microsite in the vicinity of the proposed station identified on the map;
2. Station establishment documenting location, relevant ecological attributes of the station area and photos of the established plot (see Appendix H);
3. Soil sampling at multiple horizons; and
4. Vegetation tissue sampling of relevant species within the plot location.

Table 4-3: Summary of Monitoring Sites and Samples

Site ID	Blueberry	Horsetail	Labrador Tea	Lichen	Willow	Soil horizons sampled
Control Site						
C01		X	x	x	x	X
C02		X	x	x	x	X
M80			x		x	X
M26	x		x	x	x	X
M07b		X	x	x	x	X
Exposure Site						
S03				x	x	x
S11				x	x	x
S04					x	x
S02						x
S01			x	x	x	x
S18		x	x	x	x	x
S15		x	x		x	x
S08	x		x	x	x	x
M29		x	x	x	x	x
S16		x	x		x	x
S05		x	x	x	x	x
S06			x		x	x

S07	x	x	x		x	x
S17					x	x
S19			x		x	x
S09					x	x

4.2.3.1 Site Selection and Establishment

Exposure and control sites were first generally located based on maps and air quality modelling, and then pinpointed in the field based on the following criteria:

- Disturbed locations were avoided where soil was exposed and vegetation damaged;
- The microsite had at least two of the plant species of interest;
- Relatively undisturbed sites were chosen where soil pedon was not fragmented and vegetation established (early successional communities were acceptable); and
- The location was chosen to be representative of the surrounding ecosystem conditions and the vegetation was of uniform composition.

The monitoring site was established once chosen. The following steps were followed to ensure that all stations were established using the same criteria and can be easily relocated for future monitoring. The steps included:

- The soil pit was situated in proximity to where the roots of the plants to be sampled were present. The soil pit was used as the center of the plot;
- For permanent plots, an aluminum pin with flagging was installed at the plot center and plot ID, date of visit and project number were recorded. For exposure plots the plot center was flagged with two pieces of flagging tape and the plot ID, date and project number were recorded; GPS coordinates were recorded for each location with station ID; and
- An ecological attribute form was completed for each station, which included the following details:
    - Mesoslope position, slope and aspect;
    - Dominant vegetation and main cover heights;
    - Plant species sampled;
    - Successional stage;
    - Signs of wildlife diggings, browsing and/or grazing;
    - Signs of site disturbance;

- Distance from possible dust source (can be determined from map); and
- Photographs of the soil pit and a representative shot of the site.

4.2.3.2 Soil Characterization and Sampling

Soil sampling was conducted at each site by digging a soil pit to a depth of greater then 60 cm or until a restricting layer such as ice or rock was encountered. Once the pit was excavated it was characterized into organic and mineral horizons based on Field Manual for Describing Terrestrial Ecosystems 2nd Edition (BC MFR and BC MOE, 2010).

Soil samples were collected from the top surface layer of mineral soil at a depth of 4–10 cm (within the rooting zone of plants to be sampled) and again at 20-30 cm. Where possible, a third sample was taken deeper than 30 cm to determine migration potential of specific metals through the pedon.

The procedure involved:

1. Characterizing the soil pit, delineating different soil horizons, taking photographs and recording field notes on standardized datasheets.
2. A composite grab sample was taken from each distinguishable horizon wearing nitrile gloves and using clean sampling equipment (spade or knife) rinsed in deionized water.
3. Approximately 300 g of soil was placed in a fresh plastic sample bag and labelled with sample site identifier, date, project number and sampler's initials.
4. Samples were kept cool and out of the light in coolers with ice packs.

4.2.3.3 Vegetation Sampling

Vegetation sampling was conducted adjacent to the site soil pit. When possible, the pit was placed at the roots of as many of the target species as feasible to provide accurate analysis of the soil substrate growing conditions. Vegetation samples were collected wearing clean nitrile gloves to pick the desired healthy plant parts which were placed in a sterile sealable plastic bag. Sampling of plant tissue focused on a single specimen of a species adjacent to the soil pit; however, where limited supply was encountered tissue samples were composed of the closest communities of the same species. Approximately 100-150 g of tissue was collected in the sample bag, sealed and labeled with sample site identifier, date, project number and sampler's initials. Samples were kept frozen and out of direct light until delivered to the lab.

4.2.4 Laboratory Analysis

Each vegetation tissue sample was homogenized by the lab and divided into two subsamples, one sample was rinsed with deionized water and the second sample left unrinsed. The two subsamples were then analyzed independently to try and understand the degree of metal contamination being contributed by dust. The rationale being the unrinsed vegetation analysis would reflect the total amount of metals both external from dust and internal from soil while the rinsed samples reflect the metals being up taken from the soil. Samples were analyzed in wet weight (mg/kg) and dry weight (mg/kg) as a means to determine percent moisture per sample. Results are presented in dry weight consistent with the British Columbia Environmental Laboratory Manual (Austin, 2015).

All soil samples analyses by the lab followed standard protocols for inductively coupled plasma mass spectrometry (ICP-MS) total metals, pH, texture and cation exchange capacity (CEC).

The ICP-MS analysis for metal concentrations is sensitive in detecting concentrations in the range of micrograms per kilogram. Due to this level of sensitivity, soil samples were carefully sampled and placed in sealed plastic bags for shipping to avoid compromising the results. The following quality control and quality assurance protocols were carried out to ensure the results were of high quality.

4.2.5 Quality Assurance and Quality Control (QA/QC)

QA/QC measures were established to quantify laboratory or field variability within the data. Laboratory QA/QC were based on ALS Global standards and consisted of comparing samples to certified references material and internal reference material as well as conducting method blanks, duplicates and laboratory control sample tests. Laboratory defined Data Quality Objectives (DQO) were used to determine if laboratory duplicate results met the specific replicate criteria for QA/QC standards. DQO thresholds for vegetation samples is 40% variation in concentration of metals and for soils ranges from 30 – 40 % depending on the element.

Field variability was quantified with duplicate samples collected at a rate of one per 10 samples and submitted to the lab under a pseudonym sample number. The lab results were compared between duplicates to understand variability that was introduce by the field sampling methodology.

Relative Percent Difference (RPD) was used to determine field variability and is the difference between the sample result and replicate result, divided by the average of the sample result and replicate result and expressed as a percentage.

$$RPD = \frac{(\text{Field Sample Concentration} - \text{Duplicate Sample Concentration})}{(\text{Field Sample Concentration} + \text{Duplicate Sample Concentration})/2} \text{ X } 100\%$$

Where analyte results have RPD >25% a subsequent check was done against the laboratory detection limit (DL) to establish if the practical quantitation limit (PQL) was met. The PQL is five times the DL and is defined as the minimum concentration that can be measured within specified limits of precision and accuracy. Both the sample result and the replicate result need to be above the PQL for the analyte to be considered as 'meeting the PQL'. If one result from the sample or duplicate is greater than five times the DL and one result is less than five times the DL, then the 'PQL is not met'. An analyte with results below the PQL indicates that the constituent

being analyzed is not present in a sufficient amount to be reliably quantified. Typically, as parameters approach their detection limit, high variability is more likely to occur. The RPD of 25% can be used as a benchmark whereby results with an RPD >25% warrant further comment or consideration.

4.3 RESULTS

Results from the 2016 VMU sampling program are separated into vegetation and soil, and compared against soil quality guidelines. These are presented in the following subsections.

4.3.1 Soil Guidelines

The Canadian Council of Ministers of the Environment (CCME) released Canadian Environmental Quality Guidelines (CEQG) to measure parameters in soil and to provide "science based goals for the quality of atmospheric, aquatic, and terrestrial ecosystems" (CCME, 2006). The recommended Canadian soil quality guidelines are derived specifically for the protection of ecological receptors in the environment or for the protection of human health associated with four land uses: agricultural, residential and parkland, commercial, and industrial (CCME, 1999). The guidelines for metals in soil are presented in Table 4-4, and the industrial land use guidelines were chosen as the most appropriate for assessing metal concentrations reported in the soil results.

Guidelines are not currently established for comparing metal concentration in vegetation tissue.

Table 4-4: CCME Soil Quality Guidelines for the Protection of Environmental and Human Health

Chemical Name	Chemical Groups	Agricultural	Residential/ Parkland	Commercial	Industrial	Guideline Date
		Concentration (mg/kg dry weight)				
Antimony	Inorganic Metals	20	20	40	40	1991
Arsenic	Inorganic Metals	12	12	12	12	1997
Barium	Inorganic Metals	750	500	2,000	2,000	2013
Beryllium	Inorganic Metals	4	4	8	8	2015
Boron	Inorganic Metals	2	No data	No data	No data	1991
Cadmium	Inorganic Metals	1.4	10	22	22	1999
Chromium (total)	Inorganic Metals	64	64	87	87	1997
Chromium (Cr(VI))	Inorganic Metals	0.4	0.4	1.4	1.4	1999
Cobalt	Inorganic Metals	40	50	300	300	1991

Chemical Name	Chemical Groups	Agricultural	Residential/ Parkland	Commercial	Industrial	Guideline Date
		Concentration (mg/kg dry weight)				
Copper	Inorganic Metals	63	63	91	91	1999
Lead	Inorganic Metals	70	140	260	600	1999
Mercury	Inorganic Metals	6.6	6.6	24	50	1999
Molybdenum	Inorganic Metals	5	10	40	40	1991
Nickel	Inorganic Metals	45	45	89	89	2015
Selenium	Inorganic Metals	1	1	2.9	2.9	2009
Silver	Inorganic Metals	20	20	40	40	1991
Thallium	Inorganic Metals	1	1	1	1	1999
Tin	Inorganic Metals	5	50	300	300	1991
Uranium	Inorganic Metals	23	23	33	300	2007
Vanadium	Inorganic Metals	130	130	130	130	1997
Zinc	Inorganic Metals	200	200	360	360	1999

4.3.2 Vegetation

Vegetation samples were analyzed for moisture and total metal concentration with results presented as dry weight concentration in milligrams per kilogram (mg/kg). A complete table of vegetation results including wet and dry weight concentrations can be found in Appendix G. Mean metal concentrations for the metals were compared between the unrinsed and rinsed samples for each vegetation species and are presented in Table 4-5. Note that statistics were calculated using half the method detection limit where results were reported as less than detection.

Table 4-5: Mean Vegetation Metal Concentration in Unrinsed and Rinsed Samples

Metal Concentration		Blueberry (n=3)			Horsetail (n=9)			Labrador Tea (n=15)			Lichen (n=12			Willow (n=21)		
Dry Weight (mg/kg)		Unrinsed	Rinsed	Mean difference[1]	Unrinsed	Rinsed	Mean difference[1]	Unrinsed	Rinsed	Mean difference[1]	Unrinsed	Rinsed	Mean difference[1]	Unrinsed	Rinsed	Mean difference[1]
Aluminum (Al)	**Mean**	**7.17**	**5.97**	**1.20**	**75.00**	**55.70**	**19.30**	**95.98**	**81.35**	**14.63**	**622.33**	**487.66**	**134.68**	**114.92**	**81.41**	**33.51**
	Std Dev	3.99	2.97		71.22	51.87		97.63	69.84		500.02	382.82		99.03	60.27	
Arsenic (As)	**Mean**	**0.01**	**0.01**	**0.00**	**0.03**	**0.03**	**0.00**	**0.03**	**0.03**	**0.00**	**0.20**	**0.17**	**0.00**	**0.04**	**0.03**	**0.00**
	Std Dev	0.00	0.00		0.02	0.02		0.03	0.02		0.11	0.09		0.03	0.02	
Cadmium (Cd)	**Mean**	**0.18**	**0.10**	**0.08**	**0.08**	**0.08**	**0.00**	**0.01**	**0.00**	**0.00**	**0.07**	**0.06**	**0.01**	**1.18**	**1.22**	**-0.05**
	Std Dev	0.06	0.04		0.06	0.06		0.00	0.00		0.06	0.03		0.92	0.92	
Chromium (Cr)	**Mean**	**0.03**	**0.03**	**0.00**	**0.05**	**0.04**	**0.00**	**0.07**	**0.08**	**0.00**	**0.53**	**0.42**	**0.00**	**0.09**	**0.06**	**0.00**
	Std Dev	0.00	0.00		0.03	0.03		0.04	0.10		0.45	0.31		0.08	0.06	
Copper (Cu)	**Mean**	**5.88**	**3.55**	**2.32**	**38.97**	**29.07**	**9.90**	**24.95**	**22.90**	**2.05**	**176.97**	**155.01**	**21.96**	**26.73**	**20.33**	**6.40**
	sd	1.86	0.28		43.94	32.02		21.05	17.89		235.98	192.46		28.05	19.28	
Iron (Fe)	**Mean**	**19.30**	**15.20**	**4.10**	**173.86**	**129.03**	**44.82**	**162.05**	**145.75**	**16.30**	**1107.17**	**902.00**	**205.17**	**217.79**	**159.87**	**57.92**
	Std Dev	5.92	5.05		156.75	104.39		148.02	115.15		974.98	760.34		169.03	107.07	
Manganese (Mn)	**Mean**	**70.07**	**37.73**	**32.33**	**212.60**	**230.70**	**-18.10**	**522.56**	**551.81**	**-29.25**	**100.35**	**91.99**	**8.36**	**404.21**	**392.85**	**11.36**
	Std Dev	35.12	19.02		121.58	123.18		450.38	473.88		37.31	39.67		529.34	581.56	
Molybdenum (Mo)	**Mean**	**0.40**	**0.23**	**0.16**	**0.57**	**0.57**	**0.00**	**0.29**	**0.32**	**-0.02**	**0.29**	**0.24**	**0.05**	**0.61**	**0.62**	**-0.01**
	Std Dev	0.25	0.18		0.57	0.51		0.21	0.23		0.30	0.20		0.54	0.53	
Nickel (Ni)	**Mean**	**0.67**	**0.39**	**0.28**	**0.86**	**0.87**	**-0.01**	**0.57**	**0.58**	**-0.01**	**0.69**	**0.68**	**0.01**	**4.22**	**4.09**	**0.13**
	Std Dev	0.31	0.25		0.48	0.53		0.55	0.57		0.41	0.48		4.37	4.40	
Lead (Pb)	**Mean**	**0.01**	**0.01**	**0.00**	**0.05**	**0.03**	**0.00**	**0.04**	**0.03**	**0.00**	**0.33**	**0.28**	**0.00**	**0.05**	**0.05**	**0.00**
	Std Dev	0.00	0.00		0.05	0.04		0.04	0.03		0.20	0.16		0.04	0.08	
Antimony (Sb)	**Mean**	**0.01**	**0.01**	**0.00**	**0.01**	**0.01**	**0.00**	**0.01**	**0.01**	**0.00**	**0.02**	**0.01**	**0.00**	**0.01**	**0.01**	**0.00**
	Std Dev	0.00	0.00		0.00	0.00		0.00	0.00		0.01	0.01		0.00	0.00	
Selenium (Se)	**Mean**	**0.03**	**0.03**	**0.00**	**0.09**	**0.07**	**0.00**	**0.03**	**0.03**	**0.00**	**0.18**	**0.16**	**0.00**	**0.11**	**0.11**	**0.00**
	Std Dev	0.00	0.00		0.14	0.10		0.01	0.01		0.20	0.17		0.16	0.16	
Zinc (Zn)	**Mean**	**16.33**	**8.55**	**7.78**	**33.71**	**35.89**	**-2.18**	**21.49**	**22.53**	**-1.04**	**16.54**	**14.74**	**1.80**	**75.55**	**73.13**	**2.42**
	Std Dev	3.70	0.61		17.15	19.63		4.35	4.52		5.63	4.03		55.19	51.82	

[1]Mean difference calculated by taking the difference between unrinsed and rinsed samples and then calculating the mean.

When comparing unrinsed to rinsed samples there was an overall decrease in COPC concentration with rinsing of samples. However, manganese, molybdenum, nickel, and zinc had slightly higher concentrations in Labrador tea, horsetail, and willow with the rinsing. This is likely a result of variation in homogenization and the lab's Data Quality Object (DQO) of 40% repeatability. The statistical package, R, was used to compare the unrinsed and rinsed samples of key metals that are cited in the literature as having the greatest potential effect on wildlife and human health (Roggeman et al., 2012; Csavina, 2012; European Commission, 2006; Australian Government, 2016). Although not a health risk, iron appeared to be affected by rinsing so was also assessed. A non-parametric statistical test was chosen since the data did not meet the requirements of normal distribution and equal variances. A paired sample Wilcoxon test was then chosen given the small sample size and each sample was both rinsed and unrinsed (i.e. paired and dependent). The tests were conducted using a significance level (p) of 0.05. If p is less than 0.05 then there is a 95% chance that the concentrations are statistically different. The results of the analyses are presented in Table 4-6.

Table 4-6: Paired Wilcoxon Results between Rinsed and Unrinsed Vegetation Samples

Metal of Concern[1]	Blueberry (n=3)[2]		Horsetail (n=9)		Labrador Tea (n=15)		Lichen (n=12		Willow (n=21)	
	Test Statistic	p-Value	Test Statistic	p-Value	Test Statistic	p-Value	Test Statistic	p-Value	Test Statistic	p-Value
Arsenic (As)	n/a	n/a	17.0	0.673	36.0	0.824	67.0	0.031	125.0	0.003
Cadmium (Cd)	6.00	0.250	27.0	0.652	24.0	0.441	51.0	0.366	64.5	0.079
Copper (Cu)	6.00	0.250	43.0	0.012	77.0	0.359	58.5	0.136	231.0	<0.001
Iron (Fe)	6.00	0.250	41.0	0.027	84.0	0.188	68.0	0.021	231.0	<0.001
Lead (Pb)	n/a	n/a	15.0	0.059	42.5	0.139	67.0	0.027	170.0	0.003
Zinc (Zn)	6.00	0.250	14.0	0.359	34.0	0.147	58.0	0.029	145.0	0.321

[1]Highlighted cells represent a $p < 0.05$ which is the significance value for accepting the null hypothesis (i.e., that there is a difference)
[2]n/a indicates that concentrations were below detection.

Results from the paired Wilcoxon test show significantly higher ($p<0.05$) in unrinsed than rinsed samples for three of the five species. Willow and lichen showed the most significant differences with four of the six metals significantly less in the rinsed samples compared to the unrinsed. Blueberry and Labrador tea showed no difference between rinsed and unrinsed samples.

Vegetation metal analyses were also compared between the control sites and the exposure sites to determine if there were any statistically significant differences between treatments. Results of this comparison are presented in Table 4-7.

Table 4-7: Mean Unrinsed Vegetation Metal Concentration Comparison between Control and Exposure sites

Metal Concentration		Blueberry			Horsetail			Labrador Tea			Lichen			Willow		
Dry Weight (mg/kg)		Control (n=1)	Exposure (n=2)	Percent Difference [1]	Control (n=3)	Exposure (n=6)	Percent Difference [1]	Control (n=5)	Exposure (n=10)	Percent Difference [1]	Control (n=4)	Exposure (n=8)	Percent Difference [1]	Control (n=5)	Exposure (n=16)	Percent Difference [1]
Aluminum (Al)	Mean	2.90	9.30	105%	12.80	106.10	157%	55.02	116.46	72%	182.00	842.50	129%	35.96	139.60	118%
	Std Dev		2.12		3.81	68.02		38.19	113.05		69.14	473.97		19.14	101.24	
Arsenic (As)	Mean	0.01	0.01	0%	0.03	0.04	34%	0.02	0.03	66%	0.11	0.25	82%	0.02	0.04	94%
	Std Dev		0.00		0.02	0.02		0.01	0.03		0.02	0.10		0.01	0.03	
Cadmium (Cd)	Mean	0.12	0.21	60%	0.09	0.08	19%	0.00	0.01	5%	0.03	0.09	108%	1.95	0.93	70%
	Std Dev		0.04		0.10	0.04		0.01	0.00		0.01	0.06		1.59	0.43	
Chromium (Cr)	Mean	0.03	0.03	0%	0.03	0.06	81%	0.07	0.07	3%	0.19	0.70	113%	0.04	0.10	89%
	Std Dev		0.00		0.00	0.04		0.04	0.05		0.04	0.47		0.02	0.09	
Copper (Cu)	Mean	4.11	6.76	49%	5.48	55.72	164%	7.16	33.85	130%	33.95	248.48	152%	8.31	32.49	119%
	Std Dev		1.48		1.60	45.60		4.20	20.44		25.04	264.02		2.76	29.97	
Iron (Fe)	Mean	12.60	22.65	57%	48.63	236.47	132%	71.84	207.16	97%	301.00	1510.25	134%	78.60	261.28	107%
	Std Dev		1.63		17.67	158.35		37.33	163.34		117.95	964.75		29.00	171.45	
Manganese (Mn)	Mean	44.00	83.10	62%	127.43	255.18	67%	536.18	515.75	4%	65.78	117.64	57%	183.80	473.09	88%
	Std Dev		38.04		74.41	122.11		689.06	323.05		42.14	20.05		115.56	590.58	
Molybdenum (Mo)	Mean	0.68	0.26	89%	0.40	0.66	50%	0.31	0.28	9%	0.08	0.39	133%	0.48	0.65	29%
	Std Dev		0.11		0.16	0.69		0.18	0.23		0.02	0.32		0.32	0.60	
Nickel (Ni)	Mean	1.02	0.49	70%	0.83	0.88	6%	0.56	0.58	3%	0.29	0.89	101%	7.12	3.32	73%
	Std Dev		0.07		0.82	0.31		0.55	0.58		0.04	0.36		7.83	2.33	
Lead (Pb)	Mean	0.01	0.01	0%	0.01	0.07	147%	0.02	0.05	84%	0.17	0.40	81%	0.02	0.06	97%
	Std Dev		0.00		0.00	0.05		0.01	0.04		0.03	0.21		0.01	0.04	
Antimony (Sb)	Mean	0.01	0.01	0%	0.01	0.01	38%	0.01	0.01	36%	0.01	0.02	40%	0.01	0.01	48%
	Std Dev		0.00		0.00	0.00		0.00	0.00		0.01	0.01		0.01	0.00	
Selenium (Se)	Mean	0.03	0.03	0%	0.03	0.12	131%	0.03	0.03	27%	0.04	0.24	139%	0.12	0.11	12%
	Std Dev		0.00		0.00	0.17		0.00	0.02		0.02	0.22		0.16	0.17	
Zinc (Zn)	Mean	12.60	18.20	36%	19.63	40.75	70%	21.52	21.47	0%	12.61	18.50	38%	121.80	61.10	66%
	Std Dev		2.55		9.14	16.09		5.81	3.80		4.26	5.38		61.43	46.03	

[1]Percent difference is the difference in mean exposure concentration from the mean control concentration divided by the average of both concentrations

Unrinsed samples were selected for comparison between exposure and control sites to avoid any variability that may have been introduced as a result of the rinsing process. Interpretation of the percent difference between control and exposure sites shows greater mean concentrations of metals in vegetation at exposure sites than the control sites. However, these data also show that exposure sites have greater standard deviation in metal concentrations when compared to controls suggesting more variability among samples. Samples size for exposure sites compared to control sites also contributed to the higher variance. Figure 4-5 to Figure 4-17 Figure 4-5 to Figure 4-17 present the mean difference in concentration and variation for respective metals by species between exposure and control sites. Error bars are +/- one standard deviation which is an indication of variation in data from the mean value.

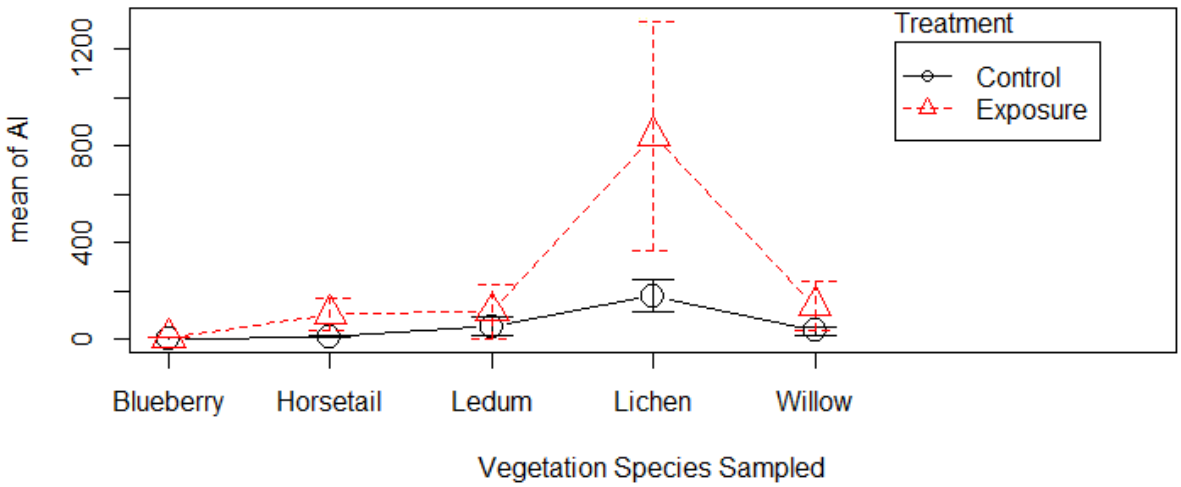

Figure 4-5: Comparison of Mean Aluminum Concentration (mg/kg) between Control and Exposure Sites (Error bar +/- 1 SD)

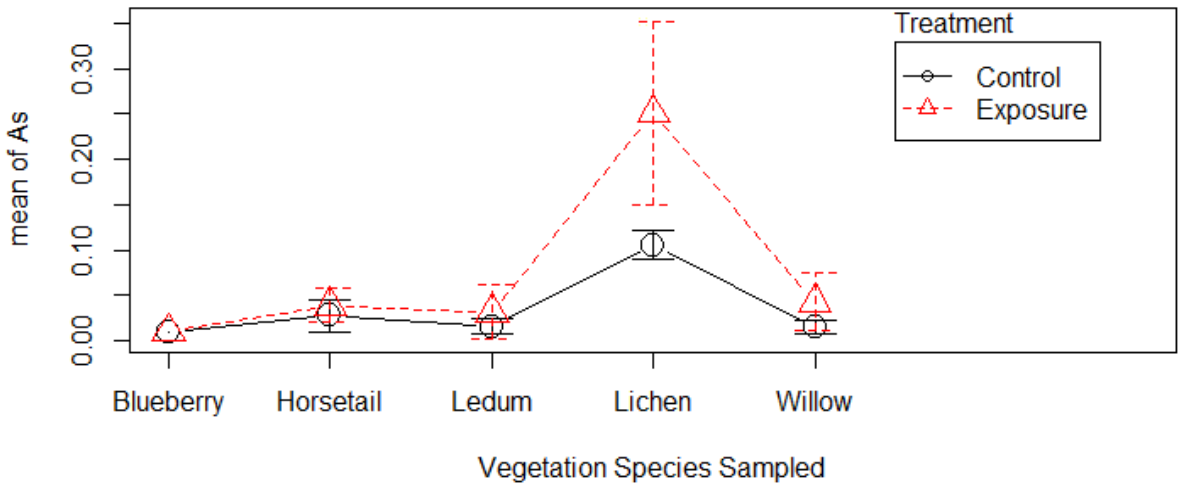

Figure 4-6: Comparison of Mean Arsenic Concentration (mg/kg) between Control and Exposure Sites (Error bar +/- 1 SD)

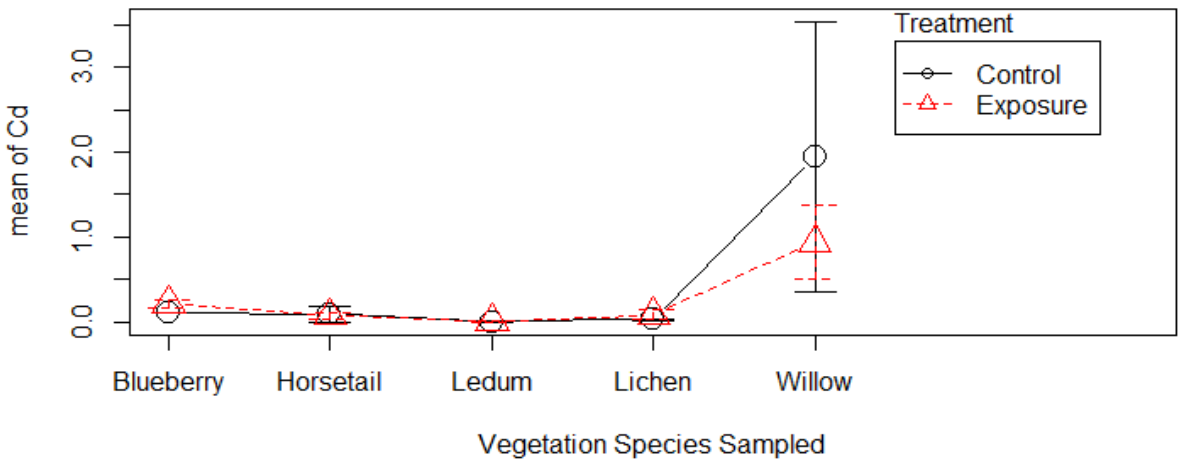

Figure 4-7: Comparison of Mean Cadmium Concentration (mg/kg) between Control and Exposure Sites (Error bar +/- 1 SD)

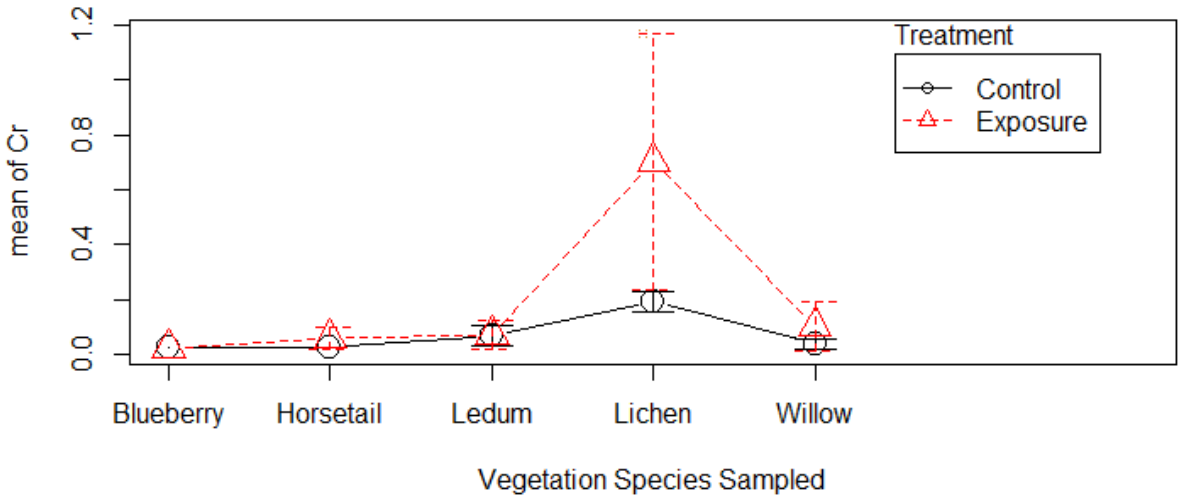

Figure 4-8: Comparison of Mean Chromium Concentration (mg/kg) between Control and Exposure Sites (Error bar +/- 1 SD)

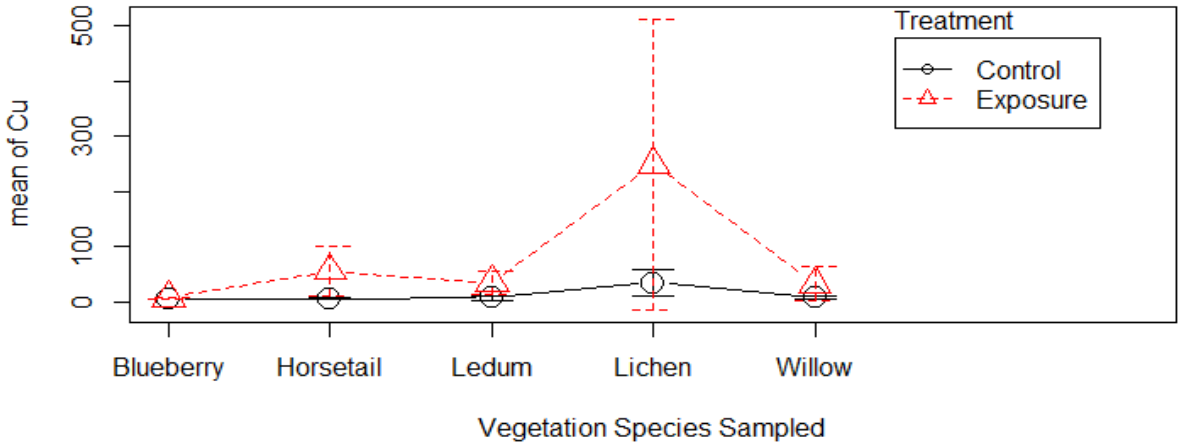

Figure 4-9: Comparison of Mean Copper Concentration (mg/kg) between Control and Exposure Sites (Error bar +/- 1 SD)

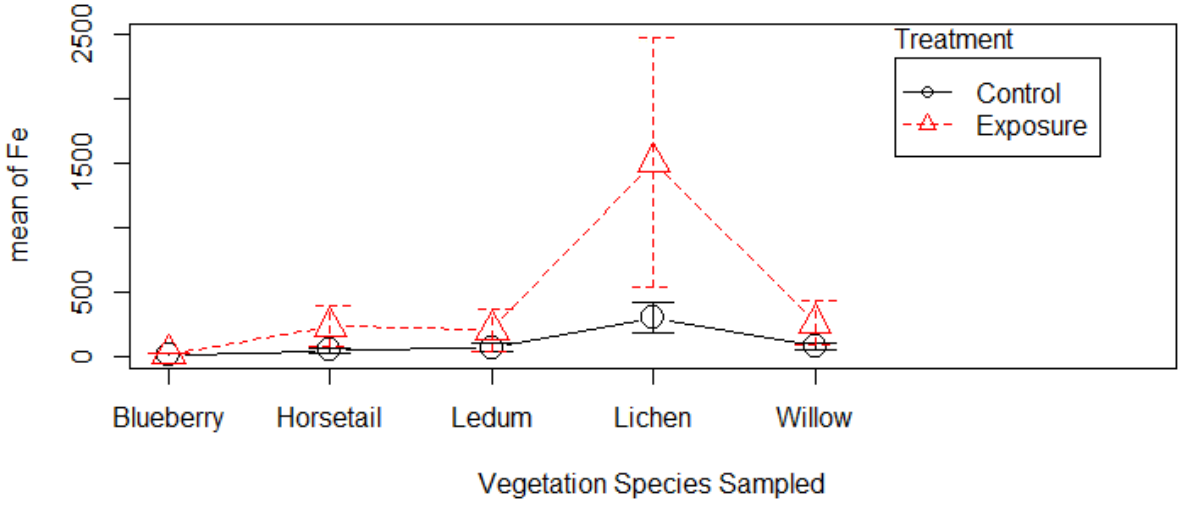

Figure 4-10: Comparison of Mean Iron Concentration (mg/kg) between Control and Exposure Sites (Error bar +/- 1 SD)

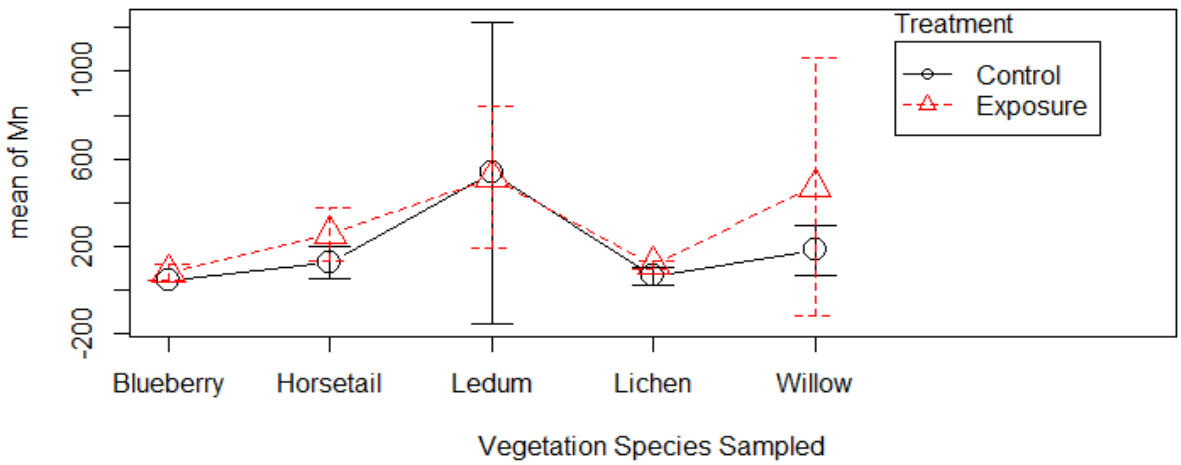

Figure 4-11: Comparison of Mean Manganese Concentration (mg/kg) between Control and Exposure Sites (Error bar +/- 1 SD)

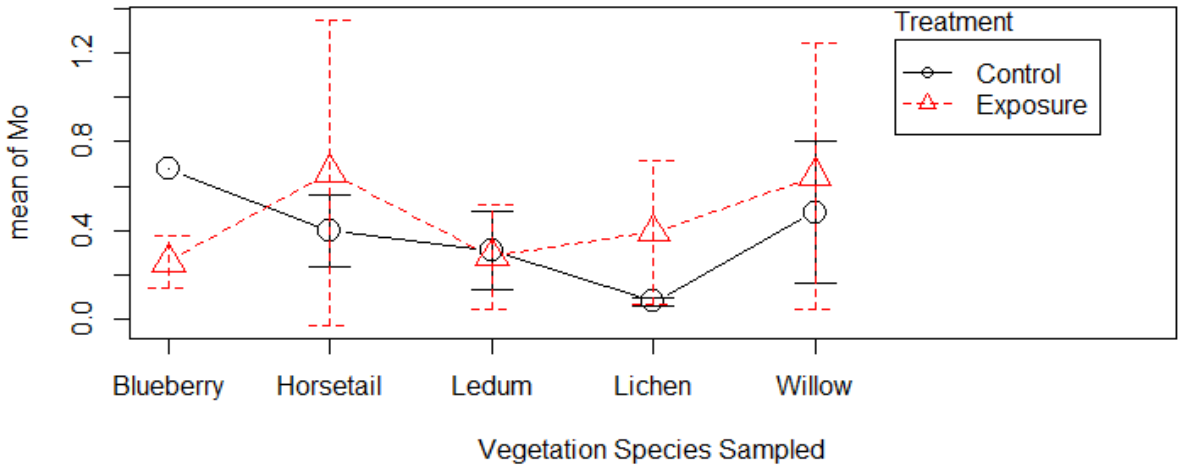

Figure 4-12: Comparison of Mean Molybdenum Concentration (mg/kg) between Control and Exposure Sites (Error bar +/- 1 SD)

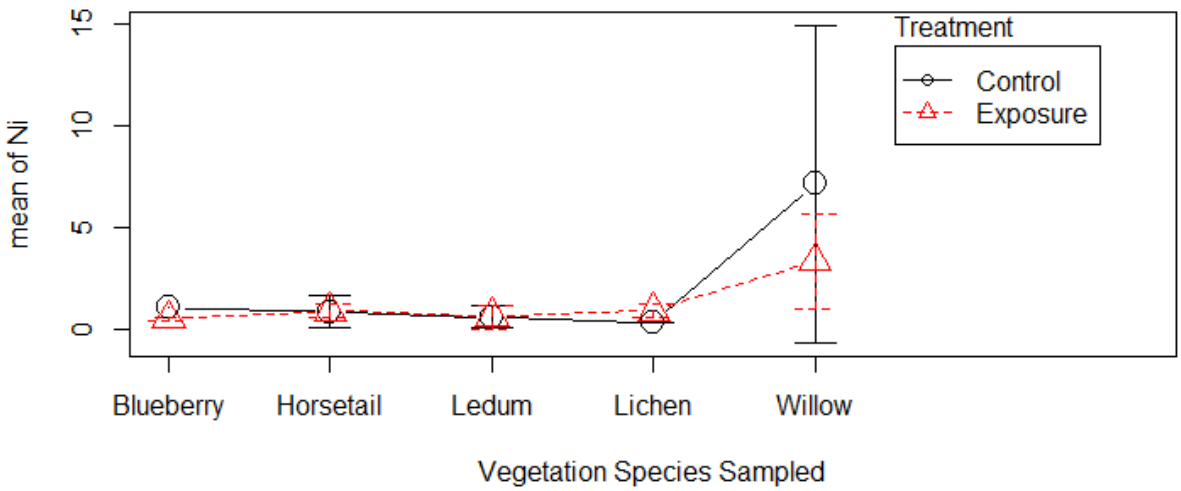

Figure 4-13: Comparison of Mean Molybdenum Concentration (mg/kg) between Control and Exposure Sites (Error bar +/- 1 SD)

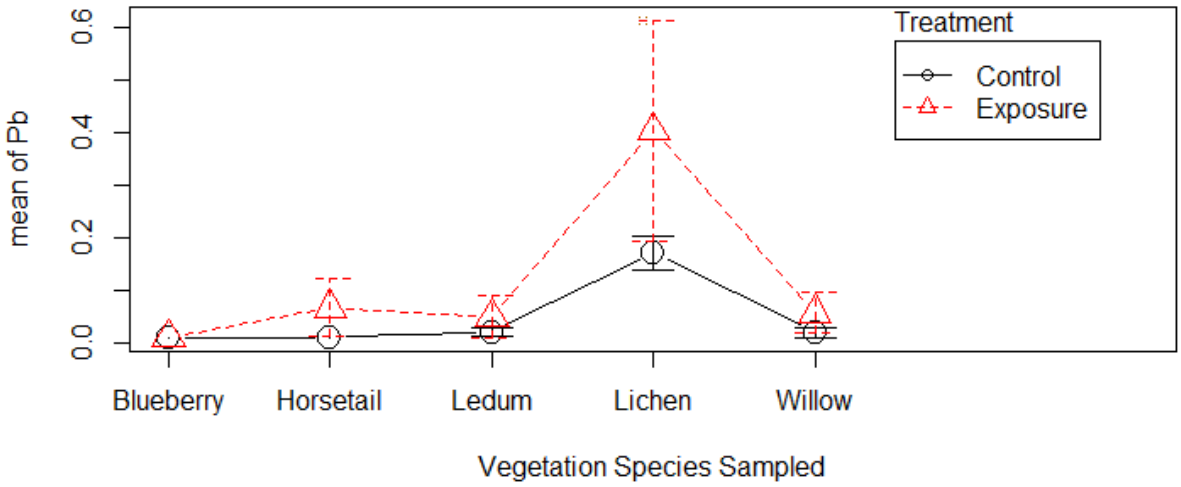

Figure 4-14: Comparison of Mean Lead Concentration (mg/kg) between Control and Exposure Sites (Error bar +/- 1 SD)

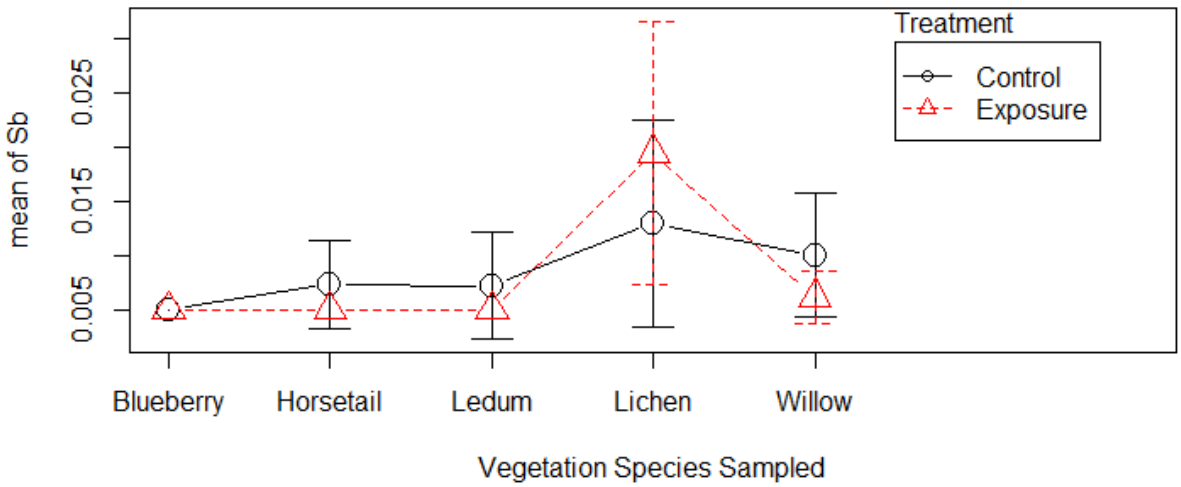

Figure 4-15: Comparison of Mean Antimony Concentration (mg/kg) between Control and Exposure Sites (Error bar +/- 1 SD)

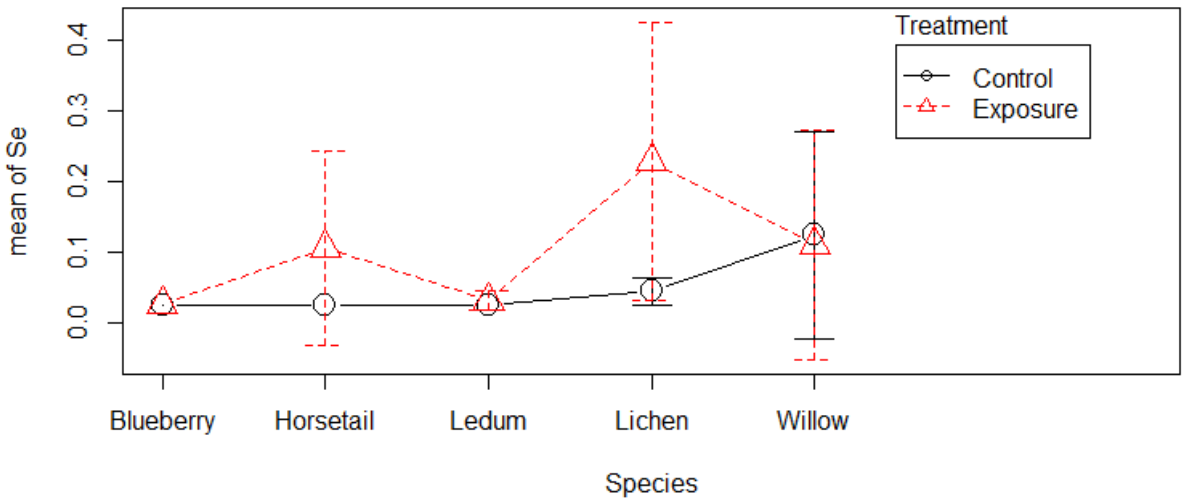

Figure 4-16: Comparison of Mean Selenium Concentration (mg/kg) between Control and Exposure Sites (Error bar +/- 1 SD)

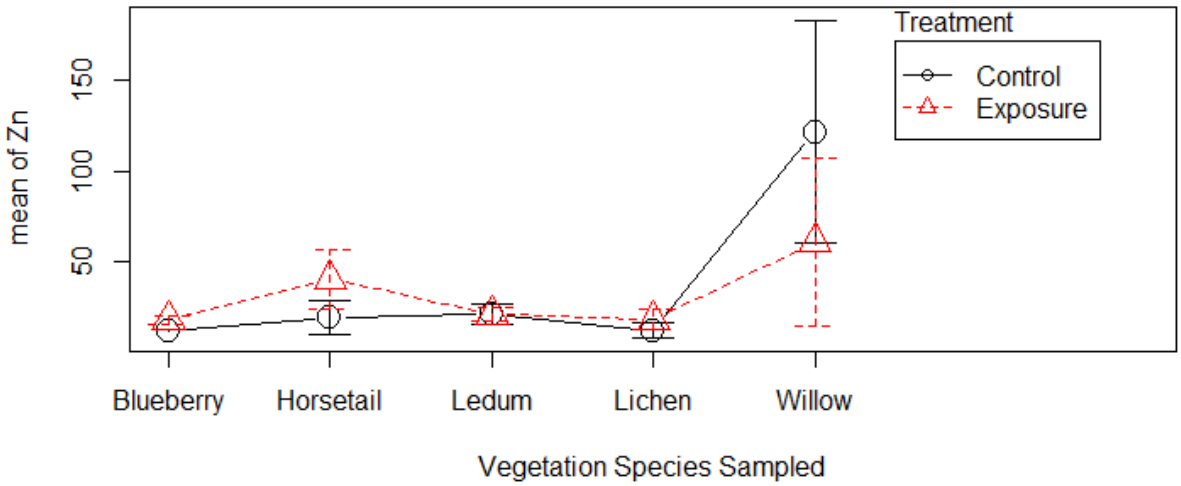

Figure 4-17: Comparison of Mean Zinc Concentration (mg/kg) between Control and Exposure Sites (Error bar +/- 1 SD)

A two sample Wilcoxon test was preformed between exposure and control sites for each species for selected metals. A two sample test was used rather than a paired test because the exposure and control samples are independent samples (i.e., not linked). Results were compared to a significance level of 0.05 and are presented in Table 4-8.

Table 4-8: Two Sample Wilcoxon Results between Exposure and Control Sites

Metal of Concern	Blueberry (n=3)		Horsetail (n=9)		Labrador Tea (n=15)		Lichen (n=12)		Willow (n=21)	
	Test Statistic[2]	p-Value	Test Statistic	p-Value	Test Statistic	p-Value	Test Statistic	p-Value	Test Statistic	p-Value
Arsenic (As)	n/a	n/a	4.50	0.298	14.5	0.206	1.0	0.008	14.0	0.034
Cadmium (Cd)	0.0	0.6667	9.00	1.000	20.0	0.534	0.0	0.004	60.0	0.107
Copper (Cu)	0.0	0.6667	0.00	0.024	2.5	0.007	5.0	0.073	60.0	0.107
Iron (Fe)	0.0	0.6667	0.00	0.024	7.0	0.028	0.0	0.004	7.0	0.007
Lead (Pb)	n/a	n/a	1.50	0.059	11.0	0.095	2.0	0.016	10.0	0.015
Zinc (Zn)	0.0	0.6667	2.0	0.0952	25.0	1	5.0	0.0727	64.0	0.05

[1]Highlighted cells represent a p-Value < 0.05 which is the significance value for accepting the null hypothesis.
[2]Test statistic represents W or the Wilcoxon test result.

Results from the analysis showed that lichen and willow were significantly higher in metals at exposure sites compared to control sites. Willow had significantly higher concentrations of arsenic, iron, and lead at the exposure sites but had lower (but not statistically significant) cadmium and zinc at the exposure sites. Labrador tea and horsetail were the only species that showed significantly higher concentrations in copper at the exposure sites.

Duplicate field samples were collected at an interval of one replicate per ten samples. Duplicates were compared and evaluated against a RPD threshold of 25% to describe any field variability between consecutive grab samples. Duplicate samples were collected for the following sites and species; duplicate S31 salix was collected at site S06, duplicate S32 ledum was collected at site S07, duplicate S33 horsetail was collected at site S07, duplicate S34 lichen was collected at site S08, duplicate S35 salix was collected at site S16, and duplicate S36 ledum was collected at site M29. Table 4-9 presents a summary of the QA/QC results for unrinsed vegetation tissue samples. Variability between simultaneous field duplicates is most likely attributed to field homogenization techniques resulting is different concentrations between samples.

Table 4-9: Summary of QA/QC Results for Vegetation Tissue Analysis

		S07 and S33 Horsetail		M29 and S36 Ledum		S07 and S32 Ledum		S08 and S34 Lichen		S16 and S35 Salix		S06and S31 Salix	
Metals (Tissue)	**5 x Detection Limit (mg/kg)**	**RPD**	**Meets PQL**	**RPD**	**Meets PQL**	**RPD**	**Meets PQL**	**RPD**	**Meets PQL**	**RPD**	**Meets PQL**	**RPD**	**Meets PQL**
Aluminum (Al)	**10**	12%		20%		3%		30%	yes	10%		11%	
Antimony (Sb)	0.05	0%		0%		0%		14%		75%	no	0%	
Arsenic (As)	0.1	0%		20%		17%		27%	yes	14%		79%	no
Barium (Ba)	0.25	2%		9%		3%		19%		9%		14%	
Beryllium (Be)	0.05	0%		0%		0%		5%		0%		7%	
Bismuth (Bi)	0.05	0%		0%		0%		20%		0%		0%	
Boron (B)	5	4%		10%		14%		10%		4%		10%	
Cadmium (Cd)	0.025	50%	yes	100%	no	0%		32%	yes	2%		13%	
Calcium (Ca)	100	9%		5%		2%		5%		3%		11%	
Cesium (Cs)	0.025	41%	no	13%		25%		23%		9%		3%	
Chromium (Cr)	0.25	0%		75%	no	11%		26%	yes	20%		75%	no
Cobalt (Co)	0.1	36%	yes	9%		13%		16%		16%		6%	
Copper (Cu)	0.5	1%		6%		17%		20%		25%		7%	
Iron (Fe)	15	16%		10%		13%		21%		11%		6%	
Lead (Pb)	0.1	4%		18%		3%		30%	yes	7%		15%	
Lithium (Li)	2.5	0%		0%		0%		9%		0%		0%	
Magnesium (Mg)	10	2%		2%		13%		27%	yes	8%		7%	
Manganese (Mn)	0.25	23%		24%		22%		21%		16%		4%	
Molybdenum (Mo)	0.1	3%		35%	yes	33%	no	11%		15%		11%	
Nickel (Ni)	1	42%	no	117%	no	25%		84%	no	5%		18%	
Phosphorus (P)	50	18%		2%		3%		20%		13%		6%	
Potassium (K)	100	10%		8%		6%		32%	yes	16%		11%	
Rubidium (Rb)	0.25	43%	yes	14%		5%		33%	yes	37%	yes	1%	
Selenium (Se)	0.25	0%		0%		0%		12%		0%		0%	
Sodium (Na)	100	0%		0%		0%		73%	no	0%		0%	
Strontium (Sr)	0.25	11%		8%		7%		10%		1%		11%	
Tellurium (Te)	0.1	0%		0%		0%		6%		0%		0%	
Thallium (Tl)	0.01	17%		39%	yes	110%	no	16%		0%		0%	
Tin (Sn)	0.5	0%		0%		0%		89%	no	0%		0%	
Uranium (U)	0.01	49%	no	129%		38%	no	12%		11%		0%	
Vanadium (V)	0.5	11%		7%		18%		25%		14%		7%	
Zinc (Zn)	2.5	0%		3%		13%		13%		8%		9%	
Zirconium (Zr)	1	0%		0%		0%		52%	no	0%		0%	

RPD = relative percent difference; PQL = practical quantitation limit

4.3.3 Soil

Composite soil samples were taken at each site and represented all distinguishable horizons within the soil profile. Samples were analyzed by ALS Laboratories for total metals, texture, pH and Cation Exchange Capacity (CEC). A complete list of soil sample results can be found in Appendix G. A summary of mean total metal concentration comparing exposure to control by horizon are is presented in Table 4-10. Note that statistics were calculated using half the method detection limit where results were reported as less than detection.

Table 4-10: Soil Metal Concentration by Horizon between Control and Exposure Sites

Metal concentration		Horizon 1			Horizon 2			Horizon 3[2]
Dry Weight (mg/kg)		Control site(n=5)	Exposure Site(n=16)	Percent Difference[1]	Control Site (n=4)	Exposure Site (n=12)	Percent Difference[1]	Exposure (n=3)
Aluminum (Al)	**Mean**	**17360**	**17765**	**1%**	**15720**	**15933**	**0%**	**20167**
	Std Dev	5496	5066		8164	4324		4061
Arsenic (As)	**Mean**	**6.81**	**7.95**	**4%**	**5.77**	**8.28**	**9%**	**10.53**
	Std Dev	2.61	2.57		2.32	1.85		2.91
Cadmium (Cd)	**Mean**	**0.07**	**0.09**	**8%**	**0.07**	**0.10**	**8%**	**0.07**
	Std Dev	0.03	0.06		0.03	0.07		0.03
Chromium (Cr)	**Mean**	**32.02**	**30.07**	**2%**	**32.18**	**30.19**	**2%**	**30.67**
	Std Dev	11.50	7.74		15.36	7.64		14.39
Copper (Cu)	**Mean**	**29.44**	**144.70**	**33%**	**27.40**	**62.32**	**19%**	**328.57**
	Std Dev	12.85	244.44		11.13	74.08		520.86
Iron (Fe)	**Mean**	**25880**	**27795**	**2%**	**23800**	**27258**	**3%**	**32867**
	Std Dev	5505	5933		7795	4639		9027
Manganese (Mn)	**Mean**	**370**	**425**	**3%**	**333**	**421**	**6%**	**455**
	Std Dev	220	266		124	155		180
Molybdenum (Mo)	**Mean**	**0.53**	**1.16**	**19%**	**0.42**	**0.78**	**15%**	**0.58**
	Std Dev	0.27	1.09		0.12	0.41		0.19
Nickel (Ni)	**Mean**	**18.20**	**19.97**	**2%**	**18.45**	**23.10**	**6%**	**22.67**
	Std Dev	2.97	5.82		3.66	7.37		8.38
Lead (Pb)	**Mean**	**6.25**	**6.97**	**3%**	**6.09**	**6.12**	**0%**	**5.69**
	Std Dev	1.97	1.41		3.22	1.42		1.53
Antimony (Sb)	**Mean**	**0.46**	**0.48**	**1%**	**0.51**	**0.59**	**4%**	**0.52**
	Std Dev	0.13	0.16		0.21	0.18		0.25
Selenium (Se)	**Mean**	**0.15**	**0.21**	**10%**	**0.18**	**0.20**	**3%**	**0.18**
	Std Dev	0.10	0.16		0.10	0.14		0.14
Zinc (Zn)	**Mean**	**40.32**	**55.16**	**8%**	**40.55**	**55.67**	**8%**	**69.10**
	Std Dev	3.24	20.67		11.53	14.96		35.42
Physical properties								
CEC (meq/100g)	**Mean**	**19.32**	**17.02**	**3%**	**28.73**	**14.88**	**16%**	**9.87**
	Std Dev	8.02	6.12		24.71	5.94		3.40
pH.L	**Mean**	**5.92**	**5.98**	**0%**	**6.03**	**6.34**	**1%**	**6.58**
	Std Dev	0.89	0.63		0.73	0.90		1.56

[1]Percent difference is the difference in mean exposure concentration from the mean control concentration divided by the average of both concentrations.
[2]Horizon 3 was not encountered at any of the control site locations.

Generally, exposure sites had higher concentrations of metals when compared to controls. The most notable difference in concentrations were copper, molybdenum, selenium and zinc. Soil metal concentrations were compared to CCME Industrial Guidelines with exceedances occurring at two sites for arsenic and five sites for copper, out of a total of 21 sites (Table 4-11). For arsenic, each of the two sites had a single exceedance, resulting in two exceedances out of a total sample size of 40. For copper (sites S05, S16, and S17), there were multiple exceedances throughout the horizons of the soil profile suggesting a continuum of copper from the parent material. Ten samples exceeded CCME for copper out of a total sample size of 40. Soil pH didn't show much deviation between control and exposure sites; however, it was noted that surface topsoil horizons on average were more acidic than the lower horizons which is a typical soil profile for this area. Control site pH ranged from 4.64 to 6.9 for the top horizon and 5.27 to 6.95 for the second horizon compared with 5.08 to 7.11 for the top horizon and 4.99 to 7.57 for the second horizon at exposure sites.

Table 4-11: Soil sample concentrations compared to CCME industrial soil guidelines for metals

Element	CCME Industrial Guideline	Sites Exceeding CCME Guideline (Soil horizon)	Total sites sampled	Total number of samples (n)
Aluminum (Al)	-	-	21	40
Antimony (Sb)	40	none		
Arsenic (As)	12	S02 (Bm2), S19(Bm1)		
Cadmium (Cd)	22	none		
Chromium (Cr)	87	none		
Copper (Cu)	91	S05 (Bm1, Bm2), S06 (B), S07 (B), S16 (Bm1, Bm2), S17 (Ah, Bm1, Bm2)		
Iron (Fe)	-	-		
Lead (Pb)	600	none		
Manganese (Mn)	-	-		
Molybdenum (Mo)	40	none		
Nickel (Ni)	89	none		
Selenium (Se)	2.9	none		
Zinc (Zn)	360	none		

Soil texture at control sites ranged from clay loam to sand while exposure sites ranged from silt loam to loamy sand. Mean CEC was greater in the top two horizons at control sites as compared to exposure. Soils around the Minto site can be described as relatively shallow and young typically having one or two horizons.

During the 2016 monitoring program, field duplicates were collected at four sampling sites to determine field variability between simultaneous soil grab samples. Relative percent difference (RPD) was calculated between the duplicate soil samples and compared against the 25% threshold. Duplicate samples were collected at the following sites: duplicate sample S21 Bm2 collected at site SO1, duplicate sample S22 Bm1 was collected at site S02, duplicate sample S24 Bm1 was collected at site S11, and duplicate sample S23 B was collected at site S07. Results from the QA/QC analyses are presented in Table 4-12.

Table 4-12: Summary of QA/QC Results for Duplicate Soil Analysis

	S01 and S21 Bm2		S02 and S22 Bm1		S11 and S24 Bm1		S07 and S23 B	
Analyte	**RPD**	**Meets PQL**	**RPD**	**Meets PQL**	**RPD**	**Meets PQL**	**RPD**	**Meets PQL**
Physical Parameter								
Moisture	35%	yes	3%		5%		18%	
% Clay (<2um)	5%		9%		10%		11%	
% Sand (2.0mm - 0.05mm)	5%		2%		5%		5%	
% Silt (0.05mm - 2um)	4%		2%		1%		3%	
pH (1:2 soil:water)	1%		0%		2%		0%	
Cation Exchange Capacity	1%		8%		6%		62%	yes
Metals								
Aluminum (Al)	19%		16%		0%		32%	yes
Antimony (Sb)	9%		3%		10%		2%	
Arsenic (As)	11%		14%		10%		9%	
Barium (Ba)	3%		7%		5%		21%	
Beryllium (Be)	6%		8%		8%		10%	
Bismuth (Bi)	0%		0%		0%		0%	
Boron (B)	0%		0%		0%		0%	
Cadmium (Cd)	8%		8%		12%		4%	
Calcium (Ca)	6%		13%		9%		7%	
Chromium (Cr)	13%		8%		9%		9%	
Cobalt (Co)	7%		6%		8%		6%	
Copper (Cu)	9%		4%		6%		9%	
Iron (Fe)	15%		9%		2%		21%	
Lead (Pb)	4%		9%		7%		4%	
Lithium (Li)	2%		14%		8%		19%	
Magnesium (Mg)	11%		11%		3%		20%	
Manganese (Mn)	11%		10%		14%		16%	
Mercury (Hg)	29%	no	11%		12%		22%	
Molybdenum (Mo)	5%		2%		6%		19%	
Nickel (Ni)	20%		5%		7%		17%	
Phosphorus (P)	4%		4%		6%		1%	
Potassium (K)	16%		7%		14%		28%	yes
Selenium (Se)	79%	no	14%		0%		4%	
Silver (Ag)	0%		10%		0%		0%	
Sodium (Na)	8%		7%		2%		22%	
Strontium (Sr)	17%		15%		3%		22%	
Thallium (Tl)	1%		7%		9%		31%	no
Tin (Sn)	0%		0%		0%		0%	
Titanium (Ti)	24%		14%		18%		35%	yes
Uranium (U)	9%		8%		9%		10%	
Vanadium (V)	13%		5%		5%		21%	
Zinc (Zn)	18%		7%		7%		17%	
Zirconium (Zr)	15%		21%		14%		0%	

RPD = relative percent difference; PQL = practical quantitation limit

4.4 DISCUSSION

The main objectives of the vegetation metal uptake program are to utilize previously established or documented conditions, monitoring results or predictive efforts, where appropriate and possible; establish a network of plots for monitoring both soil and vegetation metal concentrations; and, allow for an ongoing evaluation of the extent and degree that metals from mining activity is affecting vegetation in proximity to the project site.

These objectives were met for this first round of the program by establishing 16 exposure sites and five control sites that will be used for monitoring every three years. At each site between one and five vegetation samples were collected along with samples of each distinguishable soil horizon. Being the preliminary sampling event, these data were described with some preliminary statistics and put into a workable database to be used for comparison with future sampling events. It is recognized that the complex nature of the vegetation metal uptake system will require a robust dataset to be able to define any trends in potential metal accumulation. Additionally, based on results from this first year of data collection some changes are recommended to improve the study design to better assess trends statistically.

Results from the 2016 monitoring event present evidence that some metals are elevated in the certain plant species near the mine when c ompared to control sites. As no baseline vegetation metals samples were collected during the 2009-2010 ecosystem mapping program it cannot be determined that elevated metals were not present in the pre-mining condition.

Results between the rinsed and unrinsed samples were highly variable. Results for some metals were greater for rinsed samples then unrinsed, suggesting that rinsing was not always removing dust particulates. There appeared to be other processes involved since some metals increased after rinsing. Additionally, subsampling, rinsing, and comparing vegetation samples compounded the variably within a paired sample. Rinsing affects concentrations differently depending on the type of metal. In a study by Kabatta-Pendias et al (2011) the effect of rinsing for lead concentrations can be greater, showing it to be mainly superficial compared to copper, zinc and cadmium where rinsing shows minimal change. Findings at Minto were similar to the Kabata-Pendias et al (2011) study with two significant decreases between rinsed and unrinsed samples for lead but no significant decrease for cadmium, one for zinc and two for copper between all species. Rinsing samples showed that there are some metals in the samples coming from dust on the plant; however, the results added a level of complexity and variability that does not improve the ability of the program to determine whether metals are coming from dust settling on the plant or from uptake from the soils.

Lichen and willow samples showed significantly higher metals at exposure sites compared to control sites. Lichen species are known to be good indicators of airborne metals and range from being tolerant to sensitive to airborne metals, depending on the physiological form and species (Garty, 2000; Branquinho et al., 2000; Kabata-Pendias et al., 2011). Findings around the Minto site were that lichen samples accumulated more metals than the other plant species and had significantly elevated concentrations of arsenic, cadmium, iron, and lead compared to control sites.

Willows species are known to be accumulators of heavy metals (Kosvakinka and Quigley, 2004). In particular, willows are known to uptake cadmium and zinc from surrounding soils (Tlustos et al., 2007). Willows showed significantly higher arsenic, iron and lead concentrations in exposure than control sites. Conversely and

contrary to expectations, willow samples at control sites appeared to have higher (but not significantly higher) concentrations of cadmium and zinc than exposure sites. It should be noted that the non-parametric statistical tests are not as powerful as parametric tests, but had to be used because the samples did not meet the requirements of normal distribution and equal variances. This means that there is a possibility of a type II error (incorrectly retaining a null hypothesis), and the control sites might be determined to be significantly higher if more samples were taken.

Horsetail and Labrador tea appeared to have similar responses, and were both significantly higher in copper and iron at exposure than control sites, but not for arsenic, iron, or lead.

Blueberry did not show any significant difference between control and exposure sites. This may have been due to the short exposure period when the plant is producing berries.

There were some interesting trends in other metals. Soil metals in general were higher at exposure than control sites. Iron concentrations increased significantly for all plant species other than blueberry. Iron is not a COPC, but it does indicate that there were generally higher levels of dust at the exposure than control sites. Zinc concentrations were not higher at exposure than control sites which indicates that zinc was not significantly picked up into plant tissue in the area surrounding the mine. CCME exceedances in soil were limited occruing in two of the 13 metals of interest with 5% of samples for arsenic and 25% of samples for copper exceeding the industrial guideline. When present coper exceedances were often detected for the depth of the pit which reflects the mineralization of the area.

Large amounts of variation (noted by high standard deviations) are present within the data that were collected in 2016. The sources of variation are potentially attributed to natural variability in soil and plant tissue, plant species, source types and distance to exposure sample sites, field sampling conditions, and small sample size.

A main factor attributing to field variability for this sampling event was weather. The rain during the beginning of the sampling period could have affected the quantity of metals that were present on species that were more exposed compared to species in closed canopy conditions. There were scattered thunder showers for the remainder of the sampling period that could have affected parts of the study area. This variability is likely to persist through future sampling events as weather is unpredicatble and cannot always be avoided.

Variability attributed to sample size is reflected in the limited number of control sites and the number of target species present within each site. Blueberry sample size was limited for both control and exposure sites as they are less abundant across the landscape compared to the other species.

Laboratory variability was encounted by nature of the selected lab's data quality objective (DQO). The DQO implemented by the lab for tissue analysis was 40% repeatability. This threshold allows for 40% variation in concentrations between any duplicate samples. This threshold was set by that lab and is a factor of the natural variability that is present in vegetation tissue sampling. This variation is compounded when the lab homogonized, subsampled, and rinsed half of the samples for the purpose of quantifying external and internal metal concentrations. Large variation made comparisons between rinsed and unrinsed samples challanging when there were low metal concentations and minimal differences between subsamples. Additionaly, many of the results received were below the method detection limits. When this was the case, the value used to calculate

statistics was half the detection limits. Including these halved detection limits is likely to have increased the variation and standard deviation for each variable.

Vegetation metal uptake surveys will continue on a three-year basis as a condition of the current licence to monitor trends and changes in metal concentrations in vegetation and soil.

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APPENDIX A

2010 VEGETATION BASELINE PLANT LIST

Trees
Black spruce *Picea mariana (Sb)*
White spruce *Picea glauca (Sw)*
Lodgepole pine *Pinus contorta latifolia (Pl)*
Trembling aspen *Populus tremuloides (At)*
Balsam poplar *Populus balsamifera ssp. Balsamifera (Ac)*
Alaska paper birch *Betula neoalaskana (Ea)*

Shrubs
Green alder *Alnus crispa (D)*
Slide alder *Alnus viridis ssp. sinuata (Dg)*
Myrtle leaf willow *Salix myrtillifolia*
Scouler's willow *Salix scouleriana*
Bebb's willow *Salix bebbiana*
Grey-leaf willow *Salix glauca*
Willow spp. Salix ssp. *(W)*
Prickly rose *Rosa acicularis*
Scrub birch *Betula glandulosa var. Glandulosa (Es)*
Highbush-cranberry *Viburnum edule*
Shrubby cinquefoil *Potentilla fruticosa*
Labrador tea *Ledum groenlandicum*
Soapberry *Shepherdia canadensis*
Common Juniper *Juniperus communis*

Herbs
Mountain death-camas *(Zygadenus elegans)*
Arctic lupine (*Lupinus arcticus*)
Tall bluebells (*Mertensia paniculata*)
Cutleaf anemone (*Anemone multifida*)
Common horsetail (*Equisetum arvense*)
Woodland horsetail (*Equisetum sylvaticum*)
Dwarf scouring-rush (*Equisetum scirpoides*)
Bastard toadflax (Geocaulon lividum)
Twinflower (*Linnaea borealis*)
Cloudberry (*Rubus Chamaemorus*)
Bog blueberry (*Vaccininum uliginosum*)
Dwarf blueberry (*Vaccinum caespitosum*)
Lingonberry (*Vaccinium vitis-idaea*)
Cloudberry (*Rubus chamaemorous*)
Sweet coltsfoot (*Petasites frigidus*)
Bog cranberry (*Vaccinium oxycoccus*)
Kinnikinnick (*Arctostaphylos uva-ursi)*
Red bearberry (*Arctostaphylos rubra*)
Fireweed (*Epilobium angustifolium*)
Crowberry (*Empetrum nigrum*)
Pink wintergreen (*Pyrola asarifolia*)
One-sided wintergreen (*Orthilia secunda)*
Single delight (*Moneses uniflora*)
Northern Jacob's ladder *(Polemonium boreale)*
Pussytoes (*Antennaria sp.*)
Pasture sage (*Artemesia frigida*)

Graminoids
Water sedge (*Carex aquatilis*)
Cottongrass (*Eriophorum brachyantherum*)
Altai fescue (*Festuca altaica*)
Tufted hair grass (*Deschampsia caespitose*)
Bluejoint (*Calamagrostis canadensis*)
Purple reedgrass (*Calamagrostis purpurascens*)
Short awned foxtail (*Alopecurus aequalis*)
Polargrass (*Arctagrostis latifolia*)

Lichens
Green reindeer lichen (*Cladina mitis*)
Grey reindeer lichen (*Cladina rangiferina*)
Freckled lichen (*Peltigera aphthosa*)
Dog lichen (*Peltigera canina*)
Peltigera ssp.
Cladonia ssp.

Mosses
Fire moss (*Ceratodon purpureus*)
Glow moss (*Aulacomnium palustre*)
Golden fuzzy fen moss *(Tomentypnum nitens)*
Step moss (*Hylocomium splendens*)
Red stem feather moss *(Pleurozium schreberi)*
Stiff-leaved polytrichum *(Polytrichuim alpinum)*
Juniper haircap moss (*Polytrichum juniperinum*)
Knight's plume (*Ptilium crista-castrensis*)
Dicranum sp.

Rare Plant Species Potentially Occurring in the Minto Area

Family	Species	Common Name	Habitat
Polypodiaceae	*Polypodium sibiricum*	wall fern	rocks & crevices
Ruppiacea	*Ruppia spiralis*	ditch grass	shallow water
Alismataceae	*Saggitaria cuneata*	arrowhead	shallow water
Poaceae	*Koeleria asiatica*	June grass	grassland
Poaceae	*Koelaria macrantha*	June grass	grassland
Poaceae	*Muhlenbergia richardsonis*	mat muhly	grassland
Poaceae	*Scolochloa festucaceae*	sprangletop	wetland
Poaceae	*Glyceria borealis*	Northern manna grass	wetland
Poaceae	*Helictotrichon hookeri*	spike oat	grassland
Cyperaceae	*Carex viridula* ssp. *viridula*	green sedge	wetland
Cyperaceae	*Trichophorum pumilum*	tufted bulrush	wetland
Iridacea	*Sisyrinchium montanum*	blue-eyed grass	grassland
Orchidaceae	*Cypripedium guttatum*	spotted lady's-slipper	open woods
Hydrophyllaceae	*Phacelia mollis*	scorpion weed	grassland
Apiaceae	*Cicuta maculata* var. *angustifolia*	spotted water-hemlock	wetland
Apiaceae	*Podistera yukonensis*	Yukon podistera	grassland
Apiaceae	*Sium suave*	water-parsnip	wetland
Santalaceae	*Comandra umbellate*	pale comandra	grassland
Violaceae	*Viola langsdorfii*	Alaska violet	forest edge
Caryophyllaceae	*Minuartia yukonensis*	Yukon sandwort	grassland
Caryophyllaceae	*Silene williamsii*	Campion	talus slope
Rosaceae	*Rosa woodsii*	western rose	grassland
Rosaceae	*Geum triflorum*	prairiesmoke	grassland
Asteraceae	*Haplopappus macleanii*	haplopappus	grassland
Asteraceae	*Antennaria microphylla*	rosy pussytoes	grassland
Asteraceae	*Artemisia laciniata*	wormwood	forest edge
Asteraceae	*Townsendia hookeri*	Easter daisy	grassland

APPENDIX B

2010 SUMMARY OF ECOSYSTEM PLOT DESCRIPTIONS

PLOT M02

Status: Permanent **Location**: UTM: 0383078E, 6943088N

Vegetation Plot Summary

Shrub species cover	$D_4W_4Ea_2$
Age in years (dominant species)	15
Height in meters (avg dominant species)	<5
Soil moisture and nutrient values (SMR/SNR)	3/C
Crown cover for polygon in %	30
Succession Stage	Tall Shrub
Aspect (^{0})	232
Elevation (m)	902
Slope %	9
Meso slope position	Middle
Drainage	Well
Coarse woody debris % / Snags #	18/2

Site description: SW facing gentle slope, fire regeneration 1995, most burnt spruce have fallen, Increased CWD. High diversity of shrub species, herb layer poorly developed, 7% bare soil.

Plant community: Alder - Willow - Birch (trembling aspen, lodgepole pine)

Comments: Roads and transects through polygon. Moose/black bear tracks and scat.

PLOT M03

Status: Permanent **Location**: UTM: 0383968E, 6943755N

Vegetation Plot Summary

Shrub species cover	W_8Scrub birch$_2$
Age in years (dominant species)	15
Height in meters (avg dominant species)	<2
Soil moisture and nutrient values (SMR/SNR)	7/C
Crown cover for polygon in %	15
Succession Stage	Middle Shrub
Aspect (^{0})	Level
Elevation (m)	841
Slope %	0
Meso slope position	Valley floor
Drainage	Poorly
Coarse woody debris % / Snags #	4/4

Site description: Riparian area - sedge fen with slow moving water. Fire regeneration 1995. Medium (0.5-2.0m) shrub cover. Organic substrate.

Plant community: Willow-Scrub birch-Carex

Comments: Heavy browsing on willow by moose. Many game trails in polygon - wildlife corridor.

PLOT M07

Status: Permanent ***(Control, soil sampled)*** **Location**: UTM: 0383864E, 6944289N

Vegetation Plot Summary

Shrub species cover	$At_5Pl_4W_1$
Age in years (dominant species)	20
Height in meters (avg dominant species)	8
Soil moisture and nutrient values (SMR/SNR)	3/C
Crown cover for polygon in %	40
Succession Stage	Young forest
Aspect (^{0})	204
Elevation (m)	890
Slope %	22
Meso slope position	Upper
Drainage	Well
Coarse woody debris % / Snags #	11/2

Site description: South west facing open forest. Fire regeneration. Bare ground ~20% covered with leaf litter. Poorly developed herb layer, 6% grass (Calamagrostis purpurascens).

Plant community: Trembling Aspen – Pine - Bunchgrass

Comments: Selected control for mixed aspen/pine forest, southern aspect, outside of mine influences.

PLOT M17

Status: Permanent **Location**: UTM: 03840931E, 6943539N

Vegetation Plot Summary

Shrub species cover	$Sb_7Sw_2W_1$
Age in years (dominant species)	115
Height in meters (avg dominant species)	10
Soil moisture and nutrient values (SMR/SNR)	5/B
Crown cover for polygon in %	25
Succession Stage	Old forest
Aspect	290
Elevation	900m
Slope %	8
Meso slope position	Lower
Drainage	Imperfect
Coarse woody debris % / Snags #	3/2

Site description: Old black spruce open forest on organic substrate. Drainage/wetland bisects polygon, roads, and over burden affecting north end of plot.

Plant community: Black Spruce - Labrador Tea – Coltsfoot - Stepmoss

Comments: Warblers, Grey Jays, Black-capped Chickadees and Dark-eyed Juncos sighted in plot.

PLOT M18

Status: Field Check **Location**: UTM: 0383777E, 69443302N

Vegetation Plot Summary

Shrub species cover	$Es_5S_3W_2$
Age in years (dominant species)	15
Height in meters (avg dominant species)	<2
Soil moisture and nutrient values (SMR/SNR)	6/B
Crown cover for polygon in %	10% (50% shrub cover)
Succession Stage	Initiation
Aspect (^{0})	Level
Elevation (m)	892
Slope %	0
Meso slope position	Valley floor
Drainage	Poorly
Coarse woody debris % / Snags #	2/3

Site description: Spruce - sphagnum bog, high spruce seedlings, and Labrador tea cover, organic substrate.

Plant community: Scrub Birch – Spruce - Willow

Comments: Straddles Plot M038 which is a riparian/ wetland area on a watershed divide, diked only by dirt road. South mine expansion could have downstream effects.

PLOT M19

Status: Permanent **Location**: UTM: 0384091E, 6943678N

Vegetation Plot Summary

Shrub species cover	$W_8E_1S_1$
Age in years (dominant species)	15
Height in meters (avg dominant species)	<5
Soil moisture and nutrient values (SMR/SNR)	5/B
Crown cover for polygon in %	40
Succession Stage	Tall Shrub
Aspect (^{0})	308
Elevation (m)	894
Slope %	6
Meso slope position	Lower
Drainage	Imperfect
Coarse woody debris % / Snags #	6/12

Site description: Burn regeneration, organic substrate. North end of polygon has overburden infill and roads, part of expansion footprint.

Plant community: Willow – Spruce – Labrador Tea

Comments: Moose tracks and scat in plot, signs of light browsing on willows.

PLOT M20

Status: Field Check **Location**: UTM: 0384161E, 6943683N

Vegetation Plot Summary

Shrub species cover	$W_5At_4Pl_1$
Age in years (dominant species)	20
Height in meters (avg dominant species)	9
Soil moisture and nutrient values (SMR/SNR)	4/C
Crown cover for polygon in %	60
Succession Stage	Fire regeneration – Pole sapling
Aspect	280 (W)
Elevation	900m
Slope %	18
Meso slope position	Middle
Drainage	Well
Coarse woody debris % / Snags #	12/5

Site description: Polygon in expansion footprint, roads and trenches throughout polygon. CWD 12%, most burnt trees have fallen.

Plant community: Willow - Aspen – Pine - Soapberry - Lupine

Comments: Burn regeneration, closed canopy, poorly developed herb/moss layer.

PLOT M24

Status: Permanent **Location**: UTM: 0385353E, 6943153N

Vegetation Plot Summary

Shrub species cover	Es_6W_4
Age in years (dominant species)	10
Height in meters (avg dominant species)	< 2.0
Soil moisture and nutrient values (SMR/SNR)	6/C
Crown cover for polygon in %	40
Succession Stage	Fire regeneration - Medium shrub
Aspect	Level
Elevation	872m
Slope %	0
Meso slope position	Valley floor
Drainage	Poorly (5% open running water)
Coarse woody debris % / Snags #	4/16

Site description: Riparian floodplain with running stream on edge of plot, high variety of shrubs, herbs, graminoids, and mosses. Used to be black spruce forest, numerous snags. Signs of moose (*Alces alces gigas*): browse, scat, and game trails. Vole sighting, numerous rodent tunnels.

Plant community: Willow - Scrub Birch

Comments: High biodiversity area.

PLOT M25

Status: Permanent **Location**: UTM: 0385546E, 6943216N

Vegetation Plot Summary

Shrub species cover	Sb_9W_1
Age in years (dominant species)	120
Height in meters (avg dominant species)	10
Soil moisture and nutrient values (SMR/SNR)	4/B
Crown cover for polygon in %	20
Succession Stage	Old forest
Aspect	278 (W)
Elevation	880m
Slope %	16
Drainage	mw
Coarse woody debris % / Snags #	7/4

Site description: Lower moderate slope, Mature Sb open canopy. Hummocks of sphagnum with graminoids and horsetail. East of south ridge expansion.

Plant Community: Black Spruce - Labrador Tea - Feather Moss

Comments: Old growth spruce forest

PLOT M26

Status: Permanent **Location**: UTM: 0385666E, 6943242N

Vegetation Plot Summary

Tree species cover	W_6D_4
Age in years (dominant species)	15
Height in meters (avg dominant species)	< 3.0
Soil moisture and nutrient values (SMR/SNR)	5/B
Crown cover for polygon in %	20
Succession Stage	Fire regeneration - Medium shrub
Aspect	278^0 (W)
Elevation	890m
Slope %	14
Drainage	imperfect
Coarse woody debris % / snags #	8/12

Site description: Lower moderate slope, medium shrubs dominant (Labrador tea and willow). Hummocks of sphagnum with grass provide micro-sites. East of south ridge expansion.

Plant community: Willow - Alder - Labrador Tea

Comments: Recent burn regeneration, numerous Sb snags. Poor nutrient regime. 200m south of active excavations and roads. Sphagnum hummocks dried out; no canopy cover.

PLOT M27

Status: Permanent **Location:** UTM: 038574E, 6943233N

Vegetation Plot Summary

Tree species cover	$Pl_4At_4W_2$
Age in years (dominant species)	15
Height in meters (avg dominant species)	4.2
Soil moisture and nutrient values (SMR/SNR)	3/C
Crown cover for polygon in %	30
Successional Stage	Tall shrub (fire regeneration)
Aspect (degrees)	278 (W)
Elevation (meters)	890
Slope %	6
Drainage	Moderately well
Coarse Woody Debris %/ Snags #	10/2

Site description: Young seral upland forest with poorly developed herb and moss layer. Cryptogrammic soils with 15% leaf litter. Seedlings predominantly Sw.

Plant Community: Lodgepole Pine - Trembling Aspen - Willow

Comments: Large polygon with species variability – older Sw and At patches to north. Plot immediately west of airstrip.

PLOT M28

Status: Permanent

Location: UTM: 0386421E, 69443841N

Vegetation Plot Summary

Shrub species cover	$Pl_7At_2W_1$
Age in years (dominant species)	15
Height in meters (avg dominant species)	6
Soil moisture and nutrient values (SMR/SNR)	4/B
Crown cover for polygon in %	40
Succession Stage	Young forest
Aspect (^{0})	338
Elevation (m)	864
Slope %	6
Meso slope position	Middle
Drainage	well
Coarse woody debris % / Snags #	3/3

Site description: . Most snags have fallen, high coarse woody debris content. Burn regeneration, very few herbs.

Plant community: Pine - Aspen - Willow

Comments: Moose, mule deer and black bear tracks found nearby.

PLOT M29

Status: Permanent **Location**: UTM: 0386636E, 69475182N

Vegetation Plot Summary

Plant species cover	$Pl_5Sw_4At_1$
Age in years (dominant species)	130
Height in meters (avg dominant species)	15
Soil moisture and nutrient values (SMR/SNR)	6/B
Crown cover for polygon in %	30
Succession Stage	Old forest
Aspect (^{0})	348
Elevation (m)	798
Slope %	6
Meso slope position	Middle
Drainage	Poorly
Coarse woody debris % / Snags #	9/10

Site description: Old Black spruce forest, predominant low shrub Labrador Tea (*Ledum groenlandicum*), ground cover Feathermoss/lichen. Permafrost close to surface, gleyed soils.

Plant community: Black Spruce - Labrador Tea - Feathermoss

Comments: Plot ~ 50m from fire break NE of airstrip.

PLOT M35

Status: Permanent (*soil sampled)* **Location**: UTM: 0383642E, 6943307N

Vegetation Plot Summary

Shrub species cover	At_5W_2
Age in years (dominant species)	15
Height in meters (avg dominant species)	<5
Soil moisture and nutrient values (SMR/SNR)	3/B
Crown cover for polygon in %	30
Succession Stage	Tall Shrub
Aspect (^{0})	160
Elevation (m)	891
Slope %	6
Meso slope position	Middle
Drainage	Well
Coarse woody debris %/Snags #	13/2

Site description: SE facing gentle slope, fire regeneration 1995, poorly developed herb layer.

Plant community: Trembling Aspen - Willow (Pl, Ac)

Comments: North end of polygon in expansion footprint, overburden fill.

PLOT M36

Status: Permanent **Location**: UTM: 0383078E, 6943088N

Vegetation Plot Summary

Shrub species cover	$At_5W_4D_1$
Age in years (dominant species)	15
Height in meters (avg dominant species)	<5
Soil moisture and nutrient values (SMR/SNR)	2/C
Crown cover for polygon in %	20
Succession Stage	Tall Shrub
Aspect (^{0})	248
Elevation (m)	866
Slope %	7
Meso slope position	Middle
Drainage	Rapid (high % coarse fragments)
Coarse woody debris % / Snags #	10/2

Site description: SW facing gentle slope, fire regeneration 1995, most burnt spruce have fallen, Increased CWD. High diversity of shrub species, herb layer poorly developed 15% bare soil.

Plant community: Trembling Aspen - Willow - Alder

Comments: Recent road and transects.

PLOT M51

Status: Permanent **Location**: UTM: 0383510E, 6945971N

Vegetation Plot Summary

Shrub species cover	$Pl_6At_2W_2$
Age in years (dominant species)	15
Height in meters (avg dominant species)	4
Soil moisture and nutrient values (SMR/SNR)	3/B
Crown cover for polygon in %	50
Succession Stage	Young forest
Aspect (^{0})	Level
Elevation (m)	924
Slope %	0
Meso slope position	Level
Drainage	well
Coarse woody debris % / Snags #	14/4

Site description: North facing slope with regenerating pine forest, ground cover mainly mosses, poorly developed herb layer.

Plant community: Pine - Aspen - Willow

Comments: Moose and grouse tracks and scat in plot.

PLOT M52

Status: Permanent **Location**: UTM: 0382849E, 6945724N

Vegetation Plot Summary

Shrub species cover	$W_5Pl_3At_2$
Age in years (dominant species)	15
Height in meters (avg dominant species)	<5
Soil moisture and nutrient values (SMR/SNR)	2/B
Crown cover for polygon in %	15
Succession Stage	Young forest
Aspect (^{0})	139
Elevation (m)	931
Slope %	30
Meso slope position	Upper
Drainage	Rapid
Coarse woody debris % / Snags #	7/3

Site description: Southwest facing steep slope with rocky sandy soils, cryptogrammic layer with bare patches ~ 70%. Purple reedgrass(*Calamagrostis purpurascens*) common in area.

Plant community: Willow - Pine - Aspen (grassland)

Comments: Approximately 2km NW of current mining footprint, possible control.

PLOT M54

Status: Permanent (control, soil sampled) **Location**: UTM: 03838682E, 6946246N

Vegetation Plot Summary

Shrub species cover	$Ea_4W_2Pl_2$(Sw)
Age in years (dominant species)	22
Height in meters (avg dominant species)	8
Soil moisture and nutrient values (SMR/SNR)	3/C
Crown cover for polygon in %	30
Succession Stage	Young forest
Aspect (^{0})	004
Elevation (m)	929
Slope %	26
Meso slope position	Upper
Drainage	Well
Coarse woody debris % / Snags #	7/4

Site description: North facing steep slope. High species diversity of shrubs and trees, herb layer poorly developed. A few scattered White spruce and seedlings.

Plant community: Alaskan Birch - Pine - Willow (Lichen)

Comments: Adjacent to northern mine expansion, disturbance in polygon.

PLOT M54v

Status: Field Check **Location**: UTM: 0384116E, 6946250N

Vegetation Plot Summary

Shrub species cover	$Pl_7Ea_2Sw_1$
Age in years (dominant species)	20
Height in meters (avg dominant species)	7
Soil moisture and nutrient values (SMR/SNR)	3/C
Crown cover for polygon in %	30
Succession Stage	Young forest
Aspect (^{0})	355
Elevation (m)	912
Slope %	17
Meso slope position	Middle
Drainage	well
Coarse woody debris % / Snags #	7/8

Site description: North facing moderate slope. Seral Pl forest.

Plant community: Pine - Alaskan Birch - Lichen

Comments: Exploration and drilling within polygon, part of mine expansion footprint.

PLOT M54A

Status: Permanent

Location: UTM: 0383510E, 6945971N

Vegetation Plot Summary

Shrub species cover	$W_5Pl_3D_2$
Age in years (dominant species)	20
Height in meters (avg dominant species)	7
Soil moisture and nutrient values (SMR/SNR)	2/B
Crown cover for polygon in %	50
Succession Stage	Young forest
Aspect (^{0})	278
Elevation (m)	959
Slope %	34
Meso slope position	Upper
Drainage	Rapid
Coarse woody debris % / Snags #	17/8

Site description: West facing steep slope. Most snags have fallen, high coarse woody debris content.

Plant community: Willow - Pine - Alder

Comments: Mature white spruce also scattered through polygon.

PLOT M56

Status: Field Check **Location**: UTM: 0384428E, 6946205N

Vegetation Plot Summary

Shrub species cover	Sb_9W_1
Age in years (dominant species)	100
Height in meters (avg dominant species)	8
Soil moisture and nutrient values (SMR/SNR)	6/B
Crown cover for polygon in %	40
Succession Stage	Mature Forest
Aspect (^{0})	355
Elevation (m)	921
Slope %	16
Meso slope position	Lower
Drainage	Poorly
Coarse woody debris % / Snags #	3/8

Site description: North facing moderate slope. Organic veneer on mineral soils.

Plant community: Black Spruce - Labrador Tea - Sphagnum

Comments: North and downstream of mine expansion. Voles, mice, and moose sign.

PLOT M76A

Status: Permanent (Control and soil sample) **Location**: UTM: 0384025E, 6948266N

Vegetation Plot Summary

Shrub species cover	$At_5G_3Pl_2$
Age in years (dominant species)	<20
Height in meters (avg dominant species)	<5
Soil moisture and nutrient values (SMR/SNR)	1/A
Crown cover for polygon in %	10
Succession Stage	Young forest/grassland
Aspect (^{0})	192
Elevation (m)	837
Slope %	28
Meso slope position	Upper
Drainage	Rapid
Coarse woody debris % / Snags #	3/0

Site description: South facing steep slope with sandy rocky soils. Veteran pines and snags nearby.

Plant community: Aspen - Pine - Grass (*Calamagrostis purpurascens*)

Comments: Grassland ecosystem: soils and vegetation are sensitive to disturbances. Rare or uncommon plants are associated with this type of ecosystem, though none were found in this sample. Road access is~ 100m south. Exploration disturbance ~30m uphill.

PLOT M79

Status: field check **Location**: UTM: 038473E, 6947061N

Vegetation Plot Summary

Shrub species cover	W_8Sb_2
Age in years (dominant species)	80 (Sb)
Height in meters (avg dominant species)	<5
Soil moisture and nutrient values (SMR/SNR)	6/B
Crown cover for polygon in %	10 (Sb)
Succession Stage	Medium shrub (W)/Mature forest (Sb)
Aspect (^{0})	333
Elevation (m)	801
Slope %	10
Meso slope position	Toe
Drainage	Poorly
Coarse woody debris % / Snags #	3/3

Site description: North draining riparian system that has not burned in the last 80+ years.

Plant community: Willow - Black Spruce - Sphagnum

Comments: Approximately 1 km downstream of northern mine expansion footprint, near water sampling station, helicopter access. Grizzly sow and cub seen at confluence with Yukon River.

PLOT M80

Status: Permanent (Control, soil sampled) **Location**: UTM: 0384380E, 6947083N

Vegetation Plot Summary

Shrub species cover	$Pl_5W_3At_2$
Age in years (dominant species)	15
Height in meters (avg dominant species)	5
Soil moisture and nutrient values (SMR/SNR)	3/B
Crown cover for polygon in %	40
Succession Stage	Young forest
Aspect (^{0})	140
Elevation (m)	817
Slope %	10
Meso slope position	Middle
Drainage	Well
Coarse woody debris % / Snags #	5/0

Site description: South east facing slope, poorly developed herb layer, mainly moss/lichen with bare soil patches, about 10% exposed rocks.

Plant community: Pine - Willow - Aspen

Comments: Helicopter access.

PLOT M84

Status: Permanent (Control and soil sample) **Location**: UTM: 0385289E, 6947320N

Vegetation Plot Summary

Shrub species cover	$W_5Ea_2D_2$ (Pl)
Age in years (dominant species)	<15
Height in meters (avg dominant species)	<5
Soil moisture and nutrient values (SMR/SNR)	4/C
Crown cover for polygon in %	40
Succession Stage	Regeneration
Aspect (^{0})	344
Elevation (m)	894
Slope %	13
Meso slope position	Upper
Drainage	Moderately well
Coarse woody debris % / Snags #	20/2

Site description: North facing slope, shrub dominant. Most burnt snags have fallen, high coarse woody debris content. Poorly developed herb layer, 40% of ground cover is moss (*Polytrichum juniperinum*).

Plant community: Willow - Alaskan Birch - Alder

Comments: Helicopter access.

PLOT M90A

Status: Permanent (soil sample) **Location**: UTM: 0387045E, 6947197N

Vegetation Plot Summary

Plant species cover	$At_5Sw_3Pl_2$
Age in years (dominant species)	75
Height in meters (avg dominant species)	10
Soil moisture and nutrient values (SMR/SNR)	3/C
Crown cover for polygon in %	40
Succession Stage	Mature forest
Aspect (^{0})	179
Elevation (m)	792
Slope %	22
Meso slope position	Middle
Drainage	Well
Coarse woody debris % / Snags #	2/1

Site description: South facing slope ground cover predominantly kinnikinnick (*Arctostaphylos uva-ursi*) and grass (*Calamagrostis purpurascens*). Large canopy gaps with grassland attributes.

Plant community: Aspen - White Spruce - Pine (grassland)

Comments: Minto Road just south of plot.

PLOT M91

Status: Permanent **Location**: UTM: 0386102E, 6947461N

Vegetation Plot Summary

Plant species cover	$Pl_5Sw_4At_1$
Age in years (dominant species)	15
Height in meters (avg dominant species)	< 8
Soil moisture and nutrient values (SMR/SNR)	4/C
Crown cover for polygon in %	80
Succession Stage	Young forest
Aspect (^{0})	0
Elevation (m)	817
Slope %	Level
Meso slope position	Level
Drainage	Moderately well
Coarse woody debris % / Snags #	3/5

Site description: Terrace with thick young forest, low shrubs of bog cranberry (*Vaccinium uliginosum*) and Labrador tea (*Ledum groenlandicum*), ground cover moss/lichen. Poorly developed herb layer.

Plant community: Pine - White Spruce - Aspen

Comments: Road through polygon. Snags are due to stand thinning.

PLOT M93

Status: Permanent (Control, soil sample) **Location**: UTM: 0386696E, 6947350N

Vegetation Plot Summary

Plant species cover	$D_4W_4Pl_1$
Age in years (dominant species)	10
Height in meters (avg dominant species)	>5
Soil moisture and nutrient values (SMR/SNR)	4/C
Crown cover for polygon in %	40
Succession Stage	Tall shrub
Aspect (^{0})	196
Elevation (m)	816
Slope %	6
Meso slope position	Middle
Drainage	Well
Coarse woody debris % / Snags #	10/5

Site description: South facing slope regeneration shrub growth. Young trees (pine and White spruce) beginning to top shrub layer. White spruce scattered through polygon.

Plant community: Alder - Willow – Pine

Comments: Access road off Minto Road near 4km mark.

APPENDIX C

ECOSYSTEM PLOT SURVEY FORM (SAMPLE)

Yukon Environment

Permenant

Ground Vegetation

Project: Minto Veg Survey **Plot No.** M024

Date (dd/mm/yy): 17/07/10

Wetland Type: Fen (Class / Form / Subform / Type / Subtype)

Plot Type: Eco 400m²

Observers
L. Knight
B. Elliot

Eco Type:

CNVC Type:

Coll	Strata	Genus	Species	%
	A1	PICE	MAR	2
	LT	PICE	MAR	4
	SD	PICE	MAR	1
	MS	BETU	GLA	25
	MS	SALI	GLA	3
✓	MS	SALI	UNK	10
	LS	PICE	GLA	.5
	LS	LEDU	GRO	3
	LS	POTE	FRU	1
	LS	SALI	MYR	1
	SD	BETU	NEO	0.1
	RS	ARCT	RUB	4
	GS	EMPE	NIG	.5
	GS	VACC	VIT	1
	GS	VACC	ULI	.5

Coll	Strata	Genus	Species	%
	FB	EPIO	ANG	4
	FB	PETA	FRI	3
	FB	RUBU	CHA	4
	FB	EQUI	SYL	1
	FB	EQUI	SCR	0.5
	FB	STEL	BOR	0.1
✓	FB	RANU	LAP	0.1
	GR	CARE	AQU	3
	GR	POAO	PAL	1
	GR	CALA	CAN	4
	BR	AULA	PAL	4
	BR	HYLO	SPL	6
✓	BR	SPHA	ROS	10
	BR	TOME	NIT	2
	LN	PELTIGERA		2
	BR	CERA	PUR	1
	BR	POLY	JUN	1
✓	GR	CARE	UNK	
	NV	CWD	>7cm	3
	NV	CWD	<7cm	1
	NV	ROCK		
	NV	BARE		
	NV	LITT	<2cm	
	NV	WATE		5

Comments

Fen burned ~few live trees
Shrub dominant MS
Scrub birch/Willow/moss
Very diverse
aquatic to Subhydric
Carex dominants in open water area
Snags ~16

Strata		
TT		trees >5m
	A1	dominant trees - (tallest trees, veterans)
	A2	main tree canopy - (main layer of tree cover)
	A3	subcanopy - trees >5m that are lower than main canopy
LT		trees < 5m
TS		shrubs 2.0 - 5m
MS		shrubs 0.5 - 2.0m
LS		shrubs 0.1 - 0.5m
GS		ground shrubs < 0.1m
SD		seedlings < 0.5m
FN		fern
FB		forbs
GR		graminoids
AQ		aquatic
BR		bryophytes
LN		lichens
FG		fungus
SN		snag
NV		non-vegetated

Ecological Moisture		
VX	0	Very Xeric
X	1	Xeric
SX	2	Subxeric
SM	3	Submesic
M	4	Mesic
SG	5	Subhygric
HG	6	Hygric
SD	7	Subhydric
HD	8	Hydric
F	9	Aquatic

Photos 92
93

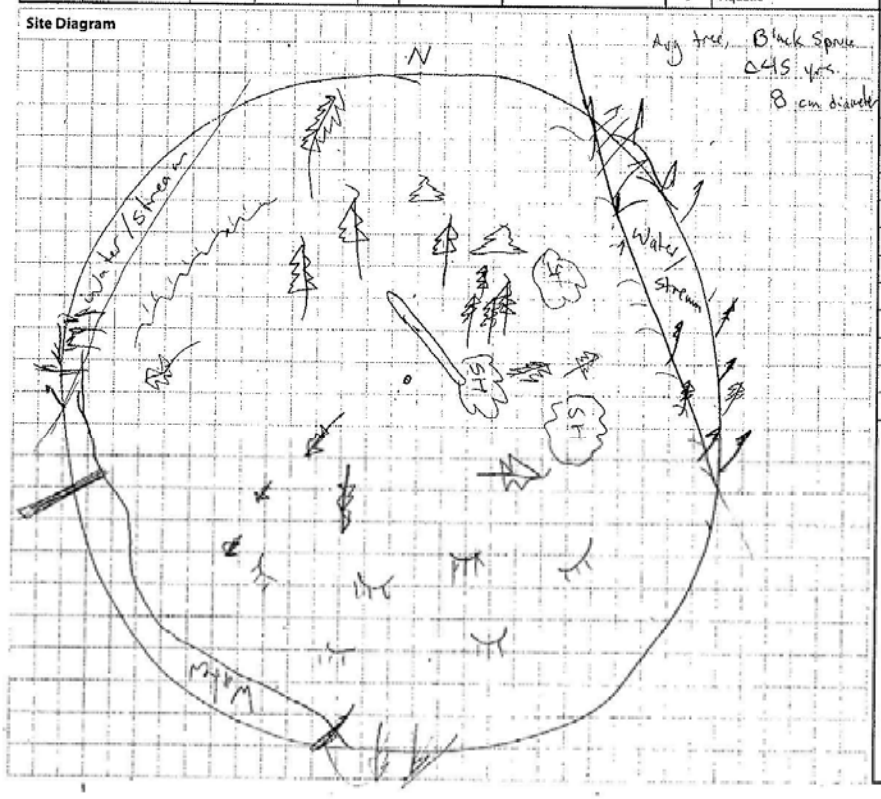
Ecosystem Site Description

YUKON ENVIRONMENT PLOT DESCRIPTION

PLOT DATA				LOCATION		COORDINATES					CHARACTERISTICS	
Plot No.	M024			Ecoregion	YP-C			Deg	Min	Sec	Elevation (m)	0872
Project:	Minto Veg Survey			Airphoto Flight Line	0907039	UTM		385	353	E	Elevation Source	GPS
Date (dd/mm/yy)	17/07/10			Airphoto No.	018			6943153		N	Aspect Macro (deg)	level
Start Time	24hh:	mm:		NTS Map 250k/50k	115I / 11		Zone	North	East		Aspect Meso (deg)	level
End Time	24hh:	mm:		Location:	Minto Mine Fen / Stream W of Airstrip	UTM					Slope (%)	0
Observers:	Lisa Knight, Brett Elliot						Source	Precsn	Datum		Slope (deg)	0
						Metadata						

Surface Shape		Microtopo Intensity			Perviousness		Flood Regime			
CV	Concave	S	Smooth	no mounds	R	Rapidly	A	Annual	W	Winter
CX	Convex	M	Micro	< 0.3m high	M	Moderately	F	Frequent (every 2-5 years)	P	Permanent through growing season
ST	Straight	SL	Slight	0.3-1m / > 7m apart	S	Slowly	O	Occasional (> 5 years)	E	Extended (<1 month not flooded)
UN	Undulating	MD	Moderate	0.3-1m / 3-7m apart	**Soil Drainage**		R	Rare (extreme events)	M	Moderate (1-3 months flooded)
Microtopo Type		ST	Strong	0.3-1m / 1-3m apart	VR	Very Rapidly	X	Never	T	Temporary (7-30 days)
CHA	Channelled	SV	Severe	0.3-1m / < 1m apart	R	Rapidly			B	Brief (< 7 days)
DOM	Domed	E	Extreme	>1m / > 3m apart	W	Well			D	Diurnal
GUL	Gullied	U	Ultra	>1m / < 3m apart	MW	Moderately Well	**Ecological Moisture**		**Nutrient Regime**	
HMK	Hummocked	**Plot Position Macro**		**Plot Position Meso**	I	Imperfectly	0	Very Xeric	A	Very Poor
LOB	Lobed	A	Apex	C Crest	P	Poorly	1	Xeric	B	Poor
MND	Mounded	F	Face	UP Upper Slope	VP	Very Poorly	2	Subxeric	C	Medium
NET	Netted	US	Upper Slope	MS Middle Slope	**Seepage**		3	Submesic	D	Rich
POL	Polygonal	MS	Mid Slope	LS Lower Slope	P	Present	4	Mesic	E	Very Rich
RIB	Ribbed	LS	Lower Slope	T Toe	A	Absent	5	Subhygric	F	Saline
SMO	Smooth	VF	Valley Floor	D Depression			6	Hygric	**Plot Disturbances**	
TUS	Tussocked	P	Plain	L Level			7	Subhydric		
							8	Hydric		
							9	Aquatic		

Site Diagram



Exposure Type	
AU	Aufeis
CA	Cold air Drainage
FR	Frost - Cold Air Accumulation
IN	Insolation
RN	Rain Shadow
SN	Snow Accumulation
WI	Wind
X	Other

Complex	
Complex #	
Component	
Photos	92
	93

Comments

[illegible] 'os
wet / marshland
Very hummocky some depressions w standing water
CWD ~ 5%
Some standing Dead
Signs of moose scat
rodents trails + tunnels

APPENDIX D

2009 AND 2010 SOIL AND VEGETATION LABORATORY ANALYSIS

Your Project #: MIN-09-05 REVEGETATION MONITOR
Your C.O.C. #: 08304612, F143924, F143925

Attention: Colleen Roche
MINTO EXPLORATIONS LTD.
#900 - 999 WEST HASTINGS ST.
VANCOUVER, BC
CANADA V6C2W2

Report Date: 2009/10/06

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A953654
Received: 2009/09/25, 01:05

Sample Matrix: Soil
Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Cation Exchange Capacity (1)	3	2009/10/02	2009/10/06	EENVSOP-00034	EPA SW846 6010C
Conductivity (Soluble)	3	2009/09/30	2009/10/01	BRN SOP-00267 R3.0	Based Carter 18.3.1
Elements by ICPMS (total)	3	2009/10/01	2009/10/01	BRN SOP-00203 R5.0	Based on EPA 200.8
pH (2:1 DI Water Extract) (1)	3	2009/10/01	2009/10/01	BRN SOP-00266 R6.0	Carter, SSMA 16.2
Saturated Paste	3	2009/09/30	2009/10/01	BRN SOP-00268 R5.0	Carter SSMA 18.2.2
Sublet (ORGANICS) (2)	3	N/A	2009/10/05		
Total Kjeldahl Nitrogen - Soil (1,4)	3	2009/10/02	2009/10/02	CAL SOP-00072	SM - 4500N
TOC Soil Subcontract (3)	3	2009/10/02	2009/10/02		

Sample Matrix: VEGETABLES
Samples Received: 24

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Elements by CRC ICPMS (total) - Plant	24	2009/10/02	2009/10/02	BRN SOP-00206 R7.0	Based on EPA 200.8

* Results relate only to the items tested.

(1) This test was performed by Maxxam Calgary
(2) This test was performed by Ext. Sublet from Vancouver
(3) This test was performed by Maxxam Bedford(From Burnaby)
(4) SCC/CAEAL

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

VIREN THAKER, BBY Customer Service
Email: VIREN.THAKER@MaxxamAnalytics.com
Phone# (604) 444-4808 Ext:232

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

Total cover pages: 1

Maxxam Job #: A953654
Report Date: 2009/10/06

MINTO EXPLORATIONS LTD.
Client Project #: MIN-09-05 REVEGETATION MONITOR

RESULTS OF CHEMICAL ANALYSES OF SOIL

Maxxam ID		Q95936		Q95937	Q95938		
Sampling Date		2009/09/21		2009/09/21	2009/09/21		
	Units	**TOE OF TAILINGS SOIL**	**QC Batch**	**SOIL SAMPLE LOWER IROD**	**SOIL SAMPLE UPPER IROD**	**RDL**	**QC Batch**
Misc. Inorganics							
Total Kjeldahl Nitrogen	mg/kg	3500(1)	3461533	1500(1)	570(1)	100	3461533
Parameter							
Subcontract Parameter	N/A	ATTACHED	3463366	ATTACHED	ATTACHED	N/A	3465804
Elements							
Cation exchange capacity	cmol+/Kg	35	3461568	24	16	10	3461568
Soluble Parameters							
Soluble Conductivity	uS/cm	2580	3456164	402	284	1	3456164
Saturation %	%	160	3455655	57	47	1	3455655

N/A = Not Applicable
RDL = Reportable Detection Limit
(1) - Detection limits raised due to dilution to bring analyte within the calibrated range.

Maxxam Job #: A953654
Report Date: 2009/10/06

MINTO EXPLORATIONS LTD.
Client Project #: MIN-09-05 REVEGETATION MONITOR

ELEMENTS BY ATOMIC SPECTROSCOPY (VEGETABLES)

Maxxam ID		Q95926	Q95927	Q95928	Q95929	Q95930	Q95931	Q95932	Q95933	Q95934		
Sampling Date		2009/09/22	2009/09/21	2009/09/21	2009/09/21	2009/09/21	2009/09/21	2009/09/21	2009/09/21	2009/09/21		
	Units	**YUKON RIVER PLANE-LEAF WILLOW LEAVES**	**COPPER KEEL BIRCH TWIGS**	**COPPER KEEL BIRCH LEAVES**	**WASTE ROCK DUMP 1ST LEVEL LEAF WILLLOW TWIGS**	**TOE OF WASTE ROCK 1ST LIFT WILLOW TWIGS (LITTLE TREE)**	**PLANE-LEAF WILLOW TOE OF WASTE ROCK DUMP 1ST LEVEL**	**TOE OF WASTE ROCK DUMP-WILLOW LEAVES (LITTLE)**	**YUKON RIVER LITTLE TREE**	**YUKON RIVER LITTLE TREE WILLOW TWIGS**	**RDL**	**QC Batch**
Total Metals by ICPMS												
Total Aluminum (Al)	mg/kg	46	27	34	149	158	1740	1120	40	17	1	3461873
Total Antimony (Sb)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	3461873
Total Arsenic (As)	mg/kg	0.10	<0.01	0.01	0.07	0.07	0.66	0.40	0.04	0.02	0.01	3461873
Total Barium (Ba)	mg/kg	14.8	58.9	143	3.9	4.7	20.3	13.9	109	8.9	0.1	3461873
Total Beryllium (Be)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	3461873
Total Bismuth (Bi)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	3461873
Total Boron (B)	mg/kg	50	8	47	12	8	25	26	73	9	5	3461873
Total Cadmium (Cd)	mg/kg	0.51	0.06	0.03	1.15	1.68	2.92	4.78	6.77	0.20	0.01	3461873
Total Calcium (Ca)	mg/kg	28200	6330	20200	6780	3570	41100	19200	31700	6410	10	3461873
Total Chromium (Cr)	mg/kg	1.4	<0.5	<0.5	<0.5	<0.5	1.5	<0.5	<0.5	<0.5	0.5	3461873
Total Cobalt (Co)	mg/kg	0.4	<0.1	<0.1	0.1	0.2	1.0	1.3	0.2	<0.1	0.1	3461873
Total Copper (Cu)	mg/kg	7.7	7.2	6.6	20.4	18.8	145	96.5	3.5	7.5	0.5	3461873
Total Iron (Fe)	mg/kg	97	71	71	199	216	2280	1540	73	33	10	3461873
Total Lead (Pb)	mg/kg	0.19	0.07	0.06	0.08	0.07	0.65	0.48	0.14	0.09	0.01	3461873
Total Magnesium (Mg)	mg/kg	5210	606	1840	1020	692	8880	6400	4180	743	10	3461873
Total Manganese (Mn)	mg/kg	37.9	22.2	107	55.1	83.5	447	954	136	5.8	0.1	3461873
Total Mercury (Hg)	mg/kg	0.02	<0.01	0.01	<0.01	<0.01	0.02	0.02	0.02	<0.01	0.01	3461873
Total Molybdenum (Mo)	mg/kg	1.1	<0.1	0.4	<0.1	0.1	1.3	2.1	1.8	<0.1	0.1	3461873
Total Nickel (Ni)	mg/kg	3.0	0.3	0.2	0.6	0.6	1.7	1.6	0.7	0.8	0.1	3461873
Total Phosphorus (P)	mg/kg	4270	1350	1420	920	890	856	1100	6820	1330	10	3461873
Total Potassium (K)	mg/kg	8270	2410	6090	2710	2330	9460	8170	3700	2560	10	3461873
Total Selenium (Se)	mg/kg	0.89	0.02	0.01	0.99	0.27	3.77	1.00	0.29	0.30	0.01	3461873
Total Silver (Ag)	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	3461873
Total Sodium (Na)	mg/kg	10	<10	13	12	11	92	27	<10	<10	10	3461873
Total Strontium (Sr)	mg/kg	113	13.1	31.1	52.8	27.2	293	123	184	29.0	0.1	3461873
Total Thallium (Tl)	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	3461873
Total Tin (Sn)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	3461873
Total Titanium (Ti)	mg/kg	2	1	2	5	6	65	44	2	<1	1	3461873
Total Uranium (U)	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	0.07	<0.05	<0.05	<0.05	0.05	3461873
Total Vanadium (V)	mg/kg	<2	<2	<2	<2	<2	5	3	<2	<2	2	3461873
Total Zinc (Zn)	mg/kg	60.5	97.6	127	70.3	44.9	101	41.4	142	56.5	0.1	3461873

RDL = Reportable Detection Limit

Maxxam Job #: A953654
Report Date: 2009/10/06

MINTO EXPLORATIONS LTD.
Client Project #: MIN-09-05 REVEGETATION MONITOR

ELEMENTS BY ATOMIC SPECTROSCOPY (VEGETABLES)

Maxxam ID		Q95935	Q95939	Q95940	Q95941	Q95942	Q95943	Q95944	Q95945		
Sampling Date		2009/09/21	2009/09/21	2009/09/21	2009/09/21	2009/09/21	2009/09/21	2009/09/21	2009/09/21		
	Units	**YUKON RIVER PLANE-LEAF WILLOW TWIGS**	**TUFTED HAIRGRASS LOWER IROD**	**SHEEP FESCUE LOWER IROD**	**VIOLET WHEATGRASS LOWER IROD**	**R.M. FESCUE LOWER IROD**	**TUFTED HAIRGRASS TOE OF TAILINGS**	**VIOLET WHEATGRASS TOE OF TAILINGS**	**GLAUCOUS BLUEGRASS TOE OF TAILINGS**	**RDL**	**QC Batch**
Total Metals by ICPMS											
Total Aluminum (Al)	mg/kg	33	1060	978	702	559	1160	795	637	1	3461873
Total Antimony (Sb)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	3461873
Total Arsenic (As)	mg/kg	0.03	0.39	0.31	0.17	0.19	0.21	0.16	0.22	0.01	3461873
Total Barium (Ba)	mg/kg	61.4	76.0	47.6	20.4	25.6	25.0	21.8	73.1	0.1	3461873
Total Beryllium (Be)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	3461873
Total Bismuth (Bi)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	3461873
Total Boron (B)	mg/kg	16	<5	<5	<5	<5	<5	<5	6	5	3461873
Total Cadmium (Cd)	mg/kg	3.81	0.22	0.17	0.09	0.06	0.08	0.09	0.35	0.01	3461873
Total Calcium (Ca)	mg/kg	12400	4480	3630	4000	1880	2810	3500	8690	10	3461873
Total Chromium (Cr)	mg/kg	<0.5	1.0	0.9	0.6	2.1	1.5	1.6	0.7	0.5	3461873
Total Cobalt (Co)	mg/kg	<0.1	0.7	0.6	0.3	0.4	0.7	0.5	0.8	0.1	3461873
Total Copper (Cu)	mg/kg	5.3	100	81.3	58.5	49.9	213	133	113	0.5	3461873
Total Iron (Fe)	mg/kg	54	1750	1570	1000	882	2610	1800	1460	10	3461873
Total Lead (Pb)	mg/kg	0.15	0.49	0.49	0.32	0.33	0.52	0.44	0.47	0.01	3461873
Total Magnesium (Mg)	mg/kg	830	1550	1430	1310	666	1180	1210	3930	10	3461873
Total Manganese (Mn)	mg/kg	35.6	354	366	173	205	150	212	593	0.1	3461873
Total Mercury (Hg)	mg/kg	0.01	0.01	0.01	<0.01	<0.01	0.01	0.01	0.01	0.01	3461873
Total Molybdenum (Mo)	mg/kg	1.0	2.6	1.4	1.0	1.1	1.2	1.1	2.3	0.1	3461873
Total Nickel (Ni)	mg/kg	0.4	2.5	0.9	0.5	1.8	1.2	1.1	1.4	0.1	3461873
Total Phosphorus (P)	mg/kg	1250	830	666	178	604	309	608	1090	10	3461873
Total Potassium (K)	mg/kg	3110	5880	4650	2500	2870	1770	6240	9710	10	3461873
Total Selenium (Se)	mg/kg	0.26	0.24	0.13	0.24	0.12	0.24	0.19	0.21	0.01	3461873
Total Silver (Ag)	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	0.09	0.06	0.06	0.05	3461873
Total Sodium (Na)	mg/kg	<10	23	23	17	14	33	29	31	10	3461873
Total Strontium (Sr)	mg/kg	58.7	24.5	17.5	18.3	10.1	15.6	17.6	42.3	0.1	3461873
Total Thallium (Tl)	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	3461873
Total Tin (Sn)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	3461873
Total Titanium (Ti)	mg/kg	1	50	47	29	26	80	56	43	1	3461873
Total Uranium (U)	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	3461873
Total Vanadium (V)	mg/kg	<2	4	3	<2	<2	5	3	3	2	3461873
Total Zinc (Zn)	mg/kg	128	55.1	28.0	19.8	24.0	25.3	18.5	123	0.1	3461873

RDL = Reportable Detection Limit

Maxxam Job #: A953654
Report Date: 2009/10/06

MINTO EXPLORATIONS LTD.
Client Project #: MIN-09-05 REVEGETATION MONITOR

ELEMENTS BY ATOMIC SPECTROSCOPY (VEGETABLES)

Maxxam ID		Q95946		Q95947	Q95948	Q95949	Q95950	Q95951	Q95952		
Sampling Date		2009/09/21		2009/09/21	2009/09/21	2009/09/21	2009/09/21	2009/09/21	2009/09/21		
	Units	**R.M. FESCUE TOE OF TAILINGS**	**QC Batch**	**SHEEP FESCUE TOE OF TAILINGS**	**VIOLET WHEATGRASS UPPER IROD**	**TUFTED HAIRGRASS UPPER IROD**	**SHEEP FESCUE UPPER IROD**	**GLAUCOUS BLUEGRASS UPPER IROD**	**R.M. FESCUE UPPER IROD**	**RDL**	**QC Batch**
Total Metals by ICPMS											
Total Aluminum (Al)	mg/kg	1320	3461873	601	855	1150	320	363	340	1	3461891
Total Antimony (Sb)	mg/kg	<0.1	3461873	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	3461891
Total Arsenic (As)	mg/kg	0.35	3461873	0.13	0.32	0.48	0.16	0.27	0.16	0.01	3461891
Total Barium (Ba)	mg/kg	90.4	3461873	31.6	71.0	63.6	25.8	151	28.6	0.1	3461891
Total Beryllium (Be)	mg/kg	<0.1	3461873	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	3461891
Total Bismuth (Bi)	mg/kg	<0.1	3461873	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	3461891
Total Boron (B)	mg/kg	<5	3461873	<5	<5	7	<5	6	<5	5	3461891
Total Cadmium (Cd)	mg/kg	0.19	3461873	0.19	0.17	0.26	0.10	0.11	0.03	0.01	3461891
Total Calcium (Ca)	mg/kg	5380	3461873	3630	4010	4260	2690	5410	1700	10	3461891
Total Chromium (Cr)	mg/kg	3.1	3461873	0.9	0.9	1.3	<0.5	<0.5	<0.5	0.5	3461891
Total Cobalt (Co)	mg/kg	1.1	3461873	0.5	0.5	0.8	0.2	0.5	0.2	0.1	3461891
Total Copper (Cu)	mg/kg	233	3461873	108	65.0	114	26.2	39.1	25.0	0.5	3461891
Total Iron (Fe)	mg/kg	2880	3461873	1360	1380	1960	525	729	559	10	3461891
Total Lead (Pb)	mg/kg	0.88	3461873	0.70	0.52	0.65	0.69	0.43	0.20	0.01	3461891
Total Magnesium (Mg)	mg/kg	2600	3461873	1890	1380	1410	1020	2090	634	10	3461891
Total Manganese (Mn)	mg/kg	498	3461873	325	174	136	123	462	121	0.1	3461891
Total Mercury (Hg)	mg/kg	<0.01	3461873	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	3461891
Total Molybdenum (Mo)	mg/kg	1.5	3461873	2.7	1.4	4.8	1.7	1.9	0.9	0.1	3461891
Total Nickel (Ni)	mg/kg	2.7	3461873	0.9	1.0	2.2	1.1	2.5	1.0	0.1	3461891
Total Phosphorus (P)	mg/kg	852	3461873	1080	439	1060	807	1030	585	10	3461891
Total Potassium (K)	mg/kg	4720	3461873	13300	5090	5690	5960	5180	3240	10	3461891
Total Selenium (Se)	mg/kg	0.30	3461873	0.15	0.15	0.21	0.07	0.20	0.07	0.01	3461891
Total Silver (Ag)	mg/kg	0.12	3461873	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	0.05	3461891
Total Sodium (Na)	mg/kg	40	3461873	28	20	29	16	15	19	10	3461891
Total Strontium (Sr)	mg/kg	30.1	3461873	20.9	21.5	21.1	12.5	29.3	9.0	0.1	3461891
Total Thallium (Tl)	mg/kg	<0.05	3461873	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	3461891
Total Tin (Sn)	mg/kg	0.1	3461873	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	3461891
Total Titanium (Ti)	mg/kg	91	3461873	45	48	57	16	17	18	1	3461891
Total Uranium (U)	mg/kg	<0.05	3461873	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	3461891
Total Vanadium (V)	mg/kg	6	3461873	3	3	4	<2	<2	<2	2	3461891
Total Zinc (Zn)	mg/kg	89.3	3461873	44.0	13.6	34.7	21.0	98.3	18.8	0.1	3461891

RDL = Reportable Detection Limit

Maxxam Job #: A953654
Report Date: 2009/10/06

MINTO EXPLORATIONS LTD.
Client Project #: MIN-09-05 REVEGETATION MONITOR

CSR/CCME METALS IN SOIL (SOIL)

Maxxam ID		Q95936	Q95937	Q95938		
Sampling Date		2009/09/21	2009/09/21	2009/09/21		
	Units	**TOE OF TAILINGS SOIL**	**SOIL SAMPLE LOWER IROD**	**SOIL SAMPLE UPPER IROD**	**RDL**	**QC Batch**
Misc. Inorganics						
Soluble (2:1) pH	pH Units	5.23	7.04	8.45	0.01	3458063
Total Metals by ICPMS						
Total Aluminum (Al)	mg/kg	15300	14200	12800	100	3459879
Total Antimony (Sb)	mg/kg	0.5	0.5	0.3	0.1	3459879
Total Arsenic (As)	mg/kg	6.5	5.3	6.5	0.2	3459879
Total Barium (Ba)	mg/kg	279	215	183	0.1	3459879
Total Beryllium (Be)	mg/kg	0.5	0.3	0.5	0.1	3459879
Total Bismuth (Bi)	mg/kg	0.1	0.1	<0.1	0.1	3459879
Total Cadmium (Cd)	mg/kg	0.29	0.25	0.15	0.05	3459879
Total Calcium (Ca)	mg/kg	8960	9890	11800	100	3459879
Total Chromium (Cr)	mg/kg	28	29	29	1	3459879
Total Cobalt (Co)	mg/kg	8.3	10.0	11.6	0.3	3459879
Total Copper (Cu)	mg/kg	163	123	59.6	0.5	3459879
Total Iron (Fe)	mg/kg	20900	24900	26100	100	3459879
Total Lead (Pb)	mg/kg	6.3	6.4	5.6	0.1	3459879
Total Magnesium (Mg)	mg/kg	6420	8330	11200	100	3459879
Total Manganese (Mn)	mg/kg	178	460	467	0.2	3459879
Total Mercury (Hg)	mg/kg	<0.05	<0.05	<0.05	0.05	3459879
Total Molybdenum (Mo)	mg/kg	2.1	1.3	0.6	0.1	3459879
Total Nickel (Ni)	mg/kg	23.6	32.1	53.7	0.8	3459879
Total Phosphorus (P)	mg/kg	586	742	858	10	3459879
Total Potassium (K)	mg/kg	787	1130	1470	100	3459879
Total Selenium (Se)	mg/kg	1.0	0.6	0.6	0.5	3459879
Total Silver (Ag)	mg/kg	0.14	0.12	0.09	0.05	3459879
Total Sodium (Na)	mg/kg	217	275	278	100	3459879
Total Strontium (Sr)	mg/kg	59.0	60.3	60.1	0.1	3459879
Total Thallium (Tl)	mg/kg	0.09	0.10	0.11	0.05	3459879
Total Tin (Sn)	mg/kg	0.5	0.5	0.4	0.1	3459879
Total Titanium (Ti)	mg/kg	805	928	682	1	3459879
Total Vanadium (V)	mg/kg	62	64	59	2	3459879
Total Zinc (Zn)	mg/kg	69	71	58	1	3459879
Total Zirconium (Zr)	mg/kg	2.9	3.5	3.0	0.5	3459879

RDL = Reportable Detection Limit

Maxxam Job #: A953654
Report Date: 2009/10/06

MINTO EXPLORATIONS LTD.
Client Project #: MIN-09-05 REVEGETATION MONITOR

QUALITY ASSURANCE REPORT

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
3455655	Saturation %	2009/10/01					<1	%	9.1	25		
3456164	Soluble Conductivity	2009/10/01			98	80 - 120	<1	uS/cm	21.2	N/A		
3458063	Soluble (2:1) pH	2009/10/01			100	96 - 104			0.1	20		
3459879	Total Arsenic (As)	2009/10/01	99	75 - 125	98	75 - 125	<0.2	mg/kg			84	70 - 130
3459879	Total Beryllium (Be)	2009/10/01	113	75 - 125	105	75 - 125	<0.1	mg/kg				
3459879	Total Cadmium (Cd)	2009/10/01	108	75 - 125	100	75 - 125	<0.05	mg/kg			83	70 - 130
3459879	Total Chromium (Cr)	2009/10/01	105	75 - 125	98	75 - 125	<1	mg/kg			93	70 - 130
3459879	Total Cobalt (Co)	2009/10/01	105	75 - 125	101	75 - 125	<0.3	mg/kg			87	70 - 130
3459879	Total Copper (Cu)	2009/10/01	105	75 - 125	102	75 - 125	<0.5	mg/kg			89	70 - 130
3459879	Total Lead (Pb)	2009/10/01	108	75 - 125	95	75 - 125	<0.1	mg/kg	2.0	35	92	70 - 130
3459879	Total Mercury (Hg)	2009/10/01	109	75 - 125	97	75 - 125	<0.05	mg/kg				
3459879	Total Nickel (Ni)	2009/10/01	104	75 - 125	98	75 - 125	<0.8	mg/kg			89	70 - 130
3459879	Total Selenium (Se)	2009/10/01	109	75 - 125	107	75 - 125	<0.5	mg/kg				
3459879	Total Vanadium (V)	2009/10/01	119	75 - 125	113	75 - 125	<2	mg/kg			111	70 - 130
3459879	Total Zinc (Zn)	2009/10/01	NC	75 - 125	105	75 - 125	<1	mg/kg			90	70 - 130
3459879	Total Aluminum (Al)	2009/10/01					<100	mg/kg			105	70 - 130
3459879	Total Antimony (Sb)	2009/10/01					<0.1	mg/kg			93	70 - 130
3459879	Total Barium (Ba)	2009/10/01					<0.1	mg/kg			112	70 - 130
3459879	Total Calcium (Ca)	2009/10/01					<100	mg/kg			91	70 - 130
3459879	Total Iron (Fe)	2009/10/01					<100	mg/kg			98	70 - 130
3459879	Total Magnesium (Mg)	2009/10/01					<100	mg/kg			102	70 - 130
3459879	Total Manganese (Mn)	2009/10/01					<0.2	mg/kg			124	70 - 130
3459879	Total Molybdenum (Mo)	2009/10/01					<0.1	mg/kg			86	70 - 130
3459879	Total Phosphorus (P)	2009/10/01					<10	mg/kg			77	70 - 130
3459879	Total Silver (Ag)	2009/10/01					<0.05	mg/kg			83	70 - 130
3459879	Total Strontium (Sr)	2009/10/01					0.1, RDL=0.1	mg/kg			128	70 - 130
3459879	Total Thallium (Tl)	2009/10/01					<0.05	mg/kg			76	70 - 130
3459879	Total Titanium (Ti)	2009/10/01					<1	mg/kg			111	70 - 130
3459879	Total Bismuth (Bi)	2009/10/01					<0.1	mg/kg				
3459879	Total Potassium (K)	2009/10/01					<100	mg/kg				
3459879	Total Sodium (Na)	2009/10/01					<100	mg/kg				
3459879	Total Tin (Sn)	2009/10/01					<0.1	mg/kg				
3459879	Total Zirconium (Zr)	2009/10/01					<0.5	mg/kg				
3461533	Total Kjeldahl Nitrogen	2009/10/02	NC	75 - 125	104	80 - 120	<10	mg/kg	18.2	35	84	60 - 121
3461568	Cation exchange capacity	2009/10/06							NC	35		
3461873	Total Arsenic (As)	2009/10/02	108	75 - 125	105	75 - 125	<0.01	mg/kg	12.0	35		
3461873	Total Beryllium (Be)	2009/10/02	110	75 - 125	110	75 - 125	<0.1	mg/kg	NC	35		
3461873	Total Cadmium (Cd)	2009/10/02	111	75 - 125	112	75 - 125	<0.01	mg/kg	2.4	35		
3461873	Total Chromium (Cr)	2009/10/02	107	75 - 125	108	75 - 125	<0.5	mg/kg	NC	35		
3461873	Total Cobalt (Co)	2009/10/02	107	75 - 125	108	75 - 125	<0.1	mg/kg	NC	35		

Maxxam Job #: A953654
Report Date: 2009/10/06

MINTO EXPLORATIONS LTD.
Client Project #: MIN-09-05 REVEGETATION MONITOR

QUALITY ASSURANCE REPORT

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
3461873	Total Copper (Cu)	2009/10/02	106	75 - 125	107	75 - 125	<0.5	mg/kg	0.2	35		
3461873	Total Lead (Pb)	2009/10/02	105	75 - 125	111	75 - 125	<0.01	mg/kg	0.3	35		
3461873	Total Mercury (Hg)	2009/10/02	103	75 - 125	107	75 - 125	0.01, RDL=0.01	mg/kg	NC	35		
3461873	Total Nickel (Ni)	2009/10/02	106	75 - 125	107	75 - 125	<0.1	mg/kg	2.6	35		
3461873	Total Selenium (Se)	2009/10/02	112	75 - 125	114	75 - 125	0.01, RDL=0.01	mg/kg	9.6	35		
3461873	Total Uranium (U)	2009/10/02	110	75 - 125	113	75 - 125	<0.05	mg/kg	NC	35		
3461873	Total Vanadium (V)	2009/10/02	111	75 - 125	107	75 - 125	<2	mg/kg	NC	35		
3461873	Total Zinc (Zn)	2009/10/02	NC	75 - 125	112	75 - 125	<0.1	mg/kg	1.5	35		
3461873	Total Aluminum (Al)	2009/10/02					1, RDL=1	mg/kg	2.2	35		
3461873	Total Antimony (Sb)	2009/10/02					<0.1	mg/kg	NC	35		
3461873	Total Barium (Ba)	2009/10/02					<0.1	mg/kg	2.0	35		
3461873	Total Bismuth (Bi)	2009/10/02					<0.1	mg/kg	NC	35		
3461873	Total Boron (B)	2009/10/02					<5	mg/kg	1.1	35		
3461873	Total Calcium (Ca)	2009/10/02					<10	mg/kg	1.5	35		
3461873	Total Iron (Fe)	2009/10/02					<10	mg/kg	11.2	35		
3461873	Total Magnesium (Mg)	2009/10/02					<10	mg/kg	0.5	35		
3461873	Total Manganese (Mn)	2009/10/02					<0.1	mg/kg	1.9	35		
3461873	Total Molybdenum (Mo)	2009/10/02					<0.1	mg/kg	1.2	35		
3461873	Total Phosphorus (P)	2009/10/02					<10	mg/kg	1.5	35		
3461873	Total Potassium (K)	2009/10/02					<10	mg/kg	0.5	35		
3461873	Total Silver (Ag)	2009/10/02					<0.05	mg/kg	NC	35		
3461873	Total Sodium (Na)	2009/10/02					<10	mg/kg	NC	35		
3461873	Total Strontium (Sr)	2009/10/02					<0.1	mg/kg	1.6	35		
3461873	Total Thallium (Tl)	2009/10/02					<0.05	mg/kg	NC	35		
3461873	Total Tin (Sn)	2009/10/02					<0.1	mg/kg	NC	35		
3461873	Total Titanium (Ti)	2009/10/02					<1	mg/kg	NC	35		
3461891	Total Arsenic (As)	2009/10/02	110	75 - 125	111	75 - 125	<0.01	mg/kg	5.7	35		
3461891	Total Beryllium (Be)	2009/10/02	111	75 - 125	110	75 - 125	<0.1	mg/kg	NC	35		
3461891	Total Cadmium (Cd)	2009/10/02	115	75 - 125	115	75 - 125	<0.01	mg/kg	7.7	35		
3461891	Total Chromium (Cr)	2009/10/02	109	75 - 125	112	75 - 125	<0.5	mg/kg	NC	35		
3461891	Total Cobalt (Co)	2009/10/02	107	75 - 125	110	75 - 125	<0.1	mg/kg	NC	35		
3461891	Total Copper (Cu)	2009/10/02	NC	75 - 125	110	75 - 125	<0.5	mg/kg	0.09	35		
3461891	Total Lead (Pb)	2009/10/02	107	75 - 125	110	75 - 125	<0.01	mg/kg	1	35		
3461891	Total Mercury (Hg)	2009/10/02	104	75 - 125	104	75 - 125	<0.01	mg/kg	NC	35		
3461891	Total Nickel (Ni)	2009/10/02	107	75 - 125	110	75 - 125	<0.1	mg/kg	7.4	35		
3461891	Total Selenium (Se)	2009/10/02	110	75 - 125	114	75 - 125	0.01, RDL=0.01	mg/kg	2.9	35		
3461891	Total Uranium (U)	2009/10/02	110	75 - 125	111	75 - 125	<0.05	mg/kg	NC	35		
3461891	Total Vanadium (V)	2009/10/02	111	75 - 125	111	75 - 125	<2	mg/kg	NC	35		
3461891	Total Zinc (Zn)	2009/10/02	NC	75 - 125	115	75 - 125	<0.1	mg/kg	0.3	35		
3461891	Total Aluminum (Al)	2009/10/02					1, RDL=1	mg/kg	0.08	35		

Maxxam Job #: A953654
Report Date: 2009/10/06

MINTO EXPLORATIONS LTD.
Client Project #: MIN-09-05 REVEGETATION MONITOR

QUALITY ASSURANCE REPORT

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
3461891	Total Antimony (Sb)	2009/10/02					<0.1	mg/kg	NC	35		
3461891	Total Barium (Ba)	2009/10/02					<0.1	mg/kg	0.4	35		
3461891	Total Bismuth (Bi)	2009/10/02					<0.1	mg/kg	NC	35		
3461891	Total Boron (B)	2009/10/02					<5	mg/kg	NC	35		
3461891	Total Calcium (Ca)	2009/10/02					<10	mg/kg	1.7	35		
3461891	Total Iron (Fe)	2009/10/02					<10	mg/kg	1.6	35		
3461891	Total Magnesium (Mg)	2009/10/02					<10	mg/kg	0.9	35		
3461891	Total Manganese (Mn)	2009/10/02					<0.1	mg/kg	0.4	35		
3461891	Total Molybdenum (Mo)	2009/10/02					<0.1	mg/kg	1	35		
3461891	Total Phosphorus (P)	2009/10/02					<10	mg/kg	0.7	35		
3461891	Total Potassium (K)	2009/10/02					<10	mg/kg	1.5	35		
3461891	Total Silver (Ag)	2009/10/02					<0.05	mg/kg	NC	35		
3461891	Total Sodium (Na)	2009/10/02					<10	mg/kg	NC	35		
3461891	Total Strontium (Sr)	2009/10/02					<0.1	mg/kg	0.3	35		
3461891	Total Thallium (Tl)	2009/10/02					<0.05	mg/kg	NC	35		
3461891	Total Tin (Sn)	2009/10/02					<0.1	mg/kg	NC	35		
3461891	Total Titanium (Ti)	2009/10/02					<1	mg/kg	0.9	35		

N/A = Not Applicable
RDL = Reportable Detection Limit
RPD = Relative Percent Difference
Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

Maxxam Analytics Inc

8577 Commerce Court, Burnaby, BC V5A 4N5
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Fax.: (604) 444-4511
Toll-Free: 1-800-440-4808
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CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

08304612

A953654

LAB USE ONLY — MAXXAM JOB #

ANALYSIS REQUEST

LAB USE ONLY — COC #

COMPANY NAME: Minto Explorations Ltd.	CLIENT PROJECT NO.: MIN-09-05 Revegetation Monitoring Sept 09
COMPANY ADDRESS:	TEL.: E-MAIL: scott@accessconsulting.ca, colleenr@mintomine.com FAX:
SAMPLER NAME (PRINT): Stu Withers	PROJECT MANAGER: Scott Keesey/Colleen Roche
LABORATORY CONTACT: Kimberley Webber	

	FIELD SAMPLE ID	MAXXAM LAB # (LAB USE ONLY)	MATRIX: GROUNDWATER	SURFACE WATER	DRINKING WATER	SOIL	OTHER	SAMPLING: DATE DD/MM/YY	TIME	# CONTAINERS	ICP Metals
1	Yukon River Plane-leaf Willow Leaves						x	2009/09/22	16:00	1	x
2	Copper Keel Birch Twigs						x	2009/09/21	17:00	1	x
3	Copper Keel Birch Leaves						x	2009/09/21	17:00	1	x
4	Waste Rock Dump 1st level Leaf Willow Twigs									1	X
5	Toe of Waste Rock 1st lift willow twigs (little)									1	X
6	Plane-leaf willow - toe of waste rock dump 1st level									1	X
7	Toe of waste Rock Pump - willow leaves (little)									1	X
8	Yukon River little tree									1	X
9	Yukon River little tree willow twigs									1	X
10	Yukon River plane-leaf willow twigs									1	X
11	Toe of Tailings soil									1	X
12	Soil sample lower Road									1	X

TAT (Turnaround Time)
LESS THAN 5 DAY TAT MUST HAVE PRIOR APPROVAL
* Some exceptions apply - please contact laboratory

STANDARD	5 BUSINESS DAYS	x
RUSH	3 BUSINESS DAYS	
RUSH	2 BUSINESS DAYS	
URGENT	1 BUSINESS DAY	

OTHER BUSINESS DAYS _____

PO NUMBER OR QUOTE NUMBER: PR 7041

SPECIAL DETECTION LIMITS / CONTAMINANT TYPE:

CCME / CSR / AB TIER 1 / OTHER

LAB USE ONLY: ARRIVAL TEMPERATURE °C: | DUE DATE: | LOG IN CHECK:

ACCOUNTING CONTACT:

SPECIAL REPORTING OR BILLING INSTRUCTIONS:

JARS USED:

RELINQUISHED BY SAMPLER: S. Withers	DATE: DD/MM/YY 23/09/09	TIME: 20:00	RECEIVED BY:
RELINQUISHED BY:	DATE: DD/MM/YY	TIME:	RECEIVED BY:
RELINQUISHED BY:	DATE: DD/MM/YY 25/09/09	TIME: 1:05	RECEIVED BY LABORATORY:

CUSTODY

Maxxam Analytics

8577 Commerce Court
Burnaby, BC V5A 4N5
www.maxxamanalytics.com

Phone: (604) 444-4808
Fax: (604) 444-4511
Toll Free: 1-800-440-4808

A953654

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

MAXXAM JOB # _____ ANALYSIS REQUEST F 143924

COMPANY NAME: Minto

PH. #:
E-mail:
FAX #:

COMPANY ADDRESS:

CLIENT PROJECT ID: (#) MIN-09-05 Revegetation Monitoring Sept 09

SAMPLER NAME (PRINT): Stu Withers

PROJECT MANAGER: Scott Keesey/Colleen Roche

LAB USE ONLY

FIELD SAMPLE ID	MAXXAM LAB # (Lab Use Only)	MATRIX: GROUND WATER	SURFACE WATER	SOIL	DRINKING WATER	OTHER	# CONTAINERS	SAMPLING: DATE DD/MM/YY	TIME	HEADSPACE VAPOUR	BTEX / LH ☐ BTEX / VPH ☐ MTBE ☐	VOC's / VPH ☐	EPH ☐ TEH ☐	PAH ☐ LEPH/HEPH ☐	CCME-PHC (FRACTIONS 1-4 PLUS BTEX)	CCME-PHCS (FRACTIONS 2-4)	CCME BTEX (FRACTION 1 PLUS BTEX)	PHENOLS BY 4AAP ☐ PHENOLS BY GCMS ☐	TOTAL O&G ☐ MINERAL O&G ☐	Dissolved Metals: Field Filtered? YES ☐ NO ☐	Field Preserved? YES ☐ NO ☐	Total Metals Field Preserved? YES ☐ NO ☐	NITRATE ☐ NITRITE ☐ AMMONIA ☐	CHLORIDE ☐ FLUORIDE ☐ SULPHATE ☐	TOTAL SUSPENDED SOLIDS (NFR)	CYANIDE SAD ☐ WAD ☐	LEACHABLE LEAD (AA) ☐ (TCLP) ☐	LEACHABLE BTEX (AA) ☐ (TCLP) ☐	ICP Metals								HOLD
1 Soil sample Upper Irod							1																							X									
2 Tufted hairgrass Lower Irod																																							
3 Sheep Fescue Lower Irod																																							
4 Violet Wheatgrass Lower Irod																																							
5 R.M. Fescue Lower IRod																																							
6 Tufted hairgrass Toe of Tailings																																							
7 Violet Wheatgrass Toe of Tailings																																							
8 Glaucous Bluegrass Toe of Tailings																																							
9 R.M. Fescue Toe of Tailings																																							
10 Sheep Fescue Toe of Tailings																																							
11																																							
12																																							

TAT (Turnaround Time)

<5 DAY TAT MUST HAVE PRIOR APPROVAL

*some exceptions apply please contact lab

STANDARD 5 BUSINESS DAYS ☒
RUSH 3 BUSINESS DAYS ☐
RUSH 2 BUSINESS DAYS ☐
URGENT 1 BUSINESS DAY ☐

OTHER BUSINESS DAYS _____

P.O. NUMBER / QUOTE NUMBER:

SPECIAL DETECTION LIMITS / CONTAMINANT TYPE:

☐ CCME
☐ CSR
☐ ALBERTA TIER 1
☐ OTHER

ACCOUNTING CONTACT:

SPECIAL REPORTING OR BILLING INSTRUCTIONS:

SOIL JARS USED AND NOT SUBMITTED:

LAB USE ONLY

ARRIVAL TEMPERATURE °C:

DUE DATE:

LOG IN CHECK:

RELINQUISHED BY SAMPLER: DATE: DD/MM/YY TIME: RECEIVED BY:

RELINQUISHED BY: DATE: DD/MM/YY TIME: RECEIVED BY:

CUSTODY

Maxxam Analytics

8577 Commerce Court
Burnaby, BC V5A 4N5
www.maxxamanalytics.com

Phone: (604) 444-4808
Fax: (604) 444-4511
Toll Free: 1-800-440-4808

A953654

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

MAXXAM JOB # _____ ANALYSIS REQUEST F 143925

COMPANY NAME: Minto

PH. #:
E-mail:
FAX #:

COMPANY ADDRESS:

CLIENT PROJECT ID: (#) MIN-09-05 Revegetation Monitoring Sept 09

SAMPLER NAME (PRINT): Stu Withers

PROJECT MANAGER: Scott Keesey/Colleen Roche

LAB USE ONLY

FIELD SAMPLE ID	MAXXAM LAB # (Lab Use Only)	MATRIX: GROUND WATER	SURFACE WATER	SOIL	DRINKING WATER	OTHER	# CONTAINERS	SAMPLING: DATE DD/MM/YY	TIME	HEADSPACE VAPOUR	BTEX / LH ☐ BTEX / VPH ☐ MTBE ☐	VOC's / VPH ☐	EPH ☐ TEH ☐	PAH ☐ LEPH/HEPH ☐	CCME-PHC (FRACTIONS 1-4 PLUS BTEX)	CCME-PHCS (FRACTIONS 2-4)	CCME BTEX (FRACTION 1 PLUS BTEX)	PHENOLS BY 4AAP ☐ PHENOLS BY GCMS ☐	TOTAL O&G ☐ MINERAL O&G ☐	Dissolved Metals: Field Filtered? YES ☐ NO ☐	Field Preserved? YES ☐ NO ☐	Total Metals Field Preserved? YES ☐ NO ☐	NITRITE ☐ NITRATE ☐ AMMONIA ☐	CHLORIDE ☐ FLUORIDE ☐ SULPHATE ☐	TOTAL SUSPENDED SOLIDS (NFR)	CYANIDE SAD ☐ WAD ☐	LEACHABLE LEAD (AA) ☐ (TCLP) ☐	LEACHABLE BTEX (AA) ☐ (TCLP) ☐	HOLD
1 Violet Wheatgrass	Upper Trod																													
2 Tufted Hairgrass	Upper Trod																													
3 Sheep fescue	Upper Trod																													
4 Glaucous Bluegrass	Upper Trod																													
5 R.M. Fescue	Upper Trod																													
6																														
7																														
8																														
9																														
10																														
11																														
12																														

TAT (Turnaround Time)

<5 DAY TAT MUST HAVE PRIOR APPROVAL

*some exceptions apply please contact lab

STANDARD 5 BUSINESS DAYS ☐
RUSH 3 BUSINESS DAYS ☐
RUSH 2 BUSINESS DAYS ☐
URGENT 1 BUSINESS DAY ☐

OTHER BUSINESS DAYS _____

P.O. NUMBER / QUOTE NUMBER:

SPECIAL DETECTION LIMITS / CONTAMINANT TYPE:

☐ CCME
☐ CSR
☐ ALBERTA TIER 1
☐ OTHER

ACCOUNTING CONTACT:

SPECIAL REPORTING OR BILLING INSTRUCTIONS:

SOIL JARS USED AND NOT SUBMITTED:

LAB USE ONLY

ARRIVAL TEMPERATURE °C:

DUE DATE:

LOG IN CHECK:

RELINQUISHED BY SAMPLER: DATE: DD/MM/YY TIME: RECEIVED BY:

RELINQUISHED BY: DATE: DD/MM/YY TIME: RECEIVED BY:

CUSTODY

Maxxam Analytics Inc

8577 Commerce Court
Burnaby, BC V5A 4N5
www.maxxamanalytics.com

Phone: (604) 444-4808
Fax.: (604) 444-4511
Toll-Free: 1-800-440-4808

CHAIN-OF CUSTODY RECORD AND ANALYSIS REQUEST

LAB USE ONLY
MAXXAM JOB #

ANALYSIS REQUEST

LAB USE ONLY
COC #

COMPANY NAME: Minto Explorations Ltd.	CLIENT PROJECT NO.: MIN-09-05 Revegetation Monitoring Sept 09
COMPANY ADDRESS:	TEL.: ~ E-MAIL: scott@accessconsulting.ca, colleenr@mintomine.com FAX:
SAMPLER NAME (PRINT): Stu Withers	PROJECT MANAGER: Scott Keesey/Colleen Roche
LABORATORY CONTACT: Kimberley Webber	

LAB USE ONLY

	FIELD SAMPLE ID	MAXXAM LAB # (LAB USE ONLY)	MATRIX: GROUNDWATER	SURFACE WATER	DRINKING WATER	SOIL	OTHER	SAMPLING: DATE DD/MM/YY	TIME	# CONTAINERS	ICP Metals →	pH/EC →	Texture →	TOC → BE DV	C:N Ratio → Pacific Soil Sub. Calgary	CEC → CALC SUB. Calgary	Total N → Calgary.	Nutrients → Basic Fertility Package #1 @ PACIFIC SOIL					pH, N, P, K, Ca, Mg, Org. Matter				
1	Upper IROD Soils					x		09/21/2009	13:00	1	x	x	x	x	x	x	x	x									
2	Lower IROD Soils					x		09/21/2009	15:00	1	x	x	x	x	x	x	x	x									
3	Toe of Tailings Soils					x		09/21/2009	11:00	1	x	x	x	x	x	x	x	x									
4	Upper IROD Violet Wheatgrass						x	09/21/2009	13:00	1	x																
5	Upper IROD Tufted Hairgrass						x	09/21/2009	13:00	1	x																
6	Upper IROD R.M. Fescue						x	09/21/2009	13:00	1	x																
7	Upper IROD Sheep Fescue						x	09/21/2009	13:00	1	x																
8	Upper IROD Glaucous Bluegrass						x	09/21/2009	13:00	1	x																
9	Lower IROD Violet Wheatgrass						x	09/21/2009	15:00	1	x																
10	Lower IROD Tufted Hairgrass						x	09/21/2009	15:00	1	x																
11	Lower IROD R.M. Fescue						x	09/21/2009	15:00	1	x																
12	Lower IROD Sheep Fescue						x	09/21/2009	15:00	1	x																

TAT (Turnaround Time)
LESS THAN 5 DAY TAT MUST HAVE PRIOR APPROVAL
* Some exceptions apply - please contact laboratory

STANDARD	5 BUSINESS DAYS	x
RUSH	3 BUSINESS DAYS	
RUSH	2 BUSINESS DAYS	
URGENT	1 BUSINESS DAY	

OTHER BUSINESS DAYS _____

CUSTODY RECORD

PO NUMBER OR QUOTE NUMBER: PR 7041

SPECIAL DETECTION LIMITS / CONTAMINANT TYPE:

CCME
CSR
AB TIER 1
OTHER

ACCOUNTING CONTACT:

SPECIAL REPORTING OR BILLING INSTRUCTIONS: Bill To Minto Explorations Ltd.

JARS USED:

LAB USE ONLY: ARRIVAL TEMPERATURE °C: | DUE DATE: | LOG IN CHECK:

RELINQUINSHED BY SAMPLER: S. Withers	DATE: DD/MM/YY 23/09/09	TIME: 20:00	RECEIVED BY:
RELINQUINSHED BY:	DATE: DD/MM/YY	TIME:	RECEIVED BY:
RELINQUINSHED BY:	DATE: DD/MM/YY	TIME:	RECEIVED BY LABORATORY:

COCFORM - BC - 20070622

Your Project #: MIN - 110466
Your C.O.C. #: 08322883, 08322884

Attention: Scott Keesey
ACCESS CONSULTING GROUP
#3 Calcite
151 Industrial Road
WHITEHORSE, YT
CANADA Y1A 3C8

Report Date: 2010/10/07

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B092008
Received: 2010/09/27, 08:30

Sample Matrix: VEGETATION
Samples Received: 10

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Elements by CRC ICPMS (total) - Plant	10	2010/09/30	2010/10/05	BRN SOP-00206 R7.0	Based on EPA 200.8

Sample Matrix: Soil
Samples Received: 12

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Cation Exchange Capacity (1)	12	2010/10/01	2010/10/01	AB SOP-00042	EPA 200.7
Conductance - soil	12	2010/10/01	2010/10/01	BRN SOP-00269 R2.0	Based on SM - 18.2.4
Elements by ICPMS (total)	12	2010/09/30	2010/09/30	BRN SOP-00203 R5.0	Based on EPA 200.8
Potassium (Available) (1)	12	2010/10/01	2010/10/01	AB SOP-00042	EPA 200.7
Nitrate-N (Available) (1)	12	2010/10/01	2010/10/01	AB SOP-00023	SM 4110-B
Phosphorus (Available by ICP) (1)	12	2010/10/01	2010/10/01	AB SOP-00042	EPA 200.7
pH (2:1 DI Water Extract)	12	2010/09/30	2010/09/30	BRN SOP-00266 R6.0	Carter, SSMA 16.2
Sublet (Inorganics) (2)	12	N/A	2010/09/30		
Texture by Hydrometer (1)	12	N/A	2010/10/01	CAL SOP-00033	MMFSPA Ch9
Texture Class (1)	12	N/A	2010/10/01	CAL SOP-00033	MMFSPA Ch9

* Results relate only to the items tested.

(1) This test was performed by Maxxam Calgary
(2) This test was performed by Ext. Sublet from Vancouver

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

KIMBERLEY WEBBER, BBY Customer Service
Email: kim.webber@maxxamanalytics.com
Phone# (604) 638-3254

==========
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.
Total cover pages: 1

Maxxam Job #: B092008
Report Date: 2010/10/07

ACCESS CONSULTING GROUP
Client Project #: MIN - 110466

Sampler Initials: LK

NPK (AVAILABLE)

Maxxam ID		X23895	X23896	X23897	X23898	X23899	X23900		
Sampling Date		2010/09/15	2010/09/15	2010/09/15	2010/09/15	2010/09/15	2010/09/15		
	Units	**RECLAMATION B TOE OF WASTE ROCK**	**RECLAMATION F MINTO CR FLAME**	**RECLAMATION E MINTO RD KM 2**	**RECLAMATION D TOE OF DAM S.**	**R1 (IROD) PLOT A**	**R1 (IROD) PLOT B**	**RDL**	**QC Batch**
Nutrients									
Available (NH4F) Nitrogen (N)	mg/kg	<2	<2	<2	<2	<2	<2	2	4305435
Available (NH4F) Phosphorus (P)	mg/kg	<1	<1	22	3	<1	<1	1	4305771
Available (NH4OAc) Potassium (K)	mg/kg	73	38	60	40	30	51	2	4305594

Maxxam ID		X23901	X23902	X23903	X23904	X23905	X23906		
Sampling Date		2010/09/15	2010/09/15	2010/09/15	2010/09/15	2010/09/15	2010/09/15		
	Units	**R3 TAILINGS DUMP PLOT A**	**R3 TAILINGS DUMP PLOT B**	**R3 TAILINGS DUMP PLOT C**	**R4 MINTO RD KM 3 PLOT A**	**R4 MINTO RD KM 3 PLOT B**	**R4 MINTO R KM 3 PLOT C**	**RDL**	**QC Batch**
Nutrients									
Available (NH4F) Nitrogen (N)	mg/kg	<2	<2	<2	<2	<2	<2	2	4305435
Available (NH4F) Phosphorus (P)	mg/kg	<1	<1	<1	5	23	<1	1	4305771
Available (NH4OAc) Potassium (K)	mg/kg	57	50	47	35	64	33	2	4305594

RDL = Reportable Detection Limit

Maxxam Job #: B092008
Report Date: 2010/10/07

ACCESS CONSULTING GROUP
Client Project #: MIN - 110466

Sampler Initials: LK

ELEMENTS BY ATOMIC SPECTROSCOPY (VEGETATION)

Maxxam ID		X23975	X23976	X23977	X23978	X23979		
Sampling Date		2010/09/15	2010/09/15	2010/09/15	2010/09/15	2010/09/15		
	Units	**RECLAMATION (B) TOE OF WASTE ROCK - GRASS FESTUCA OVINA**	**RECLAMATION (B) TOE OF WASTE ROCK - GRASS AGROPYRON VIOLA**	**PLOT R1 (IROD) TREMBLING ASPEN**	**PLOT R1 (IROD) LITTLE TREE WILLOW**	**PLOT R1 (IROD) GREY LEAF WILLOW**	**RDL**	**QC Batch**
Total Metals by ICPMS								
Total Aluminum (Al)	mg/kg	669	415	248	663	959	1	4303157
Total Antimony (Sb)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	4303157
Total Arsenic (As)	mg/kg	0.36	0.22	0.13	0.31	0.49	0.01	4303157
Total Barium (Ba)	mg/kg	46.6	36.5	47.7	34.6	26.8	0.1	4303157
Total Beryllium (Be)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	4303157
Total Bismuth (Bi)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	4303157
Total Boron (B)	mg/kg	<5	5	18	37	59	5	4303157
Total Cadmium (Cd)	mg/kg	0.14	0.16	2.80	6.02	2.44	0.01	4303157
Total Calcium (Ca)	mg/kg	4110	4580	23300	25000	16900	10	4303157
Total Chromium (Cr)	mg/kg	4.4	2.1	1.9	0.8	1.8	0.5	4303157
Total Cobalt (Co)	mg/kg	0.5	0.3	1.5	1.9	1.8	0.1	4303157
Total Copper (Cu)	mg/kg	56.7	34.9	20.7	48.0	77.1	0.5	4303157
Total Iron (Fe)	mg/kg	1170	726	477	1140	1620	10	4303157
Total Lead (Pb)	mg/kg	0.36	0.24	0.18	0.46	0.53	0.01	4303157
Total Magnesium (Mg)	mg/kg	1410	1030	2740	8000	4540	10	4303157
Total Manganese (Mn)	mg/kg	406	199	149	787	245	0.1	4303157
Total Mercury (Hg)	mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	4303157
Total Molybdenum (Mo)	mg/kg	3.7	1.8	1.2	2.4	1.3	0.1	4303157
Total Nickel (Ni)	mg/kg	2.8	2.0	2.8	10.9	5.6	0.1	4303157
Total Phosphorus (P)	mg/kg	1300	621	3200	8630	4430	10	4303157
Total Potassium (K)	mg/kg	11300	6070	8530	11100	13400	10	4303157
Total Selenium (Se)	mg/kg	0.44	0.27	0.09	0.35	0.12	0.01	4303157
Total Silver (Ag)	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	4303157
Total Sodium (Na)	mg/kg	24	21	17	39	35	10	4303157
Total Strontium (Sr)	mg/kg	29.9	34.4	98.9	97.3	76.9	0.1	4303157
Total Thallium (Tl)	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	4303157
Total Tin (Sn)	mg/kg	<0.1	<0.1	<0.1	<0.1	0.2	0.1	4303157
Total Titanium (Ti)	mg/kg	41	25	10	26	31	1	4303157
Total Uranium (U)	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	4303157
Total Vanadium (V)	mg/kg	2	<2	<2	2	3	2	4303157
Total Zinc (Zn)	mg/kg	23.6	9.8	321	452	248	0.1	4303157

RDL = Reportable Detection Limit

Maxxam Job #: B092008
Report Date: 2010/10/07

ACCESS CONSULTING GROUP
Client Project #: MIN - 110466

Sampler Initials: LK

ELEMENTS BY ATOMIC SPECTROSCOPY (VEGETATION)

Maxxam ID		X23980	X23981	X23982	X23983	X23984		
Sampling Date		2010/09/15	2010/09/15	2010/09/15	2010/09/15	2010/09/15		
	Units	**PLOT R3 TAILINGS TOE GREY LEAF WILLOW**	**PLOT R3 TAILINGS TOE LITTLE TREE WILLOW**	**PLOT R3 TAILINGS TOE GRASS CALAMAGROSH'S**	**RECLAMATION F MINTO CR GREY LEAF WILLOW**	**R4 KM 3 MINTO RD GREY LEAF WILLOW**	**RDL**	**QC Batch**
Total Metals by ICPMS								
Total Aluminum (Al)	mg/kg	660	314	935	194	197	1	4303157
Total Antimony (Sb)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	4303157
Total Arsenic (As)	mg/kg	0.17	0.09	0.24	0.06	0.06	0.01	4303157
Total Barium (Ba)	mg/kg	19.2	10.2	62.4	22.3	85.5	0.1	4303157
Total Beryllium (Be)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	4303157
Total Bismuth (Bi)	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	4303157
Total Boron (B)	mg/kg	36	37	9	56	80	5	4303157
Total Cadmium (Cd)	mg/kg	1.65	1.30	0.11	0.65	1.01	0.01	4303157
Total Calcium (Ca)	mg/kg	18400	15000	5510	20300	14900	10	4303157
Total Chromium (Cr)	mg/kg	1.1	0.7	4.5	0.7	1.0	0.5	4303157
Total Cobalt (Co)	mg/kg	1.2	1.2	0.7	0.9	2.3	0.1	4303157
Total Copper (Cu)	mg/kg	187	86.0	209	39.4	11.0	0.5	4303157
Total Iron (Fe)	mg/kg	1610	744	2230	406	361	10	4303157
Total Lead (Pb)	mg/kg	0.39	0.28	0.48	0.13	0.14	0.01	4303157
Total Magnesium (Mg)	mg/kg	3880	4620	2040	4940	2520	10	4303157
Total Manganese (Mn)	mg/kg	219	395	854	159	553	0.1	4303157
Total Mercury (Hg)	mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	4303157
Total Molybdenum (Mo)	mg/kg	2.1	1.8	3.1	0.3	1.9	0.1	4303157
Total Nickel (Ni)	mg/kg	3.3	3.3	2.7	6.6	2.6	0.1	4303157
Total Phosphorus (P)	mg/kg	2130	1840	701	4770	2900	10	4303157
Total Potassium (K)	mg/kg	14700	13500	4940	13100	9620	10	4303157
Total Selenium (Se)	mg/kg	0.24	0.13	0.28	0.06	0.01	0.01	4303157
Total Silver (Ag)	mg/kg	0.07	<0.05	0.14	<0.05	<0.05	0.05	4303157
Total Sodium (Na)	mg/kg	59	88	36	16	24	10	4303157
Total Strontium (Sr)	mg/kg	69.5	51.0	31.1	163	128	0.1	4303157
Total Thallium (Tl)	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	4303157
Total Tin (Sn)	mg/kg	<0.1	<0.1	0.1	0.1	<0.1	0.1	4303157
Total Titanium (Ti)	mg/kg	35	20	59	11	13	1	4303157
Total Uranium (U)	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	4303157
Total Vanadium (V)	mg/kg	3	<2	4	<2	<2	2	4303157
Total Zinc (Zn)	mg/kg	168	104	28.2	101	102	0.1	4303157

RDL = Reportable Detection Limit

Maxxam Job #: B092008
Report Date: 2010/10/07

ACCESS CONSULTING GROUP
Client Project #: MIN - 110466

Sampler Initials: LK

RESULTS OF CHEMICAL ANALYSES OF SOIL

Maxxam ID		X23895	X23896	X23897	X23898	X23899		X23900		
Sampling Date		2010/09/15	2010/09/15	2010/09/15	2010/09/15	2010/09/15		2010/09/15		
	Units	**RECLAMATION B TOE OF WASTE ROCK**	**RECLAMATION F MINTO CR FLAME**	**RECLAMATION E MINTO RD KM 2**	**RECLAMATION D TOE OF DAM S.**	**R1 (IROD) PLOT A**	**QC Batch**	**R1 (IROD) PLOT B**	**RDL**	**QC Batch**
CONVENTIONALS										
Soluble (5:1) Conductivity	uS/cm	105	154	33	70	149	4306513	135	1	4306513
Parameter										
Subcontract Parameter	N/A	ATTACHED	ATTACHED	ATTACHED	ATTACHED	ATTACHED	4311892	ATTACHED	N/A	4311892
Elements										
Cation exchange capacity	cmol+/Kg	14	25	<10	<10	24	4304356	22	10	4304359
Physical Properties										
% sand by hydrometer	%	59	75	76	81	57	4304707	63	2	4304707
% silt by hydrometer	%	22	17	17	11	34	4304707	29	2	4304707
Clay Content	%	19	8	7	8	9	4304707	8	2	4304707
Texture	N/A	SANDY LOAM	SANDY LOAM	SANDY LOAM	LOAMY SAND	SANDY LOAM	4294603	SANDY LOAM	N/A	4294603

Maxxam ID		X23901	X23902	X23903	X23904	X23905	X23906		
Sampling Date		2010/09/15	2010/09/15	2010/09/15	2010/09/15	2010/09/15	2010/09/15		
	Units	**R3 TAILINGS DUMP PLOT A**	**R3 TAILINGS DUMP PLOT B**	**R3 TAILINGS DUMP PLOT C**	**R4 MINTO RD KM 3 PLOT A**	**R4 MINTO RD KM 3 PLOT B**	**R4 MINTO R KM 3 PLOT C**	**RDL**	**QC Batch**
CONVENTIONALS									
Soluble (5:1) Conductivity	uS/cm	102	136	105	16	33	17	1	4306513
Parameter									
Subcontract Parameter	N/A	ATTACHED	ATTACHED	ATTACHED	ATTACHED	ATTACHED	ATTACHED	N/A	4311892
Elements									
Cation exchange capacity	cmol+/Kg	23	25	24	<10	19	11	10	4304359
Physical Properties									
% sand by hydrometer	%	52	43	58	69	71	89	2	4304707
% silt by hydrometer	%	39	48	34	22	20	8	2	4304707
Clay Content	%	9	9	8	9	9	3	2	4304707
Texture	N/A	LOAM	LOAM	SANDY LOAM	SANDY LOAM	SANDY LOAM	SAND	N/A	4294603

N/A = Not Applicable
RDL = Reportable Detection Limit

Maxxam Job #: B092008
Report Date: 2010/10/07

ACCESS CONSULTING GROUP
Client Project #: MIN - 110466

Sampler Initials: LK

CSR/CCME METALS IN SOIL (SOIL)

Maxxam ID		X23895	X23896	X23897	X23898	X23899	X23900		
Sampling Date		2010/09/15	2010/09/15	2010/09/15	2010/09/15	2010/09/15	2010/09/15		
	Units	**RECLAMATION B TOE OF WASTE ROCK**	**RECLAMATION F MINTO CR FLAME**	**RECLAMATION E MINTO RD KM 2**	**RECLAMATION D TOE OF DAM S.**	**R1 (IROD) PLOT A**	**R1 (IROD) PLOT B**	**RDL**	**QC Batch**
Physical Properties									
Soluble (2:1) pH	pH Units	8.16	8.29	6.00	7.79	7.36	8.13	0.01	4302430
Total Metals by ICPMS									
Total Aluminum (Al)	mg/kg	13000	9880	11900	10200	12700	13300	100	4302308
Total Antimony (Sb)	mg/kg	0.8	0.3	0.2	0.2	0.4	0.4	0.1	4302308
Total Arsenic (As)	mg/kg	5.7	3.7	2.6	3.3	6.2	7.0	0.2	4302308
Total Barium (Ba)	mg/kg	207	151	181	121	215	254	0.1	4302308
Total Beryllium (Be)	mg/kg	0.5	0.3	0.4	0.4	0.4	0.3	0.1	4302308
Total Bismuth (Bi)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	4302308
Total Cadmium (Cd)	mg/kg	0.46	0.09	0.10	0.09	0.13	0.20	0.05	4302308
Total Calcium (Ca)	mg/kg	7740	8550	2680	5340	9930	13600	100	4302308
Total Chromium (Cr)	mg/kg	21	16	14	12	27	25	1	4302308
Total Cobalt (Co)	mg/kg	10.8	7.1	6.2	7.9	10.3	11.1	0.3	4302308
Total Copper (Cu)	mg/kg	687	23.6	6.7	79.4	79.2	179	0.5	4302308
Total Iron (Fe)	mg/kg	25400	19800	18100	23100	23600	26200	100	4302308
Total Lead (Pb)	mg/kg	7.5	4.2	3.8	3.0	6.1	6.0	0.1	4302308
Total Magnesium (Mg)	mg/kg	7610	6210	4510	6710	8160	9120	100	4302308
Total Manganese (Mn)	mg/kg	488	439	395	586	382	574	0.2	4302308
Total Mercury (Hg)	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	4302308
Total Molybdenum (Mo)	mg/kg	1.9	0.5	0.4	0.6	0.7	0.8	0.1	4302308
Total Nickel (Ni)	mg/kg	24.0	15.1	9.2	11.4	37.7	31.8	0.8	4302308
Total Phosphorus (P)	mg/kg	793	718	527	845	910	957	10	4302308
Total Potassium (K)	mg/kg	2220	1330	1740	2200	1170	2660	100	4302308
Total Selenium (Se)	mg/kg	1.0	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	4302308
Total Silver (Ag)	mg/kg	0.10	0.05	<0.05	<0.05	0.06	0.06	0.05	4302308
Total Sodium (Na)	mg/kg	127	198	<100	103	258	297	100	4302308
Total Strontium (Sr)	mg/kg	50.4	60.7	23.3	24.9	53.3	57.8	0.1	4302308
Total Thallium (Tl)	mg/kg	0.14	0.06	0.07	0.09	0.08	0.12	0.05	4302308
Total Tin (Sn)	mg/kg	0.4	0.3	0.3	0.3	0.4	0.4	0.1	4302308
Total Titanium (Ti)	mg/kg	538	467	484	580	655	832	1	4302308
Total Vanadium (V)	mg/kg	50	41	41	52	55	60	2	4302308
Total Zinc (Zn)	mg/kg	89	54	54	61	54	72	1	4302308
Total Zirconium (Zr)	mg/kg	4.0	1.5	<0.5	1.6	2.6	2.3	0.5	4302308

RDL = Reportable Detection Limit

Maxxam Job #: B092008
Report Date: 2010/10/07

ACCESS CONSULTING GROUP
Client Project #: MIN - 110466

Sampler Initials: LK

CSR/CCME METALS IN SOIL (SOIL)

Maxxam ID		X23901	X23902	X23903	X23904	X23905	X23906		
Sampling Date		2010/09/15	2010/09/15	2010/09/15	2010/09/15	2010/09/15	2010/09/15		
	Units	**R3 TAILINGS DUMP PLOT A**	**R3 TAILINGS DUMP PLOT B**	**R3 TAILINGS DUMP PLOT C**	**R4 MINTO RD KM 3 PLOT A**	**R4 MINTO RD KM 3 PLOT B**	**R4 MINTO R KM 3 PLOT C**	**RDL**	**QC Batch**
Physical Properties									
Soluble (2:1) pH	pH Units	7.79	8.04	7.76	6.75	6.13	6.88	0.01	4302430
Total Metals by ICPMS									
Total Aluminum (Al)	mg/kg	11600	11400	10600	7430	9940	10900	100	4302308
Total Antimony (Sb)	mg/kg	0.5	0.5	0.4	0.5	0.3	0.1	0.1	4302308
Total Arsenic (As)	mg/kg	6.0	9.0	6.5	5.2	2.9	1.1	0.2	4302308
Total Barium (Ba)	mg/kg	187	187	185	143	174	131	0.1	4302308
Total Beryllium (Be)	mg/kg	0.4	0.3	0.4	0.3	0.3	0.4	0.1	4302308
Total Bismuth (Bi)	mg/kg	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.1	4302308
Total Cadmium (Cd)	mg/kg	0.22	0.27	0.25	0.21	0.10	<0.05	0.05	4302308
Total Calcium (Ca)	mg/kg	8780	11400	9280	3550	3250	4570	100	4302308
Total Chromium (Cr)	mg/kg	25	25	23	20	13	8	1	4302308
Total Cobalt (Co)	mg/kg	9.9	10.4	9.7	7.4	5.3	6.5	0.3	4302308
Total Copper (Cu)	mg/kg	96.4	114	422	19.9	9.8	7.5	0.5	4302308
Total Iron (Fe)	mg/kg	22800	23600	22900	17000	17400	19500	100	4302308
Total Lead (Pb)	mg/kg	6.1	6.0	5.9	4.5	3.5	2.4	0.1	4302308
Total Magnesium (Mg)	mg/kg	6910	7130	6320	3240	3670	6060	100	4302308
Total Manganese (Mn)	mg/kg	366	392	493	325	307	519	0.2	4302308
Total Mercury (Hg)	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	4302308
Total Molybdenum (Mo)	mg/kg	0.8	2.0	1.0	0.7	0.4	0.2	0.1	4302308
Total Nickel (Ni)	mg/kg	26.4	27.6	25.6	17.3	9.5	6.2	0.8	4302308
Total Phosphorus (P)	mg/kg	935	964	975	819	489	672	10	4302308
Total Potassium (K)	mg/kg	1140	934	1010	634	1220	1870	100	4302308
Total Selenium (Se)	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	4302308
Total Silver (Ag)	mg/kg	0.06	0.07	0.17	0.05	<0.05	<0.05	0.05	4302308
Total Sodium (Na)	mg/kg	256	267	237	<100	<100	<100	100	4302308
Total Strontium (Sr)	mg/kg	48.9	53.4	46.3	23.5	24.8	29.2	0.1	4302308
Total Thallium (Tl)	mg/kg	0.08	0.08	0.07	0.06	0.05	0.06	0.05	4302308
Total Tin (Sn)	mg/kg	0.4	0.3	0.3	0.2	0.3	0.2	0.1	4302308
Total Titanium (Ti)	mg/kg	668	628	580	394	427	562	1	4302308
Total Vanadium (V)	mg/kg	55	55	52	36	38	38	2	4302308
Total Zinc (Zn)	mg/kg	61	59	60	45	40	67	1	4302308
Total Zirconium (Zr)	mg/kg	2.5	3.2	2.4	2.2	0.5	1.7	0.5	4302308

RDL = Reportable Detection Limit

Maxxam Job #: B092008
Report Date: 2010/10/07

ACCESS CONSULTING GROUP
Client Project #: MIN - 110466

Sampler Initials: LK

Package 1	9.0°C

Each temperature is the average of up to three cooler temperatures taken at receipt

General Comments

Maxxam Job #: B092008
Report Date: 2010/10/07

ACCESS CONSULTING GROUP
Client Project #: MIN - 110466

Sampler Initials: LK

QUALITY ASSURANCE REPORT

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
4302308	Total Arsenic (As)	2010/10/01	103	75 - 125	104	75 - 125	<0.2	mg/kg	1.2	30	91	70 - 130
4302308	Total Beryllium (Be)	2010/10/01	103	75 - 125	107	75 - 125	<0.1	mg/kg	NC	30		
4302308	Total Cadmium (Cd)	2010/10/01	108	75 - 125	110	75 - 125	<0.05	mg/kg	1.5	30	95	70 - 130
4302308	Total Chromium (Cr)	2010/10/01	NC	75 - 125	99	75 - 125	<1	mg/kg	0.3	30	98	70 - 130
4302308	Total Cobalt (Co)	2010/10/01	101	75 - 125	101	75 - 125	<0.3	mg/kg	2.8	30	96	70 - 130
4302308	Total Copper (Cu)	2010/10/01	NC	75 - 125	105	75 - 125	<0.5	mg/kg	0.1	30	91	70 - 130
4302308	Total Lead (Pb)	2010/10/01	NC	75 - 125	106	75 - 125	<0.1	mg/kg	0.1	35	98	70 - 130
4302308	Total Mercury (Hg)	2010/10/01	92	75 - 125	96	75 - 125	<0.05	mg/kg	3.4	35		
4302308	Total Nickel (Ni)	2010/10/01	NC	75 - 125	102	75 - 125	<0.8	mg/kg	1.2	30	98	70 - 130
4302308	Total Selenium (Se)	2010/10/01	105	75 - 125	107	75 - 125	<0.5	mg/kg	NC	30		
4302308	Total Vanadium (V)	2010/10/01	NC	75 - 125	103	75 - 125	<2	mg/kg	0.9	30	100	70 - 130
4302308	Total Zinc (Zn)	2010/10/01	NC	75 - 125	108	75 - 125	<1	mg/kg	1.2	30	91	70 - 130
4302308	Total Aluminum (Al)	2010/10/01					<100	mg/kg	1.9	35	99	70 - 130
4302308	Total Antimony (Sb)	2010/10/01					<0.1	mg/kg	1.0	30	89	70 - 130
4302308	Total Barium (Ba)	2010/10/01					<0.1	mg/kg	2.0	35	106	70 - 130
4302308	Total Calcium (Ca)	2010/10/01					<100	mg/kg	2.3	30	94	70 - 130
4302308	Total Iron (Fe)	2010/10/01					<100	mg/kg	0.09	30	96	70 - 130
4302308	Total Magnesium (Mg)	2010/10/01					<100	mg/kg	1.5	30	96	70 - 130
4302308	Total Manganese (Mn)	2010/10/01					<0.2	mg/kg	0.2	30	97	70 - 130
4302308	Total Molybdenum (Mo)	2010/10/01					<0.1	mg/kg	1.5	35	102	70 - 130
4302308	Total Phosphorus (P)	2010/10/01					<10	mg/kg	2.5	30	98	70 - 130
4302308	Total Silver (Ag)	2010/10/01					<0.05	mg/kg	22.7	35	63(1)	70 - 130
4302308	Total Strontium (Sr)	2010/10/01					<0.1	mg/kg	0.09	35	91	70 - 130
4302308	Total Thallium (Tl)	2010/10/01					<0.05	mg/kg	NC	30	84	70 - 130
4302308	Total Titanium (Ti)	2010/10/01					<1	mg/kg	1.4	35	100	70 - 130
4302308	Total Bismuth (Bi)	2010/10/01					<0.1	mg/kg	NC	30		
4302308	Total Potassium (K)	2010/10/01					<100	mg/kg	3.2	35		
4302308	Total Sodium (Na)	2010/10/01					<100	mg/kg	NC	35		
4302308	Total Tin (Sn)	2010/10/01					<0.1	mg/kg	2.8	35		
4302308	Total Zirconium (Zr)	2010/10/01					<0.5	mg/kg	NC	30		
4302430	Soluble (2:1) pH	2010/09/30			102	96 - 104			2.1	20		
4303157	Total Aluminum (Al)	2010/10/05					11, RDL=1(2)	mg/kg	7.9	35		
4303157	Total Antimony (Sb)	2010/10/05					<0.1	mg/kg	NC	35		
4303157	Total Arsenic (As)	2010/10/05					<0.01	mg/kg	13.3	35		
4303157	Total Barium (Ba)	2010/10/05					<0.1	mg/kg	4.9	35		
4303157	Total Beryllium (Be)	2010/10/05					<0.1	mg/kg	NC	35		
4303157	Total Bismuth (Bi)	2010/10/05					<0.1	mg/kg	NC	35		
4303157	Total Boron (B)	2010/10/05					<5	mg/kg	NC	35		
4303157	Total Cadmium (Cd)	2010/10/05					<0.01	mg/kg	7.0	35		
4303157	Total Calcium (Ca)	2010/10/05					25, RDL=10(3)	mg/kg	5.3	35		

Maxxam Job #: B092008
Report Date: 2010/10/07

ACCESS CONSULTING GROUP
Client Project #: MIN - 110466

Sampler Initials: LK

QUALITY ASSURANCE REPORT

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
4303157	Total Chromium (Cr)	2010/10/05					<0.5	mg/kg	37.1(1, 4)	35		
4303157	Total Cobalt (Co)	2010/10/05					<0.1	mg/kg	NC	35		
4303157	Total Copper (Cu)	2010/10/05					<0.5	mg/kg	11.5	35		
4303157	Total Iron (Fe)	2010/10/05					<10	mg/kg	6.6	35		
4303157	Total Lead (Pb)	2010/10/05					<0.01	mg/kg	9.5	35		
4303157	Total Magnesium (Mg)	2010/10/05					<10	mg/kg	8.0	35		
4303157	Total Manganese (Mn)	2010/10/05					<0.1	mg/kg	3.2	35		
4303157	Total Mercury (Hg)	2010/10/05					<0.01	mg/kg	NC	35		
4303157	Total Molybdenum (Mo)	2010/10/05					<0.1	mg/kg	8.5	35		
4303157	Total Nickel (Ni)	2010/10/05					<0.1	mg/kg	25.2	35		
4303157	Total Phosphorus (P)	2010/10/05					<10	mg/kg	5.0	35		
4303157	Total Potassium (K)	2010/10/05					<10	mg/kg	6.0	35		
4303157	Total Selenium (Se)	2010/10/05					<0.01	mg/kg	1.3	35		
4303157	Total Silver (Ag)	2010/10/05					<0.05	mg/kg	NC	35		
4303157	Total Sodium (Na)	2010/10/05					<10	mg/kg	NC	35		
4303157	Total Strontium (Sr)	2010/10/05					<0.1	mg/kg	6.0	35		
4303157	Total Thallium (Tl)	2010/10/05					<0.05	mg/kg	NC	35		
4303157	Total Tin (Sn)	2010/10/05					<0.1	mg/kg	NC	35		
4303157	Total Titanium (Ti)	2010/10/05					<1	mg/kg	4.6	35		
4303157	Total Uranium (U)	2010/10/05					<0.05	mg/kg	NC	35		
4303157	Total Vanadium (V)	2010/10/05					<2	mg/kg	NC	35		
4303157	Total Zinc (Zn)	2010/10/05					<0.1	mg/kg	2.7	35		
4304356	Cation exchange capacity	2010/10/01							NC	35		
4304359	Cation exchange capacity	2010/10/01							NC	35		
4304707	% sand by hydrometer	2010/10/01							1.9	35	110	89 - 111
4304707	% silt by hydrometer	2010/10/01							2.3	35	93	78 - 122
4304707	Clay Content	2010/10/01							NC	35	93	86 - 114
4305435	Available (NH4F) Nitrogen (N)	2010/10/01	100	80 - 120	109	90 - 111	<2	mg/kg	NC	35		
4305594	Available (NH4OAc) Potassium (K)	2010/10/01			95	80 - 120	<2	mg/kg	3.4	35	111	75 - 125

Maxxam Job #: B092008
Report Date: 2010/10/07

ACCESS CONSULTING GROUP
Client Project #: MIN - 110466

Sampler Initials: LK

QUALITY ASSURANCE REPORT

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
4305771	Available (NH4F) Phosphorus (P)	2010/10/01			99	80 - 120	<1	mg/kg	NC	35		
4306513	Soluble (5:1) Conductivity	2010/10/01			100	80 - 120	1, RDL=1	uS/cm	2.3	35		

N/A = Not Applicable
RDL = Reportable Detection Limit
RPD = Relative Percent Difference
Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.
(1) - Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.
(2) - Blank outside acceptance criteria . All results higher than 10x Blank concentration.
(3) - Blank outside acceptance criteria. All results higher than 20x Blank concentration.
(4) - Duplicate RPD above control limit - Non-homogenous sample - Increased variability of results

Maxxam Analytics Inc

8577 Commerce Court
Burnaby, BC V5A 4N5
www.maxxamanalytics.com

Phone: (604) 444-4808
Fax.: (604) 444-4511
Toll-Free: 1-800-440-4808

CHAIN-O ANALYSIS REQUEST

08322883

MAXXAM JOB #: B092008

ANALYSIS REQUEST

COC #:

COMPANY NAME: Access Consulting Group

CLIENT PROJECT NO.: MIN-10466

COMPANY ADDRESS: #3 Calcite Business Center, 151 Industrial Rd., Whitehorse, YT, Y1A 2V3

TEL.:

E-MAIL:

FAX: 867-667-6680

SAMPLER NAME (PRINT): Lisa Knight

PROJECT MANAGER: Scott Koezey

LABORATORY CONTACT: Kim Webber

	FIELD SAMPLE ID	MATRIX: GROUNDWATER	SURFACE WATER	DRINKING WATER	SOIL	OTHER	SAMPLING: DATE DD/MM/YY	TIME	# CONTAINERS	ICP Metals	pH/EC	Texture	TOC	C:N ratios	CEC	Total N	Nutrients
1	Reclamation B Toe of West Rx				X		15/09/10		1	X	X	X	X	X	X	X	X
2	Reclamation E Minto Cr Flume				X				1	X	X	X	X	X	X	X	X
3	" " " E Minto Rd Km 2				X				1	X	X	X	X	X	X	X	X
4	Reclamation D Toe of Dam S.				X				1	X	X	X	X	X	X	X	X
5	R1 (IROD) Plot A				X				1	X	X	X	X	X	X	X	X
6	R1 (IROD) Plot B				X				1	X	X	X	X	X	X	X	X
7	R3 Tailings Dump Plot A				X				1	X	X	X	X	X	X	X	X
8	R3 Tailings Dump Plot B				X				1	X	X	X	X	X	X	X	X
9	R3 Tailings Dump Plot C				X				1	X	X	X	X	X	X	X	X
10	R4 Minto Rd Km 3 Plot A				X				1	X	X	X	X	X	X	X	X
11	R4 Minto Rd Km 3 Plot B				X				1	X	X	X	X	X	X	X	X
12	R4 Minto Rd Km 3 Plot C				X				1	X	X	X	X	X	X	X	X

TAT (Turnaround Time)

LESS THAN 5 DAY TAT MUST HAVE PRIOR APPROVAL

* Some exceptions apply - please contact laboratory

STANDARD 5 BUSINESS DAYS
RUSH 3 BUSINESS DAYS
RUSH 2 BUSINESS DAYS
URGENT 1 BUSINESS DAY

OTHER BUSINESS DAYS

PO NUMBER OR QUOTE NUMBER:

SPECIAL DETECTION LIMITS / CONTAMINANT TYPE:

CCME
CSR
AB TIER 1
OTHER

ARRIVAL TEMPERATURE °C: 9 9 9

DUE DATE:

LOG IN CHECK:

ACCOUNTING CONTACT:

SPECIAL REPORTING OR BILLING INSTRUCTIONS:

JARS USED:

RELINQUISHED BY SAMPLER:	DATE: DD/MM/YY	TIME:	RECEIVED BY:
Lisa Knight	24/09/10	13:30	
RELINQUISHED BY: Paul Ingling	DATE: DD/MM/YY 24/09/10	TIME: 15:00	RECEIVED BY: 09 2710
RELINQUISHED BY:	DATE: DD/MM/YY	TIME: 0830	RECEIVED BY LABORATORY: C. ROSEN

CUSTODY RECORD

COCFORM - BC - 20070822

Maxxam Analytics Inc

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www.maxxamanalytics.com

Phone: (604) 444-4808
Fax.: (604) 444-4511
Toll-Free: 1-800-440-4808

CHAIN-OF (**NALYSIS REQUEST**

08322884

MAXXAM JOB #

ANALYSIS REQUEST

COC #

COMPANY NAME: Access Consulting Group

CLIENT PROJECT NO.: MIN-110466

COMPANY ADDRESS: #3 Calcite Business Center, 151 Industrial Rd., Whitehorse, YT, Y1A 2V3

TEL.:

E-MAIL:

FAX: 867-667-6680

SAMPLER NAME (PRINT): Lisa Knight

PROJECT MANAGER: Scott Koepke

LABORATORY CONTACT:

	FIELD SAMPLE ID	[redacted]	MATRIX: GROUNDWATER	SURFACE WATER	DRINKING WATER	SOIL	OTHER	SAMPLING: DATE DD/MM/YY	TIME	# CONTAINERS	TCP Metals
1	Reclamation (B) Toe of Waste Rock						X	15/09/10		1	X
2	- Grass Festuca ovina						X			1	X
3	- Grass Agropyron viola						X			1	X
4	Plot R1 (IROD) Trembling Aspen						X			1	X
5	Plot R1 (IROD) Little tree willow						X			1	X
6	Plot R1 " Grey leaf willow						X			1	X
7	Plot R3 Tailings Toe Grey leaf wi						X			1	X
8	Plot R3 " " Little Tree Wil						X			1	X
9	Plot R3 " " Grass Calamagrosti						X			1	X
10	Reclamation F Minto Cr Gr						X			1	X
11	R4 Km 3 Minto Rd Grey leaf						X			1	X
12											

TAT (Turnaround Time)
LESS THAN 5 DAY TAT MUST HAVE PRIOR APPROVAL
* Some exceptions apply - please contact laboratory

STANDARD 5 BUSINESS DAYS
RUSH 3 BUSINESS DAYS
RUSH 2 BUSINESS DAYS
URGENT 1 BUSINESS DAY
OTHER BUSINESS DAYS

PO NUMBER OR QUOTE NUMBER:

SPECIAL DETECTION LIMITS / CONTAMINANT TYPE:

CCME
CSR
AB TIER 1
OTHER

ARRIVAL TEMPERATURE °C: 9 9 9

DUE DATE:

LOG IN CHECK:

ACCOUNTING CONTACT:

SPECIAL REPORTING OR BILLING INSTRUCTIONS:

JARS USED:

RELINQUISHED BY SAMPLER:	DATE: DD/MM/YY	TIME:	RECEIVED BY:
Lisa Knight	24/09/10	13:30	
RELINQUISHED BY: Paul Inglis	DATE: DD/MM/YY 24/09/10	TIME: 15:00	RECEIVED BY: 092710
RELINQUISHED BY:	DATE: DD/MM/YY	TIME: 0830	RECEIVED BY LABORATORY: C. ROSEN

CUSTODY RECORD

COCFORM - BC - 20070622

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V3S 8P8, Canada

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W: www.exova.com

Analytical Report

Bill To:	Maxxam Analytics	Project:		Lot ID:	**765203**
Report To:	Maxxam Analytics	ID:	Job #B092008	Control Number:	
	4606 Canada Way	Name:		Date Received:	Sep 29, 2010
	Burnaby, BC, Canada	Location:		Date Reported:	Oct 4, 2010
	V5G 1K5	LSD:		Report Number:	1361913
Attn:	Kimberley Webber	P.O.:			
Sampled By:		Acct code:			
Company:					

		Reference Number	765203-1	765203-2	765203-3	
		Sample Date	Sep 15, 2010	Sep 15, 2010	Sep 15, 2010	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	X23895-01R \ Reclamation	X23896-01R \ Reclamation	X23897-01R \ Reclamation	
		Matrix	Soil	Soil	Soil	
Analyte		**Units**	**Results**	**Results**	**Results**	Nominal Detection Limit
Classification						
C:N Ratio			29	25	26	0.1
Nitrogen	Total	%	0.03	0.10	0.07	0.01
Organic Matter	Total	%	1.66	4.97	3.52	
Carbon	Total Organic	%	0.83	2.49	1.76	0.02

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Analytical Report

Bill To:	Maxxam Analytics	Project:		Lot ID:	**765203**
Report To:	Maxxam Analytics	ID:	Job #B092008	Control Number:	
	4606 Canada Way	Name:		Date Received:	Sep 29, 2010
	Burnaby, BC, Canada	Location:		Date Reported:	Oct 4, 2010
	V5G 1K5	LSD:		Report Number:	1361913
Attn:	Kimberley Webber	P.O.:			
Sampled By:		Acct code:			
Company:					

		Reference Number	765203-4	765203-5	765203-6	
		Sample Date	Sep 15, 2010	Sep 15, 2010	Sep 15, 2010	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	X23898-01R \ Reclamation	X23899-01R \ R1 (IROD) Plot	X23900-01R \ R1 (IROD) Plot	
		Matrix	Soil	Soil	Soil	
Analyte		**Units**	**Results**	**Results**	**Results**	Nominal Detection Limit
Classification						
C:N Ratio			>50	23.0	17.9	0.1
Nitrogen	Total	%	<0.01	0.14	0.12	0.01
Organic Matter	Total	%	0.95	6.50	4.38	
Carbon	Total Organic	%	0.48	3.25	2.19	0.02

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Analytical Report

Bill To:	Maxxam Analytics	Project:		Lot ID:	**765203**
Report To:	Maxxam Analytics	ID:	Job #B092008	Control Number:	
	4606 Canada Way	Name:		Date Received:	Sep 29, 2010
	Burnaby, BC, Canada	Location:		Date Reported:	Oct 4, 2010
	V5G 1K5	LSD:		Report Number:	1361913
Attn:	Kimberley Webber	P.O.:			
Sampled By:		Acct code:			
Company:					

		Reference Number	765203-7	765203-8	765203-9	
		Sample Date	Sep 15, 2010	Sep 15, 2010	Sep 15, 2010	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	X23901-01R \ R3 Tailings D	X23902-01R \ R3 Tailings D	X23903-01R \ R3 Tailings D	
		Matrix	Soil	Soil	Soil	
Analyte		**Units**	**Results**	**Results**	**Results**	Nominal Detection Limit
Classification						
C:N Ratio			17.3	13.7	16.4	0.1
Nitrogen	Total	%	0.22	0.18	0.17	0.01
Organic Matter	Total	%	7.63	4.87	5.59	
Carbon	Total Organic	%	3.82	2.44	2.79	0.02

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Analytical Report

Bill To:	Maxxam Analytics	Project:		Lot ID:	**765203**
Report To:	Maxxam Analytics	ID:	Job #B092008	Control Number:	
	4606 Canada Way	Name:		Date Received:	Sep 29, 2010
	Burnaby, BC, Canada	Location:		Date Reported:	Oct 4, 2010
	V5G 1K5	LSD:		Report Number:	1361913
Attn:	Kimberley Webber	P.O.:			
Sampled By:		Acct code:			
Company:					

		Reference Number	765203-10	765203-11	765203-12	
		Sample Date	Sep 15, 2010	Sep 15, 2010	Sep 15, 2010	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	X23904-01R \ R4 Minto Rd K	X23905-01R \ R4 Minto Rd K	X23906-01R \ R4 Minto R KM	
		Matrix	Soil	Soil	Soil	
Analyte		**Units**	**Results**	**Results**	**Results**	Nominal Detection Limit
Classification						
C:N Ratio			>20	16.6	>10	0.1
Nitrogen	Total	%	<0.01	0.24	<0.01	0.01
Organic Matter	Total	%	0.49	7.84	0.22	
Carbon	Total Organic	%	0.24	3.92	0.11	0.02

Approved by:

Andrew Garrard, BSc
General Manager

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Methodology and Notes

Bill To:	Maxxam Analytics	Project:		Lot ID:	**765203**
Report To:	Maxxam Analytics	ID:	Job #B092008	Control Number:	
	4606 Canada Way	Name:		Date Received:	Sep 29, 2010
	Burnaby, BC, Canada	Location:		Date Reported:	Oct 4, 2010
	V5G 1K5	LSD:		Report Number:	1361913
Attn:	Kimberley Webber	P.O.:			
Sampled By:		Acct code:			
Company:					

Method of Analysis

Method Name	Reference	Method	Date Analysis Started	Location
Total Carbon, Nitrogen & Sulfur by Leco Combustion	SSSA Book Series 5	* Nitrogen-Total, Ch 37	01-Oct-10	Exova Surrey
Total Carbon, Nitrogen & Sulfur by Leco Combustion	SSSA Book Series 5	* Total Carbon, Organic Carbon, and Organic Matter, Ch 34	01-Oct-10	Exova Surrey

** Reference Method Modified*

Comments:

Please direct any inquiries regarding this report to our Client Services group.
Results relate only to samples as submitted.
The test report shall not be reproduced except in full, without the written approval of the laboratory.

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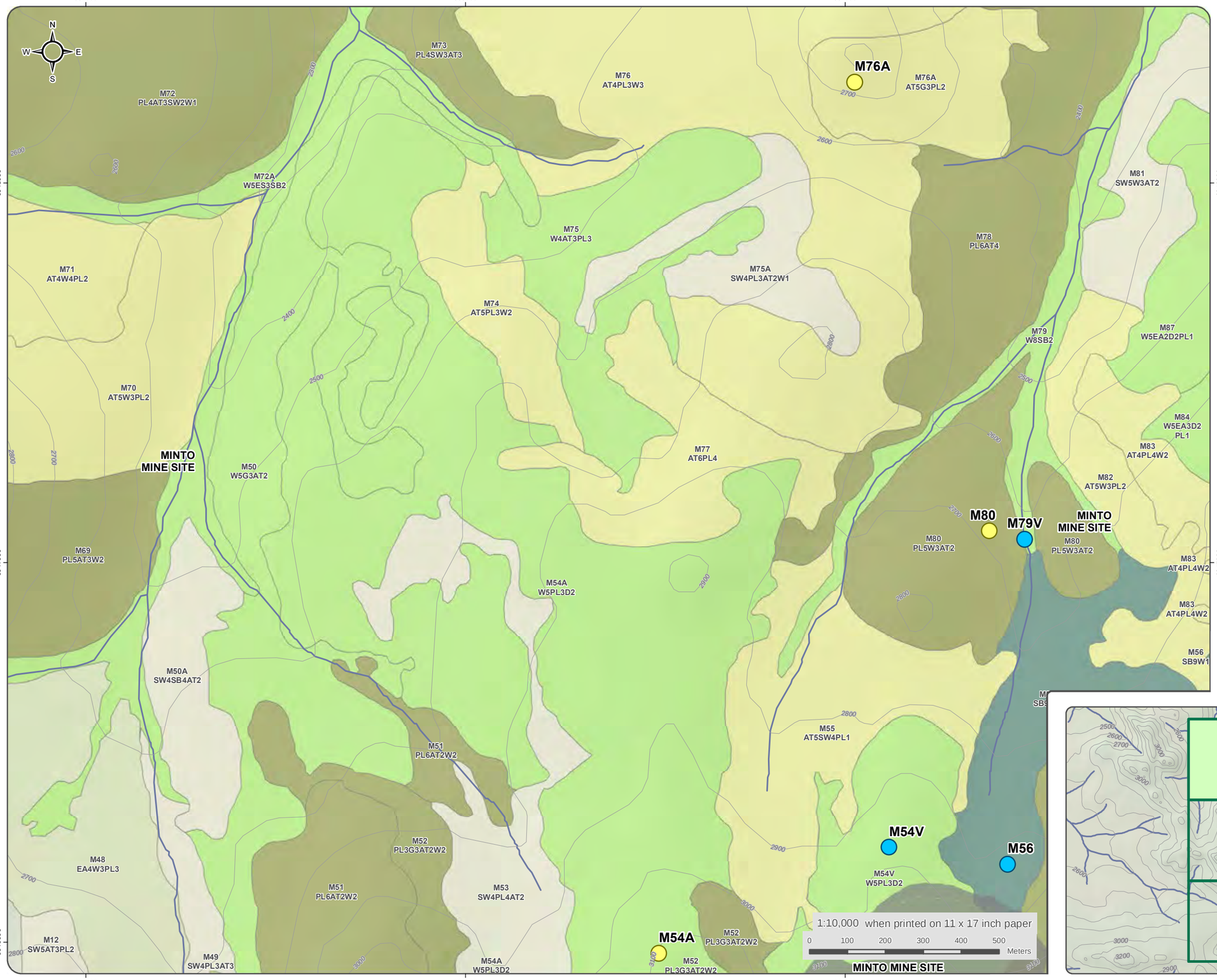
APPENDIX E

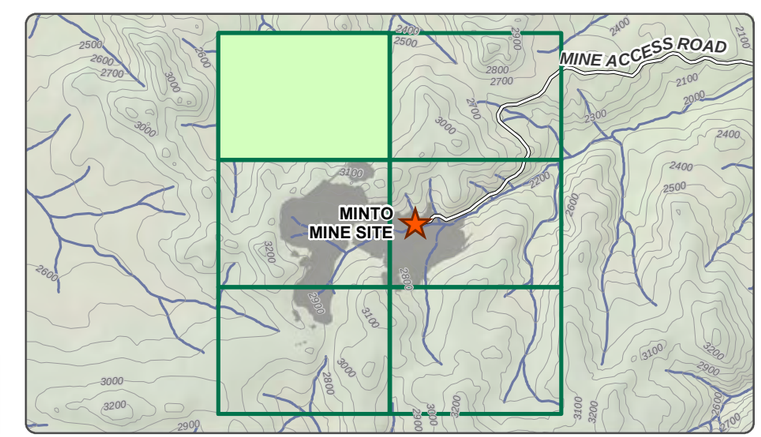
2010 TERRESTRIAL ECOSYSTEM MAP

MINTO MINE

ECOSYSTEM MAPPING

FIGURE 1
NORTHWEST QUADRANT





capstone
MINTO MINE

SURVEY PLOTS

- Field Check
- Control Plot; Soil samples collected

LEADING SPECIES

- At - Trembling Aspen
- Ea - Alaskan Birch
- Pl - Lodgepole Pine
- Sb - Black Spruce
- Sw - White Spruce
- W - Willow
- Mine Footprint

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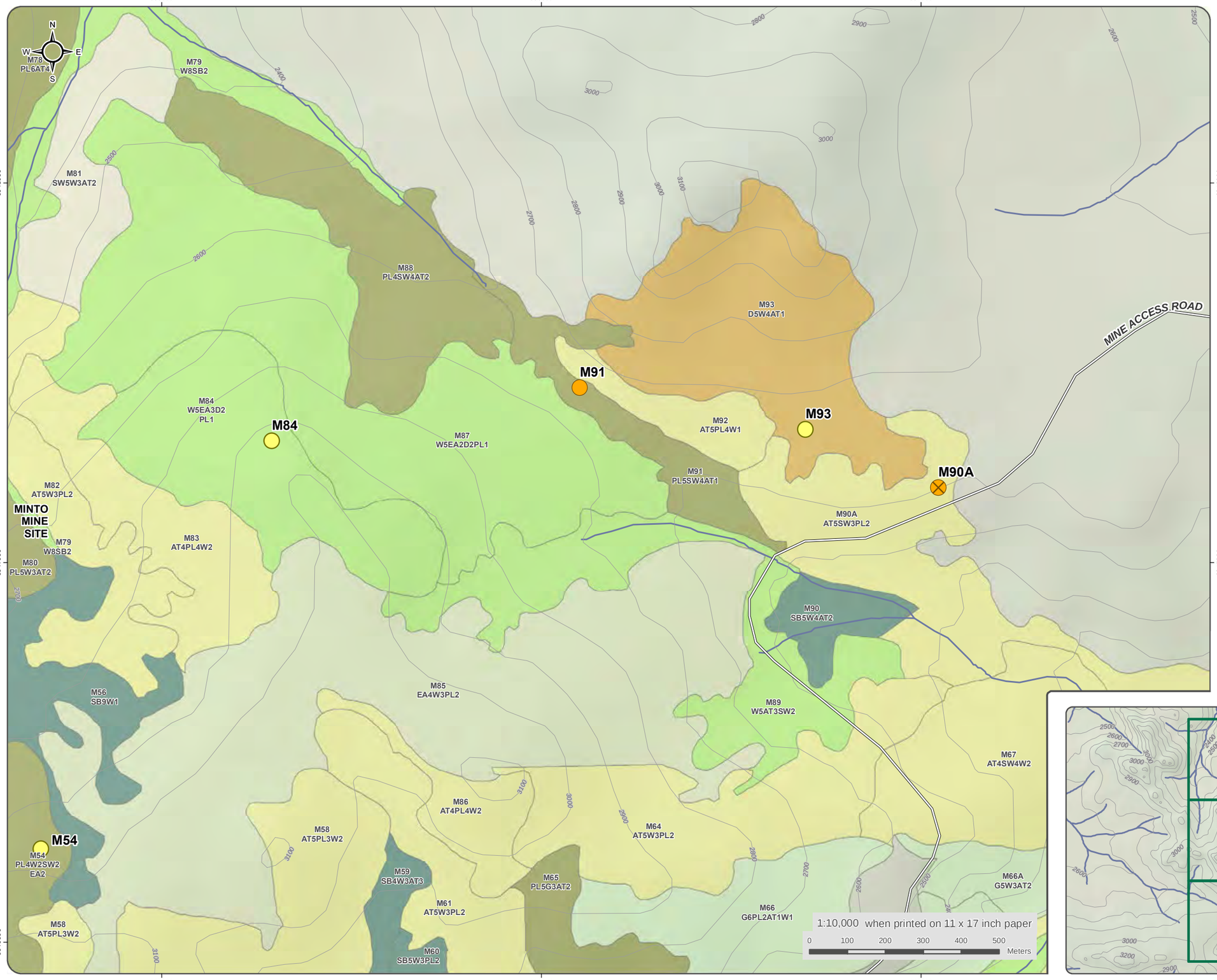
MINTO MINE

ECOSYSTEM MAPPING

FIGURE 2
NORTHEAST QUADRANT



capstone
MINTO MINE

SURVEY PLOTS

- Control Plot; Soil samples collected
- Permanent Plot
- Permanent Plot; Soil Sample Collected

LEADING SPECIES

- At - Trembling Aspen
- D - Alder
- Ea - Alaskan Birch
- G - Graminoids
- Pl - Lodgepole Pine
- Sb - Black Spruce
- Sw - White Spruce
- W - Willow
- Minto Access Road

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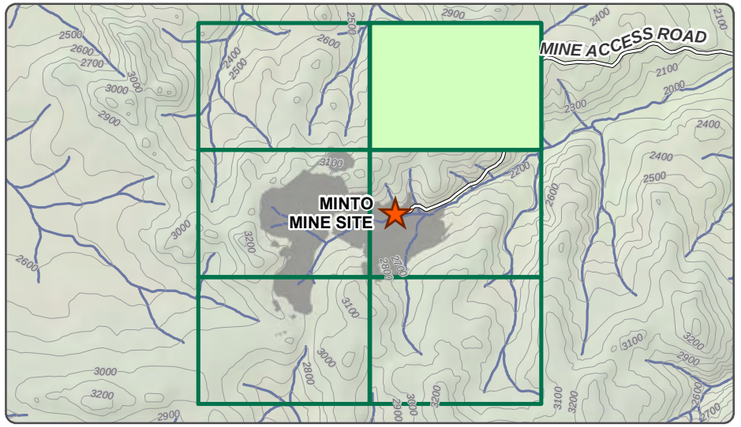
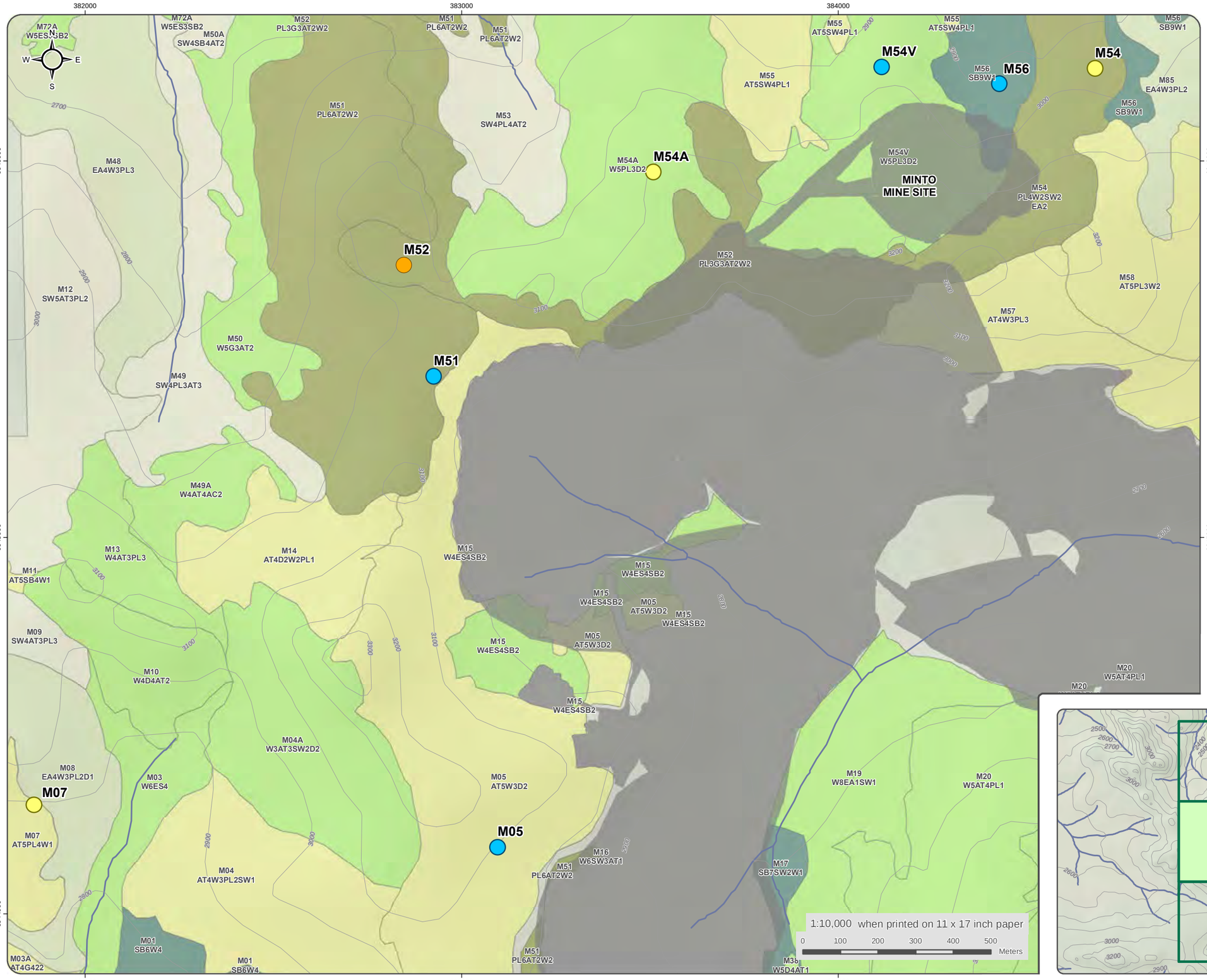
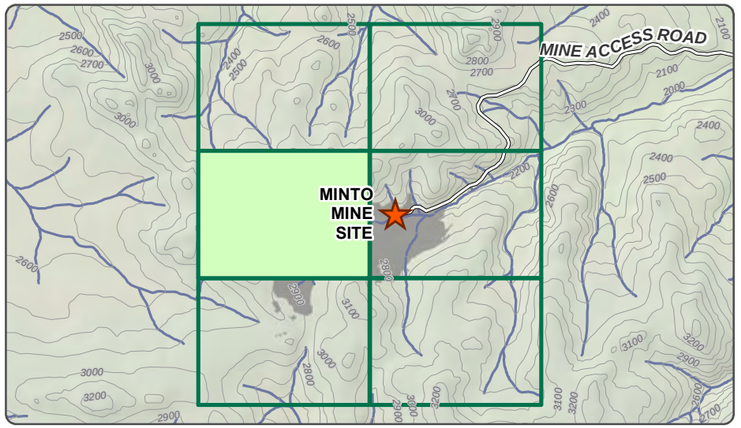


MINTO MINE

ECOSYSTEM MAPPING

FIGURE 3
WEST CENTRE QUADRANT





capstone
MINTO MINE

SURVEY PLOTS

- Field Check
- Control Plot; Soil samples collected
- Permanent Plot

LEADING SPECIES

- At - Trembling Aspen
- Ea - Alaskan Birch
- Pl - Lodgepole Pine
- Sb - Black Spruce
- Sw - White Spruce
- W - Willow
- Mine Footprint

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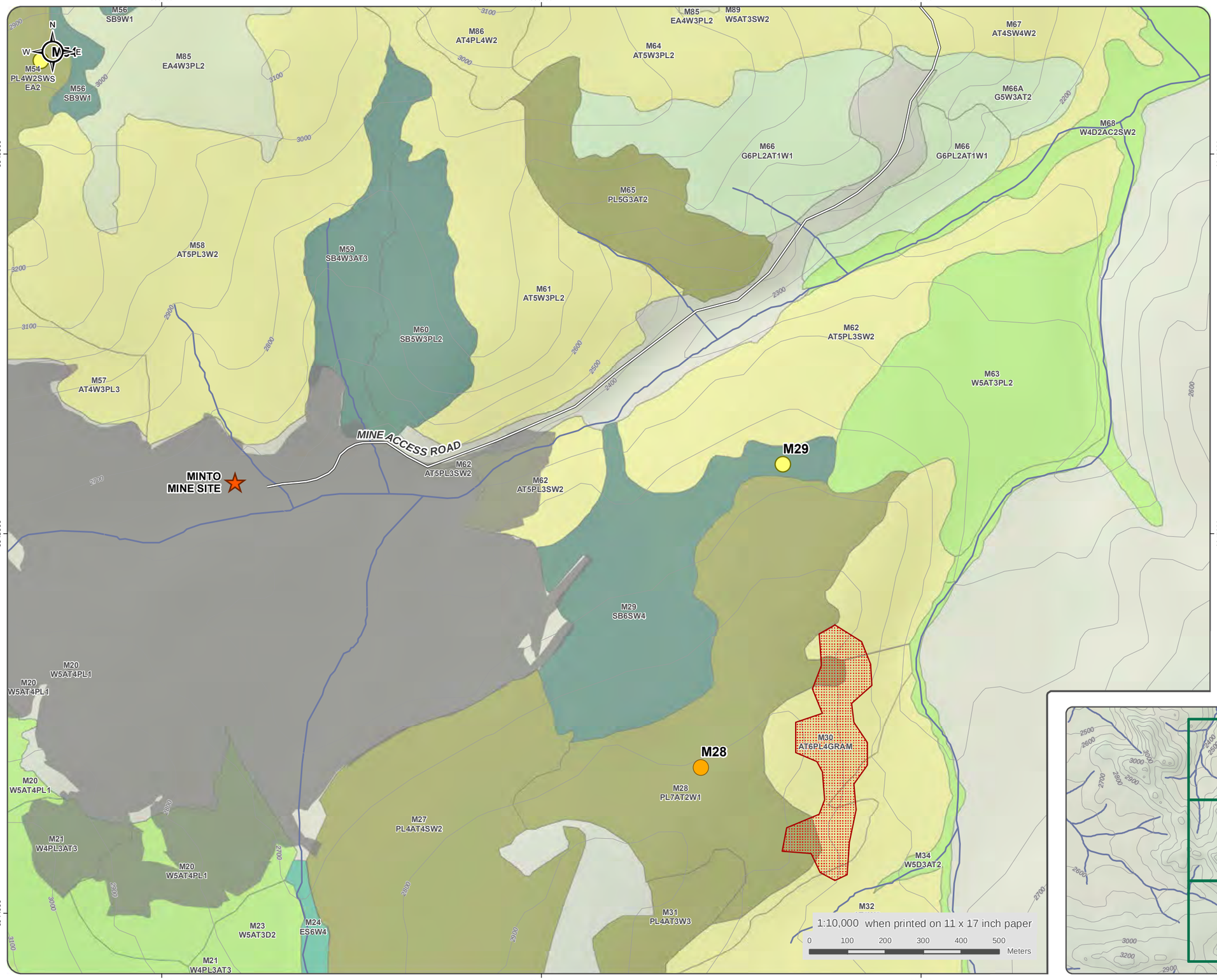
MINTO MINE

ECOSYSTEM MAPPING

FIGURE 4
EAST CENTRE QUADRANT



capstone
MINTO MINE

SURVEY PLOTS

- Control Plot; Soil samples collected
- Permanent Plot
- Minto Mine Site

LEADING SPECIES

- At - Trembling Aspen
- Ea - Alaskan Birch
- Es - Scrub Birch
- G - Graminoids
- Pl - Lodgepole Pine
- Sb - Black Spruce
- W - Willow
- 2010 Control Burn Area
- Mine Footprint
- Minto Access Road

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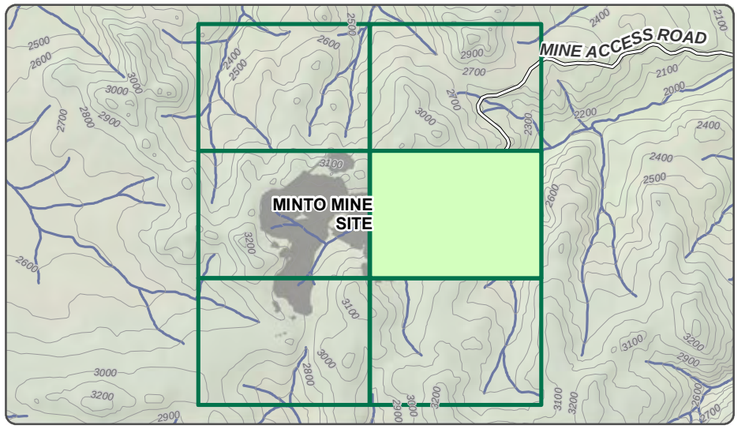
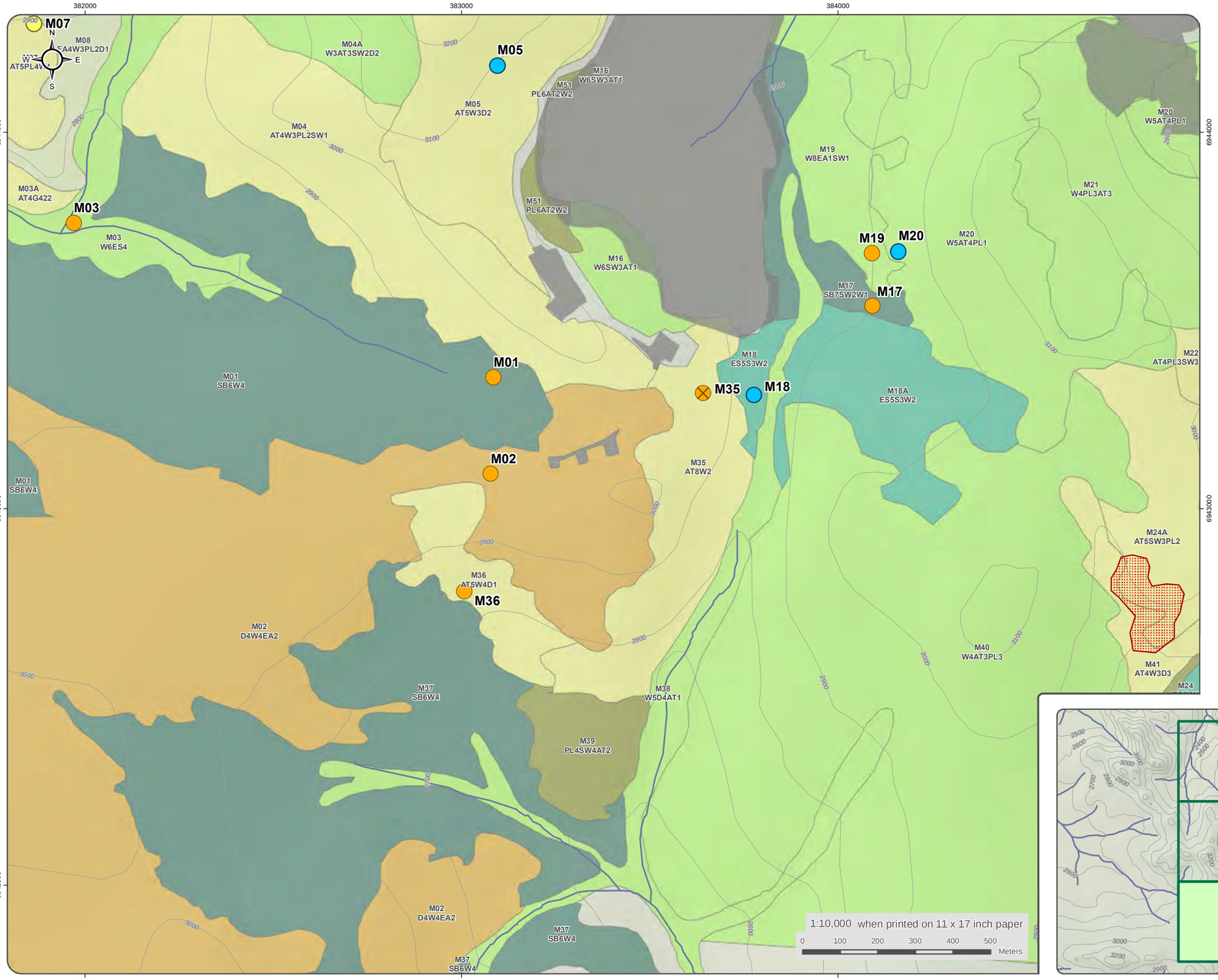


MINTO MINE

ECOSYSTEM MAPPING

FIGURE 5
SOUTHWEST QUADRANT



capstone
MINTO MINE

SURVEY PLOTS

- Field Check
- Control Plot; Soil samples collected
- Permanent Plot
- Permanent Plot; Soil Sample Collected

LEADING SPECIES

- At - Trembling Aspen
- D - Alder
- Ea - Alaskan Birch
- Es - Scrub Birch
- Pl - Lodgepole Pine
- Sb - Black Spruce
- Sw - White Spruce
- W - Willow
- 2010 Control Burn Area
- Mine Footprint

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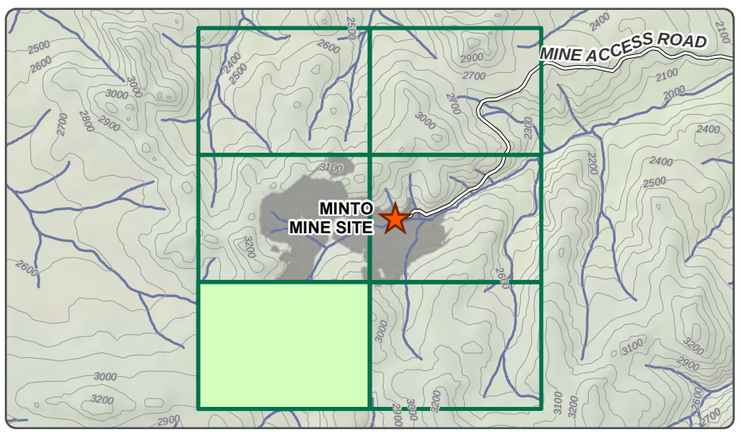
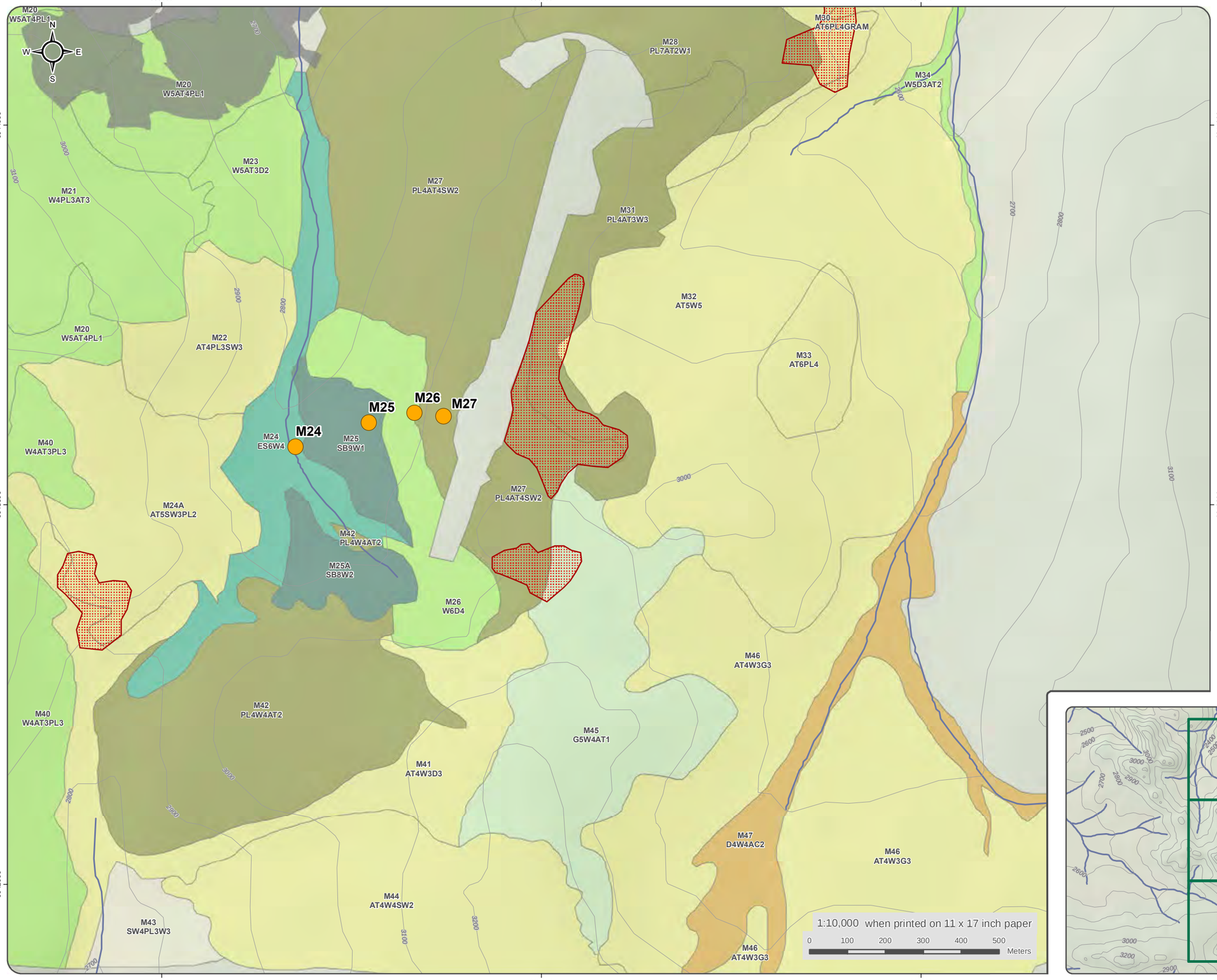
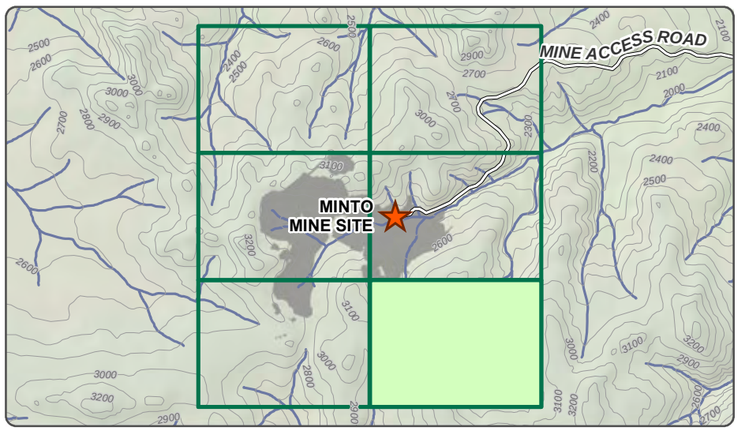


MINTO MINE

ECOSYSTEM MAPPING

FIGURE 6
SOUTHEAST QUADRANT





capstone
MINTO MINE

SURVEY PLOTS

- Permanent Plot

LEADING SPECIES

- At - Trembling Aspen
- D - Alder
- Es - Scrub Birch
- G - Graminoids
- Pl - Lodgepole Pine
- Sb - Black Spruce
- Sw - White Spruce
- W - Willow
- 2010 Control Burn Area
- Mine Footprint

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APPENDIX F

2016 VMU SITE SUMMARIES

PAGE	OF

ACCESS
CONSULTING GROUP

PROJECT ID: 2016 Minto. VMU

WEATHER: overcast raining

PLOT #: SA03	SURVEYORS: MHCP	DATE: Aug 9, 2016	START TIME: 9:50	END TIME: 10:30
TYPE/ # OF SAMPLES: Salix, Lichen, Soil x2		PHOTO #'S:		

GPS ZONE 08	E 0387043
	N 6947177
ASPECT (%)	195
SLOPE (%)	22%
ELEVATION	786

SOIL FEATURES		
SURFICIAL MATERIAL (ENTER CODE)		M
DEPTH TO (cm)		
WATER TABLE	W	—
MOTTLES	M	—
ROOT REST. PAN	R	—
BEDROCK	B	—
FROZEN LAYER	F	
CARBONATES	C	—
OTHER		—

HUMUS FORM (ENTER X)		
MOR	MO	L
MORMODER	MM	
MODER	MD	
MULLMODER	MR	
MULL	MU	
SOIL COLOUR (ENTER X)		
DARK	D	
MEDIUM	M	
LIGHT	L	
NOT APPLICABLE	N/A	

SOIL DRAINAGE		SMR	
VR	VERY RAPIDLY	A	VERY POOR
R	RAPIDLY	B	POOR
W	WELL	C	MEDIUM
MW	MODERATELY WEL	D	RICH
I	IMPERFECTLY	E	VERY RICH
P	POORLY	F	SALINE
VP	VERY POORLY	SNR	
SEEPAGE		0	VERY XERIC
P	PRESENT	1	XERIX
A	ABSENT	2	SUBXERIC
Open Water Present (%)		3	SUBMESIC
Plot	Polygon	4	MESIC
X	X	5	SUBHYGRIC
ROCKY SUBSTRATES (%)		6	HYGRIC
COBBLES/ STONES		7	SUBHYDRIC
BEDROCK		8	HYDRIC
GULLIES IN POLYGON		9	AQUATIC

	Y	N
WITHIN MAIN PLOT		
BETWEEN PLOTS		

SURFACE SHAPE		MICROTOPOGRAPHY		PLOT POSITION MESO	
CV	CONCAVE	SM	SMOOTH	C	CREST
CX	CONVEX	MO	MOD. MOUNDED	UP	UPPER SLOPE
ST	STRAIGHT	ST	STRONGLY MOUNDED	MS	MID SLOPE
UN	UNDULATING	EX	EXTREMELY MOUNDED	LS	LOWER SLOPE
				T	TOE
				D	DEPRESSION
				L	LEVEL

SURFACE COMPOSITION (MUST EQUAL 100%)

ROCK	COBBLE	GRAVEL	SOIL	VEG	ORG.	CWD

SITE CLASSIFICATION

←UNIFORM TO VARIABLE →

1	2	3	4	5

SOIL DESCRIPTION

HORIZON	DEPTH FROM 0cm	TEXTURE	% TOTAL COARSE FRAGMENTS
F	7		
AEH	1		
Bm1	8	LS	
Bm2	19	SL	20
Bm3	38	SL	25
DOP	45	DOP = DEPTH OF PIT (DISTANCE FROM ZERO)	

ZERO →

COMMENTS/ SITE DISTURBANCES/ SAMPLES

Sampled Bm1 Bm2

lots of snags

PAGE	OF

VEGETATION COVER	%
TREE LAYER (A)	45
SHRUB LAYER (B)	25
HERB LAYER (C)	20
MOSS LAYER (D)	70

WILDLIFE SIGN (SCAT, TRACKS, BROWSE, CALL, ENCOUNTER, DEN, ETC.)

TREE LAYER (A)

SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %	SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %
Picea glauca	1	30					
Pop tremo	2	15					

SHRUB LAYER (B)

SPECIES	B1 (2m – 10m) %	B2 (<2m) %	SPECIES	B1 (2m – 10m) %	B2 (<2m) %
Salix sp	—	1	Pop tremu	10	
Shep can		5			
Rose acic		5			
Salix					

TREE REGENERATION <50cm

SPECIES	%	HEIGHT (cm)	SPECIES	%	HEIGHT (cm)

HERB LAYER (C)

SPECIES	%	SPECIES	%	SPECIES	%
Geoc livi	25	grass sp			
Vac viti	15				
Viburnum edu	1				
Blue Berr Mert pan	1				

MOSS LAYER

SPECIES	%
Hylo splen	60

LICHEN LAYER

SPECIES	%
Clad stel	10

DOMINANT TREE AGE EST. COUNT	DBH	HEIGHT	SUCCESSIONAL STAGE	STRUCTURAL STAGE

SITE SKETCH: (1 cm = _____)

PAGE	OF

ACCESS
CONSULTING GROUP

PROJECT ID: 2016 Mihto VMU

WEATHER: Raining

PLOT #: C01	SURVEYORS: WH CP	DATE: 03/09/2016	START TIME: 8:20	END TIME: 9:15
TYPE/ # OF SAMPLES: Lichen Salix, horsetail, Lodum		PHOTO #'S: 128 129 130		

GPS ZONE	
08	E 0337429
	N 6949359
ASPECT (%)	40
SLOPE (%)	3%
ELEVATION	792 m

SOIL FEATURES		
SURFICIAL MATERIAL (ENTER CODE)		
DEPTH TO (cm)		
WATER TABLE	W	
MOTTLES	M	
ROOT REST. PAN	R	
BEDROCK	B	
FROZEN LAYER	F	
CARBONATES	C	
OTHER		

HUMUS FORM (ENTER X)		
MOR	MO	X
MORMODER	MM	
MODER	MD	
MULLMODER	MR	
MULL	MU	
SOIL COLOUR (ENTER X)		
DARK	D	
MEDIUM	M	
LIGHT	L	
NOT APPLICABLE	N/A	

SOIL DRAINAGE		SMR	
VR	VERY RAPIDLY	A	VERY POOR
R	RAPIDLY	B	POOR
W	WELL	C	MEDIUM
MW	MODERATELY WEL	D	RICH
I	IMPERFECTLY	E	VERY RICH
P	POORLY	F	SALINE
VP	VERY POORLY	SNR	
SEEPAGE		0	VERY XERIC
P	PRESENT	1	XERIX
A	ABSENT	2	SUBXERIC
Open Water Present (%)		3	SUBMESIC
Plot	Polygon	4	MESIC
		5	SUBHYGRIC
ROCKY SUBSTRATES (%)		6	HYGRIC
COBBLES/ STONES		7	SUBHYDRIC
BEDROCK		8	HYDRIC
GULLIES IN POLYGON		9	AQUATIC

	Y	N
WITHIN MAIN PLOT		X
BETWEEN PLOTS		

SURFACE SHAPE		MICROTOPOGRAPHY		PLOT POSITION MESO	
CV	CONCAVE	SM	SMOOTH	C	CREST
CX	CONVEX	MO	MOD. MOUNDED	UP	UPPER SLOPE
ST	STRAIGHT	ST	STRONGLY MOUNDED	MS	MID SLOPE
UN	UNDULATING	EX	EXTREMELY MOUNDED	LS	LOWER SLOPE
				T	TOE
				D	DEPRESSION
				L	LEVEL

SURFACE COMPOSITION (MUST EQUAL 100%)						
ROCK	COBBLE	GRAVEL	SOIL	VEG	ORG.	CWD

SITE CLASSIFICATION				
←UNIFORM TO VARIABLE →				
1	2	3	4	5

SOIL DESCRIPTION			
HORIZON	DEPTH FROM 0cm	TEXTURE	% TOTAL COARSE FRAGMENTS
L	2		
F	14		
~~Bm 1~~	7		
Bm1	18		
Bm2	43		
DOP	45	DOP = DEPTH OF PIT (DISTANCE FROM ZERO)	

ZERO →

COMMENTS/ SITE DISTURBANCES/ SAMPLES

Sample from Bm1 Bm2 old burn

PAGE	OF

VEGETATION COVER	%
TREE LAYER (A)	6
SHRUB LAYER (B)	68
HERB LAYER (C)	47
MOSS LAYER (D)	

WILDLIFE SIGN (SCAT, TRACKS, BROWSE, CALL, ENCOUNTER, DEN, ETC.)

TREE LAYER (A)

SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %	SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %
SB		2					
Salix		21					
Pice Glau			3				

SHRUB LAYER (B)

SPECIES	B1 (2m – 10m) %	B2 (<2m) %	SPECIES	B1 (2m – 10m) %	B2 (<2m) %
Alnus crisp		3			
Ledum groe		60			
Salix sp		3			
Pice Glau		3			

TREE REGENERATION <50cm

SPECIES	%	HEIGHT (cm)	SPECIES	%	HEIGHT (cm)

HERB LAYER (C) / MOSS LAYER / LICHEN LAYER

SPECIES	%	SPECIES	%	SPECIES	%	SPECIES	%	SPECIES	%
Vac vita	20					Poly Juni	1	cladonia	1
Rose acic	10					hylo splend?		Peltigera	1
Equi Arven	17							Cladina	3

DOMINANT TREE AGE EST. COUNT	DBH	HEIGHT	SUCCESSIONAL STAGE	STRUCTURAL STAGE

SITE SKETCH: (1 cm = _____)

Dup Horsetail
lots of snags.
Sw Regen
lots of litter

ACCESS
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PAGE	OF

PROJECT ID: 2016 Minto VMU

WEATHER: Over cast
Light rain

PLOT #: 311	SURVEYORS: MH CP	DATE: Aug 9, 2016	START TIME: 11:00	END TIME: 11:53
TYPE/ # OF SAMPLES: Salix, Lichen, Soil, Soil Dup		PHOTO #'S: 134-137		

GPS ZONE	E 0387034
08	N 6947251
ASPECT (%)	225
SLOPE (%)	5°
ELEVATION	800

SOIL FEATURES		
SURFICIAL MATERIAL (ENTER CODE)	M	
DEPTH TO (cm)		
WATER TABLE	W	
MOTTLES	M	/
ROOT REST. PAN	R	clay?
BEDROCK	B	/
FROZEN LAYER	F	/
CARBONATES	C	/
OTHER		

HUMUS FORM (ENTER X)		
MOR	MO	X
MORMODER	MM	
MODER	MD	
MULLMODER	MR	
MULL	MU	
SOIL COLOUR (ENTER X)		
DARK	D	
MEDIUM	M	
LIGHT	L	
NOT APPLICABLE	N/A	

SOIL DRAINAGE		SMR	
VR	VERY RAPIDLY	A	VERY POOR
R	RAPIDLY	B	POOR
W	WELL	C	MEDIUM
MW	MODERATELY WEL	D	RICH
I	IMPERFECTLY	E	VERY RICH
P	POORLY	F	SALINE
VP	VERY POORLY	SNR	
SEEPAGE		0	VERY XERIC
P	PRESENT	1	XERIX
A	ABSENT	2	SUBXERIC
Open Water Present (%)		3	SUBMESIC
Plot	Polygon	4	MESIC
X	X	5	SUBHYGRIC
ROCKY SUBSTRATES (%)		6	HYGRIC
COBBLES/ STONES		7	SUBHYDRIC
BEDROCK		8	HYDRIC
GULLIES IN POLYGON		9	AQUATIC

	Y	N
WITHIN MAIN PLOT		
BETWEEN PLOTS		

SURFACE SHAPE		MICROTOPOGRAPHY		PLOT POSITION MESO	
CV	CONCAVE	SM	SMOOTH	C	CREST
CX	CONVEX	MO	MOD. MOUNDED	UP	UPPER SLOPE
ST	STRAIGHT	ST	STRONGLY MOUNDED	MS	MID SLOPE
UN	UNDULATING	EX	EXTREMELY MOUNDED	LS	LOWER SLOPE
				T	TOE
				D	DEPRESSION
				L	LEVEL

SURFACE COMPOSITION (MUST EQUAL 100%)						
ROCK	COBBLE	GRAVEL	SOIL	VEG	ORG.	CWD

SITE CLASSIFICATION				
←UNIFORM TO VARIABLE →				
1	2	3	4	5

SOIL DESCRIPTION

HORIZON	DEPTH FROM 0cm	TEXTURE	% TOTAL COARSE FRAGMENTS
L	3		
F	2		
Bm1	10	SL	15
Bm2	20	SiL	20
Bm3	32	SiL	20
DOP	35	DOP = DEPTH OF PIT (DISTANCE FROM ZERO)	

ZERO →

COMMENTS/ SITE DISTURBANCES/ SAMPLES

fire disturbance
40 new growth aspen

PAGE	OF

VEGETATION COVER	%
TREE LAYER (A)	29
SHRUB LAYER (B)	21
HERB LAYER (C)	37
MOSS LAYER (D)	70

WILDLIFE SIGN (SCAT, TRACKS, BROWSE, CALL, ENCOUNTER, DEN, ETC.)

TREE LAYER (A)

SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %	SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %
Sw	7	1					
Pop trem	4	15					
Salix sp	1	2					

SHRUB LAYER (B)

SPECIES	B1 (2m – 10m) %	B2 (<2m) %	SPECIES	B1 (2m – 10m) %	B2 (<2m) %
Pice glau		10			
Salix sp		5			
Pinu cont		1			
Alnu cris		5			

TREE REGENERATION <50cm

SPECIES	%	HEIGHT (cm)	SPECIES	%	HEIGHT (cm)
Pice Glau	7				

HERB LAYER (C) / MOSS LAYER / LICHEN LAYER

SPECIES	%	SPECIES	%	SPECIES	%	SPECIES	%	SPECIES	%
Vac viti	7					hylo splen	60	Clad stel	10
Cham Eugh	1							Relt	1
Gaul L: vidu	25								

DOMINANT TREE AGE EST. COUNT	DBH	HEIGHT	SUCCESSIONAL STAGE	STRUCTURAL STAGE

SITE SKETCH: (1 cm = _____)

Snags
Fire disturbance
10% CWD - fallen logs
Soil sample Bm1, Bm2

PAGE	OF

ACCESS
CONSULTING GROUP

PROJECT ID:
2016 Minto VMC

apt 502A

WEATHER:
Overcast

PLOT #: 502	SURVEYORS: MH CP	DATE: Aug 9, 2016	START TIME: 11:50	END TIME: 12:30
TYPE/ # OF SAMPLES: Salix Lichen, Soil x2 Dup soil		PHOTO #'S: 137-142.		

GPS ZONE 08	E 0387066 N 6947110
ASPECT (%)	150
SLOPE (%)	15
ELEVATION	769

SOIL FEATURES		
SURFICIAL MATERIAL (ENTER CODE)		
DEPTH TO (cm)		
WATER TABLE	W	✓
MOTTLES	M	✓
ROOT REST. PAN	R	Silt Lay
BEDROCK	B	✓
FROZEN LAYER	F	✓
CARBONATES	C	✓
OTHER		

HUMUS FORM (ENTER X)		
MOR	MO	X
MORMODER	MM	
MODER	MD	
MULLMODER	MR	
MULL	MU	
SOIL COLOUR (ENTER X)		
DARK	D	
MEDIUM	M	
LIGHT	L	
NOT APPLICABLE	N/A	

SOIL DRAINAGE		SMR	
VR	VERY RAPIDLY	A	VERY POOR
R	RAPIDLY	(B)	POOR
(W)	WELL	C	MEDIUM
MW	MODERATELY WEL	D	RICH
I	IMPERFECTLY	E	VERY RICH
P	POORLY	F	SALINE
VP	VERY POORLY	SNR	
SEEPAGE		0	VERY XERIC
P	PRESENT	1	XERIX
(A)	ABSENT	2	SUBXERIC
Open Water Present (%)		(3)	SUBMESIC
Plot	Polygon	4	MESIC
X	X	5	SUBHYGRIC
ROCKY SUBSTRATES (%)		6	HYGRIC
COBBLES/ STONES		7	SUBHYDRIC
BEDROCK		8	HYDRIC
GULLIES IN POLYGON		9	AQUATIC

	Y	N
WITHIN MAIN PLOT		X
BETWEEN PLOTS		

SITE CLASSIFICATION				
←UNIFORM TO VARIABLE →				
1	2	(3)	4	5

SURFACE SHAPE		MICROTOPOGRAPHY		PLOT POSITION MESO	
CV	CONCAVE	(SM)	SMOOTH	C	CREST
(CX)	CONVEX	MO	MOD. MOUNDED	UP	UPPER SLOPE
ST	STRAIGHT	ST	STRONGLY MOUNDED	(MS)	MID SLOPE
UN	UNDULATING	EX	EXTREMELY MOUNDED	LS	LOWER SLOPE
				T	TOE
				D	DEPRESSION
				L	LEVEL

SURFACE COMPOSITION (MUST EQUAL 100%)						
ROCK	COBBLE	GRAVEL	SOIL	VEG	ORG.	CWD

COMMENTS/ SITE DISTURBANCES/ SAMPLES

SOIL DESCRIPTION			
HORIZON	DEPTH FROM 0cm	TEXTURE	% TOTAL COARSE FRAGMENTS
L	2		
F	4		
B	4	LS	
Bm1	15	SL	15
Bm2	30	SiL	15
DOP	32	DOP = DEPTH OF PIT (DISTANCE FROM ZERO)	

ZERO →

PAGE	OF

VEGETATION COVER	%
TREE LAYER (A)	29
SHRUB LAYER (B)	18
HERB LAYER (C)	35
MOSS LAYER (D)	40

WILDLIFE SIGN (SCAT, TRACKS, BROWSE, CALL, ENCOUNTER, DEN, ETC.)

TREE LAYER (A)

SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %	SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %
Pice mari	15	3		Pinu cont	1		
Pop trem	7	2					
Pice glac	1	1					

SHRUB LAYER (B)

SPECIES	B1 (2m – 10m) %	B2 (<2m) %	SPECIES	B1 (2m – 10m) %	B2 (<2m) %
Shep can		15			
Salix sp	1	2			
~~Pop~~					

TREE REGENERATION <50cm

SPECIES	%	HEIGHT (cm)	SPECIES	%	HEIGHT (cm)
~~Pop trem~~					
Pice mari	3				

HERB LAYER (C) / MOSS LAYER / LICHEN LAYER

SPECIES	%	SPECIES	%	SPECIES	%	SPECIES	%	SPECIES	%
Gaul livi	25					Hyla splend	35	Clad stel	5
Vac viti	7								
ment pani	1								
Rosa acic	3								

DOMINANT TREE AGE EST. COUNT	DBH	HEIGHT	SUCCESSIONAL STAGE	STRUCTURAL STAGE

SITE SKETCH: (1 cm = _____)

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ACCESS CONSULTING GROUP

wpt S01 A

PROJECT ID: 2016 Minto VMC

WEATHER: slight rain

PLOT #: S01	SURVEYORS: MHCP	DATE: Aug 9/16	START TIME: 12:45	END TIME: 13:20
TYPE/ # OF SAMPLES: Salix, Ledum, Lichen 3x Soil bm, bm2 (dup, bc) Soil Dup		PHOTO #'S: 143 - 149		

GPS ZONE	E 0387079
08	N 6946978
ASPECT (%)	120
SLOPE (%)	10
ELEVATION	732

SOIL FEATURES		
SURFICIAL MATERIAL (ENTER CODE)		
DEPTH TO (cm)		
WATER TABLE	W	/
MOTTLES	M	/
ROOT REST. PAN	R	32/silt
BEDROCK	B	/
FROZEN LAYER	F	/
CARBONATES	C	/
OTHER		

HUMUS FORM (ENTER X)		
MOR	MO	X
MORMODER	MM	
MODER	MD	
MULLMODER	MR	
MULL	MU	
SOIL COLOUR (ENTER X)		
DARK	D	
MEDIUM	M	
LIGHT	L	X
NOT APPLICABLE	N/A	

SOIL DRAINAGE		SMR	
VR	VERY RAPIDLY	A	VERY POOR
R	RAPIDLY	B	POOR
W	WELL	C	MEDIUM
MW	MODERATELY WEL	D	RICH
I	IMPERFECTLY	E	VERY RICH
P	POORLY	F	SALINE
VP	VERY POORLY	SNR	
SEEPAGE		0	VERY XERIC
P	PRESENT	1	XERIX
A	ABSENT	2	SUBXERIC
Open Water Present (%)		3	SUBMESIC
Plot	Polygon	4	MESIC
/		5	SUBHYGRIC
ROCKY SUBSTRATES (%)		6	HYGRIC
COBBLES/ STONES		7	SUBHYDRIC
BEDROCK		8	HYDRIC
GULLIES IN POLYGON		9	AQUATIC

	Y	N
WITHIN MAIN PLOT		X
BETWEEN PLOTS		

SITE CLASSIFICATION				
←UNIFORM TO VARIABLE →				
1	2	3	4	5

SURFACE SHAPE		MICROTOPOGRAPHY		PLOT POSITION MESO	
CV	CONCAVE	SM	SMOOTH	C	CREST
CX	CONVEX	MO	MOD. MOUNDED	UP	UPPER SLOPE
ST	STRAIGHT	ST	STRONGLY MOUNDED	MS	MID SLOPE
UN	UNDULATING	EX	EXTREMELY MOUNDED	LS	LOWER SLOPE
				T	TOE
				D	DEPRESSION
				L	LEVEL

SURFACE COMPOSITION (MUST EQUAL 100%)						
ROCK	COBBLE	GRAVEL	SOIL	VEG	ORG.	CWD

ZERO →

SOIL DESCRIPTION			
HORIZON	DEPTH FROM 0cm	TEXTURE	% TOTAL COARSE FRAGMENTS
L	7		
F	6		
Bm1	11	L	2
Bm2	24	SL	4
BC	36	SiL	5
DOP	42	DOP = DEPTH OF PIT (DISTANCE FROM ZERO)	

COMMENTS/ SITE DISTURBANCES/ SAMPLES

closer to valley bottom.

Rooting depth 32 cm.

Dup onto Bm2

PAGE	OF

VEGETATION COVER	%
TREE LAYER (A)	16
SHRUB LAYER (B)	8
HERB LAYER (C)	29
MOSS LAYER (D)	81

WILDLIFE SIGN (SCAT, TRACKS, BROWSE, CALL, ENCOUNTER, DEN, ETC.)

TREE LAYER (A)

SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %	SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %
Picea Glauca	7	1					
Picea mari	4	2					
Pop Tremu	1	1					

SHRUB LAYER (B)

SPECIES	B1 (2m – 10m) %	B2 (<2m) %	SPECIES	B1 (2m – 10m) %	B2 (<2m) %
Shep can		3			
Rhodo Groenlandi		5			

TREE REGENERATION <50cm

SPECIES	%	HEIGHT (cm)	SPECIES	%	HEIGHT (cm)

HERB LAYER (C)						MOSS LAYER		LICHEN LAYER	
SPECIES	%	SPECIES	%	SPECIES	%	SPECIES	%	SPECIES	%
Empt nigr	15					Hylo Splen	75	Cladd stel	5
Gaoc Livi	7							pelt	1
Rosa acic	2								
Vac viti	4								
~~Aca~~									
Lonc bore.	1								
Mert pan	41								

DOMINANT TREE AGE EST. COUNT	DBH	HEIGHT	SUCCESSIONAL STAGE	STRUCTURAL STAGE

SITE SKETCH: (1 cm = _____)

Spruce look hybridized
↳ Tall like Sw but hairy branches

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ACCESS
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PROJECT ID: 2016 Minto VMG

WEATHER: overcast

* samples are called M26 (need to fix - fixed.

WPT M26(A)

PLOT #: 518	SURVEYORS: MH SB	DATE: Aug 9, 2016	START TIME:	END TIME:
TYPE/ # OF SAMPLES: Horsetail, Salix, Medum, Lichen, Soil x 2		PHOTO #'S: 149 - 153		

GPS ZONE	E 356403
	N 6944018
ASPECT (%)	350
SLOPE (%)	10%
ELEVATION	832

SOIL FEATURES		
SURFICIAL MATERIAL (ENTER CODE)		
DEPTH TO (cm)		
WATER TABLE	W	/
MOTTLES	M	39
ROOT REST. PAN	R	/
BEDROCK	B	/
FROZEN LAYER	F	/
CARBONATES	C	/
OTHER		

HUMUS FORM (ENTER X)		
MOR	MO	X
MORMODER	MM	
MODER	MD	
MULLMODER	MR	
MULL	MU	
SOIL COLOUR (ENTER X)		
DARK	D	
MEDIUM	M	X
LIGHT	L	
NOT APPLICABLE	N/A	

SOIL DRAINAGE		SMR	
VR	VERY RAPIDLY	A	VERY POOR
R	RAPIDLY	B	POOR
W	WELL	C	MEDIUM
MW	MODERATELY WEL	D	RICH
I	IMPERFECTLY	E	VERY RICH
P	POORLY	F	SALINE
VP	VERY POORLY	SNR	
SEEPAGE		0	VERY XERIC
P	PRESENT	1	XERIX
A	ABSENT	2	SUBXERIC
Open Water Present (%)		3	SUBMESIC
Plot	Polygon	4	MESIC
		5	SUBHYGRIC
ROCKY SUBSTRATES (%)		6	HYGRIC
COBBLES/ STONES		7	SUBHYDRIC
BEDROCK		8	HYDRIC
GULLIES IN POLYGON		9	AQUATIC

	Y	N
WITHIN MAIN PLOT		
BETWEEN PLOTS		

SURFACE SHAPE		MICROTOPOGRAPHY		PLOT POSITION MESO	
CV	CONCAVE	SM	SMOOTH	C	CREST
CX	CONVEX	MO	MOD. MOUNDED	UP	UPPER SLOPE
ST	STRAIGHT	ST	STRONGLY MOUNDED	MS	MID SLOPE
UN	UNDULATING	EX	EXTREMELY MOUNDED	LS	LOWER SLOPE
SURFACE COMPOSITION (MUST EQUAL 100%)				T	TOE
ROCK	COBBLE	GRAVEL	SOIL	VEG	ORG.	CWD	D	DEPRESSION
							L	LEVEL

SITE CLASSIFICATION				
←UNIFORM TO VARIABLE→				
1	2	3	4	5

COMMENTS/ SITE DISTURBANCES/ SAMPLES

ZERO →

SOIL DESCRIPTION			
HORIZON	DEPTH FROM 0cm	TEXTURE	% TOTAL COARSE FRAGMENTS
L	16		
F	14		
H	2		
AH	9		
Bm1	25	SiL	5
Bm2	35	SiS	5
DOP	51	DOP = DEPTH OF PIT (DISTANCE FROM ZERO)	

PAGE	OF

VEGETATION COVER	%
TREE LAYER (A)	
SHRUB LAYER (B)	
HERB LAYER (C)	
MOSS LAYER (D)	

WILDLIFE SIGN (SCAT, TRACKS, BROWSE, CALL, ENCOUNTER, DEN, ETC.)

TREE LAYER (A)

SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %	SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %
Pice mari		5					

SHRUB LAYER (B)

SPECIES	B1 (2m – 10m) %	B2 (<2m) %	SPECIES	B1 (2m – 10m) %	B2 (<2m) %
Alnu crisp		3			
Sali glau		3			
Betu Neoa	<1				
Rhod groe		65			

TREE REGENERATION <50cm

SPECIES	%	HEIGHT (cm)	SPECIES	%	HEIGHT (cm)

HERB LAYER (C) / MOSS LAYER / LICHEN LAYER

SPECIES	%	SPECIES	%	SPECIES	%	SPECIES	%	SPECIES	%
Arct rubr	40					Hylo splend	40	Cladi Stel	10
Equi scri	20								
pedi frid	1								
Gaul Livi	3								
Vacc viti	5								
Mert pan	1								

DOMINANT TREE AGE EST. COUNT	DBH	HEIGHT	SUCCESSIONAL STAGE	STRUCTURAL STAGE

SITE SKETCH: (1 cm = _____)

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ACCESS
CONSULTING GROUP

PROJECT ID:

WEATHER: Cloudy

PLOT #: S15	SURVEYORS: MH, SB	DATE: Aug 9, 2016	START TIME: 5:25	END TIME: 6:15
TYPE/ # OF SAMPLES: Ledum, salix, horsetail		PHOTO #'S: 154-158		

GPS ZONE	E 386165
	N 6944467
ASPECT (%)	10°
SLOPE (%)	7%
ELEVATION	843

SOIL FEATURES		
SURFICIAL MATERIAL (ENTER CODE)		
DEPTH TO (cm)		
WATER TABLE	W	
MOTTLES	M	
ROOT REST. PAN	R	
BEDROCK	B	
FROZEN LAYER	F	
CARBONATES	C	
OTHER		

HUMUS FORM (ENTER X)		
MOR	MO	
MORMODER	MM	
MODER	MD	
MULLMODER	MR	
MULL	MU	
SOIL COLOUR (ENTER X)		
DARK	D	
MEDIUM	M	
LIGHT	L	
NOT APPLICABLE	N/A	

SOIL DRAINAGE		SMR	
VR	VERY RAPIDLY	A	VERY POOR
R	RAPIDLY	B	POOR
W	WELL	C	MEDIUM
MW	MODERATELY WEL	D	RICH
I	IMPERFECTLY	E	VERY RICH
P	POORLY	F	SALINE
VP	VERY POORLY	SNR	
SEEPAGE		0	VERY XERIC
P	PRESENT	1	XERIX
A	ABSENT	2	SUBXERIC
Open Water Present (%)		3	SUBMESIC
Plot	Polygon	4	MESIC
		5	SUBHYGRIC
ROCKY SUBSTRATES (%)		6	HYGRIC
COBBLES/ STONES		7	SUBHYDRIC
BEDROCK		8	HYDRIC
GULLIES IN POLYGON		9	AQUATIC

	Y	N
WITHIN MAIN PLOT		
BETWEEN PLOTS		

SURFACE SHAPE		MICROTOPOGRAPHY		PLOT POSITION MESO	
CV	CONCAVE	SM	SMOOTH	C	CREST
CX	CONVEX	MO	MOD. MOUNDED	UP	UPPER SLOPE
ST	STRAIGHT	ST	STRONGLY MOUNDED	MS	MID SLOPE
UN	UNDULATING	EX	EXTREMELY MOUNDED	LS	LOWER SLOPE
				T	TOE
				D	DEPRESSION
				L	LEVEL

SURFACE COMPOSITION (MUST EQUAL 100%)						
ROCK	COBBLE	GRAVEL	SOIL	VEG	ORG.	CWD

SITE CLASSIFICATION				
←UNIFORM TO VARIABLE →				
1	2	3	4	5

COMMENTS/ SITE DISTURBANCES/ SAMPLES

SOIL DESCRIPTION			
HORIZON	DEPTH FROM 0cm	TEXTURE	% TOTAL COARSE FRAGMENTS
L	15		
F	14		
H	6		
AH	6		
Bm1	13	SiL	25
Bm2	28	SiL	30
DOP	43	DOP = DEPTH OF PIT (DISTANCE FROM ZERO)	

ZERO →

PAGE	OF

VEGETATION COVER	%
TREE LAYER (A)	
SHRUB LAYER (B)	
HERB LAYER (C)	
MOSS LAYER (D)	

WILDLIFE SIGN (SCAT, TRACKS, BROWSE, CALL, ENCOUNTER, DEN, ETC.)

TREE LAYER (A)

SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %	SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %
Pice mari	10	4		Salix		1	
Betu neoa		3					
Alnus crisp		7					

SHRUB LAYER (B)

SPECIES	B1 (2m – 10m) %	B2 (<2m) %	SPECIES	B1 (2m – 10m) %	B2 (<2m) %
Rhod Groen.		35			
Rosa acic		1			

TREE REGENERATION <50cm

SPECIES	%	HEIGHT (cm)	SPECIES	%	HEIGHT (cm)

HERB LAYER (C)						MOSS LAYER		LICHEN LAYER	
SPECIES	%	SPECIES	%	SPECIES	%	SPECIES	%	SPECIES	%
Redi frig		2				hyle splend	85	peltaspth	3
Vac viti		2							
Equi scri		4							

DOMINANT TREE AGE EST. COUNT	DBH	HEIGHT	SUCCESSIONAL STAGE	STRUCTURAL STAGE

SITE SKETCH: (1 cm = _____)

PAGE	OF

ACCESS
CONSULTING GROUP

PROJECT ID: 2016 minto UMU

WEATHER: Sunny

cupt m29PA

PLOT #: M29	SURVEYORS: MH	DATE: Aug 10, 2016	START TIME: 745	END TIME: 8:27
TYPE/ # OF SAMPLES: Salix, Ledum, Lichen, Horsetail Soil x2 Dup Ledum		PHOTO #'S: 159-162		

GPS ZONE	E 0386636
09	N 6945190
ASPECT (%)	340
SLOPE (%)	6%
ELEVATION	779

SOIL FEATURES		
SURFICIAL MATERIAL (ENTER CODE)		
DEPTH TO (cm)		
WATER TABLE	W	—
MOTTLES	M	✓
ROOT REST. PAN	R	—
BEDROCK	B	—
FROZEN LAYER	F	—
CARBONATES	C	—
OTHER		—

HUMUS FORM (ENTER X)		
MOR	MO	X
MORMODER	MM	
MODER	MD	
MULLMODER	MR	
MULL	MU	
SOIL COLOUR (ENTER X)		
DARK	D	
MEDIUM	M	X
LIGHT	L	
NOT APPLICABLE	N/A	

SOIL DRAINAGE		SMR	
VR	VERY RAPIDLY	A	VERY POOR
R	RAPIDLY	(B)	POOR
W	WELL	C	MEDIUM
MW	MODERATELY WEL	D	RICH
(I)	IMPERFECTLY	E	VERY RICH
P	POORLY	F	SALINE
VP	VERY POORLY	SNR	
SEEPAGE		0	VERY XERIC
(P)	PRESENT	1	XERIX
(A)	ABSENT	2	SUBXERIC
Open Water Present (%)		3	SUBMESIC
Plot	Polygon	(4)	MESIC
—	—	(5)	SUBHYGRIC
ROCKY SUBSTRATES (%)		6	HYGRIC
COBBLES/ STONES	—	7	SUBHYDRIC
BEDROCK	—	8	HYDRIC
GULLIES IN POLYGON		9	AQUATIC

	Y	N
WITHIN MAIN PLOT		
BETWEEN PLOTS		

SURFACE SHAPE		MICROTOPOGRAPHY		PLOT POSITION MESO	
CV	CONCAVE	SM	SMOOTH	C	CREST
(CX)	CONVEX	(MO)	MOD. MOUNDED	UP	UPPER SLOPE
ST	STRAIGHT	ST	STRONGLY MOUNDED	(MS)	MID SLOPE
UN	UNDULATING	EX	EXTREMELY MOUNDED	LS	LOWER SLOPE
				T	TOE
				D	DEPRESSION
				L	LEVEL

SURFACE COMPOSITION (MUST EQUAL 100%)						
ROCK	COBBLE	GRAVEL	SOIL	VEG	ORG.	CWD

SITE CLASSIFICATION				
←UNIFORM TO VARIABLE→				
1	(2)	3	(4)	5

SOIL DESCRIPTION

HORIZON	DEPTH FROM 0cm	TEXTURE	% TOTAL COARSE FRAGMENTS
L	14		
F	12		
H	3		
Bm1	.5	SiL	
Bm2	40	SiC	
DOP	54	DOP = DEPTH OF PIT (DISTANCE FROM ZERO)	

ZERO →

rooting 30

COMMENTS/ SITE DISTURBANCES/ SAMPLES

lots of snags
Slow seepage

PAGE	OF

VEGETATION COVER	%
TREE LAYER (A)	11
SHRUB LAYER (B)	87
HERB LAYER (C)	16
MOSS LAYER (D)	40

WILDLIFE SIGN (SCAT, TRACKS, BROWSE, CALL, ENCOUNTER, DEN, ETC.)

TREE LAYER (A)

SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %	SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %
Pice mari	2	7		Salix Glau			
Betu Neoa		2					
Alnu crisp		21					

SHRUB LAYER (B)

SPECIES	B1 (2m – 10m) %	B2 (<2m) %	SPECIES	B1 (2m – 10m) %	B2 (<2m) %
Alnu Crisp		10			
Rhod Groe		67			
Rose acic		5			
Pice mare		5			

TREE REGENERATION <50cm

SPECIES	%	HEIGHT (cm)	SPECIES	%	HEIGHT (cm)

HERB LAYER (C)						MOSS LAYER		LICHEN LAYER	
SPECIES	%	SPECIES	%	SPECIES	%	SPECIES	%	SPECIES	%
Equi sci	12	Grass	3			hyle splend	82	Cladd stel	5
mert pani	1					Pleu Sche	8		
poli Pridg	1								
								Litter	10

DOMINANT TREE AGE EST. COUNT	DBH	HEIGHT	SUCCESSIONAL STAGE	STRUCTURAL STAGE

SITE SKETCH: (1 cm = _____)

PAGE	OF

ACCESS
CONSULTING GROUP

PROJECT ID: 2016 Minto Umea

WEATHER: Sunny 15

Lupt 508A

PLOT #: 508	SURVEYORS:	DATE: Aug 10/16	START TIME: 10:30	END TIME: 11:45
TYPE/ # OF SAMPLES: Salix, lechum (Dup), Lichen (Dup), Blueberry Soil x2 Dup - lichen		PHOTO #'S: 163 - 168		

GPS ZONE	E 0385497
	N 6944329
ASPECT (%)	310
SLOPE (%)	4%
ELEVATION	809

SOIL FEATURES		
SURFICIAL MATERIAL (ENTER CODE)		
DEPTH TO (cm)		
WATER TABLE	W	
MOTTLES	M	40
ROOT REST. PAN	R	
BEDROCK	B	
FROZEN LAYER	F	60
CARBONATES	C	
OTHER		

HUMUS FORM (ENTER X)		
MOR	MO	+
MORMODER	MM	
MODER	MD	+
MULLMODER	MR	
MULL	MU	
SOIL COLOUR (ENTER X)		
DARK	D	+
MEDIUM	M	+
LIGHT	L	
NOT APPLICABLE	N/A	

SOIL DRAINAGE		SMR	
VR	VERY RAPIDLY	A	VERY POOR
R	RAPIDLY	B	POOR
W	WELL	(C)	MEDIUM
MW	MODERATELY WEL	D	RICH
(I)	IMPERFECTLY	E	VERY RICH
P	POORLY	F	SALINE
VP	VERY POORLY	SNR	
SEEPAGE		0	VERY XERIC
P	PRESENT	1	XERIX
(A)	ABSENT	2	SUBXERIC
Open Water Present (%)		3	SUBMESIC
Plot	Polygon	4	MESIC
X	X	(5)	SUBHYGRIC
ROCKY SUBSTRATES (%)		6	HYGRIC
COBBLES/ STONES		7	SUBHYDRIC
BEDROCK		8	HYDRIC
GULLIES IN POLYGON		9	AQUATIC

	Y	N
WITHIN MAIN PLOT		X
BETWEEN PLOTS		X

SITE CLASSIFICATION				
←UNIFORM TO VARIABLE →				
1	(2)	3	4	5

SURFACE SHAPE		MICROTOPOGRAPHY		PLOT POSITION MESO	
CV	CONCAVE	SM	SMOOTH	C	CREST
(CX)	CONVEX	MO	MOD. MOUNDED	UP	UPPER SLOPE
ST	STRAIGHT	(ST)	STRONGLY MOUNDED	(MS)	MID SLOPE
UN	UNDULATING	EX	EXTREMELY MOUNDED	LS	LOWER SLOPE
				T	TOE
				D	DEPRESSION
				L	LEVEL

SURFACE COMPOSITION (MUST EQUAL 100%)						
ROCK	COBBLE	GRAVEL	SOIL	VEG	ORG.	CWD

ZERO →

SOIL DESCRIPTION			
HORIZON	DEPTH FROM 0cm	TEXTURE	% TOTAL COARSE FRAGMENTS
F	25		
H	14		
~~AH~~ Bm1	12	SiL/S	10
Bmj2	32	SiL	10
DOP	60	DOP = DEPTH OF PIT (DISTANCE FROM ZERO)	

COMMENTS/ SITE DISTURBANCES/ SAMPLES

PAGE	OF

VEGETATION COVER	%
TREE LAYER (A)	
SHRUB LAYER (B)	
HERB LAYER (C)	
MOSS LAYER (D)	

WILDLIFE SIGN (SCAT, TRACKS, BROWSE, CALL, ENCOUNTER, DEN, ETC.)

TREE LAYER (A)

SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %	SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %
Pice mari	<1	5					
Salix		1					

SHRUB LAYER (B)

SPECIES	B1 (2m – 10m) %	B2 (<2m) %	SPECIES	B1 (2m – 10m) %	B2 (<2m) %
Rhod Groe.		40			
Vacc ulig		17			
Salix sp		9			

TREE REGENERATION <50cm

SPECIES	%	HEIGHT (cm)	SPECIES	%	HEIGHT (cm)

HERB LAYER (C) / MOSS LAYER / LICHEN LAYER

SPECIES	%	SPECIES	%	SPECIES	%	SPECIES	%	SPECIES	%
Empt Nigr	1	Grass	2			hylo splen	75	Clad stel	7
Arcto rubr	1					Pleu schr	10	Clad rang	7
rubus cham	2							Clad mit	3
mert pan	<1							~~Peltigera~~	
Gaul Livi	2							pelt apth	1

DOMINANT TREE AGE EST. COUNT	DBH	HEIGHT	SUCCESSIONAL STAGE	STRUCTURAL STAGE

SITE SKETCH: (1 cm = _____)

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ACCESS
CONSULTING GROUP

PROJECT ID:

WEATHER: Sunny +19

Was 321

PLOT #: 516	SURVEYORS: MH	DATE: Aug 10, 2016	START TIME: 11:30	END TIME: 12:45
TYPE/ # OF SAMPLES: Salix, Ledum, horsetail to Enough for DNP		PHOTO #'S: 169 - 176		

GPS ZONE 08	E 0385526 N 6945417
ASPECT (%)	170
SLOPE (%)	7%
ELEVATION	795

SOIL FEATURES		
SURFICIAL MATERIAL (ENTER CODE)		
DEPTH TO (cm)		
WATER TABLE	W	
MOTTLES	M	
ROOT REST. PAN	R	
BEDROCK	B	
FROZEN LAYER	F	
CARBONATES	C	
OTHER		

HUMUS FORM (ENTER X)		
MOR	MO	X
MORMODER	MM	
MODER	MD	
MULLMODER	MR	
MULL	MU	
SOIL COLOUR (ENTER X)		
DARK	D	
MEDIUM	M	X
LIGHT	L	
NOT APPLICABLE	N/A	

SOIL DRAINAGE		SMR	
VR	VERY RAPIDLY	A	VERY POOR
R	RAPIDLY	B	POOR
W	WELL	C	MEDIUM
MW	MODERATELY WEL	D	RICH
I	IMPERFECTLY	E	VERY RICH
P	POORLY	F	SALINE
VP	VERY POORLY	SNR	
SEEPAGE		0	VERY XERIC
P	PRESENT	1	XERIX
A	ABSENT	2	SUBXERIC
Open Water Present (%)		3	SUBMESIC
Plot X	Polygon X	4	MESIC
		5	SUBHYGRIC
ROCKY SUBSTRATES (%)		6	HYGRIC
COBBLES/ STONES		7	SUBHYDRIC
BEDROCK		8	HYDRIC
GULLIES IN POLYGON		9	AQUATIC

	Y	N
WITHIN MAIN PLOT		
BETWEEN PLOTS		

SURFACE SHAPE		MICROTOPOGRAPHY		PLOT POSITION MESO	
CV	CONCAVE	SM	SMOOTH	C	CREST
CX	CONVEX	MO	MOD. MOUNDED	UP	UPPER SLOPE
ST	STRAIGHT	ST	STRONGLY MOUNDED	MS	MID SLOPE
UN	UNDULATING	EX	EXTREMELY MOUNDED	LS	LOWER SLOPE
				T	TOE
				D	DEPRESSION
				L	LEVEL

SURFACE COMPOSITION (MUST EQUAL 100%)						
ROCK	COBBLE	GRAVEL	SOIL	VEG	ORG.	CWD

SITE CLASSIFICATION				
←UNIFORM TO VARIABLE →				
1	2	3	4	5

SOIL DESCRIPTION

HORIZON	DEPTH FROM 0cm	TEXTURE	% TOTAL COARSE FRAGMENTS
L	40		
F	38		
H	24		
ZERO → ~~Bm~~ Ah	10		
Bmt	32	LS	15
DOP	72	DOP = DEPTH OF PIT (DISTANCE FROM ZERO)	

COMMENTS/ SITE DISTURBANCES/ SAMPLES

Semi Riparian

PAGE	OF

VEGETATION COVER	%
TREE LAYER (A)	
SHRUB LAYER (B)	
HERB LAYER (C)	
MOSS LAYER (D)	

WILDLIFE SIGN (SCAT, TRACKS, BROWSE, CALL, ENCOUNTER, DEN, ETC.)

TREE LAYER (A)

SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %	SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %
Pice mari		4					

SHRUB LAYER (B)

SPECIES	B1 (2m – 10m) %	B2 (<2m) %	SPECIES	B1 (2m – 10m) %	B2 (<2m) %
Sali spp		19			
Rhod Groe		60			
Vac alig		13			

TREE REGENERATION <50cm

SPECIES	%	HEIGHT (cm)	SPECIES	%	HEIGHT (cm)

HERB LAYER (C)						MOSS LAYER		LICHEN LAYER	
SPECIES	%	SPECIES	%	SPECIES	%	SPECIES	%	SPECIES	%
Equi Arve	10	Grass	5			Glow moss	40	Pdt	5
Arct rubra	40								
								Litter	

DOMINANT TREE AGE EST. COUNT	DBH	HEIGHT	SUCCESSIONAL STAGE	STRUCTURAL STAGE

SITE SKETCH: (1 cm = _____)

PAGE	OF

ACCESS
CONSULTING GROUP

PROJECT ID:

WEATHER: Sunny

Was 210 502

PLOT #: 517	SURVEYORS: MH	DATE: 2016/08/10	START TIME: 13:30	END TIME: 14:15
TYPE/ # OF SAMPLES: Salix Soil x 3 + Dup		PHOTO #'S: 177-180		

GPS ZONE 08	E 0384984
	N 6945259
ASPECT (%)	150
SLOPE (%)	20%
ELEVATION	835

SOIL FEATURES		
SURFICIAL MATERIAL (ENTER CODE)		
DEPTH TO (cm)		
WATER TABLE	W	—
MOTTLES	M	—
ROOT REST. PAN	R	—
BEDROCK	B	—
FROZEN LAYER	F	—
CARBONATES	C	—
OTHER		Bed rock

HUMUS FORM (ENTER X)		
MOR	MO	—
MORMODER	MM	
MODER	MD	
MULLMODER	MR	
MULL	MU	—
SOIL COLOUR (ENTER X)		
DARK	D	—
MEDIUM	M	
LIGHT	L	
NOT APPLICABLE	N/A	

SOIL DRAINAGE		SMR	
VR	VERY RAPIDLY	A	VERY POOR
R	RAPIDLY	B	POOR
W	WELL	C	MEDIUM
MW	MODERATELY WEL	D	RICH
I	IMPERFECTLY	E	VERY RICH
P	POORLY	F	SALINE
VP	VERY POORLY	SNR	
SEEPAGE		0	VERY XERIC
P	PRESENT	1	XERIX
A	ABSENT	2	SUBXERIC
Open Water Present (%)		3	SUBMESIC
Plot X	Polygon X	4	MESIC
		5	SUBHYGRIC
ROCKY SUBSTRATES (%)		6	HYGRIC
COBBLES/ STONES		7	SUBHYDRIC
BEDROCK		8	HYDRIC
GULLIES IN POLYGON		9	AQUATIC

	Y	N
WITHIN MAIN PLOT		
BETWEEN PLOTS		

SITE CLASSIFICATION				
←UNIFORM TO VARIABLE →				
1	2	3	4	5

SURFACE SHAPE		MICROTOPOGRAPHY		PLOT POSITION MESO	
CV	CONCAVE	SM	SMOOTH	C	CREST
CX	CONVEX	MO	MOD. MOUNDED	UP	UPPER SLOPE
ST	STRAIGHT	ST	STRONGLY MOUNDED	MS	MID SLOPE
UN	UNDULATING	EX	EXTREMELY MOUNDED	LS	LOWER SLOPE
				T	TOE
				D	DEPRESSION
				L	LEVEL

SURFACE COMPOSITION (MUST EQUAL 100%)						
ROCK	COBBLE	GRAVEL	SOIL	VEG	ORG.	CWD

SOIL DESCRIPTION

HORIZON	DEPTH FROM 0cm	TEXTURE	% TOTAL COARSE FRAGMENTS
L	3		
Ah	7		
Bm1	22	S	10
Bm2	40	S	20
DOP	43	DOP = DEPTH OF PIT (DISTANCE FROM ZERO)	

ZERO →

COMMENTS/ SITE DISTURBANCES/ SAMPLES

PAGE	OF

VEGETATION COVER	%
TREE LAYER (A)	
SHRUB LAYER (B)	
HERB LAYER (C)	
MOSS LAYER (D)	

WILDLIFE SIGN (SCAT, TRACKS, BROWSE, CALL, ENCOUNTER, DEN, ETC.)

TREE LAYER (A)

SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %	SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %
Pinu cont	1	7					
Pop trem	6	11					
Salix Glau		2					

SHRUB LAYER (B)

SPECIES	B1 (2m – 10m) %	B2 (<2m) %	SPECIES	B1 (2m – 10m) %	B2 (<2m) %

TREE REGENERATION <50cm

SPECIES	%	HEIGHT (cm)	SPECIES	%	HEIGHT (cm)
Pinu	3				

HERB LAYER (C) / MOSS LAYER / LICHEN LAYER

SPECIES	%	SPECIES	%	SPECIES	%	SPECIES	%	SPECIES	%
line bore	4	Grass	1						
Cham angu	1								
						100% Litter			

DOMINANT TREE AGE EST. COUNT	DBH	HEIGHT	SUCCESSIONAL STAGE	STRUCTURAL STAGE

SITE SKETCH: (1 cm = _____)

old barn. 35% CWD
Snags.

PAGE	OF

ACCESS CONSULTING GROUP

PROJECT ID:

WEATHER: raining

S07A

PLOT #: S07	SURVEYORS: MH Dan	DATE: Aug 10, 2016	START TIME: 1500	END TIME: 16:00
TYPE/ # OF SAMPLES: Salix, horsetail, Ledum, blueberry Soil x1 Dup Ledum, Horsetail Soil		PHOTO #'S: 181-183		

GPS ZONE 08	E 0385336 N 6943867
ASPECT (%)	30
SLOPE (%)	4
ELEVATION	840

SOIL FEATURES		
SURFICIAL MATERIAL (ENTER CODE)		
DEPTH TO (cm)		
WATER TABLE	W	/
MOTTLES	M	20
ROOT REST. PAN	R	/
BEDROCK	B	/
FROZEN LAYER	F	/
CARBONATES	C	/
OTHER		/

HUMUS FORM (ENTER X)		
MOR	MO	✓
MORMODER	MM	
MODER	MD	
MULLMODER	MR	
MULL	MU	
SOIL COLOUR (ENTER X)		
DARK	D	X
MEDIUM	M	
LIGHT	L	
NOT APPLICABLE	N/A	

SOIL DRAINAGE		SMR	
VR	VERY RAPIDLY	A	VERY POOR
R	RAPIDLY	B	POOR
W	WELL	C	MEDIUM
MW	MODERATELY WEL	D	RICH
I	IMPERFECTLY	E	VERY RICH
P	POORLY	F	SALINE
VP	VERY POORLY	SNR	
SEEPAGE		0	VERY XERIC
P	PRESENT	1	XERIX
A	ABSENT	2	SUBXERIC
Open Water Present (%)		3	SUBMESIC
Plot X	Polygon Y	4	MESIC
		5	SUBHYGRIC
ROCKY SUBSTRATES (%)		6	HYGRIC
COBBLES/ STONES		7	SUBHYDRIC
BEDROCK		8	HYDRIC
GULLIES IN POLYGON		9	AQUATIC

	Y	N
WITHIN MAIN PLOT		
BETWEEN PLOTS		

SURFACE SHAPE		MICROTOPOGRAPHY		PLOT POSITION MESO	
CV	CONCAVE	SM	SMOOTH	C	CREST
CX	CONVEX	MO	MOD. MOUNDED	UP	UPPER SLOPE
ST	STRAIGHT	ST	STRONGLY MOUNDED	MS	MID SLOPE
UN	UNDULATING	EX	EXTREMELY MOUNDED	LS	LOWER SLOPE
				T	TOE
				D	DEPRESSION
				L	LEVEL

SURFACE COMPOSITION (MUST EQUAL 100%)						
ROCK	COBBLE	GRAVEL	SOIL	VEG	ORG.	CWD

SITE CLASSIFICATION				
←UNIFORM TO VARIABLE →				
1	2	3	4	5

SOIL DESCRIPTION

HORIZON	DEPTH FROM 0cm	TEXTURE	% TOTAL COARSE FRAGMENTS
L	2		
F	14		
H	7		
Bj	34	SiL	
DOP		DOP = DEPTH OF PIT (DISTANCE FROM ZERO)	

ZERO →

COMMENTS/ SITE DISTURBANCES/ SAMPLES

Cryosol - lots of mixing

PAGE	OF

VEGETATION COVER	%
TREE LAYER (A)	
SHRUB LAYER (B)	
HERB LAYER (C)	
MOSS LAYER (D)	

WILDLIFE SIGN (SCAT, TRACKS, BROWSE, CALL, ENCOUNTER, DEN, ETC.)

TREE LAYER (A)

SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %	SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %
Dead Spruce		5					

SHRUB LAYER (B)

SPECIES	B1 (2m – 10m) %	B2 (<2m) %	SPECIES	B1 (2m – 10m) %	B2 (<2m) %
Sali glau		10			
Rhod groe		70			

TREE REGENERATION <50cm

SPECIES	%	HEIGHT (cm)	SPECIES	%	HEIGHT (cm)
Pice mari	2				
Pin cont	3				

HERB LAYER (C) / MOSS LAYER / LICHEN LAYER

SPECIES	%	SPECIES	%	SPECIES	%	SPECIES	%	SPECIES	%
Equi arve	15					Feathermoss	40	Cladonia	15
Vac viti	10								

DOMINANT TREE AGE EST. COUNT	DBH	HEIGHT	SUCCESSIONAL STAGE	STRUCTURAL STAGE

SITE SKETCH: (1 cm = _____)

Snags

ACCESS
CONSULTING GROUP

PAGE	OF

PROJECT ID:

WEATHER: Sunny w clouds

PLOT #: 506	SURVEYORS: MH DP	DATE: Aug 10, 2016	START TIME: 16:09	END TIME: 15:20
TYPE/ # OF SAMPLES: Ledum Salix Soil willow Dup		PHOTO #'S: 184-187		

GPS ZONE	E 0384666
	N 6943579
ASPECT (%)	75
SLOPE (%)	30
ELEVATION	949

SOIL FEATURES		
SURFICIAL MATERIAL (ENTER CODE)	C	v
DEPTH TO (cm)		
WATER TABLE	W	
MOTTLES	M	
ROOT REST. PAN	R	
BEDROCK	B	
FROZEN LAYER	F	
CARBONATES	C	
OTHER		large coll w/ cum

HUMUS FORM (ENTER X)		
MOR	MO	X
MORMODER	MM	
MODER	MD	
MULLMODER	MR	
MULL	MU	
SOIL COLOUR (ENTER X)		
DARK	D	
MEDIUM	M	X
LIGHT	L	
NOT APPLICABLE	N/A	

SOIL DRAINAGE		SMR	
VR	VERY RAPIDLY	A	VERY POOR
R	RAPIDLY	B	POOR
W	WELL	C	MEDIUM
MW	MODERATELY WEL	D	RICH
I	IMPERFECTLY	E	VERY RICH
P	POORLY	F	SALINE
VP	VERY POORLY	SNR	
SEEPAGE		0	VERY XERIC
P	PRESENT	1	XERIX
A	ABSENT	2	SUBXERIC
Open Water Present (%)		3	SUBMESIC
Plot X	Polygon X	4	MESIC
		5	SUBHYGRIC
ROCKY SUBSTRATES (%)		6	HYGRIC
COBBLES/ STONES		7	SUBHYDRIC
BEDROCK		8	HYDRIC
GULLIES IN POLYGON		9	AQUATIC

	Y	N
WITHIN MAIN PLOT		X
BETWEEN PLOTS		X

SURFACE SHAPE		MICROTOPOGRAPHY		PLOT POSITION MESO	
CV	CONCAVE	SM	SMOOTH	C	CREST
CX	CONVEX	MO	MOD. MOUNDED	UP	UPPER SLOPE
ST	STRAIGHT	ST	STRONGLY MOUNDED	MS	MID SLOPE
UN	UNDULATING	EX	EXTREMELY MOUNDED	LS	LOWER SLOPE
				T	TOE
				D	DEPRESSION
				L	LEVEL

SURFACE COMPOSITION (MUST EQUAL 100%)						
ROCK	COBBLE	GRAVEL	SOIL	VEG	ORG.	CWD

SITE CLASSIFICATION				
←UNIFORM TO VARIABLE →				
1	2	3	4	5

ZERO →

SOIL DESCRIPTION			
HORIZON	DEPTH FROM 0cm	TEXTURE	% TOTAL COARSE FRAGMENTS
L	2		
H	3		
B	38	LS	65
DOP		DOP = DEPTH OF PIT (DISTANCE FROM ZERO)	

COMMENTS/ SITE DISTURBANCES/ SAMPLES

old burn.

PAGE	OF

VEGETATION COVER	%
TREE LAYER (A)	
SHRUB LAYER (B)	
HERB LAYER (C)	
MOSS LAYER (D)	

WILDLIFE SIGN (SCAT, TRACKS, BROWSE, CALL, ENCOUNTER, DEN, ETC.)

TREE LAYER (A)

SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %	SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %
Betu Neoal		2		Alnus Cris		1	
Pinus cont		2					
Pop trem		10					

SHRUB LAYER (B)

SPECIES	B1 (2m – 10m) %	B2 (<2m) %	SPECIES	B1 (2m – 10m) %	B2 (<2m) %
Rhodo canae		15			
Alnus Crisp		2			

TREE REGENERATION <50cm

SPECIES	%	HEIGHT (cm)	SPECIES	%	HEIGHT (cm)

HERB LAYER (C) / MOSS LAYER / LICHEN LAYER

SPECIES	%	SPECIES	%	SPECIES	%	SPECIES	%	SPECIES	%
Lyco sp	<1					Poly Juni	35	Cladonia	3

DOMINANT TREE AGE EST. COUNT	DBH	HEIGHT	SUCCESSIONAL STAGE	STRUCTURAL STAGE

SITE SKETCH: (1 cm = _____)

PAGE	OF

ACCESS
CONSULTING GROUP

PROJECT ID:

WEATHER: Cloudy

PLOT #: 505	SURVEYORS: DPMH	DATE: Aug 10, 2006	START TIME: 17:10	END TIME: 17:45
TYPE/ # OF SAMPLES: Ledum, Lichen, Willow, horsetail		PHOTO #'S: 188–191		

GPS ZONE 08	E 384145 N 6944465
ASPECT (%)	
SLOPE (%)	85%
ELEVATION	

SOIL FEATURES		
SURFICIAL MATERIAL (ENTER CODE)		
DEPTH TO (cm)		
WATER TABLE	W	—
MOTTLES	M	26
ROOT REST. PAN	R	/
BEDROCK	B	—
FROZEN LAYER	F	50
CARBONATES	C	
OTHER		—

HUMUS FORM (ENTER X)		
MOR	MO	✓
MORMODER	MM	
MODER	MD	✓
MULLMODER	MR	
MULL	MU	
SOIL COLOUR (ENTER X)		
DARK	D	✓
MEDIUM	M	✓
LIGHT	L	
NOT APPLICABLE	N/A	

SOIL DRAINAGE		SMR	
VR	VERY RAPIDLY	A	VERY POOR
R	RAPIDLY	B	POOR
W	WELL	C	MEDIUM
MW	MODERATELY WEL	D	RICH
I	IMPERFECTLY	E	VERY RICH
P	POORLY	F	SALINE
VP	VERY POORLY	SNR	
SEEPAGE		0	VERY XERIC
P	PRESENT	1	XERIX
A	ABSENT	2	SUBXERIC
Open Water Present (%)		3	SUBMESIC
Plot	Polygon	4	MESIC
		5	SUBHYGRIC
ROCKY SUBSTRATES (%)		6	HYGRIC
COBBLES/ STONES		7	SUBHYDRIC
BEDROCK		8	HYDRIC
GULLIES IN POLYGON		9	AQUATIC

	Y	N
WITHIN MAIN PLOT		
BETWEEN PLOTS		

SITE CLASSIFICATION				
←UNIFORM TO VARIABLE→				
1	2	3	4	5

SURFACE SHAPE		MICROTOPOGRAPHY		PLOT POSITION MESO	
CV	CONCAVE	SM	SMOOTH	C	CREST
CX	CONVEX	MO	MOD. MOUNDED	UP	UPPER SLOPE
ST	STRAIGHT	ST	STRONGLY MOUNDED	MS	MID SLOPE
UN	UNDULATING	EX	EXTREMELY MOUNDED	LS	LOWER SLOPE
				T	TOE
				D	DEPRESSION
				L	LEVEL

SURFACE COMPOSITION (MUST EQUAL 100%)						
ROCK	COBBLE	GRAVEL	SOIL	VEG	ORG.	CWD

SOIL DESCRIPTION

HORIZON	DEPTH FROM 0cm	TEXTURE	% TOTAL COARSE FRAGMENTS
L	20		
F	~~18~~ 18		
H	8		
Bm1	14		
Bm2	32	SiL	
DOP	50	DOP = DEPTH OF PIT (DISTANCE FROM ZERO)	

ZERO →

COMMENTS/ SITE DISTURBANCES/ SAMPLES

Cryosol

PAGE	OF

VEGETATION COVER	%
TREE LAYER (A)	
SHRUB LAYER (B)	
HERB LAYER (C)	
MOSS LAYER (D)	

WILDLIFE SIGN (SCAT, TRACKS, BROWSE, CALL, ENCOUNTER, DEN, ETC.)

TREE LAYER (A)

SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %	SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %
Pice mari	1	10					

SHRUB LAYER (B)

SPECIES	B1 (2m – 10m) %	B2 (<2m) %	SPECIES	B1 (2m – 10m) %	B2 (<2m) %
Salix sp		3			
Rhod Groe		~~[illegible]~~ 70			
Betu glan		2			

TREE REGENERATION <50cm

SPECIES	%	HEIGHT (cm)	SPECIES	%	HEIGHT (cm)

HERB LAYER (C) / MOSS LAYER / LICHEN LAYER

SPECIES	%	SPECIES	%	SPECIES	%	SPECIES	%	SPECIES	%
Equi Arve	60					hyle Spler		Clad Rand	
Vacc viti	25					Pleu Schr		Clad mit	
Empt Nigr	10								
Rubu cham	2								
Vacc uli.g	5								

DOMINANT TREE AGE EST. COUNT	DBH	HEIGHT	SUCCESSIONAL STAGE	STRUCTURAL STAGE

SITE SKETCH: (1 cm = _____)

PAGE	OF

ACCESS
CONSULTING GROUP

PROJECT ID:

WEATHER: Sunny +15

CWPT M26A
10m away from control plot

PLOT #: M26	SURVEYORS: MH DP	DATE: Aug 11, 2016	START TIME: 9:40	END TIME: 10:25
TYPE/ # OF SAMPLES: Salix, Ledum, Lichen, Blue berries, Soil		PHOTO #'S: 192 - 197		

GPS ZONE 08	E 0383009 N 6942748
ASPECT (%)	220
SLOPE (%)	3
ELEVATION	846

SOIL FEATURES		
SURFICIAL MATERIAL (ENTER CODE)		
DEPTH TO (cm)		
WATER TABLE	W	/
MOTTLES	M	/
ROOT REST. PAN	R	/
BEDROCK	B	/
FROZEN LAYER	F	/
CARBONATES	C	/
OTHER		

HUMUS FORM (ENTER X)		
MOR	MO	X
MORMODER	MM	
MODER	MD	
MULLMODER	MR	
MULL	MU	
SOIL COLOUR (ENTER X)		
DARK	D	
MEDIUM	M	X
LIGHT	L	
NOT APPLICABLE	N/A	

SOIL DRAINAGE		SMR	
VR	VERY RAPIDLY	A	VERY POOR
R	RAPIDLY	(B)	POOR
(W)	WELL	C	MEDIUM
MW	MODERATELY WEL	D	RICH
I	IMPERFECTLY	E	VERY RICH
P	POORLY	F	SALINE
VP	VERY POORLY	SNR	
SEEPAGE		0	VERY XERIC
P	PRESENT	1	XERIX
(A)	ABSENT	2	SUBXERIC
Open Water Present (%)		(3)	SUBMESIC
Plot	Polygon	4	MESIC
		5	SUBHYGRIC
ROCKY SUBSTRATES (%)		6	HYGRIC
COBBLES/ STONES		7	SUBHYDRIC
BEDROCK		8	HYDRIC
GULLIES IN POLYGON		9	AQUATIC

	Y	N
WITHIN MAIN PLOT		
BETWEEN PLOTS		

SITE CLASSIFICATION				
←UNIFORM TO VARIABLE →				
1	2	3	4	5

SURFACE SHAPE		MICROTOPOGRAPHY		PLOT POSITION MESO	
CV	CONCAVE	(SM)	SMOOTH	C	CREST
(CX)	CONVEX	MO	MOD. MOUNDED	UP	UPPER SLOPE
ST	STRAIGHT	ST	STRONGLY MOUNDED	(MS)	MID SLOPE
UN	UNDULATING	EX	EXTREMELY MOUNDED	LS	LOWER SLOPE
				T	TOE
				D	DEPRESSION
				L	LEVEL

SURFACE COMPOSITION (MUST EQUAL 100%)						
ROCK	COBBLE	GRAVEL	SOIL	VEG	ORG.	CWD

COMMENTS/ SITE DISTURBANCES/ SAMPLES

SOIL DESCRIPTION			
HORIZON	DEPTH FROM 0cm	TEXTURE	% TOTAL COARSE FRAGMENTS
L	14		
F	12		
H	3		
AH	11		
Bm1	24	LS	5%
Bm2	36	SiL	5%
DOP		DOP = DEPTH OF PIT (DISTANCE FROM ZERO)	

ZERO →

PAGE	OF

VEGETATION COVER	%
TREE LAYER (A)	
SHRUB LAYER (B)	
HERB LAYER (C)	
MOSS LAYER (D)	

WILDLIFE SIGN (SCAT, TRACKS, BROWSE, CALL, ENCOUNTER, DEN, ETC.)

TREE LAYER (A)

SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %	SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %
Pice Mari	✓	4					
Betu Neoa		<1					
Pop trem		<1					

SHRUB LAYER (B)

SPECIES	B1 (2m – 10m) %	B2 (<2m) %	SPECIES	B1 (2m – 10m) %	B2 (<2m) %
Salix glau.		4			
Rhod Groe		60			
Alnu cris		1			

TREE REGENERATION <50cm

SPECIES	%	HEIGHT (cm)	SPECIES	%	HEIGHT (cm)

HERB LAYER (C) / MOSS LAYER / LICHEN LAYER

SPECIES	%	SPECIES	%	SPECIES	%	SPECIES	%	SPECIES	%
Vacc ulig	30					Glow mass	20	clad rang	10
Empt Niga	10							Cladonia	15
Gaul livi	9							Clad stel	10

DOMINANT TREE AGE EST. COUNT	DBH	HEIGHT	SUCCESSIONAL STAGE	STRUCTURAL STAGE

SITE SKETCH: (1 cm = _____)

Just down slope of M26 (2010)
lots of Sb Snags

PAGE	OF

ACCESS
CONSULTING GROUP

PROJECT ID:

WEATHER: Sunny 20°C

PLOT #: M07b	SURVEYORS:	DATE:	START TIME: 10:50	END TIME: 12:00
TYPE/ # OF SAMPLES: Salix, ledum, blue berry, Liden, horsetail		PHOTO #'S: 198 - 202		

GPS ZONE 06	E 382128 N 6944211
ASPECT (%)	210
SLOPE (%)	3
ELEVATION	861

SOIL FEATURES		
SURFICIAL MATERIAL (ENTER CODE)	F	
DEPTH TO (cm)		
WATER TABLE	W	50
MOTTLES	M	/
ROOT REST. PAN	R	/
BEDROCK	B	/
FROZEN LAYER	F	64
CARBONATES	C	/
OTHER		

HUMUS FORM (ENTER X)		
MOR	(MO)	
MORMODER	MM	
MODER	(MD)	
MULLMODER	MR	
MULL	MU	
SOIL COLOUR (ENTER X)		
DARK	D	X
MEDIUM	M	
LIGHT	L	
NOT APPLICABLE	N/A	

SOIL DRAINAGE		SMR	
VR	VERY RAPIDLY	A	VERY POOR
R	RAPIDLY	B	POOR
W	WELL	(C)	MEDIUM
MW	MODERATELY WEL	(D)	RICH
(I)	IMPERFECTLY	E	VERY RICH
P 2	POORLY	F	SALINE
VP	VERY POORLY	SNR	
SEEPAGE		0	VERY XERIC
(P)	PRESENT	1	XERIX
A	ABSENT	2	SUBXERIC
Open Water Present (%)		3	SUBMESIC
Plot ✓	Polygon ✓	4	MESIC
		(5)	SUBHYGRIC
ROCKY SUBSTRATES (%)		(6)	HYGRIC
COBBLES/ STONES		7	SUBHYDRIC
BEDROCK		8	HYDRIC
GULLIES IN POLYGON		9	AQUATIC
	(Y) N		
WITHIN MAIN PLOT			
BETWEEN PLOTS			

SITE CLASSIFICATION				
←UNIFORM TO VARIABLE →				
1	2	3	(4)	5

SURFACE SHAPE		MICROTOPOGRAPHY		PLOT POSITION MESO	
(CV)	CONCAVE	SM	SMOOTH	C	CREST
CX	CONVEX	MO	MOD. MOUNDED	UP	UPPER SLOPE
ST	STRAIGHT	(ST)	STRONGLY MOUNDED	MS	MID SLOPE
(UN)	UNDULATING	EX	EXTREMELY MOUNDED	LS	LOWER SLOPE
SURFACE COMPOSITION (MUST EQUAL 100%)				T	TOE
ROCK / COBBLE / GRAVEL / SOIL / VEG / ORG. / CWD				(D)	DEPRESSION
				L	LEVEL

SOIL DESCRIPTION

HORIZON	DEPTH FROM 0cm	TEXTURE	% TOTAL COARSE FRAGMENTS
L	31		
F	29		
H	13		
ZERO →			
B_1	16	SiL	
B_2	29	SiL	3
DOP	64	DOP = DEPTH OF PIT (DISTANCE FROM ZERO)	

COMMENTS/ SITE DISTURBANCES/ SAMPLES

bench of stream bank
site selection based
on available species

Cryosol

PAGE	OF

VEGETATION COVER	%
TREE LAYER (A)	
SHRUB LAYER (B)	
HERB LAYER (C)	
MOSS LAYER (D)	

WILDLIFE SIGN (SCAT, TRACKS, BROWSE, CALL, ENCOUNTER, DEN, ETC.)

TREE LAYER (A)

SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %	SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %
Pice mari		7					

SHRUB LAYER (B)

SPECIES	B1 (2m – 10m) %	B2 (<2m) %	SPECIES	B1 (2m – 10m) %	B2 (<2m) %
Salix sp		30			
Rhodo groe		30			
Betu glan		<1			

TREE REGENERATION <50cm

SPECIES	%	HEIGHT (cm)	SPECIES	%	HEIGHT (cm)

HERB LAYER (C) / MOSS LAYER / LICHEN LAYER

SPECIES	%	SPECIES	%	SPECIES	%	SPECIES	%	SPECIES	%
Equi arve	27					Golev moss	30	clad vance	17
Arcto rub	15					Hyla splen	10	Stag rad	11
Rubu cham	2					Pleu Schr	10		
~~Viola~~									
Viba Ebdu	<1								
Vacc ulig	10								
Empet Nigr	15								

DOMINANT TREE AGE EST. COUNT	DBH	HEIGHT	SUCCESSIONAL STAGE	STRUCTURAL STAGE

SITE SKETCH: (1 cm = _____)

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ACCESS
CONSULTING GROUP

PROJECT ID:

WEATHER: Sunny / clouds

PLOT #: S09	SURVEYORS: MH DP	DATE: Aug 11, 2016	START TIME: 13:47	END TIME: 14:15
TYPE/ # OF SAMPLES: Salix, soil x1		PHOTO #'S: 203-206		

GPS ZONE 08	E 383249
	N 6944263
ASPECT (%)	125
SLOPE (%)	27
ELEVATION	938

SOIL FEATURES		
SURFICIAL MATERIAL (ENTER CODE)		
DEPTH TO (cm)		
WATER TABLE	W	/
MOTTLES	M	/
ROOT REST. PAN	R	/
BEDROCK	B	~~30~~ 15
FROZEN LAYER	F	
CARBONATES	C	
OTHER		

HUMUS FORM (ENTER X)		
MOR	MO	
MORMODER	MM	
MODER	MD	
MULLMODER	MR	
MULL	MU	
SOIL COLOUR (ENTER X)		
DARK	D	
MEDIUM	M	
LIGHT	L	
NOT APPLICABLE	N/A	

SOIL DRAINAGE		SMR	
VR	VERY RAPIDLY	A	VERY POOR
R	RAPIDLY	B	POOR
W	WELL	C	MEDIUM
MW	MODERATELY WEL	D	RICH
I	IMPERFECTLY	E	VERY RICH
P	POORLY	F	SALINE
VP	VERY POORLY	SNR	
SEEPAGE		0	VERY XERIC
P	PRESENT	1	XERIX
A	ABSENT	2	SUBXERIC
Open Water Present (%)		3	SUBMESIC
Plot	Polygon	4	MESIC
		5	SUBHYGRIC
ROCKY SUBSTRATES (%)		6	HYGRIC
COBBLES/ STONES		7	SUBHYDRIC
BEDROCK		8	HYDRIC
GULLIES IN POLYGON		9	AQUATIC

	Y	N
WITHIN MAIN PLOT		
BETWEEN PLOTS		

SITE CLASSIFICATION				
←UNIFORM TO VARIABLE →				
1	2	3	4	5

SURFACE SHAPE		MICROTOPOGRAPHY		PLOT POSITION MESO	
CV	CONCAVE	SM	SMOOTH	C	CREST
CX	CONVEX	MO	MOD. MOUNDED	UP	UPPER SLOPE
ST	STRAIGHT	ST	STRONGLY MOUNDED	MS	MID SLOPE
UN	UNDULATING	EX	EXTREMELY MOUNDED	LS	LOWER SLOPE
				T	TOE
				D	DEPRESSION
				L	LEVEL

SURFACE COMPOSITION (MUST EQUAL 100%)						
ROCK	COBBLE	GRAVEL	SOIL	VEG	ORG.	CWD

SOIL DESCRIPTION

HORIZON	DEPTH FROM 0cm	TEXTURE	% TOTAL COARSE FRAGMENTS
L	1		
AH	4		
B1	13	LS	
Br	20		100%
DOP	~~19~~ 21	DOP = DEPTH OF PIT (DISTANCE FROM ZERO)	

ZERO →

COMMENTS/ SITE DISTURBANCES/ SAMPLES

PAGE	OF

VEGETATION COVER	%
TREE LAYER (A)	
SHRUB LAYER (B)	
HERB LAYER (C)	
MOSS LAYER (D)	

WILDLIFE SIGN (SCAT, TRACKS, BROWSE, CALL, ENCOUNTER, DEN, ETC.)

TREE LAYER (A)

SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %	SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %
Pinu cont		6					
Pop trem		3					
Sali		1					

SHRUB LAYER (B)

SPECIES	B1 (2m – 10m) %	B2 (<2m) %	SPECIES	B1 (2m – 10m) %	B2 (<2m) %
Vibu edul					

TREE REGENERATION <50cm

SPECIES	%	HEIGHT (cm)	SPECIES	%	HEIGHT (cm)
Pinu cont	2				
Pop trem	4				

HERB LAYER (C) / MOSS LAYER / LICHEN LAYER

SPECIES	%	SPECIES	%	SPECIES	%	SPECIES	%	SPECIES	%
arcto uva.	7	Cala purp	3						
lena bore	3					Litter			
lupi arti	3								
Rosa acic	1								
Vac viti	1								

DOMINANT TREE AGE EST. COUNT	DBH	HEIGHT	SUCCESSIONAL STAGE	STRUCTURAL STAGE

SITE SKETCH: (1 cm = _____)

PAGE	OF

ACCESS
CONSULTING GROUP

PROJECT ID:

WEATHER: Sunny / Cloudy

PLOT #: M40	SURVEYORS: MH DP	DATE: Aug 11, 2016	START TIME: 16:00	END TIME: 15:00
TYPE/ # OF SAMPLES: Salix lectum Soil		PHOTO #'S: 207 - 211		

GPS ZONE	E 0384379 N 6947084
ASPECT (%)	
SLOPE (%)	
ELEVATION	817

SOIL FEATURES		
SURFICIAL MATERIAL (ENTER CODE)		
DEPTH TO (cm)		
WATER TABLE	W	/
MOTTLES	M	/
ROOT REST. PAN	R	/
BEDROCK	B	/
FROZEN LAYER	F	/
CARBONATES	C	/
OTHER		

HUMUS FORM (ENTER X)		
MOR	MO	
MORMODER	MM	
MODER	MD	
MULLMODER	MR	
MULL	MU	
SOIL COLOUR (ENTER X)		
DARK	D	
MEDIUM	M	
LIGHT	L	
NOT APPLICABLE	N/A	

SOIL DRAINAGE		SMR	
VR	VERY RAPIDLY	A	VERY POOR
R	RAPIDLY	B	POOR
W	WELL	C	MEDIUM
MW	MODERATELY WEL	D	RICH
I	IMPERFECTLY	E	VERY RICH
P	POORLY	F	SALINE
VP	VERY POORLY	SNR	
SEEPAGE		0	VERY XERIC
P	PRESENT	1	XERIX
A	ABSENT	2	SUBXERIC
Open Water Present (%)		3	SUBMESIC
Plot	Polygon	4	MESIC
		5	SUBHYGRIC
ROCKY SUBSTRATES (%)		6	HYGRIC
COBBLES/ STONES		7	SUBHYDRIC
BEDROCK		8	HYDRIC
GULLIES IN POLYGON		9	AQUATIC

	Y	N
WITHIN MAIN PLOT		
BETWEEN PLOTS		

SURFACE SHAPE		MICROTOPOGRAPHY		PLOT POSITION MESO	
CV	CONCAVE	SM	SMOOTH	CR	CREST
CX	CONVEX	MO	MOD. MOUNDED	UP	UPPER SLOPE
ST	STRAIGHT	ST	STRONGLY MOUNDED	MS	MID SLOPE
UN	UNDULATING	EX	EXTREMELY MOUNDED	LS	LOWER SLOPE
SURFACE COMPOSITION (MUST EQUAL 100%)				T	TOE
ROCK / COBBLE / GRAVEL / SOIL / VEG / ORG. / CWD				D	DEPRESSION
				L	LEVEL

SITE CLASSIFICATION				
←UNIFORM TO VARIABLE →				
1	2	3	4	5

COMMENTS/ SITE DISTURBANCES/ SAMPLES

SOIL DESCRIPTION			
HORIZON	DEPTH FROM 0cm	TEXTURE	% TOTAL COARSE FRAGMENTS
L	2		
F	1		
AH	2		
Bm1	16	LS	15
Bm2	36	S	30
DOP		DOP = DEPTH OF PIT (DISTANCE FROM ZERO)	

ZERO

PAGE	OF

VEGETATION COVER	%
TREE LAYER (A)	
SHRUB LAYER (B)	
HERB LAYER (C)	
MOSS LAYER (D)	

WILDLIFE SIGN (SCAT, TRACKS, BROWSE, CALL, ENCOUNTER, DEN, ETC.)

TREE LAYER (A)

SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %	SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %
Pice Pinu Cont		15					
Salix Glau		3					
Pop trem		3					

SHRUB LAYER (B)

SPECIES	B1 (2m – 10m) %	B2 (<2m) %	SPECIES	B1 (2m – 10m) %	B2 (<2m) %
Rhod Gres	7				

TREE REGENERATION <50cm

SPECIES	%	HEIGHT (cm)	SPECIES	%	HEIGHT (cm)
Pice Glau	1				

HERB LAYER (C)						MOSS LAYER		LICHEN LAYER	
SPECIES	%	SPECIES	%	SPECIES	%	SPECIES	%	SPECIES	%
Vac Viti	15					Poly Juni	25	cladonia	5

DOMINANT TREE AGE EST. COUNT	DBH	HEIGHT	SUCCESSIONAL STAGE	STRUCTURAL STAGE

SITE SKETCH: (1 cm = _____)

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ACCESS
CONSULTING GROUP

PROJECT ID:

WEATHER: Sunny

wpt C02A

PLOT #: C02	SURVEYORS: MH DP	DATE: Aug 11, 2016	START TIME: 17:00	END TIME: 17:35
TYPE/ # OF SAMPLES: Salix, horsetail, ledum, Lichen		PHOTO #'S: 212-215		

GPS ZONE	E 384479 N 6947183
ASPECT (%)	360
SLOPE (%)	7
ELEVATION	799

SOIL FEATURES		
SURFICIAL MATERIAL (ENTER CODE)		
DEPTH TO (cm)		
WATER TABLE	W	35
MOTTLES	M	—
ROOT REST. PAN	R	—
BEDROCK	B	—
FROZEN LAYER	F	<1m
CARBONATES	C	—
OTHER		—

HUMUS FORM (ENTER X)		
MOR	MO	
MORMODER	MM	
MODER	MD	
MULLMODER	MR	
MULL	MU	
SOIL COLOUR (ENTER X)		
DARK	D	
MEDIUM	M	
LIGHT	L	
NOT APPLICABLE	N/A	

SOIL DRAINAGE		SMR	
VR	VERY RAPIDLY	A	VERY POOR
R	RAPIDLY	B	POOR
W	WELL	C	MEDIUM
MW	MODERATELY WEL	D	RICH
I	IMPERFECTLY	E	VERY RICH
P	POORLY	F	SALINE
VP	VERY POORLY	SNR	
SEEPAGE		0	VERY XERIC
P	PRESENT	1	XERIX
A	ABSENT	2	SUBXERIC
Open Water Present (%)		3	SUBMESIC
Plot	Polygon	4	MESIC
		5	SUBHYGRIC
ROCKY SUBSTRATES (%)		6	HYGRIC
COBBLES/ STONES		7	SUBHYDRIC
BEDROCK		8	HYDRIC
GULLIES IN POLYGON		9	AQUATIC

	Y	N
WITHIN MAIN PLOT		
BETWEEN PLOTS		

SURFACE SHAPE		MICROTOPOGRAPHY		PLOT POSITION MESO	
CV	CONCAVE	SM	SMOOTH	C	CREST
CX	CONVEX	MO	MOD. MOUNDED	UP	UPPER SLOPE
ST	STRAIGHT	ST	STRONGLY MOUNDED	MS	MID SLOPE
UN	UNDULATING	EX	EXTREMELY MOUNDED	LS	LOWER SLOPE
				T	TOE
				D	DEPRESSION
				L	LEVEL

SURFACE COMPOSITION (MUST EQUAL 100%)						
ROCK	COBBLE	GRAVEL	SOIL	VEG	ORG.	CWD

SITE CLASSIFICATION				
←UNIFORM TO VARIABLE →				
1	2	3	4	5

SOIL DESCRIPTION

HORIZON	DEPTH FROM 0cm	TEXTURE	% TOTAL COARSE FRAGMENTS
L			
F	12 17		
H	12		
B1	13	SL	10
B2	24	LS	30
DOP		DOP = DEPTH OF PIT (DISTANCE FROM ZERO)	

ZERO →

Crystal

COMMENTS/ SITE DISTURBANCES/ SAMPLES

near edge of riparian and old barn

PAGE	OF

VEGETATION COVER	%
TREE LAYER (A)	
SHRUB LAYER (B)	
HERB LAYER (C)	
MOSS LAYER (D)	

WILDLIFE SIGN (SCAT, TRACKS, BROWSE, CALL, ENCOUNTER, DEN, ETC.)

TREE LAYER (A)

SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %	SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %
Pice Mari		9					

SHRUB LAYER (B)

SPECIES	B1 (2m – 10m) %	B2 (<2m) %	SPECIES	B1 (2m – 10m) %	B2 (<2m) %
Sali glau		9			
Rhodo Groe		20			

TREE REGENERATION <50cm

SPECIES	%	HEIGHT (cm)	SPECIES	%	HEIGHT (cm)

HERB LAYER (C)						MOSS LAYER		LICHEN LAYER	
SPECIES	%	SPECIES	%	SPECIES	%	SPECIES	%	SPECIES	%
EQui Arve.	11	Grass	3			Pleu Schr	80	~~Pell~~	
Emp Nig	6					Glao moss	10	Pelt alth	3
Pedi frig	1							Cled rand	4
Vacc uliti	5							Sipha nel	2

DOMINANT TREE AGE EST. COUNT	DBH	HEIGHT	SUCCESSIONAL STAGE	STRUCTURAL STAGE

SITE SKETCH: (1 cm = _____)

PAGE	OF

ACCESS
CONSULTING GROUP

PROJECT ID:

WEATHER:

WPt 519A

WOS 503

PLOT #: 519	SURVEYORS: MH DP	DATE: Aug 12, 2015	START TIME: 9:00	END TIME: 10:15
TYPE/ # OF SAMPLES: Salix, ledum, Soil		PHOTO #'S: 216 - 219		

GPS ZONE 08	E 387293 N 6945767
ASPECT (%)	320
SLOPE (%)	10
ELEVATION	981

SOIL FEATURES		
SURFICIAL MATERIAL (ENTER CODE)		
DEPTH TO (cm)		
WATER TABLE	W	/
MOTTLES	M	/
ROOT REST. PAN	R	/
BEDROCK	B	X 40
FROZEN LAYER	F	/
CARBONATES	C	/
OTHER		

HUMUS FORM (ENTER X)		
MOR	MO	X
MORMODER	MM	
MODER	MD	
MULLMODER	MR	
MULL	MU	
SOIL COLOUR (ENTER X)		
DARK	D	
MEDIUM	M	
LIGHT	L	
NOT APPLICABLE	N/A	

SOIL DRAINAGE		SMR	
VR	VERY RAPIDLY	A	VERY POOR
R	RAPIDLY	B	POOR
W	WELL	C	MEDIUM
MW	MODERATELY WEL	D	RICH
I	IMPERFECTLY	E	VERY RICH
P	POORLY	F	SALINE
VP	VERY POORLY	SNR	
SEEPAGE		0	VERY XERIC
P	PRESENT	1	XERIX
A	ABSENT	2	SUBXERIC
Open Water Present (%)		3	SUBMESIC
Plot X	Polygon X	4	MESIC
		5	SUBHYGRIC
ROCKY SUBSTRATES (%)		6	HYGRIC
COBBLES/ STONES	5	7	SUBHYDRIC
BEDROCK		8	HYDRIC
GULLIES IN POLYGON		9	AQUATIC

	Y	N
WITHIN MAIN PLOT		
BETWEEN PLOTS		

SITE CLASSIFICATION				
←UNIFORM TO VARIABLE →				
1	2	3	4	5

SURFACE SHAPE		MICROTOPOGRAPHY		PLOT POSITION MESO	
CV	CONCAVE	SM	SMOOTH	C	CREST
CX	CONVEX	MO	MOD. MOUNDED	UP	UPPER SLOPE
ST	STRAIGHT	ST	STRONGLY MOUNDED	MS	MID SLOPE
UN	UNDULATING	EX	EXTREMELY MOUNDED	LS	LOWER SLOPE
				T	TOE
				D	DEPRESSION
				L	LEVEL

SURFACE COMPOSITION (MUST EQUAL 100%)						
ROCK	COBBLE	GRAVEL	SOIL	VEG	ORG.	CWD

SOIL DESCRIPTION

HORIZON	DEPTH FROM 0cm	TEXTURE	% TOTAL COARSE FRAGMENTS
L	5		
F	3		
Ash	3		
Bm1	14	~~LS~~ SL	5
Bm2	34	LS	5
DOP	40	DOP = DEPTH OF PIT (DISTANCE FROM ZERO)	

ZERO →

COMMENTS/ SITE DISTURBANCES/ SAMPLES

Old burn
Near sfc bedrock

PAGE	OF

VEGETATION COVER	%
TREE LAYER (A)	
SHRUB LAYER (B)	
HERB LAYER (C)	
MOSS LAYER (D)	

WILDLIFE SIGN (SCAT, TRACKS, BROWSE, CALL, ENCOUNTER, DEN, ETC.)

TREE LAYER (A)

SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %	SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %
Betu Neoa.		12		Pop trem	1		
Pinu cont		<1					
Sali sp		5					

SHRUB LAYER (B)

SPECIES	B1 (2m – 10m) %	B2 (<2m) %	SPECIES	B1 (2m – 10m) %	B2 (<2m) %
Rhod Groe.		25			
~~Ati~~					

TREE REGENERATION <50cm

SPECIES	%	HEIGHT (cm)	SPECIES	%	HEIGHT (cm)
Pice ~~sp~~ mari	1				
Pinu cont	2				

HERB LAYER (C) / MOSS LAYER / LICHEN LAYER

SPECIES	%	SPECIES	%	SPECIES	%	SPECIES	%	SPECIES	%
Rosa acic	1					~~Juni~~		Pelt apth	3
Vacc viti	4					Poly Juni	9	Cladonia.	4
Lyco cedar	2								
Liea bore.	1								
Cham angu								Litter	

DOMINANT TREE AGE EST. COUNT	DBH	HEIGHT	SUCCESSIONAL STAGE	STRUCTURAL STAGE

SITE SKETCH: (1 cm = _____)

PAGE	OF

ACCESS
CONSULTING GROUP

PROJECT ID:

WEATHER:

PLOT #: S04	SURVEYORS: MH' DP	DATE: Aug 12, 2016	START TIME: 10:00	END TIME: 11:45
TYPE/ # OF SAMPLES: Soils, Soil		PHOTO #'S: 220 - 224		

GPS ZONE	E 0383509
06	N 6945970
ASPECT (%)	270
SLOPE (%)	35
ELEVATION	962

SOIL FEATURES		
SURFICIAL MATERIAL (ENTER CODE)		
DEPTH TO (cm)		
WATER TABLE	W	—
MOTTLES	M	—
ROOT REST. PAN	R	
BEDROCK	B	32
FROZEN LAYER	F	
CARBONATES	C	
OTHER		

HUMUS FORM (ENTER X)		
MOR	MO	
MORMODER	MM	
MODER	MD	
MULLMODER	MR	
MULL	MU	
SOIL COLOUR (ENTER X)		
DARK	D	
MEDIUM	M	
LIGHT	L	
NOT APPLICABLE	N/A	

SOIL DRAINAGE		SMR	
VR	VERY RAPIDLY	A	VERY POOR
R	RAPIDLY	B	POOR
W	WELL	C	MEDIUM
MW	MODERATELY WEL	D	RICH
I	IMPERFECTLY	E	VERY RICH
P	POORLY	F	SALINE
VP	VERY POORLY	SNR	
SEEPAGE		0	VERY XERIC
P	PRESENT	1	XERIX
A	ABSENT	2	SUBXERIC
Open Water Present (%)		3	SUBMESIC
Plot	Polygon	4	MESIC
		5	SUBHYGRIC
ROCKY SUBSTRATES (%)		6	HYGRIC
COBBLES/ STONES		7	SUBHYDRIC
BEDROCK		8	HYDRIC
GULLIES IN POLYGON		9	AQUATIC

	Y	N
WITHIN MAIN PLOT		
BETWEEN PLOTS		

SITE CLASSIFICATION				
←UNIFORM TO VARIABLE →				
1	2	3	4	5

SURFACE SHAPE		MICROTOPOGRAPHY		PLOT POSITION MESO	
CV	CONCAVE	SM	SMOOTH	C	CREST
CX	CONVEX	MO	MOD. MOUNDED	UP	UPPER SLOPE
ST	STRAIGHT	ST	STRONGLY MOUNDED	MS	MID SLOPE
UN	UNDULATING	EX	EXTREMELY MOUNDED	LS	LOWER SLOPE
SURFACE COMPOSITION (MUST EQUAL 100%)				T	TOE
ROCK	COBBLE	GRAVEL	SOIL	VEG	ORG.	CWD	D	DEPRESSION
							L	LEVEL

SOIL DESCRIPTION			
HORIZON	DEPTH FROM 0cm	TEXTURE	% TOTAL COARSE FRAGMENTS
L	2		
AH	5		
Bm1	19	LS	3
Rock	weathered bedrock		
DOP	32	DOP = DEPTH OF PIT (DISTANCE FROM ZERO)	

ZERO →

COMMENTS/ SITE DISTURBANCES/ SAMPLES

Old burn

PAGE	OF

VEGETATION COVER	%
TREE LAYER (A)	
SHRUB LAYER (B)	
HERB LAYER (C)	
MOSS LAYER (D)	

WILDLIFE SIGN (SCAT, TRACKS, BROWSE, CALL, ENCOUNTER, DEN, ETC.)

TREE LAYER (A)

SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %	SPECIES	A1 (>10m) %	A2 (2m – 10m) %	A3 SUPPRESSED %
Pinu cont		5		Betu Neoa			
Pop trem		2					
Salix		6					

SHRUB LAYER (B)

SPECIES	B1 (2m – 10m) %	B2 (<2m) %	SPECIES	B1 (2m – 10m) %	B2 (<2m) %
Alnu crisp					
Betu neoa		1			

TREE REGENERATION <50cm

SPECIES	%	HEIGHT (cm)	SPECIES	%	HEIGHT (cm)
SW					

HERB LAYER (C)						MOSS LAYER		LICHEN LAYER	
SPECIES	%	SPECIES	%	SPECIES	%	SPECIES	%	SPECIES	%
Vacc vitis	5	Grass	2			Poly Sum	5	Pelt apth	2

DOMINANT TREE AGE EST. COUNT	DBH	HEIGHT	SUCCESSIONAL STAGE	STRUCTURAL STAGE

SITE SKETCH: (1 cm = _____)

APPENDIX G

2016 VEGETATION AND SOIL LAB ANALYSIS RESULTS

Minto Explorations Ltd.
ATTN: Minto Environment
Suite 2100- 510 West Georgia St
Vancouver BC V6B 0M3

Date Received: 13-AUG-16
Report Date: 24-AUG-16 18:03 (MT)
Version: FINAL

Client Phone: 604-759-0860

Certificate of Analysis

Lab Work Order #: L1813304

Project P.O. #: 222458
Job Reference: MIN 16-07 (2016 MINTO VMU)
C of C Numbers:
Legal Site Desc:

Ariel McDonnell, B.Sc.
Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813304-1	L1813304-2	L1813304-3	L1813304-4	L1813304-5
	Description	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled Date	09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16
	Sampled Time					
	Client ID	C01-BM1	C01-BM2	S03-BM1	S03-BM2	S11-BM1
Grouping	**Analyte**					
SOIL						
Physical Tests	Moisture (%)	11.0	13.2	6.75	5.94	15.2
	pH (1:2 soil:water) (pH)	5.57	6.24	6.46	7.02	5.99
Particle Size	% Sand (2.0mm - 0.05mm) (%)	43.1	34.4	45.9	69.7	24.5
	% Silt (0.05mm - 2um) (%)	46.7	53.1	45.7	22.4	60.6
	% Clay (<2um) (%)	10.2	12.5	8.39	7.83	14.9
	Texture	Loam	Silt loam	Loam	Sandy loam	Silt loam
Plant Available Nutrients	Cation Exchange Capacity (meq/100g)	11.1	15.6	15.8	8.53	18.8
Metals	Aluminum (Al) (mg/kg)	12700	18200	15800	13000	18800
	Antimony (Sb) (mg/kg)	0.32	0.41	0.51	0.56	0.37
	Arsenic (As) (mg/kg)	5.08	5.69	5.04	7.81	6.82
	Barium (Ba) (mg/kg)	113	146	242	124	252
	Beryllium (Be) (mg/kg)	0.53	0.62	0.37	0.40	0.38
	Bismuth (Bi) (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Boron (B) (mg/kg)	<5.0	<5.0	<5.0	<5.0	<5.0
	Cadmium (Cd) (mg/kg)	0.055	0.088	0.082	0.045	0.049
	Calcium (Ca) (mg/kg)	4030	5110	4900	3920	3780
	Chromium (Cr) (mg/kg)	24.2	34.6	30.2	27.5	34.0
	Cobalt (Co) (mg/kg)	9.14	10.7	8.03	8.68	7.35
	Copper (Cu) (mg/kg)	14.1	20.0	17.0	27.0	12.7
	Iron (Fe) (mg/kg)	22200	26200	23800	25000	25000
	Lead (Pb) (mg/kg)	5.52	7.08	6.15	5.52	7.23
	Lithium (Li) (mg/kg)	11.6	14.8	9.4	8.3	10.9
	Magnesium (Mg) (mg/kg)	4190	5300	4860	5550	4690
	Manganese (Mn) (mg/kg)	396	426	335	311	190
	Mercury (Hg) (mg/kg)	0.0163	0.0280	0.0104	0.0122	0.0141
	Molybdenum (Mo) (mg/kg)	0.34	0.40	0.66	0.55	0.62
	Nickel (Ni) (mg/kg)	13.8	21.0	21.7	23.8	18.6
	Phosphorus (P) (mg/kg)	676	721	770	683	300
	Potassium (K) (mg/kg)	670	990	760	1520	620
	Selenium (Se) (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Silver (Ag) (mg/kg)	<0.10	<0.10	<0.10	<0.10	<0.10
	Sodium (Na) (mg/kg)	140	173	113	101	91
	Strontium (Sr) (mg/kg)	31.9	35.7	26.7	19.9	28.2
	Thallium (Tl) (mg/kg)	0.070	0.106	0.086	0.104	0.094
	Tin (Sn) (mg/kg)	<2.0	<2.0	<2.0	<2.0	<2.0
	Titanium (Ti) (mg/kg)	613	829	528	588	534

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813304-6	L1813304-7	L1813304-8	L1813304-9	L1813304-10
	Description	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled Date	09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16
	Sampled Time					
	Client ID	S11-BM2	S02-B	S02-BM1	S02-BM2	S01-BM1
Grouping	**Analyte**					
SOIL						
Physical Tests	Moisture (%)	6.74	13.6	8.17	6.31	14.3
	pH (1:2 soil:water) (pH)	5.22	6.00	6.36	6.50	5.14
Particle Size	% Sand (2.0mm - 0.05mm) (%)	46.3	28.7	19.0	40.1	34.2
	% Silt (0.05mm - 2um) (%)	38.8	64.4	73.8	44.7	47.5
	% Clay (<2um) (%)	14.9	6.91	7.19	15.2	18.2
	Texture	Loam	Silt loam	Silt loam	Loam	Loam
Plant Available Nutrients	Cation Exchange Capacity (meq/100g)	19.9	7.05	10.4	6.61	22.8
Metals	Aluminum (Al) (mg/kg)	19100	12300	14300	22100	25900
	Antimony (Sb) (mg/kg)	0.68	0.31	0.58	0.67	0.59
	Arsenic (As) (mg/kg)	7.41	3.36	8.43	13.3	10.6
	Barium (Ba) (mg/kg)	193	179	140	190	292
	Beryllium (Be) (mg/kg)	0.56	0.29	0.37	0.58	0.59
	Bismuth (Bi) (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Boron (B) (mg/kg)	<5.0	<5.0	<5.0	<5.0	<5.0
	Cadmium (Cd) (mg/kg)	0.035	0.112	0.051	0.052	0.054
	Calcium (Ca) (mg/kg)	3850	3300	3080	4050	5090
	Chromium (Cr) (mg/kg)	40.1	27.3	33.9	44.4	49.1
	Cobalt (Co) (mg/kg)	9.33	7.31	7.21	9.94	11.8
	Copper (Cu) (mg/kg)	33.4	7.33	12.7	25.9	21.4
	Iron (Fe) (mg/kg)	27600	21700	25100	31500	32000
	Lead (Pb) (mg/kg)	5.31	6.42	6.91	7.30	7.84
	Lithium (Li) (mg/kg)	10.2	8.1	11.4	10.4	13.1
	Magnesium (Mg) (mg/kg)	5180	3680	5300	6360	6590
	Manganese (Mn) (mg/kg)	167	279	197	254	388
	Mercury (Hg) (mg/kg)	0.0234	0.0080	0.0119	0.0160	0.0255
	Molybdenum (Mo) (mg/kg)	0.42	0.74	0.99	0.80	0.71
	Nickel (Ni) (mg/kg)	25.4	14.0	19.4	28.7	25.7
	Phosphorus (P) (mg/kg)	233	589	320	344	290
	Potassium (K) (mg/kg)	570	1320	1750	2020	790
	Selenium (Se) (mg/kg)	<0.20	<0.20	0.20	0.35	<0.20
	Silver (Ag) (mg/kg)	<0.10	0.14	0.10	<0.10	<0.10
	Sodium (Na) (mg/kg)	126	104	104	151	196
	Strontium (Sr) (mg/kg)	29.7	20.9	22.4	27.0	37.0
	Thallium (Tl) (mg/kg)	0.070	0.078	0.090	0.110	0.135
	Tin (Sn) (mg/kg)	<2.0	<2.0	<2.0	<2.0	<2.0
	Titanium (Ti) (mg/kg)	793	630	802	997	1150

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813304-11	L1813304-12	L1813304-13	L1813304-14	L1813304-15
	Description	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled Date	09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16
	Sampled Time					
	Client ID	S01-BM2	S01-BC	S18-BM1	S18-BM2	S15-BM1
Grouping	**Analyte**					
SOIL						
Physical Tests	Moisture (%)	14.5	7.08	13.3	7.74	11.8
	pH (1:2 soil:water) (pH)	5.85	8.18	7.11	7.57	7.10
Particle Size	% Sand (2.0mm - 0.05mm) (%)	45.1	40.5	56.7	61.7	58.0
	% Silt (0.05mm - 2um) (%)	41.2	53.4	30.8	28.6	30.3
	% Clay (<2um) (%)	13.7	6.16	12.6	9.63	11.6
	Texture	Loam	Silt loam	Sandy loam	Sandy loam	Sandy loam
Plant Available Nutrients	Cation Exchange Capacity (meq/100g)	17.5	13.4	20.2	8.43	10.6
Metals	Aluminum (Al) (mg/kg)	18700	15500	14300	10500	12300
	Antimony (Sb) (mg/kg)	0.61	0.66	0.47	0.67	0.59
	Arsenic (As) (mg/kg)	9.75	7.49	7.00	7.27	5.82
	Barium (Ba) (mg/kg)	231	213	393	199	197
	Beryllium (Be) (mg/kg)	0.54	0.43	0.48	0.40	0.39
	Bismuth (Bi) (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Boron (B) (mg/kg)	<5.0	<5.0	<5.0	<5.0	<5.0
	Cadmium (Cd) (mg/kg)	0.054	0.097	0.261	0.135	0.102
	Calcium (Ca) (mg/kg)	5190	16300	5250	5000	4870
	Chromium (Cr) (mg/kg)	37.8	31.9	28.1	25.1	27.7
	Cobalt (Co) (mg/kg)	11.5	10.6	16.5	7.99	7.93
	Copper (Cu) (mg/kg)	29.4	29.8	22.9	23.8	48.3
	Iron (Fe) (mg/kg)	29400	24600	23700	21500	21000
	Lead (Pb) (mg/kg)	6.60	5.52	5.68	5.46	5.20
	Lithium (Li) (mg/kg)	10.5	10.0	10.4	6.8	6.6
	Magnesium (Mg) (mg/kg)	5970	6310	3910	4110	3820
	Manganese (Mn) (mg/kg)	468	506	1440	396	372
	Mercury (Hg) (mg/kg)	0.0308	0.0383	0.0266	0.0340	0.0271
	Molybdenum (Mo) (mg/kg)	0.60	0.51	0.56	0.69	0.54
	Nickel (Ni) (mg/kg)	28.9	26.2	25.8	20.4	18.5
	Phosphorus (P) (mg/kg)	379	614	466	779	698
	Potassium (K) (mg/kg)	730	720	490	830	1000
	Selenium (Se) (mg/kg)	0.23	<0.20	0.28	<0.20	<0.20
	Silver (Ag) (mg/kg)	<0.10	<0.10	0.11	<0.10	<0.10
	Sodium (Na) (mg/kg)	220	298	151	240	274
	Strontium (Sr) (mg/kg)	37.5	54.9	29.0	29.4	34.5
	Thallium (Tl) (mg/kg)	0.073	0.068	0.057	0.078	0.077
	Tin (Sn) (mg/kg)	<2.0	<2.0	<2.0	<2.0	<2.0
	Titanium (Ti) (mg/kg)	955	863	453	536	723

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813304-16	L1813304-17	L1813304-18	L1813304-19	L1813304-20
	Description	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled Date	09-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16
	Sampled Time					
	Client ID	S15-BM2	M29-BM1	M29-BM2	S08-BM1	S08-BM2
Grouping	**Analyte**					
SOIL						
Physical Tests	Moisture (%)	10.6	19.6	21.8	14.6	13.7
	pH (1:2 soil:water) (pH)	7.54	7.01	7.13	6.34	6.66
Particle Size	% Sand (2.0mm - 0.05mm) (%)	65.3	22.3	22.8	53.9	47.8
	% Silt (0.05mm - 2um) (%)	26.7	55.1	57.4	36.4	41.4
	% Clay (<2um) (%)	8.07	22.6	19.7	9.66	10.8
	Texture	Sandy loam	Silt loam	Silt loam	Sandy loam	Loam
Plant Available Nutrients	Cation Exchange Capacity (meq/100g)	6.83	25.2	26.8	17.2	18.1
Metals	Aluminum (Al) (mg/kg)	10300	19700	19800	12200	13600
	Antimony (Sb) (mg/kg)	0.72	0.92	0.93	0.42	0.54
	Arsenic (As) (mg/kg)	10.0	9.94	10.1	5.78	7.10
	Barium (Ba) (mg/kg)	188	305	346	215	251
	Beryllium (Be) (mg/kg)	0.39	0.73	0.74	0.35	0.41
	Bismuth (Bi) (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Boron (B) (mg/kg)	<5.0	<5.0	<5.0	<5.0	<5.0
	Cadmium (Cd) (mg/kg)	0.139	0.255	0.282	0.084	0.099
	Calcium (Ca) (mg/kg)	4930	7060	8560	5380	5890
	Chromium (Cr) (mg/kg)	26.7	39.1	40.1	23.7	28.5
	Cobalt (Co) (mg/kg)	7.56	15.3	14.5	8.65	9.83
	Copper (Cu) (mg/kg)	35.9	39.0	41.6	40.2	42.8
	Iron (Fe) (mg/kg)	20900	33400	34600	21500	23200
	Lead (Pb) (mg/kg)	4.94	9.48	9.24	5.16	5.90
	Lithium (Li) (mg/kg)	5.9	11.2	11.4	6.9	7.7
	Magnesium (Mg) (mg/kg)	3540	7960	7910	4070	4700
	Manganese (Mn) (mg/kg)	388	762	696	451	559
	Mercury (Hg) (mg/kg)	0.0354	0.0468	0.0495	0.0286	0.0386
	Molybdenum (Mo) (mg/kg)	0.64	0.97	0.91	0.50	0.49
	Nickel (Ni) (mg/kg)	19.1	38.9	39.3	17.1	22.6
	Phosphorus (P) (mg/kg)	766	899	935	563	647
	Potassium (K) (mg/kg)	1010	2210	2020	520	530
	Selenium (Se) (mg/kg)	0.21	0.22	0.29	0.22	0.34
	Silver (Ag) (mg/kg)	<0.10	0.10	0.13	<0.10	<0.10
	Sodium (Na) (mg/kg)	322	586	605	187	189
	Strontium (Sr) (mg/kg)	34.8	54.5	62.1	35.3	37.7
	Thallium (Tl) (mg/kg)	0.080	0.169	0.148	0.057	0.054
	Tin (Sn) (mg/kg)	<2.0	<2.0	<2.0	<2.0	<2.0
	Titanium (Ti) (mg/kg)	665	993	1020	636	650

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813304-21	L1813304-22	L1813304-23	L1813304-24	L1813304-25
	Description	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled Date	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16
	Sampled Time					
	Client ID	S16-BM1	S16-BM2	S17-AH	S17-BM1	S17-BM2
Grouping	**Analyte**					
SOIL						
Physical Tests	Moisture (%)	28.4	13.3	14.8	6.98	3.40
	pH (1:2 soil:water) (pH)	6.24	6.53	5.24	4.99	5.06
Particle Size	% Sand (2.0mm - 0.05mm) (%)	38.8	60.0	55.9	42.8	72.1
	% Silt (0.05mm - 2um) (%)	48.0	29.1	37.2	45.4	21.4
	% Clay (<2um) (%)	13.2	10.9	6.81	11.8	6.52
	Texture	Loam	Sandy loam	Sandy loam	Loam	Sandy loam
Plant Available Nutrients	Cation Exchange Capacity (meq/100g)	29.4 DLHC	13.9	16.4	17.7	9.60
Metals	Aluminum (Al) (mg/kg)	17700	13400	16300	24200	22900
	Antimony (Sb) (mg/kg)	0.57	0.64	0.24	0.52	0.23
	Arsenic (As) (mg/kg)	5.86	6.95	5.59	11.0	10.8
	Barium (Ba) (mg/kg)	234	192	191	149	156
	Beryllium (Be) (mg/kg)	0.49	0.46	0.32	0.48	0.51
	Bismuth (Bi) (mg/kg)	<0.20	<0.20	0.21	<0.20	0.34
	Boron (B) (mg/kg)	<5.0	<5.0	<5.0	<5.0	<5.0
	Cadmium (Cd) (mg/kg)	0.126	0.182	0.074	0.064	0.046
	Calcium (Ca) (mg/kg)	7380	5040	2720	1650	2310
	Chromium (Cr) (mg/kg)	29.0	26.0	17.4	34.9	15.7
	Cobalt (Co) (mg/kg)	9.32	9.46	10.1	8.17	11.0
	Copper (Cu) (mg/kg)	132	98.9	221	274	930
	Iron (Fe) (mg/kg)	26200	25700	26200	31600	42500
	Lead (Pb) (mg/kg)	6.49	5.83	5.57	7.08	4.26
	Lithium (Li) (mg/kg)	10.4	8.4	8.9	10.9	9.7
	Magnesium (Mg) (mg/kg)	6920	5700	4790	6300	9650
	Manganese (Mn) (mg/kg)	419	526	359	310	605
	Mercury (Hg) (mg/kg)	0.0414	0.0302	0.0168	0.0202	0.0106
	Molybdenum (Mo) (mg/kg)	0.60	0.91	0.55	0.81	0.44
	Nickel (Ni) (mg/kg)	20.9	22.9	13.6	22.3	13.1
	Phosphorus (P) (mg/kg)	713	758	1190	390	621
	Potassium (K) (mg/kg)	3160	2080	990	2120	7550
	Selenium (Se) (mg/kg)	0.27	<0.20	<0.20	<0.20	<0.20
	Silver (Ag) (mg/kg)	0.12	<0.10	0.45	0.35	0.13
	Sodium (Na) (mg/kg)	160	136	77	87	82
	Strontium (Sr) (mg/kg)	43.5	29.3	27.5	22.7	56.6
	Thallium (Tl) (mg/kg)	0.185	0.136	0.174	0.188	0.465
	Tin (Sn) (mg/kg)	<2.0	<2.0	<2.0	<2.0	<2.0
	Titanium (Ti) (mg/kg)	895	764	1120	1200	2000

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813304-26	L1813304-27	L1813304-28	L1813304-29	L1813304-30
	Description	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled Date	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16	09-AUG-16
	Sampled Time					
	Client ID	S07-B	S06-B	S05-BM1	S05-BM2	S21-BM2
Grouping	**Analyte**					
SOIL						
Physical Tests	Moisture (%)	20.8	18.6	22.5	20.8	10.2
	pH (1:2 soil:water) (pH)	5.94	5.20	5.75	5.99	5.77
Particle Size	% Sand (2.0mm - 0.05mm) (%)	46.6	58.5	55.5	50.2	42.9
	% Silt (0.05mm - 2um) (%)	42.4	35.1	37.2	41.5	42.7
	% Clay (<2um) (%)	11.0	6.40	7.29	8.21	14.4
	Texture	Loam	Sandy loam	Sandy loam	Loam	Loam
Plant Available Nutrients	Cation Exchange Capacity (meq/100g)	4.62	19.7	21.5	19.0	17.6
Metals	Aluminum (Al) (mg/kg)	17300	23800	13200	14200	15400
	Antimony (Sb) (mg/kg)	0.45	0.38	0.37	0.48	0.56
	Arsenic (As) (mg/kg)	9.74	9.62	7.61	9.19	8.74
	Barium (Ba) (mg/kg)	379	222	273	315	225
	Beryllium (Be) (mg/kg)	0.53	0.43	0.36	0.49	0.51
	Bismuth (Bi) (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Boron (B) (mg/kg)	<5.0	<5.0	<5.0	<5.0	<5.0
	Cadmium (Cd) (mg/kg)	0.075	0.067	0.058	0.108	0.050
	Calcium (Ca) (mg/kg)	5130	1520	5100	6450	4870
	Chromium (Cr) (mg/kg)	30.1	23.3	24.7	28.3	33.1
	Cobalt (Co) (mg/kg)	10.2	8.89	9.82	11.9	10.7
	Copper (Cu) (mg/kg)	694	761	122	117	26.8
	Iron (Fe) (mg/kg)	29400	38700	25000	27700	25400
	Lead (Pb) (mg/kg)	7.49	7.25	6.12	7.13	6.36
	Lithium (Li) (mg/kg)	8.7	12.2	6.9	9.0	10.3
	Magnesium (Mg) (mg/kg)	4810	7080	5060	5930	5330
	Manganese (Mn) (mg/kg)	424	353	386	503	420
	Mercury (Hg) (mg/kg)	0.0297	0.0192	0.0265	0.0283	0.0230
	Molybdenum (Mo) (mg/kg)	2.54	4.95	2.02	1.92	0.57
	Nickel (Ni) (mg/kg)	19.3	17.7	20.6	25.8	23.7
	Phosphorus (P) (mg/kg)	712	676	796	777	395
	Potassium (K) (mg/kg)	860	3450	620	730	620
	Selenium (Se) (mg/kg)	0.58	0.32	0.51	0.56	<0.20
	Silver (Ag) (mg/kg)	0.15	0.34	<0.10	<0.10	<0.10
	Sodium (Na) (mg/kg)	169	73	212	223	203
	Strontium (Sr) (mg/kg)	40.4	16.8	40.2	47.7	31.6
	Thallium (Tl) (mg/kg)	0.092	0.205	0.074	0.100	0.074
	Tin (Sn) (mg/kg)	<2.0	<2.0	<2.0	<2.0	<2.0
	Titanium (Ti) (mg/kg)	783	1320	788	879	752

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813304-31	L1813304-32	L1813304-33	L1813304-34	L1813304-35
	Description	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled Date	09-AUG-16	10-AUG-16	09-AUG-16	11-AUG-16	11-AUG-16
	Sampled Time					
	Client ID	S22-BM1	S23-B	S24-BM1	M80-BM1	M80-BM2
Grouping	**Analyte**					
SOIL						
Physical Tests	Moisture (%)	8.44	17.3	14.4	8.75	3.37
	pH (1:2 soil:water) (pH)	6.34	5.94	6.10	4.64	5.27
Particle Size	% Sand (2.0mm - 0.05mm) (%)	19.4	44.2	23.4	56.0	93.7
	% Silt (0.05mm - 2um) (%)	72.7	43.5	60.1	30.8	2.89
	% Clay (<2um) (%)	7.88	12.3	16.5	13.2	3.41
	Texture	Silt loam	Loam	Silt loam	Sandy loam	Sand
Plant Available Nutrients	Cation Exchange Capacity (meq/100g)	11.3	8.73	20.0	16.5	6.73
Metals	Aluminum (Al) (mg/kg)	12200	12500	18800	19500	9160
	Antimony (Sb) (mg/kg)	0.60	0.46	0.41	0.63	0.75
	Arsenic (As) (mg/kg)	9.70	8.92	7.57	8.80	5.89
	Barium (Ba) (mg/kg)	130	306	264	129	70.5
	Beryllium (Be) (mg/kg)	0.34	0.48	0.41	0.28	0.21
	Bismuth (Bi) (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Boron (B) (mg/kg)	<5.0	<5.0	<5.0	<5.0	<5.0
	Cadmium (Cd) (mg/kg)	0.055	0.078	0.055	0.099	0.089
	Calcium (Ca) (mg/kg)	2710	4760	4130	2090	2170
	Chromium (Cr) (mg/kg)	31.2	27.6	37.1	35.6	25.1
	Cobalt (Co) (mg/kg)	6.81	9.61	7.97	7.75	6.02
	Copper (Cu) (mg/kg)	12.2	634	13.5	24.6	17.0
	Iron (Fe) (mg/kg)	22900	23700	25600	28600	19900
	Lead (Pb) (mg/kg)	6.34	7.22	7.73	5.91	3.66
	Lithium (Li) (mg/kg)	9.9	7.2	11.8	8.8	4.0
	Magnesium (Mg) (mg/kg)	4760	3940	4830	4170	2340
	Manganese (Mn) (mg/kg)	218	360	219	209	202
	Mercury (Hg) (mg/kg)	0.0107	0.0237	0.0125	0.0128	0.0054
	Molybdenum (Mo) (mg/kg)	0.97	2.10	0.66	0.92	0.58
	Nickel (Ni) (mg/kg)	18.4	16.3	19.9	19.4	18.1
	Phosphorus (P) (mg/kg)	332	719	317	432	381
	Potassium (K) (mg/kg)	1630	650	710	750	490
	Selenium (Se) (mg/kg)	0.23	0.56	<0.20	<0.20	<0.20
	Silver (Ag) (mg/kg)	0.11	0.15	<0.10	<0.10	<0.10
	Sodium (Na) (mg/kg)	97	135	93	85	59
	Strontium (Sr) (mg/kg)	19.3	32.4	29.2	19.2	19.4
	Thallium (Tl) (mg/kg)	0.084	0.067	0.103	0.075	<0.050
	Tin (Sn) (mg/kg)	<2.0	<2.0	<2.0	<2.0	<2.0
	Titanium (Ti) (mg/kg)	694	552	640	830	551

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813304-36	L1813304-37	L1813304-38	L1813304-39	L1813304-40
	Description	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled Date	11-AUG-16	11-AUG-16	11-AUG-16	11-AUG-16	11-AUG-16
	Sampled Time					
	Client ID	M26-BM1	M26-BM2	C02-B1	S09-B1	M07B-B1
Grouping	**Analyte**					
SOIL						
Physical Tests	Moisture (%)	16.8	17.0	15.7	10.5	34.1
	pH (1:2 soil:water) (pH)	6.59	6.95	6.90	5.64	5.91
Particle Size	% Sand (2.0mm - 0.05mm) (%)	29.7	26.6	60.7	64.9	64.2
	% Silt (0.05mm - 2um) (%)	41.6	43.6	30.6	29.1	27.3
	% Clay (<2um) (%)	28.7	29.8	8.67	6.04	8.43
	Texture	Clay loam	Clay loam	Sandy loam	Sandy loam	Sandy loam
Plant Available Nutrients	Cation Exchange Capacity (meq/100g)	29.8 DLHC	29.6 DLHC	13.6	15.8	25.6
Metals	Aluminum (Al) (mg/kg)	25800	26200	16100	25300	12700
	Antimony (Sb) (mg/kg)	0.54	0.61	0.45	0.21	0.34
	Arsenic (As) (mg/kg)	8.96	8.58	8.12	5.87	3.08
	Barium (Ba) (mg/kg)	259	299	199	298	310
	Beryllium (Be) (mg/kg)	0.91	1.03	0.30	0.50	0.45
	Bismuth (Bi) (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Boron (B) (mg/kg)	<5.0	<5.0	<5.0	<5.0	<5.0
	Cadmium (Cd) (mg/kg)	0.034	0.029	0.054	0.089	0.085
	Calcium (Ca) (mg/kg)	5520	6060	4080	5720	7830
	Chromium (Cr) (mg/kg)	50.4	52.4	27.9	16.2	22.0
	Cobalt (Co) (mg/kg)	15.5	12.6	8.42	10.4	7.93
	Copper (Cu) (mg/kg)	34.6	41.3	25.5	11.6	48.4
	Iron (Fe) (mg/kg)	33900	33500	24700	37600	20000
	Lead (Pb) (mg/kg)	9.67	10.2	5.50	6.81	4.65
	Lithium (Li) (mg/kg)	12.2	14.1	9.5	9.3	6.8
	Magnesium (Mg) (mg/kg)	7260	7350	4680	8910	4020
	Manganese (Mn) (mg/kg)	737	452	200	384	308
	Mercury (Hg) (mg/kg)	0.0264	0.0320	0.0156	0.0072	0.0335
	Molybdenum (Mo) (mg/kg)	0.46	0.40	0.66	0.38	0.25
	Nickel (Ni) (mg/kg)	21.7	21.3	19.1	10.6	17.0
	Phosphorus (P) (mg/kg)	250	230	243	1190	411
	Potassium (K) (mg/kg)	1210	1200	590	1080	830
	Selenium (Se) (mg/kg)	<0.20	0.23	<0.20	<0.20	0.33
	Silver (Ag) (mg/kg)	<0.10	0.10	<0.10	<0.10	<0.10
	Sodium (Na) (mg/kg)	237	240	126	275	116
	Strontium (Sr) (mg/kg)	51.4	54.5	23.8	60.7	53.6
	Thallium (Tl) (mg/kg)	0.097	0.106	0.060	0.081	0.064
	Tin (Sn) (mg/kg)	<2.0	<2.0	<2.0	<2.0	<2.0
	Titanium (Ti) (mg/kg)	1200	1160	838	1540	768

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813304-41	L1813304-42	L1813304-43	L1813304-44
	Description	SOIL	SOIL	SOIL	SOIL
	Sampled Date	11-AUG-16	12-AUG-16	12-AUG-16	12-AUG-16
	Sampled Time				
	Client ID	M07B-B2	S04-BM1	S19-BM1	S19-BM2
Grouping	**Analyte**				
SOIL					
Physical Tests	Moisture (%)	40.4	7.65	12.4	3.48
	pH (1:2 soil:water) (pH)	5.65	5.08	5.25	5.18
Particle Size	% Sand (2.0mm - 0.05mm) (%)	49.4	50.7	20.5	79.1
	% Silt (0.05mm - 2um) (%)	43.6	36.1	65.6	16.2
	% Clay (<2um) (%)	7.04	13.2	14.0	4.62
	Texture	Loam / Sandy loam	Loam	Silt loam	Loamy sand
Plant Available Nutrients	Cation Exchange Capacity (meq/100g)	63.0 DLHC	17.8	19.8	11.5
Metals	Aluminum (Al) (mg/kg)	9320	25100	26400	20100
	Antimony (Sb) (mg/kg)	0.27	0.52	0.69	0.15
	Arsenic (As) (mg/kg)	2.91	11.4	14.0	4.32
	Barium (Ba) (mg/kg)	271	164	266	141
	Beryllium (Be) (mg/kg)	0.32	0.52	0.49	0.31
	Bismuth (Bi) (mg/kg)	<0.20	<0.20	0.22	<0.20
	Boron (B) (mg/kg)	<5.0	<5.0	<5.0	<5.0
	Cadmium (Cd) (mg/kg)	0.085	0.035	0.063	0.022
	Calcium (Ca) (mg/kg)	6420	1810	2080	3020
	Chromium (Cr) (mg/kg)	16.6	31.2	41.3	13.4
	Cobalt (Co) (mg/kg)	6.58	8.63	11.3	10.8
	Copper (Cu) (mg/kg)	31.3	15.2	41.8	11.3
	Iron (Fe) (mg/kg)	15600	33300	39800	34800
	Lead (Pb) (mg/kg)	3.40	7.92	11.0	3.55
	Lithium (Li) (mg/kg)	4.6	12.8	18.0	8.2
	Magnesium (Mg) (mg/kg)	2830	6900	6510	9290
	Manganese (Mn) (mg/kg)	253	315	424	530
	Mercury (Hg) (mg/kg)	0.0266	0.0131	0.0134	<0.0050
	Molybdenum (Mo) (mg/kg)	0.28	0.80	1.84	0.45
	Nickel (Ni) (mg/kg)	13.4	19.3	18.7	7.26
	Phosphorus (P) (mg/kg)	485	368	855	1140
	Potassium (K) (mg/kg)	710	1670	1240	5870
	Selenium (Se) (mg/kg)	0.29	<0.20	<0.20	<0.20
	Silver (Ag) (mg/kg)	<0.10	<0.10	<0.10	<0.10
	Sodium (Na) (mg/kg)	104	94	104	97
	Strontium (Sr) (mg/kg)	46.5	31.1	25.5	17.8
	Thallium (Tl) (mg/kg)	<0.050	0.121	0.138	0.204
	Tin (Sn) (mg/kg)	<2.0	<2.0	<2.0	<2.0
	Titanium (Ti) (mg/kg)	553	912	880	1420

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813304-1	L1813304-2	L1813304-3	L1813304-4	L1813304-5
	Description	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled Date	09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16
	Sampled Time					
	Client ID	C01-BM1	C01-BM2	S03-BM1	S03-BM2	S11-BM1
Grouping	**Analyte**					
SOIL						
Metals	Uranium (U) (mg/kg)	1.12	1.14	0.377	0.449	0.379
	Vanadium (V) (mg/kg)	54.2	62.8	58.2	53.3	62.6
	Zinc (Zn) (mg/kg)	37.7	56.8	39.6	43.3	39.8
	Zirconium (Zr) (mg/kg)	5.2	8.6	2.5	3.6	1.3

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813304-6	L1813304-7	L1813304-8	L1813304-9	L1813304-10
	Description	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled Date	09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16
	Sampled Time					
	Client ID	S11-BM2	S02-B	S02-BM1	S02-BM2	S01-BM1
Grouping	**Analyte**					
SOIL						
Metals	Uranium (U) (mg/kg)	0.923	0.344	0.540	0.625	0.982
	Vanadium (V) (mg/kg)	70.7	55.6	59.2	77.7	88.4
	Zinc (Zn) (mg/kg)	44.9	34.8	45.3	48.4	50.1
	Zirconium (Zr) (mg/kg)	12.2	2.6	3.7	8.4	5.2

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813304-11	L1813304-12	L1813304-13	L1813304-14	L1813304-15
	Description	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled Date	09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16
	Sampled Time					
	Client ID	S01-BM2	S01-BC	S18-BM1	S18-BM2	S15-BM1
Grouping	**Analyte**					
SOIL						
Metals	Uranium (U) (mg/kg)	0.720	0.410	0.880	0.513	0.565
	Vanadium (V) (mg/kg)	71.3	60.4	55.2	47.9	50.1
	Zinc (Zn) (mg/kg)	50.8	48.9	38.3	49.3	43.5
	Zirconium (Zr) (mg/kg)	7.8	3.4	<1.0	4.8	5.1

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813304-16	L1813304-17	L1813304-18	L1813304-19	L1813304-20
	Description	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled Date	09-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16
	Sampled Time					
	Client ID	S15-BM2	M29-BM1	M29-BM2	S08-BM1	S08-BM2
Grouping	**Analyte**					
SOIL						
Metals	Uranium (U) (mg/kg)	0.514	0.933	1.24	1.15	1.40
	Vanadium (V) (mg/kg)	48.8	68.6	71.7	51.6	56.2
	Zinc (Zn) (mg/kg)	46.3	81.3	81.6	37.7	42.1
	Zirconium (Zr) (mg/kg)	4.8	9.6	8.0	2.0	3.1

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813304-21	L1813304-22	L1813304-23	L1813304-24	L1813304-25
	Description	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled Date	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16
	Sampled Time					
	Client ID	S16-BM1	S16-BM2	S17-AH	S17-BM1	S17-BM2
Grouping	**Analyte**					
SOIL						
Metals	Uranium (U) (mg/kg)	1.30	0.943	0.371	0.529	0.557
	Vanadium (V) (mg/kg)	64.8	59.0	61.8	77.7	93.9
	Zinc (Zn) (mg/kg)	76.9	64.5	67.9	66.0	110
	Zirconium (Zr) (mg/kg)	4.2	3.4	1.0	4.9	4.9

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813304-26	L1813304-27	L1813304-28	L1813304-29	L1813304-30
	Description	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled Date	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16	09-AUG-16
	Sampled Time					
	Client ID	S07-B	S06-B	S05-BM1	S05-BM2	S21-BM2
Grouping	**Analyte**					
SOIL						
Metals	Uranium (U) (mg/kg)	0.976	0.391	0.953	1.17	0.661
	Vanadium (V) (mg/kg)	67.8	96.5	62.3	66.3	62.4
	Zinc (Zn) (mg/kg)	53.9	82.5	41.8	49.1	42.6
	Zirconium (Zr) (mg/kg)	3.0	1.3	3.2	4.9	6.7

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813304-31	L1813304-32	L1813304-33	L1813304-34	L1813304-35
	Description	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled Date	09-AUG-16	10-AUG-16	09-AUG-16	11-AUG-16	11-AUG-16
	Sampled Time					
	Client ID	S22-BM1	S23-B	S24-BM1	M80-BM1	M80-BM2
Grouping	**Analyte**					
SOIL						
Metals	Uranium (U) (mg/kg)	0.500	0.887	0.414	0.388	0.367
	Vanadium (V) (mg/kg)	56.3	55.0	66.0	73.3	50.0
	Zinc (Zn) (mg/kg)	42.2	45.3	42.6	41.6	31.5
	Zirconium (Zr) (mg/kg)	3.0	3.0	1.5	1.7	4.0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813304-36	L1813304-37	L1813304-38	L1813304-39	L1813304-40
	Description	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled Date	11-AUG-16	11-AUG-16	11-AUG-16	11-AUG-16	11-AUG-16
	Sampled Time					
	Client ID	M26-BM1	M26-BM2	C02-B1	S09-B1	M07B-B1
Grouping	**Analyte**					
SOIL						
Metals	Uranium (U) (mg/kg)	1.62	2.09	0.405	0.244	1.00
	Vanadium (V) (mg/kg)	95.8	98.6	65.8	102	61.1
	Zinc (Zn) (mg/kg)	43.5	40.6	36.1	114	42.7
	Zirconium (Zr) (mg/kg)	15.5	17.8	4.4	2.2	6.5

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813304-41	L1813304-42	L1813304-43	L1813304-44	
	Description	SOIL	SOIL	SOIL	SOIL	
	Sampled Date	11-AUG-16	12-AUG-16	12-AUG-16	12-AUG-16	
	Sampled Time					
	Client ID	M07B-B2	S04-BM1	S19-BM1	S19-BM2	
Grouping	**Analyte**					
SOIL						
Metals	Uranium (U) (mg/kg)	0.816	0.380	0.541	0.269	
	Vanadium (V) (mg/kg)	43.1	77.8	93.6	87.4	
	Zinc (Zn) (mg/kg)	33.3	60.6	67.7	84.8	
	Zirconium (Zr) (mg/kg)	3.8	3.5	3.9	1.7	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Duplicate	Strontium (Sr)	DUP-H	L1813304-1, -2, -3, -4, -5, -6, -7, -8

Qualifiers for Individual Parameters Listed:

Qualifier	Description
DLHC	Detection Limit Raised: Dilution required due to high concentration of test analyte(s).
DUP-H	Duplicate results outside ALS DQO, due to sample heterogeneity.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
CEC-SK	Soil	Cation Exchange Capacity (NH4OAC Extn)	CSSS(1978) 3.321/Comm Soil Sci 17(7)

Soil exchange sites are saturated with ammonium, then displaced with sodium. Ammonium in the extract is determined colorimetrically.

HG-200.2-CVAF-VA	Soil	Mercury in Soil by CVAFS	EPA 200.2/1631E (mod)

Soil samples are digested with nitric and hydrochloric acids, followed by analysis by CVAFS.

MET-200.2-CCMS-VA	Soil	Metals in Soil by CRC ICPMS	EPA 200.2/6020A (mod)

Soil samples are digested with nitric and hydrochloric acids, followed by analysis by CRC ICPMS.

Method Limitation: This method is not a total digestion technique. It is a very strong acid digestion that is intended to dissolve those metals that may be environmentally available. This method does not dissolve all silicate materials and may result in a partial extraction. depending on the sample matrix, for some metals, including, but not limited to Al, Ba, Be, Cr, Sr, Ti, Tl, and V.

MOISTURE-VA	Soil	Moisture content	ASTM D2974-00 Method A

This analysis is carried out gravimetrically by drying the sample at 105 C for a minimum of six hours.

PH-1:2-VA	Soil	pH in Soil (1:2 Soil:Water Extraction)	BC WLAP METHOD: PH, ELECTROMETRIC, SOIL

This analysis is carried out in accordance with procedures described in the pH, Electrometric in Soil and Sediment method - Section B Physical/Inorganic and Misc. Constituents, BC Environmental Laboratory Manual 2007. The procedure involves mixing the dried (at <60°C) and sieved (No. 10 / 2mm) sample with deionized/distilled water at a 1:2 ratio of sediment to water. The pH of the solution is then measured using a standard pH probe.

PSA-1-SK	Soil	Particle Size Analysis:Mini-Pipet Method	SSIR-51 Method 3.2.1

Dry, < 2 mm soil is treated with sodium hexametaphosphate to ensure complete dispersion of primary soil particles. The homogenized suspension is allowed to settle in accordance with Stoke's Law so that only clay particles remain in suspension.To determine the clay fraction, an aliquot of the clay suspension is removed, then dried and weighed. The sand fraction is determined by wet sieving the remaining suspension, then drying and weighing the sand retained on the sieve. The silt fraction is determined by calculation where % Silt = 100 - (%Sand+%Clay)

Reference:
Burt, R. (2009). Soil Survey Field and Laboratory Methods Manual. Soil Survey Investigations Report No. 5. Method 3.2.1.2.2. United States Department of Agriculture Natural Resources Conservation Service.

Kalra, Y.P., Maynard, D.G. 1991. Methods manual for forest soil and plant analysis. Forestry Canada. p. 42-45.

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
SK	ALS ENVIRONMENTAL - SASKATOON, SASKATCHEWAN, CANADA
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA

Chain of Custody Numbers:

Reference Information

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.
mg/kg - milligrams per kilogram based on dry weight of sample.
mg/kg wwt - milligrams per kilogram based on wet weight of sample.
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.
mg/L - milligrams per litre.
< - Less than.
D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Chain of Custody (COC) / Analytical Request Form

ALS Environmental

Canada Toll Free: 1 800 668 9878

www.alsglobal.com

L1813304-COFC

COC Number 14 -

Report To		Report Format / Distribution		Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)
Company:	Minto Explorations Ltd	Select Report Format:	☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3 pm - business days)
Contact:	Minto Environment - Coordinator	Quality Control (QC) Report with Report	☑ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address	2100-510 West Georgia St Vancouver, BC	☐ Criteria on Report - provide details below if box checked		E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
		Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX	E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge
Phone	604-799-4659	Email 1 or Fax	minto_environment@mintomine.com	Specify Date Required for E2, E or P
		Email 2	mheynen@accessconsulting.ca,mudycharme@accessconsulting.ca	**Analysis Request**

Invoice To		Invoice Distribution	
	Same as Report To ☑ Yes ☐ No	Select Invoice Distribution	☑ EMAIL ☐ MAIL ☐ FAX
	Copy of Invoice with Report ☑ Yes ☐ No	Email 1 or Fax	ap@mintomine.com
Company		Email 2	
Contact			

Project Information		Oil and Gas Required Fields (client use)	
ALS Quote #:		Approver ID	Cost Center:
Job #:	MIN 10-07 (2016 Minto VMU)	GL Account:	Routing Code:
PO / AFE	222458	Activity Code:	
LSD:		Location	
ALS Lab Work Order # (lab use only)		ALS Contact: Ariel McDonnell	Sampler:

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	MET-CCME+FULL-VA	MOISTURE VA	PSA-1-SK	GEC-SK	PREP DRY/GRIND-SK								Number of Containers
	C01-Bm1	09-Aug-16	-	Soil	R	R	R	R	R								
	C01-Bm2	09-Aug-16	-	Soil	R	R	R	R	R								
	S03-Bm1	09-Aug-16	-	Soil	R	R	R	R	R								
	S03-Bm2	09-Aug-16	-	Soil	R	R	R	R	R								
	S11-Bm1	09-Aug-16	-	Soil	R	R	R	R	R								
	S11-Bm2	09-Aug-16	-	Soil	R	R	R	R	R								
	S02-B	09-Aug-16	-	Soil	R	R	R	R	R								
	S02-Bm1	09-Aug-16	-	Soil	R	R	R	R	R								
	S02-Bm2	09-Aug-16	-	Soil	R	R	R	R	R								
	S01-Bm1	09-Aug-16	-	Soil	R	R	R	R	R								
	S01-Bm2	09-Aug-16	-	Soil	R	R	R	R	R								
	S01-BC	09-Aug-16	-	Soil	R	R	R	R	R								

Drinking Water (DW) Samples* (client use)	Special Instructions / Specify Criteria to add on report (client use)
Are samples taken from a Regulated DW System? ☐ Yes ☐ No	Vegetation tissue samples. Will require subsample & rinsing for some samples.
Are samples for human drinking water use? ☐ Yes ☐ No	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen	☐	SIF Observations	Yes ☐ No ☐
Ice packs	Yes ☑ No ☐	Custody seal intact	Yes ☐ No ☐
Cooling Initiated	☐		

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C
5			5.1, 3.3, 4.9, 3.6, 6

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: [signature]	Date: Aug 12/16	Time: 15:15	Received by: [signature]	Date: Aug 12/16	Time: 3:30pm	Received by: SHAYAN	Date: AUG 13	Time: 1300

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION WHITE - LABORATORY COPY YELLOW - CLIENT COPY

Failure to complete all sections of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

Chain of Custody (COC) / Analytical Request Form

ALS Environmental

Canada Toll Free: 1 800 668 9878

www.alsglobal.com

L1613304-COFC

COC Number 14 -

Report To		Report Format / Distribution		Select Service Level Below (Rush Turnaround Time (TAT) not available for all tests)
Company	Minto Explorations Ltd.	Select Report Format:	☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3 pm - business days)
Contact	Minto Environment - Coordinator	Quality Control (QC) Report with Report	☑ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address	2100-510 West Georgia St. Vancouver, BC	☐ Criteria on Report - provide details below if box checked		E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
		Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX	E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge
Phone:	604-758-4559	Email 1 or Fax	minto_environment@mintomine.com	Specify Date Required for E2, E or P:
		Email 2	mheynen@accessconsulting.ca, muducharme@accessconsulting.ca	**Analysis Request**

Invoice To	Same as Report To ☑ Yes ☐ No	Invoice Distribution	
	Copy of Invoice with Report ☑ Yes ☐ No	Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Company		Email 1 or Fax	ap@mintomine.com
Contact		Email 2	

Project Information		Oil and Gas Required Fields (client use)	
ALS Quote #:		Approver ID:	Cost Center:
Job #:	MIN 16-07 (2016 Minto VMU)	GL Account:	Routing Code:
PO / AFE:	222458	Activity Code:	
LSD:		Location:	
ALS Lab Work Order # (lab use only):		ALS Contact: Ariel McDonnell	Sampler:

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	MET-COME-FULL-VA	MOISTURE-VA	PSA-1-SK	CEC-SK	PREP-DRY/GRIND-SK	Number of Containers
	S18-Bm1	09-Aug-16	-	Soil	R	R	R	R	R	
	S18-Bm2	09-Aug-16	-	Soil	R	R	R	R	R	
	S15-Bm1	09-Aug-16	-	Soil	R	R	R	R	R	
	S15-Bm2	09-Aug-16	-	Soil	R	R	R	R	R	
	M29-Bm1	10-Aug-16	-	Soil	R	R	R	R	R	
	M29-Bm2	10-Aug-16	-	Soil	R	R	R	R	R	
	S08-Bm1	10-Aug-16	-	Soil	R	R	R	R	R	
	S08-Bm2	10-Aug-16	-	Soil	R	R	R	R	R	
	S10-Bm1	10-Aug-16	-	Soil	R	R	R	R	R	
	S10-Bm2	10-Aug-16	-	Soil	R	R	R	R	R	
	S17-Ah	10-Aug-16	-	Soil	R	R	R	R	R	
	S17-Bm1	10-Aug-16	-	Soil	R	R	R	R	R	

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report (client Use)
Are samples taken from a Regulated DW System? ☐ Yes ☐ No	Vegetation tissue samples. Will require subsample & rinsing for some samples.
Are samples for human drinking water use? ☐ Yes ☐ No	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen	☐	SIF Observations	Yes ☐ No ☐
Ice packs	Yes ☑ No ☐	Custody seal intact	Yes ☐ No ☐
Cooling Initiated	☐		

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C
5.0			5.1, 3.3, 4.9, 3.6, 8

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received by: Jenny Meng	Date: Aug-12-16	Time: 3:30pm	Received by: SHAYAN	Date: AUG 13	Time: 1300

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION WHITE - LABORATORY COPY YELLOW - CLIENT COPY

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the WEB - (ALS01 COC)

Chain of Custody (COC) / Analytical Request Form

ALS Environmental

Canada Toll Free: 1 800 668 9878

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L1813304-COFC

COC Number: 14 -

Report To		Report Format / Distribution		Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)
Company:	Minto Explorations Ltd	Select Report Format:	☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3 pm - business days)
Contact:	Minto Environment - Coordinator	Quality Control (QC) Report with Report:	☑ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address:	2100-510 West Georgia St Vancouver, BC	☐ Criteria on Report - provide details below if box checked		E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
		Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX	E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge
Phone:	604-759-4659	Email 1 or Fax	minto_environment@mintomine.com	Specify Date Required for E2, E or P:
		Email 2	mhaynen@accessconsulting.ca, mudycharme@accessconsulting.ca	

Invoice To		Invoice Distribution	
	Same as Report To ☑ Yes ☐ No	Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
	Copy of Invoice with Report ☑ Yes ☐ No		
Company:		Email 1 or Fax	ap@mintomine.com
Contact:		Email 2	

Project Information		Oil and Gas Required Fields (client use)	
ALS Quote #		Approver ID:	Cost Center:
Job #:	MIN 16-07 (2016 Minto VMU)	GL Account:	Routing Code:
PO / AFE	227458	Activity Code:	
LSD:		Location:	
ALS Lab Work Order # (lab use only)		ALS Contact: Ariel McDonnell	Sampler:

Analysis Request — Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	MET-CORE+FULL-VA	MOISTURE-VA	PSA-1-SK	CEC-SK	PREP-DRY/GRIND-SK	Number of Containers
	S17-Bm2	10-Aug-16	-	Soil	R	R	R	R	R	
	S07-B	10-Aug-16	-	Soil	R	R	R	R	R	
	S06-B	10-Aug-16	-	Soil	R	R	R	R	R	
	S05-Bm1	10-Aug-16	-	Soil	R	R	R	R	R	
	S05-Bm2	10-Aug-16	-	Soil	R	R	R	R	R	
	S21-Bm2	09-Aug-16	-	Soil	R	R	R	R	R	
	S22-Bm1	09-Aug-16	-	Soil	R	R	R	R	R	
	S23-B	10-Aug-16	-	Soil	R	R	R	R	R	
	S24-Bm1	09-Aug-16	-	Soil	R	R	R	R	R	
	M80-Bm1	11-Aug-16	-	Soil	R	R	R	R	R	
	M80-Bm2	11-Aug-16	-	Soil	R	R	R	R	R	
	M20-Bm1	11-Aug-16	-	Soil	R	R	R	R	R	

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report (client Use)
Are samples taken from a Regulated DW System? ☐ Yes ☐ No	Vegetation tissue samples. Will require subsample & rinsing for some samples.
Are samples for human drinking water use? ☐ Yes ☐ No	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen	☐	SIF Observations	Yes ☐ No ☐
Ice packs	Yes ☐ No ☐	Custody seal intact	Yes ☐ No ☐
Cooling Initiated	☐		

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
5.0			5.1, 3	3, 4.9	3.6, 6

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date	Time:	Received by: [signature]	Date: Aug-12-16	Time: 9:30AM	Received by: SHAUAN	Date: AUG.13	Time: 1300

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Chain of Custody (COC) / Analytical Request Form

ALS Environmental

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

L1813304-COFC

COC Number: 14 -

Report To		Report Format / Distribution		Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)
Company:	Minto Explorations Ltd	Select Report Format:	☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3 pm - business days)
Contact:	Minto Environment - Coordinator	Quality Control (QC) Report with Report	☑ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address:	2100-510 West Georgia St. Vancouver, BC	☐ Criteria on Report - provide details below if box checked		E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
		Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX	E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge
Phone:	604-752-4659	Email 1 or Fax	minto_environment@mintomine.com	Specify Date Required for E2, E or P:
		Email 2	mheynen@accessconsulting.ca muducharme@accessconsulting.ca	**Analysis Request**

Invoice To	Same as Report To ☑ Yes ☐ No	Invoice Distribution	
	Copy of Invoice with Report: ☑ Yes ☐ No	Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Company:		Email 1 or Fax	ap@mintomine.com
Contact:		Email 2	

Project Information		Oil and Gas Required Fields (client use)	
ALS Quote #:		Approver ID:	Cost Center:
Job #:	MIN 16-07 (2016 Minto VMU)	GL Account:	Routing Code:
PO / AFE:	222458	Activity Code:	
LSD:		Location:	
ALS Lab Work Order # (lab use only)		ALS Contact: Ariel McDonnell	Sampler:

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	MET-CCME-FULL-VA	MOISTURE-VA	PSA-1-SK	CEC-SK	PREP-DRY/GRIND-SK	Number of Containers
	M26-Bm2	11-Aug-16	-	Soil	R	R	R	R	R	
	C02-B1	11-Aug-16	-	Soil	R	R	R	R	R	
	S09-B1	11-Aug-16	-	Soil	R	R	R	R	R	
	M07b-B1	11-Aug-16	-	Soil	R	R	R	R	R	
	M07b-B2	11-Aug-16	-	Soil	R	R	R	R	R	
	S04-Bm1	12-Aug-16	-	Soil	R	R	R	R	R	
	S19-Bm1	12-Aug-16	-	Soil	R	R	R	R	R	
	S19-Bm2	12-Aug-16	-	Soil	R	R	R	R	R	
			-							
			-							
			-							
			-							

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report (client Use)
Are samples taken from a Regulated DW System? ☐ Yes ☐ No	Vegetation tissue samples. Will require subsample & rinsing for some samples.
Are samples for human drinking water use? ☐ Yes ☐ No	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen	☐	SIF Observations	Yes ☐ No ☐
Ice packs	Yes ☐ No ☐	Custody seal intact	Yes ☐ No ☐
Cooling Initiated	☐		

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
5.2			5.1, 3	3, 4.9	3.6, 6

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received by: Jeremy McCuy	Date: Aug-11-16	Time: 3:30pm	Received by: S HAUHN	Date: AUG-13	Time: 1300

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

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Minto Explorations Ltd.
ATTN: Minto Environment
Suite 2100- 510 West Georgia St
Vancouver BC V6B 0M3

Date Received: 13-AUG-16
Report Date: 16-NOV-16 17:56 (MT)
Version: FINAL REV. 3

Client Phone: 604-759-0860

Certificate of Analysis

Lab Work Order #: L1813330
Project P.O. #: 222458
Job Reference: MIN 16-07 (2016 MINTO VMU)
C of C Numbers:
Legal Site Desc:

Comments:

21-OCT-2016 Please note, the metals data for samples #99 and #100 have been corrected as a result of a recheck re-analysis. No other data modifications were made on this revised report.

16-NOV-2016 Please note, the metals data for samples #59 and #70 have been corrected as a result of a recheck re-analysis. No other data modifications were made on this revised report.

Ariel McDonnell, B.Sc.
Account Manager

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ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813330-1	L1813330-2	L1813330-3	L1813330-4	L1813330-5
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16
	Sampled Time					
	Client ID	C01-SALIX	C01-LICHEN	C01-HORSETAIL	C01-LEDUM	S03-SALIX
Grouping	**Analyte**					
TISSUE						
Physical Tests	% Moisture (%)	74.1	73.9	76.6	67.2	68.5
Metals	Aluminum (Al)-Total (mg/kg)	36.2	131	10.5	32.3	251
	Aluminum (Al)-Total (mg/kg wwt)	9.36	34.1	2.47	10.6	78.9
	Antimony (Sb)-Total (mg/kg)	<0.010	<0.010	<0.010	0.016	0.012
	Antimony (Sb)-Total (mg/kg wwt)	<0.0020	0.0025	<0.0020	0.0054	0.0037
	Arsenic (As)-Total (mg/kg)	<0.020	0.101	<0.020	<0.020	0.111
	Arsenic (As)-Total (mg/kg wwt)	<0.0040	0.0264	<0.0040	<0.0040	0.0349
	Barium (Ba)-Total (mg/kg)	62.0	14.4	175	57.9	103
	Barium (Ba)-Total (mg/kg wwt)	16.0	3.75	41.0	19.0	32.3
	Beryllium (Be)-Total (mg/kg)	0.011	<0.010	<0.010	<0.010	<0.010
	Beryllium (Be)-Total (mg/kg wwt)	0.0029	<0.0020	<0.0020	<0.0020	0.0025
	Bismuth (Bi)-Total (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Bismuth (Bi)-Total (mg/kg wwt)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Boron (B)-Total (mg/kg)	16.4	<1.0	10.7	21.2	12.1
	Boron (B)-Total (mg/kg wwt)	4.25	<0.20	2.51	6.93	3.81
	Cadmium (Cd)-Total (mg/kg)	4.30	0.0232	0.202	<0.0050	0.699
	Cadmium (Cd)-Total (mg/kg wwt)	1.11	0.0061	0.0473	0.0011	0.220
	Calcium (Ca)-Total (mg/kg)	16400	1640	14400	4930	28500
	Calcium (Ca)-Total (mg/kg wwt)	4250	429	3370	1620	8980
	Cesium (Cs)-Total (mg/kg)	<0.0050	0.0481	0.0841	<0.0050	0.0195
	Cesium (Cs)-Total (mg/kg wwt)	<0.0010	0.0126	0.0197	0.0016	0.0061
	Chromium (Cr)-Total (mg/kg)	0.062	0.180	<0.050	0.056	0.344
	Chromium (Cr)-Total (mg/kg wwt)	0.016	0.047	<0.010	0.018	0.108
	Cobalt (Co)-Total (mg/kg)	0.659	0.096	0.106	<0.020	0.380
	Cobalt (Co)-Total (mg/kg wwt)	0.171	0.0252	0.0248	0.0056	0.119
	Copper (Cu)-Total (mg/kg)	7.02	10.5	3.81	3.72	16.8
	Copper (Cu)-Total (mg/kg wwt)	1.82	2.74	0.893	1.22	5.30
	Iron (Fe)-Total (mg/kg)	61.3	193	28.9	40.1	440
	Iron (Fe)-Total (mg/kg wwt)	15.9	50.5	6.77	13.1	139
	Lead (Pb)-Total (mg/kg)	0.026	0.154	<0.020	0.025	0.101
	Lead (Pb)-Total (mg/kg wwt)	0.0067	0.0402	<0.0040	0.0082	0.0319
	Lithium (Li)-Total (mg/kg)	<0.50	<0.50	<0.50	<0.50	<0.50
	Lithium (Li)-Total (mg/kg wwt)	<0.10	<0.10	<0.10	<0.10	<0.10
	Magnesium (Mg)-Total (mg/kg)	4730	335	3150	1090	2890
	Magnesium (Mg)-Total (mg/kg wwt)	1220	87.6	738	359	909
	Manganese (Mn)-Total (mg/kg)	386	103	98.3	662	62.1
	Manganese (Mn)-Total (mg/kg wwt)	99.9	27.0	23.0	217	19.5

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813330-6	L1813330-7	L1813330-8	L1813330-9	L1813330-10
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16
	Sampled Time					
	Client ID	S03-LICHEN	S11-LICHEN	S11-SALIX	S02-SALIX	S02-LICHEN
Grouping	**Analyte**					
TISSUE						
Physical Tests	% Moisture (%)	72.2	68.1	73.3	66.5	62.1
Metals	Aluminum (Al)-Total (mg/kg)	946	294	29.6	150	1020
	Aluminum (Al)-Total (mg/kg wwt)	263	94.0	7.91	50.2	386
	Antimony (Sb)-Total (mg/kg)	0.034	0.021	<0.010	<0.010	0.038
	Antimony (Sb)-Total (mg/kg wwt)	0.0094	0.0067	<0.0020	<0.0020	0.0144
	Arsenic (As)-Total (mg/kg)	0.360	0.151	<0.020	0.058	0.398
	Arsenic (As)-Total (mg/kg wwt)	0.100	0.0482	0.0043	0.0193	0.151
	Barium (Ba)-Total (mg/kg)	39.5	40.3	103	60.6	33.8
	Barium (Ba)-Total (mg/kg wwt)	11.0	12.9	27.6	20.3	12.8
	Beryllium (Be)-Total (mg/kg)	0.023	0.010	0.011	<0.010	0.027
	Beryllium (Be)-Total (mg/kg wwt)	0.0063	0.0032	0.0029	<0.0020	0.0103
	Bismuth (Bi)-Total (mg/kg)	0.010	0.018	<0.010	<0.010	0.013
	Bismuth (Bi)-Total (mg/kg wwt)	0.0029	0.0058	<0.0020	<0.0020	0.0051
	Boron (B)-Total (mg/kg)	<1.0	<1.0	5.5	2.1	<1.0
	Boron (B)-Total (mg/kg wwt)	<0.20	<0.20	1.46	0.69	0.27
	Cadmium (Cd)-Total (mg/kg)	0.0363	0.0537	1.41	0.814	0.0618
	Cadmium (Cd)-Total (mg/kg wwt)	0.0101	0.0171	0.376	0.273	0.0235
	Calcium (Ca)-Total (mg/kg)	2110	3030	15500	20900	2480
	Calcium (Ca)-Total (mg/kg wwt)	586	967	4160	7010	942
	Cesium (Cs)-Total (mg/kg)	0.0873	0.125	0.0070	0.0156	0.174
	Cesium (Cs)-Total (mg/kg wwt)	0.0243	0.0399	0.0019	0.0052	0.0661
	Chromium (Cr)-Total (mg/kg)	1.38	0.396	0.054	0.259	1.44
	Chromium (Cr)-Total (mg/kg wwt)	0.384	0.126	0.014	0.087	0.548
	Cobalt (Co)-Total (mg/kg)	0.575	0.244	3.55	0.504	0.649
	Cobalt (Co)-Total (mg/kg wwt)	0.160	0.0778	0.949	0.169	0.246
	Copper (Cu)-Total (mg/kg)	52.6	35.7	5.67	16.4	64.0
	Copper (Cu)-Total (mg/kg wwt)	14.6	11.4	1.52	5.49	24.3
	Iron (Fe)-Total (mg/kg)	1500	467	62.8	234	1510
	Iron (Fe)-Total (mg/kg wwt)	418	149	16.8	78.5	574
	Lead (Pb)-Total (mg/kg)	0.349	0.182	0.020	0.048	0.420
	Lead (Pb)-Total (mg/kg wwt)	0.0971	0.0579	0.0055	0.0160	0.159
	Lithium (Li)-Total (mg/kg)	0.55	<0.50	<0.50	<0.50	0.72
	Lithium (Li)-Total (mg/kg wwt)	0.15	<0.10	<0.10	<0.10	0.27
	Magnesium (Mg)-Total (mg/kg)	620	414	2620	4830	751
	Magnesium (Mg)-Total (mg/kg wwt)	172	132	701	1620	285
	Manganese (Mn)-Total (mg/kg)	102	109	538	67.6	122
	Manganese (Mn)-Total (mg/kg wwt)	28.3	34.7	144	22.7	46.4

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813330-11	L1813330-12	L1813330-13	L1813330-14	L1813330-15
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16
	Sampled Time					
	Client ID	S01-LEDUM	S01-SALIX	S01-LICHEN	S18-SALIX	S18-LICHEN
Grouping	**Analyte**					
TISSUE						
Physical Tests	% Moisture (%)	63.0	63.5	66.5	59.4	68.6
Metals	Aluminum (Al)-Total (mg/kg)	37.7	52.5	278	36.4	1270
	Aluminum (Al)-Total (mg/kg wwt)	13.9	19.2	93.1	14.8	398
	Antimony (Sb)-Total (mg/kg)	<0.010	<0.010	0.013	<0.010	0.017
	Antimony (Sb)-Total (mg/kg wwt)	<0.0020	0.0028	0.0042	<0.0020	0.0055
	Arsenic (As)-Total (mg/kg)	<0.020	0.027	0.191	0.020	0.241
	Arsenic (As)-Total (mg/kg wwt)	0.0072	0.0099	0.0638	0.0082	0.0758
	Barium (Ba)-Total (mg/kg)	103	83.7	36.5	89.9	33.8
	Barium (Ba)-Total (mg/kg wwt)	37.9	30.5	12.2	36.5	10.6
	Beryllium (Be)-Total (mg/kg)	<0.010	<0.010	<0.010	<0.010	0.030
	Beryllium (Be)-Total (mg/kg wwt)	<0.0020	<0.0020	0.0027	<0.0020	0.0093
	Bismuth (Bi)-Total (mg/kg)	<0.010	<0.010	<0.010	<0.010	0.118
	Bismuth (Bi)-Total (mg/kg wwt)	<0.0020	<0.0020	0.0029	<0.0020	0.0371
	Boron (B)-Total (mg/kg)	5.4	4.5	<1.0	10.4	1.3
	Boron (B)-Total (mg/kg wwt)	1.98	1.64	<0.20	4.23	0.40
	Cadmium (Cd)-Total (mg/kg)	<0.0050	0.586	0.0344	2.11	0.133
	Cadmium (Cd)-Total (mg/kg wwt)	<0.0010	0.214	0.0115	0.859	0.0419
	Calcium (Ca)-Total (mg/kg)	6130	23200	2300	27800	2910
	Calcium (Ca)-Total (mg/kg wwt)	2270	8460	769	11300	912
	Cesium (Cs)-Total (mg/kg)	0.0453	0.0074	0.0825	0.0701	0.121
	Cesium (Cs)-Total (mg/kg wwt)	0.0167	0.0027	0.0276	0.0285	0.0381
	Chromium (Cr)-Total (mg/kg)	0.088	0.083	0.369	<0.050	0.674
	Chromium (Cr)-Total (mg/kg wwt)	0.033	0.030	0.124	0.011	0.212
	Cobalt (Co)-Total (mg/kg)	0.042	0.178	0.191	0.529	0.756
	Cobalt (Co)-Total (mg/kg wwt)	0.0154	0.0650	0.0638	0.215	0.237
	Copper (Cu)-Total (mg/kg)	8.50	8.96	49.5	20.0	788
	Copper (Cu)-Total (mg/kg wwt)	3.14	3.27	16.6	8.13	247
	Iron (Fe)-Total (mg/kg)	71.5	107	440	102	2920
	Iron (Fe)-Total (mg/kg wwt)	26.4	38.9	147	41.5	916
	Lead (Pb)-Total (mg/kg)	0.024	0.023	0.198	0.022	0.633
	Lead (Pb)-Total (mg/kg wwt)	0.0088	0.0084	0.0661	0.0088	0.199
	Lithium (Li)-Total (mg/kg)	<0.50	<0.50	<0.50	<0.50	0.62
	Lithium (Li)-Total (mg/kg wwt)	<0.10	<0.10	<0.10	<0.10	0.19
	Magnesium (Mg)-Total (mg/kg)	1570	2690	458	6200	970
	Magnesium (Mg)-Total (mg/kg wwt)	582	980	153	2520	305
	Manganese (Mn)-Total (mg/kg)	583	54.8	109	231	130
	Manganese (Mn)-Total (mg/kg wwt)	216	20.0	36.5	93.6	40.8

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1813330-16	L1813330-17	L1813330-18	L1813330-19	L1813330-20
Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
Sampled Date	09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16
Sampled Time					
Client ID	S18-LEDUM	S18-HORSETAIL	S15-SALIX	S15-LEDUM	S15-HORSETAIL
Grouping / **Analyte**					
TISSUE					
Physical Tests / % Moisture (%)	46.3	60.8	65.4	53.7	62.5
Metals / Aluminum (Al)-Total (mg/kg)	25.9	174	58.7	78.5	133
Aluminum (Al)-Total (mg/kg wwt)	13.9	68.1	20.3	36.4	49.9
Antimony (Sb)-Total (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
Antimony (Sb)-Total (mg/kg wwt)	0.0039	<0.0020	<0.0020	<0.0020	<0.0020
Arsenic (As)-Total (mg/kg)	<0.020	0.058	<0.020	0.025	0.030
Arsenic (As)-Total (mg/kg wwt)	0.0071	0.0227	0.0068	0.0115	0.0114
Barium (Ba)-Total (mg/kg)	58.7	98.0	32.0	73.6	102
Barium (Ba)-Total (mg/kg wwt)	31.5	38.4	11.1	34.1	38.4
Beryllium (Be)-Total (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
Beryllium (Be)-Total (mg/kg wwt)	<0.0020	0.0023	<0.0020	<0.0020	<0.0020
Bismuth (Bi)-Total (mg/kg)	<0.010	0.014	<0.010	<0.010	<0.010
Bismuth (Bi)-Total (mg/kg wwt)	0.0021	0.0057	<0.0020	0.0030	0.0035
Boron (B)-Total (mg/kg)	12.3	14.9	2.7	11.7	10.2
Boron (B)-Total (mg/kg wwt)	6.61	5.84	0.92	5.43	3.82
Cadmium (Cd)-Total (mg/kg)	<0.0050	0.0893	1.06	0.0068	0.148
Cadmium (Cd)-Total (mg/kg wwt)	0.0025	0.0350	0.367	0.0031	0.0554
Calcium (Ca)-Total (mg/kg)	3850	15500	14200	5830	12100
Calcium (Ca)-Total (mg/kg wwt)	2060	6060	4910	2700	4550
Cesium (Cs)-Total (mg/kg)	0.0232	0.268	0.103	0.0270	0.246
Cesium (Cs)-Total (mg/kg wwt)	0.0125	0.105	0.0358	0.0125	0.0925
Chromium (Cr)-Total (mg/kg)	<0.050	0.105	<0.050	0.051	0.083
Chromium (Cr)-Total (mg/kg wwt)	0.012	0.041	0.014	0.024	0.031
Cobalt (Co)-Total (mg/kg)	0.020	0.304	0.865	0.048	0.308
Cobalt (Co)-Total (mg/kg wwt)	0.0108	0.119	0.300	0.0221	0.116
Copper (Cu)-Total (mg/kg)	20.3	112	27.3	46.1	72.9
Copper (Cu)-Total (mg/kg wwt)	10.9	43.9	9.46	21.3	27.4
Iron (Fe)-Total (mg/kg)	79.3	422	148	197	318
Iron (Fe)-Total (mg/kg wwt)	42.6	166	51.1	91.0	119
Lead (Pb)-Total (mg/kg)	<0.020	0.141	0.031	0.040	0.074
Lead (Pb)-Total (mg/kg wwt)	0.0098	0.0555	0.0106	0.0184	0.0277
Lithium (Li)-Total (mg/kg)	<0.50	<0.50	<0.50	<0.50	<0.50
Lithium (Li)-Total (mg/kg wwt)	<0.10	<0.10	<0.10	<0.10	<0.10
Magnesium (Mg)-Total (mg/kg)	1130	1270	5140	1660	2380
Magnesium (Mg)-Total (mg/kg wwt)	609	500	1780	769	894
Manganese (Mn)-Total (mg/kg)	172	200	169	381	378
Manganese (Mn)-Total (mg/kg wwt)	92.1	78.3	58.5	177	142

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813330-21	L1813330-22	L1813330-23	L1813330-24	L1813330-25
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16
	Sampled Time					
	Client ID	S08-SALIX	S08-LEDUM	S08-LICHEN	S08-BLUE BERRIES	M29-SALIX
Grouping	**Analyte**					
TISSUE						
Physical Tests	% Moisture (%)	61.5	49.6	60.5	85.0	62.7
Metals	Aluminum (Al)-Total (mg/kg)	176	114	1590	10.8	88.9
	Aluminum (Al)-Total (mg/kg wwt)	67.7	57.6	629	1.62	33.1
	Antimony (Sb)-Total (mg/kg)	<0.010	<0.010	0.023	<0.010	<0.010
	Antimony (Sb)-Total (mg/kg wwt)	<0.0020	<0.0020	0.0092	<0.0020	<0.0020
	Arsenic (As)-Total (mg/kg)	0.041	0.027	0.333	<0.020	0.039
	Arsenic (As)-Total (mg/kg wwt)	0.0159	0.0137	0.132	<0.0040	0.0144
	Barium (Ba)-Total (mg/kg)	16.0	99.4	35.1	8.72	18.7
	Barium (Ba)-Total (mg/kg wwt)	6.14	50.1	13.9	1.31	6.96
	Beryllium (Be)-Total (mg/kg)	<0.010	<0.010	0.045	<0.010	<0.010
	Beryllium (Be)-Total (mg/kg wwt)	<0.0020	<0.0020	0.0178	<0.0020	<0.0020
	Bismuth (Bi)-Total (mg/kg)	<0.010	<0.010	0.061	<0.010	<0.010
	Bismuth (Bi)-Total (mg/kg wwt)	<0.0020	<0.0020	0.0242	<0.0020	0.0026
	Boron (B)-Total (mg/kg)	4.4	15.1	1.0	8.0	5.4
	Boron (B)-Total (mg/kg wwt)	1.70	7.60	0.41	1.21	2.01
	Cadmium (Cd)-Total (mg/kg)	0.569	<0.0050	0.113	0.183	0.966
	Cadmium (Cd)-Total (mg/kg wwt)	0.219	0.0020	0.0448	0.0274	0.360
	Calcium (Ca)-Total (mg/kg)	11500	6880	2690	1100	12700
	Calcium (Ca)-Total (mg/kg wwt)	4410	3470	1060	165	4720
	Cesium (Cs)-Total (mg/kg)	0.0984	0.0249	0.101	0.0159	0.0128
	Cesium (Cs)-Total (mg/kg wwt)	0.0379	0.0125	0.0398	0.0024	0.0048
	Chromium (Cr)-Total (mg/kg)	0.099	0.084	0.739	<0.050	0.067
	Chromium (Cr)-Total (mg/kg wwt)	0.038	0.042	0.292	<0.010	0.025
	Cobalt (Co)-Total (mg/kg)	0.334	0.067	0.763	<0.020	0.379
	Cobalt (Co)-Total (mg/kg wwt)	0.129	0.0339	0.301	<0.0040	0.141
	Copper (Cu)-Total (mg/kg)	37.9	28.2	443	5.71	36.3
	Copper (Cu)-Total (mg/kg wwt)	14.6	14.2	175	0.856	13.5
	Iron (Fe)-Total (mg/kg)	373	221	2860	23.8	204
	Iron (Fe)-Total (mg/kg wwt)	143	111	1130	3.57	76.0
	Lead (Pb)-Total (mg/kg)	0.060	0.058	0.786	<0.020	0.049
	Lead (Pb)-Total (mg/kg wwt)	0.0229	0.0293	0.311	<0.0040	0.0182
	Lithium (Li)-Total (mg/kg)	<0.50	<0.50	0.68	<0.50	<0.50
	Lithium (Li)-Total (mg/kg wwt)	0.10	<0.10	0.27	<0.10	<0.10
	Magnesium (Mg)-Total (mg/kg)	4050	1480	963	689	4720
	Magnesium (Mg)-Total (mg/kg wwt)	1560	746	380	103	1760
	Manganese (Mn)-Total (mg/kg)	206	337	143	56.2	149
	Manganese (Mn)-Total (mg/kg wwt)	79.4	170	56.4	8.43	55.6

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813330-26	L1813330-27	L1813330-28	L1813330-29	L1813330-30
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16
	Sampled Time					
	Client ID	M29-HORSETAIL	M29-LEDUM	M29-LICHEN	S16-HORSETAIL	S16-LEDUM
Grouping	**Analyte**					
TISSUE						
Physical Tests	% Moisture (%)	66.7	67.8	59.1	73.2	46.3
Metals	Aluminum (Al)-Total (mg/kg)	188	436	89.9	28.8	124
	Aluminum (Al)-Total (mg/kg wwt)	62.7	140	36.8	7.71	66.7
	Antimony (Sb)-Total (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Antimony (Sb)-Total (mg/kg wwt)	<0.0020	<0.0020	<0.0020	<0.0020	0.0030
	Arsenic (As)-Total (mg/kg)	0.057	0.126	0.028	<0.020	0.038
	Arsenic (As)-Total (mg/kg wwt)	0.0189	0.0405	0.0115	0.0041	0.0203
	Barium (Ba)-Total (mg/kg)	124	22.3	89.4	106	54.2
	Barium (Ba)-Total (mg/kg wwt)	41.4	7.17	36.6	28.4	29.1
	Beryllium (Be)-Total (mg/kg)	<0.010	0.012	<0.010	<0.010	<0.010
	Beryllium (Be)-Total (mg/kg wwt)	<0.0020	0.0040	<0.0020	<0.0020	<0.0020
	Bismuth (Bi)-Total (mg/kg)	0.013	0.032	<0.010	<0.010	<0.010
	Bismuth (Bi)-Total (mg/kg wwt)	0.0042	0.0105	0.0027	<0.0020	0.0026
	Boron (B)-Total (mg/kg)	15.7	<1.0	18.4	11.5	12.4
	Boron (B)-Total (mg/kg wwt)	5.24	0.26	7.51	3.07	6.66
	Cadmium (Cd)-Total (mg/kg)	0.0519	0.201	0.0075	0.0847	0.0081
	Cadmium (Cd)-Total (mg/kg wwt)	0.0173	0.0648	0.0031	0.0227	0.0044
	Calcium (Ca)-Total (mg/kg)	14000	1710	5430	19300	4390
	Calcium (Ca)-Total (mg/kg wwt)	4660	550	2220	5160	2360
	Cesium (Cs)-Total (mg/kg)	0.0660	0.0638	0.0210	0.0487	<0.0050
	Cesium (Cs)-Total (mg/kg wwt)	0.0220	0.0205	0.0086	0.0130	0.0024
	Chromium (Cr)-Total (mg/kg)	0.091	0.226	0.055	<0.050	0.064
	Chromium (Cr)-Total (mg/kg wwt)	0.030	0.073	0.022	<0.010	0.034
	Cobalt (Co)-Total (mg/kg)	0.378	0.253	0.045	0.108	0.066
	Cobalt (Co)-Total (mg/kg wwt)	0.126	0.0814	0.0185	0.0290	0.0356
	Copper (Cu)-Total (mg/kg)	102	271	39.4	15.1	46.4
	Copper (Cu)-Total (mg/kg wwt)	34.0	87.3	16.1	4.03	24.9
	Iron (Fe)-Total (mg/kg)	392	825	170	75.8	248
	Iron (Fe)-Total (mg/kg wwt)	131	266	69.5	20.3	133
	Lead (Pb)-Total (mg/kg)	0.119	0.284	0.049	<0.020	0.043
	Lead (Pb)-Total (mg/kg wwt)	0.0398	0.0916	0.0200	0.0044	0.0231
	Lithium (Li)-Total (mg/kg)	<0.50	<0.50	<0.50	<0.50	<0.50
	Lithium (Li)-Total (mg/kg wwt)	<0.10	<0.10	<0.10	<0.10	<0.10
	Magnesium (Mg)-Total (mg/kg)	2570	414	1210	3450	1900
	Magnesium (Mg)-Total (mg/kg wwt)	855	133	497	924	1020
	Manganese (Mn)-Total (mg/kg)	338	85.1	333	147	70.5
	Manganese (Mn)-Total (mg/kg wwt)	113	27.4	136	39.5	37.8

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813330-31	L1813330-32	L1813330-33	L1813330-34	L1813330-35
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16
	Sampled Time					
	Client ID	S16-SALIX	S05-LEDUM	S05-LICHEN	S05-HORSETAIL	S05-SALIX
Grouping	**Analyte**					
TISSUE						
Physical Tests	% Moisture (%)	59.1	43.0	59.9	70.7	58.6
Metals	Aluminum (Al)-Total (mg/kg)	137	119	906	65.8	144
	Aluminum (Al)-Total (mg/kg wwt)	56.1	67.9	363	19.2	59.6
	Antimony (Sb)-Total (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.020 DLA
	Antimony (Sb)-Total (mg/kg wwt)	<0.0020	<0.0020	0.0037	<0.0020	<0.0040 DLA
	Arsenic (As)-Total (mg/kg)	0.045	0.032	0.208	0.030	<0.040 DLA
	Arsenic (As)-Total (mg/kg wwt)	0.0183	0.0180	0.0833	0.0089	0.0160
	Barium (Ba)-Total (mg/kg)	22.4	63.9	28.6	122	37.2
	Barium (Ba)-Total (mg/kg wwt)	9.17	36.4	11.5	35.7	15.4
	Beryllium (Be)-Total (mg/kg)	<0.010	<0.010	0.029	<0.010	<0.020 DLA
	Beryllium (Be)-Total (mg/kg wwt)	<0.0020	<0.0020	0.0116	0.0023	0.0046
	Bismuth (Bi)-Total (mg/kg)	<0.010	<0.010	0.033	<0.010	<0.020 DLA
	Bismuth (Bi)-Total (mg/kg wwt)	0.0028	0.0023	0.0130	<0.0020	<0.0040 DLA
	Boron (B)-Total (mg/kg)	22.3	6.5	<1.0	16.0	7.1
	Boron (B)-Total (mg/kg wwt)	9.13	3.69	0.21	4.68	2.95
	Cadmium (Cd)-Total (mg/kg)	1.00	0.0075	0.0675	0.0313	0.372
	Cadmium (Cd)-Total (mg/kg wwt)	0.410	0.0043	0.0271	0.0092	0.154
	Calcium (Ca)-Total (mg/kg)	15600	5020	1850	17800	11400
	Calcium (Ca)-Total (mg/kg wwt)	6390	2860	742	5220	4720
	Cesium (Cs)-Total (mg/kg)	0.0094	0.0137	0.0757	0.350	0.036
	Cesium (Cs)-Total (mg/kg wwt)	0.0038	0.0078	0.0303	0.102	0.0149
	Chromium (Cr)-Total (mg/kg)	0.073	0.067	0.395	<0.050	<0.10 DLA
	Chromium (Cr)-Total (mg/kg wwt)	0.030	0.038	0.158	<0.010	0.024
	Cobalt (Co)-Total (mg/kg)	0.359	0.092	0.511	1.26	5.55
	Cobalt (Co)-Total (mg/kg wwt)	0.147	0.0525	0.205	0.370	2.30
	Copper (Cu)-Total (mg/kg)	45.0	28.9	284	13.9	28.6
	Copper (Cu)-Total (mg/kg wwt)	18.4	16.5	114	4.06	11.8
	Iron (Fe)-Total (mg/kg)	285	200	1560	105	338
	Iron (Fe)-Total (mg/kg wwt)	117	114	624	30.7	140
	Lead (Pb)-Total (mg/kg)	0.059	0.041	0.370	0.026	0.057
	Lead (Pb)-Total (mg/kg wwt)	0.0242	0.0235	0.148	0.0075	0.0238
	Lithium (Li)-Total (mg/kg)	<0.50	<0.50	<0.50	<0.50	<1.0 DLA
	Lithium (Li)-Total (mg/kg wwt)	<0.10	<0.10	0.12	<0.10	0.21
	Magnesium (Mg)-Total (mg/kg)	3180	1160	577	2780	2430
	Magnesium (Mg)-Total (mg/kg wwt)	1300	659	231	813	1010
	Manganese (Mn)-Total (mg/kg)	235	708	141	370	2460
	Manganese (Mn)-Total (mg/kg wwt)	96.1	403	56.7	108	1020

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813330-36	L1813330-37	L1813330-38	L1813330-39	L1813330-40
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16
	Sampled Time					
	Client ID	S06-LEDUM	S06-SALIX	S07-SALIX	S07-BLUE BERRIES	S07-HORSETAIL
Grouping	**Analyte**					
TISSUE						
Physical Tests	% Moisture (%)	50.0	57.1	63.1	86.2	70.3
Metals	Aluminum (Al)-Total (mg/kg)	51.6	101	166	7.8	47.0
	Aluminum (Al)-Total (mg/kg wwt)	25.8	43.2	61.3	1.07	13.9
	Antimony (Sb)-Total (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Antimony (Sb)-Total (mg/kg wwt)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Arsenic (As)-Total (mg/kg)	<0.020	0.023	0.039	<0.020	0.047
	Arsenic (As)-Total (mg/kg wwt)	0.0053	0.0097	0.0145	<0.0040	0.0140
	Barium (Ba)-Total (mg/kg)	110	316	71.0	11.9	139
	Barium (Ba)-Total (mg/kg wwt)	55.2	136	26.2	1.64	41.3
	Beryllium (Be)-Total (mg/kg)	<0.010	0.013	<0.010	<0.010	<0.010
	Beryllium (Be)-Total (mg/kg wwt)	<0.0020	0.0057	<0.0020	<0.0020	<0.0020
	Bismuth (Bi)-Total (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Bismuth (Bi)-Total (mg/kg wwt)	<0.0020	<0.0020	0.0025	<0.0020	<0.0020
	Boron (B)-Total (mg/kg)	8.9	3.7	14.3	10.6	21.8
	Boron (B)-Total (mg/kg wwt)	4.43	1.60	5.29	1.46	6.46
	Cadmium (Cd)-Total (mg/kg)	<0.0050	1.06	1.09	0.244	0.0478
	Cadmium (Cd)-Total (mg/kg wwt)	<0.0010	0.456	0.400	0.0337	0.0142
	Calcium (Ca)-Total (mg/kg)	5750	14100	14300	907	16200
	Calcium (Ca)-Total (mg/kg wwt)	2880	6050	5270	125	4800
	Cesium (Cs)-Total (mg/kg)	0.0313	0.0060	0.0372	0.0066	0.148
	Cesium (Cs)-Total (mg/kg wwt)	0.0157	0.0026	0.0137	<0.0010	0.0438
	Chromium (Cr)-Total (mg/kg)	<0.050	<0.050	0.106	<0.050	<0.050
	Chromium (Cr)-Total (mg/kg wwt)	0.011	0.017	0.039	<0.010	<0.010
	Cobalt (Co)-Total (mg/kg)	0.040	3.42	0.977	<0.020	0.166
	Cobalt (Co)-Total (mg/kg wwt)	0.0201	1.47	0.360	<0.0040	0.0494
	Copper (Cu)-Total (mg/kg)	9.78	12.5	44.7	7.81	18.4
	Copper (Cu)-Total (mg/kg wwt)	4.89	5.38	16.5	1.08	5.45
	Iron (Fe)-Total (mg/kg)	68.8	88.7	331	21.5	106
	Iron (Fe)-Total (mg/kg wwt)	34.4	38.1	122	2.97	31.4
	Lead (Pb)-Total (mg/kg)	<0.020	0.030	0.076	<0.020	0.027
	Lead (Pb)-Total (mg/kg wwt)	0.0092	0.0128	0.0280	<0.0040	0.0081
	Lithium (Li)-Total (mg/kg)	<0.50	<0.50	<0.50	<0.50	<0.50
	Lithium (Li)-Total (mg/kg wwt)	<0.10	<0.10	<0.10	<0.10	<0.10
	Magnesium (Mg)-Total (mg/kg)	945	2830	6860	693	5210
	Magnesium (Mg)-Total (mg/kg wwt)	472	1210	2530	95.6	1550
	Manganese (Mn)-Total (mg/kg)	1040	777	513	110	98.1
	Manganese (Mn)-Total (mg/kg wwt)	521	333	189	15.2	29.1

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813330-41	L1813330-42	L1813330-43	L1813330-44	L1813330-45
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16
	Sampled Time					
	Client ID	S07-LEDUM	S17-SALIX	S31-SALIX	S32-LEDUM	S33-HORSETAIL
Grouping	**Analyte**					
TISSUE						
Physical Tests	% Moisture (%)	49.0	65.0	60.9	48.3	70.9
Metals	Aluminum (Al)-Total (mg/kg)	101	234	90.3	98.5	41.8
	Aluminum (Al)-Total (mg/kg wwt)	51.7	81.9	35.3	50.9	12.1
	Antimony (Sb)-Total (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Antimony (Sb)-Total (mg/kg wwt)	0.0025	<0.0020	<0.0020	<0.0020	<0.0020
	Arsenic (As)-Total (mg/kg)	0.025	0.090	<0.020	0.021	0.047
	Arsenic (As)-Total (mg/kg wwt)	0.0128	0.0315	0.0067	0.0107	0.0137
	Barium (Ba)-Total (mg/kg)	73.8	154	364	71.6	142
	Barium (Ba)-Total (mg/kg wwt)	37.6	53.9	142	37.0	41.4
	Beryllium (Be)-Total (mg/kg)	<0.010	0.015	0.014	<0.010	<0.010
	Beryllium (Be)-Total (mg/kg wwt)	<0.0020	0.0051	0.0056	<0.0020	<0.0020
	Bismuth (Bi)-Total (mg/kg)	<0.010	0.019	<0.010	<0.010	<0.010
	Bismuth (Bi)-Total (mg/kg wwt)	0.0023	0.0068	<0.0020	0.0023	<0.0020
	Boron (B)-Total (mg/kg)	18.9	8.3	4.1	16.5	21.0
	Boron (B)-Total (mg/kg wwt)	9.63	2.91	1.60	8.52	6.11
	Cadmium (Cd)-Total (mg/kg)	<0.0050	1.26	1.21	<0.0050	0.0795
	Cadmium (Cd)-Total (mg/kg wwt)	0.0024	0.440	0.476	0.0026	0.0231
	Calcium (Ca)-Total (mg/kg)	5320	23800	15700	5200	17700
	Calcium (Ca)-Total (mg/kg wwt)	2710	8310	6140	2690	5130
	Cesium (Cs)-Total (mg/kg)	0.0088	0.0075	0.0058	0.0113	0.224
	Cesium (Cs)-Total (mg/kg wwt)	0.0045	0.0026	0.0023	0.0058	0.0650
	Chromium (Cr)-Total (mg/kg)	0.053	0.108	0.055	0.059	<0.050
	Chromium (Cr)-Total (mg/kg wwt)	0.027	0.038	0.021	0.030	0.013
	Cobalt (Co)-Total (mg/kg)	0.052	3.83	3.21	0.059	0.239
	Cobalt (Co)-Total (mg/kg wwt)	0.0265	1.34	1.26	0.0304	0.0694
	Copper (Cu)-Total (mg/kg)	32.8	121	13.4	38.8	18.3
	Copper (Cu)-Total (mg/kg wwt)	16.7	42.3	5.25	20.1	5.32
	Iron (Fe)-Total (mg/kg)	182	508	94.0	207	90.2
	Iron (Fe)-Total (mg/kg wwt)	92.5	178	36.8	107	26.2
	Lead (Pb)-Total (mg/kg)	0.062	0.106	0.035	0.060	0.026
	Lead (Pb)-Total (mg/kg wwt)	0.0316	0.0370	0.0137	0.0309	0.0076
	Lithium (Li)-Total (mg/kg)	<0.50	<0.50	<0.50	<0.50	<0.50
	Lithium (Li)-Total (mg/kg wwt)	<0.10	<0.10	<0.10	<0.10	<0.10
	Magnesium (Mg)-Total (mg/kg)	1610	4270	2640	1420	5130
	Magnesium (Mg)-Total (mg/kg wwt)	819	1490	1030	734	1490
	Manganese (Mn)-Total (mg/kg)	546	587	746	437	124
	Manganese (Mn)-Total (mg/kg wwt)	278	205	292	226	35.9

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813330-46	L1813330-47	L1813330-48	L1813330-49	L1813330-50
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	10-AUG-16	10-AUG-16	10-AUG-16	11-AUG-16	11-AUG-16
	Sampled Time					
	Client ID	S34-LICHEN	S35-SALIX	S36-LEDUM	C02-HORSETAIL	C02-LEDUM
Grouping	**Analyte**					
TISSUE						
Physical Tests	% Moisture (%)	52.8	59.4	54.4	67.0	44.4
Metals	Aluminum (Al)-Total (mg/kg)	1170	151	73.2	17.2	33.8
	Aluminum (Al)-Total (mg/kg wwt)	551	61.3	33.4	5.67	18.8
	Antimony (Sb)-Total (mg/kg)	0.020	0.011	<0.010	0.012	<0.010
	Antimony (Sb)-Total (mg/kg wwt)	0.0096	0.0046	<0.0020	0.0039	0.0031
	Arsenic (As)-Total (mg/kg)	0.254	0.052	0.023	0.044	0.021
	Arsenic (As)-Total (mg/kg wwt)	0.120	0.0211	0.0105	0.0144	0.0115
	Barium (Ba)-Total (mg/kg)	29.0	24.5	98.0	92.1	67.6
	Barium (Ba)-Total (mg/kg wwt)	13.7	9.92	44.7	30.4	37.5
	Beryllium (Be)-Total (mg/kg)	0.043	<0.010	<0.010	<0.010	<0.010
	Beryllium (Be)-Total (mg/kg wwt)	0.0203	0.0020	<0.0020	<0.0020	<0.0020
	Bismuth (Bi)-Total (mg/kg)	0.050	<0.010	<0.010	<0.010	<0.010
	Bismuth (Bi)-Total (mg/kg wwt)	0.0235	0.0027	0.0024	<0.0020	<0.0020
	Boron (B)-Total (mg/kg)	1.1	21.5	16.6	11.0	19.4
	Boron (B)-Total (mg/kg wwt)	0.54	8.71	7.59	3.63	10.8
	Cadmium (Cd)-Total (mg/kg)	0.0817	0.981	<0.0050	0.0566	<0.0050
	Cadmium (Cd)-Total (mg/kg wwt)	0.0386	0.398	0.0014	0.0187	0.0014
	Calcium (Ca)-Total (mg/kg)	2840	16000	5180	19700	7320
	Calcium (Ca)-Total (mg/kg wwt)	1340	6500	2360	6500	4070
	Cesium (Cs)-Total (mg/kg)	0.0798	0.0103	0.0184	0.0486	0.0090
	Cesium (Cs)-Total (mg/kg wwt)	0.0377	0.0042	0.0084	0.0160	0.0050
	Chromium (Cr)-Total (mg/kg)	0.571	0.089	<0.050	<0.050	<0.050
	Chromium (Cr)-Total (mg/kg wwt)	0.270	0.036	0.023	<0.010	0.024
	Cobalt (Co)-Total (mg/kg)	0.647	0.421	0.041	0.203	0.021
	Cobalt (Co)-Total (mg/kg wwt)	0.305	0.171	0.0188	0.0671	0.0118
	Copper (Cu)-Total (mg/kg)	363	57.9	37.1	7.01	8.50
	Copper (Cu)-Total (mg/kg wwt)	171	23.5	16.9	2.31	4.72
	Iron (Fe)-Total (mg/kg)	2320	319	154	54.0	73.7
	Iron (Fe)-Total (mg/kg wwt)	1100	129	70.3	17.8	41.0
	Lead (Pb)-Total (mg/kg)	0.583	0.055	0.041	<0.020	<0.020
	Lead (Pb)-Total (mg/kg wwt)	0.275	0.0222	0.0185	<0.0040	0.0109
	Lithium (Li)-Total (mg/kg)	0.62	<0.50	<0.50	<0.50	<0.50
	Lithium (Li)-Total (mg/kg wwt)	0.29	<0.10	<0.10	<0.10	<0.10
	Magnesium (Mg)-Total (mg/kg)	737	3430	1230	4900	1840
	Magnesium (Mg)-Total (mg/kg wwt)	348	1390	562	1620	1020
	Manganese (Mn)-Total (mg/kg)	116	277	423	72.0	154
	Manganese (Mn)-Total (mg/kg wwt)	54.8	112	193	23.8	85.4

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813330-51	L1813330-52	L1813330-53	L1813330-54	L1813330-55
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	11-AUG-16	11-AUG-16	11-AUG-16	11-AUG-16	11-AUG-16
	Sampled Time					
	Client ID	C02-LICHEN	C02-SALIX	S09-SALIX	M80-SALIX	M80-LEDUM
Grouping	**Analyte**					
TISSUE						
Physical Tests	% Moisture (%)	54.8	57.8	52.5	58.3	48.1
Metals	Aluminum (Al)-Total (mg/kg)	229	38.4	72.5	66.1	112
	Aluminum (Al)-Total (mg/kg wwt)	104	16.2	34.4	27.5	58.0
	Antimony (Sb)-Total (mg/kg)	0.024	0.019	0.011	<0.010	<0.010
	Antimony (Sb)-Total (mg/kg wwt)	0.0107	0.0078	0.0053	<0.0020	0.0040
	Arsenic (As)-Total (mg/kg)	0.096	0.021	0.024	0.026	0.029
	Arsenic (As)-Total (mg/kg wwt)	0.0436	0.0090	0.0114	0.0106	0.0148
	Barium (Ba)-Total (mg/kg)	13.2	56.6	152	350	149
	Barium (Ba)-Total (mg/kg wwt)	5.99	23.9	72.2	146	77.4
	Beryllium (Be)-Total (mg/kg)	<0.010	<0.010	<0.010	0.011	<0.010
	Beryllium (Be)-Total (mg/kg wwt)	0.0033	<0.0020	0.0041	0.0044	<0.0020
	Bismuth (Bi)-Total (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Bismuth (Bi)-Total (mg/kg wwt)	0.0033	<0.0020	<0.0020	<0.0020	<0.0020
	Boron (B)-Total (mg/kg)	<1.0	9.7	11.3	21.9	24.7
	Boron (B)-Total (mg/kg wwt)	0.32	4.08	5.35	9.14	12.8
	Cadmium (Cd)-Total (mg/kg)	0.0235	1.22	0.704	2.61	0.0142
	Cadmium (Cd)-Total (mg/kg wwt)	0.0106	0.515	0.334	1.09	0.0074
	Calcium (Ca)-Total (mg/kg)	1290	19400	19900	26800	8260
	Calcium (Ca)-Total (mg/kg wwt)	581	8160	9440	11200	4280
	Cesium (Cs)-Total (mg/kg)	0.0174	0.0119	<0.0050	<0.0050	0.0053
	Cesium (Cs)-Total (mg/kg wwt)	0.0079	0.0050	0.0016	0.0020	0.0027
	Chromium (Cr)-Total (mg/kg)	0.213	<0.050	0.071	0.060	0.124
	Chromium (Cr)-Total (mg/kg wwt)	0.096	0.014	0.033	0.025	0.064
	Cobalt (Co)-Total (mg/kg)	0.158	0.392	1.06	1.81	0.101
	Cobalt (Co)-Total (mg/kg wwt)	0.0717	0.166	0.502	0.754	0.0525
	Copper (Cu)-Total (mg/kg)	60.6	10.5	13.3	11.9	13.9
	Copper (Cu)-Total (mg/kg wwt)	27.4	4.43	6.34	4.97	7.19
	Iron (Fe)-Total (mg/kg)	408	99.6	147	118	131
	Iron (Fe)-Total (mg/kg wwt)	185	42.0	69.7	49.2	68.2
	Lead (Pb)-Total (mg/kg)	0.146	0.023	0.026	0.029	0.029
	Lead (Pb)-Total (mg/kg wwt)	0.0662	0.0098	0.0126	0.0120	0.0150
	Lithium (Li)-Total (mg/kg)	<0.50	<0.50	<0.50	<0.50	<0.50
	Lithium (Li)-Total (mg/kg wwt)	<0.10	<0.10	<0.10	<0.10	<0.10
	Magnesium (Mg)-Total (mg/kg)	299	6220	2590	3570	1370
	Magnesium (Mg)-Total (mg/kg wwt)	135	2620	1230	1490	712
	Manganese (Mn)-Total (mg/kg)	98.8	122	332	145	1690
	Manganese (Mn)-Total (mg/kg wwt)	44.7	51.3	157	60.4	876

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813330-56	L1813330-57	L1813330-58	L1813330-59	L1813330-61
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	11-AUG-16	11-AUG-16	11-AUG-16	11-AUG-16	11-AUG-16
	Sampled Time					
	Client ID	M26-LEDUM	M26-SALIX	M26-LICHEN	M26-BLUEBERRIES	M07B-SALIX
Grouping	**Analyte**					
TISSUE						
Physical Tests	% Moisture (%)	49.9	61.7	42.2	83.9	56.5
Metals	Aluminum (Al)-Total (mg/kg)	20.8	17.0	115	2.9	22.1
	Aluminum (Al)-Total (mg/kg wwt)	10.4	6.51	66.4	0.46	9.63
	Antimony (Sb)-Total (mg/kg)	<0.010	0.010	<0.010	<0.010	0.011
	Antimony (Sb)-Total (mg/kg wwt)	<0.0020	0.0039	0.0054	<0.0020	0.0046
	Arsenic (As)-Total (mg/kg)	<0.020	<0.020	0.095	<0.020	<0.020
	Arsenic (As)-Total (mg/kg wwt)	0.0070	0.0076	0.0550	<0.0040	0.0077
	Barium (Ba)-Total (mg/kg)	59.0	51.2	9.48	10.7	20.9
	Barium (Ba)-Total (mg/kg wwt)	29.6	19.6	5.48	1.72	9.06
	Beryllium (Be)-Total (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Beryllium (Be)-Total (mg/kg wwt)	<0.0020	<0.0020	0.0021	<0.0020	<0.0020
	Bismuth (Bi)-Total (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Bismuth (Bi)-Total (mg/kg wwt)	<0.0020	<0.0020	0.0022	<0.0020	<0.0020
	Boron (B)-Total (mg/kg)	9.8	10.8	<1.0	9.6	10.3
	Boron (B)-Total (mg/kg wwt)	4.89	4.12	0.31	1.55	4.46
	Cadmium (Cd)-Total (mg/kg)	<0.0050	1.50	0.0343	0.115	0.104
	Cadmium (Cd)-Total (mg/kg wwt)	0.0018	0.574	0.0198	0.0185	0.0454
	Calcium (Ca)-Total (mg/kg)	5430	19000	1580	1130	14500
	Calcium (Ca)-Total (mg/kg wwt)	2720	7260	912	181	6320
	Cesium (Cs)-Total (mg/kg)	<0.0050	0.0062	0.0367	<0.0050	0.0283
	Cesium (Cs)-Total (mg/kg wwt)	0.0017	0.0024	0.0212	<0.0010	0.0123
	Chromium (Cr)-Total (mg/kg)	0.061	<0.050	0.151	<0.050	<0.050
	Chromium (Cr)-Total (mg/kg wwt)	0.031	0.014	0.087	<0.010	<0.010
	Cobalt (Co)-Total (mg/kg)	<0.020	0.726	0.080	<0.020	0.119
	Cobalt (Co)-Total (mg/kg wwt)	0.0065	0.278	0.0463	<0.0040	0.0518
	Copper (Cu)-Total (mg/kg)	4.31	5.37	14.8	4.11	6.76
	Copper (Cu)-Total (mg/kg wwt)	2.16	2.05	8.55	0.661	2.94
	Iron (Fe)-Total (mg/kg)	39.4	48.6	205	12.6	65.5
	Iron (Fe)-Total (mg/kg wwt)	19.7	18.6	119	2.02	28.5
	Lead (Pb)-Total (mg/kg)	<0.020	<0.020	0.168	<0.020	<0.020
	Lead (Pb)-Total (mg/kg wwt)	0.0070	0.0041	0.0972	<0.0040	0.0061
	Lithium (Li)-Total (mg/kg)	<0.50	<0.50	<0.50	<0.50	<0.50
	Lithium (Li)-Total (mg/kg wwt)	<0.10	<0.10	<0.10	<0.10	<0.10
	Magnesium (Mg)-Total (mg/kg)	1290	5810	305	620	4250
	Magnesium (Mg)-Total (mg/kg wwt)	646	2220	177	99.6	1850
	Manganese (Mn)-Total (mg/kg)	46.9	101	16.8	44.0	165
	Manganese (Mn)-Total (mg/kg wwt)	23.5	38.5	9.71	7.08	71.7

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813330-62	L1813330-63	L1813330-64	L1813330-65	L1813330-66
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	11-AUG-16	11-AUG-16	11-AUG-16	12-AUG-16	12-AUG-16
	Sampled Time					
	Client ID	M07B-HORSETAIL	M07B-LEDUM	M07B-LICHEN	S04-SALIX	S19-SALIX
Grouping	**Analyte**					
TISSUE						
Physical Tests	% Moisture (%)	64.7	45.2	21.1	59.5	60.2
Metals	Aluminum (Al)-Total (mg/kg)	10.7	76.2	253	107	429
	Aluminum (Al)-Total (mg/kg wwt)	3.79	41.7	199	43.3	170
	Antimony (Sb)-Total (mg/kg)	<0.010	<0.010	0.018	<0.010	<0.010
	Antimony (Sb)-Total (mg/kg wwt)	<0.0020	<0.0020	0.0141	<0.0020	<0.0020
	Arsenic (As)-Total (mg/kg)	0.028	<0.020	0.129	0.024	0.099
	Arsenic (As)-Total (mg/kg wwt)	0.0100	0.0084	0.102	0.0097	0.0393
	Barium (Ba)-Total (mg/kg)	111	76.9	14.9	90.0	269
	Barium (Ba)-Total (mg/kg wwt)	39.3	42.1	11.7	36.4	107
	Beryllium (Be)-Total (mg/kg)	<0.010	<0.010	<0.010	<0.010	0.025
	Beryllium (Be)-Total (mg/kg wwt)	<0.0020	<0.0020	0.0048	0.0033	0.0100
	Bismuth (Bi)-Total (mg/kg)	<0.010	<0.010	<0.010	<0.010	0.014
	Bismuth (Bi)-Total (mg/kg wwt)	<0.0020	<0.0020	0.0069	<0.0020	0.0054
	Boron (B)-Total (mg/kg)	18.5	11.4	<1.0	12.7	7.8
	Boron (B)-Total (mg/kg wwt)	6.54	6.24	0.53	5.13	3.12
	Cadmium (Cd)-Total (mg/kg)	0.0161	<0.0050	0.0243	0.358	0.885
	Cadmium (Cd)-Total (mg/kg wwt)	0.0057	<0.0010	0.0192	0.145	0.352
	Calcium (Ca)-Total (mg/kg)	24200	7170	1560	13000	22100
	Calcium (Ca)-Total (mg/kg wwt)	8530	3930	1230	5270	8780
	Cesium (Cs)-Total (mg/kg)	0.201	0.0082	0.0269	<0.0050	0.0128
	Cesium (Cs)-Total (mg/kg wwt)	0.0710	0.0045	0.0212	0.0013	0.0051
	Chromium (Cr)-Total (mg/kg)	<0.050	0.082	0.235	0.053	0.204
	Chromium (Cr)-Total (mg/kg wwt)	<0.010	0.045	0.185	0.021	0.081
	Cobalt (Co)-Total (mg/kg)	0.427	0.026	0.144	0.926	2.94
	Cobalt (Co)-Total (mg/kg wwt)	0.151	0.0143	0.114	0.375	1.17
	Copper (Cu)-Total (mg/kg)	5.62	5.36	49.9	8.52	76.9
	Copper (Cu)-Total (mg/kg wwt)	1.99	2.94	39.4	3.45	30.6
	Iron (Fe)-Total (mg/kg)	63.0	75.0	398	147	665
	Iron (Fe)-Total (mg/kg wwt)	22.3	41.1	314	59.3	264
	Lead (Pb)-Total (mg/kg)	<0.020	0.026	0.218	0.034	0.163
	Lead (Pb)-Total (mg/kg wwt)	<0.0040	0.0142	0.172	0.0137	0.0648
	Lithium (Li)-Total (mg/kg)	<0.50	<0.50	<0.50	<0.50	<0.50
	Lithium (Li)-Total (mg/kg wwt)	<0.10	<0.10	<0.10	<0.10	<0.10
	Magnesium (Mg)-Total (mg/kg)	4190	1340	380	1730	2810
	Magnesium (Mg)-Total (mg/kg wwt)	1480	734	300	699	1120
	Manganese (Mn)-Total (mg/kg)	212	128	44.5	254	934
	Manganese (Mn)-Total (mg/kg wwt)	75.0	69.9	35.2	103	371

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813330-67	L1813330-68	L1813330-69	L1813330-70	L1813330-71
	Description	TISSUE	Tissue	Tissue	Tissue	Tissue
	Sampled Date	12-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16
	Sampled Time					
	Client ID	S19-LEDUM	C01-SALIX (RINSED)	C01-LICHEN (RINSED)	C01-HORSETAIL (RINSED)	C01-LEDUM (RINSED)
Grouping	**Analyte**					
TISSUE						
Physical Tests	% Moisture (%)	49.7	74.5	73.1	76.7	67.5
Metals	Aluminum (Al)-Total (mg/kg)	423	27.3	92.9	10.4	32.1
	Aluminum (Al)-Total (mg/kg wwt)	213	6.97	25.0	2.42	10.4
	Antimony (Sb)-Total (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Antimony (Sb)-Total (mg/kg wwt)	0.0021	<0.0020	<0.0020	<0.0020	0.0028
	Arsenic (As)-Total (mg/kg)	0.112	<0.020	0.078	<0.020	<0.020
	Arsenic (As)-Total (mg/kg wwt)	0.0561	<0.0040	0.0210	<0.0040	0.0053
	Barium (Ba)-Total (mg/kg)	104	65.0	14.7	224	57.4
	Barium (Ba)-Total (mg/kg wwt)	52.3	16.6	3.95	52.1	18.7
	Beryllium (Be)-Total (mg/kg)	0.010	0.011	<0.010	<0.010	<0.010
	Beryllium (Be)-Total (mg/kg wwt)	0.0051	0.0029	<0.0020	<0.0020	<0.0020
	Bismuth (Bi)-Total (mg/kg)	0.010	<0.010	<0.010	<0.010	<0.010
	Bismuth (Bi)-Total (mg/kg wwt)	0.0051	<0.0020	<0.0020	<0.0020	<0.0020
	Boron (B)-Total (mg/kg)	12.6	15.5	1.2	13.1	20.1
	Boron (B)-Total (mg/kg wwt)	6.35	3.97	0.33	3.05	6.53
	Cadmium (Cd)-Total (mg/kg)	0.0085	4.18	0.0235	0.223	<0.0050
	Cadmium (Cd)-Total (mg/kg wwt)	0.0043	1.07	0.0063	0.0519	<0.0010
	Calcium (Ca)-Total (mg/kg)	6850	15900	1840	16300	5160
	Calcium (Ca)-Total (mg/kg wwt)	3440	4050	495	3800	1680
	Cesium (Cs)-Total (mg/kg)	0.0132	<0.0050	0.0709	0.0480	<0.0050
	Cesium (Cs)-Total (mg/kg wwt)	0.0067	<0.0010	0.0191	0.0112	0.0015
	Chromium (Cr)-Total (mg/kg)	0.202	<0.050	0.135	<0.050	<0.050
	Chromium (Cr)-Total (mg/kg wwt)	0.102	<0.010	0.036	<0.010	0.015
	Cobalt (Co)-Total (mg/kg)	0.225	0.592	0.084	0.117	<0.020
	Cobalt (Co)-Total (mg/kg wwt)	0.113	0.151	0.0225	0.0273	0.0053
	Copper (Cu)-Total (mg/kg)	78.1	4.95	7.78	3.71	3.26
	Copper (Cu)-Total (mg/kg wwt)	39.3	1.26	2.09	0.865	1.06
	Iron (Fe)-Total (mg/kg)	634	51.5	141	29.3	42.3
	Iron (Fe)-Total (mg/kg wwt)	319	13.1	37.8	6.82	13.8
	Lead (Pb)-Total (mg/kg)	0.150	0.029	0.114	<0.020	0.027
	Lead (Pb)-Total (mg/kg wwt)	0.0753	0.0074	0.0307	<0.0040	0.0089
	Lithium (Li)-Total (mg/kg)	<0.50	<0.50	<0.50	<0.50	<0.50
	Lithium (Li)-Total (mg/kg wwt)	<0.10	<0.10	<0.10	<0.10	<0.10
	Magnesium (Mg)-Total (mg/kg)	1460	4110	313	3020	1070
	Magnesium (Mg)-Total (mg/kg wwt)	734	1050	84.1	703	349
	Manganese (Mn)-Total (mg/kg)	987	334	114	97.2	632
	Manganese (Mn)-Total (mg/kg wwt)	496	85.4	30.8	22.6	206

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813330-72	L1813330-73	L1813330-74	L1813330-75	L1813330-76
	Description	Tissue	Tissue	Tissue	Tissue	Tissue
	Sampled Date	09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16
	Sampled Time					
	Client ID	S03-SALIX (RINSED)	S03-LICHEN (RINSED)	S11-LICHEN(RINSED)	S11-SALIX (RINSED)	S02-SALIX (RINSED)
Grouping	**Analyte**					
TISSUE						
Physical Tests	% Moisture (%)	68.1	69.3	66.2	74.1	65.2
Metals	Aluminum (Al)-Total (mg/kg)	153	657	243	21.1	93.9
	Aluminum (Al)-Total (mg/kg wwt)	48.8	202	82.1	5.48	32.7
	Antimony (Sb)-Total (mg/kg)	<0.010	0.024	0.013	<0.010	<0.010
	Antimony (Sb)-Total (mg/kg wwt)	<0.0020	0.0074	0.0045	<0.0020	<0.0020
	Arsenic (As)-Total (mg/kg)	0.070	0.292	0.122	<0.020	0.041
	Arsenic (As)-Total (mg/kg wwt)	0.0223	0.0897	0.0412	0.0043	0.0142
	Barium (Ba)-Total (mg/kg)	100	33.3	33.3	96.7	61.3
	Barium (Ba)-Total (mg/kg wwt)	32.0	10.2	11.3	25.1	21.3
	Beryllium (Be)-Total (mg/kg)	<0.010	0.018	<0.010	0.013	<0.010
	Beryllium (Be)-Total (mg/kg wwt)	<0.0020	0.0055	<0.0020	0.0035	<0.0020
	Bismuth (Bi)-Total (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Bismuth (Bi)-Total (mg/kg wwt)	<0.0020	0.0024	<0.0020	<0.0020	<0.0020
	Boron (B)-Total (mg/kg)	13.1	<1.0	<1.0	6.6	2.5
	Boron (B)-Total (mg/kg wwt)	4.19	<0.20	<0.20	1.71	0.86
	Cadmium (Cd)-Total (mg/kg)	0.760	0.0318	0.0421	1.42	0.799
	Cadmium (Cd)-Total (mg/kg wwt)	0.242	0.0098	0.0142	0.368	0.278
	Calcium (Ca)-Total (mg/kg)	28200	1810	1660	16700	19800
	Calcium (Ca)-Total (mg/kg wwt)	9000	556	562	4320	6880
	Cesium (Cs)-Total (mg/kg)	0.0124	0.0712	0.0891	0.0062	0.0131
	Cesium (Cs)-Total (mg/kg wwt)	0.0040	0.0219	0.0302	0.0016	0.0045
	Chromium (Cr)-Total (mg/kg)	0.238	0.961	0.340	<0.050	0.167
	Chromium (Cr)-Total (mg/kg wwt)	0.076	0.295	0.115	<0.010	0.058
	Cobalt (Co)-Total (mg/kg)	0.309	0.450	0.219	3.28	0.469
	Cobalt (Co)-Total (mg/kg wwt)	0.0984	0.138	0.0742	0.851	0.163
	Copper (Cu)-Total (mg/kg)	11.5	40.5	28.9	4.69	10.9
	Copper (Cu)-Total (mg/kg wwt)	3.66	12.5	9.79	1.22	3.78
	Iron (Fe)-Total (mg/kg)	252	1050	402	48.6	168
	Iron (Fe)-Total (mg/kg wwt)	80.2	323	136	12.6	58.5
	Lead (Pb)-Total (mg/kg)	0.069	0.276	0.156	<0.020	0.036
	Lead (Pb)-Total (mg/kg wwt)	0.0220	0.0848	0.0528	0.0043	0.0125
	Lithium (Li)-Total (mg/kg)	<0.50	<0.50	<0.50	<0.50	<0.50
	Lithium (Li)-Total (mg/kg wwt)	<0.10	0.11	<0.10	<0.10	<0.10
	Magnesium (Mg)-Total (mg/kg)	2590	509	361	2500	3690
	Magnesium (Mg)-Total (mg/kg wwt)	825	156	122	648	1280
	Manganese (Mn)-Total (mg/kg)	57.8	92.3	85.9	476	67.2
	Manganese (Mn)-Total (mg/kg wwt)	18.4	28.3	29.1	123	23.4

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813330-77	L1813330-78	L1813330-79	L1813330-80	L1813330-81
	Description	Tissue	Tissue	Tissue	Tissue	Tissue
	Sampled Date	09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16
	Sampled Time					
	Client ID	S02-LICHEN (RINSED)	S01-LEDUM (RINSED)	S01-SALIX (RINSED)	S01-LICHEN (RINSED)	S18-SALIX (RINSED)
Grouping	**Analyte**					
TISSUE						
Physical Tests	% Moisture (%)	64.8	62.0	63.6	65.4	58.5
Metals	Aluminum (Al)-Total (mg/kg)	741	37.3	38.7	208	31.3
	Aluminum (Al)-Total (mg/kg wwt)	261	14.2	14.1	72.0	13.0
	Antimony (Sb)-Total (mg/kg)	0.028	<0.010	0.011	<0.010	<0.010
	Antimony (Sb)-Total (mg/kg wwt)	0.0099	0.0033	0.0041	0.0031	<0.0020
	Arsenic (As)-Total (mg/kg)	0.308	0.028	0.029	0.123	<0.020
	Arsenic (As)-Total (mg/kg wwt)	0.108	0.0107	0.0105	0.0425	0.0049
	Barium (Ba)-Total (mg/kg)	31.1	111	93.5	33.8	95.2
	Barium (Ba)-Total (mg/kg wwt)	10.9	42.3	34.0	11.7	39.5
	Beryllium (Be)-Total (mg/kg)	0.022	<0.010	<0.010	<0.010	<0.010
	Beryllium (Be)-Total (mg/kg wwt)	0.0078	<0.0020	<0.0020	<0.0020	<0.0020
	Bismuth (Bi)-Total (mg/kg)	0.011	<0.010	<0.010	<0.010	<0.010
	Bismuth (Bi)-Total (mg/kg wwt)	0.0038	<0.0020	<0.0020	<0.0020	<0.0020
	Boron (B)-Total (mg/kg)	<1.0	5.9	4.9	<1.0	9.2
	Boron (B)-Total (mg/kg wwt)	<0.20	2.23	1.80	<0.20	3.84
	Cadmium (Cd)-Total (mg/kg)	0.0621	<0.0050	0.690	0.0379	2.32
	Cadmium (Cd)-Total (mg/kg wwt)	0.0218	0.0010	0.251	0.0131	0.961
	Calcium (Ca)-Total (mg/kg)	2570	6640	24600	1660	29100
	Calcium (Ca)-Total (mg/kg wwt)	903	2520	8930	573	12100
	Cesium (Cs)-Total (mg/kg)	0.122	0.0466	0.0065	0.0716	0.0715
	Cesium (Cs)-Total (mg/kg wwt)	0.0428	0.0177	0.0024	0.0248	0.0297
	Chromium (Cr)-Total (mg/kg)	1.05	0.082	0.060	0.277	<0.050
	Chromium (Cr)-Total (mg/kg wwt)	0.369	0.031	0.022	0.096	<0.010
	Cobalt (Co)-Total (mg/kg)	0.534	0.041	0.190	0.158	0.510
	Cobalt (Co)-Total (mg/kg wwt)	0.188	0.0157	0.0689	0.0546	0.211
	Copper (Cu)-Total (mg/kg)	50.9	9.48	7.59	39.4	17.8
	Copper (Cu)-Total (mg/kg wwt)	17.9	3.60	2.76	13.6	7.37
	Iron (Fe)-Total (mg/kg)	1070	74.5	87.0	344	92.0
	Iron (Fe)-Total (mg/kg wwt)	377	28.3	31.6	119	38.2
	Lead (Pb)-Total (mg/kg)	0.351	<0.020	<0.020	0.153	<0.020
	Lead (Pb)-Total (mg/kg wwt)	0.124	0.0075	0.0064	0.0528	0.0075
	Lithium (Li)-Total (mg/kg)	<0.50	<0.50	<0.50	<0.50	<0.50
	Lithium (Li)-Total (mg/kg wwt)	0.17	<0.10	<0.10	<0.10	<0.10
	Magnesium (Mg)-Total (mg/kg)	647	1710	2850	347	6830
	Magnesium (Mg)-Total (mg/kg wwt)	228	651	1040	120	2830
	Manganese (Mn)-Total (mg/kg)	134	696	60.5	124	255
	Manganese (Mn)-Total (mg/kg wwt)	47.1	265	22.0	42.8	106

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813330-82	L1813330-83	L1813330-84	L1813330-85	L1813330-86
	Description	Tissue	Tissue	Tissue	Tissue	Tissue
	Sampled Date	09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16
	Sampled Time					
	Client ID	S18-LICHEN (RINSED)	S18-LEDUM (RINSED)	S18-HORSETAIL (RINSED)	S15-SALIX (RINSED)	S15-LEDUM (RINSED)
Grouping	**Analyte**					
TISSUE						
Physical Tests	% Moisture (%)	69.8	45.9	59.9	65.4	51.9
Metals	Aluminum (Al)-Total (mg/kg)	811	24.9	133	46.0	83.4
	Aluminum (Al)-Total (mg/kg wwt)	245	13.5	53.2	15.9	40.1
	Antimony (Sb)-Total (mg/kg)	0.016	0.012	<0.010	<0.010	<0.010
	Antimony (Sb)-Total (mg/kg wwt)	0.0049	0.0063	<0.0020	<0.0020	<0.0020
	Arsenic (As)-Total (mg/kg)	0.185	0.020	0.038	0.025	0.029
	Arsenic (As)-Total (mg/kg wwt)	0.0559	0.0108	0.0154	0.0087	0.0137
	Barium (Ba)-Total (mg/kg)	26.4	85.7	100	41.2	89.2
	Barium (Ba)-Total (mg/kg wwt)	7.99	46.4	40.1	14.3	42.9
	Beryllium (Be)-Total (mg/kg)	0.022	<0.010	<0.010	<0.010	<0.010
	Beryllium (Be)-Total (mg/kg wwt)	0.0065	<0.0020	<0.0020	<0.0020	<0.0020
	Bismuth (Bi)-Total (mg/kg)	0.086	<0.010	0.011	<0.010	<0.010
	Bismuth (Bi)-Total (mg/kg wwt)	0.0259	<0.0020	0.0044	<0.0020	0.0025
	Boron (B)-Total (mg/kg)	1.1	14.7	18.4	3.1	11.0
	Boron (B)-Total (mg/kg wwt)	0.33	7.94	7.39	1.07	5.27
	Cadmium (Cd)-Total (mg/kg)	0.116	0.0091	0.0749	1.26	0.0051
	Cadmium (Cd)-Total (mg/kg wwt)	0.0350	0.0050	0.0300	0.435	0.0024
	Calcium (Ca)-Total (mg/kg)	2620	5430	15900	15700	5920
	Calcium (Ca)-Total (mg/kg wwt)	790	2940	6380	5430	2850
	Cesium (Cs)-Total (mg/kg)	0.0890	0.0440	0.244	0.0970	0.0275
	Cesium (Cs)-Total (mg/kg wwt)	0.0269	0.0238	0.0979	0.0336	0.0132
	Chromium (Cr)-Total (mg/kg)	0.421	<0.050	0.099	<0.050	0.073
	Chromium (Cr)-Total (mg/kg wwt)	0.127	<0.010	0.040	0.016	0.035
	Cobalt (Co)-Total (mg/kg)	0.483	<0.020	0.331	0.930	0.051
	Cobalt (Co)-Total (mg/kg wwt)	0.146	0.0106	0.133	0.322	0.0243
	Copper (Cu)-Total (mg/kg)	596	22.3	85.1	27.0	41.7
	Copper (Cu)-Total (mg/kg wwt)	180	12.1	34.1	9.36	20.1
	Iron (Fe)-Total (mg/kg)	1950	83.2	315	142	179
	Iron (Fe)-Total (mg/kg wwt)	590	45.0	126	49.1	86.2
	Lead (Pb)-Total (mg/kg)	0.482	<0.020	0.109	0.021	0.038
	Lead (Pb)-Total (mg/kg wwt)	0.146	0.0082	0.0437	0.0072	0.0185
	Lithium (Li)-Total (mg/kg)	<0.50	<0.50	<0.50	<0.50	<0.50
	Lithium (Li)-Total (mg/kg wwt)	0.12	<0.10	<0.10	<0.10	<0.10
	Magnesium (Mg)-Total (mg/kg)	700	1490	1290	5560	1820
	Magnesium (Mg)-Total (mg/kg wwt)	212	804	518	1930	876
	Manganese (Mn)-Total (mg/kg)	103	261	215	204	501
	Manganese (Mn)-Total (mg/kg wwt)	31.1	141	86.2	70.6	241

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813330-87	L1813330-88	L1813330-89	L1813330-90	L1813330-91
	Description	Tissue	Tissue	Tissue	Tissue	Tissue
	Sampled Date	09-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16
	Sampled Time					
	Client ID	S15-HORSETAIL (RINSED)	S08-SALIX (RINSED)	S08-LEDUM (RINSED)	S08-LICHEN (RINSED)	S08-BLUE BERRIES (RINSED)
Grouping	**Analyte**					
TISSUE						
Physical Tests	% Moisture (%)	62.2	60.4	47.2	57.6	84.9
Metals	Aluminum (Al)-Total (mg/kg)	73.3	116	101	1220	6.4
	Aluminum (Al)-Total (mg/kg wwt)	27.7	45.9	53.3	519	0.97
	Antimony (Sb)-Total (mg/kg)	<0.010	<0.010	<0.010	0.019	<0.010
	Antimony (Sb)-Total (mg/kg wwt)	<0.0020	<0.0020	<0.0020	0.0082	<0.0020
	Arsenic (As)-Total (mg/kg)	0.022	0.028	0.026	0.266	<0.020
	Arsenic (As)-Total (mg/kg wwt)	0.0082	0.0111	0.0136	0.113	<0.0040
	Barium (Ba)-Total (mg/kg)	98.4	16.1	96.1	26.1	5.27
	Barium (Ba)-Total (mg/kg wwt)	37.2	6.38	50.8	11.1	0.795
	Beryllium (Be)-Total (mg/kg)	<0.010	<0.010	<0.010	0.036	<0.010
	Beryllium (Be)-Total (mg/kg wwt)	<0.0020	<0.0020	<0.0020	0.0152	<0.0020
	Bismuth (Bi)-Total (mg/kg)	<0.010	<0.010	<0.010	0.049	<0.010
	Bismuth (Bi)-Total (mg/kg wwt)	<0.0020	<0.0020	<0.0020	0.0209	<0.0020
	Boron (B)-Total (mg/kg)	11.4	4.3	13.9	<1.0	4.3
	Boron (B)-Total (mg/kg wwt)	4.29	1.72	7.34	0.34	0.65
	Cadmium (Cd)-Total (mg/kg)	0.135	0.547	<0.0050	0.0980	0.0909
	Cadmium (Cd)-Total (mg/kg wwt)	0.0512	0.217	0.0023	0.0416	0.0137
	Calcium (Ca)-Total (mg/kg)	11900	11900	6560	2200	579
	Calcium (Ca)-Total (mg/kg wwt)	4480	4730	3460	932	87.5
	Cesium (Cs)-Total (mg/kg)	0.227	0.0854	0.0233	0.0842	0.0070
	Cesium (Cs)-Total (mg/kg wwt)	0.0857	0.0338	0.0123	0.0357	0.0011
	Chromium (Cr)-Total (mg/kg)	<0.050	0.065	0.058	0.611	<0.050
	Chromium (Cr)-Total (mg/kg wwt)	0.016	0.026	0.030	0.259	<0.010
	Cobalt (Co)-Total (mg/kg)	0.280	0.316	0.057	0.649	<0.020
	Cobalt (Co)-Total (mg/kg wwt)	0.106	0.125	0.0299	0.275	<0.0040
	Copper (Cu)-Total (mg/kg)	40.4	25.8	23.0	383	3.25
	Copper (Cu)-Total (mg/kg wwt)	15.3	10.2	12.1	163	0.491
	Iron (Fe)-Total (mg/kg)	180	249	183	2280	15.1
	Iron (Fe)-Total (mg/kg wwt)	68.1	98.8	96.7	969	2.27
	Lead (Pb)-Total (mg/kg)	0.044	0.044	0.046	0.604	<0.020
	Lead (Pb)-Total (mg/kg wwt)	0.0165	0.0175	0.0242	0.256	<0.0040
	Lithium (Li)-Total (mg/kg)	<0.50	<0.50	<0.50	0.60	<0.50
	Lithium (Li)-Total (mg/kg wwt)	<0.10	<0.10	<0.10	0.25	<0.10
	Magnesium (Mg)-Total (mg/kg)	2220	3950	1500	847	309
	Magnesium (Mg)-Total (mg/kg wwt)	839	1560	794	359	46.7
	Manganese (Mn)-Total (mg/kg)	321	205	352	104	26.7
	Manganese (Mn)-Total (mg/kg wwt)	121	81.4	186	44.2	4.03

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813330-92	L1813330-93	L1813330-94	L1813330-95	L1813330-96
	Description	Tissue	Tissue	Tissue	Tissue	Tissue
	Sampled Date	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16
	Sampled Time					
	Client ID	M29-SALIX (RINSED)	M29-HORSETAIL (RINSED)	M29-LEDUM (RINSED)	M29-LICHEN (RINSED)	S16-HORSETAIL (RINSED)
Grouping	**Analyte**					
TISSUE						
Physical Tests	% Moisture (%)	63.4	65.5	63.5	59.7	68.2
Metals	Aluminum (Al)-Total (mg/kg)	72.2	143	305	64.0	24.6
	Aluminum (Al)-Total (mg/kg wwt)	26.5	49.2	111	25.8	7.82
	Antimony (Sb)-Total (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Antimony (Sb)-Total (mg/kg wwt)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Arsenic (As)-Total (mg/kg)	0.032	0.045	0.083	<0.020	<0.020
	Arsenic (As)-Total (mg/kg wwt)	0.0119	0.0157	0.0302	0.0071	0.0042
	Barium (Ba)-Total (mg/kg)	15.8	114	15.7	85.3	90.3
	Barium (Ba)-Total (mg/kg wwt)	5.79	39.3	5.75	34.4	28.7
	Beryllium (Be)-Total (mg/kg)	<0.010	<0.010	0.010	<0.010	<0.010
	Beryllium (Be)-Total (mg/kg wwt)	<0.0020	<0.0020	0.0038	<0.0020	<0.0020
	Bismuth (Bi)-Total (mg/kg)	<0.010	0.010	0.024	<0.010	<0.010
	Bismuth (Bi)-Total (mg/kg wwt)	<0.0020	0.0035	0.0088	<0.0020	<0.0020
	Boron (B)-Total (mg/kg)	5.2	15.3	<1.0	18.9	16.4
	Boron (B)-Total (mg/kg wwt)	1.89	5.27	0.24	7.61	5.21
	Cadmium (Cd)-Total (mg/kg)	1.11	0.0455	0.0798	<0.0050	0.0816
	Cadmium (Cd)-Total (mg/kg wwt)	0.407	0.0157	0.0291	0.0018	0.0259
	Calcium (Ca)-Total (mg/kg)	11400	13400	1500	5340	23400
	Calcium (Ca)-Total (mg/kg wwt)	4160	4600	546	2150	7420
	Cesium (Cs)-Total (mg/kg)	0.0126	0.0580	0.0567	0.0240	0.0514
	Cesium (Cs)-Total (mg/kg wwt)	0.0046	0.0200	0.0207	0.0097	0.0163
	Chromium (Cr)-Total (mg/kg)	<0.050	0.070	0.162	0.051	<0.050
	Chromium (Cr)-Total (mg/kg wwt)	0.015	0.024	0.059	0.021	<0.010
	Cobalt (Co)-Total (mg/kg)	0.353	0.330	0.202	0.035	0.174
	Cobalt (Co)-Total (mg/kg wwt)	0.129	0.114	0.0736	0.0140	0.0553
	Copper (Cu)-Total (mg/kg)	32.0	79.2	211	27.4	12.2
	Copper (Cu)-Total (mg/kg wwt)	11.7	27.3	77.1	11.1	3.87
	Iron (Fe)-Total (mg/kg)	170	279	642	125	65.9
	Iron (Fe)-Total (mg/kg wwt)	62.2	96.3	234	50.4	20.9
	Lead (Pb)-Total (mg/kg)	0.035	0.084	0.221	0.031	<0.020
	Lead (Pb)-Total (mg/kg wwt)	0.0127	0.0290	0.0806	0.0124	0.0042
	Lithium (Li)-Total (mg/kg)	<0.50	<0.50	<0.50	<0.50	<0.50
	Lithium (Li)-Total (mg/kg wwt)	<0.10	<0.10	<0.10	<0.10	<0.10
	Magnesium (Mg)-Total (mg/kg)	4940	2370	327	1220	3770
	Magnesium (Mg)-Total (mg/kg wwt)	1810	817	119	493	1200
	Manganese (Mn)-Total (mg/kg)	124	303	62.5	362	183
	Manganese (Mn)-Total (mg/kg wwt)	45.5	105	22.8	146	58.3

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813330-97	L1813330-98	L1813330-99	L1813330-100	L1813330-101
	Description	Tissue	Tissue	Tissue	Tissue	Tissue
	Sampled Date	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16
	Sampled Time					
	Client ID	S16-LEDUM (RINSED)	S16-SALIX (RINSED)	S05-LEDUM (RINSED)	S05-LICHEN (RINSED)	S05-HORSETAIL (RINSED)
Grouping	**Analyte**					
TISSUE						
Physical Tests	% Moisture (%)	47.6	59.1	43.2	53.8	69.6
Metals	Aluminum (Al)-Total (mg/kg)	110	93.3	146	1010	60.2
	Aluminum (Al)-Total (mg/kg wwt)	57.5	38.2	83.1	465	18.3
	Antimony (Sb)-Total (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Antimony (Sb)-Total (mg/kg wwt)	<0.0020	<0.0020	<0.0020	0.0045	<0.0020
	Arsenic (As)-Total (mg/kg)	0.031	0.028	0.036	0.251	0.024
	Arsenic (As)-Total (mg/kg wwt)	0.0162	0.0113	0.0207	0.116	0.0072
	Barium (Ba)-Total (mg/kg)	44.8	20.6	73.9	25.6	133
	Barium (Ba)-Total (mg/kg wwt)	23.5	8.44	42.0	11.8	40.4
	Beryllium (Be)-Total (mg/kg)	<0.010	<0.010	<0.010	0.031	<0.010
	Beryllium (Be)-Total (mg/kg wwt)	<0.0020	<0.0020	0.0022	0.0141	0.0023
	Bismuth (Bi)-Total (mg/kg)	<0.010	<0.010	<0.010	0.046	<0.010
	Bismuth (Bi)-Total (mg/kg wwt)	0.0025	0.0020	0.0031	0.0214	<0.0020
	Boron (B)-Total (mg/kg)	15.3	21.3	6.8	<1.0	15.4
	Boron (B)-Total (mg/kg wwt)	8.02	8.70	3.86	0.28	4.69
	Cadmium (Cd)-Total (mg/kg)	0.0053	0.898	0.0073	0.0861	0.0287
	Cadmium (Cd)-Total (mg/kg wwt)	0.0028	0.368	0.0042	0.0398	0.0087
	Calcium (Ca)-Total (mg/kg)	5600	14800	6170	2170	17400
	Calcium (Ca)-Total (mg/kg wwt)	2930	6070	3510	1000	5290
	Cesium (Cs)-Total (mg/kg)	0.0051	0.0085	0.0143	0.0780	0.307
	Cesium (Cs)-Total (mg/kg wwt)	0.0027	0.0035	0.0081	0.0360	0.0933
	Chromium (Cr)-Total (mg/kg)	<0.050	<0.050	0.084	0.486	<0.050
	Chromium (Cr)-Total (mg/kg wwt)	0.026	0.019	0.048	0.224	<0.010
	Cobalt (Co)-Total (mg/kg)	0.054	0.318	0.115	0.589	1.38
	Cobalt (Co)-Total (mg/kg wwt)	0.0281	0.130	0.0654	0.272	0.419
	Copper (Cu)-Total (mg/kg)	36.2	30.8	39.0	368	11.9
	Copper (Cu)-Total (mg/kg wwt)	19.0	12.6	22.2	170	3.63
	Iron (Fe)-Total (mg/kg)	202	198	265	1950	89.6
	Iron (Fe)-Total (mg/kg wwt)	106	81.1	150	902	27.3
	Lead (Pb)-Total (mg/kg)	0.045	0.041	0.061	0.467	<0.020
	Lead (Pb)-Total (mg/kg wwt)	0.0237	0.0169	0.0345	0.216	0.0060
	Lithium (Li)-Total (mg/kg)	<0.50	<0.50	<0.50	<0.50	<0.50
	Lithium (Li)-Total (mg/kg wwt)	<0.10	<0.10	<0.10	0.19	<0.10
	Magnesium (Mg)-Total (mg/kg)	1660	2760	1140	757	2930
	Magnesium (Mg)-Total (mg/kg wwt)	868	1130	646	350	892
	Manganese (Mn)-Total (mg/kg)	75.7	202	892	151	391
	Manganese (Mn)-Total (mg/kg wwt)	39.6	82.8	507	69.9	119

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813330-102	L1813330-103	L1813330-104	L1813330-105	L1813330-106
	Description	Tissue	Tissue	Tissue	Tissue	Tissue
	Sampled Date	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16
	Sampled Time					
	Client ID	S05-SALIX (RINSED)	S06-LEDUM (RINSED)	S06-SALIX (RINSED)	S07-SALIX (RINSED)	S07-BLUE BERRIES (RINSED)
Grouping	**Analyte**					
TISSUE						
Physical Tests	% Moisture (%)	58.9	48.7	58.1	61.9	87.5
Metals	Aluminum (Al)-Total (mg/kg)	149	41.5	83.2	118	8.7
	Aluminum (Al)-Total (mg/kg wwt)	61.3	21.3	34.9	45.0	1.09
	Antimony (Sb)-Total (mg/kg)	<0.020 DLA	<0.010	<0.010	<0.010	<0.010
	Antimony (Sb)-Total (mg/kg wwt)	<0.0040 DLA	<0.0020	<0.0020	<0.0020	<0.0020
	Arsenic (As)-Total (mg/kg)	<0.040 DLA	<0.020	<0.020	0.036	<0.020
	Arsenic (As)-Total (mg/kg wwt)	0.0163	0.0057	0.0048	0.0137	<0.0040
	Barium (Ba)-Total (mg/kg)	46.6	88.3	338	58.3	8.84
	Barium (Ba)-Total (mg/kg wwt)	19.2	45.3	142	22.2	1.10
	Beryllium (Be)-Total (mg/kg)	<0.020 DLA	<0.010	0.014	<0.010	<0.010
	Beryllium (Be)-Total (mg/kg wwt)	0.0046	<0.0020	0.0060	<0.0020	<0.0020
	Bismuth (Bi)-Total (mg/kg)	<0.020 DLA	<0.010	<0.010	<0.010	<0.010
	Bismuth (Bi)-Total (mg/kg wwt)	<0.0040 DLA	<0.0020	<0.0020	<0.0020	<0.0020
	Boron (B)-Total (mg/kg)	7.4	8.3	3.8	19.9	6.4
	Boron (B)-Total (mg/kg wwt)	3.04	4.25	1.60	7.59	0.80
	Cadmium (Cd)-Total (mg/kg)	0.573	<0.0050	1.13	1.12	0.141
	Cadmium (Cd)-Total (mg/kg wwt)	0.236	<0.0010	0.473	0.428	0.0177
	Calcium (Ca)-Total (mg/kg)	11100	5280	15300	14900	534
	Calcium (Ca)-Total (mg/kg wwt)	4580	2700	6430	5660	66.7
	Cesium (Cs)-Total (mg/kg)	0.035	0.0297	<0.0050	0.0180	<0.0050
	Cesium (Cs)-Total (mg/kg wwt)	0.0145	0.0152	0.0020	0.0069	<0.0010
	Chromium (Cr)-Total (mg/kg)	<0.10 DLA	<0.050	<0.050	0.073	<0.050
	Chromium (Cr)-Total (mg/kg wwt)	0.026	0.012	0.010	0.028	<0.010
	Cobalt (Co)-Total (mg/kg)	6.40	0.032	3.27	0.697	<0.020
	Cobalt (Co)-Total (mg/kg wwt)	2.63	0.0165	1.37	0.266	<0.0040
	Copper (Cu)-Total (mg/kg)	28.5	7.54	9.74	31.9	3.80
	Copper (Cu)-Total (mg/kg wwt)	11.7	3.86	4.08	12.2	0.475
	Iron (Fe)-Total (mg/kg)	329	53.2	67.9	246	20.3
	Iron (Fe)-Total (mg/kg wwt)	135	27.3	28.5	93.9	2.53
	Lead (Pb)-Total (mg/kg)	0.049	<0.020	0.025	0.061	<0.020
	Lead (Pb)-Total (mg/kg wwt)	0.0203	0.0061	0.0106	0.0233	<0.0040
	Lithium (Li)-Total (mg/kg)	<1.0 DLA	<0.50	<0.50	<0.50	<0.50
	Lithium (Li)-Total (mg/kg wwt)	0.20	<0.10	<0.10	<0.10	<0.10
	Magnesium (Mg)-Total (mg/kg)	2710	833	2660	7140	369
	Magnesium (Mg)-Total (mg/kg wwt)	1110	427	1110	2720	46.1
	Manganese (Mn)-Total (mg/kg)	2770	831	739	301	59.7
	Manganese (Mn)-Total (mg/kg wwt)	1140	426	310	115	7.46

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1813330-107	L1813330-108	L1813330-109	L1813330-110	L1813330-111
Description	Tissue	Tissue	Tissue	Tissue	Tissue
Sampled Date	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16
Sampled Time					
Client ID	S07-HORSETAIL (RINSED)	S07-LEDUM (RINSED)	S17-SALIX (RINSED)	S31-SALIX (RINSED)	S32-LEDUM (RINSED)
Grouping / **Analyte**					
TISSUE					
Physical Tests	% Moisture (%)	72.9	51.5	59.9	60.2	47.0
Metals	Aluminum (Al)-Total (mg/kg)	37.4	85.8	162	88.6	79.4
	Aluminum (Al)-Total (mg/kg wwt)	10.1	41.6	65.1	35.3	42.1
	Antimony (Sb)-Total (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Antimony (Sb)-Total (mg/kg wwt)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Arsenic (As)-Total (mg/kg)	0.044	<0.020	0.058	<0.020	0.021
	Arsenic (As)-Total (mg/kg wwt)	0.0120	0.0095	0.0231	0.0068	0.0112
	Barium (Ba)-Total (mg/kg)	140	71.8	133	355	74.3
	Barium (Ba)-Total (mg/kg wwt)	37.8	34.8	53.4	141	39.4
	Beryllium (Be)-Total (mg/kg)	<0.010	<0.010	0.012	0.014	<0.010
	Beryllium (Be)-Total (mg/kg wwt)	<0.0020	<0.0020	0.0049	0.0054	<0.0020
	Bismuth (Bi)-Total (mg/kg)	<0.010	<0.010	0.021	<0.010	<0.010
	Bismuth (Bi)-Total (mg/kg wwt)	<0.0020	<0.0020	0.0085	<0.0020	<0.0020
	Boron (B)-Total (mg/kg)	21.8	18.8	8.5	4.5	16.7
	Boron (B)-Total (mg/kg wwt)	5.89	9.10	3.43	1.77	8.84
	Cadmium (Cd)-Total (mg/kg)	0.0413	0.0059	1.32	1.18	0.0056
	Cadmium (Cd)-Total (mg/kg wwt)	0.0112	0.0029	0.531	0.468	0.0030
	Calcium (Ca)-Total (mg/kg)	16300	5620	22100	14900	5510
	Calcium (Ca)-Total (mg/kg wwt)	4410	2720	8880	5940	2920
	Cesium (Cs)-Total (mg/kg)	0.161	0.0095	0.0059	<0.0050	0.0098
	Cesium (Cs)-Total (mg/kg wwt)	0.0436	0.0046	0.0024	0.0019	0.0052
	Chromium (Cr)-Total (mg/kg)	<0.050	0.066	0.058	<0.050	<0.050
	Chromium (Cr)-Total (mg/kg wwt)	<0.010	0.032	0.023	0.016	0.026
	Cobalt (Co)-Total (mg/kg)	0.167	0.054	2.95	3.27	0.049
	Cobalt (Co)-Total (mg/kg wwt)	0.0452	0.0261	1.18	1.30	0.0260
	Copper (Cu)-Total (mg/kg)	16.8	33.9	81.4	12.6	31.1
	Copper (Cu)-Total (mg/kg wwt)	4.55	16.4	32.6	5.00	16.5
	Iron (Fe)-Total (mg/kg)	85.2	189	335	77.2	176
	Iron (Fe)-Total (mg/kg wwt)	23.1	91.7	134	30.7	93.1
	Lead (Pb)-Total (mg/kg)	0.023	0.057	0.082	0.030	0.050
	Lead (Pb)-Total (mg/kg wwt)	0.0062	0.0277	0.0328	0.0120	0.0267
	Lithium (Li)-Total (mg/kg)	<0.50	<0.50	<0.50	<0.50	<0.50
	Lithium (Li)-Total (mg/kg wwt)	<0.10	<0.10	<0.10	<0.10	<0.10
	Magnesium (Mg)-Total (mg/kg)	5100	1440	3460	2960	1310
	Magnesium (Mg)-Total (mg/kg wwt)	1380	699	1390	1180	695
	Manganese (Mn)-Total (mg/kg)	96.2	527	448	770	446
	Manganese (Mn)-Total (mg/kg wwt)	26.0	255	180	306	236

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813330-112	L1813330-113	L1813330-114	L1813330-115	L1813330-116
	Description	Tissue	Tissue	Tissue	Tissue	Tissue
	Sampled Date	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16	11-AUG-16
	Sampled Time					
	Client ID	S33-HORSETAIL (RINSED)	S34-LICHEN (RINSED)	S35-SALIX (RINSED)	S36-LEDUM (RINSED)	C02-HORSETAIL (RINSED)
Grouping	**Analyte**					
TISSUE						
Physical Tests	% Moisture (%)	70.5	42.7	60.7	55.7	68.3
Metals	Aluminum (Al)-Total (mg/kg)	37.0	1080	96.8	77.0	11.8
	Aluminum (Al)-Total (mg/kg wwt)	10.9	621	38.0	34.1	3.75
	Antimony (Sb)-Total (mg/kg)	<0.010	0.016	0.014	<0.010	0.011
	Antimony (Sb)-Total (mg/kg wwt)	<0.0020	0.0090	0.0056	<0.0020	0.0036
	Arsenic (As)-Total (mg/kg)	0.056	0.256	0.042	0.022	0.057
	Arsenic (As)-Total (mg/kg wwt)	0.0164	0.147	0.0165	0.0097	0.0181
	Barium (Ba)-Total (mg/kg)	140	29.8	24.1	93.5	108
	Barium (Ba)-Total (mg/kg wwt)	41.4	17.1	9.46	41.4	34.3
	Beryllium (Be)-Total (mg/kg)	<0.010	0.029	<0.010	<0.010	<0.010
	Beryllium (Be)-Total (mg/kg wwt)	<0.0020	0.0165	<0.0020	<0.0020	<0.0020
	Bismuth (Bi)-Total (mg/kg)	<0.010	0.047	<0.010	<0.010	<0.010
	Bismuth (Bi)-Total (mg/kg wwt)	<0.0020	0.0269	<0.0020	<0.0020	<0.0020
	Boron (B)-Total (mg/kg)	19.9	<1.0	22.2	18.1	12.3
	Boron (B)-Total (mg/kg wwt)	5.89	0.41	8.71	8.01	3.90
	Cadmium (Cd)-Total (mg/kg)	0.0658	0.0756	0.976	<0.0050	0.0661
	Cadmium (Cd)-Total (mg/kg wwt)	0.0194	0.0433	0.383	0.0013	0.0210
	Calcium (Ca)-Total (mg/kg)	17500	2060	14900	5430	21400
	Calcium (Ca)-Total (mg/kg wwt)	5180	1180	5850	2410	6800
	Cesium (Cs)-Total (mg/kg)	0.217	0.0722	0.0083	0.0157	0.0453
	Cesium (Cs)-Total (mg/kg wwt)	0.0641	0.0414	0.0032	0.0070	0.0144
	Chromium (Cr)-Total (mg/kg)	<0.050	0.535	0.060	<0.050	<0.050
	Chromium (Cr)-Total (mg/kg wwt)	<0.010	0.307	0.024	0.017	<0.010
	Cobalt (Co)-Total (mg/kg)	0.229	0.563	0.379	0.038	0.253
	Cobalt (Co)-Total (mg/kg wwt)	0.0675	0.322	0.149	0.0170	0.0804
	Copper (Cu)-Total (mg/kg)	17.1	338	38.6	30.6	6.19
	Copper (Cu)-Total (mg/kg wwt)	5.06	193	15.2	13.6	1.97
	Iron (Fe)-Total (mg/kg)	85.2	2000	221	130	48.7
	Iron (Fe)-Total (mg/kg wwt)	25.1	1150	87.0	57.7	15.5
	Lead (Pb)-Total (mg/kg)	0.021	0.601	0.040	0.037	<0.020
	Lead (Pb)-Total (mg/kg wwt)	0.0061	0.344	0.0157	0.0163	<0.0040
	Lithium (Li)-Total (mg/kg)	<0.50	<0.50	<0.50	<0.50	<0.50
	Lithium (Li)-Total (mg/kg wwt)	<0.10	0.26	<0.10	<0.10	<0.10
	Magnesium (Mg)-Total (mg/kg)	5200	699	3390	1250	5230
	Magnesium (Mg)-Total (mg/kg wwt)	1530	400	1330	552	1660
	Manganese (Mn)-Total (mg/kg)	119	98.8	244	319	86.9
	Manganese (Mn)-Total (mg/kg wwt)	35.2	56.6	95.9	141	27.6

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813330-117	L1813330-118	L1813330-119	L1813330-120	L1813330-121
	Description	Tissue	Tissue	Tissue	Tissue	Tissue
	Sampled Date	11-AUG-16	11-AUG-16	11-AUG-16	11-AUG-16	11-AUG-16
	Sampled Time					
	Client ID	C02-LEDUM (RINSED)	C02-LICHEN (RINSED)	C02-SALIX (RINSED)	S09-SALIX (RINSED)	M80-SALIX (RINSED)
Grouping	**Analyte**					
TISSUE						
Physical Tests	% Moisture (%)	43.3	55.9	55.2	52.4	58.9
Metals	Aluminum (Al)-Total (mg/kg)	30.9	198	32.1	58.7	50.5
	Aluminum (Al)-Total (mg/kg wwt)	17.5	87.4	14.4	27.9	20.7
	Antimony (Sb)-Total (mg/kg)	0.010	0.012	<0.010	<0.010	<0.010
	Antimony (Sb)-Total (mg/kg wwt)	0.0058	0.0052	0.0036	<0.0020	0.0027
	Arsenic (As)-Total (mg/kg)	0.028	0.100	<0.020	<0.020	<0.020
	Arsenic (As)-Total (mg/kg wwt)	0.0161	0.0439	0.0065	0.0052	0.0065
	Barium (Ba)-Total (mg/kg)	64.4	13.6	56.6	130	308
	Barium (Ba)-Total (mg/kg wwt)	36.5	5.98	25.3	62.0	127
	Beryllium (Be)-Total (mg/kg)	<0.010	<0.010	<0.010	<0.010	0.013
	Beryllium (Be)-Total (mg/kg wwt)	<0.0020	0.0027	<0.0020	0.0034	0.0051
	Bismuth (Bi)-Total (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Bismuth (Bi)-Total (mg/kg wwt)	<0.0020	0.0030	<0.0020	<0.0020	<0.0020
	Boron (B)-Total (mg/kg)	20.7	<1.0	13.0	11.6	22.7
	Boron (B)-Total (mg/kg wwt)	11.7	0.28	5.84	5.53	9.32
	Cadmium (Cd)-Total (mg/kg)	<0.0050	0.0232	1.30	0.635	2.86
	Cadmium (Cd)-Total (mg/kg wwt)	0.0014	0.0102	0.583	0.302	1.17
	Calcium (Ca)-Total (mg/kg)	7010	1290	20200	17800	27700
	Calcium (Ca)-Total (mg/kg wwt)	3980	569	9030	8480	11400
	Cesium (Cs)-Total (mg/kg)	0.0098	0.0162	0.0163	<0.0050	<0.0050
	Cesium (Cs)-Total (mg/kg wwt)	0.0055	0.0071	0.0073	0.0014	0.0019
	Chromium (Cr)-Total (mg/kg)	<0.050	0.153	<0.050	<0.050	0.060
	Chromium (Cr)-Total (mg/kg wwt)	0.025	0.068	<0.010	0.023	0.025
	Cobalt (Co)-Total (mg/kg)	0.020	0.135	0.355	0.973	2.12
	Cobalt (Co)-Total (mg/kg wwt)	0.0115	0.0596	0.159	0.463	0.869
	Copper (Cu)-Total (mg/kg)	9.01	54.5	8.58	10.8	9.83
	Copper (Cu)-Total (mg/kg wwt)	5.11	24.0	3.84	5.16	4.04
	Iron (Fe)-Total (mg/kg)	67.0	367	91.3	115	91.5
	Iron (Fe)-Total (mg/kg wwt)	38.0	162	40.9	54.5	37.6
	Lead (Pb)-Total (mg/kg)	<0.020	0.142	<0.020	0.386	0.021
	Lead (Pb)-Total (mg/kg wwt)	0.0091	0.0626	0.0083	0.184	0.0086
	Lithium (Li)-Total (mg/kg)	<0.50	<0.50	<0.50	<0.50	<0.50
	Lithium (Li)-Total (mg/kg wwt)	<0.10	<0.10	<0.10	<0.10	<0.10
	Magnesium (Mg)-Total (mg/kg)	1840	282	6520	2510	3520
	Magnesium (Mg)-Total (mg/kg wwt)	1040	124	2920	1200	1440
	Manganese (Mn)-Total (mg/kg)	153	84.6	143	309	226
	Manganese (Mn)-Total (mg/kg wwt)	86.5	37.3	63.9	147	92.9

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813330-122	L1813330-123	L1813330-124	L1813330-125	L1813330-126
	Description	Tissue	Tissue	Tissue	Tissue	Tissue
	Sampled Date	11-AUG-16	11-AUG-16	11-AUG-16	11-AUG-16	11-AUG-16
	Sampled Time					
	Client ID	M80-LEDUM (RINSED)	M26-LEDUM (RINSED)	M26-SALIX (RINSED)	M26-LICHEN (RINSED)	M26-BLUEBERRIES (RINSED)
Grouping	**Analyte**					
TISSUE						
Physical Tests	% Moisture (%)	48.5	51.5	62.0	39.0	83.3
Metals	Aluminum (Al)-Total (mg/kg)	110	26.4	13.4	117	2.8
	Aluminum (Al)-Total (mg/kg wwt)	56.5	12.8	5.08	71.6	0.47
	Antimony (Sb)-Total (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Antimony (Sb)-Total (mg/kg wwt)	<0.0020	<0.0020	<0.0020	0.0037	<0.0020
	Arsenic (As)-Total (mg/kg)	0.023	<0.020	<0.020	0.108	<0.020
	Arsenic (As)-Total (mg/kg wwt)	0.0116	0.0056	<0.0040	0.0660	<0.0040
	Barium (Ba)-Total (mg/kg)	141	63.6	50.7	11.3	9.21
	Barium (Ba)-Total (mg/kg wwt)	72.7	30.8	19.2	6.88	1.54
	Beryllium (Be)-Total (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Beryllium (Be)-Total (mg/kg wwt)	<0.0020	<0.0020	<0.0020	0.0029	<0.0020
	Bismuth (Bi)-Total (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Bismuth (Bi)-Total (mg/kg wwt)	<0.0020	<0.0020	<0.0020	0.0024	<0.0020
	Boron (B)-Total (mg/kg)	24.8	12.2	8.3	<1.0	6.0
	Boron (B)-Total (mg/kg wwt)	12.8	5.94	3.14	0.33	1.00
	Cadmium (Cd)-Total (mg/kg)	0.0054	<0.0050	1.26	0.0416	0.0730
	Cadmium (Cd)-Total (mg/kg wwt)	0.0028	0.0013	0.479	0.0254	0.0122
	Calcium (Ca)-Total (mg/kg)	8280	6820	16700	2240	807
	Calcium (Ca)-Total (mg/kg wwt)	4270	3310	6340	1360	135
	Cesium (Cs)-Total (mg/kg)	0.0053	<0.0050	0.0057	0.0345	<0.0050
	Cesium (Cs)-Total (mg/kg wwt)	0.0027	0.0021	0.0022	0.0211	<0.0010
	Chromium (Cr)-Total (mg/kg)	0.115	<0.050	<0.050	0.151	<0.050
	Chromium (Cr)-Total (mg/kg wwt)	0.059	0.024	<0.010	0.092	<0.010
	Cobalt (Co)-Total (mg/kg)	0.108	<0.020	0.647	0.082	<0.020
	Cobalt (Co)-Total (mg/kg wwt)	0.0558	0.0061	0.246	0.0498	<0.0040
	Copper (Cu)-Total (mg/kg)	15.3	4.37	4.22	17.1	3.61
	Copper (Cu)-Total (mg/kg wwt)	7.87	2.12	1.60	10.5	0.604
	Iron (Fe)-Total (mg/kg)	120	41.0	42.9	196	10.2
	Iron (Fe)-Total (mg/kg wwt)	62.0	19.9	16.3	120	1.71
	Lead (Pb)-Total (mg/kg)	0.029	<0.020	<0.020	0.138	<0.020
	Lead (Pb)-Total (mg/kg wwt)	0.0149	0.0082	<0.0040	0.0843	<0.0040
	Lithium (Li)-Total (mg/kg)	<0.50	<0.50	<0.50	<0.50	<0.50
	Lithium (Li)-Total (mg/kg wwt)	<0.10	<0.10	<0.10	<0.10	<0.10
	Magnesium (Mg)-Total (mg/kg)	1380	1350	4890	401	375
	Magnesium (Mg)-Total (mg/kg wwt)	710	657	1860	245	62.8
	Manganese (Mn)-Total (mg/kg)	1900	49.5	77.4	15.3	26.8
	Manganese (Mn)-Total (mg/kg wwt)	979	24.0	29.4	9.33	4.49

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813330-127	L1813330-128	L1813330-129	L1813330-130	L1813330-131
	Description	Tissue	Tissue	Tissue	Tissue	Tissue
	Sampled Date	11-AUG-16	11-AUG-16	11-AUG-16	11-AUG-16	12-AUG-16
	Sampled Time					
	Client ID	M07B-SALIX (RINSED)	M07B-HORSETAIL (RINSED)	M07B-LEDUM (RINSED)	M07B-LICHEN (RINSED)	S04-SALIX (RINSED)
Grouping	**Analyte**					
TISSUE						
Physical Tests	% Moisture (%)	57.5	61.2	47.8	18.3	56.5
Metals	Aluminum (Al)-Total (mg/kg)	14.9	7.6	33.9	249	85.1
	Aluminum (Al)-Total (mg/kg wwt)	6.32	2.94	17.7	203	37.0
	Antimony (Sb)-Total (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Antimony (Sb)-Total (mg/kg wwt)	0.0020	<0.0020	0.0029	0.0067	<0.0020
	Arsenic (As)-Total (mg/kg)	<0.020	0.047	<0.020	0.121	0.021
	Arsenic (As)-Total (mg/kg wwt)	<0.0040	0.0183	0.0075	0.0991	0.0091
	Barium (Ba)-Total (mg/kg)	23.6	107	91.9	11.6	99.2
	Barium (Ba)-Total (mg/kg wwt)	10.0	41.6	48.0	9.46	43.2
	Beryllium (Be)-Total (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Beryllium (Be)-Total (mg/kg wwt)	<0.0020	<0.0020	<0.0020	0.0054	0.0038
	Bismuth (Bi)-Total (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Bismuth (Bi)-Total (mg/kg wwt)	<0.0020	<0.0020	<0.0020	0.0081	<0.0020
	Boron (B)-Total (mg/kg)	10.9	20.7	11.7	<1.0	10.6
	Boron (B)-Total (mg/kg wwt)	4.63	8.04	6.10	0.37	4.61
	Cadmium (Cd)-Total (mg/kg)	0.120	0.0202	<0.0050	0.0224	0.348
	Cadmium (Cd)-Total (mg/kg wwt)	0.0508	0.0078	0.0011	0.0183	0.151
	Calcium (Ca)-Total (mg/kg)	15000	27000	7620	1670	13600
	Calcium (Ca)-Total (mg/kg wwt)	6360	10500	3980	1360	5910
	Cesium (Cs)-Total (mg/kg)	0.0291	0.610	0.0053	0.0313	<0.0050
	Cesium (Cs)-Total (mg/kg wwt)	0.0124	0.237	0.0028	0.0256	0.0013
	Chromium (Cr)-Total (mg/kg)	<0.050	<0.050	0.418	0.233	<0.050
	Chromium (Cr)-Total (mg/kg wwt)	<0.010	<0.010	0.218	0.190	0.018
	Cobalt (Co)-Total (mg/kg)	0.120	0.454	0.026	0.154	0.855
	Cobalt (Co)-Total (mg/kg wwt)	0.0510	0.176	0.0137	0.125	0.372
	Copper (Cu)-Total (mg/kg)	5.56	6.14	5.23	63.0	7.47
	Copper (Cu)-Total (mg/kg wwt)	2.36	2.38	2.73	51.5	3.25
	Iron (Fe)-Total (mg/kg)	55.5	68.6	80.1	432	113
	Iron (Fe)-Total (mg/kg wwt)	23.6	26.6	41.8	353	49.2
	Lead (Pb)-Total (mg/kg)	<0.020	<0.020	<0.020	0.220	0.029
	Lead (Pb)-Total (mg/kg wwt)	0.0042	<0.0040	0.0084	0.180	0.0125
	Lithium (Li)-Total (mg/kg)	<0.50	<0.50	<0.50	<0.50	<0.50
	Lithium (Li)-Total (mg/kg wwt)	<0.10	<0.10	<0.10	0.11	<0.10
	Magnesium (Mg)-Total (mg/kg)	4670	4550	1480	379	1830
	Magnesium (Mg)-Total (mg/kg wwt)	1980	1770	773	310	795
	Manganese (Mn)-Total (mg/kg)	169	383	134	33.3	264
	Manganese (Mn)-Total (mg/kg wwt)	71.8	149	70.2	27.2	115

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813330-132	L1813330-133			
	Description	Tissue	Tissue			
	Sampled Date	12-AUG-16	12-AUG-16			
	Sampled Time					
	Client ID	S19-SALIX (RINSED)	S19-LEDUM (RINSED)			
Grouping	**Analyte**					
TISSUE						
Physical Tests	% Moisture (%)	63.1	50.1			
Metals	Aluminum (Al)-Total (mg/kg)	250	293			
	Aluminum (Al)-Total (mg/kg wwt)	92.4	146			
	Antimony (Sb)-Total (mg/kg)	0.018	0.011			
	Antimony (Sb)-Total (mg/kg wwt)	0.0065	0.0055			
	Arsenic (As)-Total (mg/kg)	0.056	0.107			
	Arsenic (As)-Total (mg/kg wwt)	0.0206	0.0536			
	Barium (Ba)-Total (mg/kg)	275	90.1			
	Barium (Ba)-Total (mg/kg wwt)	101	44.9			
	Beryllium (Be)-Total (mg/kg)	0.022	<0.010			
	Beryllium (Be)-Total (mg/kg wwt)	0.0080	0.0042			
	Bismuth (Bi)-Total (mg/kg)	<0.010	<0.010			
	Bismuth (Bi)-Total (mg/kg wwt)	0.0029	0.0040			
	Boron (B)-Total (mg/kg)	7.1	13.5			
	Boron (B)-Total (mg/kg wwt)	2.63	6.71			
	Cadmium (Cd)-Total (mg/kg)	1.02	0.0060			
	Cadmium (Cd)-Total (mg/kg wwt)	0.377	0.0030			
	Calcium (Ca)-Total (mg/kg)	20600	7140			
	Calcium (Ca)-Total (mg/kg wwt)	7600	3560			
	Cesium (Cs)-Total (mg/kg)	0.0070	0.0108			
	Cesium (Cs)-Total (mg/kg wwt)	0.0026	0.0054			
	Chromium (Cr)-Total (mg/kg)	0.126	0.136			
	Chromium (Cr)-Total (mg/kg wwt)	0.046	0.068			
	Cobalt (Co)-Total (mg/kg)	2.76	0.174			
	Cobalt (Co)-Total (mg/kg wwt)	1.02	0.0869			
	Copper (Cu)-Total (mg/kg)	56.0	65.8			
	Copper (Cu)-Total (mg/kg wwt)	20.7	32.8			
	Iron (Fe)-Total (mg/kg)	412	482			
	Iron (Fe)-Total (mg/kg wwt)	152	240			
	Lead (Pb)-Total (mg/kg)	0.120	0.122			
	Lead (Pb)-Total (mg/kg wwt)	0.0444	0.0607			
	Lithium (Li)-Total (mg/kg)	<0.50	<0.50			
	Lithium (Li)-Total (mg/kg wwt)	<0.10	<0.10			
	Magnesium (Mg)-Total (mg/kg)	2770	1410			
	Magnesium (Mg)-Total (mg/kg wwt)	1020	705			
	Manganese (Mn)-Total (mg/kg)	818	911			
	Manganese (Mn)-Total (mg/kg wwt)	302	454			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813330-1	L1813330-2	L1813330-3	L1813330-4	L1813330-5
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16
	Sampled Time					
	Client ID	C01-SALIX	C01-LICHEN	C01-HORSETAIL	C01-LEDUM	S03-SALIX
Grouping	**Analyte**					
TISSUE						
Metals	Molybdenum (Mo)-Total (mg/kg)	0.587	0.053	0.218	0.343	0.245
	Molybdenum (Mo)-Total (mg/kg wwt)	0.152	0.0139	0.0512	0.112	0.0770
	Nickel (Ni)-Total (mg/kg)	11.2	0.31	1.77	0.56	3.45
	Nickel (Ni)-Total (mg/kg wwt)	2.90	0.081	0.415	0.184	1.09
	Phosphorus (P)-Total (mg/kg)	7110	491	1130	974	3410
	Phosphorus (P)-Total (mg/kg wwt)	1840	128	264	319	1070
	Potassium (K)-Total (mg/kg)	14000	1310	26800	3440	8060
	Potassium (K)-Total (mg/kg wwt)	3640	341	6280	1130	2540
	Rubidium (Rb)-Total (mg/kg)	1.45	1.85	22.8	1.04	2.18
	Rubidium (Rb)-Total (mg/kg wwt)	0.374	0.484	5.33	0.340	0.685
	Selenium (Se)-Total (mg/kg)	<0.050	<0.050	<0.050	<0.050	0.227
	Selenium (Se)-Total (mg/kg wwt)	<0.010	<0.010	<0.010	<0.010	0.072
	Sodium (Na)-Total (mg/kg)	22	21	22	42	<20
	Sodium (Na)-Total (mg/kg wwt)	5.8	5.5	5.1	13.8	5.8
	Strontium (Sr)-Total (mg/kg)	103	5.85	76.1	11.2	97.3
	Strontium (Sr)-Total (mg/kg wwt)	26.8	1.53	17.8	3.67	30.6
	Tellurium (Te)-Total (mg/kg)	<0.020	<0.020	<0.020	<0.020	<0.020
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg)	<0.0020	0.0024	<0.0020	0.0089	<0.0020
	Thallium (Tl)-Total (mg/kg wwt)	<0.00040	0.00061	<0.00040	0.00291	0.00056
	Tin (Sn)-Total (mg/kg)	<0.10	<0.10	<0.10	<0.10	<0.10
	Tin (Sn)-Total (mg/kg wwt)	<0.020	<0.020	<0.020	<0.020	<0.020
	Uranium (U)-Total (mg/kg)	<0.0020	0.0070	<0.0020	<0.0020	0.0089
	Uranium (U)-Total (mg/kg wwt)	<0.00040	0.00183	<0.00040	<0.00040	0.00280
	Vanadium (V)-Total (mg/kg)	<0.10	0.39	<0.10	<0.10	0.92
	Vanadium (V)-Total (mg/kg wwt)	0.022	0.103	<0.020	<0.020	0.291
	Zinc (Zn)-Total (mg/kg)	209	18.7	24.5	21.0	20.1
	Zinc (Zn)-Total (mg/kg wwt)	54.2	4.89	5.74	6.89	6.32
	Zirconium (Zr)-Total (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Zirconium (Zr)-Total (mg/kg wwt)	<0.040	<0.040	<0.040	<0.040	0.047

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1813330-6	L1813330-7	L1813330-8	L1813330-9	L1813330-10
Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
Sampled Date	09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16
Sampled Time					
Client ID	S03-LICHEN	S11-LICHEN	S11-SALIX	S02-SALIX	S02-LICHEN
Grouping / **Analyte**					
TISSUE					
Metals					
Molybdenum (Mo)-Total (mg/kg)	0.113	0.089	0.788	0.773	0.188
Molybdenum (Mo)-Total (mg/kg wwt)	0.0316	0.0283	0.211	0.259	0.0715
Nickel (Ni)-Total (mg/kg)	1.19	0.53	5.94	6.64	1.27
Nickel (Ni)-Total (mg/kg wwt)	0.331	0.170	1.59	2.23	0.482
Phosphorus (P)-Total (mg/kg)	690	719	3810	3480	773
Phosphorus (P)-Total (mg/kg wwt)	192	230	1020	1170	293
Potassium (K)-Total (mg/kg)	1630	1710	11400	8370	2010
Potassium (K)-Total (mg/kg wwt)	454	547	3040	2810	762
Rubidium (Rb)-Total (mg/kg)	2.76	3.79	4.11	2.16	5.25
Rubidium (Rb)-Total (mg/kg wwt)	0.767	1.21	1.10	0.724	1.99
Selenium (Se)-Total (mg/kg)	0.078	0.065	<0.050	0.659	0.094
Selenium (Se)-Total (mg/kg wwt)	0.022	0.021	0.010	0.221	0.036
Sodium (Na)-Total (mg/kg)	27	<20	<20	<20	38
Sodium (Na)-Total (mg/kg wwt)	7.4	5.1	<4.0	4.6	14.4
Strontium (Sr)-Total (mg/kg)	9.82	14.6	102	82.6	11.2
Strontium (Sr)-Total (mg/kg wwt)	2.73	4.66	27.2	27.7	4.24
Tellurium (Te)-Total (mg/kg)	<0.020	<0.020	<0.020	<0.020	<0.020
Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
Thallium (Tl)-Total (mg/kg)	0.0093	0.0182	<0.0020	<0.0020	0.0096
Thallium (Tl)-Total (mg/kg wwt)	0.00259	0.00581	<0.00040	<0.00040	0.00363
Tin (Sn)-Total (mg/kg)	<0.10	<0.10	<0.10	<0.10	<0.10
Tin (Sn)-Total (mg/kg wwt)	<0.020	<0.020	<0.020	<0.020	<0.020
Uranium (U)-Total (mg/kg)	0.0326	0.0115	<0.0020	0.0040	0.0331
Uranium (U)-Total (mg/kg wwt)	0.00906	0.00367	<0.00040	0.00134	0.0126
Vanadium (V)-Total (mg/kg)	3.49	1.01	<0.10	0.48	3.55
Vanadium (V)-Total (mg/kg wwt)	0.971	0.324	0.023	0.161	1.35
Zinc (Zn)-Total (mg/kg)	14.9	16.4	36.0	15.8	18.2
Zinc (Zn)-Total (mg/kg wwt)	4.14	5.24	9.61	5.29	6.91
Zirconium (Zr)-Total (mg/kg)	0.44	<0.20	<0.20	<0.20	0.46
Zirconium (Zr)-Total (mg/kg wwt)	0.123	0.050	<0.040	<0.040	0.173

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1813330-11	L1813330-12	L1813330-13	L1813330-14	L1813330-15
Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
Sampled Date	09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16
Sampled Time					
Client ID	S01-LEDUM	S01-SALIX	S01-LICHEN	S18-SALIX	S18-LICHEN
Grouping / **Analyte**					
TISSUE					
Metals					
Molybdenum (Mo)-Total (mg/kg)	0.232	0.135	0.121	1.66	0.830
Molybdenum (Mo)-Total (mg/kg wwt)	0.0859	0.0492	0.0404	0.674	0.260
Nickel (Ni)-Total (mg/kg)	2.10	8.50	0.56	5.19	0.97
Nickel (Ni)-Total (mg/kg wwt)	0.778	3.10	0.189	2.11	0.304
Phosphorus (P)-Total (mg/kg)	1130	3110	701	1120	642
Phosphorus (P)-Total (mg/kg wwt)	417	1140	235	453	202
Potassium (K)-Total (mg/kg)	4250	11200	1520	5420	1320
Potassium (K)-Total (mg/kg wwt)	1570	4100	508	2200	415
Rubidium (Rb)-Total (mg/kg)	5.77	3.40	3.90	3.56	5.25
Rubidium (Rb)-Total (mg/kg wwt)	2.13	1.24	1.31	1.45	1.65
Selenium (Se)-Total (mg/kg)	0.051	0.261	0.080	<0.050	0.689
Selenium (Se)-Total (mg/kg wwt)	0.019	0.095	0.027	0.019	0.216
Sodium (Na)-Total (mg/kg)	<20	<20	<20	<20	22
Sodium (Na)-Total (mg/kg wwt)	<4.0	<4.0	6.2	<4.0	7.0
Strontium (Sr)-Total (mg/kg)	11.2	101	14.1	107	11.9
Strontium (Sr)-Total (mg/kg wwt)	4.15	37.0	4.71	43.3	3.73
Tellurium (Te)-Total (mg/kg)	<0.020	<0.020	<0.020	<0.020	0.057
Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	<0.0040	<0.0040	0.0179
Thallium (Tl)-Total (mg/kg)	0.0061	<0.0020	0.0059	0.0078	0.0162
Thallium (Tl)-Total (mg/kg wwt)	0.00225	<0.00040	0.00196	0.00315	0.00509
Tin (Sn)-Total (mg/kg)	<0.10	<0.10	<0.10	<0.10	0.10
Tin (Sn)-Total (mg/kg wwt)	<0.020	<0.020	<0.020	<0.020	0.032
Uranium (U)-Total (mg/kg)	<0.0020	<0.0020	0.0111	<0.0020	0.0370
Uranium (U)-Total (mg/kg wwt)	0.00046	0.00069	0.00371	0.00042	0.0116
Vanadium (V)-Total (mg/kg)	0.12	0.18	0.90	0.15	5.26
Vanadium (V)-Total (mg/kg wwt)	0.044	0.065	0.299	0.060	1.65
Zinc (Zn)-Total (mg/kg)	19.1	12.9	12.4	82.7	24.2
Zinc (Zn)-Total (mg/kg wwt)	7.05	4.70	4.16	33.6	7.59
Zirconium (Zr)-Total (mg/kg)	<0.20	<0.20	<0.20	<0.20	0.23
Zirconium (Zr)-Total (mg/kg wwt)	<0.040	<0.040	0.045	<0.040	0.071

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813330-16	L1813330-17	L1813330-18	L1813330-19	L1813330-20
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16
	Sampled Time					
	Client ID	S18-LEDUM	S18-HORSETAIL	S15-SALIX	S15-LEDUM	S15-HORSETAIL
Grouping	**Analyte**					
TISSUE						
Metals	Molybdenum (Mo)-Total (mg/kg)	0.490	0.284	0.468	0.213	0.217
	Molybdenum (Mo)-Total (mg/kg wwt)	0.263	0.112	0.162	0.0988	0.0814
	Nickel (Ni)-Total (mg/kg)	0.21	0.80	4.65	0.27	0.57
	Nickel (Ni)-Total (mg/kg wwt)	0.114	0.313	1.61	0.126	0.215
	Phosphorus (P)-Total (mg/kg)	1010	820	2000	1370	1500
	Phosphorus (P)-Total (mg/kg wwt)	540	321	694	633	562
	Potassium (K)-Total (mg/kg)	3530	8120	15500	4070	16100
	Potassium (K)-Total (mg/kg wwt)	1890	3180	5380	1890	6050
	Rubidium (Rb)-Total (mg/kg)	4.43	19.1	18.6	6.69	48.8
	Rubidium (Rb)-Total (mg/kg wwt)	2.38	7.47	6.44	3.10	18.3
	Selenium (Se)-Total (mg/kg)	<0.050	0.448	0.055	<0.050	0.073
	Selenium (Se)-Total (mg/kg wwt)	0.012	0.176	0.019	0.021	0.027
	Sodium (Na)-Total (mg/kg)	<20	35	<20	<20	33
	Sodium (Na)-Total (mg/kg wwt)	<4.0	13.7	<4.0	<4.0	12.2
	Strontium (Sr)-Total (mg/kg)	6.92	54.2	57.1	7.12	46.9
	Strontium (Sr)-Total (mg/kg wwt)	3.71	21.2	19.8	3.30	17.6
	Tellurium (Te)-Total (mg/kg)	<0.020	<0.020	<0.020	<0.020	<0.020
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	0.0054	<0.0040	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg)	0.0055	0.0037	0.0045	0.0082	0.0020
	Thallium (Tl)-Total (mg/kg wwt)	0.00294	0.00145	0.00158	0.00379	0.00077
	Tin (Sn)-Total (mg/kg)	<0.10	<0.10	<0.10	<0.10	<0.10
	Tin (Sn)-Total (mg/kg wwt)	<0.020	<0.020	<0.020	<0.020	<0.020
	Uranium (U)-Total (mg/kg)	<0.0020	0.0090	<0.0020	<0.0020	0.0053
	Uranium (U)-Total (mg/kg wwt)	0.00043	0.00353	0.00054	0.00085	0.00198
	Vanadium (V)-Total (mg/kg)	0.10	0.76	0.22	0.31	0.59
	Vanadium (V)-Total (mg/kg wwt)	0.056	0.299	0.075	0.145	0.223
	Zinc (Zn)-Total (mg/kg)	14.6	26.8	45.8	23.8	48.1
	Zinc (Zn)-Total (mg/kg wwt)	7.86	10.5	15.9	11.0	18.1
	Zirconium (Zr)-Total (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Zirconium (Zr)-Total (mg/kg wwt)	<0.040	<0.040	<0.040	<0.040	<0.040

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813330-21	L1813330-22	L1813330-23	L1813330-24	L1813330-25
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16
	Sampled Time					
	Client ID	S08-SALIX	S08-LEDUM	S08-LICHEN	S08-BLUE BERRIES	M29-SALIX
Grouping	**Analyte**					
TISSUE						
Metals	Molybdenum (Mo)-Total (mg/kg)	0.362	0.144	0.891	0.340	2.36
	Molybdenum (Mo)-Total (mg/kg wwt)	0.139	0.0725	0.352	0.0510	0.879
	Nickel (Ni)-Total (mg/kg)	1.94	0.36	1.08	0.54	3.23
	Nickel (Ni)-Total (mg/kg wwt)	0.746	0.183	0.427	0.081	1.20
	Phosphorus (P)-Total (mg/kg)	817	745	690	1190	1750
	Phosphorus (P)-Total (mg/kg wwt)	314	376	273	179	650
	Potassium (K)-Total (mg/kg)	6640	2760	1840	7080	10400
	Potassium (K)-Total (mg/kg wwt)	2560	1390	725	1060	3860
	Rubidium (Rb)-Total (mg/kg)	7.25	3.79	5.48	7.03	2.76
	Rubidium (Rb)-Total (mg/kg wwt)	2.79	1.91	2.16	1.05	1.03
	Selenium (Se)-Total (mg/kg)	<0.050	<0.050	0.435	<0.050	<0.050
	Selenium (Se)-Total (mg/kg wwt)	0.017	0.022	0.172	<0.010	0.018
	Sodium (Na)-Total (mg/kg)	<20	<20	95	<20	<20
	Sodium (Na)-Total (mg/kg wwt)	<4.0	<4.0	37.4	<4.0	6.2
	Strontium (Sr)-Total (mg/kg)	42.4	14.0	16.5	3.60	47.2
	Strontium (Sr)-Total (mg/kg wwt)	16.3	7.06	6.50	0.540	17.6
	Tellurium (Te)-Total (mg/kg)	<0.020	<0.020	0.036	<0.020	<0.020
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	0.0144	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg)	<0.0020	0.0081	0.0190	<0.0020	<0.0020
	Thallium (Tl)-Total (mg/kg wwt)	0.00059	0.00407	0.00752	<0.00040	0.00067
	Tin (Sn)-Total (mg/kg)	<0.10	<0.10	0.13	1.04	<0.10
	Tin (Sn)-Total (mg/kg wwt)	<0.020	<0.020	0.050	0.156	<0.020
	Uranium (U)-Total (mg/kg)	0.0040	0.0039	0.0487	<0.0020	0.0026
	Uranium (U)-Total (mg/kg wwt)	0.00155	0.00198	0.0192	<0.00040	0.00097
	Vanadium (V)-Total (mg/kg)	0.73	0.46	6.52	<0.10	0.35
	Vanadium (V)-Total (mg/kg wwt)	0.281	0.230	2.58	<0.020	0.129
	Zinc (Zn)-Total (mg/kg)	53.3	20.3	28.5	20.0	118
	Zinc (Zn)-Total (mg/kg wwt)	20.5	10.2	11.3	3.00	43.8
	Zirconium (Zr)-Total (mg/kg)	<0.20	<0.20	0.39	<0.20	<0.20
	Zirconium (Zr)-Total (mg/kg wwt)	<0.040	<0.040	0.152	<0.040	<0.040

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813330-26	L1813330-27	L1813330-28	L1813330-29	L1813330-30
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16
	Sampled Time					
	Client ID	M29-HORSETAIL	M29-LEDUM	M29-LICHEN	S16-HORSETAIL	S16-LEDUM
Grouping	**Analyte**					
TISSUE						
Metals	Molybdenum (Mo)-Total (mg/kg)	2.04	0.461	0.857	0.382	0.142
	Molybdenum (Mo)-Total (mg/kg wwt)	0.679	0.149	0.351	0.102	0.0761
	Nickel (Ni)-Total (mg/kg)	0.83	0.34	0.38	1.10	<0.20
	Nickel (Ni)-Total (mg/kg wwt)	0.276	0.111	0.156	0.294	0.088
	Phosphorus (P)-Total (mg/kg)	1170	767	1020	996	1140
	Phosphorus (P)-Total (mg/kg wwt)	389	247	418	267	612
	Potassium (K)-Total (mg/kg)	11000	1840	3330	17300	3930
	Potassium (K)-Total (mg/kg wwt)	3680	594	1360	4630	2110
	Rubidium (Rb)-Total (mg/kg)	11.6	3.43	2.38	13.8	2.77
	Rubidium (Rb)-Total (mg/kg wwt)	3.85	1.10	0.976	3.70	1.49
	Selenium (Se)-Total (mg/kg)	0.118	0.230	<0.050	<0.050	<0.050
	Selenium (Se)-Total (mg/kg wwt)	0.039	0.074	0.015	<0.010	0.026
	Sodium (Na)-Total (mg/kg)	56	41	<20	23	<20
	Sodium (Na)-Total (mg/kg wwt)	18.6	13.2	5.5	6.1	<4.0
	Strontium (Sr)-Total (mg/kg)	58.2	9.04	7.82	76.5	10.3
	Strontium (Sr)-Total (mg/kg wwt)	19.4	2.91	3.20	20.5	5.55
	Tellurium (Te)-Total (mg/kg)	<0.020	<0.020	<0.020	<0.020	<0.020
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	0.0060	<0.0040	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg)	0.0027	0.0071	0.0221	<0.0020	0.0021
	Thallium (Tl)-Total (mg/kg wwt)	0.00091	0.00228	0.00906	<0.00040	0.00115
	Tin (Sn)-Total (mg/kg)	<0.10	<0.10	<0.10	<0.10	<0.10
	Tin (Sn)-Total (mg/kg wwt)	<0.020	<0.020	<0.020	<0.020	<0.020
	Uranium (U)-Total (mg/kg)	0.0065	0.0154	0.0046	<0.0020	0.0029
	Uranium (U)-Total (mg/kg wwt)	0.00218	0.00497	0.00187	<0.00040	0.00155
	Vanadium (V)-Total (mg/kg)	0.74	1.65	0.31	0.11	0.50
	Vanadium (V)-Total (mg/kg wwt)	0.247	0.531	0.125	0.030	0.268
	Zinc (Zn)-Total (mg/kg)	53.3	18.8	24.2	62.7	20.6
	Zinc (Zn)-Total (mg/kg wwt)	17.8	6.05	9.89	16.8	11.0
	Zirconium (Zr)-Total (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Zirconium (Zr)-Total (mg/kg wwt)	<0.040	<0.040	<0.040	<0.040	<0.040

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID		L1813330-31	L1813330-32	L1813330-33	L1813330-34	L1813330-35
Description		TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
Sampled Date		10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16
Sampled Time						
Client ID		S16-SALIX	S05-LEDUM	S05-LICHEN	S05-HORSETAIL	S05-SALIX
Grouping	**Analyte**					
TISSUE						
Metals	Molybdenum (Mo)-Total (mg/kg)	1.05	0.077	0.440	0.445	0.451
	Molybdenum (Mo)-Total (mg/kg wwt)	0.432	0.0438	0.176	0.130	0.187
	Nickel (Ni)-Total (mg/kg)	0.99	0.47	1.17	1.38	1.78
	Nickel (Ni)-Total (mg/kg wwt)	0.405	0.270	0.470	0.403	0.736
	Phosphorus (P)-Total (mg/kg)	960	960	645	948	1060
	Phosphorus (P)-Total (mg/kg wwt)	393	547	258	278	440
	Potassium (K)-Total (mg/kg)	11300	3520	1600	10400	5840
	Potassium (K)-Total (mg/kg wwt)	4620	2010	643	3050	2420
	Rubidium (Rb)-Total (mg/kg)	7.88	4.70	4.46	41.9	7.57
	Rubidium (Rb)-Total (mg/kg wwt)	3.22	2.68	1.79	12.3	3.14
	Selenium (Se)-Total (mg/kg)	<0.050	<0.050	0.257	<0.050	<0.10 DLA
	Selenium (Se)-Total (mg/kg wwt)	0.014	0.016	0.103	<0.010	<0.020 DLA
	Sodium (Na)-Total (mg/kg)	<20	<20	59	<20	95
	Sodium (Na)-Total (mg/kg wwt)	4.0	<4.0	23.6	<4.0	39.5
	Strontium (Sr)-Total (mg/kg)	60.1	8.52	11.9	102	65.1
	Strontium (Sr)-Total (mg/kg wwt)	24.6	4.85	4.78	29.8	27.0
	Tellurium (Te)-Total (mg/kg)	<0.020	<0.020	0.023	<0.020	<0.040 DLA
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	0.0092	<0.0040	<0.0080 DLA
	Thallium (Tl)-Total (mg/kg)	<0.0020	0.0183	0.0106	0.0048	<0.0040 DLA
	Thallium (Tl)-Total (mg/kg wwt)	0.00048	0.0104	0.00424	0.00139	<0.00080 DLA
	Tin (Sn)-Total (mg/kg)	<0.10	<0.10	<0.10	<0.10	<0.20 DLA
	Tin (Sn)-Total (mg/kg wwt)	<0.020	<0.020	0.025	<0.020	<0.040 DLA
	Uranium (U)-Total (mg/kg)	0.0035	0.0031	0.0283	<0.0020	<0.0040 DLA
	Uranium (U)-Total (mg/kg wwt)	0.00142	0.00178	0.0113	0.00052	0.00127
	Vanadium (V)-Total (mg/kg)	0.54	0.40	3.66	0.18	0.45
	Vanadium (V)-Total (mg/kg wwt)	0.219	0.226	1.47	0.053	0.188
	Zinc (Zn)-Total (mg/kg)	182	19.0	14.6	23.9	21.0
	Zinc (Zn)-Total (mg/kg wwt)	74.6	10.8	5.87	6.98	8.70
	Zirconium (Zr)-Total (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.40 DLA
	Zirconium (Zr)-Total (mg/kg wwt)	0.046	<0.040	0.063	<0.040	<0.080 DLA

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813330-36	L1813330-37	L1813330-38	L1813330-39	L1813330-40
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16
	Sampled Time					
	Client ID	S06-LEDUM	S06-SALIX	S07-SALIX	S07-BLUE BERRIES	S07-HORSETAIL
Grouping	**Analyte**					
TISSUE						
Metals	Molybdenum (Mo)-Total (mg/kg)	0.253	0.357	0.536	0.178	0.591
	Molybdenum (Mo)-Total (mg/kg wwt)	0.127	0.153	0.198	0.0245	0.175
	Nickel (Ni)-Total (mg/kg)	0.66	2.03	2.01	0.44	0.58
	Nickel (Ni)-Total (mg/kg wwt)	0.332	0.872	0.743	0.061	0.173
	Phosphorus (P)-Total (mg/kg)	1400	3310	1430	1280	962
	Phosphorus (P)-Total (mg/kg wwt)	701	1420	527	176	285
	Potassium (K)-Total (mg/kg)	5510	8140	9480	7840	13300
	Potassium (K)-Total (mg/kg wwt)	2760	3490	3500	1080	3950
	Rubidium (Rb)-Total (mg/kg)	11.8	6.59	9.71	5.40	26.0
	Rubidium (Rb)-Total (mg/kg wwt)	5.90	2.83	3.58	0.744	7.72
	Selenium (Se)-Total (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050
	Selenium (Se)-Total (mg/kg wwt)	0.010	0.019	0.015	<0.010	<0.010
	Sodium (Na)-Total (mg/kg)	<20	<20	21	<20	<20
	Sodium (Na)-Total (mg/kg wwt)	<4.0	<4.0	7.7	<4.0	<4.0
	Strontium (Sr)-Total (mg/kg)	13.5	166	63.5	2.58	79.2
	Strontium (Sr)-Total (mg/kg wwt)	6.76	71.1	23.4	0.356	23.5
	Tellurium (Te)-Total (mg/kg)	<0.020	<0.020	<0.020	<0.020	<0.020
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg)	0.0987	<0.0020	0.0020	<0.0020	0.0075
	Thallium (Tl)-Total (mg/kg wwt)	0.0494	<0.00040	0.00074	<0.00040	0.00221
	Tin (Sn)-Total (mg/kg)	<0.10	<0.10	<0.10	0.75	<0.10
	Tin (Sn)-Total (mg/kg wwt)	<0.020	<0.020	<0.020	0.104	<0.020
	Uranium (U)-Total (mg/kg)	<0.0020	<0.0020	0.0040	<0.0020	0.0042
	Uranium (U)-Total (mg/kg wwt)	<0.00040	0.00047	0.00148	<0.00040	0.00126
	Vanadium (V)-Total (mg/kg)	0.10	0.15	0.71	<0.10	0.19
	Vanadium (V)-Total (mg/kg wwt)	0.052	0.065	0.263	<0.020	0.056
	Zinc (Zn)-Total (mg/kg)	24.4	86.5	94.4	16.4	29.7
	Zinc (Zn)-Total (mg/kg wwt)	12.2	37.1	34.8	2.26	8.80
	Zirconium (Zr)-Total (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Zirconium (Zr)-Total (mg/kg wwt)	<0.040	<0.040	<0.040	<0.040	<0.040

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813330-41	L1813330-42	L1813330-43	L1813330-44	L1813330-45
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16
	Sampled Time					
	Client ID	S07-LEDUM	S17-SALIX	S31-SALIX	S32-LEDUM	S33-HORSETAIL
Grouping	**Analyte**					
TISSUE						
Metals	Molybdenum (Mo)-Total (mg/kg)	0.128	0.197	0.398	0.092	0.571
	Molybdenum (Mo)-Total (mg/kg wwt)	0.0654	0.0689	0.156	0.0475	0.166
	Nickel (Ni)-Total (mg/kg)	0.32	3.86	1.69	0.25	0.89
	Nickel (Ni)-Total (mg/kg wwt)	0.161	1.35	0.660	0.129	0.258
	Phosphorus (P)-Total (mg/kg)	1020	3790	3130	992	1150
	Phosphorus (P)-Total (mg/kg wwt)	521	1330	1220	513	335
	Potassium (K)-Total (mg/kg)	3840	10500	7320	3630	14700
	Potassium (K)-Total (mg/kg wwt)	1960	3670	2870	1870	4260
	Rubidium (Rb)-Total (mg/kg)	3.03	2.45	6.63	2.89	40.1
	Rubidium (Rb)-Total (mg/kg wwt)	1.54	0.858	2.60	1.50	11.7
	Selenium (Se)-Total (mg/kg)	<0.050	0.188	<0.050	<0.050	<0.050
	Selenium (Se)-Total (mg/kg wwt)	0.014	0.066	0.019	0.017	<0.010
	Sodium (Na)-Total (mg/kg)	<20	<20	<20	<20	<20
	Sodium (Na)-Total (mg/kg wwt)	4.8	6.4	<4.0	<4.0	5.8
	Strontium (Sr)-Total (mg/kg)	8.38	223	186	7.82	88.5
	Strontium (Sr)-Total (mg/kg wwt)	4.27	77.9	72.7	4.04	25.7
	Tellurium (Te)-Total (mg/kg)	<0.020	<0.020	<0.020	<0.020	<0.020
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg)	0.0107	0.0029	<0.0020	0.0031	0.0063
	Thallium (Tl)-Total (mg/kg wwt)	0.00545	0.00102	<0.00040	0.00161	0.00184
	Tin (Sn)-Total (mg/kg)	<0.10	<0.10	<0.10	<0.10	<0.10
	Tin (Sn)-Total (mg/kg wwt)	<0.020	<0.020	<0.020	<0.020	<0.020
	Uranium (U)-Total (mg/kg)	0.0021	0.0040	<0.0020	0.0031	0.0069
	Uranium (U)-Total (mg/kg wwt)	0.00108	0.00141	0.00043	0.00159	0.00201
	Vanadium (V)-Total (mg/kg)	0.48	0.96	0.14	0.40	0.17
	Vanadium (V)-Total (mg/kg wwt)	0.243	0.334	0.056	0.208	0.048
	Zinc (Zn)-Total (mg/kg)	20.4	33.4	94.3	18.0	29.6
	Zinc (Zn)-Total (mg/kg wwt)	10.4	11.7	36.9	9.29	8.61
	Zirconium (Zr)-Total (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Zirconium (Zr)-Total (mg/kg wwt)	<0.040	<0.040	<0.040	<0.040	<0.040

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813330-46	L1813330-47	L1813330-48	L1813330-49	L1813330-50
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	10-AUG-16	10-AUG-16	10-AUG-16	11-AUG-16	11-AUG-16
	Sampled Time					
	Client ID	S34-LICHEN	S35-SALIX	S36-LEDUM	C02-HORSETAIL	C02-LEDUM
Grouping	**Analyte**					
TISSUE						
Metals	Molybdenum (Mo)-Total (mg/kg)	0.798	0.907	0.602	0.529	0.455
	Molybdenum (Mo)-Total (mg/kg wwt)	0.377	0.368	0.274	0.175	0.253
	Nickel (Ni)-Total (mg/kg)	0.44	1.04	<0.20	0.42	0.27
	Nickel (Ni)-Total (mg/kg wwt)	0.206	0.424	0.076	0.138	0.148
	Phosphorus (P)-Total (mg/kg)	562	1090	1040	1050	964
	Phosphorus (P)-Total (mg/kg wwt)	265	441	476	347	535
	Potassium (K)-Total (mg/kg)	1330	13300	3590	16400	3360
	Potassium (K)-Total (mg/kg wwt)	630	5420	1640	5400	1870
	Rubidium (Rb)-Total (mg/kg)	3.93	11.5	2.75	6.98	2.17
	Rubidium (Rb)-Total (mg/kg wwt)	1.85	4.66	1.25	2.31	1.21
	Selenium (Se)-Total (mg/kg)	0.384	<0.050	<0.050	<0.050	<0.050
	Selenium (Se)-Total (mg/kg wwt)	0.181	0.017	0.014	<0.010	<0.010
	Sodium (Na)-Total (mg/kg)	44	<20	<20	<20	<20
	Sodium (Na)-Total (mg/kg wwt)	20.6	<4.0	<4.0	4.9	<4.0
	Strontium (Sr)-Total (mg/kg)	14.9	60.8	7.22	83.8	18.1
	Strontium (Sr)-Total (mg/kg wwt)	7.05	24.7	3.29	27.7	10.1
	Tellurium (Te)-Total (mg/kg)	0.034	<0.020	<0.020	<0.020	<0.020
	Tellurium (Te)-Total (mg/kg wwt)	0.0160	<0.0040	<0.0040	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg)	0.0162	<0.0020	0.0149	0.0027	0.0082
	Thallium (Tl)-Total (mg/kg wwt)	0.00766	0.00055	0.00678	0.00088	0.00458
	Tin (Sn)-Total (mg/kg)	<0.10	<0.10	<0.10	<0.10	<0.10
	Tin (Sn)-Total (mg/kg wwt)	0.047	<0.020	<0.020	<0.020	<0.020
	Uranium (U)-Total (mg/kg)	0.0430	0.0039	<0.0020	<0.0020	<0.0020
	Uranium (U)-Total (mg/kg wwt)	0.0203	0.00158	0.00073	<0.00040	0.00078
	Vanadium (V)-Total (mg/kg)	5.07	0.62	0.29	<0.10	0.13
	Vanadium (V)-Total (mg/kg wwt)	2.40	0.253	0.134	0.022	0.071
	Zinc (Zn)-Total (mg/kg)	24.9	168	25.0	9.09	20.1
	Zinc (Zn)-Total (mg/kg wwt)	11.8	68.4	11.4	3.00	11.2
	Zirconium (Zr)-Total (mg/kg)	0.23	<0.20	<0.20	<0.20	<0.20
	Zirconium (Zr)-Total (mg/kg wwt)	0.106	<0.040	<0.040	<0.040	<0.040

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813330-51	L1813330-52	L1813330-53	L1813330-54	L1813330-55
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	11-AUG-16	11-AUG-16	11-AUG-16	11-AUG-16	11-AUG-16
	Sampled Time					
	Client ID	C02-LICHEN	C02-SALIX	S09-SALIX	M80-SALIX	M80-LEDUM
Grouping	**Analyte**					
TISSUE						
Metals	Molybdenum (Mo)-Total (mg/kg)	0.088	0.962	0.292	0.276	0.460
	Molybdenum (Mo)-Total (mg/kg wwt)	0.0396	0.406	0.138	0.115	0.239
	Nickel (Ni)-Total (mg/kg)	0.33	1.68	0.50	2.96	1.50
	Nickel (Ni)-Total (mg/kg wwt)	0.151	0.710	0.239	1.23	0.776
	Phosphorus (P)-Total (mg/kg)	417	2020	4160	4420	1360
	Phosphorus (P)-Total (mg/kg wwt)	188	850	1970	1840	704
	Potassium (K)-Total (mg/kg)	1030	9550	11100	8430	3960
	Potassium (K)-Total (mg/kg wwt)	467	4030	5250	3520	2050
	Rubidium (Rb)-Total (mg/kg)	1.20	2.91	1.22	1.96	2.56
	Rubidium (Rb)-Total (mg/kg wwt)	0.543	1.23	0.580	0.817	1.33
	Selenium (Se)-Total (mg/kg)	0.064	<0.050	<0.050	0.145	<0.050
	Selenium (Se)-Total (mg/kg wwt)	0.029	0.011	0.017	0.061	0.023
	Sodium (Na)-Total (mg/kg)	22	<20	<20	<20	<20
	Sodium (Na)-Total (mg/kg wwt)	10.0	<4.0	<4.0	4.2	<4.0
	Strontium (Sr)-Total (mg/kg)	4.20	89.0	226	212	15.6
	Strontium (Sr)-Total (mg/kg wwt)	1.90	37.5	107	88.4	8.09
	Tellurium (Te)-Total (mg/kg)	<0.020	<0.020	<0.020	<0.020	<0.020
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	0.0090	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg)	0.0033	<0.0020	<0.0020	<0.0020	0.0074
	Thallium (Tl)-Total (mg/kg wwt)	0.00148	0.00041	<0.00040	<0.00040	0.00383
	Tin (Sn)-Total (mg/kg)	<0.10	<0.10	<0.10	<0.10	<0.10
	Tin (Sn)-Total (mg/kg wwt)	<0.020	<0.020	<0.020	<0.020	<0.020
	Uranium (U)-Total (mg/kg)	0.0081	0.0025	<0.0020	<0.0020	<0.0020
	Uranium (U)-Total (mg/kg wwt)	0.00365	0.00104	0.00064	0.00050	0.00085
	Vanadium (V)-Total (mg/kg)	0.82	0.14	0.24	0.22	0.22
	Vanadium (V)-Total (mg/kg wwt)	0.373	0.058	0.115	0.090	0.114
	Zinc (Zn)-Total (mg/kg)	10.5	123	54.6	82.3	30.0
	Zinc (Zn)-Total (mg/kg wwt)	4.77	51.9	25.9	34.3	15.6
	Zirconium (Zr)-Total (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Zirconium (Zr)-Total (mg/kg wwt)	0.042	<0.040	<0.040	<0.040	<0.040

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813330-56	L1813330-57	L1813330-58	L1813330-59	L1813330-61
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	11-AUG-16	11-AUG-16	11-AUG-16	11-AUG-16	11-AUG-16
	Sampled Time					
	Client ID	M26-LEDUM	M26-SALIX	M26-LICHEN	M26-BLUEBERRIES	M07B-SALIX
Grouping	**Analyte**					
TISSUE						
Metals	Molybdenum (Mo)-Total (mg/kg)	0.247	0.445	0.084	0.677	0.141
	Molybdenum (Mo)-Total (mg/kg wwt)	0.124	0.170	0.0485	0.109	0.0611
	Nickel (Ni)-Total (mg/kg)	0.37	19.0	0.25	1.02	0.75
	Nickel (Ni)-Total (mg/kg wwt)	0.188	7.26	0.144	0.163	0.327
	Phosphorus (P)-Total (mg/kg)	1170	3760	420	1480	785
	Phosphorus (P)-Total (mg/kg wwt)	587	1440	243	237	341
	Potassium (K)-Total (mg/kg)	4090	16500	933	7060	7430
	Potassium (K)-Total (mg/kg wwt)	2050	6320	540	1140	3230
	Rubidium (Rb)-Total (mg/kg)	2.02	5.10	1.26	3.04	2.96
	Rubidium (Rb)-Total (mg/kg wwt)	1.01	1.95	0.731	0.489	1.29
	Selenium (Se)-Total (mg/kg)	<0.050	0.404	<0.050	<0.050	<0.050
	Selenium (Se)-Total (mg/kg wwt)	<0.010	0.155	0.021	<0.010	<0.010
	Sodium (Na)-Total (mg/kg)	<20	<20	<20	<20	<20
	Sodium (Na)-Total (mg/kg wwt)	<4.0	<4.0	7.4	<4.0	<4.0
	Strontium (Sr)-Total (mg/kg)	20.6	131	8.85	8.11	68.9
	Strontium (Sr)-Total (mg/kg wwt)	10.3	50.1	5.12	1.30	29.9
	Tellurium (Te)-Total (mg/kg)	<0.020	<0.020	<0.020	<0.020	<0.020
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	0.0052	<0.0040	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg)	0.0022	<0.0020	0.0023	0.0075	<0.0020
	Thallium (Tl)-Total (mg/kg wwt)	0.00108	<0.00040	0.00132	0.00120	<0.00040
	Tin (Sn)-Total (mg/kg)	<0.10	<0.10	<0.10	1.25	<0.10
	Tin (Sn)-Total (mg/kg wwt)	<0.020	<0.020	<0.020	0.200	<0.020
	Uranium (U)-Total (mg/kg)	<0.0020	<0.0020	0.0066	<0.0020	<0.0020
	Uranium (U)-Total (mg/kg wwt)	0.00046	<0.00040	0.00384	<0.00040	<0.00040
	Vanadium (V)-Total (mg/kg)	<0.10	<0.10	0.44	<0.10	<0.10
	Vanadium (V)-Total (mg/kg wwt)	0.031	0.025	0.255	<0.020	0.037
	Zinc (Zn)-Total (mg/kg)	13.8	48.7	9.05	12.6	146
	Zinc (Zn)-Total (mg/kg wwt)	6.94	18.6	5.23	2.03	63.3
	Zirconium (Zr)-Total (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Zirconium (Zr)-Total (mg/kg wwt)	<0.040	<0.040	0.046	<0.040	<0.040

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813330-62	L1813330-63	L1813330-64	L1813330-65	L1813330-66
	Description	TISSUE	TISSUE	TISSUE	TISSUE	TISSUE
	Sampled Date	11-AUG-16	11-AUG-16	11-AUG-16	12-AUG-16	12-AUG-16
	Sampled Time					
	Client ID	M07B-HORSETAIL	M07B-LEDUM	M07B-LICHEN	S04-SALIX	S19-SALIX
Grouping	**Analyte**					
TISSUE						
Metals	Molybdenum (Mo)-Total (mg/kg)	0.442	0.033	0.091	0.373	0.295
	Molybdenum (Mo)-Total (mg/kg wwt)	0.156	0.0179	0.0718	0.151	0.117
	Nickel (Ni)-Total (mg/kg)	0.29	<0.20	0.28	0.49	1.87
	Nickel (Ni)-Total (mg/kg wwt)	0.102	0.046	0.222	0.198	0.744
	Phosphorus (P)-Total (mg/kg)	1160	835	369	4190	6660
	Phosphorus (P)-Total (mg/kg wwt)	409	457	292	1690	2650
	Potassium (K)-Total (mg/kg)	21100	3760	999	11900	17700
	Potassium (K)-Total (mg/kg wwt)	7460	2060	789	4800	7050
	Rubidium (Rb)-Total (mg/kg)	45.2	2.23	1.14	2.53	10.7
	Rubidium (Rb)-Total (mg/kg wwt)	16.0	1.22	0.901	1.02	4.27
	Selenium (Se)-Total (mg/kg)	<0.050	<0.050	0.059	<0.050	0.101
	Selenium (Se)-Total (mg/kg wwt)	<0.010	<0.010	0.047	0.014	0.040
	Sodium (Na)-Total (mg/kg)	24	<20	29	<20	29
	Sodium (Na)-Total (mg/kg wwt)	8.6	6.6	22.7	<4.0	11.5
	Strontium (Sr)-Total (mg/kg)	120	18.5	7.58	160	214
	Strontium (Sr)-Total (mg/kg wwt)	42.3	10.1	5.98	64.7	85.2
	Tellurium (Te)-Total (mg/kg)	<0.020	<0.020	<0.020	<0.020	<0.020
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	<0.0040	<0.0040	0.0049
	Thallium (Tl)-Total (mg/kg)	<0.0020	0.0023	0.0031	<0.0020	0.0028
	Thallium (Tl)-Total (mg/kg wwt)	0.00067	0.00124	0.00249	<0.00040	0.00110
	Tin (Sn)-Total (mg/kg)	<0.10	<0.10	<0.10	<0.10	<0.10
	Tin (Sn)-Total (mg/kg wwt)	<0.020	<0.020	<0.020	<0.020	<0.020
	Uranium (U)-Total (mg/kg)	<0.0020	0.0028	0.0086	<0.0020	0.0080
	Uranium (U)-Total (mg/kg wwt)	<0.00040	0.00154	0.00680	0.00076	0.00317
	Vanadium (V)-Total (mg/kg)	<0.10	0.25	0.93	0.33	1.53
	Vanadium (V)-Total (mg/kg wwt)	<0.020	0.139	0.737	0.134	0.609
	Zinc (Zn)-Total (mg/kg)	25.3	22.7	12.2	26.6	94.5
	Zinc (Zn)-Total (mg/kg wwt)	8.93	12.4	9.64	10.8	37.6
	Zirconium (Zr)-Total (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Zirconium (Zr)-Total (mg/kg wwt)	<0.040	0.044	0.074	<0.040	<0.040

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1813330-67	L1813330-68	L1813330-69	L1813330-70	L1813330-71
Description	TISSUE	Tissue	Tissue	Tissue	Tissue
Sampled Date	12-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16
Sampled Time					
Client ID	S19-LEDUM	C01-SALIX (RINSED)	C01-LICHEN (RINSED)	C01-HORSETAIL (RINSED)	C01-LEDUM (RINSED)
Grouping / **Analyte**					
TISSUE					
Metals					
Molybdenum (Mo)-Total (mg/kg)	0.279	0.575	0.107	0.215	0.325
Molybdenum (Mo)-Total (mg/kg wwt)	0.140	0.147	0.0287	0.0501	0.106
Nickel (Ni)-Total (mg/kg)	0.90	10.3	0.23	1.86	0.51
Nickel (Ni)-Total (mg/kg wwt)	0.452	2.64	0.063	0.433	0.166
Phosphorus (P)-Total (mg/kg)	1500	6170	565	1220	1000
Phosphorus (P)-Total (mg/kg wwt)	753	1580	152	285	326
Potassium (K)-Total (mg/kg)	4950	12100	1450	22100	2960
Potassium (K)-Total (mg/kg wwt)	2490	3080	391	5150	962
Rubidium (Rb)-Total (mg/kg)	5.62	1.25	2.45	13.4	0.976
Rubidium (Rb)-Total (mg/kg wwt)	2.83	0.320	0.660	3.11	0.317
Selenium (Se)-Total (mg/kg)	0.077	<0.050	<0.050	<0.050	<0.050
Selenium (Se)-Total (mg/kg wwt)	0.039	<0.010	<0.010	<0.010	<0.010
Sodium (Na)-Total (mg/kg)	38	23	<20	30	34
Sodium (Na)-Total (mg/kg wwt)	19.3	5.9	5.0	7.0	11.0
Strontium (Sr)-Total (mg/kg)	14.8	102	6.26	82.8	12.1
Strontium (Sr)-Total (mg/kg wwt)	7.42	26.1	1.68	19.3	3.93
Tellurium (Te)-Total (mg/kg)	<0.020	<0.020	<0.020	<0.020	<0.020
Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
Thallium (Tl)-Total (mg/kg)	0.0879	<0.0020	0.0021	<0.0020	0.0099
Thallium (Tl)-Total (mg/kg wwt)	0.0442	<0.00040	0.00057	<0.00040	0.00322
Tin (Sn)-Total (mg/kg)	<0.10	<0.10	<0.10	<0.10	<0.10
Tin (Sn)-Total (mg/kg wwt)	<0.020	<0.020	<0.020	<0.020	<0.020
Uranium (U)-Total (mg/kg)	0.0090	<0.0020	0.0058	<0.0020	<0.0020
Uranium (U)-Total (mg/kg wwt)	0.00452	<0.00040	0.00156	<0.00040	<0.00040
Vanadium (V)-Total (mg/kg)	1.40	<0.10	0.29	<0.10	<0.10
Vanadium (V)-Total (mg/kg wwt)	0.702	<0.020	0.078	<0.020	0.020
Zinc (Zn)-Total (mg/kg)	28.3	193	17.1	27.8	20.5
Zinc (Zn)-Total (mg/kg wwt)	14.2	49.2	4.61	6.47	6.67
Zirconium (Zr)-Total (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
Zirconium (Zr)-Total (mg/kg wwt)	<0.040	<0.040	<0.040	<0.040	<0.040

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID		L1813330-72	L1813330-73	L1813330-74	L1813330-75	L1813330-76
Description		Tissue	Tissue	Tissue	Tissue	Tissue
Sampled Date		09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16
Sampled Time						
Client ID		S03-SALIX (RINSED)	S03-LICHEN (RINSED)	S11-LICHEN(RINSED)	S11-SALIX (RINSED)	S02-SALIX (RINSED)
Grouping	**Analyte**					
TISSUE						
Metals	Molybdenum (Mo)-Total (mg/kg)	0.253	0.103	0.118	0.893	0.789
	Molybdenum (Mo)-Total (mg/kg wwt)	0.0807	0.0315	0.0399	0.232	0.274
	Nickel (Ni)-Total (mg/kg)	2.98	0.99	0.53	5.33	6.21
	Nickel (Ni)-Total (mg/kg wwt)	0.949	0.305	0.179	1.38	2.16
	Phosphorus (P)-Total (mg/kg)	3030	708	669	3420	2830
	Phosphorus (P)-Total (mg/kg wwt)	965	218	226	887	984
	Potassium (K)-Total (mg/kg)	6270	1580	1700	9040	6860
	Potassium (K)-Total (mg/kg wwt)	2000	485	576	2350	2390
	Rubidium (Rb)-Total (mg/kg)	1.70	2.59	3.74	3.47	1.82
	Rubidium (Rb)-Total (mg/kg wwt)	0.543	0.796	1.27	0.900	0.632
	Selenium (Se)-Total (mg/kg)	0.234	0.062	0.057	<0.050	0.652
	Selenium (Se)-Total (mg/kg wwt)	0.075	0.019	0.019	<0.010	0.227
	Sodium (Na)-Total (mg/kg)	29	25	21	<20	<20
	Sodium (Na)-Total (mg/kg wwt)	9.2	7.7	7.0	<4.0	<4.0
	Strontium (Sr)-Total (mg/kg)	100	8.28	9.29	113	79.9
	Strontium (Sr)-Total (mg/kg wwt)	31.9	2.54	3.14	29.4	27.8
	Tellurium (Te)-Total (mg/kg)	<0.020	<0.020	<0.020	<0.020	<0.020
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg)	<0.0020	0.0074	0.0056	<0.0020	<0.0020
	Thallium (Tl)-Total (mg/kg wwt)	<0.00040	0.00226	0.00191	<0.00040	<0.00040
	Tin (Sn)-Total (mg/kg)	<0.10	<0.10	<0.10	<0.10	<0.10
	Tin (Sn)-Total (mg/kg wwt)	<0.020	<0.020	<0.020	<0.020	<0.020
	Uranium (U)-Total (mg/kg)	0.0048	0.0218	0.0089	<0.0020	0.0029
	Uranium (U)-Total (mg/kg wwt)	0.00154	0.00670	0.00301	<0.00040	0.00101
	Vanadium (V)-Total (mg/kg)	0.51	2.40	0.84	<0.10	0.32
	Vanadium (V)-Total (mg/kg wwt)	0.162	0.737	0.286	<0.020	0.110
	Zinc (Zn)-Total (mg/kg)	19.4	14.2	14.2	34.1	13.2
	Zinc (Zn)-Total (mg/kg wwt)	6.20	4.35	4.79	8.85	4.58
	Zirconium (Zr)-Total (mg/kg)	<0.20	0.31	<0.20	<0.20	<0.20
	Zirconium (Zr)-Total (mg/kg wwt)	<0.040	0.094	<0.040	<0.040	<0.040

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID		L1813330-77	L1813330-78	L1813330-79	L1813330-80	L1813330-81
Description		Tissue	Tissue	Tissue	Tissue	Tissue
Sampled Date		09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16
Sampled Time						
Client ID		S02-LICHEN (RINSED)	S01-LEDUM (RINSED)	S01-SALIX (RINSED)	S01-LICHEN (RINSED)	S18-SALIX (RINSED)
Grouping	**Analyte**					
TISSUE						
Metals	Molybdenum (Mo)-Total (mg/kg)	0.150	0.228	0.136	0.094	1.64
	Molybdenum (Mo)-Total (mg/kg wwt)	0.0527	0.0866	0.0494	0.0325	0.681
	Nickel (Ni)-Total (mg/kg)	1.17	2.18	9.09	0.86	4.87
	Nickel (Ni)-Total (mg/kg wwt)	0.412	0.828	3.30	0.298	2.02
	Phosphorus (P)-Total (mg/kg)	707	1150	3180	633	1190
	Phosphorus (P)-Total (mg/kg wwt)	249	436	1160	219	492
	Potassium (K)-Total (mg/kg)	1730	4230	11500	1510	5040
	Potassium (K)-Total (mg/kg wwt)	608	1610	4180	524	2090
	Rubidium (Rb)-Total (mg/kg)	4.02	6.36	3.68	3.94	3.23
	Rubidium (Rb)-Total (mg/kg wwt)	1.41	2.42	1.34	1.36	1.34
	Selenium (Se)-Total (mg/kg)	0.085	<0.050	0.282	0.061	<0.050
	Selenium (Se)-Total (mg/kg wwt)	0.030	0.018	0.102	0.021	0.019
	Sodium (Na)-Total (mg/kg)	44	<20	<20	24	<20
	Sodium (Na)-Total (mg/kg wwt)	15.4	<4.0	5.6	8.2	4.8
	Strontium (Sr)-Total (mg/kg)	11.0	12.0	108	9.97	113
	Strontium (Sr)-Total (mg/kg wwt)	3.87	4.55	39.3	3.45	46.8
	Tellurium (Te)-Total (mg/kg)	<0.020	<0.020	<0.020	<0.020	<0.020
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg)	0.0072	0.0081	<0.0020	0.0047	0.0078
	Thallium (Tl)-Total (mg/kg wwt)	0.00253	0.00309	<0.00040	0.00164	0.00322
	Tin (Sn)-Total (mg/kg)	<0.10	<0.10	<0.10	<0.10	<0.10
	Tin (Sn)-Total (mg/kg wwt)	<0.020	<0.020	<0.020	<0.020	<0.020
	Uranium (U)-Total (mg/kg)	0.0245	<0.0020	<0.0020	0.0144	<0.0020
	Uranium (U)-Total (mg/kg wwt)	0.00862	<0.00040	<0.00040	0.00499	0.00047
	Vanadium (V)-Total (mg/kg)	2.49	0.12	0.13	0.71	0.12
	Vanadium (V)-Total (mg/kg wwt)	0.877	0.045	0.046	0.246	0.050
	Zinc (Zn)-Total (mg/kg)	17.1	23.8	13.7	11.3	92.9
	Zinc (Zn)-Total (mg/kg wwt)	6.03	9.06	4.99	3.92	38.5
	Zirconium (Zr)-Total (mg/kg)	0.34	<0.20	<0.20	<0.20	<0.20
	Zirconium (Zr)-Total (mg/kg wwt)	0.121	<0.040	<0.040	<0.040	<0.040

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1813330-82	L1813330-83	L1813330-84	L1813330-85	L1813330-86
Description	Tissue	Tissue	Tissue	Tissue	Tissue
Sampled Date	09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16	09-AUG-16
Sampled Time					
Client ID	S18-LICHEN (RINSED)	S18-LEDUM (RINSED)	S18-HORSETAIL (RINSED)	S15-SALIX (RINSED)	S15-LEDUM (RINSED)
Grouping / **Analyte**					
TISSUE					
Metals					
Molybdenum (Mo)-Total (mg/kg)	0.416	0.551	0.213	0.509	0.233
Molybdenum (Mo)-Total (mg/kg wwt)	0.126	0.298	0.0854	0.176	0.112
Nickel (Ni)-Total (mg/kg)	1.85	0.26	0.84	4.86	0.33
Nickel (Ni)-Total (mg/kg wwt)	0.558	0.142	0.335	1.68	0.158
Phosphorus (P)-Total (mg/kg)	632	1280	828	2240	1530
Phosphorus (P)-Total (mg/kg wwt)	191	692	332	776	734
Potassium (K)-Total (mg/kg)	1260	4180	7370	17200	4490
Potassium (K)-Total (mg/kg wwt)	381	2260	2950	5940	2160
Rubidium (Rb)-Total (mg/kg)	4.17	5.99	18.2	17.7	7.22
Rubidium (Rb)-Total (mg/kg wwt)	1.26	3.24	7.29	6.11	3.47
Selenium (Se)-Total (mg/kg)	0.523	<0.050	0.325	0.057	<0.050
Selenium (Se)-Total (mg/kg wwt)	0.158	0.012	0.130	0.020	0.017
Sodium (Na)-Total (mg/kg)	37	<20	47	<20	<20
Sodium (Na)-Total (mg/kg wwt)	11.2	<4.0	18.7	5.5	6.4
Strontium (Sr)-Total (mg/kg)	10.3	10.0	55.2	60.4	7.08
Strontium (Sr)-Total (mg/kg wwt)	3.12	5.41	22.1	20.9	3.41
Tellurium (Te)-Total (mg/kg)	0.043	<0.020	<0.020	<0.020	<0.020
Tellurium (Te)-Total (mg/kg wwt)	0.0131	<0.0040	0.0048	<0.0040	<0.0040
Thallium (Tl)-Total (mg/kg)	0.0114	0.0104	0.0032	0.0043	0.0095
Thallium (Tl)-Total (mg/kg wwt)	0.00345	0.00564	0.00129	0.00149	0.00455
Tin (Sn)-Total (mg/kg)	<0.10	<0.10	<0.10	<0.10	<0.10
Tin (Sn)-Total (mg/kg wwt)	0.021	<0.020	<0.020	<0.020	<0.020
Uranium (U)-Total (mg/kg)	0.0309	<0.0020	0.0066	<0.0020	<0.0020
Uranium (U)-Total (mg/kg wwt)	0.00934	<0.00040	0.00265	<0.00040	0.00078
Vanadium (V)-Total (mg/kg)	3.29	0.10	0.56	0.19	0.33
Vanadium (V)-Total (mg/kg wwt)	0.994	0.056	0.226	0.065	0.159
Zinc (Zn)-Total (mg/kg)	19.9	21.0	29.6	47.7	25.5
Zinc (Zn)-Total (mg/kg wwt)	6.02	11.3	11.9	16.5	12.3
Zirconium (Zr)-Total (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
Zirconium (Zr)-Total (mg/kg wwt)	0.043	<0.040	<0.040	<0.040	<0.040

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1813330-87	L1813330-88	L1813330-89	L1813330-90	L1813330-91
Description	Tissue	Tissue	Tissue	Tissue	Tissue
Sampled Date	09-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16
Sampled Time					
Client ID	S15-HORSETAIL (RINSED)	S08-SALIX (RINSED)	S08-LEDUM (RINSED)	S08-LICHEN (RINSED)	S08-BLUE BERRIES (RINSED)
Grouping / **Analyte**					
TISSUE					
Metals					
Molybdenum (Mo)-Total (mg/kg)	0.196	0.349	0.190	0.699	0.166
Molybdenum (Mo)-Total (mg/kg wwt)	0.0741	0.138	0.100	0.296	0.0251
Nickel (Ni)-Total (mg/kg)	0.48	1.83	0.39	0.74	0.24
Nickel (Ni)-Total (mg/kg wwt)	0.182	0.723	0.206	0.313	<0.040
Phosphorus (P)-Total (mg/kg)	1420	812	832	617	617
Phosphorus (P)-Total (mg/kg wwt)	538	321	439	262	93.3
Potassium (K)-Total (mg/kg)	14300	6270	2860	1510	3080
Potassium (K)-Total (mg/kg wwt)	5420	2480	1510	638	465
Rubidium (Rb)-Total (mg/kg)	42.7	6.41	3.69	4.66	3.04
Rubidium (Rb)-Total (mg/kg wwt)	16.1	2.54	1.95	1.98	0.459
Selenium (Se)-Total (mg/kg)	0.055	<0.050	<0.050	0.374	<0.050
Selenium (Se)-Total (mg/kg wwt)	0.021	0.011	0.022	0.158	<0.010
Sodium (Na)-Total (mg/kg)	34	<20	<20	35	<20
Sodium (Na)-Total (mg/kg wwt)	13.0	4.7	<4.0	14.8	<4.0
Strontium (Sr)-Total (mg/kg)	48.2	44.3	13.9	12.9	2.36
Strontium (Sr)-Total (mg/kg wwt)	18.2	17.5	7.33	5.47	0.356
Tellurium (Te)-Total (mg/kg)	<0.020	<0.020	<0.020	0.029	<0.020
Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	<0.0040	0.0125	<0.0040
Thallium (Tl)-Total (mg/kg)	<0.0020	<0.0020	0.0075	0.0145	<0.0020
Thallium (Tl)-Total (mg/kg wwt)	0.00054	0.00042	0.00395	0.00613	<0.00040
Tin (Sn)-Total (mg/kg)	<0.10	<0.10	<0.10	<0.10	0.81
Tin (Sn)-Total (mg/kg wwt)	<0.020	<0.020	<0.020	0.040	0.122
Uranium (U)-Total (mg/kg)	0.0023	0.0027	0.0032	0.0387	<0.0020
Uranium (U)-Total (mg/kg wwt)	0.00088	0.00106	0.00171	0.0164	<0.00040
Vanadium (V)-Total (mg/kg)	0.30	0.48	0.39	5.14	<0.10
Vanadium (V)-Total (mg/kg wwt)	0.114	0.192	0.204	2.18	<0.020
Zinc (Zn)-Total (mg/kg)	40.1	53.0	20.8	21.3	9.03
Zinc (Zn)-Total (mg/kg wwt)	15.2	21.0	11.0	9.03	1.36
Zirconium (Zr)-Total (mg/kg)	<0.20	<0.20	<0.20	0.21	<0.20
Zirconium (Zr)-Total (mg/kg wwt)	<0.040	<0.040	<0.040	0.089	<0.040

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813330-92	L1813330-93	L1813330-94	L1813330-95	L1813330-96
	Description	Tissue	Tissue	Tissue	Tissue	Tissue
	Sampled Date	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16
	Sampled Time					
	Client ID	M29-SALIX (RINSED)	M29-HORSETAIL (RINSED)	M29-LEDUM (RINSED)	M29-LICHEN (RINSED)	S16-HORSETAIL (RINSED)
Grouping	**Analyte**					
TISSUE						
Metals	Molybdenum (Mo)-Total (mg/kg)	2.17	1.84	0.275	0.920	0.422
	Molybdenum (Mo)-Total (mg/kg wwt)	0.794	0.635	0.100	0.371	0.134
	Nickel (Ni)-Total (mg/kg)	2.87	0.68	0.28	0.25	1.18
	Nickel (Ni)-Total (mg/kg wwt)	1.05	0.236	0.101	0.099	0.375
	Phosphorus (P)-Total (mg/kg)	2080	1140	677	1140	1050
	Phosphorus (P)-Total (mg/kg wwt)	764	392	247	460	335
	Potassium (K)-Total (mg/kg)	11200	9730	1560	3390	12900
	Potassium (K)-Total (mg/kg wwt)	4120	3350	569	1370	4090
	Rubidium (Rb)-Total (mg/kg)	3.24	10.7	2.89	2.62	11.9
	Rubidium (Rb)-Total (mg/kg wwt)	1.19	3.67	1.05	1.06	3.78
	Selenium (Se)-Total (mg/kg)	<0.050	0.094	0.172	<0.050	<0.050
	Selenium (Se)-Total (mg/kg wwt)	0.016	0.033	0.063	<0.010	<0.010
	Sodium (Na)-Total (mg/kg)	<20	67	23	<20	<20
	Sodium (Na)-Total (mg/kg wwt)	5.4	22.9	8.2	<4.0	5.7
	Strontium (Sr)-Total (mg/kg)	42.7	56.0	7.14	7.30	93.3
	Strontium (Sr)-Total (mg/kg wwt)	15.6	19.3	2.61	2.95	29.7
	Tellurium (Te)-Total (mg/kg)	<0.020	<0.020	<0.020	<0.020	<0.020
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	0.0052	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg)	<0.0020	0.0027	0.0048	0.0321	<0.0020
	Thallium (Tl)-Total (mg/kg wwt)	0.00043	0.00095	0.00176	0.0130	<0.00040
	Tin (Sn)-Total (mg/kg)	<0.10	<0.10	<0.10	<0.10	<0.10
	Tin (Sn)-Total (mg/kg wwt)	<0.020	<0.020	<0.020	<0.020	<0.020
	Uranium (U)-Total (mg/kg)	<0.0020	0.0046	0.0117	<0.0020	<0.0020
	Uranium (U)-Total (mg/kg wwt)	0.00062	0.00158	0.00428	0.00070	<0.00040
	Vanadium (V)-Total (mg/kg)	0.25	0.58	1.12	0.22	<0.10
	Vanadium (V)-Total (mg/kg wwt)	0.093	0.199	0.409	0.087	0.027
	Zinc (Zn)-Total (mg/kg)	110	51.4	12.8	24.6	79.2
	Zinc (Zn)-Total (mg/kg wwt)	40.3	17.7	4.65	9.93	25.2
	Zirconium (Zr)-Total (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Zirconium (Zr)-Total (mg/kg wwt)	<0.040	<0.040	<0.040	<0.040	<0.040

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813330-97	L1813330-98	L1813330-99	L1813330-100	L1813330-101
	Description	Tissue	Tissue	Tissue	Tissue	Tissue
	Sampled Date	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16
	Sampled Time					
	Client ID	S16-LEDUM (RINSED)	S16-SALIX (RINSED)	S05-LEDUM (RINSED)	S05-LICHEN (RINSED)	S05-HORSETAIL (RINSED)
Grouping	**Analyte**					
TISSUE						
Metals	Molybdenum (Mo)-Total (mg/kg)	0.162	1.03	0.088	0.532	0.466
	Molybdenum (Mo)-Total (mg/kg wwt)	0.0849	0.423	0.0502	0.246	0.142
	Nickel (Ni)-Total (mg/kg)	<0.20	1.01	0.80	0.58	1.48
	Nickel (Ni)-Total (mg/kg wwt)	0.084	0.415	0.457	0.266	0.451
	Phosphorus (P)-Total (mg/kg)	1030	904	971	844	989
	Phosphorus (P)-Total (mg/kg wwt)	537	370	552	390	301
	Potassium (K)-Total (mg/kg)	3670	10100	3620	2010	9870
	Potassium (K)-Total (mg/kg wwt)	1920	4130	2060	930	3000
	Rubidium (Rb)-Total (mg/kg)	2.40	7.72	4.62	5.37	40.8
	Rubidium (Rb)-Total (mg/kg wwt)	1.26	3.16	2.63	2.48	12.4
	Selenium (Se)-Total (mg/kg)	<0.050	<0.050	<0.050	0.391	<0.050
	Selenium (Se)-Total (mg/kg wwt)	0.020	0.012	0.024	0.181	<0.010
	Sodium (Na)-Total (mg/kg)	<20	<20	<20	38	<20
	Sodium (Na)-Total (mg/kg wwt)	<4.0	4.8	7.0	17.4	<4.0
	Strontium (Sr)-Total (mg/kg)	12.8	57.3	10.1	12.5	101
	Strontium (Sr)-Total (mg/kg wwt)	6.68	23.4	5.76	5.77	30.7
	Tellurium (Te)-Total (mg/kg)	<0.020	<0.020	<0.020	0.036	<0.020
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	<0.0040	0.0168	<0.0040
	Thallium (Tl)-Total (mg/kg)	0.0021	<0.0020	0.0257	0.0131	0.0050
	Thallium (Tl)-Total (mg/kg wwt)	0.00110	0.00041	0.0146	0.00604	0.00153
	Tin (Sn)-Total (mg/kg)	<0.10	<0.10	<0.10	<0.10	<0.10
	Tin (Sn)-Total (mg/kg wwt)	<0.020	<0.020	<0.020	0.038	<0.020
	Uranium (U)-Total (mg/kg)	0.0028	0.0025	0.0043	0.0301	<0.0020
	Uranium (U)-Total (mg/kg wwt)	0.00146	0.00102	0.00247	0.0139	0.00046
	Vanadium (V)-Total (mg/kg)	0.40	0.36	0.53	4.16	0.15
	Vanadium (V)-Total (mg/kg wwt)	0.210	0.145	0.301	1.92	0.046
	Zinc (Zn)-Total (mg/kg)	18.3	153	20.3	18.4	23.1
	Zinc (Zn)-Total (mg/kg wwt)	9.58	62.5	11.6	8.51	7.04
	Zirconium (Zr)-Total (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Zirconium (Zr)-Total (mg/kg wwt)	<0.040	<0.040	<0.040	0.083	<0.040

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

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Sample ID		L1813330-102	L1813330-103	L1813330-104	L1813330-105	L1813330-106
Description		Tissue	Tissue	Tissue	Tissue	Tissue
Sampled Date		10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16
Sampled Time						
Client ID		S05-SALIX (RINSED)	S06-LEDUM (RINSED)	S06-SALIX (RINSED)	S07-SALIX (RINSED)	S07-BLUE BERRIES (RINSED)
Grouping	**Analyte**					
TISSUE						
Metals	Molybdenum (Mo)-Total (mg/kg)	0.364	0.203	0.407	0.606	0.101
	Molybdenum (Mo)-Total (mg/kg wwt)	0.150	0.104	0.171	0.231	0.0126
	Nickel (Ni)-Total (mg/kg)	1.92	0.48	1.85	1.72	0.24
	Nickel (Ni)-Total (mg/kg wwt)	0.789	0.246	0.775	0.656	<0.040
	Phosphorus (P)-Total (mg/kg)	1220	1300	3020	1400	782
	Phosphorus (P)-Total (mg/kg wwt)	502	667	1270	534	97.7
	Potassium (K)-Total (mg/kg)	5900	4760	7150	9000	4060
	Potassium (K)-Total (mg/kg wwt)	2430	2440	3000	3430	508
	Rubidium (Rb)-Total (mg/kg)	7.50	10.2	5.98	4.20	2.76
	Rubidium (Rb)-Total (mg/kg wwt)	3.08	5.22	2.51	1.60	0.345
	Selenium (Se)-Total (mg/kg)	<0.10 DLA	<0.050	<0.050	<0.050	<0.050
	Selenium (Se)-Total (mg/kg wwt)	<0.020 DLA	<0.010	0.019	0.011	<0.010
	Sodium (Na)-Total (mg/kg)	122	<20	<20	<20	<20
	Sodium (Na)-Total (mg/kg wwt)	50.2	<4.0	4.8	6.2	<4.0
	Strontium (Sr)-Total (mg/kg)	66.1	11.6	182	68.7	1.81
	Strontium (Sr)-Total (mg/kg wwt)	27.2	5.95	76.4	26.2	0.226
	Tellurium (Te)-Total (mg/kg)	<0.040 DLA	<0.020	<0.020	<0.020	<0.020
	Tellurium (Te)-Total (mg/kg wwt)	<0.0080 DLA	<0.0040	<0.0040	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg)	<0.0040 DLA	0.0841	<0.0020	<0.0020	<0.0020
	Thallium (Tl)-Total (mg/kg wwt)	<0.00080 DLA	0.0431	<0.00040	0.00050	<0.00040
	Tin (Sn)-Total (mg/kg)	<0.20 DLA	<0.10	<0.10	<0.10	0.40
	Tin (Sn)-Total (mg/kg wwt)	<0.040 DLA	<0.020	<0.020	<0.020	0.050
	Uranium (U)-Total (mg/kg)	<0.0040 DLA	<0.0020	<0.0020	0.0029	<0.0020
	Uranium (U)-Total (mg/kg wwt)	0.00118	<0.00040	<0.00040	0.00112	<0.00040
	Vanadium (V)-Total (mg/kg)	0.44	<0.10	<0.10	0.49	<0.10
	Vanadium (V)-Total (mg/kg wwt)	0.183	0.037	0.041	0.188	<0.020
	Zinc (Zn)-Total (mg/kg)	25.3	21.6	85.1	96.1	8.75
	Zinc (Zn)-Total (mg/kg wwt)	10.4	11.1	35.7	36.6	1.09
	Zirconium (Zr)-Total (mg/kg)	<0.40 DLA	<0.20	<0.20	<0.20	<0.20
	Zirconium (Zr)-Total (mg/kg wwt)	<0.080 DLA	<0.040	<0.040	<0.040	<0.040

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

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	Sample ID	L1813330-107	L1813330-108	L1813330-109	L1813330-110	L1813330-111
	Description	Tissue	Tissue	Tissue	Tissue	Tissue
	Sampled Date	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16
	Sampled Time					
	Client ID	S07-HORSETAIL (RINSED)	S07-LEDUM (RINSED)	S17-SALIX (RINSED)	S31-SALIX (RINSED)	S32-LEDUM (RINSED)
Grouping	**Analyte**					
TISSUE						
Metals	Molybdenum (Mo)-Total (mg/kg)	0.600	0.087	0.201	0.394	0.069
	Molybdenum (Mo)-Total (mg/kg wwt)	0.162	0.0423	0.0806	0.157	0.0363
	Nickel (Ni)-Total (mg/kg)	0.58	0.26	3.37	1.83	0.34
	Nickel (Ni)-Total (mg/kg wwt)	0.156	0.128	1.35	0.729	0.179
	Phosphorus (P)-Total (mg/kg)	943	918	3080	3470	830
	Phosphorus (P)-Total (mg/kg wwt)	255	445	1230	1380	440
	Potassium (K)-Total (mg/kg)	12200	3140	8200	7770	2860
	Potassium (K)-Total (mg/kg wwt)	3310	1520	3290	3090	1520
	Rubidium (Rb)-Total (mg/kg)	28.0	2.44	1.87	6.69	2.25
	Rubidium (Rb)-Total (mg/kg wwt)	7.57	1.18	0.750	2.66	1.19
	Selenium (Se)-Total (mg/kg)	<0.050	<0.050	0.147	0.053	<0.050
	Selenium (Se)-Total (mg/kg wwt)	<0.010	0.014	0.059	0.021	0.015
	Sodium (Na)-Total (mg/kg)	21	<20	<20	<20	<20
	Sodium (Na)-Total (mg/kg wwt)	5.8	4.4	8.0	4.3	<4.0
	Strontium (Sr)-Total (mg/kg)	81.7	8.19	210	178	8.28
	Strontium (Sr)-Total (mg/kg wwt)	22.1	3.97	84.3	70.8	4.39
	Tellurium (Te)-Total (mg/kg)	<0.020	<0.020	<0.020	<0.020	<0.020
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	0.0052	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg)	0.0068	0.0072	0.0071	<0.0020	0.0030
	Thallium (Tl)-Total (mg/kg wwt)	0.00185	0.00350	0.00285	<0.00040	0.00161
	Tin (Sn)-Total (mg/kg)	<0.10	<0.10	<0.10	<0.10	<0.10
	Tin (Sn)-Total (mg/kg wwt)	<0.020	<0.020	<0.020	<0.020	<0.020
	Uranium (U)-Total (mg/kg)	0.0052	0.0024	0.0039	<0.0020	0.0025
	Uranium (U)-Total (mg/kg wwt)	0.00140	0.00118	0.00156	0.00043	0.00132
	Vanadium (V)-Total (mg/kg)	0.15	0.37	0.59	0.12	0.35
	Vanadium (V)-Total (mg/kg wwt)	0.040	0.182	0.236	0.046	0.184
	Zinc (Zn)-Total (mg/kg)	29.0	18.8	30.3	97.1	16.9
	Zinc (Zn)-Total (mg/kg wwt)	7.85	9.12	12.1	38.7	8.97
	Zirconium (Zr)-Total (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Zirconium (Zr)-Total (mg/kg wwt)	<0.040	<0.040	<0.040	<0.040	<0.040

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813330-112	L1813330-113	L1813330-114	L1813330-115	L1813330-116
	Description	Tissue	Tissue	Tissue	Tissue	Tissue
	Sampled Date	10-AUG-16	10-AUG-16	10-AUG-16	10-AUG-16	11-AUG-16
	Sampled Time					
	Client ID	S33-HORSETAIL (RINSED)	S34-LICHEN (RINSED)	S35-SALIX (RINSED)	S36-LEDUM (RINSED)	C02-HORSETAIL (RINSED)
Grouping	**Analyte**					
TISSUE						
Metals	Molybdenum (Mo)-Total (mg/kg)	0.587	0.741	0.832	0.884	0.587
	Molybdenum (Mo)-Total (mg/kg wwt)	0.173	0.425	0.327	0.392	0.186
	Nickel (Ni)-Total (mg/kg)	0.96	0.66	1.03	0.27	0.48
	Nickel (Ni)-Total (mg/kg wwt)	0.284	0.378	0.405	0.118	0.152
	Phosphorus (P)-Total (mg/kg)	1050	544	1060	1040	1050
	Phosphorus (P)-Total (mg/kg wwt)	309	311	417	460	334
	Potassium (K)-Total (mg/kg)	13300	1410	11800	3210	14300
	Potassium (K)-Total (mg/kg wwt)	3920	810	4620	1420	4540
	Rubidium (Rb)-Total (mg/kg)	36.7	4.69	9.63	2.19	6.71
	Rubidium (Rb)-Total (mg/kg wwt)	10.8	2.69	3.78	0.970	2.13
	Selenium (Se)-Total (mg/kg)	<0.050	0.349	<0.050	<0.050	<0.050
	Selenium (Se)-Total (mg/kg wwt)	<0.010	0.200	0.011	0.012	<0.010
	Sodium (Na)-Total (mg/kg)	22	56	<20	<20	<20
	Sodium (Na)-Total (mg/kg wwt)	6.5	31.9	4.0	8.0	5.3
	Strontium (Sr)-Total (mg/kg)	88.9	13.0	56.6	8.29	89.9
	Strontium (Sr)-Total (mg/kg wwt)	26.3	7.44	22.2	3.68	28.5
	Tellurium (Te)-Total (mg/kg)	<0.020	0.026	<0.020	<0.020	<0.020
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	0.0152	<0.0040	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg)	0.0062	0.0130	<0.0020	0.0168	<0.0020
	Thallium (Tl)-Total (mg/kg wwt)	0.00184	0.00743	<0.00040	0.00744	<0.00040
	Tin (Sn)-Total (mg/kg)	<0.10	<0.10	<0.10	<0.10	<0.10
	Tin (Sn)-Total (mg/kg wwt)	<0.020	0.051	<0.020	<0.020	<0.020
	Uranium (U)-Total (mg/kg)	0.0050	0.0362	0.0027	<0.0020	<0.0020
	Uranium (U)-Total (mg/kg wwt)	0.00148	0.0207	0.00107	0.00084	<0.00040
	Vanadium (V)-Total (mg/kg)	0.15	4.50	0.38	0.29	<0.10
	Vanadium (V)-Total (mg/kg wwt)	0.043	2.58	0.151	0.128	<0.020
	Zinc (Zn)-Total (mg/kg)	27.6	19.3	171	23.4	11.1
	Zinc (Zn)-Total (mg/kg wwt)	8.16	11.1	67.1	10.4	3.53
	Zirconium (Zr)-Total (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Zirconium (Zr)-Total (mg/kg wwt)	<0.040	0.108	<0.040	<0.040	<0.040

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

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	Sample ID	L1813330-117	L1813330-118	L1813330-119	L1813330-120	L1813330-121
	Description	Tissue	Tissue	Tissue	Tissue	Tissue
	Sampled Date	11-AUG-16	11-AUG-16	11-AUG-16	11-AUG-16	11-AUG-16
	Sampled Time					
	Client ID	C02-LEDUM (RINSED)	C02-LICHEN (RINSED)	C02-SALIX (RINSED)	S09-SALIX (RINSED)	M80-SALIX (RINSED)
Grouping	**Analyte**					
TISSUE						
Metals	Molybdenum (Mo)-Total (mg/kg)	0.462	0.156	1.29	0.300	0.286
	Molybdenum (Mo)-Total (mg/kg wwt)	0.262	0.0688	0.576	0.143	0.117
	Nickel (Ni)-Total (mg/kg)	0.33	0.30	1.71	0.49	3.04
	Nickel (Ni)-Total (mg/kg wwt)	0.186	0.132	0.766	0.235	1.25
	Phosphorus (P)-Total (mg/kg)	1070	369	1640	4100	5000
	Phosphorus (P)-Total (mg/kg wwt)	605	163	732	1950	2050
	Potassium (K)-Total (mg/kg)	3510	812	9030	10100	8590
	Potassium (K)-Total (mg/kg wwt)	1990	358	4040	4820	3530
	Rubidium (Rb)-Total (mg/kg)	2.42	0.971	3.11	1.03	2.56
	Rubidium (Rb)-Total (mg/kg wwt)	1.37	0.428	1.39	0.492	1.05
	Selenium (Se)-Total (mg/kg)	<0.050	0.054	<0.050	<0.050	0.172
	Selenium (Se)-Total (mg/kg wwt)	<0.010	0.024	<0.010	0.014	0.071
	Sodium (Na)-Total (mg/kg)	<20	<20	<20	<20	<20
	Sodium (Na)-Total (mg/kg wwt)	<4.0	8.6	6.0	6.7	5.6
	Strontium (Sr)-Total (mg/kg)	16.8	4.14	87.5	207	218
	Strontium (Sr)-Total (mg/kg wwt)	9.52	1.83	39.2	98.4	89.4
	Tellurium (Te)-Total (mg/kg)	<0.020	<0.020	<0.020	<0.020	<0.020
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	0.0040	<0.0040	0.0077
	Thallium (Tl)-Total (mg/kg)	0.0074	0.0031	<0.0020	<0.0020	<0.0020
	Thallium (Tl)-Total (mg/kg wwt)	0.00421	0.00137	<0.00040	<0.00040	<0.00040
	Tin (Sn)-Total (mg/kg)	<0.10	<0.10	<0.10	<0.10	<0.10
	Tin (Sn)-Total (mg/kg wwt)	<0.020	<0.020	<0.020	<0.020	<0.020
	Uranium (U)-Total (mg/kg)	<0.0020	0.0077	<0.0020	<0.0020	<0.0020
	Uranium (U)-Total (mg/kg wwt)	0.00089	0.00340	0.00046	0.00055	0.00041
	Vanadium (V)-Total (mg/kg)	0.12	0.67	0.12	0.19	0.16
	Vanadium (V)-Total (mg/kg wwt)	0.070	0.295	0.055	0.091	0.065
	Zinc (Zn)-Total (mg/kg)	21.0	9.68	86.4	48.9	102
	Zinc (Zn)-Total (mg/kg wwt)	11.9	4.27	38.7	23.2	41.7
	Zirconium (Zr)-Total (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Zirconium (Zr)-Total (mg/kg wwt)	<0.040	<0.040	<0.040	<0.040	<0.040

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813330-122	L1813330-123	L1813330-124	L1813330-125	L1813330-126
	Description	Tissue	Tissue	Tissue	Tissue	Tissue
	Sampled Date	11-AUG-16	11-AUG-16	11-AUG-16	11-AUG-16	11-AUG-16
	Sampled Time					
	Client ID	M80-LEDUM (RINSED)	M26-LEDUM (RINSED)	M26-SALIX (RINSED)	M26-LICHEN (RINSED)	M26-BLUEBERRIES (RINSED)
Grouping	**Analyte**					
TISSUE						
Metals	Molybdenum (Mo)-Total (mg/kg)	0.548	0.359	0.443	0.103	0.435
	Molybdenum (Mo)-Total (mg/kg wwt)	0.282	0.174	0.168	0.0629	0.0728
	Nickel (Ni)-Total (mg/kg)	1.56	0.39	19.4	0.31	0.68
	Nickel (Ni)-Total (mg/kg wwt)	0.806	0.191	7.37	0.190	0.114
	Phosphorus (P)-Total (mg/kg)	1300	1190	3680	492	1020
	Phosphorus (P)-Total (mg/kg wwt)	668	579	1400	301	171
	Potassium (K)-Total (mg/kg)	3720	4100	15700	1020	3680
	Potassium (K)-Total (mg/kg wwt)	1920	1990	5950	621	616
	Rubidium (Rb)-Total (mg/kg)	2.65	2.04	4.65	1.39	1.63
	Rubidium (Rb)-Total (mg/kg wwt)	1.37	0.992	1.76	0.851	0.272
	Selenium (Se)-Total (mg/kg)	<0.050	<0.050	0.363	<0.050	<0.050
	Selenium (Se)-Total (mg/kg wwt)	0.022	<0.010	0.138	0.020	<0.010
	Sodium (Na)-Total (mg/kg)	<20	<20	<20	22	<20
	Sodium (Na)-Total (mg/kg wwt)	<4.0	5.1	<4.0	13.2	<4.0
	Strontium (Sr)-Total (mg/kg)	14.9	26.6	117	13.4	6.30
	Strontium (Sr)-Total (mg/kg wwt)	7.66	12.9	44.5	8.18	1.05
	Tellurium (Te)-Total (mg/kg)	<0.020	<0.020	<0.020	<0.020	<0.020
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
	Thallium (Tl)-Total (mg/kg)	0.0069	0.0026	<0.0020	0.0022	<0.0020
	Thallium (Tl)-Total (mg/kg wwt)	0.00356	0.00128	<0.00040	0.00131	<0.00040
	Tin (Sn)-Total (mg/kg)	<0.10	<0.10	<0.10	<0.10	1.54
	Tin (Sn)-Total (mg/kg wwt)	<0.020	<0.020	<0.020	<0.020	0.258
	Uranium (U)-Total (mg/kg)	<0.0020	<0.0020	<0.0020	0.0068	<0.0020
	Uranium (U)-Total (mg/kg wwt)	0.00080	0.00072	<0.00040	0.00416	<0.00040
	Vanadium (V)-Total (mg/kg)	0.22	<0.10	<0.10	0.56	<0.10
	Vanadium (V)-Total (mg/kg wwt)	0.112	0.034	<0.020	0.343	<0.020
	Zinc (Zn)-Total (mg/kg)	33.4	14.8	44.8	8.70	7.87
	Zinc (Zn)-Total (mg/kg wwt)	17.2	7.17	17.0	5.31	1.32
	Zirconium (Zr)-Total (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Zirconium (Zr)-Total (mg/kg wwt)	<0.040	<0.040	<0.040	0.043	<0.040

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813330-127	L1813330-128	L1813330-129	L1813330-130	L1813330-131
	Description	Tissue	Tissue	Tissue	Tissue	Tissue
	Sampled Date	11-AUG-16	11-AUG-16	11-AUG-16	11-AUG-16	12-AUG-16
	Sampled Time					
	Client ID	M07B-SALIX (RINSED)	M07B-HORSETAIL (RINSED)	M07B-LEDUM (RINSED)	M07B-LICHEN (RINSED)	S04-SALIX (RINSED)
Grouping	**Analyte**					
TISSUE						
Metals	Molybdenum (Mo)-Total (mg/kg)	0.157	0.606	0.105	0.102	0.356
	Molybdenum (Mo)-Total (mg/kg wwt)	0.0667	0.235	0.0549	0.0835	0.155
	Nickel (Ni)-Total (mg/kg)	0.81	0.26	<0.20	0.30	0.50
	Nickel (Ni)-Total (mg/kg wwt)	0.342	0.101	0.068	0.244	0.216
	Phosphorus (P)-Total (mg/kg)	797	1330	850	380	3680
	Phosphorus (P)-Total (mg/kg wwt)	338	515	444	311	1600
	Potassium (K)-Total (mg/kg)	7070	20300	3740	1040	11500
	Potassium (K)-Total (mg/kg wwt)	3000	7880	1950	853	5010
	Rubidium (Rb)-Total (mg/kg)	3.01	77.4	2.17	1.21	2.58
	Rubidium (Rb)-Total (mg/kg wwt)	1.28	30.0	1.13	0.990	1.12
	Selenium (Se)-Total (mg/kg)	<0.050	<0.050	<0.050	0.071	<0.050
	Selenium (Se)-Total (mg/kg wwt)	<0.010	<0.010	<0.010	0.058	0.014
	Sodium (Na)-Total (mg/kg)	<20	38	<20	23	<20
	Sodium (Na)-Total (mg/kg wwt)	<4.0	14.8	<4.0	18.9	6.0
	Strontium (Sr)-Total (mg/kg)	72.0	137	19.8	8.44	175
	Strontium (Sr)-Total (mg/kg wwt)	30.6	53.2	10.3	6.90	76.3
	Tellurium (Te)-Total (mg/kg)	<0.020	<0.020	<0.020	<0.020	<0.020
	Tellurium (Te)-Total (mg/kg wwt)	<0.0040	<0.0040	<0.0040	0.0051	<0.0040
	Thallium (Tl)-Total (mg/kg)	<0.0020	0.0085	0.0021	0.0031	<0.0020
	Thallium (Tl)-Total (mg/kg wwt)	<0.00040	0.00330	0.00107	0.00256	<0.00040
	Tin (Sn)-Total (mg/kg)	<0.10	<0.10	<0.10	<0.10	<0.10
	Tin (Sn)-Total (mg/kg wwt)	<0.020	<0.020	<0.020	<0.020	<0.020
	Uranium (U)-Total (mg/kg)	<0.0020	<0.0020	<0.0020	0.0097	<0.0020
	Uranium (U)-Total (mg/kg wwt)	<0.00040	<0.00040	0.00097	0.00789	0.00056
	Vanadium (V)-Total (mg/kg)	<0.10	<0.10	0.18	0.90	0.26
	Vanadium (V)-Total (mg/kg wwt)	0.024	<0.020	0.093	0.734	0.114
	Zinc (Zn)-Total (mg/kg)	168	31.7	24.7	12.2	27.3
	Zinc (Zn)-Total (mg/kg wwt)	71.1	12.3	12.9	9.98	11.9
	Zirconium (Zr)-Total (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Zirconium (Zr)-Total (mg/kg wwt)	<0.040	<0.040	<0.040	0.072	<0.040

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1813330-132	L1813330-133			
	Description	Tissue	Tissue			
	Sampled Date	12-AUG-16	12-AUG-16			
	Sampled Time					
	Client ID	S19-SALIX (RINSED)	S19-LEDUM (RINSED)			
Grouping	**Analyte**					
TISSUE						
Metals	Molybdenum (Mo)-Total (mg/kg)	0.257	0.265			
	Molybdenum (Mo)-Total (mg/kg wwt)	0.0948	0.132			
	Nickel (Ni)-Total (mg/kg)	1.81	0.78			
	Nickel (Ni)-Total (mg/kg wwt)	0.669	0.388			
	Phosphorus (P)-Total (mg/kg)	5820	1440			
	Phosphorus (P)-Total (mg/kg wwt)	2150	720			
	Potassium (K)-Total (mg/kg)	15400	4470			
	Potassium (K)-Total (mg/kg wwt)	5670	2230			
	Rubidium (Rb)-Total (mg/kg)	9.95	5.42			
	Rubidium (Rb)-Total (mg/kg wwt)	3.67	2.70			
	Selenium (Se)-Total (mg/kg)	0.089	0.059			
	Selenium (Se)-Total (mg/kg wwt)	0.033	0.030			
	Sodium (Na)-Total (mg/kg)	26	<20			
	Sodium (Na)-Total (mg/kg wwt)	9.7	5.9			
	Strontium (Sr)-Total (mg/kg)	203	14.6			
	Strontium (Sr)-Total (mg/kg wwt)	74.9	7.28			
	Tellurium (Te)-Total (mg/kg)	0.021	<0.020			
	Tellurium (Te)-Total (mg/kg wwt)	0.0076	<0.0040			
	Thallium (Tl)-Total (mg/kg)	<0.0020	0.0880			
	Thallium (Tl)-Total (mg/kg wwt)	0.00058	0.0439			
	Tin (Sn)-Total (mg/kg)	<0.10	<0.10			
	Tin (Sn)-Total (mg/kg wwt)	<0.020	<0.020			
	Uranium (U)-Total (mg/kg)	0.0044	0.0064			
	Uranium (U)-Total (mg/kg wwt)	0.00162	0.00318			
	Vanadium (V)-Total (mg/kg)	0.83	1.05			
	Vanadium (V)-Total (mg/kg wwt)	0.305	0.522			
	Zinc (Zn)-Total (mg/kg)	91.5	28.8			
	Zinc (Zn)-Total (mg/kg wwt)	33.8	14.3			
	Zirconium (Zr)-Total (mg/kg)	<0.20	<0.20			
	Zirconium (Zr)-Total (mg/kg wwt)	<0.040	<0.040			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Duplicate	Bismuth (Bi)-Total	DUP-H	L1813330-109
Duplicate	Copper (Cu)-Total	DUP-H	L1813330-106, -11, -124, -126, -20, -21, -24, -39, -58, -59, -6, -70, -73, -74, -8, -80, -85, -86, -87, -88, -91
Duplicate	Thallium (Tl)-Total	DUP-H	L1813330-109
Duplicate	Tin (Sn)-Total	DUP-H	L1813330-106, -11, -124, -126, -20, -21, -24, -39, -58, -59, -6, -70, -73, -74, -8, -80, -85, -86, -87, -88, -91
Duplicate	Bismuth (Bi)-Total	DUP-H	L1813330-109
Duplicate	Copper (Cu)-Total	DUP-H	L1813330-106, -11, -124, -126, -20, -21, -24, -39, -58, -59, -6, -70, -73, -74, -8, -80, -85, -86, -87, -88, -91
Duplicate	Thallium (Tl)-Total	DUP-H	L1813330-109
Duplicate	Tin (Sn)-Total	DUP-H	L1813330-106, -11, -124, -126, -20, -21, -24, -39, -58, -59, -6, -70, -73, -74, -8, -80, -85, -86, -87, -88, -91
Duplicate	Uranium (U)-Total	DUP-H	L1813330-113, -131, -25, -26, -27, -28, -33, -38, -41, -42, -48, -63, -64, -65, -66, -67, -93
Method Blank	Strontium (Sr)-Total	MB-LOR	L1813330-109
Method Blank	Strontium (Sr)-Total	MB-LOR	L1813330-109

Qualifiers for Individual Parameters Listed:

Qualifier	Description
DLA	Detection Limit adjusted for required dilution
DUP-H	Duplicate results outside ALS DQO, due to sample heterogeneity.
MB-LOR	Method Blank exceeds ALS DQO. Limits of Reporting have been adjusted for samples with positive hits below 5x blank level.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
MET-DRY-CCMS-N-VA	Tissue	Metals in Tissue by CRC ICPMS (DRY)	EPA 200.3/6020A

This method is conducted following British Columbia Lab Manual method "Metals in Animal Tissue and Vegetation (Biota) - Prescriptive". Tissue samples are homogenized and sub-sampled prior to hotblock digestion with nitric and hydrochloric acids, in combination with addition of hydrogen peroxide. Instrumental analysis is by collision cell inductively coupled plasma - mass spectrometry (modified from EPA Method 6020A).

Method Limitation: This method employs a strong acid/peroxide digestion, and is intended to provide a conservative estimate of bio-available metals. Near complete recoveries are achieved for most toxicologically important metals, but elements associated with recalcitrant minerals may be only partially recovered.

MET-WET-CCMS-N-VA	Tissue	Metals in Tissue by CRC ICPMS (WET)	EPA 200.3/6020A

This method is conducted following British Columbia Lab Manual method "Metals in Animal Tissue and Vegetation (Biota) - Prescriptive". Tissue samples are homogenized and sub-sampled prior to hotblock digestion with nitric and hydrochloric acids, in combination with addition of hydrogen peroxide. Instrumental analysis is by collision cell inductively coupled plasma - mass spectrometry (modified from EPA Method 6020A).

Method Limitation: This method employs a strong acid/peroxide digestion, and is intended to provide a conservative estimate of bio-available metals. Near complete recoveries are achieved for most toxicologically important metals, but elements associated with recalcitrant minerals may be only partially recovered.

MOISTURE-TISS-VA	Tissue	% Moisture in Tissues	ASTM D2974-00 Method A

This analysis is carried out gravimetrically by drying the sample at 105 C for a minimum of six hours.

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA

Chain of Custody Numbers:

Reference Information

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.
mg/kg - milligrams per kilogram based on dry weight of sample.
mg/kg wwt - milligrams per kilogram based on wet weight of sample.
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.
mg/L - milligrams per litre.
< - Less than.
D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Chain of Custody (COC) / Analytical Request Form

ALS Environmental

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

L1813330-COFC

COC Number: 14 -

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Report To		Report Format / Distribution		Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)
Company	Minto Explorations Ltd	Select Report Format:	☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)	R ☑ Routine (Standard TAT if received by 15:00 - business days)
Contact	Minto Environmental - Coordinator	Quality Control (QC) Report with Report	☑ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 15:00: 50% surcharge - contact ALS to confirm TAT)
Address	2100-510 West Georgia St Vancouver, BC	☐ Criteria on Report - provide details below if box checked		E ☐ Emergency (1-2 bus. days if received by 15:00: 100% surcharge - contact ALS to confirm TAT)
		Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX	E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge
Phone:	604-759-4659	Email 1 or Fax	minto_environment@mintomine.com	Specify Date Required for E2,E or P:
		Email 2	mheynen@accessconsulting.ca,mduchamme@accessconsulting.ca	**Analysis Request**

Invoice To	Same as Report To ☑ Yes ☐ No	Invoice Distribution	
	Copy of Invoice with Report ☑ Yes ☐ No	Select Invoice Distribution	☑ EMAIL ☐ MAIL ☐ FAX
Company		Email 1 or Fax	ap@mintomine.com
Contact		Email 2	

Project Information		Oil and Gas Required Fields (client use)	
ALS Quote #:		Approver ID:	Cost Center:
Job #:	MIN 16-07 (2016 Minto VMU)	GL Account:	Routing Code:
PO / AFE:	222458	Activity Code:	
LSD:		Location:	
ALS Lab Work Order # (lab use only):		ALS Contact: Ariel McDonnell	Sampler:

Please Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	MET-WET-DRY-CONS-VA	MOISTURE-TISS-VA	PREP-TISS-DIGEST-VA	Number of Containers
	C01-Salix	09-Aug-16	-	Tissue	R	R	R	
	C01-Lichen	09-Aug-16	-	Tissue	R	R	R	
	C01-Horsetail	09-Aug-16	-	Tissue	R	R	R	
	C01-Ledum	09-Aug-16	-	Tissue	R	R	R	
	S03-Salix	09-Aug-16	-	Tissue	R	R	R	
	S03-Lichen	09-Aug-16	-	Tissue	R	R	R	
	S11-Lichen	09-Aug-16	-	Tissue	R	R	R	
	S11-Salix	09-Aug-16	-	Tissue	R	R	R	
	S02-Salix	09-Aug-16	-	Tissue	R	R	R	
	S02-Lichen	09-Aug-16	-	Tissue	R	R	R	
	S01-Ledum	09-Aug-16	-	Tissue	R	R	R	
	S01-Salix	09-Aug-16	-	Tissue	R	R	R	

Drinking Water (DW) Samples (client use)	Special Instructions / Specify Criteria to add on report (client Use)
Are samples taken from a Regulated DW System? ☐ Yes ☐ No	Vegetation tissue samples. Will require subsamples & rinsing for some samples.
Are samples for human drinking water use? ☐ Yes ☐ No	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen	☐	SIF Observations	Yes ☐ No ☐
Ice packs	Yes ☑ No ☐	Custody seal intact	Yes ☐ No ☐
Cooling initiated	☐		

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C
5.0			5.1, 3.3, 4.9, 3.6, 6

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by: [signature]	Date: Aug 12/16	Time: 15:15	Received by: [signature]	Date: Aug 12/16	Time: 3:21	Received by: SHANNON	Date: AUG 13	Time: 1300

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION WHITE - LABORATORY COPY YELLOW - CLIENT COPY

Failure to complete all portions of this document may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the ALS Price Schedule.

Chain of Custody (COC) / Analytical Request Form

ALS Environmental

Canada Toll Free: 1 800 668 9878

www.alsglobal.com

L1813330-COFC

COC Number 14 -

Report To		Report Format / Distribution	Select Service Level Below (Rush Turnaround Times (TAT) is not available for all tests)
Company	Minto Explorations Ltd	Select Report Format: ☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3 pm - business days)
Contact	Minto Environment - Coordinator	Quality Control (QC) Report with Report ☑ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address:	2100-510 West Georgia St. Vancouver, BC	☐ Criteria on Report - provide details below if box checked	E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
		Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge
Phone:	604 759-4659	Email 1 or Fax minto_environment@mintomine.com	Specify Date Required for E2, E or P:
		Email 2 mheynen@accessconsulting.ca, muducharme@accessconsulting.ca	Analysis Request

Invoice To	Same as Report To ☑ Yes ☐ No	Invoice Distribution	Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below
	Copy of invoice with Report ☑ Yes ☐ No	Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	
Company		Email 1 or Fax ap@mintomine.com	
Contact		Email 2	

Project Information		Oil and Gas Required Fields (client use)	
ALS Quote #:		Approver ID:	Cost Center:
Job #:	MIN 16-07 (2016 Minto VMU)	GL Account:	Routing Code:
PO / AFE:	222458	Activity Code:	
LSD:		Location:	
ALS Lab Work Order # (lab use only)		ALS Contact: Ariel McDonnell	Sampler:

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	MET WET/DRY GERMS N-VA	MOISTURE-TISS-VA	PREP TISS DIGEST-VA									Number of Containers
	S01-Lichen	09-Aug-16	-	Tissue	R	R	R									
	S16-Salix	09-Aug-16	-	Tissue	R	R	R									
	S16-Lichen	09-Aug-16	-	Tissue	R	R	R									
	S16-Ledum	09-Aug-16	-	Tissue	R	R	R									
	S16-Horsetail	09-Aug-16	-	Tissue	R	R	R									
	S15-Salix	09-Aug-16	-	Tissue	R	R	R									
	S15-Ledum	09-Aug-16	-	Tissue	R	R	R									
	S15-Horsetail	09-Aug-16	-	Tissue	R	R	R									
	SC6-Salix	10-Aug-16	-	Tissue	R	R	R									
	SC6-Ledum	10-Aug-16	-	Tissue	R	R	R									
	SC6-Lichen	10-Aug-16	-	Tissue	R	R	R									
	SC6-Blue berries	10-Aug-16	-	Tissue	R	R	R									

Drinking Water (DW) Samples (client use)	Special Instructions / Specify Criteria to add on report (client Use)
Are samples taken from a Regulated DW System? ☐ Yes ☐ No	Vegetation tissue samples: Will require subsample & rinsing for some samples.
Are samples for human drinking water use? ☐ Yes ☐ No	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen	☐	SIF Observations	Yes ☐ No ☐
Ice packs	Yes ☐ No ☐	Custody seal intact	Yes ☐ No ☐
Cooling Initiated	☐		

INITIAL COOLER TEMPERATURES °C		FINAL COOLER TEMPERATURES °C			
6.5°		5.1,	3.7,	4.9,	3.6, 6

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by	Date	Time	Received by: Jeremy Murray	Date: 3-Aug-16	Time:	Received by: JHAGAN	Date: AUG.13	Time: 1300

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Company	Minto Explorations Ltd	Select Report Format:	☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3 pm - business days)
Contact	Minto Environment - Coordinator	Quality Control (QC) Report with Report	☑ Yes ☐ No	P ☐ Priority (7-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address	2100-510 West Georgia St Vancouver, BC	☐ Criteria on report - provide details below if box checked		E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
		Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX	E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge
Phone	604-759-4659	Email 1 or Fax	minto_environment@mintomine.com	Specify Date Required for E2, E or P:
		Email 2	mhoynen@accessconsulting.ca, mduducharme@accessconsulting.ca	**Analysis Request**
Invoice To	Same as Report To ☑ Yes ☐ No	**Invoice Distribution**		Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below
	Copy of Invoice with Report: ☑ Yes ☐ No	Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX	
Company:		Email 1 or Fax	ap@mintomine.com	
Contact:		Email 2		
Project Information		**Oil and Gas Required Fields (client use)**		
ALS Quote #		Approver ID:	Cost Center:	
Job #:	MIN 16-07 (2016 Minto VMU)	GL Account:	Routing Code:	
PO / AFE:	222458	Activity Code:		
LSD:		Location:		
ALS Lab Work Order # (lab use only)		ALS Contact: Ariel McDonald	Sampler:	

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	VET-WET/DRY GRAMS IN VA	MOISTURE-TISS-VA	PREP-TISS DIGEST VA	Number of Containers
	M29-Salix	10-Aug-16		Tissue	R	R	R	
	M29-Horsetail	10-Aug-16	-	Tissue	R	R	R	
	M29-Ledum	10-Aug-16	-	Tissue	R	R	R	
	M29-Lichen	10-Aug-16	-	Tissue	R	R	R	
	S10-Horsetail	10-Aug-16	-	Tissue	R	R	R	
	S10-Ledum	10-Aug-16		Tissue	R	R	R	
	S10-Salix	10-Aug-16	-	Tissue	R	R	R	
	S05-Ledum	10-Aug-16	-	Tissue	R	R	R	
	S05-Lichen	10-Aug-16	-	Tissue	R	R	R	
	S05-Horsetail	10-Aug-16	-	Tissue	R	R	R	
	S05-Salix	10-Aug-16	-	Tissue	R	R	R	
	S06-Ledum	10-Aug-16	-	Tissue	R	R	R	

Drinking Water (DW) Samples (client use)	Special Instructions / Specify Criteria to add on report (client use)
Are samples taken from a Regulated DW System? ☐ Yes ☐ No	Vegetation tissue samples. Will require subsample & rinsing for some samples
Are samples for human drinking water use? ☐ Yes ☐ No	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen	☐	SIF Observations	Yes ☐ No ☐
Ice packs	Yes ☑ No ☐	Custody seal intact	Yes ☐ No ☐
Cooling Initiated	☐		

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
5.0°			5.1, 3.3	4.9	3.6, 6

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by	Date	Time	Received by: Jeremy Mann	Date: Aug 17-16	Time: 3:30pm	Received by: S.H. Ayan	Date: AUG 13	Time: 1500

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L1813330-COFC

COC Number: 14 -

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Company	Minto Explorations Ltd	Select Report Format	☑ PDF ☑ XLS ☑ CD (DIGITAL)
Contact	Minto Environment - Coordinator	Quality Control (QC) Report with Report	☑ Yes ☐ No
Address:	2100-510 West Georgia St Vancouver, BC	☐ Criteria on Report - provide details below if box checked Select Distribution:	☑ Email ☐ Mail ☐ Fax
Phone	604-759-4559	Email 1 or Fax	minto_environmental@mintomine.com
		Email 2	mheynen@accessconsulting.ca mduchaine@accessconsulting.ca

Select service level below (Rush Turnaround Time (TAT) is not available for all tests)

- R ☑ Regular (Standard TAT if received by 3 pm - business days)
- P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
- E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
- E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge

Specify Date Required for E2, E or P:

Invoice To	Same as Report To ☑ Yes ☐ No	Invoice Distribution	
	Copy of Invoice with Report ☑ Yes ☐ No	Select Invoice Distribution	☑ Email ☐ Mail ☐ Fax
Company:		Email 1 or Fax	ap@mintomine.com
Contact:		Email 2	

Project Information		Oil and Gas Required Fields (client use)	
ALS Quote #		Approver ID	Cost Center
Job #:	MIN 16-07 (2016 Minto VMU)	GL Account:	Routing Code
PO / AFE:	222456	Activity Code:	
LSD:		Location:	
ALS Lab Work Order # (lab use only):		ALS Contact: Ariel McDonnell	Sampler:

Analysis Request — Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	MET-TOTE-FURNCY-CONS-N-VA	MOISTURE-TISS-VA	PREP-TISS-DIGEST-VA	Number of Containers
	S06-Salix	10-Aug-16	-	Tissue	R	R	R	
	S07-Salix	10-Aug-16	-	Tissue	R	R	R	
	S07-Blue berries	10-Aug-16	-	Tissue	R	R	R	
	S07-Horsetail	10-Aug-16	-	Tissue	R	R	R	
	S07-Ledum	10-Aug-16	-	Tissue	R	R	R	
	S17-Salix	10-Aug-16	-	Tissue	R	R	R	
	S31-Salix	10-Aug-16	-	Tissue	R	R	R	
	S32-Ledum	10-Aug-16	-	Tissue	R	R	R	
	S33-Horsetail	10-Aug-16	-	Tissue	R	R	R	
	S34-Lichen	10-Aug-16	-	Tissue	R	R	R	
	S35-Salix	10-Aug-16	-	Tissue	R	R	R	
	S36-Ledum	10-Aug-16	-	Tissue	R	R	R	

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report (client Use)
Are samples taken from a Regulated DW System? ☐ Yes ☐ No	Vegetation tissue samples. Will require subsample & rinsing for some samples
Are samples for human drinking water use? ☐ Yes ☐ No	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen	☐	SIF Observations	Yes ☐ No ☐
Ice packs	Yes ☑ No ☐	Custody seal intact	Yes ☐ No ☐
Cooling initiated	☐		

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
10.2			5.1, 3.3, 4.9,	3.6, 6	

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by	Date	Time	Received by: Jenny McCue	Date: Aug-12-16	Time: 3:16pm	Received by: SHIPPING	Date: AUG. 15	Time: 1300

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Company:	Minto Exploration's Ltd	Select Report Format:	☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)	R ☑ Regular (Standard TAT - to be advised by 3 pm - business days)
Contact	Minto Environment - Coordinator	Quality Control (QC) Report with Report	☑ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address:	2100-510 West Georgia St. Vancouver, BC	☐ Criteria on Report - provide details below if box checked		E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
		Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX	E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge
Phone	604-759-4099	Email 1 or Fax	minto_environment@mintomine.com	Specify Date Required for E2, E or P
		Email 2	mheynen@accessconsulting.ca,muducharme@accessconsulting.ca	

Invoice To	Same as Report To ☑ Yes ☐ No	Invoice Distribution	
	Copy of Invoice with Report ☑ Yes ☐ No	Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Company		Email 1 or Fax	ap@mintomine.com
Contact		Email 2	

Project Information		Oil and Gas Required Fields (client use)	
ALS Quote #		Approver ID	Cost Center
Job #	MIN 16-07 (2016 Minto VMU)	GL Account	Routing Code
PO / AFE:	222458	Activity Code	
LSD		Location	
ALS Lab Work Order # (lab use only)		ALS Contact: Ariel McDonnel	Sampler:

Analysis Request — Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	SIFT-WET/DRY-CCMS N-VA	MOISTURE-TISS-VA	PREP-TISS-UNOS-ST-VA	Number of Containers
	C02-Horsetail	11-Aug-16	-	Tissue	R	R	R	
	C02-Ledum	11-Aug-16	-	Tissue	R	R	R	
	C02-Lichen	11-Aug-16	-	Tissue	R	R	R	
	C02-Salix	11-Aug-16	-	Tissue	R	R	R	
	S09-Salix	11-Aug-16	-	Tissue	R	R	R	
	M80-Salix	11-Aug-16	-	Tissue	R	R	R	
	M80-Ledum	11-Aug-16	-	Tissue	R	R	R	
	M26-Ledum	11-Aug-16	-	Tissue	R	R	R	
	M26-Salix	11-Aug-16	-	Tissue	R	R	R	
	M26-Lichen	11-Aug-16	-	Tissue	R	R	R	
	M26-Blueberries	11-Aug-16	-	Tissue	R	R	R	
	M07b-Blueberries	11-Aug-16	-	Tissue	R	R	R	

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report (client Use)
Are samples taken from a Regulated DW System? ☐ Yes ☐ No	Vegetation tissue samples. Will require subsample & rinsing for some samples
Are samples for human drinking water use? ☐ Yes ☐ No	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen	☐	SIF Observations	Yes ☐ No ☐
Ice packs	Yes ☑ No ☐	Custody seal intact	Yes ☐ No ☐
Cooling Initiated	☐		

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C
5.0°			5.1, 3.3, 4.7, 3.6, 6

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by	Date	Time	Received by	Date	Time	Received by	Date	Time
			[illegible signature]	Aug-12-16	3:20pm	SHAYAN	AUG.13	1300

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Report To		Report Format / Distribution		Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)
Company	Minto Explorations Ltd.	Select Report Format	☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3 pm - business days)
Contact	Minto Environment - Coordinator	Quality Control (QC) Report with Report	☑ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address	2100-510 West Georg a St Vancouver, BC	☐ Criteria on Report - provide details below if box checked		E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
		Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX	E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge
Phone:	604-759-4659	Email 1 or Fax	minto_environment@mintomine.com	Specify Date Required for E2,E or P
		Email 2	mheymen@accessconsulting.ca,mduducharme@accessconsulting.ca	Analysis Request

Invoice To	Same as Report To ☑ Yes ☐ No	Invoice Distribution	
	Copy of Invoice with Report ☑ Yes ☐ No	Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Company		Email 1 or Fax	ap@mintomine.com
Contact:		Email 2	

Project Information		Oil and Gas Required Fields (client use)	
ALS Quote #:		Approver ID:	Cost Center:
Job #	MIN 16-07 (2016 Minto VMU)	GL Account	Routing Code:
PO / AFE:	222458	Activity Code:	
LSD:		Location:	
ALS Lab Work Order # (lab use only)		ALS Contact: Ariel McDonnell	Sampler:

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	MET-WT/DRY-CCMS-N-VA	MOISTURE-TISS-VA	PREP-TISS-DIGEST-VA										Number of Containers
	MC7b-Salix	11-Aug-16	-	Tissue	R	R	R										
	MC7b-Horsetail	11-Aug-16	-	Tissue	R	R	R										
	MC7b-Ledum	11-Aug-16	-	Tissue	R	R	R										
	MC7b-Lichen	11-Aug-16	-	Tissue	R	R	R										
	S04-Salix	12-Aug-16	-	Tissue	R	R	R										
	S19-Salix	12-Aug-16	-	Tissue	R	R	R										
	S19-Ledum	12-Aug-16	-	Tissue	R	R	R										
			-														
			-														
			-														
			-														
			-														

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report (client Use)
Are samples taken from a Regulated DW System? ☐ Yes ☐ No	Vegetation tissue samples: Will require subsample with half being rinsed and half not rinsed for all samples
Are samples for human drinking water use? ☐ Yes ☐ No	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen	☐	SIF Observations	Yes ☐ No ☐
Ice packs	Yes ☑ No ☐	Custody seal intact	Yes ☐ No ☐
Cooling Initiated	☐		

INITIAL COOLER TEMPERATURES °C		FINAL COOLER TEMPERATURES °C			
10°C		5.1, 3	3.3, 4.9	3.6, 6	

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date	Time	Received by:	Date	Time	Received by	Date	Time
			[signature]	Aug 12-16	3:30pm	SHAYAN	AUG.13	1300

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APPENDIX H

2016 PHOTO LOG

2016 VMU Photo log

Photo 1: C01 soil pit	**Photo 2: C01 vegetation**
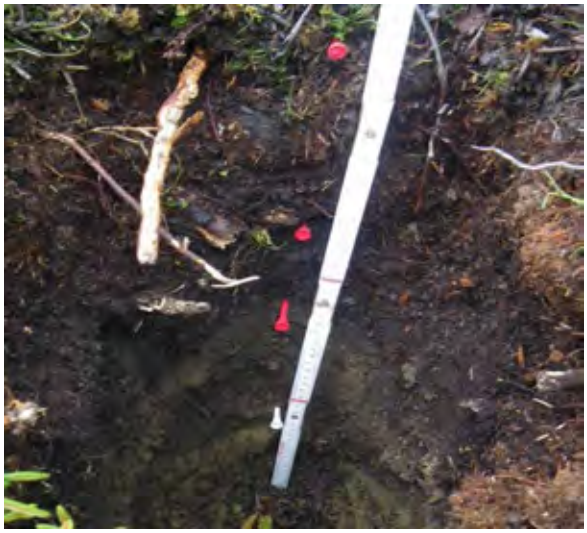	
Photo 3: S18 soil pit	**Photo 4: S18 vegetation**
Photo 5: S01 soil pit	**Photo 6: S01 vegetation**

2016 VMU Photo log

Photo 7: M29 soil pit

Photo 8: M29 vegetation

Photo 9: S06 soil pit

Photo 10: S06 vegetation

Photo 11: S07 soil pit

Photo 12: S07 vegetation

2016 VMU Photo log

Photo 13: S16 soil pit	**Photo 14: S16 vegetation**
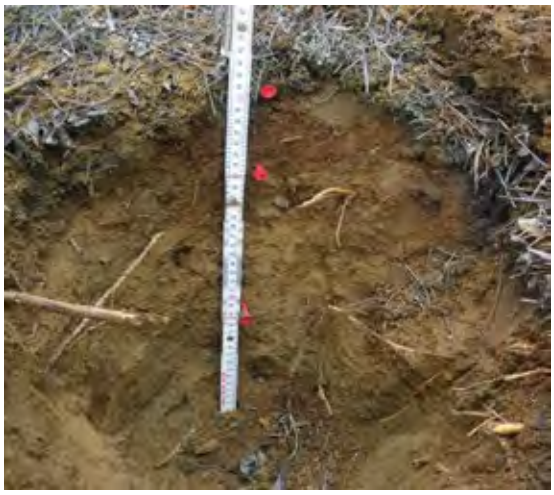	
Photo 15: S17 soil pit	**Photo 16: S17 vegetation**
Photo 17: C02 soil pit	**Photo 18: C02 vegetation**

2016 VMU Photo log

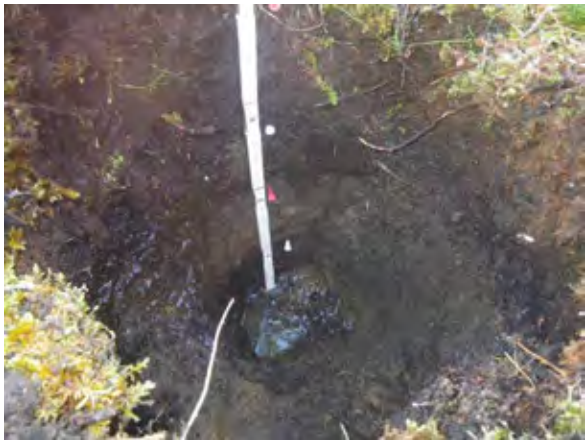

Photo 19: M07b soil pit

Photo 20: M07b vegetation

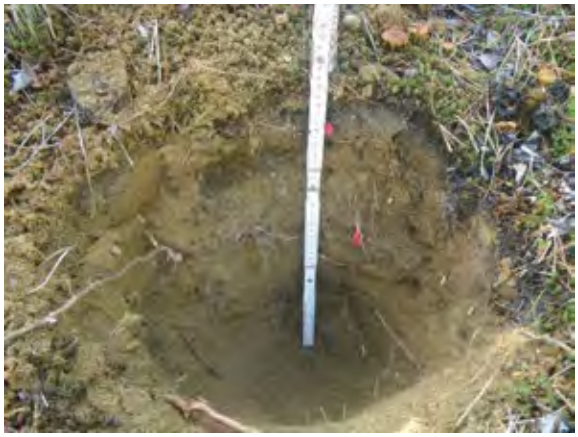

Photo 21: M80 soil pit

Photo 22: M80 vegetation

Photo 23: Example of vegetation samples

Photo 24: Example of lichen samples

APPENDIX I

PARTICULATE MATTER DISPERSION MODELLING

Tel: 403.232.6771
Fax: 403.232.6762

RWDI AIR Inc.
#1000, 736-8th Avenue S.W.
Calgary, Alberta, Canada
T2P 1H4
Email: solutions@rwdi.com

Minto Mine Phase V/VI Expansion Project

Draft Report

Particulate Matter Dispersion Modelling

RWDI # 1300542
August 9, 2013

SUBMITTED TO

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Figure 2: Isopleths of Maximum Predicted 24-Hour Average Ground-Level TSP Concentrations for the Baseline Scenario (in µg/m^3)

Figure 3: Isopleths of Maximum Predicted Annual Average Ground-Level TSP Concentrations for the Baseline Scenario (in µg/m^3)

Figure 4: Isopleths of Maximum Predicted 24-Hour Average Ground-Level $PM_{2.5}$ Concentrations for the Baseline Scenario (in µg/m^3)

Figure 5: Isopleths of Maximum Predicted 24-Hour Average Ground-Level TSP Concentrations for the Future Scenario (in µg/m^3)

Figure 6: Isopleths of Maximum Predicted Annual Average Ground-Level TSP Concentrations for the Future Scenario (in µg/m^3)

Figure 7: Isopleths of Maximum Predicted 24-Hour Average Ground-Level $PM_{2.5}$ Concentrations for the Future Scenario (in µg/m^3)

Figure 8: Recommended Monitoring Locations of TSP and $PM_{2.5}$

Appendices

Appendix A: CALPUFF Model Switch Settings

Appendix B: Fugitive Dust Best Management Practices

1. INTRODUCTION

This report presents an assessment of the ambient impact of particulate matter emissions from the proposed Minto Mine Phase V/VI expansion operations (the Project). Specifically, dispersion modelling was performed to predict concentrations of total suspended particulates (TSP) and fine particulate matter ($PM_{2.5}$). Two emissions scenarios were considered for this assessment; current operations (Baseline scenario) and the Phase V/VI expansion operations (Future scenario). The Baseline scenario characterizes emissions based on the 2012 production rates. The Future scenario considers emissions based on 2014 production rates. This year was selected as it is the year with the highest production rates for the Phase V/VI expansion and is representative of worst-case emissions for the expansion.

Refined dispersion modelling was conducted in accordance with the BC Ministry of Environment's 2008 *Guidelines for Air Quality Dispersion Modelling in BC*. The methods and data used are described in the following section. Section 3 presents the results of dispersion modelling. Mitigation measures and best management practices are described in Section 4.

2. METHODS AND DATA

This section provides information on the contaminants considered in this assessment and the respective ambient air quality standards that were selected for comparison. Also detailed are the emission rate development and methodology adopted to complete the air quality modelling component.

2.1 Contaminants and Ambient Air Quality Standards

Particulate matter is often defined in terms of size fractions. Particles less than 40 µm in diameter typically remain suspended in the air for some time, and are referred to as TSP. Suspended particulate matter less than 10 µm in diameter is termed PM_{10}, and particulate matter less than 2.5 µm in diameter is termed $PM_{2.5}$. This report focuses on ambient concentrations of TSP and $PM_{2.5}$, the two size fractions regulated in the Yukon Ambient Air Quality Standards. Table 1 shows the maximum concentrations over the specified averaging periods that are acceptable in ambient air throughout the Yukon Territory.

Table 1: Yukon Ambient Air Quality Standards (in µg/m^3)

Contaminant	Averaging Period	Standard
Total Suspended Particulate (TSP)	24-hour	120
	Annual geometric mean	60
$PM_{2.5}$	24-hour	30

2.2 Emissions

Dust from mining activities at the Minto Mine Site are generated from: drilling, blasting, loading, and hauling activities in the open pit, and crushing and conveyer activities at remote crushing stations as well as at crushers located outside of the mill. Dust is generated from the fraction of dry aggregate that is less

than 75 µm (or passes through a 200 mesh screen). These fine particles are easily disaggregated and released to the atmosphere. The moisture content also has an effect on the mobility of these fine particles. Typically, material at Minto has a moisture content of less than four percent and, without some means of dust control, particles will become airborne. Material transfer, handling, and mechanical breakdown contribute to dust mobilization and are compounded by natural forces, such as the wind.

This section of the report describes the methodology used to estimate dust emissions from mining at the Minto Mine site, based on predicted mine processing and handling rates for the year 2014. It is noted that no additional substantial particulate matter sources were found to currently exist or have been approved in the study area, and therefore, ambient background concentrations were assumed to be negligible.

Fugitive dust emissions from the following activities at the Minto Mine site were estimated and included in the dispersion model:

- Material processing and handling operations;
- Stockpiles;
- Blasting activities;
- Drilling operations, and;
- Bulldozing activities.

In order to fully capture predicted concentrations of particulate matter emissions from diesel equipment, emissions from vents from the underground mine and exhaust from the mill area of the mine were also estimated. The following subsections outline the methodology used to estimate emissions from the various sources as well as the related assumptions regarding material handling and other activity information.

2.2.1 Material Handling

Fugitive emissions of TSP and $PM_{2.5}$ were estimated for material handling activities such as loading of trucks by excavators, dumping of material from trucks at ore stockpiles or at waste rock areas, material handling by conveyors, and screening and crushing operations. The fugitive emissions were based on emission factors obtained from the US EPA's AP-42 document, Chapter 11.24 "Metallic Minerals Processing". Emission factors for $PM_{2.5}$ were obtained by applying a scaling factor of 0.15 on PM_{10} emission factors, for all material handling sources. For the Gyratory crusher, TSP emission factors were obtained by scaling the PM_{10} emission factors by 2.7.

Emission factors in US EPA's AP-42 for handling and processing activities do not account for controls that mitigate fugitive dust emissions; as a result, control efficiencies were developed to better represent emissions from mining operations. Activities associated with material handling in mining operations are recognized as the dominant emission sources due to a combination of heavy equipment being used for hauling, screening and crushing rock. As a result, mitigation is generally required to create a meaningful reduction in emissions from these dominant sources. Control efficiencies were applied as a percentage

reduction from uncontrolled to the material handling sources based on published efficiencies that considered the type and scope of the controls employed at the Project and are presented in Table 2.

Table 2: Control Efficiencies Applied to Material Handling Activities

Type of Dust Control	Control Efficiency
Water Spray	60%[1]
Indoor Handling and Processing	70%[2]
Telescoping Skirt around Conveyor Discharge	70%[2]
Water and Envirobind© Mixture	70%[2]
Under-pile Conveyor	80%[2]
Baghouse	95%[2]

Notes:

[1] Cowherd, C. G. E. Muleski and J. S. Kinsey (1988). Control of Open Fugitive Dust Sources. U.S. Environmental Protection Agency, EPA-450/3-88-008.

[2] Air & Waste Management Association. 2000. Air Pollution Engineering Manual, Second Edition. 886 pp. ISBN: 0-471-33333-6.

A control efficiency of 60% was applied to underground activities where water sprays are used. A control efficiency of 70% was applied to material handling sources in the crusher circuit, which includes processing of material between the jaw crusher and gyratory crusher, to account for the application of a mixture of water and Envirobind© at the vibrating screen. A control efficiency of 70% was also applied to the telescoping skirts that will provide wind protection to material dropped from the gyratory crusher discharge. The transfer of material from the apron feeder to the SAG mill is indoors which reduces emissions; a control factor of 70% was applied. A control efficiency of 80% was applied to the under-pile conveyor from the crushed ore stockpile to the apron feeder. A control efficiency of 95% was applied to baghouse systems that collect dust at the jaw crusher and gyratory crusher. Incorporation of these control efficiencies are expected to have a positive effect on reducing particulate emissions from these dominant emission sources related to mining activities.

2.2.2 Stockpiles

The emission factor for TSP emissions from wind erosion of stockpiles was obtained from Table 11.9.4 of the US EPA's AP-42 document, Chapter 11.9 "Western Surface Coal Mining". This emission factor adopts a linear relationship between dust emissions from overburden stockpiles and wind speed. Stockpiles at Minto Mine contain material and aggregate sizes similar to overburden at coal mines; therefore, the emission factor from Chapter 11.9 "Western Surface Coal Mining" was used. Since a $PM_{2.5}$ emission factor is not provided, particle size fraction multipliers from Section 13.2.5 of US EPA AP-42 were applied to the emission rate of TSP to obtain the emission rate for $PM_{2.5}$.

Since the TSP emission factor considers maintenance of active stockpiles, it was assumed that emissions associated with pile disturbances from contouring activities are accounted for in the emission calculation. Fugitive dust controls are not used on stockpiles; therefore no control efficiencies were applied to the fugitive emissions from the stockpiles.

2.2.3 Blasting

At the Minto Mine, blasting is employed to separate overburden from the ore seam and also to break up the ore seam. Fugitive emissions from the blasting operations were estimated based on emission factors obtained from Chapter 11.9 "Western Surface Coal Mining" of US EPA AP-42. A working area of 2,596 m^2 was assumed for each blast. Since overburden is considered to be the material overlying useful geological deposits, blasting of overburden and ore seams at Minto Mine was assumed to be similar to blasting of overburden at coal mines. Although the emission factor was developed for coal mining, it is analogous to blasting at Minto. The approach is generally accepted for other applications where blasting emissions were estimated, there are no other reasonable alternatives available for estimating blasting emissions.

2.2.4 Bulldozing

Fugitive emissions generated from the bulldozing of overburden material at the Minto Mine site were estimated based on emission factors obtained from Table 11.9.2 of the US EPA's AP-42 document, Chapter 11.9 "Western Surface Coal Mining". Emissions from bulldozing activities are proportional to the silt content while greater moisture content decreases emissions from bulldozing. An average silt content of 6.9% was assumed as per Table 11.9.3 in Chapter 11.9 "Western Surface Coal Mining" of US EPA's AP-42. The moisture content of the overburden material was provided by Minto Mine to be 4%. Although the emission factor was developed for coal mining, it is analogous to bulldozing at Minto and also recommended for use in Chapter 13.2 "Heavy Construction Operations" of US EPA AP-42. The approach is generally accepted for other applications where bulldozing emissions were estimated.

2.2.5 Drilling

The emission factor for fugitive TSP emissions due to the drilling operations at the Minto Mine was obtained from Table 11.9.4 of the US EPA's AP-42 document, Chapter 11.9 "Western Surface Coal Mining". Particle size fraction multipliers from Section 13.2.5 of US EPA AP-42 were applied to the TSP emission rate to obtain emission rates for $PM_{2.5}$. The emission rate was based on a maximum of six holes being drilled every hour. Although the emission factor was developed for coal mining, it is analogous to drilling activities at Minto and also recommended for use in Chapter 13.2 "Heavy Construction Operations" of US EPA AP-42.

2.2.6 Diesel Equipment

Exhaust emissions of TSP and $PM_{2.5}$ were calculated for diesel-fuelled non-road equipment such as bulldozers, excavators, loaders, graders, and haul trucks using the methodology in US EPA's 2004 report number NR-009c "Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling – Compression Ignition". The calculations are based on equipment horsepower, load factor, model year, and hours of operation. Load factors were also obtained from the US EPA's report number NR-009c. The model years of the various diesel equipment used on site were assumed to be between 2004 and 2014.

2.2.7 Vents from Underground Mine

Emissions from underground material handling processes, blasting, drilling, and diesel equipment used underground were estimated as described in the preceding sections. Total emissions from the underground sources were apportioned to the vents based on the exit velocity of each vent.

2.2.8 Summary of Emission Estimates

Maximum hourly and annual emission rates for all sources for the Baseline and Future scenarios are summarized in Table 3 and Table 4, respectively. Compared to the Baseline scenario, Emissions in the Future scenario are expected to be higher due to increase in drilling activities and an increase use of diesel equipment.

Table 3: Summary of Maximum Hourly and Annual Emission Rates of TSP and $PM_{2.5}$ for the Baseline Scenario

Emission Source	Maximum Hourly Emission Rate (g/s)		Annual Emission Rate (Mg/year)	
	TSP	$PM_{2.5}$	TSP	$PM_{2.5}$
Material Handling Sources				
Excavator loading onto Trucks	0.007	0.000	0.047	0.003
Trucks dump at stockpiles	0.001	0.000	0.011	0.001
Trucks dump at crusher stockpile	0.001	0.000	0.007	0.001
Trucks dump at waste rock dumps	0.009	0.001	0.057	0.004
Cat 773 Trucks loaded at OP stockpiles	0.004	0.000	0.002	0.000
Cat 773 Trucks dump ore from stockpiles at crusher stockpile	0.006	0.000	0.004	0.000
UG load to (40t) trucks dump	0.000	0.000	0.002	0.000
UG (40t) trucks dump at UG stockpile on surface, near portal	0.000	0.000	0.003	0.000
Cat 773 trucks loaded at UG stockpile with Cat 990	0.002	0.000	0.002	0.000
Cat 773 trucks dump at crusher stockpile	0.002	0.000	0.003	0.000
Loading tram at crusher stockpile	0.001	0.000	0.010	0.001
Tramming ore from crusher stockpile to grizzly / jaw crusher	0.001	0.000	0.016	0.001
Grizzly Screen	0.722	0.052	8.988	0.647
Jaw Crusher	0.578	0.042	7.190	0.518
Jaw Crusher to Conveyor	1.040	0.075	12.942	0.932
Conveyor from jaw crusher discharge to vibrating screen	1.040	0.075	12.942	0.932
Vibrating Screen	1.040	0.075	12.942	0.932
Conveyor from vibratory screen oversize to	1.040	0.075	12.942	0.932

Emission Source	Maximum Hourly Emission Rate (g/s)		Annual Emission Rate (Mg/year)	
	TSP	$PM_{2.5}$	TSP	$PM_{2.5}$
gyratory				
Gyratory Crusher	1.733	0.125	21.571	1.553
Conveyor from vibratory screen undersize to live pile	1.040	0.075	12.942	0.932
Drop off end of conveyor on to live pile (crushed ore stockpile)	2.080	0.150	12.942	0.932
Live pile drop to Apron feeder	1.387	0.100	8.628	0.621
Apron feeder drop to conveyor	2.080	0.150	12.942	0.932
Conveyor drop to SAG mill	2.080	0.150	12.942	0.932
Total of Material Handling Sources	**15.9**	**1.1**	**150.1**	**10.8**
Stockpile Wind Erosion				
Crushed Ore pile (live pile)	0.01	0.00	0.29	0.02
Crusher stockpile	0.01	0.00	0.22	0.02
North stockpile	0.02	0.00	0.67	0.05
West stockpile	0.03	0.00	0.81	0.06
East stockpile	0.03	0.00	0.94	0.07
South stockpile	0.02	0.00	0.67	0.05
Total of Stockpile Wind Erosion Emissions	**0.06**	**0.00**	**1.99**	**0.15**
Blasting	**8.08**	**0.24**	**8.73**	**0.26**
Bulldozing	**12.1**	**1.27**	**60.3**	**6.33**
Drilling	**0.105**	**0.008**	**0.373**	**0.027**
Diesel Equipment [1]	**1.83**	**1.77**	**24.19**	**23.46**
Underground Vents [3]	**1.16**	**0.07**	**28.43**	**1.83**

Notes:

[1] Includes all emissions from diesel equipment with the exception of equipment used underground.

[2] Emissions from the mill exhausts are the total emissions of material handling at the apron feeder drop to conveyor and conveyor drop to SAG mill.

[3] Emissions from underground vents are total emissions from underground drilling, blasting, material handling, and diesel equipment used underground.

Table 4: Summary of Maximum Hourly and Annual Emission Rates of TSP and $PM_{2.5}$ for the Future Scenario

Emission Source	Maximum Hourly Emission Rate (g/s)		Annual Emission Rate (Mg/year)	
	TSP	$PM_{2.5}$	TSP	$PM_{2.5}$
Material Handling Sources				
Excavator loading onto Trucks	0.007	0.000	0.162	0.012
Trucks dump at stockpiles	0.001	0.000	0.020	0.001
Trucks dump at crusher stockpile	0.001	0.000	0.014	0.001
Trucks dump at waste rock dumps	0.009	0.001	0.225	0.016
Cat 773 Trucks loaded at OP stockpiles	0.004	0.000	0.005	0.000
Cat 773 Trucks dump ore from stockpiles at crusher stockpile	0.006	0.000	0.007	0.001
UG load to (40t) trucks dump	0.000	0.000	0.004	0.000
UG (40t) trucks dump at UG stockpile on surface, near portal	0.000	0.000	0.006	0.000
Cat 773 trucks loaded at UG stockpile with Cat 990	0.002	0.000	0.004	0.000
Cat 773 trucks dump at crusher stockpile	0.002	0.000	0.006	0.000
Loading tram at crusher stockpile	0.001	0.000	0.018	0.001
Tramming ore from crusher stockpile to grizzly / jaw crusher	0.001	0.000	0.030	0.002
Grizzly Screen	0.722	0.052	17.109	1.232
Jaw Crusher	0.578	0.042	13.688	0.986
Jaw Crusher to Conveyor	1.040	0.075	24.638	1.774
Conveyor from jaw crusher discharge to vibrating screen	1.040	0.075	24.638	1.774
Vibrating Screen	1.040	0.075	24.638	1.774
Conveyor from vibratory screen oversize to gyratory	1.040	0.075	24.638	1.774
Gyratory Crusher	1.733	0.125	41.063	2.957
Conveyor from vibratory screen undersize to live pile	1.040	0.075	24.638	1.774
Drop off end of conveyor on to live pile (crushed ore stockpile)	2.080	0.150	24.638	1.774
Live pile drop to Apron feeder	1.387	0.100	16.425	1.183
Apron feeder drop to conveyor	2.080	0.150	24.638	1.774
Conveyor drop to SAG mill	2.080	0.150	24.638	1.774
Total of Material Handling Sources	**15.9**	**1.1**	**285.9**	**20.6**
Stockpile Wind Erosion				

Emission Source	Maximum Hourly Emission Rate (g/s)		Annual Emission Rate (Mg/year)	
	TSP	$PM_{2.5}$	TSP	$PM_{2.5}$
Crushed Ore pile (live pile)	0.01	0.00	0.29	0.02
Crusher stockpile	0.01	0.00	0.22	0.02
North stockpile	0.02	0.00	0.67	0.05
West stockpile	0.03	0.00	0.81	0.06
East stockpile	0.03	0.00	0.94	0.07
South stockpile	0.02	0.00	0.67	0.05
Total of Stockpile Wind Erosion Emissions	**0.06**	**0.00**	**1.99**	**0.15**
Blasting	**8.08**	**0.24**	**8.73**	**0.26**
Bulldozing	**12.1**	**1.27**	**60.3**	**6.33**
Drilling	**0.105**	**0.008**	**1.294**	**0.093**
Diesel Equipment [1]	**1.54**	**1.50**	**58.37**	**56.62**
Underground Vents [3]	**1.16**	**0.07**	**28.43**	**1.83**

Notes:

[1] Includes all emissions from diesel equipment with the exception of equipment used underground.

[2] Emissions from the mill exhausts are the total emissions of material handling at the apron feeder drop to conveyor and conveyor drop to SAG mill.

[3] Emissions from underground vents are total emissions from underground drilling, blasting, material handling, and diesel equipment used underground.

2.3 Dispersion Modelling

Refined dispersion modelling was conducted in accordance with the BC Ministry of Environment's 2008 *Guidelines for Air Quality Dispersion Modelling in BC* to assess potential environmental effects of fugitive dust emissions using the US EPA approved CALPUFF model, version 5.8. CALPUFF was used to estimate hourly maximum concentrations of TSP and $PM_{2.5}$ and annual mean concentrations of TSP in the study area.

CALPUFF is a multi-layer, multi-species, non-steady-state puff dispersion model. It simulates the effects of time- and space-varying meteorological conditions on pollutant transport, dispersion, transformation, and deposition. CALPUFF can use three-dimensional meteorological fields prepared with the CALMET model or simple, single-station winds in a format consistent with the meteorological files used to drive the ISCST3 steady-state Gaussian model. The CALPUFF model was applied using the ISC mode option for this assessment, because the CALMET-level of modelling sophistication was not deemed necessary.

All technical options (model switches) relating to the CALPUFF dispersion model were set according to the BC Ministry of Environment's 2008 *Guidelines for Air Quality Dispersion Modelling in BC* or to the model defaults. These include parameters and options such as the calculation of plume dispersion coefficients, the plume path coefficients used for terrain adjustments, exponents for the wind speed profile, and wind speed categories. A list of the selected model-switch settings is provided in Appendix A.

A circle of 7.5 km radius centred on the Minto Mine site was chosen as the Minto project boundary. An additional boundary that reflects the Minto Quartz Claims was also considered to provide spatial context to the predictions. The radius of the Project boundary was determined as the distance from the centre of the Project to the Yukon River. A receptor grid was generated following the BC Ministry of Environment's 2008 *Guidelines for Air Quality Dispersion Modelling in BC* with the following spacing:

- 500 m within the Project boundary;
- 20 m on the Project boundary;
- 50 m within 500 m from the Project boundary;
- 250 m within 2 km from the Project boundary;
- 500 m within 5 km from the Project boundary; and
- 1,000 m beyond 5 km from the Project boundary.

Modelling results of annual TSP concentrations are arithmetic means while the Yukon Ambient Air Quality Standard shown in Table 1 in Section 2.1 is based on a geometric mean. The distribution of hourly particulate concentrations is typically skewed with a long tail toward higher than average values. Under such a distribution, the arithmetic mean is higher than the geometric mean, and therefore, conservatively overestimates ambient concentrations.

2.4 Meteorology

A one-year meteorological data set from October 1, 2011 to September 30, 2012 was prepared for this assessment. Hourly wind speed, wind direction, and temperature were obtained from the Minto Mine HOBO station. Hourly observations of cloud cover and ceiling height were required to estimate atmospheric stability. Although the Environment Canada operated station Pelly Ranch is closer to the study area, the station does not collect hourly measurements of cloud cover and ceiling height suitable for modelling. As a result, data were obtained from the closest airport with hourly measurements in Mayo, Yukon, located about 135 km northeast of the Project. Mixing heights were calculated based on upper air data obtained from Whitehorse, Yukon. The Whitehorse station is the nearest upper air station, and is located about 240 km southeast of the Project. Due to the limited availability of upper air data in the region, the data were considered the most representative of the study area. These meteorological data were pre-processed for input to the CALPUFF model using the MPRM pre-processor.

The joint frequency distribution of wind speed and direction for the dataset is illustrated in Figure 1. The distribution is shown in a "wind rose" format, which is essentially a bar chart in polar format. The direction of the bar indicates the direction from which the wind is blowing, the colour indicates the wind speed class and the length of the bar indicates the frequency of occurrence. The wind rose for the Minto Mine meteorological station indicates that winds were predominantly from the south-southeast and southeast at this location. The highest hourly mean wind speed during the one-year period was 16.6 m/s. The frequency of calms (i.e., wind speeds less than 0.5 m/s) is 13.69% and the calculated average hourly wind speed is 3.0 m/s.

2.5 Study Limitations

A number of limitations are inherent in the air quality study. These include limitations in emissions estimation and limitations in dispersion modelling.

Emissions have been estimated based on Project-specific activity data where available, and default activity data from US EPA where Project-specific information are not available. Default activity data are based on the average of conditions observed at a limited number of project sites, mainly in the United States, which are reasonable surrogates but may not be exactly representative of the Project. The use of published emission factors is associated with inherent limitations in that such factors are based on averages of available data, which may not be sufficient to extrapolate for Project-specific activity parameters (e.g., vehicle speed, material silt content, etc.) outside the observed range of these parameters. Furthermore, these published emission factors are typically representative of long-term averages and the use of such emission factors for estimating short-term emission rates for dispersion modelling are associated with uncertainties.

By definition, air quality dispersion models can only approximate atmospheric processes. Many assumptions and simplifications are required to describe real phenomena in mathematical equations. Model uncertainties can result from:

- Simplifications and accuracy limitations related to source data;
- Extrapolation of meteorological data from selected locations to a larger region; and
- Simplifications of model physics to replicate the random nature of atmospheric dispersion processes.

Models are reasonable and reliable in estimating the maximum concentrations occurring on an average basis. That is, the maximum predicted concentration that may occur at some time somewhere within the model domain, as opposed to the exact concentration at a point at a given time, is usually within the ±10% to ±40% range of the observed maximum concentration as described in the US EPA July 2003 Edition of *Guideline on Air Quality Models* (US EPA 2003). Typically, a model is viewed as replicating dispersion processes if it can predict within a factor of two, and if it can replicate the temporal and meteorological variations associated with monitoring data. Model predictions at a specific site and for a specific hour, however, may correlate poorly with the associated observations due to the above-indicated uncertainties. For example, an uncertainty of five to ten degrees in the measured wind direction can result in concentration errors of 20% to 70% for an individual event (US EPA 2003).

3. RESULTS

3.1 Baseline Scenario

Maximum predicted ground-level concentrations of TSP and $PM_{2.5}$ in the Baseline scenario are presented in Table 5. The predicted 24-hour and annual average ground-level concentrations of TSP are presented in Figure 2 and Figure 3, respectively. The highest concentrations of TSP were predicted to occur at the centre of the Project boundary, adjacent to the emission sources of particulate matter. Outside of the Minto quartz claims boundary, exceedances of the 24-hour average TSP and $PM_{2.5}$ standards were not predicted. Exceedances of the annual average TSP standard were predicted up to one kilometre from emission sources. No exceedances of the annual TSP standard were predicted outside of the Project boundary.

Table 5: Maximum Predicted Concentrations – Baseline Scenario (in µg/m^3)

Contaminant	Averaging Period	Maximum Predicted Concentration (Inside Boundary)	Maximum Predicted Concentration (Outside Boundary)	Yukon Ambient Air Quality Standard
Total Suspended Particulate (TSP)	24-hour	**3,440**	22	120
	Annual geometric mean	**752**	2.1	60
$PM_{2.5}$	24-hour	**549**	17	30

Note: Concentrations in boldface text exceed the Yukon ambient air quality standard

Maximum predicted 24-hour average ground-level concentrations of $PM_{2.5}$ are presented in Figure 4. Exceedances of the 24-hour average $PM_{2.5}$ ambient air quality standard were not predicted outside the Project boundary. Concentrations greater than 240 µg/m^3 were predicted up to three kilometres from emission sources, while exceedances were predicted up to four kilometres from emission sources. The maximum predicted 24-hour average $PM_{2.5}$ concentration at the camp complex was 62 µg/m^3 based on the 98th percentile, and the predicted average $PM_{2.5}$ concentration was 11 µg/m^3.

3.2 Future Scenario

Maximum predicted ground-level concentrations of TSP and $PM_{2.5}$ inside and outside the Project boundary in the Future scenario are presented in Table 6. The predicted 24-hour and annual average ground-level concentrations of TSP are presented in Figure 5 and Figure 6, respectively. Outside of the area of limited public access and Minto quartz claims boundary, exceedances of the Yukon ambient air quality standards were predicted to not occur. The highest concentrations of TSP were predicted at and around where the Minto North Pit is located. Exceedances of the annual average TSP standard were predicted to occur up to one kilometre from emission sources. Exceedances of the Yukon ambient air quality standard for 24-hour average TSP were not predicted. Maximum predicted concentrations of TSP exceed the Yukon ambient air quality standards inside the Project boundary.

Table 6: Maximum Predicted Concentrations – Future Scenario (in µg/m^3)

Contaminant	Averaging Period	Maximum Predicted Concentration (Inside Boundary)	Maximum Predicted Concentration (Outside Boundary)	Yukon Ambient Air Quality Standard
Total Suspended Particulate (TSP)	24-hour	**6,270**	78	120
	Annual geometric mean	**1,050**	12	60
$PM_{2.5}$	24-hour	**703**	13	30

Note: Concentrations in boldface text exceed the Yukon ambient air quality standard

Maximum predicted 24-hour average ground-level concentrations of $PM_{2.5}$ are presented in Figure 8. Exceedances of the 24-hour average $PM_{2.5}$ ambient air quality standard were not predicted to occur outside the area of limited public access. Exceedances of the Yukon ambient air quality standard were predicted up to four kilometres from emission sources. The maximum predicted 24-hour average $PM_{2.5}$ concentration at the camp complex was 46 µg/m^3 (based on 98th percentile), and the predicted average $PM_{2.5}$ concentration was 9.0 µg/m^3.

4. DISCUSSION

4.1 Interpretation of Results

Maximum 24-hour $PM_{2.5}$ concentrations were predicted to not exceed the ambient air quality standards outside the area of limited public access in the Baseline scenario and Future scenario. Maximum 24-hour and annual average TSP concentrations were predicted to not exceed the ambient air quality standard outside the area of limited public access. Activities such blasting, bulldozing and crushing were estimated to be the largest contributors to total site emissions.

The variations in estimated concentrations between the Baseline and Future scenarios were due to an increased product throughput in the Future scenario and the location of emission sources. In the Future scenario, most of the activities were from the Minto North pit, the Minto North dump and the mill complex. Emission source locations in the Baseline scenario cover a larger area than the Future scenario, primarily at the mill complex, Area 2 Stage 1 and Area 2 Stage 2 pits, and nearby overburden and waste dumps.

Mitigation measures and best management practices could be implemented to reduce particulate emissions.

4.2 Current Mitigation Measures

Dust control at the Minto Mine site is normally managed through application of water and Envirobind© at various generating locations. Application of Envirobind© helps prevent freezing at cold temperatures and encourages binding of fine particles.

Water used for dust suppression at the crushers and drills is obtained from the water storage pond or from the main pit. In the summer months, water for the roads is obtained from other sources, including the surface water flowing into the Southwest Diversion Ditch.

4.2.1 Drilling

The four drills used at Minto use water at all times while drilling to collar the production holes and to cut down on dust generation. In the winter, due to difficulties with antifreeze products, the use of water is intermittent. The drills have dust collector systems built in on the current rigs using the air from the drill's compressor. The application of water and dust collector systems reduces estimated emissions from drilling by approximately 90%.

4.2.2 Blasting

There are currently no procedures in place aimed specifically at reducing dust generated during blasting. Minto optimizes its blasts to minimize the amount of explosive product used and to achieve the best possible confinement of explosive energy. This optimization serves to lower dust dispersion. Minto prepares screened crush for use in stemming and specifies loading instructions such that adequate confinement is available and the amount of energy lost through the top of the blast is minimized.

4.2.3 Loading and Hauling

Approximately 12 million tons of material are handled annually using a combination of D9, D-10, and D-11 bulldozers with Hitachi 1100 and 1200 excavators. This material is then trucked using 100 ton Cat 777 and 60 ton Cat 773 haul trucks, to various locations at the mine site with average distances between 0.5 km and 2 km. Material is re-handled at the ore stockpiles and crusher stockpile using Cat 992 and Cat 990 loaders. These transfer and re-handling sites are all subject to amplified dust generation.

Haul roads are watered in the summer months using a 10,000 gallon tank pulled by a Cat 631D scraper tractor with a 270 hp power rating. Triggers for application of water on haul roads are visual cues and are subjective in nature.

No dust control measures are currently in place for loading haul trucks or for loading the crusher hoppers. Occasionally, the ore stockpiles themselves are watered down at the digging face to reduce dust generation during re-handling.

4.2.4 Crushing

There are two main locations for crushing on the Minto Mine site: the mobile Nuway Crusher, which produces P100 19mm and P80 9mm run-of-mill feed; and the permanent jaw and gyratory crusher, which provides 28 mm run-of-mill feed. Dust is generated at various locations in the process, including: from loading of the jaw crusher, on the conveyors, and at the gyratory crusher and the stacker conveyor.

The Nuway crushing mobile unit has dust control measures in place at three locations of the process: at the cone-crusher feed, the lower vibrating screen, and at the stacker conveyor. A mixture of Envirobind© and water is applied through custom nozzles at these locations.

The permanent jaw and gyratory unit adjacent to the mill has dust control nozzles in place at two locations of the process: at the feed to the gyratory crusher and at the stacker conveyor. A mixture of Envirobind© and water is applied through custom nozzles at these locations.

4.3 Phase V/VI Expansion Mitigation Measures

The primary source at the Minto crusher is fugitive dust carried away by wind at the discharge of the stacker conveyor. The plan for the upgraded crusher circuit, due to be installed in summer of 2013, is to eliminate the Envirobind©/water nozzles at the stacker conveyor in favor of a telescoping wind protection 'skirt' covering the drop from the conveyor discharge to the top of the live pile. This chute is compatible with the fine crush size that is planned and will provide excellent dust control on a year-round basis.

Other leading contributors to dust generation at the Minto crusher are dust emissions at the equipment and conveyor transfer points. A baghouse dust collection system with dust hoods and ductwork is proposed to collect dust from equipment and transfer points. The dust would then be dropped by the baghouse into a screw auger system that discharges onto the feed end of the radial stacker conveyor.

Calcium chloride is to be used on the access road between kilometer 0 and 27 and applied at a rate of approximately 1 kg/m^2. Calcium chloride dust control applications not only reduce airborne particulate matter but have the added benefits of reducing sediment load on waterways and minimizing the need for additional aggregate and road maintenance.

4.4 Dust Management Plan and Future Mitigation Measures

Emissions from Minto Mine Phase V/VI expansion operations can be further mitigated though best management practices detailed in the Fugitive Dust Best Management Practices document (in Appendix B). To reduce fugitive dust emissions at the mine, a best management practices document has been prepared. This management plan is designed to assist Minto in controlling dust emissions at each of the sources. Many of the control measures described in the best management practices document are currently implemented at Minto. The practices that have yet to be implemented would provide relatively minor improvements compared to current practices. Although these have not been accounted for in the emissions estimates and dispersion modelling, following the dust management plan will reduce emissions of particulate matter from mining activities, consequently lowering the maximum predicted concentrations both onsite and offsite, and reducing the likelihood of exceeding the Yukon ambient air quality standards.

5. RECOMMENDATIONS

Based on the results of this study, it was determined that Minto has made a significant commitment to reducing fugitive dust and particulate matter emissions from mining operations. The following actions are recommended:

- Minto should continue their high level of emission reduction activities. These include the use of water and chemical dust suppressants, skirting around conveyors, and baghouse dust collection systems at the crushers.

- Monitoring of particulate matter at the camp is recommended as there were elevated concentrations of particulate matter predicted at the camp complex. Mitigation measures should be considered if these measurements indicate the potential for health concerns or elevated worker exposure. Recommendations for the siting of the monitoring stations have been provided below.

- Implementation of best management practices. Emissions from Phase V/VI expansion operations can be further mitigated through best management practices. Although the benefits of implementing the measures presented in the document that have not yet been adopted cannot be quantified through predictive modelling, it is expected that the further reduce the concentrations of TSP and $PM_{2.5}$ will be realized.

5.1 Monitoring Plan

Further monitoring of particulate matter is advised at the camp based on model predictions. Particulate monitors that measure TSP and $PM_{2.5}$ concentration should be installed near the camp location; however, the monitor should not be placed adjacent to a particulate matter emission source, or within twice the height of camp buildings or other structures as directed by the Ontario Ministry of the Environment's 2003 *Operations Manual for Point Source Air Quality Monitoring*. The sited location should be on a paved area or with good vegetative ground cover. The monitor should be placed between 0.5 m to 1.0 m above ground with the sample inlet at least one metre (vertical) and at least two metres (horizontal) from a supporting structure. Particulate monitoring should be continuous, with averaging periods of 1-hour and 24-hours.

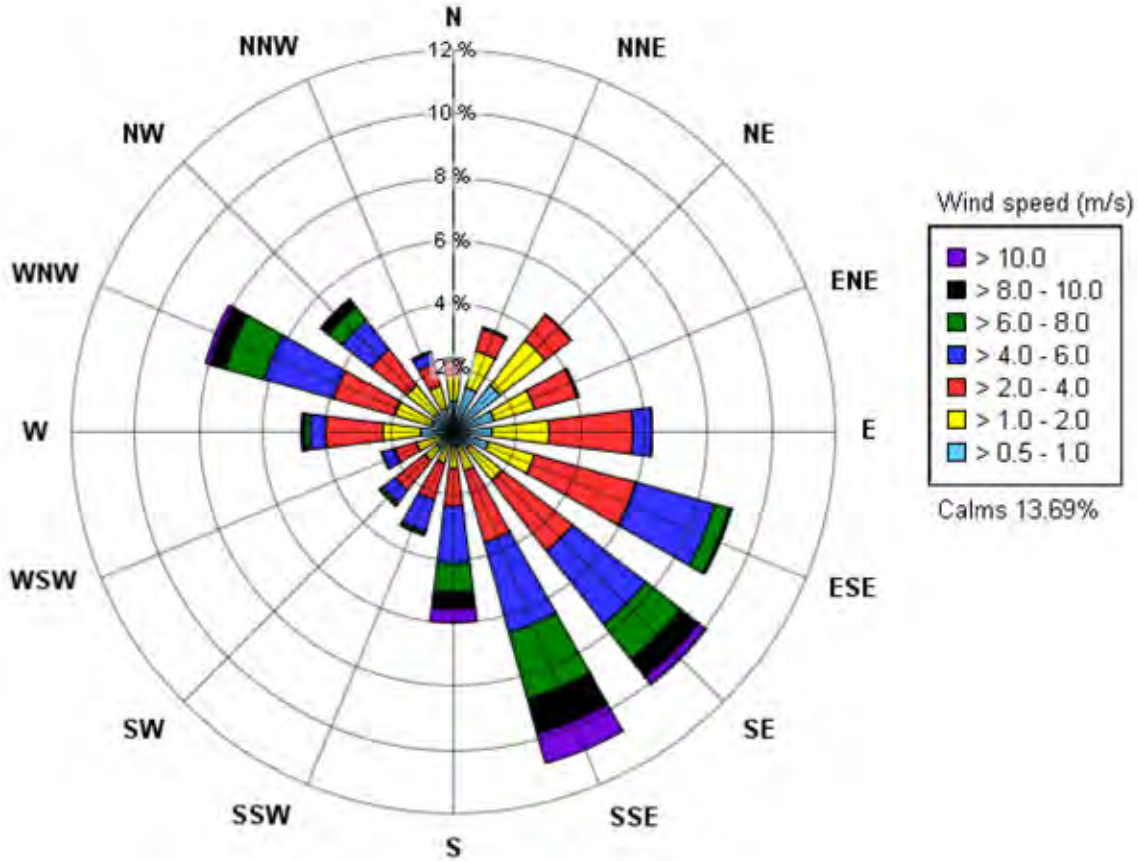
It is also recommend for Minto Mine to install a $PM_{2.5}$ monitor on the western edge inside the Minto Quartz Claims boundary as elevated 24-hour average $PM_{2.5}$ concentrations were predicted. Recommended locations of continuous particulate matter monitoring are shown in Figure 8.

.

6. CONCLUSIONS

Project emissions from current operations (Baseline scenario) and Phase V/VI expansion operations (Future scenario) were estimated to determine the ambient impact of particulate matter. For all averaging periods of TSP and $PM_{2.5}$, concentrations were predicted to not exceed the Yukon Ambient Air Quality Standards outside the Project boundary in both the Baseline and Future scenarios. Elevated levels of particulate matter were predicted at the camp site during Phase V/VI expansion operations. As a result, monitoring at the camp site is recommended and mitigation measures may be warranted if measurements indicate the potential for health concerns or elevated worker exposure. Emissions from Phase V/VI expansion operations can be further mitigated through best management practices.

FIGURES



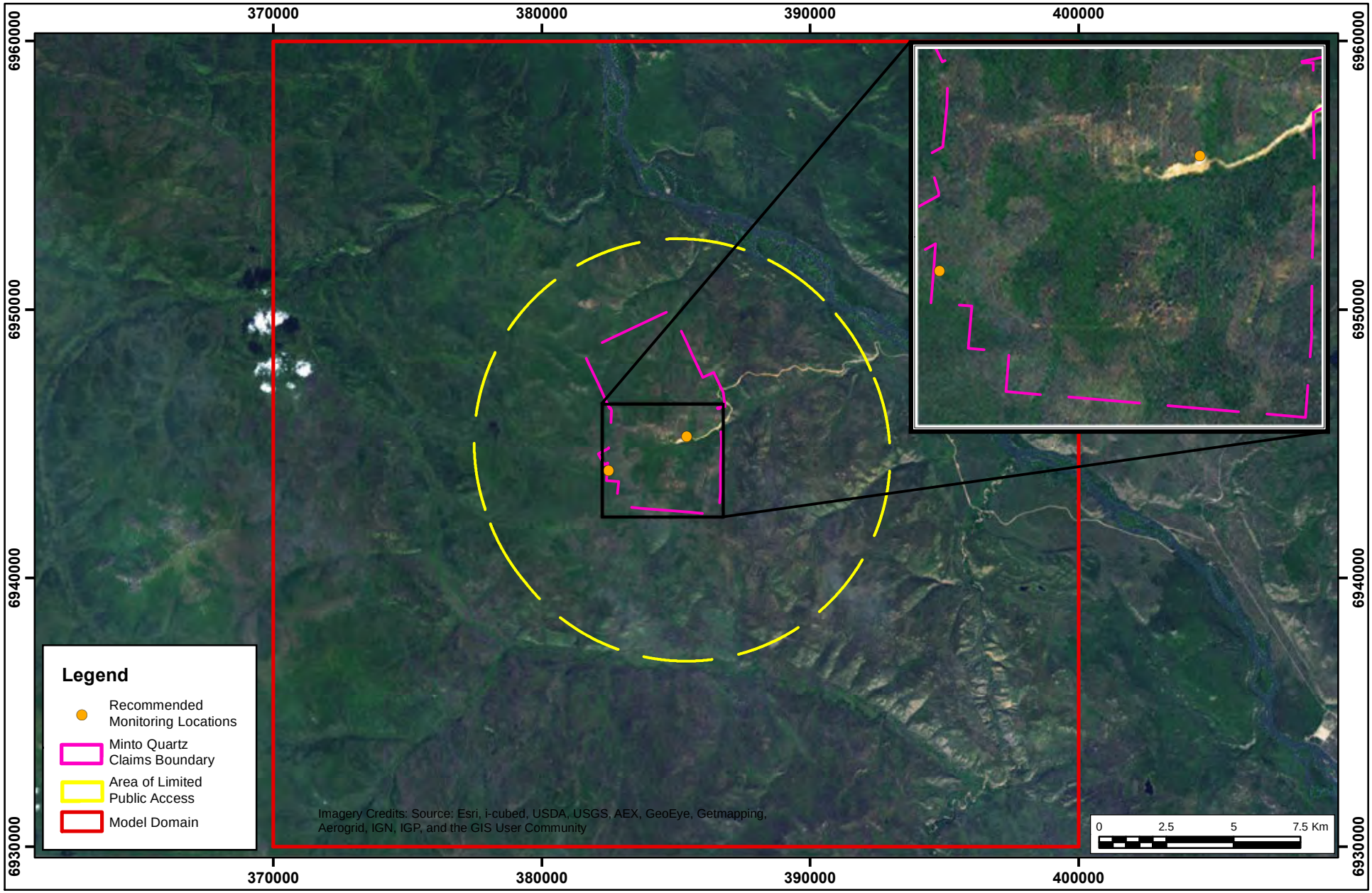
Hourly Wind Speed and Direction Frequency Distribution
Observed at Minto Mine HOBO Station (October 2011 to September 2012)

Minto Mine Expansion Phase V/VI - Minto Mine, Yukon

Project #1300542

Drawn by:	NBN	Figure:	1
Approx. Scale:	NTS		
Date Revised:	Apr. 9, 2013		

RWDI



Recommended PM Monitoring Locations

Map Projection: NAD 1983 UTM Zone 8N.

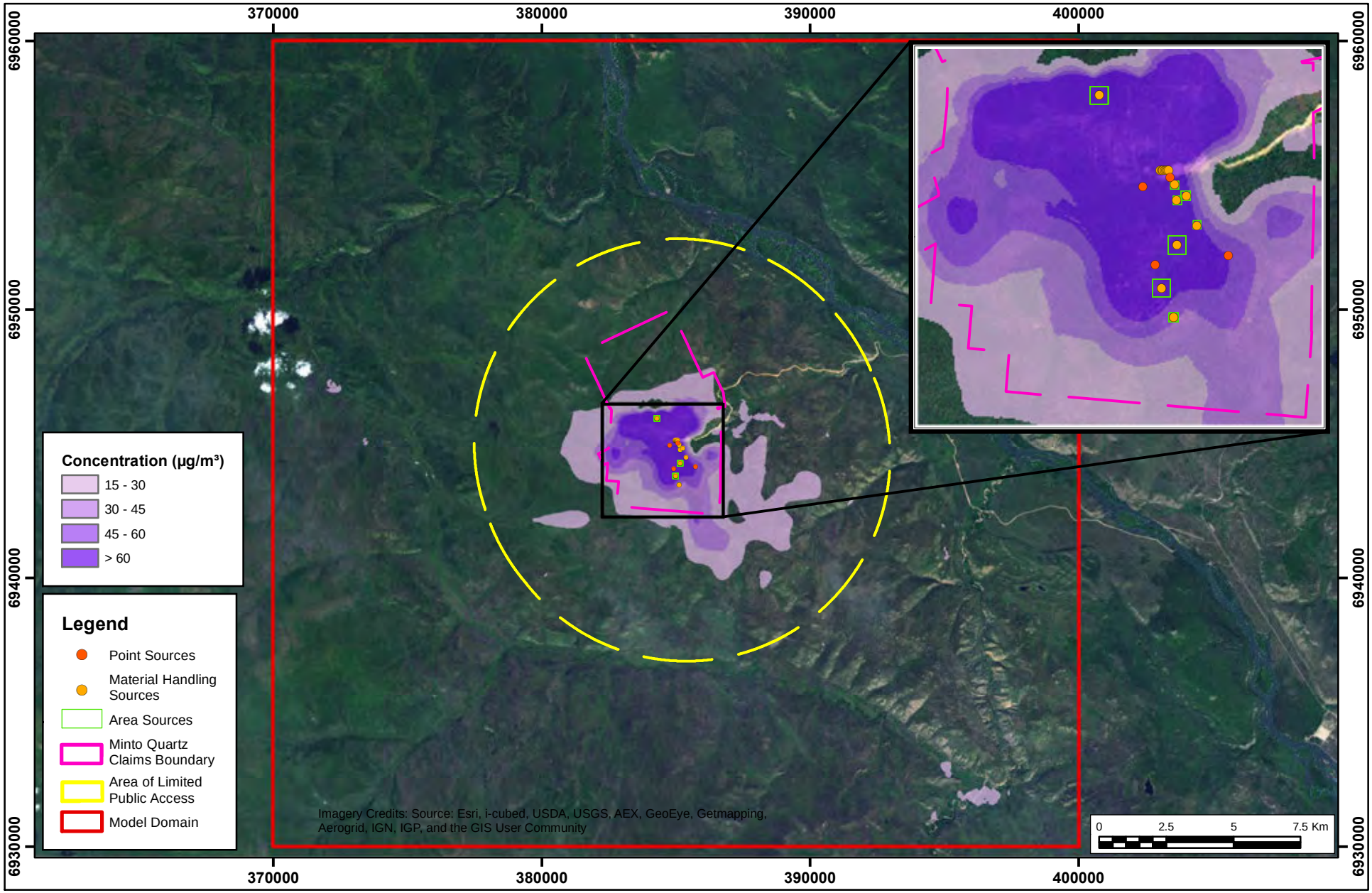
Minto Mine Expansion Phase V/VI - Minto Mine, Yukon

True North

Project #1300542

Drawn by:	NBN	Figure:	8
Approx. Scale:	1:200,000		
Date Revised:	Aug. 8, 2013		

RWDI



Modelled Maximum 24-Hour $PM_{2.5}$ Concentrations (Emissions from All Sources)
Future Case (AAQO = 30 µg/m³)

Map Projection: NAD 1983 UTM Zone 8N.

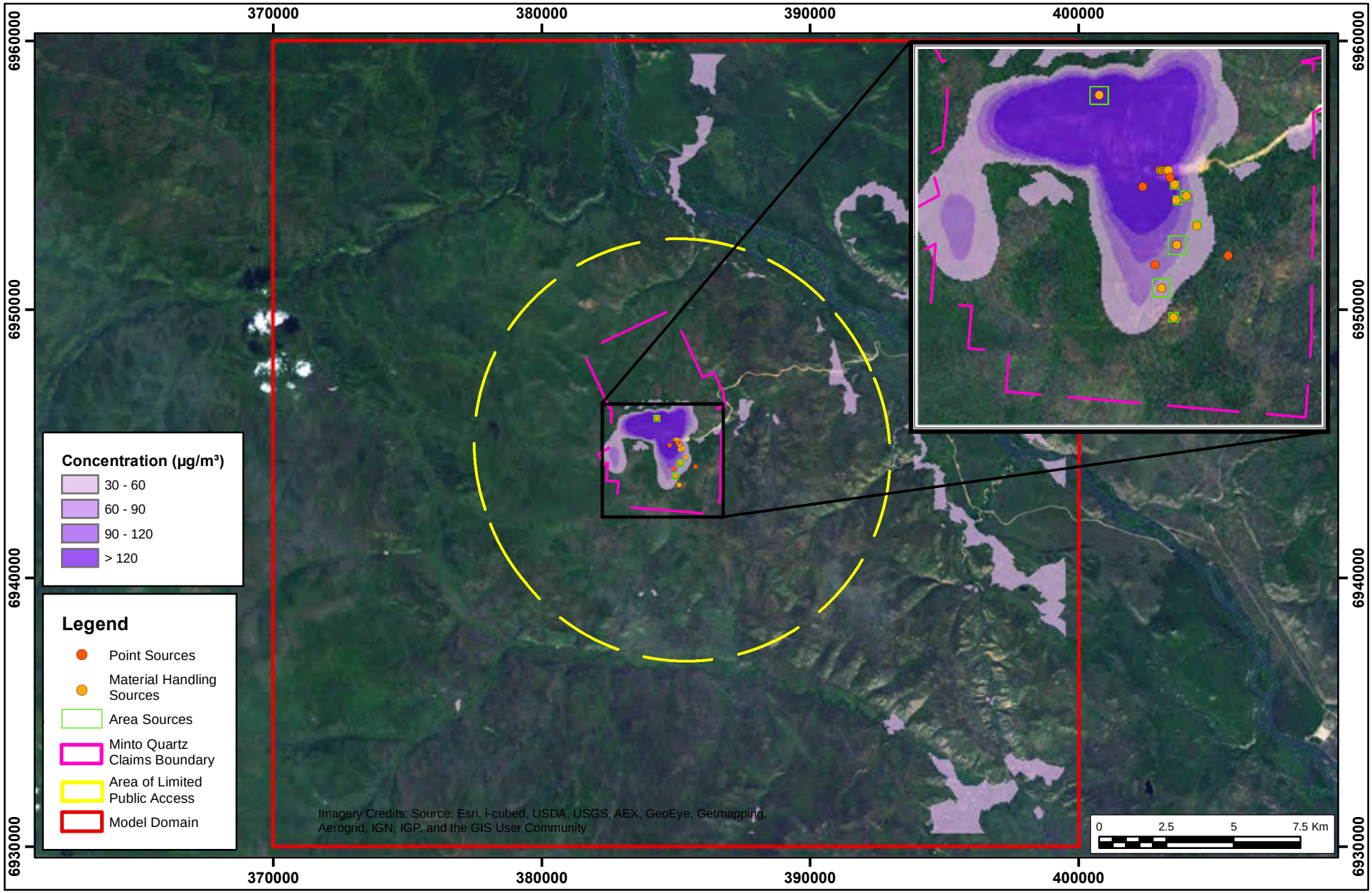
Minto Mine Expansion Phase V/VI - Minto Mine, Yukon

True North

Project #1300542

Drawn by:	NBN	Figure:	7
Approx. Scale:	1:200,000		
Date Revised:	Aug. 8, 2013		

RWDI



Modelled Maximum Annual TSP Concentrations (Emissions from All Sources)
Future Case (AAQO = 60 µg/m³)

Map Projection: NAD 1983 UTM Zone 8N.

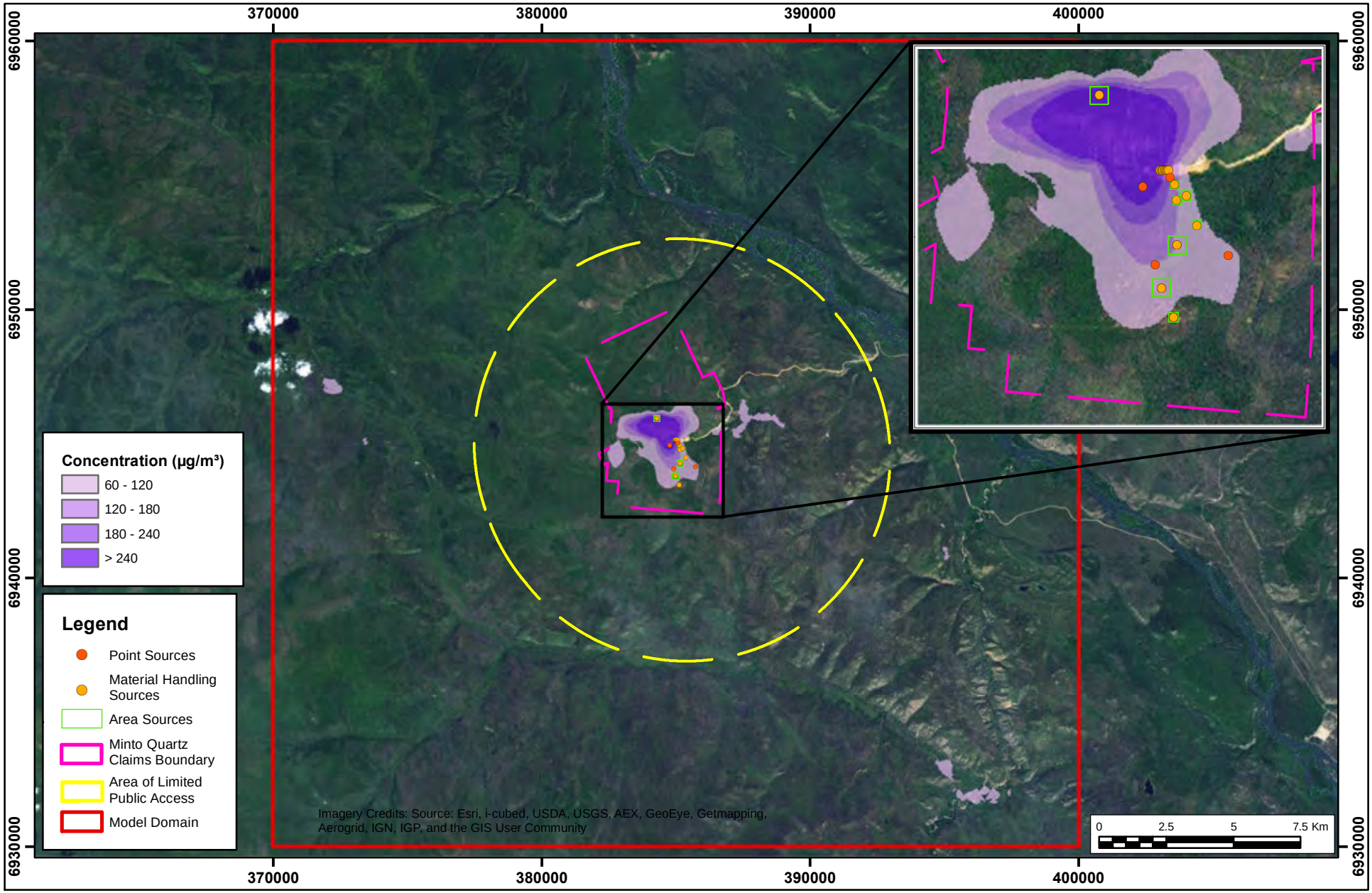
Minto Mine Expansion Phase V/VI - Minto Mine, Yukon

True North

Project #1300542

Drawn by:	NBN	Figure:	6
Approx. Scale:	1:200,000		
Date Revised:	Aug. 8, 2013		

RWDI



Modelled Maximum 24-Hour TSP Concentrations (Emissions from All Sources)
Future Case (AAQO = 120 µg/m³)

Map Projection: NAD 1983 UTM Zone 8N.

Minto Mine Expansion Phase V/VI - Minto Mine, Yukon

True North

Project #1300542

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Approx. Scale:	1:200,000		
Date Revised:	Aug. 8, 2013		

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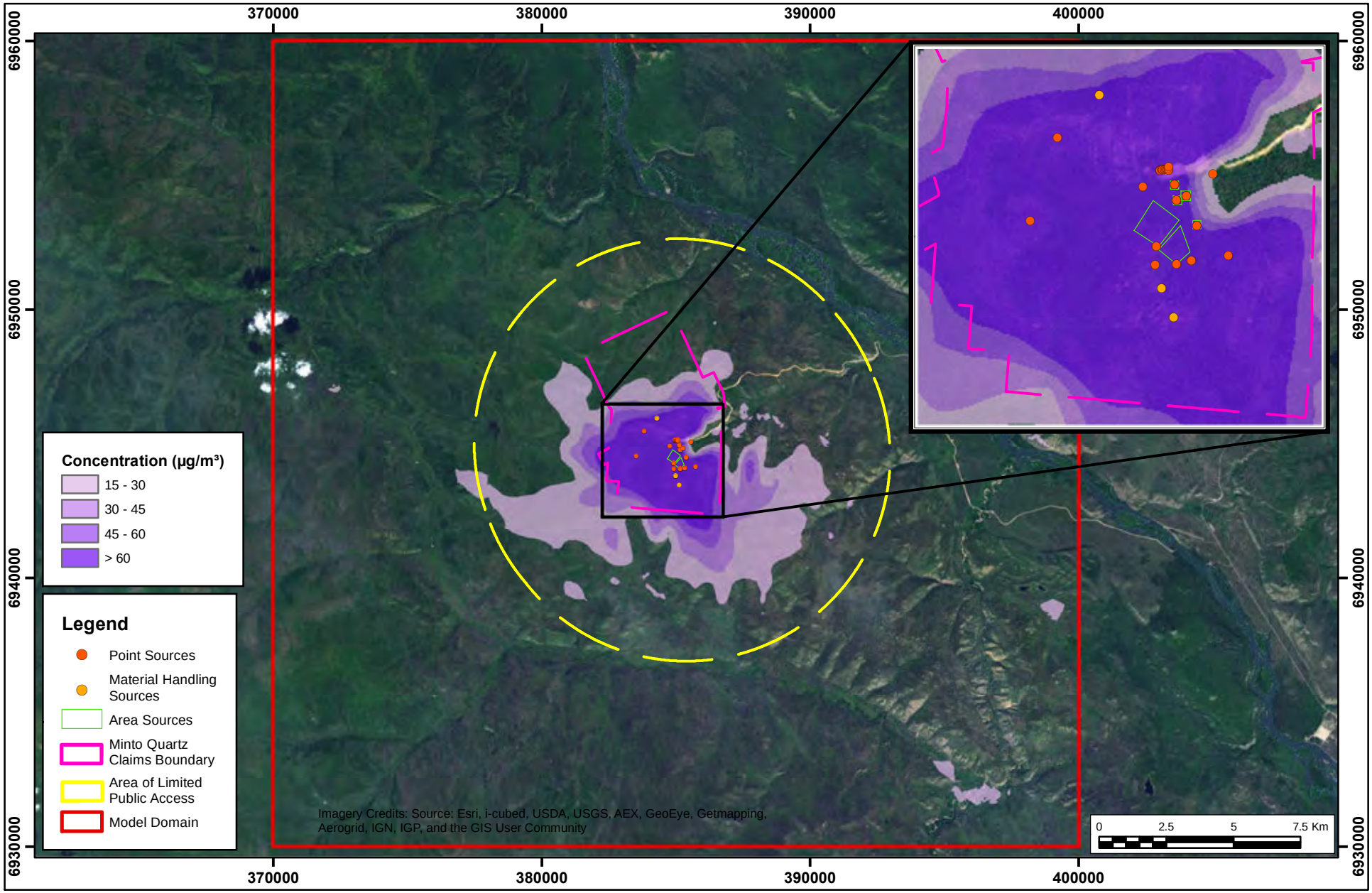


Modelled Maximum 24-Hour $PM_{2.5}$ Concentrations (Emissions from All Sources)
Baseline Case (AAQO = 30 µg/m³)

Map Projection: NAD 1983 UTM Zone 8N.

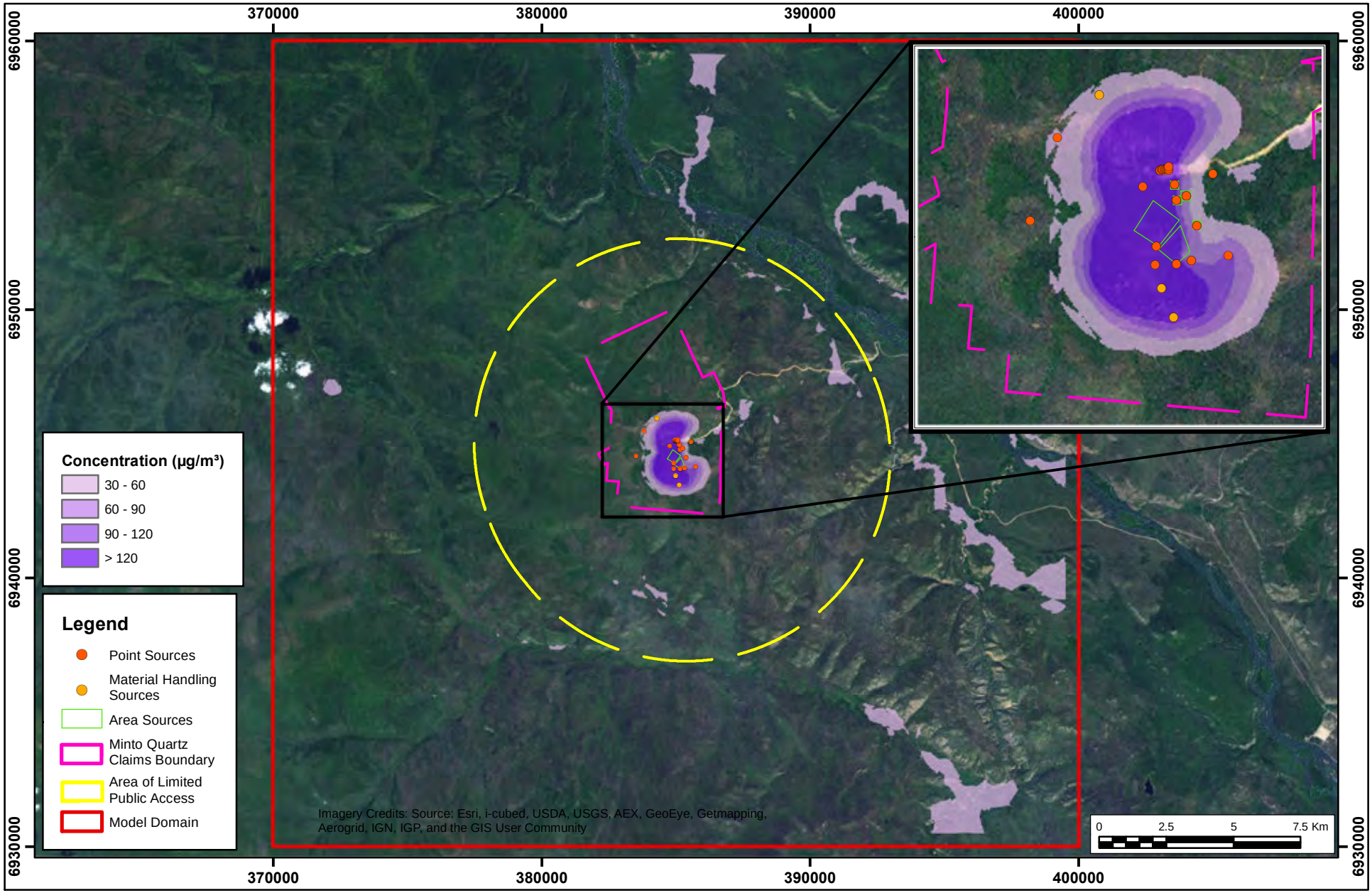
Minto Mine Expansion Phase V/VI - Minto Mine, Yukon

True North

Project #1300542

Drawn by:	NBN	Figure:	4
Approx. Scale:	1:200,000		
Date Revised:	Aug. 8, 2013		

RWDI



Modelled Maximum Annual TSP Concentrations (Emissions from All Sources)
Baseline Case (AAQO = 60 µg/m³)

Map Projection: NAD 1983 UTM Zone 8N.

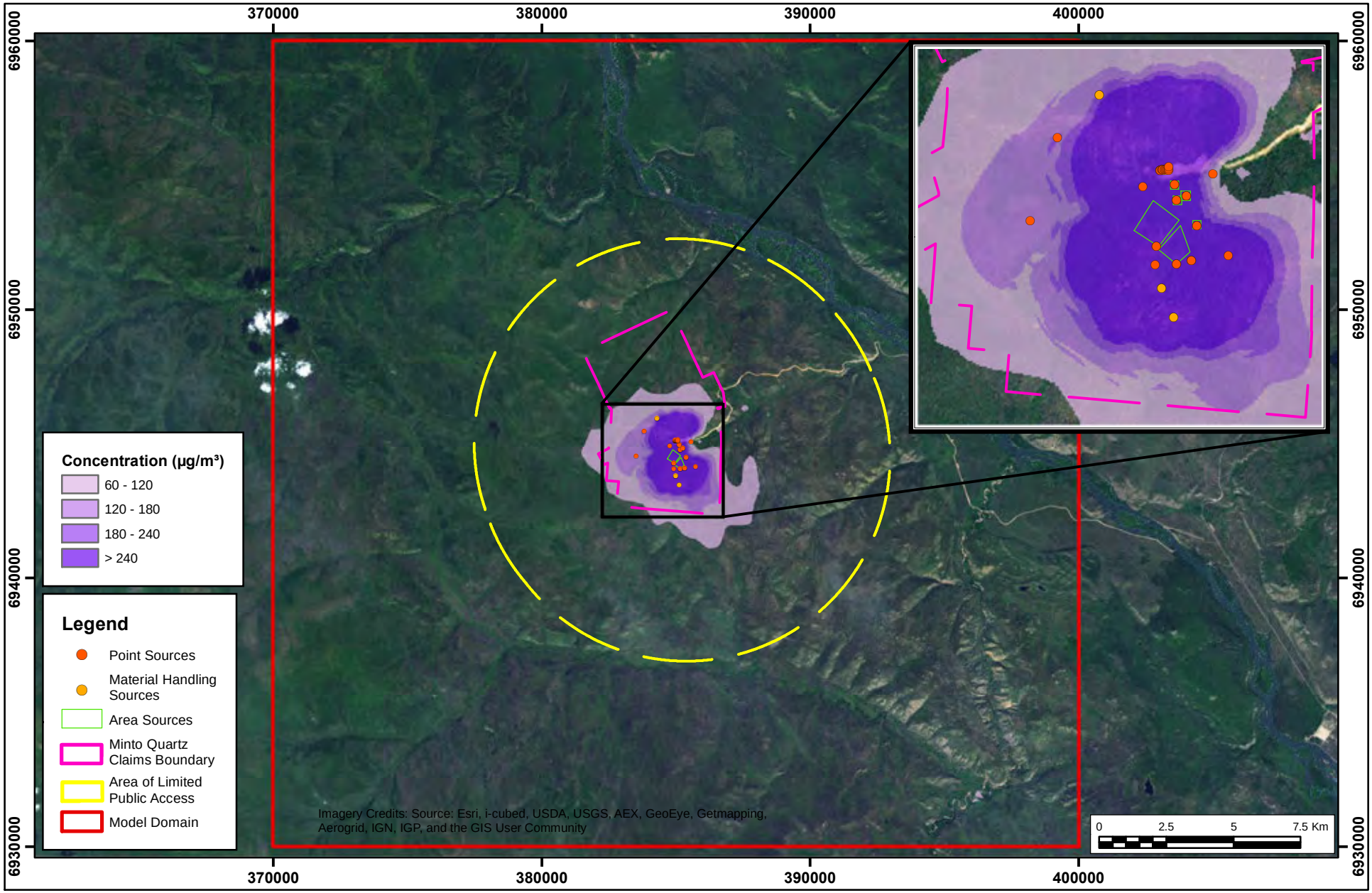
Minto Mine Expansion Phase V/VI - Minto Mine, Yukon

True North

Project #1300542

Drawn by:	NBN	Figure:	3
Approx. Scale:	1:200,000		
Date Revised:	Aug. 8, 2013		

RWDI



Modelled Maximum 24-Hour TSP Concentrations (Emissions from All Sources)
Baseline Case (AAQO = 120 µg/m³)

Map Projection: NAD 1983 UTM Zone 8N.

Minto Mine Expansion Phase V/VI - Minto Mine, Yukon

True North

Project #1300542

Drawn by:	NBN	Figure:	2
Approx. Scale:	1:200,000		
Date Revised:	Aug. 8, 2013		

RWDI

APPENDIX A

Table A.1 CALPUFF Model-Switch Settings

Parameter	Default	Project	Comments
MGAUSS	1	1	Gaussian distribution used in near field
MCTADJ	3	3	Partial plume path terrain adjustment
MCTSG	0	0	Scale-scale complex terrain not modelled
MSLUG	0	0	Near-field puffs not modelled as elongated
MTRANS	1	1	Transitional plume rise modelled
MTIP	1	1	Stack tip downwash used
MSHEAR	0	0	Vertical wind shear not modelled
MSPLIT	0	0	Puffs are not split
MCHEM	1	0	Chemical transformation not modelled
MAQCHEM	0	0	Aqueous phase transformation not modelled
MWET	1	0	Wet removal not modelled
MDRY	1	1	Dry deposition was modelled
MDISP	3	2	Near-field dispersion coefficients internally calculated from sigma-v, sigma-w using micrometeorological variables
MTURBVW	3	3	Use both σ_v and σ_w from PROFILE.DAT to compute σ_y and σ_z (n/a)
MDISP2	3	2	This variable is not used for MDISP = 2
MROUGH	0	0	PG σ_y and σ_z not adjusted for roughness

APPENDIX B

Minto Mine Phase V/VI Expansion Project

Draft
Fugitive Dust Best Management Practices

Version 1

RWDI # 1300542
June 13, 2013

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1. INTRODUCTION

1.1 Objectives of this Best Management Practices Plan

This proposed Best Management Practices (BMP) Plan is to provide an overview for fugitive dust emissions management at the Minto Mine site. It is an overview document that outlines the expected dust emissions sources at the site and describes measures used to manage emissions from these sources. Most sections of this document take the general form of standard operating procedures that are geared towards clearly defining roles, responsibilities, and courses of action.

1.2 Contents of this Best Management Practices Plan

This BMP contains:

- Descriptions of the targeted activities and emission sources;
- Measures to be applied in addressing potential emissions;
- Contingency activities to be implemented should dust become a severe issue;
- Details regarding the site monitoring practices, and;
- Details regarding record keeping practices.

1.3 Layout of this Best Management Practices Plan

This document is structured such that each activity expected to occur at the mine site that generates significant emissions is given a separate section. Each section includes a description of emission sources, complete with control measures applicable to that source.

2. SITE PREPARATION, DRILLING & BLASTING

2.1 Activities Included

- Earthworks (soil stripping and clearing, and excavation) using an excavator or loader and haul trucks, and;
- Drilling.

2.2 Earthworks

- Stabilize and re-vegetate soil stockpiles, and;
- Reclaim exposed land from soil stripping and clearing as soon as possible.

2.3 Drilling

- Equip drilling rigs with dust-collection devices, and;
- Apply water to cuttings discharged adjacent to the drilling rig.

3. STORAGE PILES & MATERIAL TRANSFER AND HANDLING

3.1 Activities Included

- Outdoor piles of materials; and,
- Material handling and transferring activities including conveyor and crushing operations.

3.2 Outdoor Stockpiles

- Maintain a suitable moisture content in surface material and as well as to depths to which handling might occur;
- Additional water application to problematic areas;
- Construction of berms upwind to reduce wind speed in the lee of the stockpiles, and;

3.3 Material Handling, Transferring & Processing

- Minimize drop heights;
- Use of enclosures or skirting at conveyor transfer points;
- Belt sweepers installed on the conveyor system, and;
- Baghouse dust collector at crusher.

3.4 Contingency Measures

- Covers on all conveyors, and;
- Additional water or chemical dust suppression for problematic areas.

4. HAUL ROADS

4.1 Activities Included

- Ore Hauling/Transfer routes

4.2 General Controls

- Restricting vehicle speed to less than 50 km/h;
- Grading snow into top surface of road;
- Water application;
- Chemical dust suppression, and;
- Minimize vehicle idling

4.3 Contingency Measures

- Increased frequency of watering problematic roadway sections;
- Increased frequency in application of chemical dust suppressants, and;
- Further reduction in speed limits.

5. COMBUSTION EMISSIONS

5.1 Activities Included

- Heavy equipment such as excavators, graders, scrapers, bulldozers, haul trucks, etc.

5.2 General Controls

- Use ultra-low sulphur diesel (<15 ppm sulphur content);
- Use equipment with exhaust gas treatment systems:
  - Particulate filters (diesel);
  - Oxidation catalysts (diesel); and,
  - Catalytic Converters (gasoline).
- Ensure combustion equipment and exhaust systems are properly maintained;
- Reduce vehicle idling;
- Minimize cold starts by using:
  - Engine block heaters, and;
  - Electrically pre-heated catalytic converters.

6. ADMINISTRATION

6.1 Implementation Schedule

- All control measures should be in place before activities commence.

6.2 Implementation Plan

- Formal training on new and existing operating procedures should be provided to relevant new and existing staff at a minimum of once every 3 years, and in the event of changes to the BMP;
- Management should communicate the BMP to responsible supervisors, who shall ensure personnel are following operating procedures defined in the BMP;
- Responsibility should be assigned for ensuring the BMP is followed;
- Management should ensure the BMP is reviewed annually; and,
- The BMP shall be kept in an easily accessible location.

7. MONITORING & RECORD KEEPING

7.1 Monitoring

During mining activities, the following parameters should be monitored and recorded as required:

General Measures

- Water trucks operating.
- Water applied to dust sources.
- Dust suppressants other than water applied to dust sources.

Access/Haul Roads

- Road visibly moist.
- Dust suppressants other than water applied to surface.

Weather Conditions

- Planning for high wind events based on observation thresholds.

7.2 Record Keeping

- A standardized site inspection form should be prepared to document each of the above listed parameters, as well as:
  - When unpaved roads and regularly travelled portions of the site are re-graded;
  - Quantity of water used on-site as a dust suppressant;
  - Type of chemical dust suppressant applied (if applicable), vendor name, and method, frequency, concentration and quantity of application; and,
  - On-site fuel usage.
- A standardized form should be prepared to document information pertaining to high dust emission events or activities, and;
- Responsibility should be assigned to ensure that record keeping is being performed at the prescribed frequency.

APPENDIX 1-8

MINTO MINE ML/ARD ASSESSMENT

Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

Prepared for

Minto Explorations Ltd.

Prepared by

SRK Consulting (Canada) Inc.
1CM002.003
July 2013

Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

July 2013

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Project No: 1CM002.003

File Name: PhaseV&VI_MLARD_1CM002-003_Report_sjn_dbm_kss_20130705_FNL

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srk consulting

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Appendix I: Source Terms for Use as Inputs to Water Quality Predictions: McGinty Creek

List of Abbreviations

Types of Tests:

HCT	Humidity Cell Test

Acid Base Accounting:

ABA	Acid Base Accounting
NP	Neutralization Potential
AP	Acid Potential
TIC	Total Inorganic Carbon
NP_{TIC}	Neutralization Potential derived from Total Inorganic Carbon content
NP_{BCR}	Neutralization Potential determined by the BC Research Method
NPR	Neutralization Potential Ratio (NP:AP)
NPR_{TIC}	Neutralization Potential Ratio derived from NP_{TIC}:AP
PAG	Potentially Acid Generating
ARD	Acid Rock Drainage
S(T)	Total sulphur
$S(S^{2-})$	Sulphide sulphur
$S(SO_4)$	Sulphate sulphur

Water Quality Predictions:

WLB	Water and Load Balance

Mine Site Facilities:

DSTSF	Dry Stack Tailings Storage Facility
MWD	Main Waste Dump
MWDE	Main Waste Dump Expansion
SWD	Southwest Waste Dump
RWD	Ridgetop Waste Dump
MVF	Mill Valley Fill
MVFE	Mill Valley Fill Expansion

1 Introduction

As part of plans to expand the Minto Mine, Minto Explorations Ltd. (Minto) asked SRK to carry out an assessment of the metal leaching and acid rock drainage (ML/ARD) potential of the waste rock and tailings that will be produced during mining of new deposits. This report covers ML/ARD assessment of the Minto Mine Expansion- Phase V/VI, which consists of open pit mining of near-surface portions of the Area 2, Ridgetop, and Minto North deposits, and underground exploration and mining of related mineralization at greater depths. Finally, this report also describes the derivation of geochemical source terms that have been used in developing Phase V/VI water quality predictions.

2 Background

2.1 Geological Setting

Section 2.1 is adapted from Section 7 of Minto (2012).

2.1.1 Regional Geology

The Minto Project is found in the north-northwest trending Carmacks Copper Belt along the eastern margin of the Yukon-Tanana Composite Terrain, which is comprised of several metamorphic assemblages and batholiths (Figure 1). The Belt is host to several intrusion-related Cu-Au mineralized hydrothermal systems. The Yukon-Tanana Composite Terrain is the easternmost and largest of the pericratonic terranes accreted to the Paleozoic northwestern margin of North America (e.g., Colpron et al., 2005). It is regarded to be the product of a continental arc and back-arc system, preserving meta-igneous and metasedimentary rocks of Permian age on top of a pre-Late Devonian metasedimentary basement (e.g., Piercey et al. 2002).

The Minto Property and surrounding area are underlain by plutonic rocks of the Granite Mountain Batholith (Early Mesozoic Age) (Figure 2) that have intruded into the Yukon-Tanana Composite Terrain. They vary in composition from quartz diorite and granodiorite to quartz monzonite. The batholith is unconformably overlain by clastic sedimentary rocks thought to be the Tantalus Formation and andesitic to basaltic volcanic rocks of the Carmacks Group. Both are assigned a Late Cretaceous age. Immediately flanking the Granite Mountain Batholith to the east is a package of undated mafic volcanic rocks which outcrop in the banks of the Yukon River. The structural relationship between the batholith and the undated mafic volcanics is poorly understood because the contact zone is not exposed.

2.1.2 Property Geology and Lithological Description

Much of the geological understanding of the rock around the Minto deposits is based on observations from diamond drill core and extrapolation from regional observations. The reason for this is poor outcrop exposure(less than 5% coverage), as well as the deep weathering and oxidation of the exposed outcrop. The terrain was not glaciated during the last ice age event.

The hypogene copper sulphide mineralization at Minto is hosted wholly within the Minto pluton, which intrudes near the boundary between the Stikinia and Yukon-Tanana terrains, however since the contact is not exposed it is unclear if the pluton stitches the two terrains. The Minto pluton is predominantly of granodiorite composition. Hood et al. (2008) distinguish three varieties of the intrusive rocks in the pluton. The first variety is a megacrystic K-feldspar granodiorite. It gradually ranges in mineralogy to quartz diorite and rarely to quartz monzonite or granite, typically maintaining a massive igneous texture. An exception occurs locally where weakly to strongly foliated granodiorite is seen in distinct sub-parallel zones several metres to tens of metres thick.

A second variety of igneous rock is a folded quartzofeldspathic gneiss with centimeter-thick compositional layering and folded by centimetre to decimetre-scale disharmonic, gentle to isoclinal folds (Hood et al., 2008). The third variety of intrusive is a biotite-rich gneiss. Minto geologists consider all units to be similar in origin and are variously deformed equivalents of the same intrusion.

Copper sulphide mineralization is found in the rocks that have a structurally imposed fabric, ranging from a weak foliation to strongly developed gneissic banding. For this reason all core logging by the past and present operators separates the foliated to gneissic textured granodiorite as a distinctly discernable unit. It is generally believed by Minto geologists that this foliated granodiorite is the variably strained equivalent of the two primary granodiorite textures and not a separate lithology.

The contact relationship between the foliated deformation zones and the massive phases of granodiorite is generally very sharp. These contacts do not exhibit chilled margins and are considered by Minto geologists to be structural in nature, separating the variably strained equivalents of the same rock type. Tafti and Mortensen (2004) had interpreted the sharp contacts to be zones of deformed rock within the unfoliated rock (i.e rafts or roof pendants). Supergene mineralization occurs proximal to near-surface extensions of primary mineralization.

Conglomerate and volcanic flows have been logged in drill core by past operators. New drilling has confirmed the presence of conglomerate, but not the volcanic flows. The latter cannot be confirmed by the authors as the drill core from historic campaigns was largely destroyed in forest fires and no new drilling has intersected such rocks. However, undated volcanic rocks are mapped by Hood, near the southwest margin of the property, south of a fault that is inferred from geophysics to separate them from the Jurassic Age intrusive rocks. The conglomerate has been dated (unpublished date pers. com. Dr. Maurice Colpron- Yukon Geological Survey) as Cretaceous Age. It is now recognized as an outcrop within a borrow pit exposure located west of the airstrip as well as in numerous recent drill holes. Observations of foliated and even copper mineralized cobbles in drilling indicate that “Minto-type” mineralization was exposed, eroded and reincorporated in sedimentary deposits by the Cretaceous Age.

Other rock types, albeit volumetrically insignificant, include dykes of simple quartz-feldspar pegmatite, aplite; and an aphanitic textured intermediate composition rock. Bodies of all of these units are relatively thin and rarely exceed the one meter core intersections. These dykes are relatively late, and observed contact relationships suggest they generally postdate the peak

ductile deformation event; however some pegmatite and aplite bodies observed in a rock cut located north of the mill complex are openly folded.

It is unclear if this folding is contemporaneous with foliation development in the deformed rocks or post-dates the foliation development. Observations from drill core and open cut benches in the mine show examples where the foliation and the pegmatitic/aplitic intrusions are both folded, as well as examples where the intrusions are not folded, suggesting two populations of minor dykes.

2.1.3 Veining

Veins in the Minto Deposit appear to have been emplaced after the copper sulphide mineralization and are therefore not economically significant. The most common veins are very narrow (less than 30 cm) steeply dipping, simple quartz-feldspar pegmatite veins that often contain cavities that are indicative of shallow emplacement. The veins crosscut foliation in the deformation zones and the sulphide mineralization, and this cross-cutting is interpreted to be evidence of their post-sulphide mineral emplacement. Other types of late veins found in the deposit include thin (less than 2 mm) calcite, epidote, hematite and gypsum stringers, and fracture coatings. Quartz veining is extremely rare and economically insignificant.

2.2 Deposit Types

Section 2.2 is adapted from Section 8 of Minto (2012).

The host rocks to the Minto deposit were emplaced in a deep batholitic setting (exceeding 9 km deep to perhaps as much as 18-20 km deep), which is not considered to be the typical porphyry environment. The host is a moderately oxidized magma (Tafti and Mortensen, 2004) with widespread iron oxide (magnetite and hematite) mineralization. At least some of the hematite is supergene in origin but it is unclear if some hematite is also primary. There are very strong structural controls on ore mineral emplacement and there is no apparent genetic link to a specific phase of intrusion. Typical porphyry-type alteration zoning such as widespread propylitization, argillization, barren silicic core, or large barren pyritic halo are not recognized. Stockwork style, fracture or vein mineralization is also not present.

Minto geologists have been advised (in personal communications) that some examples of IOCG mineralization exhibit some similar characteristics and setting to Minto including Copperstone in Arizona, Candelaria in Chile, and Ernest Henry in Australia (Williams et al., 2005). From a genetic and structural prospective, albeit not size wise, the Sossego Deposit in Brazil may be a reasonable analog. While an IOCG origin for the Minto Deposit cannot be unequivocally demonstrated, Minto geologists are of the opinion that this style of deposit provides the most consistent model for their current level of understanding. However, the unique nature of this mineralization style and apparent lack of close analogs elsewhere suggests the Minto Copper-Gold deposits may represent an unrecognized mineral deposit type.

2.3 Mineralization

Section 0 is adapted from Section 7 of Minto (2012).

2.3.1 Mineralization

The Minto deposits have essentially no surface exposure with the exception of minimal exposure in historical trenches of the shallow partially oxidized zones associated with the Ridgetop deposit. Observations for the deposits are therefore based almost entirely on hand-specimen and petrographic studies of drill core. The primary hypogene sulphide mineralization consists of chalcopyrite, bornite, euhedral chalcocite, and minor pyrite. Metallurgical testing also indicates the presence of covellite, although this sulphide species has never been positively logged macroscopically. Texturally, sulphide minerals predominantly occur as disseminations and foliaform stringers along foliation planes in the deformed granodiorite (i.e. sulphide stringers tend to follow the foliation planes). However, sulphide mineral content tends to increase where this foliation is disrupted by intense folding. In addition, semi-massive to massive mineralization is also observed; this style of mineralization tends to obliterate the foliation altogether. Silver telluride (hessite) is observed in polished samples but has not been logged macroscopically. Native gold and electrum have both been reported as inclusions within bornite and accounts for the high gold recoveries in test copper concentrates. Occasionally, coarse free gold is observed associated with chloritic or epidote lined fractures that cross-cut the sulphide mineralization. The free gold may be due to secondary enrichment during a later hydrothermal process overprinting the main copper sulphide-gold event. Sulphide mineralization is almost always accompanied by variable amounts of magnetite mineralization and biotite alteration. While these minerals occur in the non-deformed rocks they are present in the mineralized horizons in a much greater abundance in the range of an order of magnitude greater than background.

The Minto Main deposit exhibits crude zoning from west to east. The bornite zone is dominant in the west while a thicker, lower grade chalcopyrite zone is dominant on the east side of the deposit. The bornite zone is defined by the metallic mineral assemblage magnetite-chalcopyrite-bornite. Bornite mineralization is conspicuous, but chalcopyrite is the dominant sulphide species. Stringers and massive lenses of chalcopyrite with various quantities of bornite are typical. Massive mineralization occurs locally over intervals exceeding 0.5 m in thickness and semi-massive mineralization over several metres in thickness may occur. In these sulphide rich areas, textures often resemble those seen in magmatic sulphide zones with sulphide mineralization interstitial to the rock forming silicate minerals. The higher grade portion of the Minto Main deposits roughly corresponds to the bornite zone. Local concentrations of bornite of up to 8% are seen. The precious metal grades are elevated in the bornite zone (very fine gold and electrum occur as inclusions in bornite) and occurrences of coarse grained native gold are noted almost exclusively in bornite-rich material. The chalcopyrite zone is characterized by the metallic mineral assemblage of chalcopyrite-pyrite ± very minor bornite and magnetite.

Empirical observations indicate the highest concentrations of bornite are associated with coarse grained, disseminated and stringer-style magnetite mineralization, up to 20% by volume locally. The stringers of magnetite are often folded or boudinaged, suggesting that at least some of the magnetite mineralization predates peak ductile deformation.

Sulphide mineralization on the other hand, shows both evidence and absence of ductile deformation locally and is interpreted to have formed contemporaneous with, or late in the ductile deformation history.

The Minto North and Minto East Deposits also exhibit a zoning from west to east. High-grade bornite-dominant mineralization is observed in the west with lower grade chalcopyrite-dominant mineralization in the east. The bornite zone is defined by the metallic mineral assemblage bornite-magnetite-chalcopyrite. Bornite mineralization occurs as strong disseminations and foliaform stringers locally >10% to occasional semi-massive to massive lenses up to 2 m in thickness. Chalcopyrite concentrations are typically within the 1 to 2% range, but locally can reach concentrations of 10%. Precious metal grades are elevated in the bornite zone, and visible gold has been observed on occasion.

Mineralization at the Area 2/118/Copper Keel resource sub-domains is distinct in that mineralization is predominantly disseminated (plus occasional foliaform stringers) and that semimassive to massive sulphide mineralization is absent; as a whole, the mineralization is more homogenous and consistent as compared to Minto Main and Minto North. The primary mineral assemblage in the Area 2/118/Copper Keel resource sub-domains includes chalcopyrite-bornite-magnetite with minor amounts of pyrite; and a crude zoning is present in that the higher grade northern half of the Minto South Deposit shows increased bornite concentrations up to 8% locally.

Mineralization at both the Ridgetop deposit and the Wildfire resource sub-domain are subdivided into the near surface horizons that have been affected by supergene oxidation and the more typical primary sulphide mineralization of the deeper zones. The lower zones are defined by a mineral assemblage of chalcopyrite-magnetite with minor amounts of pyrite. Chalcopyrite is the dominant sulphide in the lower zones, and bornite is only observed in minor amounts. Texturally, chalcopyrite occurs as disseminations and foliaform stringers, and is rarely observed as semimassive to massive bands. Magnetite is coarse grained, disseminated, stringer-style, and can occur in bands up to 0.3 m in thickness, up to 20% volume locally.

These empirical observations of bornite/chalcopyrite relative abundances are supported by a copper and gold grade trend in mineral resources discovered to date where the Ridgetop deposit and the southern extent of the Minto South Deposit sit at the lower grade southern end and Minto North sits at the much higher grade northern end of the currently defined trend.

2.3.2 Alteration, Weathering and Oxidation

Pervasive, strong potassic alteration occurs within the flat lying zones of mineralization, and is the predominant alteration assemblage observed in all of the Minto deposits. The potassic alteration assemblage is characterized by elevated biotite content and minor secondary k-feldspar overgrowth on plagioclase relative to the more massive textured country rock. Biotite concentrations range up to 30 to 70% by volume locally, compared to about 5 to 8% in waste rock. Additional alteration includes the replacement of mafic minerals by secondary chlorite, epidote, or sericite observed both in mineralized and waste rock interstitially or fracture/vein proximal, as well as variable degrees of hematization of feldspars. Uncommon but locally

pervasive sericite-muscovite alteration is observed associated with post-mineral brittle faults; this type of alteration is most common within the Area 2/118 resource sub-domains.

Hematization is the most pervasive at the Minto Main deposit proximal to the DEF fault, whereas in the other deposits it is predominantly fracture controlled within narrow alteration selvages. It is interpreted to be supergene in origin. Minor carbonate overprint is occasionally observed associated with secondary biotite. The contacts between the altered and unaltered rocks are sharp, as are the contacts between mineralized rocks and waste rocks.

Silicification is present but not pervasive nor uniform in distribution in the Minto deposits. At Minto Main, Minto East, and Minto North it is sporadic within the bornite zone (west) and lacking in the chalcopyrite zone (east). Within the Area 2/118/Copper Keel resource sub-domains, silicification intensity is variable in all ore zones. On rare occasions, silicification is pervasive enough to almost entirely overprint both primary and deformation textures (Area 2) while it is essentially absent at Ridgetop and Wildfire. The relationship between silicification and the mineralization is unclear due to inconsistent core logging over three decades, although in most cases higher grade sulphide mineralization is coincident with silicification.

Copper oxide mineralization, like the hematization seen at surface in float, trenches, and in the upper mineralized zones at Ridgetop and Wildfire is the result of supergene oxidation processes. This near surface mineralization represents either the erosion remnants of foliated horizons that are located above the deposits or is vertical remobilization of copper up late brittle faults and fracture zones that intersect primary sulphide mineralization at depth. Chalcocite is the prime mineral in these horizons along with secondary malachite, minor azurite, and rare native copper. The mineralization is found as fracture fill and joint coatings and more rarely interstitial to rock forming silicate minerals.

At the Ridgetop deposit and the Wildfire resource sub-domain, the upper near surface mineralized zones are unique in that the dominant oxide facies mineral is the sulphide chalcocite rather than chalcopyrite or bornite, and it is believed to be a secondary supergene enrichment associated with a paleo water table, or fault proximal oxidation via circulating groundwater. Minor malachite, azurite, remnant chalcopyrite-bornite, and native copper are also present within these near-surface mineralized zones.

Cobbles and pebbles of this supergene chalcocite mineralization in Cretaceous age (unpublished data) conglomerate that unconformably overlies the plutonic rocks of the Granite Mountain Batholith indicate that the upper parts of the Minto System were on surface and being partially oxidized and eroded in the Late Cretaceous.

In addition to the obvious copper oxide minerals, oxidation is also evident by pervasive iron staining (limonite), earthy hematite, clay alteration of feldspars, and a significant loss in bulk density. The degree and distribution of copper oxide minerals appears to be directly related to the depth of the water table. For the most part this is confined to about -30 m (but up to -90 m) beneath the surface and is generally sub parallel with the present topographic surface. The Minto Main zone has experienced relatively little oxidation since it is generally more than 60 m below the surface except at its southern end where it crops out directly beneath unconsolidated

overburden in the Minto Creek Valley. Very locally this oxidation may be drawn deeper along late brittle faults cutting primary sulphide mineralization.

2.4 Exploration and Mining History

2.4.1 Pre-production Exploration

The Minto deposit was first identified during the 1970s through exploration that followed up on a stream sediment anomaly in Minto Creek. Drilling by several operators was carried out during the 1970s, '80s, and '90s, and resulted in the definition of the Minto deposit as a mineable resource.

2.4.2 Initial Phase of Production

The permit to mine the deposit was granted in 1995, and construction began in 1997 only to be halted by an extended period of low copper prices. Minto re-started mine construction in 2005 and commenced production in 2007.

Mining in the Main Pit was carried out by conventional truck and shovel methods. Waste rock was placed initially in the Main Waste Dump (MWD), and later in the Southwest Waste Dump (SWD). Overburden was placed in the Overburden Stockpile. Stockpiles of low grade ore and mixed oxide/sulphide ore were stored in the Blue Stockpile and the Oxide Stockpile, respectively, adjacent to and east of the MWD and west of the Main Pit. All of the stockpiles and dumps noted above are located upgradient of the Main Pit. Ore processing consisted of crushing, grinding and froth flotation. Tailings were dewatered through filtration, hauled, placed and roller-compacted in the Dry Stack Tailings Storage Facility (DSTSF) located southeast (and downgradient) of the Main Pit.

2.4.3 Exploration During Production

Exploration by Minto in the time since construction recommenced in 2005 has identified a number of mineable deposits within the Minto claim block, as well as several prospects that remain the subject of further evaluation. Deposits that have been demonstrated to contain economic reserves to date include Area 2, Area 118, Copper Keel, Wildfire, Ridgetop, Minto East and Minto North. Planning has proceeded to the point that expansion to extract portions of the Area 2 and Area 118 deposits is authorized under the Phase IV expansion. The Phase V/VI expansion proposal (for which this document provides supporting information) seeks authorization to develop additional resources from the Area 2/ Area 118 deposits and to put Copper Keel, Wildfire, Ridgetop, Minto East and Minto North into production.

2.4.4 Phase IV Overview

The Phase IV expansion received final regulatory authorizations in 2012, and the Phase IV mine plan is a key input into the process of planning the next phase of expansion (Phase V/VI). Although the remaining portion of the Phase IV plan will merge with the Phase V/VI mine plan on receipt of Phase V/VI authorizations (thereby make the discrete distinction between Phase IV and Phase V/VI somewhat artificial), it is nevertheless useful to describe selected components of the Phase IV mine plan in advance of the overview of the Phase V/VI.

The Phase IV site components that relate to the management of Phase V/VI waste rock and overburden are shown on the Phase IV plan of arrangement (Figure 3) and briefly described here.

Mill

The mill is located on the north side of the Minto Creek valley east of Main Pit and west of the camp. The mill processes stockpiled and run-of-mine ore at a nominal rate of 3850 tonnes per day and produces slurry tailings that are discharged to Main Pit.

Main Pit

The Main Pit is centered in the Minto Creek valley west of the mill area. It hosted the Minto deposit, which was the first deposit mined at the Minto Mine. Mining in the Main pit ended in April 2011. The tailings management plan for Phase IV entails filling the Main Pit with slurry tailings, the deposition of which began on November 1, 2012.

Area 2 Pit

The Area 2 Pit is located south of the mill area and southeast of the Main Pit. As part of the Phase IV mine plan, the pit is mined in two stages, the first of which was started in April 2011. The second stage, and the final one approved as part of Phase IV, pushes back the walls and deepens the pit; it is expected to be completed in Q1 2014. Once open pit mining of Area 2 Stage 2 is complete, it is scheduled to receive slurry tailings under the final stages of the Phase IV mine plan.

Area 118 Pit

The Area 118 pit is a small pit that is scheduled to be the final open pit mining under the Phase IV mine plan. It will be located uphill and southwest of the Area 2 Stage 2 pit, and is scheduled to be backfilled with waste rock as part of the Phase IV reclamation activities.

Main Waste Dump (MWD)

The MWD is located west of the Main pit, and was the first waste rock storage facility constructed at Minto. The MWD contains waste rock from the initial phases of mining in the Main pit, and is at its original design capacity.

Southwest Waste Dump (SWD)

Construction of the SWD began in March 2009; it has received waste rock continuously since that time, initially from the final stages of mining of the ` pit, and later from mining of Area 2 pit (Stage 1 and Stage 2). Expansions of the dump's height and footprint were permitted as part of Phase IV.

Dry Stack Tailings Storage Facility (DSTSF)

The DSTSF received the mine's tailings output until the licensing of Phase IV authorized Minto to begin using the completed Main pit for tailings storage. Tailings placement in the DSTSF ended on October 31, 2012. The DSTSF contains all tailings from milling of Main pit ore as well as tailings from approximately seven months of milling of Area 2 ore.

Mill Valley Fill Extension (MVFE)

This dump is located at the toe of the DSTSF in the Minto Creek valley, immediately east of the original Mill Valley fill that was constructed early in the mine life to provide space for milling and related activities. Construction of the MVFE was proposed as part of the Phase IV mine plan as a buttress to mitigate the down-slope movement of the DSTSF.

South Wall Buttress (SWB)

The SWB is a rock fill structure that is designed to buttress the south wall of the Main Pit and preserve the remaining volume in the Main pit for tailings, waste rock and water storage purposes. Construction of the SWB began in May 2011 and it has received rock from the Area 2 Stage 2 Pit since that time. It is scheduled for completion to its design capacity during the period of open pit mining under the Phase IV mine plan.

Reclamation Overburden Dump (ROD)

The ROD is located west of the MWD, and contains overburden materials released from both the Area 2 Pit and the Main Pit. The ROD has capacity to store additional overburden material that will be released during Phase V/VI.

2.5 Phase V/VI Expansion Plan

Details of the Phase V/VI expansion plan are provided in the Project Proposal (Minto 2013b). A summary of details that are relevant to the Phase V/VI ML/ARD assessment and water quality prediction are included here for reference.

2.5.1 Phase V/VI Mining

Phase V/VI mining will include open pit components and underground mining components. On receipt of the necessary authorizations by Minto, the remaining components of the Phase IV mine plan will be rolled into the Phase V/VI mine plan, and the following provides a brief description of only those Phase V/VI components that are not currently subject to Phase IV authorizations.

Open pit mining will consist of development of Minto North Pit (MNP), Area 2 Stage 3 Pit (A2S3P), Ridgetop South Pit (RSP) and Ridgetop North Pit (RNP). The pits are scheduled to be mined in the order listed and are shown in Figure 4.

Underground mining will take place via three portals:

- The Minto South Portal is located south of the Area 2 Stage 2 Pit and has been developed as part of Phase IV works. The Minto South Portal will be used to access underground ore reserves in the Minto East zone, the Area 2/ Area 118 zone and Copper Keel zone. Development access will be via decline from the portal.

- The Wildfire Portal will be developed to access the underground ore reserves in the Wildfire zone via a decline. The portal will be located near the Airport Access Road, near the north end of the ridge occupied by the airstrip.

- Portal 3 will be developed to as another access to the underground ore reserves in the Minto East zone via a decline. The portal will be located northwest of the crusher within the existing disturbance footprint.

Both portals will be located at or near the highest elevations of the respective underground workings (with the exception of raises constructed as part of the ventilation system). Figure 6 provides an overview of the underground workings to be developed by the end of Phase V/VI (along with the pit rims for Area 2/Area 118 and Ridgetop North and Ridgetop South pits for spatial reference).

A detailed schedule of Phase V/VI mining and processing activities is included in the Phase V/VI Project Description (Minto 2013b).

2.5.2 Phase V/VI Waste Management

Management of Phase V/VI overburden and waste rock is detailed in the Waste Rock and Overburden Management Plan (Minto 2013c) and management of Phase V/VI tailings is detailed in the Tailings Management Plan (Minto 2013d). Information from these two plans that is relevant to the Phase V/VI ML/ARD assessment and water quality predictions is summarized below.

Waste rock and overburden

Overburden produced during Phase V/VI mining will be used as cover material for concurrent reclamation of completed facilities or stored in one of several locations (Figure 4): Area 118 Backfill Dump; Main Pit Dump; Ridgetop Waste Dump; Ridgetop South Backfill Dump; Reclamation Overburden Dump; Main Waste Dump Expansion.

Bulk waste rock produced during Phase V/VI mining will be stored in several locations as described in the Waste Rock and Overburden Management Plan (the WROMP- (Minto 2013c)). Each location is briefly summarized here for ease of reference.

- Main Waste Dump Expansion

    - The Main Waste Dump will be expanded in Phase V/VI with waste rock and overburden from Minto North. The expansion will increase the footprint area (by 10 ha) and the volume stored (by 4.3 Mm^3 of waste rock and 0.9 Mm^3 of overburden). No segregation of Minto North waste rock is planned.

- Main Pit Dump
    - The Main Pit dump will be constructed on top of the South Wall Buttress. It will receive waste rock and overburden from Area 2 Stage 3 Pit, Ridgetop North Pit, Ridgetop South Pit, and underground development. Planned volumes are 2.7 Mm^3 of bulk waste rock and 0.35 Mm^3 of overburden. The Main Pit Dump footprint is entirely within the existing disturbance area and construction will not result in any incremental disturbance.
- Mill Valley Fill Extension Stage 2
    - The existing Mill Valley Fill Extension (Stage 1) was designed as a buttress to arrest the movement of the slope underlying the DSTSF. Evaluation of whether expansion of the buttress is necessary is in progress; for purposes of environmental assessment, it has been assumed that the buttress will be expanded to the Stage 2 design described in the WROMP. If the MVFE Stage 2 buttress is constructed to the full design extent, it will require 2.9 Mm^3 of bulk waste rock and will create 4.7 ha of new disturbance. It should be noted that any volume placed in the MVFE Stage 2 buttress will reduce the volume of the Main Pit Dump and potentially the Ridgetop Waste Dump.
- Ridgetop Waste Dump
    - The Ridgetop Waste Dump is planned as a new dump to be located on the west side of the ridge hosting the Ridgetop mineralization. This dump has a planned capacity of 3.4 Mm^3 and a total footprint area of 28.8 ha. Topographically, 25.4 ha of the footprint is upgradient of the Main Pit, however the portions of the design footprint that spill over the surface catchment divide to the east will contain. Although there will be minor quantities of overburden placed in this dump, for purposes of environmental assessment is has been assumed that the entire dump volume is composed of bulk waste rock.

Minto will segregate Phase V/VI waste rock based on ABA characteristics using the same approach that has been during Phase IV operations. The Phase IV protocol has adopted the NP:AP value of 3 that is referenced in the site's water use licence as an interim threshold for defining the lower limit of the bulk waste rock category, and Minto plans to carry this interim threshold forward into Phase V/VI waste management practices. Waste rock that is determined to have NP:AP values lower than the threshold value (interim value NP:AP<3) will be stored in locations that will be saturated over the long term. The primary storage location for NP:AP<3 waste rock will be within the Main Pit Tailings Management Facility (TMF) and the Area 2 Pit TMF, with a small portion of NP:AP waste rock stored in underground workings as backfill. The TMFs have been designed with allowance for 20% of Phase V/VI waste rock to be stored under saturated conditions (Minto 2013c and –d). Additional detail on evaluation of the lower threshold value for defining bulk waste rock and on estimation of the quantity of Phase V/VI waster rock requiring saturated storage can be found in Section 4 and in Appendix A.

Underground mining will produce a relatively small volume of waste rock that will be disposed on surface, mostly from initial development prior to availability of mined-out areas underground where waste can be used as backfill. The underground rock slated for surface disposal will be managed using the same protocols as Phase V/VI open pit waste rock.

Tailings

Phase V/VI tailings disposal will continue to follow the Phase IV strategy of hydraulic deposition of tailings slurry into mined out pits. Slurry will be piped to one of three tailings management facilities (TMFs), with anticipated deposition as follows:

- 2013 to Q1 2014: to Main Pit TMF;
- Q1 2014 to Q2 2015: to Area 2 Pit TMF (Stage 2);
- Q2 2015 to Q1 2018: to Main Pit TMF;
- Q1 2018 to Q4 2019: to Ridgetop North Pit TMF;
- Q4 2019 to Q2 2021: to Main Pit TMF;
- Q2 2021 to Q3 2022: Area 2 Pit TMF (Stage 3).

The capacity of the Main Pit TMF will be increased in 2014 by constructing a dam on the east side (the Main Dam). The conceptual design for the Main Dam calls for a low-permeability fine-grained soil core, a final crest elevation of 806m, a full supply level of 804m, development of a tailings beach along the dam and the adjacent south pit wall, a spillway which will route water to the Area 2 Pit in post-closure, and tailings deposition to maximize tailings storage and yield a final post-closure tailings surface that is shaped to allow conveyance of runoff from the upgradient catchment to Area 2 Pit and to provide little to no water storage (SRK 2013a).

2.5.3 Phase V/VI Closure Plan

The preliminary Phase V/VI closure plan (ACG 2013) calls for the following elements that relate to the Phase V/VI water quality predictions.

- Tailings reclamation:
    - The subaerial tailings in the Dry Stack Tailings Storage Facility, the Main Pit TMF and the Ridgetop North Pit TMF will be covered with isolation soil covers.
    - The Area 2 Pit TMF will be flooded and closed as a flow-through pit. Water from both the Main Pit TMF (and its upgradient catchment) and from the subcatchment south of the Area 2 Pit will report through Area 2 Pit. Once the Area 2 Pit fills, there will be greater than 5 m of water over the deposited tailings and waste rock.
- Waste rock reclamation:

- All subaerial waste rock will be covered with isolation soil covers. The main facilities to be covered are the Main Waste Dump, Main Waste Dump Expansion, Southwest Waste Dump, Ridgetop Waste Dump, Main Pit Dump, and the Mill Valley Fill Expansion.

- Water management :
  - Construction of facilities that limit sediment release to lower Minto Creek to less than 15 mg/L. These sediment control facilities will include wetlands at various locations including within the footprint of the current water storage pond; all water leaving site will pass through this wetland before reporting to lower Minto Creek.

2.6 Geochemical Characterization and Monitoring

2.6.1 Mine Rock

Pre-production Testing: Main Pit

During initial review of the Minto Mine project proposal, eight drill core samples were retrieved and subjected to ABA testing, whole rock analysis and petrographic examination (Mills 1997).

The primary conclusions of the pre-production test were that Main Pit waste rock was expected to be net acid neutralizing, and that the main acid neutralizing mineral was calcite (calcium carbonate, $CaCO_3$). Recommendations arising from this work were incorporated into the operational monitoring requirements of the original water license and have been re-affirmed in all subsequent licence amendments up to and including the Phase IV amendment (Amendment 8).

Pre-production Testing: Phase IV

In planning for the Phase IV expansion, Minto carried out pre-production testing on 56 drill core samples from the Area 2/ Area 118 deposit areas and 27 drill core samples from the anticipated alignment of underground workings (SRK 2010a).

Samples for the Area 2/ Area 118 deposit areas tested both unmineralized (bulk) and mineralized granodiorite waste rock, and also included a limited number of ore samples.

The primary conclusions of both the Area 2/ Area 118 and underground development pre-production tests were that bulk granodiorite waste rock was expected to be net acid neutralizing, and that some mineralized waste rock was expected to have NP:AP values less than the threshold value of 3 specified by the water use license (YWB 2012 and its predecessors).

Operational Testing of Waste Rock- External Laboratory

Since mining commenced at Minto, operational ABA monitoring has been carried out on composite samples of blast hole cuttings from each waste blast since mining commenced according to the BC Research Standard Method, as specified by Water Use Licence QZ96-006. Results to date include all Main Pit results along with samples from the parts of Stage 1 and Stage 2 of Area 2 Pit that have already been mined. Samples have been collected by mine

geologists and delivered to SGS (formerly SGS CEMI) of Burnaby BC for ABA testing by the BC Research method. Semi-annual waste rock monitoring reports have been prepared on a rolling basis and have been submitted to regulators as part of the mine's compliance reporting.

Results of off-site operational ABA monitoring of waste rock are shown graphically in Figure 7. The results show that Main Pit waste rock generally had low AP and NP:AP[1] ratios greater than the threshold value of 3. Results for Area 2 Pit waste rock were mixed- most samples had NP:AP values greater than 3, there were sufficient samples with NP:AP less than 3 that Minto altered the waste rock management strategy, as discussed in the following section.

Operational Testing of Waste Rock- On-site Laboratory

As noted above, initial results from off-site ABA analysis of compliance monitoring samples for Area 2 waste rock included several samples than the threshold value (NP:AP>3) defined in the water use licence. Although this had been anticipated from pre-production testing, Minto decided to revise its waste rock handling procedure to include segregation of waste rock based on ABA criteria and storage of waste rock with NP:AP<3 in locations that were expected to be saturated over the long term to minimize the potential for oxidation of contained sulphide minerals. To allow classification of waste rock to occur with the time frame of the mine's material handling cycle, it was necessary to develop on-site analytical capabilities and integrate results into the mining process.

The Phase IV waste management plan was adapted by introducing operational characterization of waste rock ABA characteristics into the mine's work flow as part of the grade control program starting in August 2012. To provide ABA results in the short turn-around times required for operational characterization and dispatching, Minto purchased and commissioned an Eltra CS-800 induction furnace that allowed on-site measurement of total carbon and total sulphur content. Prior results from testing of samples from Main Pit and Area 2 at an off-site commercial laboratory showed that total carbon and total sulphur content was nearly identical to total inorganic carbon and total sulphide sulphur content, respectively, and that therefore the relatively-simple total carbon and total sulphur analyses were appropriate for operational ABA characterization.

Operational NP and AP values (NP-C(T) and AP-S(T)) are calculated from the total carbon and total sulphur results, respectively, and then used to calculate NP-C(T):AP-S(T). It should be noted that this approach makes the de facto assumption that all sulphur is hosted in the mineral pyrite (FeS_2); in the case of Minto, pyrite is generally less abundant than copper sulphides.

Samples for on-site ABA testing are split from blast-hole samples collected for grade control purposes. Cuttings from every blasthole are collected and analyzed, and both assay and ABA results are then imported into the mine's grade control software. Using the results, mine geologists define ore and waste polygons for each blast (including delineating NP-C(T):AP-S(T)<3 waste polygons) and then the results are provided to the pit operations staff for staking of ore and waste boundaries and subsequent dispatching of ore and waste to appropriate stockpiles and waste storage facilities.

[1]NP:AP ratios for operational monitoring are based on NP determined by the BC Research method.

The on-site waste rock ABA results for the August 2012 through May 2013 are shown in Figure 8. The results are shown separately for the four copper grade categories (Zero-, Low-, Medium- and High Grade Waste) defined in the Phase IV waste management plan. Over the period of record over 13,800 waste rock samples were analysed, with 12% of the samples returning results corresponding to NP-C(T):AP-S(T)<3. Over 50% of the samples were classified as Zero Grade Waste (Cu<0.03%), and the overwhelming majority of those samples had NP-C(T):AP-S(T)<3.

2.6.2 Tailings

Pre-production Testing

No pre-production characterization tests were carried out on tailings from Main Pit ore. For the Phase IV deposits (Area 2 and Area 118), a range of preproduction tests were carried out on residues from locked cycle testing. Residues from metallurgical testing carried out on Area 2 and Area 118 ore samples were subjected to additional testing for purposes of ML/ARD characterization. For both deposits, locked cycle testing was carried out by G&T Metallurgical Services (G&T) of Kamloops, BC.

Area 2 ore samples consisted of drill core from each of the ore horizons that make up the Area 2 deposit (G&T, 2007). The core samples used to prepare the ore composites were selected by Minto personnel. Each of the seven ore horizons that make up the Area 2 deposit were tested separately, and the cleaner and rougher tails from each were reserved as separate products. To evaluate the acid-generating potential and trace metal content of the tailings, aliquots of rougher and cleaner tails from each ore horizon were combined, according to the ‘as-produced’ mass ratio. A combined sample (37% L Zone tails, 63% M Zone tails) was also tested to evaluate the ML/ARD characteristics of a mixed tailings product that would result from mixing of the tailings from the two main ore horizons (representing approximately 90% of the Area 2 ore) at the expected proportions in the final tailings mass (SRK, 2007).

Two Area 118 ore samples were subject to metallurgical testing. Ore samples consisted of drill core from the upper and lower portions of the Area 118 deposit (G&T (2009) and SRK (2009a)). As for Area 2 samples, aliquots of rougher and cleaner tails from each ore sample were combined, according to the ‘as-produced’ mass ratio.

Results of the pre-production testing on Phase IV tailings indicated that the material would be not potentially acid generating and that risks of neutral pH metal leaching were similar to those for Main Pit tailings from full-scale operations (SRK 2010a).

Operational Testing- Main Pit Tailings

Operational monitoring of Main Pit tailings was carried out to track the ABA characteristics of the tailings produced over the operating period, and to verify that the as-produced tailings remain appropriate for dry-stack disposal of tailings from Main Pit ore. Testing was carried out according to the BC Research Standard Method, as specified by Water Use Licence QZ96-006. Samples for testing consisted of 1 to 2 kg monthly composite samples, prepared from 200 to 500 gram tailings samples which were collected daily and stored in sealed plastic bags prior to preparation of the monthly composite sample.

The monthly composite was sent to Minto's accredited laboratory (SGS) where ABA analysis was conducted. The Acid Potential (AP) is determined from percent sulphide sulphur (obtained by subtracting percent sulphate sulphur from percent total sulphur). Additionally, paste pH and total inorganic carbon (TIC) were determined. Results have been reported to regulators, together with waste rock ABA results, in a semi-annual monitoring report (e.g. Minto Explorations Ltd. (2010)).

Results of operational ABA monitoring of Main Pit and Area 2 Pit (Stages 1 and 2) tailings are shown graphically in Figure 9. The excess of neutralization potential (NP) over acid potential (AP) has confirmed that the tailings produced to date are not expected to be net acid generating.

Operational Testing- Area 2 Stage 2 Pit Tailings

Operational monitoring of tailings from milling of Area 2 Stage 2 Pit ore was carried out using methods and procedures described above for Main Pit tailings from start of processing through the completion of placement of tailings in the DSTSF (May 2012 through October 2012). Similar to results for Main Pit tailings, the Area 2 Stage 2 Pit tailings tested to date have had a substantial excess of NP over AP (Figure 9) and are not expected to be net acid generating.

3 Methods

3.1 Phase V/VI Mine Rock

3.1.1 Static Tests

Exploration Assays

During exploration programs that coincided with early stages of mining at Minto (2005 through 2007), all drill core from the Minto property was split and half of the core was sent for multi-element analyses. However, as Minto's exploration team grew more familiar with the visual characteristics of the mineralization and the host rock at the property, assays were reduced to capture only mineralized zones and to focus only on the metals of economic interest (copper, silver and gold). As a result, there are no exploration multi-element assay results for drilling that occurred post-2007. In terms of Phase V/VI deposits, this results in multi-element assay results only being available from initial (2006 and 2007) drilling in the Ridgetop deposit area. No multi-element assays are available from exploration programs for the Minto North or Area 2 Stage 3 deposits.

For the Ridgetop deposit, there were 136 samples within the pit shells. Multi-element determination was carried out by aqua regia digestion followed by ICP-MS finish. Analyses were carried out at ALS Chemex (North Vancouver BC) and its predecessors.

Acid Base Accounting Testing

Over a period of five years, from 2007 to 2011, a total of 108 Phase V/VI pre-production core samples have undergone acid base accounting (ABA) testing.

Table 3-1 classifies these samples by mine area, material type, and year of analysis. All of the Phase V/VI mine rock samples that underwent ABA analyses also underwent multi-element determination by aqua regia digestion with ICP-MS finish. In 2008 this analysis was carried out at ALS Chemex and from 2009 to 2013 it was carried out at SGS (Burnaby, BC).

Table 3-1: Summary of Phase V/VI Mine Rock Pre-production Static Testing

Mine Area	Material Type	Number of Samples	Year of Analysis
Area 2 Stage 3	Bulk Waste	16	2011 + 2013
Minto North	Hanging Wall	18	2009
Minto North	Footwall	5	2009
Minto North	Dyke	9	2011
Ridgetop	Bulk Waste	36	2008 + 2013
Ridgetop	Mineralized	2	2008
Ridgetop	Ore	2	2008
Ridgetop	Conglomerate	12	2010
Wildfire	Conglomerate	8	2011

Source: T:\1CM002.003_PhaseV_WaterQualityPrediction\Task600_Reporting\020_Tables\[Table3-1_Summary_PhV-VI_ABASampleSources.xlsx]

ABA Testing – Area 2 Stage 3

As part of Phase IV pre-production characterization, 56 drill core samples from within the Area 2 Stage 2 pit shell were tested (SRK 2010a). The Phase IV pre-production testing included bulk waste, mineralized waste, and ore samples.

To expand the coverage into Area 2 Stage 3 in preparation for Phase V/VI, an additional 16 drill core samples were tested in two rounds (2011 and 2013). All 16 samples targeted bulk waste to verify whether this volumetrically-important waste class contained the expected excess of neutralization potential, and therefore be suitable for disposal in upland waste dumps. Samples were selected jointly by a Minto geologist and an SRK geochemist to achieve appropriate spatial coverage within the Area 2 Stage 3 pit shell and to target bulk waste; the selections were made by viewing exploration drilling results together with model ore horizons and planned pit shells using the GEMS software package.

ABA Testing – Minto North

In 2009, ABA testing was carried out at SGS on eighteen hanging wall and five footwall samples from Minto North. Three methods of neutralization potential (NP) determination were used: total inorganic carbon was determined as a measure of carbonate content, and two titration methods were also used (Sobek NP (Sobek et al.,1978) and Modified NP (MEND 1991)). The ABA analysis also included total sulphur determination by induction furnace, sulphate sulphur determination by hydrochloric acid leach, paste pH, and fizz rating (all per MEND 1991 protocols).

The following excerpt from the Minto North initial waste rock characterization sample selection memorandum (SRK 2009b) describes the process that was followed to select the twenty-three hanging wall and footwall samples:

Minto provided a spreadsheet containing available drill logs, summary assay data, and collar locations for diamond drillholes (DDH) in the Minto North deposit area. This file contained selections of DDH and intervals to be used for testing of metallurgical performance.

Minto advised that the bulk of the country rock overlying the mineralization consisted of lithologies logged as unit pG and unit eG. SRK reviewed the summary lithology logs provided and selected intervals for initial ML/ARD characterization by ABA testing and multi-element analysis.

Composite intervals were identified that targeted the majority of the waste rock overlying the ore grade intervals, while avoiding crossing lithological boundaries. In addition, composite intervals immediately underlying the ore grade rock were selected from each DDH to define the ML/ARD characteristics of footwall rock. Intervals were selected for compositing over a distance of approximately 6 m to reflect minimum widths that could be managed by the mining fleet.

Ore and proximal hanging wall waste have not been identified for testing at this time. When ICP results are available for these materials for all Minto North DDH, the results will be reviewed and a limited number of samples will be selected for ABA testing. Assay pulps or crushed rejects will be acceptable for this testing- there will be no need for additional core samples for these tests.

More recently, in 2011, nine drill core samples were selected from intersections of the unmineralized felsic dike that cuts through the proposed Minto North Pit underwent ABA testing at SGS by the same methods as were used for the 2009 Minto North samples. Dike samples were selected from available core intersections by Minto geologists and are considered to be representative of the in-pit dike material.

ABA Testing – Ridgetop

In 2008, sixteen bulk waste, two mineralized waste, and two ore samples from the Ridgetop deposit underwent ABA testing at ALS Chemex. Testing in 2008 was carried out at ALS Chemex according to an in-house method analogous to the Sobek method (Sobek et al., 1978) which included paste pH, fizz rating, Sobek NP, total sulphur, sulphate sulphur, and total inorganic carbon. The BC Research method was not used because it is an uncommon method that has been largely avoided by industry in recent years, and because senior staff at SGS (the only laboratory in western Canada that provides the ABA testing services using the BC Research method) recommended that alternate methods be employed. Selection of the twenty samples was based on similar criteria to those described for the 2009 Minto North selections.

In 2010, ABA testing was conducted on twelve conglomerate samples from the Ridgetop deposit area. The testing was carried out at SGS by the same methods that were used for the Area 118 and Minto North samples.

In 2013, an additional 20 bulk waste samples from within the Ridgetop pit shells were subjected to the same ABA tests as described above for the 2010 Ridgetop samples. The additional tests were undertaken to improve the spatial ABA sample coverage in the Ridgetop deposit area. The testing was carried out at SGS.

ABA Testing – Wildfire

In 2011, eight conglomerate samples from the Wildfire deposit underwent ABA testing at SGS by the same methods that were used for the Minto North, and 2010 Ridgetop samples. The eight Wildfire conglomerate samples were selected by Minto geologists from available core samples to provide respresentative coverage of the conglomerate in the Wildfire area at time when open pit mining was still being considered for a portion of the Wildfire resource.

ABA Testing- Underground

As part of Phase IV pre-production characterization, 27 drill core samples from locations near the initial planned Phase IV underground development were tested (SRK 2010a). As expected, results of this testing were similar in character and in variability to pre-production and operational monitoring results of pit waste rock.

However, the process of identifying drill core intersections of the planned workings had several drawbacks (including drill intersections being 10s of metres away from the planned development, and initial development plans being subsequently revised to locate workings remotely from the tested intervals). Because of these drawbacks, and supported by the expected similarity of pit waste and underground waste, no preproduction testing of underground waste rock was carried out for Phase V/VI. All underground waste rock that is permanently stored in surface facilities will be subject to the same segregation protocols as pit waste rock.

3.1.2 Kinetic Testing: Humidity Cell Tests

Description – Humidity Cell Tests

Four humidity cell tests (HCTs) were started in July 2009 and an additional eight HCTs (as well as a blank and a duplicate for quality control purposes) were started in March 2011. All HCTs were conducted at SGS and were ongoing as of July 2013. The objective of these tests is to evaluate the release rates of weathering products, including major and trace elements, under laboratory weathering conditions. A range of copper and sulphur content was targeted during sample selection in order to provide a broad indication of variation of release rates related to degree of mineralization.

Sample Selection – Humidity Cell Tests

At the time of sample selection for the initial four HCTs (HC1 through HC4), the mine plan envisioned accessing Phase 3 of the Area 2 deposit via an open pit (Phase 3 encompasses what is now referred to as Area 2 Stage 1 and Stage 2, i.e. the Phase IV portions of Area 2 Pit). The exploration ICP database (2005 - 2008) was queried to yield a list of core intervals that were both

within the Phase 3 pit shell and contained less than 0.5% copper (i.e were below the ore cutoff grade). The resulting list of 363 core intervals was taken to represent the Area 2 waste rock.

Summary statistics were calculated for the 363 Area 2 waste rock core intervals, including 50th, 75th, and 95th percentile concentrations of copper and sulphur. It was decided that four separate populations would be targeted for testing:

1. 50th percentile concentrations of both copper and sulphur;
2. 50th percentile copper, 75th percentile sulphur;
3. 75th percentile copper, 50th percentile sulphur; and
4. 95th percentile copper and 95th percentile sulphur.

A shortlist of drill core intervals that approximately met each of the above criteria was forwarded to site staff for retrieval from archived diamond drill core from exploration drilling. Samples were collected and forwarded to SGS to commence HCTs. Table 3-2 summarizes the core intervals that were retrieved and the corresponding relative copper and sulphur contents. Note that the HC1 sample was targeted to include rock with 95th percentile copper and sulphur content, but that the actual sample retrieved contained copper and sulphur at roughly 90th percentile concentrations.

The origin and characteristics of the Minto North and Ridgetop HCT samples are also summarized in Table 3-2; samples for testing were selected based on review of assay data (where available) and targeting typical and moderately anomalous waste intervals within the expected pit limits.

- HC5, HC7, and HC8 were chosen from bulk waste of the Minto North deposit by Minto geologists based on recommendations from SRK. Assay data was not available to guide selection, as unmineralized core from Minto North was not assayed. HC5 and HC7 both contained low copper content (0.0004 and 0.0006 % respectively) and sulphur content below the analytical detection limit of 0.02% and were selected as representative of typical Minto North bulk waste. HC8 contained higher copper and sulphur contents (0.05 % Cu and 0.04 % S) and was chosen to represent moderately anomalous or mineralized waste from Minto North. HC6 was established as a duplicate of HC5.

- HC9 and HC10 were chosen from bulk waste of the Ridgetop North deposit based on core available at the time of collection. Both contained moderate copper content (~0.01 %) and sulphur content below the analytical detection limit; within the Ridgetop waste rock population, these samples contain between 25th and 50th percentile copper values and typical sulphur content, and are considered to be representative of bulk unmineralized granodiorite at Minto .

- HC11 and HC12 were selected to evaluate the conglomerate lithology that constitutes a minor component of the Ridgetop North host rock. The selected intervals contain

conglomerate rock with moderate copper content (0.01 and 0.02 % respectively) and low sulphur content (0.03 and <0.02 % respectively).

- HC13 was chosen from bulk waste of the Ridgetop South deposit and contained 0.005% copper content and sulphur below the analytical detection limit, similar to HC9 and HC10, this sample represents another variant of the typical unmineralized granodiorite waste rock.

Table 3-2: Phase IV/V/VI Humidity Cell Samples

HCT	Hole ID	From (m)	To (m)	Cu (%)	S (%)	Selection Characteristics	Deposit
HC1	07SWC211	83	86	0.21	0.51	~90th percentile Cu, ~90th percentile S	Area 2
HC2	07SWC196	54	55	0.01	0.01	50th percentile Cu, 50th percentile S	Area 2
HC3	07SWC196	46	47	0.1	0.02	~75th percentile Cu, ~50th percentile S	Area 2
HC4	07SWC211	71	74	0.01	0.08	~50th percentile Cu, ~75th percentile S	Area 2
HC5	09SWC506	30	33	0.0004	<0.02	Bulk waste	Minto North
HC6	09SWC506	30	33	0.0004	<0.02	Bulk waste (dup)	Minto North
HC7	09SWC484	40	43	0.0006	<0.02	Bulk waste	Minto North
HC8	09SWC498	54	57	0.0474	0.04	Moderately anomalous waste	Minto North
HC9	07SWC258	20	23	0.0136	<0.02	Bulk waste	Ridgetop North
HC10	08SWC337	10	13	0.0145	<0.02	Bulk waste	Ridgetop North
HC11	08SWC348	12	15	0.0108	0.03	Conglomerate	Ridgetop North
HC12	08SWC370	10	13	0.0177	<0.02	Conglomerate	Ridgetop North
HC13	09SWC419	15	18	0.0047	<0.02	Bulk waste	Ridgetop South
HC14	n/a	n/a	n/a	n/a	n/a	Method blank	Method blank

Source: T:\1CM002.003_PhaseV_WaterQualityPrediction\Task600_Reporting\020_Tables\[Table3-1_HCT_SampleSources.xlsx]

Test Method – Humidity Cell Tests

The HCTs were established at SGS according to methods defined in ASTM D5744 (ASTM, 2007). For each test, a one kilogram charge of material (crushed to pass a 6.3 mm (¼") sieve) was placed in a Plexiglas column (25.5 cm long, with an inner diameter of 10.2 cm). Each sample was subjected to consecutive 3 day cycles of moist and dry air, and the final day of the weekly cycle consisted of leaching of the sample by flooding with 500 mL (first flush: 750 mL for the initial four HCTs, and 500 mL for the additional ten HCTs) of water and allowing the flood leach to drain into a collection container through a perforated acrylic disk topped with nylon mesh. Laboratory temperatures are maintained between 20 and 22° C.

For the initial four HCTs, monitoring of pH, conductivity, oxidation reduction potential (ORP), and dissolved oxygen (DO) was carried out weekly from July 2009 to January 2011. During this time period, biweekly sampling was carried out to monitor sulphate, chloride, fluoride, acidity, alkalinity, and a suite of elements by ICP-MS. From February 2011 to the time of preparation of

this report, sampling frequency for all parameters was reduced to once every three months. The weekly operating protocol remained unchanged during this period of reduced analytical frequency.

For the additional ten HCTs, weekly sampling of pH, conductivity, ORP, and DO as well as biweekly sampling of sulphate, chloride, fluoride, acidity, alkalinity, and a suite of elements by ICP-MS has been ongoing since March 2011.

3.1.3 Kinetic Testing: Barrel Tests

Description – Barrel Tests

Barrel tests are intended to be site-based weathering tests that permit evaluation of rates of release of weathering products under site temperature and precipitation conditions. These tests also provide a larger scale of testing than is typically carried out in a laboratory setting and at the same time provide more certainty regarding the sample characteristics and the related drainage chemistry (unlike a full scale waste rock dump, for which integrated geochemical characteristics and degree of drainage capture are not readily determined to the same degree).

Sample Selection – Barrel Tests

Initial efforts to understand the ML/ARD potential of Area 2 waste rock noted that there were two broad categories of Area 2 waste rock. The first category, containing by far the largest tonnage, was referred to as ‘Bulk Waste’ and was defined as all rock with less than 0.1% sulphur content (as determined by ICP). The second, and much smaller, category, was referred to as ‘Mineralized Waste’ and consisted of all rock with sulphur greater than 0.1% and copper less than 0.5% (as an approximation of mine cut-off grade). The Mineralized Waste material was identified as having a higher risk for ML/ARD, and barrel tests were proposed to evaluate samples of Mineralized Waste.

Exploration diamond drill core intervals within the Area 2 Phase III pit shell that had sulphur content corresponding to four statistical categories were identified. Table 3-3 lists these categories, the target sulphur content, and the number of drill core intervals that met the criteria for selection.

Table 3-3: Barrel Test Sample Selection Characteristics

Barrel ID	Target S (%)	Selection Characteristics	Cu range (%)	S Range (%)	No. of Intervals in S Range
BAR-10	0.15	10th percentile S amongst Mineralized Waste population with S >0.1%	0.005 - 0.45	0.14 - 0.16	292
BAR-50	0.37	50th percentile S amongst Mineralized Waste population with S >0.1%	0.005 - 0.49	0.36 - 0.40	170
BAR-75	0.79	75th percentile S amongst Mineralized Waste population with S >0.1%	0.005 - 0.49	0.74 - 0.84	167
BAR-90	1.41	90th percentile S amongst Mineralized Waste population with S >0.1%	0.05 - 0.49	1.28 - 1.54	159
BAR-B	n/a	blank for quality control	n/a	n/a	n/a

P:\01_SITES\Minto\1CM002.003_PhaseV_WaterQualityPrediction\!080_Deliverables\Phase V&VI MLARD & WQ Prediction Report - 2013\020_Tables\[Table3-3_Barrel_SampleSources_2013.xlsx]

The barrels are open to the atmosphere and incident precipitation falls on them. Rainfall and snowmelt percolate through the rock and accumulate in the drain tube and in bottom of the barrel between sampling events. Sampling of the leachate from the barrels began in June 2010 and has been carried out several times each open-water season since that time. Samples are collected directly from the tubing by opening the ball valve, and the remaining accumulated volume of water is drained during each sampling event. Leachate samples are collected for determination of laboratory pH and conductivity, acidity, alkalinity, anions (chloride, fluoride, and sulphate) and trace-level dissolved metals by ICP-MS/OES.

3.2 Phase V/VI Tailings

3.2.1 Static Tests

Sample Source

Residues from four metallurgical testing programs carried out on ore samples relevant to Phase V/VI were subjected to static testing. A total of 18 tailings samples were available for testing:

- Eight samples from Area 2 (G&T 2007);
- One tailings sample from Minto North (G&T 2009a);
- Five tailings samples from Area 118 and Ridgetop (G&T 2009b);
- Three tailings samples, one each from Wildfire, Copper Keel, & Minto East (G&T 2010).

Test Methods

Tailings residues from metallurgical testing were submitted to ALS Chemex (Area 2 samples) and SGS (all other samples) for further analysis. ABA testing was carried out on all samples, consisting of determination of total sulphur by induction furnace, sulphate- sulphur by hydrochloric acid leach, total inorganic carbon (TIC) by evolved gas analysis, and neutralization potential (NP) by the Sobek method (Sobek et al., 1978). Acid potential (AP) was calculated by multiplying total sulphur less sulphate sulphur by the conventional factor of 31.25.

Elemental analysis of tailings products was by aqua regia digestion followed by determination of major and trace element content by a combination of ICP-MS and ICP-AES.

3.2.2 Kinetic Tests – Subaqueous Column Tests

Description – Subaqueous Column Tests

Two subaqueous tailings columns were started in September 2009 at SGS; these tests were ongoing at the time of preparation of this report. The objective of these tests is to evaluate the porewater chemistry that would develop over a long period of contact with tailings solids under a water cover.

Sample Source – Subaqueous Column Tests

The tailings being tested in these subaqueous columns were produced during metallurgical testing of Area 118 and Ridgetop ore samples. Details are as follows:

- Column 1: is a composite of upper and lower Area 118 ore tails produced in G&T tests 2351-33 and 2351-34 (G&T, 2009a).
- Column 2: is a composite of upper and lower Ridgetop ore tails produced in G&T tests 2351-35 and 2351-36 (G&T, 2009a).

Test Methods – Subaqueous Column Tests

The subaqueous tailings columns were constructed of 5.08 cm (2”) internal diameter Plexiglas columns with an acrylic perforated disk topped with nylon mesh at the base of the column to retain the tailings solids, yet allow drainage for sampling. Approximately 2.5 kg (dry weight) of tailings solids were placed in each column, yielding a height of tailings of roughly 1 m in each column. Sampling ports were installed in the base of the column and in the side of the column above the tailings/ water interface.

Columns were initially saturated by slowly adding deionized water through the bottom sampling port. Once the tailings column was saturated, an additional volume of water was gently added from the top of the column to establish a 30cm column of water above the tailings/ water interface.

Operation of the subaqueous column tests consists of circulation of water in the water cover using a peristaltic pump to ensure fully oxygenated conditions are maintained at the tailings

interface. From September 2009 to the time of preparation of this report, sampling has been carried out weekly from both bottom and side ports to determine pH, conductivity, oxidation reduction potential (ORP) and dissolved oxygen (DO). Additionally, from September 2009 to January 2011 biweekly sampling was carried out from both ports to monitor sulphate, chloride, fluoride, acidity, alkalinity, and a suite of elements by ICP-MS. After January 2011 the biweekly sampling and analysis of water chemistry was reduced to sampling and analysis once every 12 weeks. For each sampling round, the minimum amount of water required for analysis is removed. Deionized water is added to the water cover each week to maintain 30 cm of water above the tailings interface.

4 Results and Discussion

4.1 Phase V/VI Mine Rock

4.1.1 Static Tests

Elemental Determinations - Exploration Assays

Summary statistics of exploration assay results for waste rock within the Ridgetop pit shells are provided in Appendix B and summaries for copper and other selected parameters are shown in Table 4-1. Waste rock includes some higher-than-cutoff-grade material where isolated higher copper intercepts could not be laterally modelled to define mineable ore horizons. The large decrease in copper content between the maximum and 90th percentile values indicates that degree to which the maximum values are anomalous. The cadmium content of the Area 2 waste core intervals showed a similar skewed distribution, with the 90th percentile value of 0.25 ppm being equal to the detection limit. Other trace element concentrations in Ridgetop waste core intervals were somewhat less skewed to high values. Selenium determinations were not included in the reported exploration assay results. Results for elemental determinations on pre-production waste characterization samples do include selenium concentrations (see Appendix C).

Table 4-1: Ridgetop Waste Rock: Summary of Selected Elemental Content from Exploration Assays

Mine Area	Summary Statistic	Total Cu %	Cd_ppm	Cr_ppm	Mn_ppm	Zn_ppm
Ridgetop	Count	136	136	136	136	136
	Average	0.074	0.29	6	698	119
	Max	1.8	1.6	23	2590	726
	90th percentile	0.13	0.25	8	1315	245
	50th percentile	0.02	0.25	5	517	76
	10th percentile	0.005	0.25	3	323	51
	Min	0.005	0.25	1	100	10

Source: T:\1CM002.003_PhaseV_WaterQualityPrediction\Task600_Reporting\020_Tables\[u_Table4-2_WR_Element_SummaryStats_2013.xlsx]

Acid Base Accounting

Results of the Phase V/VI waste rock ABA testing are provided in Appendix C. In the figures accompanying the following discussion, results from the Area 2 and Area 118 deposits are included to allow the Phase V/VI waste rock (Area 2 Stage 3, Ridgetop, Minto North and Wildfire) to be put into the context of the operating mine.

Acid Potential

Sulphur in mine rock from the Phase V/VI deposits is dominantly in the sulphide form, as is illustrated by the strong 1:1 correlation in Figure 10. The Minto North, Wildfire, and Area 118 results are all clustered at the origin on the chart because they all had total sulphur below the level of analytical detection of 0.02% (detection levels were adopted for plotting purposes).

The Area 2 ore samples had the highest total sulphur content, ranging from below the level of analytical detection (<0.01%) to 4.4%. The Area 2 bulk waste samples ranged from <0.01 to 0.11%. The Area 2 Stage samples had total sulphur below the level of analytical detection for all except one sample, which had 0.07% total sulphur and sulphide below detection level.

The Ridgetop mineralized waste and ore samples had similar total sulphur contents in the range of 0.1 to 0.4%. The bulk waste samples had a low, narrow range, with a minimum of 0.01% and a maximum of 0.06%. The Ridgetop conglomerate samples were all below the level of analytical detection except for one sample, which had 0.02% total sulphur.

A comparison of sulphide sulphur and copper content showed that the copper mineral chalcopyrite ($CuFeS_2$) could account for much of the sulphide sulphur in the Area 2 and Ridgetop samples (Figure 11). Chalcopyrite is widely observed in Minto rocks, so it is likely an important sulphur host.

Neutralization Potential

In order to evaluate the proportion of neutralization potential (NP) measured by titration that is likely to be derived from carbonate minerals, the NP values were compared with total inorganic carbon content (NP_{TIC}) converted to common units of kg $CaCO_3$/tonne. Figure 12 shows the results of this comparison for the Phase V/VI waste rock samples. NP and NP_{TIC} are generally well correlated at higher concentrations; however, below approximately 30 kg $CaCO_3$/tonne, NP

systematically exceeds NP_{TIC}, with relative differences increasing as NP decreases. The typical conclusion when NP is systematically greater than NP_{TIC} is that silicate minerals (such as clays) are contributing a component of the neutralization that is measured in the NP titration. In two exceptional Area 2 samples, the NP_{TIC} is approximately double the NP. This may be due to the presence of siderite ($FeCO_3$), which does not contribute to net neutralization (SRK 2010a).

A conservative and common interpretation is that silicate minerals are insufficiently reactive to maintain circumneutral pH weathering conditions. It is assumed that only calcium and magnesium carbonate minerals can reactive quickly enough to maintain circumneutral pH, which is important for limiting leaching of trace elements like copper. However, for materials with low total sulphur concentrations (like those measured in most Phase V/VI rock) silicate weathering can generate alkalinity at rates that are sufficient to neutralize acidity arising from sulphide oxidation.

For purposes of comparing method performance, operational monitoring results were also charted in a similar fashion, with NP determined by the BC Research method (NP_{BCR}) plotted against NP_{TIC} (Figure 13). During Main Pit monitoring, the BC Research method commonly indicated a higher value for neutralization potential than was indicated by TIC, with NP_{BCR} exceeding NP_{TIC} more than five-fold in some cases. The correlation between the two methods was better for the more recent Area 2 Pit monitoring, although at higher NP values the NP_{TIC} exceeded appeared to be skewed higher than the NP_{BCR}.

Overall Acid Rock Drainage Potential

The current permit for the Minto Mine classifies rock with NP:AP ratio (NPR) greater than 3 as non-potentially acid generating (Non-PAG). It is common practice to categorize rock with a NPR between 1 and 3 as having uncertain potential for acid generation (Uncertain), and to categorize rock with a NPR ratio of less than 1 as potentially acid generating (PAG). These three categories (Non-PAG, Uncertain, and PAG) are adopted here for purposes of discussion.

It should be noted that specifying a NPR of 3 as the lower limit of the Non-PAG category is conservative. Theoretically, if grain-scale weathering is occurring at neutral pH and all NP is in the form of calcium and magnesium carbonates that are available to react, a NPR of 2 is the limit that is required to ensure neutral weathering conditions persist indefinitely. This upper limit is sometimes referred to as the ‘critical NPR’ because it defines the transition from theoretically PAG to Non-PAG. If grain-scale weathering occurs under acidic pH conditions, the ‘critical NPR’ is less than 2 and can be as low as 1. The rationale for adopting a NPR of 3 as the lower limit of the Non-PAG category is to account for uncertainty related to interpreting ABA results. For example, uncertainty can arise from not knowing the mineral form of NP at the screening stage, or from scale effects such as concentration of sulphide grains in the blast fines (which has occurred at some mines, thereby causing the NPR of the blast fines to be lower than the bulk rock NPR). Defining Non-PAG as NPR > 3 provides some insurance, in light of the uncertainty, that Non-PAG rock will not develop dump-scale acidic weathering conditions.

Figure 14 illustrates the NP_{TIC}:AP ratio (NPR_{TIC}) for the Phase V/VI waste rock samples. Of the 200 samples characterized as part of this program, three Area 2 mineralized waste samples and one Area 2 ore sample were classified as PAG; four Area 2 mineralized waste samples and one

Ridgetop ore sample were classified as Uncertain; and the remaining samples, including all of the Minto North, Wildfire, and Area 118 samples, were classified as Non-PAG. It is expected that ore and mineralized waste from the Phase V/VI deposits will display the same range of ABA characteristics as those observed for Area 2 waste rock.

Similarly, Figure 15 shows the NPR (based on Sobek NP) for the Phase V/VI waste rock samples. Of the 200 samples characterized as part of this program, one Area 2 mineralized waste sample is classified as PAG; four Area 2 mineralized waste samples, two Area 2 ore samples, and one Ridgetop ore sample are classified as uncertain; and the remaining samples are classified as Non-PAG.

It should be noted that the results from operational monitoring indicate similar ARD potential (based on NPR_{TIC}), with the great majority of samples being classified as Non-PAG, a minority of samples classified as Uncertain, and two samples classified as PAG (Figure 7 and Figure 8).

4.1.2 Kinetic Tests

Humidity Cell Tests

Results to date for the four Area 2 humidity cell tests (HCTs), the four Minto North HCTs, the five Ridgetop HCTs, and the blank HCT are provided in Appendix D. Results for pH, sulphate, copper, cadmium, and selenium are shown in Figure 16 to Figure 20. For clarity, the HCT results have been plotted separate, with the Area 2 HCTs (start date July 2009) on separate charts from the HCTs started in 2011. The following points discuss selected aspects of the HCT results for pH, sulphate, and the three trace elements that are noteworthy in these tests (i.e., copper, cadmium and selenium).

The leachate pH in all four of the Area 2 HCTs has remained circumneutral for 178 weeks of testing. After an initial slight decrease, from a range of 7.5 – 8 to a range of 7 - 7.8, the pH values have been stable (Figure 16a). Historically, HC1 had marginally greater variability that the other three Area 2 cells, but since cycle 130 all four have been similar. The higher variability prior to cycle 130 is likely due to HC1 having the highest copper and sulphur concentrations of the four cells.

Circumneutral leachate pH levels in the 7.5 to 8 range have remtained stable throughout the duration of testing in five of the tests (HC7, HC8, HC9, HC10, and HC13), (Figure 16b). These five cells have the lowest pH variability. HC6 and HC12 have marginally greater variability and have a stable range that is shifted more towards 7. HC5 and HC11 have notable greater variability with a wider range of 6.5 to 8. HC5 appeared to have a gentle declining trend until cycle 70, after which point the variability increased and the range shifted upwards (Figure 16c). The blank cell (HC14) had somewhat similar results to HC5 and HC11, although it had greater variability and reached a lower limit below 6.5 (which is consistent with operating a blank cell using deionized water).

The leachate pH results do not appear to be strongly related to the solid contents of copper and sulphur in the samples. HC11 has relatively high copper and sulphur content, but HC5 has below

average copper and below analytical detection limit sulphur. Furthermore, HC8 has the highest copper and sulphur content but has retained stable pH levels between 7.5 and 8 for the duration of the test.

Sulphate release rates from Area 2 tests HC2, HC3, and HC4 have been below 5 mg/kg/wk and relatively stable over the duration of testing to date. HC1 initially had elevated rates (around 30 mg/kg/week), but over approximately 45 cycles its sulphate release declined to below 5 mg/kg/wk. Since cycle 45, release rates from HC1 have been relatively stable, although slightly higher and more variable that the other three cells (Figure 17a).

Sulphate release in the Minto North and Ridgetop HCTs had similar results to HC2, HC3, and HC4. All nine of them had their highest sulphate release rates during the initial flushing stages of testing (Figure 17b). HC11 had the maximum rate at 4 mg/kg/wk. The cells all stabilised from week 14 onwards between 0.8 and 1.5 mg/kg/wk with occasional spikes reaching 2 mg/kg/wk. The lower limit of this stable range is determined by calculations that are based on adopted detection limits because the sulphate concentrations were below the analytical detection level.

The source deposit of the samples did not have a distinguishable effect on the sulphate release rates. The higher rates observed from HC1 are likely due to its higher degree of mineralization (90th percentile copper and sulphur concentrations) resulting in high sulphide oxidation rates.

Copper release rates from the HCTs appear to be related to the solid copper content of each sample. Release rates from HC1 were an order-of-magnitude higher than the rates from the other cells for the duration of testing to date. The remaining three Area 2 cells, as well as HC8, HC9, HC10, HC11, and HC12, had similar solid copper content and similar ranges and variability of copper release rates. HC5, HC6, HC7, and HC13 all had lower solid copper content and also had the lowest, most variable copper release rates.

With the exception of HC5, HC6, HC7, and HC13, all of the cells had elevated release rates during the initial flushing stages of the testing. HC1 had a maximum rate of 0.05 mg/kg/wk, and the others had initial ranges of approximately 0.001 to 0.01 mg/kg/wk. The release rates from these cells had declining trends until around cycle 10 to 15, after which stage the trends stabilised (Figure 18).

To date, the release rates from the Area 2 HCTs have continued to be stable; HC1 maintained rates just below 0.01 mg/kg/wk, and the remaining three cells were within the 0.0001 to 0.001 mg/kg/wk range. The release rates from HC8, HC9, HC10, HC11, and HC12 started to decline again after about cycle 80, but further testing is required to determine if the decline will continue further.

Copper release rates from HC5, HC6, HC7, and HC13 have been relatively stable for the duration of testing, but their variability was generally higher than the variability from the other cells (Figure 18c). These four cells had similar rates and variability: fluctuating within an approximate range of 0.0001 to 0.001 mg/kg/wk to the blank cell (HC14). The Cu levels in the blank cell are an indication of low level copper contamination, which is likely affecting the waste rock cells. The

analytical lab ran experiments on their air filter system and the Plexiglas used to construct the HCTs, but they were unable to isolate the source of copper contamination.

Cadmium concentrations were frequently below the analytical detection limit for all of the HCTs except HC1 and HC11. As a result, the presented cadmium release rates are largely based on adoption of the detection limit, which generates a release rate of approximately 0.000002 mg/kg/wk. With the exception of some spikes, the cadmium release rates from all of the tests except HC1 and HC11 were consistently at or near 0.000002 mg/kg/wk (Figure 19).

Cadmium release rates from HC1 were initially elevated, with a maximum of 0.00004 mg/kg/wk, and have been declining over the duration of testing (Figure 19a). Release rates from HC11 have been relatively stable in a wide range (generally between 0.000002 and 0.00001 mg/kg/wk with some spiking up to 0.00007 mg/kg/wk) for most of the testing; since cycle 80 the variability looks to be reducing and release rates are stable within 0.000004 to 0.000006 mg/kg/wk (Figure 19c).

Selenium concentrations were initially above detection levels for all HCTS, and most cells developed near- or below-detection limit leachate selenium concentrations over time (Figure 20). The notable exceptions include HC1 (the most mineralized of the Area 2 mineralized waste samples) and HC8 (the moderately anomalous Minto North sample). As a result, the presented selenium release rates are largely based on adoption of the detection limit, which generates a release rate of approximately 0.00002 mg/kg/wk. With the exception of some spikes, the selenium release rates from all of the tests except HC1 and HC11 were consistently at or near 0.00002 mg/kg/wk (Figure 20).

Overall, other parameters showed generally stable or declining trends over time.

Barrel Tests

The one blank and four waste rock field barrel tests have been sampled during the non-frozen months since 2010. As discussed in Section 3.1.3, the samples selected for the barrel tests represented the more mineralized waste rock with sulphur contents greater than 0.1%. The BAR-10 barrel targeted the 10th percentile sulphur content of the more mineralized rock (i.e. 0.15% S) , BAR-50 targetted the 50th percentile (0.37% S), BAR-75 targeted the 75th percentile (0.79% S), and BAR-90 targetted the 90th percentile (1.4% S). The full set of barrel test results is available in Appendix E. Selected results are also shown graphically in Figure 21.

- The leachate pH levels from all of the barrels have been consistently circumneutral for the duration of sampling. As expected given the target sulphur content of the samples, BAR-10 had the most variability and generally the highest pH, fluctuating between 7.5 and 8.2. The other three barrels showed similar levels and variability, and were relatively stable between 7.3 and 8. The blank barrel had more acidic leachate with levels dropping from 6.7 to 5.6 over the 2010 sampling season and may reflect flushing of the apparatus by incident precipitation (rainwater in equilibrium with atmospheric carbon dioxide has a pH of around 5.5).

- Sulphate concentrations have been very stable in all four of the barrels over the monitoring record. BAR-10 had the lowest concentrations (40 to 60 mg/L); BAR-50 had order of magnitude higher concentrations (400 to 800 mg/L); and BAR-75 and BAR-90 had the highest concentrations (1100 to 1600 mg/L). The blank barrel had negligible concentrations, around 1 mg/L.

  Sulphate comprises a very small proportion of the solid sulphur content, so most of the sulphate in the leachate is likely derived from sulphide oxidation. Acid production from this sulphide oxidation is being neutralized (as evidenced by the stable circumneutral leachate pH) by calcium and magnesium carbonates. Although BAR-90 has significantly higher solid sulphur content, its leachate sulphate concentrations were almost identical to BAR-75. This may be due to formation of gypsum [$CaSO_4(2H_2O)_s$], which can precipitate if concentrations of calcium and sulphate reach saturation levels; although no evaluation of equilibrium conditions has been carried out, the calcium and sulphate concentrations in BAR-75 and BAR-90 leachate are consistent with gypsum control.

- The calcium and magnesium concentrations reflect the same pattern as the sulphate concentrations and support the hypothesis that sulphide oxidation products are being neutralized by calcium- and magnesium-bearing carbonate minerals. All four barrels have had stable calcium and magnesium concentrations throughout sampling (with the exception of the initial sample points from BAR-10 and BAR-50). BAR-10 had the lowest concentrations, with calcium stable around 20 to 50 mg/L and magnesium stable around 5 to 10 mg/L. BAR-50 had order of magnitude higher concentrations, with calcium stable around 100 to 200 mg/L and magnesium stable around 10 to 30 mg/L. Finally, BAR-75 and BAR-90 had the highest concentrations with calcium stable around 500 mg/L and magnesium stable around 30 to 60 mg/L. For calcium, the BAR-75 and BAR-90 concentrations are nearly identical, as with sulphate (suggesting gypsum control, as noted in the preceding bullet); however, BAR-75 has magnesium concentrations that are approximately 10 mg/L higher than BAR-90 which may indicate the sulphide oxidation and carbonate dissolution rates are highest in BAR-75.

- Copper concentrations in the barrel leachate appear to be loosely related to the sulphur percentile of each sample, although BAR-10 had higher concentrations than might have been expected. BAR-90 had the highest copper concentrations with a maximum of 0.15 mg/L and a median of 0.07 mg/L. BAR-75 had a median of 0.06 mg/L, and BAR-10 was not much lower with a median of 0.05 mg/L. BAR-50 had the lowest concentrations with a median of 0.03 mg/L.

  Generally, the copper concentrations appear to decrease over the sampling season with the highest concentrations recorded around freshet and the lowest recorded in the fall. This higher freshet- lower fall pattern may reflect continued oxidation (but no flushing) over winter months, followed by higher rates of flushing with the initial flows during the onset of the flowing water period. This seasonal pattern is commonly reflected in full-scale seepage monitoring from waste dumps (at Minto and at other sites with similar

seasonal climate variation). No clear trend in copper leaching is apparent over the three sampling years.

- Relative cadmium concentrations in the barrel leachates were correlated to the sulphur percentile of each sample. BAR-90 had the highest concentration with a maximum of 0.0004 mg/L and a median of 0.0003 mg/L. BAR-75 had a median of 0.0002 mg/L, BAR-50 had a median of 0.0001 mg/L, and BAR-10 had a median of 0.00004 mg/L. The chart shown in Figure 21f shows concentration on a logarithmic scale; although the apparent decrease in cadmium concentrations between the 2011 and 2012 monitoring seasons is subtle (and may simply reflect variations in sampling date or seasonal effects), it does suggest that cadmium release was fastest from the freshest rock and that release rates are declining with time. This evidence is consistent with the established theory that weathering rates decline over time under stable pH conditions.

- Selenium concentrations show also show a degree of seasonal variability, and an order-of magnitude range between the barrels (roughly 0.003 to 0.03 mg/L). Over the three monitoring seasons to date, selenium concentrations have remained within a stable range and do not appear to exhibit the same declining rates of release over time that were noted for cadmium in the preceding bullet.

Concentrations of other parameters show stable or declining trends within the framework of seasonal variation noted in the preceding discussion points.

4.1.3 Implications for Waste Rock Management

The ABA characterization of Phase V/VI waste rock has shown that Minto North waste rock is expected to have low sulphur content and moderate neutralization potential, and therefore has little to no potential to develop acid weathering conditions. The majority of the granodiorite waste rock from Area 2 Stage 3, Ridgetop North, and Ridgetop South pits is expected to be Non-PAG and suitable for bulk disposal, however the observed release of NP:AP<3 waste rock from the Phase IV Area 2 Stage 2 Pit is expected to be repeated for the Phase V/VI pits to the south of Area 2 Stage 2. As such, operational characterization will be necessary, along with a continuation of the waste segregation program that has been developed for Phase IV. Disposal of waste rock classified as Uncertain or PAG (based on an interim NP:AP threshold of 3) in locations where it will be saturated in the long term (co-disposed in TMFs, or placed in mined-out voids underground) should continue in Phase V/VI.

4.2 Phase V/VI Tailings

4.2.1 Static Test Results

Complete results of Phase V/VI tailings static testing are included in Appendix F.

Total sulphur (S(T)) and sulphide sulphur ($S(S^{2-})$) content (calculated as the difference between S(T) and sulphate sulphur ($S(SO_4)$) for the Phase V/VI tailings are shown in Figure 22. For samples with S(T)<0.2%, most of the sulphur is in the sulphide form. For the three samples with

S(T)>0.2%, S(T) was measurably greater than $S(S^{2-})$ due to the measurable $S(SO_4)$ content, which suggests the test samples may have contained gypsum or other sulphate mineral.

Figure 23 shows a plot of neutralization potential calculated from inorganic carbon content (NP_{TIC}) vs. NP for Phase V/VI tailings samples. All Area 2, Minto North, and Minto East samples had NP_{TIC} < NP, while in contrast Area 118, Copper Keel, Ridgetop and Wildfire samples had NP_{TIC}>NP. These results suggest that both silicate minerals and iron or manganese carbonates contribute to the various NP measurements for the Phase V/VI tailings.

Plots of NP_{TIC} versus AP and NP versus AP are shown in Figure 24 and Figure 25. All Phase V/VI samples had NP:AP ratios greater than 2, and all but one sample had NP_{TIC}:AP ratios greater than 2. Whichever measure is used, the low sulphide sulphur content and the moderate neutralization potential in the Phase V/VI tailings indicate that acidic conditions are unlikely to develop in these materials (under either saturated or unsaturated storage conditions).

4.2.2 Kinetic Tests

Column Test Results

At the time of report preparation, 192 weeks of subaqueous tailings column testing had been received. Results are provided in both tabular and chart form in Appendix G.

Monitoring of water cover pH from both Column 1 (Area 118 tails) and Column 2 (Ridgetop tails) showed an initial decline from circum-neutral pH levels to slightly acidic values (between pH 5.5 and 6.5) to around week 50, followed by a return to circum-neutral pH conditions for the duration of testing. Concentrations of sulphate and major cations in the surface water display an initial decline, and then remain within a stable range over the duration of testing. Trace element concentrations are uniformly low over time in the water cover in both columns. Of note, the manganese concentrations in the surface water in both columns over time suggest that there is a flux of manganese from the tails into the overlying water (although concentrations remain low (~0.03 mg/L or lower).

Monitoring of bottom port leachate showed pH values typically ranging from pH 7 to pH 8 for both columns over the course of testing to date. Sulphate concentrations peaked in Week 6 of testing for both columns (Column 1 peak value of 67 mg/L; Column 2 peak value of 101 mg/L), before rapidly declining to < 20 mg/L by Week 15 and remaining within a stable range for the duration of testing. Similarly, alkalinity concentrations for both columns peaked in Week 8, then declined to long term stable values, with Column 2 (Ridgetop tails) having higher alkalinity concentrations over the duration of testing. Major cations showed a similar pattern, with early peaks and lower stable concentrations in latter weeks of testing.

Most trace elements had similar concentrations in both surface water and bottom port leachate. The following points discuss notably elevated concentrations of trace elements in bottom port water (compared to surface water) from the subaqueous tailings columns:

- Barium increased dramatically in Column 1 leachate beginning in Week 14, and remained at concentrations over 2 mg/L from Week 34 through the duration of testing. Inspection of

sulphate concentrations shows an apparent inverse relationship, with a corresponding dramatic decline of sulphate concentrations. The increase in barium concentrations is thought to result from equilibrium dissolution of the sparingly-soluble mineral barite (barium sulphate) when sulphate concentrations became favourable.

- Manganese concentrations for both bottom ports peaked in Week 6, with a maximum concentration of 0.085 mg/L, before declining. In latter weeks, manganese concentrations in Column 2 leachate were observed to increase to roughly 2/3 of initial peak concentrations. There is no obvious correlation with behaviour of other parameters, and the late-stage increase in manganese concentrations remains unexplained.
- Molybdenum concentrations in bottom port leachate from Column 1 stabilized around 0.01 mg/L after Week 22, while Column 2 concentrations peaked at ~0.04 mg/L in Week 56 before declining. Late stage molybdenum concentrations in Column 2 leachate approach coincident concentrations in Column 1.

Over 192 weeks of testing, concentrations of most parameters in both cover and leachate water for both tests showed early peaks followed by generally stable or declining values. Variability over the mid- to late-stage test period ranged across parameters from minimal to ~order of magnitude- this degree of variability is commonly observed in both long term laboratory weathering tests and in full scale operational monitoring. Overall, the differences in porewater geochemistry from the two tailings samples, as represented by column bottom port leachate, are minor, and the results can be considered together when evaluating long term geochemical loadings from saturated tailings.

4.2.3 Implications for Tailings Management

Phase V/VI tailings are expected to be similar to tailings already produced from the Minto and Area 2 ore bodies. Test results indicate that there is minimal risk of acid conditions developing within the Phase V/VI tailings due to a large excess of neutralizing potential over acid potential. Operational monitoring of the DSTSF has shown that there is a potential for neutral pH leaching of selenium, and copper and other metals from the unsaturated tails, and it is expected that the Phase V/VI tails would behave in a geochemically-similar fashion under unsaturated conditions.

Disposal of Phase V/VI tailings as a slurry tails product in the proposed Phase V/VI Tailings Management Facilities (TMFs) will serve to minimize neutral pH metal leaching. Two factors will be significant in considering implications for long-term loadings from Phase V/VI tailings:

- disposal of the bulk of the tailings in a permanently-saturated state will minimize oxidation of contained metal-bearing sulphide minerals, and subsequent leaching of soluble oxidation products; and
- unsaturated tailings beaches in the final Main Pit TMF and Ridgetop North Pit TMF are expected to exhibit leaching characteristics similar to those of the existing unsaturated tailings in the DSTSF.

5 Source Terms for Minto Creek Water Quality Prediction

5.1 Approach

"Source terms" refer to predicted concentrations or loadings in waters that are in contact with various types of geologically-sourced waste materials, under the expected disposal conditions at the site. The source term predictions were key inputs into the Minto Phase V/VI water and load balance model (WLB), which was used to develop water quality predictions for Minto Creek monitoring stations W3 and W1, and the Area 2 pit lake. Predictions were completed for aluminum, ammonia, arsenic, cadmium, chromium, copper, fluoride, iron, lead, manganese, mercury, molybdenum, nickel, nitrate, nitrite, selenium, silver, sulphate, thallium and zinc. A detailed description of the Phase V/VI water and load balance model is provided in a companion report titled "*Minto Mine Phase V/VI Expansion: Water and Load Balance Report*" (SRK 2013b).

This document describes the geochemical source terms that were used as input to the Minto Creek water quality predictions for the period beginning in operations and extending into the post-closure period. For the purposes of the water quality prediction, the post-closure period is assumed to be the period following reclamation and decommissioning of the mine site when steady state conditions have been established. In the context of the Phase V/VI mine plan, a key aspect of these steady state conditions will be the filling of the Area 2 Pit to the spill point and the development of stable chemical loadings to the Area 2 Pit from the site components.

The aim in developing the site wide WLB was to arrive at conservative, but reasonable, estimates of water chemistry in Minto Creek. In practical terms, this aim was met through the selection of appropriate source terms for the various mine components. Where there was uncertainty in the inputs used to develop the source terms, conservative (typically higher) values were selected for use as model inputs. For the major sources of load (those sources related to waste rock and to tailings), two source terms were developed:

- Best Estimate source terms, which were intended to cover the range of typical loading rates from the existing mine components and to allow those rates to be applied on a unit basis (surface area or mass/volume) to existing and future site components;
- Reasonable Worst Case source terms, which were intended to reflect extreme loadings at the upper end of what has been observed from the existing facilities, and to allow those rates to be applied on a unit basis to existing and future site components.

In the context of actual project performance, the predicted 'expected case' concentrations should be considered to be typical performance values (including the range of variability observed over operations at the Minto Mine). The predictions which represent the 'Reasonable Worst Case' scenario are considered to be highly unlikely to occur, and should be considered to represent the extreme upper end of the range of potential water quality performance of the mine. In the unlikely event that water quality concentrations in the range of the 'Reasonable Worst Case' values occur, it is expected that this condition would be transient and of short duration (as observed with the upper range of water quality concentrations in the site monitoring results to date) (SRK 2013b).

In general, the approach used for the Minto source terms was to use data from the site monitoring programs wherever possible, supplemented as required by incorporating laboratory test results and scale up calculations.

5.2 Geochemical Inputs to Water Quality Prediction-Minto Creek

5.2.1 Source Terms - Tailings

Dry Stack Tailings Storage Facility

To appropriately estimate long-term chemical loadings from the Dry Stack Tailings Storage Facility (DSTSF), estimates of tailings pore water chemistry are required. No samples of tailings porewater have been collected to date, but operational monitoring of seepage water quality from finger drains constructed in the foundation of the DSTSF has occurred (stations W8 and W8A). Additionally, seepage surveys downgradient of the DSTSF were conducted in 2012 in which two seeps were identified and sampled (SS9 and SS10). The location of the monitoring stations and the 2012 seeps are presented in Figure 26. The results for these stations are presented in the 2012 annual report (Minto 2013a), and are summarized as follows.

A review of the results from W8 and W8A (from 2005 to present) and from the 2012 seepage survey was carried out. Monitoring results from W8 and W8A show considerable variation in concentrations over time (Figure 27). Generally, the results of the 2012 seepage survey were similar to the 2012 results from W8A. Between the 2011 and 2012 sampling seasons, the base of the DSTSF where W8 and W8A are located was filled in and vertical culverts were installed to allow sampling to continue. Despite this effort, sampling at W8 was not possible in 2012.

For the majority of parameters, the maximum concentrations observed in water downgradient of the DSTSF term have not increased since the Phase IV water quality predictions were developed (SRK 2010a), because the maximum concentrations occurred in or before 2010. The exceptions are molybdenum, selenium, thallium, and zinc, which have marginally increased (Figure 27 shows zinc and selenium concentrations over the period of monitoring). Zinc concentrations at W8a in 2012 are of particular note due to increases in concentrations by more than two orders of magnitude. These 2012 concentrations are uncharacteristic of any water previously observed at Minto and are believed to reflect leaching of zinc from the galvanized culvert that was installed to allow sampling access through the waste rock fill material, rather than leaching from waste rock or the DSTSF. Therefore, these were not considered in the updated source term predictions.

The DSTSF source terms used in the WLB were defined based on the observed water chemistry at station W8, which has experienced the highest concentrations of copper, cadmium, selenium and sulphate of the relevant monitoring stations over the period of record. The following points describe the source terms:

- Best Estimate source term: 50th percentile dissolved concentrations from the complete W8 record;
- Reasonable Worst Case source term: 95th percentile dissolved concentrations from the complete W8 record.

The values for both source terms are included in Appendix H.

Other assumptions made in defining the DSTSF source term include:

- In the post-closure period, tailings seepage will contain minimal suspended solids, and dissolved concentrations will be equal to total concentrations; and
- Tailings seepage will have circumneutral pH.

Tailings Slurry Water

During active milling, soluble load from the processed ore reports to the tailings slurry, and this load can be an important source during the operational period. Operational monitoring of tailings slurry can provide a good indication of actual loading rates, but interpretation of operational monitoring results can be confounded by recycling of process water (as occurred at Minto during the period in which tailings were filtered and dry-stacked) or by reclaim from a TMF pond (as is occurring at Minto presently).

During the transition from filtered tailings to slurry tailings disposal, there was a 5 month period (November 2012 through March 2013) when fresh water was drawn from the Water Storage Pond and discharged to the Main Pit TMF as tailings slurry. The monitoring results from this period therefore provide a good indication of the loading that occurs from ore processing, as no recycling or reclaim was occurring.

The tailings thickener overflow is monitored as station W-14 as part of the routine monitoring program. Average concentrations from W-14 monitoring over the November 2012 to March 2013 period were adopted as the tailings slurry source term and are provided in Appendix H.

Main Pit Tailings Management Facility

The final configuration of the completed Main Pit TMF (MPTMF) will consist of a thin (few metre thick) zone of unsaturated tailings overlying a large saturated mass of tailings. During closure, a soil cover will be constructed on the final tailings surface.

The saturated tailings are not expected to contribute material loadings to Minto Creek over the long term. Proof-of-concept calculations based on groundwater flow estimates and concentrations from saturated column tests showed that loadings via seepage pathways will not be significant[2].

To estimate the future loadings from the unsaturated tailings, operational monitoring results from station W37 (seepage collection sump downgradient of the DSTSF- Figure 4) were used to calculate loadings from the DSTSF, and those loadings were normalized to a mass basis. The following points summarize the estimation process.

[2] Proof-of concept calculations: Darcy flux estimates (400 m * 13 m cross section, 13 m gradient, flux controlled by hydraulic conductivity of tailings (expected: $9.7*10^{-6}$ cm/sec; upper bound : $9.7*10^{-5}$ cm/sec)) and maximum concentrations from saturated column tests (see Appendix G for column test results).

1. Pumped volumes from W37 (111,000 m^3 in 2012) and average or 95th percentile 2012 W37 concentrations were used to develop expected case or worst case load estimates (mg/yr).

2. Load estimates were divided by total mass of DSTSF tailings (5.1 million tonnes) to yield load per unit mass (mg/tonne/yr).

3. Tonnage of unsaturated tails in the final MPTMF configuration was estimated (2 m thick unsaturated tails at 1.3 t/m^3 over the entire footprint (15.2 ha)).

4. Expected case (worst case) source terms for the MPTMF were defined as expected case (worst case) load per unit mass multiplied by unsaturated mass (mg/yr).

These source terms were applied for the operational, closure and post-closure periods.

Loadings from the ore stockpiles, the mill area, and the Mill Valley Fill Extension all report to W37, in addition to loadings from the DSTSF. It is therefore considered conservative to attribute all W37 load to the DSTSF in the derivation of the unsaturated tailings source terms.

The values for both the expected case and worst case source terms are included in Appendix H.

Ridgetop North Pit Tailings Management Facility

The Ridgetop North Pit TMF (RNPTMF) source terms were developed as described above for the MPTMF, using the final footprint area of the RNPTMF (8.2 ha).

The values for both source terms are included in Appendix H.

Area 2 Pit Tailings Storage Facility

Tailings in the Area 2 Pit TMF will be saturated and overlain by a pit lake in the post-closure period. During operations, loadings from deposited tailings are reflected in the tailings slurry source term.

In large tailings facilities, consolidation of slurry-deposited tailings can persist for many years after final tailings deposition. This consolidation process expels tailings porewater and can be an important source of loading.

Minto tailings are relatively coarse, which results in rapid consolidation and a shorter time to a fully-consolidated state relative to finer grained tailings. A scoping evaluation of expected consolidation rates and loadings at the start of the post-closure period (e.g. 3 years after final tailings deposition) indicated that loadings due to ongoing consolidation will be low (scoping results indicate <1% of total site loads) and therefore no consolidation loadings were included in the WLB.

5.2.2 Source Terms- Waste Rock

Waste rock from the Main Pit placed in the Main Waste Dump (MWD) and in the Southwest Waste Dump (SWD), and Area 2 Pit (Stage 1 and 2) waste rock has also been placed in the SWD. Water chemistry of drainage from these facilities has been monitored at several routine monitoring stations (W15, W30, W31, W32, W38, W39, and W40) since 2007, as well as through semi-annual seepage surveys (three seeps were monitored in 2012- SS1, SS3, SS4).

All surface drainage from the MWD and SWD catchment areas reports to routine monitoring station W15 and is transferred to the Main Pit by pumping. Pumped volumes are tracked by the mine for water management purposes, and water chemistry at W15 is regularly monitored. These records were used to develop a waste rock volume- based source term as described in the following steps.

1. Water quality records from 2007 through 2012 were compiled, and average and 95th percentile concentrations were calculated.

2. Average and 95th percentile total catchment loadings were estimated using average and 95th percentile concentrations (from step 1) together with flows estimated based on the mean annual runoff (329 mm) and runoff coefficient (0.3) and catchment area of station W15 (253 ha) (SRK 2013b).

3. Loads estimated in step 2 were assumed to be entirely derived from the SWD and the MWD. Estimates of loading rates per volume of waste rock were made by dividing the total step 2 catchment load by the volume of rock that had been placed at end-of-year 2011 (the latest year records were available).

The results of step 3 were then adopted as the expected case and reasonable worst case source terms for volume-based loadings from bulk waste rock. The advantage of source terms based on units of rock volume is that they can be readily applied to existing and proposed new or expanded waste facilities to estimate future loadings.

5.2.3 Source Terms- Other Sources

Undisturbed Catchment Areas

Access Consulting Group and Minnow Environmental Inc. evaluated background water chemistry by reviewing monitoring records from reference streams within the Minto Creek catchment and from the main stem of Minto Creek. The reviewed records span the pre-operational and operational periods through the end of 2009. One of the outcomes of this review was a recommendation the different water chemistry be used to represent background water quality (also referred to as undisturbed catchment runoff) for the upper and lower portions of the Minto Creek catchment (in this case, upper refers to upstream of the Water Storage Dam (WSD) and lower refers to downstream of the WSD). This recommendation was adopted and implemented in the WLB model.

The seasonally-variable concentrations adopted for runoff from undisturbed upper and lower Minto Creek catchments are provided in Appendix H.

Main Pit and Area 2 Pit Walls

Loadings from the pit walls exposed above the final lake elevations were estimated using results of humidity cell testing (Appendix D) along with estimates of reactive rock mass in the pit walls. This is the same procedure used for the Phase IV water quality prediction (SRK 2010a). Nearly all the mineralized material exposed in pit walls will be well below the final tailings (Main Pit) or lake (Area 2 Pit) elevations.

An average of release rate from all humidity cell tests was adopted as an expected case source term input to estimating loads from pit walls, and the average of the maximum release rates was adopted as the reasonable worst case source term input. Laboratory release rates were multiplied by three scaling factors to estimate equivalent field release rates. These factors were:

- A temperature factor of 0.2, to account for lower rates of chemical reactions under field conditions. Typical lab operating temperatures were 20°C and average site ground temperatures were assumed to be 0°C; application of the Arrhenius equation (assuming an activation energy of 60 kJ/mol) suggests a factor of 0.17 would be justified.
- A particle size factor of 0.2, to account for the difference in reactive surface area between the crushed HCT sample and the blasted rock that will be present at full scale.
- A contact or flushing factor of 0.5, to account incomplete flushing of weathering products from the full scale waste dumps (HCT operating procedure ensure complete flushing of weathering products).

Reactive rock mass was estimated for each pit wall by multiplying the approximate wall rock surface area by a thickness of 2 m. Loadings from the resulting reactive rock mass were then estimated by multiplying rock mass by estimates of field release rates.

Assumptions inherent to the estimates of loadings from Main Pit and Area 2 pit walls were as follows:

- Loading rates remain constant over time, as fresh weathering surfaces are exposed by ravelling of walls; and
- Pit lakes reach final elevation quickly and long-term loadings from pit walls below the final lake elevation are minimal.

The values for both source terms are included in Appendix H.

Area 118 Backfill Dump

The Area 118 Backfill Dump will be constructed entirely with overburden from mining of Area 2 Stage 3 Pit. For water quality prediction purposes, this was assigned the same source term as undisturbed catchment areas.

Ridgetop South Backfill Dump

The Ridgetop South Backfill Dump will be constructed entirely with overburden from mining of Ridgetop North Pit. For water quality prediction purposes, this was assigned the same source term as undisturbed catchment areas.

Ore Stockpile Areas

Separate source terms were developed for the operational and post-closure periods for the ore stockpile areas.

The operational source terms were based on seepage monitoring around the ore stockpiles in 2012 (stations SS5, SS6, SS7, SS8 (Minto 2013a)). Monitoring results were pooled, with the average concentrations adopted as the expected case source term and maximum concentrations as the worst case source term.

The post-closure source terms were estimated based on scale up of humidity cell release rates in a manner similar to that described above for the Main Pit and Area 2 Pit walls (using the same humidity cell test results for expected case and worst case sour case terms). A mine rock thickness of 2 m was assumed to exist over the footprint of the ore stockpile areas to make allowance for any residual loadings that make occur from the ore stockpile footprints.

The values for both source terms are included in Appendix H.

Mill Area

Expected case and worst case source terms were estimated based on scale up of humidity cell release rates in a manner similar to that described above for the Main Pit and Area 2 Pit walls (using the same humidity cell test results for expected case and worst case sour case terms). A mine rock thickness of 2 m was assumed to exist over the footprint of the mill area.

The values for both source terms are included in Appendix H.

Nitrogen Loadings

Residual ammonium nitrate/fuel oil (ANFO) explosives in tailings and water rock contribute the vast majority of nitrogen species to the mine water. Once mining is complete and ANFO use ends, there will be no new sources of nitrate and ammonia loadings.

Explosives use will decline during operations from a projected 3.4 million kg in 2014 to 0.3 million kg in 2019. There will be no explosives use after mining is complete in 2019. During mining, loadings of nitrogen species are expected to within the range observed to date (Figure 32) and to decline thereafter. In order to evaluate effects in lower Minto Creek, the pooled monitoring results from station W3 and related stations W16, W17 and W50 were queried for appropriate source terms:

- Expected case: maximum concentrations observed from July 2011 through the end of 2012;

- Reasonable worst case: maximum concentrations over the entire record, after removal of anomalous outliers (see isolated high concentrations in Figure 32).

The adopted nitrogen species source terms are shown in Table 5-1.

Table 5-1: Source Terms for Nitrogen Species

N-Species	Units	Expected Case	Reasonable Worst Case
N_NH3	mg/L	0.642	1.04
N-NO2	mg/L	0.11	0.64
N-NO3	mg/L	8.77	22.7

Source: T:\1CM002.003_PhaseV_WaterQualityPrediction\Task600_Reporting\020_Tables\[Table5-1_N-SpeciesSourceTerm.xlsx]

Underground Workings

No source term or load has been attributed to the underground workings. The underground workings are expected to be at least partially flooded following the cessation of mining, although there may not be discharge from the portal given the relatively high elevation of the portals (there are no obvious natural springs near the proposed portal areas). The workings themselves are not expected to be a significant source of load, given the small exposed surface area, the low expected rates of water flux, and the geochemical similarity of the underground rocks to the surface-disposed waste rock.

Particulate Loadings from Suspended Solids

To estimate total concentrations of the parameters of interest, operational monitoring records from W3 from 2008 onwards were evaluated to determine the concentrations of metals associated with the suspended sediment. Median elemental concentrations of suspended sediment were calculated from total suspended solids (TSS) results and from the associated elemental load (based on the difference between total (unfiltered) and dissolved (filtered) water chemistry). The suspended metal concentrations were then calculated assuming that the site discharge (at W3) would contain 15 mg/L TSS (the upper limit allowed under the current water licence), and incremental loadings due to suspended solids were calculated for each month. It is important to recognize that this is a technique for conservative estimation of particulate concentrations, and not an expression of the mine's intention to discharge at the licence limit for TSS.

In the GoldSim model, the incremental loadings from suspended solids were added as a discrete source to the dissolved load reporting to W3. For runoff entering Minto Creek between W3 and W1, the source term was calculated from actual catchment monitoring data; since the total concentrations from undisturbed ground runoff were used, no allowance for additional loading due to suspended solids was necessary.

The particulate loading source term is included in Appendix H.

6 Source Terms for McGinty Creek Water Quality Prediction

6.1 Approach

There is presently no mine development within the McGinty Creek watershed. During Phase V/VI, Minto North Pit (MNP) will be developed in the headwaters of the easternmost of two major tributaries that join to form lower McGinty Creek (Figure 4). To evaluate the potential effects of developing MNP on water quality in McGinty Creek, a scoping level water quality assessment was carried out (SRK 2013b). This document describes the geochemical source terms that were used in that assessment.

6.2 Conceptual Loading Model

During active mining, any water that accumulates in MNP will be transferred to the Minto Creek catchment and managed with other mine water. As a result, loadings to McGinty Creek from the operational phase of MNP are expected to be minimal, and for this reason the water quality evaluation described in the following sections was carried out as a worst case snapshot for the post-operational period only.

To develop the scoping-level evaluation of post-mining water quality in McGinty Creek, a conceptual model of loadings from MNP was required. As loadings from MNP are expected to be a function of the surface area of exposed (i.e. unsaturated) pit walls that remain following mining, it was assumed for evaluation purposes that the pit would not fill with water in the long term and that therefore the entire pit shell would be exposed and generating load. This is considered a conservative approach, since records from a near-by monitoring well (09MW-03) have shown that the groundwater table is typically within a few metres of the ground surface (SRK 2013c) and the most likely post-mining outcome is that MNP will be partially flooded with a water level similar to the pre-mining groundwater table at the low point in the pit rim.

For assessment purposes, it was assumed that loads generated in MNP will report to McGinty Creek instantaneously (in other words, there were no allowances built in for travel time) and that transport is conservative (i.e. no load attenuation occurs along the flow path).

The post-operational estimates of did not consider any residual nitrogen loadings from MNP to McGinty Creek. This was considered appropriate since, during operations, the majority of blasting residues would be exported to Minto Creek with the waste rock and overburden, or with the pit sump water, and only trace quantities of blasting residues would remain in the McGinty Creek catchment following completion of mining.

6.3 Geochemical Inputs to Water Quality Prediction-McGinty Creek

6.3.1 Source Terms

Undisturbed Catchment Areas

Access Consulting Group evaluated background water chemistry in McGinty Creek and developed monthly average total concentrations measured during baseline monitoring at station MN4.5 (located near the mouth of McGinty Creek) for use as the source term for undisturbed catchment runoff (ACG 2013). These values were adopted for the water quality prediction, and the adopted source term is provided in Appendix I.

Minto North Pit Walls

Loadings from the Minto North Pit walls were estimated using results of laboratory humidity cell tests along with estimates of reactive rock mass. Results from Minto North humidity cells HC6, HC7, and HC8 were pooled, and the maximum laboratory release rate for each parameter from the pooled data set was adopted for use in the source term calculations.

Laboratory release rates were scaled to field release rates as described previously for the Area 2 Pit and Main Pit walls (Section 5.2.3).

Reactive rock mass was estimated for the Minto North pit wall by multiplying the three dimensional pit wall surface area (15.7 ha) by an assumed reactive thickness of 2 m and multiplying by an in-situ rock density of 2.7 t/m^3 to convert volume to mass. Loadings from the resulting reactive pit wall mass were then estimated by multiplying reactive wall mass by estimates of field release rates.

Assumptions inherent to the scoping estimates of loadings from Minto North Pit walls include:

- Pit walls consist entirely of rock (no allowance for reduced loadings from overburden, which is expected to make up nearly 20% of the final wall area);
- Loading rates remain constant over time, as fresh weathering surfaces are exposed by ravelling of walls; and
- The pit remains empty and none of the wall area is flooded.

The Minto North pit wall source term is provided in Appendix I.

This report, **Minto Mine Phase V/VI Expansion: Phase V/VI ML/ARD Assessment and Inputs to Water Quality Predictions**, was prepared by

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All data used as source material plus the text, tables, figures, and attachments of this document have been reviewed and prepared in accordance with generally accepted professional engineering and environmental practices.

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The opinions expressed in this report have been based on the information available to SRK at the time of preparation. SRK has exercised all due care in reviewing information supplied by others for use on this project. Whilst SRK has compared key supplied data with expected values, the accuracy of the results and conclusions from the review are entirely reliant on the accuracy and completeness of the supplied data. SRK does not accept responsibility for any errors or omissions in the supplied information, except to the extent that SRK was hired to verify the data.

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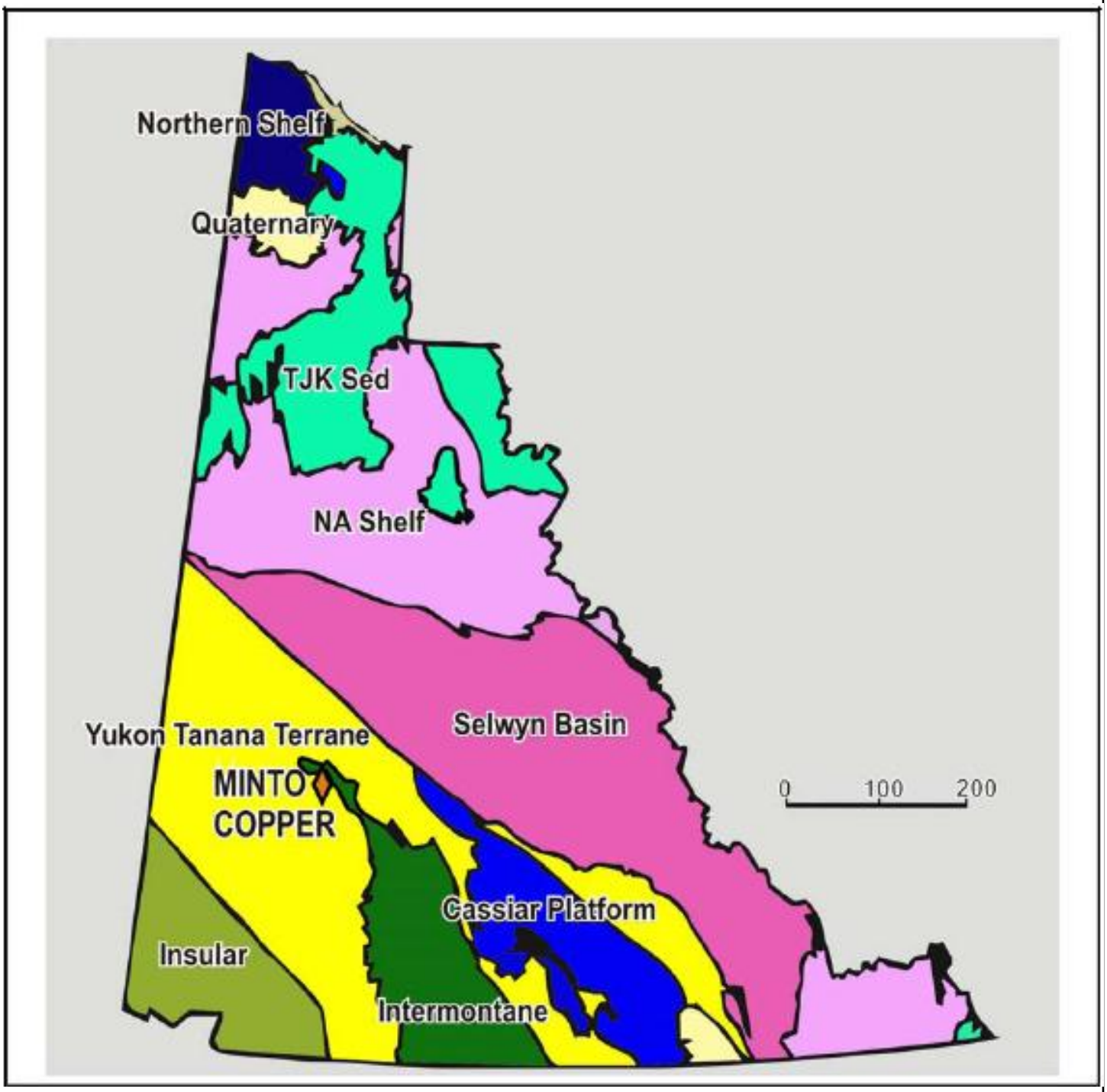

Source: Minto (2012). Minto Phase VI PFS Technical Report.

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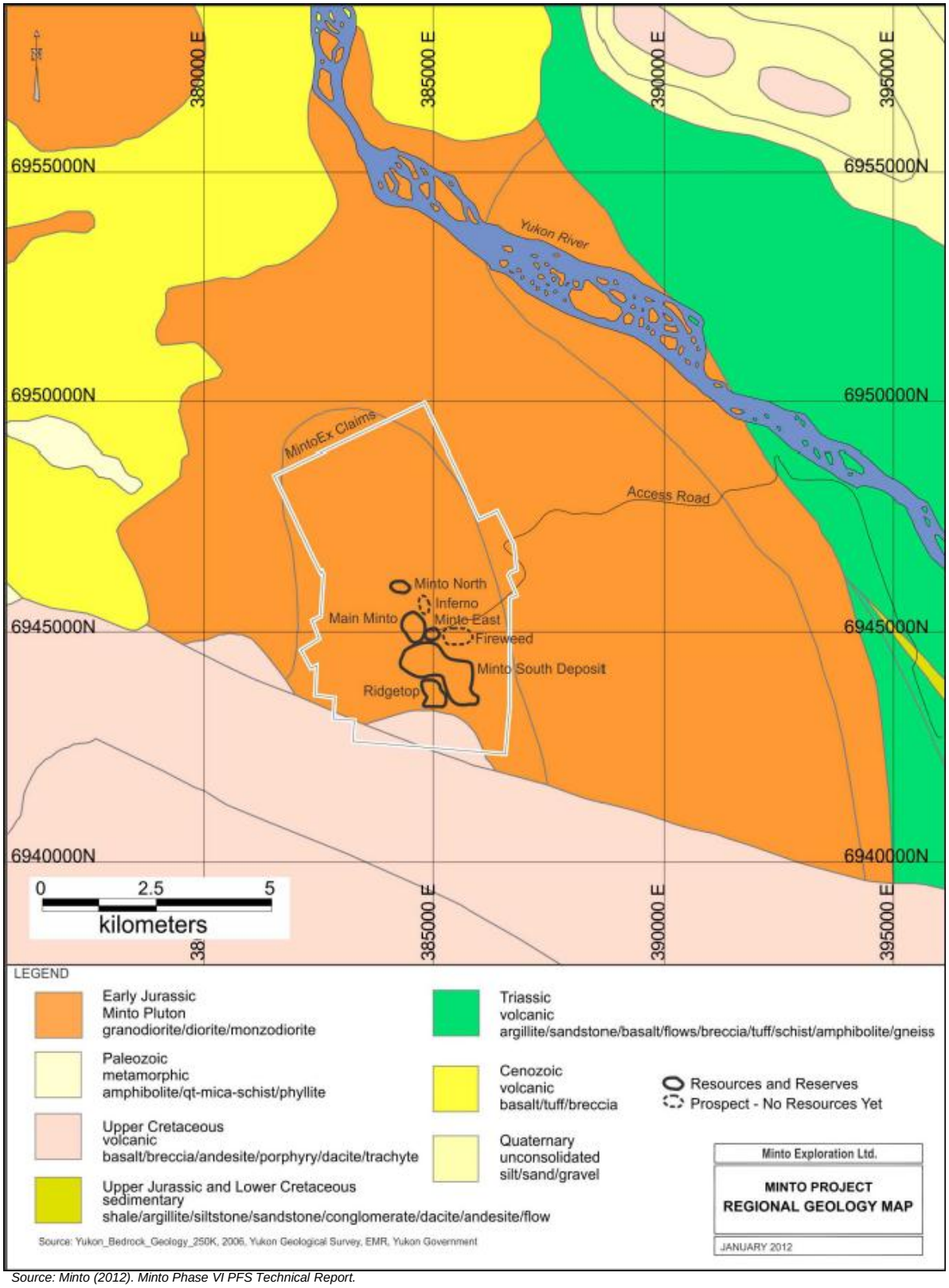
	PROJECT: 1CM002.003	DATE: June 2013	APPROVED: DBM	FIGURE: **1**



Source: Minto (2012). Minto Phase VI PFS Technical Report.

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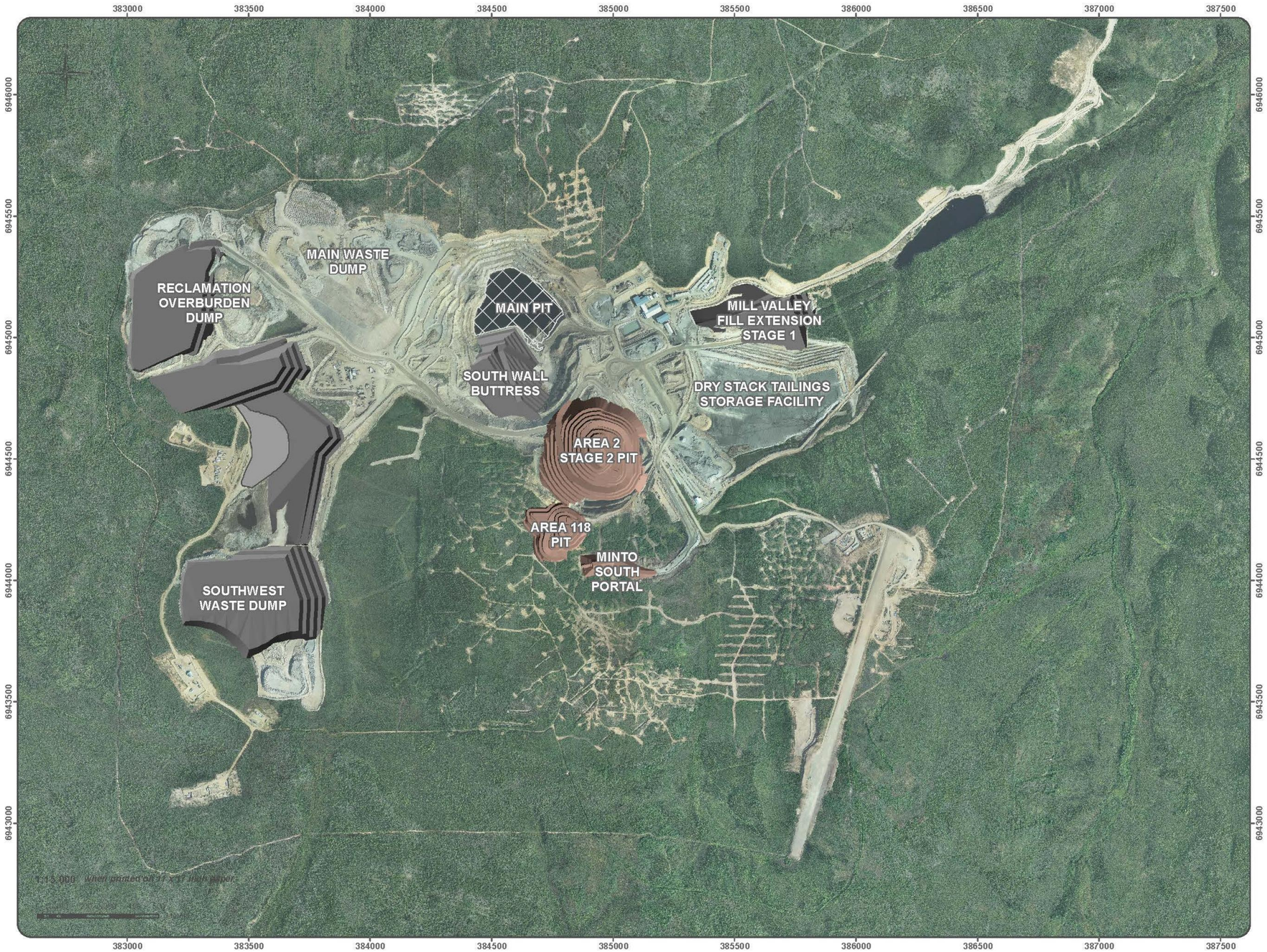

Phase IV Tailings
Phase IV Dumps
Phase IV Pits

Source: Adapted from original figure in Minto Explorations Ltd. 2013a. Minto Mine Phase V/VI Expansion, Project Proposal: Phase V/VI Expansion of Mining and Milling, Minto Mine, Yukon.

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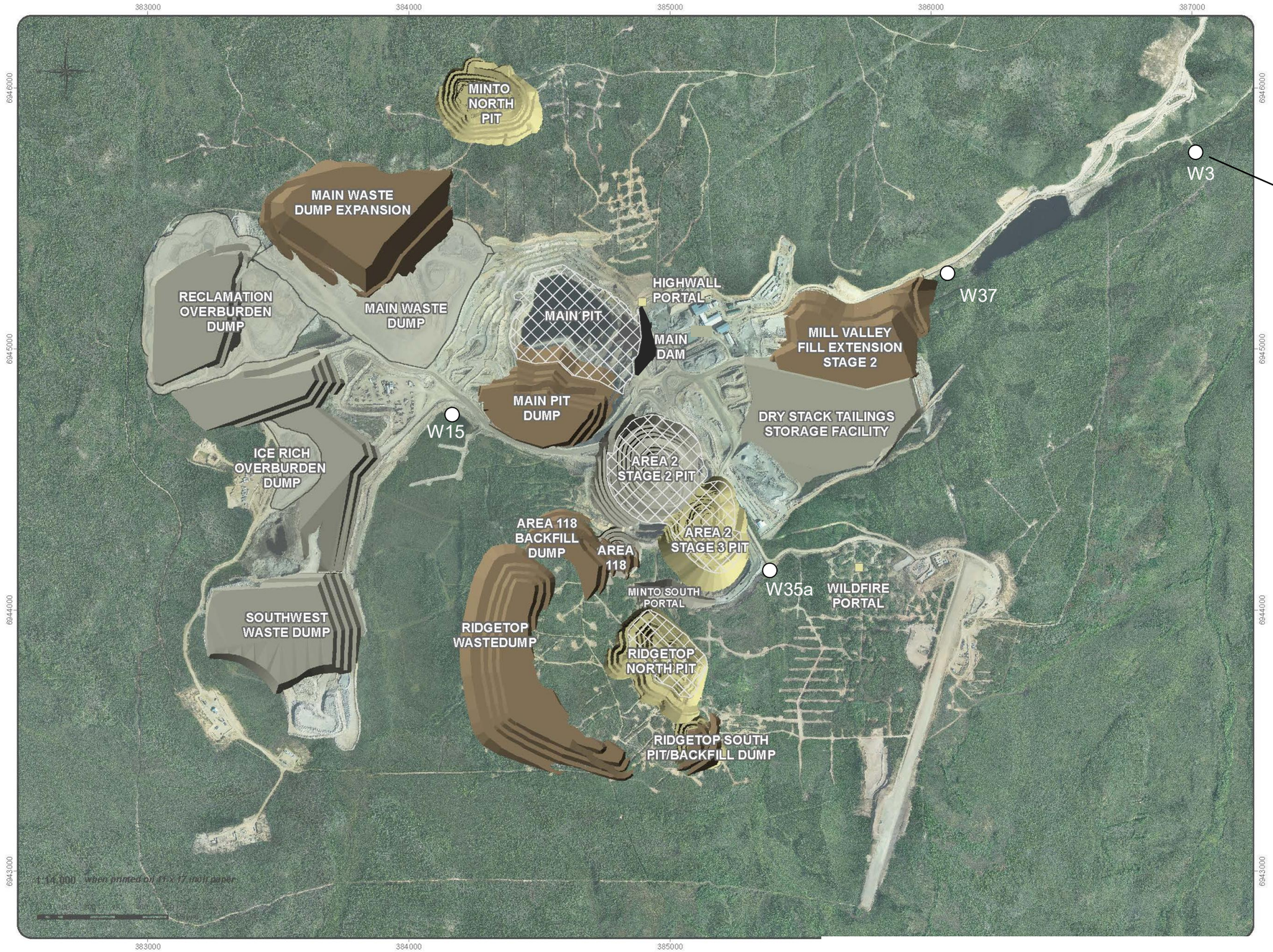
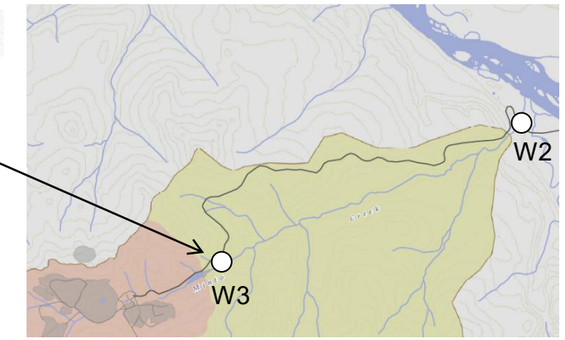
Minto Mine

Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

General Arrangement- End of Phase IV

Date:	Approved:	Figure:
June 2013	DBM	3





Legend

○ W3	Routine water quality monitoring station
	Phase V/VI Tailings
	Phase V/VI Pits
	Phase V/VI Dumps
	Phase V/VI Dam
	Phase IV Features

Source: Adapted from Figure 1-1 (prepared by Access Consulting Group) in Minto Explorations Ltd. 2013a. Minto Mine Phase V/VI Expansion, Project Proposal: Phase V/VI Expansion of Mining and Milling, Minto Mine, Yukon.

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Filename: Fig_4_PhaseV-VI_GeneralArrangement.pptx

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Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

General Arrangement- End of Phase V/VI

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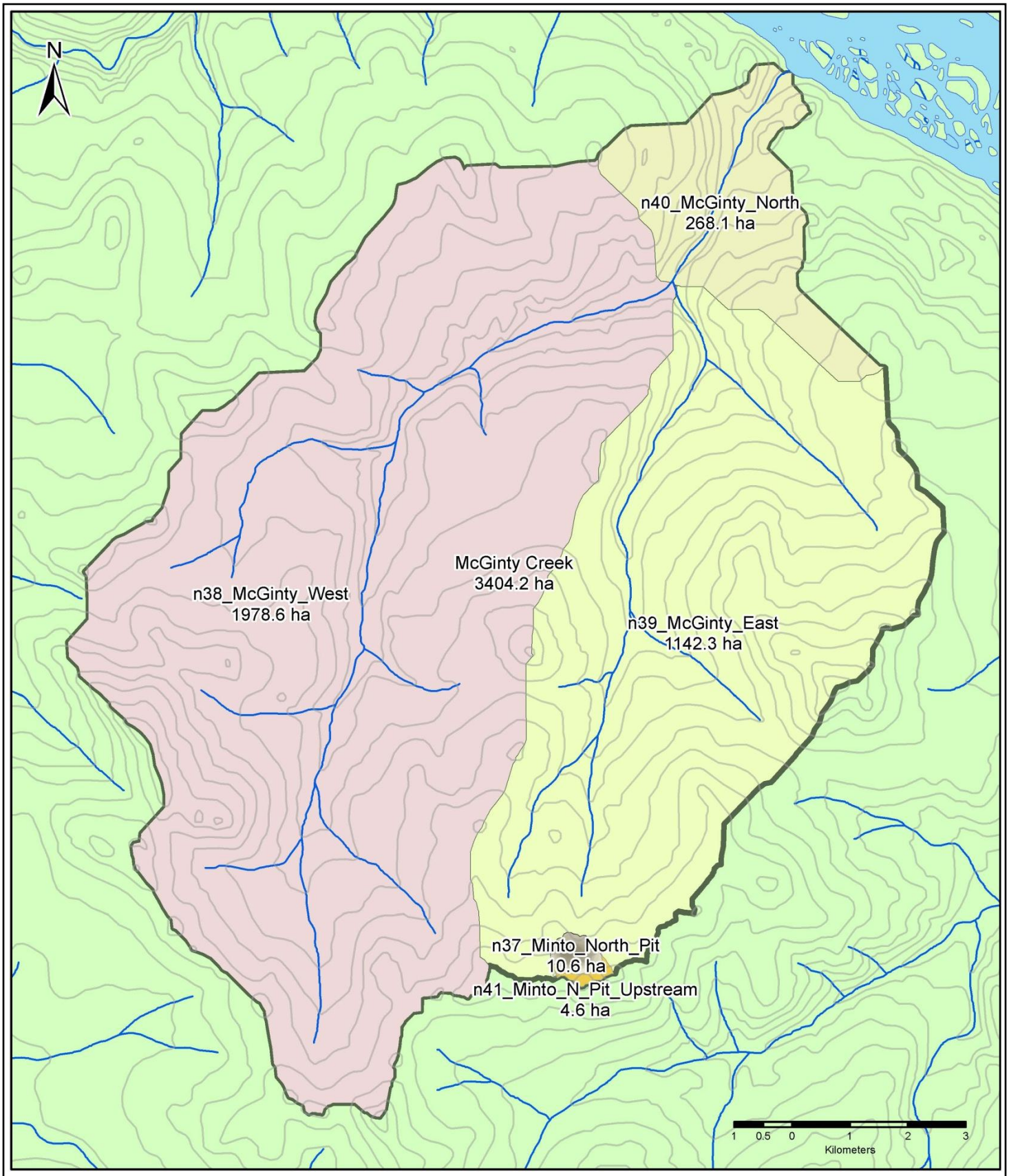

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Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

McGinty Creek Watershed and Proposed Minto North Pit

PROJECT:	DATE:	APPROVED:	FIGURE:
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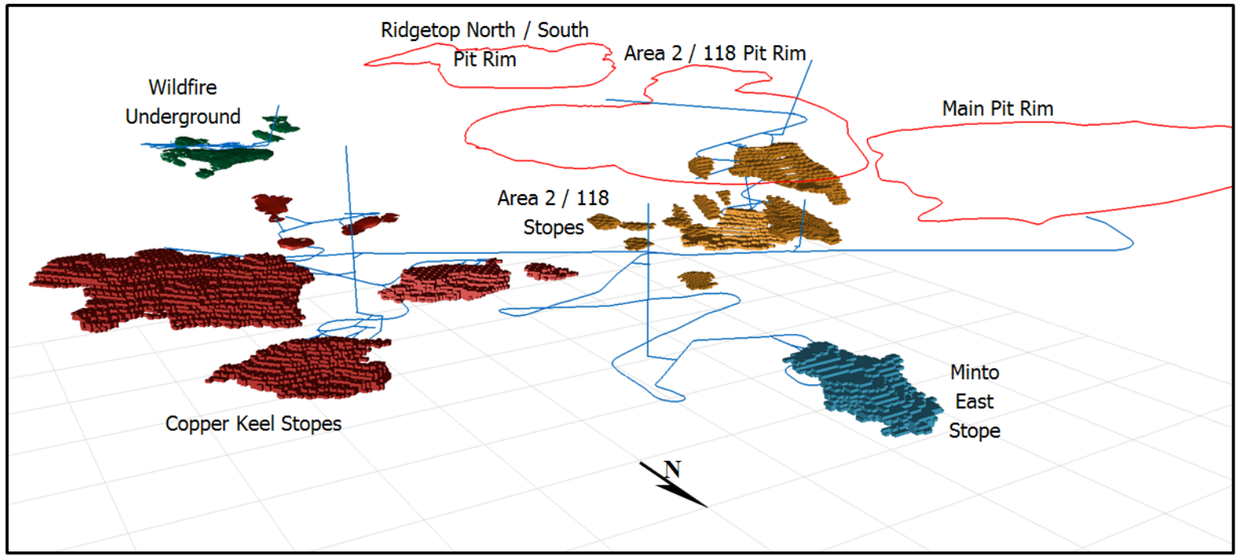

Figure 3-8: Perspective View, Looking Southwest, of Underground Stopes and Development.

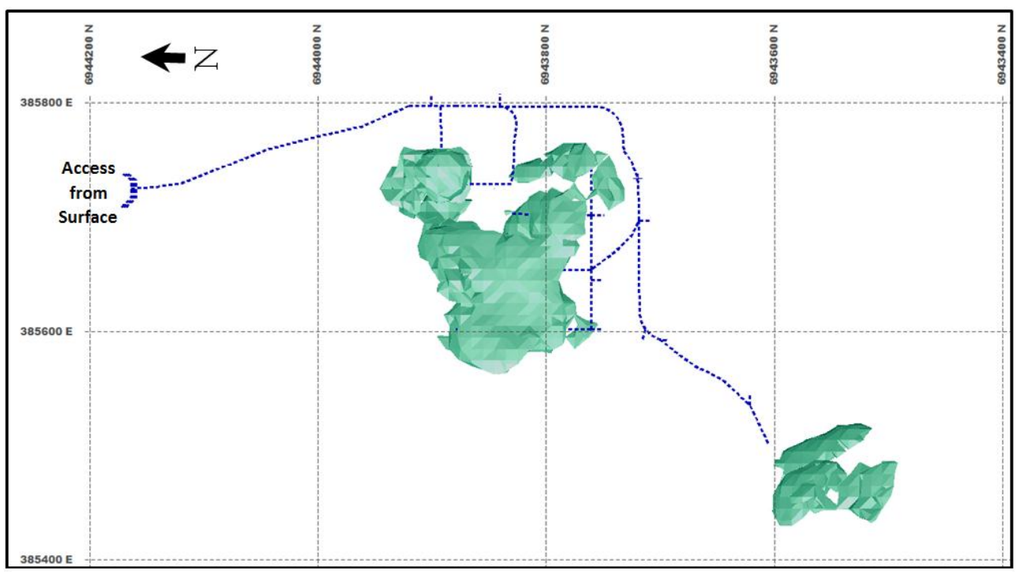

Figure 3-10: Plan View of Wildfire Underground.

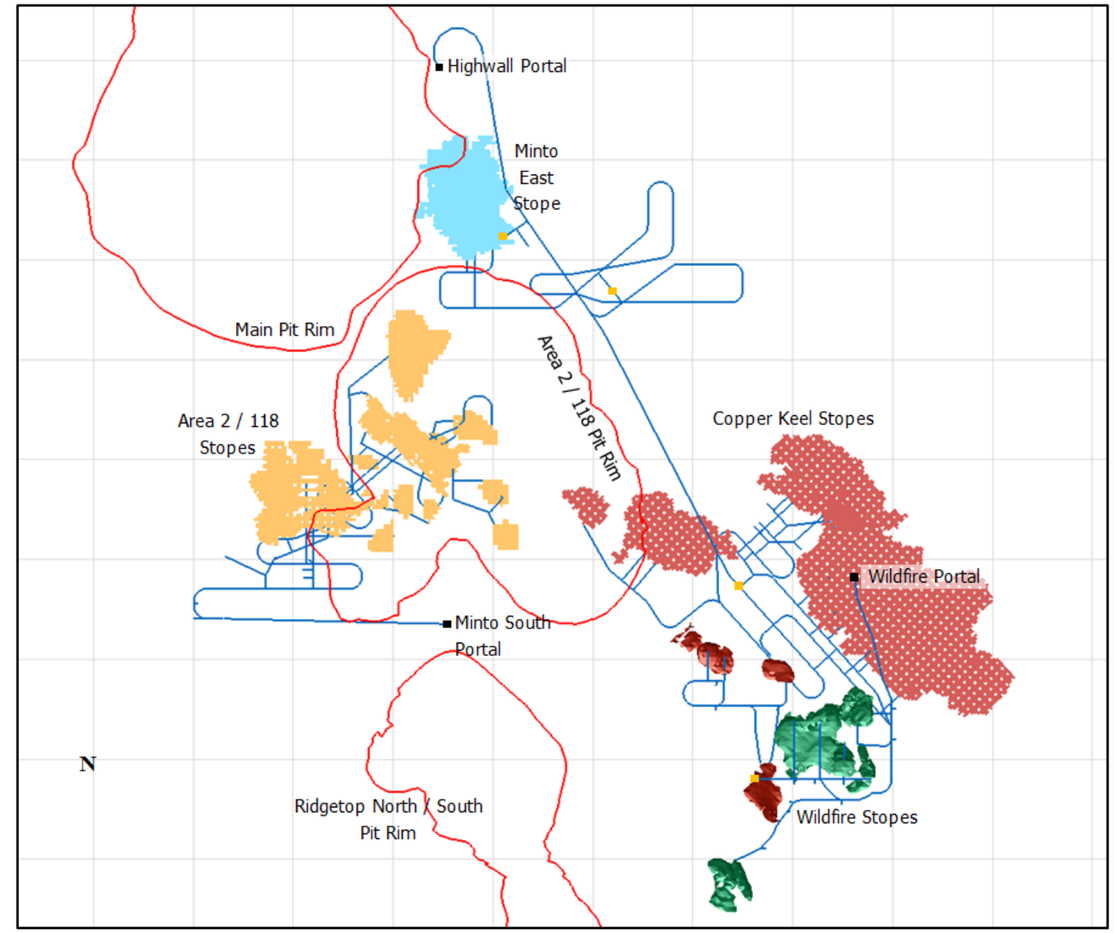

Figure 3-9: Plan View of the Minto South Underground Deposit and Wildfire Underground.

Source: Minto Explorations Ltd. 2013a. Minto Mine Phase V/VI Expansion, Project Proposal: Phase V/VI Expansion of Mining and Milling, Minto Mine, Yukon.

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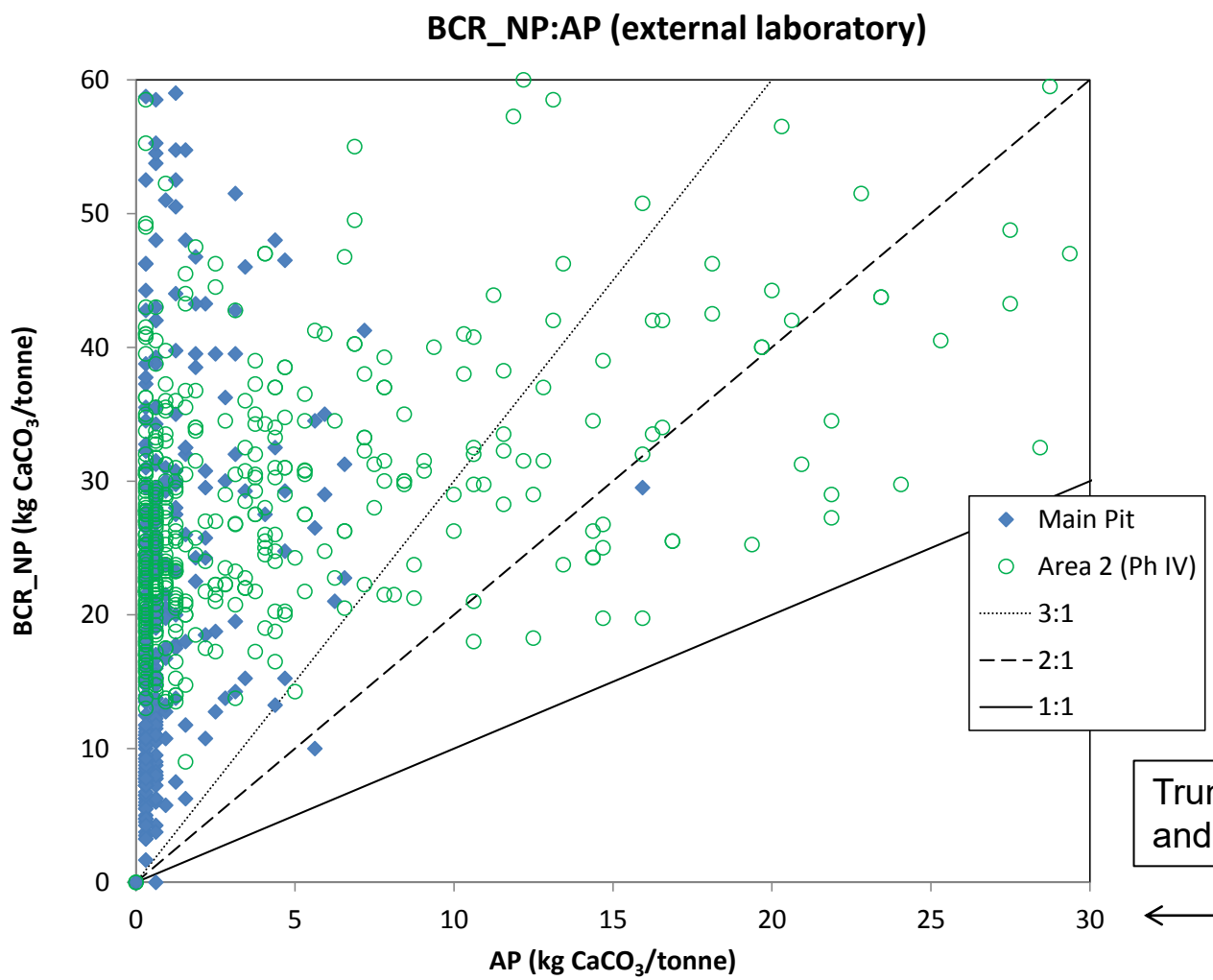
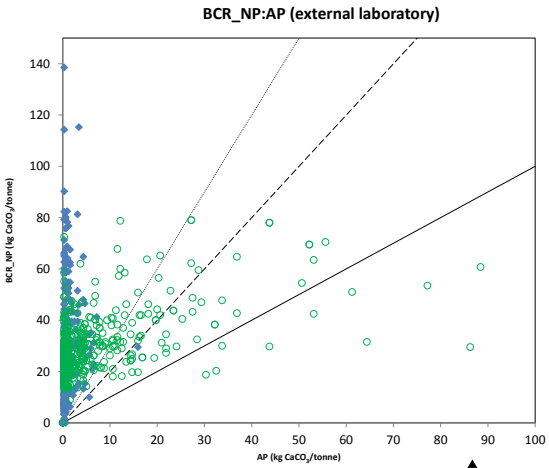
		Plan and Perspective Views of Phase V/VI Underground
Job No: 1CM002.003	Minto Mine	Date: June 2013 / Approved: DBM / Figure: 6
Filename: Fig_6_PhaseV-VI_GeneralArrangement_Underground.pptx		





Full vertical and horizontal scale

Truncated vertical and horizontal scale

T:\!020_Site_Wide_Data\ML-ARD\Lab_Testing\Waste_Rock\Operational_Monitoring\Minto_Pit\[Minto_OperationalABAmonitoring-off-site_results_July2013_rev00.xlsx]

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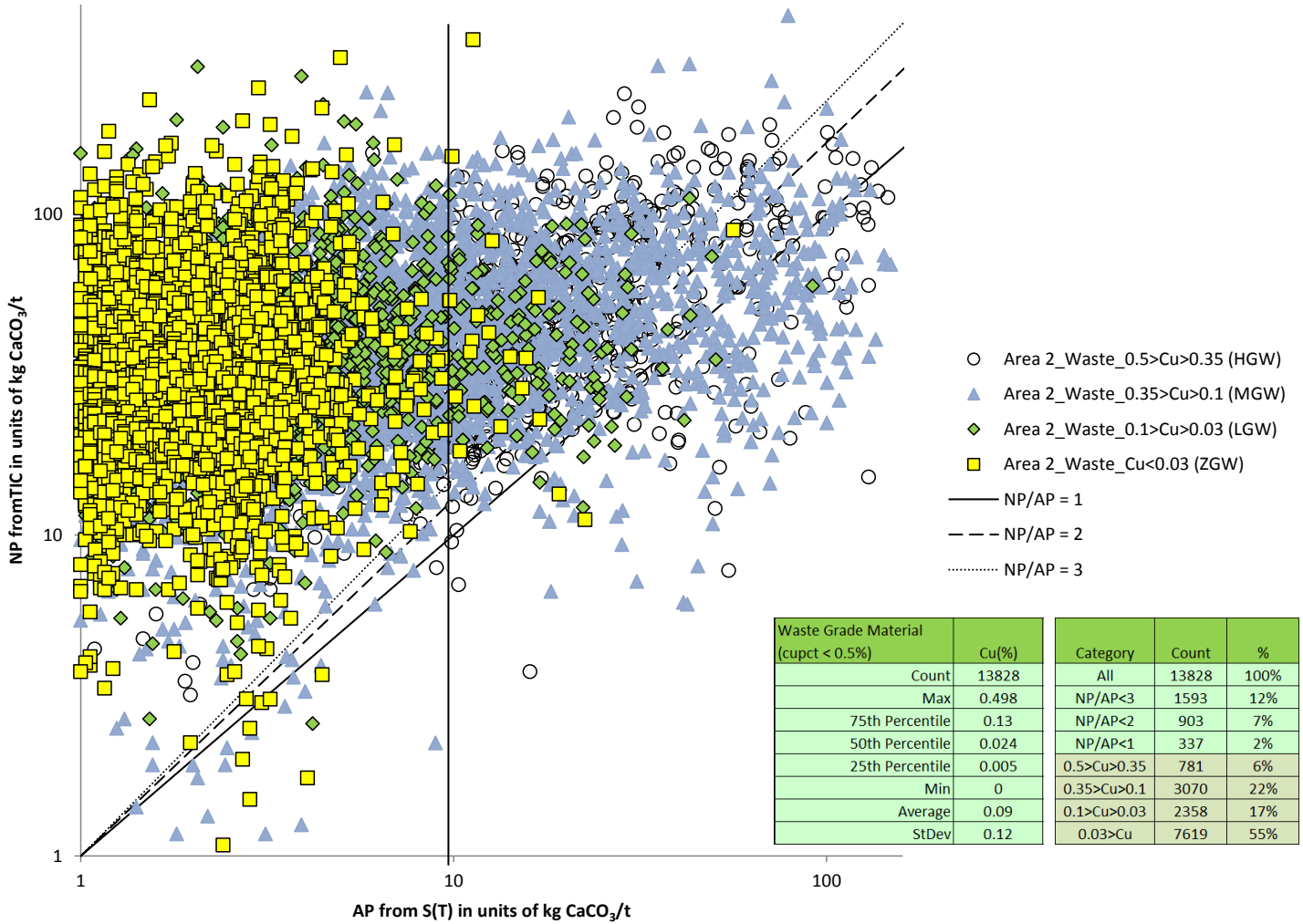
CAPSTONE MINING CORP.
MINTO MINE
OPERATED BY MINTO EXPLORATIONS LTD.

Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

Main Pit, Area 2 Pit Operational Monitoring: Results From Off-site ABA Testing

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	7



Waste Grade Material (cupct < 0.5%)	Cu(%)
Count	13828
Max	0.498
75th Percentile	0.13
50th Percentile	0.024
25th Percentile	0.005
Min	0
Average	0.09
StDev	0.12

Category	Count	%
All	13828	100%
NP/AP<3	1593	12%
NP/AP<2	903	7%
NP/AP<1	337	2%
0.5>Cu>0.35	781	6%
0.35>Cu>0.1	3070	22%
0.1>Cu>0.03	2358	17%
0.03>Cu	7619	55%

T:\!020_Site_Wide_Data\ML-ARD\Lab_Testing\Waste_Rock\Operational_Monitoring\Area2_Pit\Results_2013June24\[Minto Mine Drillhole Data with ARD_srk_rev03.xlsx]

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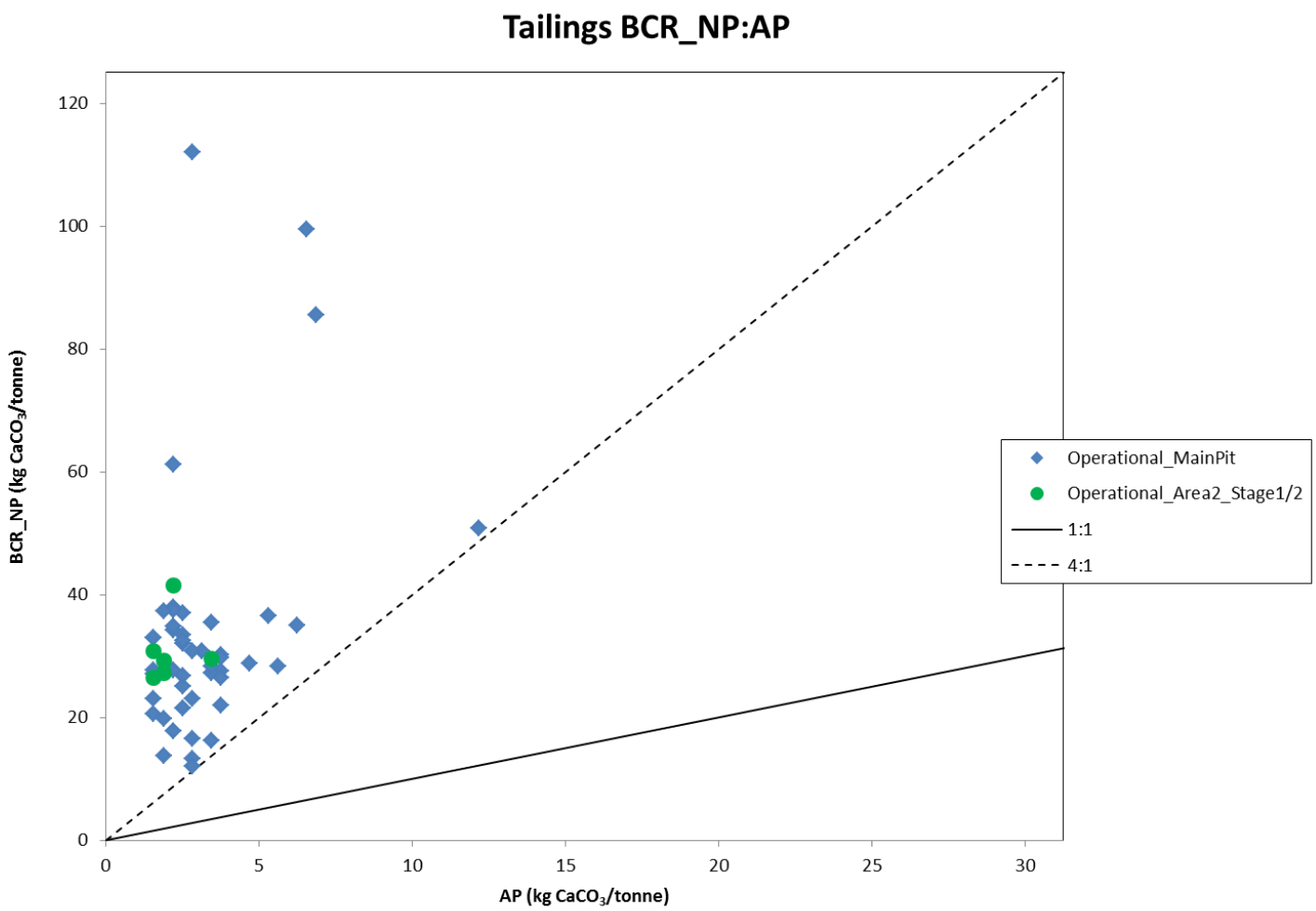
Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

Area 2 (Phase IV) Operational Monitoring: Results From On-site ABA Testing

PROJECT:	DATE:	APPROVED:	FIGURE::
1CM002.003	June 2013	DBM	8



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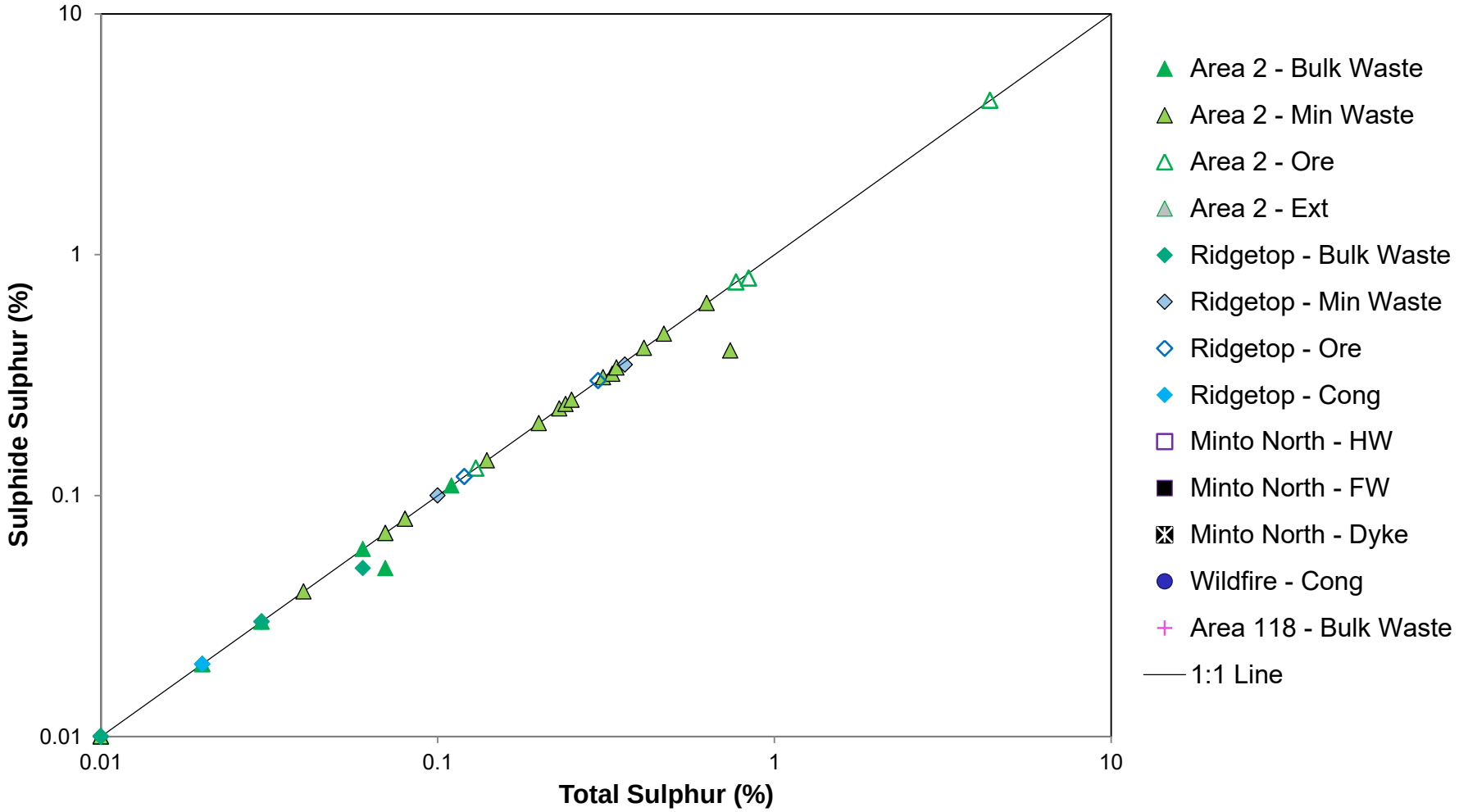
Minto Mine Phase V/V Expansion:
ML/ARD Assessment and Inputs to Water Quality Predictions

Tailings Operational Monitoring: ABA Results

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	9



P:\01 SITES\Minto\!020 Site Wide Data\ML-ARD\Lab Testing\Waste Rock\Static Testing\[1CM002.003 WR PhaseV-VI Static Compiled dbm rev00.xlsx]

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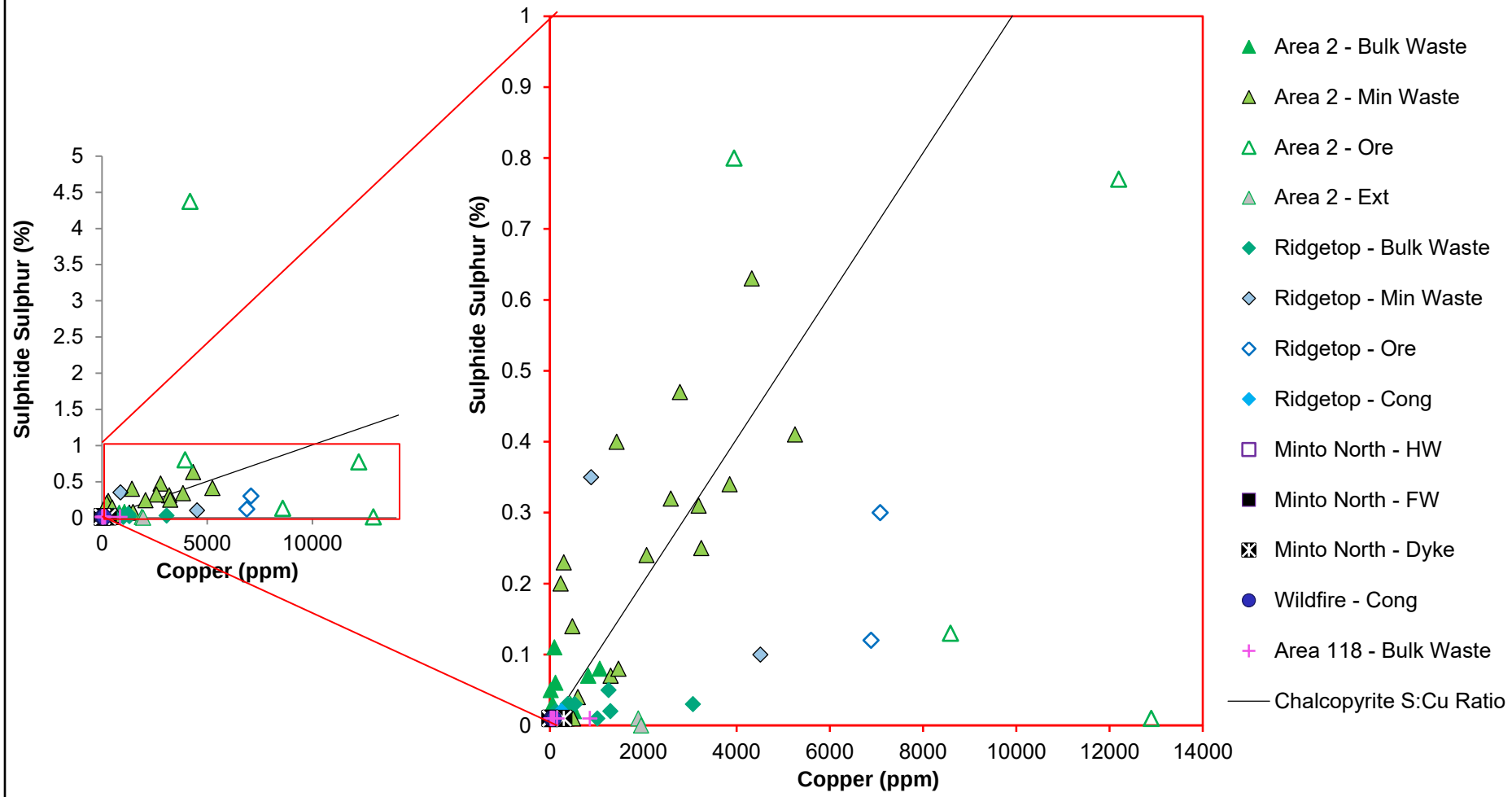
Minto Mine Phase V/VI Expansion: ML/ARD
Assessment and Inputs to Water Quality Predictions

Phase V/VI Waste Rock:
Sulphide Sulphur vs. Total Sulphur

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	10



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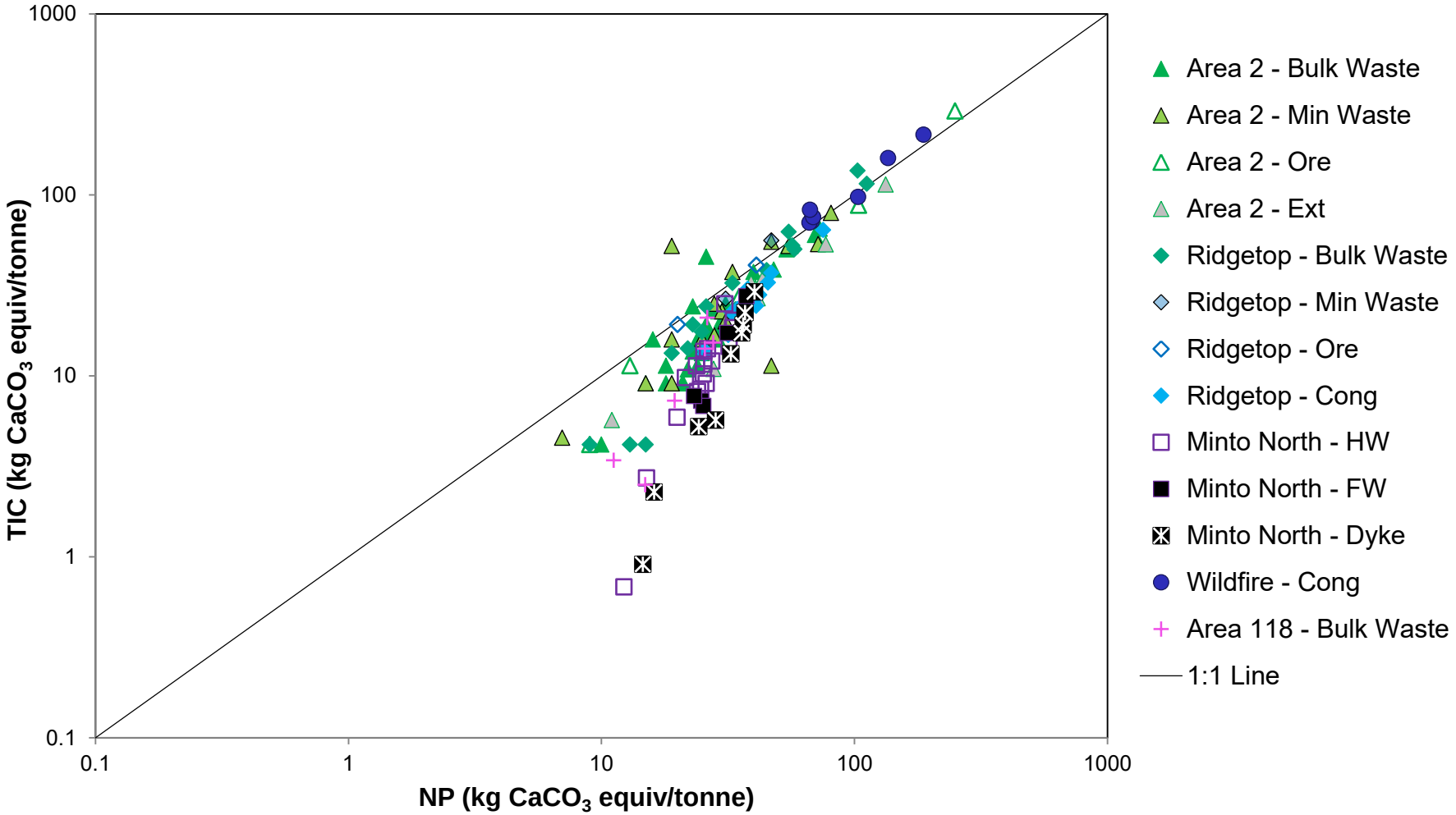
Minto Mine Phase V/VI Expansion: ML/ARD
Assessment and Inputs to Water Quality Predictions

Phase V/VI Waste Rock: Sulphide Sulphur vs. Copper

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	11



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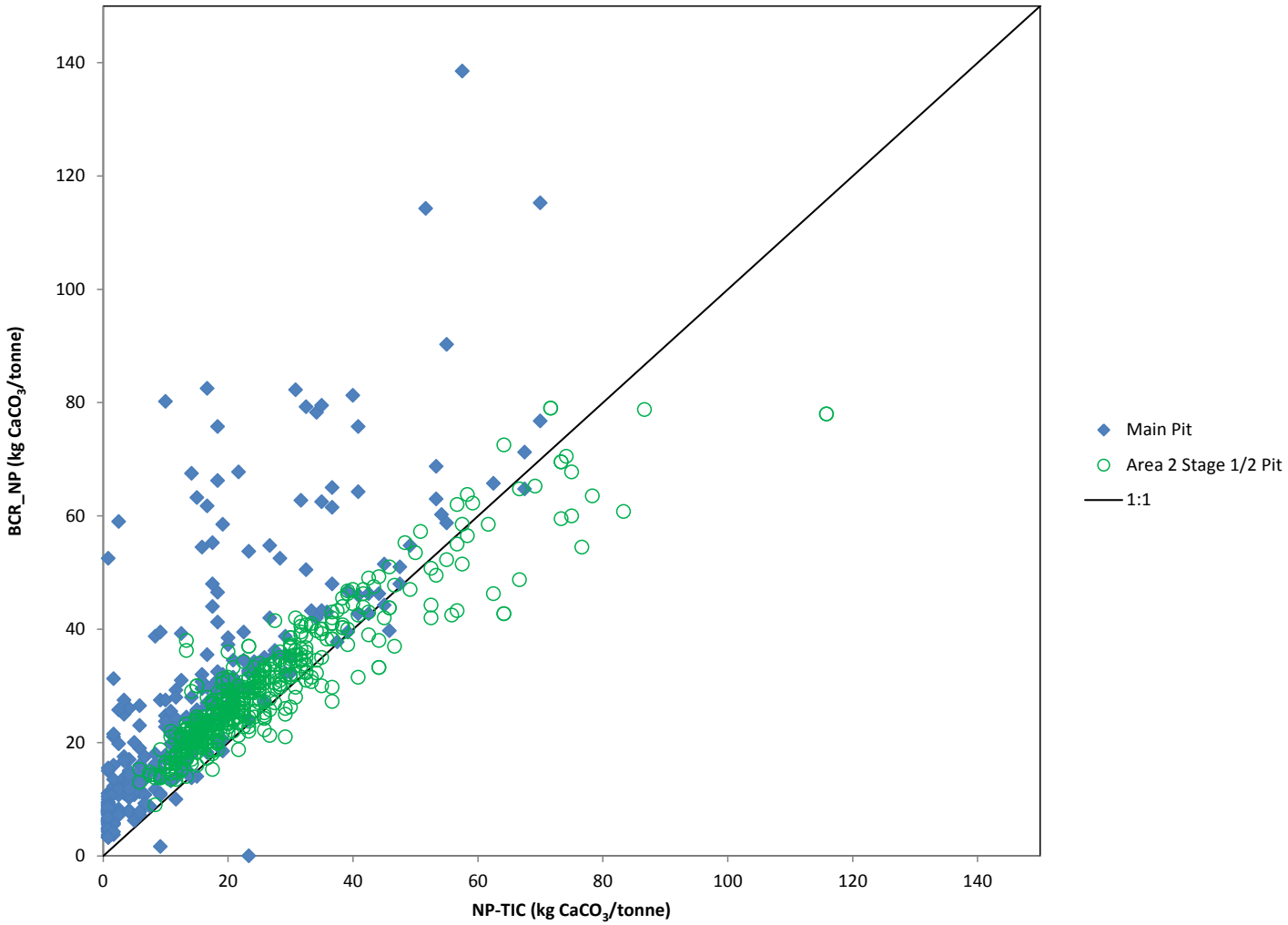
Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

Phase V/VI Waste Rock: NP_{TIC} vs. NP

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	12



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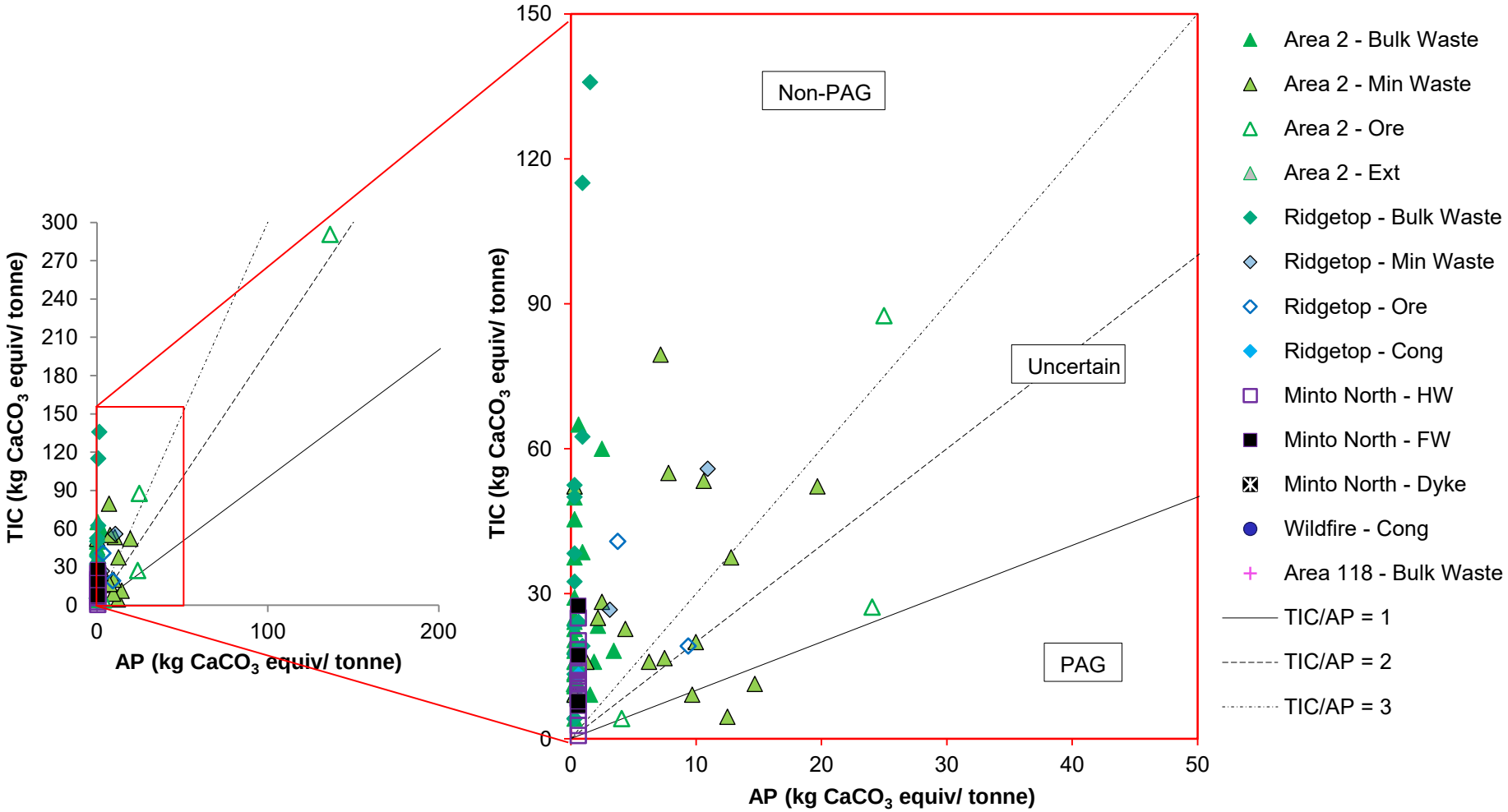
Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Prediction

Main Pit and Area 2: NP_{BCR} vs. NP_{TIC}

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	13



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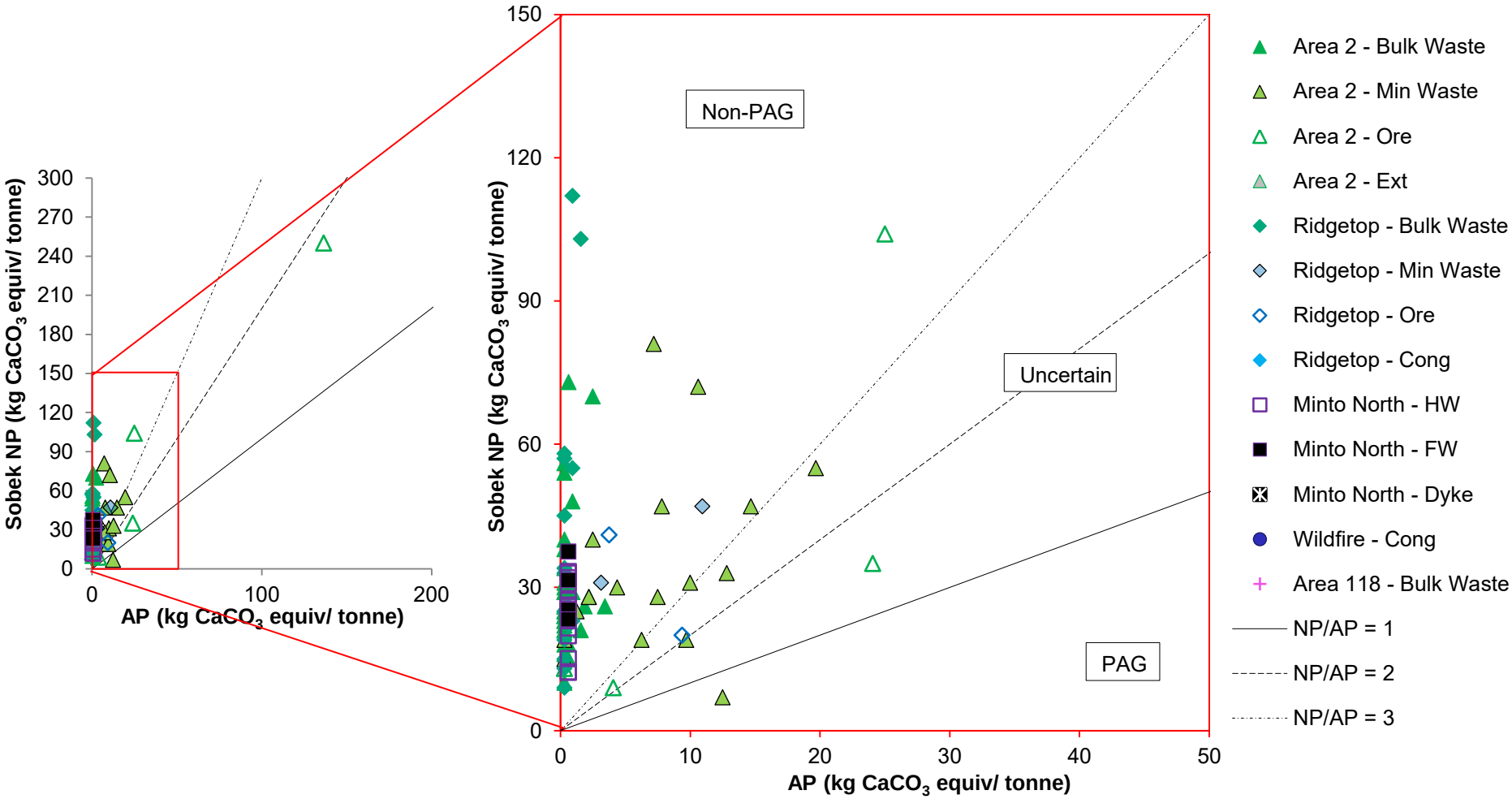
Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

Phase V/VI Waste Rock: NP_{TIC} vs. AP

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	14



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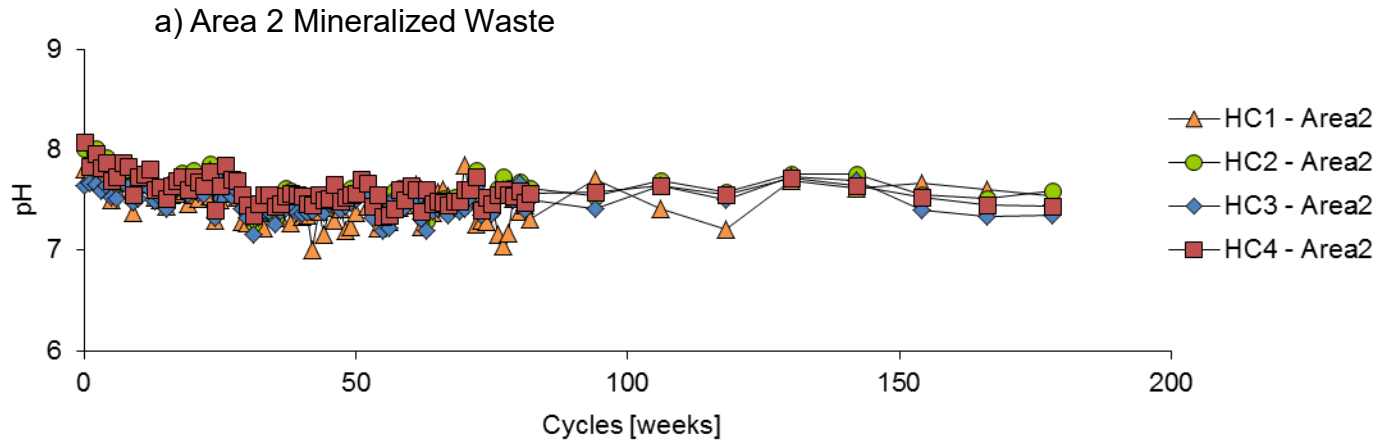
Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

Phase V/VI Waste Rock: Sobek NP vs. AP

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	15



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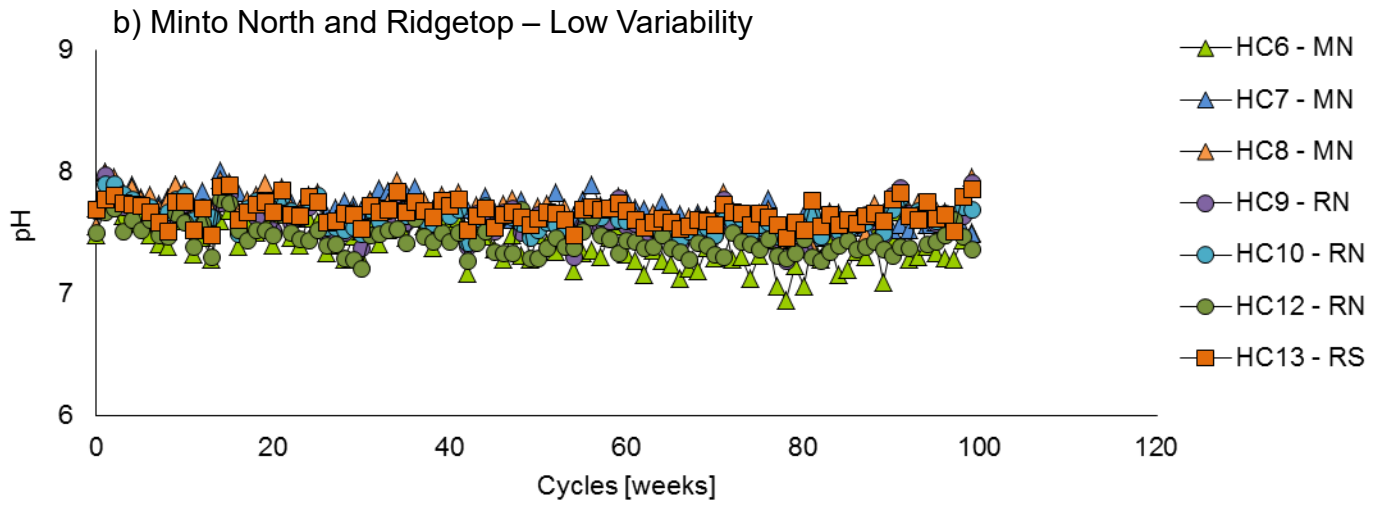

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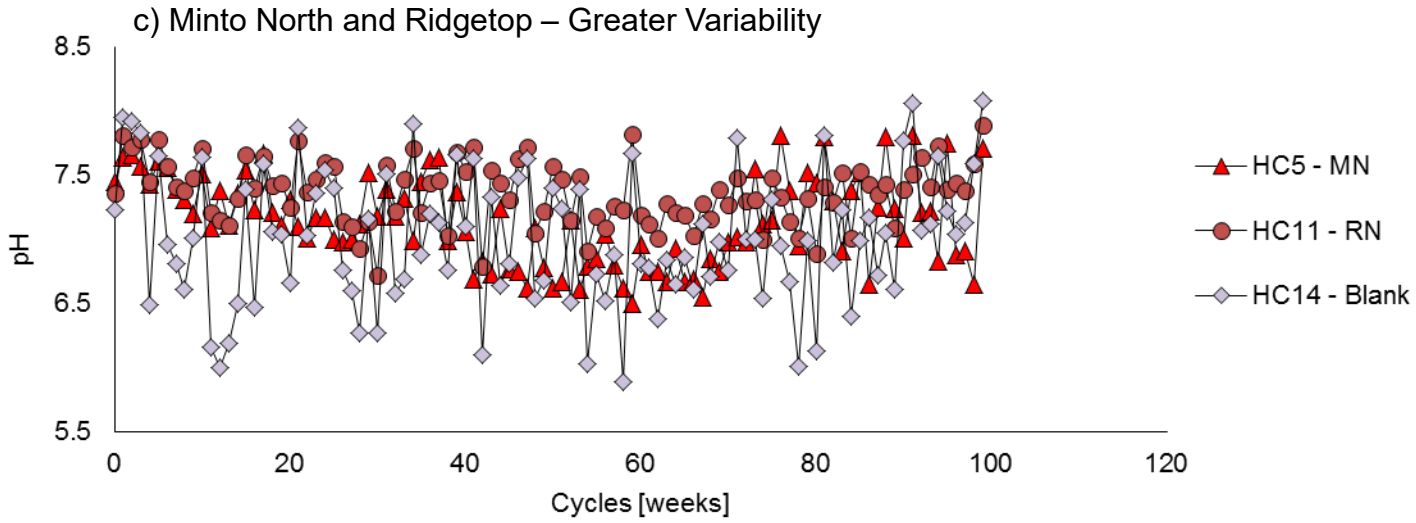

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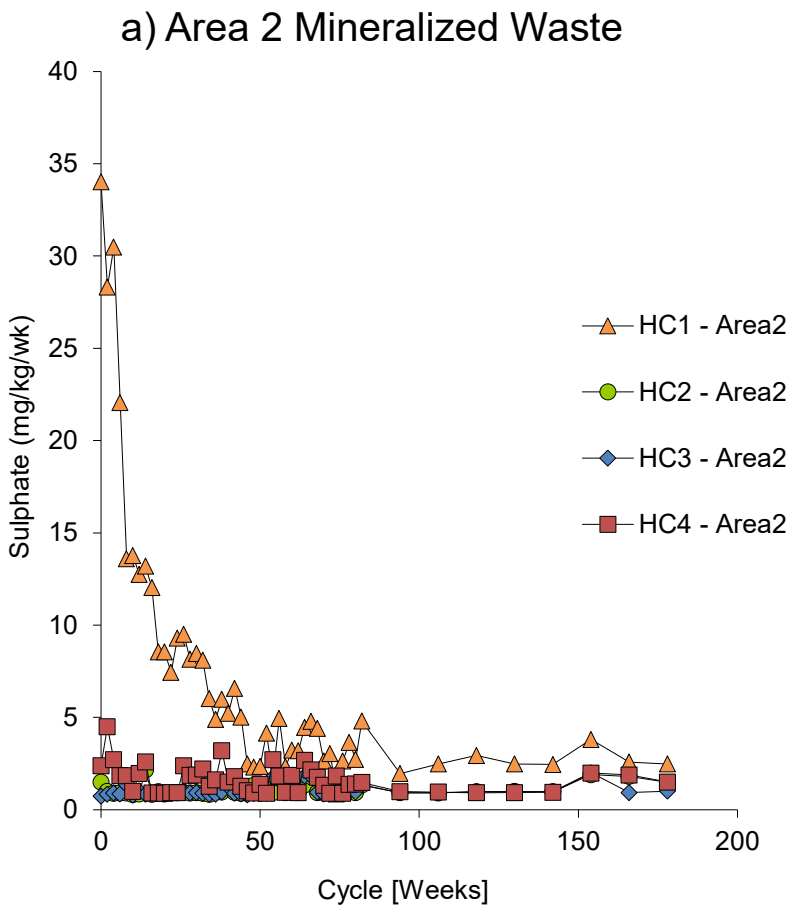
srk consulting	Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions			
CAPSTONE MINING CORP. MINTO MINE	**Humidity Cell Tests: Leachate pH Results**			
	PROJECT: 1CM002.003	DATE: June 2013	APPROVED: DBM	FIGURE: **16**



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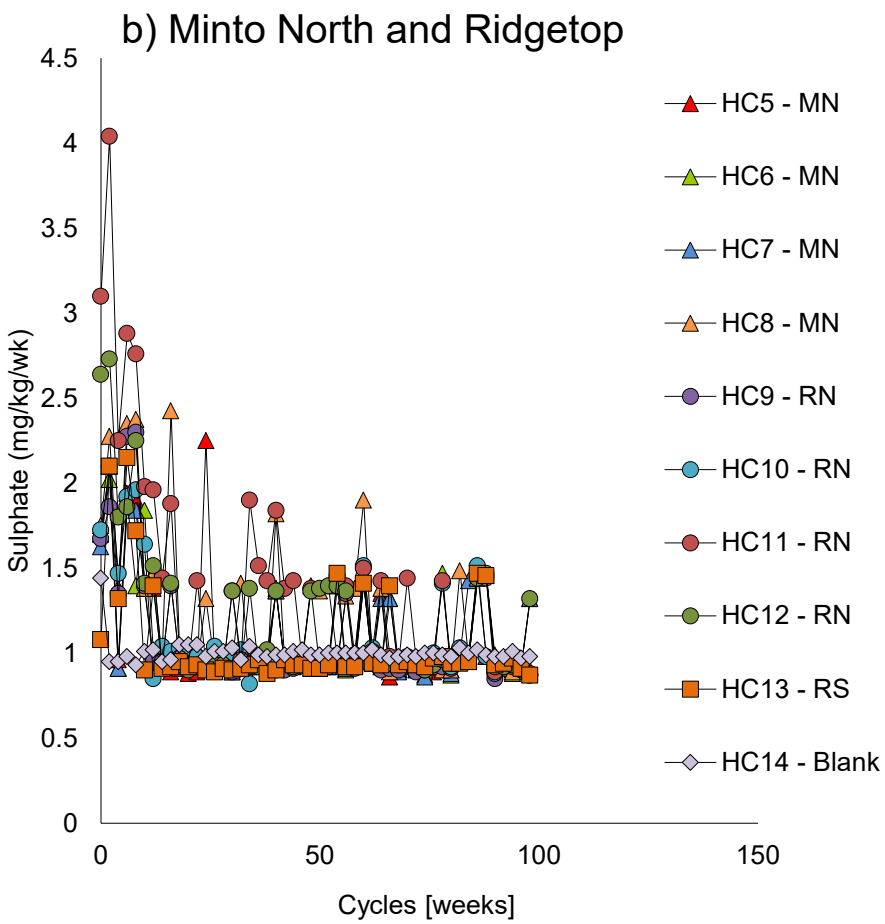

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MINTO MINE
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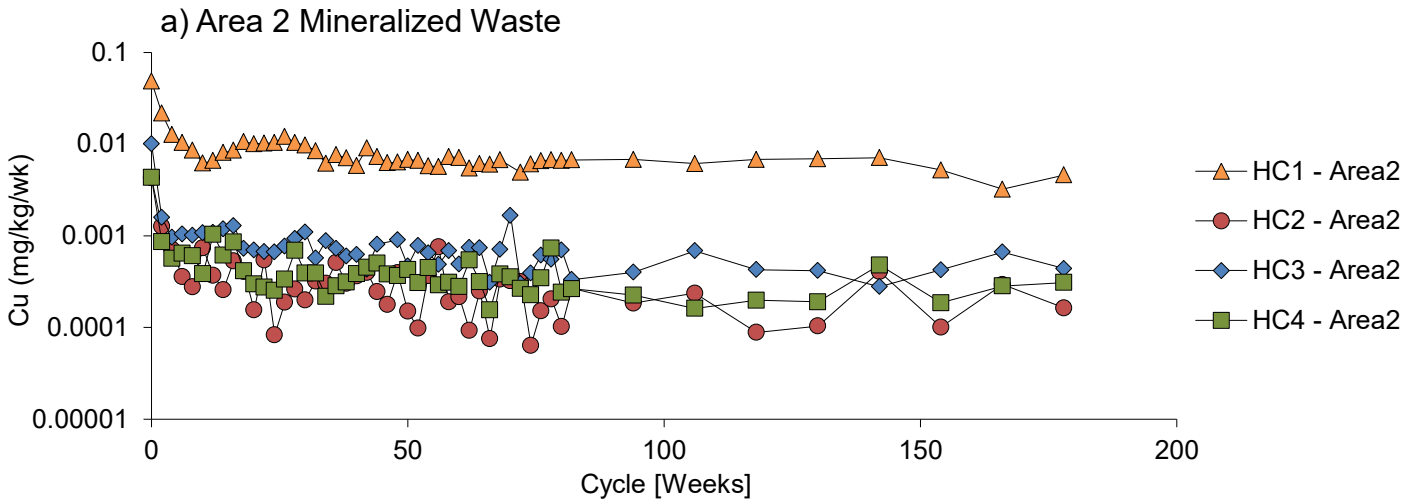
Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

Humidity Cell Tests: Sulphate Release Rates

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	17



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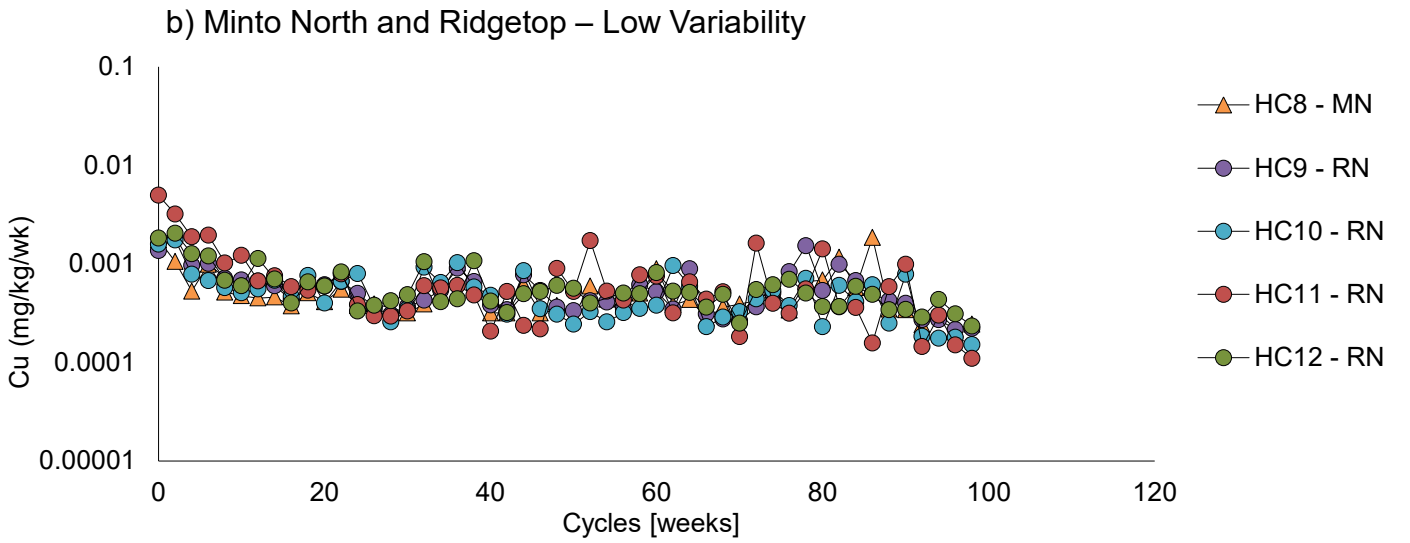

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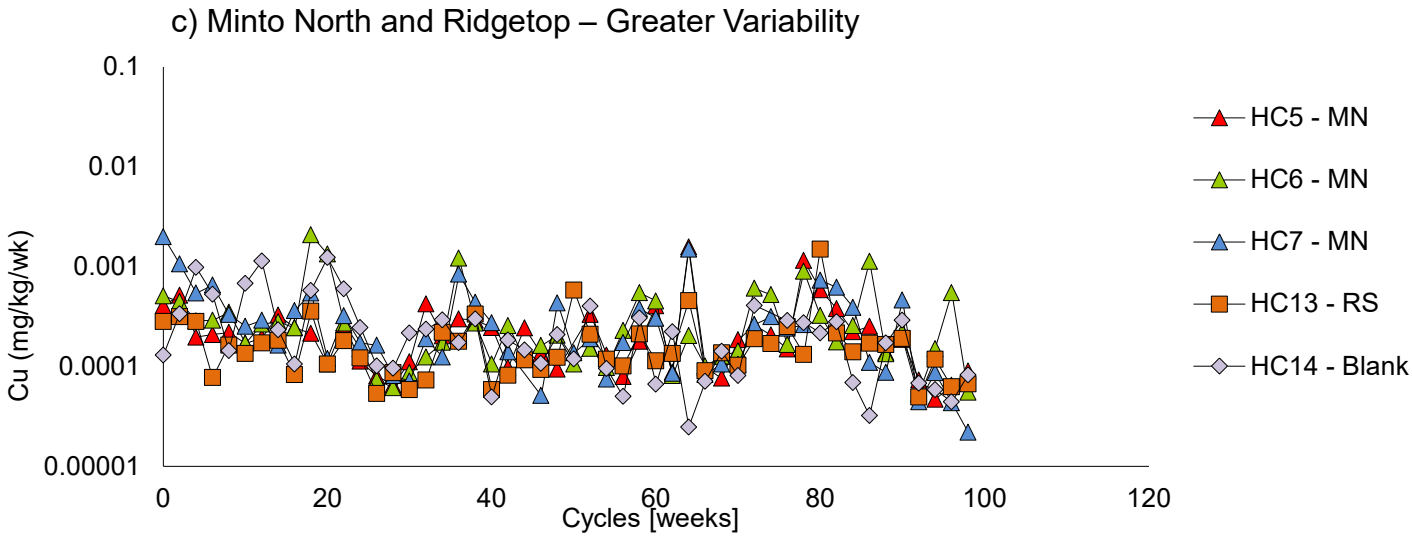

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MINTO MINE
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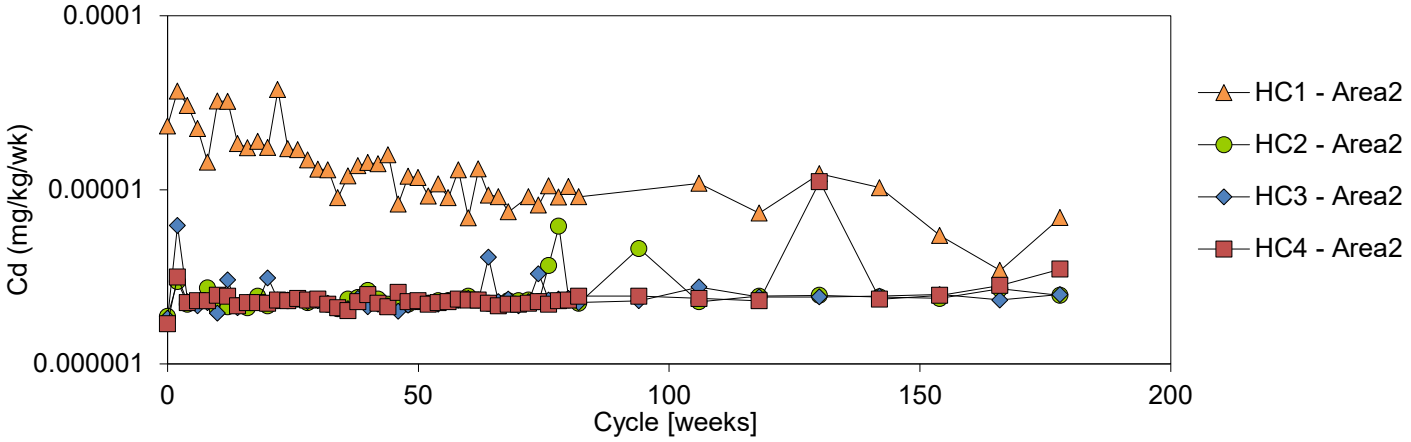
Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

Humidity Cell Tests: Copper Release Rates

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	18

a) Area 2 Mineralized Waste



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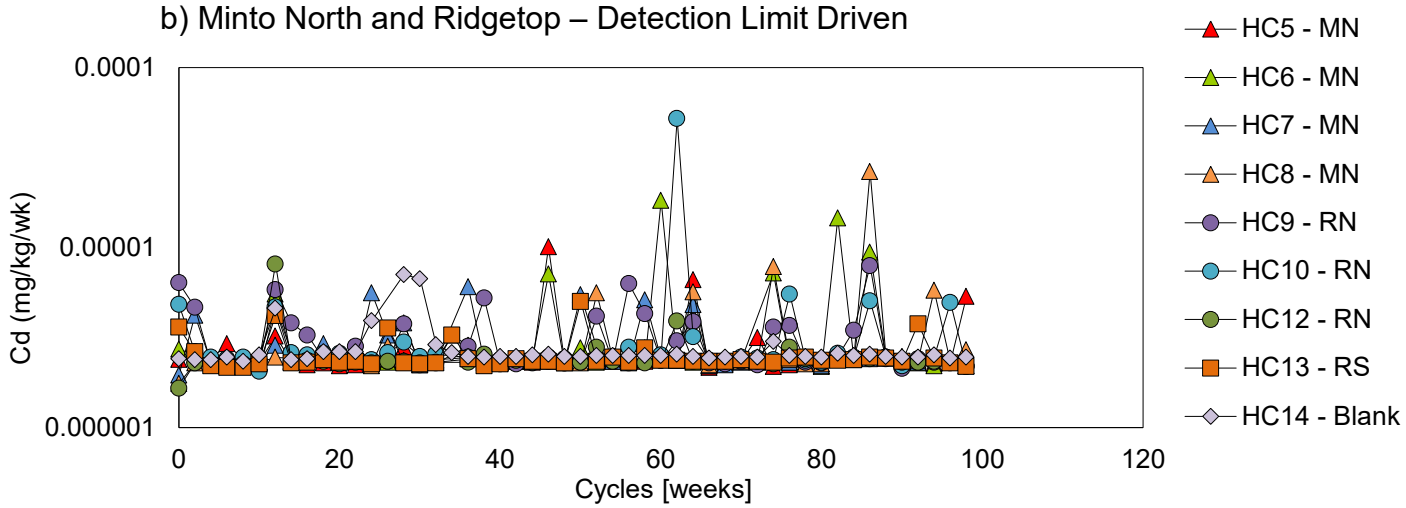
b) Minto North and Ridgetop – Detection Limit Driven



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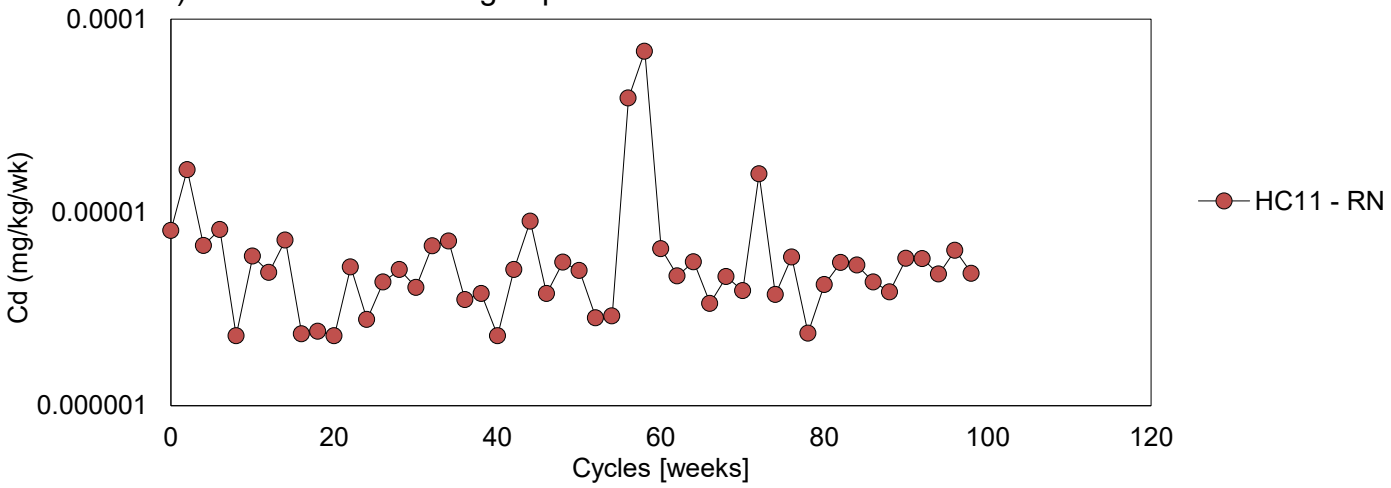
c) Minto North and Ridgetop – HC11



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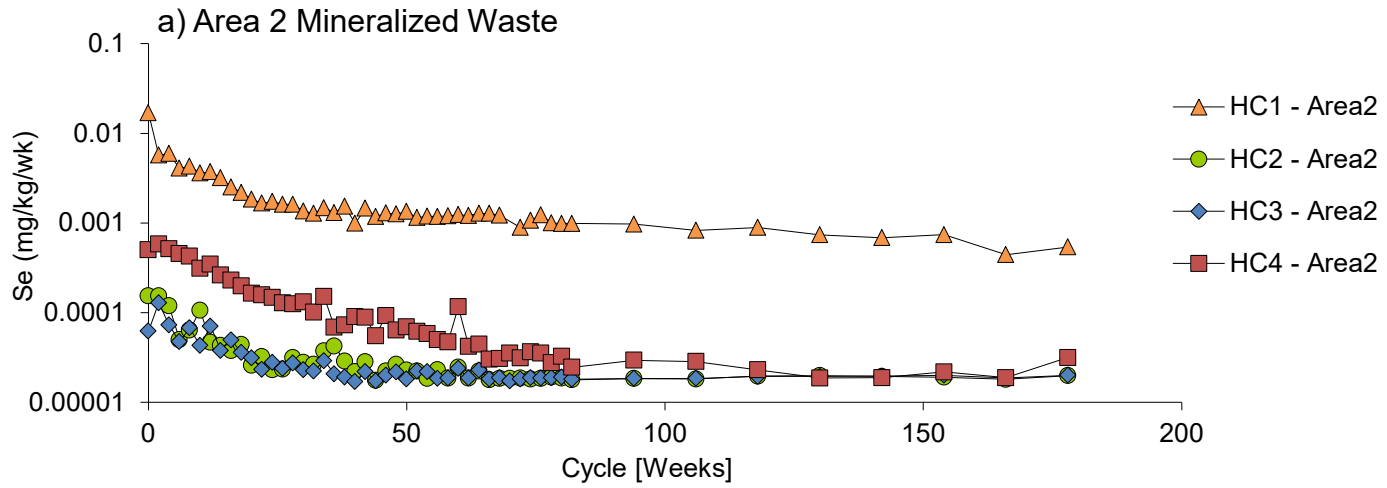
srk consulting	Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions			
CAPSTONE MINING CORP. MINTO MINE	**Humidity Cell Tests: Cadmium Release Rates**			
	PROJECT: 1CM002.003	DATE: June 2013	APPROVED: DBM	FIGURE: **19**



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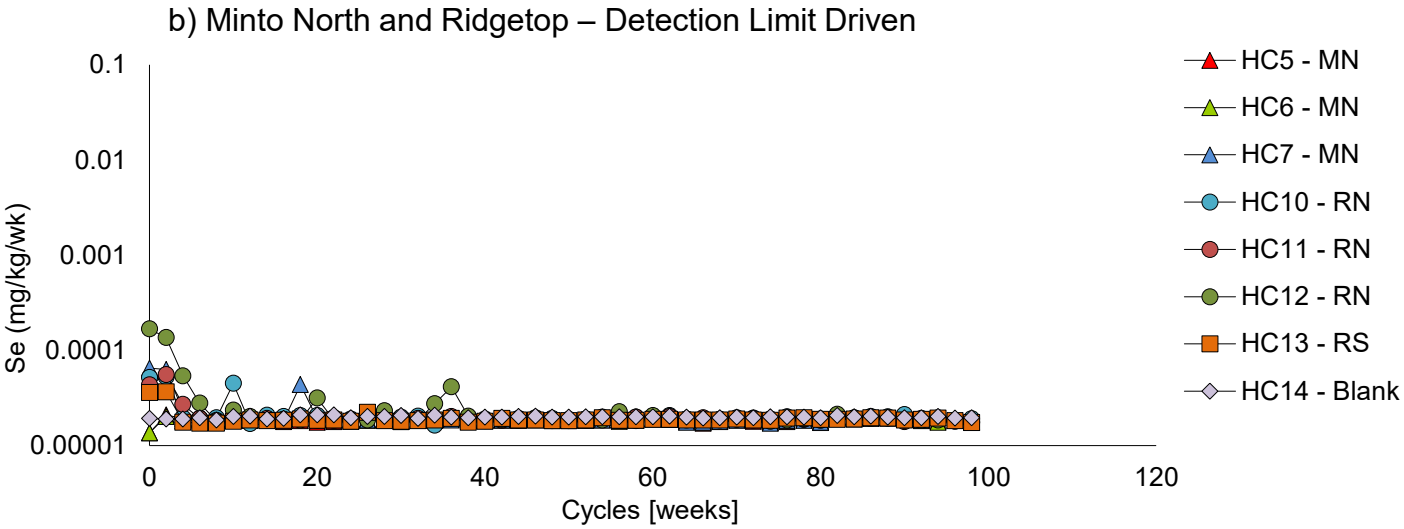

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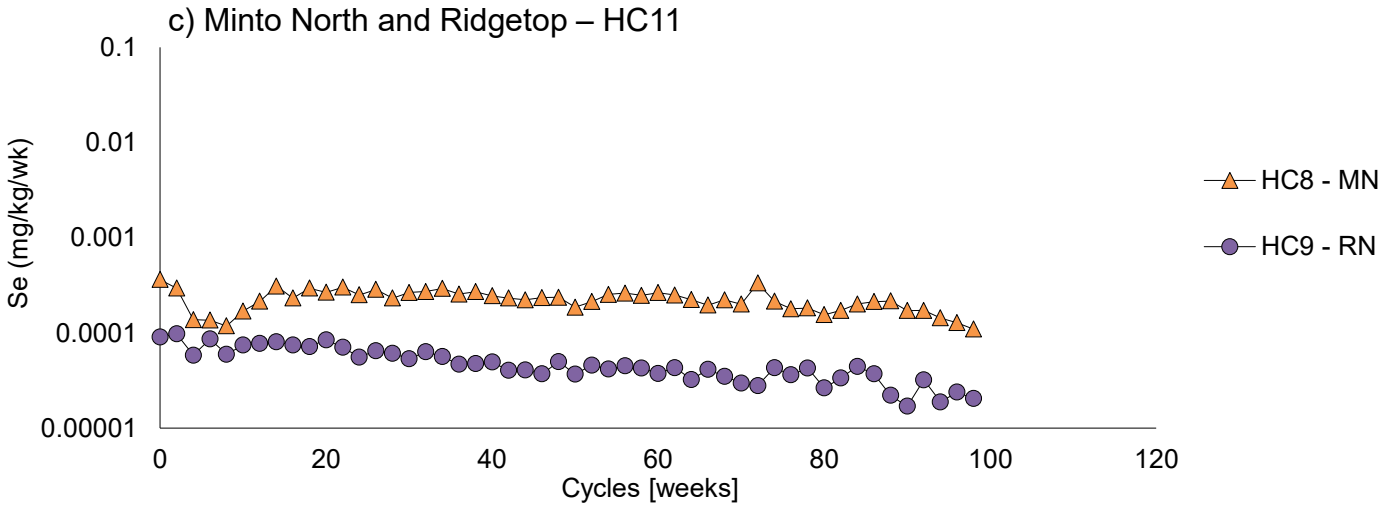

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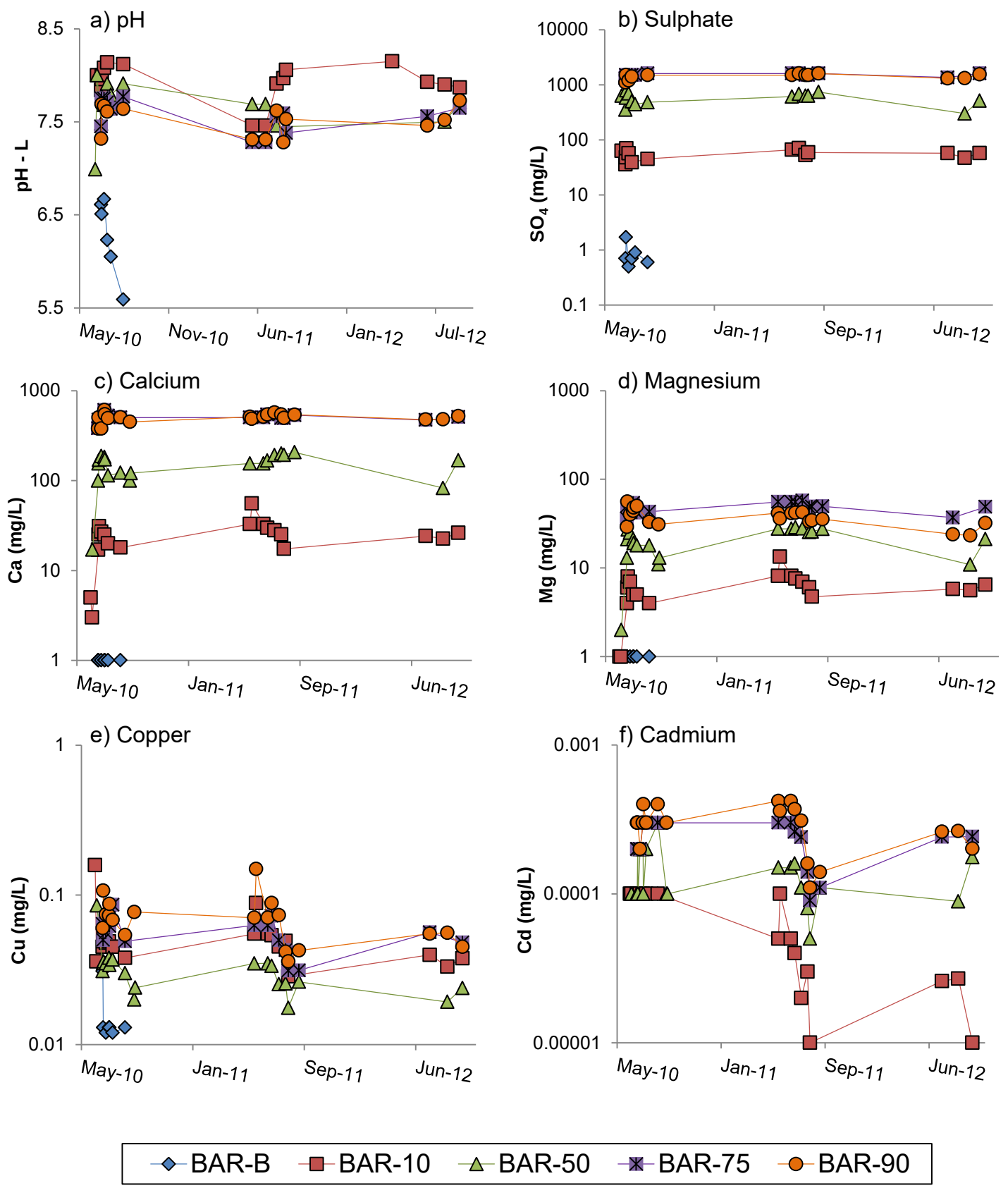
CAPSTONE MINING CORP. MINTO MINE	**Humidity Cell Tests: Selenium Release Rates**			
	PROJECT: 1CM002.003	DATE: June 2013	APPROVED: DBM	FIGURE: **20**



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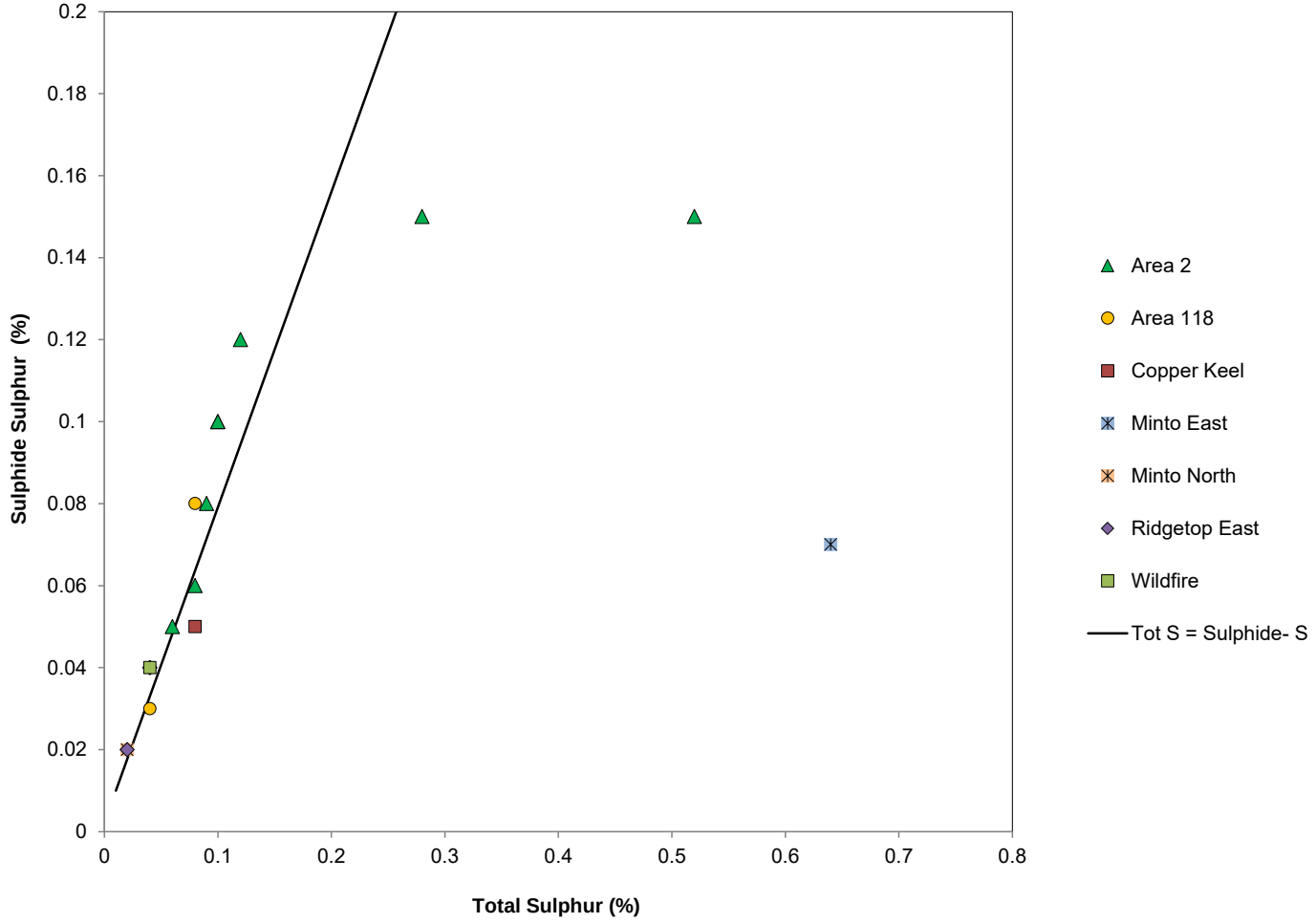
Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

Field Barrel Tests: Selected Results

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	21



T:\!020_Site_Wide_Data\ML-ARD\Lab_Testing\Tailings\Static_Testing\[Minto_Tailings_PhaseV_ML-ARD_Results_Compiled_Mar2013.xlsx]

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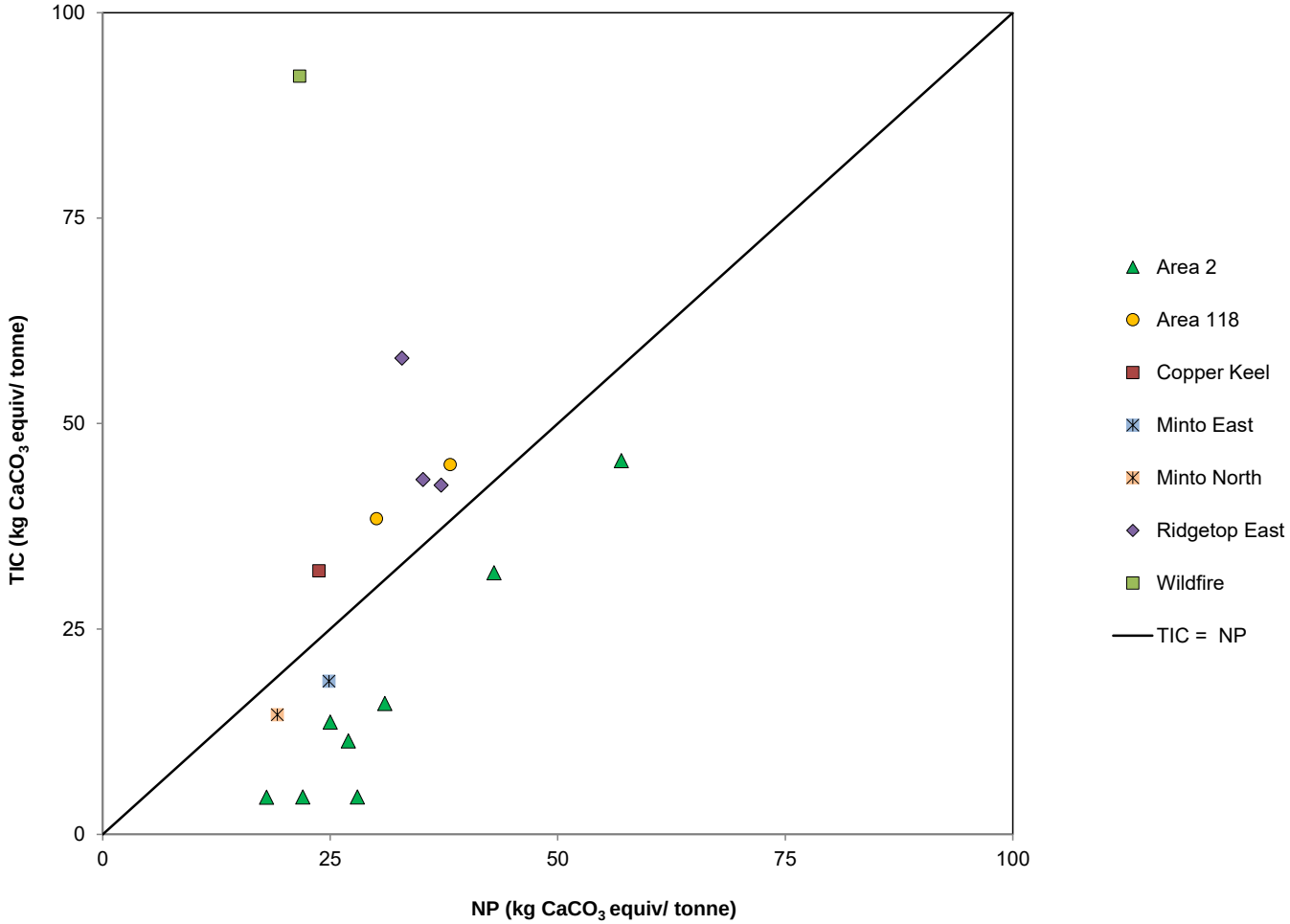
Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

Tailings:
Sulphide Sulphur vs. Total Sulphur

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	22



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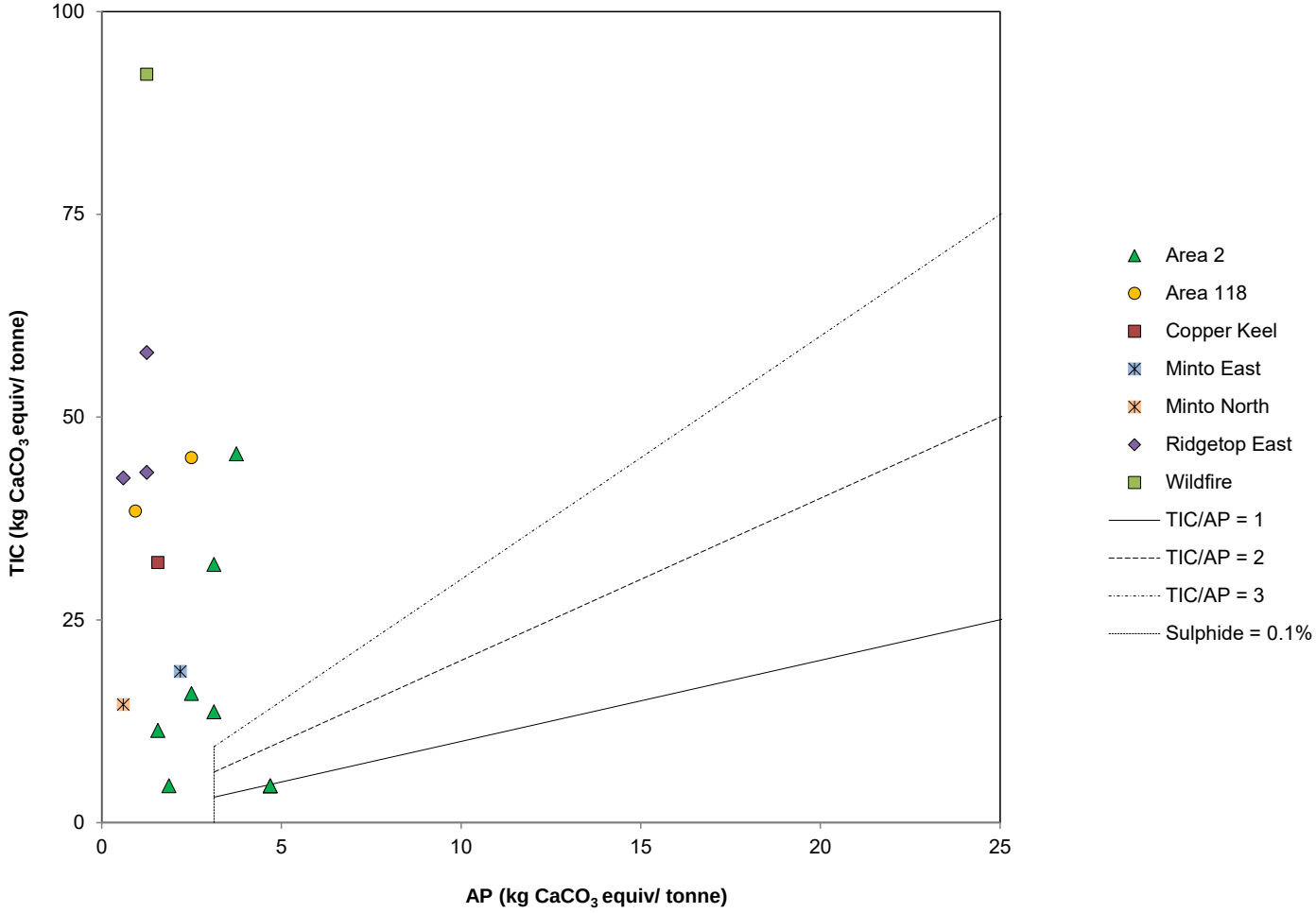
Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

Tailings:
NP_{TIC} vs. NP

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	23



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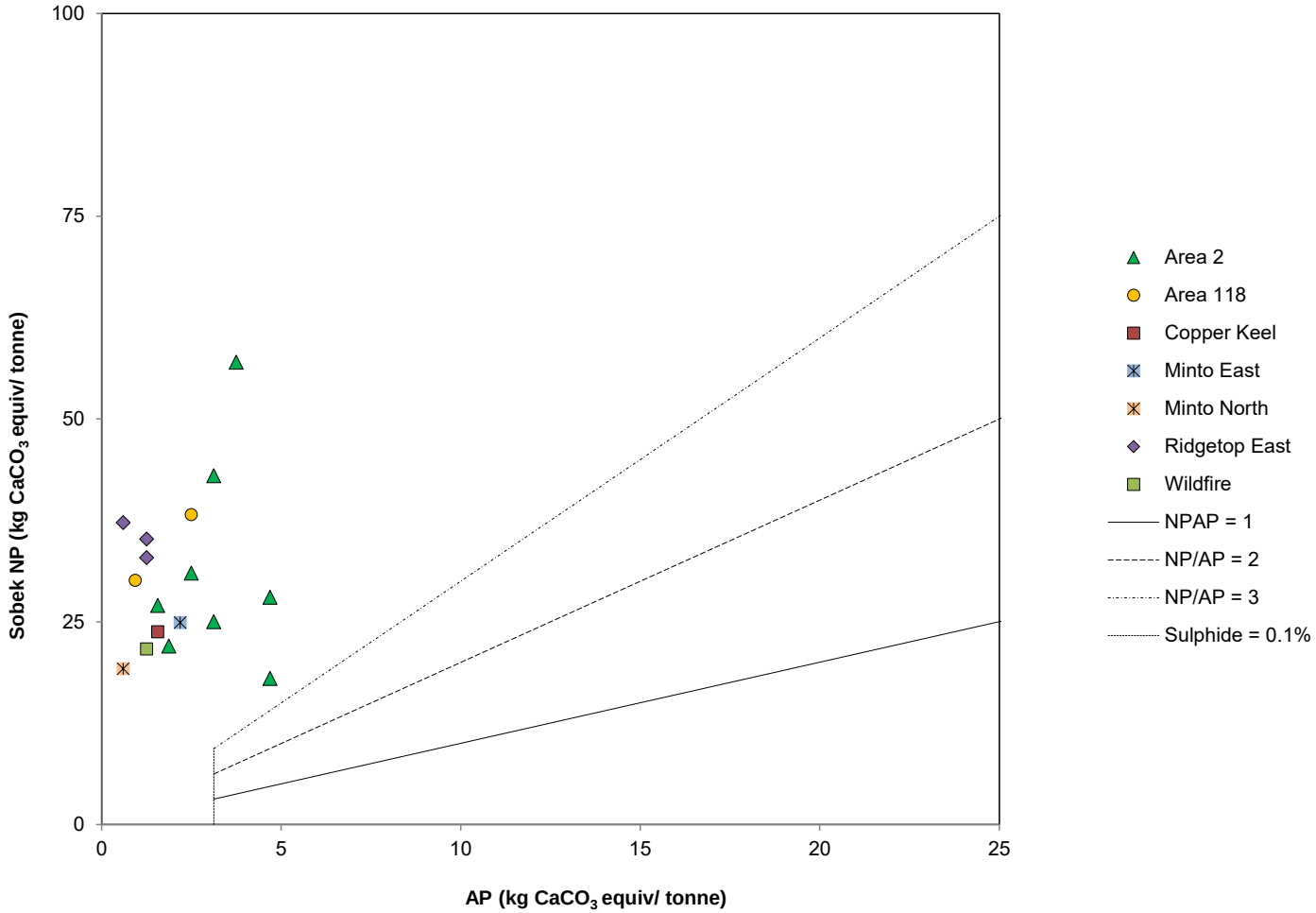
Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

Tailings:
NP_{TIC} vs. AP

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	24



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Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

Tailings:
Sobek NP vs. AP

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	25

Base orthophoto provided by Minto Mine; compiled from aerial photos flown August 2012.

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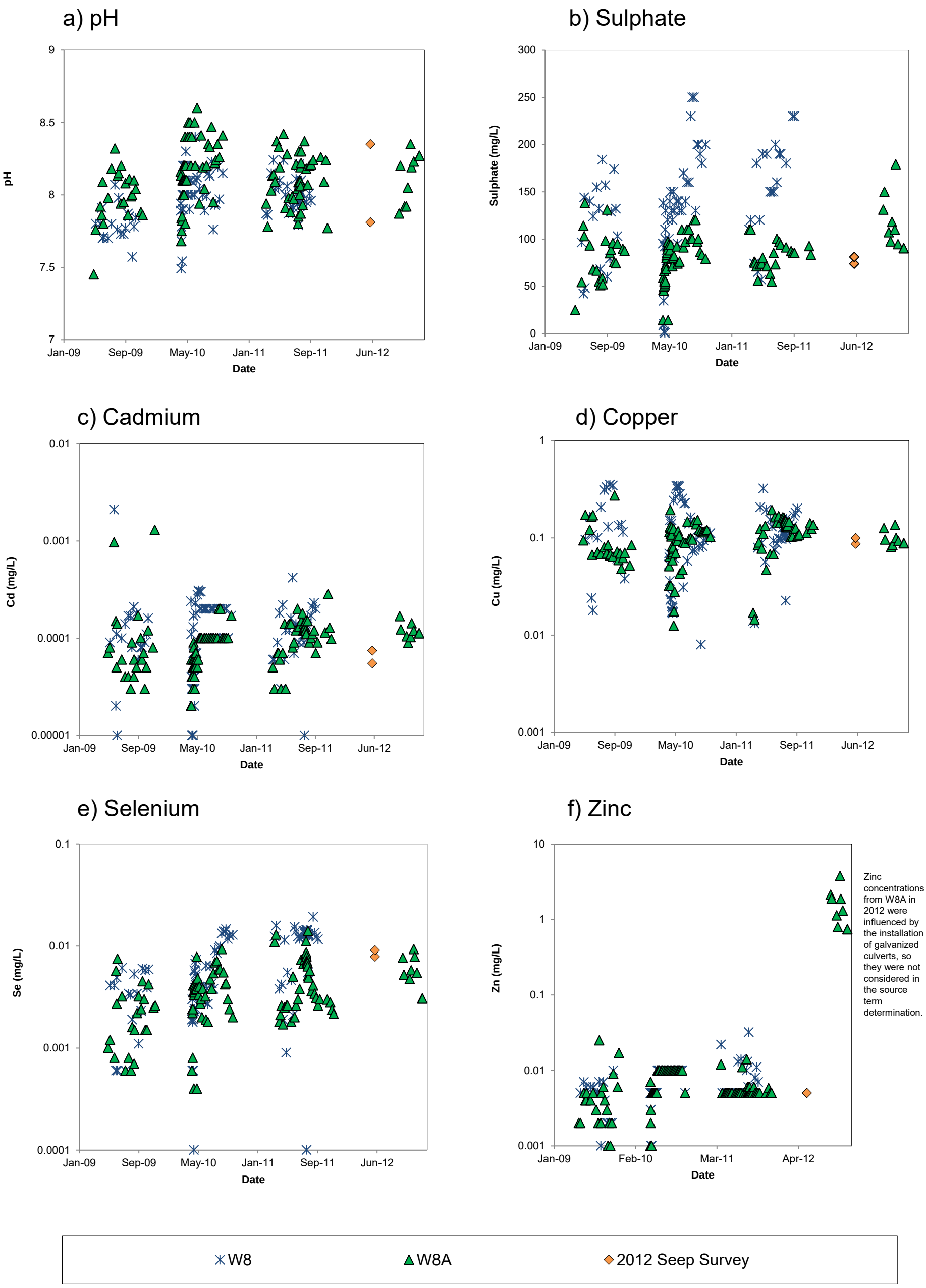
Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

DSTSF: Water Quality Monitoring and 2012 Seepage Survey Stations

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	26



P:\01_SITES\Minto\!020_Site_Wide_Data\ML-ARD\Field_Testing\Tailings\DSTF_Seepage\[1CM002.003_DSTF_Seepage_Charts_sjn_rev00.xlsx]

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Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

DSTSF Selected Water Quality Results

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	27

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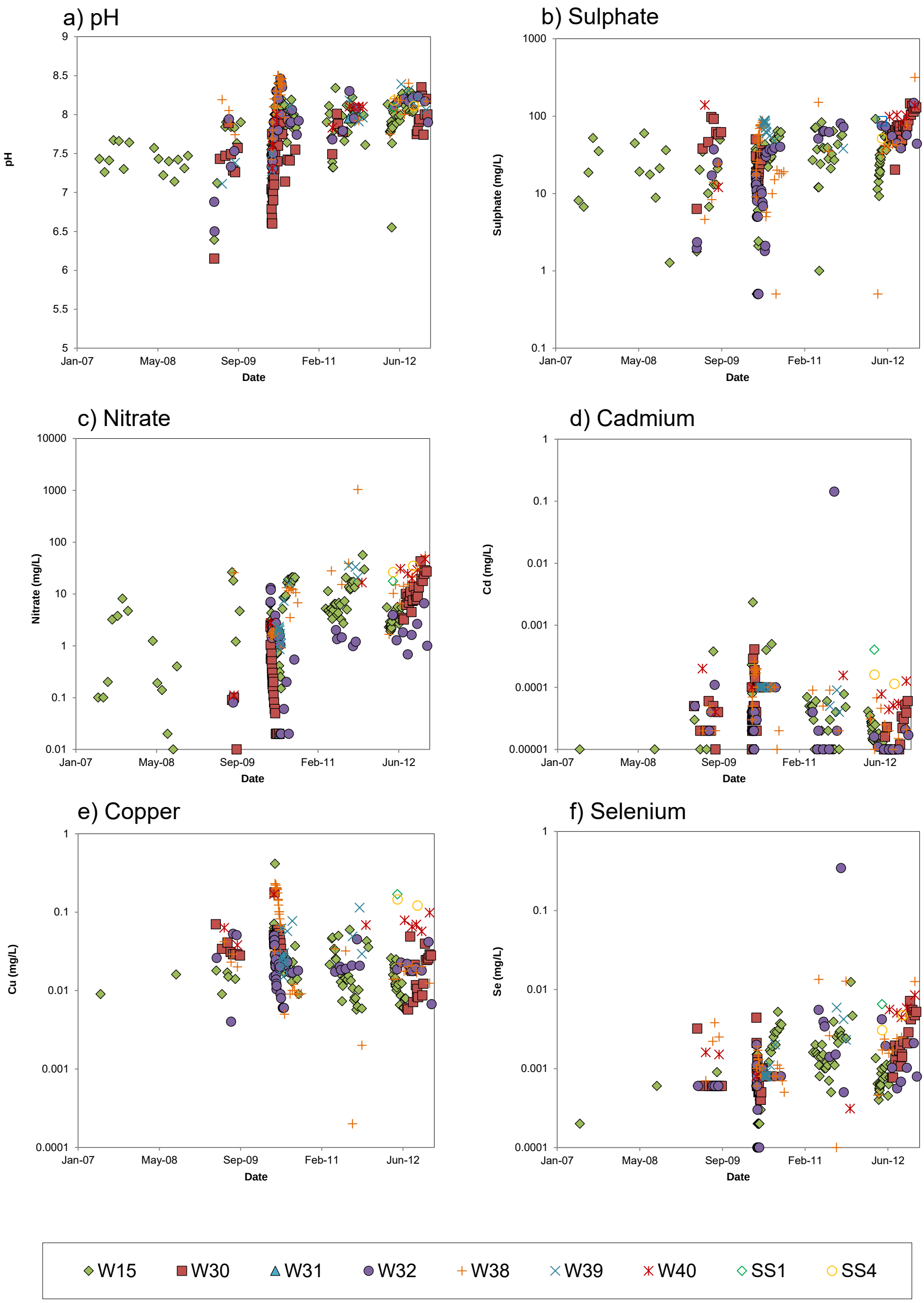
Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

MWD and SWD: Water Quality Monitoring and 2012 Seepage Survey Stations

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	28



P:\01_SITES\Minto\!020_Site_Wide_Data\ML-ARD\Field_Testing\Waste_Rock\Dump_Seeps\Results\[1CM002.003_WR_M&SW_Dumps_Seepage_Charts_sjn_rev01.xlsx]

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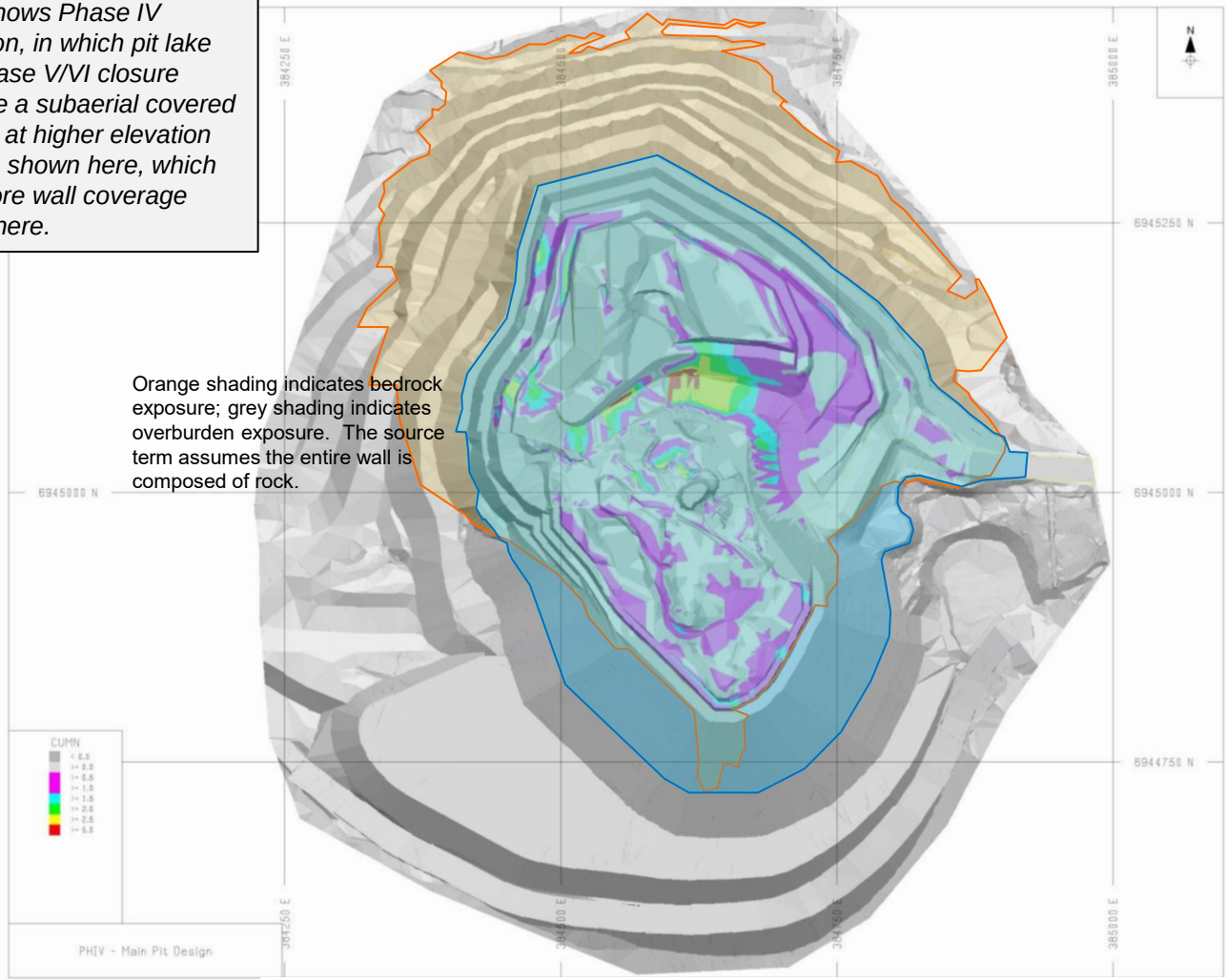
Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

MWD and SWD Selected Water Quality Results

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	29

Note: image shows Phase IV closure condition, in which pit lake forms. The Phase V/VI closure condition will be a subaerial covered tailings surface at higher elevation that the pit lake shown here, which will result in more wall coverage than indicated here.



Orange shading indicates bedrock exposure; grey shading indicates overburden exposure. The source term assumes the entire wall is composed of rock.

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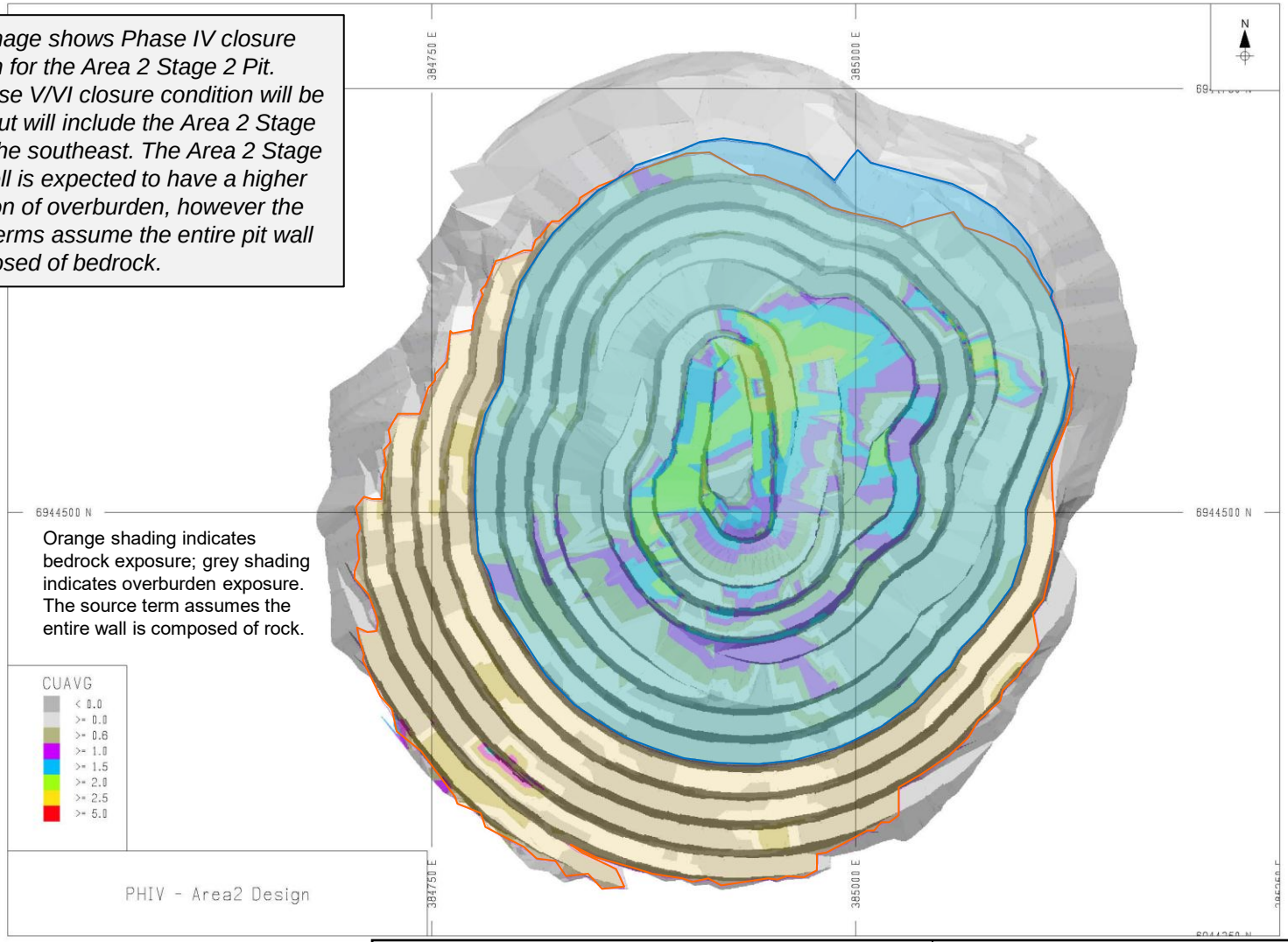
Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

Main Pit: Final Wall

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	30

Note: image shows Phase IV closure condition for the Area 2 Stage 2 Pit. The Phase V/VI closure condition will be similar but will include the Area 2 Stage 3 Pit to the southeast. The Area 2 Stage 3 Pit shell is expected to have a higher proportion of overburden, however the source terms assume the entire pit wall is composed of bedrock.



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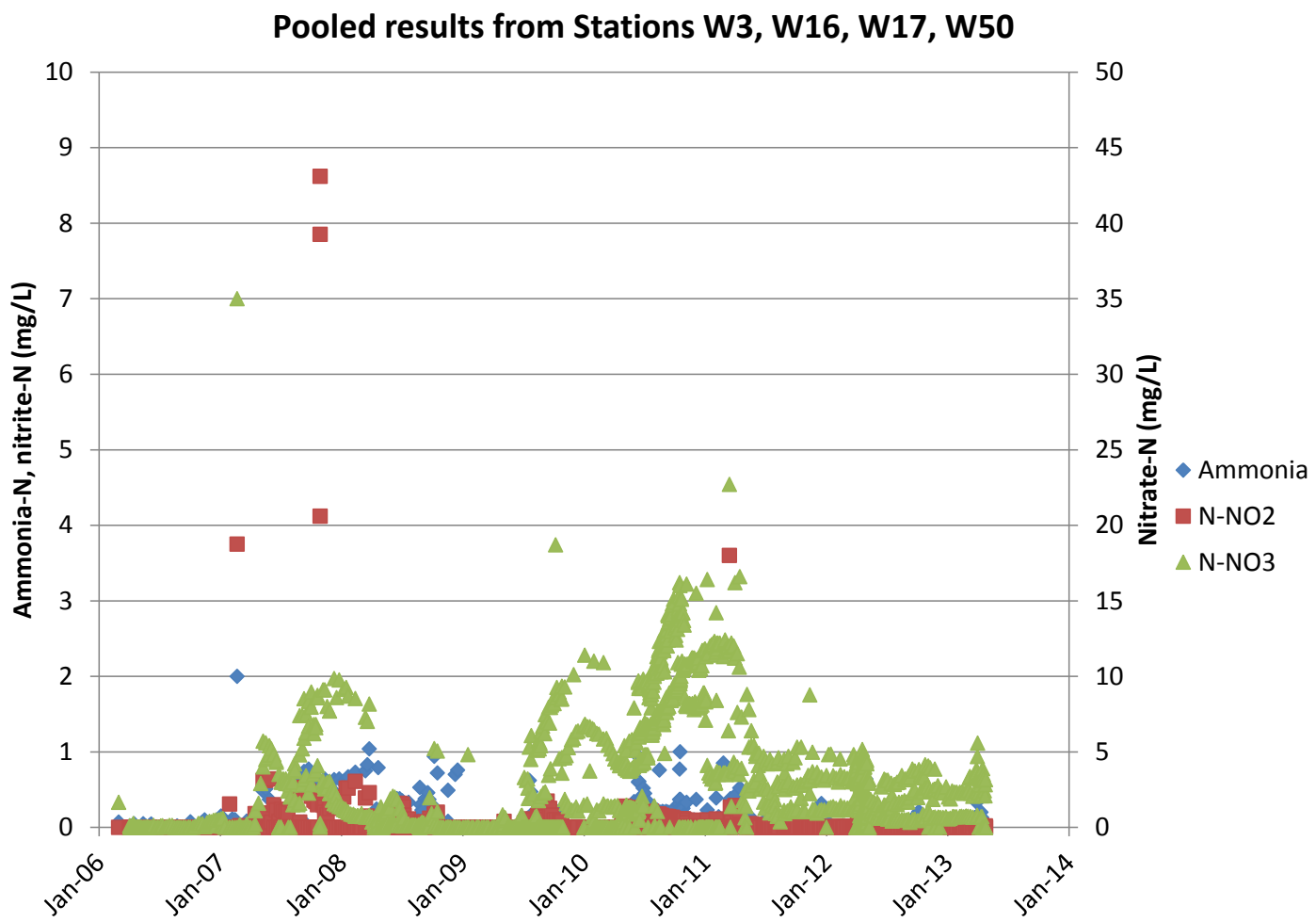
Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

Area 2 Pit: Final Wall

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	31



T:\!020_Site_Wide_Data\ML-ARD\Source_Terms_PhV_VI\N_Species\[1CM002-003_PhV-VI_N-Species_Source_Term_dbm_rev00.xlsx]

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Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

Nitrate, Nitrite and Ammonia Concentrations at W3 and Related Stations

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	32

Appendix A
Memo: Volume Estimate for Phase V/VI NP:AP<3 Waste Rock

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Memo

To:	Pooya Mohseni, Chief Engineer, Minto Mine	**Client:**	Capstone Mining Corporation
From:	Dylan MacGregor	**Project No:**	1CM002.003
Cc:		**Date:**	July 5, 2013
Subject:	Minto Mine Phase V/VI Expansion: Volume Estimate for Phase V/VI NP/AP<3 Waste Rock		

1 Introduction

The original Minto Explorations Ltd. (Minto) water use license QZ96-006 (WUL) (and subsequent amendments) noted that material having "(*a)n NP/AP ratio of 3 or greater is generally considered to indicate non-acid generating material*" (Appendix 6 of YWB (2012)). For Phase V/VI waste management planning purposes, a volumetric allowance was made for a volume of NP/AP [1]< 3 waste rock to be stored under conditions that are expected to be saturated in the long term to minimize oxidation of contained sulphide minerals. This memorandum summarizes the method used to develop the volume allowance.

2 Background

2.1 Historical ABA Results

During mining of the Main Pit, operational monitoring of waste rock for acid base accounting (ABA) parameters was carried out in accordance with water license conditions. The results of that operational monitoring confirmed that the ABA characteristics of Main Pit waste rock were consistent with expectations based on pre-production testing (i.e. NP/AP values were consistently greater than 3).

During the metal leaching and acid rock drainage (ML/ARD) investigations that formed the basis of the Phase IV waste management strategy, a small proportion of drill core samples from the future Area 2 Stage 2 pit were identified as having NP/AP<3. Due to the large proportion of samples with NP/AP>3, it was concluded that bulk disposal of waste rock was appropriate and that no allowance for separate disposal of NP/AP<3 material was required.

Once Phase IV mining began, operational monitoring of Area 2 waste rock in 2012 (using an off-site commercial laboratory) indicated that a proportion of as-produced waste rock had NP/AP<3; this result was consistent with the pre-production testing, but after further consideration Minto

[1] NP: neutralization potential; AP: acid potential

elected to revise its waste rock disposal approach. To minimize the long-term risk of development of acidic leaching conditions and associated high metal loadings, the mine adapted the waste rock management strategy to include on-site classification, and separate storage of waste rock with NP/AP>3 and NP/AP<3.

2.2 Adaptation of Phase IV Waste Rock Management Strategy

The Phase IV waste management plan was adapted by introducing operational characterization of waste rock ABA characteristics into the mine's work flow as part of the grade control program starting in August 2012. To provide ABA results in the short turn-around times required for operational characterization and dispatching, Minto purchased and commissioned an Eltra CS-800 induction furnace that allowed on-site measurement of total carbon and total sulphur content. Prior results from testing of samples from Main Pit and Area 2 at an off-site commercial laboratory showed that total carbon and total sulphur content was nearly identical to total inorganic carbon and total sulphide sulphur content, respectively, and therefore the relatively-simple total carbon and total sulphur analyses were appropriate for operational ABA characterization.

Operational NP and AP values (NP-C(T) and AP-S(T)) are calculated from the total carbon and total sulphur results, respectively, and then used to calculate NP-C(T):AP-S(T). It should be noted that this approach makes the de facto assumption that all sulphur is hosted in the mineral pyrite (FeS_2); in the case of Minto, pyrite is generally less abundant than copper sulphides.

Samples for on-site ABA testing are split from blast-hole samples collected for grade control purposes. Cuttings from every blasthole are collected and analyzed, and both assay and ABA results are then imported into the mine's grade control software. Using the results, mine geologists define ore and waste polygons for each blast (including delineating NP-C(T):AP-S(T)< 3 waste polygons) and then the results are provided to the pit operations staff for staking of ore and waste boundaries and subsequent dispatching of ore and waste to appropriate stockpiles and waste storage facilities.

To ensure that waste rock with NP/AP<3 would be stored in a location that would be saturated over the long term, the mine initiated dispatching of waste rock with NP/AP<3 to the mined-out Main Pit, placing it below the final expected water table elevation.

2.3 Phase V/VI Pre-production ABA Results

The Phase V/VI pre-production testing on drill core samples presented a similar range of results for the Area 2 Stage 3 pit (A2S3), the Ridgetop North pit, and the Ridgetop South pit as were found for the Phase IV deposits (i.e. there would not be significant waste rock volumes having NP/AP<3). However, based on the Phase IV mining results, Minto elected to plan for a certain volume of NP:AP <3 waste rock from the Phase V/VI developments to ensure that sufficient storage volume below final water table elevations was reserved.

Drill core from the waste rock intervals within the planned Minto North pit had uniformly low total sulphur content and NP/AP>3, and on that basis, no allowance for waste rock with NP/AP<3 is made for Minto North.

2.4 Classification Criteria

As noted in Section 1, the current Minto WUL notes that waste rock with NP/AP>3 is generally considered to indicate non-acid generating material. This is true in the strictest sense, but it should not be taken to indicate that an NP:AP value of 3 defines a sharp boundary between non-acid generating material and acid generating material. There are cases at individual mining projects in which detailed studies have determined that NP:AP values approaching 1 are appropriate for use as a threshold criterion for segregating non-acid generating waste rock; in the absence of detailed site-specific mineralogical study, it is common to refer to waste rock with NP:AP values between 1 and 3 as having "Uncertain" acid generating potential, and to define up to two additional categories (Potentially Acid Generating and Acid Generating) as summarized in Table 1.

Table 1 Generic Classification of ARD Potential of Mine Wastes

NP:AP Value (X)	Descriptive Classification	ARD Class Designation
X > 3	Not potentially acid generating	NPAG or NAG
1 ≤ X ≤ 3	Uncertain potential to develop acidic weathering conditions	Uncertain
X < 1, paste pH > 5	Potentially Acid Generating	PAG
X < 1, paste pH < 5	Acid Generating	AG

In order to develop the Phase V/VI waste rock management plan, Minto adopted the criterion specified in the current WUL (i.e. NPAG defined as rock with NP:AP > 3) for estimation of the volume of Phase V/VI waste rock with NP:AP ≤ 3. The company may conduct detailed studies in the future to develop a site-specific value for the criterion used to define NPAG waste rock- to the extent that the threshold criterion is lowered, more efficient use of the storage capacity within the in-pit TMFs will be realized.

3 Phase V/VI Estimates of NP:AP<3 Waste Rock Volumes

Two independent methods were used to estimate saturated storage volumes that should be reserved for waste rock storage. These methods are described elsewhere in detail (SRK 2013a) and are summarized here for completeness.

1. The first method was to review the production data from Phase IV mining in the Area 2 pit and calculate the proportion of total waste rock volume that was determined to have NP-C(T):AP-S(T) < 3. This approach was based on samples collected and analysed (on-site) from every blasthole beginning in August 2012.

a. This approach indicated that roughly 17% of the waste rock assessed had NP-C(T):AP-S(T) < 3.

2. The second method was to create a sulphur block model for the Phase V/VI Minto South pits (A2S3, Ridgetop North, and Ridgetop South) based on sulphur assays from exploration drill core. This approach consisted of estimating sulphur grades for all rock within the ultimate pit shells and calculating the volume of rock that was both below ore grade for copper (and therefore classified as waste) and higher that 0.3% total sulphur (rock with lower than 0.3% sulphur was found to correlate well with rock with NP/AP>3).

   a. This approach indicated that roughly 13% of the A2S3, Ridgetop North and Ridgetop South waste rock could be expected to have sulphur content high than 0.3%, and by correlation this was considered a reasonable proxy for the proportion of NP/AP<3 waste rock.

For planning purposes, Minto has chosen to allow for 20% of the waste rock from the Minto South pits to be stored in locations that will be saturated post-closure. This approach is considered to be appropriately conservative in that it will ensure that more volume will be reserved for NP/AP<3 waste rock than will likely be produced. Actual dispatching of waste rock from the Minto South pits will be done on the basis of blasthole analyses (as currently practised as part of Phase IV operations), not on the basis of pre-production estimates.

Table 2 summarizes the volumetric allowances that have been made for NP/AP<3 waste rock in Phase V/VI.

Table 2: Allowance for NP/AP<3 waste rock volumes in Phase V/VI waste management planning.

Source Location	Total Phase V/VI Waste Rock Volume (m^3)	Estimated Quantity of NP/AP<3 Waste Rock Volume (m^3)
Minto North	4,250,000	0
Area 2 Stage 3	1,905,000	381,000
Ridgetop South	627,000	125,400
Ridgetop North	3,416,000	683,200
Underground	133,000	26,600
Total Waste Rock (Phase V/VI)	**10,331,000**	
Total NP/AP<3 (Phase V/VI)		**1,216,200**

4 References

Yukon Water Board. 2012. Water Use License QZ96-006 Amendment 8. Issued to Minto Explorations Ltd. on October 18, 2012.

Appendix B
Ridgetop Exploration Assay Results: Statistical Summaries

	Total Cu %	Au_ppm	Ag ppm ICP	Al_%ICP	As_ppmICP	B_ppmICP	Ba_ppmICP	Be_ppmICP	Bi_ppmICP	Ca_%ICP	Cd_ppmICP	Co_ppmICP	Cr_ppmICP	Fe_%ICP	Ga_ppmICP	Hg_ppmICP	K_%ICP	La_ppmICP
Count	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136
Average	0.074	0.018	0.329	1.276	6.654	5.809	428.750	0.349	1.154	1.091	0.290	6.515	6.000	2.725	7.941	0.555	0.776	10.368
Max	1.81	0.471	4.9	2.03	176	10	2140	1.5	7	4.95	1.6	15	23	5.19	10	2	1.63	30
P90	0.13	0.05	0.55	1.86	11.00	10.00	700.00	0.60	2.00	2.17	0.25	9.00	8.00	4.07	10.00	0.50	1.25	20.00
P50	0.02	0.0025	0.2	1.335	4	5	370	0.25	1	0.88	0.25	6	5	2.455	10	0.5	0.8	10
P10	0.005	0.0025	0.1	0.685	1	5	180	0.25	1	0.315	0.25	4	3	1.885	5	0.5	0.34	5
Min	0.005	0.0025	0.1	0.38	1	5	50	0.25	1	0.2	0.25	1	1	0.97	5	0.5	0.19	5

	Mg_%ICP	Mn_ppmICP	Mo_ppmICP	Na_%ICP	Ni_ppmICP	P_ppmICP	Pb_ppmICP	S_%ICP	Sb_ppmICP	Sc_ppmICP	Sr_ppmICP	Ti_%ICP	Tl_ppmICP	U_ppmICP	V_ppmICP	W_ppmICP	Zn_ppmICP
Count	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136
Average	0.640	698.096	2.018	0.068	2.232	822.794	8.051	0.035	1.221	5.397	55.647	0.133	5.441	5.110	66.735	5.000	118.676
Max	1.76	2590	52	0.16	8	1700	67	0.59	7	12	225	0.28	10	10	135	5	726
P90	1.03	1315.00	3.50	0.10	4.00	1210.00	17.00	0.06	2.00	8.00	90.00	0.23	5.00	5.00	100.50	5.00	244.50
P50	0.58	516.5	1	0.06	2	765	5	0.01	1	5.5	47	0.15	5	5	59	5	76
P10	0.23	323	0.5	0.04	0.5	490	2	0.005	1	2	29.5	0.005	5	5	35	5	51
Min	0.04	100	0.5	0.01	0.5	170	1	0.005	1	1	16	0.005	5	5	15	5	10

Appendix C
Phase V/VI Waste Rock: Static Test Results

HOLE ID	FROM (m)	TO (m)	Length (m)	SAMPLE DESCRIPTION	OA-ELE07 pH Unity	OA-VOL08 FIZZ RATING Unity	OA-VOL08 MPA tCaCO3/1000t ore	OA-VOL08 NNP tCaCO3/1000t ore	Calc AP 0	OA-VOL08 NP tCaCO3/1000t ore	OA-VOL08 Ratio (NP:MPA) Unity	Calc Ratio (NP:AP) Unity
07SWC254	2.04	8.45	6.41	RT_ABA-1	8.4	1	0.3	9	0.3	9	29	29
07SWC254	19.95	27.17	7.22	RT_ABA-2	8.9	2	0.3	19	0.3	19	61	61
07SWC251	19.61	26.47	6.86	RT_ABA-3	8.8	2	0.6	21	0.6	22	35	35
07SWC251	66.09	72.08	5.99	RT_ABA-6	8.7	2	0.3	33	0.3	33	106	106
07SWC250	1.77	6.71	4.94	RT_ABA-7	8.4	2	0.3	57	0.3	57	182	182
07SWC250	14.53	20.53	6.00	RT_ABA-8	8.5	2	0.3	58	0.3	58	186	186
07SWC250	30.67	36.40	5.73	RT_ABA-9	9.1	2	0.9	54	0.9	55	59	59
07SWC246	1.46	6.83	5.37	RT_ABA-10	8.6	2	0.9	22	0.9	23	25	25
07SWC244	2.00	6.80	4.80	RT_ABA-11	8.5	1	0.3	13	0.3	13	42	42
07SWC183	5.93	10.90	4.97	RT_ABA-12	8.8	1	0.3	15	0.3	15	48	48
07SWC183	23.61	30.06	6.45	RT_ABA-14	9	2	0.6	25	0.6	26	42	42
07SWC182	4.87	12.23	7.36	RT_ABA-15	8.7	2	0.9	44	0.3	45	48	144
07SWC182	25.64	31.30	5.66	RT_ABA-16	8.4	3	1.9	101	1.6	103	55	66
07SWC182	32.80	38.73	5.93	RT_ABA-17	8.8	3	0.9	111	0.9	112	119	119
07SWC181	3.05	9.20	6.15	RT_ABA-18	8.5	2	0.3	34	0.3	34	109	109
07SWC181	9.20	14.66	5.46	RT_ABA-19	8.5	2	<0.3	25	0.3	25	160	80
07SWC251	48.39	53.16	4.77	RT_ABA-5	8.9	2	11.3	36	10.9	47	4.2	4.3
07SWC181	14.66	20.57	5.91	RT_ABA-20	8.9	2	3.1	28	3.1	31	10	10
07SWC251	40.19	45.80	5.61	RT_ABA-4	8.5	2	3.8	37	3.8	41	11	11
07SWC183	15.88	21.11	5.23	RT_ABA-13	8.2	2	9.4	11	9.4	20	2.1	2.1

HOLE ID	FROM (m)	TO (m)	Length (m)	SAMPLE DESCRIPTION	S-IR08 S %	S-GRA06a S %	S-CAL06a S %	C-GAS05 C %	C-GAS05 CO2 %	Calc TIC-NP tCaCO3/1000t ore	Calc Ratio (TIC-NP:AP) Unity	Composite Class 0
07SWC254	2.04	8.45	6.41	RT_ABA-1	0.01	<0.01	0.01	<0.05	<0.2	4	13	B
07SWC254	19.95	27.17	7.22	RT_ABA-2	0.01	<0.01	0.01	0.16	0.6	13	42.7	B
07SWC251	19.61	26.47	6.86	RT_ABA-3	0.02	<0.01	0.02	0.17	0.6	14	22.7	B
07SWC251	66.09	72.08	5.99	RT_ABA-6	0.01	<0.01	0.01	0.39	1.4	33	104	B
07SWC250	1.77	6.71	4.94	RT_ABA-7	0.01	<0.01	0.01	0.63	2.3	53	168.0	B
07SWC250	14.53	20.53	6.00	RT_ABA-8	0.01	<0.01	0.01	0.6	2.2	50	160	B
07SWC250	30.67	36.40	5.73	RT_ABA-9	0.03	<0.01	0.03	0.75	2.8	63	67	B
07SWC246	1.46	6.83	5.37	RT_ABA-10	0.03	<0.01	0.03	0.23	0.8	19	20	B
07SWC244	2.00	6.80	4.80	RT_ABA-11	0.01	<0.01	0.01	<0.05	<0.2	4	13	B
07SWC183	5.93	10.90	4.97	RT_ABA-12	0.01	<0.01	0.01	<0.05	<0.2	4	13	B
07SWC183	23.61	30.06	6.45	RT_ABA-14	0.02	<0.01	0.02	0.29	1.1	24	38.7	B
07SWC182	4.87	12.23	7.36	RT_ABA-15	0.03	0.03	<0.01	0.46	1.7	38	123	B
07SWC182	25.64	31.30	5.66	RT_ABA-16	0.06	0.01	0.05	1.63	6	136	87	B
07SWC182	32.80	38.73	5.93	RT_ABA-17	0.03	<0.01	0.03	1.38	5	115	123	B
07SWC181	3.05	9.20	6.15	RT_ABA-18	0.01	<0.01	0.01	0.28	1	23	75	B
07SWC181	9.20	14.66	5.46	RT_ABA-19	0.01	<0.01	<0.01	0.21	0.8	18	56	B
07SWC251	48.39	53.16	4.77	RT_ABA-5	0.36	0.01	0.35	0.67	2.4	56	5	M
07SWC181	14.66	20.57	5.91	RT_ABA-20	0.1	<0.01	0.1	0.32	1.2	27	9	M
07SWC251	40.19	45.80	5.61	RT_ABA-4	0.12	<0.01	0.12	0.49	1.8	41	10.9	O
07SWC183	15.88	21.11	5.23	RT_ABA-13	0.3	<0.01	0.3	0.23	0.8	19	2	O

HOLE ID	FROM (m)	TO (m)	Length (m)	SAMPLE DESCRIPTION	Length-weighted average elemental content from ICP assay database															
					Total Cu %	NS Cu %	Au_ppm	Ag ppm ICP	Al_%ICP	As_ppm ICP	B_ppm ICP	Ba_ppm ICP	Be_ppm ICP	Bi_ppm ICP	Ca_%ICP	Cd_ppm ICP	Co_ppm ICP	Cr_ppm ICP	Cu_ppm ICP	Fe_%ICP
07SWC254	2.04	8.45	6.41	RT_ABA-1	0.015	0.005	0.005	0.3	1.9	15	5	693	0.44	1	0.4	0.31	10	6	152	4.8
07SWC254	19.95	27.17	7.22	RT_ABA-2	0.010	0.005	0.008	0.2	1.6	7	7	550	0.25	2	0.8	0.25	7	7	94	2.6
07SWC251	19.61	26.47	6.86	RT_ABA-3	0.125	0.049	0.006	0.2	1.6	3	5	511	0.25	2	0.8	0.25	8	7	1297	3.0
07SWC251	66.09	72.08	5.99	RT_ABA-6	0.005	0.001	0.003	0.1	0.8	1	5	198	0.25	1	0.8	0.25	6	5	23	2.2
07SWC250	1.77	6.71	4.94	RT_ABA-7	0.021	0.011	0.040	0.2	1.5	5	8	361	0.61	1	2.2	0.25	7	5	279	2.5
07SWC250	14.53	20.53	6.00	RT_ABA-8	0.095	0.067	0.064	0.1	1.8	4	7	297	0.61	1	2.2	0.65	8	6	1017	3.3
07SWC250	30.67	36.40	5.73	RT_ABA-9	0.050	0.012	0.004	0.1	1.7	3	7	212	0.45	2	1.5	0.71	7	4	530	3.9
07SWC246	1.46	6.83	5.37	RT_ABA-10	0.310	0.204	0.045	0.3	1.4	3	5	307	0.25	1	0.8	0.25	5	14	3068	2.5
07SWC244	2.00	6.80	4.80	RT_ABA-11	0.027	0.007	0.005	0.2	1.1	50	5	376	0.25	1	0.3	0.25	7	6	124	2.5
07SWC183	5.93	10.90	4.97	RT_ABA-12	0.024	0.012	0.004	1.0	1.2	6	5	422	0.25	1	0.3	0.25	6	6	205	2.3
07SWC183	23.61	30.06	6.45	RT_ABA-14	0.015	0.002	0.005	0.3	1.1	10	5	447	0.25	1	0.8	0.25	5	7	126	2.2
07SWC182	4.87	12.23	7.36	RT_ABA-15	0.012	0.006	0.003	0.2	0.6	6	10	1165	0.56	1	1.8	0.25	6	2	139	1.9
07SWC182	25.64	31.30	5.66	RT_ABA-16	0.120	0.070	0.002	0.6	0.7	11	10	963	0.84	1	3.2	0.25	8	2	1255	2.8
07SWC182	32.80	38.73	5.93	RT_ABA-17	0.039	0.019	0.002	0.2	0.7	1	8	679	0.52	1	2.9	0.33	7	3	380	2.6
07SWC181	3.05	9.20	6.15	RT_ABA-18	0.027	0.011	0.003	0.2	1.3	5	5	258	0.31	1	1.3	0.25	9	4	271	3.3
07SWC181	9.20	14.66	5.46	RT_ABA-19	0.005	0.002	0.003	0.3	1.1	3	5	168	0.25	1	1.0	0.25	6	5	37	2.4
07SWC251	48.39	53.16	4.77	RT_ABA-5	0.079	0.011	0.003	0.4	1.5	4	5	322	0.25	1	1.2	0.59	10	5	884	4.2
07SWC181	14.66	20.57	5.91	RT_ABA-20	0.451	0.276	0.140	1.5	1.0	1	5	154	0.29	1	1.1	0.36	5	5	4514	2.4
07SWC251	40.19	45.80	5.61	RT_ABA-4	0.665	0.243	0.057	0.4	1.0	2	6	237	0.39	1	1.2	0.25	6	3	6889	2.4
07SWC183	15.88	21.11	5.23	RT_ABA-13	0.708	0.335	0.047	1.5	1.1	32	6	394	0.25	2	0.7	0.43	8	5	7085	2.7

HOLE ID	FROM (m)	TO (m)	Length (m)	SAMPLE DESCRIPTION	Ga_ppm ICP	Hg_ppm ICP	K_%ICP	La_ppm ICP	Mg_%ICP	Mn_ppm ICP	Mo_ppm ICP	Na_%ICP	Ni_ppm ICP	P_ppm ICP	Pb_ppm ICP	S_%ICP	Sb_ppm ICP	Sc_ppm ICP	Sr_ppm ICP	Ti_%ICP	Tl_ppm ICP
07SWC254	2.04	8.45	6.41	RT_ABA-1	10	1	1.3	12	0.9	1304	2	0.05	6	1027	10	0.01	1	7	37	0.23	6
07SWC254	19.95	27.17	7.22	RT_ABA-2	10	1	1.1	5	0.9	388	1	0.08	3	1158	5	0.01	1	3	57	0.23	5
07SWC251	19.61	26.47	6.86	RT_ABA-3	10	1	1.2	5	0.8	545	1	0.08	1	1041	7	0.02	1	6	39	0.23	5
07SWC251	66.09	72.08	5.99	RT_ABA-6	5	1	0.5	13	0.5	383	1	0.04	1	592	5	0.01	1	2	35	0.09	5
07SWC250	1.77	6.71	4.94	RT_ABA-7	9	1	0.7	12	0.6	866	4	0.07	5	764	10	0.01	1	7	77	0.12	6
07SWC250	14.53	20.53	6.00	RT_ABA-8	10	0	1.0	17	1.0	674	3	0.07	5	1032	7	0.01	1	9	79	0.20	10
07SWC250	30.67	36.40	5.73	RT_ABA-9	10	1	1.0	17	1.2	1926	1	0.08	5	937	19	0.04	1	8	93	0.15	7
07SWC246	1.46	6.83	5.37	RT_ABA-10	10	1	0.8	10	0.7	265	1	0.07	2	845	4	0.03	2	6	53	0.17	5
07SWC244	2.00	6.80	4.80	RT_ABA-11	8	1	0.6	11	0.4	477	1	0.08	1	716	4	0.01	1	6	28	0.11	5
07SWC183	5.93	10.90	4.97	RT_ABA-12	8	1	0.8	7	0.5	434	1	0.08	2	634	35	0.01	1	5	34	0.13	5
07SWC183	23.61	30.06	6.45	RT_ABA-14	5	1	0.8	9	0.5	462	1	0.08	2	554	18	0.01	3	6	41	0.14	5
07SWC182	4.87	12.23	7.36	RT_ABA-15	5	1	0.3	8	0.1	478	2	0.05	1	854	6	0.04	1	1	35	0.01	5
07SWC182	25.64	31.30	5.66	RT_ABA-16	5	0	0.4	12	0.9	1111	16	0.04	2	797	13	0.08	1	2	84	0.00	5
07SWC182	32.80	38.73	5.93	RT_ABA-17	5	1	0.3	10	0.8	970	3	0.05	2	620	8	0.04	1	2	64	0.00	5
07SWC181	3.05	9.20	6.15	RT_ABA-18	8	1	0.8	18	0.6	1478	1	0.05	2	1041	16	0.02	1	7	49	0.13	5
07SWC181	9.20	14.66	5.46	RT_ABA-19	7	1	0.4	12	0.5	575	1	0.07	2	700	5	0.01	1	7	97	0.06	5
07SWC251	48.39	53.16	4.77	RT_ABA-5	10	1	1.2	20	1.2	1655	1	0.05	1	1198	15	0.41	1	8	55	0.21	5
07SWC181	14.66	20.57	5.91	RT_ABA-20	6	1	0.4	10	0.5	499	1	0.07	2	824	4	0.11	1	7	84	0.06	5
07SWC251	40.19	45.80	5.61	RT_ABA-4	7	1	0.8	12	0.7	318	1	0.03	1	886	7	0.09	1	6	63	0.15	5
07SWC183	15.88	21.11	5.23	RT_ABA-13	6	1	0.6	6	0.5	435	29	0.08	3	901	4	0.35	2	4	64	0.08	5

HOLE ID	FROM (m)	TO (m)	Length (m)	SAMPLE DESCRIPTION	U_ppm ICP	V_ppm ICP	W_ppm ICP	Zn_ppm ICP
07SWC254	2.04	8.45	6.41	RT_ABA-1	5	103	5	231
07SWC254	19.95	27.17	7.22	RT_ABA-2	5	78	5	62
07SWC251	19.61	26.47	6.86	RT_ABA-3	5	84	5	73
07SWC251	66.09	72.08	5.99	RT_ABA-6	5	43	5	62
07SWC250	1.77	6.71	4.94	RT_ABA-7	5	83	5	84
07SWC250	14.53	20.53	6.00	RT_ABA-8	5	112	5	82
07SWC250	30.67	36.40	5.73	RT_ABA-9	5	86	5	523
07SWC246	1.46	6.83	5.37	RT_ABA-10	5	83	5	50
07SWC244	2.00	6.80	4.80	RT_ABA-11	5	63	5	78
07SWC183	5.93	10.90	4.97	RT_ABA-12	5	55	5	54
07SWC183	23.61	30.06	6.45	RT_ABA-14	5	52	5	75
07SWC182	4.87	12.23	7.36	RT_ABA-15	5	21	5	63
07SWC182	25.64	31.30	5.66	RT_ABA-16	7	30	5	143
07SWC182	32.80	38.73	5.93	RT_ABA-17	5	31	5	100
07SWC181	3.05	9.20	6.15	RT_ABA-18	5	86	5	235
07SWC181	9.20	14.66	5.46	RT_ABA-19	5	46	5	70
07SWC251	48.39	53.16	4.77	RT_ABA-5	5	105	5	406
07SWC181	14.66	20.57	5.91	RT_ABA-20	5	49	5	68
07SWC251	40.19	45.80	5.61	RT_ABA-4	5	98	5	67
07SWC183	15.88	21.11	5.23	RT_ABA-13	5	79	5	95

Sample Source						ABA Results													
						Sample ID	Paste pH	Fizz Test	AP	Net Sobek NP	Sobek NP	Sobek NP/AP	Total S	Sulphate	Sulphur Diff.	CO2	Equiv. CaCO3	Modified NP	Net Modified NP
							Std. Units	Visual	kg CaCO3/t	kg CaCO3/t	kg CaCO3/t	Ratio	% S	% S	% S	% CO2	kg CaCO3/t	kg CaCO3/t	kg CaCO3/t
						LOD	0.01	#N/A	#N/A	#N/A	0.2	#N/A	0.02	0.01	#N/A	0.02	#N/A	0.2	#N/A
						Method Code	Sobek	Sobek	Calc.	Calc.	Modified NP	Calc.	Leco	HCl Leach	Calc.	HCl Leach	Calc.	Modified NP	Calc.
Hole ID	from (m)	to (m)	Interval	Litho	Waste Category														
09SWC393	6.1	11.9	5.8	pG	HW waste	G0755001	8.41	Slight	<0.6	21.5	21.5	35.8	<0.02	<0.01	<0.02	0.43	9.8		
09SWC393	12.3	18.3	6	pG	HW waste	G0755002	8.58	Slight	<0.6	25.3	25.3	42.2	<0.02	<0.01	<0.02	0.45	10.2		
09SWC393	31.01	37.01	6	pG	HW waste	G0755003	8.80	Slight	<0.6	25.4	25.4	42.3	<0.02	<0.01	<0.02	0.51	11.6		
09SWC393	45.47	51.47	6	pG	HW waste	G0755004	9.18	Slight	<0.6	19.9	19.9	33.2	<0.02	<0.01	<0.02	0.26	5.9		
09SWC393	80.4	86.4	6	multiple	FW waste	G0755005	8.82	Slight	<0.6	31.5	31.5	52.5	<0.02	<0.01	<0.02	0.76	17.3	19.7	19.7
09SWC404	10.84	16.84	6	pG	HW waste	G0755006	8.70	Slight	<0.6	33.0	33.0	55.0	<0.02	<0.01	<0.02	0.81	18.4	22.9	22.9
09SWC404	34.58	40.58	6	pG	HW waste	G0755007	8.73	Slight	<0.6	32.0	32.0	53.3	<0.02	<0.01	<0.02	0.64	14.5	19.1	19.1
09SWC404	52.22	58.22	6	pG	HW waste	G0755008	8.61	Slight	<0.6	33.3	33.3	55.5	<0.02	<0.01	<0.02	0.89	20.2	23.4	23.4
09SWC404	86.35	92.35	6	multiple	FW waste	G0755009	9.20	Slight	<0.6	24.8	24.8	41.3	<0.02	<0.01	<0.02	0.32	7.3	13.6	13.6
09SWC408	21	27	6	pG	HW waste	G0755010	8.85	None	<0.6	12.2	12.2	20.3	<0.02	<0.01	<0.02	<0.02	<0.5		
09SWC408	46.93	52.93	6	pG	HW waste	G0755011	8.63	Slight	<0.6	26.3	26.3	43.8	<0.02	<0.01	<0.02	0.62	14.1		
09SWC408	65.81	71.81	6	pG	HW waste	G0755012	8.88	Slight	<0.6	26.0	26.0	43.3	<0.02	<0.01	<0.02	0.4	9.1		
09SWC408	101.9	107.9	6	G (FW waste	FW waste	G0755013	8.90	Slight	<0.6	23.3	23.3	38.8	<0.02	<0.01	<0.02	0.34	7.7		
09SWC 459	3.14	9.14	6	pG	HW waste	G0755014	9.02	None	<0.6	12.3	12.3	20.5	<0.02	<0.01	<0.02	0.03	0.7		
09SWC 459	30	36	6	pG	HW waste	G0755015	8.95	None	<0.6	15.1	15.1	25.2	<0.02	<0.01	<0.02	0.12	2.7		
09SWC 459	59.35	65.35	6	pG	HW waste	G0755016	8.89	Slight	<0.6	27.3	27.3	45.5	<0.02	<0.01	<0.02	0.53	12.0		
09SWC 459	75.4	81.4	6	pG	HW waste	G0755017	8.92	Slight	<0.6	24.7	24.7	41.2	<0.02	<0.01	<0.02	0.37	8.4		
09SWC 459	109.2	115.2	6	multiple	FW waste	G0755018	9.28	Slight	<0.6	25.3	25.3	42.2	<0.02	<0.01	<0.02	0.3	6.8		
09SWC465	9.14	15.14	6	pG	HW waste	G0755019	8.77	Slight	<0.6	24.0	24.0	40.0	<0.02	<0.01	<0.02	0.36	8.2		
09SWC465	30	36	6	pG	HW waste	G0755020	8.91	Slight	<0.6	23.8	23.8	39.7	<0.02	<0.01	<0.02	0.5	11.4		
09SWC465	49.92	55.92	6	pG	HW waste	G0755021	8.65	Slight	<0.6	30.8	30.8	51.3	<0.02	<0.01	<0.02	1.1	25.0		
09SWC465	73.75	79.75	6	pG	HW waste	G0755022	8.90	Slight	<0.6	25.4	25.4	42.3	<0.02	<0.01	<0.02	0.6	13.6		
09SWC465	88.52	94.52	6	multiple	HW waste	G0755023	8.42	Slight	<0.6	37.5	37.5	62.5	<0.02	<0.01	<0.02	1.21	27.5		

Modified NP/AP Ratio
#N/A
Calc.
32.8
38.2
31.8
39.0
22.7

Metals Results

Sample ID	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm
LOD	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.1	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1	1	0.01	1	0.001	20	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5
Method Code	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX
G0755001	0.2	2.4	1.6	60	<0.1	3.6	6	437	1.9	<0.5	0.1	<0.5	1	71	<0.1	<0.1	<0.1	41	0.69	0.071	6	56	0.63	235	0.104	<20	1.02	0.079	0.48	<0.1	<0.01	2.4	0.1	<0.05	4	<0.5
G0755002	0.2	4.4	2.1	60	<0.1	4.1	6	483	2.01	0.5	0.1	<0.5	1.4	44	<0.1	<0.1	<0.1	41	0.87	0.069	8	59	0.66	175	0.099	<20	1.08	0.085	0.32	<0.1	<0.01	2.6	<0.1	<0.05	5	<0.5
G0755003	0.2	4.2	1.7	63	<0.1	3.5	5.6	473	1.97	<0.5	0.1	<0.5	1.8	71	<0.1	<0.1	<0.1	41	0.79	0.068	9	61	0.61	196	0.098	<20	1.04	0.065	0.5	<0.1	<0.01	2.9	0.1	<0.05	4	<0.5
G0755004	0.2	28.7	1.8	68	<0.1	3.5	5	422	1.91	0.7	0.1	0.8	2.9	39	<0.1	<0.1	<0.1	35	0.49	0.061	10	65	0.63	195	0.12	<20	1.03	0.054	0.55	<0.1	<0.01	1.6	0.1	<0.05	5	<0.5
G0755005	0.2	48.4	2	54	<0.1	2.8	5.8	475	1.91	<0.5	0.2	2.6	2.9	63	<0.1	<0.1	<0.1	37	0.95	0.068	12	58	0.62	153	0.065	<20	1	0.049	0.33	<0.1	<0.01	2.5	0.1	<0.05	4	<0.5
G0755006	0.2	2.9	3.1	47	<0.1	2.3	5.7	442	1.82	1.2	0.2	2.8	1.4	105	<0.1	<0.1	<0.1	33	1.13	0.069	8	42	0.64	54	0.04	<20	1.09	0.041	0.06	<0.1	<0.01	2.8	<0.1	<0.05	5	<0.5
G0755007	0.2	3.8	2.7	61	<0.1	3.1	6.5	484	2.01	1.1	0.2	0.7	1.3	90	<0.1	<0.1	<0.1	36	1.01	0.071	7	48	0.79	60	0.062	<20	1.17	0.044	0.12	<0.1	<0.01	2.6	<0.1	<0.05	6	<0.5
G0755008	0.2	6.4	1.7	55	<0.1	3.2	5.5	415	1.79	0.8	0.1	0.7	1.9	131	<0.1	<0.1	<0.1	27	1.04	0.067	8	58	0.53	128	0.03	<20	0.88	0.042	0.18	<0.1	<0.01	2.4	<0.1	<0.05	4	<0.5
G0755009	8.8	179.1	1.3	58	<0.1	2.9	6.3	440	2.11	1.3	0.5	3	4.2	44	<0.1	<0.1	<0.1	49	0.62	0.084	13	59	0.66	187	0.125	<20	1	0.057	0.62	<0.1	<0.01	2.6	0.2	<0.05	4	<0.5
G0755010	0.3	8.3	1.5	48	0.1	2.9	5.8	429	1.94	0.9	0.1	1.2	1.2	68	<0.1	<0.1	<0.1	43	0.56	0.076	7	59	0.62	161	0.114	<20	1	0.072	0.36	<0.1	<0.01	2.6	<0.1	<0.05	4	<0.5
G0755011	0.2	5.3	3.1	58	<0.1	2.6	6	449	2	0.8	0.1	1	1.2	140	<0.1	<0.1	<0.1	38	1.07	0.077	7	48	0.67	110	0.058	<20	1.12	0.051	0.16	<0.1	<0.01	2.8	<0.1	<0.05	5	<0.5
G0755012	0.2	3.7	2.7	62	<0.1	2.8	6	463	2.01	0.5	0.2	0.8	2.2	84	<0.1	<0.1	<0.1	41	0.87	0.076	10	58	0.74	150	0.1	<20	1.12	0.056	0.28	<0.1	<0.01	2.6	<0.1	<0.05	5	<0.5
G0755013	0.2	9.4	2	66	<0.1	3.1	6.1	467	2.11	0.6	0.2	0.7	1.4	54	<0.1	<0.1	<0.1	45	0.71	0.074	7	61	0.69	173	0.118	<20	1.13	0.062	0.45	<0.1	<0.01	2.1	<0.1	<0.05	5	<0.5
G0755014	0.2	3.2	1.1	41	<0.1	3	5.3	405	1.85	<0.5	0.2	<0.5	1.4	35	<0.1	<0.1	<0.1	43	0.44	0.077	7	65	0.6	177	0.111	<20	0.95	0.075	0.47	<0.1	<0.01	2.4	<0.1	<0.05	4	<0.5
G0755015	0.3	3.4	2	52	<0.1	3.2	6	462	2.04	3	0.2	0.9	1.1	39	<0.1	<0.1	<0.1	46	0.68	0.083	7	60	0.68	108	0.114	<20	1.02	0.069	0.29	<0.1	<0.01	2.9	<0.1	<0.05	5	<0.5
G0755016	0.1	2.4	2.7	58	<0.1	3	5.8	457	2	0.6	2	1.1	1.1	108	<0.1	<0.1	<0.1	39	0.91	0.073	7	57	0.67	127	0.068	<20	1.02	0.06	0.26	<0.1	<0.01	2.8	<0.1	<0.05	5	<0.5
G0755017	0.2	77.9	3.1	62	<0.1	3.3	6.2	525	2.1	<0.5	0.2	0.7	2.9	70	<0.1	<0.1	<0.1	44	0.69	0.076	9	60	0.68	230	0.11	<20	1.09	0.062	0.55	<0.1	<0.01	2.5	0.2	<0.05	5	<0.5
G0755018	0.2	5.9	2	64	<0.1	3	5.9	491	2.04	0.7	0.2	<0.5	1.3	46	<0.1	<0.1	<0.1	42	0.76	0.075	7	54	0.73	107	0.106	<20	1.11	0.062	0.3	<0.1	<0.01	2.3	<0.1	<0.05	6	<0.5
G0755019	0.2	2.1	2.3	47	<0.1	3	5.6	424	1.84	0.6	0.1	<0.5	1.2	63	<0.1	<0.1	<0.1	37	0.85	0.079	7	55	0.64	92	0.074	<20	0.94	0.055	0.21	<0.1	<0.01	2.4	<0.1	<0.05	5	<0.5
G0755020	0.2	2.9	0.8	67	<0.1	3.4	6.4	497	2.3	<0.5	0.1	<0.5	1.3	87	<0.1	<0.1	<0.1	52	0.63	0.087	7	59	0.73	334	0.135	<20	1.16	0.061	0.75	<0.1	<0.01	3.5	0.1	<0.05	5	<0.5
G0755021	2.3	3.1	1.3	54	<0.1	5.1	6.4	486	2.03	<0.5	0.1	<0.5	1.1	63	<0.1	<0.1	<0.1	50	1.01	0.082	6	63	0.57	234	0.093	<20	0.94	0.054	0.52	<0.1	<0.01	3.5	0.1	<0.05	4	<0.5
G0755022	0.2	8.2	2.2	86	<0.1	3.7	6.4	616	2.4	<0.5	0.2	<0.5	3.5	59	<0.1	<0.1	<0.1	50	0.72	0.079	12	64	0.75	296	0.133	<20	1.2	0.053	0.77	<0.1	<0.01	3.2	0.2	<0.05	5	<0.5
G0755023	0.2	231.7	3.6	77	<0.1	3.3	5.3	465	2.08	0.7	0.3	6.8	3.8	112	0.2	<0.1	<0.1	25	1.39	0.06	12	54	0.63	109	0.014	<20	1.14	0.035	0.2	<0.1	<0.01	1	<0.1	<0.05	5	<0.5

CLIENT : **SRK Consulting**
PROJECT : **Minto**
SRK Project # : **2CM022.016.0007**
SGS Project # : **0907**
Test : **Sobek Acid-Base Accounting**
Date : **September 30, 2010**

Hole ID	Sample ID	Paste pH Std. Units	CO2 % CO2	Equiv. CaCO3 kg CaCO3/t	Total S % S	Sulphate % S	Sulphur Diff. % S	AP kg CaCO3/t	NP kg CaCO3/t	Net NP kg CaCO3/t	NP/AP Ratio	Fizz Test Visual	Mo ppm	Cu ppm
	LOD	0.01	0.02	#N/A	0.02	0.01	#N/A	#N/A	0.2	#N/A	#N/A	#N/A	0.1	0.1
	Method Code	Sobek	HCl Leach	Calc.	Leco	HCl Leach	Calc.	Calc.	Sobek NP	Calc.	Calc.	Sobek	1DX	1DX
08SWC351	Ridgetop 7.70-14-84 m	8.33	1.12	25.5	<0.02	<0.01	<0.02	<0.6	37.2	37.2	62.0	Slight	1.5	126.7
08SWC374	Ridgetop 9.10-14.87 m	8.37	1.63	37.0	<0.02	<0.01	<0.02	<0.6	47.0	47.0	78.3	Slight	0.6	130.7
09SWC555	Ridgetop 10.00-16.00 m	8.28	0.58	13.2	0.02	<0.01	0.02	0.6	25.7	25.1	41.1	Slight	1.9	246.6
08SWC355	Ridgetop 10.36-16.36 m	8.54	1.33	30.2	<0.02	<0.01	<0.02	<0.6	37.9	37.9	63.2	Slight	0.8	119.1
09SWC553	Ridgetop 13.00-19.00 m	8.48	1.07	24.3	<0.02	<0.01	<0.02	<0.6	40.9	40.9	68.2	Slight	1.1	150.3
08SWC370	Ridgetop 16.00-22.00 m	8.31	1.23	28.0	<0.02	<0.01	<0.02	<0.6	42.1	42.1	70.2	Slight	2.3	315
07SWC256	Ridgetop 18.00-24.00 m	8.71	1.03	23.4	<0.02	<0.01	<0.02	<0.6	34.5	34.5	57.5	Slight	1.1	223.8
08SWC353	Ridgetop 19.00-26.14 m	8.44	0.74	16.8	<0.02	0.01	<0.02	<0.6	31.8	31.8	53.0	Slight	0.9	155.5
08SWC349	Ridgetop 20.50-26.50 m	8.81	0.98	22.3	<0.02	<0.01	<0.02	<0.6	32.8	32.8	54.7	Slight	0.7	91.1
08SWC355	Ridgetop 28.36-35.90 m	8.64	2.81	63.9	<0.02	<0.01	<0.02	<0.6	75.3	75.3	125.5	Slight	0.8	180.9
08SWC351	Ridgetop 29.65-35.68 m	8.79	0.61	13.9	<0.02	0.01	<0.02	<0.6	25.6	25.6	42.7	Slight	1.2	213.8
09SWC553	Ridgetop 34.00-40.00 m	8.50	1.44	32.7	<0.02	<0.01	<0.02	<0.6	45.6	45.6	76.0	Slight	1.4	128.2
	Duplicates													
08SWC351	Ridgetop 7.70-14-84 m	8.49							37.0			Slight		
08SWC374	Ridgetop 9.10-14.87 m		1.59											

Note:

Equivalent CaCO3 is calculated from the CO2 originating from carbonate minerals.

Sulphur Difference = Total S - Sulphate S

AP = Acid Potential in tonnes CaCO3 equivalent per 1000 tonnes of material. AP is calculated from the sulphur difference.

NP = Neutralization Potential in tonnes CaCO3 equivalent per 1000 tonnes of material.

NET NP = NP - AP

CLIENT : **SRK Consulting**
PROJECT : **Minto**
SRK Project # : **2CM022.016.0007**
SGS Project # : **0907**
Test : **Sobek Acid-Base Accounting**
Date : **September 30, 2010**

Hole ID	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm
	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.1	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1	1
	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX
08SWC351	4.6	74	0.8	5.4	6.8	609	2.78	6.3	0.1	2.9	0.9	63	<0.1	<0.1	<0.1	64	1.24	0.022	3	70
08SWC374	4.6	71	<0.1	4.3	8.1	702	2.55	4.8	0.1	5.3	1.3	79	<0.1	<0.1	<0.1	62	1.72	0.041	3	57
09SWC555	3.6	76	<0.1	5.1	9.8	594	3.64	5.2	<0.1	10.6	1.1	31	0.1	<0.1	<0.1	106	0.75	0.026	3	60
08SWC355	8.2	73	0.2	4.8	7.2	462	2.91	7.6	0.1	10.4	0.9	86	<0.1	<0.1	<0.1	72	1.39	0.019	2	63
09SWC553	5.3	73	<0.1	4.2	6.9	543	3.16	7.8	<0.1	12.9	1	98	<0.1	<0.1	<0.1	76	1.48	0.026	3	59
08SWC370	6.4	76	<0.1	4.3	7.7	579	3.04	5.3	0.2	24.4	1.3	59	<0.1	<0.1	0.1	74	1.55	0.037	3	54
07SWC256	6.8	94	<0.1	4.3	8.4	564	3.34	4.5	<0.1	6.9	0.6	63	<0.1	<0.1	<0.1	81	1.34	0.045	2	61
08SWC353	10.8	81	0.2	5	8.4	407	3.09	7.7	0.2	18	1.1	89	<0.1	<0.1	<0.1	82	1.13	0.022	2	55
08SWC349	9.3	71	0.1	4.4	6.4	391	2.86	7.7	0.2	3.2	1.1	73	<0.1	<0.1	<0.1	70	1.39	0.02	2	56
08SWC355	5	87	<0.1	4	8.4	816	2.95	5.6	0.1	14.4	1.3	61	0.1	<0.1	<0.1	71	2.61	0.053	3	49
08SWC351	3.7	84	0.1	3.6	7.4	557	2.79	3	<0.1	3.7	0.7	47	<0.1	<0.1	<0.1	69	0.86	0.064	2	62
09SWC553	4.5	62	<0.1	4.3	6.2	472	2.49	6	0.2	17.5	1.6	43	<0.1	<0.1	<0.1	67	1.63	0.031	4	62

08SWC351
08SWC374

Note:

Equivalent $CaCO_3$ is calculated from the CO_2 originating from carbonate minerals.

Sulphur Difference = Total S - Sulphate S

AP = Acid Potential in tonnes $CaCO_3$ equivalent per 1000 tonnes of material. AP is calculated from the sulphur difference.

NP = Neutralization Potential in tonnes $CaCO_3$ equivalent per 1000 tonnes of material.

NET NP = NP - AP

CLIENT : **SRK Consulting**
PROJECT : **Minto**
SRK Project # : **2CM022.016.0007**
SGS Project # : **0907**
Test : **Sobek Acid-Base Accounting**
Date : **September 30, 2010**

Hole ID	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Hg ppm	Sc ppm	Tl ppm	S %	Ga ppm	Se ppm	Te ppm
	0.01	1	0.001	20	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX
08SWC351	0.51	659	0.149	<20	1.17	0.031	0.8	0.4	<0.01	4.9	0.2	<0.05	6	<0.5	<0.2
08SWC374	0.4	570	0.102	<20	0.98	0.024	0.59	<0.1	<0.01	6.2	0.2	<0.05	5	<0.5	<0.2
09SWC555	0.86	654	0.261	<20	1.64	0.028	1.26	<0.1	<0.01	5.9	0.4	<0.05	8	<0.5	0.2
08SWC355	0.49	692	0.148	<20	1.17	0.026	0.76	<0.1	<0.01	6	0.2	<0.05	6	<0.5	<0.2
09SWC553	0.58	707	0.17	<20	1.32	0.024	0.9	<0.1	<0.01	5.4	0.3	<0.05	7	<0.5	<0.2
08SWC370	0.41	527	0.113	<20	1.02	0.021	0.6	<0.1	0.02	8	0.2	<0.05	5	<0.5	<0.2
07SWC256	0.65	601	0.163	<20	1.33	0.027	0.96	<0.1	<0.01	6.6	0.3	<0.05	8	<0.5	<0.2
08SWC353	0.57	877	0.165	<20	1.28	0.024	0.85	<0.1	0.01	6.6	0.3	<0.05	7	<0.5	<0.2
08SWC349	0.48	694	0.135	<20	1.15	0.024	0.76	<0.1	<0.01	5.8	0.3	<0.05	6	<0.5	<0.2
08SWC355	0.67	712	0.144	22	1.22	0.028	0.82	<0.1	<0.01	4.8	0.2	<0.05	7	<0.5	<0.2
08SWC351	0.61	942	0.176	<20	1.21	0.03	0.93	0.1	<0.01	5.5	0.3	<0.05	7	<0.5	<0.2
09SWC553	0.51	635	0.139	<20	1.11	0.023	0.71	<0.1	<0.01	6.7	0.2	<0.05	5	<0.5	<0.2

08SWC351
08SWC374

Note:

Equivalent $CaCO_3$ is calculated from the CO_2 originating from carbonate minerals.

Sulphur Difference = Total S - Sulphate S

AP = Acid Potential in tonnes $CaCO_3$ equivalent per 1000 tonnes of material. AP is calculated from the sulphur difference.

NP = Neutralization Potential in tonnes $CaCO_3$ equivalent per 1000 tonnes of material.

NET NP = NP - AP

CLIENT : **SRK Consulting**
PROJECT : **Minto (Wildfire Project)**
SGS Project # : **0907**
Test : **Sobek Acid-Base Accounting**
Date : **November 4, 2011**

	ABA										
Sample ID	**Paste pH**	**CO2**	**Equiv. CaCO3**	**Total S**	**Sulphate**	**Sulphur Diff.**	**AP**	**Sobek NP**	**Net Sobek NP**	**Sobek NP/AP**	**Fizz Test**
	Std. Units	**% CO2**	**kg CaCO3/t**	**% S**	**% S**	**% S**	**kg CaCO3/t**	**kg CaCO3/t**	**kg CaCO3/t**	**Ratio**	**Visual**
Method Code	Sobek	2A11HCl	Calc.	2A Leco	CSA07V	Calc.	Calc.	Sobek NP	Calc.	Calc.	Sobek
LOD	0.01	0.02	#N/A	0.02	0.01	#N/A	#N/A	0.5	#N/A	#N/A	#N/A
10SWC645 45&48 Composite	8.80	4.29	97.5	<0.02	<0.01	<0.02	<0.6	103.6	103.6	172.7	Moderate
10SWC645 70&73 Composite	8.89	3.19	72.5	<0.02	<0.01	<0.02	<0.6	67.6	67.6	112.7	Slight
10SWC645 93&96 Composite	8.87	3.14	71.4	<0.02	<0.01	<0.02	<0.6	67.9	67.9	113.2	Slight
10SWC645 108&111 Composite	8.94	7.02	159.5	<0.02	<0.01	<0.02	<0.6	135.9	135.9	226.5	Moderate
10SWC658 75&78 Composite	8.92	3.09	70.2	<0.02	0.02	<0.02	<0.6	66.5	66.5	110.8	Slight
10SWC658 87&90 Composite	8.95	3.31	75.2	<0.02	0.01	<0.02	<0.6	68.8	68.8	114.7	Slight
10SWC658 93&96 Composite	9.00	9.46	215.0	<0.02	<0.01	<0.02	<0.6	188.0	188.0	313.3	Moderate
10SWC658 102&105 Composite	9.11	3.64	82.7	<0.02	<0.01	<0.02	<0.6	66.8	66.8	111.3	Slight

CLIENT : **SRK Consulting**
PROJECT : **Minto (Wildfire Project)**
SGS Project # : **0907**
Test : **Metals by Aqua Regia Digestion with ICP-MS Finish**
Date : **November 23, 2011**

	Metals																	
Sample ID	**Mo**	**Cu**	**Pb**	**Zn**	**Ag**	**Ni**	**Co**	**Mn**	**Fe**	**As**	**Au**	**Th**	**Sr**	**Cd**	**Sb**	**Bi**	**V**	**Ca**
	ppm	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**%**	**ppm**	**ppb**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**%**
Method Code	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX
LOD	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01
10SWC645 45&48 Composite	0.4	46.5	2.9	46	<0.1	5.5	8	1046	2	2.2	4.9	1.4	66	<0.1	<0.1	<0.1	55	3.37
10SWC645 70&73 Composite	0.3	51.9	2.6	38	<0.1	4.8	5.7	378	1.81	3.4	2.2	1.7	101	<0.1	<0.1	<0.1	59	2.24
10SWC645 93&96 Composite	0.4	54.9	1.5	46	<0.1	8.1	9.2	507	2.4	4	0.5	1.5	86	<0.1	<0.1	<0.1	79	1.96
10SWC645 108&111 Composite	0.3	38.5	3.5	63	<0.1	11	13.3	1092	3.2	2.2	1.5	1.3	152	0.3	<0.1	<0.1	107	3.72
10SWC658 75&78 Composite	0.3	38	2.2	36	<0.1	7.2	7.2	432	2.29	1.4	<0.5	1.9	111	0.1	<0.1	<0.1	76	1.8
10SWC658 87&90 Composite	0.4	68.6	3.1	45	0.1	6.7	8.5	423	2.45	1.4	15	2.1	130	<0.1	<0.1	<0.1	80	1.98
10SWC658 93&96 Composite	0.2	56.7	3.5	49	0.1	6.9	10.6	863	2.87	1.4	<0.5	1.8	220	<0.1	<0.1	<0.1	68	4.74
10SWC658 102&105 Composite	0.2	86.4	3.4	43	<0.1	4.2	6.7	517	2.26	1.2	1.1	2.5	131	<0.1	<0.1	<0.1	59	1.83

CLIENT : **SRK Consulting**
PROJECT : **Minto (Wildfire Project)**
SGS Project # : **0907**
Test : **Metals by Aqua Regia Digestion with ICP-MS Finish**
Date : **November 23, 2011**

	Metals																	
Sample ID	**P**	**La**	**Cr**	**Mg**	**Ba**	**Ti**	**B**	**Al**	**Na**	**K**	**W**	**Hg**	**Sc**	**Tl**	**S**	**Ga**	**Se**	**Te**
	%	**ppm**	**ppm**	**%**	**ppm**	**%**	**ppm**	**%**	**%**	**%**	**ppm**	**ppm**	**ppm**	**ppm**	**%**	**ppm**	**ppm**	**ppm**
Method Code	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX
LOD	0.001	1	1	0.01	1	0.001	20	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
10SWC645 45&48 Composite	0.019	7	74	0.17	343	0.024	<20	0.39	0.034	0.19	<0.1	<0.01	6.8	<0.1	<0.05	2	<0.5	<0.2
10SWC645 70&73 Composite	0.039	4	77	0.32	248	0.029	<20	0.49	0.033	0.23	<0.1	<0.01	6.5	<0.1	<0.05	3	<0.5	<0.2
10SWC645 93&96 Composite	0.051	7	84	0.62	213	0.039	<20	0.73	0.032	0.38	<0.1	<0.01	9.9	<0.1	<0.05	3	<0.5	<0.2
10SWC645 108&111 Composite	0.036	8	197	0.65	307	0.023	<20	0.44	0.034	0.21	<0.1	<0.01	15.3	<0.1	<0.05	3	<0.5	<0.2
10SWC658 75&78 Composite	0.066	7	71	0.55	719	0.032	<20	0.57	0.033	0.24	<0.1	<0.01	9.2	<0.1	<0.05	3	<0.5	<0.2
10SWC658 87&90 Composite	0.051	7	82	0.51	478	0.044	<20	0.58	0.037	0.29	<0.1	<0.01	8.7	<0.1	<0.05	3	0.5	<0.2
10SWC658 93&96 Composite	0.031	9	79	1.18	203	0.024	<20	0.42	0.04	0.18	<0.1	<0.01	9.2	<0.1	<0.05	2	<0.5	<0.2
10SWC658 102&105 Composite	0.055	6	71	0.62	401	0.059	<20	0.6	0.038	0.34	<0.1	0.01	7.1	0.1	<0.05	3	<0.5	<0.2

CLIENT : **SRK Consulting**
PROJECT : **Minto**
SRK Project # : **2CM022.016.0007**
SGS Project # : **0907**
Test : **Sobek Acid-Base Accounting and Modified NP**
Date : **March 4-18, 2011**

	Sample ID	Paste pH Std. Units	CO2 % CO2	Equiv. CaCO3 kg CaCO3/t	Total S % S	Sulphate % S	Sulphur Diff. % S	AP kg CaCO3/t	Sobek NP kg CaCO3/t	Modified NP kg CaCO3/t	Net Sobek NP kg CaCO3/t
	Method Code	Sobek	2A11HCl	Calc.	2A Leco	CSA07V	Calc.	Calc.	Sobek NP	Modified NP	Calc.
	LOD	0.01	0.02	#N/A	0.02	0.01	#N/A	#N/A	0.2	0.2	#N/A
Minto North Dyke	09SWC408 71.81-75.24	8.58	0.76	17.3	<0.02	0.02	<0.02	<0.6	35.9	24.1	35.9
Minto North Dyke	09SWC478 6.64-10.64	8.88	0.1	2.3	<0.02	0.01	<0.02	<0.6	16.2	8.1	16.2
Minto North Dyke	09SWC483 3.00-6.91	8.64	0.04	0.9	<0.02	0.01	<0.02	<0.6	14.6	7.3	14.6
Minto North Dyke	09SWC497 27.10-32.12	8.43	0.58	13.2	<0.02	0.02	<0.02	<0.6	32.5	18.1	32.5
Minto North Dyke	09SWC502 49.72-53.40	8.36	0.98	22.3	<0.02	0.02	<0.02	<0.6	37.0	25.7	37.0
Minto North Dyke	09SWC504 6.00-10.15	8.35	1.28	29.1	<0.02	0.02	<0.02	<0.6	40.3	27.7	40.3
Minto North Dyke	09SWC505 45.50-50.02	9.02	0.25	5.7	<0.02	0.01	<0.02	<0.6	28.3	11.4	28.3
Minto North Dyke	09SWC515 17.36-23.25	8.36	0.84	19.1	<0.02	0.02	<0.02	<0.6	36.4	22.3	36.4
Minto North Dyke	09SWC517 25.30-29.60	9.13	0.23	5.2	<0.02	<0.01	<0.02	<0.6	24.3	10.3	24.3

Note:

Equivalent CaCO3 is calculated from the CO2 originating from carbonate minerals.

Sulphur Difference = Total S - Sulphate S

AP = Acid Potential in tonnes CaCO3 equivalent per 1000 tonnes of material. AP is calculated from the sulphur difference.

NP = Neutralization Potential in tonnes CaCO3 equivalent per 1000 tonnes of material.

NET NP = NP - AP

CLIENT : **SRK Consulting**
PROJECT : **Minto**
SRK Project # : **2CM022.016.0007**
SGS Project # : **0907**
Test : **Sobek Acid-Base Accounting and Modified NP**
Date : **March 4-18, 2011**

	Sample ID	Net Modified NP kg CaCO3/t	Sobek NP/AP Ratio	Modified NP/AP Ratio	Fizz Test Visual	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm
	Method Code	Calc.	Calc.	Calc.	Sobek	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX
	LOD	#N/A	#N/A	#N/A	#N/A	0.1	0.1	0.1	1	0.1	0.1	0.1	1
Minto North Dyke	09SWC408 71.81-75.24	24.1	59.8	40.2	Slight	0.2	200.3	2.9	59	0.1	5.1	7.7	482
Minto North Dyke	09SWC478 6.64-10.64	8.1	27.0	13.5	None	0.2	9.9	2.9	55	<0.1	4.6	7.3	453
Minto North Dyke	09SWC483 3.00-6.91	7.3	24.3	12.2	None	0.3	8.9	3	52	<0.1	4.2	6.9	453
Minto North Dyke	09SWC497 27.10-32.12	18.1	54.2	30.2	Slight	0.2	11.7	1.6	55	<0.1	5	7.2	494
Minto North Dyke	09SWC502 49.72-53.40	25.7	61.7	42.8	Slight	0.1	7.8	2.3	57	<0.1	4.4	7.6	515
Minto North Dyke	09SWC504 6.00-10.15	27.7	67.2	46.2	Slight	0.1	17	2.4	59	0.1	4.6	8	489
Minto North Dyke	09SWC505 45.50-50.02	11.4	47.2	19.0	Slight	0.2	8.3	1.6	51	<0.1	4.3	7.1	468
Minto North Dyke	09SWC515 17.36-23.25	22.3	60.7	37.2	Slight	0.2	10	1.9	56	<0.1	4.8	7.7	472
Minto North Dyke	09SWC517 25.30-29.60	10.3	40.5	17.2	Slight	0.2	296.2	1.1	54	0.1	4.1	7	434

Note:

Equivalent CaCO3 is calculated from the CO2 originating from carbonate minerals.

Sulphur Difference = Total S - Sulphate S

AP = Acid Potential in tonnes CaCO3 equivalent per 1000 tonnes of material. AP is calculated from the sulphur difference.

NP = Neutralization Potential in tonnes CaCO3 equivalent per 1000 tonnes of material.

NET NP = NP - AP

CLIENT : **SRK Consulting**
PROJECT : **Minto**
SRK Project # : **2CM022.016.0007**
SGS Project # : **0907**
Test : **Sobek Acid-Base Accounting and Modified NP**
Date : **March 4-18, 2011**

	Sample ID	**Fe**	**As**	**Au**	**Th**	**Sr**	**Cd**	**Sb**	**Bi**	**V**	**Ca**	**P**	**La**	**Cr**	**Mg**	**Ba**	**Ti**	**B**
		%	**ppm**	**ppb**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**%**	**%**	**ppm**	**ppm**	**%**	**ppm**	**%**	**ppm**
	Method Code	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX
	LOD	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1	1	0.01	1	0.001	20
Minto North Dyke	09SWC408 71.81-75.24	2.17	1.1	7.8	4.1	98	<0.1	<0.1	<0.1	42	1.32	0.082	12	58	0.86	44	0.052	<20
Minto North Dyke	09SWC478 6.64-10.64	2.19	1.3	<0.5	4.7	57	<0.1	<0.1	<0.1	50	0.71	0.083	12	58	0.75	154	0.106	<20
Minto North Dyke	09SWC483 3.00-6.91	2.15	1.8	<0.5	4.8	51	<0.1	<0.1	<0.1	49	0.74	0.086	13	45	0.71	98	0.105	<20
Minto North Dyke	09SWC497 27.10-32.12	2.23	1	<0.5	4.7	83	<0.1	<0.1	<0.1	50	0.95	0.081	13	57	0.73	262	0.074	<20
Minto North Dyke	09SWC502 49.72-53.40	2.27	0.9	<0.5	4.4	62	<0.1	<0.1	<0.1	45	1.26	0.084	13	52	0.61	229	0.063	<20
Minto North Dyke	09SWC504 6.00-10.15	2.3	1.9	<0.5	4.6	100	<0.1	<0.1	<0.1	40	1.39	0.085	14	54	0.67	159	0.044	<20
Minto North Dyke	09SWC505 45.50-50.02	2.17	1	<0.5	5.1	41	<0.1	<0.1	<0.1	52	0.69	0.084	13	56	0.74	268	0.098	<20
Minto North Dyke	09SWC515 17.36-23.25	2.24	1.4	<0.5	4.4	52	<0.1	<0.1	<0.1	45	1.19	0.084	14	48	0.71	141	0.043	<20
Minto North Dyke	09SWC517 25.30-29.60	2.18	1	3.5	4.6	36	<0.1	<0.1	<0.1	50	0.57	0.087	12	54	0.73	276	0.102	<20

Note:

Equivalent $CaCO_3$ is calculated from the CO_2 originating from carbonate minerals.

Sulphur Difference = Total S - Sulphate S

AP = Acid Potential in tonnes $CaCO_3$ equivalent per 1000 tonnes of material. AP is calculated from the sulphur difference.

NP = Neutralization Potential in tonnes $CaCO_3$ equivalent per 1000 tonnes of material.

NET NP = NP - AP

CLIENT : **SRK Consulting**
PROJECT : **Minto**
SRK Project # : **2CM022.016.0007**
SGS Project # : **0907**
Test : **Sobek Acid-Base Accounting and Modified NP**
Date : **March 4-18, 2011**

	Sample ID	**Al**	**Na**	**K**	**W**	**Hg**	**Sc**	**Tl**	**S**	**Ga**	**Se**	**Te**
		%	**%**	**%**	**ppm**	**ppm**	**ppm**	**ppm**	**%**	**ppm**	**ppm**	**ppm**
	Method Code	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX
	LOD	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
Minto North Dyke	09SWC408 71.81-75.24	1.29	0.046	0.11	<0.1	<0.01	2.1	<0.1	<0.05	6	<0.5	<0.2
Minto North Dyke	09SWC478 6.64-10.64	1.08	0.077	0.25	<0.1	<0.01	1.6	<0.1	<0.05	6	<0.5	<0.2
Minto North Dyke	09SWC483 3.00-6.91	1.06	0.065	0.15	<0.1	<0.01	2	<0.1	<0.05	6	<0.5	<0.2
Minto North Dyke	09SWC497 27.10-32.12	1.08	0.051	0.4	<0.1	<0.01	2.3	0.1	<0.05	6	<0.5	<0.2
Minto North Dyke	09SWC502 49.72-53.40	1	0.049	0.38	<0.1	<0.01	2.7	<0.1	<0.05	5	<0.5	<0.2
Minto North Dyke	09SWC504 6.00-10.15	0.96	0.049	0.21	<0.1	<0.01	2.4	<0.1	<0.05	5	<0.5	<0.2
Minto North Dyke	09SWC505 45.50-50.02	1.04	0.084	0.47	<0.1	<0.01	2	0.1	<0.05	5	<0.5	<0.2
Minto North Dyke	09SWC515 17.36-23.25	1.01	0.04	0.24	<0.1	<0.01	2.2	<0.1	<0.05	6	<0.5	<0.2
Minto North Dyke	09SWC517 25.30-29.60	0.97	0.072	0.48	<0.1	<0.01	1.7	0.1	<0.05	5	<0.5	<0.2

Note:

Equivalent $CaCO_3$ is calculated from the CO_2 originating from carbonate minerals.

Sulphur Difference = Total S - Sulphate S

AP = Acid Potential in tonnes $CaCO_3$ equivalent per 1000 tonnes of material. AP is calculated from the sulphur difference.

NP = Neutralization Potential in tonnes $CaCO_3$ equivalent per 1000 tonnes of material.

NET NP = NP - AP

CLIENT : **SRK Consulting**
PROJECT : **Minto**
SRK Project # : **2CM022.016.0007**
SGS Project # : **0907**
Test : **Sobek Acid-Base Accounting and Modified NP**
Date : **January 29, 2013**

														Additions by SRK			
Field1	**HOLE-ID**	**FROM**	**TO**	**Sample ID** 0	**Paste pH Std. Units**	**CO2 % CO2**	**Equiv. CaCO3 kg CaCO3/t**	**Total S % S**	**Sulphate % S**	**Sobek NP kg CaCO3/t**	**Modified NP kg CaCO3/t**	**Fizz Test Visual**	**AP kg CaCO3/t**	**Sobek NP/AP ratio**	**Modified NP/AP ratio**	**CO3-NP/AP ratio**
				Method Code	Sobek	2A11HCl	Calc.	2A Leco	CSA07V	Sobek NP	Modified NP	Sobek	SRK calc	SRK calc	SRK calc	SRK calc
				LOD	0.20	0.02	#N/A	0.02	0.01	0.5	0.5	#N/A				
Area 2 Stage 3	07SWC269	1.73	8.95	Composite #1	8.48	0.03	0.7	0.06	<0.01	11.9	6.1	None	1.9	6.3	3.3	0.4
Area 2 Stage 3	09SWC416	31.46	37.22	Composite #2	8.59	0.78	17.7	<0.02	<0.01	32.8	23.3	Slight	0.6	52.5	37.3	28.4
Area 2 Stage 3	10SWC602	51.06	56.71	Composite #3	9.01	0.9	20.5	<0.02	<0.01	27.0	17.7	Slight	0.6	43.2	28.3	32.7
Area 2 Stage 3	10SWC621	61.38	67.4	Composite #4	9.12	0.52	11.8	0.02	<0.01	28.2	16.7	Slight	0.6	45.1	26.7	18.9
Area 2 Stage 3	10SWC602	43.3	49.25	Composite #28	8.87	0.69	15.7	0.08	<0.01	32.1	21.7	Slight	2.5	12.8	8.7	6.3
Area 2 Stage 3	10SWC602	59.56	66.35	Composite #29	8.93	0.88	20.0	0.02	<0.01	30.7	22.5	Slight	0.6	49.1	36.0	32.0
Area 2 Stage 3	10SWC621	33.35	49.55	Composite #30	8.62	0.37	8.4	0.02	<0.01	21.8	15.9	Slight	0.6	34.9	25.4	13.5
Ridgetop	10SWC621	12.19	18.46	Composite #8	8.49	0.69	15.7	<0.02	0.01	24.4	20.6	Slight	0.6	39.0	33.0	25.1
Ridgetop	10SWC621	24.46	29.96	Composite #9	8.50	1.54	35.0	0.08	0.01	38.4	35.4	Slight	2.5	15.4	14.2	14.0
Ridgetop	07SWC269	25.3	31.38	Composite #10	8.91	2.97	67.5	<0.02	0.02	58.9	53.3	Slight	0.6	94.2	85.3	108.0
Ridgetop	07SWC269	13	18.96	Composite #11	8.54	0.92	20.9	0.21	0.04	25.9	25.6	Slight	6.6	3.9	3.9	3.2
Ridgetop	07SWC269	20.45	26.92	Composite #12	8.66	1.21	27.5	0.04	0.03	35.5	32.3	Slight	1.3	28.4	25.8	22.0
Ridgetop	07SWC269	29.59	35.59	Composite #13	8.68	0.96	21.8	0.04	0.01	30.0	29.5	Slight	1.3	24.0	23.6	17.5
Ridgetop	07SWC269	55.89	61.89	Composite #14	8.54	1.25	28.4	<0.02	<0.01	33.8	31.2	Slight	0.6	54.1	49.9	45.5
Ridgetop	07SWC269	9.2	15.5	Composite #15	8.83	0.87	19.8	0.19	<0.01	35.1	28.2	Slight	5.9	5.9	4.7	3.3
Ridgetop	09SWC416	19.3	25.16	Composite #16	8.92	0.63	14.3	<0.02	<0.01	30.9	21.6	Slight	0.6	49.4	34.6	22.9
Ridgetop	09SWC416	25.16	31.15	Composite #17	9.00	0.54	12.3	<0.02	<0.01	29.1	18.7	Slight	0.6	46.6	29.9	19.6
Ridgetop	09SWC416	33.95	41	Composite #18	8.94	0.38	8.6	0.03	<0.01	28.0	16.7	Slight	0.9	29.9	17.8	9.2
Ridgetop	09SWC416	41	48.5	Composite #19	9.05	0.2	4.5	0.06	<0.01	24.3	13.9	Slight	1.9	13.0	7.4	2.4
Ridgetop	09SWC417	14.34	21.16	Composite #20	8.80	0.57	13.0	0.04	<0.01	29.3	20.2	Slight	1.3	23.4	16.2	10.4
Ridgetop	09SWC434	11.15	17.71999931	Composite #21	8.75	0.97	22.0	<0.02	<0.01	34.8	29.0	Slight	0.6	55.7	46.4	35.3
Ridgetop	09SWC434	25.3	31.3	Composite #22	8.52	2	45.5	<0.02	<0.01	49.8	48.0	Slight	0.6	79.7	76.8	72.7
Ridgetop	09SWC436	6.9	12.55	Composite #23	8.47	0.23	5.2	<0.02	<0.01	20.5	13.5	Slight	0.6	32.8	21.6	8.4
Ridgetop	09SWC436	31.5	37.37	Composite #24	8.79	0.54	12.3	0.04	<0.01	27.7	19.6	Slight	1.3	22.2	15.7	9.8
Ridgetop	09SWC440	6.17	10.37	Composite #25	9.22	0.19	4.3	0.05	<0.01	19.2	11.5	Slight	1.6	12.3	7.4	2.8
Ridgetop	09SWC440	20.98	27.84	Composite #26	8.86	0.62	14.1	<0.02	<0.01	28.8	20.5	Slight	0.6	46.1	32.8	22.5
Ridgetop	09SWC440	30.84	36.34	Composite #27	8.87	0.55	12.5	<0.02	<0.01	27.8	18.9	Slight	0.6	44.5	30.2	20.0

CLIENT : **SRK Consulting**
PROJECT : **Minto**
SRK Project # : **2CM022.016.0007**
SGS Project # : **0907**
Test : **Sobek Acid-Base Accounting and Modified NP**
Date : **January 29, 2013**

		Metals on ABA Composites																							
Field1	**HOLE-ID**	**Mo**	**Cu**	**Pb**	**Zn**	**Ag**	**Ni**	**Co**	**Mn**	**Fe**	**As**	**Au**	**Th**	**Sr**	**Cd**	**Sb**	**Bi**	**V**	**Ca**	**P**	**La**	**Cr**	**Mg**	**Ba**	**Ti**
		ppm	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**%**	**ppm**	**ppb**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**ppm**	**%**	**%**	**ppm**	**ppm**	**%**	**ppm**	**%**
		1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX
		0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1	1	0.01	1	0.001
Area 2 Stage 3	07SWC269	1.5	496.8	2.6	76	0.1	3.3	7.3	573	2.62	2.7	12.2	6.7	19	<0.1	0.2	<0.1	65	0.32	0.083	33	74	0.65	393	0.142
Area 2 Stage 3	09SWC416	1.5	64.3	2.6	66	<0.1	2.7	7.2	610	2.24	0.8	5.9	3.8	71	<0.1	0.1	<0.1	48	1.16	0.084	15	73	0.66	188	0.066
Area 2 Stage 3	10SWC602	1.3	25	2.6	62	<0.1	3.6	6	589	2.26	0.8	0.9	3.4	55	<0.1	0.1	<0.1	53	0.68	0.063	15	79	0.62	255	0.134
Area 2 Stage 3	10SWC621	1.2	9.3	2.5	62	<0.1	3.1	7.1	614	2.28	0.7	0.8	2.7	57	<0.1	0.1	<0.1	51	0.79	0.072	11	68	0.78	338	0.123
Area 2 Stage 3	10SWC602	1.4	6.5	1.9	65	<0.1	3.5	6.9	549	2.43	0.6	1.5	3.5	41	<0.1	0.1	<0.1	51	0.89	0.075	15	69	0.72	255	0.099
Area 2 Stage 3	10SWC602	1	29.8	2.9	66	<0.1	2.6	4.9	457	2.01	0.7	2.1	2.4	49	<0.1	<0.1	<0.1	38	0.94	0.061	9	64	0.55	231	0.059
Area 2 Stage 3	10SWC621	2.1	602.6	3.5	63	0.1	2.8	6.6	614	2.4	1.8	1.8	4	29	0.1	<0.1	<0.1	50	0.66	0.078	11	62	0.34	328	0.076
Ridgetop	10SWC621	1.8	106.8	3	51	0.1	2.3	4.9	288	1.81	3	18	1.1	29	<0.1	0.5	<0.1	39	1.02	0.077	4	67	0.09	505	0.007
Ridgetop	10SWC621	1.7	103.5	5.6	85	0.5	3.4	7.4	526	2.64	2.1	28.8	0.4	43	0.3	0.5	<0.1	59	1.42	0.064	4	69	0.22	551	0.017
Ridgetop	07SWC269	1.5	99.8	5	74	0.1	2.5	6.7	524	1.97	1.3	1.8	3.6	42	<0.1	<0.1	<0.1	25	1.89	0.063	11	49	0.32	659	0.002
Ridgetop	07SWC269	1.9	126.5	3.8	45	<0.1	2.7	4.3	388	2.03	9.9	2.6	2.6	29	0.2	0.2	<0.1	27	1.19	0.06	5	58	0.04	1707	0.007
Ridgetop	07SWC269	2.1	97.9	3.4	42	0.2	2.4	4.6	495	1.69	5.5	241.8	0.7	33	0.1	0.2	<0.1	27	1.42	0.049	3	72	0.07	1443	0.011
Ridgetop	07SWC269	1.6	49.3	4.6	58	0.1	2.5	5	419	1.64	5.2	7.8	1.3	27	0.1	0.2	<0.1	23	1.27	0.061	4	59	0.06	622	0.006
Ridgetop	07SWC269	5.3	621.1	2.5	78	<0.1	2.4	6.2	783	2.12	2.1	4.8	3.1	43	0.2	0.1	<0.1	33	1.14	0.057	11	48	0.16	477	0.002
Ridgetop	07SWC269	1.7	276.8	2.2	66	0.3	2.9	7.6	641	2.21	7.3	5.4	1.8	69	<0.1	38.5	<0.1	54	1.16	0.068	11	78	0.48	306	0.107
Ridgetop	09SWC416	1.2	16.2	1.3	68	0.1	3.6	6.7	688	2.3	1.5	1.5	2	51	<0.1	3	<0.1	51	0.96	0.066	11	81	0.61	327	0.121
Ridgetop	09SWC416	1.3	273.2	3.7	97	<0.1	3	7.8	870	2.4	3	<0.5	5.3	47	0.1	1.4	<0.1	59	0.87	0.084	17	76	0.71	234	0.128
Ridgetop	09SWC416	1.7	631.9	4.2	142	0.2	2.6	8.4	866	2.78	1.2	4	4.4	34	<0.1	0.7	<0.1	63	0.72	0.077	14	72	0.75	273	0.147
Ridgetop	09SWC416	1.6	899.4	2.7	66	0.3	3	6.7	623	2.36	1.2	9	5.8	30	0.2	0.5	<0.1	60	0.62	0.095	14	70	0.73	239	0.132
Ridgetop	09SWC417	1.5	34.1	2.5	74	<0.1	3.4	6.7	613	2.33	2.3	<0.5	2.8	37	<0.1	<0.1	<0.1	55	0.86	0.066	14	72	0.5	313	0.114
Ridgetop	09SWC434	0.8	25.1	2.4	51	<0.1	2.6	6.5	533	2.05	2.2	<0.5	1.7	64	<0.1	<0.1	<0.1	41	1.26	0.071	9	61	0.55	112	0.046
Ridgetop	09SWC434	1.3	460.4	6.2	136	0.2	2.6	7.8	993	2.54	5	30.2	3.3	50	0.1	0.3	<0.1	57	1.78	0.067	11	57	0.19	146	0.007
Ridgetop	09SWC436	3.3	120.6	2.4	68	0.2	3.1	7.2	691	2.33	2.1	<0.5	2.9	35	<0.1	<0.1	<0.1	44	0.59	0.062	15	64	0.48	231	0.042
Ridgetop	09SWC436	1.7	290.7	2.8	70	0.1	3	6.9	626	2.2	1.6	2.6	4	37	0.1	<0.1	<0.1	52	0.86	0.07	14	64	0.56	175	0.084
Ridgetop	09SWC440	1.1	40.5	3.9	94	<0.1	3.2	6.6	714	2.54	2.7	2.7	4.7	27	<0.1	<0.1	<0.1	64	0.47	0.069	11	71	0.69	512	0.18
Ridgetop	09SWC440	0.8	36	1.7	76	<0.1	3.1	6	632	2.18	2.4	<0.5	2.6	77	<0.1	<0.1	<0.1	45	0.91	0.071	11	72	0.52	244	0.084
Ridgetop	09SWC440	0.8	28.3	1.6	68	<0.1	2.8	5.8	565	2.2	1.4	0.7	3.3	76	<0.1	<0.1	<0.1	46	0.83	0.064	12	69	0.53	278	0.095

CLIENT : **SRK Consulting**
PROJECT : **Minto**
SRK Project # : **2CM022.016.0007**
SGS Project # : **0907**
Test : **Sobek Acid-Base Accounting and Modified NP**
Date : **January 29, 2013**

Field1	HOLE-ID	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
		ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
		1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX
		20	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
Area 2 Stage 3	07SWC269	<20	1.13	0.045	0.82	<0.1	0.02	3.6	0.3	<0.05	5	<0.5	<0.2
Area 2 Stage 3	09SWC416	<20	1.03	0.046	0.46	<0.1	0.02	5	0.2	<0.05	5	<0.5	<0.2
Area 2 Stage 3	10SWC602	<20	0.99	0.05	0.77	<0.1	0.01	4.5	0.2	<0.05	4	<0.5	<0.2
Area 2 Stage 3	10SWC621	<20	1.23	0.062	0.73	<0.1	0.01	3.6	0.2	<0.05	6	<0.5	<0.2
Area 2 Stage 3	10SWC602	<20	1.11	0.042	0.57	<0.1	<0.01	2.3	0.2	<0.05	6	<0.5	<0.2
Area 2 Stage 3	10SWC602	<20	0.87	0.039	0.38	<0.1	<0.01	2.2	0.1	<0.05	5	<0.5	<0.2
Area 2 Stage 3	10SWC621	<20	0.78	0.041	0.52	<0.1	<0.01	6.3	0.2	<0.05	4	<0.5	<0.2
Ridgetop	10SWC621	<20	0.43	0.033	0.27	<0.1	<0.01	2.3	<0.1	<0.05	3	<0.5	<0.2
Ridgetop	10SWC621	<20	0.47	0.034	0.29	<0.1	0.03	3.3	<0.1	<0.05	3	<0.5	<0.2
Ridgetop	07SWC269	<20	0.3	0.034	0.25	<0.1	<0.01	2	<0.1	<0.05	1	<0.5	<0.2
Ridgetop	07SWC269	<20	0.36	0.032	0.21	<0.1	<0.01	3.1	<0.1	<0.05	2	<0.5	<0.2
Ridgetop	07SWC269	<20	0.34	0.033	0.2	<0.1	0.01	1.6	<0.1	<0.05	2	<0.5	<0.2
Ridgetop	07SWC269	<20	0.38	0.035	0.24	<0.1	0.01	1.9	<0.1	<0.05	2	<0.5	<0.2
Ridgetop	07SWC269	<20	0.33	0.038	0.17	<0.1	0.01	2.9	<0.1	<0.05	1	<0.5	<0.2
Ridgetop	07SWC269	<20	0.9	0.05	0.63	1.9	0.01	3.9	0.1	<0.05	5	<0.5	<0.2
Ridgetop	09SWC416	<20	1.04	0.053	0.75	0.2	<0.01	4.9	0.2	<0.05	5	<0.5	<0.2
Ridgetop	09SWC416	<20	1.15	0.052	0.82	<0.1	0.01	4.1	0.4	<0.05	5	<0.5	<0.2
Ridgetop	09SWC416	<20	1.32	0.053	0.88	<0.1	<0.01	4	0.2	<0.05	6	<0.5	<0.2
Ridgetop	09SWC416	<20	1.16	0.063	0.76	<0.1	<0.01	3.1	0.2	<0.05	5	<0.5	<0.2
Ridgetop	09SWC417	<20	0.94	0.045	0.74	<0.1	<0.01	6.5	0.2	<0.05	4	<0.5	<0.2
Ridgetop	09SWC434	<20	0.8	0.053	0.27	<0.1	<0.01	3.7	<0.1	<0.05	5	<0.5	<0.2
Ridgetop	09SWC434	<20	0.32	0.034	0.15	<0.1	0.01	4.6	<0.1	<0.05	2	<0.5	<0.2
Ridgetop	09SWC436	<20	0.91	0.043	0.31	<0.1	<0.01	4.7	<0.1	<0.05	5	<0.5	<0.2
Ridgetop	09SWC436	<20	0.92	0.045	0.52	<0.1	<0.01	4	0.1	<0.05	5	<0.5	<0.2
Ridgetop	09SWC440	<20	1.22	0.048	1	<0.1	<0.01	7.8	0.4	<0.05	6	<0.5	<0.2
Ridgetop	09SWC440	<20	0.92	0.04	0.63	<0.1	0.01	5.8	0.2	<0.05	5	<0.5	<0.2
Ridgetop	09SWC440	<20	0.91	0.043	0.62	<0.1	<0.01	6.4	0.2	<0.05	5	<0.5	<0.2

Appendix D
Phase V/VI Waste Rock: Humidity Cell Test Results

Appendix D1
Sample Origin

HCT	Hole ID	From (m)	To (m)	Cu (%)	S (%)	Selection Characteristics	Deposit
HC1	07SWC211	83	86	0.21	0.51	~90th percentile Cu, ~90th percentile S	Area 2
HC2	07SWC196	54	55	0.01	0.01	50th percentile Cu, 50th percentile S	Area 2
HC3	07SWC196	46	47	0.1	0.02	~75th percentile Cu, ~50th percentile S	Area 2
HC4	07SWC211	71	74	0.01	0.08	~50th percentile Cu, ~75th percentile S	Area 2
HC5	09SWC506	30	33	0.00043	<0.02	Bulk waste	Minto North
HC6	09SWC506	30	33	0.00043	<0.02	Bulk waste (dup)	Minto North
HC7	09SWC484	40	43	0.00064	<0.02	Bulk waste	Minto North
HC8	09SWC498	54	57	0.04735	0.04	Moderately anomalous waste	Minto North
HC9	07SWC258	20	23	0.01359	<0.02	Bulk waste	Ridgetop North
HC10	08SWC337	10	13	0.01448	<0.02	Bulk waste	Ridgetop North
HC11	08SWC348	12	15	0.01078	0.03	Conglomerate	Ridgetop North
HC12	08SWC370	10	13	0.01773	<0.02	Conglomerate	Ridgetop North
HC13	09SWC419	15	18	0.00471	<0.02	Bulk waste	Ridgetop South
HC14	n/a	n/a	n/a	n/a	n/a	Method blank	Method blank

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Appendix D2
Static Characteristics

CLIENT : **SRK Consulting**
PROJECT : **Minto Mine: Phase IV Expansion**
CEMI Project # : **0907**
Test : **Size Fraction Analysis**
Date : **August 4, 2009**

Hole 196 45.64-47.14

Sieve Designation	Aperture (mm)	Weight Retained (g)	(%)	Cumulative (%)
+3/8"	9.500	5.39	5.4%	5.4%
-3/8" + 1/4"	6.300	21.53	21.6%	27.0%
-1/4" + 6	3.360	21.36	21.4%	48.4%
-6 + 10	1.700	12.72	12.7%	61.1%
-10 + 35	0.425	16.82	16.9%	78.0%
-35 + 100	0.150	10.73	10.8%	88.7%
-100 + 270	0.053	6.77	6.8%	95.5%
-270	-0.053	4.49	4.5%	100.0%
TOTAL		99.81	100.0%	

Hole 196 53.94-55.44

Sieve Designation	Aperture (mm)	Weight Retained (g)	(%)	Cumulative (%)
+3/8"	9.500	8.28	8.3%	8.3%
-3/8" + 1/4"	6.300	22.26	22.3%	30.6%
-1/4" + 6	3.360	22.09	22.2%	52.8%
-6 + 10	1.700	15.47	15.5%	68.3%
-10 + 35	0.425	17.97	18.0%	86.3%
-35 + 100	0.150	7.40	7.4%	93.8%
-100 + 270	0.053	3.02	3.0%	96.8%
-270	-0.053	3.20	3.2%	100.0%
TOTAL		99.69	100.0%	

Hole 211 70.79-73.79

Sieve Designation	Aperture (mm)	Weight Retained (g)	(%)	Cumulative (%)
+3/8"	9.500	2.11	2.1%	2.1%
-3/8" + 1/4"	6.300	25.56	25.6%	27.7%
-1/4" + 6	3.360	21.42	21.5%	49.2%
-6 + 10	1.700	12.06	12.1%	61.3%
-10 + 35	0.425	19.16	19.2%	80.5%
-35 + 100	0.150	9.80	9.8%	90.3%
-100 + 270	0.053	4.09	4.1%	94.4%
-270	-0.053	5.54	5.6%	100.0%
TOTAL		99.74	100.0%	

Hole 211 83.08-86.03

Sieve Designation	Aperture (mm)	Weight Retained (g)	(%)	Cumulative (%)
+3/8"	9.500	4.57	4.6%	4.6%
-3/8" + 1/4"	6.300	17.55	17.6%	22.2%
-1/4" + 6	3.360	18.30	18.3%	40.5%
-6 + 10	1.700	12.42	12.4%	52.9%
-10 + 35	0.425	23.05	23.1%	76.0%
-35 + 100	0.150	13.07	13.1%	89.1%
-100 + 270	0.053	5.54	5.5%	94.7%
-270	-0.053	5.32	5.3%	100.0%
TOTAL		99.82	100.0%	

CLIENT : **SRK Consulting**
PROJECT : **Minto Mine: Phase IV Expansion**
CEMI Project # : **0907**
Test : **Sobek Acid-Base Accounting**
Date : **July 15, 2009**

Sample ID	**Paste pH Std. Units**	**CO2 % CO2**	**Equiv. CaCO3 kg CaCO3/t**	**Total S % S**	**Sulphate % S**	**Sulphur Diff. % S**	**AP kg CaCO3/t**	**NP kg CaCO3/t**	**Net NP kg CaCO3/t**	**NP/AP Ratio**	**Fizz Test Visual**
LOD	0.01	0.02	#N/A	0.02	0.01	#N/A	#N/A	0.2	#N/A	#N/A	#N/A
Method Code	Sobek	HCl Leach	Calc.	Leco	HCl Leach	Calc.	Calc.	Sobek NP	Calc.	Calc.	Sobek
Hole 196 45.64-47.14	8.43	0.1	2.3	<0.02	<0.01	<0.02	<0.6	11.4	11.4	19.0	None
Hole 196 53.94-55.44	8.36	0.72	16.4	<0.02	<0.01	<0.02	<0.6	27.0	27.0	45.0	Slight
Hole 211 70.79-73.79	8.76	0.36	8.2	0.13	<0.01	0.13	4.1	20.0	15.9	4.9	Slight
Hole 211 83.08-86.03	8.06	0.79	18.0	1.75	<0.01	1.75	54.7	28.2	-26.5	0.5	Slight
Duplicates											
Hole 196 45.64-47.14	8.50				<0.01			10.8			None
Hole 211 83.08-86.03				1.64							

Note:

Equivalent CaCO3 is calculated from the CO2 originating from carbonate minerals.

Sulphur Difference = Total S - Sulphate S

AP = Acid Potential in tonnes CaCO3 equivalent per 1000 tonnes of material. AP is calculated from the sulphur difference.

NP = Neutralization Potential in tonnes CaCO3 equivalent per 1000 tonnes of material.

NET NP = NP - AP

CLIENT : SRK Consulting
PROJECT : Minto Mine: Phase IV Expansion
CEMI Proje : 0907
Test : Metals by Aqua Regia Digestion with ICP-MS Finish
Date : July 20, 2009

CLIENT : SRK Consulting
PROJECT : Minto Mine: Phase IV Expansion
CEMI Proje : 0907
Test : Metals by Aqua Regia Digestion with ICP-MS Finish
Date : July 20, 2009

Sample ID	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	ppm	%	%
LOD	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.1	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1	1	0.01	1	0.001	20	0.01	0.001
Method Code	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX
Hole 196 45.64-47.14	3.7	549.2	2.6	105	0.2	3.3	8.1	550	2.93	1	0.4	9.6	8.4	26	0.1	<0.1	<0.1	66	0.37	0.093	16	106	0.77	194	0.175	<20	1.37	0.05
Hole 196 53.94-55.44	2.3	65.5	1.8	68	<0.1	3.5	6.6	600	2.43	0.6	0.3	0.5	2.4	39	<0.1	<0.1	<0.1	53	0.88	0.075	13	115	0.65	437	0.135	<20	1.17	0.055
Hole 211 70.79-73.79	2.3	178	3.3	50	<0.1	3.9	5.8	408	2.34	2.6	0.2	<0.5	2.3	29	<0.1	<0.1	<0.1	51	0.46	0.066	11	111	0.69	432	0.142	<20	1.25	0.066
Hole 211 83.08-86.03	94.4	4151.3	7.4	34	0.5	3.2	13.5	225	2.62	<0.5	0.5	10.1	3.5	54	0.3	<0.1	<0.1	20	1.06	0.071	22	87	0.44	66	0.003	<20	0.94	0.024

Sample ID	K	W	Hg	Sc	Tl	S	Ga	Se
	%	ppm	ppm	ppm	ppm	%	ppm	ppm
LOD	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5
Method Code	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX
Hole 196 45.64-47.14	1.02	<0.1	<0.01	3.8	0.4	<0.05	6	<0.5
Hole 196 53.94-55.44	0.81	<0.1	<0.01	3.7	0.2	<0.05	5	<0.5
Hole 211 70.79-73.79	0.83	<0.1	<0.01	5.1	0.3	0.12	6	<0.5
Hole 211 83.08-86.03	0.14	<0.1	0.02	1.1	<0.1	1.63	3	4.2

CLIENT : **SRK Consulting**
PROJECT : **Minto**
SRK Project # : **2CM022.016.0007**
SGS Project # : **0907**
Test : **Size Fraction Analysis**
Date : **February 25, 2011**

07SWC258 20-23

Sieve Designation	Aperture (mm)	Weight Retained (g)	(%)	Cumulative (%)
+3/8"	9.500	2.69	2.7%	2.7%
-3/8" + 1/4"	6.300	17.94	18.0%	20.7%
-1/4" + 10	1.700	35.01	35.1%	55.7%
-10 + 35	0.425	22.87	22.9%	78.6%
-35 + 100	0.150	11.08	11.1%	89.7%
-100 + 270	0.053	6.00	6.0%	95.7%
-270	-0.053	4.28	4.3%	100.0%
TOTAL		99.87	100.0%	

09SWC419 15-18

Sieve Designation	Aperture (mm)	Weight Retained (g)	(%)	Cumulative (%)
+3/8"	9.500	4.70	4.7%	4.7%
-3/8" + 1/4"	6.300	9.84	9.9%	14.6%
-1/4" + 10	1.700	33.96	34.1%	48.7%
-10 + 35	0.425	31.53	31.7%	80.3%
-35 + 100	0.150	11.21	11.3%	91.6%
-100 + 270	0.053	5.38	5.4%	97.0%
-270	-0.053	3.00	3.0%	100.0%
TOTAL		99.62	100.0%	

08SWC337 10-13

Sieve Designation	Aperture (mm)	Weight Retained (g)	(%)	Cumulative (%)
+3/8"	9.500	1.37	1.4%	1.4%
-3/8" + 1/4"	6.300	14.17	14.2%	15.6%
-1/4" + 10	1.700	37.94	38.1%	53.8%
-10 + 35	0.425	31.18	31.3%	85.1%
-35 + 100	0.150	8.84	8.9%	94.0%
-100 + 270	0.053	3.77	3.8%	97.8%
-270	-0.053	2.20	2.2%	100.0%
TOTAL		99.47	100.0%	

09SWC484 40-43

Sieve Designation	Aperture (mm)	Weight Retained (g)	(%)	Cumulative (%)
+3/8"	9.500	2.24	2.2%	2.2%
-3/8" + 1/4"	6.300	8.24	8.3%	10.5%
-1/4" + 10	1.700	30.24	30.3%	40.8%
-10 + 35	0.425	29.93	30.0%	70.8%
-35 + 100	0.150	15.28	15.3%	86.2%
-100 + 270	0.053	8.63	8.7%	94.8%
-270	-0.053	5.18	5.2%	100.0%
TOTAL		99.74	100.0%	

08SWC348 12-15

Sieve Designation	Aperture (mm)	Weight Retained (g)	(%)	Cumulative (%)
+3/8"	9.500	1.68	1.7%	1.7%
-3/8" + 1/4"	6.300	12.29	12.3%	14.0%
-1/4" + 10	1.700	32.26	32.3%	46.3%
-10 + 35	0.425	28.67	28.7%	75.1%
-35 + 100	0.150	12.20	12.2%	87.3%
-100 + 270	0.053	7.17	7.2%	94.5%
-270	-0.053	5.50	5.5%	100.0%
TOTAL		99.77	100.0%	

09SWC498 54-57

Sieve Designation	Aperture (mm)	Weight Retained (g)	(%)	Cumulative (%)
+3/8"	9.500	3.76	3.8%	3.8%
-3/8" + 1/4"	6.300	9.98	10.0%	13.8%
-1/4" + 10	1.700	19.60	19.7%	33.5%
-10 + 35	0.425	32.55	32.7%	66.2%
-35 + 100	0.150	16.90	17.0%	83.2%
-100 + 270	0.053	10.02	10.1%	93.3%
-270	-0.053	6.66	6.7%	100.0%
TOTAL		99.47	100.0%	

08SWC370 10-13

Sieve Designation	Aperture (mm)	Weight Retained (g)	(%)	Cumulative (%)
+3/8"	9.500	2.05	2.1%	2.1%
-3/8" + 1/4"	6.300	12.19	12.2%	14.3%
-1/4" + 10	1.700	26.64	26.7%	41.0%
-10 + 35	0.425	33.13	33.2%	74.2%
-35 + 100	0.150	14.11	14.2%	88.4%
-100 + 270	0.053	7.11	7.1%	95.5%
-270	-0.053	4.45	4.5%	100.0%
TOTAL		99.68	100.0%	

09SWC506 30-33

Sieve Designation	Aperture (mm)	Weight Retained (g)	(%)	Cumulative (%)
+3/8"	9.500	3.86	3.9%	3.9%
-3/8" + 1/4"	6.300	9.45	9.5%	13.4%
-1/4" + 10	1.700	21.59	21.7%	35.1%
-10 + 35	0.425	30.07	30.2%	65.3%
-35 + 100	0.150	16.81	16.9%	82.2%
-100 + 270	0.053	10.49	10.5%	92.7%
-270	-0.053	7.26	7.3%	100.0%
TOTAL		99.53	100.0%	

CLIENT : **SRK Consulting**
PROJECT : **Minto**
SRK Project # : **2CM022.016.0007**
SGS Project # : **0907**
Test : **Sobek Acid-Base Accounting and Modified NP**
Date : **March 4-18, 2011**

Sample ID	Paste pH Std. Units	CO2 % CO2	Equiv. CaCO3 kg CaCO3/t	Total S % S	Sulphate % S	Sulphur Diff. % S	AP kg CaCO3/t	Sobek NP kg CaCO3/t	Modified NP kg CaCO3/t
Method Code	Sobek	2A11HCl	Calc.	2A Leco	CSA07V	Calc.	Calc.	Sobek NP	Modified NP
LOD	0.01	0.02	#N/A	0.02	0.01	#N/A	#N/A	0.2	0.2
07SWC258 20-23	8.96	0.19	4.3	<0.02	0.01	<0.02	<0.6	12.1	7.8
08SWC337 10-13	8.48	2.39	54.3	<0.02	0.03	<0.02	<0.6	56.0	56.7
08SWC348 12-15	7.87	0.04	0.9	0.03	0.05	<0.02	<0.6	4.3	2.6
08SWC370 10-13	8.11	1.16	26.4	<0.02	0.03	<0.02	<0.6	28.9	25.6
09SWC419 15-18	8.30	2.28	51.8	<0.02	0.03	<0.02	<0.6	65.3	52.6
09SWC484 40-43	8.40	1.23	28.0	<0.02	0.02	<0.02	<0.6	35.4	23.9
09SWC498 54-57	8.19	0.99	22.5	0.04	0.04	<0.02	<0.6	36.0	25.0
09SWC506 30-33	8.99	0.07	1.6	<0.02	0.01	<0.02	<0.6	15.7	6.7

Note:

Equivalent CaCO3 is calculated from the CO2 originating from carbonate minerals.

Sulphur Difference = Total S - Sulphate S

AP = Acid Potential in tonnes CaCO3 equivalent per 1000 tonnes of material. AP is calculated from the sulphur difference.

NP = Neutralization Potential in tonnes CaCO3 equivalent per 1000 tonnes of material.

NET NP = NP - AP

Net Sobek NP kg CaCO3/t	Net Modified NP kg CaCO3/t	Sobek NP/AP Ratio	Modified NP/AP Ratio	Fizz Test Visual
Calc.	Calc.	Calc.	Calc.	Sobek
#N/A	#N/A	#N/A	#N/A	#N/A
12.1	7.8	20.2	13.0	None
56.0	56.7	93.3	94.5	Moderate
4.3	2.6	7.2	4.3	None
28.9	25.6	48.2	42.7	Slight
65.3	52.6	108.8	87.7	Moderate
35.4	23.9	59.0	39.8	Slight
36.0	25.0	60.0	41.7	Slight
15.7	6.7	26.2	11.2	None

CLIENT : **SRK Consulting**
PROJECT : **Minto**
SRK Project # : **2CM022.016.0007**
SGS Project # : **0907**
Test : **Metals by Aqua Regia Digestion with ICP-MS Finish**
Date : **March 3, 2011**

Sample ID	**Mo ppm**	**Cu ppm**	**Pb ppm**	**Zn ppm**	**Ag ppm**	**Ni ppm**	**Co ppm**	**Mn ppm**	**Fe %**	**As ppm**	**Au ppb**
Method Code	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX
LOD	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5
07SWC258 20-23	0.5	135.9	2.2	59	<0.1	3.5	6.6	491	2.38	5	2.9
08SWC337 10-13	1	144.8	5.8	72	0.3	3.8	8.2	845	2.2	5.7	1.4
08SWC348 12-15	1.4	107.8	12.4	77	0.3	3.8	7.5	512	2.62	4.5	8
08SWC370 10-13	0.7	177.3	4.6	71	<0.1	4.2	6.8	369	2.45	2.5	11.6
09SWC419 15-18	0.2	47.1	3.3	83	<0.1	3	7.4	684	2.53	9.2	0.6
09SWC484 40-43	0.2	6.4	1.1	51	<0.1	3.3	6	471	2.01	<0.5	<0.5
09SWC498 54-57	0.2	473.5	1.6	67	0.3	3.5	7.4	573	2.5	<0.5	9.6
09SWC506 30-33	0.2	4.3	1.2	46	<0.1	3.3	5.7	418	1.89	0.5	<0.5

CLIENT : SRK Con
PROJECT : Minto
SRK Project # : 2CM022.(
SGS Project # : 0907
Test : Metals by
Date : March 3,

Sample ID	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %
Method Code	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX
LOD	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1	1	0.01
07SWC258 20-23	2.2	22	<0.1	<0.1	<0.1	61	0.32	0.072	6	64	0.72
08SWC337 10-13	3.1	40	0.1	0.1	<0.1	39	2.1	0.072	11	48	0.14
08SWC348 12-15	0.9	36	0.2	0.1	<0.1	58	0.1	0.019	2	39	0.39
08SWC370 10-13	0.9	70	<0.1	<0.1	<0.1	60	1.1	0.043	3	47	0.37
09SWC419 15-18	2.6	98	0.2	0.1	<0.1	52	2.06	0.072	14	53	0.3
09SWC484 40-43	1.2	53	<0.1	<0.1	<0.1	39	1.09	0.077	7	62	0.54
09SWC498 54-57	1.6	67	<0.1	<0.1	<0.1	48	1.17	0.079	8	60	0.67
09SWC506 30-33	1.1	37	<0.1	<0.1	<0.1	43	0.64	0.085	7	66	0.62

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' Aqua Regia Digestion with ICP-MS Finish
2011

Sample ID	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Hg ppm	Sc ppm	Tl ppm	S %
Method Code	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX
LOD	1	0.001	20	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05
07SWC258 20-23	600	0.188	<20	1.3	0.056	1.04	<0.1	<0.01	4.4	0.3	<0.05
08SWC337 10-13	250	0.005	<20	0.34	0.03	0.17	<0.1	<0.01	4.6	<0.1	<0.05
08SWC348 12-15	1815	0.095	<20	0.94	0.024	0.58	<0.1	<0.01	5.9	0.2	<0.05
08SWC370 10-13	438	0.08	<20	0.88	0.024	0.5	<0.1	0.01	6.2	0.1	<0.05
09SWC419 15-18	178	0.041	<20	0.58	0.033	0.39	<0.1	<0.01	6.1	0.2	<0.05
09SWC484 40-43	159	0.061	<20	0.88	0.047	0.4	<0.1	<0.01	3.1	<0.1	<0.05
09SWC498 54-57	226	0.076	<20	1.23	0.041	0.55	<0.1	<0.01	2.7	0.1	<0.05
09SWC506 30-33	136	0.105	<20	0.97	0.072	0.29	<0.1	<0.01	2.2	<0.1	<0.05

Sample ID	Ga ppm	Se ppm	Te ppm
Method Code	1DX	1DX	1DX
LOD	1	0.5	0.2
07SWC258 20-23	6	<0.5	<0.2
08SWC337 10-13	2	<0.5	<0.2
08SWC348 12-15	6	<0.5	<0.2
08SWC370 10-13	5	<0.5	<0.2
09SWC419 15-18	4	<0.5	<0.2
09SWC484 40-43	4	<0.5	<0.2
09SWC498 54-57	6	0.8	<0.2
09SWC506 30-33	4	<0.5	<0.2

Appendix D3
Humidity Cell Operating Parameters

Cell No.	Sample ID	Sample Type	Method Reference	Column Dimensions			Column Packing			Pore Volume	Total Volume of Initial Flushings	Flushing Rate/Weekly Input*	Temp	Sampling Frequency	Start-up Date	Sampling Day	Operation Procedure	Sample Prep for Flushings
				Inner Diameter (cm)	Length (cm)	Distance from Top of Column to Sample (cm)	Dry Wt. of Sample (kg)	Other Materials Used	Column Material	(mL)	(mL)	(mL)	(°C)		**2009/2011**			
HC 1	Hole 211 83.08-86.03	Waste Rock	MEND	10.20	25.50		1.00	Acrylic perforated disk & nylon mesh	Plexiglas		750	500	20-22 °C	Weekly	3-Jul	Friday	Flood Leach	None
HC 2	Hole 196 53.94-66.44	Waste Rock	MEND	10.20	25.50		1.00	Acrylic perforated disk & nylon mesh	Plexiglas		750	500	20-22 °C	Weekly	3-Jul	Friday	Flood Leach	None
HC 3	Hole 196 45.64-47.14	Waste Rock	MEND	10.20	25.50		1.00	Acrylic perforated disk & nylon mesh	Plexiglas		750	500	20-22 °C	Weekly	3-Jul	Friday	Flood Leach	None
HC 4	Hole 211 70.79-73.79	Waste Rock	MEND	10.20	25.50		1.00	Acrylic perforated disk & nylon mesh	Plexiglas		750	500	20-22 °C	Weekly	3-Jul	Friday	Flood Leach	None
HC 5	09SWC506 30-33	Waste Rock	MEND	10.20	25.50		1.00	Acrylic perforated disk & nylon mesh	Plexiglas		500	500	20-22 °C	Weekly	18-Mar	Friday	Flood Leach	None
HC 6	09SWC506 30-33 DUP	Waste Rock	MEND	10.20	25.50		1.00	Acrylic perforated disk & nylon mesh	Plexiglas		500	500	20-22 °C	Weekly	18-Mar	Friday	Flood Leach	None
HC 7	09SWC484 40-43	Waste Rock	MEND	10.20	25.50		1.00	Acrylic perforated disk & nylon mesh	Plexiglas		500	500	20-22 °C	Weekly	18-Mar	Friday	Flood Leach	None
HC 8	09SWC498 54-57	Waste Rock	MEND	10.20	25.50		1.00	Acrylic perforated disk & nylon mesh	Plexiglas		500	500	20-22 °C	Weekly	18-Mar	Friday	Flood Leach	None
HC 9	07SWC258 20-23	Waste Rock	MEND	10.20	25.50		1.00	Acrylic perforated disk & nylon mesh	Plexiglas		500	500	20-22 °C	Weekly	18-Mar	Friday	Flood Leach	None
HC 10	08SWC337 10-13	Waste Rock	MEND	10.20	25.50		1.00	Acrylic perforated disk & nylon mesh	Plexiglas		500	500	20-22 °C	Weekly	18-Mar	Friday	Flood Leach	None
HC 11	08SWC348 12-15	Waste Rock	MEND	10.20	25.50		1.00	Acrylic perforated disk & nylon mesh	Plexiglas		500	500	20-22 °C	Weekly	18-Mar	Friday	Flood Leach	None
HC 12	08SWC370 10-13	Waste Rock	MEND	10.20	25.50		1.00	Acrylic perforated disk & nylon mesh	Plexiglas		500	500	20-22 °C	Weekly	18-Mar	Friday	Flood Leach	None
HC 13	09SWC419 15-18	Waste Rock	MEND	10.20	25.50		1.00	Acrylic perforated disk & nylon mesh	Plexiglas		500	500	20-22 °C	Weekly	18-Mar	Friday	Flood Leach	None
HC 14	Blank		MEND	10.20	25.50		1.00	Acrylic perforated disk & nylon mesh	Plexiglas		500	500	20-22 °C	Weekly	18-Mar	Friday	Flood Leach	None

Appendix D4
Phase V/VI HCT Results: Tables

HC 1 *CONFIDENTIAL* *DRAFT*

Sample = Hole 211
83.08-86.03

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L	P mg/L	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L
3-Jul-09	0	750	315	7.81	580	#N/A	3.3	102.3	108	25	2.94	125	0.041	0.00901	0.00086	0.0232	-0.00001	-0.000005	-0.05	0.000074	33.1	-0.0001	0.000105	0.154	0.002	0.00006	0.014	10.4	0.0184	0.1	0.199	0.00062	0.008	6.78	0.0537	2.35	-0.000005	70.6	0.773	40	0.000012	0.00026	-0.0005	0.000595	0.001	0.0006	-0.0001
10-Jul-09	1	500	455	7.77	296																																										
17-Jul-09	2	500	480	7.88	250	#N/A	2.8	68.6	59	0.8	1.23	72	0.0221	0.00291	0.00031	0.0287	-0.00001	-0.000005	-0.05	0.000077	19	-0.0001	0.000086	0.0455	0.004	0.00007	0.0088	5.95	0.0186	-0.01	0.117	0.00009	0.002	5.13	0.0119	3.24	-0.000005	27.5	0.441	23	0.000011	0.00007	-0.0005	0.000372	0.0007	0.0009	-0.0001
24-Jul-09	3	500	470	7.69	251																																										
31-Jul-09	4	500	455	7.75	236	#N/A	2.6	48.5	67	1	0.49	109	0.0239	0.00206	0.0002	0.0334	-0.00001	-0.000005	-0.05	0.000067	30	-0.0001	0.000076	0.0279	0.002	0.000042	0.0064	8.29	0.0224	-0.01	0.0608	-0.00002	0.005	5.28	0.0131	2.3	-0.000005	13.2	0.617	28	0.000012	0.00004	-0.0005	0.000103	0.0003	0.0004	-0.0001
7-Aug-09	5	500	485	7.51	198																																										
14-Aug-09	6	500	450	7.61	191	#N/A	3.2	45.3	49	0.6	0.76	96.5	0.0137	0.00193	0.0002	0.0314	-0.00001	-0.000005	-0.05	0.00005	27	-0.0001	0.000068	0.0232	0.002	0.000049	0.0039	7.09	0.0201	-0.01	0.0442	0.00008	0.002	3.77	0.00905	1.81	-0.000005	4.39	0.555	22	0.000011	0.00028	-0.0005	0.000055	-0.0002	0.0019	-0.0001
21-Aug-09	7	500	465	7.77	172																																										
28-Aug-09	8	500	425	7.71	144	#N/A	2.6	44.1	32	0.6	0.91	75.4	0.0583	0.00189	0.00016	0.0264	-0.00001	-0.000005	-0.05	0.000034	20.3	-0.0001	0.00004	0.0201	0.005	0.000063	0.0026	6.03	0.0103	-0.01	0.0399	0.00008	0.003	3.01	0.0101	2.09	-0.000005	2.63	0.432	13	0.000009	0.00008	-0.0005	0.000047	0.0002	0.0006	-0.0001
4-Sep-09	9	500	445	7.37	134																																										
11-Sep-09	10	500	405	7.73	135	#N/A	2.3	41.9	34	0.6	0.92	65.2	0.0387	0.0017	0.00012	0.0238	-0.00001	-0.000005	-0.05	0.00008	17.5	-0.0001	0.000038	0.0153	0.004	0.00181	0.002	5.24	0.00913	-0.01	0.0262	0.00016	0.003	2.24	0.00891	1.69	-0.000005	1.82	0.397	10	0.000015	0.00006	0.0006	0.000024	0.0003	0.0038	-0.0001
18-Sep-09	11	500	455	7.66	134																																										
25-Sep-09	12	500	425	7.66	122	#N/A	2.6	44.9	30	0.9	0.75	63.1	0.0283	0.00135	0.00011	0.0277	-0.00001	-0.000005	-0.05	0.000076	17.4	-0.0001	0.000036	0.0156	0.003	0.000199	0.0017	4.77	0.00936	0.01	0.0225	0.00011	-0.002	1.6	0.00878	1.61	-0.000005	1.24	0.36	9	0.000007	0.00001	0.0005	0.000024	-0.0002	0.0019	-0.0001
2-Oct-09	13	500	425	7.53	131																																										
9-Oct-09	14	500	440	7.50	129	#N/A	4.8	42.1	30	-0.5	0.71	68.6	0.1	0.00146	0.00017	0.0288	-0.00001	-0.000005	-0.05	0.000042	18.7	-0.0001	0.000039	0.0184	0.005	0.000115	0.0016	5.32	0.00898	-0.01	0.0233	0.00005	0.012	1.44	0.00724	1.56	-0.000005	1.31	0.378	11	0.000006	0.00001	0.0005	0.000029	0.0004	0.001	-0.0001
16-Oct-09	15	500	420	7.44	147																																										
23-Oct-09	16	500	415	7.56	135	#N/A	3.8	48.7	29	-0.5	0.84	72.4	0.0266	0.00153	0.00008	0.0303	-0.00001	-0.000005	-0.05	0.000042	19.6	-0.0001	0.000042	0.0206	0.004	0.000036	0.0017	5.71	0.00906	-0.01	0.0237	0.00018	0.003	1.32	0.00605	1.65	0.000008	1.04	0.415	9	0.000006	0.0001	-0.0005	0.000054	-0.0002	0.001	-0.0001
30-Oct-09	17	500	445	7.57	120																																										
6-Nov-09	18	500	475	7.59	135	#N/A	4.8	50.3	18	-0.5	0.79	71.4	0.0193	0.00117	0.00005	0.0318	-0.00001	-0.000005	-0.05	0.00004	19.5	-0.0001	0.000048	0.0224	0.003	0.00004	0.0013	5.5	0.00903	-0.01	0.0225	0.00012	0.004	1.08	0.00462	1.57	-0.000005	0.82	0.402	9	0.000006	0.00001	-0.0005	0.000067	0.0002	0.0006	-0.0001
13-Nov-09	19	500	470	7.47	122																																										
20-Nov-09	20	500	450	7.56	133	#N/A	5.3	46.6	19	-0.5	0.72	66.8	0.0291	0.00108	0.00006	0.0331	-0.00001	-0.000005	-0.05	0.000039	18.4	-0.0001	0.000106	0.0224	0.007	0.000152	0.0012	5.07	0.00834	-0.01	0.0219	0.00044	0.005	0.91	0.00408	1.41	-0.000005	0.72	0.379	8	0.000007	0.00009	-0.0005	0.00002	-0.0002	0.0034	-0.0001
27-Nov-09	21	500	460	7.52	126																																										
4-Dec-09	22	500	465	7.59	128	#N/A	3.8	50.8	16	-0.5	0.73	67.6	0.0182	0.00096	0.00005	0.0338	-0.00001	-0.000005	-0.05	0.000081	19	-0.0001	0.000044	0.022	0.003	0.000036	0.001	4.92	0.00836	-0.01	0.0208	0.00013	0.004	0.82	0.00358	1.31	-0.000005	0.67	0.376	9	0.000006	0.00074	-0.0005	0.000027	-0.0002	0.0004	-0.0001
11-Dec-09	23	500	455	7.54	116																																										
18-Dec-09	24	500	465	7.30	122	#N/A	5.5	46.5	20	-0.5	0.66	60.9	0.0247	0.00094	0.00006	0.0354	-0.00001	-0.000005	-0.05	0.000037	16.8	-0.0001	0.000041	0.0223	0.003	0.000028	0.001	4.58	0.00772	-0.01	0.02	0.00006	-0.002	0.74	0.00373	1.46	-0.000005	0.56	0.353	7	0.000004	-0.00001	-0.0005	0.000034	-0.0002	0.0001	-0.0001
25-Dec-09	25	500	460	7.51	101																																										
1-Jan-10	26	500	500	7.57	118	#N/A	2.6	47.5	19	0.6	0.65	65.2	0.0157	0.00093	0.00009	0.0354	-0.00001	-0.000005	-0.05	0.000034	18.7	-0.0001	0.000046	0.0242	0.002	0.000033	0.0008	4.48	0.00847	0.02	0.0197	0.00002	-0.002	0.67	0.00323	1.3	-0.000005	0.51	0.351	6	0.000005	-0.00001	-0.0005	0.000028	-0.0002	0.0005	-0.0001
8-Jan-10	27	500	490	7.74	118																																										
15-Jan-10	28	500	480	7.53	110	#N/A	6.6	44.1	17	-0.5	0.65	59.4	0.0173	0.00085	0.0001	0.0355	-0.00001	-0.000005	-0.05	0.000031	17	-0.0001	0.000038	0.0216	0.002	0.000027	0.0008	4.12	0.00715	-0.01	0.0186	0.00003	-0.002	0.65	0.00335	1.24	-0.000005	0.5	0.305	7	0.000004	-0.00001	-0.0005	0.000031	-0.0002	0.0003	-0.0001
22-Jan-10	29	500	490	7.29	98																																										
29-Jan-10	30	500	470	7.27	89	#N/A	5.4	40.5	18	-0.5	0.66	53.2	0.0277	0.0007	0.00006	0.0322	-0.00001	-0.000005	-0.05	0.000028	15.3	-0.0001	0.000037	0.0207	0.006	0.000054	0.0007	3.62	0.00645	0.02	0.0186	0.00006	0.002	0.55	0.0029	1.12	0.000015	0.45	0.288	5	0.000004	0.00017	0.0008	0.000019	-0.0002	0.0003	-0.0001
5-Feb-10	31	500	450	7.42	86																																										
12-Feb-10	32	500	450	7.47	102	#N/A	2.9	39.5	18	-0.5	0.62	57.2	0.018	0.00066	0.00006	0.0342	-0.00001	-0.000005	-0.05	0.000029	16.6	-0.0001	0.00004	0.0188	0.002	0.000035	0.0008	3.86	0.00602	-0.01	0.0172	0.00014	-0.002	0.62	0.00284	1.2	0.000008	0.49	0.301	6	0.000005	-0.00001	-0.0005	0.000139	-0.0002	0.0003	-0.0001
19-Feb-10	33	500	410	7.22	95																																										
26-Feb-10	34	500	430	7.40	87	#N/A	3.3	38.8	14	-0.5	0.67	54.1	0.0226	0.00081	0.00005	0.0342	-0.00001	-0.000005	-0.05	0.000021	15.5	-0.0001	0.000077	0.0143	0.003	0.000037	0.0008	3.76	0.00513	-0.01	0.0177	0.00024	0.002	0.67	0.00343	1.28	-0.000005	0.54	0.286	6	0.000008	0.00008	-0.0005	0.000012	-0.0002	0.0019	-0.0001
5-Mar-10	35	500	400	7.37	92																																										
12-Mar-10	36	500	445	7.33	94	#N/A	4.8	43.6	11	-0.5	0.59	51.2	0.0169	0.00065	0.00006	0.0336	-0.00001	-0.000005	-0.05	0.000027	14.6	-0.0001	0.000024	0.0172	0.003	0.000035	0.0008	3.56	0.00554	-0.01	0.0161	0.0001	0.002	0.55	0.00294	1.06	-0.000005	0.45	0.274	-10	0.000006	0.00002	-0.0005	0.00002	-0.0002	0.0005	-0.0001
19-Mar-10	37	500	450	7.57	97																																										
26-Mar-10	38	500	460	7.27	94	#N/A	3.7	40.1	13	-0.5	0.7	48	0.0151	0.00068	0.00009	0.0327	-0.00001	-0.000005	-0.05	0.00003	13.5	0.0001	0.00003	0.0154	0.002	0.000029	0.0008	3.48	0.0054	-0.01	0.0181	0.00013	-0.002	0.52	0.00333	1.09	-0.000005	0.48	0.28	5	0.000004	-0.00001	-0.0005	0.000013	-0.0002	0.0004	-0.0001
2-Apr-10	39	500	435	7.55	95																																										
9-Apr-10	40	500	435	7.34	89	#N/A	3.6	37.9	12	-0.5	0.54	47.3	0.0174	0.00051	0.00006	0.0321	-0.00001	-0.000005	-0.05	0.000033	13.8	-0.0001	0.000034	0.0134	0.002	0.00006	0.0006	3.11	0.00563	-0.01	0.0136	0.00023	0.005	0.53	0.00228	0.997	-0.000005	0.4	0.24	-10	0.000003	0.00003	-0.0005	0.000024	-0.0002	0.0011	-0.0001
16-Apr-10	41	500	445	7.35	113																																										
23-Apr-10	42	500	470	7.00	104	#N/A	7.1	44.0	14	-0.5	0.63	52.4	0.0179	0.00074	0.00006	0.0377	-0.00001	-0.000005	-0.05	0.00003	14.9	-0.0001	0.000036	0.0193	0.003	0.000048	0.0008	3.68	0.00597	-0.01	0.0162	0.00029	-0.002	0.54	0.0031	1.18	-0.000005	0.46	0.283	-10	0.000002	-0.00001	-0.0005	0.000013	-0.0002	0.0007	-0.0001
30-Apr-10	43	500	460	7.39	110																																										
7-May-10	44	500	455	7.16	90	#N/A	5.6	40.0	11	-0.5	0.55	50.1	0.0158	0.00062	0.00005	0.0358	-0.00001	-0.000005	-0.05	0.000035	15	-0.0001	0.000028	0.0161	0.001	0.000029	0.0007	3.1	0.00576	-0.01	0.0135	0.00017	-0.002	0.53	0.00259	1.12	-0.000005	0.4	0.247	-10	-0.000002	-0.00001	-0.0005	0.000011	-0.0002	0.0002	-0.0001
14-May-10	45	500	440	7.43	89																																										
21-May-10	46	500	415	7.30	91	#N/A	3.5	40.2	6	-0.5	0.65	53.6	0.0297	0.00073	0.00007	0.0421	-0.00001	-0.000005	-0.05	0.00002	15.8	-0.0001	0.000034	0.0151	0.019	0.000035	0.0007	3.43	0.00474	-0.01	0.0146	0.00031	-0.002	0.58	0.00311	1.42	-0.000005	0.5	0.279	-10	0.000003	0.00002	-0.0005	0.000011	-0.0002	0.0006	-0.0001
28-May-10	47	500	445	7.42	91																																										
4-Jun-10	48	500	460	7.20	85	#N/A	4.7	38.8	5	-0.5	0.59	43.8	0.0148	0.00052	0.00008	0.0352	-0.00001	-0.000005	-0.05	0.000026	12.6	-0.0001	0.000024	0.0138	-0.001	0.000023	0.0007	3.01	0.00401	-0.01	0.012	0.00018	-0.002	0.47	0.00273	1.17	-0.000005	0.42	0.225	-10	0.000004	-0.00001	-0.0005	0.000013	-0.0002	0.0003	-0.0001
11-Jun-10	49	500	455	7.24	97																																										
18-Jun-10	50	500	470	7.38	92	#N/A	4.4	44.8	5	-0.5	0.7	49.5	0.0149	0.00061	0.00006	0.041	-0.00001	-0.000005	-0.05	0.000025	14	0.0001	0.000025	0.0145	0.002	0.000032	0.0007	3.5	0.00444	-0.01	0.0135	0.00016	0.002	0.56	0.00286	1.32	-0.000005	0.51	0.254	-10	0.000003	0.00001	-0.0005	0.000016	-0.0002	0.0003	-0.0001
25-Jun-10	51	500	455	7.61	95																																										
2-Jul-10	52	500	460	7.44	85	#N/A	2.7	42.3	9	-0.5	0.58	44.7	0.0184	0.00047	0.00003	0.0392	-0.00001	-0.000005	-0.05	0.00002	12.6	-0.0001	0.000025	0.0144	-0.001	0.000022	0.0007	3.19	0.00388	-0.01	0.0118	-0.00002	-0.002	0.48	0.0025	1.14	-0.000005	0.42	0.236	-10	0.000003	0.00028	-0.0005	0.000012	-0.0002	-0.0001	-0.0001
9-Jul-10	53	500	440	7.57	85																																										
16-Jul-10	54	500	450	7.22	68	#N/A	4.1	32.2	4	-0.5	0.4	37.9	0.0085	0.00043	0.00005	0.0302	-0.00001	-0.000005	-0.05	0.000024	11.6	-0.0001	0.000028	0.0129	-0.001	0.000017	-0.0005	2.19	0.00353	-0.01	0.00829	0.00014	-0.002	0.31	0.00264	0.876	-0.000005	0.32	0.18	-10	0.000003	0.00004	-0.0005	0.000008	-0.0002	0.0001	-0.0001
23-Jul-10	55	500	435	7.40	89																																										
30-Jul-10	56	500	450	7.29	85	#N/A	3.9	39.5	11	-0.5	0.6	43.2	0.0147	0.0005	0.00011	0.0396	-0.00001	-0.000005	-0.05	0.00002	12.7	-0.0001	0.000026	0.0126	0.001	0.000035	0.0006	2.78	0.00343	-0.01	0.0103	0.00015	-0.002	0.43	0.00263	1.12	0.000007	0.4	0.227	-10	0.000009	-0.00001	-0.0005	0.000022	0.0002	0.0004	-0.0001
6-Aug-10	57	500	460	7.57	82																																										
13-Aug-10	58	500	465	7.43	90	#N/A	4.7	44.7	5	-0.5	0.56	45.9	0.0132	0.00052	0.00006	0.0438	-0.00001	-0.000005	-0.05	0.000028	13.4	-0.0001	0.000029	0.0157	0.001	0.000026	0.0006	3.02	0.00384	-0.01	0.00998	0.00035	-0.002	0.44	0.00258	1.02	-0.000005	0.42	0.24	-10	0.000004	-0.00001	-0.0005	0.000013	-0.0002	0.0003	-0.0001
20-Aug-10	59	500	460	7.45	81																																										
27-Aug-10	60	500	460	7.58	93	#N/A	3.1	47.9	7	-0.5	0.56	49.7	0.0117	0.00052	-0.00002	0.0503	-0.00001	-0.000005	-0.05	0.000015	14.4	0.0001	0.000024	0.0155	0.001	0.00008	0.0006	3.35	0.00401	-0.01	0.0106	0.0002	-0.002	0.49	0.00269	1.09	-0.000005	0.46	0.256	-10	0.000003	-0.00001	-0.0005	0.00002	-0.0002	0.0006	-0.0001
3-Sep-10	61	500	465	7.66	83																																										
10-Sep-10	62	500	455	7.24	87	#N/A	4.7	40.1	7	-0.5	0.57	43.8	0.0415	0.00042	0.00016	0.0422	-0.00001	-0.000005	-0.05	0.000029	13.2	0.0003	0.00003	0.012	0.008	0.000017	-0.0005	2.64	0.0033	-0.01	0.0101	#N/A	-0.002	0.4	0.00266	1.07	-0.000005	0.38	0.217	-10	0.000003	0.00004	-0.0005	#N/A	-0.0002	0.0002	-0.0001
17-Sep-10	63	500	505	7.49	88																																										
24-Sep-10	64	500	445	7.38	76	#N/A	3.5	42.0	10	-0.5	0.57	46.6	0.0112	0.00054	0.00005	0.0467	-0.00001	-0.000005	-0.05	0.000021	14	0.0001	0.00004	0.0137	0.012	0.000117	0.0006	2.83	0.00367	-0.01	0.0106	0.00015	-0.002	0.51	0.00287	1.16	-0.000005	0.41	0.235	-10	0.000004	0.00002	-0.0005	0.000021	0.0002	0.001	-0.0001
1-Oct-10	65	500	435	7.58	68																																										
8-Oct-10	66	500	435	7.60	100	#N/A	3.1	48.8	11	-0.5	0.63	48.6	0.0173	0.00058	0.00002	0.0509	-0.00001	-0.000005	-0.05	0.000021	14.5	0.0001	0.000022	0.0138	0.002	0.000025	0.0007	3.04	0.00328	-0.01	0.0106	0.00015	-0.002	0.53	0.00294	1.28	-0.000005	0.41	0.254	-10	0.000005	-0.00001	-0.0005	0.000024	-0.0002	0.0003	-0.0001
15-Oct-10	67	500	440	7.54	93																																										
22-Oct-10	68	500	440	7.45	101	#N/A	3.8	52.0	10	-0.5	0.6	51.7	0.0085	#N/A	0.00005	0.0516	-0.00001	-0.000005	-0.05	0.000017	15.4	-0.0001	0.000029	0.0153	-0.001	0.000099	0.0007	3.23	0.00369	0.01	0.0108	0.00019	-0.002	0.5	0.00277	1.13	-0.000005	0.43	0.252	-10	0.000009	-0.00001	-0.0005	0.000016	-0.0002	0.0017	-0.0001
29-Oct-10	69	500	430	7.45	93																																										
5-Nov-10	70	500	440	7.85	81	#N/A	2.8	72.5	6	-0.5	0.53	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
12-Nov-10	71	500	450	7.55	#N/A							#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
19-Nov-10	72	500	435	7.26	96	#N/A	4.1	43.2	7	-0.5	0.5	38.6	0.0078	0.00042	0.00003	0.0443	-0.00001	-0.000005	-0.05	0.000021	11.6	-0.0001	0.00002	0.0113	0.003	0.000027	-0.0005	2.34	0.00325	0.02	0.00855	0.00007	0.003	1.19	0.00205	0.989	-0.000005	0.54	0.204	-10	0.000005	0.00001	-0.0005	0.000021	-0.0002	0.0003	-0.0001
26-Nov-10	73	500	440	7.30	95																																										
3-Dec-10	74	500	430	7.29	94	#N/A	5.2	49.0	2	0.6	0.46	46.1	0.0057	0.00048	0.0002	0.0497	-0.00001	-0.000005	-0.05	0.000019	14.2	-0.0001	0.000027	0.0141	0.001	0.000055	0.0006	2.58	0.00402	-0.01	0.00916	-0.00002	-0.002	1.12	0.00248	1.22	-0.000005	0.51	0.232	-10	0.000004	-0.00001	0.0009	#N/A	-0.0002	-0.0001	-0.0001
10-Dec-10	75	500	445	7.51	95																																										
17-Dec-10	76	500	440	7.16	95	#N/A	6.3	50.7	6	-0.5	#N/A	50	0.0046	0.00051	0.00005	0.051	-0.00001	-0.000005	-0.05	0.000024	15.6	-0.0001	0.000026	0.015	-0.001	0.000034	-0.0005	2.67	0.00388	-0.01	0.00875	0.00014	-0.002	0.96	0.0028	1.23	-0.000005	0.48	0.232	-10	0.000005	-0.00001	-0.0005	0.000019	0.0002	0.0001	-0.0001
24-Dec-10	77	500	455	7.05	85																																										
31-Dec-10	78	500	455	7.17	78	#N/A	6.4	46.9	8	-0.5	0.45	43.2	0.0089	0.00039	0.00004	0.0469	-0.00001	-0.000005	-0.05	0.00002	13.3	0.0002	0.000023	0.0148	0.002	0.000025	0.0005	2.42	0.00374	-0.01	0.00825	0.00019	-0.002	0.79	0.0022	1.05	0.000021	0.4	0.211	-10	0.000006	0.00002	-0.0005	0.000022	-0.0002	0.0005	#N/A
7-Jan-11	79	500	465	7.52	66																																										
14-Jan-11	80	500	455	7.39	68	#N/A	3.2	47.3	6	-0.5	0.43	44.1	0.0096	0.00042	0.00004	0.0471	-0.00001	-0.000005	-0.05	0.000023	13.6	-0.0001	0.000025	0.0146	0.002	0.000021	-0.0005	2.45	0.00384	-0.01	0.00738	0.00005	-0.002	0.68	0.00217	1.06	0.000007	0.33	0.211	-10	0.000002	-0.00001	-0.0005	0.000016	0.0002	0.0001	0.0002
21-Jan-11	81	500	465	7.45	75																																										
28-Jan-11	82	500	480	7.31	72	#N/A	4.9	49.9	10	-0.5	0.45	46.6	0.0065	0.00041	#N/A	0.0492	-0.00001	-0.000005	-0.05	0.000019	14.7	-0.0001	0.000023	0.014	-0.001	0.000015	-0.0005	2.41	0.0038	-0.01	0.00812	0.00019	-0.002	0.63	0.00206	1.02	0.000006	0.33	0.218	-10	0.000005	-0.00001	-0.0005	#N/A	-0.0002	0.0002	-0.0001
4-Feb-11	83	500	475																																												
11-Feb-11	84	500	470																																												
18-Feb-11	85	500	445																																												
25-Feb-11	86	500	465																																												
4-Mar-11	87	500	475																																												
11-Mar-11	88	500	480																																												
18-Mar-11	89	500	490																																												
25-Mar-11	90	500	480																																												
1-Apr-11	91	500	485																																												
8-Apr-11	92	500	470																																												
15-Apr-11	93	500	470																																												
22-Apr-11	94	500	490	7.71	91	#N/A	2.7	45.2	4	-0.5	0.4	41.6	0.0047	0.00031	0.00003	0.0504	-0.00001	-0.000005	-0.05	#N/A	13.5	-0.0001	0.000026	0.0139	-0.001	0.000062	-0.0005	1.92	0.00435	-0.01	0.00591	0.00011	-0.002	0.49	0.00198	0.935	-0.000005	0.27	0.181	-10	0.000002	0.00001	-0.0005	0.000012	-0.0002	#N/A	-0.0001
29-Apr-11	95	500	460																																												
6-May-11	96	500	485																																												
13-May-11	97	500	470																																												
20-May-11	98	500	500																																												
27-May-11	99	500	480																																												
3-Jun-11	100	500	490																																												
10-Jun-11	101	500	490																																												
17-Jun-11	102	500	485																																												
24-Jun-11	103	500	505																																												
1-Jul-11	104	500	490																																												
8-Jul-11	105	500	505																																												
15-Jul-11	106	500	495	7.41	81	#N/A	6.6	38.2	5	-0.5	0.36	36	0.006	0.00023	0.00012	0.0431	-0.00001	-0.000005	-0.05	0.000022	12.2	0.0001	#N/A	0.0124	-0.001	0.000039	-0.0005	1.37	0.00454	-0.01	0.00545	#N/A	-0.002	0.38	0.00167	0.845	-0.000005	0.24	0.149	-10	0.000002	0.00022	-0.0005	0.000015	-0.0002	0.0008	-0.0001
22-Jul-11	107	500	495																																												
29-Jul-11	108	500	490																																												
5-Aug-11	109	500	500																																												
12-Aug-11	110	500	490																																												
19-Aug-11	111	500	485																																												
26-Aug-11	112	500	490																																												
2-Sep-11	113	500	485																																												

HC 1

CONFIDENTIAL *DRAFT*

Sample = Hole 211
83.08-86.03

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L	P mg/L	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L
9-Sep-11	114	500	495																																													
16-Sep-11	115	500	490																																													
23-Sep-11	116	500	495																																													
30-Sep-11	117	500	500																																													
7-Oct-11	118	500	490	7.21	86	#N/A	6.6	43.9	6	-0.5	0.32	43.1	0.0092	0.00027	0.0002	0.0504	-0.00001	-0.000005	-0.05	0.000015	14.8	-0.0001	0.000025	0.0139	-0.001	0.00002	-0.0005	1.47	0.00456	-0.01	0.00483	0.00003	-0.002	0.41	0.00182	0.988	-0.000005	0.22	0.153	-10	0.000004	0.00012	-0.0005	0.000013	-0.0002	0.0002	-0.0001
14-Oct-11	119	500	490																																													
21-Oct-11	120	500	490																																													
28-Oct-11	121	500	500																																													
4-Nov-11	122	500	500																																													
11-Nov-11	123	500	490																																													
18-Nov-11	124	500	495																																													
25-Nov-11	125	500	495																																													
2-Dec-11	126	500	485																																													
9-Dec-11	127	500	495																																													
16-Dec-11	128	500	480																																													
23-Dec-11	129	500	495																																													
30-Dec-11	130	500	495	7.69	77	#N/A	5.4	47.1	5	-0.5	0.28	42	0.0089	0.0002	0.00006	0.049	-0.00001	-0.000005	-0.05	0.000025	14.8	-0.0001	0.00002	0.014	0.002	0.000054	-0.0005	1.23	0.00509	-0.01	0.00561	0.00002	-0.002	0.38	0.00149	0.886	-0.000005	0.19	0.128	-10	0.000004	0.00015	-0.0005	0.000021	-0.0002	0.0003	-0.0001
6-Jan-12	131	500	485																																													
13-Jan-12	132	500	490																																													
20-Jan-12	133	500	500																																													
27-Jan-12	134	500	480																																													
3-Feb-12	135	500	495																																													
10-Feb-12	136	500	495																																													
17-Feb-12	137	500	500																																													
24-Feb-12	138	500	495																																													
2-Mar-12	139	500	490																																													
9-Mar-12	140	500	495																																													
16-Mar-12	141	500	485																																													
23-Mar-12	142	500	490	7.62	84	#N/A	6.2	44.1	5	-0.5	0.25	37.9	0.0065	0.00019	0.00005	0.0473	-0.00001	-0.000005	-0.05	0.000021	13.5	-0.0001	0.000023	0.0145	-0.001	#N/A	-0.0005	1.06	0.00518	-0.01	0.00559	0.00014	-0.002	0.34	0.0014	0.775	-0.000005	0.23	0.119	-10	0.000003	-0.0002	-0.0005	0.000013	-0.0002	0.0005	-0.0001
30-Mar-12	143	500	505																																													
6-Apr-12	144	500	485																																													
13-Apr-12	145	500	490																																													
20-Apr-12	146	500	465																																													
27-Apr-12	147	500	455																																													
4-May-12	148	500	455																																													
11-May-12	149	500	460																																													
18-May-12	150	500	455																																													
25-May-12	151	500	460																																													
1-Jun-12	152	500	445																																													
8-Jun-12	153	500	475																																													
15-Jun-12	154	500	475	7.67	87	#N/A	3.6	41.9	8	-0.5	0.25	37.3	0.00874	0.000205	0.000222	0.046	-0.00001	-0.000005	-0.05	0.0000115	13.4	-0.0001	0.0000202	0.011	-0.001	0.000061	-0.0005	0.903	0.00398	-0.01	0.00487	0.000021	-0.002	0.332	0.00156	0.929	-0.000005	0.195	0.107	-10	0.0000043	-0.0002	-0.0005	0.0000131	-0.0002	0.00024	-0.0001
22-Jun-12	155	500	445																																													
29-Jun-12	156	500	455																																													
6-Jul-12	157	500	455																																													
13-Jul-12	158	500	465																																													
20-Jul-12	159	500	455																																													
27-Jul-12	160	500	460																																													
3-Aug-12	161	500	460																																													
10-Aug-12	162	500	460																																													
17-Aug-12	163	500	430																																													
24-Aug-12	164	500	440																																													
31-Aug-12	165	500	450																																													
7-Sep-12	166	500	430	7.60	58	#N/A	4.7	#N/A	6	0.75	0.13	27.4	0.0138	0.00013	0.000082	0.0339	-0.00001	-0.000005	-0.05	0.000008	#N/A	0.0001	0.000025	0.00749	0.0059	0.000012	-0.0005	#N/A	0.00307	-0.01	0.00352	0.000085	-0.002	0.272	0.00103	0.596	-0.000005	#N/A	#N/A	-10	0.000002	-0.0002	-0.0005	0.00001	-0.0002	0.00045	-0.0001
14-Sep-12	167	500	460																																													
21-Sep-12	168	500	435																																													
28-Sep-12	169	500	455																																													
5-Oct-12	170	500	455																																													
12-Oct-12	171	500	450																																													
19-Oct-12	172	500	465																																													
26-Oct-12	173	500	455																																													
2-Nov-12	174	500	460																																													
9-Nov-12	175	500	455																																													
16-Nov-12	176	500	460																																													
23-Nov-12	177	500	495																																													
30-Nov-12	178	500	495	7.54	75	#N/A	4.7	39.0	5	-0.5	0.16	37.3	0.0123	0.000175	0.00004	0.0437	-0.00001	-0.000005	-0.05	0.000014	13.7	-0.0001	0.00001	0.00932	0.003	0.000047	-0.0005	0.788	0.0033	-0.01	0.00507	0.000022	-0.002	0.303	0.00109	0.888	-0.000005	0.171	0.103	-3	0.000003	0.00025	-0.0005	0.00006	-0.0002	0.00088	-0.0001
7-Dec-12	179	500	475																																													
14-Dec-12	180	500	485																																													
21-Dec-12	181	500	465																																													
28-Dec-12	182	500	440																																													
4-Jan-13	183	500	430																																													
11-Jan-13	184	500	470																																													
18-Jan-13	185	500	470																																													
25-Jan-13	186	500	465																																													
1-Feb-13	187	500	440																																													
8-Feb-13	188	500	455																																													
15-Feb-13	189	500	465																																													
22-Feb-13	190	500	425	7.19	76	#N/A	7.4	41.4	7	0.53	0.12	37.6	0.0143	0.000155	0.000152	0.0458	-0.00001	-0.000005	-0.05	0.000009	13.9	-0.0001	0.000019	0.0352	0.0024	0.000194	-0.0005	0.695	0.00443	-0.01	0.00409	0.000069	-0.002	0.322	0.00112	0.773	0.000006	0.195	0.0897	-3	0.000002	0.00101	-0.0005	0.000014	-0.0002	0.00025	-0.0001
1-Mar-13	191	500	455																																													
8-Mar-13	192	500	460																																													
15-Mar-13	193	500	435																																													
22-Mar-13	194	500	440																																													
29-Mar-13	195	500	425																																													
5-Apr-13	196	500	435																																													
12-Apr-13	197	500	450																																													
19-Apr-13	198	500	445																																													
26-Apr-13	199	500	400																																													
3-May-13	200	500	430																																													
10-May-13	201	500	390																																													
17-May-13	202	500	435	7.77	78	#N/A	10.8	41.7	7	-0.5	0.12	39.6	0.0174	0.000155	0.000046	0.0481	-0.00001	-0.000005	-0.05	0.000009	14.7	-0.0001	0.000018	0.0091	0.0026	0.000021	-0.0005	0.709	0.00427	-0.01	0.00463	0.000068	-0.002	0.329	0.00109	0.825	-0.000005	0.174	0.091	-3	0.000003	-0.0002	-0.0005	0.000017	-0.0002	0.00024	-0.0001
24-May-13	203	500	435																																													

Sept 10/10 U 0.000383 and Ni 0.00291. Repeat = Sample Discarded.
Oct 22/10 Sb 0.00138. Repeat = 0.00138. Data confirmed. Suspect contamination.
Nov 5/10 Most metals have high bias. Repeat. Data confirmed. Data suggests metals were contaminated. Data removed.
Nov 12/10 Conductivity 181. Suspect analytical error. Cannot repeat.
Dec 3/10 U 0.0028; repeat = sample discarded.
Dec 17/10 F 0.03. Repeat = 0.03. Suspect sample mix-up with HC 2.
Dec 31/10 Zr 0.0083. Repeat = 0.0083. Suspect contamination.
Jan 28/11 As 0.00071 and U 0.00092. Cannot repeat. Sample discarded.
Feb 4/11 Change in analytical schedule.
April 22/11 Cd 0.000065; Zn 0.0015. Repeat Cd=0.000065, Zn= 0.0037 data confirmed suspect contamination
July 15/11 Co 0.00014 and Ni 0.00064. Repeat: Co 0.000143 and Ni 0.00061. Data confirmed. Suspect contamination..
Mar 23/12 Pb=0.000256, repeat=0.000268. Data confirmed, suspect contamination
Jun 15 12 Pb=0.00543, repeat=0.000061. Data accepted
Sept 7/12 Alkalinity=29.4. Cannot repeat suspect titrator error
Sept 7/12 Ca=9.89, Mg=0.657, Sr=0.0768, Na=0.452. repeat confirms original result, suspect contamination

HC 2

CONFIDENTIAL *DRAFT*

Sample = Hole
196 53.94-55.44

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L	P mg/L	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L
3-Jul-09	0	750	375	8.02	164	#N/A	1.5	53.8	4	3.5	0.69	50.7	0.139	0.00006	0.00021	0.0127	-0.00001	-0.000005	-0.05	-0.000005	14.5	-0.0001	0.000106	0.0115	0.013	0.000138	0.0017	3.49	0.012	-0.01	0.0133	0.00085	0.005	3.34	0.00041	1.44	-0.000005	10.4	0.181	-3	0.000004	0.00023	-0.0005	0.000224	0.0013	0.0009	-0.0001
10-Jul-09	1	500	455	7.86	82																																											
17-Jul-09	2	500	495	8.01	65	#N/A	1.7	43.0	-2	0.8	0.84	24.9	0.0816	0.00009	0.00017	0.00628	-0.00001	-0.000005	-0.05	0.000006	7	-0.0001	0.000026	0.00256	0.011	0.000041	0.0008	1.81	0.0131	-0.01	0.0236	0.00004	-0.002	2.14	0.00031	1.89	-0.000005	5.88	0.092	-3	0.000002	0.00006	-0.0005	0.000817	0.0022	0.0003	-0.0001
24-Jul-09	3	500	455	7.89	54																																											
31-Jul-09	4	500	440	7.92	53	#N/A	1.6	35.1	-2	-0.5	0.64	23.4	0.125	0.00004	0.00014	0.0062	-0.00001	-0.000005	-0.05	-0.000005	6.87	-0.0001	0.000025	0.00161	0.044	0.000042	0.0005	1.51	0.0154	-0.01	0.0103	0.00011	0.003	1.95	0.00027	2.02	-0.000005	3.34	0.0749	-3	-0.000002	0.00003	0.002	0.000466	0.0024	0.0002	-0.0001
7-Aug-09	5	500	435	7.71	41																																											
14-Aug-09	6	500	455	7.67	44	#N/A	2.3	29.3	-2	0.6	0.44	21.8	0.0502	0.00004	0.00018	0.00402	-0.00001	-0.000005	-0.05	-0.000005	6.39	-0.0001	0.000012	0.00079	0.005	0.000012	0.0006	1.42	0.0129	-0.01	0.00517	0.00002	-0.002	1.78	0.00011	1.32	-0.000005	1.78	0.0717	-3	-0.000002	0.00016	-0.0005	0.000347	0.0015	0.0001	-0.0001
21-Aug-09	7	500	465	7.80	44																																											
28-Aug-09	8	500	455	7.81	43	#N/A	1.8	28.4	-2	-0.5	0.36	21.5	0.075	0.00006	0.00015	0.00478	-0.00001	-0.000005	-0.05	0.000006	6.15	-0.0001	0.000011	0.00061	0.009	0.000015	-0.0005	1.5	0.0115	0.01	0.0034	0.00003	-0.002	1.73	0.00014	1.51	-0.000005	1.12	0.0729	-3	0.000003	0.00003	-0.0005	0.000316	0.0016	0.0002	-0.0001
4-Sep-09	9	500	450	7.58	38																																											
11-Sep-09	10	500	410	7.67	38	#N/A	1.9	25.8	-2	-0.5	0.38	18.6	0.141	0.00002	0.00019	0.00569	-0.00001	-0.000005	-0.05	-0.000005	5.13	-0.0001	0.000046	0.0018	0.039	0.000038	-0.0005	1.41	0.00918	-0.01	0.00233	0.00008	0.004	1.71	0.00026	1.63	-0.000005	0.97	0.0647	-3	0.000003	0.00006	0.0014	0.00025	0.0023	0.0006	-0.0001
18-Sep-09	11	500	460	7.73	41																																											
25-Sep-09	12	500	425	7.81	41	#N/A	1.9	29.0	-2	0.8	0.26	19.9	0.0896	0.00004	0.0001	0.00498	-0.00001	-0.000005	-0.05	-0.000005	5.74	-0.0001	0.000014	0.00087	0.021	0.000028	-0.0005	1.36	0.0106	0.01	0.00171	0.00011	0.002	1.7	0.00011	1.32	-0.000005	0.66	0.0653	-3	0.000003	-0.00001	0.0008	0.000218	0.0016	0.0003	-0.0001
2-Oct-09	13	500	425	7.57	42																																											
9-Oct-09	14	500	430	7.60	41	#N/A	3.6	29.9	5	-0.5	0.2	21.4	0.0684	0.00004	0.00011	0.00484	-0.00001	-0.000005	-0.05	-0.000005	6.14	-0.0001	0.000009	0.0006	0.007	0.000031	-0.0005	1.47	0.012	-0.01	0.00185	0.00002	-0.002	1.78	0.0001	1.35	0.00002	0.49	0.0707	-3	-0.000002	0.00002	0.0009	0.000244	0.0015	0.0004	-0.0001
16-Oct-09	15	500	415	7.54	45																																											
23-Oct-09	16	500	420	7.67	43	#N/A	3.0	30.4	-2	-0.5	0.17	22.4	0.0665	0.00002	0.00005	0.00475	-0.00001	-0.000005	-0.05	-0.000005	6.46	-0.0001	0.000014	0.00127	0.011	0.000136	0.0005	1.53	0.0109	-0.01	0.00143	0.00013	0.003	1.83	0.00009	1.26	-0.000005	0.44	0.0737	-3	-0.000002	0.00009	0.0006	0.000248	0.0014	0.0004	-0.0001
30-Oct-09	17	500	430	7.67	39																																											
6-Nov-09	18	500	490	7.77	43	#N/A	3.7	31.0	-2	-0.5	0.13	23.5	0.0478	-0.00002	0.00004	0.00488	-0.00001	-0.000005	-0.05	-0.000005	6.73	-0.0001	0.000007	0.00083	0.003	0.000012	-0.0005	1.62	0.00966	-0.01	0.00109	0.00007	0.003	1.65	0.00009	1.25	-0.000005	0.36	0.0794	-3	-0.000002	0.00002	-0.0005	0.000269	0.0013	0.0004	-0.0001
13-Nov-09	19	500	460	7.65	39																																											
20-Nov-09	20	500	430	7.80	43	#N/A	3.8	29.6	-2	-0.5	0.12	19.9	0.0539	0.00002	0.00006	0.00408	-0.00001	-0.000005	-0.05	-0.000005	5.69	-0.0001	0.000007	0.00036	0.007	0.000025	-0.0005	1.39	0.00888	-0.01	0.00083	0.00011	0.004	1.58	0.00006	1.06	-0.000005	0.29	0.0691	-3	-0.000002	0.00003	-0.0005	0.000205	0.0013	0.0012	-0.0001
27-Nov-09	21	500	455	7.68	44																																											
4-Dec-09	22	500	460	7.61	43	#N/A	3.0	29.6	-2	-0.5	0.1	21.2	0.0403	-0.00002	0.00004	0.0044	-0.00001	-0.000005	-0.05	-0.000005	6.14	-0.0001	0.000008	0.00118	0.004	0.000014	-0.0005	1.43	0.00767	-0.01	0.00076	0.00012	0.003	1.55	0.00007	0.991	-0.000005	0.34	0.0718	-3	-0.000002	0.00041	-0.0005	0.000214	0.0011	0.0003	-0.0001
11-Dec-09	23	500	440	7.86	41																																											
18-Dec-09	24	500	460	7.41	42	#N/A	4.7	26.6	-2	-0.5	0.11	20.2	0.0496	-0.00002	0.00007	0.00436	-0.00001	-0.000005	-0.05	-0.000005	5.81	-0.0001	-0.000005	0.00018	0.004	-0.000005	0.0005	1.39	0.00874	-0.01	0.00069	0.00011	-0.002	1.49	0.00005	1.07	-0.000005	0.27	0.069	-3	-0.000002	0.00002	-0.0005	0.000204	0.001	-0.0001	-0.0001
25-Dec-09	25	500	460	7.61	36																																											
1-Jan-10	26	500	470	7.84	42	#N/A	2.0	29.2	-2	-0.5	0.07	21.5	0.0528	-0.00002	0.00004	0.00453	-0.00001	-0.000005	-0.05	-0.000005	6.29	-0.0001	-0.000005	0.0004	0.006	0.00005	-0.0005	1.4	0.00761	-0.01	0.00062	0.00002	-0.002	1.49	0.00005	1.05	-0.000005	0.2	0.0703	-3	0.000002	-0.00001	-0.0005	0.000205	0.001	0.0004	-0.0001
8-Jan-10	27	500	505	7.68	46																																											
15-Jan-10	28	500	450	7.70	41	#N/A	4.3	29.7	-2	-0.5	0.11	20.9	0.0526	-0.00002	0.00011	0.00425	-0.00001	-0.000005	-0.05	-0.000005	6.1	-0.0001	0.000005	0.00058	0.005	0.000017	-0.0005	1.37	0.00708	-0.01	0.00078	0.00002	-0.002	1.52	0.00007	0.982	-0.000005	0.2	0.0663	-3	-0.000002	0.00001	-0.0005	0.000224	0.0009	0.0002	-0.0001
22-Jan-10	29	500	480	7.52	36																																											
29-Jan-10	30	500	465	7.38	31	#N/A	4.9	28.2	2	-0.5	0.1	20.2	0.0591	0.00002	0.00012	0.00431	-0.00001	-0.000005	-0.05	-0.000005	5.93	-0.0001	0.000007	0.00043	0.008	0.000025	-0.0005	1.32	0.00655	-0.01	0.0005	0.00006	-0.002	1.44	0.00006	0.953	0.000006	0.19	0.0665	-3	-0.000002	0.00012	0.0005	0.000199	0.0009	0.0004	-0.0001
5-Feb-10	31	500	445	7.27	27																																											
12-Feb-10	32	500	440	7.41	37	#N/A	2.4	25.2	-2	-0.5	0.06	19.8	0.0561	0.00002	0.00004	0.00415	-0.00001	-0.000005	-0.05	-0.000005	5.87	-0.0001	0.000009	0.00073	0.006	0.000103	-0.0005	1.24	0.00687	-0.01	0.00056	0.00013	-0.002	1.52	0.00006	0.975	0.000007	0.2	0.0627	-3	-0.000002	-0.00001	-0.0005	0.00017	0.001	0.0005	-0.0001
19-Feb-10	33	500	425	7.51	36																																											
26-Feb-10	34	500	415	7.49	31	#N/A	2.7	23.6	2	-0.5	0.07	18.1	0.114	-0.00002	0.00004	0.00505	-0.00001	-0.000005	-0.05	-0.000005	5.27	-0.0001	0.000044	0.00073	0.027	0.00002	-0.0005	1.2	0.00602	-0.01	0.0006	0.00017	-0.002	1.59	0.00009	1.11	-0.000005	0.24	0.0563	-3	-0.000002	0.00004	0.0013	0.000143	0.0013	0.0006	-0.0001
5-Mar-10	35	500	395	7.33	35																																											
12-Mar-10	36	500	470	7.50	37	#N/A	3.8	26.1	2	-0.5	0.05	30.1	0.0426	-0.00002	0.00007	0.00407	-0.00001	-0.000005	-0.05	-0.000005	9.89	-0.0001	0.000008	0.00109	0.008	0.00004	-0.0005	1.31	0.00525	-0.01	0.00068	0.0001	-0.002	1.45	0.00009	0.962	-0.000005	0.21	0.0646	-10	-0.000002	0.00002	-0.0005	0.000192	0.001	0.0006	-0.0001
19-Mar-10	37	500	450	7.62	39																																											
26-Mar-10	38	500	480	7.59	36	#N/A	3.1	25.7	-2	-0.5	0.05	18.6	0.0423	0.00002	0.00007	0.00389	-0.00001	-0.000005	-0.05	0.000005	5.45	-0.0001	0.000007	0.00063	0.002	0.000012	-0.0005	1.21	0.00596	-0.01	0.00062	0.00017	0.002	1.45	0.00006	0.851	-0.000005	0.2	0.0611	-2	0.000003	-0.00001	-0.0005	0.000159	0.001	0.0007	-0.0001
2-Apr-10	39	500	435	7.52	34																																											
9-Apr-10	40	500	440	7.50	36	#N/A	2.7	23.7	3	-0.5	0.04	17.7	0.0513	-0.00002	0.0002	0.00466	-0.00001	-0.000005	-0.05	0.000006	5.38	-0.0001	0.000011	0.00083	0.01	0.00004	-0.0005	1.05	0.00658	-0.01	0.00046	0.00025	0.005	1.49	0.00005	0.872	-0.000005	0.19	0.0532	-10	-0.000002	0.00003	-0.0005	0.000124	0.0011	0.0018	-0.0001
16-Apr-10	41	500	465	7.51	38																																											
23-Apr-10	42	500	470	7.49	40	#N/A	5.0	27.7	-2	-0.5	0.04	18.6	0.0409	0.00002	0.00005	0.00462	-0.00001	0.000009	-0.05	-0.000005	5.56	0.0001	-0.000005	0.00085	0.002	0.000011	-0.0005	1.16	0.00635	-0.01	0.00055	0.00008	-0.002	1.53	0.00006	0.9	-0.000005	0.21	0.0621	-10	-0.000002	0.00001	-0.0005	0.000143	0.0008	0.0022	-0.0001
30-Apr-10	43	500	465	7.56	37																																											
7-May-10	44	500	440	7.47	35	#N/A	4.5	25.5	2	-0.5	0.04	18.2	0.0403	-0.00002	0.00005	0.00392	-0.00001	-0.000005	-0.05	-0.000005	5.56	-0.0001	0.000008	0.00056	0.002	0.000016	-0.0005	1.04	0.00712	-0.01	0.0005	0.00011	-0.002	1.43	-0.00004	0.84	-0.000005	0.17	0.0546	-10	-0.000002	-0.00001	-0.0005	0.000115	0.0009	0.0003	-0.0001
14-May-10	45	500	460	7.56	35																																											
21-May-10	46	500	445	7.58	33	#N/A	2.8	24.0	-2	-0.5	0.04	18.4	0.0509	-0.00002	0.00006	0.00367	-0.00001	-0.000005	-0.05	-0.000005	5.6	-0.0001	0.00001	0.0004	0.002	-0.000005	-0.0005	1.07	0.00578	-0.01	0.00055	0.00018	-0.002	1.46	0.00005	0.926	-0.000005	0.18	0.0557	-10	-0.000002	0.00002	-0.0005	0.000116	0.0009	0.0002	-0.0001
28-May-10	47	500	425	7.49	33																																											
4-Jun-10	48	500	440	7.49	32	#N/A	3.7	22.7	3	-0.5	0.04	15.4	0.0432	-0.00002	0.00007	0.00355	-0.00001	-0.000005	-0.05	-0.000005	4.56	-0.0001	0.000005	0.0009	0.001	0.000022	-0.0005	0.98	0.00623	-0.01	0.00052	0.0001	-0.002	1.35	0.00006	0.794	-0.000005	0.19	0.0471	-10	-0.000002	-0.00001	-0.0005	0.000098	0.0009	0.0002	-0.0001
11-Jun-10	49	500	455	7.62	33																																											
18-Jun-10	50	500	455	7.58	34	#N/A	3.9	26.2	-2	-0.5	0.04	16.9	0.0412	-0.00002	0.00006	0.00378	-0.00001	-0.000005	-0.05	-0.000005	4.95	0.0002	0.000008	0.00033	0.004	0.000009	-0.0005	1.11	0.00463	-0.01	0.00046	0.00017	0.002	1.45	0.00005	0.898	-0.000005	0.21	0.052	-10	-0.000002	0.00001	-0.0005	0.000102	0.001	0.0003	-0.0001
25-Jun-10	51	500	465	7.68	33																																											
2-Jul-10	52	500	445	7.66	33	#N/A	2.3	24.1	3	-0.5	0.04	16.5	0.0547	-0.00002	0.00002	0.0039	-0.00001	-0.000005	-0.05	-0.000005	4.88	-0.0001	-0.000005	0.00022	0.003	0.000006	-0.0005	1.04	0.00493	-0.01	0.00051	-0.00002	-0.002	1.32	0.00005	0.805	-0.000005	0.16	0.052	-10	-0.000002	0.00013	-0.0005	0.000107	0.0007	-0.0001	-0.0001
9-Jul-10	53	500	450	7.46	34																																											
16-Jul-10	54	500	460	7.52	33	#N/A	3.4	23.3	-2	-0.5	0.04	15.7	0.0342	-0.00002	0.00004	0.00353	-0.00001	-0.000005	-0.05	-0.000005	4.8	-0.0001	0.000008	0.0008	-0.001	-0.000005	-0.0005	0.9	0.00441	-0.01	0.0004	0.00015	-0.002	1.21	0.00004	0.755	-0.000005	0.16	0.0557	-10	-0.000002	-0.00001	-0.0005	0.000119	0.0008	-0.0001	-0.0001
23-Jul-10	55	500	430	7.34	31																																											
30-Jul-10	56	500	460	7.35	33	#N/A	3.4	24.1	4	-0.5	0.04	17.1	0.0385	-0.00002	0.00008	0.00419	-0.00001	-0.000005	-0.05	-0.000005	5.13	-0.0001	0.000007	0.00164	0.001	0.000022	-0.0005	1.03	0.00437	-0.01	0.0004	0.00015	-0.002	1.24	0.00005	0.813	-0.000005	0.16	0.0535	-10	0.000004	-0.00001	-0.0005	0.000113	0.0008	0.0003	-0.0001
6-Aug-10	57	500	470	7.59	34																																											
13-Aug-10	58	500	465	7.62	35	#N/A	3.9	26.8	-2	-0.5	0.03	17.7	0.035	-0.00002	0.00003	0.00387	-0.00001	-0.000005	-0.05	-0.000005	5.35	-0.0001	0.000019	0.00041	-0.001	0.000008	-0.0005	1.05	0.00405	-0.01	0.00036	#N/A	-0.002	1.27	-0.00004	0.686	-0.000005	0.53	0.0563	-10	-0.000002	-0.00001	-0.0005	0.00013	0.0007	0.0002	-0.0001
20-Aug-10	59	500	510	7.53	39																																											
27-Aug-10	60	500	490	7.63	40	#N/A	2.4	29.2	2	-0.5	0.03	20.3	0.03	-0.00002	-0.00002	0.00466	-0.00001	-0.000005	-0.05	-0.000005	6.13	-0.0001	0.00001	0.00044	0.001	0.000007	-0.0005	1.2	0.00297	-0.01	0.00037	0.00017	-0.002	1.3	0.00005	0.75	-0.000005	0.17	0.066	-10	-0.000002	0.00001	-0.0005	0.000126	0.0005	0.001	-0.0001
3-Sep-10	61	500	500	7.63	37																																											
10-Sep-10	62	500	465	7.34	34	#N/A	3.8	24.1	-2	-0.5	0.03	16.1	0.0319	-0.00002	-0.00002	0.00391	-0.00001	-0.000005	-0.05	-0.000005	4.89	-0.0001	0.000008	0.0002	0.003	0.000012	-0.0005	0.95	0.00263	-0.01	0.0004	0.00019	-0.002	1.27	-0.00004	0.679	-0.000005	0.16	0.0539	-10	-0.000002	0.00006	-0.0005	0.000108	0.0004	0.0002	-0.0001
17-Sep-10	63	500	450	7.30	30																																											
24-Sep-10	64	500	445	7.47	26	#N/A	3.0	23.5	3	-0.5	0.05	15.8	0.0442	-0.00002	0.00003	0.0038	-0.00001	-0.000005	-0.05	-0.000005	4.79	-0.0001	0.000012	0.00056	-0.001	0.000017	-0.0005	0.92	0.00286	-0.01	0.00055	0.00013	-0.002	1.47	0.00005	0.736	-0.000005	0.17	0.0515	-10	-0.000002	0.00002	-0.0005	0.000101	0.0009	0.0003	-0.0001
1-Oct-10	65	500	455	7.48	23																																											
8-Oct-10	66	500	445	7.52	35	#N/A	2.4	26.0	4	-0.5	0.04	15.5	0.0509	-0.00002	0.00014	0.00401	-0.00001	-0.000005	-0.05	-0.000005	4.74	0.0002	0.00001	0.00017	0.001	-0.000005	-0.0005	0.88	0.00257	-0.01	0.00046	0.00019	-0.002	1.31	-0.00004	0.742	-0.000005	0.15	0.054	-10	-0.000002	-0.00001	-0.0005	0.000104	0.0008	0.0003	-0.0001
15-Oct-10	67	500	445	7.41	34																																											
22-Oct-10	68	500	460	7.53	35	#N/A	2.7	26.2	2	-0.5	0.04	18.9	0.0396	-0.00002	-0.00002	0.00408	-0.00001	-0.000005	-0.05	-0.000005	5.94	-0.0001	-0.000005	0.00073	-0.001	0.000046	-0.0005	0.98	0.00248	-0.01	0.00047	0.00013	-0.002	1.35	-0.00004	0.808	-0.000005	0.17	0.0544	-10	0.000003	0.00002	-0.0005	0.000102	0.0007	0.0006	-0.0001
29-Oct-10	69	500	465	7.51	36																																											
5-Nov-10	70	500	460	7.59	39	#N/A	2.1	26.4	-2	-0.5	0.09	16.5	0.0409	-0.00002	0.00003	0.00381	-0.00001	-0.000005	-0.05	-0.000005	5.19	-0.0001	0.000005	0.0007	-0.001	0.000008	-0.0005	0.87	0.0027	-0.01	0.00027	0.00011	-0.002	1.33	-0.00004	0.812	-0.000005	0.15	0.0516	-10	-0.000002	0.00001	-0.0005	0.000095	0.0008	0.0002	-0.0001
12-Nov-10	71	500	495	7.60	29																																											
19-Nov-10	72	500	465	7.80	38	#N/A	3.1	28.5	-2	-0.5	0.05	19.5	0.0299	-0.00002	0.00004	0.00408	-0.00001	-0.000005	-0.05	-0.000005	6.34	-0.0001	0.000018	0.00068	0.002	0.000016	-0.0005	0.88	0.00192	-0.01	0.00019	0.00019	-0.002	1.14	-0.00004	0.807	-0.000005	0.15	0.0545	-10	-0.000002	0.00001	-0.0005	0.00015	0.0006	0.0002	-0.0001
26-Nov-10	73	500	460	7.43	38																																											
3-Dec-10	74	500	455	7.51	35	#N/A	4.3	25.8	-2	-0.5	0.03	17.3	0.034	-0.00002	0.00002	0.00423	-0.00001	-0.000005	-0.05	-0.000005	5.43	-0.0001	-0.000005	0.00014	-0.001	-0.000005	-0.0005	0.91	0.00212	-0.01	0.00029	-0.00002	-0.002	1.29	-0.00004	0.679	-0.000005	0.12	0.0563	-10	-0.000002	-0.00001	0.0008	0.000116	0.0007	-0.0001	-0.0001
10-Dec-10	75	500	450	7.40	33																																											
17-Dec-10	76	500	460	7.62	33	#N/A	4.3	25.8	-2	-0.5	#N/A	16.8	0.0364	-0.00002	0.00006	0.00456	-0.00001	-0.000005	-0.05	0.000008	5.29	-0.0001	0.000007	0.00033	-0.001	0.000041	-0.0005	0.87	0.00195	-0.01	0.00032	0.00014	-0.002	1.13	-0.00004	0.658	-0.000005	0.13	0.0511	-10	0.000002	0.00003	-0.0005	0.00025	0.0007	0.0008	-0.0001
24-Dec-10	77	500	470	7.73	33																																											
31-Dec-10	78	500	475	7.62	32	#N/A	4.8	26.5	-2	-0.5	0.02	17.8	0.0326	-0.00002	-0.00002	0.00433	-0.00001	-0.000005	-0.05	0.000013	5.67	-0.0001	-0.000005	0.00043	-0.001	0.000023	-0.0005	0.88	0.00236	-0.01	0.00032	0.00014	-0.002	1.22	-0.00004	0.694	0.000008	0.12	0.0562	-10	0.000004	0.00001	-0.0005	0.000111	0.0006	0.0003	-0.0001
7-Jan-11	79	500	465	7.57	26																																											
14-Jan-11	80	500	465	7.68	26	#N/A	2.4	24.8	-2	-0.5	0.04	16.5	0.0312	-0.00002	-0.00002	0.00407	-0.00001	-0.000005	-0.05	-0.000005	5.21	-0.0001	-0.000005	0.00022	-0.001	0.000007	-0.0005	0.85	0.002	-0.01	0.0002	0.00002	-0.002	1.16	0.00004	0.57	-0.000005	0.1	0.0517	-10	0.000002	-0.00001	-0.0005	0.000219	0.0004	0.0001	-0.0001
21-Jan-11	81	500	475	7.46	31																																											
28-Jan-11	82	500	445	7.62	25	#N/A	3.9	24.6	3	-0.5	0.05	16.4	0.0307	-0.00002	0.00003	0.00408	-0.00001	-0.000005	-0.05	-0.000005	5.3	-0.0001	-0.000005	0.0006	0.001	-0.000005	-0.0005	0.77	0.00257	-0.01	0.00026	0.00008	-0.002	1.13	-0.00004	0.579	-0.000005	0.12	0.0504	-10	0.000002	0.00001	-0.0005	0.000088	0.0005	-0.0001	-0.0001
4-Feb-11	83	500	450																																													
11-Feb-11	84	500	440																																													
18-Feb-11	85	500	460																																													
25-Feb-11	86	500	445																																													
4-Mar-11	87	500	465																																													
11-Mar-11	88	500	470																																													
18-Mar-11	89	500	475																																													
25-Mar-11	90	500	460																																													
1-Apr-11	91	500	465																																													
8-Apr-11	92	500	495																																													
15-Apr-11	93	500	470																																													
22-Apr-11	94	500	460	7.54	35	#N/A	2.2	24.6	-2	-0.5	0.03	16	0.0382	-0.00002	-0.00002	0.00459	-0.00001	-0.000005	-0.05	0.00001	5.23	-0.0001	-0.000005	0.0004	0.002	0.000011	-0.0005	0.71	0.00162	-0.01	0.00036	0.00009	-0.002	1.15	-0.00004	0.559	-0.000005	0.1	0.0497	-10	-0.000002	-0.00001	-0.0005	0.000079	0.0006	#N/A	-0.0001
29-Apr-11	95	500	460																																													
6-May-11	96	500	455																																													
13-May-11	97	500	440																																													
20-May-11	98	500	485																																													
27-May-11	99	500	460																																													
3-Jun-11	100	500	445																																													
10-Jun-11	101	500	460																																													
17-Jun-11	102	500	460																																													
24-Jun-11	103	500	450																																													
1-Jul-11	104	500	455																																													
8-Jul-11	105	500	460																																													
15-Jul-11	106	500	455	7.70	33	#N/A	5.2	25.1	-2	-0.5	#N/A	15.7	0.0329	-0.00002	0.00007	0.00382	-0.00001	-0.000005	-0.05	-0.000005	5.27	-0.0001	0.000005	0.00052	-0.001	0.000016	-0.0005	0.61	0.00153	-0.01	0.00024	0.00019	-0.002	1.03	-0.00004	0.556	-0.000005	0.11	0.0469	-10	-0.000002	0.00011	-0.0005	0.000073	0.0004	0.0003	-0.0001
22-Jul-11	107	500	465																																													
29-Jul-11	108	500	475																																													
5-Aug-11	109	500	460																																													

HC 2

CONFIDENTIAL *DRAFT*

Sample = Hole
196 53.94-55.44

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L	P mg/L	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L
12-Aug-11	110	500	490																																												
19-Aug-11	111	500	465																																												
26-Aug-11	112	500	475																																												
2-Sep-11	113	500	490																																												
9-Sep-11	114	500	485																																												
16-Sep-11	115	500	475																																												
23-Sep-11	116	500	465																																												
30-Sep-11	117	500	480																																												
7-Oct-11	118	500	490	7.58	38	#N/A	4.9	25.2	-2	-0.5	0.02	18.7	0.0393	-0.00002	0.00002	0.00478	-0.00001	-0.000005	-0.05	-0.000005	6.31	-0.0001	-0.000005	0.00018	0.001	0.000008	-0.0005	0.71	0.00035	-0.01	0.00022	0.00003	-0.002	1.22	-0.00004	0.586	-0.000005	0.08	0.0527	-10	0.000002	0.00017	-0.0005	0.000084	0.0005	0.0002	-0.0001
14-Oct-11	119	500	485																																												
21-Oct-11	120	500	495																																												
28-Oct-11	121	500	485																																												
4-Nov-11	122	500	490																																												
11-Nov-11	123	500	480																																												
18-Nov-11	124	500	490																																												
25-Nov-11	125	500	480																																												
2-Dec-11	126	500	475																																												
9-Dec-11	127	500	480																																												
16-Dec-11	128	500	495																																												
23-Dec-11	129	500	480																																												
30-Dec-11	130	500	495	7.76	40	#N/A	4.5	31.5	2	-0.5	0.019	22.1	0.0358	-0.00002	0.0001	0.00647	-0.00001	-0.000005	-0.05	-0.000005	7.7	-0.0001	-0.000005	0.00021	0.002	0.000012	-0.0005	0.7	0.00098	-0.01	0.00021	-0.00002	0.003	1.34	-0.00004	0.59	-0.000005	0.07	0.0573	-10	0.000003	0.0001	-0.0005	0.000089	0.0004	0.0001	-0.0001
6-Jan-12	131	500	490																																												
13-Jan-12	132	500	480																																												
20-Jan-12	133	500	495																																												
27-Jan-12	134	500	485																																												
3-Feb-12	135	500	485																																												
10-Feb-12	136	500	490																																												
17-Feb-12	137	500	485																																												
24-Feb-12	138	500	480																																												
2-Mar-12	139	500	485																																												
9-Mar-12	140	500	475																																												
16-Mar-12	141	500	485																																												
23-Mar-12	142	500	485	7.76	40	#N/A	5.4	28.0	-2	-0.5	0.019	17.1	0.0285	-0.00002	-0.00002	0.00493	-0.00001	-0.000005	-0.05	-0.000005	5.95	-0.0001	-0.000005	0.00084	0.002	-0.000005	-0.0005	0.55	0.00081	-0.01	0.00014	0.0001	-0.002	1.1	-0.00004	0.426	-0.000005	0.13	0.0465	-10	-0.000002	-0.0002	-0.0005	0.000066	0.0003	0.0004	-0.0001
30-Mar-12	143	500	485																																												
6-Apr-12	144	500	485																																												
13-Apr-12	145	500	490																																												
20-Apr-12	146	500	470																																												
27-Apr-12	147	500	460																																												
4-May-12	148	500	450																																												
11-May-12	149	500	470																																												
18-May-12	150	500	450																																												
25-May-12	151	500	455																																												
1-Jun-12	152	500	465																																												
8-Jun-12	153	500	470																																												
15-Jun-12	154	500	475	7.55	43	#N/A	3.1	28.4	4	-0.5	0.017	17.5	0.034	-0.00002	0.000028	0.00494	-0.00001	-0.000005	-0.05	-0.000005	6.2	-0.0001	-0.000005	0.00021	-0.001	-0.000005	-0.0005	0.495	0.00059	-0.01	0.000166	-0.00002	-0.002	1.14	-0.00004	0.521	-0.000005	0.092	0.048	-10	-0.000002	-0.0002	-0.0005	0.0000657	0.00036	0.00013	-0.0001
22-Jun-12	155	500	455																																												
29-Jun-12	156	500	470																																												
6-Jul-12	157	500	460																																												
13-Jul-12	158	500	460																																												
20-Jul-12	159	500	475																																												
27-Jul-12	160	500	455																																												
3-Aug-12	161	500	460																																												
10-Aug-12	162	500	470																																												
17-Aug-12	163	500	455																																												
24-Aug-12	164	500	445																																												
31-Aug-12	165	500	470																																												
7-Sep-12	166	500	450	7.52	32	#N/A	4.1	23.9	4	-0.5	0.014	15.6	0.0341	-0.00002	0.000037	0.00484	-0.00001	-0.000005	-0.05	0.000006	5.55	-0.0001	0.000006	0.00065	0.0018	0.000023	-0.0005	0.427	0.00092	-0.01	0.000128	0.000089	-0.002	1.06	-0.00004	0.42	-0.000005	0.124	0.0389	-10	0.000002	-0.0002	-0.0005	0.00005	0.00032	0.00062	-0.0001
14-Sep-12	167	500	500																																												
21-Sep-12	168	500	440																																												
28-Sep-12	169	500	445																																												
5-Oct-12	170	500	465																																												
12-Oct-12	171	500	465																																												
19-Oct-12	172	500	445																																												
26-Oct-12	173	500	4455																																												
2-Nov-12	174	500	455																																												
9-Nov-12	175	500	445																																												
16-Nov-12	176	500	450																																												
23-Nov-12	177	500	490																																												
30-Nov-12	178	500	495	7.59	40	#N/A	3.9	28.6	3	-0.5	0.017	18.6	0.0303	-0.00002	0.00004	0.00545	-0.00001	-0.000005	-0.05	-0.000005	6.7	-0.0001	0.000006	0.00033	0.0012	0.00001	-0.0005	0.456	0.00049	-0.01	0.000406	-0.00002	-0.002	1.05	-0.00004	0.445	-0.000005	0.059	0.0454	-3	0.000002	0.00022	-0.0005	0.00007	0.00023	0.00072	-0.0001
7-Dec-12	179	500	485																																												
14-Dec-12	180	500	500																																												
21-Dec-12	181	500	465																																												
28-Dec-12	182	500	435																																												
4-Jan-13	183	500	445																																												
11-Jan-13	184	500	445																																												
18-Jan-13	185	500	465																																												
25-Jan-13	186	500	460																																												
1-Feb-13	187	500	465																																												
8-Feb-13	188	500	455																																												
15-Feb-13	189	500	455																																												
22-Feb-13	190	500	435	7.71	32	#N/A	5.5	27.5	4	0.58	0.014	14.8	0.0516	-0.00002	0.000078	0.00438	-0.00001	-0.000005	-0.05	-0.000005	5.33	-0.0001	-0.000005	0.00057	0.0045	0.000008	-0.0005	0.36	0.00147	-0.01	0.000144	0.000064	-0.002	1.1	5.6E-05	0.389	-0.000005	0.111	0.0361	-3	0.000003	-0.0002	-0.0005	0.000046	0.0003	0.00014	-0.0001
1-Mar-13	191	500	440																																												
8-Mar-13	192	500	465																																												
15-Mar-13	193	500	440																																												
22-Mar-13	194	500	425																																												
29-Mar-13	195	500	440																																												
5-Apr-13	196	500	430																																												
12-Apr-13	197	500	455																																												
19-Apr-13	198	500	475																																												
26-Apr-13	199	500	400																																												
3-May-13	200	500	435																																												
10-May-13	201	500	405																																												
17-May-13	202	500	435	7.81	32	#N/A	8.0	23.6	4	-0.5	0.016	13.7	0.0343	-0.00002	0.000031	0.00399	-0.00001	-0.000005	-0.05	-0.000005	4.92	-0.0001	-0.000005	0.00019	0.0024	-0.000005	-0.0005	0.329	0.00137	-0.01	0.000076	0.000058	-0.002	1.11	-0.00004	0.344	-0.000005	0.08	0.0323	-3	0.000002	-0.0002	-0.0005	0.000048	0.00025	0.00033	-0.0001
24-May-13	203	500	450																																												

Aug 13/10 Ni 0.00072. Sample discarded cannot repeat.
Oct 22/10 Sb 0.00031. Repeat = -0.00002.
Dec 17/10 F 0.48. Repeat = 0.55. Suspect sample mix-up with HC 1.
Feb 4/11 Change in analytical schedule.
April 22/11 Zn 0.0007. Repeat =0.0007 data confirmed suspect contamination
Jul 15, 2011 F=0.18, cannot repeat suspect contamination or analytical error

HC 3

CONFIDENTIAL *DRAFT*

Sample = Hole
196 45.64-47.14

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L	P mg/L	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L
3-Jul-09	0	750	365	7.65	130	#N/A	2.1	37.4	2	2.2	0.4	43.5	0.108	0.00005	0.00032	0.0345	-0.00001	-0.000005	-0.05	-0.000005	12.4	-0.0001	0.000022	0.0276	0.003	0.000047	0.0019	3.04	0.0257	-0.01	0.0163	0.00063	0.006	4.39	0.00017	1.26	-0.000005	5.13	0.129	-3	0.000005	0.00023	-0.0005	0.000013	0.0005	0.0005	-0.0001
10-Jul-09	1	500	450	7.67	66
17-Jul-09	2	500	415	7.66	41	#N/A	1.9	24.2	2	0.8	0.44	15.9	0.105	0.00006	0.00044	0.0101	-0.00001	-0.000005	-0.05	0.000015	4.46	-0.0001	0.000014	0.00381	0.019	0.00004	0.0006	1.15	0.0136	-0.01	0.033	-0.00002	0.003	2.41	0.00031	1.51	-0.000005	2.98	0.0463	-3	-0.000002	0.00008	0.0005	0.000121	0.0011	0.0007	-0.0001
24-Jul-09	3	500	435	7.59	38
31-Jul-09	4	500	455	7.64	39	#N/A	2.0	25.7	-2	-0.5	0.34	17.1	0.0679	0.00006	0.00037	0.0106	-0.00001	-0.000005	-0.05	-0.000005	4.92	-0.0001	0.000008	0.00211	0.007	0.000114	0.0005	1.18	0.0133	-0.01	0.0161	0.00006	0.006	2.31	0.00016	1.62	-0.000005	1.99	0.0489	-3	-0.000002	0.00006	-0.0005	0.000152	0.0011	0.0005	-0.0001
7-Aug-09	5	500	430	7.53	32
14-Aug-09	6	500	430	7.52	38	#N/A	2.3	24.5	-2	0.9	0.26	17.9	0.0655	0.00005	0.0005	0.0123	-0.00001	-0.000005	-0.05	-0.000005	5.19	-0.0001	0.000013	0.00243	0.006	0.000016	0.0007	1.19	0.0134	-0.01	0.00875	0.00006	0.002	2.31	0.00011	1.59	-0.000005	1.39	0.0526	-3	-0.000002	0.00016	-0.0005	0.000151	0.0008	0.0004	-0.0001
21-Aug-09	7	500	460	7.67	39
28-Aug-09	8	500	450	7.63	38	#N/A	2.1	24.8	3	0.7	0.24	18.2	0.0885	0.00006	0.00051	0.0134	-0.00001	-0.000005	-0.05	-0.000005	5.11	-0.0001	0.000012	0.00224	0.008	0.000016	-0.0005	1.32	0.0114	-0.01	0.00506	0.00004	-0.002	2.33	0.00015	1.91	-0.000005	1	0.0541	-3	0.000002	0.00006	-0.0005	0.00016	0.0011	0.0002	-0.0001
4-Sep-09	9	500	440	7.48	33
11-Sep-09	10	500	390	7.52	31	#N/A	1.9	22.4	-2	-0.5	0.22	14.3	0.138	-0.00002	0.00054	0.0106	-0.00001	-0.000005	-0.05	-0.000005	3.95	-0.0001	0.000019	0.00277	0.027	0.000032	-0.0005	1.07	0.0074	-0.01	0.00305	0.00006	0.003	2.09	0.00011	1.78	-0.000005	0.74	0.0432	-3	0.000002	0.00008	0.0013	0.000107	0.0013	0.0004	-0.0001
18-Sep-09	11	500	435	7.67	42
25-Sep-09	12	500	505	7.60	53	#N/A	2.5	32.3	-2	0.5	0.17	22.6	0.0741	0.00005	0.00049	0.0178	-0.00001	-0.000005	-0.05	0.000006	6.5	-0.0001	0.000012	0.00216	0.008	0.000197	0.0006	1.53	0.00907	0.02	0.00296	0.0001	-0.002	2.55	0.00014	2.02	-0.000005	0.56	0.0647	-3	0.000003	0.00002	-0.0005	0.000191	0.0012	0.0005	-0.0001
2-Oct-09	13	500	410	7.49	37
9-Oct-09	14	500	420	7.53	37	#N/A	3.8	26.3	2	-0.5	0.14	18.2	0.121	0.00004	0.00056	0.0149	-0.00001	-0.000005	-0.05	-0.000005	5.12	-0.0001	0.00001	0.00282	0.017	0.000049	0.0006	1.31	0.00734	-0.01	0.00215	-0.00002	0.004	2.49	0.00009	2.14	-0.000005	0.52	0.0559	-3	-0.000002	0.00003	0.0009	0.000155	0.0014	0.0008	-0.0001
16-Oct-09	15	500	380	7.42	41
23-Oct-09	16	500	450	7.56	42	#N/A	2.8	29.7	-2	-0.5	0.1	21.5	0.081	0.00003	0.00044	0.0165	-0.00001	-0.000005	-0.05	-0.000005	6.05	0.0001	0.000011	0.00287	0.013	0.000042	0.0006	1.55	0.00836	-0.01	0.00184	0.00028	0.003	2.29	0.00011	1.77	0.000017	0.41	0.0648	-3	-0.000002	0.0001	0.0005	0.000203	0.0012	0.0008	-0.0001
30-Oct-09	17	500	435	7.62	39
6-Nov-09	18	500	450	7.69	38	#N/A	3.7	26.8	-2	-0.5	0.08	19.4	0.079	0.00002	0.00038	0.0152	-0.00001	-0.000005	-0.05	0.000005	5.44	-0.0001	0.000008	0.00162	0.008	0.000014	-0.0005	1.41	0.00683	-0.01	0.00141	0.00011	0.003	2.18	0.00008	1.68	-0.000005	0.33	0.0595	-3	-0.000002	0.00002	0.0006	0.000164	0.0013	0.0005	-0.0001
13-Nov-09	19	500	465	7.55	37
20-Nov-09	20	500	445	7.67	38	#N/A	4.0	25.6	-2	-0.5	0.08	17.4	0.0777	0.00003	0.00036	0.0141	-0.00001	-0.000005	-0.05	0.000007	4.94	-0.0001	0.00001	0.00157	0.01	0.000041	-0.0005	1.24	0.00654	-0.01	0.00113	0.00008	0.005	2.03	0.00007	1.49	-0.000005	0.29	0.0535	-3	-0.000002	0.00002	0.0006	0.000126	0.0011	0.0006	-0.0001
27-Nov-09	21	500	445	7.57	40
4-Dec-09	22	500	465	7.56	41	#N/A	3.2	27.9	-2	-0.5	0.06	20.2	0.0698	-0.00002	0.0003	0.0162	-0.00001	-0.000005	-0.05	-0.000005	5.91	-0.0001	0.000008	0.00144	0.011	0.000016	-0.0005	1.33	0.00731	-0.01	0.00103	0.00012	0.002	2.08	0.00005	1.45	-0.000005	0.24	0.0605	-3	-0.000002	0.00023	-0.0005	0.000133	0.001	0.0003	-0.0001
11-Dec-09	23	500	470	7.80	40
18-Dec-09	24	500	465	7.32	38	#N/A	4.7	24.8	-2	-0.5	0.04	17.7	0.0816	0.00002	0.00036	0.0153	-0.00001	-0.000005	-0.05	-0.000005	5.12	-0.0001	0.000006	0.00143	0.009	0.000009	-0.0005	1.19	0.00633	-0.01	0.00091	0.00005	-0.002	1.86	0.00006	1.49	-0.000005	0.24	0.0555	-3	-0.000002	0.00002	-0.0005	0.000118	0.0008	-0.0001	-0.0001
25-Dec-09	25	500	465	7.52	33
1-Jan-10	26	500	475	7.75	39	#N/A	2.1	26.8	-2	0.5	0.04	18.9	0.0702	-0.00002	0.00027	0.0158	-0.00001	-0.000005	-0.05	-0.000005	5.64	-0.0001	0.000007	0.00162	0.009	0.000055	-0.0005	1.18	0.00684	-0.01	0.00078	-0.00002	-0.002	1.79	0.00005	1.38	-0.000005	0.19	0.0551	-3	-0.000002	-0.00001	-0.0005	0.000123	0.0008	0.0004	-0.0001
8-Jan-10	27	500	465	7.54	37
15-Jan-10	28	500	455	7.59	37	#N/A	5.2	26.0	-2	-0.5	0.04	18.1	0.0776	-0.00002	0.00035	0.015	-0.00001	-0.000005	-0.05	-0.000005	5.35	-0.0001	-0.000005	0.00205	0.007	0.000062	-0.0005	1.16	0.00656	-0.01	0.00087	-0.00002	-0.002	1.9	0.00006	1.52	-0.000005	0.2	0.0529	-3	-0.000002	0.00002	0.0005	0.000121	0.0008	0.0008	-0.0001
22-Jan-10	29	500	500	7.42	32
29-Jan-10	30	500	460	7.32	28	#N/A	4.5	25.0	-2	-0.5	0.04	17.9	0.0962	0.00002	0.00031	0.0153	-0.00001	-0.000005	-0.05	-0.000005	5.38	0.0002	0.000018	0.00238	0.02	0.000083	-0.0005	1.08	0.00641	0.01	0.00073	0.00011	0.004	1.68	0.00005	1.33	0.000011	0.23	0.054	-3	0.000002	0.00021	0.0011	0.000149	0.001	0.0005	-0.0001
5-Feb-10	31	500	470	7.16	25
12-Feb-10	32	500	445	7.33	33	#N/A	2.6	23.7	-2	-0.5	0.04	17.4	0.0673	0.00002	0.00028	0.0154	-0.00001	-0.000005	-0.05	-0.000005	5.25	-0.0001	0.000007	0.00128	0.004	0.000013	-0.0005	1.05	0.00624	-0.01	0.00062	0.00014	-0.002	1.82	0.00005	1.29	-0.000005	0.21	0.0501	-3	-0.000002	-0.00001	-0.0005	0.000125	0.0007	0.0004	-0.0001
19-Feb-10	33	500	400	7.40	29
26-Feb-10	34	500	415	7.39	25	#N/A	2.7	17.3	-2	-0.5	0.04	13.8	0.12	-0.00002	0.00032	0.0128	-0.00001	-0.000005	-0.05	-0.000005	4.1	-0.0001	0.000011	0.00212	0.019	0.000019	-0.0005	0.86	0.0049	-0.01	0.00069	0.00034	-0.002	1.83	0.00007	1.39	-0.000005	0.23	0.0404	-3	-0.000002	0.00005	0.0011	0.000082	0.001	0.0027	-0.0001
5-Mar-10	35	500	490	7.26	33
12-Mar-10	36	500	415	7.39	30	#N/A	3.8	21.2	2	-0.5	0.04	13.6	0.094	-0.00002	0.00031	0.013	-0.00001	0.00001	-0.05	-0.000005	4.09	0.0002	0.000016	0.00175	0.016	0.000043	-0.0005	0.82	0.00475	-0.01	0.00058	0.00028	-0.002	1.6	0.00005	1.2	-0.000005	0.19	0.0431	-10	-0.000002	0.00002	0.0007	0.000087	0.0008	0.0018	-0.0001
19-Mar-10	37	500	445	7.41	30
26-Mar-10	38	500	475	7.46	29	#N/A	3.2	22.1	-2	-0.5	0.03	14.5	0.0626	-0.00002	0.00023	0.013	-0.00001	-0.000005	-0.05	-0.000005	4.4	0.0002	0.000005	0.00126	0.006	0.000016	-0.0005	0.85	0.00464	-0.01	0.00057	0.00015	-0.002	1.55	0.00004	1.01	-0.000005	0.2	0.043	-2	-0.000002	-0.00001	-0.0005	0.000071	0.0007	0.0004	-0.0001
2-Apr-10	39	500	425	7.37	23
9-Apr-10	40	500	425	7.36	28	#N/A	2.9	18.2	3	-0.5	0.03	13.9	0.0708	-0.00002	0.00028	0.0118	-0.00001	-0.000005	-0.05	-0.000005	4.26	-0.0001	0.000015	0.00147	0.008	0.000014	-0.0005	0.8	0.00489	-0.01	0.00052	0.00014	0.004	1.67	-0.00004	1.14	-0.000005	0.19	0.0393	-10	-0.000002	0.00002	0.0006	0.000076	0.0008	0.0005	-0.0001
16-Apr-10	41	500	440	7.37	32
23-Apr-10	42	500	440	7.39	33	#N/A	5.1	24.1	2	-0.5	0.04	15.4	0.0636	-0.00002	0.00029	0.0141	-0.00001	-0.000005	-0.05	-0.000005	4.72	-0.0001	-0.000005	0.00098	0.01	0.000011	-0.0005	0.89	0.00464	-0.01	0.00052	0.00011	-0.002	1.81	0.00005	1.35	-0.000005	0.26	0.0463	-10	-0.000002	-0.00001	-0.0005	0.000019	0.0004	0.0007	-0.0001
30-Apr-10	43	500	460	7.48	36
7-May-10	44	500	430	7.37	31	#N/A	4.3	22.3	-2	-0.5	0.03	14.8	0.0789	-0.00002	0.00025	0.0128	-0.00001	-0.000005	-0.05	-0.000005	4.63	-0.0001	0.000009	0.00188	0.009	0.000013	-0.0005	0.8	0.00446	-0.01	0.00056	0.00013	-0.002	1.7	-0.00004	1.29	-0.000005	0.18	0.0414	-10	-0.000002	0.00002	-0.0005	0.000064	0.0008	0.0004	-0.0001
14-May-10	45	500	450	7.46	27
21-May-10	46	500	400	7.53	24	#N/A	2.8	16.5	-2	-0.5	0.03	12.4	#N/A	-0.00002	0.0003	0.0151	-0.00001	-0.000005	-0.05	-0.000005	3.83	-0.0001	0.000034	#N/A	#N/A	0.000072	-0.0005	0.7	0.0057	-0.01	0.00046	0.00017	-0.002	1.69	0.00005	1.48	-0.000005	0.25	0.0361	-10	-0.000002	0.00004	0.0027	0.000057	0.001	0.0008	-0.0001
28-May-10	47	500	410	7.40	27
4-Jun-10	48	500	435	7.44	30	#N/A	3.6	22.5	-2	-0.5	0.03	13.3	0.0872	-0.00002	0.00032	0.0116	-0.00001	-0.000005	-0.05	-0.000005	4.05	-0.0001	0.000009	0.00207	0.015	0.00002	-0.0005	0.78	0.00376	-0.01	0.00065	0.00013	-0.002	1.65	0.00005	1.34	-0.000005	0.25	0.0395	-10	-0.000002	0.00004	0.0006	0.000068	0.001	0.0006	-0.0001
11-Jun-10	49	500	440	7.48	31
18-Jun-10	50	500	455	7.50	27	#N/A	3.9	20.8	2	-0.5	0.02	13.8	0.0704	-0.00002	0.00024	0.0123	-0.00001	-0.000005	-0.05	-0.000005	4.25	-0.0001	0.000007	0.00103	0.004	0.000014	-0.0005	0.78	0.00351	-0.01	0.00052	0.00012	-0.002	1.71	-0.00004	1.25	-0.000005	0.2	0.0382	-10	-0.000002	0.00001	-0.0005	0.000062	0.0008	0.0001	-0.0001
25-Jun-10	51	500	455	7.55	28
2-Jul-10	52	500	445	7.54	27	#N/A	2.4	20.7	-2	-0.5	0.02	14.2	0.101	-0.00002	0.00022	0.0128	-0.00001	-0.000005	-0.05	-0.000005	4.38	-0.0001	0.00001	0.00176	0.014	0.000013	-0.0005	0.78	0.004	-0.01	0.00052	-0.00002	-0.002	1.53	0.00005	1.24	-0.000005	0.2	0.0403	-10	-0.000002	0.00008	0.0008	0.00006	0.0006	0.0002	-0.0001
9-Jul-10	53	500	450	7.32	26
16-Jul-10	54	500	440	7.49	28	#N/A	3.2	20.8	4	-0.5	0.02	14.3	0.0565	-0.00002	0.0002	0.0123	-0.00001	-0.000005	-0.05	-0.000005	4.59	-0.0001	0.00001	0.00148	0.004	0.000013	-0.0005	0.68	0.00349	-0.01	0.00049	0.00011	-0.002	1.38	0.00005	1.14	-0.000005	0.18	0.0415	-10	-0.000002	0.00003	-0.0005	0.000068	0.0007	0.0001	-0.0001
23-Jul-10	55	500	450	7.20	29
30-Jul-10	56	500	460	7.22	26	#N/A	3.6	17.5	4	-0.5	0.02	12.9	0.058	-0.00002	0.00023	0.0121	-0.00001	-0.000005	-0.05	-0.000005	4.04	-0.0001	0.000008	0.00106	0.003	0.00001	-0.0005	0.67	0.00332	-0.01	0.00044	0.00012	-0.002	1.25	-0.00004	1.1	-0.000005	0.16	0.0377	-10	0.000003	-0.00001	-0.0005	0.000053	0.0007	0.0002	-0.0001
6-Aug-10	57	500	455	7.52	30
13-Aug-10	58	500	465	7.53	30	#N/A	3.6	22.0	3	-0.5	0.03	14.5	0.0594	-0.00002	0.00017	0.0134	-0.00001	-0.000005	-0.05	-0.000005	4.56	-0.0001	0.000008	0.00148	0.003	0.000008	-0.0005	0.74	0.00373	-0.01	0.00041	0.00023	-0.002	1.45	-0.00004	1.01	-0.000005	0.18	0.0421	-10	-0.000002	-0.00001	-0.0005	0.000064	0.0007	0.0002	-0.0001
20-Aug-10	59	500	465	7.43	24
27-Aug-10	60	500	475	7.50	28	#N/A	2.3	22.7	3	-0.5	0.02	13.4	0.0641	-0.00002	0.00021	0.0127	-0.00001	-0.000005	-0.05	-0.000005	4.18	0.0002	0.000007	0.00103	0.003	0.000062	-0.0005	0.73	0.00372	-0.01	0.00042	0.00013	-0.002	1.48	0.00005	0.944	-0.000005	0.19	0.0406	-10	-0.000002	-0.00001	-0.0005	0.000053	0.0006	0.0004	-0.0001
3-Sep-10	61	500	485	7.50	27
10-Sep-10	62	500	465	7.31	34	#N/A	3.7	24.6	-2	-0.5	0.03	15.6	0.0552	-0.00002	0.00014	0.014	-0.00001	-0.000005	-0.05	-0.000005	4.94	0.0002	0.000025	0.0016	0.005	-0.000005	-0.0005	0.79	0.00414	-0.01	0.00037	0.00022	-0.002	1.53	-0.00004	0.961	-0.000005	0.17	0.0449	-10	-0.000002	0.00002	-0.0005	0.000069	0.0003	0.0003	-0.0001
17-Sep-10	63	500	465	7.20	26
24-Sep-10	64	500	455	7.39	22	#N/A	3.1	21.6	4	-0.5	0.03	13.5	0.0681	-0.00002	0.0002	0.0128	-0.00001	-0.000005	-0.05	0.000009	4.35	-0.0001	0.000009	0.00163	0.002	0.000065	-0.0005	0.63	0.00285	-0.01	0.00041	0.00017	-0.002	1.49	0.00005	1.09	-0.000005	0.19	0.0381	-10	0.000002	-0.00001	-0.0005	0.000061	0.0008	0.0002	-0.0001
1-Oct-10	65	500	465	7.41	22
8-Oct-10	66	500	455	7.42	29	#N/A	2.3	22.0	4	-0.5	0.03	13.5	0.0753	-0.00002	0.00017	0.0128	-0.00001	-0.000005	-0.05	-0.000005	4.39	0.0001	-0.000005	0.00068	0.003	-0.000005	-0.0005	0.61	0.00268	-0.01	0.00043	0.00014	0.003	1.48	-0.00004	1.13	-0.000005	0.16	0.0392	-10	-0.000002	-0.00001	-0.0005	0.000054	0.0007	0.0002	-0.0001
15-Oct-10	67	500	470	7.35	31
22-Oct-10	68	500	470	7.43	29	#N/A	3.1	23.2	2	-0.5	0.03	15.1	0.0592	-0.00002	0.00017	0.0131	-0.00001	-0.000005	-0.05	-0.000005	5	-0.0001	-0.000005	0.00151	0.001	0.000028	-0.0005	0.64	0.00287	-0.01	0.0004	0.00012	-0.002	1.45	-0.00004	1.04	-0.000005	0.16	0.0395	-10	0.000002	-0.00001	-0.0005	0.000052	0.0005	0.0008	-0.0001
29-Oct-10	69	500	455	7.39	28
5-Nov-10	70	500	430	7.42	11	#N/A	2.2	15.2	-2	-0.5	0.03	10.4	#N/A	-0.00002	0.00022	0.0119	-0.00001	-0.000005	-0.05	-0.000005	3.36	-0.0001	0.000018	0.00388	#N/A	0.000044	-0.0005	0.48	0.00312	-0.01	0.00039	0.00013	-0.002	1.49	0.00004	1.31	0.000007	0.21	0.0296	-10	0.000002	0.00002	0.0018	0.00008	0.0008	0.0003	-0.0001
12-Nov-10	71	500	460	7.53	23
19-Nov-10	72	500	455	7.63	30	#N/A	3.0	23.5	-2	-0.5	0.02	13	0.0556	-0.00002	0.00015	0.0121	-0.00001	-0.000005	-0.05	-0.000005	4.22	0.0003	-0.000005	0.00066	0.003	0.00001	-0.0005	0.58	0.00191	-0.01	0.0003	0.00016	-0.002	1.43	-0.00004	0.876	-0.000005	0.17	0.038	-10	-0.000002	-0.00001	-0.0005	0.000046	0.0005	-0.0001	-0.0001
26-Nov-10	73	500	460	7.35	31
3-Dec-10	74	500	470	7.40	29	#N/A	4.0	22.3	-2	-0.5	0.07	13.6	0.0602	-0.00002	0.00014	0.0132	-0.00001	-0.000005	-0.05	0.000007	4.47	-0.0001	0.000005	0.00083	0.004	0.000126	-0.0005	0.6	0.00272	-0.01	0.0003	-0.00002	-0.002	1.46	-0.00004	0.953	-0.000005	0.13	0.0401	-10	-0.000002	-0.00001	0.0009	0.000065	0.0006	0.0003	-0.0001
10-Dec-10	75	500	465	7.36	29
17-Dec-10	76	500	465	7.55	28	#N/A	4.1	22.3	2	-0.5	0.03	13.7	0.0685	-0.00002	0.00015	0.0133	-0.00001	-0.000005	-0.05	-0.000005	4.54	0.0001	0.000006	0.00132	0.006	0.000044	-0.0005	0.56	0.00217	-0.01	0.00034	0.00012	-0.002	1.37	-0.00004	0.928	-0.000005	0.16	0.0361	-10	0.000002	-0.00001	-0.0005	0.000042	0.0006	0.0001	-0.0001
24-Dec-10	77	500	465	7.60	30
31-Dec-10	78	500	470	7.52	29	#N/A	4.5	24.8	-2	-0.5	0.03	14.7	0.0761	-0.00002	0.00018	0.0149	-0.00001	-0.000005	-0.05	-0.000005	4.88	-0.0001	0.000008	0.00118	0.005	0.00003	-0.0005	0.6	0.00231	-0.01	0.00035	0.00015	-0.002	1.59	-0.00004	0.981	0.000007	0.14	0.0425	-10	0.000003	0.00002	0.0006	0.000068	0.0007	0.0002	-0.0001
7-Jan-11	79	500	485	7.51	24
14-Jan-11	80	500	475	7.67	25	#N/A	2.5	23.9	-2	-0.5	0.03	14.5	0.0653	-0.00002	0.00016	0.0148	-0.00001	-0.000005	-0.05	-0.000005	4.85	-0.0001	-0.000005	0.00147	0.003	0.000008	-0.0005	0.57	0.00316	-0.01	0.00025	0.00024	-0.002	1.43	-0.00004	0.834	-0.000005	0.17	0.0414	-10	-0.000002	-0.00001	-0.0005	0.000111	0.0006	0.0003	-0.0001
21-Jan-11	81	500	475	7.40	26
28-Jan-11	82	500	450	7.50	19	#N/A	3.8	20.9	3	0.5	0.03	12.6	0.0677	-0.00002	0.00016	0.0126	-0.00001	-0.000005	-0.05	-0.000005	4.29	-0.0001	0.000007	0.00074	0.004	0.000006	-0.0005	0.46	0.00248	-0.01	0.00028	0.00009	-0.002	1.37	-0.00004	0.887	-0.000005	0.12	0.0346	-10	0.000002	-0.00001	-0.0005	0.000034	0.0005	-0.0001	-0.0001
4-Feb-11	83	500	455
11-Feb-11	84	500	435
18-Feb-11	85	500	450
25-Feb-11	86	500	455
4-Mar-11	87	500	460
11-Mar-11	88	500	465
18-Mar-11	89	500	495
25-Mar-11	90	500	465
1-Apr-11	91	500	500
8-Apr-11	92	500	455
15-Apr-11	93	500	465
22-Apr-11	94	500	460	7.41	25	#N/A	2.1	16.8	-2	#N/A	0.02	10.9	0.0631	-0.00002	0.00013	0.0115	-0.00001	-0.000005	-0.05	0.000005	3.78	-0.0001	-0.000005	0.00087	0.004	0.000043	-0.0005	0.35	0.0016	-0.01	0.00034	0.00011	-0.002	1.2	-0.00004	0.753	-0.000005	0.1	0.0295	-10	-0.000002	0.00001	-0.0005	0.000033	0.0004	#N/A	-0.0001
29-Apr-11	95	500	455
6-May-11	96	500	460
13-May-11	97	500	445
20-May-11	98	500	485
27-May-11	99	500	450
3-Jun-11	100	500	455
10-Jun-11	101	500	465
17-Jun-11	102	500	455
24-Jun-11	103	500	520
1-Jul-11	104	500	455
8-Jul-11	105	500	465
15-Jul-11	106	500	460	7.64	27	#N/A	5.4	20.4	-2	-0.5	#N/A	12	0.0991	-0.00002	0.00013	0.0126	-0.00001	-0.000005	-0.05	0.000006	4.27	-0.0001	0.000017	0.00149	0.007	0.000017	-0.0005	0.32	0.00137	-0.01	0.00026	0.00021	-0.002	1.22	-0.00004	0.865	-0.000005	0.14	0.0331	-10	0.000002	0.00006	-0.0005	0.000029	0.0005	0.0004	-0.0001
22-Jul-11	107	500	470
29-Jul-11	108	500	475
5-Aug-11	109	500	480
12-Aug-11	110	500	485
19-Aug-11	111	500	480

HC 3

CONFIDENTIAL *DRAFT*

Sample = Hole 196 45.64-47.14

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L	P mg/L	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L
26-Aug-11	112	500	475																																													
2-Sep-11	113	500	480																																													
9-Sep-11	114	500	490																																													
16-Sep-11	115	500	490																																													
23-Sep-11	116	500	485																																													
30-Sep-11	117	500	490																																													
7-Oct-11	118	500	485	7.51	28	#N/A	4.6	20.2	-2	-0.5	0.02	13.5	0.105	-0.00002	0.00024	0.014	-0.00001	-0.000005	-0.05	-0.000005	4.86	-0.0001	0.000006	0.00088	0.006	0.000013	-0.0005	0.34	0.00109	-0.01	0.00025	0.00002	-0.002	1.25	-0.00004	0.881	-0.000005	0.1	0.0332	-10	-0.000002	0.0001	-0.0005	0.000029	0.0005	0.0002	-0.0001
14-Oct-11	119	500	495																																													
21-Oct-11	120	500	480																																													
28-Oct-11	121	500	480																																													
4-Nov-11	122	500	490																																													
11-Nov-11	123	500	485																																													
18-Nov-11	124	500	485																																													
25-Nov-11	125	500	480																																													
2-Dec-11	126	500	480																																													
9-Dec-11	127	500	490																																													
16-Dec-11	128	500	505																																													
23-Dec-11	129	500	490																																													
30-Dec-11	130	500	485	7.73	28	#N/A	4.2	23.5	2	-0.5	0.02	14.1	0.0888	-0.00002	0.00015	0.0143	-0.00001	-0.000005	-0.05	-0.000005	5.12	-0.0001	0.000006	0.00086	0.007	0.00001	-0.0005	0.32	0.00156	-0.01	0.00025	0.00003	-0.002	1.36	-0.00004	0.79	-0.000005	0.08	0.0315	-10	0.000002	0.00015	-0.0005	0.000026	0.0004	0.0004	-0.0001
6-Jan-12	131	500	490																																													
13-Jan-12	132	500	480																																													
20-Jan-12	133	500	490																																													
27-Jan-12	134	500	490																																													
3-Feb-12	135	500	490																																													
10-Feb-12	136	500	490																																													
17-Feb-12	137	500	495																																													
24-Feb-12	138	500	475																																													
2-Mar-12	139	500	490																																													
9-Mar-12	140	500	490																																													
16-Mar-12	141	500	480																																													
23-Mar-12	142	500	490	7.70	29	#N/A	4.9	21.6	-2	-0.5	0.024	12.1	0.0804	-0.00002	0.00009	0.014	-0.00001	-0.000005	-0.05	-0.000005	4.43	-0.0001	-0.000005	0.00057	0.003	-0.000005	-0.0005	0.25	0.00116	-0.01	0.00021	-0.00002	-0.002	1.15	-0.00004	0.676	-0.000005	0.07	0.0278	-10	0.000003	-0.0002	-0.0005	0.000024	0.0003	0.0002	-0.0001
30-Mar-12	143	500	490																																													
6-Apr-12	144	500	485																																													
13-Apr-12	145	500	505																																													
20-Apr-12	146	500	465																																													
27-Apr-12	147	500	485																																													
4-May-12	148	500	475																																													
11-May-12	149	500	450																																													
18-May-12	150	500	475																																													
25-May-12	151	500	470																																													
1-Jun-12	152	500	455																																													
8-Jun-12	153	500	480																																													
15-Jun-12	154	500	500	7.40	25	#N/A	3.0	15.2	4	0.53	0.025	9.54	0.0905	-0.00002	0.000205	0.0107	-0.00001	-0.000005	-0.05	-0.000005	3.52	-0.0001	-0.000005	0.00085	0.0049	8.6E-06	-0.0005	0.183	0.00083	-0.01	0.00024	-0.00002	-0.002	1.05	-0.00004	0.743	-0.000005	0.077	0.022	-10	0.0000023	-0.0002	-0.0005	0.0000128	0.00027	0.00029	-0.0001
22-Jun-12	155	500	470																																													
29-Jun-12	156	500	465																																													
6-Jul-12	157	500	490																																													
13-Jul-12	158	500	470																																													
20-Jul-12	159	500	485																																													
27-Jul-12	160	500	505																																													
3-Aug-12	161	500	475																																													
10-Aug-12	162	500	475																																													
17-Aug-12	163	500	480																																													
24-Aug-12	164	500	460																																													
31-Aug-12	165	500	475																																													
7-Sep-12	166	500	465	7.34	19	#N/A	3.9	13.0	-2	-0.5	0.025	8.47	0.0698	-0.00002	0.000073	0.0105	-0.00001	-0.000005	-0.05	-0.000005	3.1	-0.0001	0.000005	0.00143	0.0083	0.00002	-0.0005	0.175	0.00114	-0.01	0.00021	0.000085	0.0022	0.992	-0.00004	0.607	-0.000005	0.101	0.0199	-10	0.000002	0.00023	-0.0005	0.000013	0.00023	0.00125	-0.0001
14-Sep-12	167	500	495																																													
21-Sep-12	168	500	500																																													
28-Sep-12	169	500	450																																													
5-Oct-12	170	500	460																																													
12-Oct-12	171	500	465																																													
19-Oct-12	172	500	460																																													
26-Oct-12	173	500	470																																													
2-Nov-12	174	500	465																																													
9-Nov-12	175	500	455																																													
16-Nov-12	176	500	460																																													
23-Nov-12	177	500	480																																													
30-Nov-12	178	500	500	7.35	18	#N/A	3.6	12.5	-2	-0.5	0.031	9.41	0.0753	-0.00002	0.00007	0.00973	-0.00001	-0.000005	-0.05	-0.000005	3.5	-0.0001	-0.000005	0.00088	0.0055	0.000027	-0.0005	0.163	0.00095	-0.01	0.00028	0.000091	-0.002	0.976	-0.00004	0.784	-0.000005	0.096	0.0186	-3	0.000003	0.00029	-0.0005	0.000013	-0.0002	0.0025	-0.0001
7-Dec-12	179	500	470																																													
14-Dec-12	180	500	495																																													
21-Dec-12	181	500	460																																													
28-Dec-12	182	500	475																																													
4-Jan-13	183	500	460																																													
11-Jan-13	184	500	485																																													
18-Jan-13	185	500	475																																													
25-Jan-13	186	500	470																																													
1-Feb-13	187	500	475																																													
8-Feb-13	188	500	460																																													
15-Feb-13	189	500	470																																													
22-Feb-13	190	500	440	7.63	14	#N/A	4.5	11.8	3	-0.5	0.024	6.5	0.0744	-0.00002	0.000064	0.00833	-0.00001	-0.000005	-0.05	-0.000005	2.4	-0.0001	-0.000005	0.0009	0.0089	0.000034	-0.0005	0.121	0.00096	-0.01	0.00015	0.000064	-0.002	0.883	-0.00004	0.662	0.000005	0.118	0.0146	-3	0.000003	-0.0002	-0.0005	0.000006	0.00028	0.00055	-0.0001
1-Mar-13	191	500	475																																													
8-Mar-13	192	500	470																																													
15-Mar-13	193	500	470																																													
22-Mar-13	194	500	445																																													
29-Mar-13	195	500	450																																													
5-Apr-13	196	500	470																																													
12-Apr-13	197	500	475																																													
19-Apr-13	198	500	475																																													
26-Apr-13	199	500	425																																													
3-May-13	200	500	460																																													
10-May-13	201	500	425																																													
17-May-13	202	500	450	7.90	13	#N/A	5.9	11.7	4	-0.5	0.03	6.08	0.14	-0.00002	0.000062	0.00965	-0.00001	-0.000005	-0.05	-0.000005	2.25	-0.0001	0.000006	0.00182	0.0191	0.000043	-0.0005	0.114	0.00142	-0.01	0.00016	0.000085	-0.002	0.932	-0.00004	1	-0.000005	0.119	0.0134	-3	0.000003	-0.0002	0.00077	0.000006	-0.0002	0.00055	-0.0001
24-May-13	203	500	455																																													

May 21/10 Al 0.23, Cu 0.00829 and Fe 0.068. Repeat = 0.273, 0.00863, and 0.077, respectively. Data confirmed, suspect contamination.
Oct 22/10 Sb 0.00019. Repeat = -0.00002.
Nov 5/10 Al 0.172 and Fe 0.038. Repeat = 0.226 and 0.044, respectively. Data confirmed. Suspect contamination.
Feb 4/11 Change in analytical schedule.
April 22/11 Zn 0.0028. Repeat =0.0025, data confirmed suspect contamination
Apr 22/11 Cl 2.0 Cannot repeat, suspect contamination or analytical error.
Jul 15, 2011 F=0.15, Cannot repeat suspect contamination or analytical error

HC 4

CONFIDENTIAL DRAFT

Sample = Hole 211 70.79-73.79

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L
3-Jul-09	0	750	340	8.08	203	#N/A	1.2	58.4	7	6.1	1.13	44.8	0.198	0.00018	0.00048	0.0358
10-Jul-09	1	500	455	7.83	123											
17-Jul-09	2	500	450	7.97	84	#N/A	1.3	44.5	10	-0.5	1.01	34.9	0.197	0.00026	0.00045	0.0374
24-Jul-09	3	500	450	7.82	85											
31-Jul-09	4	500	450	7.87	82	#N/A	1.7	40.4	6	-0.5	1.02	39.2	0.21	0.00018	0.00035	0.0467
7-Aug-09	5	500	460	7.69	66											
14-Aug-09	6	500	460	7.73	72	#N/A	2.2	36.3	4	0.9	0.81	37.8	0.141	0.00011	0.00032	0.0508
21-Aug-09	7	500	475	7.87	71											
28-Aug-09	8	500	460	7.84	71	#N/A	1.8	36.9	4	0.5	0.74	36.6	0.197	0.00011	0.0003	0.054
4-Sep-09	9	500	475	7.56	63											
11-Sep-09	10	500	495	7.74	38	#N/A	1.5	25.6	2	0.6	0.42	19.6	0.286	-0.00002	0.00032	0.0276
18-Sep-09	11	500	460	7.76	61											
25-Sep-09	12	500	490	7.81	66	#N/A	2.1	40.2	4	0.5	0.7	34.3	0.151	0.00009	0.00023	0.0557
2-Oct-09	13	500	440	7.60	64											
9-Oct-09	14	500	430	7.63	61	#N/A	3.5	33.9	6	-0.5	0.69	33.3	0.216	0.00006	0.00026	0.0544
16-Oct-09	15	500	405	7.52	65											
23-Oct-09	16	500	450	7.65	60	#N/A	3.2	34.1	2	-0.5	0.65	31.2	0.167	0.00005	0.00018	0.0529
30-Oct-09	17	500	465	7.70	56											
6-Nov-09	18	500	450	7.74	59	#N/A	3.4	32.5	2	-0.5	0.67	30.8	0.204	0.00002	0.00015	0.0519
13-Nov-09	19	500	470	7.61	57											
20-Nov-09	20	500	445	7.73	62	#N/A	3.9	31.5	-2	-0.5	0.61	28.7	0.191	0.00003	0.00014	0.049
27-Nov-09	21	500	450	7.68	62											
4-Dec-09	22	500	465	7.65	63	#N/A	3.1	34.5	2	-0.5	0.64	32.6	0.157	0.00002	0.00012	0.0548
11-Dec-09	23	500	475	7.79	62											
18-Dec-09	24	500	460	7.40	62	#N/A	4.6	32.8	2	-0.5	0.61	29.7	0.18	0.00003	0.00014	0.0574
25-Dec-09	25	500	460	7.64	55											
1-Jan-10	26	500	475	7.85	59	#N/A	1.9	31.9	5	-0.5	0.55	30	0.138	0.00003	0.00011	0.0525
8-Jan-10	27	500	445	7.71	67											
15-Jan-10	28	500	465	7.69	61	#N/A	5.9	31.7	4	-0.5	0.66	30.9	0.174	-0.00002	0.00018	0.055
22-Jan-10	29	500	500	7.55	59											
29-Jan-10	30	500	470	7.45	50	#N/A	4.2	30.6	4	-0.5	0.66	30.5	0.195	0.00003	0.00018	0.0542
5-Feb-10	31	500	445	7.35	43											
12-Feb-10	32	500	440	7.47	56	#N/A	2.6	28.8	5	-0.5	0.61	29.3	0.149	0.00003	0.0001	0.0528
19-Feb-10	33	500	500	7.56	62											
26-Feb-10	34	500	420	7.56	50	#N/A	2.5	29.6	3	-0.5	0.66	29.2	0.199	0.00002	0.0001	0.0498
5-Mar-10	35	500	450	7.44	41											
12-Mar-10	36	500	405	7.47	46	#N/A	3.5	26.8	4	-0.5	0.59	22.5	0.153	-0.00002	0.00009	0.0434
19-Mar-10	37	500	385	7.54	48											
26-Mar-10	38	500	455	7.57	48	#N/A	3.3	26.1	7	-0.5	0.66	23.4	0.154	0.00002	0.0001	0.0428
2-Apr-10	39	500	430	7.56	47											
9-Apr-10	40	500	500	7.54	55	#N/A	2.9	31.1	3	-0.5	0.69	27	0.15	0.00002	0.0002	0.0489
16-Apr-10	41	500	445	7.47	51											
23-Apr-10	42	500	445	7.45	57	#N/A	5.4	29.3	4	-0.5	0.66	26.2	0.166	0.00002	0.00007	0.0505
30-Apr-10	43	500	455	7.56	54											
7-May-10	44	500	425	7.51	52	#N/A	4.1	28.7	3	-0.5	0.57	25.9	0.153	-0.00002	0.00007	0.0492
14-May-10	45	500	430	7.52	48											
21-May-10	46	500	515	7.66	54	#N/A	3.1	29.4	-2	-0.5	0.65	28.9	0.16	0.00003	0.0001	0.0525
28-May-10	47	500	520	7.49	53											
4-Jun-10	48	500	455	7.53	49	#N/A	3.4	26.0	2	-0.5	0.61	23.1	0.169	-0.00002	0.00008	0.0442
11-Jun-10	49	500	440	7.56	50											
18-Jun-10	50	500	460	7.57	47	#N/A	4.3	27.5	3	-0.5	0.68	24.1	0.181	0.00002	0.00012	0.0482
25-Jun-10	51	500	460	7.71	48											
2-Jul-10	52	500	440	7.67	45	#N/A	2.3	28.0	2	-0.5	0.6	20.9	0.178	-0.00002	0.00013	0.0464
9-Jul-10	53	500	455	7.44	42											
16-Jul-10	54	500	450	7.55	46	#N/A	3.4	27.6	6	-0.5	0.59	24.2	0.107	0.00002	0.00008	0.0464
23-Jul-10	55	500	425	7.34	40											
30-Jul-10	56	500	455	7.35	40	#N/A	3.4	23.3	4	-0.5	0.55	19.5	0.137	-0.00002	0.00012	0.0421
6-Aug-10	57	500	450	7.41	47											
13-Aug-10	58	500	470	7.61	44	#N/A	3.8	27.6	2	-0.5	0.56	21.3	0.119	-0.00002	0.00008	0.0462
20-Aug-10	59	500	470	7.50	43											
27-Aug-10	60	500	465	7.64	45	#N/A	2.3	28.4	4	-0.5	0.55	22.2	0.14	-0.00002	0.00003	0.0486
3-Sep-10	61	500	480	7.61	42											
10-Sep-10	62	500	465	7.39	46	#N/A	3.9	27.3	2	-0.5	0.56	21.5	0.108	-0.00002	0.00004	0.0499
17-Sep-10	63	500	455	7.61	39											
24-Sep-10	64	500	445	7.46	32	#N/A	2.9	23.6	6	-0.5	0.66	19.2	0.154	-0.00002	0.00006	0.0423
1-Oct-10	65	500	445	7.49	32											
8-Oct-10	66	500	430	7.48	38	#N/A	2.2	23.2	5	-0.5	0.61	17.6	0.147	-0.00002	0.00004	0.041
15-Oct-10	67	500	455	7.45	43											
22-Oct-10	68	500	440	7.49	41	#N/A	3.1	27.3	4	-0.5	0.61	20.7	0.138	-0.00002	0.00005	0.044
29-Oct-10	69	500	440	7.49	44											
5-Nov-10	70	500	440	7.60	43	#N/A	2.1	28.2	3	-0.5	0.48	22	0.156	-0.00002	0.00005	0.048
12-Nov-10	71	500	450	7.60	37											
19-Nov-10	72	500	445	7.74	46	#N/A	3.3	28.3	-2	-0.5	0.5	21.3	0.122	-0.00002	0.00006	0.0471
26-Nov-10	73	500	440	7.40	47											
3-Dec-10	74	500	455	7.53	47	#N/A	3.7	30.6	4	-0.5	0.63	21	0.189	-0.00002	0.00007	0.0519
10-Dec-10	75	500	445	7.46	48											
17-Dec-10	76	500	440	7.56	42	#N/A	4.4	28.3	2	-0.5	0.55	21.3	0.139	-0.00002	0.00011	0.0446
24-Dec-10	77	500	445	7.60	39											
31-Dec-10	78	500	460	7.56	38	#N/A	5.0	28.8	3	-0.5	0.53	20.1	0.117	-0.00002	0.00004	0.0473
7-Jan-11	79	500	460	7.54	31											
14-Jan-11	80	500	465	7.59	35	#N/A	2.9	29.6	3	-0.5	0.53	21.5	0.134	-0.00002	0.00003	0.0518
21-Jan-11	81	500	465	7.48	38											
28-Jan-11	82	500	490	7.57	32	#N/A	3.9	28.5	3	-0.5	0.48	19.5	0.1	-0.00002	0.00004	0.0471
4-Feb-11	83	500	435													
11-Feb-11	84	500	490													
18-Feb-11	85	500	480													
25-Feb-11	86	500	485													
4-Mar-11	87	500	490													
11-Mar-11	88	500	490													
18-Mar-11	89	500	470													
25-Mar-11	90	500	490													
1-Apr-11	91	500	475													
8-Apr-11	92	500	470													
15-Apr-11	93	500	475													
22-Apr-11	94	500	490	7.58	49	#N/A	2.0	28.2	-2	-0.5	0.48	21.3	0.14	-0.00002	0.00004	0.05
29-Apr-11	95	500	465													
6-May-11	96	500	485													
13-May-11	97	500	460													
20-May-11	98	500	500													
27-May-11	99	500	480													
3-Jun-11	100	500	485													
10-Jun-11	101	500	480													
17-Jun-11	102	500	480													
24-Jun-11	103	500	475													
1-Jul-11	104	500	475													
8-Jul-11	105	500	475													
15-Jul-11	106	500	475	7.64	49	#N/A	5.6	28.7	2	-0.5	0.44	22.6	0.199	-0.00002	0.0001	0.0492
22-Jul-11	107	500	490													
29-Jul-11	108	500	465													

Date	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L	P mg/L
3-Jul-09	-0.00001	-0.000005	-0.05	-0.000005	13.1	-0.0001	0.000031	0.0127	0.004	0.000052	0.0045	2.94	0.00422	-0.01	0.00524	0.00071	0.01
17-Jul-09	-0.00001	-0.000005	-0.05	0.000007	10	-0.0001	0.000011	0.00192	0.011	0.000113	0.0029	2.39	0.00699	-0.01	0.00258	0.00003	-0.002
31-Jul-09	-0.00001	-0.000005	-0.05	-0.000005	11.9	-0.0001	0.000007	0.00126	0.014	0.000073	0.0022	2.27	0.00869	-0.01	0.00089	0.00012	0.005
14-Aug-09	-0.00001	-0.000005	-0.05	-0.000005	11.7	-0.0001	0.000005	0.0014	0.004	0.000021	0.0017	2.09	0.00887	-0.01	0.00049	0.00005	-0.002
28-Aug-09	-0.00001	-0.000005	-0.05	-0.000005	11.3	-0.0001	0.000007	0.00131	0.008	0.000037	0.0015	2.05	0.00929	0.01	0.0004	-0.00002	-0.002
11-Sep-09	-0.00001	-0.000005	-0.05	-0.000005	6.2	-0.0001	0.000006	0.00078	0.004	0.000026	-0.0005	0.99	0.00396	-0.01	0.00008	-0.00002	0.002
25-Sep-09	-0.00001	-0.000005	-0.05	-0.000005	11.1	-0.0001	-0.000005	0.00211	0.004	0.00004	0.0011	1.61	0.00631	0.03	0.00032	0.00013	-0.002
9-Oct-09	-0.00001	-0.000005	-0.05	-0.000005	10.8	-0.0001	0.000007	0.00143	0.007	0.000053	0.0009	1.55	0.00522	-0.01	0.0003	-0.00002	0.005
23-Oct-09	-0.00001	-0.000005	-0.05	-0.000005	10.1	-0.0001	0.000009	0.0019	0.01	0.000246	0.0009	1.45	0.00499	-0.01	0.00027	0.0002	-0.002
6-Nov-09	-0.00001	-0.000005	-0.05	-0.000005	10.1	-0.0001	-0.000005	0.00092	0.006	0.000026	0.0006	1.37	0.00412	-0.01	0.00022	0.00009	0.003
20-Nov-09	-0.00001	-0.000005	-0.05	-0.000005	9.49	-0.0001	-0.000005	0.00067	0.005	0.000038	0.0007	1.22	0.00388	-0.01	0.00025	0.00013	0.004
4-Dec-09	-0.00001	-0.000005	-0.05	-0.000005	11	-0.0001	0.000006	0.00059	0.005	0.00002	0.0006	1.25	0.00392	-0.01	0.00027	0.00007	-0.002
18-Dec-09	-0.00001	-0.000005	-0.05	-0.000005	10.1	-0.0001	-0.000005	0.00055	0.006	0.000022	0.0007	1.12	0.00405	-0.01	0.00026	0.00007	-0.002
1-Jan-10	-0.00001	-0.000005	-0.05	-0.000005	10.4	-0.0001	-0.000005	0.00071	0.005	0.000019	-0.0005	0.98	0.00358	-0.01	0.00032	0.00003	-0.002
15-Jan-10	-0.00001	-0.000005	-0.05	-0.000005	10.7	-0.0001	-0.000005	0.00149	0.004	0.000101	-0.0005	1.01	0.00337	-0.01	0.00039	0.00004	-0.002
29-Jan-10	-0.00001	-0.000005	-0.05	-0.000005	10.7	-0.0001	0.000006	0.00083	0.008	0.000043	-0.0005	0.9	0.00312	-0.01	0.00037	0.00004	0.003
12-Feb-10	-0.00001	-0.000005	-0.05	-0.000005	10.3	-0.0001	-0.000005	0.00089	0.005	0.000046	-0.0005	0.84	0.00284	-0.01	0.00035	0.00017	-0.002
26-Feb-10	-0.00001	-0.000005	-0.05	-0.000005	10.4	-0.0001	-0.000005	0.00052	0.004	0.000021	-0.0005	0.8	0.00239	-0.01	0.0004	0.0002	-0.002
12-Mar-10	-0.00001	0.000006	-0.05	-0.000005	8.01	-0.0001	0.000006	0.0007	0.007	0.000033	-0.0005	0.61	0.00519	-0.01	0.00028	0.00019	-0.002
26-Mar-10	-0.00001	-0.000005	-0.05	-0.000005	8.37	-0.0001	-0.000005	0.00069	0.003	0.000024	-0.0005	0.61	0.00194	-0.01	0.00035	0.00015	0.003
9-Apr-10	-0.00001	-0.000005	-0.05	-0.000005	9.86	-0.0001	-0.000005	0.00077	0.007	0.000027	-0.0005	0.58	0.00169	-0.01	0.00027	0.0001	0.004
23-Apr-10	-0.00001	0.000014	-0.05	0.000005	9.54	-0.0001	-0.000005	0.00102	0.004	0.00002	-0.0005	0.59	0.00203	-0.01	0.00035	0.00013	-0.002
7-May-10	-0.00001	-0.000005	-0.05	-0.000005	9.52	-0.0001	-0.000005	0.00118	0.003	0.000022	-0.0005	0.53	0.00222	-0.01	0.00028	0.00012	-0.002
21-May-10	-0.00001	-0.000005	-0.05	-0.000005	10.7	-0.0001	-0.000005	0.00074	0.002	0.000016	-0.0005	0.54	0.00132	-0.01	0.00032	0.00011	-0.002
4-Jun-10	-0.00001	-0.000005	-0.05	-0.000005	8.53	-0.0001	-0.000005	0.00081	0.002	0.000022	-0.0005	0.44	0.00141	-0.01	0.00028	0.0001	-0.002
18-Jun-10	-0.00001	-0.000005	-0.05	-0.000005	8.88	0.0001	-0.000005	0.00093	0.005	0.00002	-0.0005	0.48	0.00165	-0.01	0.00025	0.00019	0.002
2-Jul-10	-0.00001	-0.000005	-0.05	-0.000005	7.72	-0.0001	-0.000005	0.0007	0.006	0.000045	-0.0005	0.39	0.00162	-0.01	0.00022	0.00006	-0.002
16-Jul-10	-0.00001	-0.000005	-0.05	-0.000005	9.07	-0.0001	-0.000005	0.001	0.001	0.000017	-0.0005	0.36	0.00175	-0.01	0.0002	0.00013	-0.002
30-Jul-10	-0.00001	-0.000005	-0.05	-0.000005	7.28	-0.0001	-0.000005	0.00064	0.003	0.000017	-0.0005	0.32	0.00176	-0.01	0.00015	0.00009	-0.002
13-Aug-10	-0.00001	-0.000005	-0.05	-0.000005	7.96	-0.0001	-0.000005	0.00066	0.002	0.000013	-0.0005	0.36	0.00195	-0.01	0.00016	0.00028	-0.002
27-Aug-10	-0.00001	-0.000005	-0.05	-0.000005	8.35	0.0001	-0.000005	0.0006	0.003	0.000018	-0.0005	0.33	0.00193	-0.01	0.00014	0.00012	-0.002
10-Sep-10	-0.00001	-0.000005	-0.05	-0.000005	8.11	-0.0001	0.000005	0.00117	0.003	0.000019	-0.0005	0.3	0.00198	-0.01	0.00015	0.00013	-0.002
24-Sep-10	-0.00001	-0.000005	-0.05	-0.000005	7.22	-0.0001	-0.000005	0.00071	0.001	0.000041	-0.0005	0.27	0.00159	-0.01	0.00015	0.00011	-0.002
8-Oct-10	-0.00001	-0.000005	-0.05	-0.000005	6.66	0.0001	-0.000005	0.00036	0.005	0.000091	-0.0005	0.24	0.00166	-0.01	0.00016	0.00015	-0.002
22-Oct-10	-0.00001	-0.000005	-0.05	-0.000005	7.82	-0.0001	-0.000005	0.00087	-0.001	0.000034	-0.0005	0.27	0.00175	-0.01	0.00016	0.00013	-0.002
5-Nov-10	-0.00001	-0.000005	-0.05	-0.000005	8.4	-0.0001	-0.000005	0.00081	0.002	0.000019	-0.0005	0.26	0.00173	-0.01	0.00011	0.0001	-0.002
19-Nov-10	-0.00001	-0.000005	-0.05	-0.000005	8.09	0.0004	0.000007	0.0006	0.003	0.000013	-0.0005	0.26	0.00165	-0.01	0.00008	0.00019	-0.002
3-Dec-10	-0.00001	-0.000005	-0.05	-0.000005	7.99	-0.0001	-0.000005	0.0005	0.004	0.000118	-0.0005	0.27	0.00171	-0.01	0.00012	-0.00002	-0.002
17-Dec-10	-0.00001	-0.000005	-0.05	-0.000005	8.14	-0.0001	-0.000005	0.00079	0.002	0.000208	-0.0005	0.24	0.00149	-0.01	0.00014	0.00012	-0.002
31-Dec-10	-0.00001	0.00004	-0.05	-0.000005	7.68	-0.0001	0.00001	0.00159	0.003	0.000021	-0.0005	0.22	0.00165	-0.01	0.00013	0.00013	-0.002
14-Jan-11	-0.00001	-0.000005	-0.05	-0.000005	8.23	-0.0001	-0.000005	0.00052	0.003	0.000021	-0.0005	0.23	0.00209	-0.01	0.00007	-0.00002	-0.002
28-Jan-11	-0.00001	-0.000005	-0.05	-0.000005	7.52	-0.0001	-0.000005	0.00054	0.001	0.000008	-0.0005	0.19	0.00228	-0.01	0.00012	0.0001	-0.002
22-Apr-11	-0.00001	-0.000005	-0.05	0.000005	8.26	-0.0001	-0.000005	0.00046	0.002	0.000037	-0.0005	0.15	0.00167	-0.01	0.00018	0.00011	0.002
15-Jul-11	-0.00001	-0.000005	-0.05	-0.000005	8.84	-0.0001	-0.000005	0.00034	0.002	0.000025	-0.0005	0.12	0.0017	-0.01	0.00014	-0.00002	-0.002

Date	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L
3-Jul-09	7.79	0.00148	1.93	-0.000005	19.6	0.242	-3	0.00001	0.00043	-0.0005	0.000138	0.0037	0.0016	-0.0001
17-Jul-09	5.2	0.00129	2.39	-0.000005	5.38	0.191	3	0.000005	0.00006	0.0011	0.00138	0.0049	0.0011	-0.0001
31-Jul-09	4.06	0.00114	2.51	-0.000005	1.93	0.195	4	0.000004	0.0001	0.0008	0.00117	0.0037	0.0004	-0.0001
14-Aug-09	3.31	0.00099	1.97	-0.000005	1.05	0.188	4	0.000003	0.00022	-0.0005	0.000969	0.003	0.0002	-0.0001
28-Aug-09	2.81	0.00093	2.14	-0.000005	0.78	0.185	-3	0.000004	0.00002	0.0008	0.000796	0.0033	0.0003	-0.0001
11-Sep-09	1.53	0.00063	1.47	-0.000005	0.32	0.0942	-3	0.000002	0.00002	-0.0005	0.00027	0.0035	0.0003	-0.0001
25-Sep-09	2	0.00071	1.97	-0.000005	0.54	0.161	-3	0.000004	-0.00001	0.0006	0.000554	0.0027	0.0004	-0.0001
9-Oct-09	1.95	0.00061	1.91	-0.000005	0.51	0.151	-3	0.000002	0.00001	-0.0005	0.000421	0.0031	0.0005	-0.0001
23-Oct-09	1.68	0.00051	1.64	-0.000005	0.45	0.145	-3	0.000003	-0.00001	0.0008	0.000386	0.0024	0.003	-0.0001
6-Nov-09	1.64	0.00044	1.7	-0.000005	0.39	0.139	-3	-0.000002	-0.00001	0.0008	0.00032	0.0027	0.0005	-0.0001
20-Nov-09	1.48	0.00037	1.44	-0.000005	0.37	0.13	-3	0.000002	0.00001	0.0008	0.000259	0.0023	0.0003	-0.0001
4-Dec-09	1.53	0.00034	1.48	-0.000005	0.31	0.14	-3	0.000002	0.00018	0.0008	0.000266	0.0019	0.0002	-0.0001
18-Dec-09	1.41	0.00032	1.53	-0.000005	0.32	0.132	-3	-0.000002	-0.00001	-0.0005	0.000245	0.0017	-0.0001	-0.0001
1-Jan-10	1.25	0.00027	1.26	-0.000005	0.25	0.116	-3	0.000004	-0.00001	-0.0005	0.000251	0.0015	0.0004	-0.0001
15-Jan-10	1.45	0.00027	1.31	-0.000005	0.29	0.12	-3	0.000003	-0.00001	0.0007	0.000204	0.0018	0.0008	-0.0001
29-Jan-10	1.34	0.00028	1.39	-0.000005	0.26	0.12	-3	0.000003	0.00014	0.001	0.000233	0.0016	0.0002	-0.0001
12-Feb-10	1.31	0.00023	1.33	-0.000005	0.27	0.11	-3	0.000003	-0.00001	0.0007	0.000166	0.0014	0.0009	-0.0001
26-Feb-10	1.37	0.00036	1.58	-0.000005	0.31	0.105	-3	0.000002	0.00004	-0.0005	0.000147	0.0017	0.0021	-0.0001
12-Mar-10	1.06	0.00017	1.07	-0.000005	0.22	0.0855	-10	0.000004	0.00001	-0.0005	0.000118	0.0013	0.0004	-0.0001
26-Mar-10	1.16	0.00016	1.01	0.000012	0.26	0.0895	-2	0.000004	0.00001	-0.0005	0.000123	0.0015	0.0004	-0.0001
9-Apr-10	1.17	0.00018	1.25	-0.000005	0.25	0.093	-10	-0.000002	0.00002	0.0006	0.000141	0.0014	0.0006	-0.0001
23-Apr-10	1.24	0.0002	1.28	-0.000005	0.3	0.0958	-10	-0.000002	-0.00001	-0.0005	0.000149	0.0013	0.0006	-0.0001
7-May-10	1.23	0.00013	1.21	-0.000005	0.26	0.0856	-10	-0.000002	-0.00001	-0.0005	0.000119	0.0014	0.0005	-0.0001
21-May-10	1.21	0.00018	1.35	-0.000005	0.28	0.096	-10	-0.000002	0.00003	-0.0005	0.000148	0.0015	0.0004	-0.0001
4-Jun-10	1.05	0.00014	1.25	-0.000005	0.27	0.0715	-10	0.000002	-0.00001	-0.0005	0.000101	0.0014	0.0002	-0.0001
18-Jun-10	1.26	0.00015	1.34	-0.000005	0.32	0.0755	-10	-0.000002	0.00001	-0.0005	0.000122	0.0015	0.0006	-0.0001
2-Jul-10	0.96	0.00014	1.04	-0.000005	0.25	0.0728	-10	0.000002	-0.00001	-0.0005	0.00011	0.0011	0.0004	-0.0001
16-Jul-10	0.98	0.00013	1.17	-0.000005	0.25	0.0726	-10	0.000002	0.00003	-0.0005	0.00011	0.0011	0.0001	-0.0001
30-Jul-10	0.9	0.00011	1.01	-0.000005	0.24	0.0595	-10	0.000004	-0.00001	0.0005	0.0001	0.0012	0.0001	-0.0001
13-Aug-10	0.98	0.0001	0.878	-0.000005	0.26	0.0651	-10	0.000003	-0.00001	-0.0005	0.000112	0.0011	0.0002	-0.0001
27-Aug-10	1.01	0.00025	1.14	-0.000005	0.26	0.0663	-10	0.000003	-0.00001	-0.0005	0.000092	0.0011	0.0005	-0.0001
10-Sep-10	0.93	0.00009	0.908	-0.000005	0.23	0.063	-10	-0.000002	0.00002	-0.0005	0.000082	0.0005	-0.0001	-0.0001
24-Sep-10	1.05	0.0001	1.05	-0.000005	0.26	0.0547	-10	0.000004	-0.00001	-0.0005	0.000082	0.0015	0.0002	-0.0001
8-Oct-10	0.94	0.00007	1.04	-0.000005	0.23	0.0526	-10	0.000003	-0.00001	-0.0005	0.000078	0.0012	-0.0001	-0.0001
22-Oct-10	1.05	0.00007	1.03	-0.000005	0.27	0.0545	-10	0.000003	-0.00001	-0.0005	0.000083	0.0012	0.0004	-0.0001
5-Nov-10	1.09	0.00008	1.14	-0.000005	0.25	0.0582	-10	0.000003	-0.00001	-0.0005	0.000085	0.0013	0.0002	-0.0001
19-Nov-10	0.96	0.00007	0.99	-0.000005	0.28	0.0569	-10	0.000004	-0.00001	-0.0005	0.000097	0.0009	0.0001	-0.0001
3-Dec-10	1.07	0.00008	1.09	-0.000005	0.24	0.0617	-10	0.000003	-0.00001	0.0015	0.000112	0.0014	0.0002	-0.0001
17-Dec-10	0.93	0.00008	0.945	-0.000005	0.23	0.0499	-10	0.000002	-0.00001	-0.0005	0.000162	0.0011	0.0003	-0.0001
31-Dec-10	0.93	0.00006	0.878	0.00001	0.2	0.0528	-10	0.000003	-0.00001	-0.0005	0.00008	0.0009	0.0004	0.0008
14-Jan-11	0.93	0.00007	0.918	-0.000005	0.21	0.0549	-10	0.000002	-0.00001	-0.0005	0.000065	0.0008	0.0001	-0.0001
28-Jan-11	0.81	0.00005	0.785	-0.000005	0.17	0.0467	-10	0.000003	-0.00001	-0.0005	0.000064	0.0007	-0.0001	-0.0001
22-Apr-11	0.95	0.00006	0.836	-0.000005	0.18	0.0436	-10	-0.000002	0.00001	-0.0005	0.000066	0.0009	#N/A	-0.0001
15-Jul-11	0.9	0.00006	0.955	-0.000005	0.14	0.0402	-10	0.000002	0.00006	-0.0005	0.000062	0.0009	-0.0001	-0.0001

HC 4

CONFIDENTIAL *DRAFT*

Sample = Hole 211 70.79-73.79

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L	P mg/L	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L
5-Aug-11	109	500	460																																													
12-Aug-11	110	500	475																																													
19-Aug-11	111	500	470																																													
26-Aug-11	112	500	480																																													
2-Sep-11	113	500	470																																													
9-Sep-11	114	500	480																																													
16-Sep-11	115	500	465																																													
23-Sep-11	116	500	455																																													
30-Sep-11	117	500	455																																													
7-Oct-11	118	500	460	7.56	44	#N/A	5.4	27.8	-2	-0.5	0.39	22.6	0.182	-0.00002	0.00005	0.0472	-0.00001	-0.000005	-0.05	-0.000005	8.85	-0.0001	-0.000005	0.00043	0.002	0.00002	-0.0005	0.11	0.00212	-0.01	0.00012	0.00003	-0.002	0.94	0.00005	0.948	-0.000005	0.17	0.0329	-10	0.000003	0.0002	-0.0005	0.000055	0.0008	0.0001	-0.0001
14-Oct-11	119	500	505																																													
21-Oct-11	120	500	470																																													
28-Oct-11	121	500	465																																													
4-Nov-11	122	500	475																																													
11-Nov-11	123	500	470																																													
18-Nov-11	124	500	470																																													
25-Nov-11	125	500	475																																													
2-Dec-11	126	500	470																																													
9-Dec-11	127	500	495																																													
16-Dec-11	128	500	495																																													
23-Dec-11	129	500	470																																													
30-Dec-11	130	500	465	7.72	49	#N/A	4.3	35.3	2	-0.5	0.38	26.3	0.163	-0.00002	0.00009	0.0549	-0.00001	-0.000005	-0.05	0.000024	10.3	-0.0001	-0.000005	0.00041	0.002	0.000016	-0.0005	0.11	0.00312	-0.01	0.00012	-0.00002	-0.002	1.04	-0.00004	0.869	-0.000005	0.14	0.034	-10	0.000004	0.00022	-0.0005	0.000057	0.0007	0.0002	-0.0001
6-Jan-12	131	500	475																																													
13-Jan-12	132	500	465																																													
20-Jan-12	133	500	460																																													
27-Jan-12	134	500	480																																													
3-Feb-12	135	500	460																																													
10-Feb-12	136	500	480																																													
17-Feb-12	137	500	475																																													
24-Feb-12	138	500	465																																													
2-Mar-12	139	500	470																																													
9-Mar-12	140	500	470																																													
16-Mar-12	141	500	480																																													
23-Mar-12	142	500	470	7.65	45	#N/A	5.3	28.9	2	-0.5	0.29	21.5	0.11	-0.00002	0.00003	0.0489	-0.00001	-0.000005	-0.05	-0.000005	8.46	-0.0001	-0.000005	0.00102	-0.001	#N/A	-0.0005	0.08	0.00415	-0.01	0.00011	0.00012	-0.002	0.83	-0.00004	0.61	-0.000005	0.14	0.0244	-10	0.000005	-0.0002	-0.0005	0.000041	0.0004	0.0005	-0.0001
30-Mar-12	143	500	480																																													
6-Apr-12	144	500	460																																													
13-Apr-12	145	500	495																																													
20-Apr-12	146	500	485																																													
27-Apr-12	147	500	450																																													
4-May-12	148	500	485																																													
11-May-12	149	500	460																																													
18-May-12	150	500	465																																													
25-May-12	151	500	475																																													
1-Jun-12	152	500	465																																													
8-Jun-12	153	500	470																																													
15-Jun-12	154	500	495	7.53	52	#N/A	3.3	28.6	4	0.87	0.3	20.3	0.145	-0.00002	5.7E-05	0.0479	-0.00001	-0.000005	-0.05	-0.000005	8	-0.0001	-0.000005	0.00038	-0.001	0.0000051	-0.0005	0.071	0.00356	-0.01	0.00019	-0.00002	-0.002	0.842	4.4E-05	0.724	-0.000005	0.12	0.0238	-10	0.0000034	-0.0002	-0.0005	0.0000497	0.00062	0.00016	-0.0001
22-Jun-12	155	500	455																																													
29-Jun-12	156	500	470																																													
6-Jul-12	157	500	480																																													
13-Jul-12	158	500	485																																													
20-Jul-12	159	500	475																																													
27-Jul-12	160	500	485																																													
3-Aug-12	161	500	465																																													
10-Aug-12	162	500	475																																													
17-Aug-12	163	500	455																																													
24-Aug-12	164	500	465																																													
31-Aug-12	165	500	470																																													
7-Sep-12	166	500	470	7.45	45	#N/A	4.3	26.7	4	-0.5	0.25	21.7	0.18	-0.00002	0.0001	0.0464	-0.00001	-0.000005	-0.05	0.000006	8.56	-0.0001	-0.000005	0.0006	0.0043	#N/A	-0.0005	0.075	0.00351	-0.01	0.00015	0.000073	0.0022	0.847	-0.00004	0.742	-0.000005	0.166	0.0233	-10	0.000004	0.00029	-0.0005	0.00004	0.00054	0.00091	-0.0001
14-Sep-12	167	500	490																																													
21-Sep-12	168	500	465																																													
28-Sep-12	169	500	445																																													
5-Oct-12	170	500	465																																													
12-Oct-12	171	500	465																																													
19-Oct-12	172	500	470																																													
26-Oct-12	173	500	465																																													
2-Nov-12	174	500	450																																													
9-Nov-12	175	500	480																																													
16-Nov-12	176	500	465																																													
23-Nov-12	177	500	495																																													
30-Nov-12	178	500	500	7.44	43	#N/A	3.8	26.0	3	-0.5	0.2	20.8	0.176	-0.00002	0.00015	0.041	-0.00001	-0.000005	-0.05	0.000007	8.2	-0.0001	-0.000005	0.00062	0.0026	0.00002	-0.0005	0.066	0.00279	-0.01	0.0002	0.000065	-0.002	0.779	6.3E-05	0.718	-0.000005	0.129	0.0201	-3	0.000004	-0.0002	-0.0005	0.000046	0.00066	0.00137	-0.0001
7-Dec-12	179	500	488																																													
14-Dec-12	180	500	485																																													
21-Dec-12	181	500	470																																													
28-Dec-12	182	500	435																																													
4-Jan-13	183	500	450																																													
11-Jan-13	184	500	470																																													
18-Jan-13	185	500	485																																													
25-Jan-13	186	500	460																																													
1-Feb-13	187	500	430																																													
8-Feb-13	188	500	460																																													
15-Feb-13	189	500	440																																													
22-Feb-13	190	500	430	7.68	33	#N/A	5.3	22.8	5	-0.5	0.15	15.3	0.0927	-0.00002	0.00013	0.0376	-0.00001	-0.000005	-0.05	-0.000005	6.01	-0.0001	0.000006	0.00036	0.0023	0.00002	-0.0005	0.064	0.00336	-0.01	0.00013	0.000183	-0.002	0.717	7.2E-05	0.474	-0.000005	0.147	0.0167	-3	0.000005	-0.0002	-0.0005	0.000029	0.0004	0.00017	-0.0001
1-Mar-13	191	500	435																																													
8-Mar-13	192	500	450																																													
15-Mar-13	193	500	455																																													
22-Mar-13	194	500	435																																													
29-Mar-13	195	500	425																																													
5-Apr-13	196	500	435																																													
12-Apr-13	197	500	460																																													
19-Apr-13	198	500	435																																													
26-Apr-13	199	500	410																																													
3-May-13	200	500	430																																													
10-May-13	201	500	415																																													
17-May-13	202	500	445	7.54	30	#N/A	7.6	17.9	4	-0.5	0.13	15.3	0.078	-0.00002	3.1E-05	0.0314	-0.00001	-0.000005	-0.05	-0.000005	6.11	-0.0001	-0.000005	0.00036	0.0018	0.000008	-0.0005	-0.05	0.00247	-0.01	0.00011	0.000039	-0.002	0.654	-0.00004	0.529	-0.000005	0.09	0.014	-3	0.000003	-0.0002	-0.0005	0.000029	0.00023	-0.0001	-0.0001
24-May-13	203	500	405																																													

Oct 22/10 Sb 0.00016. Repeat = -0.00002.
Dec 31/10 Bi 0.00004. Repeat = 0.000037. Data confirmed.
Feb 4/11 Change in analytical schedule.
April 22/11 Zn 0.0008. Repeat =0.0009, data confirmed suspect contamination
July 15/11 F 1.6. Repeat =0.44, data confirmed
Mar 23/12 Pb=0.000137, repeat=0.000139. Data confirmed, suspect contamination
Sept 7/12 Pb=0.000306, repeat confirms original result, data removed suspect contamination

HC 5

CONFIDENTIAL *DRAFT*

Sample =
09SWC506 30-33

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L	P mg/L
18-Mar-11	0	500	340	7.45	80	#N/A	2.4	25.3	5	3.2	0.14	25.4	0.215	0.00003	0.00148	0.00451	-0.00001	-0.000005	-0.05	0.000007	8.96	-0.0001	0.000024	0.00119	0.001	0.000025	-0.0005	0.73	0.00289	-0.01	0.00457	0.00016	0.007
25-Mar-11	1	500	520	7.64	88																												
1-Apr-11	2	500	525	7.66	51	#N/A	5.0	27.9	4	0.9	0.24	16.9	0.101	0.00003	0.00076	0.00307	-0.00001	-0.000005	-0.05	-0.000005	5.88	-0.0001	0.000013	0.00098	0.004	0.000021	-0.0005	0.54	0.00228	-0.01	0.00313	0.00017	-0.002
8-Apr-11	3	500	525	7.57	36																												
15-Apr-11	4	500	480	7.43	24	#N/A	2.0	14.3	-2	-0.5	0.15	10.7	0.0849	0.00002	#N/A	0.00238	-0.00001	-0.000005	-0.05	-0.000005	3.61	-0.0001	0.000008	0.00041	0.003	0.000028	-0.0005	0.4	0.0019	-0.01	0.00079	0.00039	-0.002
22-Apr-11	5	500	455	7.61	31																												
29-Apr-11	6	500	485	7.56	23	#N/A	3.2	14.8	4	-0.5	0.08	9.1	0.0825	0.00003	0.00098	0.002	-0.00001	-0.000005	-0.05	0.000006	3.13	-0.0001	-0.000005	0.00043	0.004	0.000025	-0.0005	0.32	0.00149	-0.01	0.00039	0.00009	-0.002
6-May-11	7	500	455	7.39	22																												
13-May-11	8	500	475	7.31	21	#N/A	2.9	13.3	4	-0.5	0.07	8.7	0.0808	-0.00002	0.00071	0.00274	-0.00001	-0.000005	-0.05	-0.000005	2.96	-0.0001	-0.000005	0.00046	0.001	0.000018	-0.0005	0.32	0.00133	-0.01	0.00025	0.00008	-0.002
20-May-11	9	500	450	7.20	24																												
27-May-11	10	500	460	7.51	22	#N/A	4.9	13.9	3	1.3	0.07	9.1	0.0895	-0.00002	0.00081	0.00184	-0.00001	-0.000005	-0.05	-0.000005	3.12	-0.0001	-0.000005	0.00037	0.002	0.000015	-0.0005	0.33	0.00128	-0.01	0.00021	-0.00002	-0.002
3-Jun-11	11	500	430	7.09	24																												
10-Jun-11	12	500	460	7.38	27	#N/A	2.3	16.0	3	0.7	0.07	10.7	0.106	0.00002	0.00085	0.00327	-0.00001	-0.000005	-0.05	0.000007	3.64	-0.0001	-0.000005	0.00042	0.004	0.000031	-0.0005	0.38	0.00115	-0.01	0.00016	0.00009	-0.002
17-Jun-11	13	500	450	7.11	25																												
24-Jun-11	14	500	465	7.36	25	#N/A	2.2	15.7	2	0.7	0.04	11.9	0.124	-0.00002	0.00066	0.00389	-0.00001	-0.000005	-0.05	-0.000005	4.09	-0.0001	-0.000005	0.0007	0.007	0.000039	-0.0005	0.4	0.00113	-0.01	0.00017	-0.00002	-0.002
1-Jul-11	15	500	450	7.54	23																												
8-Jul-11	16	500	445	7.23	25	#N/A	2.9	13.5	2	-0.5	0.03	10.1	0.104	-0.00002	0.00049	0.00274	-0.00001	-0.000005	-0.05	-0.000005	3.54	0.0001	0.000006	0.00055	0.005	0.000032	-0.0005	0.31	0.00055	-0.01	0.0001	0.00017	-0.002
15-Jul-11	17	500	430	7.67	26																												
22-Jul-11	18	500	455	7.21	24	#N/A	3.6	13.5	-2	0.8	0.04	10.3	0.107	-0.00002	0.00053	0.00432	-0.00001	-0.000005	-0.05	-0.000005	3.5	0.0002	0.000009	0.00047	0.005	0.000029	-0.0005	0.39	0.00055	-0.01	0.00011	#N/A	-0.002
29-Jul-11	19	500	445	7.11	23																												
5-Aug-11	20	500	440	7.31	24	#N/A	3.0	13.6	-2	-0.5	0.03	9.8	0.125	-0.00002	0.00053	0.00347	-0.00001	-0.000005	-0.05	-0.000005	3.35	0.0002	-0.000005	0.00024	0.005	0.00003	-0.0005	0.36	0.00028	-0.01	0.00009	-0.00002	-0.002
12-Aug-11	21	500	450	7.10	25																												
19-Aug-11	22	500	445	7.01	23	#N/A	3.8	12.2	-2	0.6	0.03	9.1	0.113	0.00002	0.00051	0.00321	-0.00001	-0.000005	-0.05	-0.000005	3.14	0.0001	0.000008	0.00059	0.006	0.000035	-0.0005	0.3	0.00037	-0.01	0.00009	#N/A	-0.002
26-Aug-11	23	500	440	7.17	22																												
2-Sep-11	24	500	450	7.17	21	#N/A	3.7	12.4	5	0.6	0.03	-10	0.11	-0.00002	0.0005	0.0027	-0.00001	-0.000005	-0.05	-0.000005	2.99	-0.0001	0.000014	0.00025	0.004	0.000028	-0.0005	0.28	0.00054	-0.01	0.00012	0.00008	-0.002
9-Sep-11	25	500	445	7.00	23																												
16-Sep-11	26	500	470	6.98	25	#N/A	4.1	14.8	-2	0.8	0.03	10.3	0.0984	-0.00002	0.00043	0.00302	-0.00001	-0.000005	-0.05	-0.000005	3.68	-0.0001	0.000006	0.00017	0.004	0.000018	-0.0005	0.28	0.00017	-0.01	0.00009	-0.00002	-0.002
23-Sep-11	27	500	450	7.00	23																												
30-Sep-11	28	500	465	7.12	23	#N/A	2.7	13.5	-2	0.6	0.03	10.2	0.0812	-0.00002	0.00043	0.00292	-0.00001	-0.000005	-0.05	0.000006	3.61	-0.0001	0.000005	0.00014	0.002	0.000021	-0.0005	0.27	0.00016	-0.01	-0.00005	-0.00002	-0.002
7-Oct-11	29	500	460	7.52	21																												
14-Oct-11	30	500	445	7.18	24	#N/A	3.0	14.2	-2	-0.5	0.04	10.7	0.104	-0.00002	0.00045	0.00346	-0.00001	-0.000005	-0.05	-0.000005	3.8	-0.0001	-0.000005	0.00025	0.002	0.000017	-0.0005	0.29	0.00013	-0.01	0.00007	0.00003	-0.002
21-Oct-11	31	500	475	7.39	24																												
28-Oct-11	32	500	475	7.18	25	#N/A	3.5	14.7	-2	-0.5	0.03	11	0.104	-0.00002	0.00041	0.00338	-0.00001	0.000015	-0.05	-0.000005	3.94	0.0001	-0.000005	0.00089	0.005	0.00003	-0.0005	0.29	0.00017	-0.01	0.00009	0.00016	-0.002
4-Nov-11	33	500	465	7.32	23																												
11-Nov-11	34	500	460	6.99	21	#N/A	5.3	13.9	-2	-0.5	0.02	9.8	0.104	0.00002	0.00043	0.00333	-0.00001	-0.000005	-0.05	#N/A	3.5	-0.0001	-0.000005	0.00044	0.004	#N/A	-0.0005	0.26	0.00037	-0.01	0.00008	0.00004	-0.002
18-Nov-11	35	500	475	7.45	28																												
25-Nov-11	36	500	490	7.62	24	#N/A	3.0	16.3	-2	-0.5	0.023	10.2	0.0871	-0.00002	0.00037	0.00305	-0.00001	-0.000005	-0.05	-0.000005	3.69	-0.0001	-0.000005	0.00061	0.006	0.000025	-0.0005	0.24	0.00034	-0.01	0.0001	0.00015	-0.002
2-Dec-11	37	500	465	7.64	26																												
9-Dec-11	38	500	485	6.99	23	#N/A	4.9	13.5	2	-0.5	0.015	9.9	0.0715	-0.00002	0.00029	0.00314	-0.00001	-0.000005	-0.05	-0.000005	3.57	0.0001	-0.000005	0.0006	0.003	0.000023	-0.0005	0.23	0.00017	-0.01	0.00008	0.0001	-0.002
16-Dec-11	39	500	465	7.37	25																												
23-Dec-11	40	500	455	7.06	20	#N/A	3.9	13.4	3	-0.5	0.02	9.3	0.0784	-0.00002	0.00028	0.00367	-0.00001	-0.000005	-0.05	-0.000005	3.34	#N/A	0.000015	0.00054	0.004	0.000034	-0.0005	0.23	0.00071	-0.01	-0.00005	0.00023	-0.002
30-Dec-11	41	500	475	6.69	18																												
6-Jan-12	42	500	465	6.83	18	#N/A	3.5	11.7	2	-0.5	0.018	8	0.0843	-0.00002	0.00032	0.00319	-0.00001	-0.000005	-0.05	-0.000005	2.89	-0.0001	-0.000005	0.00021	0.004	0.000021	-0.0005	0.19	0.00021	-0.01	-0.00005	0.00002	-0.002
13-Jan-12	43	500	485	6.73	22																												
20-Jan-12	44	500	460	7.24	20	#N/A	2.4	13.9	-2	-0.5	0.024	8.3	0.0635	-0.00002	0.00035	0.00299	-0.00001	-0.000005	-0.05	-0.000005	3.01	0.0002	0.000012	0.00053	0.006	0.00005	-0.0005	0.18	0.00033	-0.01	0.00006	0.00019	-0.002
27-Jan-12	45	500	475	6.77	18																												
3-Feb-12	46	500	480	6.75	18	#N/A	5.5	12.1	2	-0.5	0.024	8.4	0.0808	-0.00002	0.0003	0.00251	-0.00001	-0.000005	-0.05	0.000021	3.08	0.0001	-0.000005	0.00028	0.003	0.000036	-0.0005	0.18	0.0002	-0.01	0.00008	0.00007	0.003
10-Feb-12	47	500	465	6.62	19																												
17-Feb-12	48	500	470	7.09	20	#N/A	2.6	11.6	-2	0.5	0.02	9.1	0.0829	-0.00002	0.00036	0.00289	-0.00001	-0.000005	-0.05	-0.000005	3.35	-0.0001	-0.000005	0.0002	0.003	0.00001	-0.0005	0.19	0.0006	-0.01	0.00006	0.00017	-0.002
24-Feb-12	49	500	455	6.78	20																												
2-Mar-12	50	500	465	6.62	19	#N/A	6.5	12.4	-2	-0.5	0.018	8.2	0.0759	-0.00002	0.00032	0.00391	-0.00001	-0.000005	-0.05	#N/A	2.98	-0.0001	0.000034	#N/A	0.01	#N/A	-0.0005	0.18	0.00109	-0.01	0.00006	0.00009	#N/A
9-Mar-12	51	500	475	6.67	17																												
16-Mar-12	52	500	465	7.15	18	#N/A	2.9	10.4	-2	-0.5	0.018	7.7	0.078	-0.00002	0.00028	0.00289	-0.00001	-0.000005	-0.05	-0.000005	2.83	-0.0001	0.00001	0.00071	0.003	0.000024	-0.0005	0.15	0.00022	-0.01	0.00006	0.00019	-0.002
23-Mar-12	53	500	480	6.61	17																												
30-Mar-12	54	500	465	6.79	15	#N/A	3.9	10.1	-2	-0.5	0.018	7.3	0.064	-0.00002	0.00019	0.00341	-0.00001	-0.000005	-0.05	-0.000005	2.7	-0.0001	-0.000005	0.00028	0.004	0.000028	-0.0005	0.13	0.00025	-0.01	-0.00005	0.00003	-0.002
6-Apr-12	55	500	465	6.85	15																												
13-Apr-12	56	500	465	7.04	14	#N/A	2.3	8.8	2	-0.5	0.015	6.3	0.0588	-0.00002	0.0003	0.00341	-0.00001	-0.000005	-0.05	#N/A	2.32	-0.0001	0.000008	0.00017	0.002	0.00001	-0.0005	0.11	0.00024	-0.01	0.00006	0.00009	-0.002
20-Apr-12	57	500	470	6.80	15																												
27-Apr-12	58	500	465	6.62	12	#N/A	4.4	7.8	2	-0.5	0.013	5.6	0.052	-0.00002	0.0003	0.00252	-0.00001	-0.000005	-0.05	-0.000005	2.08	0.00011	-0.000005	0.00038	0.0022	0.000016	-0.0005	0.1	0.00026	-0.01	-0.00005	#N/A	-0.002
4-May-12	59	500	470	6.50	16																												
11-May-12	60	500	475	6.96	11	#N/A	3.1	6.8	2	-0.5	0.018	5.07	0.0431	-0.00002	0.00038	0.00253	-0.00001	-0.000005	-0.05	-0.000005	1.89	0.00012	0.000033	0.00085	0.0022	0.000032	-0.0005	0.083	0.00056	-0.01	0.000084	#N/A	-0.002
18-May-12	61	500	470	6.75	14																												
25-May-12	62	500	480	6.75	11	#N/A	3.4	7.4	2	-0.5	0.016	5.36	0.0722	-0.00002	0.00035	0.00284	-0.00001	-0.000005	-0.05	-0.000005	1.98	-0.0001	0.0000101	0.00018	0.0068	0.00005	-0.0005	0.104	0.00041	-0.01	-0.00005	0.000041	-0.002
1-Jun-12	63	500	515	6.67	12																												
8-Jun-12	64	500	450	6.93	7	#N/A	3.3	6.4	3	0.7	0.011	3.9	0.0355	-0.00002	0.0002	0.0021	-0.00001	-0.000005	-0.05	0.0000147	1.44	-0.0001	-0.000005	0.00349	0.0017	0.00162	-0.0005	0.071	0.00035	-0.01	-0.00005	0.000092	0.0028
15-Jun-12	65	500	480	6.67	11																												
22-Jun-12	66	500	430	6.69	10	#N/A	4.2	6.7	2	-0.5	0.015	4.54	0.0839	-0.00002	0.00047	0.00288	-0.00001	-0.000005	-0.05	-0.000005	1.67	-0.0001	0.0000061	0.00023	0.0049	0.0000304	-0.0005	0.09	0.00024	-0.01	0.000146	0.00004	-0.002
29-Jun-12	67	500	450	6.55	8																												
6-Jul-12	68	500	450	6.85	8	#N/A	4.2	6.1	2	-0.5	0.013	3.72	0.0615	-0.00002	0.00052	0.00235	-0.00001	-0.000005	-0.05	-0.000005	1.39	-0.0001	-0.000005	0.00017	0.0027	0.0000141	-0.0005	0.064	0.00038	-0.01	0.000059	0.000026	-0.002
13-Jul-12	69	500	470	6.75	13																												
20-Jul-12	70	500	470	6.98	13	#N/A	4.1	9.3	2	-0.5	0.013	6	#N/A	-0.00002	0.0004	0.00246	-0.00001	-0.000005	-0.05	-0.000005	2.23	-0.0001	0.0000077	0.00039	0.0042	0.0000295	-0.0005	0.106	0.00014	-0.01	-0.00005	0.000112	-0.002

HC 5

Sample =
09SWC506 30-33

Date	Cycle No.	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
18-Mar-11	0	2.31	-0.00004	1.33	-0.000005	4.55	0.0769	-10	-0.000002	0.00004	-0.0005	0.000012	0.0006	0.0002	-0.0001
25-Mar-11	1														
1-Apr-11	2	1.51	-0.00004	1.58	-0.000005	2.57	0.054	-10	-0.000002	0.00023	-0.0005	0.000059	0.0008	0.0005	-0.0001
8-Apr-11	3														
15-Apr-11	4	1.26	-0.00004	1.29	-0.000005	1.37	0.042	-10	-0.000002	0.00015	-0.0005	#N/A	0.0009	0.0004	-0.0001
22-Apr-11	5														
29-Apr-11	6	1.04	-0.00004	1.33	-0.000005	0.85	0.0297	-10	-0.000002	0.00011	-0.0005	0.000055	0.0008	0.0002	-0.0001
6-May-11	7														
13-May-11	8	1.08	-0.00004	1.22	-0.000005	0.6	0.0291	-10	0.000002	0.00009	-0.0005	0.000038	0.0008	0.0002	-0.0001
20-May-11	9														
27-May-11	10	1.06	-0.00004	1.25	0.000006	0.45	0.0308	-10	-0.000002	0.00008	-0.0005	0.000041	0.0008	0.0002	-0.0001
3-Jun-11	11														
10-Jun-11	12	1.26	-0.00004	1.19	0.000007	0.39	0.0419	-10	0.000002	0.00008	-0.0005	0.000061	0.0009	0.0001	-0.0001
17-Jun-11	13														
24-Jun-11	14	1.36	-0.00004	1.38	-0.000005	0.38	0.0384	-10	-0.000002	0.00008	0.0005	0.000036	0.0008	0.0003	-0.0001
1-Jul-11	15														
8-Jul-11	16	1.15	-0.00004	1.15	0.000007	0.31	0.0353	-10	-0.000002	0.00004	0.0005	0.000029	0.0007	0.0017	-0.0001
15-Jul-11	17														
22-Jul-11	18	1.28	-0.00004	1.01	-0.000005	0.31	0.0364	-10	-0.000002	0.00006	-0.0005	0.000028	0.0007	0.0004	-0.0001
29-Jul-11	19														
5-Aug-11	20	1.3	-0.00004	1.02	0.000016	0.27	0.0348	-10	-0.000002	0.00004	-0.0005	0.000024	0.0008	0.0003	-0.0001
12-Aug-11	21														
19-Aug-11	22	1.31	-0.00004	0.885	0.000007	0.32	0.033	-10	-0.000002	0.00003	0.0005	0.000018	0.0007	0.0005	-0.0001
26-Aug-11	23														
2-Sep-11	24	1.15	-0.00004	0.95	-0.000005	0.27	0.0308	-10	-0.000002	0.00004	-0.0005	0.00002	0.0009	0.0004	-0.0001
9-Sep-11	25														
16-Sep-11	26	1.2	-0.00004	0.984	-0.000005	0.14	0.0345	-10	-0.000002	0.00004	-0.0005	0.000024	0.0009	0.0003	-0.0001
23-Sep-11	27														
30-Sep-11	28	1.21	-0.00004	0.86	0.000006	0.16	0.0338	-10	0.000008	0.00009	0.0006	0.00002	0.0002	-0.0001	-0.0001
7-Oct-11	29														
14-Oct-11	30	1.34	-0.00004	1.01	-0.000005	0.19	0.0349	-10	-0.000002	0.00002	-0.0005	0.00002	0.0007	0.0005	-0.0001
21-Oct-11	31														
28-Oct-11	32	1.29	-0.00004	0.959	-0.000005	0.2	0.0396	-10	0.000003	0.00028	-0.0005	0.000021	0.0008	0.0005	-0.0001
4-Nov-11	33														
11-Nov-11	34	1.14	-0.00004	0.96	-0.000005	0.18	0.032	-10	0.000007	0.00027	-0.0005	0.00003	0.0006	0.0009	-0.0001
18-Nov-11	35														
25-Nov-11	36	1.13	-0.00004	0.919	-0.000005	0.19	0.0313	-10	0.000002	0.00023	-0.0005	0.000073	0.0006	0.0006	-0.0001
2-Dec-11	37														
9-Dec-11	38	1.02	-0.00004	0.751	-0.000005	0.15	0.0321	-10	-0.000002	0.00013	-0.0005	0.000012	0.0005	0.0005	-0.0001
16-Dec-11	39														
23-Dec-11	40	1.15	-0.00004	0.782	-0.000005	0.37	0.0296	-10	-0.000002	-0.00001	-0.0005	0.000013	0.0004	0.0006	-0.0001
30-Dec-11	41														
6-Jan-12	42	0.98	-0.00004	0.756	-0.000005	0.15	0.0262	-10	-0.000002	0.0001	-0.0005	0.000008	0.0005	0.0002	-0.0001
13-Jan-12	43														
20-Jan-12	44	0.96	-0.00004	0.712	-0.000005	0.19	0.0272	-10	0.000003	-0.0002	-0.0005	0.000012	0.0008	0.0009	-0.0001
27-Jan-12	45														
3-Feb-12	46	1.01	-0.00004	0.841	-0.000005	0.18	0.0257	-10	-0.000002	-0.0002	-0.0005	0.000009	0.0004	0.0003	-0.0001
10-Feb-12	47														
17-Feb-12	48	1.08	-0.00004	0.885	-0.000005	0.16	0.0271	-10	-0.000002	-0.0002	-0.0005	0.000026	0.0006	-0.0001	-0.0001
24-Feb-12	49														
2-Mar-12	50	#N/A	-0.00004	0.723	#N/A	0.42	0.0266	-10	#N/A	-0.0002	-0.0005	0.000014	0.0004	#N/A	-0.0001
9-Mar-12	51														
16-Mar-12	52	0.92	-0.00004	0.796	-0.000005	0.19	0.0222	-10	-0.000002	-0.0002	-0.0005	0.000004	0.0003	0.0002	-0.0001
23-Mar-12	53														
30-Mar-12	54	0.83	-0.00004	0.69	-0.000005	0.13	0.0212	-10	-0.000002	-0.0002	-0.0005	0.000007	-0.0002	0.0002	-0.0001
6-Apr-12	55														
13-Apr-12	56	0.85	-0.00004	0.718	-0.000005	0.13	0.0175	-10	0.000003	0.0005	-0.0005	0.000004	0.0004	0.0016	-0.0001
20-Apr-12	57														
27-Apr-12	58	0.803	-0.00004	0.569	-0.000005	0.15	0.017	-10	-0.000002	0.0003	-0.0005	0.000005	0.00139	0.00012	-0.0001
4-May-12	59														
11-May-12	60	0.705	-0.00004	0.61	-0.000005	0.119	0.0136	-10	0.000002	-0.0002	-0.0005	0.000004	0.00029	0.00034	-0.0001
18-May-12	61														
25-May-12	62	0.755	-0.00004	0.739	-0.000005	0.122	0.0151	-10	0.000002	-0.0002	-0.0005	0.0000059	0.00041	0.0005	-0.0001
1-Jun-12	63														
8-Jun-12	64	0.536	-0.00004	0.529	-0.000005	0.125	0.0108	-10	0.0000022	-0.0002	-0.0005	0.0000038	0.00023	0.00092	-0.0001
15-Jun-12	65														
22-Jun-12	66	0.711	-0.00004	0.713	-0.000005	0.123	0.0145	-10	0.0000025	-0.0002	-0.0005	0.0000037	0.00064	0.00026	-0.0001
29-Jun-12	67														
6-Jul-12	68	0.676	-0.00004	0.676	-0.000005	0.132	0.0107	-10	-0.000002	-0.0002	-0.0005	0.0000027	0.00048	0.00013	-0.0001
13-Jul-12	69														
20-Jul-12	70	0.79	-0.00004	0.975	-0.000005	0.15	0.017	-10	-0.000002	-0.0002	-0.0005	0.000005	0.00069	0.00195	-0.0001

HC 5

CONFIDENTIAL *DRAFT*

Sample =
09SWC506 30-33

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L	P mg/L
27-Jul-12	71	500	450	7.02	12																												
3-Aug-12	72	500	450	6.98	8	#N/A	3.2	6.3	2	-0.5	0.016	4.1	0.0585	-0.00002	0.00026	0.00219	-0.00001	-0.000005	-0.05	0.000007	1.54	-0.0001	-0.000005	0.00058	0.003	0.000064	-0.0005	0.065	0.00026	-0.01	0.000229	0.000048	-0.002
10-Aug-12	73	500	450	7.55	10																												
17-Aug-12	74	500	435	7.12	10	#N/A	3.9	7.2	2	-0.5	0.012	4.47	0.0783	0.000031	0.00036	0.00257	-0.00001	-0.000005	-0.05	-0.000005	1.65	0.0001	0.000008	0.00047	0.0111	0.000066	-0.0005	0.087	0.00067	-0.01	-0.00005	0.000048	-0.002
24-Aug-12	75	500	435	7.15	7																												
31-Aug-12	76	500	445	7.81	22	#N/A	2.5	9.3	2	-0.5	-0.01	3.3	0.0508	-0.00002	0.00038	0.0022	-0.00001	-0.000005	-0.05	-0.000005	1.23	-0.0001	0.000007	0.00034	0.0066	0.000027	-0.0005	0.056	0.00055	-0.01	0.000073	0.000177	-0.002
7-Sep-12	77	500	450	7.38	5																												
14-Sep-12	78	500	480	6.95	6	#N/A	3.3	6.3	2	-0.5	-0.01	3.84	0.0395	-0.00002	0.00024	0.00224	-0.00001	-0.000005	-0.05	-0.000005	1.43	-0.0001	-0.000005	0.0024	0.0019	0.000034	-0.0005	0.064	0.00023	-0.01	-0.00005	0.000044	-0.002
21-Sep-12	79	500	465	7.52	10																												
28-Sep-12	80	500	450	7.44	8	#N/A	2.5	7.3	2	-0.5	0.014	3.29	0.0529	-0.00002	0.00025	0.00211	-0.00001	-0.000005	-0.05	-0.000005	1.23	-0.0001	-0.000005	0.0013	0.003	0.000022	-0.0005	0.054	0.00022	-0.01	-0.00005	0.000103	-0.002
5-Oct-12	81	500	435	7.80	6																												
12-Oct-12	82	500	505	7.30	14	#N/A	4.5	11.1	2	-0.5	0.016	6.49	0.0702	-0.00002	0.00031	0.00333	-0.00001	-0.000005	-0.05	-0.000005	2.41	-0.0001	-0.000005	0.00075	0.0033	0.000058	-0.0005	0.113	0.00018	-0.01	0.000052	-0.00002	-0.002
19-Oct-12	83	500	505	6.91	12																												
26-Oct-12	84	500	495	7.38	12	#N/A	3.0	8.4	2	-0.5	0.012	5.05	0.0628	-0.00002	0.00026	0.00271	-0.00001	-0.000005	-0.05	-0.000005	1.89	-0.0001	-0.000005	0.00045	0.0043	0.000057	-0.0005	0.078	0.00046	-0.01	0.000088	0.000055	-0.002
2-Nov-12	85	500	485	7.52	10																												
9-Nov-12	86	500	490	6.65	11	#N/A	4.9	8.2	3	-0.5	0.019	5.87	0.0836	-0.00002	0.00038	0.0034	-0.00001	-0.000005	-0.05	-0.000005	2.2	-0.0001	-0.000005	0.00052	0.0034	0.000203	-0.0005	0.09	0.0002	-0.01	0.000052	0.000542	-0.002
16-Nov-12	87	500	495	7.25	10																												
23-Nov-12	88	500	490	7.80	21	#N/A	2.9	12.0	2	-0.5	0.016	5.41	0.0553	-0.00002	0.00031	0.00264	-0.00001	-0.000005	-0.05	-0.000005	2.03	-0.0001	-0.000005	0.00028	0.0018	0.000016	-0.0005	0.082	0.00014	-0.01	-0.00005	0.000054	-0.002
30-Nov-12	89	500	490	7.24	10																												
7-Dec-12	90	500	475	7.01	6	#N/A	5.8	7.2	-2	-0.5	0.015	4.24	0.0725	-0.00002	0.0003	0.0029	-0.00001	-0.000005	-0.05	-0.000005	1.59	-0.0001	-0.000005	0.00039	0.003	0.000019	-0.0005	0.065	0.00018	-0.01	0.000061	#N/A	-0.002
14-Dec-12	91	500	465	7.81	10																												
21-Dec-12	92	500	465	7.21	8	#N/A	3.3	6.3	-2	-0.5	0.016	3.76	0.0494	-0.00002	0.00036	0.00231	-0.00001	-0.000005	-0.05	-0.000005	1.42	-0.0001	0.00001	0.00016	0.0029	0.000026	-0.0005	0.051	0.00042	-0.01	-0.00005	0.000129	-0.002
28-Dec-12	93	500	440	7.22	8																												
4-Jan-13	94	500	450	6.83	4	#N/A	4.2	5.3	-2	0.88	0.015	2.96	0.0458	-0.00002	0.00029	0.00222	-0.00001	-0.000005	-0.05	-0.000005	1.1	-0.0001	0.000005	0.0001	-0.001	0.00003	-0.0005	0.051	0.00025	-0.01	-0.00005	0.000074	-0.002
11-Jan-13	95	500	475	7.75	9																												
18-Jan-13	96	500	460	6.88	7	#N/A	2.4	6.2	2	-0.5	0.015	3.68	0.048	-0.00002	0.00032	0.00313	-0.00001	-0.000005	-0.05	-0.000005	1.38	-0.0001	-0.000005	0.00014	0.0013	0.000021	-0.0005	0.058	0.00016	-0.01	-0.00005	0.000024	-0.002
25-Jan-13	97	500	450	6.91	9																												
1-Feb-13	98	500	445	6.65	8	#N/A	3.2	6.2	2	-0.5	0.023	3.94	0.0763	-0.00002	0.00055	0.00223	-0.00001	-0.000005	-0.05	0.000012	1.47	-0.0001	0.000044	0.0002	0.0062	0.000026	-0.0005	0.066	0.00054	-0.01	0.000063	0.000023	-0.002
8-Feb-13	99	500	445	7.71	4																												
15-Feb-13	100	500	445	6.85	9	#N/A	2.73	5.11	2	-0.5	0.013	3.63	0.056	-0.00002	0.00038	0.00232	-0.00001	-0.000005	-0.05	-0.000005	1.35	-0.0001	-0.000005	0.00022	0.0017	0.000019	-0.0005	0.061	0.00011	-0.01	-0.00005	0.000024	-0.002
22-Feb-13	101	500	435	7.82	6																												
1-Mar-13	102	500	435	6.71	5	#N/A	4.4	4.9	3	-0.5	0.011	2.58	0.0521	-0.00002	0.00042	0.00198	-0.00001	-0.000005	-0.05	-0.000005	1.03	-0.0001	-0.000005	0.00012	0.0111	0.000017	-0.0005	-0.05	0.00022	-0.01	0.000108	-0.00002	-0.002
8-Mar-13	103	500	460	6.81	5																												
15-Mar-13	104	500	440	7.35	8	#N/A	4.2	5.5	2	0.59	0.017	3.14	0.0626	-0.00002	0.00046	0.00195	-0.00001	-0.000005	-0.05	0.000019	1.26	-0.0001	-0.000005	0.00021	0.0019	0.000014	-0.0005	-0.05	0.00016	-0.01	0.000054	-0.00002	-0.002
22-Mar-13	105	500	440	7.71	4																												
29-Mar-13	106	500	430	7.24	9	#N/A	2.7	5.3	3	-0.5	0.01	3.84	0.082	-0.00002	0.00044	0.0023	-0.00001	-0.000005	-0.05	-0.000005	1.44	-0.0001	0.000006	0.00013	0.002	0.00003	-0.0005	0.06	0.00012	-0.01	-0.00005	0.000057	-0.002
5-Apr-13	107	500	430	7.61	3																												
12-Apr-13	108	500	450	6.89	4	#N/A	3.8	4.6	2	0.69	-0.01	2.08	0.0456	-0.00002	0.00039	0.00198	-0.00001	-0.000005	-0.05	-0.000005	0.831	-0.0001	-0.000005	8.9E-05	0.0026	0.000017	-0.0005	-0.05	0.00017	-0.01	-0.00005	0.00005	-0.002
19-Apr-13	109	500	450	7.31	6																												
26-Apr-13	110	500	425	7.31	4	#N/A	2.9	3.8	3	-0.5	0.01	1.75	0.0641	-0.00002	0.00033	0.00249	-0.00001	-0.000005	-0.05	-0.000005	0.7	-0.0001	-0.000005	0.00019	0.0037	0.000033	-0.0005	-0.05	0.00037	-0.01	-0.00005	0.000025	-0.002
3-May-13	111	500	425	7.97	3																												
10-May-13	112	500	410	7.33	4	#N/A	3.1	4.3	2	-0.5	-0.01	1.98	0.109	-0.00002	0.00036	0.00384	-0.00001	-0.000005	-0.05	-0.000005	0.791	-0.0001	-0.000005	0.00019	0.0065	0.000059	-0.0005	-0.05	0.00041	-0.01	-0.00005	-0.00002	-0.002
17-May-13	113	500	435	7.63	4																												
24-May-13	114	500	445	7.10	3	#N/A	3.8	3.7	2																								

April 15/11 As 0.00339 and U 0.00136. Repeat As= 0.00309, U= 0.00132. data confirmed, suspect contamination
Aug 5/11 Cl 2.8. Repeat = -0.5, data accepted.
Aug 19/11 Cr 0.0018. Repeat = 0.0001, data accepted.
Jul 22/11 Ni=0.00025, repeat=0.00025. Data confirmed, suspect contamination
Aug 19/11 Ni=0.00024, repeat=0.00024. Data removed, suspect contamination
Nov 11/11 Cd=0.000021, Pb=0.00049. Repeat = 0.000021, 0.000479 respectively. Data confirmed suspect contamination
Dec 23/11 Cr=0.0009, repeat=0.001. data confirmed, suspect contamination
Mar 2/12 Cl=2.4, Cd=0.000074, Cu=0.011, Pb=0.00265, P=0.237, K=2.93, Ag=0.000523, Tl=0.000066, Zn=0.0072. Repeat Cl=-0.5, Data accepted.
Mar 2/12 Repeat Cd=0.000072, Cu=0.0111, Pb=0.00265, P=0.241,K=2.93, Ag=0.00055, Tl=0.000061, Zn=0.0077. Data confirmed, suspect contamination
Jan 20/12 Pb=0.000086, repeat=0.00005. Repeat accepted, fits within 4X Stdev
Apr 13/12 Cd=0.000011, Repeat=0.0000147. Data confirmed, suspect contamination
Apr 27/12 Ni=0.000118, repeat=.000121. Data confirmed, suspect contamination
May 25/12 Tl=0.0000058, repeat=0.000002. Data accepted
May 11/12 Ni=0.000496. Repeat=0.000502. Data confirmed, suspect contamination or analytical error
Jul 20/12 Al=0.112, repeat=0.136. Data confirmed, suspect contamination
Aug 3/12 Sb=0.00018, repeat -0.00002. Data accepted
Dec 7/12 Ni=0.00033, repeat=0.00033. Data confirmed, suspect contamination
Feb 1/13 Zn=0.0036, repeat confirms original result, suspect contamination

HC 5

Sample =
09SWC506 30-33

Date	Cycle No.	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
27-Jul-12	71														
3-Aug-12	72	0.668	-0.00004	0.576	0.00001	0.135	0.0116	-10	0.000002	0.0003	-0.0005	0.000004	0.00025	0.00101	-0.0001
10-Aug-12	73														
17-Aug-12	74	0.8	-0.00004	0.696	-0.000005	0.167	0.0134	-10	0.000002	-0.0002	-0.0005	0.000002	0.00043	0.00184	-0.0001
24-Aug-12	75														
31-Aug-12	76	0.541	-0.00004	0.489	-0.000005	0.18	0.00859	-10	-0.000002	0.00027	-0.0005	0.000005	0.00021	0.00058	-0.0001
7-Sep-12	77														
14-Sep-12	78	0.653	-0.00004	0.486	-0.000005	0.106	0.0109	-10	0.000003	-0.0002	-0.0005	0.000002	0.00026	0.00013	-0.0001
21-Sep-12	79														
28-Sep-12	80	0.597	-0.00004	0.576	-0.000005	0.135	0.00895	-10	0.000002	0.00024	-0.0005	0.000002	0.00029	0.00045	-0.0001
5-Oct-12	81														
12-Oct-12	82	0.919	-0.00004	0.878	-0.000005	0.146	0.019	-10	-0.000002	-0.0002	-0.0005	0.000004	0.00022	0.00016	-0.0001
19-Oct-12	83														
26-Oct-12	84	0.672	-0.00004	0.673	-0.000005	0.103	0.0131	-10	0.000002	0.0003	-0.0005	0.000005	0.00024	0.00082	-0.0001
2-Nov-12	85														
9-Nov-12	86	0.845	-0.00004	0.854	-0.000005	0.143	0.0159	-3	0.000003	0.00024	-0.0005	0.000005	0.00022	0.00085	-0.0001
16-Nov-12	87														
23-Nov-12	88	0.759	-0.00004	0.73	-0.000005	0.111	0.0139	-3	0.000002	0.00036	-0.0005	-0.000002	0.00025	0.00039	-0.0001
30-Nov-12	89														
7-Dec-12	90	0.702	-0.00004	0.609	-0.000005	0.108	0.0117	-3	0.000002	-0.0002	-0.0005	0.000003	0.00036	0.00193	-0.0001
14-Dec-12	91														
21-Dec-12	92	0.616	-0.00004	0.538	-0.000005	0.112	0.00933	-3	0.000002	-0.0002	-0.0005	0.000003	0.00029	0.00026	-0.0001
28-Dec-12	93														
4-Jan-13	94	0.66	-0.00004	0.449	-0.000005	0.123	0.0087	-3	-0.000002	-0.0002	-0.0005	0.000002	0.00024	0.00018	-0.0001
11-Jan-13	95														
18-Jan-13	96	0.728	-0.00004	0.541	-0.000005	0.104	0.00996	-3	-0.000002	-0.0002	-0.0005	0.000002	0.00029	0.00027	-0.0001
25-Jan-13	97														
1-Feb-13	98	0.837	-0.00004	0.688	-0.000005	0.134	0.0109	-3	0.000002	-0.0002	-0.0005	0.000003	0.00079	0.0036	-0.0001
8-Feb-13	99														
15-Feb-13	100	0.82	-0.00004	0.589	-0.000005	0.124	0.0101	-3	0.000002	-0.0002	-0.0005	0.000002	0.00029	0.00036	-0.0001
22-Feb-13	101														
1-Mar-13	102	0.653	-0.00004	0.545	-0.000005	0.109	0.00743	-3	-0.000002	-0.0002	-0.0005	0.000002	0.00027	0.00014	-0.0001
8-Mar-13	103														
15-Mar-13	104	0.683	-0.00004	0.654	-0.000005	0.106	0.00875	-3	-0.000002	-0.0002	-0.0005	0.000003	0.00037	0.00025	-0.0001
22-Mar-13	105														
29-Mar-13	106	0.879	-0.00004	0.705	0.000044	0.122	0.0106	-3	-0.000002	-0.0002	-0.0005	0.000003	0.0004	0.00015	-0.0001
5-Apr-13	107														
12-Apr-13	108	0.534	-0.00004	0.417	-0.000005	0.085	0.00588	-3	-0.000002	-0.0002	0.00316	-0.000002	0.00058	0.00021	-0.0001
19-Apr-13	109														
26-Apr-13	110	0.646	-0.00004	0.45	0.000736	0.1	0.00537	-3	-0.000002	-0.0002	-0.0005	0.000002	-0.0002	0.00014	-0.0001
3-May-13	111														
10-May-13	112	0.603	-0.00004	0.679	0.000006	0.132	0.00621	-3	-0.000002	-0.0002	-0.0005	-0.000002	0.00022	0.00015	-0.0001
17-May-13	113														
24-May-13	114														

HC 6
Sample =
09SWC506 30-33
DUP

CONFIDENTIAL *DRAFT*

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L
18-Mar-11	0	500	340	7.49	88	#N/A	3.2	26.3	5	3.7	0.16	26.7	0.209	0.00005	0.00161	0.00463	-0.00001	-0.000005	-0.05	0.000008	9.45	-0.0001	0.000023	0.0015	0.003	0.000036	-0.0005	0.76	0.00308	-0.01	0.00517	0.00016
25-Mar-11	1	500	525	7.83	97																											
1-Apr-11	2	500	505	7.71	69	#N/A	5.5	35.6	4	1.3	0.33	21.1	0.143	0.00005	0.0012	0.00389	-0.00001	-0.000005	-0.05	-0.000005	7.22	-0.0001	0.000007	0.00088	0.005	0.000049	-0.0005	0.76	0.00385	-0.01	0.00479	0.0003
8-Apr-11	3	500	495	7.64	50																											
15-Apr-11	4	500	455	7.58	48	#N/A	2.3	29.9	2	-0.5	0.22	17.9	0.116	0.00004	0.00102	0.00392	-0.00001	-0.000005	-0.05	-0.000005	6.18	-0.0001	0.000005	0.00063	0.008	0.000053	-0.0005	0.61	0.00192	-0.01	0.00075	0.00007
22-Apr-11	5	500	460	7.67	49																											
29-Apr-11	6	500	475	7.49	44	#N/A	3.8	28.3	4	-0.5	0.12	18.9	0.122	0.00003	0.00123	0.0035	-0.00001	-0.000005	-0.05	-0.000005	6.47	-0.0001	-0.000005	0.00061	0.003	0.000026	-0.0005	0.67	0.00212	-0.01	0.00039	0.00008
6-May-11	7	500	460	7.41	38																											
13-May-11	8	500	465	7.39	34	#N/A	3.4	24.2	3	-0.5	0.07	15.5	0.0939	0.00003	0.00088	0.00314	-0.00001	-0.000005	-0.05	-0.000005	5.29	-0.0001	-0.000005	0.00075	0.002	0.000021	-0.0005	0.54	0.00164	-0.01	0.00023	0.00005
20-May-11	9	500	455	7.61	40																											
27-May-11	10	500	460	7.60	40	#N/A	5.4	23.2	4	-0.5	0.09	17.2	0.103	-0.00002	0.00108	0.00318	-0.00001	-0.000005	-0.05	-0.000005	5.91	-0.0001	-0.000005	0.00037	0.002	0.000015	-0.0005	0.58	0.00165	-0.01	0.00023	0.00002
3-Jun-11	11	500	450	7.33	36																											
10-Jun-11	12	500	500	7.46	35	#N/A	2.2	22.7	2	-0.5	0.07	14.9	0.0968	0.00003	0.001	0.00308	-0.00001	-0.000005	-0.05	0.000011	5.22	-0.0001	-0.000005	0.00053	0.003	0.00002	-0.0005	0.45	0.0014	-0.01	0.00018	0.00004
17-Jun-11	13	500	480	7.29	38																											
24-Jun-11	14	500	500	7.60	32	#N/A	2.3	22.3	2	-0.5	-0.01	15.9	0.101	0.00002	0.00083	0.00375	-0.00001	-0.000005	-0.05	-0.000005	5.57	-0.0001	-0.000005	0.00056	0.002	0.00003	-0.0005	0.47	0.00106	-0.01	0.00017	-0.00002
1-Jul-11	15	500	485	7.68	35																											
8-Jul-11	16	500	475	7.39	36	#N/A	3.1	22.9	2	0.7	0.05	14.5	0.124	-0.00002	0.0009	0.00381	-0.00001	-0.000005	-0.05	-0.000005	5.15	-0.0001	-0.000005	0.00051	0.006	0.000038	-0.0005	0.41	0.00095	-0.02	0.00012	0.0002
15-Jul-11	17	500	465	7.59	44																											
22-Jul-11	18	500	485	7.51	35	#N/A	3.6	21.3	-2	0.8	0.04	14.9	0.106	-0.00002	0.00057	0.00891	-0.00001	-0.000005	-0.05	-0.000005	5.26	-0.0001	0.000009	0.00428	0.006	0.000035	-0.0005	0.43	0.00091	-0.01	0.00016	#N/A
29-Jul-11	19	500	475	7.62	40																											
5-Aug-11	20	500	465	7.40	38	#N/A	3.8	22.9	-2	0.5	0.04	15.3	0.141	-0.00002	0.00077	0.00476	-0.00001	-0.000005	-0.05	-0.000005	5.44	-0.0001	0.000005	0.00287	0.007	#N/A	-0.0005	0.42	0.00081	-0.01	0.00012	0.00004
12-Aug-11	21	500	470	7.65	37																											
19-Aug-11	22	500	475	7.46	38	#N/A	3.7	23.3	-2	0.9	0.04	16.9	0.144	-0.00002	0.0007	0.00476	-0.00001	-0.000005	-0.05	-0.000005	6.12	0.0001	0.000006	0.00057	0.007	0.000036	-0.0005	0.39	0.00074	-0.01	0.00012	#N/A
26-Aug-11	23	500	480	7.40	35																											
2-Sep-11	24	500	470	7.62	37	#N/A	3.9	23.9	2	0.8	0.04	15	0.152	-0.00002	0.00072	0.00615	-0.00001	-0.000005	-0.05	-0.000005	5.59	0.0002	0.000006	0.00032	0.006	0.000039	-0.0005	0.37	0.00107	-0.01	0.00015	0.00007
9-Sep-11	25	500	470	7.59	29																											
16-Sep-11	26	500	460	7.34	34	#N/A	4.1	21.9	-2	0.9	0.03	14	0.122	-0.00002	0.00051	0.00459	-0.00001	-0.000005	-0.05	-0.000005	5.09	-0.0001	0.000009	0.00016	0.006	0.000028	-0.0005	0.3	0.00068	-0.01	0.0001	0.00006
23-Sep-11	27	500	505	7.40	38																											
30-Sep-11	28	500	470	7.29	29	#N/A	4.1	21.9	2	0.7	0.03	13.2	0.0994	-0.00002	0.00039	0.00439	-0.00001	-0.000005	-0.05	0.000005	4.87	0.0001	-0.000005	0.00013	0.006	0.000025	-0.0005	0.26	0.00048	-0.01	-0.00005	-0.00002
7-Oct-11	29	500	450	7.47	30																											
14-Oct-11	30	500	455	7.30	29	#N/A	3.3	16.8	2	-0.5	0.03	12.7	0.119	-0.00002	0.0005	0.00394	-0.00001	-0.000005	-0.05	-0.000005	4.65	-0.0001	-0.000005	0.00019	0.002	0.000017	-0.0005	0.26	0.00057	-0.01	0.00008	-0.00002
21-Oct-11	31	500	465	7.62	31																											
28-Oct-11	32	500	460	7.41	30	#N/A	3.6	17.3	-2	-0.5	0.02	14	0.106	-0.00002	0.00048	0.00391	-0.00001	-0.000005	-0.05	-0.000005	5.17	0.0001	-0.000005	0.00027	0.004	0.00002	-0.0005	0.26	0.00029	-0.01	0.00012	0.00011
4-Nov-11	33	500	455	7.53	27																											
11-Nov-11	34	500	470	7.70	28	#N/A	5.0	21.5	2	-0.5	0.02	12.3	0.135	0.00002	0.00055	0.0042	-0.00001	-0.000005	-0.05	#N/A	4.54	0.0003	-0.000005	0.00037	0.005	0.000093	-0.0005	0.24	0.00042	-0.01	0.00012	0.00005
18-Nov-11	35	500	455	7.46	29																											
25-Nov-11	36	500	480	7.62	30	#N/A	3.2	20.3	2	-0.5	0.023	12.7	0.117	0.00002	0.00054	0.00699	-0.00001	-0.000005	-0.05	-0.000005	4.67	-0.0001	0.000006	0.00253	0.007	0.000056	-0.0005	0.24	0.00034	-0.01	0.00012	0.00016
2-Dec-11	37	500	470	7.56	30																											
9-Dec-11	38	500	460	7.38	26	#N/A	4.8	16.3	-2	-0.5	0.014	10.8	0.102	-0.00002	0.00029	0.00375	-0.00001	-0.000005	-0.05	#N/A	3.97	-0.0001	0.000012	0.00059	0.004	#N/A	-0.0005	0.21	0.00195	-0.01	0.00009	0.00028
16-Dec-11	39	500	455	7.59	28																											
23-Dec-11	40	500	460	7.57	28	#N/A	4.1	20.3	3	-0.5	0.021	12.7	0.114	-0.00002	0.00043	0.00467	-0.00001	-0.000005	-0.05	-0.000005	4.68	-0.0001	0.000009	0.00023	0.005	0.000027	-0.0005	0.24	0.0004	-0.01	0.00009	0.00015
30-Dec-11	41	500	465	7.62	24																											
6-Jan-12	42	500	465	7.17	20	#N/A	3.5	13.5	2	-0.5	0.017	8.7	0.0752	-0.00002	0.00035	0.00362	-0.00001	-0.000005	-0.05	-0.000005	3.22	-0.0001	-0.000005	0.00055	0.003	0.000028	-0.0005	0.17	0.00023	-0.01	0.00008	0.00003
13-Jan-12	43	500	465	7.48	22																											
20-Jan-12	44	500	485	7.47	23	#N/A	2.9	15.6	2	-0.5	0.021	9.3	0.0569	-0.00002	0.00034	0.00486	-0.00001	-0.000005	-0.05	-0.000005	3.43	0.0001	0.000007	0.00025	0.003	0.000039	-0.0005	0.16	0.00029	-0.01	0.00008	0.00018
27-Jan-12	45	500	460	7.37	19																											
3-Feb-12	46	500	475	7.29	20	#N/A	5.3	15.0	2	-0.5	0.022	9.7	0.0631	-0.00002	0.00032	0.00313	-0.00001	-0.000005	-0.05	0.000015	3.62	0.0002	0.000006	0.00034	0.003	0.000018	-0.0005	0.16	0.0002	-0.01	0.00007	0.00006
10-Feb-12	47	500	465	7.48	24																											
17-Feb-12	48	500	455	7.32	22	#N/A	2.6	13.2	-2	-0.5	0.018	10.3	0.0812	-0.00002	0.00036	0.00371	-0.00001	-0.000005	-0.05	-0.000005	3.88	-0.0001	0.000006	0.00045	0.003	0.000015	-0.0005	0.16	0.00044	-0.01	0.00007	-0.00002
24-Feb-12	49	500	465	7.29	23																											
2-Mar-12	50	500	460	7.48	22	#N/A	6.6	16.4	-2	-0.5	0.018	9.8	0.0742	-0.00002	0.00034	0.00394	-0.00001	-0.000005	-0.05	0.000006	3.65	-0.0001	0.000006	0.00023	0.007	0.000023	-0.0005	0.16	0.00023	-0.01	0.0001	-0.00002
9-Mar-12	51	500	485	7.41	20																											
16-Mar-12	52	500	460	7.35	22	#N/A	2.9	12.8	-2	-0.5	0.02	9.3	0.0785	-0.00002	0.00034	0.0036	-0.00001	-0.000005	-0.05	-0.000005	3.48	-0.0001	0.000009	0.00033	0.004	0.000044	-0.0005	0.15	0.00029	-0.01	0.00011	#N/A
23-Mar-12	53	500	430	7.47	20																											
30-Mar-12	54	500	485	7.19	22	#N/A	4.0	13.5	2	-0.5	0.022	10.4	0.118	-0.00002	0.00041	0.00486	-0.00001	-0.000005	-0.05	-0.000005	3.92	-0.0001	-0.000005	0.0002	0.008	0.00004	-0.0005	0.15	0.00026	-0.01	0.00009	0.00002
6-Apr-12	55	500	475	7.34	23																											
13-Apr-12	56	500	450	7.36	24	#N/A	2.3	13.9	2	-0.5	0.019	10.2	0.107	-0.00002	0.00045	0.00441	-0.00001	-0.000005	-0.05	#N/A	3.83	0.0001	-0.000005	0.00051	0.005	#N/A	-0.0005	0.15	0.00027	-0.01	0.00011	0.00005
20-Apr-12	57	500	470	7.31	21																											
27-Apr-12	58	500	475	7.46	21	#N/A	4.4	13.5	2	-0.5	0.018	8.83	0.0954	-0.00002	0.000484	0.0037	-0.00001	-0.000005	-0.05	-0.000005	3.32	-0.0001	0.000006	0.00115	0.0042	0.00004	-0.0005	0.132	0.000247	-0.01	0.00007	#N/A
4-May-12	59	500	470	7.56	21																											
11-May-12	60	500	480	7.33	18	#N/A	3.4	10.7	3	-0.5	0.021	8.12	0.107	-0.00002	0.000474	0.00335	-0.00001	-0.000005	-0.05	0.000038	3.09	0.00013	0.000011	0.000942	0.0054	0.00011	-0.0005	0.099	0.000337	-0.01	0.000079	0.000197
18-May-12	61	500	480	7.27	18																											
25-May-12	62	500	470	7.16	17	#N/A	4.1	11.2	2	-0.5	0.016	7.69	0.101	-0.00002	0.000374	0.00353	-0.00001	-0.000005	-0.05	-0.000005	2.9	-0.0001	0.0000104	0.000172	0.0044	0.0000383	-0.0005	0.108	0.000285	-0.01	0.000059	-0.00002
1-Jun-12	63	500	495	7.36	16																											
8-Jun-12	64	500	460	7.27	18	#N/A	3.5	11.7	2	0.64	0.015	8.08	0.0893	-0.00002	0.000575	0.00466	-0.00001	-0.000005	-0.05	-0.000005	3.04	-0.0001	0.0000117	0.000442	0.0041	0.0000224	-0.0005	0.121	0.000375	-0.01	0.000113	0.000249
15-Jun-12	65	500	475	7.24	19																											
22-Jun-12	66	500	440	7.13	13	#N/A	4.3	9.2	3	-0.5	0.024	6.1	0.085	0.000021	0.000467	0.00314	-0.00001	-0.000005	-0.05	-0.000005	2.31	-0.0001	-0.000005	0.000229	0.0035	0.0000264	-0.0005	0.081	0.000229	-0.01	0.000109	0.000026
29-Jun-12	67	500	450	7.21	14																											

HC 6
Sample =
09SWC506 30-33
DUP

Date	Cycle No.	P	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
18-Mar-11	0	0.031	2.45	-0.00004	1.37	-0.000005	5.14	0.0786	-10	0.000002	0.00006	-0.0005	0.000016	0.0006	0.0002	-0.0001
25-Mar-11	1															
1-Apr-11	2	-0.002	2.15	-0.00004	2.04	-0.000005	4.15	0.0704	-10	-0.000002	0.00006	-0.0005	0.000085	0.0012	0.0002	-0.0001
8-Apr-11	3															
15-Apr-11	4	-0.002	1.53	-0.00004	1.69	-0.000005	1.63	0.0675	-10	-0.000002	0.00003	0.0006	0.000143	0.001	0.0007	-0.0001
22-Apr-11	5															
29-Apr-11	6	-0.002	1.69	-0.00004	1.98	-0.000005	0.9	0.0619	-10	-0.000002	0.00003	-0.0005	0.000117	0.0012	0.0002	-0.0001
6-May-11	7															
13-May-11	8	-0.002	1.17	-0.00004	1.42	-0.000005	0.56	0.0493	-10	0.000003	0.00003	-0.0005	0.000156	0.0009	0.0002	-0.0001
20-May-11	9															
27-May-11	10	-0.002	1.22	-0.00004	1.65	-0.000005	0.46	0.056	-10	-0.000002	0.00002	-0.0005	0.000072	0.001	0.0003	-0.0001
3-Jun-11	11															
10-Jun-11	12	-0.002	1.08	-0.00004	1.41	-0.000005	0.32	0.0534	-10	-0.000002	0.00032	-0.0005	0.000049	0.0009	0.0003	-0.0001
17-Jun-11	13															
24-Jun-11	14	-0.002	1.45	-0.00004	1.62	-0.000005	0.35	0.0493	-10	-0.000002	0.00031	-0.0005	0.000043	0.0009	0.0002	-0.0001
1-Jul-11	15															
8-Jul-11	16	-0.002	1.33	-0.00004	1.48	-0.000005	0.35	0.0473	-10	0.000002	0.00004	-0.0005	0.000036	0.0009	0.0005	-0.0001
15-Jul-11	17															
22-Jul-11	18	-0.002	1.45	-0.00004	1.19	-0.000005	0.28	0.0476	-10	-0.000002	0.00005	-0.0005	0.000027	0.0007	0.0006	-0.0001
29-Jul-11	19															
5-Aug-11	20	-0.002	1.64	-0.00004	1.25	0.000011	0.27	0.0527	-10	-0.000002	0.00004	-0.0005	0.000113	0.001	0.0005	-0.0001
12-Aug-11	21															
19-Aug-11	22	-0.002	1.68	-0.00004	1.32	-0.000005	0.26	0.0513	-10	0.000002	-0.00001	-0.0005	0.000029	0.001	0.0004	-0.0001
26-Aug-11	23															
2-Sep-11	24	-0.002	1.62	-0.00004	1.3	-0.000005	0.28	0.0488	-10	-0.000002	0.00022	-0.0005	0.000027	0.001	0.0003	-0.0001
9-Sep-11	25															
16-Sep-11	26	-0.002	1.52	-0.00004	1.08	-0.000005	0.17	0.0431	-10	-0.000002	0.00003	-0.0005	0.000019	0.0009	0.0006	-0.0001
23-Sep-11	27															
30-Sep-11	28	-0.002	1.33	-0.00004	0.968	-0.000005	0.17	0.0386	-10	-0.000002	0.00011	-0.0005	0.000016	0.0003	0.0001	-0.0001
7-Oct-11	29															
14-Oct-11	30	-0.002	1.48	-0.00004	1.08	-0.000005	0.21	0.0358	-10	-0.000002	0.00001	-0.0005	0.000016	0.0008	0.0002	-0.0001
21-Oct-11	31															
28-Oct-11	32	-0.002	1.49	-0.00004	1.13	-0.000005	0.22	0.04	-10	0.000003	0.00024	-0.0005	0.000015	0.0007	0.0002	-0.0001
4-Nov-11	33															
11-Nov-11	34	-0.002	1.42	-0.00004	1.16	0.000005	0.23	0.0363	-10	0.000018	0.00017	-0.0005	0.000021	0.0007	0.0015	-0.0001
18-Nov-11	35															
25-Nov-11	36	-0.002	1.4	-0.00004	1.11	-0.000005	0.22	0.0369	-10	0.000002	0.0004	-0.0005	0.000013	0.0008	0.0009	-0.0001
2-Dec-11	37															
9-Dec-11	38	-0.002	1.24	-0.00004	0.735	-0.000005	0.17	0.032	-10	#N/A	0.00022	-0.0005	0.000011	0.0004	#N/A	-0.0001
16-Dec-11	39															
23-Dec-11	40	-0.002	1.47	-0.00004	1.03	-0.000005	0.25	0.0372	-10	0.000003	-0.00001	0.0005	0.000014	0.0006	0.0004	-0.0001
30-Dec-11	41															
6-Jan-12	42	-0.002	1.08	-0.00004	0.789	-0.000005	0.15	0.0258	-10	-0.000002	0.00059	-0.0005	0.000005	0.0005	0.0004	-0.0001
13-Jan-12	43															
20-Jan-12	44	-0.002	0.97	-0.00004	0.711	-0.000005	0.19	0.0278	-10	0.000002	-0.0002	-0.0005	0.000009	0.0007	0.0006	-0.0001
27-Jan-12	45															
3-Feb-12	46	-0.002	1.01	-0.00004	0.854	-0.000005	0.18	0.0247	-10	-0.000002	-0.0002	-0.0005	0.000008	0.0003	0.0001	-0.0001
10-Feb-12	47															
17-Feb-12	48	-0.002	1.17	-0.00004	0.918	0.000005	0.18	0.0256	-10	-0.000002	-0.0002	-0.0005	0.000022	0.0007	-0.0001	-0.0001
24-Feb-12	49															
2-Mar-12	50	-0.002	1.06	-0.00004	0.839	-0.000005	0.16	0.0269	-10	-0.000002	0.0003	-0.0005	0.000012	0.0004	0.0003	-0.0001
9-Mar-12	51															
16-Mar-12	52	-0.002	1.06	-0.00004	0.891	-0.000005	0.2	0.0248	-10	0.000003	-0.0002	-0.0005	0.000005	0.0004	0.0009	-0.0001
23-Mar-12	53															
30-Mar-12	54	-0.002	1.15	-0.00004	1.16	-0.000005	0.19	0.0279	-10	-0.000002	-0.0002	-0.0005	0.000009	0.0005	0.0001	-0.0001
6-Apr-12	55															
13-Apr-12	56	-0.002	1.24	-0.00004	1.11	-0.000005	0.18	0.0281	-10	0.000004	0.0006	-0.0005	0.000009	0.0006	#N/A	-0.0001
20-Apr-12	57															
27-Apr-12	58	-0.002	1.13	-0.00004	0.985	-0.000005	0.194	0.0232	-10	0.000002	0.00045	-0.0005	0.000007	0.00174	0.00054	-0.0001
4-May-12	59															
11-May-12	60	-0.002	1.08	-0.00004	1.06	-0.000005	0.18	0.0185	-10	0.000003	0.00022	-0.0005	0.000004	0.00056	0.00156	-0.0001
18-May-12	61															
25-May-12	62	-0.002	0.97	-0.00004	0.924	-0.000005	0.151	0.0199	-10	0.0000044	-0.0002	-0.0005	0.0000057	0.00051	0.00059	-0.0001
1-Jun-12	63															
8-Jun-12	64	0.0031	0.946	-0.00004	0.949	-0.000005	0.249	0.0199	-10	0.0000023	-0.0002	-0.0005	0.0000055	0.00056	0.00031	-0.0001
15-Jun-12	65															
22-Jun-12	66	-0.002	0.823	-0.00004	0.828	-0.000005	0.138	0.0155	-10	0.0000026	-0.0002	-0.0005	0.0000035	0.00058	0.00015	-0.0001
29-Jun-12	67															

HC 6
Sample =
09SWC506 30-33
DUP

CONFIDENTIAL *DRAFT*

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L
6-Jul-12	68	500	455	7.19	13	#N/A	4.1	8.4	2	-0.5	0.014	5.85	0.0904	-0.00002	0.000385	0.00288	-0.00001	-0.000005	-0.05	-0.000005	2.22	-0.0001	-0.000005	0.000277	0.0031	0.0000262	-0.0005	0.073	0.000251	-0.01	0.000078	-0.00002
13-Jul-12	69	500	470	7.38	13																											
20-Jul-12	70	500	475	7.30	14	#N/A	3.8	9.0	2	0.63	0.014	6.02	0.104	-0.00002	0.000458	0.00261	-0.00001	-0.000005	-0.05	-0.000005	2.28	-0.0001	-0.000005	0.0003	0.0025	0.0000289	-0.0005	0.08	0.000325	-0.01	0.000055	0.000068
27-Jul-12	71	500	435	7.62	14																											
3-Aug-12	72	500	465	7.29	13	#N/A	3.5	9.3	2	-0.5	0.016	6.29	0.129	-0.00002	0.000378	0.00519	-0.00001	-0.000005	-0.05	#N/A	2.38	0.00014	0.00001	0.0013	0.0097	0.000174	-0.0005	0.082	0.000486	-0.01	0.000069	0.000092
10-Aug-12	73	500	450	7.31	10																											
17-Aug-12	74	500	450	7.13	12	#N/A	4.1	7.8	2	-0.5	0.013	5.03	0.078	0.000032	0.000341	0.00335	-0.00001	-0.000005	-0.05	0.000016	1.89	0.00012	0.000005	0.00116	0.0065	#N/A	-0.0005	0.078	0.00062	-0.01	0.00005	0.000093
24-Aug-12	75	500	465	7.32	11																											
31-Aug-12	76	500	460	7.44	13	#N/A	3.0	8.8	2	-0.5	0.018	5.34	0.0909	-0.00002	0.000307	0.00358	-0.00001	-0.000005	-0.05	-0.000005	2.02	-0.0001	0.000008	0.00036	0.0036	0.000028	-0.0005	0.071	0.000338	-0.01	0.000062	0.000125
7-Sep-12	77	500	455	7.06	9																											
14-Sep-12	78	500	490	6.95	12	#N/A	3.1	8.7	3	-0.5	0.015	5.62	0.0907	0.000021	#N/A	0.00401	-0.00001	-0.000005	-0.05	-0.000005	2.11	0.00016	0.000033	0.00183	0.007	0.000172	-0.0005	0.084	0.000419	-0.01	-0.00005	#N/A
21-Sep-12	79	500	470	7.23	16																											
28-Sep-12	80	500	435	7.06	10	#N/A	2.6	7.6	2	-0.5	0.014	4.68	0.113	-0.00002	0.00034	0.00413	-0.00001	-0.000005	-0.05	-0.000005	1.77	0.00024	0.000005	0.000744	0.0081	0.000044	-0.0005	0.063	0.00039	-0.01	0.00005	0.00008
5-Oct-12	81	500	430	7.41	7																											
12-Oct-12	82	500	485	7.28	12	#N/A	5.1	8.6	2	-0.5	0.014	5.39	0.0875	0.000132	0.000367	0.00357	-0.00001	-0.000005	-0.05	0.00003	2.04	-0.0001	-0.000005	0.000362	0.0045	0.000361	-0.0005	0.072	0.000266	-0.01	0.000071	0.000033
19-Oct-12	83	500	505	7.43	14																											
26-Oct-12	84	500	485	7.16	12	#N/A	2.9	8.8	2	-0.5	0.014	5.31	0.0926	-0.00002	0.000435	0.00362	-0.00001	-0.000005	-0.05	-0.000005	2.02	-0.0001	-0.000005	0.000529	0.0062	0.000041	-0.0005	0.066	0.000338	-0.01	0.000095	0.000054
2-Nov-12	85	500	480	7.20	11																											
9-Nov-12	86	500	495	7.35	11	#N/A	4.8	9.2	3	-0.5	0.02	6.07	0.0996	-0.00002	0.000648	0.00362	-0.00001	0.000007	-0.05	0.000019	2.3	-0.0001	0.000009	0.00228	0.0051	0.00056	-0.0005	0.08	0.000309	-0.01	0.00135	0.000311
16-Nov-12	87	500	475	7.31	11																											
23-Nov-12	88	500	490	7.48	14	#N/A	3.0	8.4	3	-0.5	0.017	6.57	0.085	-0.00002	#N/A	0.00307	-0.00001	-0.000005	-0.05	-0.000005	2.49	-0.0001	0.000029	0.000273	0.0092	0.000021	-0.0005	0.083	0.00015	-0.01	0.000065	0.000497
30-Nov-12	89	500	495	7.10	11																											
7-Dec-12	90	500	475	7.45	8	#N/A	5.2	8.7	-2	-0.5	0.016	4.95	0.0796	-0.00002	0.000418	0.00271	-0.00001	-0.000005	-0.05	-0.000005	1.87	-0.0001	-0.000005	0.000465	0.0023	0.000019	-0.0005	0.065	0.000168	-0.01	0.000053	0.00011
14-Dec-12	91	500	480	7.67	7																											
21-Dec-12	92	500	455	7.29	9	#N/A	3.5	7.4	-2	-0.5	0.015	4.22	0.0677	-0.00002	0.000401	0.0025	-0.00001	-0.000005	-0.05	-0.000005	1.6	-0.0001	-0.000005	0.000117	0.0029	0.000032	-0.0005	0.052	0.000172	-0.01	0.000052	0.000039
28-Dec-12	93	500	450	7.31	12																											
4-Jan-13	94	500	440	7.39	6	#N/A	4.2	7.4	-2	-0.5	0.016	4	0.0514	-0.00002	0.000376	0.00279	-0.00001	-0.000005	-0.05	-0.000005	1.51	-0.0001	0.000007	0.000343	0.0033	0.000289	-0.0005	0.059	0.000424	-0.01	0.00006	0.000117
11-Jan-13	95	500	475	7.34	7																											
18-Jan-13	96	500	460	7.30	9	#N/A	2.4	6.5	2	-0.5	0.017	3.79	0.0464	-0.00002	0.000327	0.00266	-0.00001	-0.000005	-0.05	-0.000005	1.42	-0.0001	-0.000005	0.00119	0.0017	0.000049	-0.0005	0.056	0.000318	-0.01	-0.00005	0.000123
25-Jan-13	97	500	455	7.28	13																											
1-Feb-13	98	500	440	7.44	5	#N/A	3.5	5.6	3	-0.5	0.018	2.96	0.0611	-0.00002	0.000333	0.00243	-0.00001	-0.000005	-0.05	-0.000005	1.18	-0.0001	-0.000005	0.000125	0.0032	0.000046	-0.0005	-0.05	0.000273	-0.01	0.000059	-0.00002
8-Feb-13	99	500	445	7.51	6																											
15-Feb-13	100	500	445	7.06	7	#N/A	2.6	5.0	2	-0.5	0.012	2.7	0.0453	-0.00002	0.000293	0.00241	-0.00001	-0.000005	-0.05	-0.000005	1.08	-0.0001	-0.000005	0.0001	0.0017	0.000017	-0.0005	-0.05	0.000199	-0.01	-0.00005	-0.00002
22-Feb-13	101	500	455	7.64	6																											
1-Mar-13	102	500	440	7.12	5	#N/A	4.4	5.6	3	-0.5	0.012	2.75	0.0561	-0.00002	0.000375	0.00245	-0.00001	-0.000005	-0.05	-0.000005	1.1	-0.0001	-0.000005	0.000217	0.004	0.000026	-0.0005	-0.05	0.000227	-0.01	0.000079	-0.00002
8-Mar-13	103	500	490	7.21	11																											
15-Mar-13	104	500	460	7.27	6	#N/A	4.6	5.6	3	0.65	0.017	3.05	0.048	-0.00002	0.000357	0.00235	-0.00001	-0.000005	-0.05	-0.000005	1.22	0.00071	-0.000005	0.000166	0.0013	0.000017	-0.0005	-0.05	0.000308	-0.01	0.000072	0.000027
22-Mar-13	105	500	445	7.40	4																											
29-Mar-13	106	500	435	7.12	4	#N/A	2.9	4.0	2	-0.5	0.012	2.43	0.0512	-0.00002	0.000404	0.00215	-0.00001	-0.000005	-0.05	-0.000005	0.974	-0.0001	-0.000005	0.000298	0.0021	0.000034	-0.0005	-0.05	0.000289	-0.01	-0.00005	0.000027
5-Apr-13	107	500	435	7.26	3																											
12-Apr-13	108	500	460	7.33	5	#N/A	4.1	5.4	3	0.56	0.011	2.4	0.0555	-0.00002	0.000411	0.00241	-0.00001	-0.000005	-0.05	-0.000005	0.961	-0.0001	-0.000005	0.00011	0.0015	0.000014	-0.0005	-0.05	0.000284	-0.01	0.000063	0.000027
19-Apr-13	109	500	450	7.50	5																											
26-Apr-13	110	500	430	6.98	5	#N/A	3.2	4.4	3	-0.5	0.013	2.5	0.0803	-0.00002	0.000472	0.00332	-0.00001	-0.000005	-0.05	-0.000005	1	-0.0001	-0.000005	0.000199	0.0037	0.000021	-0.0005	-0.05	0.000297	-0.01	0.000058	0.000115
3-May-13	111	500	485	7.22	8																											
10-May-13	112	500	410	6.94	4	#N/A	3.3	3.8	2	1	-0.01	1.95	0.0642	-0.00002	0.000302	0.00265	-0.00001	-0.000005	-0.05	-0.000005	0.783	-0.0001	0.000006	0.000183	0.0021	0.000023	-0.0005	-0.05	0.000353	-0.01	-0.00005	0.000086
17-May-13	113	500	435	7.42	4																											
24-May-13	114	500	435	6.98	4	#N/A	3.8	3.6	2																							

Aug 5/11 Zn 0.0031. Repeat =0.0005, data accepted.
Aug 5/11 Pb=0.000149, repeat= 0.000149. Data confirmed, suspect contamination
Jul 22/11 Ni=0.00069, repeat=0.00069. Data confirmed, suspect contamination
Aug 19/11 Ni=0.0002, repeat=0.0002. Data confirmed, suspect contamination
Dec 9/11 Cl=2.6, Cd=0.000048, Pb=0.000984, Tl=0.000031, Zn=0.0055, repeat= Cl=0.5. data accepted. Cd= 0.000047, Pb= 0.00105, Tl= 0.00003, Zn= 0.0056. data confirmed suspect contamination
Nov 11/11 Cd=0.000052 repeat=0.000049. Data confirmed, suspect contamination
Mar 16/12 Ni=0.00027, repeat=0.00027. Data confirmed, suspect contamination
Apr 13/12 Pb=0.000268, Cd=0.000174, Zn=0.0026. Repeat Cd=0.000162, Pb=0.000296, Zn=0.00279. Data confirmed, suspect contamination
Apr 27,12 Ni=0.000133, repeat=0.000154. Data confirmed, suspect contamination
Sept 14/12 As=0.00166, Ni=0.000621. repeat As=0.000177, Ni=0.00066. Data confirmed suspect contamination
Aug 3/12 Sb=0.000096, Cd=0.000066, repeat Sb=-0.00002, Data accepted. Cd=0.000058, Data confirmed suspect contamination
Aug 17/12 Pb=0.00238, repeat =0.00235
Nov 23/12 As=0.00173, Ni=0.000688, repeat As=0.00173, Data confirmed, suspect contamination Ni=0.000497. Data accepted within 4X stdev

HC 6
Sample =
09SWC506 30-33
DUP

Date	Cycle No.	P	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
6-Jul-12	68	-0.002	0.866	-0.00004	0.863	-0.000005	0.157	0.014	-10	-0.000002	-0.0002	-0.0005	0.0000036	0.00047	-0.0001	-0.0001
13-Jul-12	69															
20-Jul-12	70	-0.002	0.856	-0.00004	1.02	-0.000005	0.165	0.0143	-10	0.0000022	-0.0002	-0.0005	0.0000028	0.00068	0.00165	-0.0001
27-Jul-12	71															
3-Aug-12	72	-0.002	0.897	-0.00004	1.03	-0.000005	0.213	0.0152	-10	0.000003	0.00029	-0.0005	0.000006	0.00039	0.00336	-0.0001
10-Aug-12	73															
17-Aug-12	74	-0.002	0.886	-0.00004	0.69	-0.000005	0.221	0.0128	-10	0.000002	0.00036	-0.0005	0.000004	0.00034	0.00395	-0.0001
24-Aug-12	75															
31-Aug-12	76	-0.002	0.767	-0.00004	0.79	-0.000005	0.199	0.0126	-10	0.000002	-0.0002	-0.0005	0.000003	0.00025	0.0004	-0.0001
7-Sep-12	77															
14-Sep-12	78	-0.002	0.816	-0.00004	0.824	-0.000005	0.247	0.0157	-10	0.000003	-0.0002	-0.0005	0.000011	0.0004	0.00092	-0.0001
21-Sep-12	79															
28-Sep-12	80	-0.002	0.74	-0.00004	0.868	-0.000005	0.177	0.0112	-10	0.000002	-0.0002	-0.0005	0.000002	0.00026	0.00031	-0.0001
5-Oct-12	81															
12-Oct-12	82	0.0076	0.836	-0.00004	0.88	-0.000005	0.16	0.0126	-10	-0.000002	-0.0002	-0.0005	0.000008	0.00024	0.00218	-0.0001
19-Oct-12	83															
26-Oct-12	84	0.0099	0.753	-0.00004	0.938	-0.000005	0.139	0.0129	-10	0.000002	0.00023	-0.0005	0.000003	0.00038	0.00031	-0.0001
2-Nov-12	85															
9-Nov-12	86	-0.002	0.947	-0.00004	1.16	-0.000005	0.212	0.0142	-3	0.000003	0.00035	-0.0005	0.000006	0.00078	0.00197	-0.0001
16-Nov-12	87															
23-Nov-12	88	-0.002	0.935	-0.00004	1.01	-0.000005	0.148	0.0154	-3	0.000003	0.00046	-0.0005	0.000002	0.00036	0.00069	-0.0001
30-Nov-12	89															
7-Dec-12	90	-0.002	0.788	-0.00004	0.728	-0.000005	0.12	0.0115	-3	0.000002	-0.0002	-0.0005	0.000002	0.00048	0.0009	-0.0001
14-Dec-12	91															
21-Dec-12	92	-0.002	0.708	-0.00004	0.687	-0.000005	0.132	0.00969	-3	0.000002	-0.0002	-0.0005	-0.000002	0.00036	0.00017	-0.0001
28-Dec-12	93															
4-Jan-13	94	-0.002	0.736	-0.00004	0.592	-0.000005	0.144	0.00985	-3	0.000002	0.00023	-0.0005	-0.000002	0.00024	0.00067	-0.0001
11-Jan-13	95															
18-Jan-13	96	0.0027	0.659	-0.00004	0.631	-0.000005	0.113	0.00917	-3	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.00076	-0.0001
25-Jan-13	97															
1-Feb-13	98	0.0021	0.667	-0.00004	0.649	-0.000005	0.13	0.00751	-3	0.000002	-0.0002	-0.0005	-0.000002	0.0006	0.00026	-0.0001
8-Feb-13	99															
15-Feb-13	100	-0.002	0.627	-0.00004	0.557	-0.000005	0.111	0.00706	-3	0.000002	-0.0002	-0.0005	-0.000002	-0.0002	-0.0001	-0.0001
22-Feb-13	101															
1-Mar-13	102	-0.002	0.683	-0.00004	0.647	-0.000005	0.138	0.00714	-3	-0.000002	-0.0002	-0.0005	-0.000002	0.00026	0.00024	-0.0001
8-Mar-13	103															
15-Mar-13	104	-0.002	0.621	-0.00004	0.681	-0.000005	0.121	0.00733	-3	-0.000002	-0.0002	-0.0005	-0.000002	0.00029	0.00011	-0.0001
22-Mar-13	105															
29-Mar-13	106	-0.002	0.611	-0.00004	0.57	-0.000005	0.115	0.00627	-3	-0.000002	-0.0002	-0.0005	-0.000002	0.00029	0.00015	-0.0001
5-Apr-13	107															
12-Apr-13	108	-0.002	0.617	-0.00004	0.562	-0.000005	0.115	0.0068	-3	-0.000002	-0.0002	0.00083	-0.000002	0.00043	-0.0001	-0.0001
19-Apr-13	109															
26-Apr-13	110	-0.002	0.649	-0.00004	0.621	0.000045	0.157	0.00684	-3	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.00101	-0.0001
3-May-13	111															
10-May-13	112	-0.002	0.5	-0.00004	0.528	-0.000005	0.111	0.00525	-3	-0.000002	-0.0002	-0.0005	-0.000002	0.00025	0.00016	-0.0001
17-May-13	113															
24-May-13	114															

HC 7

CONFIDENTIAL *DRAFT*

Sample =
09SWC484 40-43

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L
18-Mar-11	0	500	325	7.71	172	#N/A	3.7	69.5	5	2.2	0.99	42	0.0795	-0.00002	0.00017	0.0155	-0.00001	-0.000005	-0.05	0.000006	11.2	-0.0001	0.000062	0.00614	0.003	-0.000005	0.0058	3.44	0.0282	-0.01	0.00406	0.00011
25-Mar-11	1	500	515	8.00	130																											
1-Apr-11	2	500	525	7.90	119	#N/A	5.3	68.8	4	0.8	0.95	30.2	0.0629	0.00002	0.00038	0.00947	-0.00001	-0.000005	-0.05	0.000008	7.94	0.0009	0.000033	0.00203	0.008	0.000017	0.005	2.53	0.0221	-0.01	0.00491	0.00012
8-Apr-11	3	500	465	7.75	91																											
15-Apr-11	4	500	455	7.90	105	#N/A	2.6	59.8	2	-0.5	0.66	26.4	0.0533	-0.00002	0.00008	0.00799	-0.00001	-0.000005	-0.05	-0.000005	6.84	-0.0001	0.00002	0.00119	0.008	0.000023	0.0042	2.25	0.0191	-0.01	0.00212	0.0001
22-Apr-11	5	500	470	7.79	95																											
29-Apr-11	6	500	465	7.79	91	#N/A	3.8	58.4	4	-0.5	0.55	30.9	0.0643	-0.00002	0.00008	0.00972	-0.00001	-0.000005	-0.05	-0.000005	7.83	-0.0001	0.000019	0.0014	0.007	0.00001	0.0044	2.75	0.0213	-0.01	0.00111	0.00008
6-May-11	7	500	450	7.74	112																											
13-May-11	8	500	460	7.79	100	#N/A	3.8	50.0	4	0.5	0.41	40.3	0.0498	-0.00002	0.00017	0.0107	-0.00001	-0.000005	-0.05	-0.000005	10.4	-0.0001	0.00002	0.00072	0.004	0.000011	0.0043	3.49	0.0256	-0.01	0.00057	0.00009
20-May-11	9	500	460	7.89	88																											
27-May-11	10	500	460	7.80	84	#N/A	5.2	47.8	3	-0.5	0.3	36	0.0451	-0.00002	0.00012	0.00945	-0.00001	-0.000005	-0.05	-0.000005	9.21	-0.0001	0.00002	0.00055	0.002	0.000017	0.0034	3.16	0.0301	-0.01	0.00042	0.00003
3-Jun-11	11	500	455	7.72	90																											
10-Jun-11	12	500	475	7.84	91	#N/A	2.4	56.7	2	0.9	0.24	38.7	0.0506	-0.00002	0.00075	0.0104	-0.00001	-0.000005	-0.05	0.000006	9.95	-0.0001	0.000038	0.00061	0.004	0.00001	0.0035	3.36	0.0327	-0.01	0.0003	#N/A
17-Jun-11	13	500	435	7.69	91																											
24-Jun-11	14	500	465	8.01	97	#N/A	2.0	60.5	2	-0.5	0.21	49.7	0.0412	-0.00002	0.00065	0.012	-0.00001	-0.000005	-0.05	-0.000005	12.7	-0.0001	0.000026	0.00035	0.003	0.000009	0.0034	4.4	0.0435	-0.01	0.00024	-0.00002
1-Jul-11	15	500	470	7.91	109																											
8-Jul-11	16	500	465	7.83	114	#N/A	3.6	64.7	2	-0.5	0.21	46.1	0.0519	-0.00002	0.00004	0.0119	-0.00001	-0.000005	-0.05	-0.000005	12.1	-0.0001	0.00004	0.00078	0.005	0.000031	0.0032	3.87	0.0398	-0.01	0.00014	0.00018
15-Jul-11	17	500	460	7.72	113																											
22-Jul-11	18	500	485	7.78	106	#N/A	3.8	55.5	-2	0.8	0.2	48.5	0.0603	-0.00002	0.00005	0.0133	-0.00001	0.00001	-0.05	0.000006	12.4	-0.0001	0.000065	0.00112	0.017	#N/A	0.0034	4.26	0.0422	-0.01	0.0001	0.0002
29-Jul-11	19	500	450	7.90	114																											
5-Aug-11	20	500	480	7.74	115	#N/A	4.2	65.7	-2	0.8	0.21	50.2	0.0373	-0.00002	0.00003	0.0139	-0.00001	-0.000005	-0.05	-0.000005	12.3	-0.0001	0.000063	0.00025	0.002	-0.000005	0.0035	4.73	0.0514	-0.01	0.0001	0.00002
12-Aug-11	21	500	460	7.80	102																											
19-Aug-11	22	500	465	7.76	106	#N/A	4.4	63.2	-2	0.8	0.23	49.3	0.0409	-0.00002	0.00006	0.0131	-0.00001	-0.000005	-0.05	-0.000005	12.9	-0.0001	0.000057	0.00069	0.003	0.000017	0.0035	4.17	0.0412	-0.01	0.00009	#N/A
26-Aug-11	23	500	460	7.65	103																											
2-Sep-11	24	500	465	7.81	103	#N/A	4.8	64.1	2	0.6	0.22	48	0.0358	-0.00002	0.00013	0.0123	-0.00001	-0.000005	-0.05	0.000012	12.4	-0.0001	0.000059	0.00037	0.003	0.000008	0.0034	4.14	0.0429	-0.01	0.00007	0.00004
9-Sep-11	25	500	470	7.82	105																											
16-Sep-11	26	500	465	7.65	109	#N/A	5.2	64.6	-2	0.9	0.23	50.7	0.0311	-0.00002	0.00012	0.0128	-0.00001	0.000006	-0.05	0.000007	13.4	-0.0001	0.000061	0.00035	0.003	0.000012	0.0034	4.18	0.0411	-0.01	0.00006	0.00004
23-Sep-11	27	500	450	7.71	106																											
30-Sep-11	28	500	475	7.76	108	#N/A	3.4	66.5	-2	0.6	0.24	50.8	0.0224	-0.00002	0.00005	0.0122	-0.00001	-0.000005	-0.05	0.000008	13	-0.0001	0.000045	0.00017	0.004	-0.000005	0.0039	4.46	0.0343	-0.01	-0.00005	-0.00002
7-Oct-11	29	500	455	7.73	107																											
14-Oct-11	30	500	445	7.68	89	#N/A	3.5	51.9	-2	-0.5	0.21	44.3	0.0283	-0.00002	0.0001	0.00956	-0.00001	-0.000005	-0.05	-0.000005	11.4	-0.0001	0.000025	0.00016	0.001	-0.000005	0.0033	3.87	0.0292	-0.01	-0.00005	0.00008
21-Oct-11	31	500	455	7.77	89																											
28-Oct-11	32	500	460	7.86	124	#N/A	3.6	73.8	-2	-0.5	0.25	59.4	0.0322	-0.00002	0.00005	0.0146	-0.00001	-0.000005	-0.05	-0.000005	15.2	-0.0001	0.000039	0.00041	0.008	0.000017	0.0038	5.2	0.0353	-0.01	-0.00005	0.00005
4-Nov-11	33	500	460	7.84	110																											
11-Nov-11	34	500	460	7.81	116	#N/A	6.1	70.6	-2	-0.5	0.26	58.1	0.0214	-0.00002	0.00007	0.0139	-0.00001	-0.000005	-0.05	#N/A	14.8	-0.0001	0.000042	0.00027	0.002	0.000037	0.0047	5.15	0.0306	-0.02	-0.00005	0.00017
18-Nov-11	35	500	455	7.83	125																											
25-Nov-11	36	500	465	7.87	128	#N/A	4.0	78.3	2	-0.5	0.28	61.5	0.0242	-0.00002	0.00004	0.0148	-0.00001	-0.000005	-0.05	0.000013	15.5	-0.0001	0.000041	0.0018	0.003	0.000018	0.0049	5.51	0.0318	-0.01	-0.00005	0.00018
2-Dec-11	37	500	455	7.76	129																											
9-Dec-11	38	500	470	7.70	116	#N/A	5.3	71.5	2	-0.5	0.24	57.6	0.029	-0.00002	0.00005	0.0132	-0.00001	-0.000005	-0.05	-0.000005	14.2	-0.0001	0.000037	0.00093	0.003	0.000007	0.004	5.4	0.0275	-0.01	-0.00005	0.00022
16-Dec-11	39	500	455	7.74	124																											
23-Dec-11	40	500	455	7.76	119	#N/A	4.9	76.7	3	-0.5	0.27	59.8	0.0288	-0.00002	-0.00002	0.0149	-0.00001	-0.000005	-0.05	-0.000005	14.7	#N/A	0.000047	0.0006	0.003	0.000021	0.004	5.6	0.0241	-0.01	-0.00005	0.00031
30-Dec-11	41	500	470	7.73	119																											
6-Jan-12	42	500	465	7.69	114	#N/A	3.7	82.1	2	-0.5	0.24	57.6	0.0149	-0.00002	0.00004	0.0131	-0.00001	-0.000005	-0.05	-0.000005	14.1	-0.0001	0.000027	0.0003	0.001	0.000007	0.0041	5.46	0.022	-0.01	-0.00005	-0.00002
13-Jan-12	43	500	460	7.68	113																											
20-Jan-12	44	500	465	7.80	125	#N/A	3.1	89.6	2	-0.5	0.26	56.6	0.0218	-0.00002	0.00008	0.0171	-0.00001	0.000005	-0.05	#N/A	14.1	0.0002	0.000049	#N/A	0.014	#N/A	0.004	5.18	0.0203	-0.01	-0.00005	#N/A
27-Jan-12	45	500	460	7.68	120																											
3-Feb-12	46	500	465	7.63	121	#N/A	7.4	82.8	2	-0.5	0.25	62.4	0.0186	-0.00002	0.00005	0.0122	-0.00001	-0.000005	-0.05	-0.000005	15.8	-0.0001	0.000016	0.00011	0.002	-0.000005	0.0038	5.58	0.0179	-0.01	0.00011	0.00003
10-Feb-12	47	500	465	7.61	119																											
17-Feb-12	48	500	465	7.77	122	#N/A	3.5	76.3	-2	-0.5	0.26	64.7	0.0231	-0.00002	0.00008	0.0139	-0.00001	-0.000005	-0.05	-0.000005	16.7	-0.0001	0.000018	0.00093	0.009	0.000019	0.0041	5.58	0.0132	-0.01	-0.00005	-0.00002
24-Feb-12	49	500	450	7.62	115																											
2-Mar-12	50	500	455	7.56	114	#N/A	8.9	71.8	-2	-0.5	0.24	54.8	0.0169	-0.00002	0.00004	0.0123	-0.00001	-0.000005	-0.05	0.000012	13.8	-0.0001	0.000017	0.0003	0.002	#N/A	0.0033	4.94	0.00858	-0.01	-0.00005	0.00005
9-Mar-12	51	500	465	7.66	127																											
16-Mar-12	52	500	460	7.83	134	#N/A	3.6	78.6	-2	-0.5	0.24	64.2	0.0159	-0.00002	-0.00002	0.0142	-0.00001	-0.000005	-0.05	0.000006	16.1	-0.0001	0.000018	0.00041	0.004	0.000006	0.0037	5.8	0.0032	-0.01	-0.00005	0.00019
23-Mar-12	53	500	455	7.62	131																											
30-Mar-12	54	500	465	7.64	125	#N/A	4.6	73.5	3	-0.5	0.21	60.4	0.02	-0.00002	0.00007	0.0133	-0.00001	-0.000005	-0.05	-0.000005	15.7	-0.0001	0.000008	0.00016	0.005	0.000009	0.0033	5.17	0.00089	-0.01	-0.00005	0.00004
6-Apr-12	55	500	455	7.77	125																											
13-Apr-12	56	500	455	7.89	121	#N/A	2.6	72.3	2	-0.5	0.19	59.7	0.023	-0.00002	-0.00002	0.0139	-0.00001	-0.000005	-0.05	-0.000005	15.3	-0.0001	-0.000005	0.00038	0.004	0.000067	0.0032	5.23	0.00048	-0.01	-0.00005	0.00004
20-Apr-12	57	500	465	7.73	127																											
27-Apr-12	58	500	465	7.71	117	#N/A	5.5	70.6	2	-0.5	0.19	54	0.016	-0.00002	0.000073	0.0142	-0.00001	-0.000005	-0.05	0.000011	13.8	0.00021	0.000014	0.000815	0.005	0.000008	0.00272	4.71	0.000627	-0.01	0.000084	#N/A
4-May-12	59	500	465	7.60	115																											
11-May-12	60	500	480	7.78	107	#N/A	3.5	63.9	3	-0.5	0.17	54	0.0159	-0.00002	0.000074	0.0124	-0.00001	-0.000005	-0.05	0.000005	14.2	-0.0001	0.000008	0.000632	0.0036	0.000016	0.00241	4.51	0.000662	-0.01	-0.00005	0.000128
18-May-12	61	500	460	7.71	119																											
25-May-12	62	500	470	7.69	117	#N/A	4.8	68.3	2	0.51	0.2	55.7	0.024	-0.00002	0.000181	0.0126	-0.00001	-0.000005	-0.05	-0.000005	14.4	-0.0001	0.0000095	0.000182	0.005	0.0000448	0.00299	4.79	0.000547	-0.01	-0.00005	0.000022
1-Jun-12	63	500	500	7.60	118																											
8-Jun-12	64	500	440	7.75	93	#N/A	3.6	55.6	3	0.77	0.16	43.5	0.0175	-0.00002	0.000025	0.0101	-0.00001	-0.000005	-0.05	0.0000109	11.2	-0.0001	0.0000084	0.00339	0.0042	0.0000513	0.00221	3.8	0.000497	-0.01	-0.00005	0.000236
15-Jun-12	65	500	470	7.62	101																											
22-Jun-12	66	500	440	7.65	96	#N/A	5.1	59.5	3	-0.5	0.2	46.2	0.0253	-0.00002	0.00011	0.0114	-0.00001	-0.000005	-0.05	-0.000005	11.9	-0.0001	0.0000104	0.000188	0.0028	0.000267	0.00249	4	0.00156	-0.01	0.00008	0.000065
29-Jun-12	67	500	455	7.52	91																											
6-Jul-12	68	500	445	7.66	94	#N/A	5.1	57.0	2	-0.5	0.19	42.5	0.0207	-0.00002	0.000147	0.0107	-0.00001	-0.000005	-0.05	-0.000005	10.7	-0.0001	0.0000053	0.000238	0.0038	0.0000106	0.00265	3.84	0.00107	-0.01	-0.00005	0.000041
13-Jul-12	69	500	445	7.64	87																											

HC 7

Sample =
09SWC484 40-43

Date	Cycle No.	P	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
18-Mar-11	0	0.038	4.91	0.0002	1.27	-0.000005	16.7	0.301	-10	-0.000002	0.00003	-0.0005	0.000334	0.0014	0.0004	0.0002
25-Mar-11	1															
1-Apr-11	2	-0.002	3.49	0.00012	1.53	-0.000005	10.1	0.217	-10	-0.000002	0.00024	0.0006	0.000765	0.0015	0.0004	-0.0001
8-Apr-11	3															
15-Apr-11	4	-0.002	3.1	0.00005	1.11	-0.000005	6.11	0.218	-10	-0.000002	0.00017	0.0005	0.000571	0.0013	0.0007	-0.0001
22-Apr-11	5															
29-Apr-11	6	-0.002	3.49	-0.00004	1.3	-0.000005	4.25	0.243	-10	-0.000002	0.00013	-0.0005	0.000533	0.0012	0.0002	-0.0001
6-May-11	7															
13-May-11	8	-0.002	3.51	-0.00004	1.27	-0.000005	2.41	0.292	-10	0.000004	0.00006	-0.0005	0.000464	0.0008	0.0002	-0.0001
20-May-11	9															
27-May-11	10	-0.002	2.66	0.00005	0.915	-0.000005	1.36	0.264	-10	-0.000002	0.00008	-0.0005	0.000337	0.0006	0.0002	-0.0001
3-Jun-11	11															
10-Jun-11	12	-0.002	2.46	-0.00004	0.751	-0.000005	0.81	0.31	-10	0.000003	0.00025	-0.0005	0.000293	0.0004	0.0008	-0.0001
17-Jun-11	13															
24-Jun-11	14	-0.002	2.75	-0.00004	0.913	-0.000005	0.89	0.335	-10	0.000005	0.00003	-0.0005	0.000434	0.0004	0.0002	-0.0001
1-Jul-11	15															
8-Jul-11	16	-0.002	2.27	-0.00004	0.766	-0.000005	0.63	0.35	-10	-0.000002	0.00004	-0.0005	0.000259	0.0003	0.0002	-0.0001
15-Jul-11	17															
22-Jul-11	18	#N/A	2.99	0.00009	0.693	0.00004	0.64	0.347	-10	0.000004	0.00002	-0.0005	0.000201	0.0002	0.0011	-0.0001
29-Jul-11	19															
5-Aug-11	20	-0.002	3.14	-0.00004	0.556	0.000007	0.58	0.387	-10	0.000002	0.00004	-0.0005	0.000225	0.0002	0.0004	-0.0001
12-Aug-11	21															
19-Aug-11	22	-0.002	3.12	-0.00004	0.582	-0.000005	0.52	0.348	-10	0.000003	0.00002	-0.0005	0.000184	-0.0002	0.0002	-0.0001
26-Aug-11	23															
2-Sep-11	24	-0.002	2.96	-0.00004	0.491	-0.000005	0.52	0.336	-10	0.000003	0.00031	-0.0005	0.00017	0.0002	0.0005	-0.0001
9-Sep-11	25															
16-Sep-11	26	-0.002	2.98	-0.00004	0.468	-0.000005	0.43	0.353	-10	0.000003	0.00002	-0.0005	0.00015	-0.0002	0.0004	-0.0001
23-Sep-11	27															
30-Sep-11	28	-0.002	3.04	-0.00004	0.423	-0.000005	0.5	0.361	-10	0.000002	0.00012	-0.0005	0.00013	-0.0002	-0.0001	-0.0001
7-Oct-11	29															
14-Oct-11	30	-0.002	2.66	-0.00004	0.363	-0.000005	0.46	0.285	-10	0.000004	0.00003	-0.0005	0.000088	-0.0002	0.0003	-0.0001
21-Oct-11	31															
28-Oct-11	32	-0.002	3.42	-0.00004	0.405	-0.000005	0.6	0.423	-10	0.000006	0.00031	-0.0005	0.000112	-0.0002	0.0003	-0.0001
4-Nov-11	33															
11-Nov-11	34	-0.002	3.44	-0.00004	0.411	-0.000005	0.63	0.376	-10	0.000018	0.0001	-0.0005	0.000094	-0.0002	#N/A	-0.0001
18-Nov-11	35															
25-Nov-11	36	-0.002	3.34	-0.00004	0.386	-0.000005	0.59	0.397	-10	0.000005	0.00022	-0.0005	0.000077	-0.0002	0.0005	-0.0001
2-Dec-11	37															
9-Dec-11	38	-0.002	3.17	-0.00004	0.329	-0.000005	0.57	0.372	-10	0.000004	0.00017	-0.0005	0.000085	-0.0002	0.0004	-0.0001
16-Dec-11	39															
23-Dec-11	40	-0.002	3.38	-0.00004	0.326	-0.000005	0.65	0.378	-10	0.000006	-0.00001	-0.0005	0.000074	-0.0002	0.0005	-0.0001
30-Dec-11	41															
6-Jan-12	42	-0.002	3.08	-0.00004	0.305	-0.000005	0.48	0.364	-10	0.000005	0.00006	-0.0005	0.000065	-0.0002	0.0002	-0.0001
13-Jan-12	43															
20-Jan-12	44	#N/A	4.57	-0.00004	0.299	#N/A	0.76	0.359	-10	#N/A	-0.0002	-0.0005	0.000062	-0.0002	#N/A	-0.0001
27-Jan-12	45															
3-Feb-12	46	-0.002	2.95	-0.00004	0.323	-0.000005	0.46	0.343	-10	0.000003	-0.0002	-0.0005	0.000062	-0.0002	0.0001	-0.0001
10-Feb-12	47															
17-Feb-12	48	-0.002	3.13	-0.00004	0.364	-0.000005	0.46	0.357	-10	0.000004	-0.0002	-0.0005	0.000056	-0.0002	0.0003	-0.0001
24-Feb-12	49															
2-Mar-12	50	-0.002	2.74	-0.00004	0.272	-0.000005	0.4	0.315	-10	0.000005	-0.0002	-0.0005	0.000056	-0.0002	0.0002	-0.0001
9-Mar-12	51															
16-Mar-12	52	-0.002	2.98	-0.00004	0.327	0.000008	0.46	0.355	-10	0.000007	-0.0002	-0.0005	0.000049	-0.0002	0.0001	-0.0001
23-Mar-12	53															
30-Mar-12	54	-0.002	2.64	-0.00004	0.321	-0.000005	0.37	0.32	-10	0.000005	-0.0002	-0.0005	0.000045	-0.0002	0.0002	-0.0001
6-Apr-12	55															
13-Apr-12	56	-0.002	2.73	-0.00004	0.345	-0.000005	0.36	0.318	-10	0.000006	0.0007	-0.0005	0.00004	-0.0002	0.0017	-0.0001
20-Apr-12	57															
27-Apr-12	58	-0.002	2.63	-0.00004	0.288	-0.000005	0.345	0.308	-10	0.000005	0.00098	-0.0005	0.000044	0.00059	0.0019	-0.0001
4-May-12	59															
11-May-12	60	-0.002	2.62	-0.00004	0.323	-0.000005	0.317	0.291	-10	0.000006	-0.0002	-0.0005	0.000037	-0.0002	0.00022	-0.0001
18-May-12	61															
25-May-12	62	-0.002	2.51	-0.00004	0.353	-0.000005	0.333	0.296	-10	0.0000067	0.0003	-0.0005	0.0000425	-0.0002	0.00071	-0.0001
1-Jun-12	63															
8-Jun-12	64	0.0029	2.12	-0.00004	0.238	-0.000005	0.363	0.211	-10	0.0000046	0.00031	-0.0005	0.0000297	-0.0002	0.00084	-0.0001
15-Jun-12	65															
22-Jun-12	66	-0.002	2.35	-0.00004	0.29	-0.000005	0.33	0.239	-10	0.0000044	-0.0002	-0.0005	0.0000306	-0.0002	0.00016	-0.0001
29-Jun-12	67															
6-Jul-12	68	-0.002	2.54	-0.00004	0.285	-0.000005	0.326	0.224	-10	0.0000051	-0.0002	-0.0005	0.0000286	-0.0002	0.00012	-0.0001
13-Jul-12	69															

HC 7

CONFIDENTIAL *DRAFT*

Sample =
09SWC484 40-43

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L
20-Jul-12	70	500	460	7.61	95	#N/A	5.0	58.1	2	-0.5	0.17	49.2	0.0462	-0.00002	0.000101	0.0102	-0.00001	-0.000005	-0.05	-0.000005	13.2	-0.0001	0.0000088	0.000228	0.0027	0.0000101	0.00269	3.93	0.000371	-0.01	0.000052	0.000039
27-Jul-12	71	500	440	7.57	83																											
3-Aug-12	72	500	470	7.70	85	#N/A	3.7	53.0	2	-0.5	0.16	40	0.0303	-0.00002	-0.00002	0.0102	-0.00001	-0.000005	-0.05	-0.000005	10.2	-0.0001	0.000008	0.00056	0.0084	0.000007	0.00226	3.56	0.000832	-0.01	-0.00005	0.000073
10-Aug-12	73	500	440	7.64	73																											
17-Aug-12	74	500	430	7.57	82	#N/A	4.3	50.0	2	-0.5	0.15	38.7	0.0367	0.00003	0.000043	0.0105	-0.00001	-0.000005	-0.05	#N/A	10.1	-0.0001	0.000015	0.000731	0.0096	0.000118	0.00226	3.27	0.00161	-0.01	-0.00005	#N/A
24-Aug-12	75	500	450	7.55	76																											
31-Aug-12	76	500	460	7.78	86	#N/A	3.5	53.4	2	-0.5	0.14	41.8	0.0133	-0.00002	0.000032	0.0101	-0.00001	-0.000005	-0.05	-0.000005	11.4	-0.0001	0.000011	0.000523	0.0026	0.000095	0.00201	3.28	0.00124	-0.01	-0.00005	0.000041
7-Sep-12	77	500	455	7.52	76																											
14-Sep-12	78	500	460	7.52	81	#N/A	4.1	49.7	2	-0.5	0.12	37.2	0.0243	-0.00002	0.000092	0.00917	-0.00001	-0.000005	-0.05	-0.000005	9.56	0.00014	0.000006	0.000568	0.0055	0.000024	0.00191	3.24	0.000242	-0.01	-0.00005	0.000092
21-Sep-12	79	500	485	7.53	94																											
28-Sep-12	80	500	440	7.65	85	#N/A	3.0	55.1	2	-0.5	0.13	38.5	0.0327	-0.00002	0.000047	0.00995	-0.00001	-0.000005	-0.05	-0.000005	10.3	0.00047	0.000011	0.00166	0.0094	0.000253	0.00193	3.1	0.00133	-0.01	-0.00005	0.000193
5-Oct-12	81	500	430	7.46	#N/A																											
12-Oct-12	82	500	495	7.46	85	#N/A	6.6	55.5	2	-0.5	0.13	44.1	0.0136	-0.00002	0.000122	0.0104	-0.00001	-0.000005	-0.05	-0.000005	12	-0.0001	-0.000005	0.00125	0.0031	0.00001	0.00215	3.41	0.000235	-0.01	-0.00005	-0.00002
19-Oct-12	83	500	480	7.55	88																											
26-Oct-12	84	500	475	7.66	84	#N/A	2.8	53.1	3	-0.5	0.1	40.4	0.024	-0.00002	-0.00002	0.0097	-0.00001	-0.000005	-0.05	-0.000005	11	-0.0001	-0.000005	0.000822	0.0082	0.000018	0.0017	3.15	0.00029	-0.01	0.00008	0.000051
2-Nov-12	85	500	475	7.53	87																											
9-Nov-12	86	500	480	7.55	82	#N/A	5.9	57.5	3	-0.5	0.1	43.5	0.0155	-0.00002	-0.00002	0.011	-0.00001	-0.000005	-0.05	-0.000005	11.9	-0.0001	0.000005	0.000228	0.0041	0.000034	0.00191	3.34	0.000388	-0.01	0.000072	0.000066
16-Nov-12	87	500	480	7.55	87																											
23-Nov-12	88	500	485	7.72	89	#N/A	4.1	54.9	3	-0.5	0.1	44.1	0.0156	-0.00002	#N/A	0.00998	-0.00001	-0.000005	-0.05	-0.000005	11.8	-0.0001	0.000022	0.00018	0.003	0.000027	0.00211	3.55	0.000281	-0.01	-0.00005	#N/A
30-Nov-12	89	500	500	7.58	87																											
7-Dec-12	90	500	480	7.53	80	#N/A	7.2	52.2	2	-0.5	0.093	40.1	0.0233	-0.00002	0.000067	0.0088	-0.00001	-0.000005	-0.05	-0.000005	11.3	-0.0001	-0.000005	0.000965	0.0056	0.000031	0.00157	2.91	0.00103	-0.01	0.000058	0.000029
14-Dec-12	91	500	475	7.57	70																											
21-Dec-12	92	500	460	7.53	64	#N/A	3.8	41.0	-2	-0.5	0.082	29.6	0.0199	-0.00002	0.000047	0.00723	-0.00001	-0.000005	-0.05	-0.000005	8.28	-0.0001	0.000005	0.000096	0.005	0.000009	0.00123	2.17	0.00114	-0.01	-0.00005	0.000044
28-Dec-12	93	500	450	7.61	65																											
4-Jan-13	94	500	490	7.57	59	#N/A	5.8	40.9	-2	0.9	0.082	29.6	0.0158	-0.00002	-0.00002	0.0081	-0.00001	-0.000005	-0.05	0.000005	8.18	0.0008	0.000021	0.000176	0.0042	0.000149	0.00107	2.22	0.000944	-0.01	-0.00005	0.000095
11-Jan-13	95	500	465	7.59	77																											
18-Jan-13	96	500	460	7.56	68	#N/A	2.5	44.6	2	0.6	0.062	33.7	0.0161	-0.00002	0.000021	0.00867	-0.00001	-0.000005	-0.05	-0.000005	9.34	-0.0001	-0.000005	0.000094	0.0029	0.000021	0.00135	2.52	0.000394	-0.01	-0.00005	0.000074
25-Jan-13	97	500	460	7.53	60																											
1-Feb-13	98	500	440	7.54	72	#N/A	4.2	43.9	3	-0.5	0.068	35	0.0168	-0.00002	0.000034	0.00926	-0.00001	-0.000005	-0.05	-0.000005	9.9	-0.0001	0.000005	-0.00005	0.0036	0.000006	0.0014	2.49	0.00077	-0.01	0.000053	0.000049
8-Feb-13	99	500	510	7.50	79																											
15-Feb-13	100	500	460	7.59	74	#N/A	3.5	41.1	2	0.56	0.073	33.8	0.0236	-0.00002	0.000024	0.00863	-0.00001	-0.000005	-0.05	-0.000005	9.64	-0.0001	0.000006	0.000076	0.0063	0.000008	0.00121	2.37	0.0005	-0.01	0.000051	0.000029
22-Feb-13	101	500	440	7.55	69																											
1-Mar-13	102	500	450	7.41	67	#N/A	5.7	43.8	3	-0.5	0.055	31.3	0.0277	-0.00002	-0.00002	0.00822	-0.00001	-0.000005	-0.05	-0.000005	9.11	-0.0001	0.000005	0.000145	0.0069	0.000013	0.00132	2.08	0.000942	-0.01	0.000195	-0.00002
8-Mar-13	103	500	470	7.53	59																											
15-Mar-13	104	500	465	7.52	69	#N/A	5.6	38.4	3	0.65	0.061	32.1	0.0134	-0.00002	0.000037	0.00834	-0.00001	-0.000005	-0.05	-0.000005	9.35	-0.0001	-0.000005	0.000098	0.0035	-0.000005	0.00128	2.13	0.000625	-0.01	0.000058	0.000049
22-Mar-13	105	500	440	7.44	63																											
29-Mar-13	106	500	440	7.53	61	#N/A	4.3	34.7	3	-0.5	0.054	29.6	0.0201	-0.00002	0.00002	0.00776	-0.00001	-0.000005	-0.05	-0.000005	8.66	-0.0001	0.000005	0.000075	0.0047	0.000018	0.00127	1.95	0.000773	-0.01	0.000062	0.000044
5-Apr-13	107	500	445	7.40	57																											
12-Apr-13	108	500	470	7.50	63	#N/A	6.8	37.4	2	0.54	0.051	28.8	0.0264	-0.00002	-0.00002	0.00841	-0.00001	-0.000005	-0.05	-0.000005	8.41	-0.0001	-0.000005	0.000209	0.0069	0.000007	0.00112	1.89	0.000654	-0.01	-0.00005	-0.00002
19-Apr-13	109	500	460	7.46	57																											
26-Apr-13	110	500	445	7.50	57	#N/A	4.1	32.6	3	0.6	0.048	25.3	0.0268	-0.00002	0.000029	0.00795	-0.00001	-0.000005	-0.05	-0.000005	7.52	-0.0001	0.000006	0.00014	0.0071	-0.000005	0.00105	1.59	0.000689	-0.01	0.000071	0.000036
3-May-13	111	500	440	7.42	62																											
10-May-13	112	500	420	7.41	57	#N/A	4.3	31.2	2	-0.5	0.044	25.9	0.0307	-0.00002	0.000024	0.00709	-0.00001	-0.000005	-0.05	-0.000005	7.61	-0.0001	-0.000005	0.000108	0.0095	0.000038	0.00101	1.66	0.000928	-0.01	0.00005	0.000066
17-May-13	113	500	445	7.35	57																											
24-May-13	114	500	450	7.41	50	#N/A	4.2	30.6	2																							

April 1 Alkalinity 70.2. Repeat = 68.8.
June 10/11 Ni 0.00298. Repeat =0.0031, data confirmed suspect contamination
July 22/11 Pb 0.000776 and P 0.137. Repeat P=0.122. Data confirmed, suspect contamination.
Aug 19/11 Ni=0.00026, repeat=0.00026. Data confirmed, suspect contamination
Nov 11/11 Cd=0.000065, Zn=0.0021, repeat=0.000066, Zn= 0.0026. Data confirmed, suspect contamination
Dec 23/11 Cr=0.001, repeat=0.0011. Data confirmed, susepct contamination
Jan 20/12 P=0.186, Ag=0.00131, Pb=0.00281. repeat Pb=0.0029, P= 0.221, Ag=0.00135. Data onfirmed, suspect contamination
Jan 20/12 Cd=0.000075, Cu=0.00902, Ni=0.00049, Tl=0.000028, Zn=0.0077. Repeat Cd=0.000075, Cu=0.00878, Zn=0.0078, Tl=0.000028, Ni=0.00047. Data confirmed, suspect contamination.
Mar 2/12 Pb=0.000234, repeat=0.000228. Data confirmed, suspect contamination
Apr 27/12 Ni=0.000162, repeat=0.000187. Data confirmed, suspect contamination
Aug 17/12 Ni=0.0979, Cd=0.000178, Zn=0.00344. repeat Ni=0.102, Cd=0.000177, Zn=0.00299. Data confirmed, suspect contamination
Jun 22/12 Fe=0.108, repeat=0.0028. Data accepted
Aug 3/12 Sb=0.000048, repeat= -0.00002. Data accepted
Oct 5/12 Conductivity= 5. Cannot repeat suspect titrator malfunction
Nov 23/12 As=0.000812, Ni=0.000451. repeat As=0.000812, Ni=0.000197. Data confirmed, suspect contamination
Dec 7/12 Ni=0.000227, repeat= 0.000029. data accepted

HC 7

Sample =
09SWC484 40-43

Date	Cycle No.	P	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
20-Jul-12	70	-0.002	2.43	-0.00004	0.343	-0.000005	0.311	0.238	-10	0.0000043	-0.0002	-0.0005	0.0000378	0.00032	0.00098	-0.0001
27-Jul-12	71															
3-Aug-12	72	-0.002	2.32	-0.00004	0.294	-0.000005	0.325	0.204	-10	0.000006	-0.0002	-0.0005	0.000027	-0.0002	0.00025	-0.0001
10-Aug-12	73															
17-Aug-12	74	0.0075	2.31	-0.00004	0.292	-0.000005	0.315	0.198	-10	0.000005	0.00039	-0.0005	0.000027	-0.0002	#N/A	-0.0001
24-Aug-12	75															
31-Aug-12	76	-0.002	2.21	-0.00004	0.279	-0.000005	0.283	0.204	-10	0.000005	-0.0002	-0.0005	0.000025	-0.0002	0.00028	-0.0001
7-Sep-12	77															
14-Sep-12	78	-0.002	2.06	-0.00004	0.272	-0.000005	0.277	0.188	-10	0.000004	-0.0002	-0.0005	0.000022	-0.0002	0.00053	-0.0001
21-Sep-12	79															
28-Sep-12	80	-0.002	2.12	-0.00004	0.324	-0.000005	0.301	0.185	-10	0.000005	-0.0002	-0.0005	0.000031	-0.0002	0.00047	-0.0001
5-Oct-12	81															
12-Oct-12	82	-0.002	2.23	-0.00004	0.328	-0.000005	0.241	0.207	-10	0.000004	-0.0002	-0.0005	0.000026	-0.0002	0.00034	-0.0001
19-Oct-12	83															
26-Oct-12	84	0.0093	1.9	-0.00004	0.327	-0.000005	0.184	0.196	-10	0.000005	-0.0002	-0.0005	0.000024	-0.0002	0.00027	-0.0001
2-Nov-12	85															
9-Nov-12	86	-0.002	2.15	-0.00004	0.353	-0.000005	0.216	0.204	-3	0.000005	-0.0002	-0.0005	0.000024	-0.0002	0.00036	-0.0001
16-Nov-12	87															
23-Nov-12	88	-0.002	2.19	-0.00004	0.371	-0.000005	0.197	0.191	-3	0.000004	0.00043	-0.0005	0.000027	-0.0002	0.0005	-0.0001
30-Nov-12	89															
7-Dec-12	90	-0.002	2.01	-0.00004	0.339	-0.000005	0.169	0.175	-3	0.000004	0.00028	-0.0005	0.000026	-0.0002	0.00112	-0.0001
14-Dec-12	91															
21-Dec-12	92	-0.002	1.54	-0.00004	0.275	-0.000005	0.148	0.135	-3	0.000003	-0.0002	-0.0005	0.000016	-0.0002	0.00017	-0.0001
28-Dec-12	93															
4-Jan-13	94	-0.002	1.71	-0.00004	0.254	-0.000005	0.189	0.13	-3	0.000004	-0.0002	-0.0005	0.000012	-0.0002	0.00042	-0.0001
11-Jan-13	95															
18-Jan-13	96	-0.002	1.77	-0.00004	0.314	-0.000005	0.147	0.145	-3	0.000003	-0.0002	-0.0005	0.000019	-0.0002	0.00023	-0.0001
25-Jan-13	97															
1-Feb-13	98	-0.002	2	-0.00004	0.353	-0.000005	0.172	0.15	-3	0.000004	-0.0002	-0.0005	0.000017	-0.0002	-0.0001	-0.0001
8-Feb-13	99															
15-Feb-13	100	-0.002	2	-0.00004	0.341	-0.000005	0.164	0.149	-3	0.000004	-0.0002	-0.0005	0.000022	-0.0002	0.00013	-0.0001
22-Feb-13	101															
1-Mar-13	102	-0.002	1.79	-0.00004	0.351	-0.000005	0.165	0.133	-3	0.000003	-0.0002	-0.0005	0.000013	-0.0002	0.00048	-0.0001
8-Mar-13	103															
15-Mar-13	104	-0.002	1.91	-0.00004	0.361	-0.000005	0.153	0.138	-3	0.000003	-0.0002	-0.0005	0.000017	-0.0002	-0.0001	-0.0001
22-Mar-13	105															
29-Mar-13	106	-0.002	1.81	-0.00004	0.333	-0.000005	0.145	0.128	-3	-0.000002	-0.0002	-0.0005	0.000019	-0.0002	0.0001	-0.0001
5-Apr-13	107															
12-Apr-13	108	-0.002	1.74	-0.00004	0.324	-0.000005	0.137	0.125	-3	0.000002	-0.0002	0.00066	0.000014	-0.0002	0.00029	-0.0001
19-Apr-13	109															
26-Apr-13	110	-0.002	1.58	-0.00004	0.275	0.000008	0.133	0.11	-3	-0.000002	-0.0002	-0.0005	0.000014	-0.0002	0.00022	-0.0001
3-May-13	111															
10-May-13	112	-0.002	1.61	-0.00004	0.338	-0.000005	0.161	0.105	-3	-0.000002	-0.0002	-0.0005	0.000012	-0.0002	0.00056	-0.0001
17-May-13	113															
24-May-13	114															

HC 8

CONFIDENTIAL *DRAFT*

Sample =
09SWC498 54-57

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L
18-Mar-11	0	500	350	7.56	259	#N/A	3.9	79.1	5	2.1	0.64	101	0.0727	-0.00002	0.00021	0.0112	-0.00001	-0.000005	-0.05	0.000005	32.5	-0.0001	0.000061	0.00504	0.002	0.000015	0.0016	4.74	0.0251	-0.01	0.00106
25-Mar-11	1	500	465	8.00	141																										
1-Apr-11	2	500	455	7.96	99	#N/A	5.0	50.8	5	0.7	0.91	27.6	0.0902	0.00003	0.00032	0.00259	-0.00001	-0.000005	-0.05	-0.000005	8.85	-0.0001	0.000041	0.00232	0.007	0.000009	0.0007	1.34	0.0125	-0.01	0.002
8-Apr-11	3	500	440	7.84	82																										
15-Apr-11	4	500	460	7.87	77	#N/A	2.3	43.7	3	-0.5	0.75	24	0.0729	-0.00002	0.00011	0.00264	-0.00001	-0.000005	-0.05	-0.000005	7.77	0.0002	0.000014	0.00115	0.008	0.000015	-0.0005	1.11	0.0144	-0.01	0.00062
22-Apr-11	5	500	445	7.78	77																										
29-Apr-11	6	500	470	7.81	77	#N/A	3.8	44.4	5	-0.5	0.74	29.8	0.0847	0.00002	0.0001	0.00265	-0.00001	-0.000005	-0.05	-0.000005	9.81	-0.0001	0.000009	0.00211	0.009	0.00001	0.0008	1.3	0.018	-0.01	0.00029
6-May-11	7	500	455	7.71	67																										
13-May-11	8	500	475	7.77	69	#N/A	3.4	33.3	5	-0.5	0.68	24.8	0.076	-0.00002	0.00012	0.00229	-0.00001	-0.000005	-0.05	-0.000005	7.96	-0.0001	-0.000005	0.00109	0.006	0.000009	-0.0005	1.2	0.0142	-0.01	0.00019
20-May-11	9	500	455	7.90	67																										
27-May-11	10	500	460	7.85	65	#N/A	5.2	33.9	3	-0.5	0.59	25.8	0.0586	0.00004	0.00043	0.00202	-0.00001	-0.000005	-0.05	-0.000005	8.36	-0.0001	-0.000005	0.00103	0.003	0.000007	-0.0005	1.19	0.014	-0.01	0.00017
3-Jun-11	11	500	465	7.69	68																										
10-Jun-11	12	500	490	7.69	69	#N/A	2.5	36.6	3	0.5	0.58	27.5	0.0711	-0.00002	0.00012	0.00238	-0.00001	-0.000005	-0.05	0.000005	9	-0.0001	-0.000005	0.00092	0.009	0.000021	0.0007	1.22	0.0154	-0.01	0.00013
17-Jun-11	13	500	470	7.71	52																										
24-Jun-11	14	500	485	7.94	67	#N/A	1.7	36.8	2	0.8	0.52	38.7	0.0812	-0.00002	0.00012	0.00262	-0.00001	-0.000005	-0.05	-0.000005	13.2	-0.0001	0.000008	0.00095	#N/A	0.000008	0.0005	1.42	0.0174	-0.01	0.00011
1-Jul-11	15	500	475	7.92	64																										
8-Jul-11	16	500	485	7.68	67	#N/A	3.1	36.0	5	-0.5	0.56	27.5	0.0568	-0.00002	0.00044	0.0021	-0.00001	-0.000005	-0.05	0.000005	8.99	-0.0001	-0.000005	0.00077	0.004	0.000009	0.0006	1.22	0.0133	-0.02	0.00006
15-Jul-11	17	500	480	7.77	75																										
22-Jul-11	18	500	500	7.81	68	#N/A	3.2	36.0	-2	0.7	0.58	28.5	0.0698	-0.00002	0.0001	0.00309	-0.00001	-0.000005	-0.05	-0.000005	9.19	-0.0001	0.000018	0.00102	0.008	0.000014	0.0007	1.35	0.014	-0.01	-0.00005
29-Jul-11	19	500	460	7.91	72																										
5-Aug-11	20	500	460	7.69	68	#N/A	3.2	36.0	-2	-0.5	0.59	30.6	0.0615	-0.00002	0.0002	0.00229	-0.00001	-0.000005	-0.05	-0.000005	9.88	0.0001	0.000007	0.0009	0.007	0.000008	-0.0005	1.44	0.0161	-0.01	0.00007
12-Aug-11	21	500	495	7.87	74																										
19-Aug-11	22	500	465	7.72	73	#N/A	4.2	38.9	2	-0.5	0.72	32.9	0.0707	-0.00002	0.00012	0.00294	-0.00001	-0.000005	-0.05	-0.000005	10.9	-0.0001	0.00001	0.00119	0.01	0.000026	0.0006	1.41	0.0128	-0.01	0.00006
26-Aug-11	23	500	475	7.70	65																										
2-Sep-11	24	500	440	7.80	60	#N/A	4.0	34.4	3	0.7	0.6	27	0.0532	-0.00002	0.00008	0.00204	-0.00001	-0.000005	-0.05	-0.000005	8.78	-0.0001	0.000006	0.00086	0.004	0.000009	0.0005	1.15	0.0127	-0.01	-0.00005
9-Sep-11	25	500	435	7.83	64																										
16-Sep-11	26	500	470	7.59	68	#N/A	4.7	38.0	-2	0.9	0.71	31.1	0.0583	-0.00002	0.00011	0.0026	-0.00001	-0.000005	-0.05	0.000006	10.2	-0.0001	0.000009	0.00083	0.007	0.000008	0.0006	1.39	0.0107	-0.01	-0.00005
23-Sep-11	27	500	460	7.61	61																										
30-Sep-11	28	500	465	7.60	59	#N/A	3.0	32.4	-2	-0.5	0.54	27.7	0.0482	0.00003	0.0002	0.00229	-0.00001	-0.000005	-0.05	-0.000005	9.08	-0.0001	0.00001	0.00077	0.005	0.000015	0.0006	1.21	0.0138	-0.01	-0.00005
7-Oct-11	29	500	465	7.68	53																										
14-Oct-11	30	500	475	7.52	55	#N/A	3.3	30.8	2	-0.5	0.64	26.6	0.0557	-0.00002	0.00008	0.00228	-0.00001	-0.000005	-0.05	-0.000005	8.72	-0.0001	-0.000005	0.00067	0.003	0.000006	-0.0005	1.17	0.0153	-0.01	-0.00005
21-Oct-11	31	500	465	7.77	55																										
28-Oct-11	32	500	470	7.67	60	#N/A	3.8	32.5	3	-0.5	0.55	28.3	0.0565	-0.00002	0.00006	0.0023	-0.00001	-0.000005	-0.05	-0.000005	9.3	-0.0001	-0.000005	0.00083	0.005	0.00001	-0.0005	1.23	0.0151	-0.01	-0.00005
4-Nov-11	33	500	465	7.75	55																										
11-Nov-11	34	500	465	7.93	59	#N/A	5.1	35.6	2	-0.5	0.6	28.6	0.0656	-0.00002	0.00008	0.00284	-0.00001	-0.000005	-0.05	0.000007	9.36	-0.0001	0.000007	0.00106	0.008	0.000015	0.0006	1.27	0.0158	-0.01	-0.00005
18-Nov-11	35	500	460	7.70	60																										
25-Nov-11	36	500	475	7.71	58	#N/A	3.8	32.9	-2	-0.5	0.46	27.8	0.0651	-0.00002	0.0001	0.00373	-0.00001	-0.000005	-0.05	0.000006	9.15	-0.0001	0.000017	0.00214	0.01	0.000124	0.0006	1.2	0.0143	-0.01	-0.00005
2-Dec-11	37	500	460	7.77	58																										
9-Dec-11	38	500	460	7.65	58	#N/A	4.4	34.4	2	-0.5	0.57	28.4	0.0658	-0.00002	0.00005	0.00249	-0.00001	-0.000005	-0.05	-0.000005	9.39	0.0003	0.000008	0.00124	0.009	0.000015	0.0005	1.2	0.0164	-0.01	-0.00005
16-Dec-11	39	500	465	7.81	58																										
23-Dec-11	40	500	455	7.77	52	#N/A	3.8	31.4	4	-0.5	0.56	24.2	0.0625	-0.00002	0.00003	0.00287	-0.00001	-0.000005	-0.05	-0.000005	7.88	-0.0001	0.00001	0.0007	0.006	0.000014	-0.0005	1.1	0.0117	-0.01	-0.00005
30-Dec-11	41	500	485	7.83	52																										
6-Jan-12	42	500	475	7.51	50	#N/A	3.6	31.6	2	-0.5	0.53	24.4	0.0545	-0.00002	0.00005	0.00256	-0.00001	-0.000005	-0.05	-0.000005	8.03	-0.0001	0.000006	0.00067	0.005	0.000014	0.0005	1.05	0.0146	-0.01	-0.00005
13-Jan-12	43	500	470	7.73	48																										
20-Jan-12	44	500	465	7.68	53	#N/A	2.9	35.4	2	-0.5	0.56	23.3	0.0599	#N/A	0.00035	0.00275	-0.00001	-0.000005	-0.05	-0.000005	7.68	-0.0001	0.000006	0.00131	0.01	0.000027	0.0005	0.99	0.0137	-0.01	-0.00005
27-Jan-12	45	500	475	7.64	49																										
3-Feb-12	46	500	480	7.74	53	#N/A	5.9	35.3	2	-0.5	0.56	25	0.0565	-0.00002	0.00006	0.00258	-0.00001	-0.000005	-0.05	-0.000005	8.3	-0.0001	0.000008	0.00066	0.008	0.000014	0.0005	1.02	0.0161	0.01	-0.00005
10-Feb-12	47	500	465	7.78	60																										
17-Feb-12	48	500	465	7.62	55	#N/A	3.0	31.2	3	-0.5	0.56	26.2	0.0614	-0.00002	0.00013	0.00298	-0.00001	-0.000005	-0.05	-0.000005	8.68	0.0002	0.000007	0.00081	0.007	0.000005	0.0007	1.09	0.0145	-0.01	-0.00005
24-Feb-12	49	500	460	7.56	53																										
2-Mar-12	50	500	455	7.72	53	#N/A	7.6	34.9	3	-0.5	0.51	23.2	0.0505	-0.00002	0.00008	0.00285	-0.00001	-0.000005	-0.05	-0.000005	7.59	-0.0001	-0.000005	0.00065	0.005	0.000008	0.0006	1.03	0.0152	-0.01	-0.00005
9-Mar-12	51	500	485	7.74	55																										
16-Mar-12	52	500	465	7.65	52	#N/A	2.8	29.2	3	-0.5	0.54	23.9	0.0495	-0.00002	-0.00002	0.00281	-0.00001	-0.000005	-0.05	0.000012	7.96	-0.0001	0.000007	0.00128	0.006	0.000069	-0.0005	0.97	0.0128	-0.01	-0.00005
23-Mar-12	53	500	460	7.71	60																										
30-Mar-12	54	500	480	7.48	60	#N/A	4.1	32.4	2	-0.5	0.65	26.8	0.0458	0.00003	0.00004	0.0037	-0.00001	-0.000005	-0.05	-0.000005	8.99	-0.0001	-0.000005	0.00091	0.005	0.000008	0.0006	1.05	0.0143	-0.01	-0.00005
6-Apr-12	55	500	480	7.72	61																										
13-Apr-12	56	500	445	7.71	60	#N/A	2.3	33.0	3	-0.5	0.6	27.4	0.0643	-0.00002	0.00002	0.00363	-0.00001	-0.000005	-0.05	#N/A	9.18	-0.0001	-0.000005	0.00104	0.012	#N/A	0.0007	1.09	0.0148	-0.01	-0.00005
20-Apr-12	57	500	465	7.69	63																										
27-Apr-12	58	500	460	7.71	57	#N/A	4.4	32.0	3	-0.5	0.62	24.9	0.0483	0.000034	0.000131	0.00317	-0.00001	-0.000005	-0.05	0.000006	8.29	0.00013	0.000011	0.0011	0.011	0.000043	-0.0005	1.02	0.0132	-0.01	-0.00005
4-May-12	59	500	470	7.80	57																										
11-May-12	60	500	475	7.69	62	#N/A	3.3	32.8	4	0.51	0.67	28.2	0.0539	-0.00002	0.000108	0.00376	-0.00001	-0.000005	-0.05	-0.000005	9.49	0.0001	0.000009	0.00187	0.0064	0.000016	0.00051	1.08	0.015	-0.01	0.000054
18-May-12	61	500	465	7.65	57																										
25-May-12	62	500	475	7.53	60	#N/A	4.2	33.6	2	-0.5	0.66	26.2	0.0697	-0.00002	0.000058	0.00407	-0.00001	-0.000005	-0.05	-0.000005	8.84	0.00043	0.0000081	0.000812	0.0113	0.000142	0.00064	1.01	0.0168	-0.01	-0.00005
1-Jun-12	63	500	495	7.66	63																										
8-Jun-12	64	500	460	7.64	62	#N/A	3.3	34.5	3	-0.5	0.66	26.5	0.0585	-0.00002	0.000041	0.00399	-0.00001	-0.000005	-0.05	0.0000123	8.86	-0.0001	0.0000102	0.000943	0.0078	0.0000204	0.00064	1.05	0.0159	-0.01	-0.00005
15-Jun-12	65	500	475	7.61	61																										
22-Jun-12	66	500	445	7.54	48	#N/A	4.3	26.6	2	-0.5	0.57	21.5	0.056	-0.00002	0.000354	0.00328	-0.00001	-0.000005	-0.05	-0.000005	7.32	-0.0001	0.0000061	0.000632	0.0075	0.0000103	-0.0005	0.781	0.0148	-0.01	-0.00005

HC 8

Sample =
09SWC498 54-57

Date	Cycle No.	Ni	P	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
18-Mar-11	0	0.00011	-0.002	5.81	0.00104	1.18	-0.000005	11.6	0.858	-10	0.000006	0.00003	-0.0005	0.000277	0.0007	0.0001	0.0001
25-Mar-11	1																
1-Apr-11	2	0.00011	0.002	2.58	0.00065	1.39	-0.000005	5.47	0.221	-10	0.000004	0.00026	0.0006	0.000549	0.0024	0.0002	-0.0001
8-Apr-11	3																
15-Apr-11	4	0.0001	-0.002	2.15	0.0003	1.14	-0.000005	3.56	0.211	-10	0.000003	0.00019	0.0007	0.00035	0.0023	0.0006	-0.0001
22-Apr-11	5																
29-Apr-11	6	0.00008	-0.002	2.4	0.00029	1.57	-0.000005	2.64	0.219	-10	-0.000002	0.00012	0.0008	0.000307	0.0024	0.0004	-0.0001
6-May-11	7																
13-May-11	8	0.0001	-0.002	1.97	0.00025	1.15	-0.000005	1.94	0.197	-10	0.000004	0.00007	0.001	0.000274	0.0019	0.0001	-0.0001
20-May-11	9																
27-May-11	10	-0.00002	-0.002	1.68	0.00037	1.08	-0.000005	1.28	0.204	-10	0.000003	0.00006	-0.0005	0.00018	0.0018	0.0001	-0.0001
3-Jun-11	11																
10-Jun-11	12	0.00004	-0.002	1.68	0.00044	1.12	-0.000005	0.87	0.229	-10	0.000002	0.00006	-0.0005	0.00017	0.0017	-0.0001	-0.0001
17-Jun-11	13																
24-Jun-11	14	-0.00002	-0.002	1.71	0.00064	1.62	-0.000005	0.8	0.229	-10	0.000002	0.00003	0.0012	0.000152	0.0016	0.0017	-0.0001
1-Jul-11	15																
8-Jul-11	16	0.00004	-0.002	1.39	0.00048	1.07	-0.000005	0.61	0.216	-10	-0.000002	0.00006	-0.0005	0.00014	0.0014	0.0017	-0.0001
15-Jul-11	17																
22-Jul-11	18	#N/A	-0.002	1.49	0.00059	1.13	-0.000005	0.53	0.221	-10	-0.000002	0.00012	0.0007	0.000131	0.0016	0.0007	-0.0001
29-Jul-11	19																
5-Aug-11	20	0.00003	0.003	1.43	0.00058	1.09	-0.000005	0.49	0.229	-10	0.000002	0.00004	-0.0005	0.000137	0.0015	0.0003	-0.0001
12-Aug-11	21																
19-Aug-11	22	#N/A	-0.002	1.49	0.00065	1.3	-0.000005	0.45	0.255	-10	0.000003	-0.00001	0.0009	0.000154	0.0017	0.0002	-0.0001
26-Aug-11	23																
2-Sep-11	24	0.00002	-0.002	1.1	0.00057	0.876	-0.000005	0.3	0.208	-10	0.000002	0.00003	0.0005	0.000098	0.0011	0.0003	-0.0001
9-Sep-11	25																
16-Sep-11	26	0.00004	-0.002	1.28	0.00061	0.995	-0.000005	0.29	0.247	-10	0.000002	0.00002	-0.0005	0.00014	0.0014	0.0003	-0.0001
23-Sep-11	27																
30-Sep-11	28	-0.00002	-0.002	1.1	0.0005	0.852	-0.000005	0.3	0.209	-10	0.000005	0.00014	0.0006	0.000103	0.0009	-0.0001	-0.0001
7-Oct-11	29																
14-Oct-11	30	-0.00002	-0.002	1.11	0.00056	0.854	-0.000005	0.29	0.192	-10	-0.000002	0.00002	-0.0005	0.000135	0.0012	0.0004	-0.0001
21-Oct-11	31																
28-Oct-11	32	0.00004	-0.002	1.1	0.00058	0.828	-0.000005	0.25	0.212	-10	0.000003	0.00028	-0.0005	0.000093	0.0011	0.0002	-0.0001
4-Nov-11	33																
11-Nov-11	34	0.00018	-0.002	1.15	0.00063	0.895	-0.000005	0.31	0.211	-10	0.000009	0.00013	0.0007	0.000094	0.001	0.0004	-0.0001
18-Nov-11	35																
25-Nov-11	36	0.00019	-0.002	1.12	0.00054	0.812	-0.000005	0.26	0.197	-10	0.000002	0.00033	0.0006	0.000078	0.001	0.001	-0.0001
2-Dec-11	37																
9-Dec-11	38	0.00012	-0.002	1.11	0.00059	0.741	-0.000005	0.26	0.201	-10	0.000002	0.00015	0.0007	0.000091	0.0008	0.0003	-0.0001
16-Dec-11	39																
23-Dec-11	40	0.00028	-0.002	1.13	0.00054	0.673	-0.000005	0.23	0.18	-10	0.000002	-0.00001	-0.0005	0.000073	0.0007	0.0003	-0.0001
30-Dec-11	41																
6-Jan-12	42	0.00004	-0.002	1.13	0.00049	0.694	-0.000005	0.22	0.178	-10	-0.000002	0.00008	-0.0005	0.000065	0.0008	0.0003	-0.0001
13-Jan-12	43																
20-Jan-12	44	0.00013	-0.002	1.02	0.00048	0.635	0.000006	0.44	0.182	-10	0.000002	-0.0002	0.0005	0.000067	0.0009	0.0003	-0.0001
27-Jan-12	45																
3-Feb-12	46	0.00002	-0.002	1.31	0.00049	0.677	-0.000005	0.2	0.163	-10	0.000002	-0.0002	-0.0005	0.000059	0.0007	-0.0001	-0.0001
10-Feb-12	47																
17-Feb-12	48	-0.00002	-0.002	1.57	0.00051	0.688	-0.000005	0.23	0.179	-10	0.000003	-0.0002	-0.0005	0.0001	0.001	-0.0001	-0.0001
24-Feb-12	49																
2-Mar-12	50	0.00004	-0.002	1.41	0.00041	0.53	-0.000005	0.19	0.166	-10	0.000003	-0.0002	-0.0005	0.000059	0.0005	0.0002	-0.0001
9-Mar-12	51																
16-Mar-12	52	0.00011	-0.002	1.38	0.00046	0.645	-0.000005	0.22	0.157	-10	0.000004	-0.0002	-0.0005	0.000057	0.0005	0.0003	-0.0001
23-Mar-12	53																
30-Mar-12	54	0.00003	-0.002	1.55	0.00053	0.658	-0.000005	0.2	0.185	-10	0.000004	-0.0002	0.0005	0.00006	0.0006	-0.0001	-0.0001
6-Apr-12	55																
13-Apr-12	56	0.00002	-0.002	1.72	0.00059	0.739	-0.000005	0.19	0.187	-10	0.000006	0.0002	0.0013	0.000064	0.0007	0.0005	-0.0001
20-Apr-12	57																
27-Apr-12	58	#N/A	-0.002	1.7	0.00054	0.633	-0.000005	0.225	0.177	-10	0.000015	0.00085	0.00058	0.000057	0.00138	0.00174	-0.0001
4-May-12	59																
11-May-12	60	0.000097	-0.002	1.96	0.000558	0.764	-0.000005	0.227	0.193	-10	0.000004	-0.0002	0.00062	0.000048	0.00071	0.00031	-0.0001
18-May-12	61																
25-May-12	62	0.000076	-0.002	1.72	0.000527	0.772	-0.000005	0.243	0.177	-10	0.0000052	-0.0002	0.00126	0.000052	0.00074	0.00135	-0.0001
1-Jun-12	63																
8-Jun-12	64	0.000173	0.0043	1.79	0.000486	0.645	-0.000005	0.253	0.173	-10	0.0000087	0.0005	0.00058	0.0000537	0.00069	0.00076	-0.0001
15-Jun-12	65																
22-Jun-12	66	0.000031	0.002	1.48	0.00044	0.555	-0.000005	0.151	0.141	-10	0.0000043	-0.0002	0.00075	0.0000363	0.0006	0.00016	-0.0001

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Sample =
09SWC498 54-57

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L
29-Jun-12	67	500	455	7.63	55																										
6-Jul-12	68	500	465	7.63	55	#N/A	4.4	30.4	2	-0.5	0.59	24.2	0.06	-0.00002	0.000098	0.00381	-0.00001	-0.000005	-0.05	-0.000005	8.31	-0.0001	0.0000074	0.000784	0.0085	0.0000161	0.00069	0.835	0.0148	-0.01	-0.00005
13-Jul-12	69	500	465	7.63	52																										
20-Jul-12	70	500	465	7.60	50	#N/A	4.1	29.9	2	0.65	0.56	24.9	0.0734	-0.00002	0.000174	0.00317	-0.00001	-0.000005	-0.05	-0.000005	8.51	-0.0001	0.000005	0.000839	0.0031	0.0000156	0.00054	0.881	0.0149	-0.01	-0.00005
27-Jul-12	71	500	450	7.83	52																										
3-Aug-12	72	500	460	7.64	54	#N/A	3.5	29.6	2	-0.5	0.65	23.9	0.0596	0.000028	-0.00002	0.00377	-0.00001	-0.000005	-0.05	-0.000005	8.11	-0.0001	0.00001	0.000926	0.0106	0.000012	0.0006	0.875	0.0166	-0.01	-0.00005
10-Aug-12	73	500	475	7.64	47																										
17-Aug-12	74	500	460	7.56	50	#N/A	4.0	29.8	2	-0.5	0.6	24	0.0613	0.000026	0.000058	0.00392	-0.00001	-0.000005	-0.05	0.000017	8.15	-0.0001	0.000017	0.00117	0.0127	#N/A	0.00065	0.877	0.0168	-0.01	-0.00005
24-Aug-12	75	500	455	7.66	52																										
31-Aug-12	76	500	475	7.70	54	#N/A	3.6	31.5	2	-0.5	0.62	24.8	0.0565	-0.00002	0.000089	0.00371	-0.00001	-0.000005	-0.05	-0.000005	8.51	-0.0001	0.000008	0.000716	0.008	0.000028	0.00053	0.873	0.0179	0.01	-0.00005
7-Sep-12	77	500	445	7.56	48																										
14-Sep-12	78	500	450	7.44	51	#N/A	3.7	28.7	2	0.5	0.59	22	0.0468	-0.00002	0.000443	0.00329	-0.00001	-0.000005	-0.05	-0.000005	7.41	#N/A	0.000018	0.00147	#N/A	0.000077	0.00057	0.843	0.0152	-0.01	-0.00005
21-Sep-12	79	500	480	7.58	53																										
28-Sep-12	80	500	450	7.53	50	#N/A	2.8	30.0	2	-0.5	0.58	23	0.0551	-0.00002	0.000081	0.00923	-0.00001	-0.000005	-0.05	-0.000005	7.88	-0.0001	0.000006	0.00152	0.0156	0.000094	0.0006	0.809	0.0147	-0.01	-0.00005
5-Oct-12	81	500	460	7.39	50																										
12-Oct-12	82	500	495	7.57	53	#N/A	6.2	33.3	3	-0.5	0.73	24.5	0.0489	-0.00002	0.000074	0.00369	-0.00001	-0.000005	-0.05	-0.000005	8.35	-0.0001	-0.000005	0.00235	0.0042	0.000013	0.00063	0.884	0.0159	-0.01	-0.00005
19-Oct-12	83	500	480	7.67	58																										
26-Oct-12	84	500	480	7.61	57	#N/A	3.0	33.2	2	-0.5	0.65	25.7	0.0562	-0.00002	0.000079	0.00365	-0.00001	-0.000005	-0.05	-0.000005	8.81	-0.0001	0.000007	0.00119	0.0105	0.000016	0.00056	0.889	0.0137	-0.01	0.000109
2-Nov-12	85	500	475	7.59	55																										
9-Nov-12	86	500	480	7.62	53	#N/A	5.0	33.7	3	-0.5	0.65	26.3	0.0589	-0.00002	0.000037	0.00429	-0.00001	0.000014	-0.05	0.000055	8.92	-0.0001	0.000016	0.00387	0.0089	0.000495	0.0007	0.982	0.0186	-0.01	-0.00005
16-Nov-12	87	500	480	7.49	49																										
23-Nov-12	88	500	485	7.74	62	#N/A	3.8	34.7	3	-0.5	0.71	29.3	0.0509	-0.00002	0.000167	0.00405	-0.00001	-0.000005	-0.05	-0.000005	9.95	-0.0001	0.000007	0.000717	0.0075	0.000015	0.00089	1.07	0.0136	-0.01	0.00007
30-Nov-12	89	500	500	7.62	57																										
7-Dec-12	90	500	495	7.81	56	#N/A	6.6	37.5	2	-0.5	0.63	26.3	0.0512	-0.00002	0.000051	0.00397	-0.00001	-0.000005	-0.05	-0.000005	9.04	-0.0001	0.000006	0.000692	0.004	0.000008	0.00065	0.9	0.0154	-0.01	-0.00005
14-Dec-12	91	500	505	7.83	53																										
21-Dec-12	92	500	470	7.68	52	#N/A	3.6	31.3	-2	-0.5	0.56	23.4	0.0543	-0.00002	0.00004	0.0034	-0.00001	-0.000005	-0.05	-0.000005	8.13	-0.0001	-0.000005	0.000512	0.008	0.000027	0.00058	0.746	0.0133	-0.01	-0.00005
28-Dec-12	93	500	455	7.75	55																										
4-Jan-13	94	500	445	7.72	47	#N/A	5.0	32.6	-2	0.86	0.53	29.3	0.0462	-0.00002	0.000032	0.00374	-0.00001	-0.000005	-0.05	0.000013	10.4	0.00037	0.000014	0.000712	0.0053	0.000048	-0.0005	0.806	0.0127	-0.01	-0.00005
11-Jan-13	95	500	465	7.70	47																										
18-Jan-13	96	500	460	7.67	49	#N/A	2.4	30.2	-2	0.56	0.5	21.3	0.0489	-0.00002	0.000034	0.00318	-0.00001	-0.000005	-0.05	-0.000005	7.25	-0.0001	0.000005	0.000472	0.0033	0.000008	0.00079	0.772	0.0138	-0.01	-0.00005
25-Jan-13	97	500	440	7.61	50																										
1-Feb-13	98	500	450	7.74	46	#N/A	3.9	26.6	2	-0.5	0.54	21.2	0.0492	-0.00002	0.000127	0.0032	-0.00001	-0.000005	-0.05	0.000006	7.26	-0.0001	0.000008	0.000543	0.0051	0.000007	-0.0005	0.745	0.0116	-0.01	-0.00005
8-Feb-13	99	500	440	7.96	45																										
15-Feb-13	100	500	445	7.57	48	#N/A	3.3	25.1	3	-0.5	0.56	21.2	0.0589	-0.00002	0.00002	0.00353	-0.00001	-0.000005	-0.05	-0.000005	7.29	-0.0001	0.000007	0.000462	0.0095	0.00001	0.0005	0.737	0.0147	-0.01	-0.00005
22-Feb-13	101	500	440	7.96	46																										
1-Mar-13	102	500	450	7.64	49	#N/A	5.2	31.5	3	0.53	0.54	22	0.0582	-0.00002	-0.00002	0.00498	-0.00001	-0.000005	-0.05	-0.000005	7.58	-0.0001	-0.000005	0.00291	0.0112	0.000017	0.00057	0.739	0.014	-0.01	-0.00005
8-Mar-13	103	500	455	7.63	53																										
15-Mar-13	104	500	445	7.64	50	#N/A	5.2	26.7	3	0.63	0.56	22	0.0464	0.000087	0.000031	0.0033	-0.00001	-0.000005	-0.05	-0.000005	7.6	-0.0001	-0.000005	0.000452	0.0062	0.000008	0.00054	0.741	0.013	-0.01	0.000081
22-Mar-13	105	500	435	7.77	45																										
29-Mar-13	106	500	445	7.63	48	#N/A	3.7	25.8	3	-0.5	0.56	21.5	0.0534	-0.00002	0.000049	0.00378	-0.00001	-0.000005	-0.05	-0.000005	7.42	-0.0001	-0.000005	0.000579	0.0048	0.000018	0.00066	0.723	0.0127	-0.01	-0.00005
5-Apr-13	107	500	455	7.71	49																										
12-Apr-13	108	500	460	7.77	49	#N/A	6.3	28.0	3	0.55	0.56	21.1	0.0644	-0.00002	0.000045	0.00378	-0.00001	-0.000005	-0.05	-0.000005	7.24	-0.0001	0.000008	0.00102	0.009	0.000012	-0.0005	0.726	0.0123	-0.01	-0.00005
19-Apr-13	109	500	450	7.83	44																										
26-Apr-13	110	500	445	7.45	44	#N/A	3.8	23.6	2	-0.5	0.5	18.8	0.0537	-0.00002	0.000039	0.00359	-0.00001	-0.000005	-0.05	-0.000005	6.39	-0.0001	-0.000005	0.000603	0.0077	-0.000005	-0.0005	0.689	0.0129	-0.01	-0.00005
3-May-13	111	500	425	7.69	48																										
10-May-13	112	500	405	7.52	49	#N/A	4.5	25.9	2	0.61	0.56	21.1	0.0643	-0.00002	0.000035	0.00357	-0.00001	-0.000005	-0.05	-0.000005	7.27	-0.0001	-0.000005	0.000583	0.0101	-0.000005	-0.0005	0.724	0.0134	-0.01	-0.00005
17-May-13	113	500	440	7.86	49																										
24-May-13	114	500	440	7.52	40	#N/A	3.9	23.7	2																						

April 1/11 Alkalinity 55.2. Repeat = 50.8.
June 24/11 Fe 0.03. Repeat =0.021, data confirmed, suspect contamination
Jul 22/11 Ni=0.00018, repeat=0.00018. Data confirmed, suspect contamination
Aug 19/11 Ni=0.00035, repeat=0.00035. Data confirmed, suspect contamination
Jan 20/12 Sb=0.0001, repeat=0.0001. Data confirmed, suspect contamination
Apr 13/12 Pb=0.00022, Cd=0.000052. Repeat Cd=0.0000549, pb=0.000239. Data confirmed, suspect contamination
Apr 27/12 Ni=0.00019, repeat=0.000203. Data confirmed, suspect contamination
Sept 14/12 Fe=0.0859, Ni=0.000253, Cr=0.00134. Repeat Ni=0.000199, Fe=0.0881, Cr=0.00124. Data confirmed suspect contamination
Aug 31/12 Ni=0.000433, repeat=0.000053. Data accepted
Aug 17/12 Pb=0.0001, Cannot repeat suspect contamination or analytical error

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Sample =
09SWC498 54-57

Date	Cycle No.	Ni	P	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
29-Jun-12	67																
6-Jul-12	68	0.000022	-0.002	1.63	0.000479	0.626	-0.000005	0.166	0.152	-10	0.0000035	-0.0002	0.00099	0.0000427	0.00078	0.00024	-0.0001
13-Jul-12	69																
20-Jul-12	70	0.000024	-0.002	1.66	0.000431	0.618	-0.000005	0.156	0.156	-10	0.0000045	-0.0002	-0.0005	0.0000454	0.00081	0.00149	-0.0001
27-Jul-12	71																
3-Aug-12	72	0.000066	-0.002	1.78	0.000727	0.586	-0.000005	0.188	0.158	-10	0.000004	-0.0002	0.00065	0.000039	0.00054	0.0003	-0.0001
10-Aug-12	73																
17-Aug-12	74	0.000123	-0.002	1.78	0.000468	0.571	-0.000005	0.182	0.154	-10	0.000005	0.00089	0.00063	0.000037	0.00055	0.00165	-0.0001
24-Aug-12	75																
31-Aug-12	76	0.000053	-0.002	1.74	0.000378	0.577	-0.000005	0.158	0.163	-10	0.000006	-0.0002	-0.0005	0.000046	0.00044	-0.0001	-0.0001
7-Sep-12	77																
14-Sep-12	78	#N/A	-0.002	1.62	0.000406	0.506	-0.000005	0.225	0.152	-10	0.000004	-0.0002	0.00074	0.000049	0.00056	0.00057	-0.0001
21-Sep-12	79																
28-Sep-12	80	0.000107	0.0024	1.62	0.000345	0.568	-0.000005	0.139	0.148	-10	0.000006	0.00023	0.00092	0.000036	0.00047	0.00043	-0.0001
5-Oct-12	81																
12-Oct-12	82	0.000023	-0.002	1.75	0.000349	0.577	-0.000005	0.143	0.158	-10	0.000005	-0.0002	0.00054	0.00004	0.00029	0.00015	-0.0001
19-Oct-12	83																
26-Oct-12	84	0.000069	0.0094	1.68	0.00042	0.592	-0.000005	0.12	0.173	-10	0.000006	-0.0002	0.00052	0.000041	0.00055	0.00026	-0.0001
2-Nov-12	85																
9-Nov-12	86	0.000179	-0.002	1.94	0.000444	0.606	-0.000005	0.164	0.168	-3	0.000006	-0.0002	0.00073	0.000044	0.00038	0.00183	-0.0001
16-Nov-12	87																
23-Nov-12	88	0.000122	-0.002	2	0.000447	0.738	-0.000005	0.172	0.183	-3	0.000004	0.00057	-0.0005	0.000043	0.00051	0.00055	-0.0001
30-Nov-12	89																
7-Dec-12	90	0.00015	-0.002	1.71	0.000347	0.585	-0.000005	0.105	0.163	-3	0.000005	-0.0002	-0.0005	0.000041	0.00058	0.00072	-0.0001
14-Dec-12	91																
21-Dec-12	92	-0.00002	-0.002	1.6	0.000367	0.54	-0.000005	0.101	0.148	-3	0.000004	-0.0002	-0.0005	0.000034	0.00058	0.0005	-0.0001
28-Dec-12	93																
4-Jan-13	94	0.000095	-0.002	1.69	0.000323	0.625	-0.000005	0.147	0.146	-3	0.000004	-0.0002	-0.0005	0.000028	0.00053	0.00115	-0.0001
11-Jan-13	95																
18-Jan-13	96	0.000091	0.0029	1.56	0.000279	0.46	-0.000005	0.093	0.131	-3	0.000004	-0.0002	-0.0005	0.000029	0.00029	0.00015	-0.0001
25-Jan-13	97																
1-Feb-13	98	0.000045	-0.002	1.61	0.000244	0.483	-0.000005	0.115	0.129	-3	0.000004	-0.0002	-0.0005	0.000031	0.00062	0.00081	-0.0001
8-Feb-13	99																
15-Feb-13	100	-0.00002	-0.002	1.63	0.000266	0.515	-0.000005	0.116	0.13	-3	0.000006	-0.0002	0.0008	0.000033	0.00038	0.00046	-0.0001
22-Feb-13	101																
1-Mar-13	102	0.000138	-0.002	1.64	0.000308	0.526	-0.000005	0.117	0.139	-3	0.000005	-0.0002	0.00061	0.000027	0.00043	0.00052	-0.0001
8-Mar-13	103																
15-Mar-13	104	0.000054	-0.002	1.69	0.000408	0.527	-0.000005	0.106	0.136	-3	0.000005	-0.0002	-0.0005	0.000029	0.00042	0.00019	-0.0001
22-Mar-13	105																
29-Mar-13	106	-0.00002	-0.002	1.71	0.000184	0.493	-0.000005	0.104	0.149	-3	0.000004	-0.0002	-0.0005	0.000031	0.00042	-0.0001	-0.0001
5-Apr-13	107																
12-Apr-13	108	0.000024	-0.002	1.64	0.000242	0.491	-0.000005	0.096	0.138	-3	0.000003	-0.0002	0.00216	0.000028	0.00062	0.00023	-0.0001
19-Apr-13	109																
26-Apr-13	110	0.000062	-0.002	1.61	0.000212	0.384	-0.000005	0.1	0.119	-3	0.000002	-0.0002	0.00089	0.000024	0.00021	0.00024	-0.0001
3-May-13	111																
10-May-13	112	0.000051	-0.002	1.67	0.000223	0.5	-0.000005	0.103	0.126	-3	0.000003	-0.0002	0.0011	0.000025	0.0005	0.00014	-0.0001
17-May-13	113																
24-May-13	114																

HC 9

CONFIDENTIAL *DRAFT*

Sample =
07SWC258 20-23

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L
18-Mar-11	0	500	335	7.69	77	#N/A	2.7	34.2	5	2.2	0.19	16.9	0.279	-0.00002	0.00782	0.0193	-0.00001	-0.000005	-0.05	0.000019	5.6	-0.0001	0.000022	0.00408	0.011	0.000101	0.0017	0.7	0.00499	-0.01	0.0253
25-Mar-11	1	500	490	7.98	129																										
1-Apr-11	2	500	465	7.85	80	#N/A	5.0	47.9	4	0.8	0.27	19.4	0.0985	0.00003	0.0072	0.029	-0.00001	-0.000005	-0.05	0.00001	5.76	-0.0001	0.000013	0.00405	0.005	0.000091	0.0018	1.22	0.0119	-0.01	0.0284
8-Apr-11	3	500	445	7.72	69																										
15-Apr-11	4	500	450	7.74	60	#N/A	2.2	36.5	3	-0.5	0.13	20.2	0.0774	0.00002	0.0059	0.0385	-0.00001	-0.000005	-0.05	-0.000005	6.07	0.0006	0.000007	0.00215	0.006	0.000062	0.0012	1.22	0.0127	-0.01	0.00564
22-Apr-11	5	500	455	7.74	57																										
29-Apr-11	6	500	455	7.70	59	#N/A	3.1	35.8	5	0.9	0.09	23.8	0.0944	0.00002	0.00662	0.0508	-0.00001	-0.000005	-0.05	-0.000005	7.25	-0.0001	0.000012	0.00222	0.007	0.000023	0.001	1.38	0.0112	-0.01	0.00271
6-May-11	7	500	455	7.53	50																										
13-May-11	8	500	460	7.57	50	#N/A	3.4	28.3	5	1.7	0.08	20.9	0.0973	-0.00002	0.00509	0.0456	-0.00001	-0.000005	-0.05	-0.000005	6.48	-0.0001	-0.000005	0.00155	0.005	0.000025	0.0007	1.15	0.0106	-0.01	0.00179
20-May-11	9	500	460	7.77	56																										
27-May-11	10	500	465	7.74	50	#N/A	5.3	26.6	3	1.2	0.05	20.9	0.088	0.00008	0.00429	0.0484	-0.00001	-0.000005	-0.05	-0.000005	6.63	-0.0001	0.000013	0.00147	0.003	0.000012	0.0006	1.05	0.0102	-0.01	0.00133
3-Jun-11	11	500	470	7.55	50																										
10-Jun-11	12	500	485	7.60	47	#N/A	2.2	28.5	2	1.4	0.06	19.7	0.0945	-0.00002	0.00422	0.0548	-0.00001	-0.000005	-0.05	0.000012	6.47	-0.0001	0.000008	0.00137	0.009	#N/A	0.0006	0.86	0.00964	-0.01	0.00097
17-Jun-11	13	500	485	7.51	54																										
24-Jun-11	14	500	475	7.75	45	#N/A	2.0	27.5	2	0.9	0.04	21.1	0.0989	-0.00002	0.00396	0.0569	-0.00001	-0.000005	-0.05	0.000008	6.92	-0.0001	0.000007	0.00126	0.004	0.000011	-0.0005	0.94	0.0104	-0.01	0.00072
1-Jul-11	15	500	465	7.82	44																										
8-Jul-11	16	500	465	7.51	46	#N/A	2.9	27.0	3	0.8	0.04	19.4	0.0975	-0.00002	0.00399	0.0549	-0.00001	-0.000005	-0.05	0.000007	6.54	-0.0001	0.000005	0.00092	0.005	0.000023	-0.0005	0.76	0.00835	-0.02	0.00053
15-Jul-11	17	500	460	7.68	49																										
22-Jul-11	18	500	480	7.63	43	#N/A	3.4	25.1	-2	1	0.03	18.8	0.104	-0.00002	0.00341	0.0582	-0.00001	-0.000005	-0.05	-0.000005	6.29	0.0001	0.000012	0.00119	0.008	0.000022	-0.0005	0.75	0.00888	-0.01	0.00043
29-Jul-11	19	500	465	7.76	46																										
5-Aug-11	20	500	470	7.53	48	#N/A	3.6	28.3	-2	-0.5	0.03	21.8	0.113	-0.00002	0.00412	0.0658	-0.00001	-0.000005	-0.05	-0.000005	7.49	-0.0001	0.000008	0.0013	0.008	0.000021	-0.0005	0.75	0.00861	-0.01	0.00046
12-Aug-11	21	500	470	7.81	44																										
19-Aug-11	22	500	470	7.59	43	#N/A	4.1	27.0	2	1	0.03	19.8	0.101	-0.00002	0.00313	0.0663	-0.00001	-0.000005	-0.05	0.000006	6.96	0.0002	0.000008	0.00141	0.007	0.000014	-0.0005	0.59	0.00865	-0.01	0.00037
26-Aug-11	23	500	470	7.62	46																										
2-Sep-11	24	500	465	7.72	43	#N/A	4.2	29.4	2	0.6	0.03	20	0.106	-0.00002	0.00318	0.0719	-0.00001	-0.000005	-0.05	-0.000005	7.03	-0.0001	0.000013	0.00108	0.005	0.000012	-0.0005	0.61	0.00984	-0.01	0.00046
9-Sep-11	25	500	460	7.77	43																										
16-Sep-11	26	500	465	7.49	45	#N/A	4.1	27.4	-2	0.9	0.03	20.4	0.1	-0.00002	0.00297	0.0735	-0.00001	-0.000005	-0.05	0.000005	7.26	-0.0001	0.000007	0.00077	0.006	0.000012	-0.0005	0.54	0.00848	-0.01	0.00036
23-Sep-11	27	500	450	7.48	40																										
30-Sep-11	28	500	470	7.51	44	#N/A	3.1	27.6	-2	0.6	0.03	19.2	0.0865	-0.00002	0.00271	0.0757	-0.00001	-0.000005	-0.05	0.000008	6.86	-0.0001	0.000008	0.00065	0.004	0.000012	-0.0005	0.49	0.00839	-0.01	0.00029
7-Oct-11	29	500	455	7.57	37																										
14-Oct-11	30	500	445	7.38	36	#N/A	3.1	22.9	-2	-0.5	0.03	16.5	0.12	-0.00002	0.00288	0.0623	-0.00001	-0.000005	-0.05	-0.000005	5.92	-0.0001	-0.000005	0.00083	0.005	0.000023	-0.0005	0.42	0.00638	-0.01	0.00028
21-Oct-11	31	500	465	7.69	38																										
28-Oct-11	32	500	455	7.61	44	#N/A	3.5	27.2	-2	-0.5	0.03	21.8	0.116	-0.00002	0.00295	0.0835	-0.00001	-0.000005	-0.05	-0.000005	7.91	0.0001	-0.000005	0.00094	0.007	0.000038	-0.0005	0.5	0.0079	-0.01	0.0003
4-Nov-11	33	500	455	7.58	35																										
11-Nov-11	34	500	470	7.82	37	#N/A	5.1	26.5	-2	0.5	0.029	18	0.0967	-0.00002	0.00253	0.0724	-0.00001	-0.000005	-0.05	#N/A	6.54	-0.0001	0.000008	0.00115	0.006	0.000038	-0.0005	0.41	0.00708	-0.01	0.00028
18-Nov-11	35	500	455	7.59	38																										
25-Nov-11	36	500	470	7.71	38	#N/A	3.1	25.4	2	-0.5	0.022	17.6	0.0903	-0.00002	0.00237	0.0734	-0.00001	-0.000005	-0.05	0.000006	6.35	-0.0001	0.00001	0.00192	0.006	0.000016	-0.0005	0.41	0.00775	-0.01	0.00023
2-Dec-11	37	500	470	7.62	35																										
9-Dec-11	38	500	475	7.48	37	#N/A	4.6	23.0	2	-0.5	0.025	15.9	0.097	-0.00002	0.00214	0.0718	-0.00001	-0.000005	-0.05	0.000011	5.73	0.0003	-0.000005	0.00139	0.006	#N/A	-0.0005	0.38	0.00749	-0.01	0.00021
16-Dec-11	39	500	455	7.76	37																										
23-Dec-11	40	500	450	7.70	35	#N/A	4.1	23.8	2	-0.5	0.021	15.8	0.0927	-0.00002	0.00194	0.077	-0.00001	-0.000005	-0.05	-0.000005	5.79	-0.0001	0.000009	0.00085	0.005	0.000026	-0.0005	0.33	0.00684	-0.01	0.00017
30-Dec-11	41	500	470	7.74	37																										
6-Jan-12	42	500	450	7.39	36	#N/A	3.7	26.4	2	-0.5	0.019	17	0.0975	-0.00002	0.00223	0.0794	-0.00001	-0.000005	-0.05	-0.000005	6.26	-0.0001	-0.000005	0.00076	0.004	0.000014	-0.0005	0.34	0.0066	-0.01	0.00018
13-Jan-12	43	500	470	7.66	37																										
20-Jan-12	44	500	455	7.61	36	#N/A	2.7	26.8	-2	-0.5	0.023	15.5	0.0837	-0.00002	0.00202	0.0757	-0.00001	-0.000005	-0.05	-0.000005	5.7	0.0007	0.000008	0.0017	0.006	#N/A	-0.0005	0.3	0.00625	-0.01	0.00018
27-Jan-12	45	500	460	7.52	35																										
3-Feb-12	46	500	465	7.67	38	#N/A	5.6	28.6	2	-0.5	0.025	17.9	0.0965	-0.00002	0.00216	0.0695	-0.00001	-0.000005	-0.05	-0.000005	6.61	-0.0001	-0.000005	0.00115	0.003	0.000013	-0.0005	0.33	0.00665	0.01	0.00017
10-Feb-12	47	500	465	7.71	36																										
17-Feb-12	48	500	455	7.51	35	#N/A	2.9	22.8	2	-0.5	0.02	16.6	0.11	-0.00002	0.00218	0.0721	-0.00001	-0.000005	-0.05	-0.000005	6.16	-0.0001	-0.000005	0.0008	0.005	0.000012	-0.0005	0.29	0.00573	-0.01	0.00019
24-Feb-12	49	500	455	7.50	37																										
2-Mar-12	50	500	460	7.65	35	#N/A	6.8	25.9	2	-0.5	0.018	15.7	0.0908	-0.00002	0.002	0.075	-0.00001	-0.000005	-0.05	-0.000005	5.83	-0.0001	-0.000005	0.00073	0.005	0.000013	-0.0005	0.28	0.00579	-0.01	0.00015
9-Mar-12	51	500	475	7.59	39																										
16-Mar-12	52	500	460	7.57	41	#N/A	2.8	25.6	2	-0.5	0.021	17.6	0.117	-0.00002	0.00264	0.0853	-0.00001	-0.000005	-0.05	0.000009	6.52	-0.0001	0.000009	0.00092	0.006	0.000049	-0.0005	0.31	0.00566	-0.01	0.00021
23-Mar-12	53	500	465	7.61	37																										
30-Mar-12	54	500	465	7.31	36	#N/A	4.1	23.8	2	-0.5	0.019	16.6	0.116	-0.00002	0.00185	0.0794	-0.00001	-0.000005	-0.05	-0.000005	6.22	-0.0001	-0.000005	0.00088	0.007	0.000015	-0.0005	0.26	0.00595	-0.01	0.00015
6-Apr-12	55	500	460	7.57	37																										
13-Apr-12	56	500	450	7.57	36	#N/A	2.2	22.6	3	-0.5	0.017	16.7	0.112	-0.00002	0.00216	0.0809	-0.00001	-0.000005	-0.05	0.000014	6.25	-0.0001	-0.000005	0.00078	0.007	0.000019	-0.0005	0.27	0.00523	-0.01	0.00016
20-Apr-12	57	500	460	7.56	35																										
27-Apr-12	58	500	475	7.60	33	#N/A	4.5	23.0	2	-0.5	0.015	15.1	0.0837	-0.00002	0.00142	0.0773	-0.00001	-0.000005	-0.05	0.000009	5.65	0.00011	0.000006	0.00129	0.0057	0.00002	-0.0005	0.231	0.00539	-0.01	0.000136
4-May-12	59	500	470	7.79	34																										
11-May-12	60	500	470	7.56	35	#N/A	3.1	21.3	3	-0.5	0.019	16.7	0.09	-0.00002	0.0018	0.079	-0.00001	-0.000005	-0.05	-0.000005	6.3	0.00013	-0.000005	0.00111	0.0042	0.00002	-0.0005	0.229	0.00596	-0.01	0.000131
18-May-12	61	500	455	7.58	35																										
25-May-12	62	500	480	7.45	34	#N/A	4.0	21.7	2	-0.5	0.017	15.2	0.121	-0.00002	0.00172	0.0756	-0.00001	-0.000005	-0.05	0.0000063	5.7	-0.0001	0.000006	0.000723	0.0087	0.0000282	-0.0005	0.22	0.00587	-0.01	0.000112
1-Jun-12	63	500	495	7.54	33																										
8-Jun-12	64	500	450	7.50	32	#N/A	3.1	20.4	2	0.67	0.015	13.9	0.0782	-0.00002	0.00141	0.0714	-0.00001	-0.000005	-0.05	0.0000086	5.21	0.0007	0.0000056	0.00198	0.0059	0.000975	-0.0005	0.216	0.00499	-0.01	0.000143
15-Jun-12	65	500	485	7.48	35																										
22-Jun-12	66	500	455	7.41	30	#N/A	4.4	21.0	2	-0.5	0.018	13.9	0.118	-0.00002	0.00184	0.0743	-0.00001	-0.000005	-0.05	-0.000005	5.22	-0.0001	-0.000005	0.000681	0.0056	0.0000149	-0.0005	0.212	0.00434	-0.01	0.000169
29-Jun-12	67	500	455	7.53	30																										

HC 9

Sample =
07SWC258 20-23

Date	Cycle No.	Ni	P	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
18-Mar-11	0	0.00003	0.016	4.2	0.00027	1.77	-0.000005	8.52	0.0352	-10	0.000002	0.00003	0.0005	0.000048	0.003	0.0002	-0.0001
25-Mar-11	1																
1-Apr-11	2	0.00009	0.002	4.55	0.00021	2.29	-0.000005	6.62	0.0415	-10	0.000002	0.00042	-0.0005	0.000187	0.0028	0.0002	-0.0001
8-Apr-11	3																
15-Apr-11	4	0.00007	-0.002	3.55	0.00013	1.74	-0.000005	1.77	0.0499	-10	-0.000002	0.00019	-0.0005	0.000094	0.0025	0.0012	-0.0001
22-Apr-11	5																
29-Apr-11	6	0.00009	-0.002	3.49	0.00019	2.24	-0.000005	0.87	0.0564	-10	-0.000002	0.00015	-0.0005	0.00009	0.0028	0.0003	-0.0001
6-May-11	7																
13-May-11	8	0.0001	-0.002	2.49	0.00013	1.75	-0.000005	0.53	0.0466	-10	0.000004	0.0001	-0.0005	0.000054	0.0022	0.0005	-0.0001
20-May-11	9																
27-May-11	10	0.00004	-0.002	1.95	0.00016	1.65	-0.000005	0.44	0.0488	-10	-0.000002	0.00006	-0.0005	0.000045	0.0019	0.0003	-0.0001
3-Jun-11	11																
10-Jun-11	12	#N/A	-0.002	1.77	0.00016	1.51	-0.000005	0.32	0.052	-10	-0.000002	0.00012	-0.0005	0.000042	0.0019	0.0009	-0.0001
17-Jun-11	13																
24-Jun-11	14	-0.00002	-0.002	1.76	0.00017	1.6	-0.000005	0.36	0.0482	-10	-0.000002	0.00005	-0.0005	0.000039	0.0019	-0.0001	-0.0001
1-Jul-11	15																
8-Jul-11	16	0.00002	-0.002	1.47	0.00016	1.47	-0.000005	0.26	0.0469	-10	-0.000002	0.00004	-0.0005	0.000034	0.002	0.0002	-0.0001
15-Jul-11	17																
22-Jul-11	18	#N/A	-0.002	1.39	0.00015	1.33	-0.000005	0.3	0.0442	-10	-0.000002	0.00003	-0.0005	0.000028	0.0017	0.0005	-0.0001
29-Jul-11	19																
5-Aug-11	20	0.00004	-0.002	1.46	0.00018	1.49	-0.000005	0.26	0.0491	-10	-0.000002	0.00003	-0.0005	0.000071	0.002	0.0005	-0.0001
12-Aug-11	21																
19-Aug-11	22	#N/A	-0.002	1.33	0.00015	1.29	-0.000005	0.33	0.0452	-10	-0.000002	-0.00001	0.0005	0.000026	0.0019	0.0002	-0.0001
26-Aug-11	23																
2-Sep-11	24	0.00003	-0.002	1.32	0.00012	1.26	-0.000005	0.26	0.0476	-10	-0.000002	0.00016	-0.0005	0.000035	0.002	0.0006	-0.0001
9-Sep-11	25																
16-Sep-11	26	-0.00002	-0.002	1.27	0.00014	1.21	-0.000005	0.18	0.0465	-10	0.000002	0.00002	-0.0005	0.000032	0.0017	0.0003	-0.0001
23-Sep-11	27																
30-Sep-11	28	-0.00002	-0.002	1.18	0.00013	1.14	-0.000005	0.22	0.0449	-10	0.000004	0.00012	-0.0005	0.000025	0.0012	0.0001	-0.0001
7-Oct-11	29																
14-Oct-11	30	#N/A	-0.002	1.11	0.00012	1.14	-0.000005	0.22	0.0377	-10	-0.000002	0.00018	-0.0005	0.000024	0.0017	0.0012	-0.0001
21-Oct-11	31																
28-Oct-11	32	0.00005	-0.002	1.31	0.00014	1.32	-0.000005	0.24	0.0504	-10	0.000003	0.00023	-0.0005	0.000023	0.0018	0.0003	-0.0001
4-Nov-11	33																
11-Nov-11	34	0.00019	-0.002	1.14	0.00012	1.15	-0.000005	0.29	0.0396	-10	0.000007	0.00012	-0.0005	0.000019	0.0014	0.0016	-0.0001
18-Nov-11	35																
25-Nov-11	36	0.00014	-0.002	1.12	0.0001	1.03	-0.000005	0.25	0.0382	-10	-0.000002	0.00016	-0.0005	0.000014	0.0014	0.0006	-0.0001
2-Dec-11	37																
9-Dec-11	38	0.00014	-0.002	1.09	0.0001	0.85	-0.000005	0.23	0.0379	-10	0.000006	0.00011	-0.0005	0.000018	0.0012	0.0009	-0.0001
16-Dec-11	39																
23-Dec-11	40	0.00022	-0.002	1	0.00011	0.877	-0.000005	0.24	0.0367	-10	0.000002	-0.00001	-0.0005	0.000021	0.001	0.0009	-0.0001
30-Dec-11	41																
6-Jan-12	42	-0.00002	-0.002	1.06	0.00009	0.993	-0.000005	0.19	0.0377	-10	-0.000002	0.00014	-0.0005	0.000013	0.0014	0.0003	-0.0001
13-Jan-12	43																
20-Jan-12	44	#N/A	-0.002	0.96	0.00009	0.861	-0.000005	0.28	0.0359	-10	0.000003	-0.0002	-0.0005	0.000016	0.0014	0.0012	-0.0001
27-Jan-12	45																
3-Feb-12	46	0.00013	-0.002	1.1	0.00008	1	-0.000005	0.23	0.0354	-10	0.000002	-0.0002	-0.0005	0.000012	0.0012	0.0002	-0.0001
10-Feb-12	47																
17-Feb-12	48	-0.00002	-0.002	1.04	0.00011	1.01	-0.000005	0.2	0.0337	-10	-0.000002	-0.0002	-0.0005	0.000017	0.0015	-0.0001	-0.0001
24-Feb-12	49																
2-Mar-12	50	0.00003	-0.002	0.94	0.00008	0.827	-0.000005	0.17	0.0317	-10	0.000002	-0.0002	-0.0005	0.00001	0.0011	0.0002	-0.0001
9-Mar-12	51																
16-Mar-12	52	0.00006	-0.002	1.02	0.0001	1.06	-0.000005	0.32	0.0375	-10	0.000007	-0.0002	0.0005	0.000014	0.0014	0.0002	-0.0001
23-Mar-12	53																
30-Mar-12	54	0.00004	-0.002	0.92	0.00009	0.936	-0.000005	0.18	0.0353	-10	-0.000002	-0.0002	0.0006	0.000014	0.001	0.0003	-0.0001
6-Apr-12	55																
13-Apr-12	56	0.00005	-0.002	1	0.0001	1.06	-0.000005	0.18	0.0342	-10	0.000003	-0.0002	0.0006	0.000014	0.0012	0.0005	-0.0001
20-Apr-12	57																
27-Apr-12	58	#N/A	-0.002	0.894	0.00009	0.754	-0.000005	0.191	0.0297	-10	0.000002	0.00022	-0.0005	0.000014	0.00155	0.00024	-0.0001
4-May-12	59																
11-May-12	60	0.000142	-0.002	0.97	0.00008	0.955	-0.000005	0.205	0.0302	-10	0.000003	-0.0002	-0.0005	0.000011	0.00108	0.00023	-0.0001
18-May-12	61																
25-May-12	62	0.000083	-0.002	0.865	0.00009	0.966	-0.000005	0.199	0.0309	-10	0.0000035	-0.0002	-0.0005	0.000011	0.001	0.0002	-0.0001
1-Jun-12	63																
8-Jun-12	64	0.000163	0.0025	0.784	0.000072	0.728	-0.000005	0.291	0.0274	-10	0.0000024	-0.0002	-0.0005	0.0000121	0.00091	0.00049	-0.0001
15-Jun-12	65																
22-Jun-12	66	0.000055	0.0027	0.802	0.000091	0.871	-0.000005	0.181	0.0277	-10	-0.000002	-0.0002	-0.0005	0.0000105	0.00111	0.00021	-0.0001
29-Jun-12	67																

HC 9

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Sample =
07SWC258 20-23

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L
6-Jul-12	68	500	450	7.48	30	#N/A	3.9	20.9	2	-0.5	0.015	13.6	0.0832	-0.00002	0.0016	0.0727	-0.00001	-0.000005	-0.05	-0.000005	5.13	-0.0001	-0.000005	0.000613	0.0032	0.0000122	-0.0005	0.2	0.00455	-0.01	0.000147
13-Jul-12	69	500	465	7.58	30																										
20-Jul-12	70	500	465	7.49	30	#N/A	4.2	20.0	2	-0.5	0.013	14.5	0.119	-0.00002	0.00134	0.0712	-0.00001	-0.000005	-0.05	-0.000005	5.46	-0.0001	0.0000056	0.000569	0.0047	0.0000167	-0.0005	0.212	0.00482	-0.01	0.000126
27-Jul-12	71	500	455	7.78	29																										
3-Aug-12	72	500	445	7.55	28	#N/A	3.5	16.6	2	-0.5	0.017	13.6	0.0991	0.00002	0.00159	0.0694	-0.00001	-0.000005	-0.05	-0.000005	5.12	-0.0001	0.000006	0.000821	0.0043	0.000014	-0.0005	0.2	0.00417	-0.01	0.000107
10-Aug-12	73	500	460	7.56	26																										
17-Aug-12	74	500	450	7.45	32	#N/A	4.5	21.0	2	-0.5	0.016	14.8	0.106	-0.00002	0.00154	0.08	-0.00001	-0.000005	-0.05	0.000008	5.53	0.00102	0.000011	0.00112	0.0238	0.000065	-0.0005	0.239	0.00502	-0.01	0.000111
24-Aug-12	75	500	475	7.62	34																										
31-Aug-12	76	500	460	7.60	32	#N/A	3.3	21.8	2	-0.5	0.019	15.3	0.117	-0.00002	0.00157	0.078	-0.00001	-0.000005	-0.05	0.000008	5.76	0.00153	0.00001	0.00181	0.0127	0.000079	-0.0005	0.221	0.00503	-0.01	0.000111
7-Sep-12	77	500	445	7.45	26																										
14-Sep-12	78	500	460	7.27	27	#N/A	3.4	17.0	2	-0.5	0.012	12.6	0.0894	-0.00002	0.00143	0.0738	-0.00001	-0.000005	-0.05	-0.000005	4.72	-0.0001	-0.000005	0.00333	0.0076	0.000033	-0.0005	0.199	0.00493	-0.01	0.000108
21-Sep-12	79	500	475	7.48	33																										
28-Sep-12	80	500	455	7.37	31	#N/A	2.8	22.0	2	-0.5	0.015	14.4	0.112	-0.00002	0.00111	0.0774	-0.00001	-0.000005	-0.05	0.000005	5.39	-0.0001	0.000005	0.00118	0.0078	0.000028	-0.0005	0.23	0.00502	-0.01	0.000105
5-Oct-12	81	500	320	7.73	30																										
12-Oct-12	82	500	495	7.47	33	#N/A	5.8	23.0	2	-0.5	0.016	15.5	0.0903	-0.00002	0.00135	0.0862	-0.00001	-0.000005	-0.05	-0.000005	5.81	-0.0001	-0.000005	0.002	0.0045	0.000022	-0.0005	0.245	0.00469	-0.01	0.000111
19-Oct-12	83	500	495	7.58	31																										
26-Oct-12	84	500	495	7.48	33	#N/A	2.8	22.6	2	-0.5	0.016	15.4	0.0913	-0.00002	0.00133	0.0816	-0.00001	-0.000005	-0.05	0.000007	5.82	-0.0001	0.000005	0.00137	0.0086	0.000134	-0.0005	0.223	0.00426	-0.01	0.000119
2-Nov-12	85	500	485	7.54	34																										
9-Nov-12	86	500	495	7.57	30	#N/A	5.1	23.1	3	-0.5	0.019	15.6	0.0807	-0.00002	0.00126	0.0843	-0.00001	-0.000005	-0.05	0.000016	5.84	0.00058	0.000048	0.00101	0.0051	0.000023	-0.0005	0.25	#N/A	-0.01	0.000106
16-Nov-12	87	500	490	7.65	28																										
23-Nov-12	88	500	480	7.60	34	#N/A	3.8	22.4	3	-0.5	0.018	16.4	0.0984	-0.00002	#N/A	0.0861	-0.00001	-0.000005	-0.05	-0.000005	6.16	-0.0001	0.000017	0.000878	0.0066	0.000027	-0.0005	0.252	0.00401	-0.01	0.000094
30-Nov-12	89	500	505	7.48	34																										
7-Dec-12	90	500	425	7.81	25	#N/A	5.6	21.5	2	-0.5	0.017	13	0.121	-0.00002	0.00118	0.0704	-0.00001	-0.000005	-0.05	-0.000005	4.87	-0.0001	0.000005	0.000938	0.0068	0.000022	-0.0005	0.199	0.00331	-0.01	0.000085
14-Dec-12	91	500	485	7.87	23																										
21-Dec-12	92	500	480	7.66	30	#N/A	3.5	21.6	-2	0.56	0.019	13.9	0.0932	-0.00002	0.00107	0.0787	-0.00001	-0.000005	-0.05	-0.000005	5.22	-0.0001	0.000005	0.000566	0.0059	0.000015	-0.0005	0.201	0.00361	-0.01	0.000088
28-Dec-12	93	500	465	7.61	35																										
4-Jan-13	94	500	460	7.74	27	#N/A	4.5	21.5	-2	0.87	0.024	13.9	0.0784	-0.00002	0.00086	0.0831	-0.00001	-0.000005	-0.05	-0.000005	5.17	-0.0001	0.000011	0.000589	0.0036	0.000019	-0.0005	0.238	0.00405	-0.01	0.00007
11-Jan-13	95	500	465	7.58	27																										
18-Jan-13	96	500	460	7.62	29	#N/A	2.6	20.8	2	0.66	0.016	13.9	0.0869	-0.00002	0.000928	0.0806	-0.00001	-0.000005	-0.05	-0.000005	5.18	-0.0001	0.000006	0.000469	0.0048	0.000017	-0.0005	0.225	0.00389	-0.01	0.000065
25-Jan-13	97	500	460	7.54	40																										
1-Feb-13	98	500	435	7.64	24	#N/A	4.0	15.7	2	0.54	0.023	11.5	0.0918	-0.00002	0.00106	0.0643	-0.00001	-0.000005	-0.05	-0.000005	4.29	-0.0001	0.000005	0.000511	0.0044	0.000009	-0.0005	0.192	0.00301	-0.01	0.000079
8-Feb-13	99	500	445	7.92	21																										
15-Feb-13	100	500	440	7.43	22	#N/A	3.0	11.2	2	-0.5	0.012	10.1	0.088	-0.00002	0.000786	0.058	-0.00001	-0.000005	-0.05	-0.000005	3.74	-0.0001	-0.000005	0.000403	0.0041	0.000011	-0.0005	0.178	0.00298	-0.01	0.000069
22-Feb-13	101	500	425	7.86	22																										
1-Mar-13	102	500	445	7.58	22	#N/A	5.1	15.5	3	-0.5	0.02	10.2	0.0924	-0.00002	0.000845	0.0612	-0.00001	-0.000005	-0.05	-0.000005	3.76	-0.0001	-0.000005	0.000504	0.0059	0.000018	-0.0005	0.187	0.00297	-0.01	0.00008
8-Mar-13	103	500	445	7.71	31																										
15-Mar-13	104	500	440	7.55	21	#N/A	4.5	12.7	2	0.66	0.016	9.68	0.081	-0.00002	0.000769	0.0547	-0.00001	-0.000005	-0.05	0.000017	3.59	-0.0001	-0.000005	0.000578	0.0055	0.000012	-0.0005	0.17	0.00272	-0.01	0.000059
22-Mar-13	105	500	455	7.84	20																										
29-Mar-13	106	500	435	7.44	20	#N/A	3.1	11.2	3	0.97	0.012	9.27	0.0738	-0.00002	0.000704	0.0535	-0.00001	-0.000005	-0.05	-0.000005	3.44	-0.0001	-0.000005	0.000408	0.0034	0.000022	-0.0005	0.163	0.00266	-0.01	0.00007
5-Apr-13	107	500	430	7.70	21																										
12-Apr-13	108	500	450	7.71	24	#N/A	5.2	15.3	3	-0.5	0.011	10.3	0.0719	-0.00002	0.000812	0.0631	-0.00001	-0.000005	-0.05	-0.000005	3.8	-0.0001	0.000005	0.0005	0.0035	0.000011	-0.0005	0.19	0.00275	-0.01	0.000066
19-Apr-13	109	500	440	7.80	21																										
26-Apr-13	110	500	440	7.42	22	#N/A	3.8	12.0	2	-0.5	0.013	9.25	0.0766	-0.00002	0.00071	0.0573	-0.00001	-0.000005	-0.05	-0.000005	3.42	-0.0001	0.000005	0.000606	0.0093	0.00004	-0.0005	0.174	0.00274	-0.01	0.000062
3-May-13	111	500	430	7.74	22																										
10-May-13	112	500	425	7.38	20	#N/A	3.8	11.5	2	-0.5	-0.01	8.83	0.0756	-0.00002	0.000657	0.0504	-0.00001	-0.000005	-0.05	-0.000005	3.26	-0.0001	-0.000005	0.000521	0.0058	0.000009	-0.0005	0.171	0.00247	-0.01	0.000053
17-May-13	113	500	440	7.89	23																										
24-May-13	114	500	440	7.41	20	#N/A	3.7	11.8	2																						

June 10/11 Pb 0.000042 and Ni . Repeat Pb=0.000045, Ni= 0.00398 data confirmed suspect contamination
June 24/11 Cl 3.1. Repeat = 0.9, data accepted.
Jul 22/11 Ni=0.00023, repeat=0.00023. data confirmed, suspect contamination
Aug 19/11 Ni= 0.00021, repeat=0.00021. Data confirmed, suspect contamination
Nov 11/11 Cd=0.000057, repeat=0.000054. data confirmed, suspect contamination
Dec 9/11 Pb=0.000631, repeat=0.000634. data confirmed, suspect contamination.
Oct 14/11 Ni=0.00034, repeat=0.00041. Data confirmed, suspect contamination.
Jan 20/12 Pb=0.000271, Ni=0.00025. Repeat Pb=0.000254, Ni=0.00023. Data confirmed, suspect contamination
Apr 27/12 Ni=0.000109, repeat=0.000132. Data confirmed, suspect contamination
Nov 23/12 As=0.00212, repeat=0.00212. Data confirmed, suspect contamination
Nov 9/12 Mn=0.00876, repeat confirms original result, suspect contamination

HC 9

Sample =
07SWC258 20-23

Date	Cycle No.	Ni	P	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
6-Jul-12	68	0.000022	-0.002	0.839	0.000078	0.81	-0.000005	0.17	0.0253	-10	-0.000002	-0.0002	-0.0005	0.0000111	0.00114	0.00014	-0.0001
13-Jul-12	69																
20-Jul-12	70	-0.00002	-0.002	0.793	0.000064	0.873	-0.000005	0.17	0.0261	-10	0.000002	-0.0002	0.00056	0.0000095	0.00103	0.00115	-0.0001
27-Jul-12	71																
3-Aug-12	72	0.000095	-0.002	0.845	0.000063	0.799	-0.000005	0.19	0.0246	-10	0.000002	-0.0002	-0.0005	0.000011	0.00102	0.00031	-0.0001
10-Aug-12	73																
17-Aug-12	74	0.00015	-0.002	0.939	0.000096	0.775	-0.000005	0.244	0.0281	-10	0.000003	0.00074	-0.0005	0.00001	0.00095	0.00109	-0.0001
24-Aug-12	75																
31-Aug-12	76	0.000175	-0.002	0.837	0.000079	0.858	-0.000005	0.315	0.0286	-10	0.000003	0.0003	-0.0005	0.000013	0.00094	0.00086	-0.0001
7-Sep-12	77																
14-Sep-12	78	0.000068	-0.002	0.718	0.000093	0.648	-0.000005	0.142	0.0254	-10	0.000005	-0.0002	0.00064	0.000008	0.00072	0.00027	-0.0001
21-Sep-12	79																
28-Sep-12	80	0.000173	-0.002	0.838	0.000058	0.851	-0.000005	0.198	0.029	-10	0.000002	0.00023	-0.0005	0.00001	0.00089	0.0002	-0.0001
5-Oct-12	81																
12-Oct-12	82	0.000038	-0.002	0.883	0.000068	0.772	-0.000005	0.149	0.0282	-10	0.000002	-0.0002	-0.0005	0.000011	0.0007	0.00031	-0.0001
19-Oct-12	83																
26-Oct-12	84	0.000072	0.0083	0.797	0.00009	0.754	-0.000005	0.137	0.0282	-10	0.000003	0.00036	-0.0005	0.000018	0.0009	0.00109	-0.0001
2-Nov-12	85																
9-Nov-12	86	0.00023	-0.002	0.859	0.000075	0.742	-0.000005	0.208	0.0271	-3	0.000003	0.00026	-0.0005	0.000015	0.00094	0.00304	-0.0001
16-Nov-12	87																
23-Nov-12	88	0.000384	-0.002	0.879	0.000046	0.867	-0.000005	0.164	0.0315	-3	0.000003	0.00036	-0.0005	0.000011	0.00078	0.00075	-0.0001
30-Nov-12	89																
7-Dec-12	90	0.000293	-0.002	0.786	-0.00004	0.722	-0.000005	0.132	0.0246	-3	0.000002	-0.0002	-0.0005	0.00001	0.00101	0.00142	-0.0001
14-Dec-12	91																
21-Dec-12	92	0.000046	-0.002	0.799	0.000067	0.643	-0.000005	0.116	0.0224	-3	0.000002	-0.0002	-0.0005	0.000009	0.00075	0.00017	-0.0001
28-Dec-12	93																
4-Jan-13	94	0.000165	-0.002	0.833	0.000041	0.549	-0.000005	0.159	0.0232	-3	0.000003	-0.0002	-0.0005	0.000006	0.00067	0.00032	-0.0001
11-Jan-13	95																
18-Jan-13	96	-0.00002	0.0037	0.851	0.000052	0.636	-0.000005	0.126	0.0232	-3	0.000002	-0.0002	-0.0005	0.000007	0.00063	0.00047	-0.0001
25-Jan-13	97																
1-Feb-13	98	0.000116	-0.002	0.778	0.000047	0.606	-0.000005	0.124	0.0189	-3	0.000002	-0.0002	-0.0005	0.000025	0.00074	0.00017	-0.0001
8-Feb-13	99																
15-Feb-13	100	-0.00002	-0.002	0.788	0.000059	0.516	-0.000005	0.121	0.0168	-3	0.000002	-0.0002	-0.0005	0.000006	0.00058	-0.0001	-0.0001
22-Feb-13	101																
1-Mar-13	102	-0.00002	-0.002	0.783	0.000088	0.562	-0.000005	0.131	0.0177	-3	-0.000002	-0.0002	-0.0005	0.000006	0.00053	0.00033	-0.0001
8-Mar-13	103																
15-Mar-13	104	0.000104	-0.002	0.707	-0.00004	0.566	-0.000005	0.137	0.0159	-3	0.000002	-0.0002	-0.0005	0.000004	0.00049	0.00053	-0.0001
22-Mar-13	105																
29-Mar-13	106	0.000029	-0.002	0.767	-0.00004	0.473	-0.000005	0.113	0.0154	-3	-0.000002	-0.0002	-0.0005	0.000005	0.00049	0.00016	-0.0001
5-Apr-13	107																
12-Apr-13	108	0.000026	-0.002	0.761	0.000098	0.463	-0.000005	0.11	0.0182	-3	-0.000002	-0.0002	0.00095	0.000006	0.00071	0.00401	-0.0001
19-Apr-13	109																
26-Apr-13	110	0.000076	0.014	0.742	0.000057	0.438	0.000414	0.133	0.0163	-3	-0.000002	0.00025	0.00095	0.000006	0.0003	0.00067	-0.0001
3-May-13	111																
10-May-13	112	0.00003	-0.002	0.71	0.000057	0.482	-0.000005	0.117	0.0145	-3	-0.000002	-0.0002	0.00063	0.000004	0.0005	0.00021	-0.0001
17-May-13	113																
24-May-13	114																

HC 10

CONFIDENTIAL *DRAFT*

Sample =
08SWC337 10-13

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L
18-Mar-11	0	500	345	7.68	105	#N/A	2.8	50.2	5	2.8	0.29	27.8	0.0568	-0.00002	0.00072	0.0195	-0.00001	-0.000005	-0.05	0.000014	7.75	0.0001	0.000181	0.0046	0.013	0.000024	0.0008	2.05	0.0123	-0.01	0.0122	0.00018
25-Mar-11	1	500	470	7.91	121																											
1-Apr-11	2	500	525	7.91	96	#N/A	5.1	56.3	4	0.6	0.33	29.8	0.0351	0.00003	0.00086	0.017	-0.00001	-0.000005	-0.05	-0.000005	8.06	0.0003	0.000112	0.00334	0.009	0.000022	0.0007	2.35	0.0068	-0.01	0.0133	0.00016
8-Apr-11	3	500	520	7.82	78																											
15-Apr-11	4	500	490	7.78	61	#N/A	2.1	37.6	3	-0.5	0.2	22.9	0.0243	0.00002	0.00173	0.0128	-0.00001	-0.000005	-0.05	-0.000005	6.33	0.0003	0.000056	0.0016	0.007	0.00002	-0.0005	1.73	0.00646	-0.01	0.00829	0.00015
22-Apr-11	5	500	490	7.73	65																											
29-Apr-11	6	500	480	7.72	59	#N/A	3.1	39.1	4	-0.5	0.15	26.2	0.0293	-0.00002	0.00052	0.0151	-0.00001	-0.000005	-0.05	-0.000005	7.61	0.0002	0.000034	0.00141	0.008	0.000008	-0.0005	1.74	0.00381	-0.01	0.00631	0.00009
6-May-11	7	500	470	7.61	59																											
13-May-11	8	500	490	7.67	75	#N/A	3.1	33.2	4	-0.5	0.16	26.4	0.0305	0.00002	0.00065	0.0159	-0.00001	-0.000005	-0.05	-0.000005	7.28	0.0003	0.000028	0.00117	0.007	0.000011	-0.0005	2	0.0049	-0.01	0.0058	0.00013
20-May-11	9	500	450	7.78	55																											
27-May-11	10	500	410	7.81	52	#N/A	4.9	31.4	4	-0.5	0.15	23.1	0.0203	0.00003	0.00077	0.0145	-0.00001	-0.000005	-0.05	-0.000005	6.55	0.0001	0.000016	0.00124	0.003	0.000016	-0.0005	1.64	0.00068	-0.01	0.0063	0.00019
3-Jun-11	11	500	400	7.61	50																											
10-Jun-11	12	500	425	7.72	53	#N/A	2.0	33.6	2	0.7	0.12	21.5	0.0309	0.00002	0.00194	0.014	-0.00001	-0.000005	-0.05	0.000011	6.16	-0.0001	0.000016	0.00131	0.009	0.000009	-0.0005	1.49	0.00117	-0.01	0.00498	0.00005
17-Jun-11	13	500	450	7.63	53																											
24-Jun-11	14	500	520	7.90	52	#N/A	1.6	34.3	2	-0.5	0.08	26.2	0.0193	0.00003	0.00053	0.0175	-0.00001	-0.000005	-0.05	-0.000005	7.48	0.0001	0.000011	0.00131	0.003	-0.000005	-0.0005	1.83	0.00044	-0.01	0.00379	-0.00002
1-Jul-11	15	500	520	7.89	48																											
8-Jul-11	16	500	505	7.50	47	#N/A	2.8	29.4	2	-0.5	0.07	20	0.0161	-0.00002	0.00023	0.0133	-0.00001	-0.000005	-0.05	-0.000005	5.81	0.0002	0.000012	0.00092	0.003	0.000009	-0.0005	1.34	0.00036	-0.01	0.00259	0.00005
15-Jul-11	17	500	505	7.71	64																											
22-Jul-11	18	500	515	7.77	51	#N/A	3.1	31.0	-2	0.5	0.08	23.3	0.0226	-0.00002	0.00021	0.0173	-0.00001	-0.000005	-0.05	-0.000005	6.41	0.0002	0.000013	0.00148	0.007	0.000017	-0.0005	1.76	0.00099	-0.01	0.00313	#N/A
29-Jul-11	19	500	490	7.77	52																											
5-Aug-11	20	500	515	7.70	59	#N/A	3.4	35.3	-2	-0.5	0.07	26.8	0.0177	-0.00002	0.00022	0.0193	-0.00001	-0.000005	-0.05	-0.000005	7.6	0.0002	0.000008	0.00078	0.004	0.000007	-0.0005	1.9	0.00042	-0.01	0.00312	0.00003
12-Aug-11	21	500	500	7.80	53																											
19-Aug-11	22	500	490	7.68	58	#N/A	3.8	35.4	-2	-0.5	0.08	26.9	0.0263	-0.00002	0.00029	0.0206	-0.00001	-0.000005	-0.05	-0.000005	7.81	0.0002	0.000011	0.00136	0.009	0.000011	-0.0005	1.79	0.0011	-0.01	0.00308	#N/A
26-Aug-11	23	500	515	7.63	59																											
2-Sep-11	24	500	475	7.76	48	#N/A	3.9	32.7	2	-0.5	0.06	23	0.0332	-0.00002	0.00033	0.0154	-0.00001	-0.000005	-0.05	-0.000005	6.71	#N/A	0.000011	0.00168	0.011	0.000013	-0.0005	1.46	0.0012	-0.01	0.00254	#N/A
9-Sep-11	25	500	510	7.81	51																											
16-Sep-11	26	500	520	7.55	48	#N/A	3.9	31.1	-2	0.7	0.05	23.2	0.0179	-0.00002	0.00025	0.0173	-0.00001	-0.000005	-0.05	-0.000005	6.85	0.0002	0.00001	0.00069	0.004	-0.000005	-0.0005	1.49	0.00085	-0.01	0.00201	-0.00002
23-Sep-11	27	500	510	7.55	47																											
30-Sep-11	28	500	495	7.53	48	#N/A	3.1	30.1	-2	-0.5	0.05	21.8	0.0125	-0.00002	0.00021	0.016	-0.00001	-0.000005	-0.05	0.000006	6.55	0.0001	0.000009	0.00052	0.003	0.000038	-0.0005	1.32	0.00032	-0.01	0.00177	-0.00002
7-Oct-11	29	500	495	7.55	46																											
14-Oct-11	30	500	495	7.50	48	#N/A	3.4	30.3	-2	-0.5	0.06	25.4	0.0232	-0.00002	0.00025	0.0182	-0.00001	-0.000005	-0.05	-0.000005	7.37	0.0001	-0.000005	0.0007	0.004	0.000009	-0.0005	1.69	0.00068	-0.01	0.00226	-0.00002
21-Oct-11	31	500	505	7.69	46																											
28-Oct-11	32	500	510	7.60	57	#N/A	3.5	36.3	-2	-0.5	0.05	29.8	0.0195	-0.00002	0.00016	0.0226	-0.00001	-0.000005	-0.05	-0.000005	8.57	0.0002	-0.000005	0.00181	0.002	0.000006	-0.0005	2.04	0.00027	-0.01	0.00207	0.00005
4-Nov-11	33	500	505	7.68	53																											
11-Nov-11	34	500	410	7.84	52	#N/A	5.2	35.7	2	-0.5	0.054	25.5	#N/A	0.00002	0.00031	0.0209	-0.00001	-0.000005	-0.05	#N/A	7.47	0.0001	0.000026	0.00158	#N/A	0.000054	-0.0005	1.67	0.00582	-0.01	0.00231	0.0002
18-Nov-11	35	500	420	7.64	53																											
25-Nov-11	36	500	490	7.73	56	#N/A	3.3	36.3	2	-0.5	0.043	27.4	0.0235	0.00002	0.00022	0.0257	-0.00001	-0.000005	-0.05	-0.000005	7.84	0.0002	0.00001	0.00209	0.008	0.000023	-0.0005	1.9	0.00174	-0.01	0.00187	0.00016
2-Dec-11	37	500	485	7.61	53																											
9-Dec-11	38	500	495	7.58	57	#N/A	4.1	36.2	2	0.9	0.036	27.5	0.0233	-0.00002	0.00017	0.0222	-0.00001	-0.000005	-0.05	-0.000005	7.85	0.0002	0.000011	0.00118	0.006	0.000013	-0.0005	1.91	0.00134	-0.01	0.00145	0.00012
16-Dec-11	39	500	485	7.68	60																											
23-Dec-11	40	500	475	7.64	58	#N/A	4.8	38.3	2	-0.5	0.038	28.5	0.0243	-0.00002	0.00015	0.0266	-0.00001	-0.000005	-0.05	-0.000005	7.97	0.0003	0.000009	0.00101	0.006	0.000028	-0.0005	2.09	0.00115	-0.01	0.00133	0.00023
30-Dec-11	41	500	485	7.70	49																											
6-Jan-12	42	500	475	7.42	41	#N/A	3.5	31.0	2	-0.5	0.03	20.7	0.0408	-0.00002	0.00012	0.0168	-0.00001	-0.000005	-0.05	-0.000005	6.08	0.0001	0.000015	0.00065	0.017	0.000013	-0.0005	1.35	0.00262	-0.01	0.00111	-0.00002
13-Jan-12	43	500	480	7.62	46																											
20-Jan-12	44	500	480	7.73	55	#N/A	3.0	41.7	2	-0.5	0.036	25	0.0358	-0.00002	0.0002	0.0216	-0.00001	-0.000005	-0.05	-0.000005	7.45	0.0003	0.000011	0.00178	0.017	#N/A	-0.0005	1.55	0.00179	-0.01	0.00118	#N/A
27-Jan-12	45	500	485	7.56	49																											
3-Feb-12	46	500	480	7.64	52	#N/A	5.8	36.3	2	-0.5	0.033	24.6	0.0208	-0.00002	0.00011	0.0179	-0.00001	-0.000005	-0.05	-0.000005	7.32	0.0001	0.000014	0.00073	0.005	0.000009	-0.0005	1.55	0.00154	-0.01	0.00114	0.00014
10-Feb-12	47	500	465	7.63	52																											
17-Feb-12	48	500	480	7.58	51	#N/A	3.0	33.6	2	-0.5	0.031	25.4	0.0196	0.00002	0.00025	0.0212	-0.00001	-0.000005	-0.05	-0.000005	7.59	0.0002	0.00001	0.00064	0.005	0.000008	-0.0005	1.56	0.0012	-0.01	0.00118	-0.00002
24-Feb-12	49	500	485	7.46	52																											
2-Mar-12	50	500	470	7.53	52	#N/A	7.3	35.4	2	-0.5	0.026	25	0.0156	-0.00002	0.00015	0.021	-0.00001	-0.000005	-0.05	-0.000005	7.43	-0.0001	-0.000005	0.00052	0.003	0.000009	-0.0005	1.56	0.00055	-0.01	0.00086	0.00004
9-Mar-12	51	500	465	7.59	47																											
16-Mar-12	52	500	475	7.57	48	#N/A	2.9	29.9	2	-0.5	0.026	23	0.0189	-0.00002	0.00009	0.0173	-0.00001	-0.000005	-0.05	-0.000005	6.99	0.0001	0.000009	0.00069	0.006	0.000007	-0.0005	1.36	0.0014	-0.01	0.00087	0.00015
23-Mar-12	53	500	465	7.55	53																											
30-Mar-12	54	500	495	7.50	63	#N/A	4.2	38.2	2	-0.5	0.033	29.2	0.0186	0.00002	0.0001	0.0247	-0.00001	-0.000005	-0.05	-0.000005	8.73	0.0001	-0.000005	0.00052	0.005	0.000008	-0.0005	1.79	0.00051	-0.01	0.00123	0.00004
6-Apr-12	55	500	465	7.66	56																											
13-Apr-12	56	500	465	7.69	57	#N/A	2.2	36.2	2	-0.5	0.029	29.2	0.0281	-0.00002	0.00015	0.0247	-0.00001	-0.000005	-0.05	0.000006	8.84	0.0001	-0.000005	0.00069	0.009	0.000041	-0.0005	1.74	0.00129	-0.01	0.00141	-0.00002
20-Apr-12	57	500	480	7.63	57																											
27-Apr-12	58	500	495	7.70	59	#N/A	4.8	37.9	-2	-0.5	0.029	27	0.0223	-0.00002	0.000225	0.0227	-0.00001	-0.000005	-0.05	#N/A	8.23	0.00024	0.000011	0.00071	0.0077	0.000025	-0.0005	1.57	0.00134	-0.01	0.00113	#N/A
4-May-12	59	500	495	7.61	51																											
11-May-12	60	500	505	7.60	51	#N/A	3.4	32.0	3	-0.5	0.033	26.2	0.0128	-0.00002	0.000227	0.0214	-0.00001	-0.000005	-0.05	0.000005	8.13	0.00019	0.000015	0.00075	0.004	0.000017	-0.0005	1.43	0.00137	-0.01	0.00097	0.000177
18-May-12	61	500	520	7.61	52																											
25-May-12	62	500	515	7.59	51	#N/A	3.9	31.9	2	-0.5	0.027	24.2	0.0203	0.00009	0.000239	0.0209	-0.00001	-0.000005	-0.05	0.000101	7.43	0.00027	0.0000096	0.00186	0.0138	0.0000258	-0.0005	1.38	0.00159	-0.01	0.00092	0.000066
1-Jun-12	63	500	520	7.55	51																											
8-Jun-12	64	500	475	7.63	55	#N/A	3.2	34.4	2	0.61	0.026	25.4	0.0242	-0.00002	0.000217	0.0219	-0.00001	-0.000005	-0.05	0.0000067	7.75	0.00015	0.0000276	0.00125	0.011	0.0000282	-0.0005	1.47	0.00149	-0.01	0.00104	0.000234
15-Jun-12	65	500	490	7.51	49																											
22-Jun-12	66	500	470	7.45	42	#N/A	4.2	29.2	2	-0.5	0.03	21	0.0206	-0.00002	0.000356	0.0185	-0.00001	-0.000005	-0.05	-0.000005	6.43	0.00012	-0.000005	0.00049	0.0043	0.0000065	-0.0005	1.19	0.00053	-0.01	0.00092	0.000029
29-Jun-12	67	500	470	7.52	44																											
6-Jul-12	68	500	465	7.54	47	#N/A	4.4	30.1	2	-0.5	0.026	21.9	0.02	-0.00002	0.000301	0.0196	-0.00001	-0.000005	-0.05	-0.000005	6.73	0.00014	0.0000053	0.00062	0.0049	0.0000072	-0.0005	1.23	0.00076	-0.01	0.00091	0.000033

HC 10

Sample =
08SWC337_10-13

Date	Cycle No.	P	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
18-Mar-11	0	-0.002	3.27	0.00015	1.54	0.000009	11.4	0.0369	-10	-0.000002	0.00022	-0.0005	0.00034	0.0008	0.0002	-0.0001
25-Mar-11	1															
1-Apr-11	2	-0.002	2.6	0.0001	2.38	0.000005	7.17	0.0436	-10	-0.000002	0.00047	0.0005	0.000137	0.0011	0.0002	-0.0001
8-Apr-11	3															
15-Apr-11	4	-0.002	1.92	-0.00004	1.58	0.000007	3.38	0.0371	-10	-0.000002	0.00058	-0.0005	#N/A	0.0009	0.0007	-0.0001
22-Apr-11	5															
29-Apr-11	6	-0.002	1.91	-0.00004	1.72	-0.000005	2.3	0.0345	-10	-0.000002	0.00019	-0.0005	0.000067	0.0008	0.0002	-0.0001
6-May-11	7															
13-May-11	8	-0.002	1.75	-0.00004	1.7	0.000006	1.62	0.0384	-10	-0.000002	0.00013	-0.0005	0.000072	0.0009	0.0002	-0.0001
20-May-11	9															
27-May-11	10	-0.002	1.77	0.00011	1.6	0.000005	1.2	0.0316	-10	-0.000002	0.00019	-0.0005	0.000045	0.0009	0.0004	-0.0001
3-Jun-11	11															
10-Jun-11	12	-0.002	1.58	-0.00004	1.41	-0.000005	0.87	0.0341	-10	-0.000002	0.00033	-0.0005	0.000052	0.0008	0.0002	-0.0001
17-Jun-11	13															
24-Jun-11	14	-0.002	1.64	-0.00004	1.6	0.000006	0.74	0.0341	-10	-0.000002	0.00015	-0.0005	0.000056	0.0007	-0.0001	-0.0001
1-Jul-11	15															
8-Jul-11	16	-0.002	1.09	-0.00004	1.2	-0.000005	0.43	0.0299	-10	-0.000002	0.00007	-0.0005	0.000048	0.0005	0.0004	-0.0001
15-Jul-11	17															
22-Jul-11	18	-0.002	1.39	-0.00004	1.37	0.000006	0.5	0.0332	-10	-0.000002	0.00006	-0.0005	0.000044	0.0006	0.0005	-0.0001
29-Jul-11	19															
5-Aug-11	20	-0.002	1.38	-0.00004	1.46	0.000008	0.43	0.0365	-10	-0.000002	0.00006	-0.0005	0.00018	0.0007	0.0002	-0.0001
12-Aug-11	21															
19-Aug-11	22	-0.002	1.45	-0.00004	1.49	0.000006	0.46	0.039	-10	-0.000002	0.00004	-0.0005	0.000051	0.0009	0.0002	-0.0001
26-Aug-11	23															
2-Sep-11	24	-0.002	1.11	-0.00004	1.18	0.000009	0.37	0.0319	-10	-0.000002	0.0001	0.0005	0.00004	0.0007	0.0005	-0.0001
9-Sep-11	25															
16-Sep-11	26	-0.002	1.04	-0.00004	1.12	0.000007	0.2	0.0318	-10	-0.000002	0.00005	-0.0005	0.000048	0.0007	0.0002	-0.0001
23-Sep-11	27															
30-Sep-11	28	-0.002	0.94	-0.00004	0.985	0.000006	0.21	0.0303	-10	-0.000002	0.00013	-0.0005	0.000037	-0.0002	-0.0001	-0.0001
7-Oct-11	29															
14-Oct-11	30	-0.002	1.09	-0.00004	1.32	0.000006	0.27	0.0346	-10	-0.000002	0.00003	-0.0005	0.000044	0.0006	0.0007	-0.0001
21-Oct-11	31															
28-Oct-11	32	-0.002	1.28	-0.00004	1.4	0.000009	0.26	0.0431	-10	-0.000002	0.00063	-0.0005	0.000054	0.0007	-0.0001	-0.0001
4-Nov-11	33															
11-Nov-11	34	-0.002	1.45	-0.00004	1.49	0.000014	0.28	0.0351	-10	0.000004	0.00023	0.0014	0.000046	0.0008	0.001	-0.0001
18-Nov-11	35															
25-Nov-11	36	-0.002	1.55	-0.00004	1.39	0.000008	0.27	0.0397	-10	-0.000002	0.00032	-0.0005	0.00006	0.0007	0.0004	-0.0001
2-Dec-11	37															
9-Dec-11	38	-0.002	1.32	-0.00004	1.11	0.000008	0.21	0.0403	-10	-0.000002	0.00013	-0.0005	0.000058	0.0005	0.0002	-0.0001
16-Dec-11	39															
23-Dec-11	40	-0.002	1.45	-0.00004	1.21	0.000011	0.26	0.0427	-10	-0.000002	0.00002	-0.0005	0.000058	0.0005	0.0012	-0.0001
30-Dec-11	41															
6-Jan-12	42	-0.002	0.94	-0.00004	0.895	0.000008	0.14	0.0287	-10	-0.000002	0.00008	0.0008	0.000026	0.0005	0.0001	-0.0001
13-Jan-12	43															
20-Jan-12	44	-0.002	1.01	-0.00004	0.992	0.000008	0.24	0.0378	-10	-0.000002	-0.0002	0.0005	0.000054	0.0007	0.0009	-0.0001
27-Jan-12	45															
3-Feb-12	46	-0.002	0.97	-0.00004	0.989	0.000006	0.18	0.0311	-10	-0.000002	-0.0002	-0.0005	0.000035	0.0005	-0.0001	-0.0001
10-Feb-12	47															
17-Feb-12	48	-0.002	1.05	-0.00004	1.08	0.000007	0.16	0.036	-10	-0.000002	-0.0002	-0.0005	0.000046	0.0007	0.0003	-0.0001
24-Feb-12	49															
2-Mar-12	50	-0.002	0.9	-0.00004	0.9	0.000009	0.13	0.0322	-10	-0.000002	-0.0002	-0.0005	0.000041	0.0004	0.0001	-0.0001
9-Mar-12	51															
16-Mar-12	52	-0.002	0.82	-0.00004	0.894	-0.000005	0.16	0.0302	-10	-0.000002	-0.0002	-0.0005	0.000027	0.0003	0.0003	-0.0001
23-Mar-12	53															
30-Mar-12	54	-0.002	0.96	-0.00004	1.12	0.000006	0.16	0.0419	-10	-0.000002	-0.0002	-0.0005	0.000042	0.0004	0.0003	-0.0001
6-Apr-12	55															
13-Apr-12	56	-0.002	1.02	-0.00004	1.29	0.000009	0.14	0.04	-10	-0.000002	-0.0002	-0.0005	0.000044	0.0005	0.0002	-0.0001
20-Apr-12	57															
27-Apr-12	58	-0.002	0.949	-0.00004	1.07	0.000008	0.176	0.0369	-10	-0.000002	0.00031	-0.0005	0.000043	0.001	#N/A	-0.0001
4-May-12	59															
11-May-12	60	-0.002	0.896	-0.00004	1.06	0.000011	0.15	0.0326	-10	-0.000002	0.00023	-0.0005	0.000031	0.00047	0.00091	-0.0001
18-May-12	61															
25-May-12	62	-0.002	0.794	-0.00004	1.06	0.0000059	0.151	0.033	-10	#N/A	-0.0002	-0.0005	0.0000321	0.00045	#N/A	-0.0001
1-Jun-12	63															
8-Jun-12	64	0.0035	0.753	-0.00004	0.94	0.0000064	0.241	0.0331	-10	-0.000002	0.00033	-0.0005	0.0000366	0.00046	0.00109	-0.0001
15-Jun-12	65															
22-Jun-12	66	-0.002	0.625	-0.00004	0.831	-0.000005	0.126	0.0284	-10	-0.000002	-0.0002	-0.0005	0.000025	0.00046	0.00011	-0.0001
29-Jun-12	67															
6-Jul-12	68	-0.002	0.75	-0.00004	0.926	-0.000005	0.124	0.0285	-10	-0.000002	-0.0002	-0.0005	0.0000273	0.00064	0.00014	-0.0001

HC 10

CONFIDENTIAL *DRAFT*

Sample =
08SWC337 10-13

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L
13-Jul-12	69	500	510	7.55	47																											
20-Jul-12	70	500	490	7.48	45	#N/A	4.0	28.8	2	0.5	0.023	23.5	#N/A	-0.00002	0.000093	0.0197	-0.00001	-0.000005	-0.05	-0.000005	7.29	0.00013	0.0000099	0.00067	0.0053	0.0000131	-0.0005	1.29	0.00067	-0.01	0.00084	0.000064
27-Jul-12	71	500	475	7.68	44																											
3-Aug-12	72	500	485	7.60	49	#N/A	3.6	31.6	2	-0.5	0.024	25.4	0.0168	0.000023	0.000084	0.022	-0.00001	-0.000005	-0.05	-0.000005	7.94	0.00014	0.00001	0.00091	0.0049	0.000025	-0.0005	1.36	0.0011	-0.01	0.00092	0.000158
10-Aug-12	73	500	480	7.62	44																											
17-Aug-12	74	500	475	7.50	52	#N/A	4.5	32.3	2	-0.5	0.026	25.3	0.0211	0.00002	0.000123	0.0246	-0.00001	-0.000005	-0.05	-0.000005	7.59	0.00017	0.000008	0.00113	0.0071	#N/A	-0.0005	1.54	0.00122	-0.01	0.00104	0.000126
24-Aug-12	75	500	460	7.57	45																											
31-Aug-12	76	500	500	7.59	48	#N/A	3.6	31.9	2	-0.5	0.02	24.2	0.0204	-0.00002	0.000212	0.0206	-0.00001	-0.000005	-0.05	0.000011	7.6	-0.0001	0.000014	0.00076	0.0051	0.000022	-0.0005	1.27	0.00118	-0.01	0.00076	0.000104
7-Sep-12	77	500	465	7.47	47																											
14-Sep-12	78	500	470	7.45	53	#N/A	4.0	34.3	3	-0.5	0.021	25.2	0.0216	-0.00002	0.000486	0.0252	-0.00001	-0.000005	-0.05	-0.000005	7.65	#N/A	0.000009	0.00151	0.0103	0.000072	-0.0005	1.48	0.00116	-0.01	0.00082	0.000182
21-Sep-12	79	500	510	7.51	53																											
28-Sep-12	80	500	460	7.50	49	#N/A	2.9	33.2	2	-0.5	0.024	24.8	0.0259	-0.00002	0.000134	0.0243	-0.00001	-0.000005	-0.05	-0.000005	7.72	-0.0001	0.000008	0.0005	0.0066	0.000009	-0.0005	1.34	0.00093	-0.01	0.00076	0.000066
5-Oct-12	81	500	465	7.65	47																											
12-Oct-12	82	500	515	7.47	47	#N/A	5.9	31.4	2	0.53	0.022	23.8	0.0157	-0.00002	0.00009	0.0211	-0.00001	-0.000005	-0.05	-0.000005	7.47	-0.0001	-0.000005	0.00117	0.0043	0.000021	-0.0005	1.25	0.0004	-0.01	0.00065	-0.00002
19-Oct-12	83	500	505	7.57	48																											
26-Oct-12	84	500	490	7.52	47	#N/A	2.9	30.7	2	-0.5	0.024	22.9	0.0205	-0.00002	0.000088	0.0217	-0.00001	-0.000005	-0.05	-0.000005	7.21	0.00011	0.000009	0.00084	0.0076	0.000064	-0.0005	1.2	0.00113	-0.01	0.00074	0.000094
2-Nov-12	85	500	495	7.53	53																											
9-Nov-12	86	500	505	7.58	48	#N/A	5.2	36.3	3	-0.5	0.022	26.2	0.0189	-0.00002	0.000097	0.0264	-0.00001	-0.000005	-0.05	0.00001	8.18	0.0001	0.000009	0.00121	0.0045	0.000034	-0.0005	1.39	0.00074	-0.01	0.00062	0.000118
16-Nov-12	87	500	495	7.59	45																											
23-Nov-12	88	500	490	7.63	52	#N/A	3.7	34.3	2	-0.5	0.019	27.7	0.0164	-0.00002	0.000132	0.0252	-0.00001	-0.000005	-0.05	-0.000005	8.71	-0.0001	-0.000005	0.00051	0.0047	0.00009	-0.0005	1.44	0.00025	-0.01	0.00058	0.000147
30-Nov-12	89	500	500	7.51	49																											
7-Dec-12	90	500	440	7.70	47	#N/A	6.8	33.5	2	-0.5	0.022	24	0.0214	-0.00002	0.000111	0.0219	-0.00001	-0.000005	-0.05	-0.000005	7.36	-0.0001	0.000006	0.00178	0.005	0.000149	-0.0005	1.37	0.00042	-0.01	0.00064	0.000144
14-Dec-12	91	500	495	7.79	43																											
21-Dec-12	92	500	460	7.64	71	#N/A	3.7	46.5	-2	-0.5	0.026	34.6	0.0159	-0.00002	0.000176	0.0329	-0.00001	-0.000005	-0.05	-0.000005	11.1	-0.0001	0.000006	0.0004	0.005	0.000013	-0.0005	1.7	0.00048	-0.01	0.00092	0.000054
28-Dec-12	93	500	475	7.68	75																											
4-Jan-13	94	500	490	7.72	46	#N/A	4.9	33.1	-2	0.76	0.022	24	0.0226	-0.00002	0.000077	0.0236	-0.00001	-0.000005	-0.05	-0.000005	7.48	-0.0001	0.000013	0.00036	0.0067	0.00003	-0.0005	1.29	0.00088	-0.01	0.00049	0.000152
11-Jan-13	95	500	455	7.60	45																											
18-Jan-13	96	500	450	7.66	51	#N/A	2.9	34.1	-2	0.54	0.018	25.2	0.0274	-0.00002	0.000194	0.0219	-0.00001	-0.000005	-0.05	0.000011	7.99	-0.0001	-0.000005	0.0004	0.0071	0.00018	-0.0005	1.27	0.00147	-0.01	0.00055	0.000022
25-Jan-13	97	500	455	7.53	60																											
1-Feb-13	98	500	435	7.72	47	#N/A	3.7	30.1	2	-0.5	0.025	24.3	0.0169	-0.00002	0.00019	0.0208	-0.00001	-0.000005	-0.05	-0.000005	7.56	-0.0001	-0.000005	0.00035	0.004	0.000021	-0.0005	1.33	0.00042	-0.01	0.00067	0.000022
8-Feb-13	99	500	450	7.69	47																											
15-Feb-13	100	500	445	7.59	50	#N/A	3.1	28.8	3	0.63	0.02	22.9	0.0149	-0.00002	0.00015	0.0209	-0.00001	-0.000005	-0.05	-0.000005	6.95	-0.0001	-0.000005	0.00026	0.0025	0.000007	-0.0005	1.34	0.00042	-0.01	0.0006	-0.00002
22-Feb-13	101	500	425	7.72	45																											
1-Mar-13	102	500	445	7.63	45	#N/A	5.5	31.1	3	0.61	0.017	21.9	0.0303	-0.00002	0.000121	0.0183	-0.00001	-0.000005	-0.05	-0.000005	6.91	-0.0001	0.000008	0.00048	0.0082	0.000011	-0.0005	1.12	0.00124	-0.01	0.00051	-0.00002
8-Mar-13	103	500	450	7.69	69																											
15-Mar-13	104	500	435	7.59	49	#N/A	5.0	29.2	2	0.58	0.021	22.5	0.026	-0.00002	0.000089	0.0192	-0.00001	-0.000005	-0.05	-0.000005	7.14	-0.0001	0.000006	0.00033	0.007	0.000006	-0.0005	1.13	0.00103	-0.01	0.00049	-0.00002
22-Mar-13	105	500	450	7.61	43																											
29-Mar-13	106	500	435	7.64	50	#N/A	3.4	28.2	2	0.58	0.018	24.8	0.015	-0.00002	0.00013	0.0239	-0.00001	-0.000005	-0.05	-0.000005	7.58	0.00012	0.000023	0.00055	0.0028	0.000017	-0.0005	1.43	0.00035	-0.01	0.00063	0.00002
5-Apr-13	107	500	445	7.62	46																											
12-Apr-13	108	500	440	7.64	48	#N/A	5.8	29.5	2	0.53	0.019	22.4	0.0316	-0.00002	0.000094	0.0264	-0.00001	-0.000005	-0.05	-0.000005	6.9	-0.0001	0.000009	0.00056	0.0096	0.000017	-0.0005	1.26	0.00108	-0.01	0.00058	0.00002
19-Apr-13	109	500	435	7.74	47																											
26-Apr-13	110	500	440	7.58	47	#N/A	4.0	26.7	3	-0.5	0.019	21.9	0.0336	-0.00002	0.000107	0.0257	-0.00001	-0.000005	-0.05	-0.000005	6.71	-0.0001	0.000008	0.00047	0.0117	-0.000005	-0.0005	1.25	0.00128	-0.01	0.00055	0.000032
3-May-13	111	500	430	7.59	45																											
10-May-13	112	500	420	7.47	48	#N/A	4.2	27.1	2	0.74	0.017	23	0.0513	-0.00002	0.000141	0.0237	-0.00001	-0.000005	-0.05	-0.000005	7.1	-0.0001	0.000009	0.00047	0.016	0.000018	-0.0005	1.29	0.00159	-0.01	0.00054	0.000048
17-May-13	113	500	445	7.72	50																											
24-May-13	114	500	465	7.51	43	#N/A	4.1	27.7	2																							

April 15/11 U 0.00196. Repeat = 0.00185. Data confirmed, suspect contamination
Sept 2/11 Cr=0.0016, repeat= 0.0012. data confirmed, suspect contamination
Jul 22/11 Ni=0.00025, repeat=0.00025. Data confirmed, suspect contamination
Aug 19/11 Ni=0.00022, repeat=0.00022. Data confirmed, suspect contamination
Sept 2/11 Ni=0.00027, repeat=0.00011. Data confirmed, suspect contamination
Nov 11/11 Al=0.0722, Cd=0.000025, Fe=0.033. Repeat= Al= 0.047, Cd=0.000024, Fe= 0.021. Data rejected, suspect contmaination
Jan 20/12 Pb=0.000498, Ni=0.00034. Repeat Pb=0.000466, Ni=0.00029. Data confirmed, suspect contamination
Apr 27/12 Cd=0.000103, Ni=0.000155, Zn=0.00425. Cannot repeat suspect contamination or analytical error
May 25/12 Tl=0.0000208, Zn=0.00664. repeat Tl=0.000019, Zn=0.00686. Data confirmed, suspect contamination or analytical error
Aug 31/12 Ni=0.000888, repeat=0.000104. Data accepted
Sept 14/12 Ni=0.000216, Cr=0.00346, repeat Ni=0.000182, data accepted within 4X stdev. Cr=0.00321. Data confirmed suspect contamination
Jul 20/12 Al=0.0484, repeat=0.0527. Data confirmed, suspect contamination or analytical error
Dec 21/12 Si=1.18, repeat confirms original result, suspect contamination
Aug 17/12 Pb=0.000136, Cannot repeat suspect contamination or analytical error

HC 10

Sample =
08SWC337 10-13

Date	Cycle No.	P	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
13-Jul-12	69															
20-Jul-12	70	-0.002	0.7	-0.00004	0.999	0.0000051	0.115	0.0298	-10	-0.000002	-0.0002	-0.0005	0.0000323	0.0007	0.00167	-0.0001
27-Jul-12	71															
3-Aug-12	72	-0.002	0.78	-0.00004	0.992	0.000007	0.173	0.0325	-10	-0.000002	0.0003	-0.0005	0.000031	0.00042	0.00034	-0.0001
10-Aug-12	73															
17-Aug-12	74	-0.002	0.854	-0.00004	0.926	-0.000005	0.191	0.0353	-10	-0.000002	0.00078	-0.0005	0.000033	0.00046	0.00118	-0.0001
24-Aug-12	75															
31-Aug-12	76	-0.002	0.697	-0.00004	0.834	0.000005	0.125	0.031	-10	-0.000002	-0.0002	-0.0005	0.000028	0.00035	0.00073	-0.0001
7-Sep-12	77															
14-Sep-12	78	-0.002	0.733	-0.00004	0.833	0.000006	0.308	0.036	-10	0.000002	-0.0002	-0.0005	0.000043	0.0004	0.00044	-0.0001
21-Sep-12	79															
28-Sep-12	80	-0.002	0.746	-0.00004	0.986	-0.000005	0.103	0.032	-10	-0.000002	-0.0002	-0.0005	0.00003	0.00041	0.00016	-0.0001
5-Oct-12	81															
12-Oct-12	82	-0.002	0.639	-0.00004	0.848	-0.000005	0.096	0.0299	-10	-0.000002	-0.0002	-0.0005	0.00003	-0.0002	-0.0001	-0.0001
19-Oct-12	83															
26-Oct-12	84	0.0119	0.67	-0.00004	0.845	0.000007	0.083	0.0316	-10	-0.000002	0.00022	-0.0005	0.000026	0.00038	0.0004	-0.0001
2-Nov-12	85															
9-Nov-12	86	-0.002	0.715	-0.00004	0.881	-0.000005	0.12	0.0337	-3	-0.000002	0.00021	-0.0005	0.000032	0.00028	0.00057	-0.0001
16-Nov-12	87															
23-Nov-12	88	-0.002	0.694	0.000041	0.933	-0.000005	0.106	0.0324	-3	-0.000002	0.0006	-0.0005	0.000052	0.0003	0.00035	-0.0001
30-Nov-12	89															
7-Dec-12	90	-0.002	0.666	0.000048	0.787	-0.000005	0.14	0.0304	-3	-0.000002	0.00039	-0.0005	0.00003	0.00058	0.00154	-0.0001
14-Dec-12	91															
21-Dec-12	92	-0.002	0.825	-0.00004	#N/A	-0.000005	0.105	0.0446	-3	-0.000002	-0.0002	-0.0005	0.000045	0.00048	0.00025	-0.0001
28-Dec-12	93															
4-Jan-13	94	-0.002	0.663	-0.00004	0.67	-0.000005	0.12	0.0307	-3	-0.000002	-0.0002	-0.0005	0.000023	0.00045	0.00023	-0.0001
11-Jan-13	95															
18-Jan-13	96	0.0028	0.649	-0.00004	0.789	-0.000005	0.092	0.03	-3	-0.000002	-0.0002	-0.0005	0.000038	0.00037	0.00089	-0.0001
25-Jan-13	97															
1-Feb-13	98	0.0032	0.652	0.000044	0.841	-0.000005	0.108	0.0295	-3	-0.000002	-0.0002	-0.0005	0.000026	0.00049	0.00018	-0.0001
8-Feb-13	99															
15-Feb-13	100	-0.002	0.687	-0.00004	0.727	-0.000005	0.099	0.0293	-3	-0.000002	-0.0002	-0.0005	0.00003	0.00038	0.00011	-0.0001
22-Feb-13	101															
1-Mar-13	102	-0.002	0.613	-0.00004	0.7	-0.000005	0.087	0.0265	-3	-0.000002	-0.0002	-0.0005	0.000023	0.00037	0.00013	-0.0001
8-Mar-13	103															
15-Mar-13	104	-0.002	0.641	-0.00004	0.762	-0.000005	0.084	0.0273	-3	-0.000002	-0.0002	0.00051	0.000024	0.00036	0.00022	-0.0001
22-Mar-13	105															
29-Mar-13	106	-0.002	0.745	-0.00004	0.814	-0.000005	0.116	0.0308	-3	-0.000002	-0.0002	-0.0005	0.000027	0.00042	0.00013	-0.0001
5-Apr-13	107															
12-Apr-13	108	-0.002	0.702	0.00004	0.767	-0.000005	0.082	0.0323	-3	-0.000002	-0.0002	-0.0005	0.000028	0.00051	0.00021	-0.0001
19-Apr-13	109															
26-Apr-13	110	-0.002	0.681	-0.00004	0.678	0.000053	0.087	0.0307	-3	-0.000002	-0.0002	0.00056	0.000027	0.00028	0.00014	-0.0001
3-May-13	111															
10-May-13	112	-0.002	0.688	-0.00004	0.817	-0.000005	0.1	0.0293	-3	-0.000002	-0.0002	-0.0005	0.000024	0.00049	0.00016	-0.0001
17-May-13	113															
24-May-13	114															

HC 11

CONFIDENTIAL *DRAFT*

Sample =
08SWC348 12-15

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L
18-Mar-11	0	500	310	7.36	120	#N/A	3.5	36.6	10	4.2	0.25	11.3	0.0462	0.00011	0.0023	0.11	-0.00001	-0.000005	-0.05	0.000026	3.42	0.0001	0.000503	0.016	0.051	0.000087	0.0028	0.66	0.035	-0.01	0.0768
25-Mar-11	1	500	525	7.81	110																										
1-Apr-11	2	500	505	7.72	108	#N/A	5.2	34.1	8	1.5	0.33	6.7	0.0379	0.00006	0.00168	0.0775	-0.00001	-0.000005	-0.05	0.000033	2.03	0.0003	0.000202	0.00636	0.025	0.000033	0.0017	0.4	0.00754	-0.01	0.137
8-Apr-11	3	500	485	7.78	76																										
15-Apr-11	4	500	450	7.45	56	#N/A	2.2	22.0	5	0.6	0.24	2.9	0.0495	0.00004	0.002	0.0574	-0.00001	-0.000005	-0.05	0.000015	0.85	0.0002	0.000111	0.00417	0.049	0.000048	0.0009	0.19	0.00355	-0.01	0.0849
22-Apr-11	5	500	475	7.78	61																										
29-Apr-11	6	500	480	7.57	52	#N/A	3.5	17.4	6	0.9	0.17	3.3	0.0443	0.00006	0.00107	0.0849	-0.00001	-0.000005	-0.05	0.000017	0.96	0.0002	0.000054	0.00406	0.041	0.000054	0.0011	0.22	0.00242	-0.01	0.0512
6-May-11	7	500	455	7.41	39																										
13-May-11	8	500	460	7.38	46	#N/A	3.0	12.5	6	2.1	0.13	2.7	0.0507	0.00003	0.001	0.0585	-0.00001	-0.000005	-0.05	-0.000005	0.81	0.0002	0.000037	0.00222	0.044	0.000042	0.0008	0.16	0.00254	-0.01	0.0309
20-May-11	9	500	450	7.48	30																										
27-May-11	10	500	495	7.71	31	#N/A	4.6	12.9	4	0.9	0.12	3.7	0.0282	0.00002	0.00086	0.0592	-0.00001	-0.000005	-0.05	0.000012	1.11	0.0002	0.000025	0.00246	0.021	0.000074	0.001	0.23	0.0015	-0.01	0.0217
3-Jun-11	11	500	470	7.21	44																										
10-Jun-11	12	500	490	7.15	41	#N/A	2.4	9.3	4	1	0.09	3.9	0.0146	0.00003	0.00089	0.0649	-0.00001	-0.000005	-0.05	0.00001	1.18	0.0002	0.000015	0.00137	0.012	0.000014	0.0013	0.23	0.00048	-0.01	0.0109
17-Jun-11	13	500	475	7.11	49																										
24-Jun-11	14	500	480	7.32	25	#N/A	2.3	8.2	3	0.8	0.06	4.7	0.0396	0.00002	0.00055	0.0792	-0.00001	-0.000005	-0.05	0.000015	1.41	0.0002	0.000038	0.00158	0.042	0.000091	0.0011	0.28	0.00315	-0.01	0.007
1-Jul-11	15	500	480	7.66	21																										
8-Jul-11	16	500	470	7.40	28	#N/A	2.6	12.2	4	0.8	0.05	3.1	0.0093	0.00002	0.00046	0.0602	-0.00001	-0.000005	-0.05	-0.000005	0.95	0.0002	0.000008	0.00125	0.006	0.000026	0.0009	0.18	0.0006	-0.01	0.00554
15-Jul-11	17	500	480	7.65	30																										
22-Jul-11	18	500	485	7.42	32	#N/A	3.5	7.9	2	0.8	0.08	4.3	0.0333	0.00002	0.00066	0.058	-0.00001	-0.000005	-0.05	-0.000005	1.28	0.0002	0.00002	0.00111	0.028	0.000029	0.0011	0.27	0.00099	-0.01	0.00768
29-Jul-11	19	500	470	7.44	27																										
5-Aug-11	20	500	460	7.25	23	#N/A	3.6	8.1	-2	0.5	0.08	5.3	0.0288	0.00003	0.00063	0.0722	-0.00001	-0.000005	-0.05	-0.000005	1.59	0.0003	0.000022	0.00129	0.029	0.00003	0.0011	0.32	0.0009	-0.01	0.00808
12-Aug-11	21	500	470	7.77	16																										
19-Aug-11	22	500	475	7.37	16	#N/A	4.0	6.2	3	0.9	0.05	3.7	0.027	-0.00002	0.00047	0.0623	-0.00001	-0.000005	-0.05	0.000011	1.13	0.0003	0.000013	0.00166	0.022	0.000029	0.0009	0.23	0.0011	-0.01	0.00431
26-Aug-11	23	500	455	7.47	18																										
2-Sep-11	24	500	465	7.60	23	#N/A	3.6	6.3	2	0.7	0.04	-10	0.0355	-0.00002	0.00039	0.0602	-0.00001	-0.000005	-0.05	0.000006	0.97	0.0002	0.000016	0.00083	0.031	0.00004	0.0007	0.2	0.00143	-0.01	0.00347
9-Sep-11	25	500	475	7.57	24																										
16-Sep-11	26	500	485	7.14	14	#N/A	4.0	6.4	-2	0.9	0.04	4	0.0291	-0.00002	0.00032	0.0734	-0.00001	0.000022	-0.05	0.000009	1.2	0.0002	0.000015	0.00061	0.027	0.000027	0.0008	0.24	0.00113	-0.01	0.00305
23-Sep-11	27	500	460	7.10	11																										
30-Sep-11	28	500	460	6.93	15	#N/A	3.0	3.1	2	0.6	0.04	3.1	0.0066	0.00002	0.00035	0.0705	-0.00001	-0.000005	-0.05	0.000011	0.91	0.0003	0.000007	0.00064	0.004	0.000008	0.0007	0.19	0.00091	-0.01	0.00253
7-Oct-11	29	500	450	7.14	16																										
14-Oct-11	30	500	455	6.72	16	#N/A	4.2	3.4	3	-0.5	0.04	3.5	0.012	-0.00002	0.00036	0.0737	-0.00001	-0.000005	-0.05	0.000009	1.06	-0.0001	0.000006	0.00073	0.007	0.000025	0.0006	0.21	0.00157	-0.01	0.00333
21-Oct-11	31	500	475	7.58	11																										
28-Oct-11	32	500	480	7.22	14	#N/A	3.8	5.5	2	-0.5	0.04	4.6	0.0164	0.00002	0.0003	0.0806	-0.00001	-0.000005	-0.05	0.000014	1.38	0.0002	0.000007	0.00125	0.013	0.000074	0.0007	0.28	0.00201	-0.01	0.00323
4-Nov-11	33	500	475	7.47	17																										
11-Nov-11	34	500	475	7.71	9	#N/A	4.3	5.6	4	-0.5	0.026	3.2	0.0222	0.00002	0.00027	0.0642	-0.00001	-0.000005	-0.05	0.000015	0.95	0.0001	0.000014	0.0012	0.015	#N/A	0.0007	0.2	0.00187	-0.01	0.0022
18-Nov-11	35	500	470	7.21	22																										
25-Nov-11	36	500	505	7.44	13	#N/A	3.6	5.8	3	-0.5	0.034	4.1	0.0248	-0.00002	0.0003	0.0701	-0.00001	-0.000005	-0.05	0.000007	1.24	-0.0001	0.000012	0.0012	0.017	0.000035	0.0008	0.24	0.00116	-0.01	0.00252
2-Dec-11	37	500	465	7.46	14																										
9-Dec-11	38	500	475	7.03	11	#N/A	4.2	4.0	3	-0.5	0.021	3	0.027	-0.00002	0.00021	0.0608	-0.00001	-0.000005	-0.05	0.000008	0.88	-0.0001	0.000007	0.00102	0.019	0.000026	0.0006	0.18	0.00145	-0.01	0.00175
16-Dec-11	39	500	465	7.68	10																										
23-Dec-11	40	500	460	7.53	9	#N/A	4.0	4.5	4	-0.5	0.025	2.9	0.0324	-0.00002	0.00021	0.0631	-0.00001	-0.000005	-0.05	-0.000005	0.84	-0.0001	0.000014	0.00045	0.012	0.000033	-0.0005	0.19	0.00133	-0.01	0.00177
30-Dec-11	41	500	455	7.72	8																										
6-Jan-12	42	500	460	6.79	9	#N/A	3.2	3.8	3	-0.5	0.021	2.8	0.0569	-0.00002	0.0002	0.0678	-0.00001	-0.000005	-0.05	0.000011	0.82	-0.0001	0.000019	0.00114	0.047	0.000063	0.0005	0.18	0.00293	-0.01	0.0014
13-Jan-12	43	500	465	7.54	9																										
20-Jan-12	44	500	475	7.44	9	#N/A	3.1	4.6	3	#N/A	0.025	2.7	0.0095	-0.00002	0.00031	0.0733	-0.00001	-0.000005	-0.05	0.000019	0.78	-0.0001	-0.000005	0.0005	0.007	0.000023	-0.0005	0.17	0.0012	-0.01	0.00144
27-Jan-12	45	500	470	7.31	8																										
3-Feb-12	46	500	475	7.63	8	#N/A	4.7	5.0	2	-0.5	0.025	2.9	0.025	-0.00002	0.00022	0.0594	-0.00001	-0.000005	-0.05	0.000008	0.85	0.0001	0.000011	0.00046	0.015	0.000021	0.0005	0.18	0.00178	-0.01	0.00146
10-Feb-12	47	500	465	7.72	7																										
17-Feb-12	48	500	460	7.05	6	#N/A	2.6	3.5	3	-0.5	0.02	2.5	0.0228	0.00003	0.00028	0.056	-0.00001	-0.000005	-0.05	0.000012	0.75	-0.0001	0.000012	0.00195	0.015	0.000052	0.0005	0.16	0.00154	-0.01	0.00121
24-Feb-12	49	500	460	7.22	6																										
2-Mar-12	50	500	455	7.57	6	#N/A	6.6	4.6	2	-0.5	0.017	2.5	0.0391	-0.00002	0.0002	0.0601	-0.00001	-0.000005	-0.05	0.000011	0.74	-0.0001	0.000012	0.00115	0.024	0.000028	-0.0005	0.16	0.00167	-0.01	0.00128
9-Mar-12	51	500	465	7.47	6																										
16-Mar-12	52	500	475	7.15	6	#N/A	2.9	3.3	2	-0.5	0.021	2.3	0.0299	-0.00002	0.00012	0.0526	-0.00001	-0.000005	-0.05	0.000006	0.67	-0.0001	-0.000005	0.00363	0.018	#N/A	-0.0005	0.14	0.00129	-0.01	0.00116
23-Mar-12	53	500	465	7.49	9																										
30-Mar-12	54	500	485	6.91	7	#N/A	4.0	4.0	3	-0.5	0.023	3.3	0.0428	-0.00002	0.00015	0.0708	-0.00001	-0.000005	-0.05	0.000006	0.99	0.0001	0.000016	0.00109	0.029	0.000033	-0.0005	0.19	0.00175	-0.01	0.00133
6-Apr-12	55	500	465	7.18	8																										
13-Apr-12	56	500	465	7.09	8	#N/A	2.4	3.8	3	-0.5	0.017	3.2	0.0543	-0.00002	0.00021	0.0656	-0.00001	-0.000005	-0.05	0.000084	0.96	0.0001	0.00001	0.00092	0.024	#N/A	0.0005	0.19	0.00175	-0.01	0.00146
20-Apr-12	57	500	485	7.26	8																										
27-Apr-12	58	500	495	7.23	7	#N/A	4.0	4.1	2	-0.5	0.018	2.57	0.0334	-0.00002	0.000233	0.0705	-0.00001	-0.000005	-0.05	0.000138	0.761	0.00012	0.00001	0.00156	0.0212	#N/A	-0.0005	0.163	0.00141	-0.01	0.00133
4-May-12	59	500	490	7.82	7																										
11-May-12	60	500	500	7.19	8	#N/A	3.4	3.8	3	-0.5	0.023	2.76	0.0483	-0.00002	0.000212	0.0699	-0.00001	-0.000005	-0.05	0.000013	0.844	0.00013	0.000014	0.0015	0.0313	0.00004	-0.0005	0.159	0.00199	-0.01	0.00142
18-May-12	61	500	505	7.12	7																										
25-May-12	62	500	505	7.01	4	#N/A	3.4	3.6	2	-0.5	0.017	2.25	0.0543	-0.00002	0.000202	0.0624	-0.00001	-0.000005	-0.05	0.0000093	0.675	-0.0001	0.0000107	0.000628	0.0341	0.000057	-0.0005	0.137	0.00208	-0.01	0.00124
1-Jun-12	63	500	500	7.28	3																										
8-Jun-12	64	500	475	7.21	5	#N/A	3.1	3.9	3	-0.5	0.017	2.4	0.0349	-0.00002	0.000168	0.0634	-0.00001	-0.000005	-0.05	0.0000117	0.718	0.00014	0.0000171	0.00138	0.0206	0.000036	-0.0005	0.147	0.00169	-0.01	0.00113
15-Jun-12	65	500	490	7.19	5																										
22-Jun-12	66	500	490	7.03	6	#N/A	3.8	3.7	2	-0.5	0.019	2.57	0.0274	-0.00002	0.000223	0.0728	-0.00001	-0.000005	-0.05	0.0000069	0.766	-0.0001	-0.000005	0.000894	0.0128	0.0000187	-0.0005	0.159	0.00202	-0.01	0.00128

HC 11

Sample =
08SWC348 12-15

Date	Cycle No.	Ni	P	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
18-Mar-11	0	0.00053	0.004	2.42	0.00014	2.67	0.000103	18.5	0.0173	-10	-0.000002	0.00004	0.0039	0.000015	0.0016	0.0014	0.0001
25-Mar-11	1																
1-Apr-11	2	0.00036	0.012	1.45	0.00011	3.22	0.000026	12.8	0.00985	-10	-0.000002	0.00053	0.0016	0.000021	0.0039	0.0009	-0.0001
8-Apr-11	3																
15-Apr-11	4	0.00024	0.017	1.08	0.00006	2.69	0.000042	8.78	0.00489	-10	-0.000002	0.00028	0.003	0.000056	0.0047	0.0009	-0.0001
22-Apr-11	5																
29-Apr-11	6	0.00018	0.012	1.1	-0.00004	2.86	0.000041	6.76	0.00591	-10	-0.000002	0.00022	0.0028	0.000004	0.0034	0.0007	-0.0001
6-May-11	7																
13-May-11	8	0.00015	0.006	0.86	-0.00004	2.51	0.000024	4.9	0.00464	-10	-0.000002	0.00013	0.0029	0.000017	0.003	0.0006	-0.0001
20-May-11	9																
27-May-11	10	0.00014	0.005	0.97	-0.00004	2.66	0.000018	4.33	0.00589	-10	-0.000002	0.00012	0.0009	0.000003	0.0028	0.0007	-0.0001
3-Jun-11	11																
10-Jun-11	12	0.00005	0.005	1.1	-0.00004	2.75	0.000006	3.41	0.00664	-10	-0.000002	0.00016	-0.0005	-0.000002	0.0022	0.0009	-0.0001
17-Jun-11	13																
24-Jun-11	14	-0.00002	-0.002	1.15	-0.00004	3.09	0.000034	2.94	0.00735	-10	-0.000002	0.00007	0.002	-0.000002	0.0021	0.0009	-0.0001
1-Jul-11	15																
8-Jul-11	16	0.00004	-0.002	0.82	-0.00004	2.34	0.000008	1.83	0.00538	-10	-0.000002	0.00004	0.0005	-0.000002	0.0016	0.0007	-0.0001
15-Jul-11	17																
22-Jul-11	18	0.00017	0.005	1.12	-0.00004	3.32	0.000021	2.11	0.00686	-10	-0.000002	0.00007	0.002	-0.000002	0.0023	0.0011	-0.0001
29-Jul-11	19																
5-Aug-11	20	0.00013	0.005	1.27	-0.00004	3.85	0.00002	2	0.00813	-10	-0.000002	0.00007	0.0016	-0.000002	0.0022	0.001	-0.0001
12-Aug-11	21																
19-Aug-11	22	#N/A	0.003	1.02	-0.00004	2.47	0.000021	1.09	0.00603	-10	-0.000002	-0.00001	0.001	-0.000002	0.0027	0.001	-0.0001
26-Aug-11	23																
2-Sep-11	24	0.00004	-0.002	0.82	-0.00004	1.96	0.000014	0.74	0.00532	-10	-0.000002	0.00004	0.0015	-0.000002	0.0016	0.0011	-0.0001
9-Sep-11	25																
16-Sep-11	26	0.00009	-0.002	0.87	-0.00004	2.27	0.000012	0.61	0.00645	-10	-0.000002	0.00004	0.0009	-0.000002	0.0015	0.0014	-0.0001
23-Sep-11	27																
30-Sep-11	28	0.00003	-0.002	0.74	-0.00004	1.68	0.000006	0.58	0.00521	-10	-0.000002	0.00007	-0.0005	-0.000002	0.0009	0.0008	-0.0001
7-Oct-11	29																
14-Oct-11	30	0.00007	-0.002	0.89	-0.00004	2.19	-0.000005	0.55	0.00585	-10	-0.000002	0.00003	-0.0005	-0.000002	0.0015	0.0013	-0.0001
21-Oct-11	31																
28-Oct-11	32	0.00005	-0.002	1.05	-0.00004	2.52	0.000013	0.55	0.00773	-10	-0.000002	0.00073	0.0008	-0.000002	0.0014	0.0011	-0.0001
4-Nov-11	33																
11-Nov-11	34	0.00018	-0.002	0.82	-0.00004	1.87	0.000017	0.37	0.00527	-10	0.000004	0.00018	0.0005	0.000014	0.0012	0.0016	-0.0001
18-Nov-11	35																
25-Nov-11	36	0.00014	-0.002	0.95	-0.00004	2.39	0.000017	0.39	0.00663	-10	-0.000002	0.00016	0.0006	-0.000002	0.0014	0.0009	-0.0001
2-Dec-11	37																
9-Dec-11	38	0.00013	-0.002	0.74	-0.00004	1.47	0.000013	0.27	0.00525	-10	-0.000002	0.0001	0.0013	-0.000002	0.0011	0.0012	-0.0001
16-Dec-11	39																
23-Dec-11	40	0.00006	-0.002	0.74	-0.00004	1.54	0.000014	0.22	0.00521	-10	-0.000002	0.00002	0.0006	0.000002	0.001	0.0013	-0.0001
30-Dec-11	41																
6-Jan-12	42	0.00004	-0.002	0.69	-0.00004	1.56	0.000027	0.2	0.00486	-10	-0.000002	0.00019	0.0031	-0.000002	0.0011	0.0014	-0.0001
13-Jan-12	43																
20-Jan-12	44	0.00012	-0.002	0.63	-0.00004	1.37	0.000005	0.22	0.00494	-10	-0.000002	-0.0002	-0.0005	-0.000002	0.0012	0.0011	-0.0001
27-Jan-12	45																
3-Feb-12	46	0.00013	0.004	0.71	-0.00004	1.56	0.000008	0.23	0.00476	-10	-0.000002	-0.0002	0.0006	-0.000002	0.0009	0.0009	-0.0001
10-Feb-12	47																
17-Feb-12	48	-0.00002	-0.002	0.64	-0.00004	1.42	0.000012	0.17	0.00412	-10	-0.000002	-0.0002	0.0007	-0.000002	0.0014	#N/A	-0.0001
24-Feb-12	49																
2-Mar-12	50	0.00013	-0.002	0.6	-0.00004	1.3	0.000013	0.2	0.00438	-10	-0.000002	-0.0002	0.0013	-0.000002	0.0008	0.0008	-0.0001
9-Mar-12	51																
16-Mar-12	52	0.00013	-0.002	0.56	-0.00004	1.35	0.000013	0.18	0.00383	-10	-0.000002	-0.0002	0.0011	0.000002	0.0007	0.001	-0.0001
23-Mar-12	53																
30-Mar-12	54	0.0002	-0.002	0.68	-0.00004	1.79	0.00002	0.23	0.00589	-10	-0.000002	-0.0002	0.0016	-0.000002	0.0008	0.0015	-0.0001
6-Apr-12	55																
13-Apr-12	56	0.00007	-0.002	0.71	-0.00004	1.93	0.000023	0.17	0.00531	-10	-0.000002	0.0004	0.0016	0.000002	0.001	0.0019	-0.0001
20-Apr-12	57																
27-Apr-12	58	#N/A	-0.002	0.639	-0.00004	1.54	0.000027	0.18	0.00456	-10	0.000002	0.00032	0.00132	-0.000002	0.00166	0.00149	-0.0001
4-May-12	59																
11-May-12	60	0.000126	-0.002	0.686	-0.00004	1.89	0.000038	0.179	0.00458	-10	-0.000002	0.00032	0.00159	-0.000002	0.00105	0.00101	-0.0001
18-May-12	61																
25-May-12	62	0.000068	-0.002	0.525	-0.00004	1.65	0.0000276	0.169	0.00413	-10	-0.000002	-0.0002	0.00189	-0.000002	0.00095	0.00156	-0.0001
1-Jun-12	63																
8-Jun-12	64	0.000215	0.0024	0.543	-0.00004	1.53	0.0000332	0.193	0.0041	-10	-0.000002	-0.0002	0.00121	-0.000002	0.00087	0.00143	-0.0001
15-Jun-12	65																
22-Jun-12	66	0.000053	-0.002	0.557	-0.00004	1.72	0.0000166	0.16	0.00453	-10	-0.000002	-0.0002	0.00056	-0.000002	0.00091	0.00095	-0.0001

HC 11

CONFIDENTIAL *DRAFT*

Sample =
08SWC348 12-15

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L
29-Jun-12	67	500	475	7.28	5																										
6-Jul-12	68	500	470	7.16	7	#N/A	4.0	3.6	2	-0.5	0.019	2.45	0.0203	-0.00002	0.000222	0.0758	-0.00001	-0.000005	-0.05	0.0000099	0.736	-0.0001	0.0000079	0.00111	0.0125	0.0000141	-0.0005	0.148	0.00249	-0.01	0.00137
13-Jul-12	69	500	515	7.39	4																										
20-Jul-12	70	500	480	7.27	5	#N/A	3.7	3.2	3	-0.5	0.014	2.16	0.0383	-0.00002	0.000193	0.0648	-0.00001	-0.000005	-0.05	0.0000082	0.652	-0.0001	0.0000066	0.000379	0.0047	-0.000005	-0.0005	0.13	0.00228	-0.01	0.0011
27-Jul-12	71	500	475	7.48	4																										
3-Aug-12	72	500	480	7.30	4	#N/A	3.2	3.5	2	-0.5	0.016	2.22	0.0408	-0.00002	0.00014	0.0636	-0.00001	-0.000005	-0.05	0.000033	0.664	-0.0001	0.000024	0.00339	0.0342	#N/A	-0.0005	0.135	0.00222	-0.01	0.00104
10-Aug-12	73	500	485	7.31	3																										
17-Aug-12	74	500	470	7.00	5	#N/A	4.4	3.2	2	-0.5	0.014	2.02	0.0492	0.000022	0.000189	0.069	-0.00001	-0.000005	-0.05	0.000008	0.582	-0.0001	0.000018	0.000847	0.0265	0.000062	-0.0005	0.137	0.00166	-0.01	0.00104
24-Aug-12	75	500	470	7.48	3																										
31-Aug-12	76	500	490	7.33	4	#N/A	3.6	3.4	2	-0.5	0.014	2.02	0.0424	-0.00002	0.000158	0.0602	-0.00001	-0.000005	-0.05	0.000012	0.611	-0.0001	0.000019	0.000645	0.0229	0.000079	-0.0005	0.119	0.00233	-0.01	0.000909
7-Sep-12	77	500	480	7.14	2																										
14-Sep-12	78	500	475	7.01	2	#N/A	3.4	3.1	3	-0.5	0.013	1.87	0.0449	-0.00002	0.000168	0.0606	-0.00001	-0.000005	-0.05	0.000005	0.541	0.00019	0.000014	0.00117	0.0243	0.000226	-0.0005	0.126	0.00168	-0.01	0.00079
21-Sep-12	79	500	500	7.32	8																										
28-Sep-12	80	500	470	6.89	3	#N/A	2.9	3.2	2	-0.5	0.013	1.93	0.0339	-0.00002	0.000127	0.0586	-0.00001	-0.000005	-0.05	0.000009	0.574	-0.0001	0.000011	0.00302	0.0221	0.000329	-0.0005	0.121	0.00244	-0.01	0.00084
5-Oct-12	81	500	475	7.41	4																										
12-Oct-12	82	500	500	7.29	5	#N/A	4.8	4.0	2	-0.5	0.014	2.28	0.0119	-0.00002	0.000195	0.0672	-0.00001	-0.000005	-0.05	0.000011	0.68	-0.0001	0.00001	0.000731	0.0061	0.000008	-0.0005	0.141	0.00226	-0.01	0.000816
19-Oct-12	83	500	490	7.52	5																										
26-Oct-12	84	500	485	7.01	5	#N/A	2.8	3.3	2	-0.5	0.014	2.18	0.0393	-0.00002	0.000167	0.0609	-0.00001	-0.000005	-0.05	0.000011	0.665	-0.0001	0.000013	0.000746	0.0232	0.000067	-0.0005	0.126	0.00281	-0.01	0.000852
2-Nov-12	85	500	485	7.53	14																										
9-Nov-12	86	500	485	7.43	4	#N/A	4.4	3.7	3	0.75	0.017	2.58	0.0108	-0.00002	0.000189	0.0723	-0.00001	-0.000005	-0.05	0.000009	0.765	-0.0001	0.000006	0.000325	0.0062	0.000011	-0.0005	0.162	0.00231	-0.01	0.00104
16-Nov-12	87	500	495	7.35	4																										
23-Nov-12	88	500	485	7.43	4	#N/A	3.5	3.4	3	-0.5	0.014	2.41	0.0116	-0.00002	0.000881	0.0677	-0.00001	-0.000005	-0.05	0.000008	0.715	-0.0001	0.000024	0.00121	0.0077	0.000076	0.00052	0.151	0.00123	-0.01	0.000642
30-Nov-12	89	500	500	7.09	4																										
7-Dec-12	90	500	445	7.39	-1	#N/A	4.9	4.4	-2	-0.5	0.016	1.91	0.0178	-0.00002	0.000153	0.0634	-0.00001	-0.000005	-0.05	0.000013	0.568	-0.0001	0.00001	0.00222	0.0085	0.000046	-0.0005	0.121	0.00317	-0.01	0.000627
14-Dec-12	91	500	490	7.51	7																										
21-Dec-12	92	500	480	7.64	4	#N/A	3.3	3.8	-2	0.54	0.016	2.17	0.0168	-0.00002	0.000163	0.0711	-0.00001	-0.000005	-0.05	0.000012	0.655	-0.0001	0.000011	0.000302	0.0107	0.000017	-0.0005	0.129	0.00336	-0.01	0.000794
28-Dec-12	93	500	480	7.41	5																										
4-Jan-13	94	500	480	7.73	2	#N/A	3.7	4.3	-2	0.75	0.017	2.12	#N/A	-0.00002	0.000132	0.0729	-0.00001	-0.000005	-0.05	0.00001	0.628	0.00012	0.000014	0.000626	0.0283	0.000025	-0.0005	0.133	0.00317	-0.01	0.000629
11-Jan-13	95	500	465	7.39	3																										
18-Jan-13	96	500	455	7.44	4	#N/A	2.6	3.4	-2	0.52	0.012	2.03	0.0254	-0.00002	0.000142	0.0682	-0.00001	-0.000005	-0.05	0.000014	0.589	-0.0001	0.000008	0.00033	0.0119	0.000019	0.00053	0.137	0.00443	-0.01	0.000597
25-Jan-13	97	500	470	7.38	6																										
1-Feb-13	98	500	440	7.59	3	#N/A	3.7	3.4	2	-0.5	0.018	1.99	0.0156	-0.00002	0.000163	0.0628	-0.00001	-0.000005	-0.05	0.000011	0.583	-0.0001	0.000012	0.00025	0.008	0.000012	-0.0005	0.131	0.00509	-0.01	0.000678
8-Feb-13	99	500	450	7.89	4																										
15-Feb-13	100	500	445	7.23	4	#N/A	3.1	3.5	3	-0.5	0.013	1.98	0.0127	-0.00002	0.000148	0.0689	-0.00001	-0.000005	-0.05	0.000015	0.578	-0.0001	0.000008	0.000629	0.0077	0.000019	-0.0005	0.131	0.00506	-0.01	0.000724
22-Feb-13	101	500	430	7.92	4																										
1-Mar-13	102	500	445	7.59	3	#N/A	4.5	4.0	4	-0.5	0.013	1.89	0.0362	-0.00002	0.000198	0.0631	-0.00001	-0.000005	-0.05	0.00001	0.561	-0.0001	0.000008	0.000318	0.0177	0.000034	-0.0005	0.12	0.00523	-0.01	0.000636
8-Mar-13	103	500	440	7.43	4																										
15-Mar-13	104	500	445	7.47	3	#N/A	4.1	3.2	3	0.59	0.016	1.73	0.0226	-0.00002	0.000166	0.0616	-0.00001	-0.000005	-0.05	0.000023	0.518	-0.0001	0.000008	0.000399	0.0118	0.000013	-0.0005	0.107	0.0049	-0.01	0.000552
22-Mar-13	105	500	445	7.76	2																										
29-Mar-13	106	500	460	7.41	5	#N/A	2.9	3.3	3	-0.5	0.018	2.49	0.00792	-0.00002	0.000162	0.0877	-0.00001	-0.000005	-0.05	0.000015	0.746	-0.0001	0.000006	0.000354	0.0044	0.000018	0.00051	0.152	0.00543	-0.01	0.000741
5-Apr-13	107	500	445	7.67	2																										
12-Apr-13	108	500	450	7.79	4	#N/A	4.2	4.2	2	0.51	0.012	2.05	0.0428	-0.00002	0.000194	0.0773	-0.00001	-0.000005	-0.05	0.000014	0.606	-0.0001	0.000013	0.000482	0.0259	0.000024	-0.0005	0.129	0.00521	-0.01	0.000671
19-Apr-13	109	500	455	7.83	3																										
26-Apr-13	110	500	450	7.08	4	#N/A	3.4	2.9	2	-0.5	0.012	1.92	0.0586	-0.00002	0.000172	0.0824	-0.00001	-0.000005	-0.05	0.000014	0.558	-0.0001	0.000014	0.000483	0.035	0.000039	-0.0005	0.127	0.00615	-0.01	0.000607
3-May-13	111	500	450	7.66	3																										
10-May-13	112	500	430	7.12	4	#N/A	3.5	3.1	2	-0.5	0.01	1.87	0.00979	-0.00002	0.00026	0.0656	-0.00001	-0.000005	-0.05	0.000011	0.56	-0.0001	0.000007	0.000273	0.0056	-0.000005	-0.0005	0.115	0.00421	-0.01	0.000618
17-May-13	113	500	455	8.00	4																										
24-May-13	114	500	440	7.18	3	#N/A	3.8	2.8	2																						

June 10/11 Pb 0.000014. Repeat =0.000014. Accepted.
June 24/11 Fe 0.042. Repeat = 0.058, data confirmed, accept original result.
Aug 19/11 Ni=0.0002, repeat=0.0002. Data confirmed, suspect contamination
Nov 11/11 Pb=0.00111, repeat=0.00111. data confirmed, suspect contamination
Jan 20 11 Cl 5.5. Repeat =
Mar 16/12 Pb=0.0023, repeat=0.00228. Data confirmed, suspect contamination
Feb 17/12 Zn=0.0033, repeat=0.0029. Data confirmed, suspect contamination
Apr 13/12 Pb=0.000426, repeat=0.000424. Data confirmed, suspect contamination
Apr 27/12 Pb=0.00345, Ni=0.000132, Repeat Ni=0.000168, Pb=0.00346. Data confirmed, suspect contamination
Aug 3/12 P=0.0782, Ag=0.000197, Pb=0.000711, Zn=0.00335. Repeat P=0.0741, Ag=0.000212, Pb=0.000719, Zn=0.00316. Data confirmed, suspect contamination
Jan 4/12 Al=0.16, repeat=0.402. Data confirmed, suspect contamination

HC 11

Sample =
08SWC348 12-15

Date	Cycle No.	Ni	P	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
29-Jun-12	67																
6-Jul-12	68	0.000047	-0.002	0.566	-0.00004	1.65	0.0000133	0.156	0.00425	-10	-0.000002	-0.0002	0.00076	-0.000002	0.00114	0.0011	-0.0001
13-Jul-12	69																
20-Jul-12	70	0.000111	-0.002	0.432	-0.00004	1.59	0.0000068	0.158	0.00356	-10	-0.000002	-0.0002	-0.0005	-0.000002	0.00095	0.00168	-0.0001
27-Jul-12	71																
3-Aug-12	72	0.000222	#N/A	0.93	-0.00004	1.45	#N/A	0.267	0.00399	-10	0.000002	-0.0002	0.00117	0.00001	0.0008	#N/A	-0.0001
10-Aug-12	73																
17-Aug-12	74	0.000126	-0.002	0.557	-0.00004	1.25	0.000027	0.178	0.00398	-10	-0.000002	0.00058	0.00172	-0.000002	0.00095	0.00119	-0.0001
24-Aug-12	75																
31-Aug-12	76	0.000137	-0.002	0.475	-0.00004	1.25	0.000026	0.145	0.00346	-10	-0.000002	0.00026	0.00091	0.000003	0.00073	0.00125	-0.0001
7-Sep-12	77																
14-Sep-12	78	0.000087	-0.002	0.472	-0.00004	1.1	0.000028	0.163	0.00375	-10	-0.000002	-0.0002	0.00159	0.000002	0.00081	0.00084	-0.0001
21-Sep-12	79																
28-Sep-12	80	0.000125	-0.002	0.473	-0.00004	1.29	0.000015	0.117	0.00436	-10	-0.000002	0.00034	0.00094	0.000004	0.00072	0.00155	-0.0001
5-Oct-12	81																
12-Oct-12	82	0.000041	-0.002	0.523	-0.00004	1.33	0.000006	0.129	0.00399	-10	-0.000002	-0.0002	-0.0005	-0.000002	0.00044	0.00081	-0.0001
19-Oct-12	83																
26-Oct-12	84	0.000062	0.0094	0.488	-0.00004	1.36	0.000035	0.094	0.00378	-10	-0.000002	-0.0002	0.00063	0.000004	0.0008	0.00084	-0.0001
2-Nov-12	85																
9-Nov-12	86	0.000078	-0.002	0.568	-0.00004	1.54	0.000008	0.131	0.00447	-3	-0.000002	0.00027	-0.0005	-0.000002	0.00082	0.00073	-0.0001
16-Nov-12	87																
23-Nov-12	88	0.000271	-0.002	0.54	-0.00004	1.44	0.000006	0.117	0.00426	-3	-0.000002	0.00041	-0.0005	-0.000002	0.00055	0.00242	-0.0001
30-Nov-12	89																
7-Dec-12	90	0.000099	-0.002	0.42	-0.00004	1.03	0.000007	0.109	0.00356	-3	-0.000002	0.00037	-0.0005	-0.000002	0.00075	0.00245	-0.0001
14-Dec-12	91																
21-Dec-12	92	0.000046	-0.002	0.49	-0.00004	1.3	0.000009	0.102	0.00377	-3	-0.000002	-0.0002	-0.0005	-0.000002	0.00072	0.00096	-0.0001
28-Dec-12	93																
4-Jan-13	94	0.000098	-0.002	0.473	-0.00004	1.12	0.000015	0.141	0.00406	-3	-0.000002	-0.0002	0.00131	-0.000002	0.00071	0.00117	-0.0001
11-Jan-13	95																
18-Jan-13	96	0.000048	-0.002	0.463	-0.00004	1.11	0.000008	0.087	0.0038	-3	-0.000002	-0.0002	0.00055	-0.000002	0.00057	0.00104	-0.0001
25-Jan-13	97																
1-Feb-13	98	0.000038	-0.002	0.46	-0.00004	1.12	0.000008	0.118	0.00371	-3	-0.000002	-0.0002	-0.0005	-0.000002	0.00085	0.001	-0.0001
8-Feb-13	99																
15-Feb-13	100	0.000041	-0.002	0.471	-0.00004	1.13	-0.000005	0.125	0.00366	-3	-0.000002	-0.0002	-0.0005	-0.000002	0.00058	0.00091	-0.0001
22-Feb-13	101																
1-Mar-13	102	0.000033	-0.002	0.466	-0.00004	1.06	0.000006	0.098	0.00372	-3	-0.000002	-0.0002	0.00099	-0.000002	0.00058	0.00084	-0.0001
8-Mar-13	103																
15-Mar-13	104	0.000029	-0.002	0.411	-0.00004	1.07	0.000009	0.084	0.00321	-3	-0.000002	-0.0002	-0.0005	-0.000002	0.00065	0.00089	-0.0001
22-Mar-13	105																
29-Mar-13	106	0.000062	-0.002	0.534	-0.00004	1.43	-0.000005	0.142	0.00461	-3	-0.000002	-0.0002	-0.0005	-0.000002	0.00063	0.00089	-0.0001
5-Apr-13	107																
12-Apr-13	108	0.000067	-0.002	0.477	-0.00004	1.12	0.000007	0.087	0.00401	-3	-0.000002	-0.0002	0.00207	-0.000002	0.00132	0.00104	-0.0001
19-Apr-13	109																
26-Apr-13	110	0.000039	-0.002	0.477	-0.00004	0.981	0.000025	0.089	0.00402	-3	-0.000002	-0.0002	0.00231	-0.000002	0.00047	0.00098	-0.0001
3-May-13	111																
10-May-13	112	0.000073	-0.002	0.411	-0.00004	1.03	-0.000005	0.109	0.00347	-3	-0.000002	-0.0002	-0.0005	-0.000002	0.0006	0.00076	-0.0001
17-May-13	113																
24-May-13	114																

HC 12

CONFIDENTIAL *DRAFT*

Sample =
08SWC370 10-13

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L
18-Mar-11	0	500	330	7.51	252	#N/A	4.1	80.4	8	3	0.34	76.6	0.0342	0.00003	0.00052	0.12	-0.00001	-0.000005	-0.05	-0.000005	23.9	0.0002	0.000132	0.00553	0.005	0.000013	0.0045	4.08	0.0112	-0.02	0.0123	0.00029
25-Mar-11	1	500	500	7.67	139																											
1-Apr-11	2	500	455	7.71	115	#N/A	5.3	54.5	6	1	0.44	27.2	0.0337	0.00003	0.00102	0.0374	-0.00001	-0.000005	-0.05	-0.000005	8.48	0.0003	0.000052	0.0045	0.011	0.000009	0.0021	1.46	0.00379	-0.01	0.0183	0.00018
8-Apr-11	3	500	445	7.52	95																											
15-Apr-11	4	500	450	7.61	79	#N/A	2.5	37.1	4	-0.5	0.29	20.9	0.0336	-0.00002	0.00071	0.0337	-0.00001	-0.000005	-0.05	-0.000005	6.57	0.0001	0.00003	0.00282	0.019	0.000011	0.0015	1.09	0.00441	-0.01	0.0132	0.00017
22-Apr-11	5	500	440	7.53	70																											
29-Apr-11	6	500	465	7.61	65	#N/A	3.5	39.5	4	-0.5	0.2	25.1	0.05	-0.00002	0.0006	0.0469	-0.00001	-0.000005	-0.05	-0.000005	8.05	0.0001	0.000027	0.00259	0.027	0.000011	0.0015	1.21	0.00399	-0.01	0.00949	0.00023
6-May-11	7	500	450	7.49	60																											
13-May-11	8	500	450	7.47	67	#N/A	3.0	26.1	5	-0.5	0.14	21.1	0.0385	-0.00002	0.00054	0.0372	-0.00001	-0.000005	-0.05	-0.000005	6.84	-0.0001	0.000018	0.00151	0.017	0.000017	0.001	0.98	0.0028	-0.01	0.00615	0.00013
20-May-11	9	500	455	7.66	49																											
27-May-11	10	500	470	7.59	52	#N/A	4.5	28.8	3	-0.5	0.13	20.5	0.0199	-0.00002	0.00055	0.046	-0.00001	-0.000005	-0.05	-0.000005	6.54	-0.0001	0.00001	0.00128	0.003	0.000015	0.0011	1.02	0.0029	-0.01	0.00515	0.00006
3-Jun-11	11	500	480	7.39	95																											
10-Jun-11	12	500	505	7.58	71	#N/A	2.2	33.4	3	0.6	0.12	23	0.0581	-0.00002	0.00054	0.0574	-0.00001	-0.000005	-0.05	0.000016	7.33	-0.0001	0.000036	0.00224	0.038	0.000019	0.0013	1.14	0.00356	-0.01	0.00407	0.00039
17-Jun-11	13	500	460	7.31	101																											
24-Jun-11	14	500	460	7.78	51	#N/A	1.8	30.3	2	-0.5	0.08	23.9	0.026	0.00002	0.00051	0.0548	-0.00001	-0.000005	-0.05	-0.000005	7.59	0.0004	0.000009	0.00152	0.012	0.000011	0.001	1.21	0.00341	-0.01	0.0034	0.0002
1-Jul-11	15	500	460	7.75	50																											
8-Jul-11	16	500	470	7.53	49	#N/A	3.0	29.5	3	-0.5	0.07	20.9	0.0177	-0.00002	0.00049	0.0472	-0.00001	-0.000005	-0.05	-0.000005	6.69	-0.0001	0.000015	0.00085	0.005	0.000008	0.0009	1.01	0.00293	-0.01	0.00259	0.00005
15-Jul-11	17	500	480	7.44	58																											
22-Jul-11	18	500	465	7.53	44	#N/A	3.4	25.7	-2	0.7	0.06	18.9	0.0351	-0.00002	0.00028	0.0502	-0.00001	-0.000005	-0.05	-0.000005	5.89	0.0003	0.000023	0.00141	0.017	0.000009	0.0008	1.03	0.00253	-0.01	0.00208	0.00015
29-Jul-11	19	500	455	7.53	52																											
5-Aug-11	20	500	450	7.48	56	#N/A	3.3	32.2	-2	-0.5	0.07	25.5	0.0384	-0.00002	0.00047	0.0617	-0.00001	-0.000005	-0.05	-0.000005	8.18	0.0003	0.000015	0.00132	0.016	#N/A	0.001	1.23	0.0029	-0.01	0.00215	0.00017
12-Aug-11	21	500	440	7.65	55																											
19-Aug-11	22	500	460	7.51	52	#N/A	3.7	30.0	2	1.4	0.06	24.3	0.0449	-0.00002	0.00044	0.0662	-0.00001	-0.000005	-0.05	-0.000005	7.97	0.0006	0.000015	0.0018	0.026	0.000014	0.0009	1.07	0.00266	-0.01	0.00161	0.0002
26-Aug-11	23	500	465	7.45	49																											
2-Sep-11	24	500	455	7.44	55	#N/A	4.1	29.1	2	0.7	0.05	22	0.0214	-0.00002	0.00051	0.0625	-0.00001	-0.000005	-0.05	-0.000005	7	0.0001	0.000014	0.00073	0.006	-0.000005	0.0008	1.03	0.00274	-0.01	0.00142	0.00005
9-Sep-11	25	500	455	7.53	54																											
16-Sep-11	26	500	465	7.40	54	#N/A	4.2	31.1	-2	0.7	0.05	24.4	0.0241	-0.00002	0.0004	0.0717	-0.00001	-0.000005	-0.05	-0.000005	7.8	0.0001	0.000013	0.00082	0.01	0.000018	0.001	1.2	0.0024	-0.01	0.00133	0.00005
23-Sep-11	27	500	445	7.41	54																											
30-Sep-11	28	500	465	7.30	55	#N/A	3.7	28.6	2	-0.5	0.05	25.2	0.0133	-0.00002	0.00093	0.0796	-0.00001	-0.000005	-0.05	-0.000005	8.07	-0.0001	0.000013	0.00091	0.003	0.000007	0.0011	1.22	0.00204	-0.01	0.00118	0.00016
7-Oct-11	29	500	450	7.29	57																											
14-Oct-11	30	500	455	7.21	48	#N/A	4.4	25.4	3	-0.5	0.05	23.9	0.0275	-0.00002	0.00055	0.0737	-0.00001	-0.000005	-0.05	-0.000005	7.71	0.0003	0.000009	0.00107	0.009	0.000008	0.0009	1.12	0.00116	-0.01	0.00122	0.00002
21-Oct-11	31	500	470	7.48	49																											
28-Oct-11	32	500	460	7.50	52	#N/A	3.6	30.7	-2	-0.5	0.04	26.7	0.0239	-0.00002	0.00032	0.0856	-0.00001	-0.000005	-0.05	-0.000005	8.6	0.0001	-0.000005	0.00228	0.01	0.00007	0.0008	1.28	0.00054	-0.01	0.00104	0.00004
4-Nov-11	33	500	445	7.53	44																											
11-Nov-11	34	500	460	7.54	50	#N/A	5.5	31.1	3	-0.5	0.036	24	0.0187	-0.00002	0.00037	0.0806	-0.00001	-0.000005	-0.05	#N/A	7.74	-0.0001	0.000008	0.0009	0.005	0.000051	0.0009	1.13	0.00054	-0.01	0.00088	0.00003
18-Nov-11	35	500	465	7.42	52																											
25-Nov-11	36	500	460	7.62	61	#N/A	3.7	37.7	2	-0.5	0.037	29.7	0.022	-0.00002	0.00064	0.105	-0.00001	-0.000005	-0.05	-0.000005	9.52	-0.0001	0.000009	0.00096	0.007	0.000013	0.0012	1.44	0.00109	-0.01	0.00085	0.00009
2-Dec-11	37	500	460	7.47	53																											
9-Dec-11	38	500	510	7.43	56	#N/A	4.5	34.6	2	-0.5	0.032	26.4	0.0419	-0.00002	0.00033	0.0942	-0.00001	-0.000005	-0.05	-0.000005	8.4	0.0006	0.000017	0.0021	0.023	#N/A	0.001	1.33	0.00077	-0.01	0.0007	0.00019
16-Dec-11	39	500	455	7.51	61																											
23-Dec-11	40	500	455	7.43	56	#N/A	4.9	36.0	3	-0.5	0.033	27.4	0.0396	-0.00002	0.00038	0.112	-0.00001	-0.000005	-0.05	-0.000005	8.71	0.0001	0.000012	0.00092	0.012	0.000017	0.0009	1.38	0.00044	-0.01	0.00067	0.00005
30-Dec-11	41	500	465	7.51	55																											
6-Jan-12	42	500	470	7.27	41	#N/A	3.6	28.5	2	-0.5	0.022	19.4	0.0159	-0.00002	0.00026	0.0816	-0.00001	-0.000005	-0.05	-0.000005	6.13	-0.0001	-0.000005	0.00068	0.004	-0.000005	0.0008	0.98	0.00022	-0.01	0.00042	-0.00002
13-Jan-12	43	500	460	7.42	45																											
20-Jan-12	44	500	460	7.52	51	#N/A	3.1	37.0	2	-0.5	0.025	23.3	0.0389	-0.00002	0.00029	0.11	-0.00001	-0.000005	-0.05	-0.000005	7.53	-0.0001	0.000011	0.00108	0.02	0.000022	0.0008	1.08	0.00037	-0.01	0.00043	0.00004
27-Jan-12	45	500	465	7.35	43																											
3-Feb-12	46	500	490	7.34	42	#N/A	5.2	30.2	2	-0.5	0.023	20	0.0259	-0.00002	0.00018	0.0741	-0.00001	-0.000005	-0.05	-0.000005	6.52	-0.0001	0.000007	0.00107	0.011	0.000008	0.0006	0.89	0.00027	-0.01	0.00051	0.00012
10-Feb-12	47	500	455	7.34	42																											
17-Feb-12	48	500	455	7.70	54	#N/A	2.6	32.6	3	-0.5	0.022	20.7	0.0308	-0.00002	0.00028	0.0847	-0.00001	-0.000005	-0.05	-0.000005	6.7	0.0002	0.000011	0.00133	0.013	0.000005	0.0007	0.96	0.00064	-0.01	0.00037	-0.00002
24-Feb-12	49	500	450	7.30	44																											
2-Mar-12	50	500	460	7.30	49	#N/A	7.3	32.7	3	-0.5	0.018	23.8	0.0366	-0.00002	0.00021	0.101	-0.00001	-0.000005	-0.05	-0.000005	7.75	-0.0001	0.000009	0.00123	0.017	0.00002	0.0008	1.09	0.00045	-0.01	0.00033	0.00012
9-Mar-12	51	500	460	7.38	45																											
16-Mar-12	52	500	465	7.46	51	#N/A	3.1	30.5	3	-0.5	0.021	24	0.0278	-0.00002	0.00024	0.108	-0.00001	-0.000005	-0.05	0.000006	7.82	0.0002	0.000013	0.00086	0.011	0.000015	0.0007	1.08	0.00036	-0.01	0.00039	0.00015
23-Mar-12	53	500	460	7.39	53																											
30-Mar-12	54	500	465	7.38	62	#N/A	4.3	35.7	3	-0.5	0.025	29.3	0.0418	-0.00002	0.00022	0.132	-0.00001	-0.000005	-0.05	-0.000005	9.78	0.0002	0.000013	#N/A	0.035	0.000055	0.0008	1.18	0.00065	-0.01	0.00043	#N/A
6-Apr-12	55	500	460	7.52	54																											
13-Apr-12	56	500	455	7.63	62	#N/A	2.5	36.6	3	-0.5	0.02	31.5	0.0336	-0.00002	0.00022	0.145	-0.00001	-0.000005	-0.05	-0.000005	10.5	-0.0001	-0.000005	0.00111	0.015	0.000035	0.001	1.27	0.00023	-0.01	0.00051	0.00005
20-Apr-12	57	500	460	7.48	59																											
27-Apr-12	58	500	455	7.45	57	#N/A	4.6	33.4	2	-0.5	0.019	27.4	0.0294	-0.00002	0.00031	0.129	-0.00001	-0.000005	-0.05	0.000005	9.1	0.00014	0.000009	0.00109	0.0133	0.000015	0.00064	1.13	0.000313	-0.01	0.000379	0.000138
4-May-12	59	500	465	7.34	52																											
11-May-12	60	500	470	7.44	49	#N/A	3.7	29.2	3	-0.5	0.02	24.8	0.0301	-0.00002	0.000277	0.118	-0.00001	-0.000005	-0.05	-0.000005	8.38	0.00011	0.00001	0.00173	0.0169	0.000012	0.00053	0.937	0.000917	-0.01	0.000344	0.000089
18-May-12	61	500	460	7.43	54																											
25-May-12	62	500	470	7.38	48	#N/A	4.0	28.0	2	-0.5	0.015	21.7	0.0446	-0.00002	0.000205	0.107	-0.00001	-0.000005	-0.05	0.0000083	7.29	-0.0001	0.0000169	0.00112	0.0253	0.0000675	0.00058	0.85	0.000481	-0.01	0.00023	0.000091
1-Jun-12	63	500	490	7.39	54																											
8-Jun-12	64	500	465	7.49	53	#N/A	3.6	32.8	2	-0.5	0.016	24.3	0.024	-0.00002	0.000183	0.124	-0.00001	-0.000005	-0.05	-0.000005	8.04	0.00011	0.0000143	0.0011	0.0112	0.0000097	0.00073	1.02	0.000857	-0.01	0.00028	0.000229
15-Jun-12	65	500	495	7.38	55																											
22-Jun-12	66	500	470	7.35	48	#N/A	4.6	29.4	2	-0.5	0.017	23.5	0.0313	-0.00002	0.000443	0.125	-0.00001	-0.000005	-0.05	-0.000005	7.89	-0.0001	0.0000099	0.000773	0.0116	0.0000065	0.00063	0.929	0.000511	-0.01	0.000326	0.000051
29-Jun-12	67	500	475	7.28	51																											

HC 12

Sample =
08SWC370 10-13

Date	Cycle No.	P	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
18-Mar-11	0	0.013	5.57	0.00051	3.11	-0.000005	23.1	0.0881	-10	-0.000002	0.00003	-0.0005	0.000083	0.0018	0.0013	-0.0001
25-Mar-11	1															
1-Apr-11	2	0.007	2.53	0.0003	3.53	-0.000005	10.9	0.0331	-10	-0.000002	0.00045	0.0005	0.000067	0.0043	0.0003	-0.0001
8-Apr-11	3															
15-Apr-11	4	0.005	2	0.00012	2.7	-0.000005	5.19	0.028	-10	-0.000002	0.0003	0.0012	0.000031	0.004	0.0004	-0.0001
22-Apr-11	5															
29-Apr-11	6	0.004	2.05	0.00006	2.86	-0.000005	3.26	0.0302	-10	-0.000002	0.00022	0.0012	0.000028	0.0035	0.0004	-0.0001
6-May-11	7															
13-May-11	8	0.002	1.54	-0.00004	2.16	-0.000005	1.96	0.023	-10	-0.000002	0.0001	0.0011	0.00001	0.003	0.0003	-0.0001
20-May-11	9															
27-May-11	10	0.002	1.52	0.00005	2.03	-0.000005	1.38	0.0262	-10	-0.000002	0.00008	-0.0005	0.000018	0.0031	0.0003	-0.0001
3-Jun-11	11															
10-Jun-11	12	0.003	1.71	0.00004	2.29	-0.000005	1.01	0.0311	-10	-0.000002	0.00005	0.0022	0.000017	0.0032	0.0005	-0.0001
17-Jun-11	13															
24-Jun-11	14	-0.002	1.56	0.00004	2.16	-0.000005	0.88	0.0281	-10	-0.000002	0.00006	-0.0005	0.000011	0.0028	0.0002	-0.0001
1-Jul-11	15															
8-Jul-11	16	0.003	1.26	-0.00004	1.9	-0.000005	0.65	0.0271	-10	-0.000002	0.00006	-0.0005	0.000011	0.0022	0.0003	-0.0001
15-Jul-11	17															
22-Jul-11	18	-0.002	1.22	-0.00004	1.6	-0.000005	0.52	0.0253	-10	-0.000002	0.00003	0.0008	0.000009	0.0023	0.0005	-0.0001
29-Jul-11	19															
5-Aug-11	20	0.004	1.39	0.00007	2.08	-0.000005	0.52	0.031	-10	-0.000002	0.00004	0.0011	0.000122	0.0027	0.0008	-0.0001
12-Aug-11	21															
19-Aug-11	22	0.003	1.32	-0.00004	1.89	-0.000005	0.5	0.0295	-10	-0.000002	-0.00001	0.0017	0.000012	0.003	0.0004	-0.0001
26-Aug-11	23															
2-Sep-11	24	0.002	1.1	-0.00004	1.56	-0.000005	0.38	0.028	-10	-0.000002	0.00011	0.0007	0.000022	0.0025	0.0004	-0.0001
9-Sep-11	25															
16-Sep-11	26	0.002	1.3	-0.00004	1.77	-0.000005	0.35	0.0316	-10	-0.000002	0.00003	-0.0005	0.000011	0.0024	0.0006	-0.0001
23-Sep-11	27															
30-Sep-11	28	-0.002	1.18	0.00005	1.78	-0.000005	0.41	0.0327	-10	0.000002	0.00007	-0.0005	0.000014	0.0018	0.0002	-0.0001
7-Oct-11	29															
14-Oct-11	30	-0.002	1.29	-0.00004	1.91	-0.000005	0.34	0.0289	-10	-0.000002	0.00002	-0.0005	0.00001	0.0027	0.0005	-0.0001
21-Oct-11	31															
28-Oct-11	32	-0.002	1.38	-0.00004	1.92	-0.000005	0.3	0.0352	-10	-0.000002	0.00043	-0.0005	0.000012	0.0023	#N/A	-0.0001
4-Nov-11	33															
11-Nov-11	34	-0.002	1.17	0.00006	1.75	-0.000005	0.29	0.0314	-10	0.000003	0.00016	-0.0005	0.000012	0.002	0.0007	-0.0001
18-Nov-11	35															
25-Nov-11	36	0.003	1.37	0.00009	2.03	-0.000005	0.31	0.0388	-10	-0.000002	0.00022	-0.0005	0.000017	0.0022	0.0006	-0.0001
2-Dec-11	37															
9-Dec-11	38	0.003	1.38	-0.00004	1.67	0.000006	0.29	0.0359	-10	0.000003	0.00019	0.0009	0.000017	0.0024	0.0008	-0.0001
16-Dec-11	39															
23-Dec-11	40	0.002	1.45	-0.00004	1.81	-0.000005	0.23	0.0371	-10	-0.000002	0.00003	0.0009	0.000016	0.0024	0.0006	-0.0001
30-Dec-11	41															
6-Jan-12	42	-0.002	1	-0.00004	1.18	-0.000005	0.19	0.027	-10	-0.000002	0.00006	-0.0005	0.000006	0.0017	0.0003	-0.0001
13-Jan-12	43															
20-Jan-12	44	-0.002	1.03	-0.00004	1.43	-0.000005	0.18	0.0333	-10	-0.000002	-0.0002	0.0011	0.000015	0.0018	0.0007	-0.0001
27-Jan-12	45															
3-Feb-12	46	0.004	0.93	-0.00004	1.18	-0.000005	0.17	0.0254	-10	-0.000002	-0.0002	-0.0005	0.000006	0.0016	0.0004	-0.0001
10-Feb-12	47															
17-Feb-12	48	0.002	1.02	-0.00004	1.29	0.000005	0.17	0.0268	-10	-0.000002	-0.0002	-0.0005	0.000009	0.0021	0.0002	-0.0001
24-Feb-12	49															
2-Mar-12	50	-0.002	1	-0.00004	1.36	-0.000005	0.18	0.0297	-10	-0.000002	-0.0002	0.0009	0.00001	0.0015	0.0004	-0.0001
9-Mar-12	51															
16-Mar-12	52	-0.002	1.05	-0.00004	1.44	-0.000005	0.2	0.0314	-10	0.000002	-0.0002	0.0005	0.000009	0.0015	0.0004	-0.0001
23-Mar-12	53															
30-Mar-12	54	-0.002	1.09	-0.00004	1.78	0.000006	0.21	0.0371	-10	-0.000002	-0.0002	0.0014	0.000014	0.0016	#N/A	-0.0001
6-Apr-12	55															
13-Apr-12	56	-0.002	1.23	0.00005	1.97	0.000007	0.17	0.0386	-10	-0.000002	0.0005	0.0009	0.000013	0.0019	0.0013	-0.0001
20-Apr-12	57															
27-Apr-12	58	0.0028	1.21	-0.00004	1.76	-0.000005	0.175	0.0346	-10	-0.000002	-0.0002	0.00056	0.000013	0.00246	0.00053	-0.0001
4-May-12	59															
11-May-12	60	-0.002	1.04	0.000044	1.45	-0.000005	0.148	0.0296	-10	-0.000002	-0.0002	0.00086	0.000009	0.00161	0.00047	-0.0001
18-May-12	61															
25-May-12	62	-0.002	0.901	-0.00004	1.31	-0.000005	0.163	0.0284	-10	-0.000002	-0.0002	0.00136	0.0000082	0.0015	0.0015	-0.0001
1-Jun-12	63															
8-Jun-12	64	0.0033	0.984	-0.00004	1.32	-0.000005	0.213	0.0322	-10	-0.000002	-0.0002	0.00053	0.0000135	0.00157	0.00047	-0.0001
15-Jun-12	65															
22-Jun-12	66	0.0034	0.926	-0.00004	1.35	-0.000005	0.129	0.0306	-10	-0.000002	-0.0002	0.00058	0.0000073	0.00178	0.00032	-0.0001
29-Jun-12	67															

HC 12

CONFIDENTIAL *DRAFT*

Sample =
08SWC370 10-13

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L
6-Jul-12	68	500	470	7.42	52	#N/A	4.3	31.0	2	-0.5	0.018	26	0.0303	-0.00002	0.000323	0.139	-0.00001	-0.000005	-0.05	-0.000005	8.8	-0.0001	0.0000089	0.00104	0.0129	0.0000146	0.00075	0.975	0.000243	-0.01	0.00034	-0.00002
13-Jul-12	69	500	480	7.40	44																											
20-Jul-12	70	500	470	7.33	51	#N/A	4.1	32.1	2	-0.5	0.015	24.8	0.044	-0.00002	0.000356	0.136	-0.00001	-0.000005	-0.05	-0.000005	8.41	-0.0001	-0.000005	0.00053	0.0033	0.0000053	0.00065	0.916	0.000085	-0.01	0.000258	0.000031
27-Jul-12	71	500	470	7.31	55																											
3-Aug-12	72	500	465	7.51	57	#N/A	3.6	35.1	2	-0.5	0.018	28.1	0.0312	-0.00002	0.000273	0.16	-0.00001	-0.000005	-0.05	-0.000005	9.47	-0.0001	0.000013	0.00118	0.0181	0.000031	0.00081	1.07	0.000418	-0.01	0.000313	0.000122
10-Aug-12	73	500	475	7.43	45																											
17-Aug-12	74	500	450	7.41	57	#N/A	4.0	35.3	2	-0.5	0.014	26.5	0.0355	-0.00002	0.00022	0.166	-0.00001	-0.000005	-0.05	-0.000005	8.87	0.00013	0.00001	0.00136	0.0175	0.000044	0.0008	1.04	0.000719	-0.01	0.000262	0.000098
24-Aug-12	75	500	480	7.37	55																											
31-Aug-12	76	500	465	7.45	48	#N/A	4.1	30.3	2	-0.5	0.013	24	0.0345	-0.00002	0.000238	0.14	-0.00001	-0.000005	-0.05	0.000006	8.27	-0.0001	0.000013	0.0015	0.018	0.000049	0.00062	0.822	0.000389	-0.01	0.000223	0.000104
7-Sep-12	77	500	470	7.32	48																											
14-Sep-12	78	500	480	7.30	47	#N/A	3.6	28.5	2	-0.5	0.012	22.8	0.0292	-0.00002	0.000341	0.136	-0.00001	-0.000005	-0.05	-0.000005	7.84	0.00044	0.000008	0.00105	0.0198	0.000017	0.00065	0.792	0.000526	-0.01	0.0002	0.000036
21-Sep-12	79	500	500	7.34	54																											
28-Sep-12	80	500	475	7.45	55	#N/A	3.4	35.5	2	-0.5	0.015	27.1	0.0253	-0.00002	0.000268	0.168	-0.00001	-0.000005	-0.05	-0.000005	9.28	0.00019	0.000006	0.000775	0.0112	0.000018	0.0007	0.962	0.000255	-0.01	0.000245	0.000035
5-Oct-12	81	500	465	7.31	53																											
12-Oct-12	82	500	495	7.27	62	#N/A	5.8	40.1	2	-0.5	0.017	31.6	0.019	-0.00002	0.000343	0.195	-0.00001	-0.000005	-0.05	-0.000005	10.8	-0.0001	0.000005	0.000744	0.0057	0.000007	0.00087	1.1	0.000145	-0.01	0.000286	0.000062
19-Oct-12	83	500	475	7.35	55																											
26-Oct-12	84	500	480	7.40	45	#N/A	2.9	28.8	2	-0.5	0.013	21.8	0.0263	-0.00002	0.000175	0.138	-0.00001	-0.000005	-0.05	-0.000005	7.55	-0.0001	0.00001	0.00123	0.0145	0.000056	0.00055	0.711	0.000437	-0.01	0.000172	0.000073
2-Nov-12	85	500	475	7.44	52																											
9-Nov-12	86	500	480	7.37	49	#N/A	5.3	32.9	3	-0.5	0.015	25.3	0.0189	-0.00002	0.000375	0.167	-0.00001	-0.000005	-0.05	-0.000005	8.72	-0.0001	0.000006	0.00102	0.0074	0.000069	0.00063	0.852	0.000302	-0.01	0.000203	0.000133
16-Nov-12	87	500	485	7.39	60																											
23-Nov-12	88	500	490	7.43	44	#N/A	3.6	26.7	3	-0.5	0.014	23.2	0.0178	-0.00002	#N/A	0.135	-0.00001	-0.000005	-0.05	-0.000005	8.05	-0.0001	0.000013	0.000701	0.007	0.000008	0.00062	0.747	0.000156	-0.01	0.000169	0.00022
30-Nov-12	89	500	505	7.37	45																											
7-Dec-12	90	500	460	7.32	51	#N/A	6.4	35.2	2	-0.5	0.018	26.6	0.0279	-0.00002	0.000256	0.17	-0.00001	-0.000005	-0.05	-0.000005	9.18	-0.0001	-0.000005	0.000751	0.0088	0.000018	0.00072	0.896	0.000137	-0.01	0.000247	0.000059
14-Dec-12	91	500	490	7.39	38																											
21-Dec-12	92	500	460	7.38	48	#N/A	4.0	30.9	-2	-0.5	0.015	22.5	0.0213	-0.00002	0.000228	0.158	-0.00001	-0.000005	-0.05	-0.000005	7.91	-0.0001	0.000006	0.000627	0.0159	0.000012	0.00061	0.678	0.00023	-0.01	0.000168	0.000041
28-Dec-12	93	500	475	7.65	45																											
4-Jan-13	94	500	465	7.41	52	#N/A	5.3	36.1	-2	0.86	0.019	27.2	0.0281	-0.00002	0.00023	0.193	-0.00001	-0.000005	-0.05	-0.000005	9.3	0.0003	0.000016	0.000936	0.0139	0.000021	0.00069	0.969	0.00065	-0.01	0.000201	0.00011
11-Jan-13	95	500	450	7.43	53																											
18-Jan-13	96	500	455	7.48	52	#N/A	3.0	34.7	2	0.63	0.013	25	0.0253	-0.00002	0.000178	0.176	-0.00001	-0.000005	-0.05	-0.000005	8.67	-0.0001	-0.000005	0.000682	0.0103	0.000013	0.00083	0.811	0.000189	-0.01	0.000187	0.000117
25-Jan-13	97	500	450	7.61	39																											
1-Feb-13	98	500	440	7.47	45	#N/A	3.8	27.8	3	0.56	0.028	21.4	0.0215	#N/A	0.000376	0.148	-0.00001	-0.000005	-0.05	-0.000005	7.38	-0.0001	0.000006	0.000533	0.0075	0.000005	0.0005	0.71	0.000615	-0.01	0.00016	0.00002
8-Feb-13	99	500	450	7.37	48																											
15-Feb-13	100	500	430	7.42	48	#N/A	3.2	27.4	2	0.57	0.012	22.6	0.0193	-0.00002	0.000253	0.167	-0.00001	-0.000005	-0.05	-0.000005	7.84	-0.0001	0.000005	0.000487	0.0067	0.000006	0.00056	0.726	0.000169	-0.01	0.000166	-0.00002
22-Feb-13	101	500	430	7.44	54																											
1-Mar-13	102	500	440	7.44	48	#N/A	5.8	32.1	3	-0.5	0.013	22.5	0.0381	-0.00002	0.000242	0.164	-0.00001	-0.000005	-0.05	-0.000005	7.8	-0.0001	0.000009	0.000847	0.0158	0.000032	0.00061	0.73	0.000298	-0.01	0.000166	-0.00002
8-Mar-13	103	500	440	7.59	35																											
15-Mar-13	104	500	455	7.32	46	#N/A	5.2	26.7	2	-0.5	0.012	22.2	0.0331	-0.00002	0.00026	0.159	-0.00001	-0.000005	-0.05	-0.000005	7.76	-0.0001	0.000009	0.000817	0.0146	0.000006	0.00057	0.678	0.000545	-0.01	0.000135	0.00006
22-Mar-13	105	500	440	7.30	47																											
29-Mar-13	106	500	440	7.44	46	#N/A	3.6	27.0	2	-0.5	0.012	22.5	0.0181	-0.00002	0.000354	0.166	-0.00001	-0.000005	-0.05	-0.000005	7.91	-0.0001	0.000012	0.000642	0.0056	0.000021	0.00054	0.665	0.000148	-0.01	0.000147	0.000071
5-Apr-13	107	500	435	7.33	48																											
12-Apr-13	108	500	440	7.41	43	#N/A	5.5	27.1	2	-0.5	0.011	20.5	0.0394	-0.00002	0.00021	0.158	-0.00001	-0.000005	-0.05	-0.000005	7.18	-0.0001	0.00001	0.00101	0.0209	0.000011	-0.0005	0.624	0.000532	-0.01	0.00012	0.000062
19-Apr-13	109	500	435	7.34	46																											
26-Apr-13	110	500	445	7.34	47	#N/A	4.0	27.0	3	-0.5	0.012	20.7	0.0203	-0.00002	0.000212	0.174	-0.00001	-0.000005	-0.05	-0.000005	7.26	-0.0001	0.000006	0.000477	0.0074	-0.000005	0.00051	0.636	0.00015	-0.01	0.000133	0.000051
3-May-13	111	500	435	7.27	46																											
10-May-13	112	500	425	7.37	48	#N/A	4.1	26.8	2	0.5	0.01	22.5	0.025	-0.00002	0.000331	0.174	-0.00001	-0.000005	-0.05	-0.000005	7.88	-0.0001	-0.000005	0.00053	0.0083	0.000025	0.00057	0.674	0.000153	-0.01	0.000159	0.000046
17-May-13	113	500	440	7.35	54																											
24-May-13	114	500	450	7.37	45	#N/A	4.7	26.8	2																							

May 13/11 Cl 4.8. Repeat=-0.5, data confirmed
June 10/11 Fe 0.038 and Cu 0.00224 . Repeat Cu= 0.0026, Fe= 0.042. data confirmed, keep original result.
Aug 5/11 Pb 0.000451. Repeat =.000515, data confirmed, suspect contamination
Nov 11/11 Cd=0.000032, repeat=0.000029. data confirmed, suspect contamination
Dec 9/11 Pb=0.000519, repeat=0.000497. data confirmed, suspect contamination
Oct 28/11 Zn=0.0035, repeat=0.0065. Data rejected, suspect contamination
March 30/12 Cu=0.00425, Ni=0.00041, Zn=0.02 repeat Cu=0.00438, Ni=0.000378, Zn=0.0205. Data confirmed, suspect contamination
Apr 27/12 Ni=0.000183, repeat=0.000138, Data accepted
Nov 23/12 As=0.00059,repeat= 0.00059. Data confirmed suspect contamination
Feb 1/13 Sb=0.000041, repeat confirms original result, suspect contamination
Dec 7/12 Ni=0.000773, repeat=0.000059. Data accepted

HC 12

Sample =
08SWC370 10-13

Date	Cycle No.	P	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
6-Jul-12	68	0.002	0.974	-0.00004	1.59	-0.000005	0.142	0.0308	-10	-0.000002	-0.0002	-0.0005	0.0000096	0.00193	0.0003	-0.0001
13-Jul-12	69															
20-Jul-12	70	-0.002	0.907	-0.00004	1.37	-0.000005	0.135	0.031	-10	-0.000002	-0.0002	-0.0005	0.0000113	0.00192	0.00138	-0.0001
27-Jul-12	71															
3-Aug-12	72	0.0031	1.16	-0.00004	1.58	0.000005	0.178	0.0369	-10	-0.000002	0.00026	-0.0005	0.000013	0.00191	0.00078	-0.0001
10-Aug-12	73															
17-Aug-12	74	-0.002	1.08	-0.00004	1.32	-0.000005	0.17	0.0353	-10	-0.000002	0.0005	-0.0005	0.000008	0.00159	0.00098	-0.0001
24-Aug-12	75															
31-Aug-12	76	-0.002	0.871	-0.00004	1.16	-0.000005	0.127	0.0301	-10	-0.000002	-0.0002	0.00079	0.000011	0.00128	0.00081	-0.0001
7-Sep-12	77															
14-Sep-12	78	-0.002	0.843	-0.00004	1.11	-0.000005	0.123	0.0295	-10	-0.000002	-0.0002	0.00089	0.000009	0.00133	0.00042	-0.0001
21-Sep-12	79															
28-Sep-12	80	-0.002	0.993	-0.00004	1.46	-0.000005	0.121	0.0335	-10	-0.000002	-0.0002	0.00081	0.000009	0.00148	0.00038	-0.0001
5-Oct-12	81															
12-Oct-12	82	0.0022	1.12	0.000043	1.62	-0.000005	0.137	0.0389	-10	-0.000002	-0.0002	-0.0005	0.000012	0.00121	0.00036	-0.0001
19-Oct-12	83															
26-Oct-12	84	0.0087	0.799	-0.00004	1.06	-0.000005	0.08	0.0277	-10	-0.000002	-0.0002	0.00052	0.000009	0.00136	0.00052	-0.0001
2-Nov-12	85															
9-Nov-12	86	-0.002	0.933	0.00004	1.2	-0.000005	0.104	0.0316	-3	-0.000002	0.00041	-0.0005	0.000008	0.00143	0.00224	-0.0001
16-Nov-12	87															
23-Nov-12	88	0.0036	0.838	-0.00004	1.24	-0.000005	0.091	0.0262	-3	-0.000002	0.0003	-0.0005	0.000008	0.00114	0.00044	-0.0001
30-Nov-12	89															
7-Dec-12	90	-0.002	0.958	-0.00004	1.39	-0.000005	0.117	0.0328	-3	0.000002	0.00037	-0.0005	0.000013	0.0016	0.00136	-0.0001
14-Dec-12	91															
21-Dec-12	92	-0.002	0.846	-0.00004	1.07	-0.000005	0.089	0.0268	-3	-0.000002	-0.0002	-0.0005	0.000007	0.00143	0.00039	-0.0001
28-Dec-12	93															
4-Jan-13	94	-0.002	1.06	-0.00004	1.25	-0.000005	0.158	0.0331	-3	-0.000002	-0.0002	0.00056	0.000008	0.00158	0.00109	-0.0001
11-Jan-13	95															
18-Jan-13	96	0.0028	0.903	-0.00004	1.18	-0.000005	0.101	0.0293	-3	-0.000002	-0.0002	-0.0005	0.000008	0.00132	0.00051	-0.0001
25-Jan-13	97															
1-Feb-13	98	0.0026	0.89	-0.00004	0.961	-0.000005	0.109	0.0256	-3	-0.000002	-0.0002	-0.0005	0.000008	0.00154	0.00043	-0.0001
8-Feb-13	99															
15-Feb-13	100	-0.002	0.911	-0.00004	1.04	-0.000005	0.129	0.0269	-3	-0.000002	-0.0002	-0.0005	0.000006	0.00128	0.00023	-0.0001
22-Feb-13	101															
1-Mar-13	102	-0.002	0.918	-0.00004	1.12	-0.000005	0.107	0.0274	-3	-0.000002	0.00078	0.00073	0.000006	0.00136	0.00044	-0.0001
8-Mar-13	103															
15-Mar-13	104	0.0031	0.934	0.000044	1.09	-0.000005	0.101	0.0265	-3	-0.000002	-0.0002	0.00094	0.000006	0.00144	0.00042	-0.0001
22-Mar-13	105															
29-Mar-13	106	-0.002	0.923	-0.00004	1.01	-0.000005	0.137	0.027	-3	-0.000002	-0.0002	-0.0005	0.000006	0.0014	0.00042	-0.0001
5-Apr-13	107															
12-Apr-13	108	-0.002	0.87	-0.00004	0.897	-0.000005	0.077	0.0257	-3	-0.000002	-0.0002	0.00139	0.000006	0.00166	0.00057	-0.0001
19-Apr-13	109															
26-Apr-13	110	-0.002	0.863	-0.00004	0.824	0.000005	0.096	0.0264	-3	-0.000002	-0.0002	0.00059	0.000007	0.00104	0.00024	-0.0001
3-May-13	111															
10-May-13	112	-0.002	0.895	-0.00004	1.01	-0.000005	0.108	0.0269	-3	-0.000002	-0.0002	-0.0005	0.000006	0.00142	0.00034	-0.0001
17-May-13	113															
24-May-13	114															

HC 13

CONFIDENTIAL *DRAFT*

Sample =
09SWC419 15-18

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L
18-Mar-11	0	500	360	7.69	201	#N/A	3.2	68.2	3	1.8	0.2	88.7	0.0356	-0.00002	0.00022	0.152	-0.00001	-0.000005	-0.05	0.00001	25.4	-0.0001	0.000035	0.00078	0.002	0.000014	0.0018	6.11	0.00947	-0.01
25-Mar-11	1	500	525	7.78	111																									
1-Apr-11	2	500	525	7.81	74	#N/A	4.8	45.2	4	0.8	0.28	31.7	0.0336	-0.00002	0.0003	0.0486	-0.00001	-0.000005	-0.05	-0.000005	9.39	0.0001	0.000015	0.0006	0.007	-0.000005	0.0008	2.01	0.00733	-0.01
8-Apr-11	3	500	43	7.75	60																									
15-Apr-11	4	500	440	7.74	61	#N/A	2.1	36.4	3	-0.5	0.23	26.5	0.0264	-0.00002	0.00018	0.0398	-0.00001	-0.000005	-0.05	-0.000005	7.76	-0.0001	0.000013	0.00064	0.011	-0.000005	0.0006	1.74	0.00654	-0.01
22-Apr-11	5	500	420	7.73	65																									
29-Apr-11	6	500	430	7.67	59	#N/A	3.0	38.1	5	-0.5	0.17	27.4	0.031	-0.00002	0.00026	0.0355	-0.00001	-0.000005	-0.05	-0.000005	8.04	-0.0001	0.000012	0.00018	0.011	0.000006	0.0006	1.79	0.00667	-0.01
6-May-11	7	500	430	7.59	58																									
13-May-11	8	500	430	7.52	74	#N/A	3.1	30.2	4	-0.5	0.13	25.1	0.0401	-0.00002	0.00023	0.0282	-0.00001	-0.000005	-0.05	-0.000005	7.44	-0.0001	0.000009	0.00038	0.012	0.000009	-0.0005	1.58	0.00621	-0.01
20-May-11	9	500	450	7.76	51																									
27-May-11	10	500	450	7.76	54	#N/A	4.8	31.7	-2	-0.5	0.12	24.6	0.025	-0.00002	0.00023	0.0322	-0.00001	-0.000005	-0.05	-0.000005	7.19	-0.0001	0.000007	0.0003	0.006	-0.000005	-0.0005	1.62	0.00681	-0.01
3-Jun-11	11	500	465	7.53	55																									
10-Jun-11	12	500	465	7.71	59	#N/A	2.0	36.6	3	0.6	0.1	26.1	0.0275	-0.00002	0.00035	0.0351	-0.00001	-0.000005	-0.05	0.000009	7.82	0.0001	0.000007	0.00037	0.006	-0.000005	-0.0005	1.6	0.00622	-0.01
17-Jun-11	13	500	475	7.49	56																									
24-Jun-11	14	500	455	7.88	56	#N/A	1.8	35.4	-2	-0.5	0.09	27.9	0.0314	-0.00002	0.00017	0.0334	-0.00001	-0.000005	-0.05	0.000005	8.03	-0.0001	-0.000005	0.0004	0.009	-0.000005	-0.0005	1.9	0.00527	-0.01
1-Jul-11	15	500	455	7.90	59																									
8-Jul-11	16	500	460	7.61	57	#N/A	2.6	34.1	-2	0.6	0.07	25	0.0252	-0.00002	0.0002	0.032	-0.00001	-0.000005	-0.05	-0.000005	7.24	-0.0001	0.000009	0.00018	0.005	0.000006	0.0005	1.67	0.0054	-0.01
15-Jul-11	17	500	445	7.67	55																									
22-Jul-11	18	500	475	7.74	53	#N/A	3.3	31.1	-2	0.7	0.07	24.5	0.0329	-0.00002	0.00014	0.0343	-0.00001	-0.000005	-0.05	-0.000005	6.93	0.0005	0.000009	0.00075	0.009	0.000017	-0.0005	1.75	0.00475	-0.01
29-Jul-11	19	500	455	7.76	53																									
5-Aug-11	20	500	460	7.67	64	#N/A	3.5	37.8	-2	-0.5	0.07	30.4	0.029	-0.00002	0.00019	0.0347	-0.00001	-0.000005	-0.05	-0.000005	8.81	0.0001	0.00001	0.00023	0.009	-0.000005	-0.0005	2.04	0.00598	-0.01
12-Aug-11	21	500	450	7.85	59																									
19-Aug-11	22	500	465	7.65	61	#N/A	3.6	38.3	2	0.6	0.06	27.8	0.0308	-0.00002	0.00017	0.0346	-0.00001	-0.000005	-0.05	-0.000005	8.15	0.0001	0.000007	0.00039	0.01	0.000028	-0.0005	1.82	0.00619	-0.01
26-Aug-11	23	500	460	7.64	59																									
2-Sep-11	24	500	450	7.80	60	#N/A	4.0	38.8	-2	0.6	0.06	27	0.0295	-0.00002	0.00017	0.035	-0.00001	-0.000005	-0.05	-0.000005	7.9	0.0001	0.00001	0.00027	0.008	0.000005	-0.0005	1.78	0.00589	-0.01
9-Sep-11	25	500	465	7.76	59																									
16-Sep-11	26	500	445	7.59	61	#N/A	4.1	37.3	-2	0.9	0.05	29	0.0303	0.00002	#N/A	0.034	-0.00001	-0.000005	-0.05	0.000008	8.6	-0.0001	0.000007	0.00012	0.007	0.000036	-0.0005	1.84	0.00563	-0.01
23-Sep-11	27	500	450	7.60	53																									
30-Sep-11	28	500	455	7.66	58	#N/A	3.0	36.9	-2	-0.5	0.05	27.8	0.0241	-0.00002	0.00014	0.0347	-0.00001	-0.000005	-0.05	-0.000005	8.26	-0.0001	0.00001	0.00019	0.005	0.00001	-0.0005	1.74	0.00702	-0.01
7-Oct-11	29	500	455	7.65	57																									
14-Oct-11	30	500	450	7.54	51	#N/A	3.3	32.0	-2	-0.5	0.04	25.2	0.028	-0.00002	0.0001	0.0297	-0.00001	-0.000005	-0.05	-0.000005	7.36	-0.0001	-0.000005	0.00013	0.004	-0.000005	-0.0005	1.65	0.00734	-0.01
21-Oct-11	31	500	460	7.73	58																									
28-Oct-11	32	500	455	7.67	59	#N/A	3.3	36.9	-2	-0.5	0.03	31.1	0.0312	-0.00002	0.00011	0.0349	-0.00001	-0.000005	-0.05	-0.000005	9.36	-0.0001	0.000008	0.00016	0.005	0.000022	-0.0005	1.88	0.009	-0.01
4-Nov-11	33	500	455	7.69	56																									
11-Nov-11	34	500	465	7.84	56	#N/A	4.9	36.4	2	-0.5	0.033	27.9	0.0197	-0.00002	0.00011	0.0326	-0.00001	-0.000005	-0.05	0.000007	8.19	-0.0001	0.000008	0.00047	0.003	0.000019	-0.0005	1.81	0.00639	-0.01
18-Nov-11	35	500	465	7.67	56																									
25-Nov-11	36	500	480	7.76	56	#N/A	3.3	36.6	-2	-0.5	0.029	28.2	0.024	-0.00002	0.00009	0.0317	-0.00001	-0.000005	-0.05	-0.000005	8.45	-0.0001	0.000011	0.00037	0.005	0.000005	-0.0005	1.74	0.00556	-0.01
2-Dec-11	37	500	465	7.68	59																									
9-Dec-11	38	500	440	7.63	55	#N/A	3.9	34.4	-2	-0.5	0.027	26.6	0.0292	-0.00002	0.00008	0.0304	-0.00001	-0.000005	-0.05	-0.000005	7.8	-0.0001	-0.000005	0.00076	0.007	0.000011	-0.0005	1.73	0.00636	-0.01
16-Dec-11	39	500	465	7.77	58																									
23-Dec-11	40	500	450	7.73	54	#N/A	4.2	36.7	2	-0.5	0.03	26.6	0.0393	-0.00002	0.00006	0.033	-0.00001	-0.000005	-0.05	-0.000005	7.78	-0.0001	0.000011	0.00013	0.006	0.00002	-0.0005	1.74	0.00585	-0.01
30-Dec-11	41	500	460	7.78	56																									
6-Jan-12	42	500	480	7.53	58	#N/A	3.3	42.3	2	-0.5	0.033	28.8	0.0271	-0.00002	0.00008	0.0363	-0.00001	-0.000005	-0.05	-0.000005	8.33	-0.0001	-0.000005	0.00017	0.004	0.000006	-0.0005	1.94	0.00612	-0.01
13-Jan-12	43	500	465	7.64	52																									
20-Jan-12	44	500	465	7.71	58	#N/A	2.7	43.0	-2	-0.5	0.029	25.2	0.0192	-0.00002	0.00006	0.0324	-0.00001	-0.000005	-0.05	-0.000005	7.47	-0.0001	0.000005	0.00025	0.004	0.000011	-0.0005	1.59	0.00466	-0.01
27-Jan-12	45	500	465	7.55	50																									
3-Feb-12	46	500	465	7.65	53	#N/A	5.1	38.3	2	-0.5	0.029	26	0.0219	-0.00002	0.00008	0.0278	-0.00001	-0.000005	-0.05	-0.000005	7.63	-0.0001	-0.000005	0.0002	0.004	-0.000005	-0.0005	1.68	0.00476	-0.01
10-Feb-12	47	500	445	7.67	55																									
17-Feb-12	48	500	455	7.63	54	#N/A	2.7	34.3	2	-0.5	0.027	26.2	0.0206	-0.00002	0.00012	0.0296	-0.00001	-0.000005	-0.05	-0.000005	7.81	-0.0001	0.000006	0.00027	0.003	-0.000005	-0.0005	1.62	0.00509	-0.01
24-Feb-12	49	500	450	7.57	56																									
2-Mar-12	50	500	455	7.62	55	#N/A	7.1	36.5	2	-0.5	0.024	26.4	0.0206	-0.00002	0.00012	0.0307	-0.00001	-0.000005	-0.05	0.000011	7.83	-0.0001	0.000009	0.00128	0.004	#N/A	-0.0005	1.65	0.00478	-0.01
9-Mar-12	51	500	470	7.67	55																									
16-Mar-12	52	500	465	7.66	58	#N/A	2.8	35.8	2	-0.5	0.026	26.5	0.0217	-0.00002	0.00004	0.0286	-0.00001	-0.000005	-0.05	-0.000005	7.97	#N/A	0.000007	0.00045	0.004	0.000015	-0.0005	1.6	0.00392	-0.01
23-Mar-12	53	500	460	7.61	59																									
30-Mar-12	54	500	490	7.49	59	#N/A	3.9	37.3	3	-0.5	0.028	28.1	0.0161	-0.00002	-0.00002	0.0317	-0.00001	-0.000005	-0.05	-0.000005	8.39	-0.0001	0.000007	0.00024	0.003	0.000027	-0.0005	1.74	0.00355	-0.01
6-Apr-12	55	500	450	7.69	59																									
13-Apr-12	56	500	460	7.72	56	#N/A	2.5	35.2	2	-0.5	0.022	27.2	0.0228	-0.00002	0.00005	0.0307	-0.00001	-0.000005	-0.05	-0.000005	8.24	-0.0001	0.000006	0.00022	0.004	-0.000005	-0.0005	1.62	0.00439	-0.01
20-Apr-12	57	500	445	7.70	54																									
27-Apr-12	58	500	460	7.71	55	#N/A	3.8	35.7	2	-0.5	0.024	23.8	0.0246	-0.00002	0.000093	0.0284	-0.00001	-0.000005	-0.05	0.000006	7.16	-0.0001	-0.000005	0.00046	0.0047	0.000011	-0.0005	1.44	0.00384	-0.01
4-May-12	59	500	450	7.75	52																									
11-May-12	60	500	470	7.68	54	#N/A	3.1	33.5	3	-0.5	0.031	27.6	0.0312	-0.00002	0.000197	0.029	-0.00001	-0.000005	-0.05	-0.000005	8.55	0.00012	0.000012	0.000241	0.0078	0.000011	-0.0005	1.51	0.00666	-0.01
18-May-12	61	500	455	7.61	53																									
25-May-12	62	500	470	7.55	53	#N/A	3.6	32.3	2	-0.5	0.022	24.5	0.0358	-0.00002	0.000081	0.0282	-0.00001	-0.000005	-0.05	-0.000005	7.38	0.00055	-0.000005	0.000287	0.0089	0.0000616	-0.0005	1.48	0.00438	-0.01
1-Jun-12	63	500	515	7.59	53																									
8-Jun-12	64	500	465	7.62	51	#N/A	3.2	31.8	2	0.69	0.018	23.5	0.0221	-0.00002	0.000036	0.0252	-0.00001	-0.000005	-0.05	-0.000005	7.13	0.00016	0.0000085	0.000979	0.0127	0.0000169	-0.0005	1.39	0.00456	-0.01
15-Jun-12	65	500	480	7.59	52																									

HC 13

Sample =
09SWC419 15-18

Date	Cycle No.	Mo	Ni	P	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
18-Mar-11	0	0.00088	0.0002	-0.002	6.25	0.0001	1.47	-0.000005	3.46	0.149	-10	0.000003	0.00004	-0.0005	0.000049	-0.0002	0.0018	-0.0001
25-Mar-11	1																	
1-Apr-11	2	0.00083	0.0001	-0.002	2.41	0.00007	1.89	-0.000005	1.61	0.0554	-10	-0.000002	0.00049	-0.0005	0.000054	0.001	0.0002	-0.0001
8-Apr-11	3																	
15-Apr-11	4	0.00108	0.0001	-0.002	2.14	0.00004	1.7	-0.000005	1.22	0.0519	-10	-0.000002	0.00033	-0.0005	0.000053	0.0011	0.0004	-0.0001
22-Apr-11	5																	
29-Apr-11	6	0.00084	0.00009	-0.002	2.12	-0.00004	1.72	-0.000005	0.88	0.0492	-10	-0.000002	0.00021	-0.0005	0.000055	0.001	0.0001	-0.0001
6-May-11	7																	
13-May-11	8	0.00057	0.0001	-0.002	1.64	-0.00004	1.39	-0.000005	0.58	0.0423	-10	-0.000002	0.00013	-0.0005	0.000046	0.0011	0.0001	-0.0001
20-May-11	9																	
27-May-11	10	0.00057	0.00002	-0.002	1.53	-0.00004	1.51	-0.000005	0.49	0.0456	-10	-0.000002	0.00012	-0.0005	0.000047	0.001	-0.0001	-0.0001
3-Jun-11	11																	
10-Jun-11	12	0.00066	0.00003	-0.002	1.47	-0.00004	1.47	-0.000005	0.37	0.0524	-10	-0.000002	0.00013	-0.0005	0.000051	0.001	0.0002	-0.0001
17-Jun-11	13																	
24-Jun-11	14	0.00048	-0.00002	-0.002	1.71	-0.00004	1.57	-0.000005	0.35	0.0483	-10	-0.000002	0.00005	0.0007	0.000046	0.0011	0.0001	-0.0001
1-Jul-11	15																	
8-Jul-11	16	0.00043	0.00007	-0.002	1.35	-0.00004	1.38	-0.000005	0.29	0.0466	-10	-0.000002	0.00004	-0.0005	0.00005	0.0009	0.0004	-0.0001
15-Jul-11	17																	
22-Jul-11	18	0.00038	#N/A	-0.002	1.38	-0.00004	1.28	-0.000005	0.33	0.0451	-10	-0.000002	0.00003	-0.0005	0.000036	0.0009	0.0009	-0.0001
29-Jul-11	19																	
5-Aug-11	20	0.00034	0.00012	-0.002	1.53	-0.00004	1.41	-0.000005	0.28	0.0533	-10	-0.000002	0.00004	-0.0005	0.000055	0.001	0.0003	-0.0001
12-Aug-11	21																	
19-Aug-11	22	0.00032	0.00015	-0.002	1.48	-0.00004	1.3	-0.000005	0.35	0.0515	-10	-0.000002	0.00001	-0.0005	0.000055	0.0012	0.0001	-0.0001
26-Aug-11	23																	
2-Sep-11	24	0.00031	0.00003	-0.002	1.43	-0.00004	1.28	-0.000005	0.22	0.052	-10	-0.000002	0.00004	-0.0005	0.000048	0.0009	0.0002	-0.0001
9-Sep-11	25																	
16-Sep-11	26	0.00029	0.00004	-0.002	1.43	0.00005	1.27	-0.000005	0.23	0.0522	-10	0.000006	0.00003	-0.0005	0.000065	0.0011	0.001	-0.0001
23-Sep-11	27																	
30-Sep-11	28	0.00019	-0.00002	-0.002	1.39	-0.00004	1.13	-0.000005	0.18	0.0508	-10	-0.000002	0.00008	-0.0005	0.00005	0.0006	-0.0001	-0.0001
7-Oct-11	29																	
14-Oct-11	30	0.00021	-0.00002	-0.002	1.31	-0.00004	1.01	-0.000005	0.17	0.0445	-10	-0.000002	0.00001	-0.0005	0.000049	0.0009	0.0003	-0.0001
21-Oct-11	31																	
28-Oct-11	32	0.00015	0.00002	-0.002	1.41	-0.00004	1.15	-0.000005	0.18	0.0544	-10	-0.000002	0.00028	-0.0005	0.000045	0.0008	0.0003	-0.0001
4-Nov-11	33																	
11-Nov-11	34	0.00017	0.00019	-0.002	1.33	-0.00004	1.08	-0.000005	0.21	0.05	-10	0.000003	0.00014	-0.0005	0.000039	0.0007	0.0005	-0.0001
18-Nov-11	35																	
25-Nov-11	36	0.00016	0.00014	-0.002	1.28	-0.00004	0.972	-0.000005	0.19	0.0474	-10	-0.000002	0.00013	-0.0005	0.00004	0.0008	0.0002	-0.0001
2-Dec-11	37																	
9-Dec-11	38	0.00015	0.00017	-0.002	1.26	-0.00004	0.849	-0.000005	0.16	0.0468	-10	-0.000002	0.00013	-0.0005	0.000043	0.0007	0.0003	-0.0001
16-Dec-11	39																	
23-Dec-11	40	0.0001	0.00005	-0.002	1.35	-0.00004	0.907	-0.000005	0.14	0.0459	-10	-0.000002	-0.00001	-0.0005	0.000041	0.0006	0.0003	-0.0001
30-Dec-11	41																	
6-Jan-12	42	0.00014	-0.00002	-0.002	1.42	-0.00004	0.966	-0.000005	0.15	0.0539	-10	-0.000002	0.00008	-0.0005	0.00004	0.0008	0.0002	-0.0001
13-Jan-12	43																	
20-Jan-12	44	0.00013	0.00017	-0.002	1.17	-0.00004	0.827	-0.000005	0.16	0.048	-10	-0.000002	-0.0002	-0.0005	0.000036	0.0006	0.0005	-0.0001
27-Jan-12	45																	
3-Feb-12	46	0.00026	0.00002	-0.002	1.18	-0.00004	0.875	-0.000005	0.13	0.0437	-10	-0.000002	-0.0002	-0.0005	0.000035	0.0006	-0.0001	-0.0001
10-Feb-12	47																	
17-Feb-12	48	0.00011	-0.00002	-0.002	1.25	-0.00004	0.861	-0.000005	0.14	0.045	-10	-0.000002	-0.0002	-0.0005	0.000052	0.001	0.0002	-0.0001
24-Feb-12	49																	
2-Mar-12	50	0.00009	0.00013	-0.002	1.19	-0.00004	0.825	-0.000005	0.15	0.0447	-10	-0.000002	0.0002	-0.0005	0.000038	0.0006	0.0005	-0.0001
9-Mar-12	51																	
16-Mar-12	52	0.00011	0.00011	-0.002	1.18	-0.00004	0.865	-0.000005	0.23	0.0449	-10	-0.000002	0.0002	-0.0005	0.00004	0.0006	0.0011	-0.0001
23-Mar-12	53																	
30-Mar-12	54	0.00009	0.00015	-0.002	1.2	-0.00004	0.886	-0.000005	0.15	0.0477	-10	-0.000002	-0.0002	-0.0005	0.000038	0.0005	0.0029	-0.0001
6-Apr-12	55																	
13-Apr-12	56	0.00011	-0.00002	-0.002	1.2	-0.00004	0.857	-0.000005	0.1	0.0452	-10	-0.000002	0.0005	-0.0005	0.000036	0.0005	0.0013	-0.0001
20-Apr-12	57																	
27-Apr-12	58	0.000081	0.000114	-0.002	1.14	-0.00004	0.745	-0.000005	0.139	0.0429	-10	0.000002	0.00055	-0.0005	0.000035	0.00111	0.00301	-0.0001
4-May-12	59																	
11-May-12	60	0.000101	0.000118	-0.002	1.19	-0.00004	0.866	-0.000005	0.131	0.0466	-10	-0.000002	0.00049	-0.0005	0.000031	0.00067	0.00097	-0.0001
18-May-12	61																	
25-May-12	62	0.000066	0.000065	-0.002	1.12	-0.00004	0.837	-0.000005	0.177	0.043	-10	0.0000021	-0.0002	0.00057	0.000033	0.00065	0.00041	-0.0001
1-Jun-12	63																	
8-Jun-12	64	0.000073	0.000151	0.0034	0.962	-0.00004	0.687	-0.000005	0.144	0.0397	-10	-0.000002	0.00028	-0.0005	0.0000296	0.00054	0.00049	-0.0001
15-Jun-12	65																	

HC 13

CONFIDENTIAL *DRAFT*

Sample =
09SWC419 15-18

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L
22-Jun-12	66	500	465	7.54	48	#N/A	4.3	32.1	3	-0.5	0.02	23.6	0.0334	-0.00002	0.00012	0.0275	-0.00001	-0.000005	-0.05	-0.000005	7.18	-0.0001	0.0000087	0.000194	0.007	-0.000005	-0.0005	1.38	0.00382	-0.01
29-Jun-12	67	500	465	7.56	47																									
6-Jul-12	68	500	465	7.61	50	#N/A	4.2	33.0	2	-0.5	0.023	23.5	0.0201	-0.00002	0.000071	0.0261	-0.00001	-0.000005	-0.05	-0.000005	7.25	-0.0001	0.0000076	0.000293	0.0038	0.0000411	-0.0005	1.32	0.00398	-0.01
13-Jul-12	69	500	450	7.60	44																									
20-Jul-12	70	500	475	7.57	50	#N/A	3.7	31.6	2	0.6	0.02	24.9	#N/A	-0.00002	0.000105	0.026	-0.00001	-0.000005	-0.05	-0.000005	7.64	-0.0001	-0.000005	0.000215	0.0041	-0.000005	-0.0005	1.42	0.004	-0.01
27-Jul-12	71	500	465	7.74	47																									
3-Aug-12	72	500	465	7.67	49	#N/A	3.1	31.6	2	-0.5	0.02	24.2	0.0166	-0.00002	0.000133	0.0266	-0.00001	-0.000005	-0.05	-0.000005	7.38	-0.0001	0.000009	0.000406	0.0032	0.000158	-0.0005	1.41	0.00346	-0.01
10-Aug-12	73	500	470	7.66	44																									
17-Aug-12	74	500	460	7.57	52	#N/A	3.8	32.2	2	-0.5	0.02	25.7	0.025	-0.00002	0.000065	0.028	-0.00001	-0.000005	-0.05	-0.000005	7.79	-0.0001	0.000006	0.000367	0.0069	0.000099	-0.0005	1.51	0.00398	-0.01
24-Aug-12	75	500	465	7.66	53																									
31-Aug-12	76	500	485	7.63	53	#N/A	3.7	34.3	2	-0.5	0.019	26	0.0295	-0.00002	0.000053	0.0279	-0.00001	-0.000005	-0.05	-0.000005	7.89	-0.0001	0.00001	0.000517	0.0067	0.000013	-0.0005	1.53	0.00369	-0.01
7-Sep-12	77	500	480	7.57	50																									
14-Sep-12	78	500	490	7.46	52	#N/A	3.4	32.6	2	-0.5	0.019	26.1	0.0179	-0.00002	0.000265	0.0277	-0.00001	-0.000005	-0.05	-0.000005	7.87	0.00013	0.000006	0.000269	0.0055	0.000032	-0.0005	1.56	0.00293	-0.01
21-Sep-12	79	500	510	7.59	58																									
28-Sep-12	80	500	470	7.53	50	#N/A	2.9	34.4	2	-0.5	0.02	24	0.0181	-0.00002	0.000053	0.0277	-0.00001	-0.000005	-0.05	-0.000005	7.28	0.00023	0.000007	0.00318	0.0039	0.00004	-0.0005	1.4	0.00279	-0.01
5-Oct-12	81	500	460	7.77	50																									
12-Oct-12	82	500	470	7.56	53	#N/A	5.3	35.0	2	-0.5	0.023	27	0.021	-0.00002	0.000064	0.0288	-0.00001	-0.000005	-0.05	-0.000005	8.24	-0.0001	-0.000005	0.00046	0.0046	0.000005	-0.0005	1.55	0.0032	-0.01
19-Oct-12	83	500	480	7.65	51																									
26-Oct-12	84	500	475	7.57	50	#N/A	3.0	33.2	2	-0.5	0.02	24.1	0.0165	-0.00002	0.000042	0.0258	-0.00001	-0.000005	-0.05	-0.000005	7.41	-0.0001	0.000005	0.000295	0.0038	0.000023	-0.0005	1.36	0.00249	-0.01
2-Nov-12	85	500	480	7.61	51																									
9-Nov-12	86	500	490	7.58	50	#N/A	4.9	36.5	3	-0.5	0.021	25.8	0.0124	-0.00002	0.000079	0.0279	-0.00001	-0.000005	-0.05	-0.000005	7.83	-0.0001	0.000008	0.000347	0.0022	0.000014	-0.0005	1.53	0.00301	-0.01
16-Nov-12	87	500	500	7.64	52																									
23-Nov-12	88	500	485	7.66	52	#N/A	3.7	32.9	3	-0.5	0.019	26.6	0.0184	-0.00002	0.000134	0.0253	-0.00001	-0.000005	-0.05	-0.000005	8.09	-0.0001	-0.000005	0.000341	0.005	0.000011	-0.0005	1.56	0.00265	-0.01
30-Nov-12	89	500	505	7.60	53																									
7-Dec-12	90	500	465	7.78	51	#N/A	6.0	36.6	2	-0.5	0.022	26.2	0.0334	-0.00002	0.000169	0.0274	-0.00001	-0.000005	-0.05	-0.000005	8.05	-0.0001	-0.000005	0.00041	0.0052	0.000005	-0.0005	1.49	0.00312	-0.01
14-Dec-12	91	500	485	7.83	46																									
21-Dec-12	92	500	470	7.64	58	#N/A	3.7	37.9	-2	-0.5	0.022	27	0.0248	-0.00002	0.000096	0.0284	-0.00001	-0.000005	-0.05	0.000008	8.45	-0.0001	0.000008	0.000105	0.0067	0.000381	-0.0005	1.43	0.00362	-0.01
28-Dec-12	93	500	465	7.61	60																									
4-Jan-13	94	500	485	7.76	51	#N/A	4.8	36.3	-2	0.69	0.023	26.1	0.0353	-0.00002	0.000108	0.0294	-0.00001	-0.000005	-0.05	-0.000005	8	#N/A	0.000009	0.000244	0.0042	0.000044	-0.0005	1.49	0.00318	-0.01
11-Jan-13	95	500	485	7.62	49																									
18-Jan-13	96	500	455	7.65	52	#N/A	2.7	35.6	-2	-0.5	0.018	25.5	0.0233	-0.00002	0.000063	0.0267	-0.00001	-0.000005	-0.05	-0.000005	7.67	-0.0001	0.000007	0.000137	0.0071	0.000016	-0.0005	1.54	0.00338	-0.01
25-Jan-13	97	500	470	7.52	55																									
1-Feb-13	98	500	435	7.80	50	#N/A	3.3	32.3	2	0.52	0.026	23.8	0.0226	-0.00002	0.000172	0.0238	-0.00001	-0.000005	-0.05	0.000005	7.18	-0.0001	-0.000005	0.000154	0.0046	0.000013	-0.0005	1.41	0.00258	-0.01
8-Feb-13	99	500	455	7.86	49																									
15-Feb-13	100	500	455	7.60	51	#N/A	3.0	30.3	2	-0.5	0.02	23.5	0.0206	-0.00002	0.000096	0.0243	-0.00001	-0.000005	-0.05	-0.000005	7.05	-0.0001	0.000006	0.000076	0.0036	-0.000005	-0.0005	1.43	0.00315	-0.01
22-Feb-13	101	500	440	7.88	50																									
1-Mar-13	102	500	450	7.73	49	#N/A	5.4	33.4	3	0.59	0.016	23	0.0258	-0.00002	0.000057	0.0239	-0.00001	-0.000005	-0.05	-0.000005	6.92	-0.0001	-0.000005	-0.00005	0.0054	-0.000005	-0.0005	1.38	0.00294	-0.01
8-Mar-13	103	500	450	7.58	39																									
15-Mar-13	104	500	445	7.64	48	#N/A	5.4	30.0	2	-0.5	0.015	23.1	0.021	-0.00002	0.000097	0.0246	-0.00001	-0.000005	-0.05	0.000009	7.01	-0.0001	0.000005	0.000202	0.0034	0.00002	-0.0005	1.37	0.00319	-0.01
22-Mar-13	105	500	455	7.78	45																									
29-Mar-13	106	500	450	7.66	49	#N/A	3.5	28.9	2	0.69	0.017	24.9	0.0191	-0.00002	0.000053	0.0256	-0.00001	-0.000005	-0.05	-0.000005	7.69	0.00011	0.000005	0.00138	0.0047	0.000076	-0.0005	1.37	0.00355	-0.01
5-Apr-13	107	500	440	7.73	47																									
12-Apr-13	108	500	450	7.75	50	#N/A	6.0	31.2	2	-0.5	0.017	21.8	0.0221	-0.00002	0.000073	0.0242	-0.00001	-0.000005	-0.05	-0.000005	6.57	-0.0001	0.000005	0.00141	0.005	0.000018	-0.0005	1.3	0.00297	-0.01
19-Apr-13	109	500	450	7.80	51																									
26-Apr-13	110	500	445	7.62	49	#N/A	3.5	28.0	2	-0.5	0.018	22.6	0.0293	-0.00002	0.000073	0.0262	-0.00001	-0.000005	-0.05	-0.000005	6.88	-0.0001	-0.000005	0.000111	0.0074	-0.000005	-0.0005	1.31	0.00375	-0.01
3-May-13	111	500	435	7.68	50																									
10-May-13	112	500	420	7.36	54	#N/A	4.3	30.5	2	-0.5	0.017	23.8	0.0231	-0.00002	0.000258	0.0225	-0.00001	-0.000005	-0.05	-0.000005	7.26	-0.0001	-0.000005	0.000106	0.0043	-0.000005	-0.0005	1.36	0.00395	-0.01
17-May-13	113	500	450	7.89	54																									
24-May-13	114	500	430	7.66	50	#N/A	4.4	30.5	2																					

Sept 16/11 As=0.00146, repeat=0.00166. Data confirmed, suspect contamination
Jul 22/11 Ni=0.00028, repeat=0.00028. data confirmed, suspect contamination
Mar 16/12 Cr=0.0009, repeat=0.0009. Data confirmed, suspect contamination
Mar 2/12 Pb=0.000266, repeat=0.00026. Data confirmed, suspect contamination
Apr 27/12 Ni=0.000144, repeat=0.000114. Data accepted
Jul 20/12 Al=0.0577, Zn=0.00254. Repeat Al=0.0606, Zn=0.00221. Data confirmed, suspect contamination or analytical error
Jan 4/13 Cr=0.00139, repeat=0.00139. Data confirmed, suspect contamination
Sept 28/12 Ni=0.000571, repeat confirms original result, suspect contamination
Dec 7/12 Zn=0.00462, repeat=0.00089, Data accepted

HC 13

Sample =
09SWC419 15-18

Date	Cycle No.	Mo	Ni	P	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
22-Jun-12	66	0.000095	0.000035	-0.002	1	-0.00004	0.764	-0.000005	0.095	0.0409	-10	-0.000002	-0.0002	-0.0005	0.0000281	0.00063	0.00029	-0.0001
29-Jun-12	67																	
6-Jul-12	68	0.000071	-0.00002	-0.002	0.99	-0.00004	0.752	-0.000005	0.118	0.0383	-10	-0.000002	0.00027	-0.0005	0.0000265	0.00071	0.00115	-0.0001
13-Jul-12	69																	
20-Jul-12	70	0.000065	0.000074	-0.002	0.975	-0.00004	0.801	-0.000005	0.105	0.0422	-10	-0.000002	-0.0002	-0.0005	0.0000305	0.00077	#N/A	-0.0001
27-Jul-12	71																	
3-Aug-12	72	-0.00005	0.000099	-0.002	1.09	-0.00004	0.699	-0.000005	0.125	0.0412	-10	0.000002	-0.0002	-0.0005	0.000027	0.00054	0.00042	-0.0001
10-Aug-12	73																	
17-Aug-12	74	0.000078	0.000072	-0.002	1.16	-0.00004	0.673	-0.000005	0.129	0.0435	-10	0.000002	0.00074	-0.0005	0.000027	0.00058	0.001	-0.0001
24-Aug-12	75																	
31-Aug-12	76	0.000061	0.000079	-0.002	1.14	-0.00004	0.711	-0.000005	0.135	0.0446	-10	-0.000002	-0.0002	-0.0005	0.000031	0.00046	0.00027	-0.0001
7-Sep-12	77																	
14-Sep-12	78	0.000076	0.000084	-0.002	1.06	-0.00004	0.747	-0.000005	0.112	0.0425	-10	0.000002	-0.0002	-0.0005	0.000031	0.00049	0.00061	-0.0001
21-Sep-12	79																	
28-Sep-12	80	0.000056	#N/A	0.0026	0.992	-0.00004	0.671	-0.000005	0.126	0.0395	-10	0.000002	0.00047	-0.0005	0.000027	0.00051	0.00043	-0.0001
5-Oct-12	81																	
12-Oct-12	82	0.000058	-0.00002	-0.002	1.17	-0.00004	0.75	-0.000005	0.099	0.0441	-10	-0.000002	-0.0002	-0.0005	0.000029	0.00021	0.00018	-0.0001
19-Oct-12	83																	
26-Oct-12	84	-0.00005	0.000048	0.0056	1.02	-0.00004	0.663	-0.000005	0.077	0.0423	-10	-0.000002	-0.0002	-0.0005	0.000026	0.00045	0.00025	-0.0001
2-Nov-12	85																	
9-Nov-12	86	0.000085	0.00012	-0.002	1.1	-0.00004	0.703	-0.000005	0.151	0.042	-3	0.000002	0.00039	-0.0005	0.000028	0.00054	0.00051	-0.0001
16-Nov-12	87																	
23-Nov-12	88	0.000054	0.000109	-0.002	1.07	-0.00004	0.755	-0.000005	0.094	0.0401	-3	-0.000002	0.0004	-0.0005	0.000026	0.00045	0.00066	-0.0001
30-Nov-12	89																	
7-Dec-12	90	0.000077	0.000128	-0.002	1.07	-0.00004	0.662	-0.000005	0.097	0.0417	-3	-0.000002	-0.0002	-0.0005	0.000029	0.00073	0.00089	-0.0001
14-Dec-12	91																	
21-Dec-12	92	0.000058	0.000056	-0.002	1.06	-0.00004	0.676	-0.000005	0.086	0.0455	-3	0.000003	-0.0002	-0.0005	0.000029	0.00057	0.00089	-0.0001
28-Dec-12	93																	
4-Jan-13	94	0.00005	0.000107	-0.002	1.08	-0.00004	0.646	-0.000005	0.189	0.0432	-3	-0.000002	-0.0002	-0.0005	0.000022	0.00049	0.00073	-0.0001
11-Jan-13	95																	
18-Jan-13	96	0.000056	0.000082	-0.002	1.09	-0.00004	0.714	-0.000005	0.085	0.0407	-3	-0.000002	-0.0002	-0.0005	0.000033	0.00045	0.00018	-0.0001
25-Jan-13	97																	
1-Feb-13	98	0.000062	0.000027	-0.002	1.06	-0.00004	0.672	-0.000005	0.098	0.0389	-3	-0.000002	-0.0002	-0.0005	0.000026	0.00065	0.00055	-0.0001
8-Feb-13	99																	
15-Feb-13	100	0.000061	-0.00002	0.0021	1.12	-0.00004	0.607	-0.000005	0.096	0.0381	-3	-0.000002	-0.0002	-0.0005	0.000025	0.00055	0.00015	-0.0001
22-Feb-13	101																	
1-Mar-13	102	-0.00005	-0.00002	-0.002	1.07	-0.00004	0.657	-0.000005	0.083	0.0376	-3	-0.000002	-0.0002	-0.0005	0.000022	0.00055	0.00012	-0.0001
8-Mar-13	103																	
15-Mar-13	104	-0.00005	0.000022	-0.002	1.07	-0.00004	0.596	-0.000005	0.081	0.0375	-3	-0.000002	0.00022	-0.0005	0.000023	0.0004	0.00025	-0.0001
22-Mar-13	105																	
29-Mar-13	106	-0.00005	0.000024	-0.002	1.15	-0.00004	0.658	-0.000005	0.102	0.0398	-3	-0.000002	0.00096	-0.0005	0.000022	0.00049	0.00078	-0.0001
5-Apr-13	107																	
12-Apr-13	108	-0.00005	-0.00002	-0.002	1.04	-0.00004	0.544	-0.000005	0.075	0.0377	-3	-0.000002	-0.0002	0.00091	0.000023	0.00084	0.00095	-0.0001
19-Apr-13	109																	
26-Apr-13	110	-0.00005	-0.00002	-0.002	1.06	-0.00004	0.519	0.000008	0.093	0.0374	-3	-0.000002	-0.0002	-0.0005	0.000022	0.00033	0.0001	-0.0001
3-May-13	111																	
10-May-13	112	-0.00005	-0.00002	-0.002	1.07	-0.00004	0.552	-0.000005	0.104	0.0373	-3	0.000005	-0.0002	-0.0005	0.000021	0.00058	0.00015	-0.0001
17-May-13	113																	
24-May-13	114																	

HC 14

CONFIDENTIAL *DRAFT*

Sample = Blank

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L
18-Mar-11	0	500	480	7.23	-1	#N/A	2.0	1.9	3	-0.5	-0.01	-0.5	0.0014	-0.00002	-0.00002	0.00041	-0.00001	-0.000005	-0.05	-0.000005	0.1	-0.0001	-0.000005	0.00027	-0.001	0.000019	-0.0005	-0.05	0.00024	-0.01
25-Mar-11	1	500	525	7.95	2																									
1-Apr-11	2	500	475	7.92	-1	#N/A	3.1	2.6	-2	-0.5	0.02	-0.5	0.0015	-0.00002	-0.00002	0.00011	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.00071	-0.001	0.000036	-0.0005	-0.05	0.00013	-0.01
8-Apr-11	3	500	480	7.83	-1																									
15-Apr-11	4	500	475	6.49	-1	#N/A	1.9	1.7	-2	-0.5	0.01	-0.5	0.0019	-0.00002	-0.00002	0.00046	-0.00001	-0.000005	-0.05	-0.000005	0.06	-0.0001	0.000006	0.00206	-0.001	0.000011	-0.0005	-0.05	0.00025	-0.01
22-Apr-11	5	500	485	7.65	1																									
29-Apr-11	6	500	490	6.96	-1	#N/A	3.3	1.4	-2	-0.5	-0.01	-0.5	0.001	-0.00002	-0.00002	0.00015	-0.00001	-0.000005	-0.05	-0.000005	0.05	-0.0001	-0.000005	0.00108	-0.001	0.000013	-0.0005	-0.05	0.00017	-0.01
6-May-11	7	500	475	6.81	-1																									
13-May-11	8	500	465	6.61	-1	#N/A	2.4	1.6	-2	-0.5	0.01	-0.5	0.0012	-0.00002	0.00002	0.00006	-0.00001	-0.000005	-0.05	-0.000005	0.06	-0.0001	-0.000005	0.00031	-0.001	0.000006	-0.0005	-0.05	0.00009	-0.01
20-May-11	9	500	500	7.01	-1																									
27-May-11	10	500	505	7.64	-1	#N/A	3.8	2.4	-2	-0.5	-0.01	-0.5	0.0012	-0.00002	-0.00002	0.0042	-0.00001	-0.000005	-0.05	-0.000005	0.06	-0.0001	0.000009	0.00134	0.002	0.000027	-0.0005	-0.05	0.00019	-0.01
3-Jun-11	11	500	490	6.16	-1																									
10-Jun-11	12	500	510	6.00	1	#N/A	1.8	1.0	-2	0.6	-0.01	-0.5	0.0034	-0.00002	-0.00002	0.0003	-0.00001	-0.000005	-0.05	0.000009	-0.05	-0.0001	0.000021	0.00222	0.001	0.000028	-0.0005	-0.05	0.00023	-0.01
17-Jun-11	13	500	495	6.19	2																									
24-Jun-11	14	500	475	6.50	-1	#N/A	2.2	1.3	-2	-0.5	-0.01	-0.5	0.0007	-0.00002	-0.00002	0.00005	-0.00001	-0.000005	-0.05	-0.000005	0.05	-0.0001	-0.000005	0.00049	#N/A	-0.000005	-0.0005	-0.05	0.00015	-0.01
1-Jul-11	15	500	500	7.39	-1																									
8-Jul-11	16	500	480	6.47	-1	#N/A	2.1	1.0	-2	-0.5	0.02	-0.5	0.0014	-0.00002	-0.00002	0.00008	-0.00001	-0.000005	-0.05	-0.000005	0.05	-0.0001	-0.000005	0.00022	-0.001	-0.000005	-0.0005	-0.05	-0.00005	-0.02
15-Jul-11	17	500	525	7.59	-1																									
22-Jul-11	18	500	525	7.06	-1	#N/A	2.6	1.0	-2	-0.5	-0.01	-0.5	0.0019	-0.00002	-0.00002	0.00036	-0.00001	-0.000005	-0.05	-0.000005	0.05	-0.0001	0.000012	0.0011	-0.001	0.000011	-0.0005	-0.05	0.0002	-0.01
29-Jul-11	19	500	525	7.04	-1																									
5-Aug-11	20	500	525	6.66	-1	#N/A	2.5	1.2	-2	-0.5	-0.01	-0.5	0.0012	-0.00002	-0.00002	0.00046	-0.00001	-0.000005	-0.05	-0.000005	0.07	0.0002	0.00002	0.00234	-0.001	0.000006	-0.0005	-0.05	0.00024	-0.01
12-Aug-11	21	500	495	7.87	-1																									
19-Aug-11	22	500	525	7.03	-1	#N/A	2.7	1.5	-2	0.8	-0.01	-0.5	0.0011	-0.00002	-0.00002	0.00018	-0.00001	-0.000005	-0.05	0.000005	-0.05	-0.0001	0.000011	0.00114	-0.001	-0.000005	-0.0005	-0.05	0.00007	-0.01
26-Aug-11	23	500	520	7.36	-1																									
2-Sep-11	24	500	490	7.54	-1	#N/A	2.6	2.9	-2	-0.5	-0.01	-0.5	0.0006	-0.00002	-0.00002	0.0001	-0.00001	-0.000005	-0.05	0.000008	-0.05	-0.0001	-0.000005	0.0005	-0.001	-0.000005	-0.0005	-0.05	0.00007	-0.01
9-Sep-11	25	500	525	7.40	-1																									
16-Sep-11	26	500	505	6.76	-1	#N/A	2.9	2.0	-2	0.8	-0.01	-0.5	0.0009	-0.00002	-0.00002	0.00007	-0.00001	-0.000005	-0.05	#N/A	-0.05	-0.0001	0.000007	0.0002	-0.001	-0.000005	-0.0005	-0.05	0.00009	-0.01
23-Sep-11	27	500	515	6.60	-1																									
30-Sep-11	28	500	505	6.27	-1	#N/A	2.3	1.5	-2	-0.5	-0.01	-0.5	0.0015	-0.00002	-0.00002	0.00003	-0.00001	-0.000005	-0.05	0.000014	-0.05	-0.0001	-0.000005	0.00019	-0.001	-0.000005	-0.0005	-0.05	-0.00005	-0.01
7-Oct-11	29	500	505	7.16	-1																									
14-Oct-11	30	500	515	6.27	-1	#N/A	2.3	1.5	-2	-0.5	-0.01	-0.5	0.0006	-0.00002	-0.00002	0.00011	-0.00001	-0.000005	-0.05	0.000013	-0.05	-0.0001	-0.000005	0.00042	-0.001	-0.000005	-0.0005	-0.05	-0.00005	-0.01
21-Oct-11	31	500	515	7.51	-1																									
28-Oct-11	32	500	480	6.58	-1	#N/A	3.0	1.7	-2	-0.5	-0.01	-0.5	0.0031	-0.00002	-0.00002	0.0001	-0.00001	-0.000005	-0.05	0.000006	-0.05	0.0002	-0.000005	0.00049	0.008	0.000013	-0.0005	-0.05	0.00007	-0.01
4-Nov-11	33	500	505	6.69	-1																									
11-Nov-11	34	500	520	7.90	-1	#N/A	3.2	3.1	-2	-0.5	0.01	-0.5	0.001	-0.00002	-0.00002	0.00011	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.00056	-0.001	0.000012	-0.0005	-0.05	0.00006	-0.01
18-Nov-11	35	500	510	6.88	-1																									
25-Nov-11	36	500	495	7.20	-1	#N/A	2.6	2.4	-2	-0.5	-0.01	-0.5	0.0019	-0.00002	-0.00002	0.00007	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.00035	0.004	0.000015	-0.0005	-0.05	0.00013	-0.01
2-Dec-11	37	500	505	7.13	-1																									
9-Dec-11	38	500	490	6.76	-1	#N/A	2.9	1.8	-2	-0.5	-0.01	-0.5	0.0014	-0.00002	-0.00002	0.0001	-0.00001	-0.000005	-0.05	-0.000005	-0.05	0.0005	-0.000005	0.00061	0.001	0.000026	-0.0005	-0.05	0.00008	-0.01
16-Dec-11	39	500	500	7.66	-1																									
23-Dec-11	40	500	495	7.10	-1	#N/A	3.3	2.3	-2	-0.5	-0.01	-0.5	0.0187	-0.00002	-0.00002	0.00118	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.0001	0.002	0.000024	-0.0005	-0.05	0.00007	-0.01
30-Dec-11	41	500	485	7.63	-1																									
6-Jan-12	42	500	495	6.10	-1	#N/A	2.8	1.3	-2	-0.5	-0.01	-0.5	0.0004	-0.00002	-0.00002	0.00007	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.00037	-0.001	0.000006	-0.0005	-0.05	-0.00005	-0.01
13-Jan-12	43	500	490	7.33	-1																									
20-Jan-12	44	500	505	6.64	1	#N/A	2.5	2.0	-2	-0.5	-0.01	-0.5	0.0009	-0.00002	-0.00002	0.0002	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.00029	0.001	0.000013	-0.0005	-0.05	-0.00005	-0.01
27-Jan-12	45	500	500	6.81	-1																									
3-Feb-12	46	500	510	7.48	-1	#N/A	3.9	2.4	-2	-0.5	-0.01	-0.5	0.0013	-0.00002	-0.00002	0.00004	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.00021	-0.001	0.000007	-0.0005	-0.05	-0.00005	-0.01
10-Feb-12	47	500	500	7.63	-1																									
17-Feb-12	48	500	495	6.54	-1	#N/A	2.2	1.6	-2	-0.5	-0.01	-0.5	0.0015	-0.00002	0.00003	0.00007	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.00042	0.001	0.000006	-0.0005	-0.05	0.00008	-0.01
24-Feb-12	49	500	480	6.68	-1																									
2-Mar-12	50	500	495	7.40	-1	#N/A	5.1	2.6	-2	-0.5	-0.01	-0.5	0.0023	-0.00002	-0.00002	0.00011	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.00024	-0.001	0.000005	-0.0005	-0.05	0.00006	-0.01
9-Mar-12	51	500	500	7.24	-1																									
16-Mar-12	52	500	500	6.51	-1	#N/A	2.7	1.4	-2	-0.5	-0.01	-0.5	0.001	-0.00002	-0.00002	0.00009	-0.00001	-0.000005	-0.05	-0.000005	-0.05	0.0004	-0.000005	0.0008	0.001	0.000011	-0.0005	-0.05	0.0004	-0.01
23-Mar-12	53	500	495	7.39	-1																									
30-Mar-12	54	500	500	6.03	-1	#N/A	2.8	1.4	-2	-0.5	-0.01	-0.5	0.001	-0.00002	-0.00002	0.00006	-0.00001	-0.000005	-0.05	-0.000005	-0.05	0.0001	-0.000005	0.00019	0.001	0.000006	-0.0005	-0.05	0.00007	-0.01
6-Apr-12	55	500	490	6.73	-1																									
13-Apr-12	56	500	500	6.52	-1	#N/A	2.3	1.7	-2	-0.5	-0.01	-0.5	0.0006	-0.00002	-0.00002	0.00008	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.0001	-0.001	-0.000005	-0.0005	-0.05	-0.00005	-0.01
20-Apr-12	57	500	495	6.88	-1																									
27-Apr-12	58	500	500	5.89	-1	#N/A	3.2	2.4	-2	-0.5	-0.01	-0.5	0.00112	-0.00002	0.000024	0.000076	-0.00001	-0.000005	-0.05	-0.000005	-0.05	0.00014	0.000006	0.000609	-0.001	0.000021	-0.0005	-0.05	0.000075	-0.01
4-May-12	59	500	495	7.67	-1																									
11-May-12	60	500	500	6.81	-1	#N/A	3.0	1.9	-2	-0.5	-0.01	-0.5	0.00047	-0.00002	-0.00002	0.000056	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.000133	-0.001	0.000014	-0.0005	-0.05	0.000111	-0.01
18-May-12	61	500	490	6.78	-1																									
25-May-12	62	500	510	6.38	-1	#N/A	2.5	1.6	-2	-0.5	-0.01	-0.5	0.00066	-0.00002	-0.00002	0.000068	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.000435	0.0011	-0.000005	-0.0005	-0.05	0.000054	-0.01
1-Jun-12	63	500	525	6.84	-1																									
8-Jun-12	64	500	495	6.65	-1	#N/A	3.0	2.0	-2	-0.5	-0.01	-0.5	-0.0002	-0.00002	0.000024	0.00004	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	-0.00005	-0.001	-0.000005	-0.0005	-0.05	-0.00005	-0.01
15-Jun-12	65	500	500	6.86	-1																									
22-Jun-12	66	500	485	6.61	-1	#N/A	3.5	2.1	-2	-0.5	-0.01	-0.5	0.00062	-0.00002	-0.00002	0.000085	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.000146	-0.001	0.0000059	-0.0005	-0.05	0.000059	-0.01

HC 14

Sample = Blank

Date	Cycle No.	Mo	Ni	P	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
18-Mar-11	0	0.00011	0.00014	-0.002	-0.05	-0.00004	-0.1	-0.000005	0.06	0.00021	-10	-0.000002	0.00003	-0.0005	-0.000002	-0.0002	0.0018	-0.0001
25-Mar-11	1																	
1-Apr-11	2	-0.00005	0.0001	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-10	-0.000002	0.00009	-0.0005	-0.000002	-0.0002	0.0005	-0.0001
8-Apr-11	3																	
15-Apr-11	4	-0.00005	0.00011	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	0.00011	-10	-0.000002	0.00012	-0.0005	-0.000002	-0.0002	0.001	-0.0001
22-Apr-11	5																	
29-Apr-11	6	-0.00005	0.00008	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	0.0001	-10	-0.000002	0.00007	-0.0005	-0.000002	-0.0002	0.0006	-0.0001
6-May-11	7																	
13-May-11	8	-0.00005	0.00009	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	0.00009	-10	-0.000002	0.00005	-0.0005	-0.000002	-0.0002	0.0003	-0.0001
20-May-11	9																	
27-May-11	10	-0.00005	0.00021	-0.002	0.07	-0.00004	-0.1	-0.000005	0.08	0.00013	-10	-0.000002	0.00008	-0.0005	-0.000002	-0.0002	0.0012	-0.0001
3-Jun-11	11																	
10-Jun-11	12	0.0001	0.00006	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	0.00013	-10	-0.000002	0.00003	-0.0005	-0.000002	-0.0002	0.0013	-0.0001
17-Jun-11	13																	
24-Jun-11	14	-0.00005	0.00013	-0.002	-0.05	-0.00004	-0.1	-0.000005	0.08	0.0001	-10	-0.000002	0.00001	-0.0005	-0.000002	-0.0002	-0.0001	-0.0001
1-Jul-11	15																	
8-Jul-11	16	-0.00005	0.00005	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	0.00006	-10	-0.000002	-0.00001	-0.0005	-0.000002	-0.0002	0.0002	-0.0001
15-Jul-11	17																	
22-Jul-11	18	-0.00005	0.00016	-0.002	-0.05	-0.00004	-0.1	0.000007	0.07	0.00015	-10	-0.000002	0.00002	-0.0005	-0.000002	-0.0002	0.0013	-0.0001
29-Jul-11	19																	
5-Aug-11	20	-0.00005	0.00015	-0.002	-0.05	-0.00004	-0.1	0.000008	0.06	0.00026	-10	-0.000002	0.00004	-0.0005	-0.000002	-0.0002	#N/A	-0.0001
12-Aug-11	21																	
19-Aug-11	22	-0.00005	0.00004	-0.002	-0.05	-0.00004	-0.1	0.000007	-0.05	0.0001	-10	-0.000002	-0.00001	-0.0005	-0.000002	0.0004	0.0009	-0.0001
26-Aug-11	23																	
2-Sep-11	24	-0.00005	0.00003	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-10	-0.000002	0.00002	-0.0005	-0.000002	-0.0002	0.0004	-0.0001
9-Sep-11	25																	
16-Sep-11	26	-0.00005	-0.00002	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-10	-0.000002	0.00001	-0.0005	-0.000002	-0.0002	0.0004	-0.0001
23-Sep-11	27																	
30-Sep-11	28	-0.00005	-0.00002	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-10	-0.000002	#N/A	-0.0005	-0.000002	-0.0002	0.0002	-0.0001
7-Oct-11	29																	
14-Oct-11	30	-0.00005	-0.00002	-0.002	-0.05	-0.00004	-0.1	0.000006	0.05	-0.00005	-10	-0.000002	0.00001	-0.0005	-0.000002	-0.0002	0.0008	-0.0001
21-Oct-11	31																	
28-Oct-11	32	-0.00005	0.00005	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-10	-0.000002	0.00031	-0.0005	-0.000002	-0.0002	0.0003	-0.0001
4-Nov-11	33																	
11-Nov-11	34	-0.00005	0.0001	-0.002	-0.05	-0.00004	-0.1	-0.000005	0.06	0.00008	-10	-0.000002	0.00012	-0.0005	-0.000002	-0.0002	0.0003	-0.0001
18-Nov-11	35																	
25-Nov-11	36	-0.00005	0.00012	-0.002	-0.05	-0.00004	-0.1	-0.000005	0.06	0.00008	-10	-0.000002	0.00015	-0.0005	-0.000002	-0.0002	0.0004	-0.0001
2-Dec-11	37																	
9-Dec-11	38	-0.00005	0.00011	-0.002	-0.05	-0.00004	-0.1	-0.000005	0.06	0.00009	-10	-0.000002	0.00012	-0.0005	-0.000002	-0.0002	0.0002	-0.0001
16-Dec-11	39																	
23-Dec-11	40	-0.00005	0.00005	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	0.00047	-10	-0.000002	-0.00001	-0.0005	-0.000002	-0.0002	0.0004	-0.0001
30-Dec-11	41																	
6-Jan-12	42	-0.00005	-0.00002	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-10	-0.000002	0.00014	-0.0005	-0.000002	-0.0002	0.0003	-0.0001
13-Jan-12	43																	
20-Jan-12	44	-0.00005	0.00016	-0.002	-0.05	-0.00004	-0.1	-0.000005	0.08	0.00007	-10	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.0006	-0.0001
27-Jan-12	45																	
3-Feb-12	46	-0.00005	0.00002	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-10	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.0002	-0.0001
10-Feb-12	47																	
17-Feb-12	48	-0.00005	0.00007	-0.002	-0.05	-0.00004	-0.1	-0.000005	0.05	-0.00005	-10	-0.000002	-0.0002	-0.0005	-0.000002	0.0003	0.0001	-0.0001
24-Feb-12	49																	
2-Mar-12	50	-0.00005	0.00002	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-10	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.0001	-0.0001
9-Mar-12	51																	
16-Mar-12	52	-0.00005	0.00017	-0.002	-0.05	-0.00004	-0.1	-0.000005	0.14	0.00024	-10	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.0006	-0.0001
23-Mar-12	53																	
30-Mar-12	54	-0.00005	0.00017	-0.002	-0.05	-0.00004	-0.1	-0.000005	0.09	0.00007	-10	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.0006	-0.0001
6-Apr-12	55																	
13-Apr-12	56	-0.00005	-0.00002	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-10	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.0001	-0.0001
20-Apr-12	57																	
27-Apr-12	58	-0.00005	#N/A	-0.002	-0.05	-0.00004	-0.1	-0.000005	0.065	0.000069	-10	-0.000002	0.0003	-0.0005	-0.000002	0.00062	0.00094	-0.0001
4-May-12	59																	
11-May-12	60	-0.00005	0.00011	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	0.000087	-10	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.0003	-0.0001
18-May-12	61																	
25-May-12	62	-0.00005	0.000122	-0.002	-0.05	-0.00004	-0.1	-0.000005	0.072	0.000052	-10	-0.000002	0.00025	-0.0005	-0.000002	-0.0002	0.00043	-0.0001
1-Jun-12	63																	
8-Jun-12	64	-0.00005	-0.00002	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-10	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.00012	-0.0001
15-Jun-12	65																	
22-Jun-12	66	-0.00005	0.000029	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-10	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.00057	-0.0001

HC 14

CONFIDENTIAL *DRAFT*

Sample = Blank

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L
29-Jun-12	67	500	495	7.12	-1																									
6-Jul-12	68	500	490	6.71	-1	#N/A	3.8	2.2	-2	-0.5	-0.01	-0.5	0.00058	-0.00002	-0.00002	0.000046	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.000289	-0.001	-0.000005	-0.0005	-0.05	-0.00005	-0.01
13-Jul-12	69	500	500	6.98	-1																									
20-Jul-12	70	500	495	6.76	-1	#N/A	3.3	1.5	-2	-0.5	-0.01	-0.5	#N/A	-0.00002	-0.00002	0.000046	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.000163	0.0011	-0.000005	-0.0005	-0.05	-0.00005	-0.01
27-Jul-12	71	500	490	7.79	-1																									
3-Aug-12	72	500	490	7.00	-1	#N/A	2.9	1.7	-2	-0.5	-0.01	-0.5	0.00096	-0.00002	-0.00002	0.00011	-0.00001	0.000007	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.000832	0.0022	0.000059	-0.0005	-0.05	0.000133	-0.01
10-Aug-12	73	500	500	7.00	-1																									
17-Aug-12	74	500	500	6.54	-1	#N/A	3.5	2.3	-2	-0.5	-0.01	-0.5	0.0019	-0.00002	-0.00002	0.000139	-0.00001	-0.000005	-0.05	0.000006	-0.05	-0.0001	-0.000005	0.00197	0.0081	0.0034	-0.0005	-0.05	0.000118	-0.01
24-Aug-12	75	500	485	7.31	-1																									
31-Aug-12	76	500	500	6.95	-1	#N/A	3.3	2.4	-2	-0.5	-0.01	-0.5	0.00061	-0.00002	-0.00002	0.000047	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.000575	0.0022	0.000006	-0.0005	-0.05	-0.00005	-0.01
7-Sep-12	77	500	470	6.67	-1																									
14-Sep-12	78	500	495	6.01	-1	#N/A	2.5	1.4	-2	-0.5	-0.01	-0.5	0.00044	-0.00002	-0.00002	0.000116	-0.00001	-0.000005	-0.05	-0.000005	-0.05	0.00069	-0.000005	0.000553	-0.001	0.000008	-0.0005	-0.05	-0.00005	-0.01
21-Sep-12	79	500	500	6.99	-1																									
28-Sep-12	80	500	490	6.13	-1	#N/A	1.8	1.7	-2	-0.5	-0.01	-0.5	0.00074	-0.00002	-0.00002	0.000529	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.000442	0.0013	0.000008	-0.0005	-0.05	0.000053	-0.01
5-Oct-12	81	500	490	7.81	-1																									
12-Oct-12	82	500	515	6.82	-1	#N/A	3.5	1.7	-2	-0.5	-0.01	-0.5	0.00039	-0.00002	-0.00002	0.000078	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.000542	-0.001	0.000005	-0.0005	-0.05	-0.00005	-0.01
19-Oct-12	83	500	505	7.23	-1																									
26-Oct-12	84	500	500	6.40	-1	#N/A	2.8	1.8	-2	-0.5	-0.01	-0.5	0.00044	-0.00002	-0.00002	0.000057	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.000138	-0.001	0.000007	-0.0005	-0.05	-0.00005	-0.01
2-Nov-12	85	500	505	6.99	-1																									
9-Nov-12	86	500	510	7.17	-1	#N/A	3.9	2.4	-2	-0.5	-0.01	-0.5	0.00022	-0.00002	-0.00002	0.000088	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.000063	-0.001	0.000006	-0.0005	-0.05	-0.00005	-0.01
16-Nov-12	87	500	495	6.72	-1																									
23-Nov-12	88	500	495	7.05	-1	#N/A	3.1	2.5	-2	-0.5	0.01	-0.5	0.00024	-0.00002	-0.00002	0.00107	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.000346	-0.001	0.000012	-0.0005	-0.05	0.000097	-0.01
30-Nov-12	89	500	510	6.61	-1																									
7-Dec-12	90	500	490	7.77	-1	#N/A	3.9	3.2	-2	-0.5	-0.01	-0.5	-0.0002	-0.00002	-0.00002	0.000214	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.000593	0.0024	0.000009	-0.0005	-0.05	0.000068	-0.01
14-Dec-12	91	500	500	8.06	-1																									
21-Dec-12	92	500	490	7.07	-1	#N/A	3.2	1.7	-2	-0.5	-0.01	-0.5	0.00249	-0.00002	-0.00002	0.000086	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	0.000011	0.000138	0.0022	0.000013	-0.0005	-0.05	0.000055	-0.01
28-Dec-12	93	500	485	7.12	-1																									
4-Jan-13	94	500	505	7.65	-1	#N/A	3.2	3.0	-2	0.6	0.019	-0.5	0.00038	-0.00002	-0.00002	0.000081	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.000116	-0.001	-0.000005	-0.0005	-0.05	-0.00005	-0.01
11-Jan-13	95	500	510	7.22	-1																									
18-Jan-13	96	500	485	7.04	-1	#N/A	2.0	1.7	-2	-0.5	-0.01	-0.5	0.00045	-0.00002	-0.00002	0.000039	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.000091	-0.001	0.000007	-0.0005	-0.05	-0.00005	-0.01
25-Jan-13	97	500	490	7.13	-1																									
1-Feb-13	98	500	490	7.59	-1	#N/A	3.0	1.9	-2	-0.5	0.011	-0.5	0.0005	-0.00002	0.000024	0.000068	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.000168	-0.001	0.000036	-0.0005	-0.05	-0.00005	-0.01
8-Feb-13	99	500	515	8.08	-1																									
15-Feb-13	100	500	505	6.52	-1	#N/A	2.7	2.0	-2	-0.5	-0.01	-0.5	0.00039	-0.00002	-0.00002	0.000032	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	-0.00005	-0.001	-0.000005	-0.0005	-0.05	-0.00005	-0.01
22-Feb-13	101	500	485	7.98	-1																									
1-Mar-13	102	500	495	7.53	-1	#N/A	3.8	3.0	-2	-0.5	-0.01	-0.5	-0.0002	-0.00002	-0.00002	0.00003	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	-0.00005	-0.001	0.000006	-0.0005	-0.05	-0.00005	-0.01
8-Mar-13	103	500	490	7.13	-1																									
15-Mar-13	104	500	490	7.04	-1	#N/A	3.6	2.5	-2	-0.5	-0.01	-0.5	-0.0002	-0.00002	-0.00002	0.000048	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	-0.00005	-0.001	-0.000005	-0.0005	-0.05	-0.00005	-0.01
22-Mar-13	105	500	495	7.64	-1																									
29-Mar-13	106	500	495	6.46	-1	#N/A	2.3	1.9	-2	-0.5	-0.01	-0.5	-0.0002	-0.00002	-0.00002	0.000028	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	-0.00005	-0.001	-0.000005	-0.0005	-0.05	-0.00005	-0.01
5-Apr-13	107	500	490	7.53	-1																									
12-Apr-13	108	500	485	7.71	-1	#N/A	3.5	3.1	-2	-0.5	-0.01	-0.5	0.00023	-0.00002	0.000021	0.000025	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.000162	-0.001	-0.000005	-0.0005	-0.05	-0.00005	-0.01
19-Apr-13	109	500	495	7.75	-1																									
26-Apr-13	110	500	485	6.61	-1	#N/A	3.7	1.6	-2	-0.5	-0.01	-0.5	0.00077	-0.00002	-0.00002	0.000144	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.000095	-0.001	-0.000005	-0.0005	-0.05	-0.00005	-0.01
3-May-13	111	500	500	7.56	-1																									
10-May-13	112	500	485	6.61	-1	#N/A	3.4	1.9	-2	-0.5	-0.01	-0.5	-0.0002	-0.00002	-0.00002	0.000031	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	-0.00005	-0.001	-0.000005	-0.0005	-0.05	-0.00005	-0.01
17-May-13	113	500	490	8.02	-1																									
24-May-13	114	500	495	6.76	-1	#N/A	3.6	1.6	-2																					

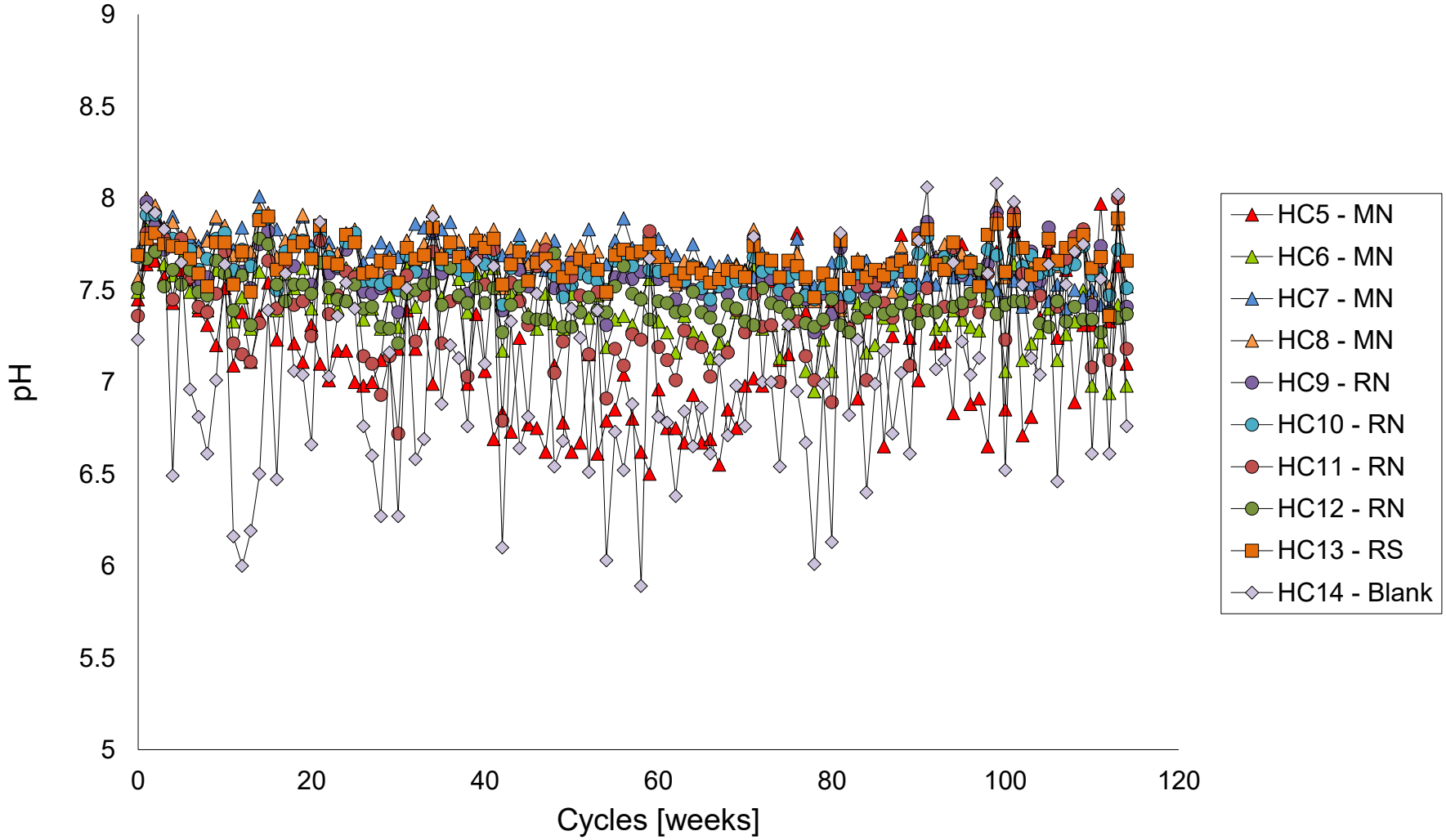
June 24/11 Fe 0.014, repeat =0.009, data confirmed suspect contamination
June 10/11 Cu 0.00222. Repeat =0.00224 data confirmed, keep result.
Sept 30/11 Sn=0.0006, repeat=0.0003. data confirmed, suspect contamination
Aug 5/11 Zn=0.0015, repeat=0.0015. Data confirmed, suspect contamination
Sept 16/11 Cd=0.000021, repeat=0.00002. data confirmed, suspect contamination
Sept 2/11 Hardness=-10, repeat= -0.5. data accepted
Apr 27/12 As=0.000047, Ni=0.000543 repeat Ni=0.000573. Data confirmed, suspect contamination. Repeat As=0.000024. data accepted
Aug 3/12 Cl=25, repeat=<0.5
Jul 20/12 Al=0.0227, repeat=0.0264. Data confirmed, suspect contamination or analytical error
Aug 17/12 Cu=0.00197, Pb=0.0034, Sn=0.00119. repeat Cu=0.00208, Pb=0.00337, Sn=0.00215. Data confirmed suspect contamination
Dec 7/12 Ni=0.00145, repeat= 0.000051, data accepted

HC 14

Sample = Blank

Date	Cycle No.	Mo	Ni	P	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
29-Jun-12	67																	
6-Jul-12	68	-0.00005	0.000021	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-10	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	-0.0001	-0.0001
13-Jul-12	69																	
20-Jul-12	70	-0.00005	0.000133	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-10	-0.000002	-0.0002	-0.0005	-0.000002	0.00025	0.0011	-0.0001
27-Jul-12	71																	
3-Aug-12	72	-0.00005	0.000066	-0.002	-0.05	-0.00004	-0.1	-0.000005	0.084	0.00013	-10	-0.000002	0.00022	-0.0005	-0.000002	-0.0002	0.0009	-0.0001
10-Aug-12	73																	
17-Aug-12	74	0.000065	0.000062	-0.002	-0.05	-0.00004	-0.1	-0.000005	0.052	-0.00005	-10	-0.000002	0.00119	-0.0005	-0.000002	-0.0002	0.00142	-0.0001
24-Aug-12	75																	
31-Aug-12	76	-0.00005	0.000053	-0.002	-0.05	-0.00004	-0.1	-0.000005	0.051	-0.00005	-10	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.00024	-0.0001
7-Sep-12	77																	
14-Sep-12	78	-0.00005	0.000063	0.0021	-0.05	-0.00004	-0.1	0.000005	0.069	0.000062	-10	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.00025	-0.0001
21-Sep-12	79																	
28-Sep-12	80	-0.00005	0.00006	-0.002	-0.05	-0.00004	-0.1	-0.000005	0.055	0.000587	-10	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.00016	-0.0001
5-Oct-12	81																	
12-Oct-12	82	-0.00005	-0.00002	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-10	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.00012	-0.0001
19-Oct-12	83																	
26-Oct-12	84	-0.00005	-0.00002	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-10	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.00041	-0.0001
2-Nov-12	85																	
9-Nov-12	86	-0.00005	0.00003	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-3	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.00047	-0.0001
16-Nov-12	87																	
23-Nov-12	88	-0.00005	0.000325	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	0.00006	-3	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.00162	-0.0001
30-Nov-12	89																	
7-Dec-12	90	-0.00005	0.000051	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-3	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.00119	-0.0001
14-Dec-12	91																	
21-Dec-12	92	-0.00005	0.000031	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-3	-0.000002	0.00033	-0.0005	-0.000002	-0.0002	0.00087	-0.0001
28-Dec-12	93																	
4-Jan-13	94	-0.00005	0.000063	-0.002	-0.05	-0.00004	-0.1	-0.000005	0.062	0.000096	-3	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.00021	-0.0001
11-Jan-13	95																	
18-Jan-13	96	-0.00005	0.000076	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-3	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.00052	-0.0001
25-Jan-13	97																	
1-Feb-13	98	-0.00005	0.000047	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-3	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.00034	-0.0001
8-Feb-13	99																	
15-Feb-13	100	-0.00005	0.000063	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-3	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.00033	-0.0001
22-Feb-13	101																	
1-Mar-13	102	-0.00005	-0.00002	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-3	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.00022	-0.0001
8-Mar-13	103																	
15-Mar-13	104	-0.00005	0.000024	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-3	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.00049	-0.0001
22-Mar-13	105																	
29-Mar-13	106	-0.00005	-0.00002	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-3	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.00019	-0.0001
5-Apr-13	107																	
12-Apr-13	108	-0.00005	-0.00002	-0.002	-0.05	-0.00004	-0.1	0.000006	-0.05	-0.00005	-3	-0.000002	-0.0002	0.00064	-0.000002	0.00086	0.00013	-0.0001
19-Apr-13	109																	
26-Apr-13	110	-0.00005	0.000035	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-3	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.00039	-0.0001
3-May-13	111																	
10-May-13	112	-0.00005	0.000031	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-3	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.0002	-0.0001
17-May-13	113																	
24-May-13	114																	

Appendix D5
Phase V/VI HCT Results: Charts- Release Rates



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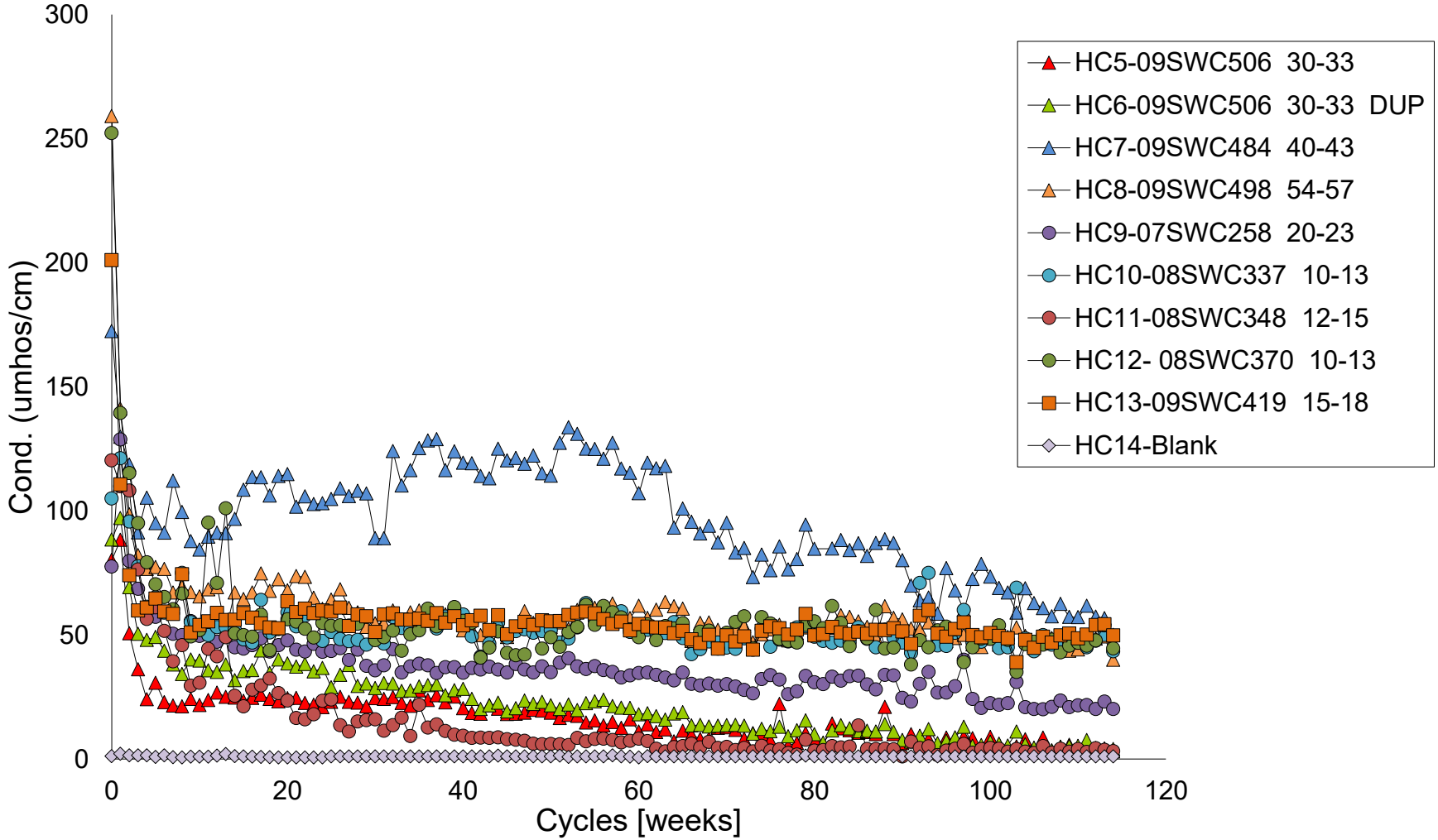

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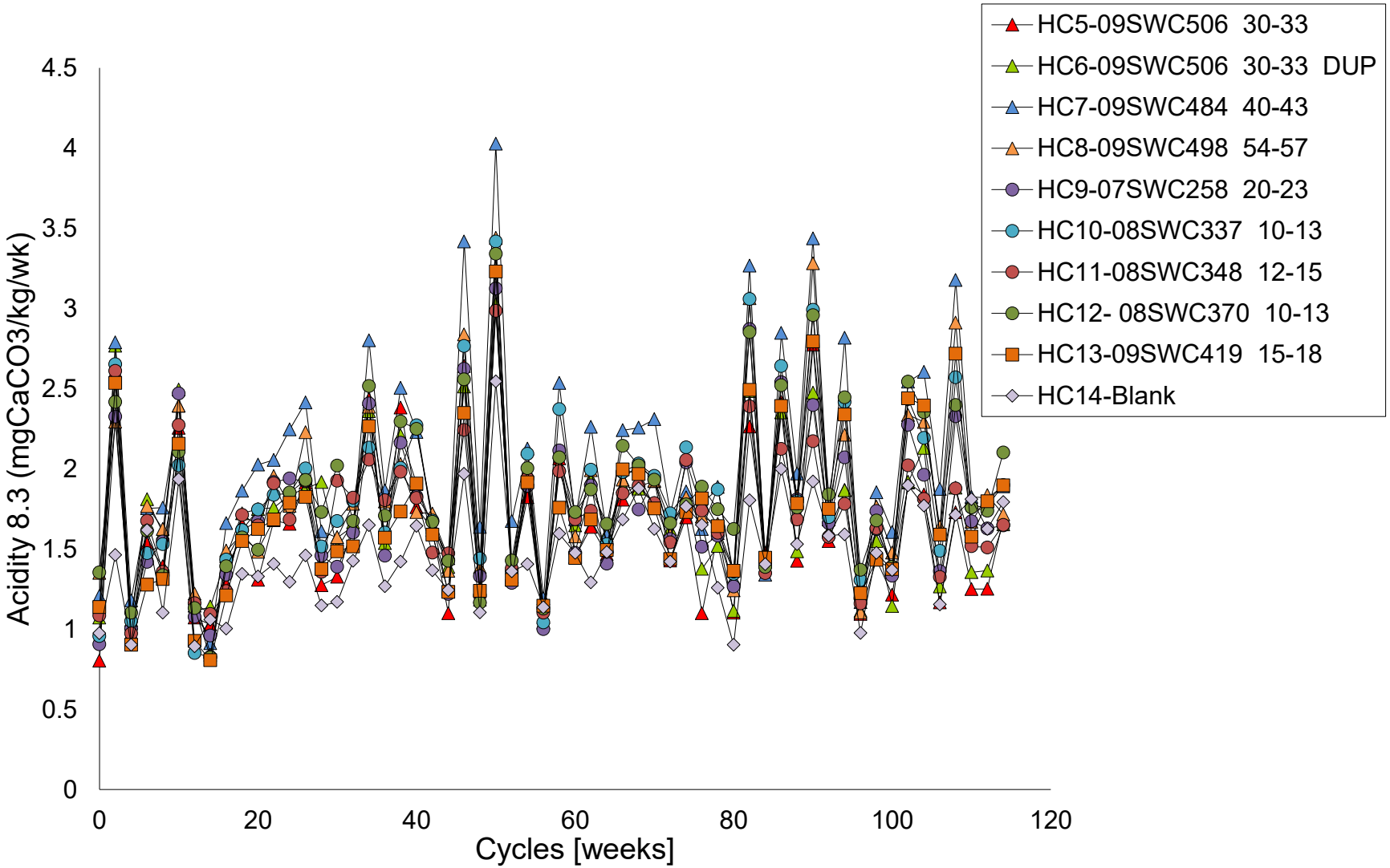

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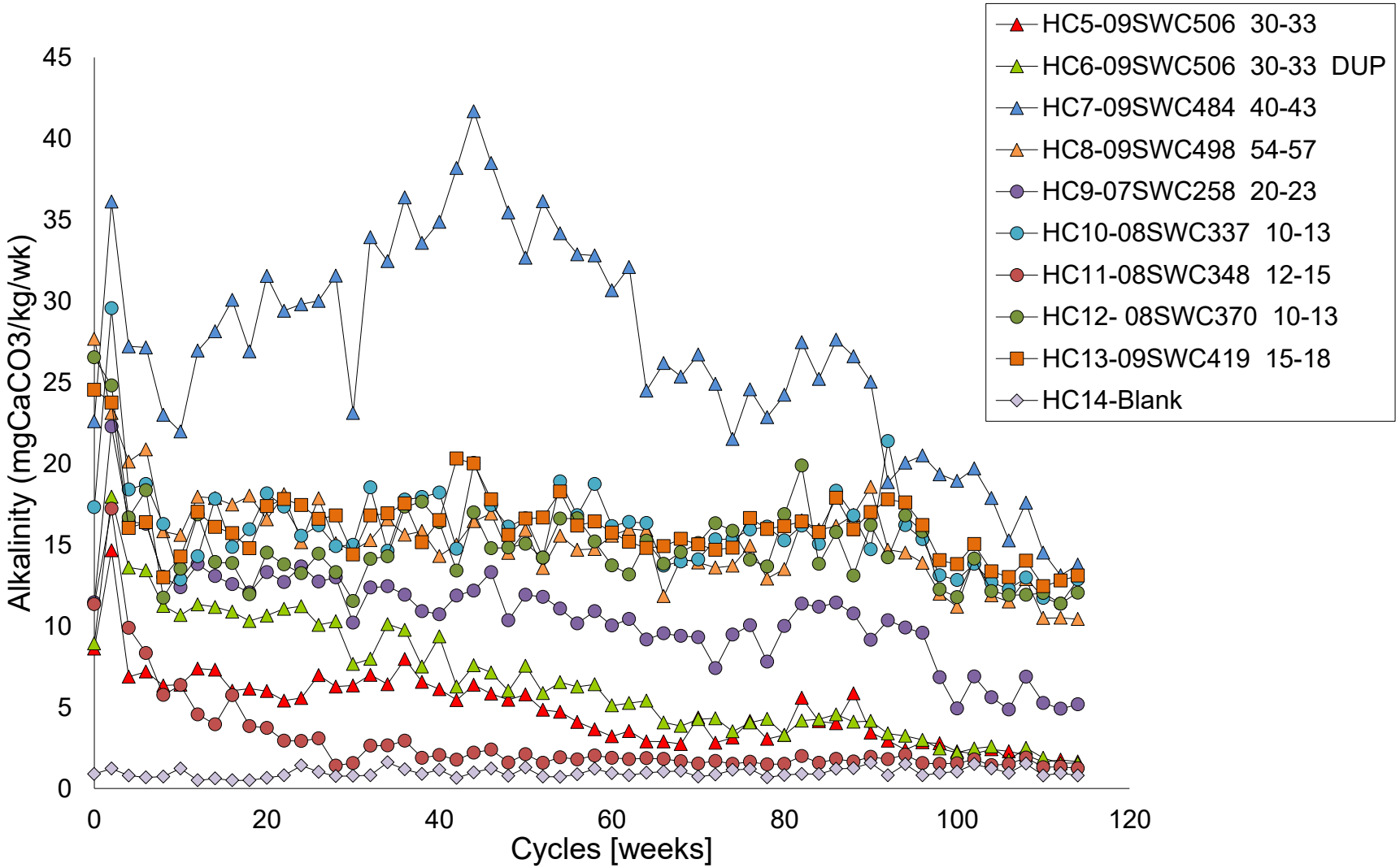

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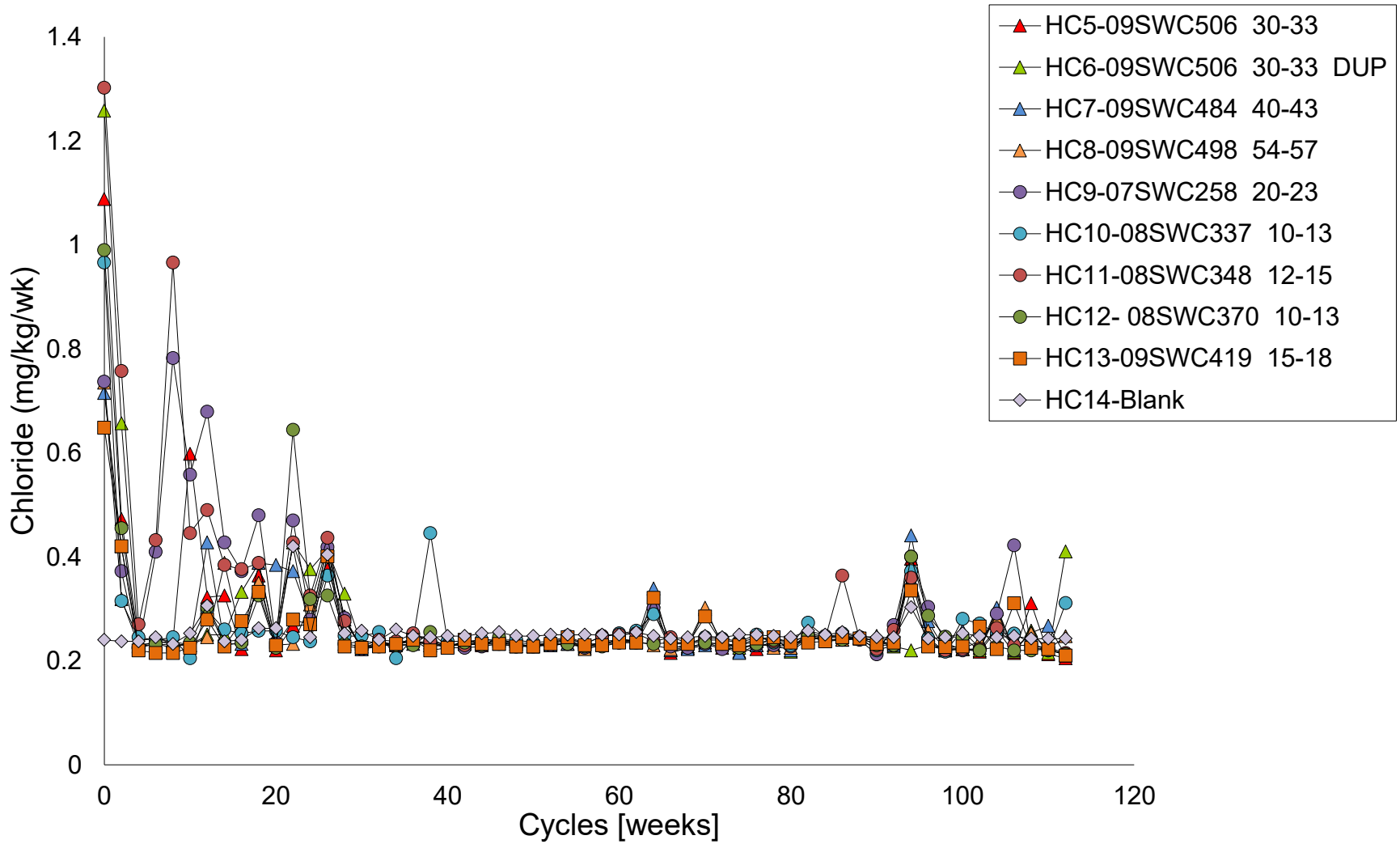

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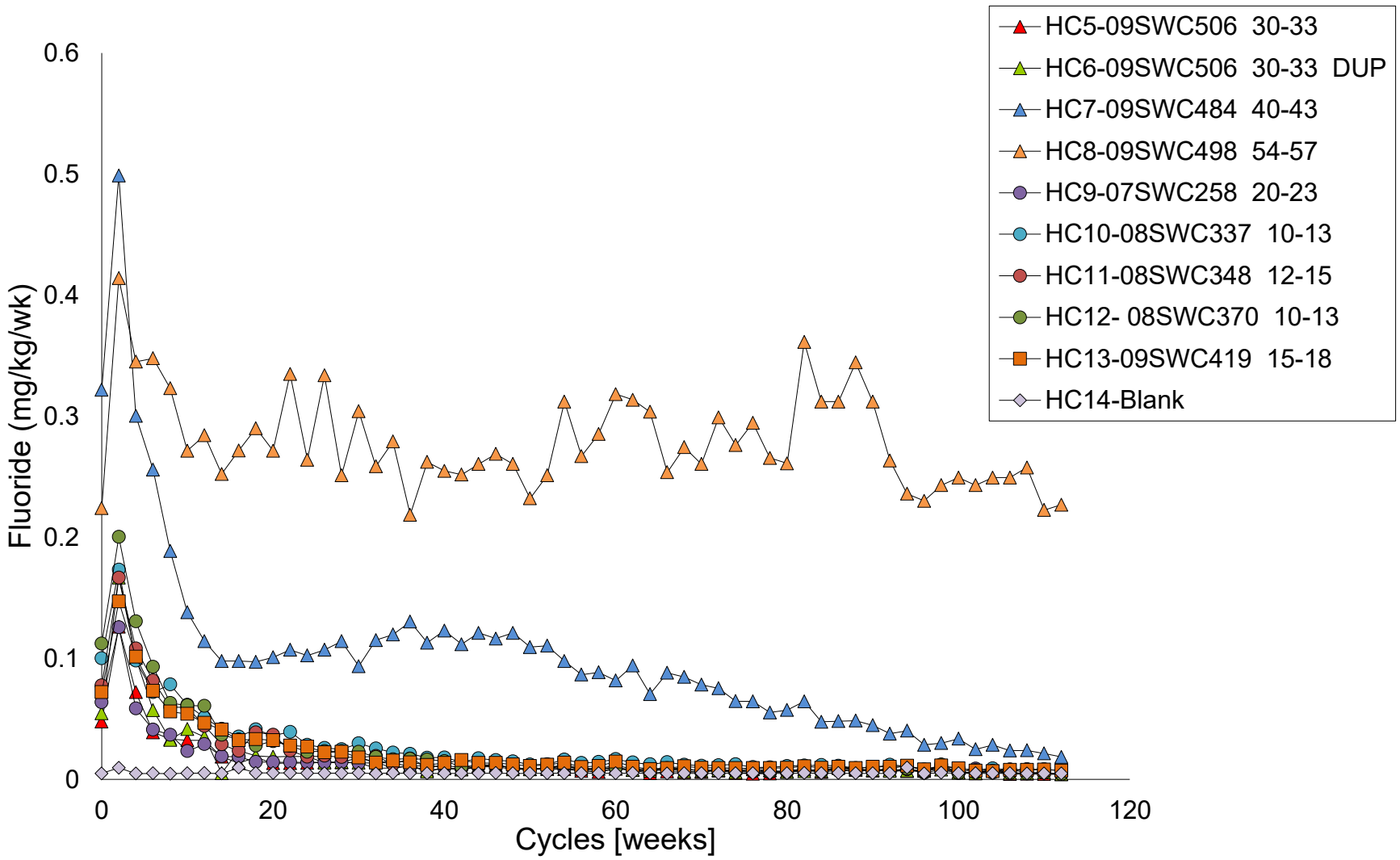

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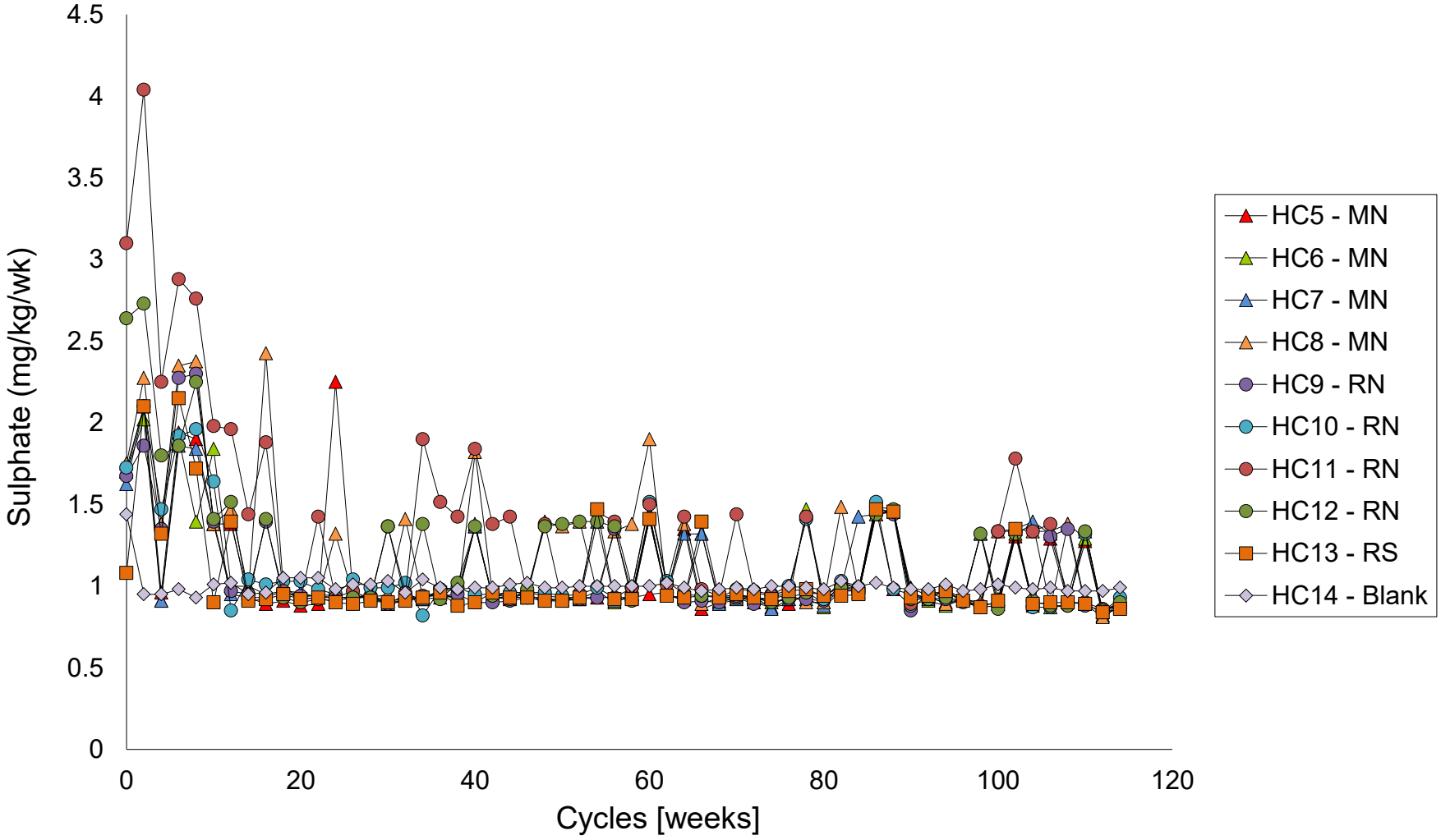

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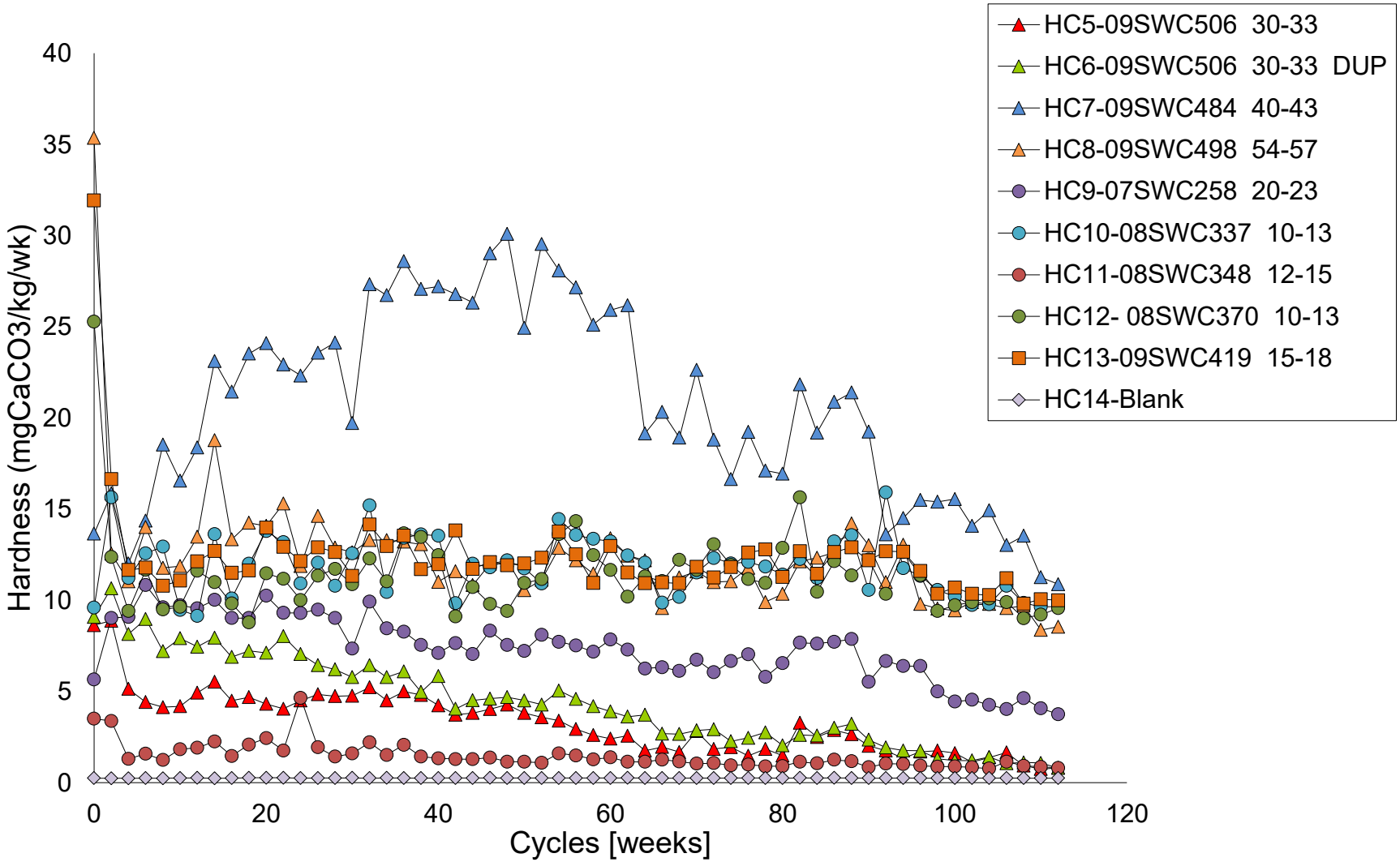

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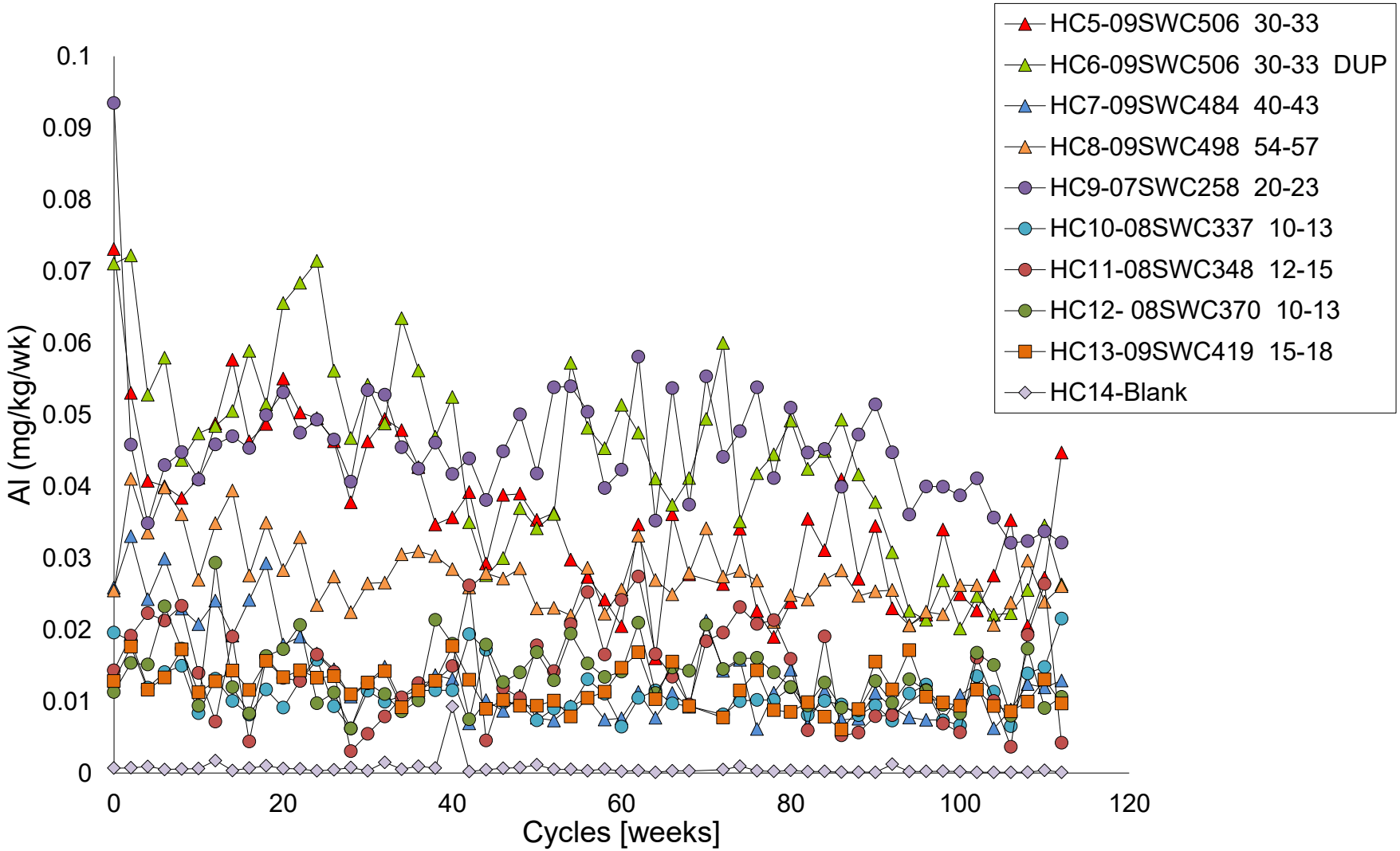

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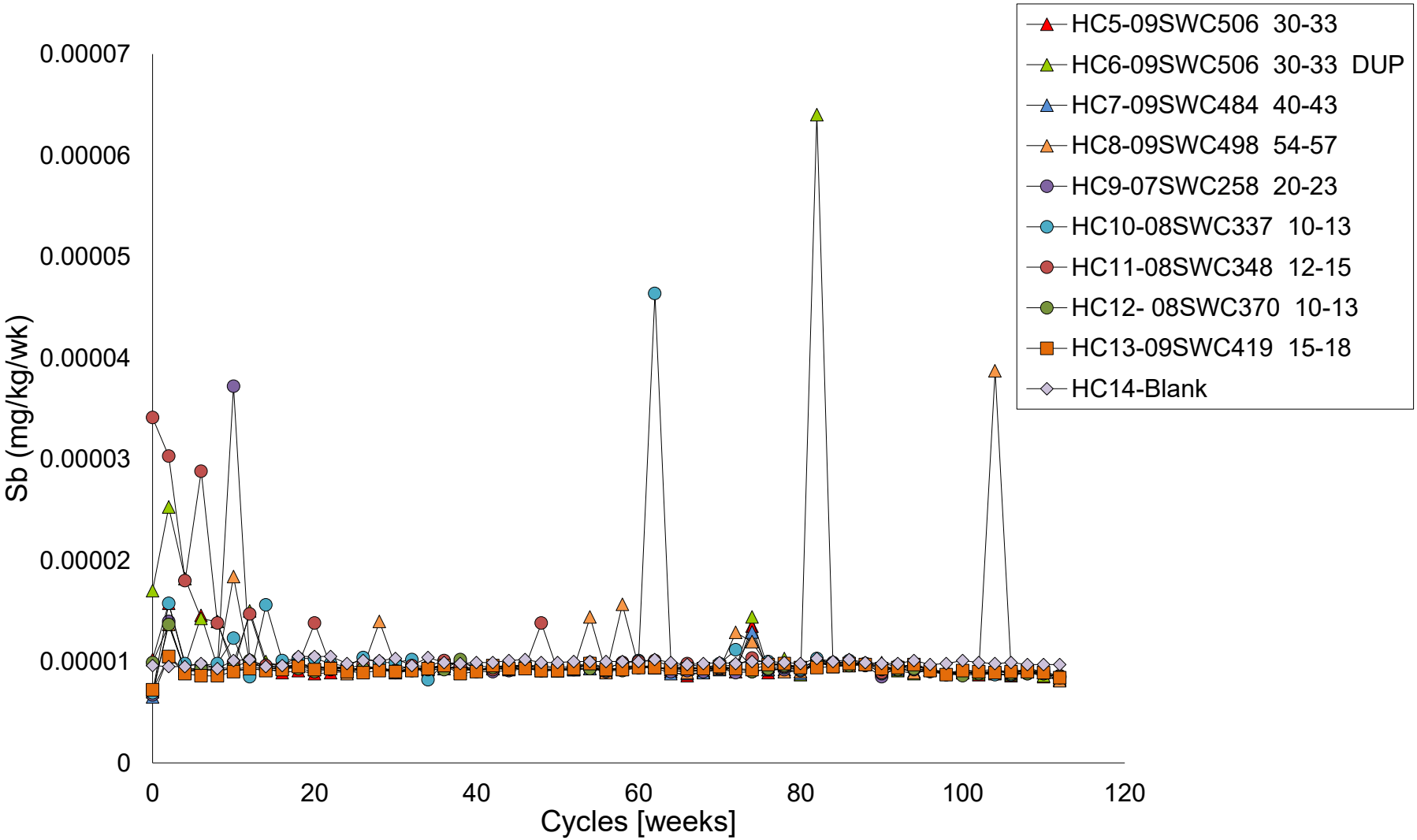

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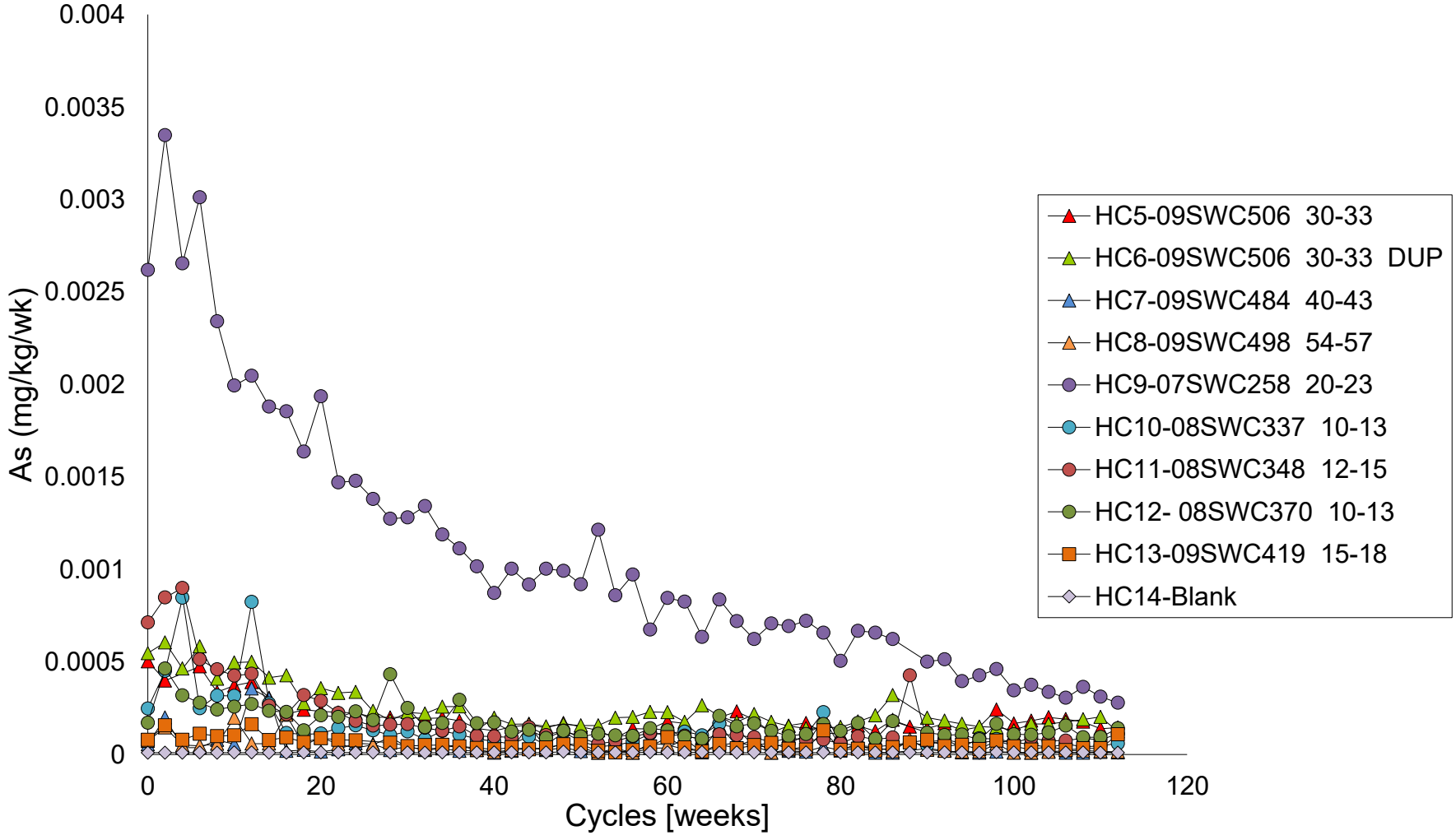

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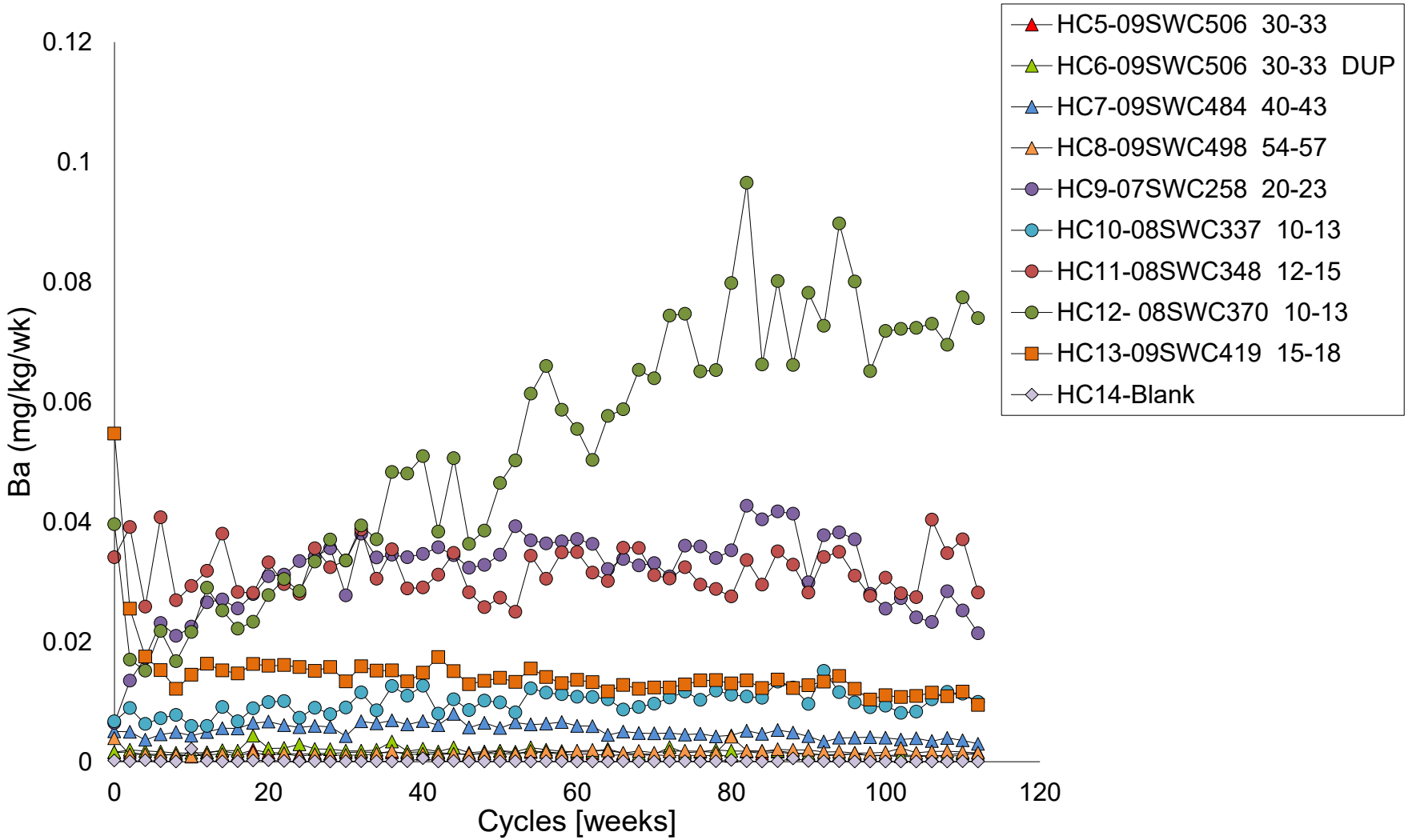

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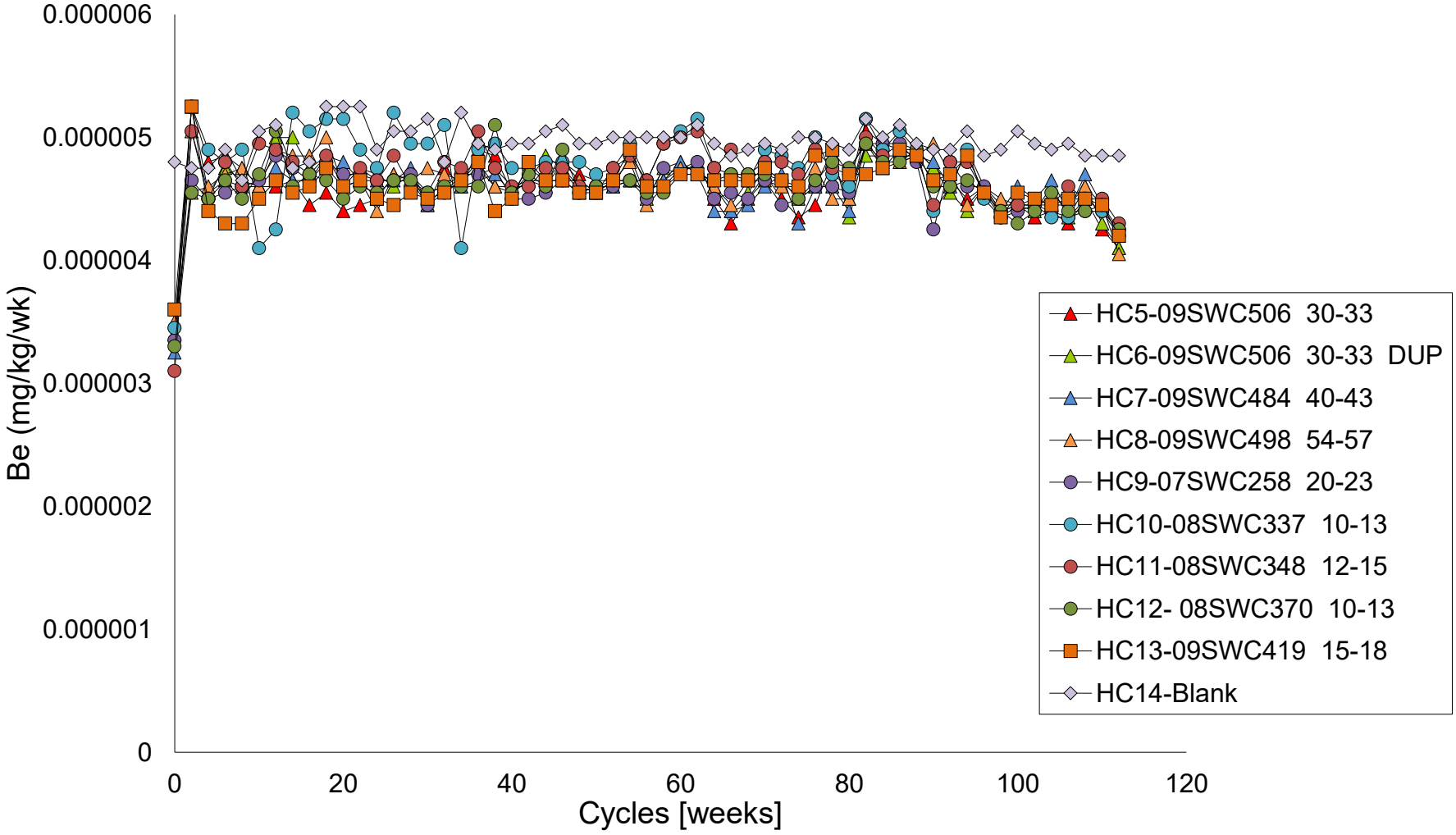

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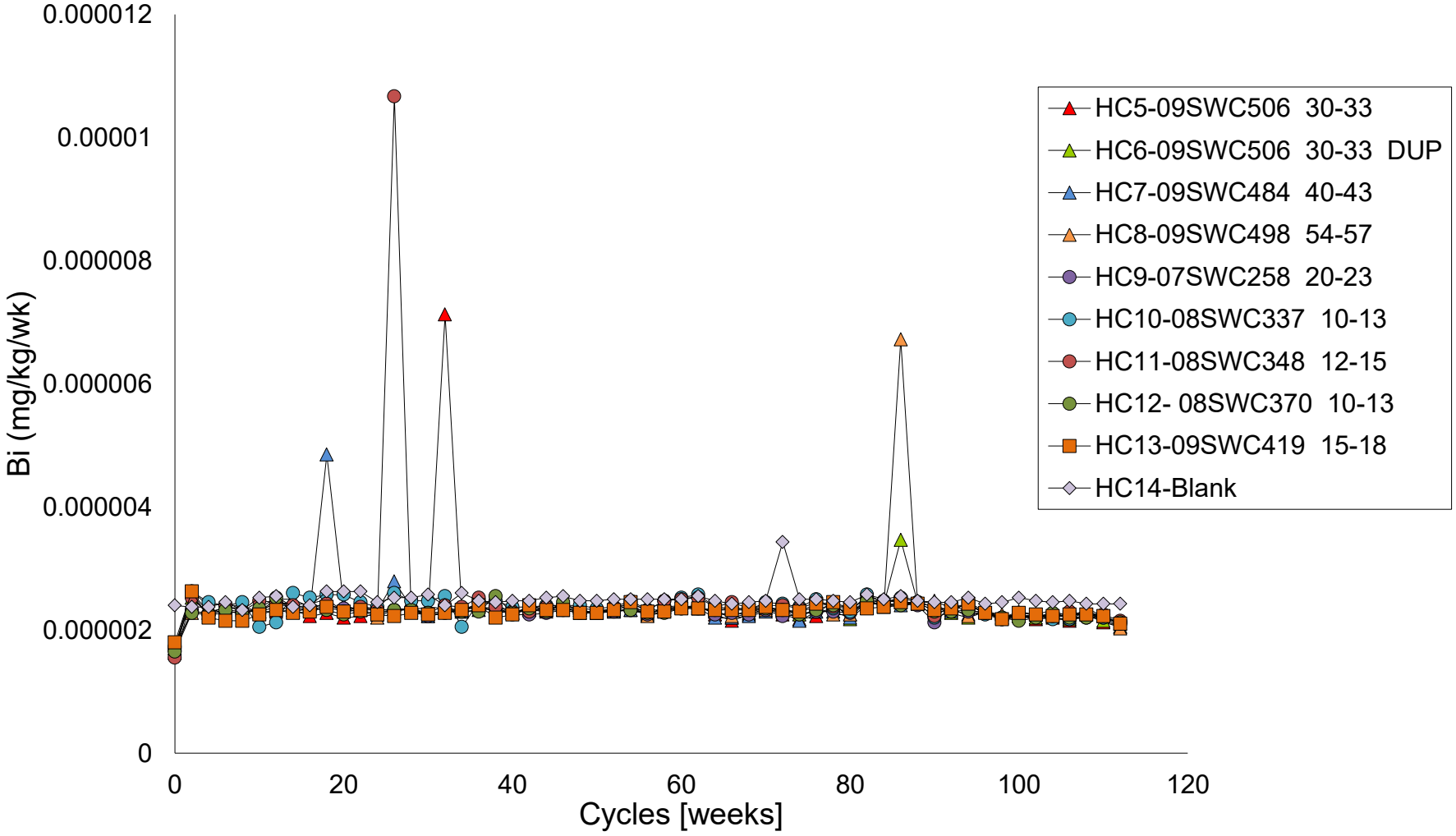

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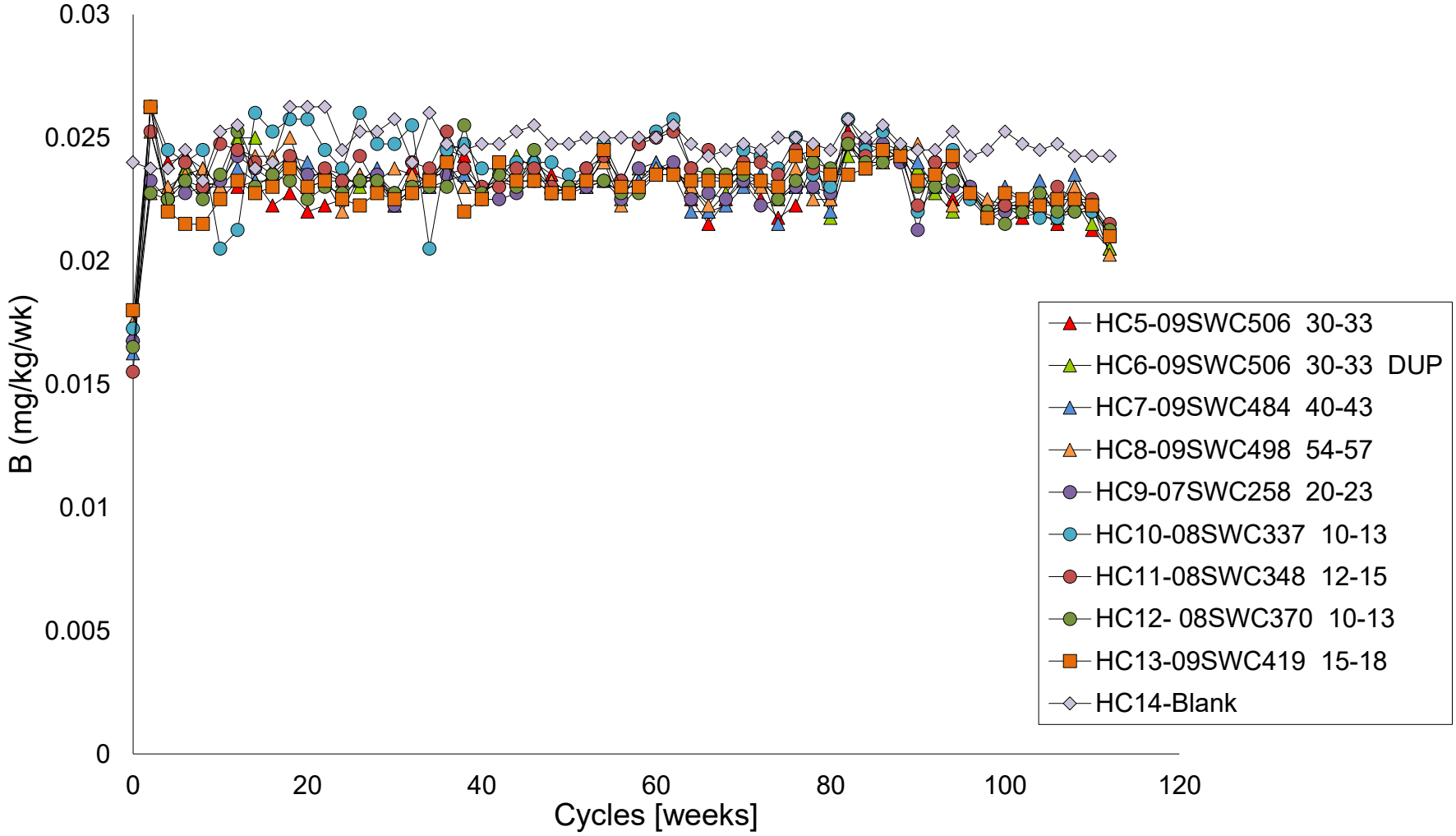

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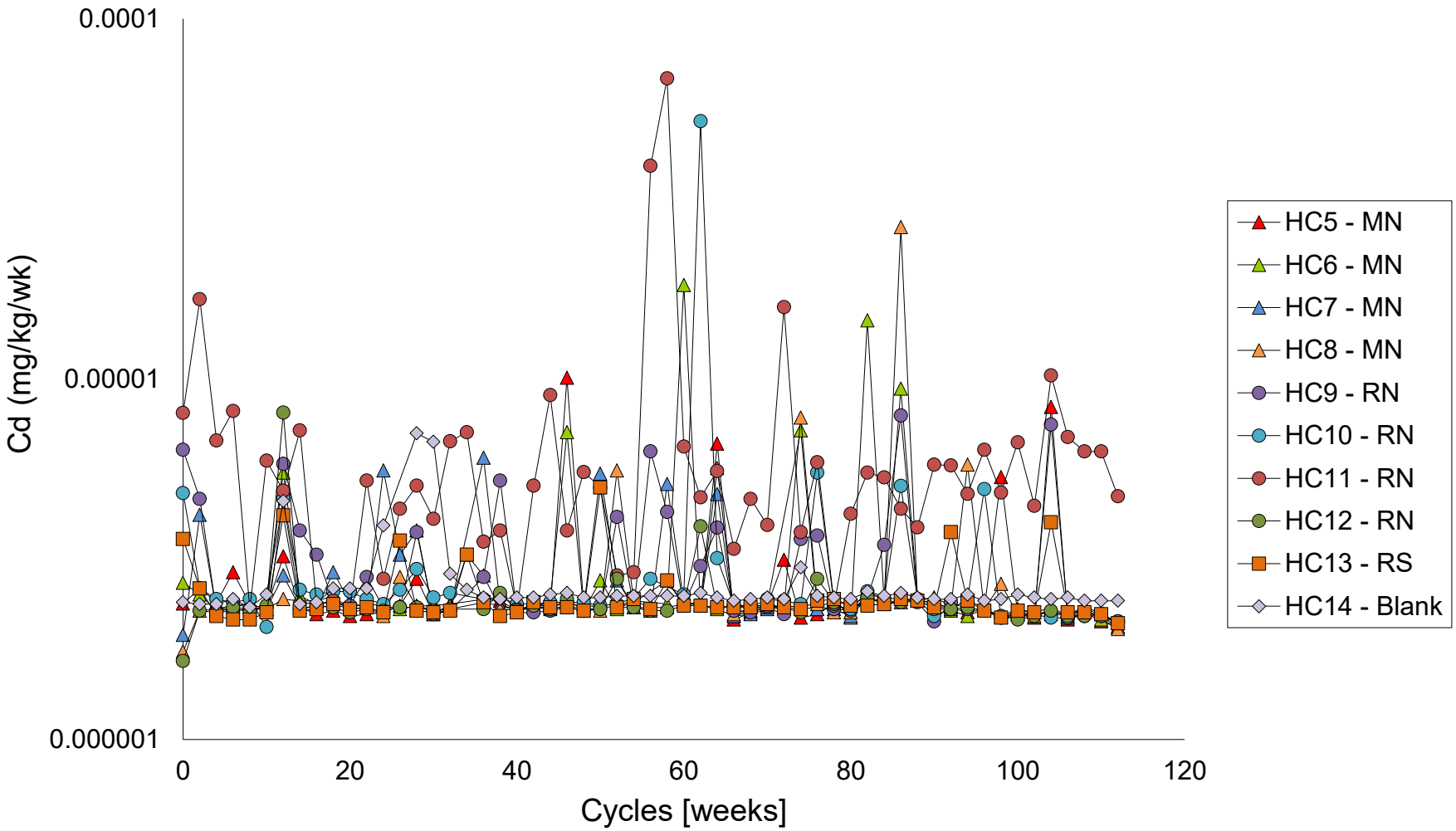

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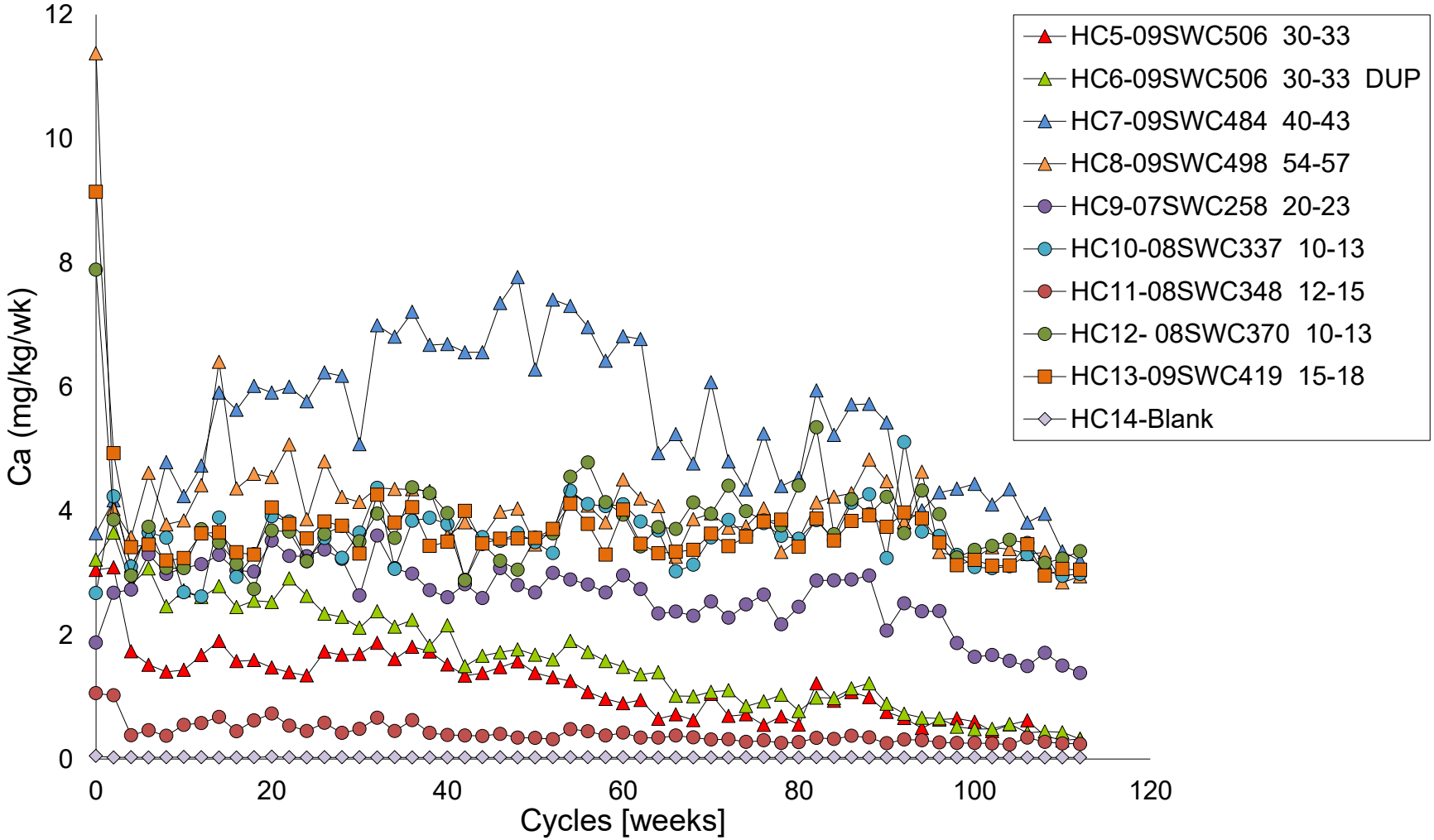

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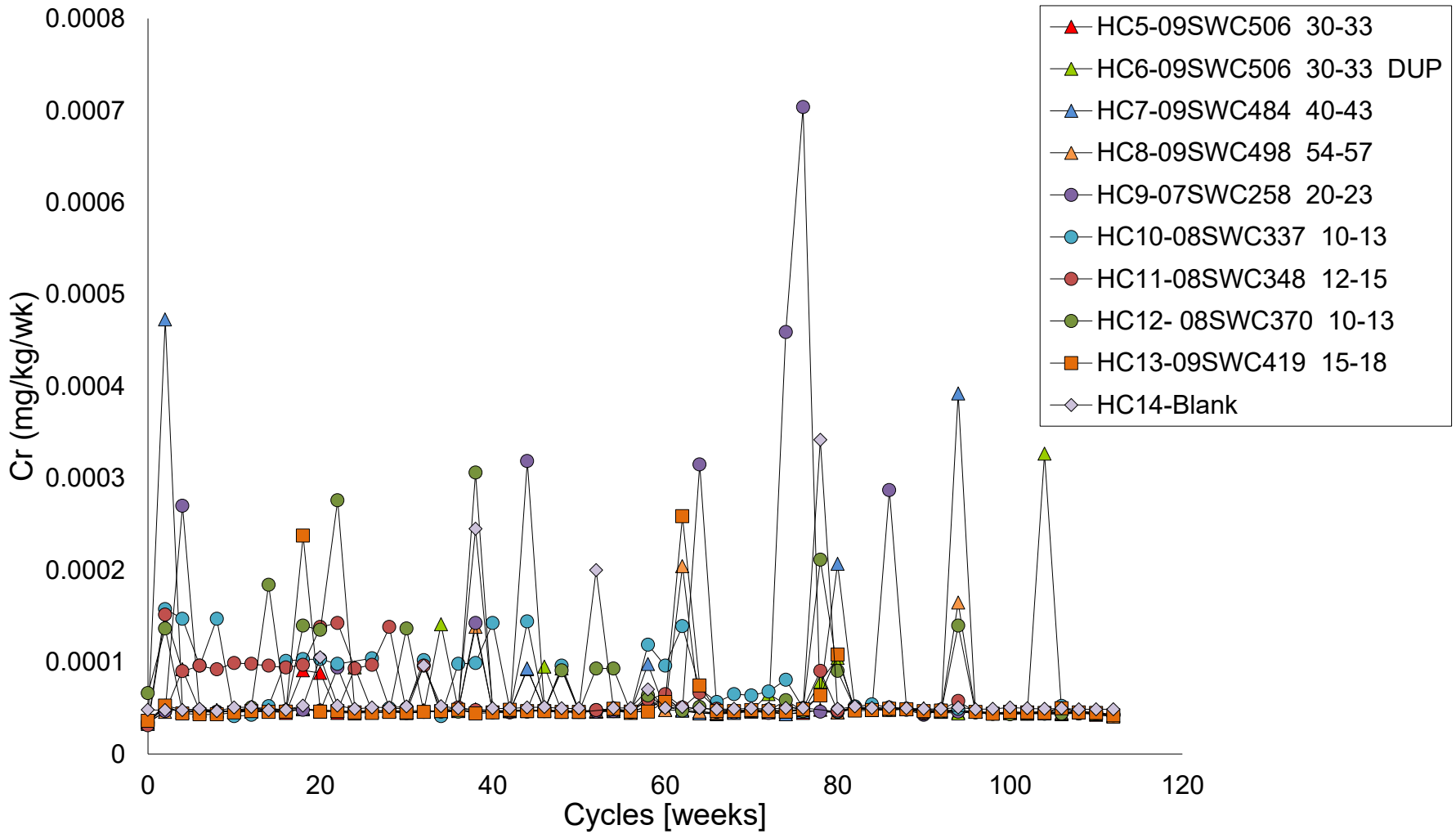

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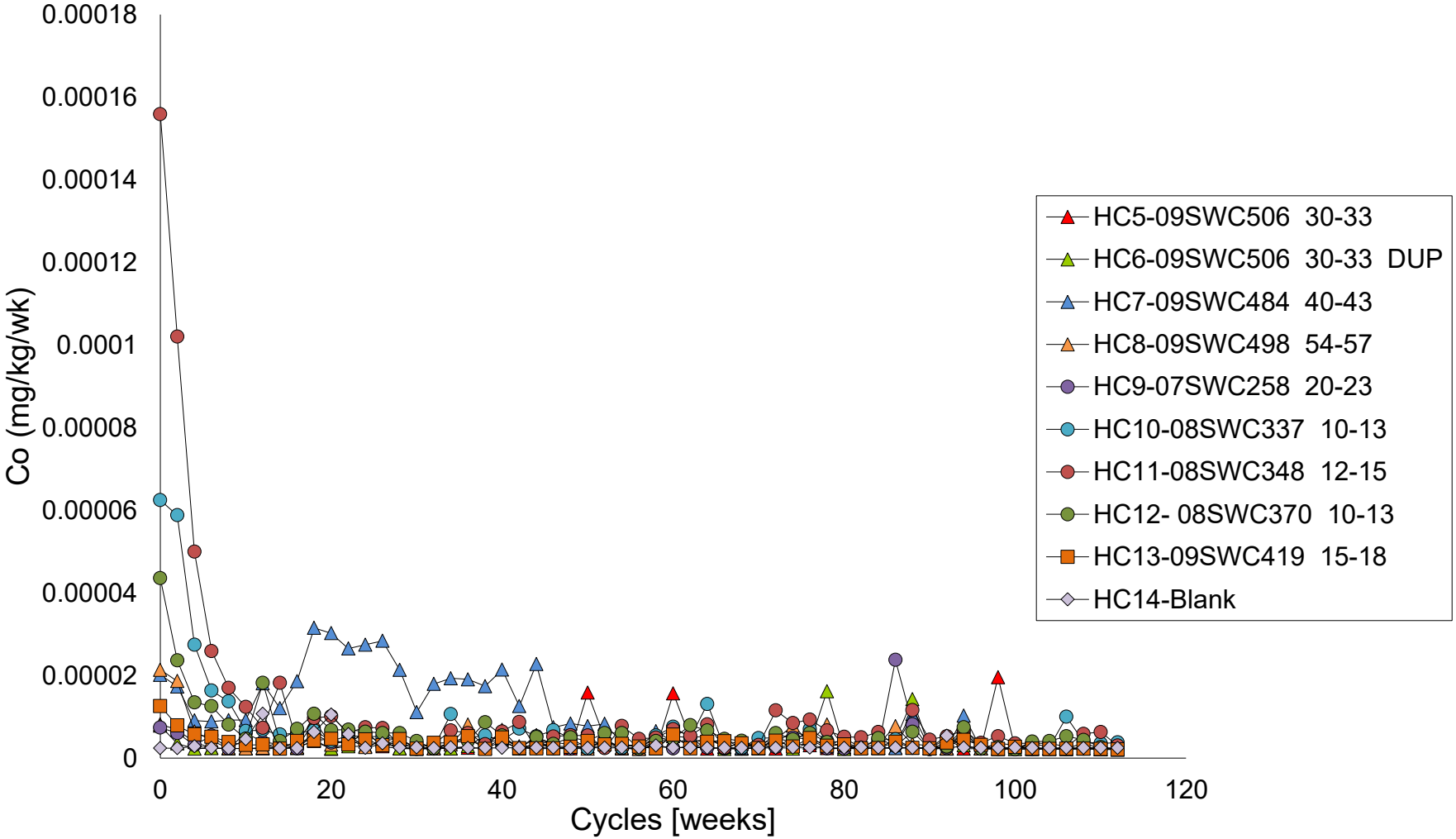

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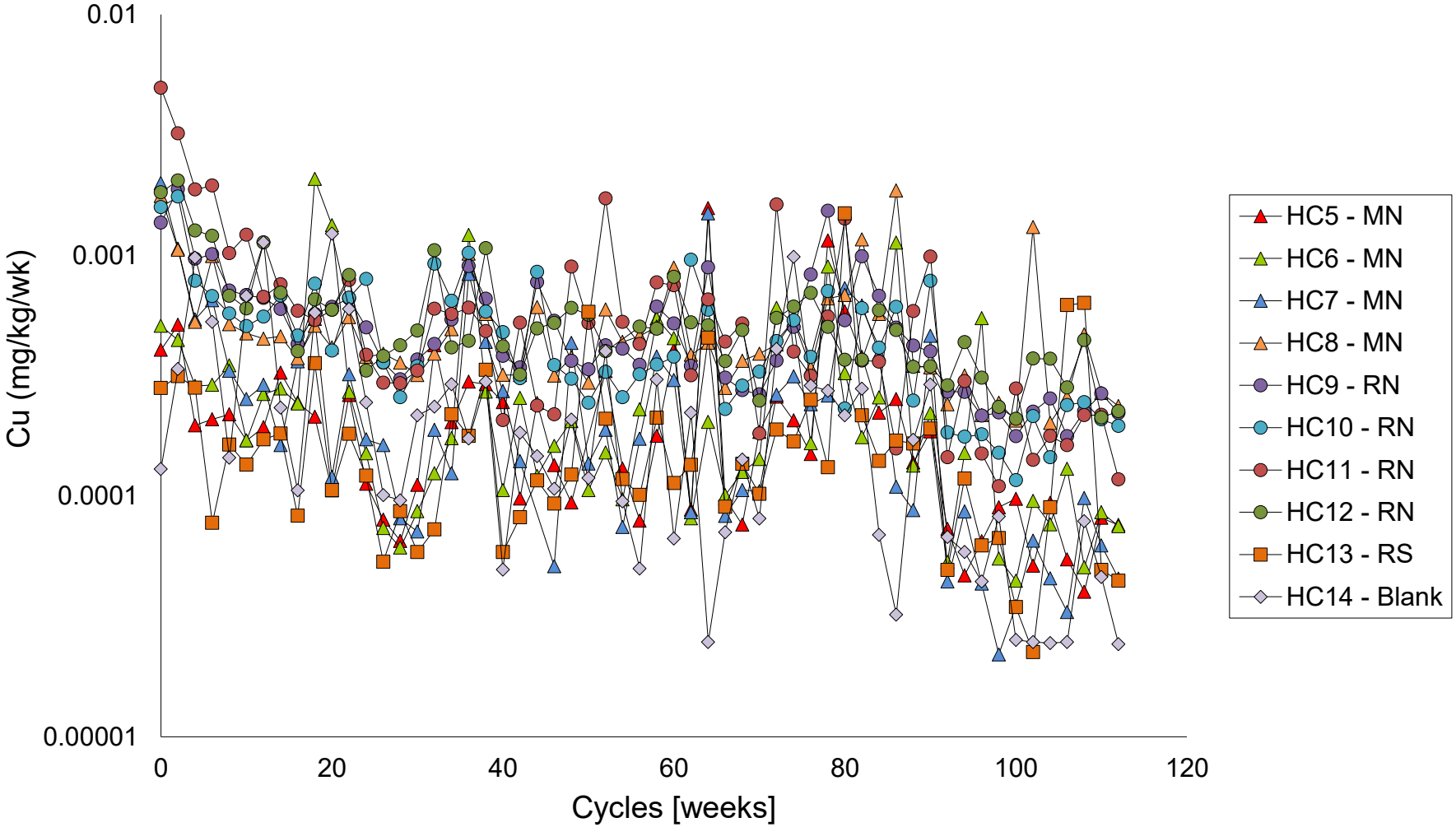

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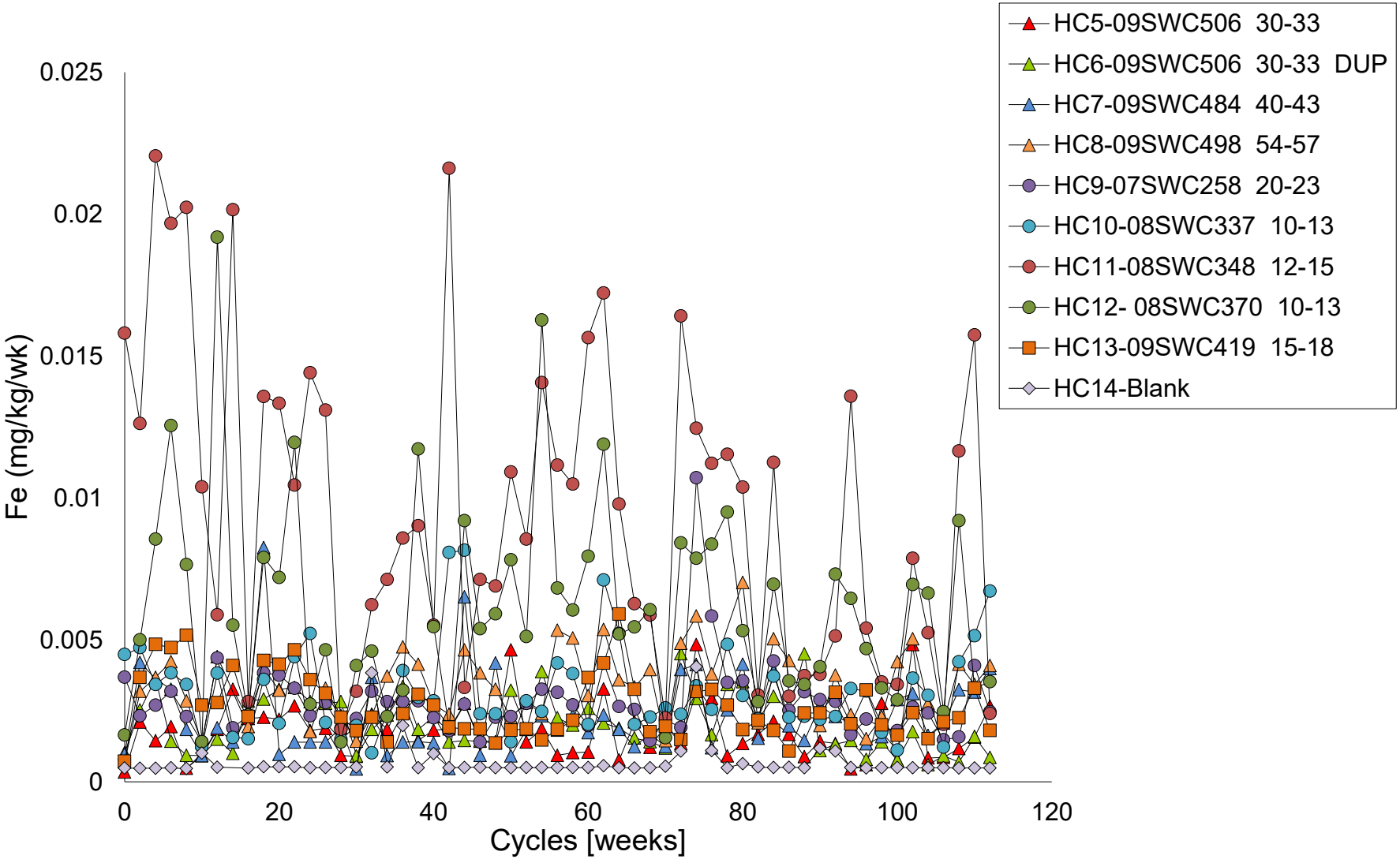

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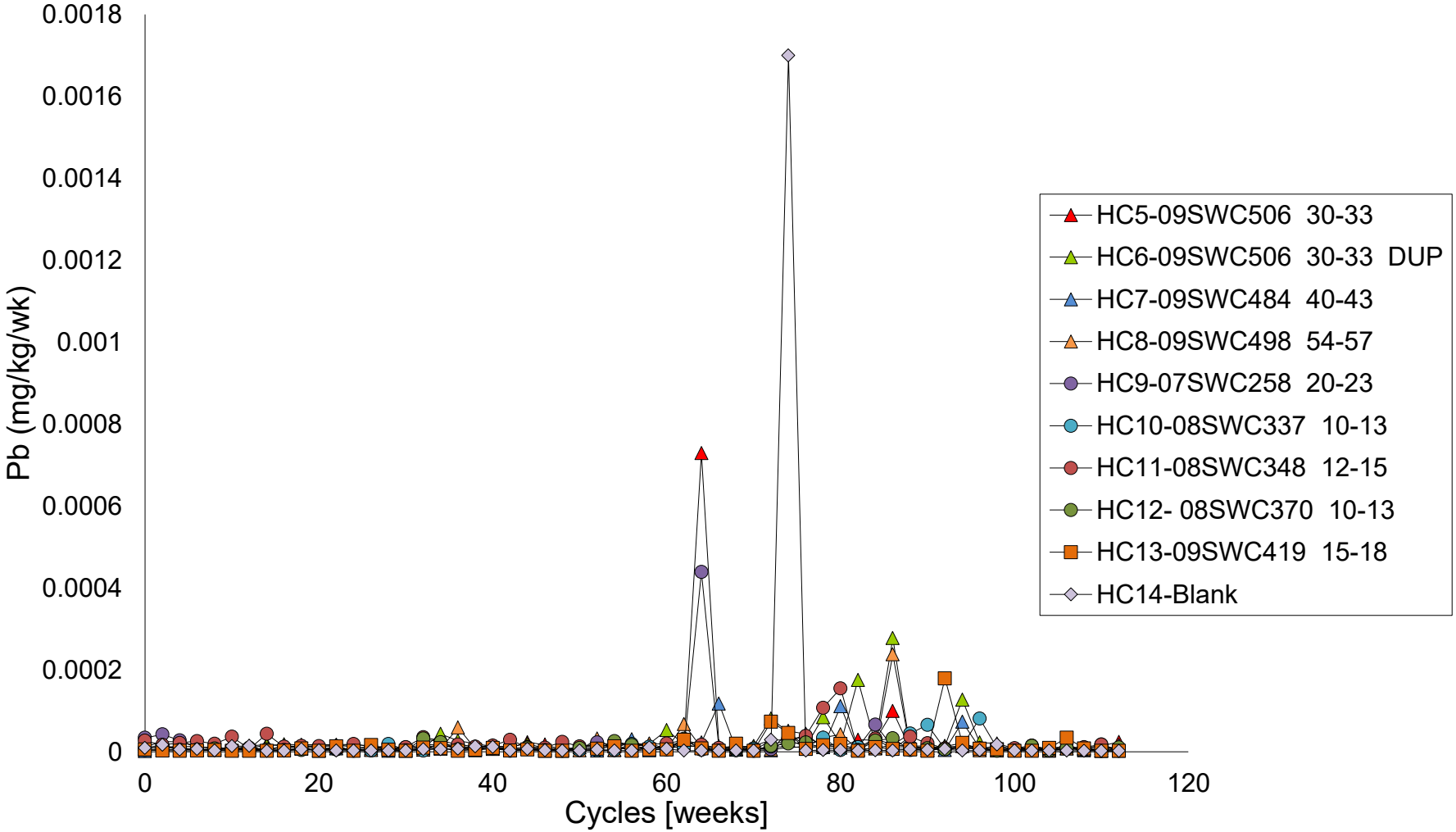

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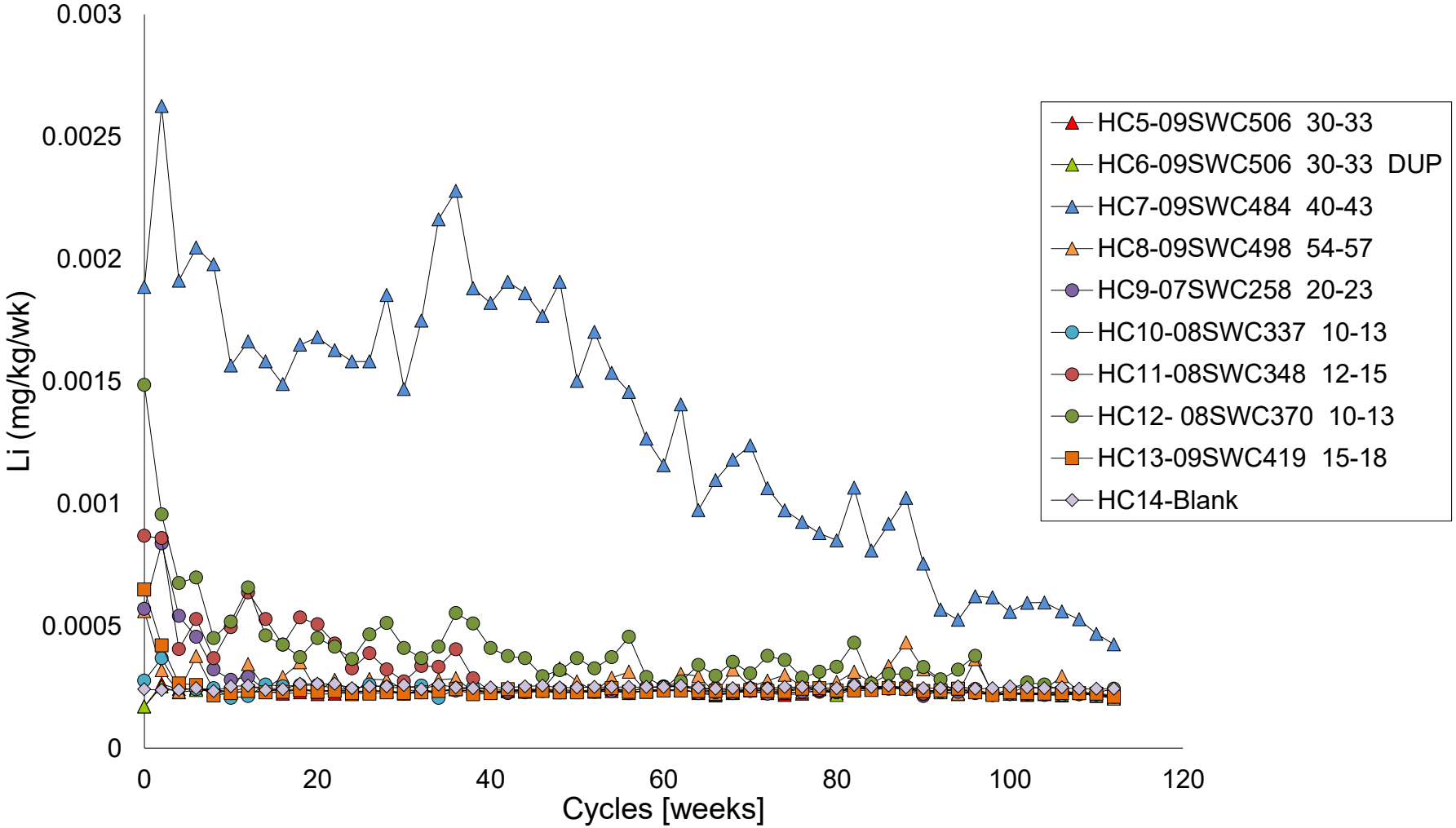

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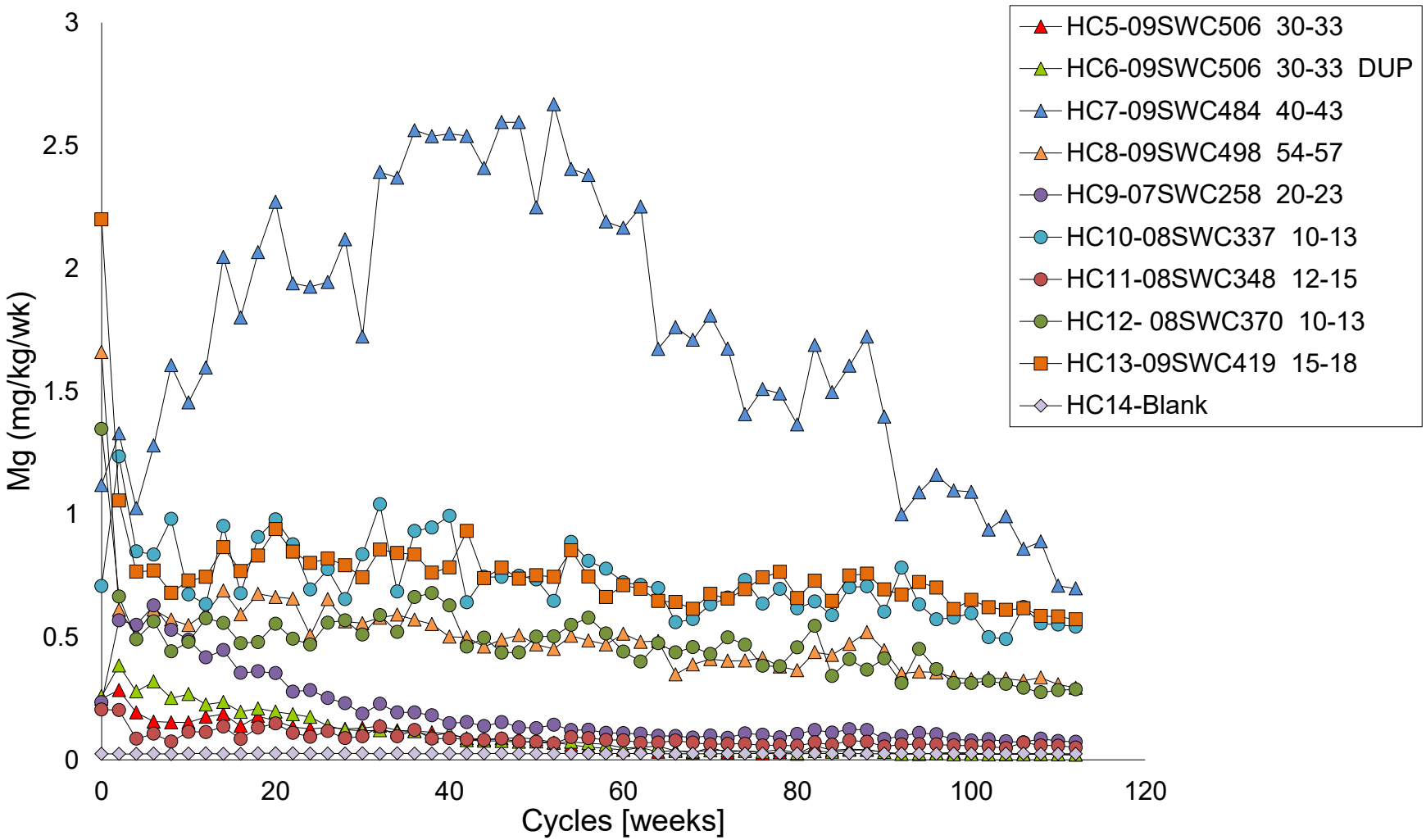

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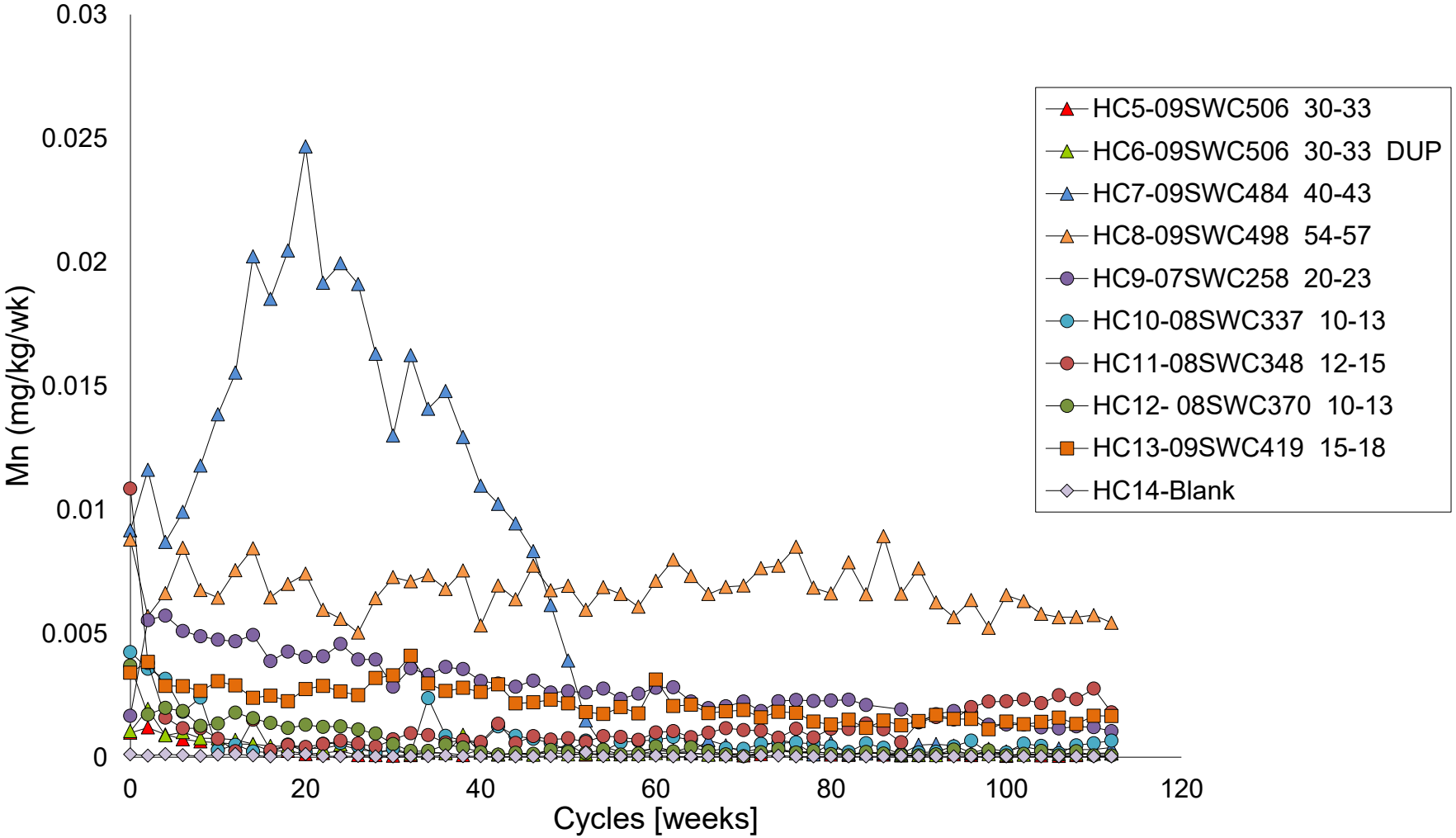

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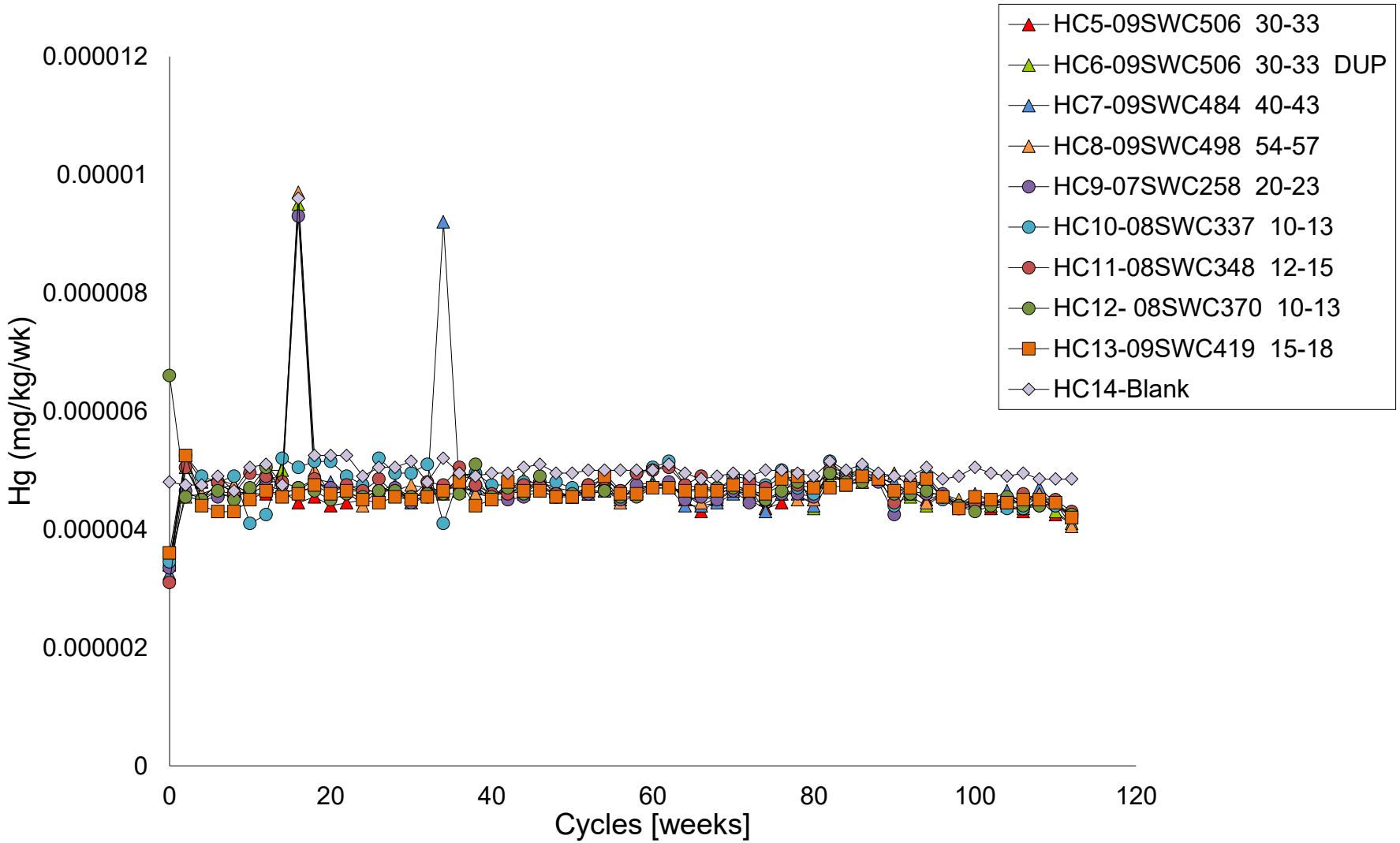

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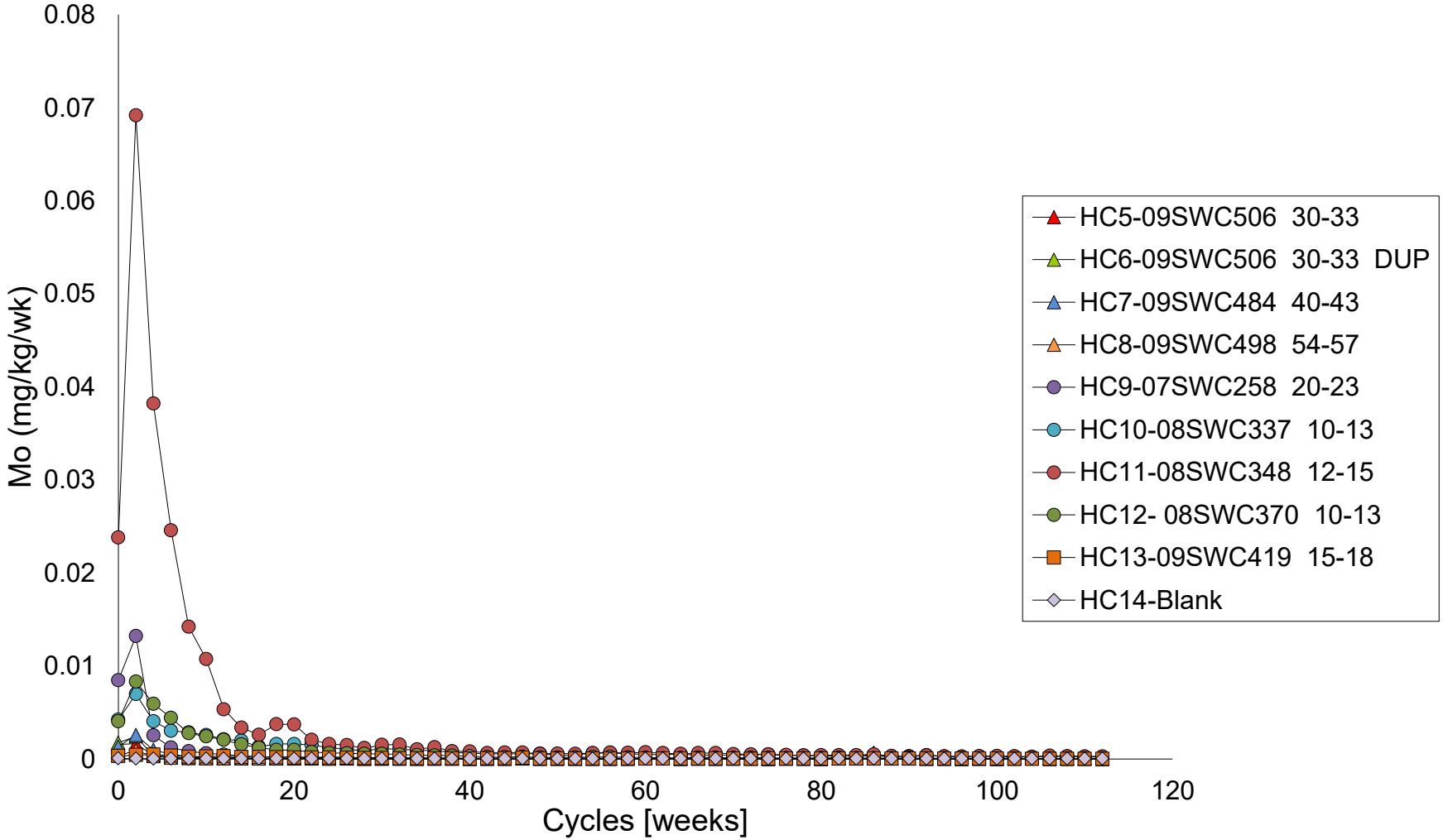

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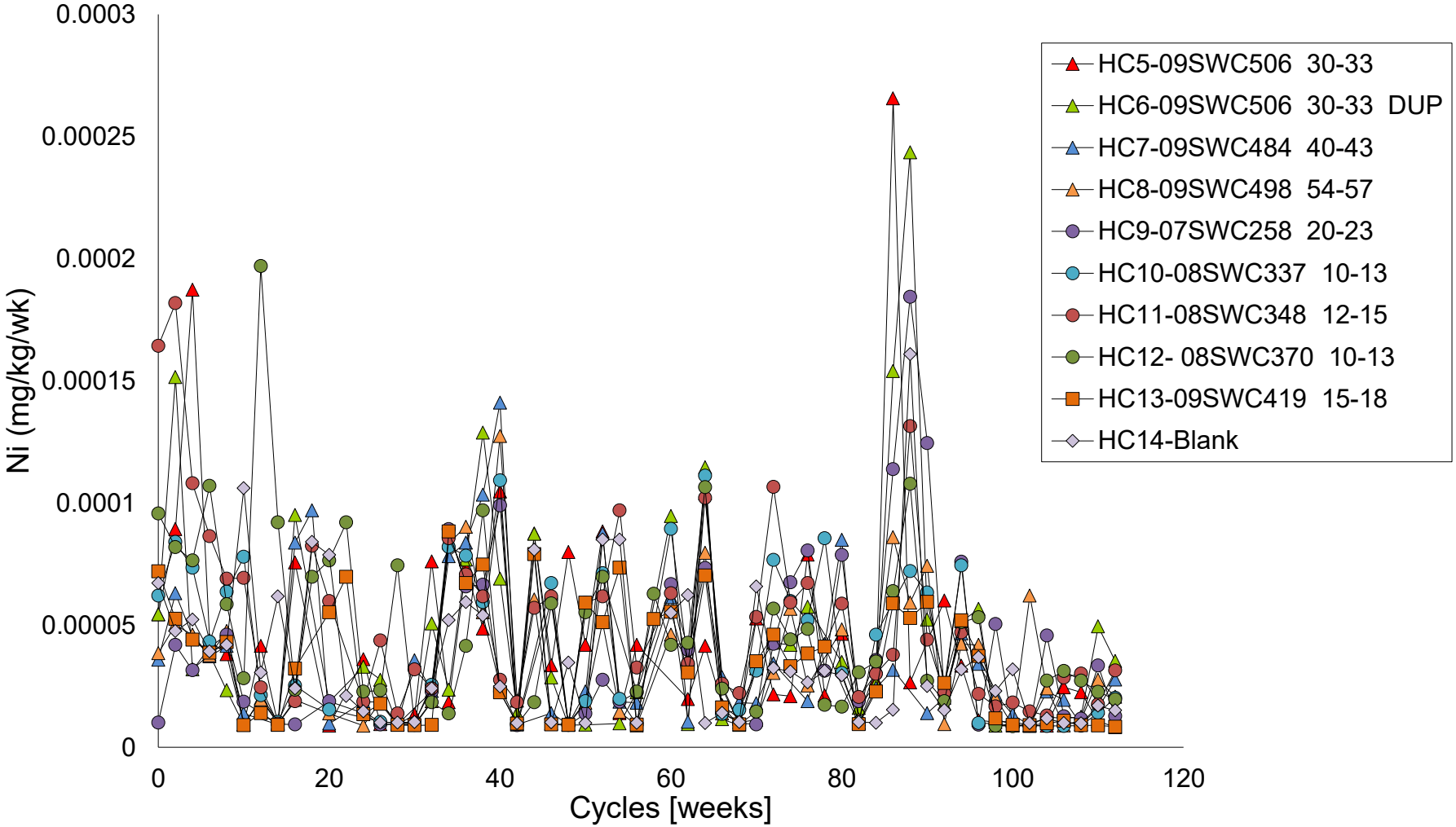

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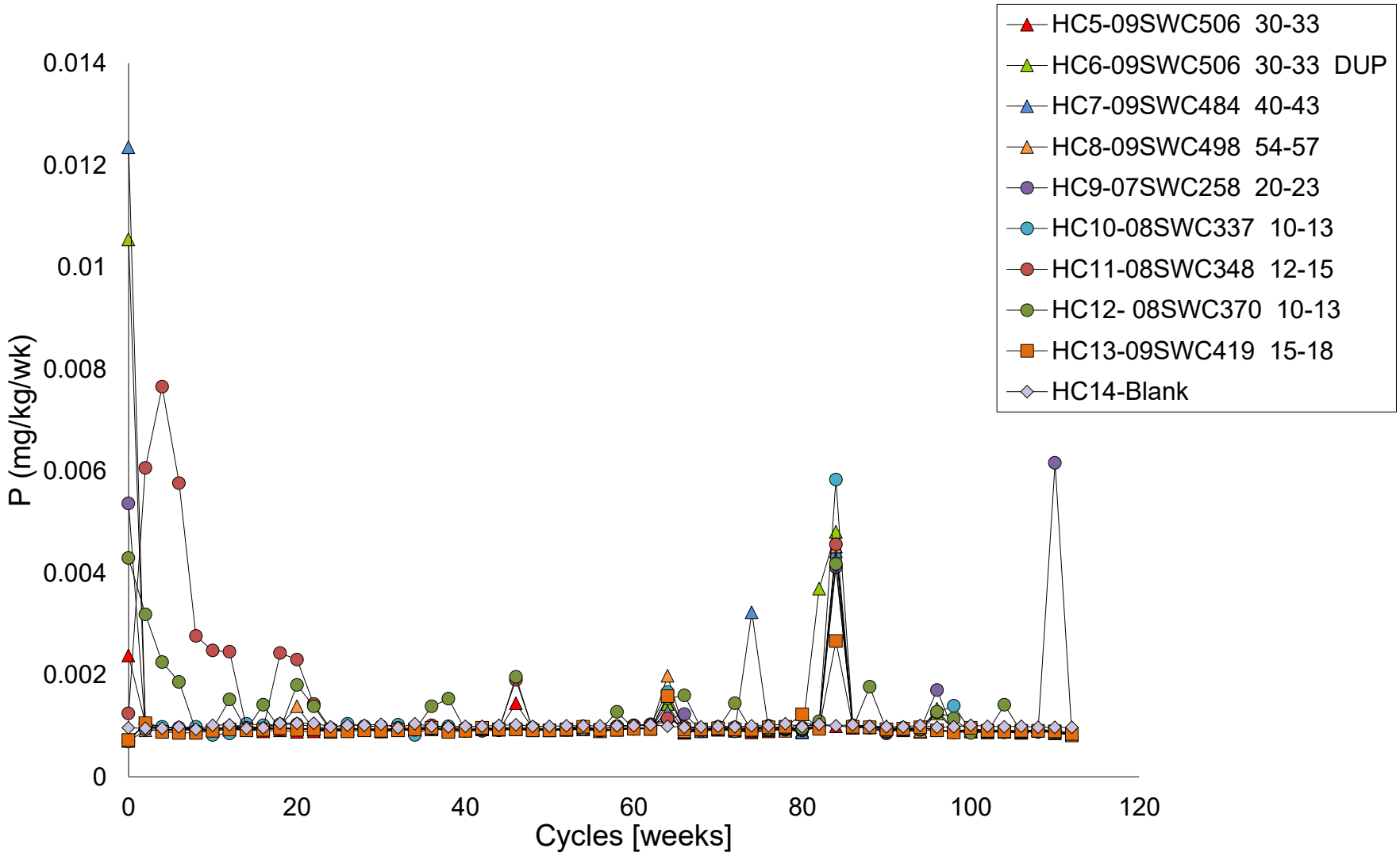

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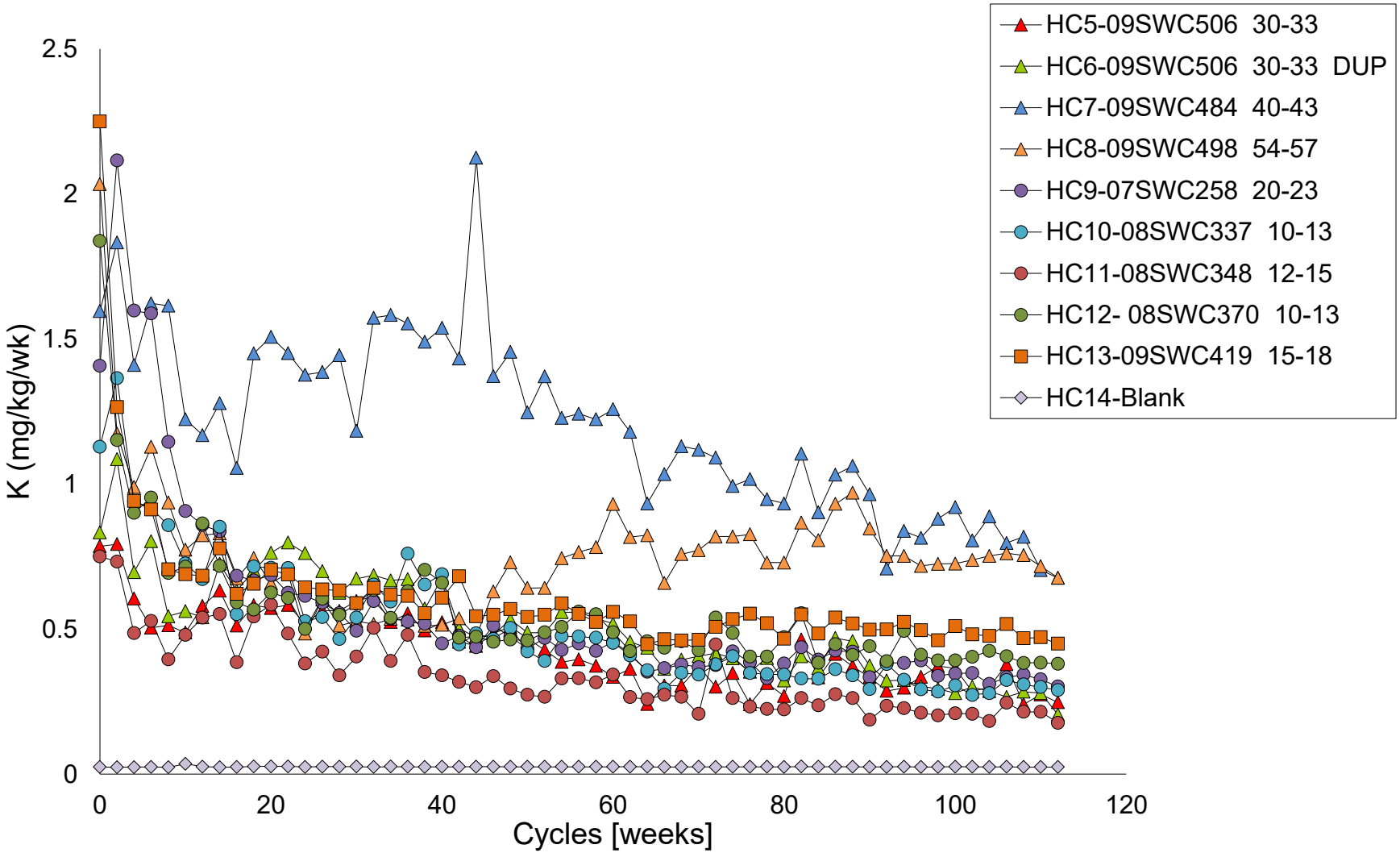

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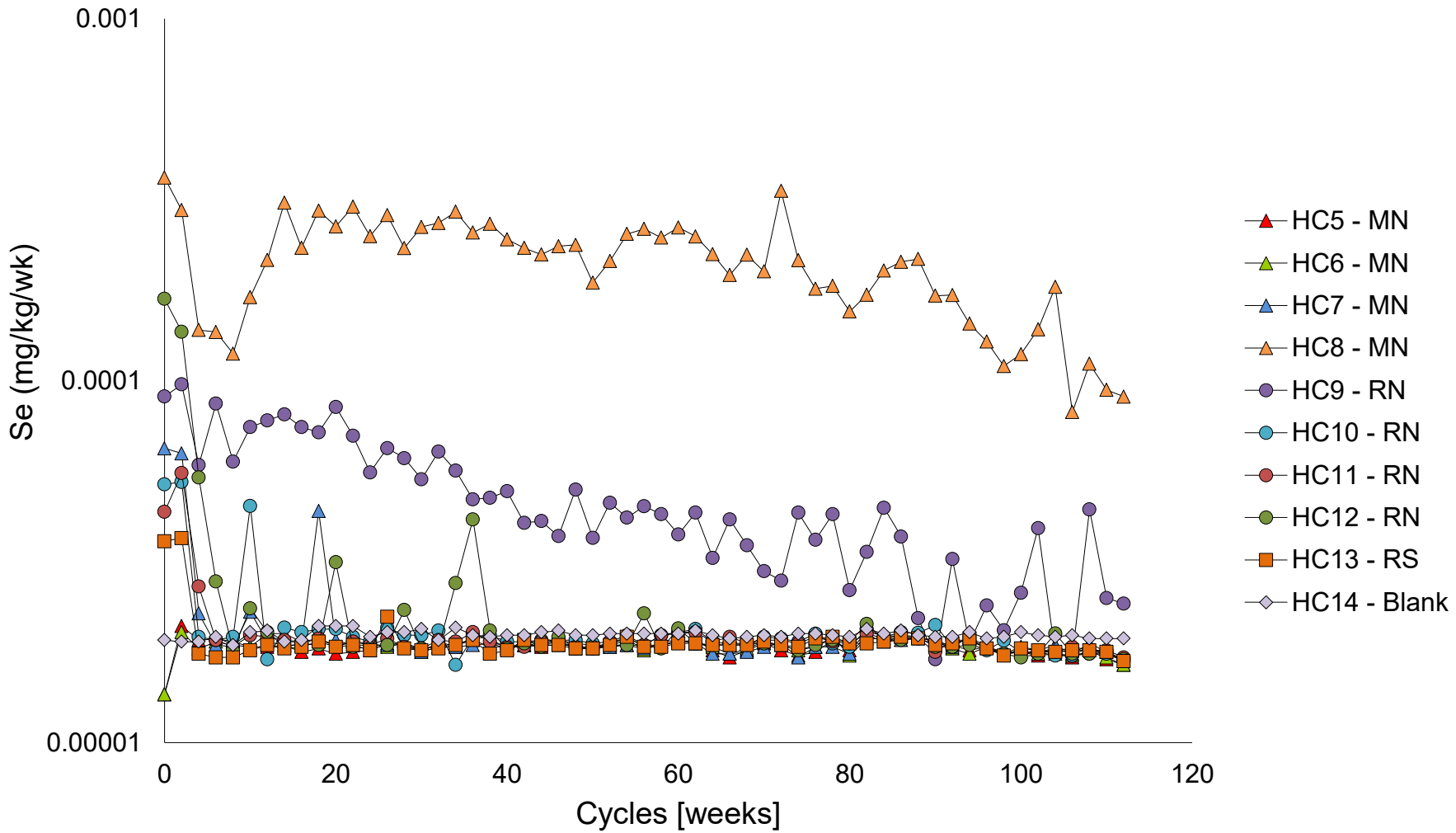

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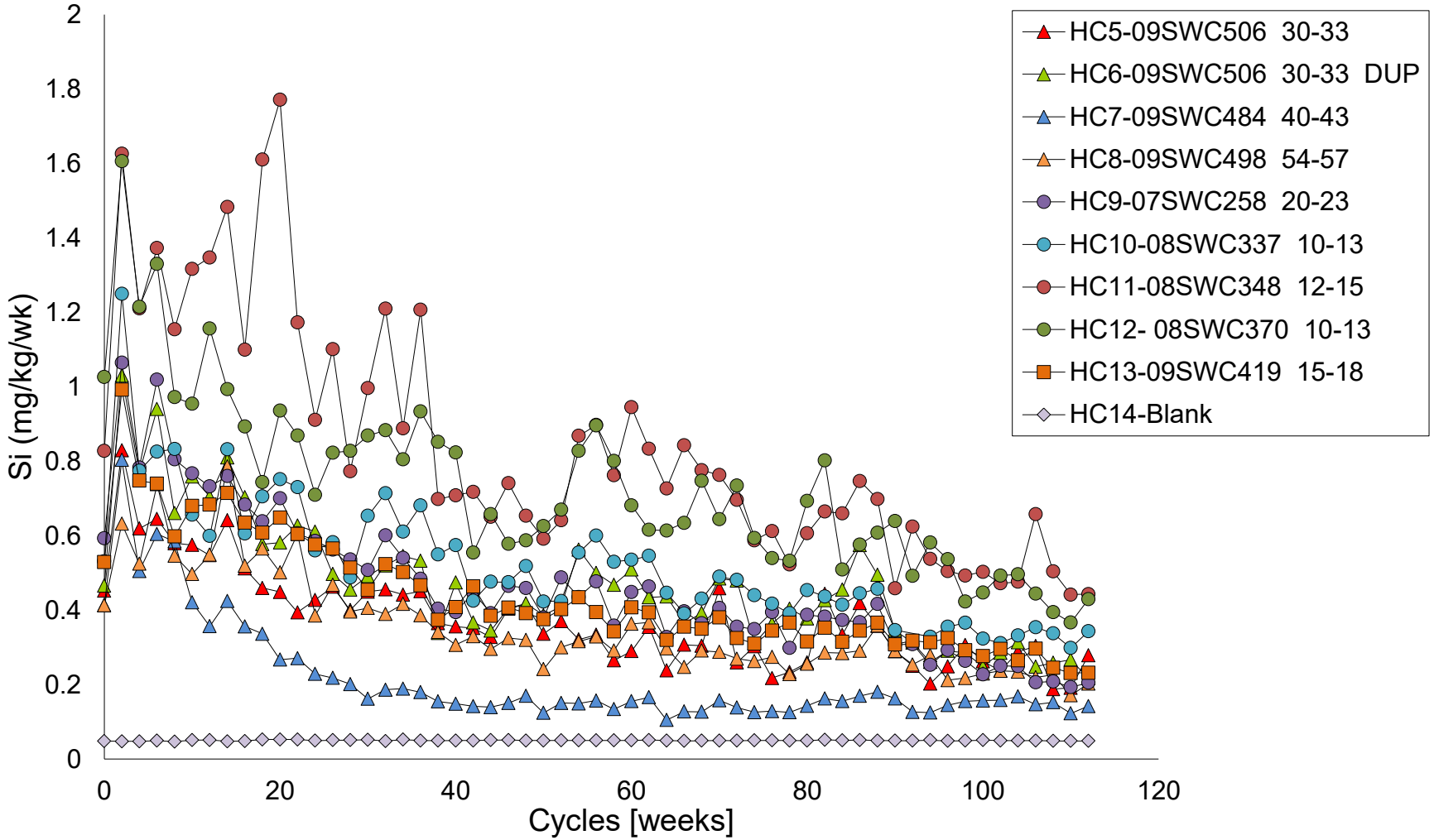

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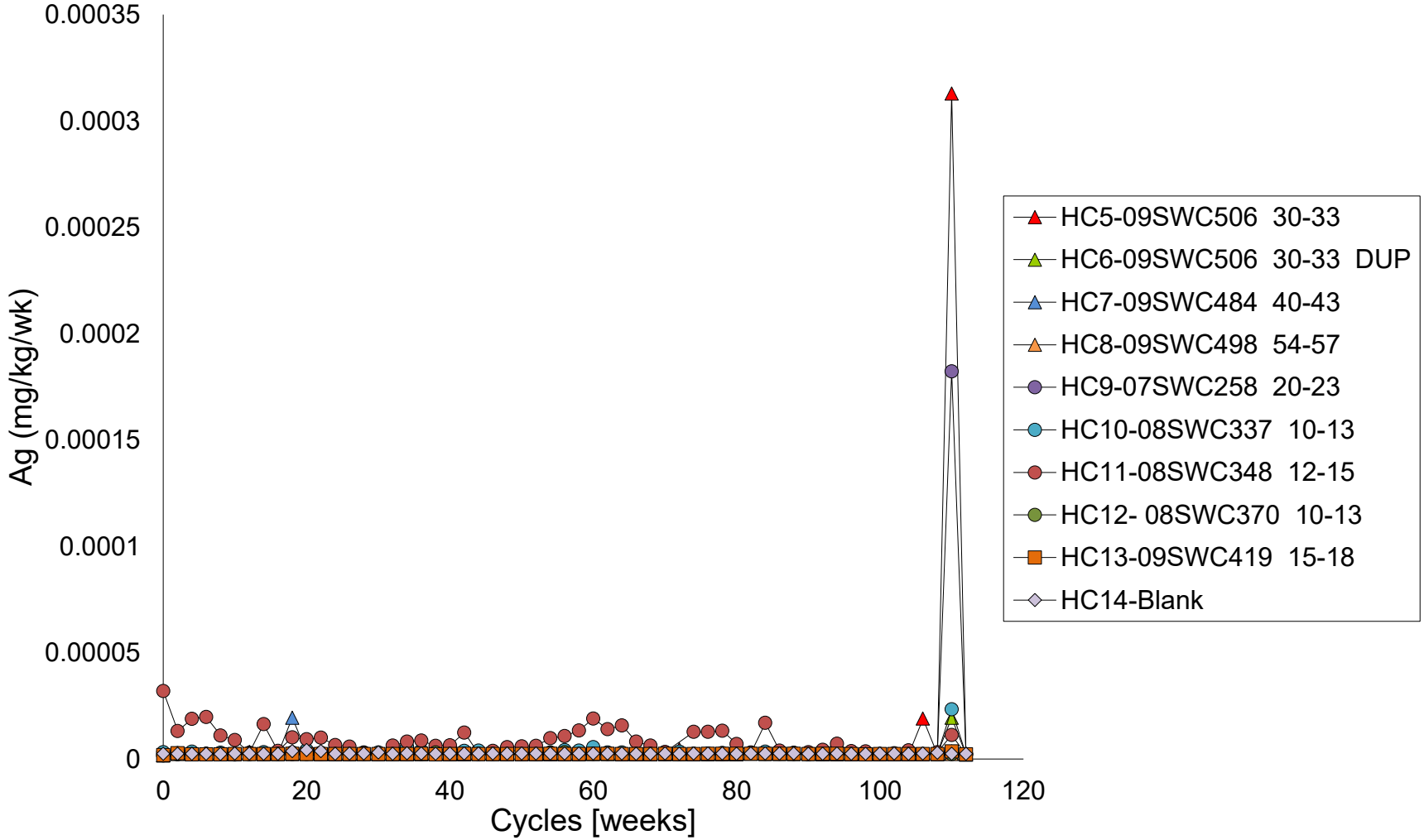

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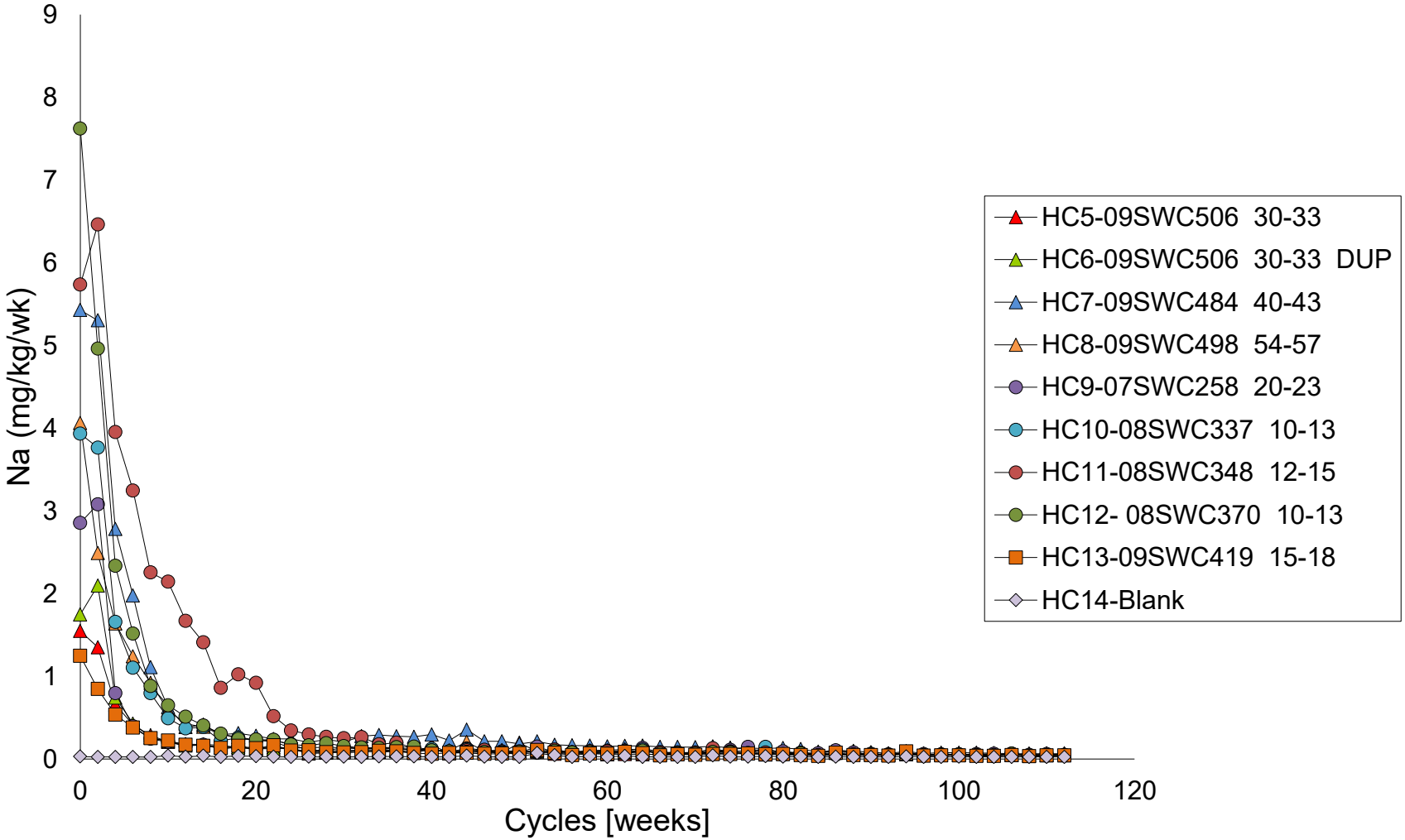

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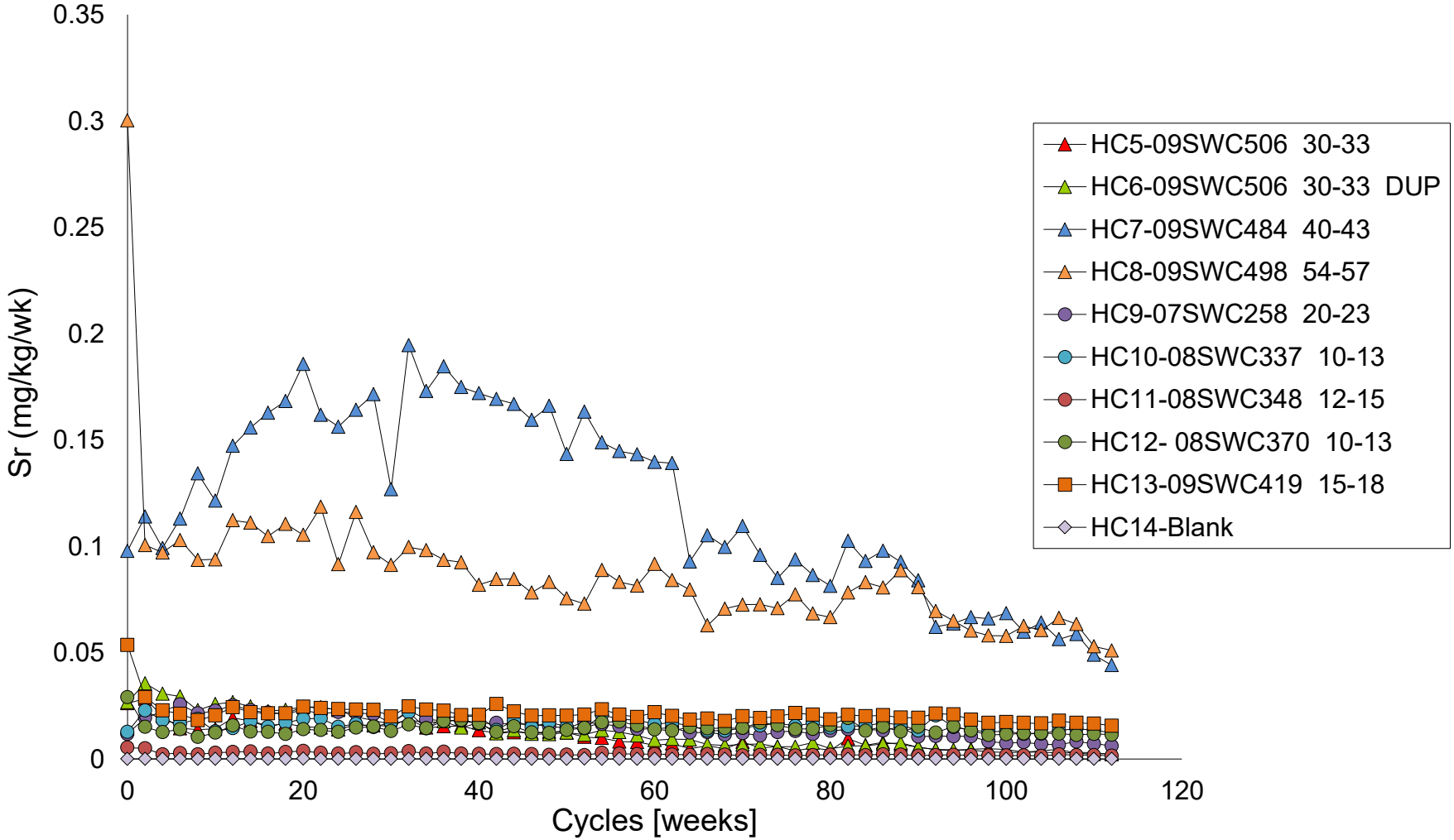

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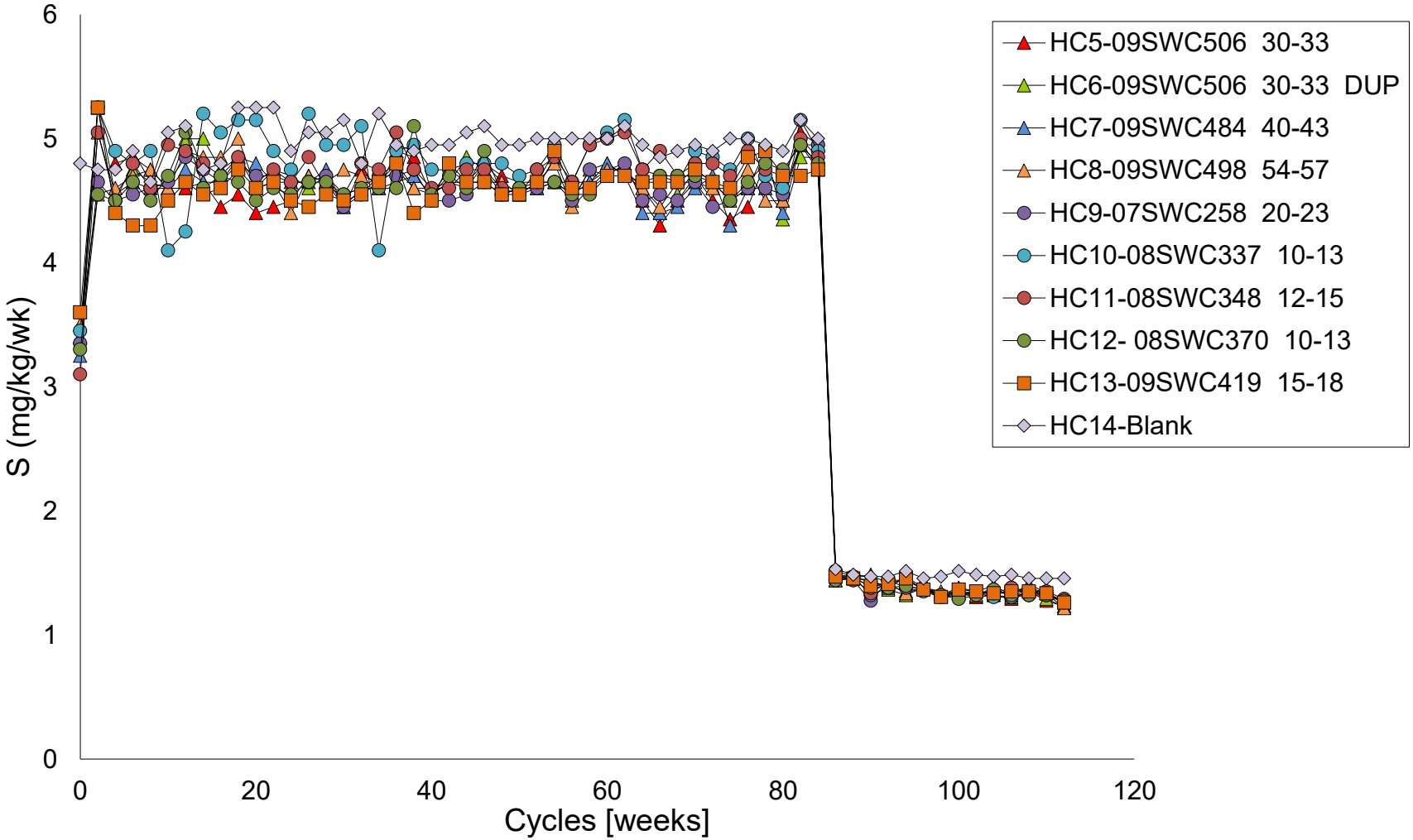

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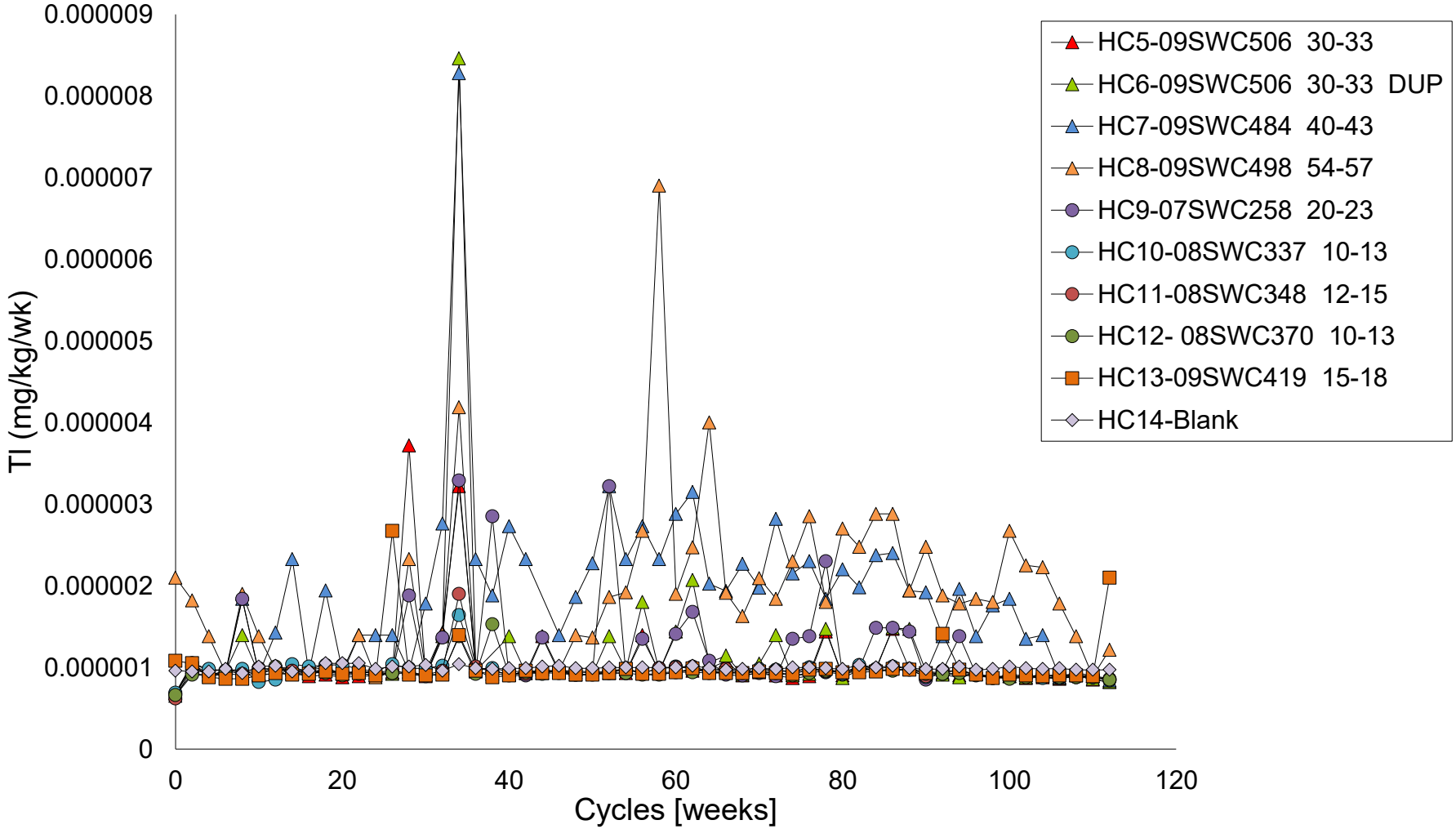

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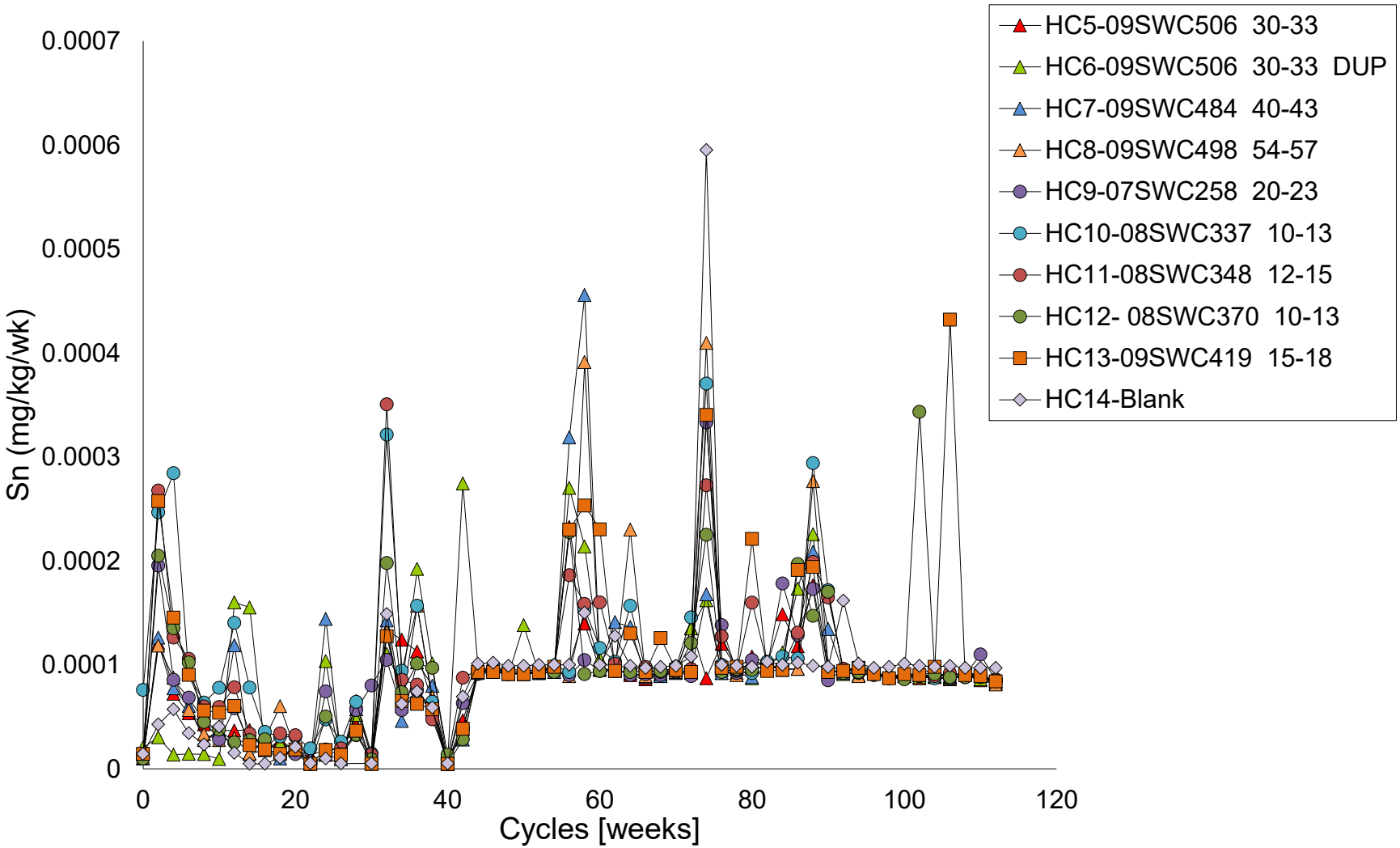

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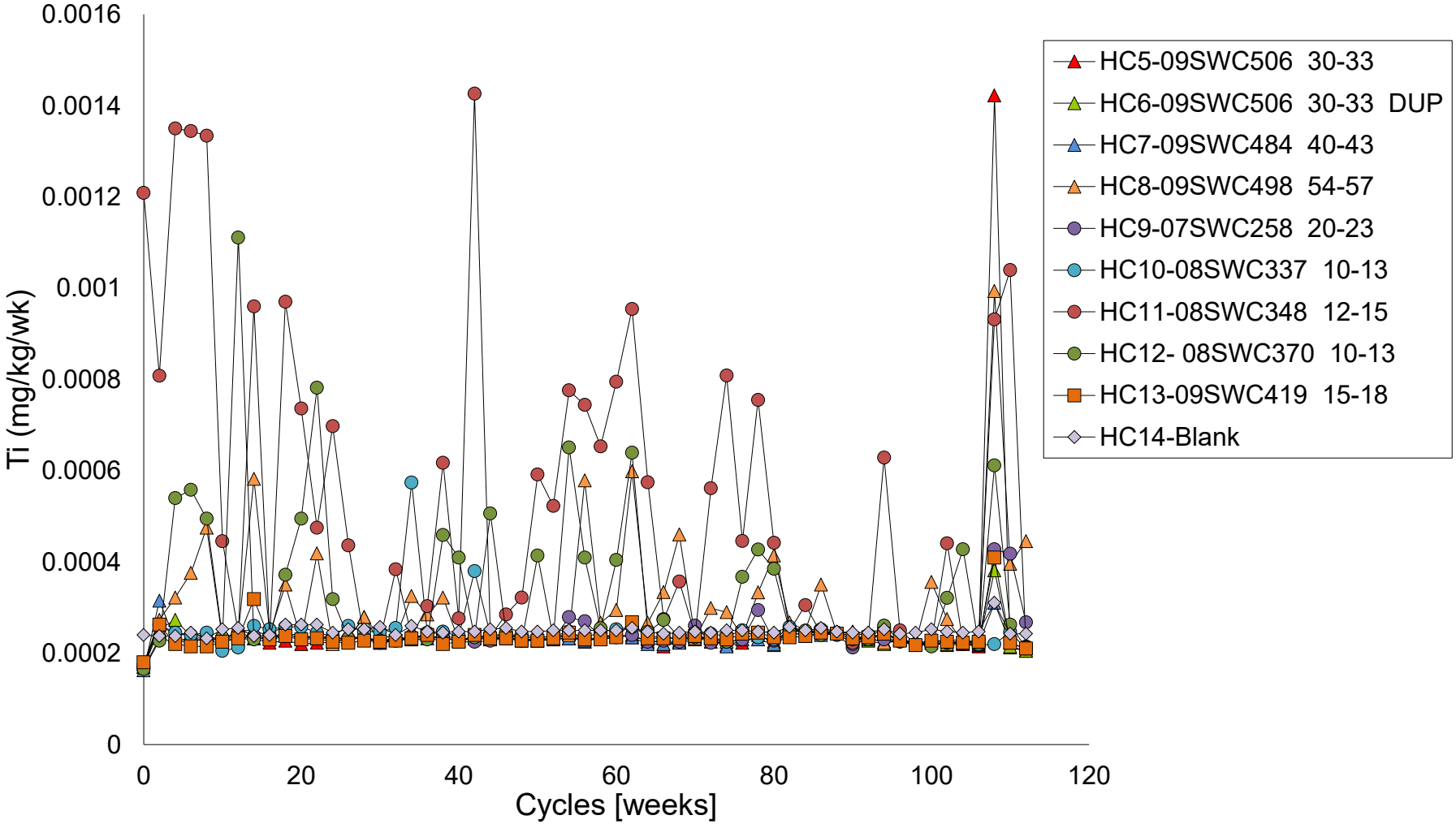

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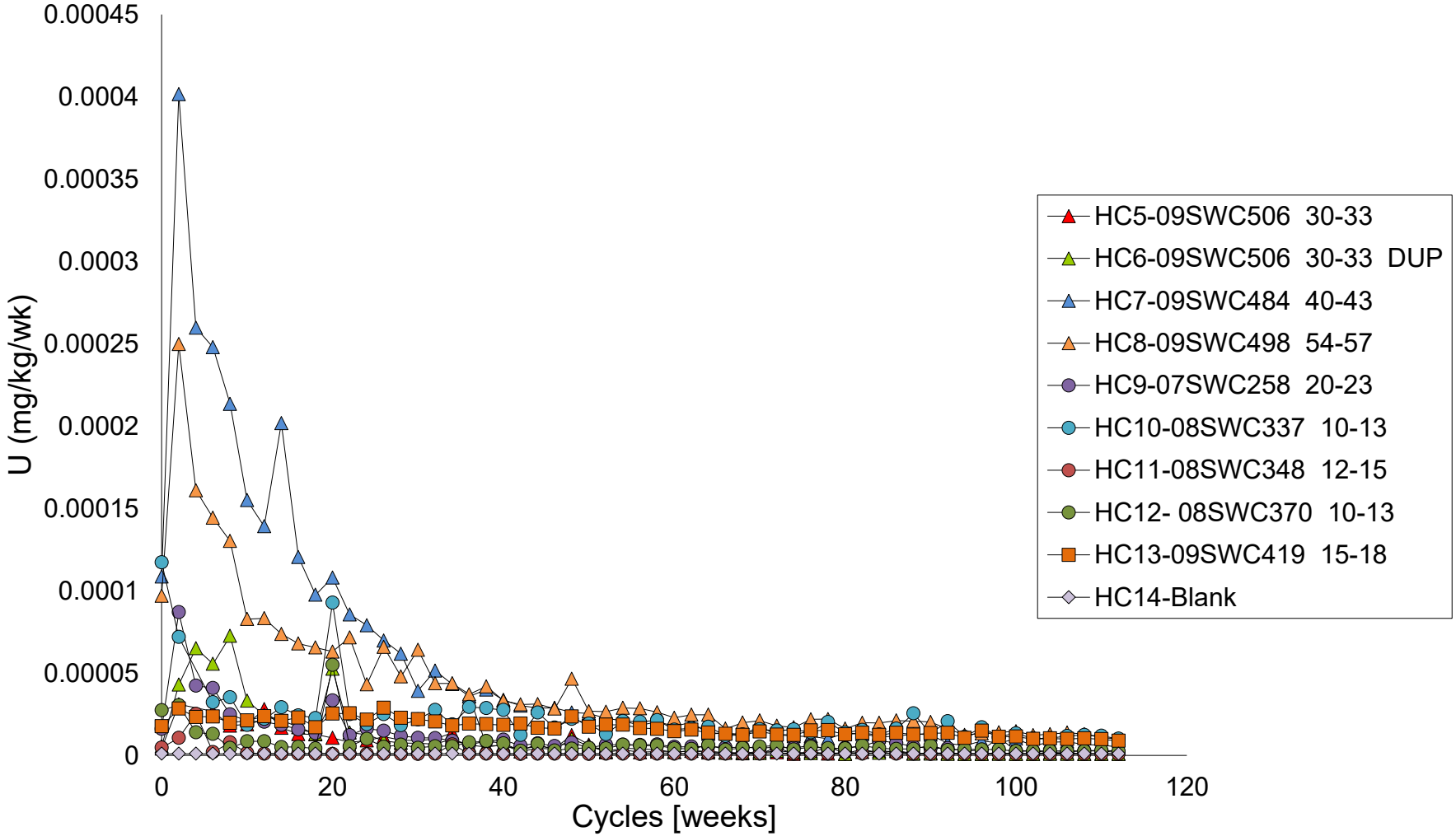

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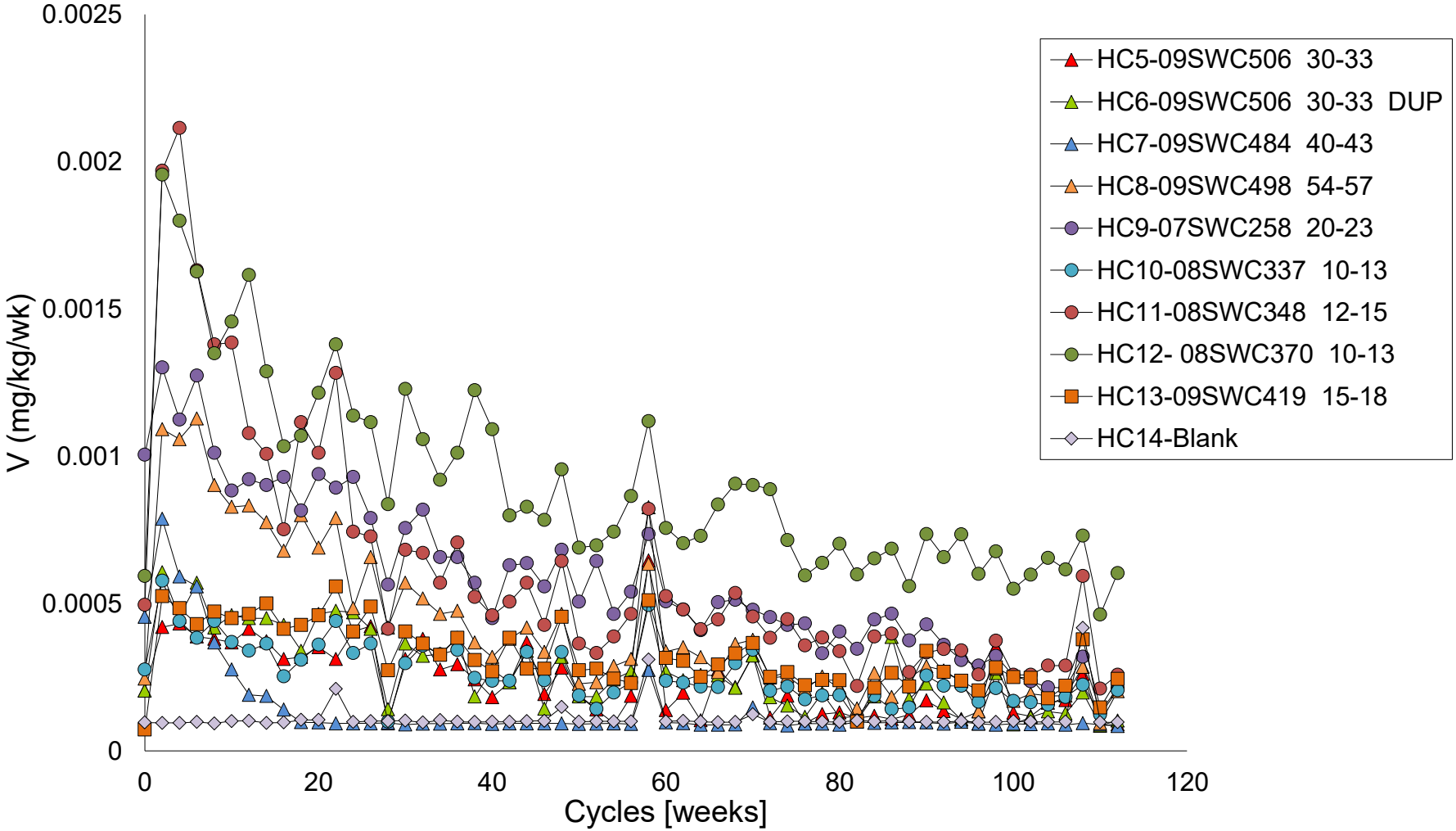

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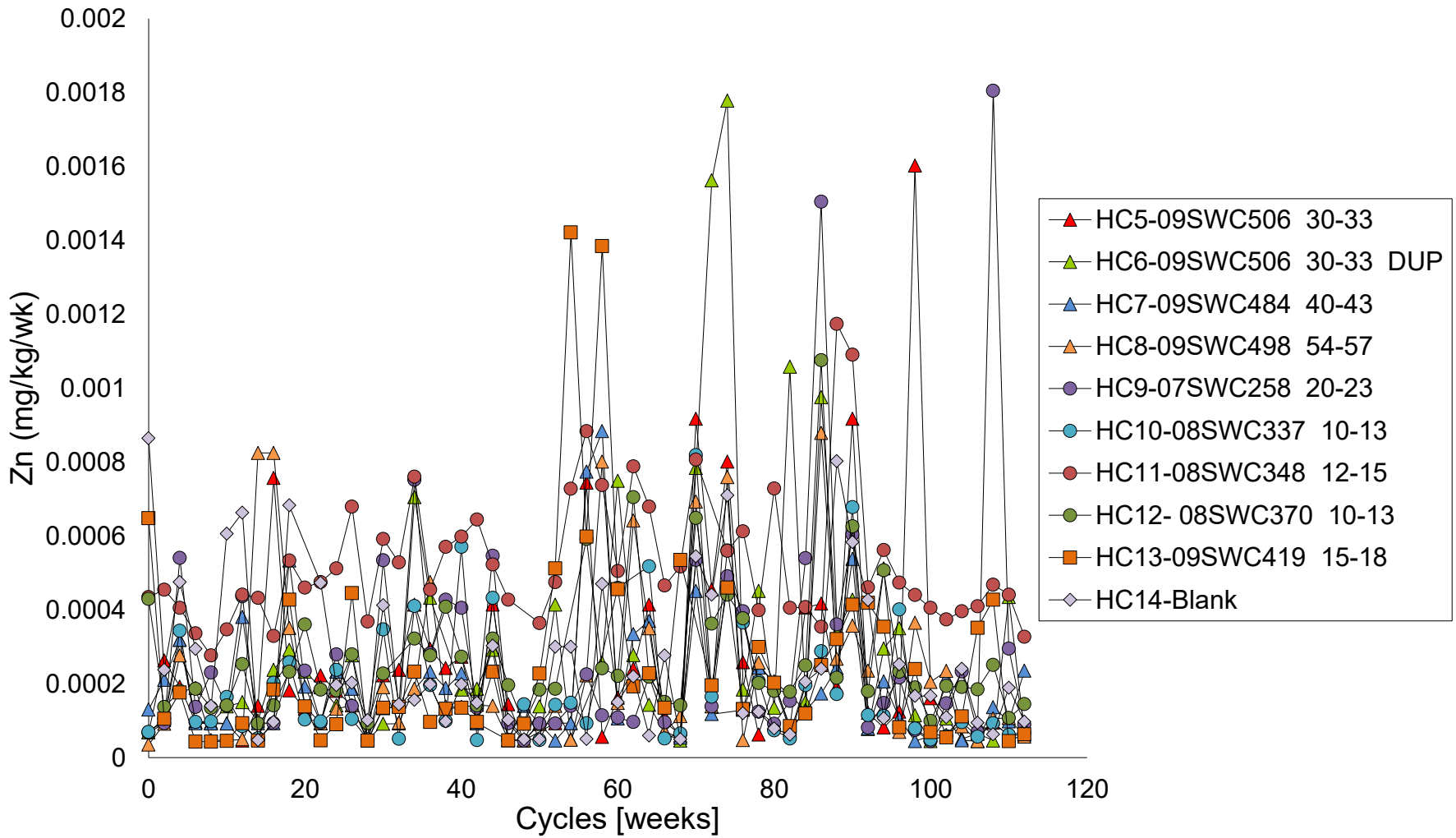

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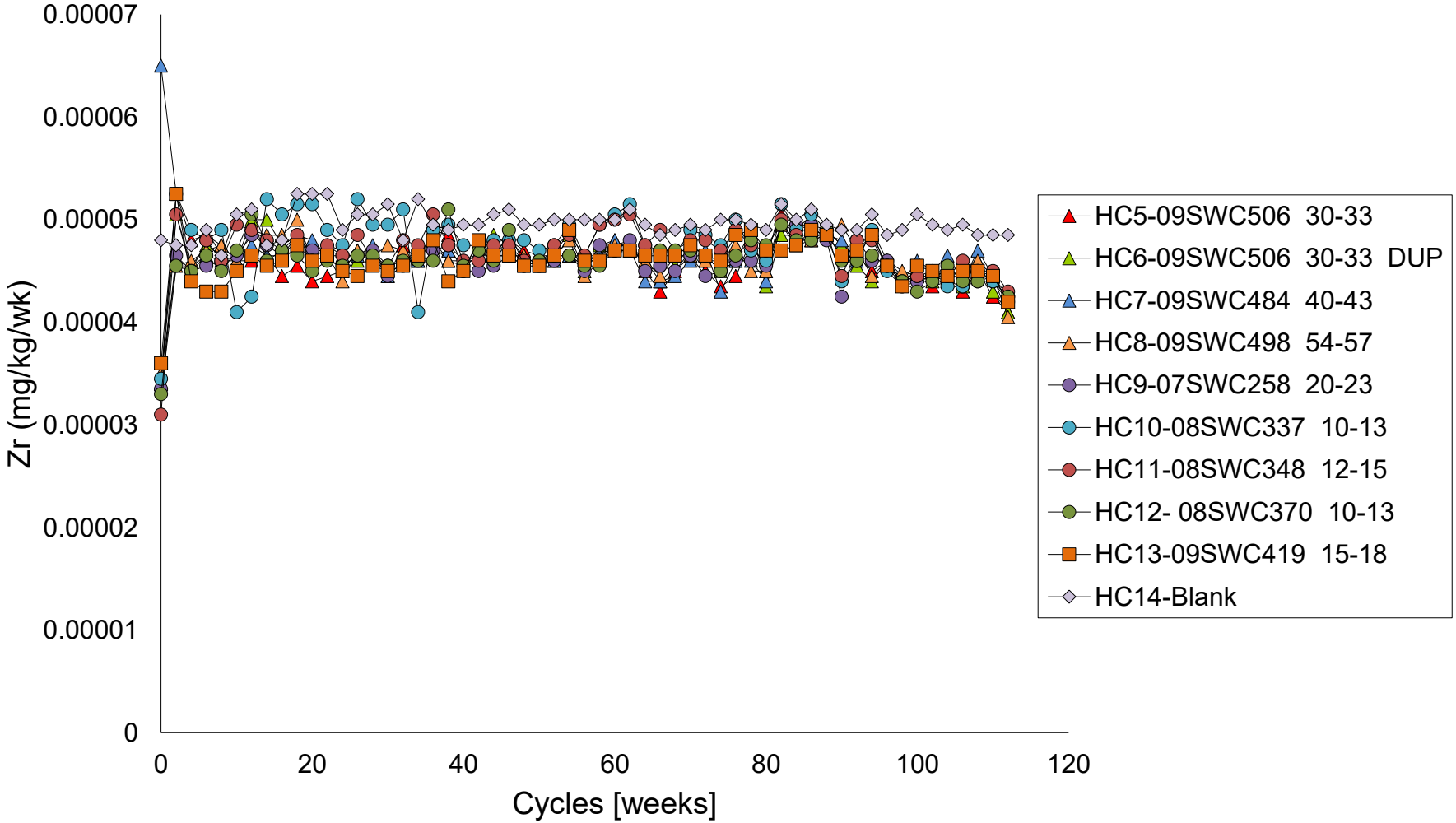

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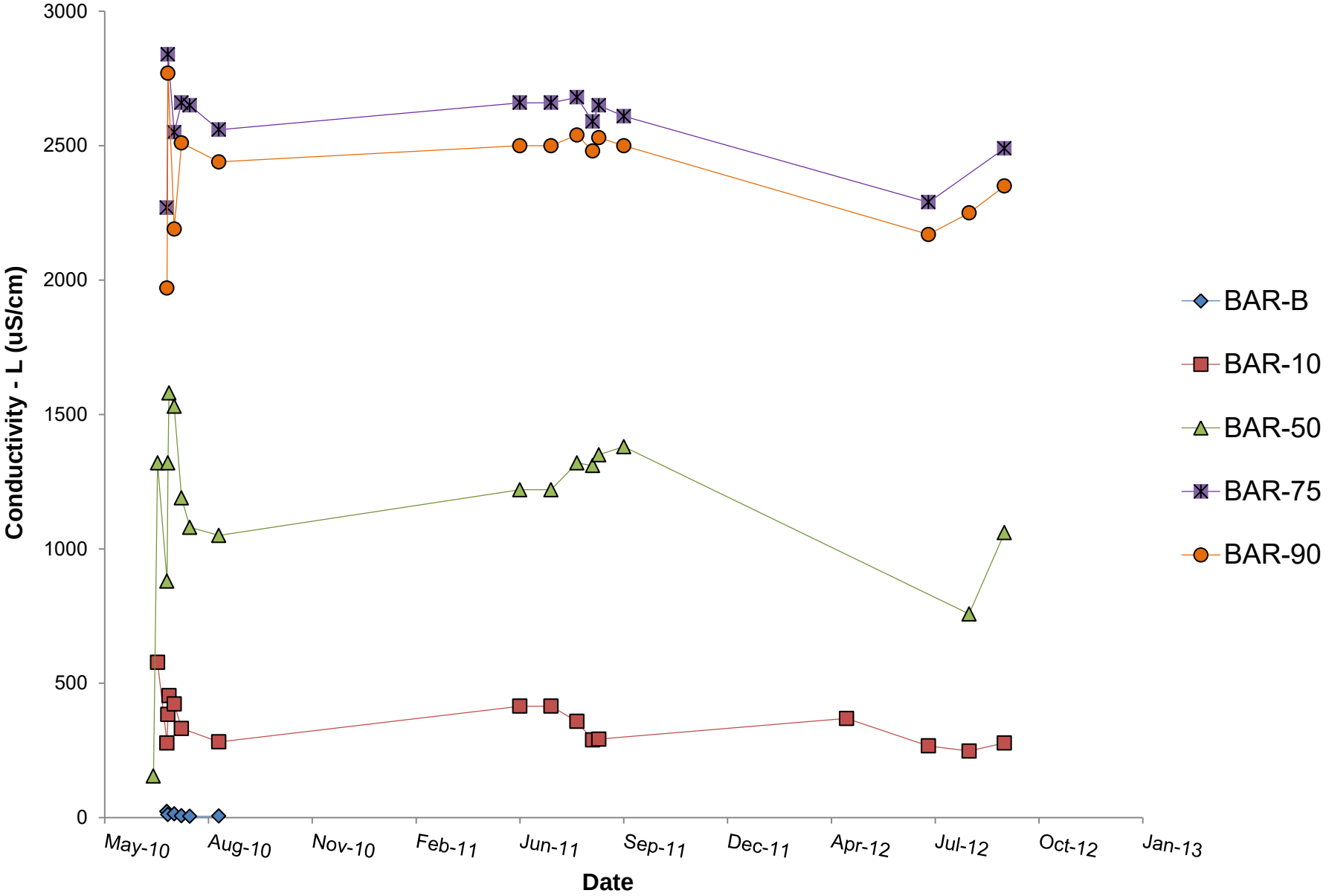
Appendix E
On-Site Waste Rock Barrel Test Results



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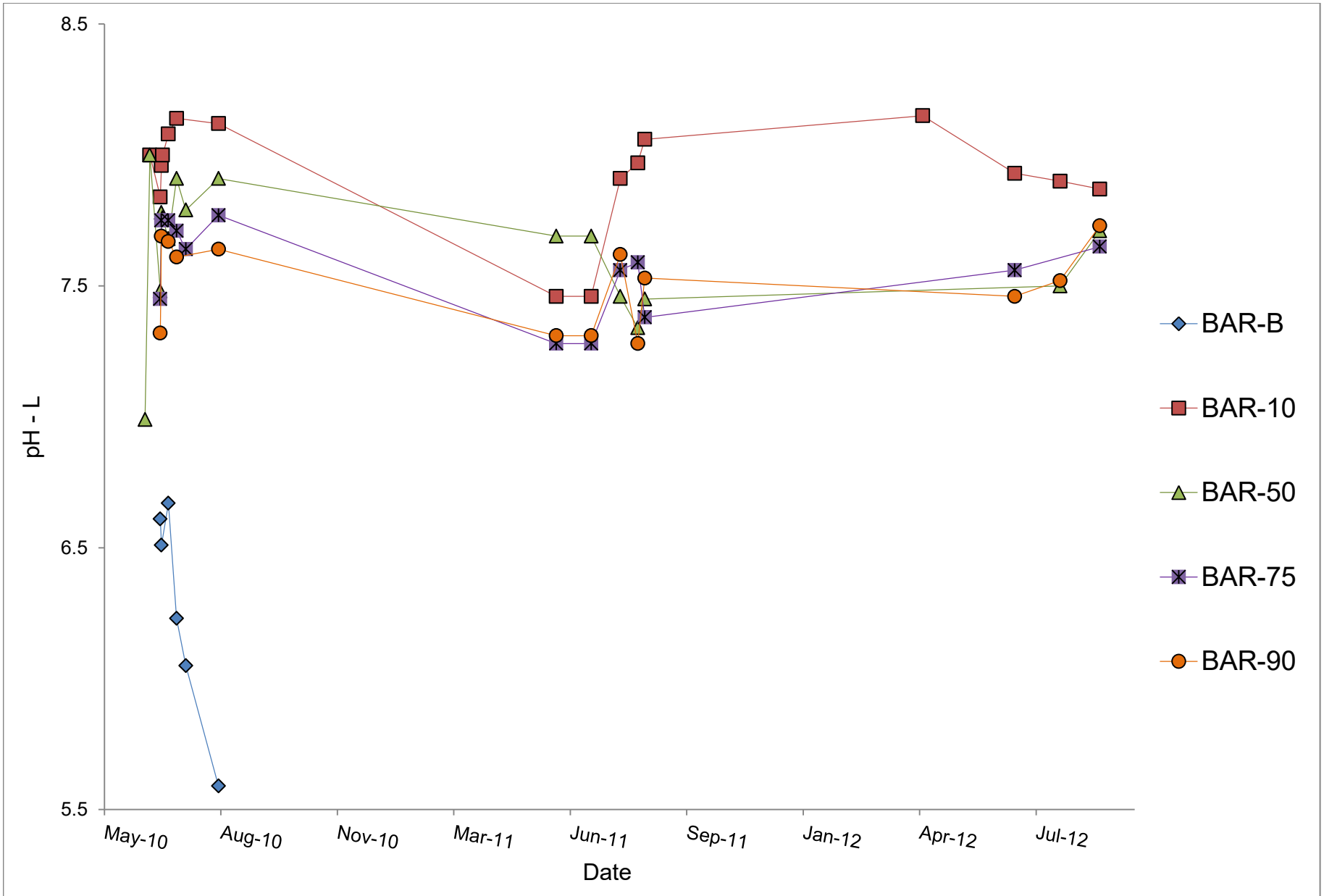

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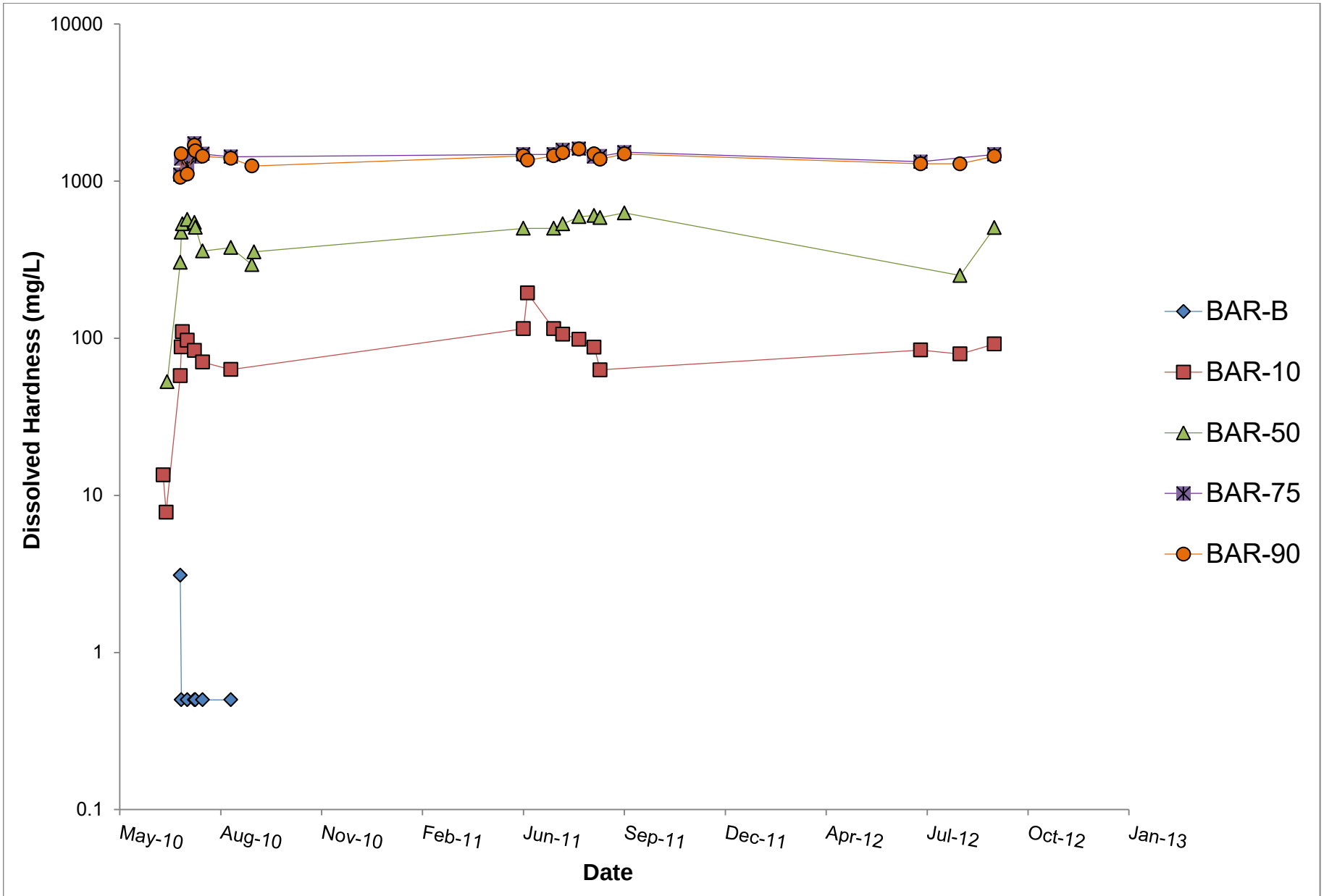

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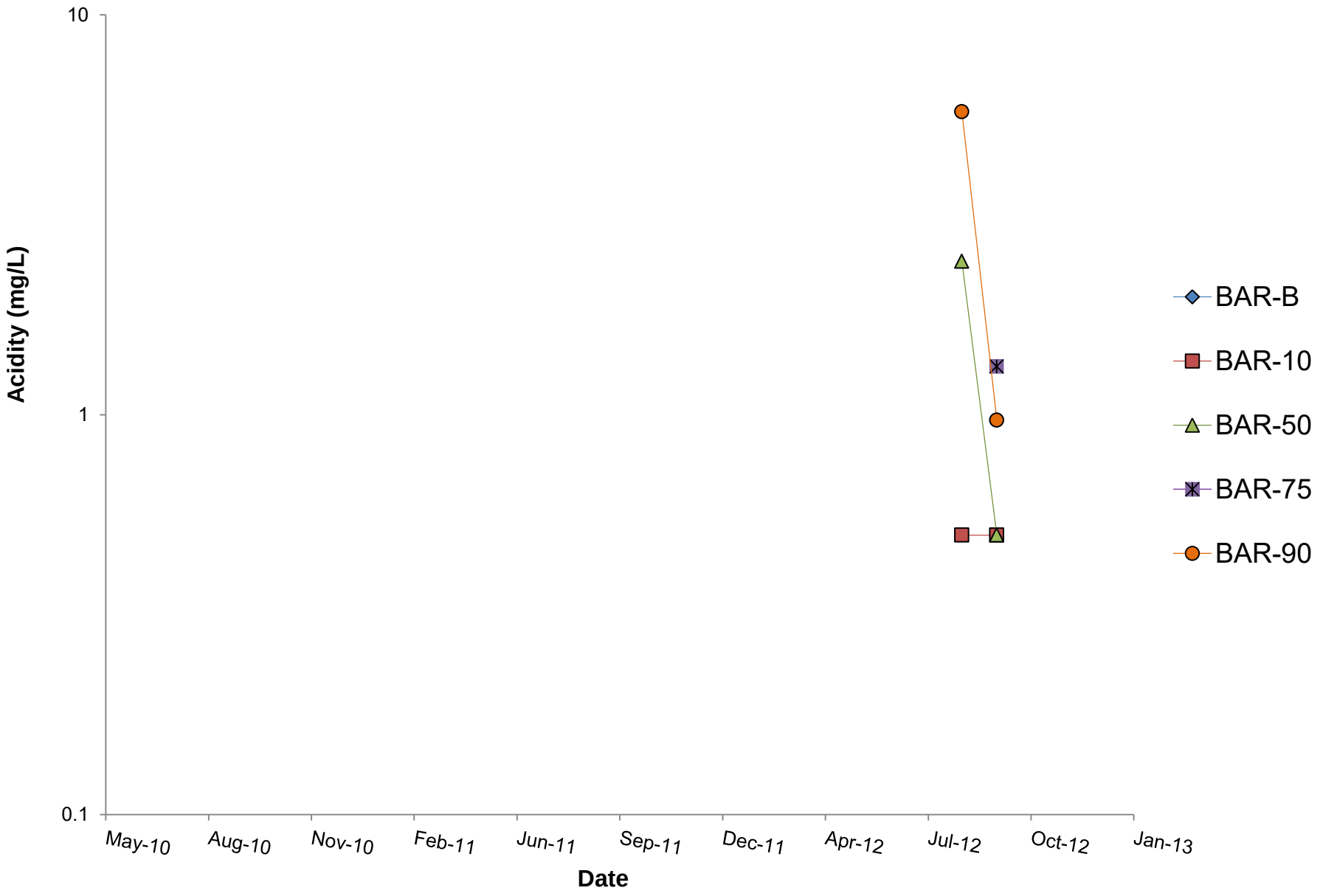

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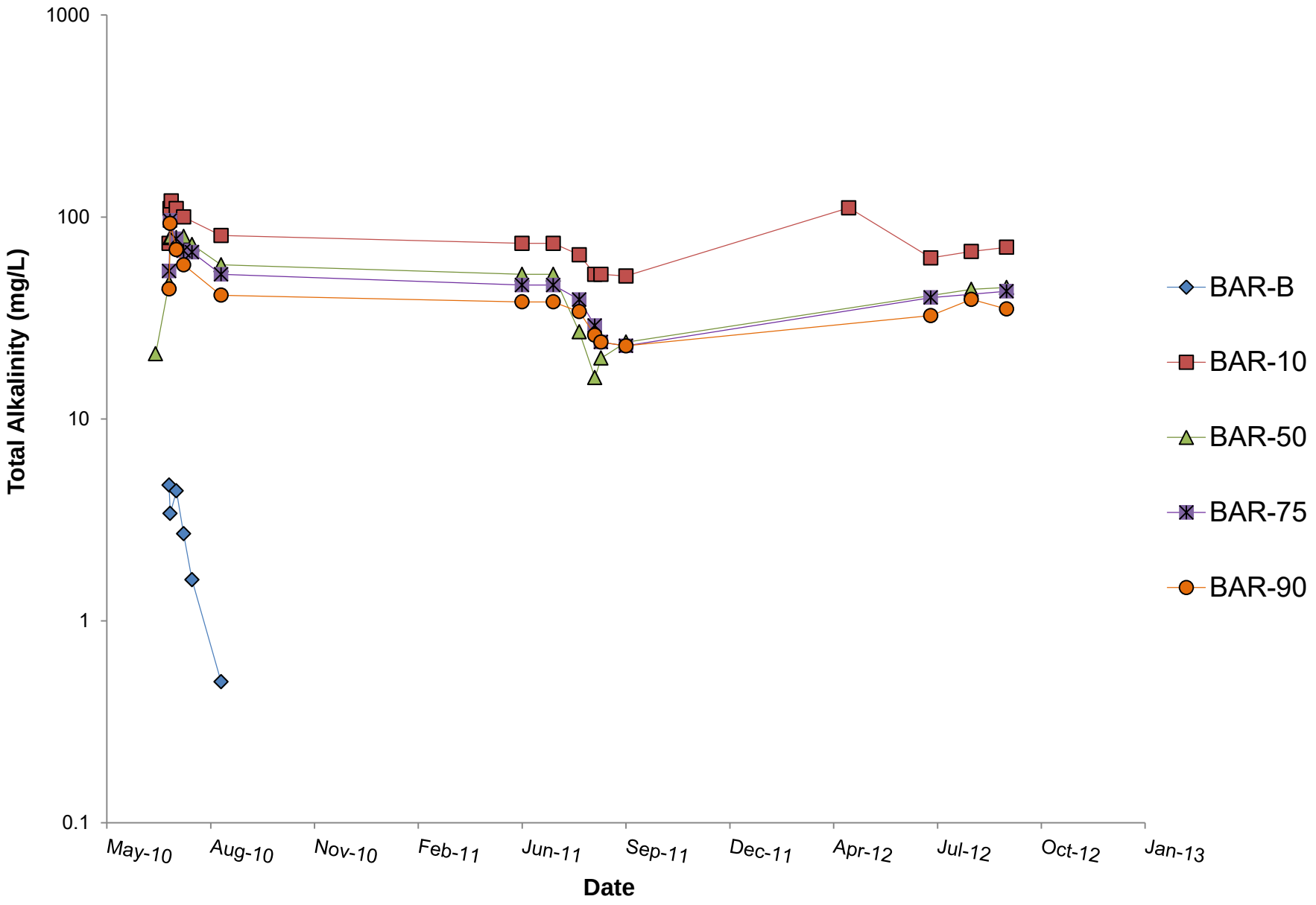

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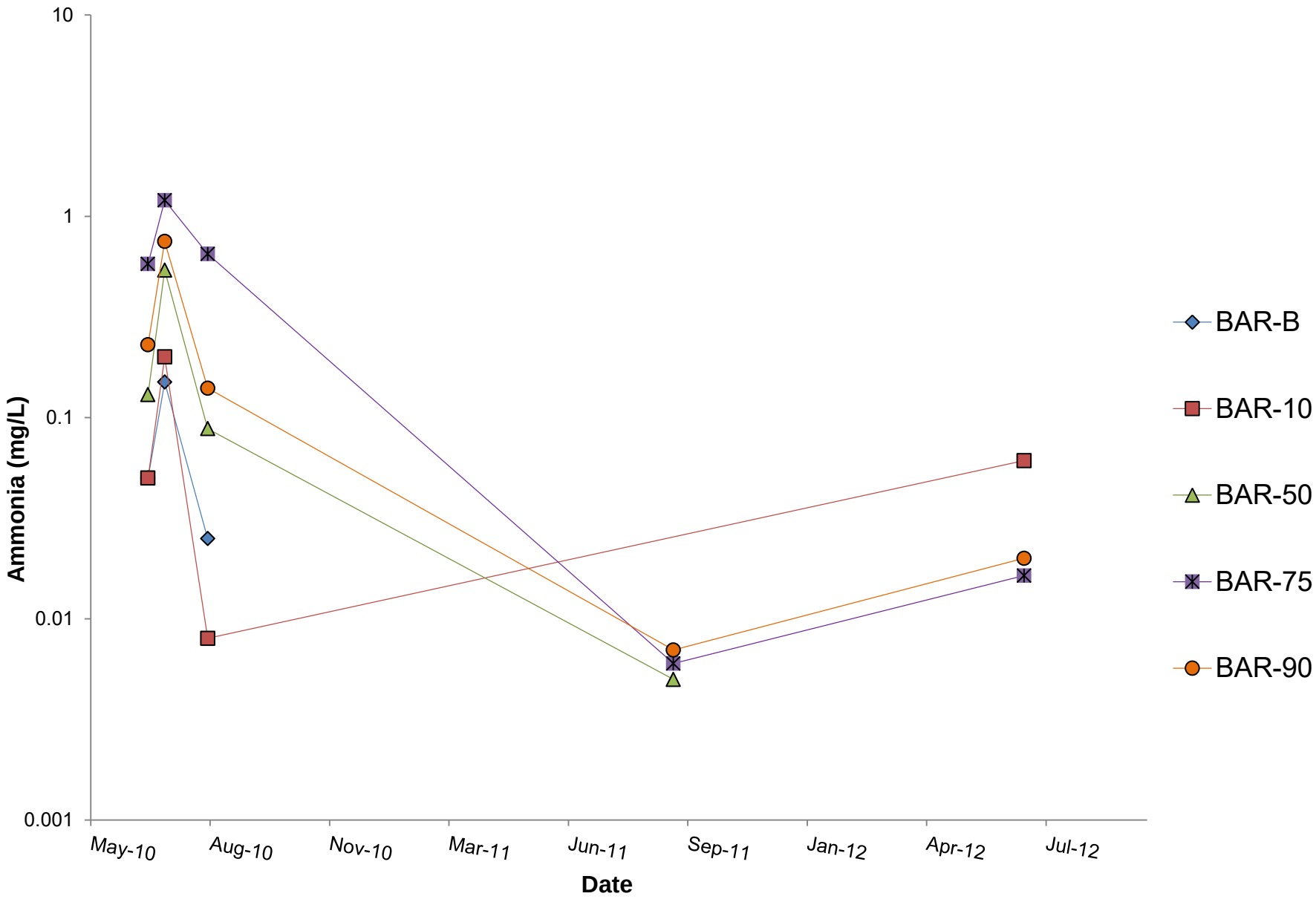

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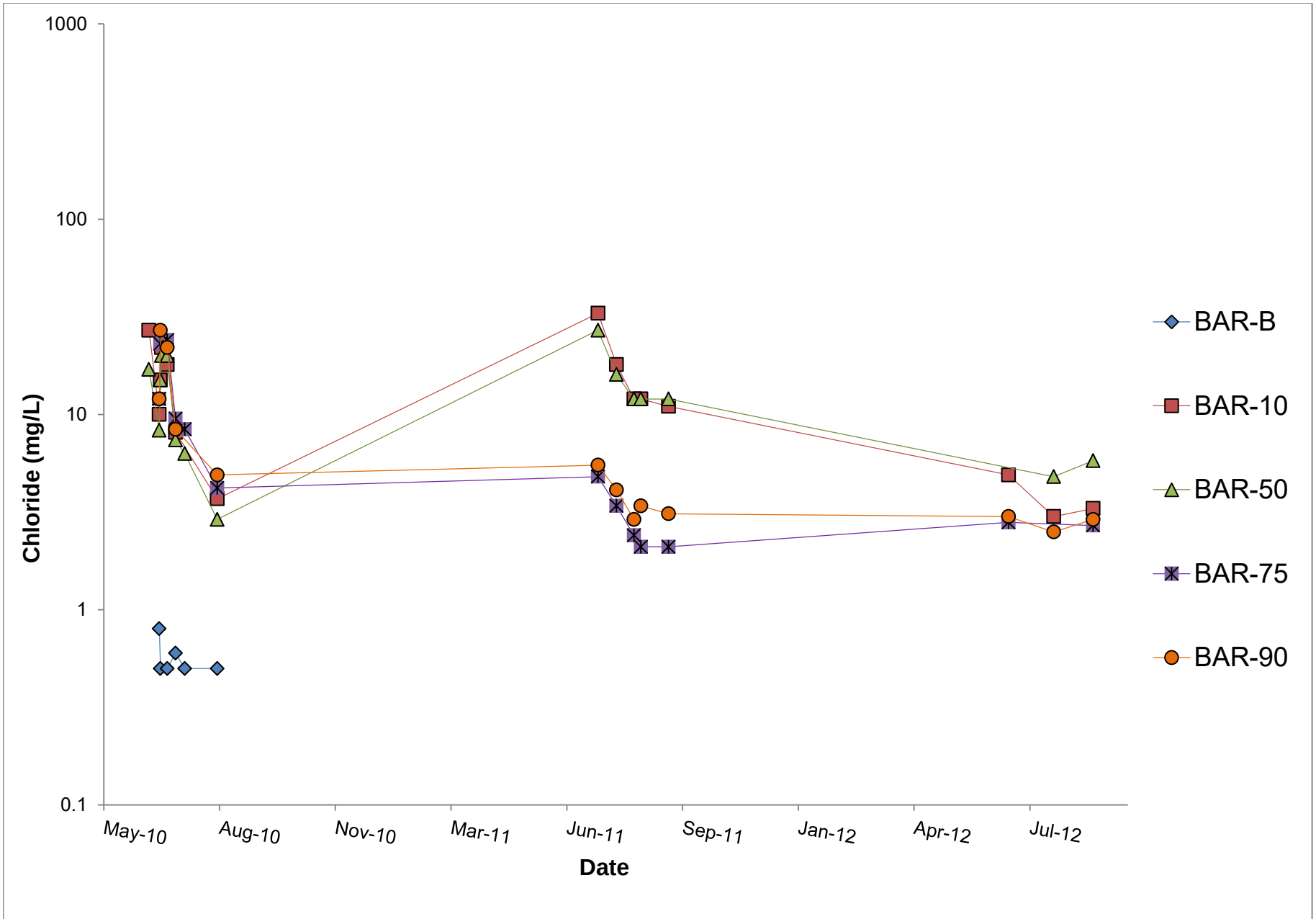

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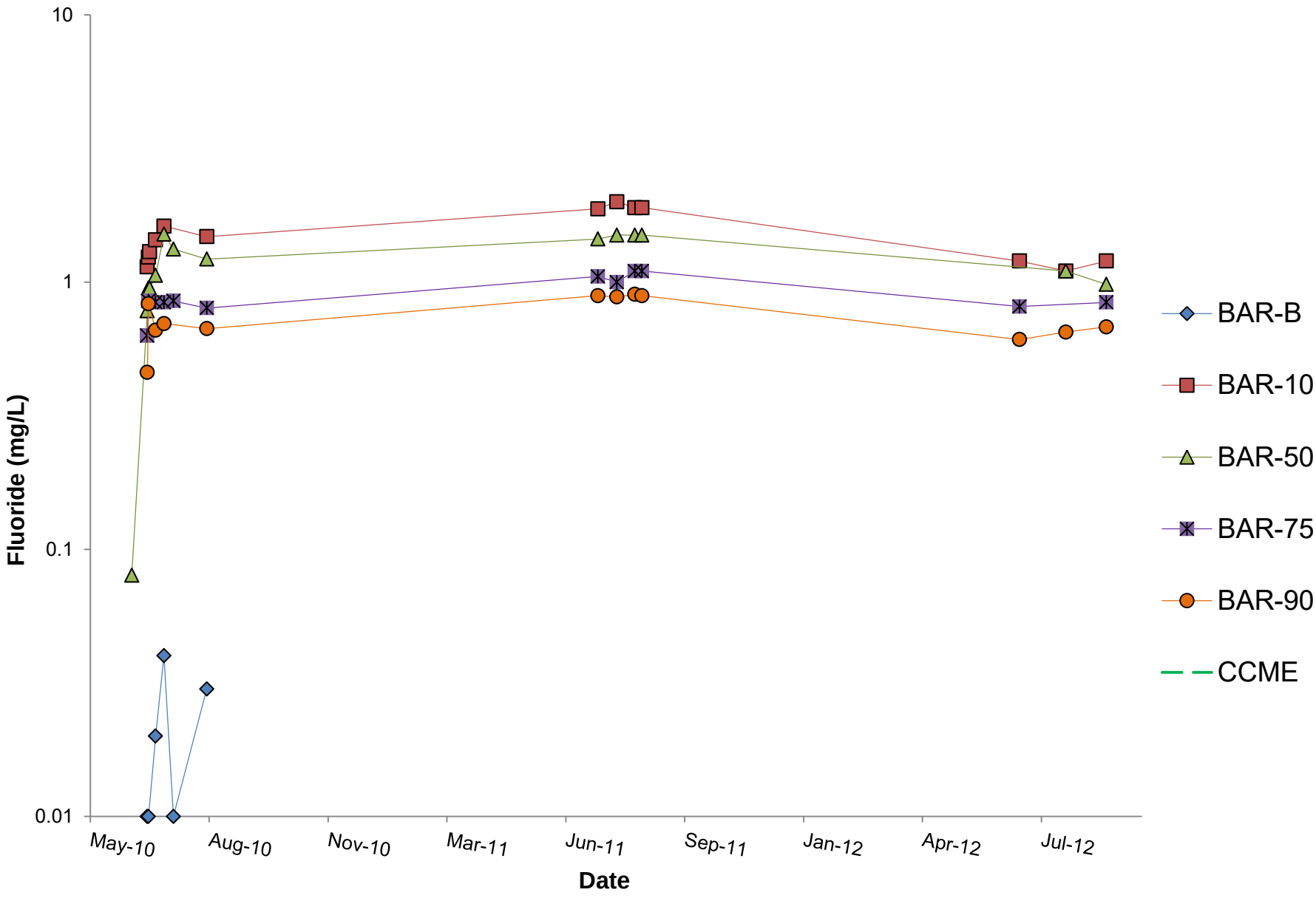

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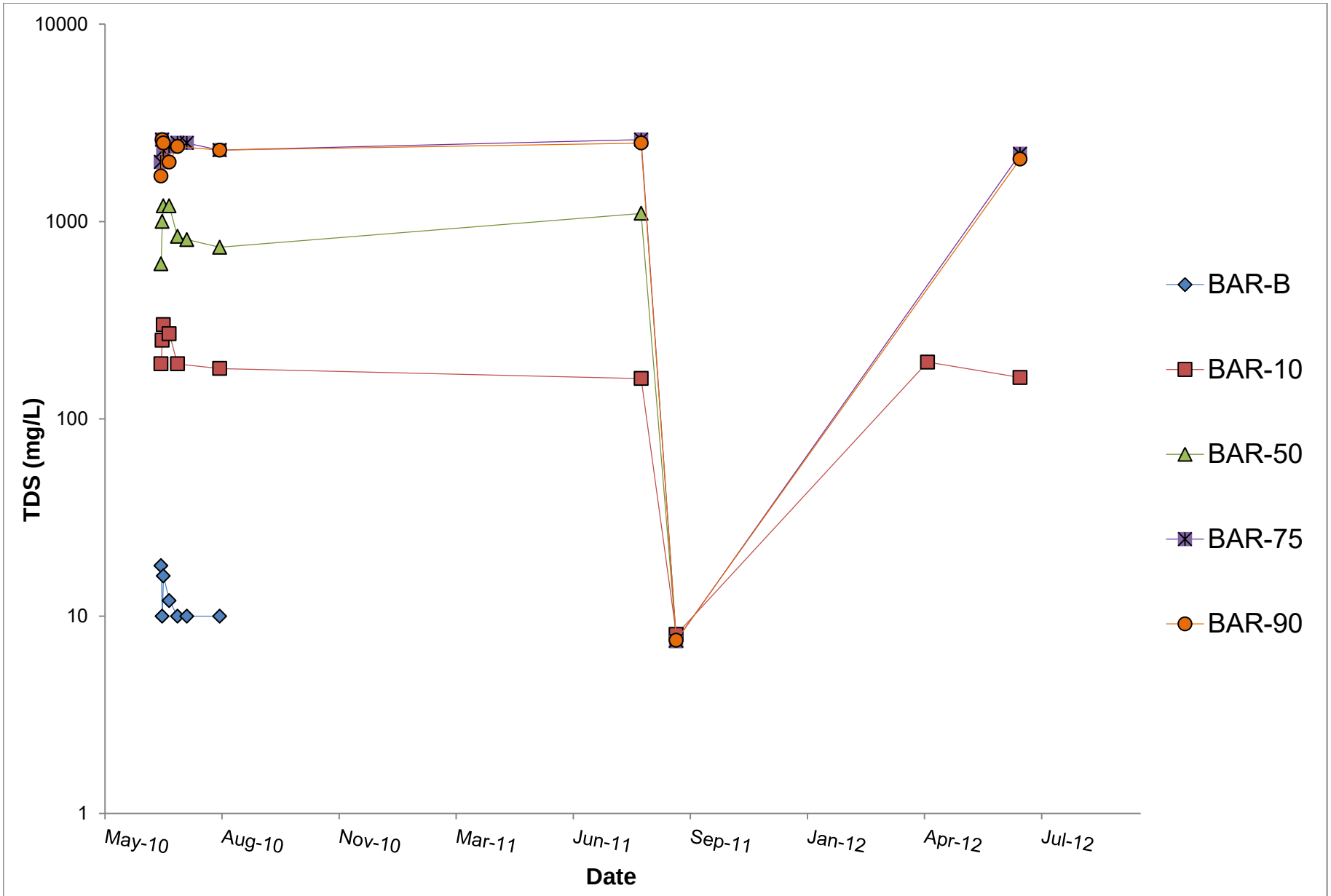

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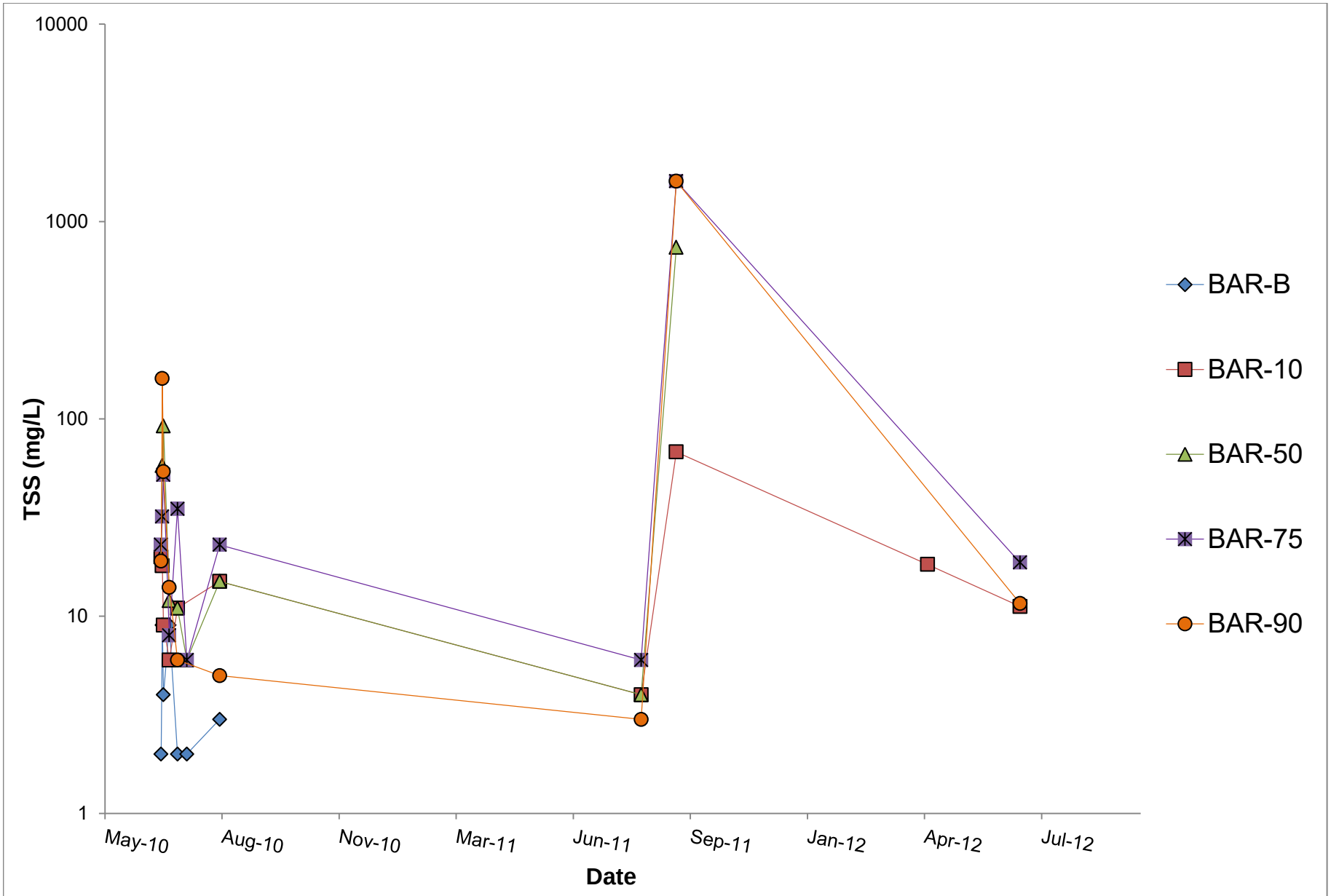

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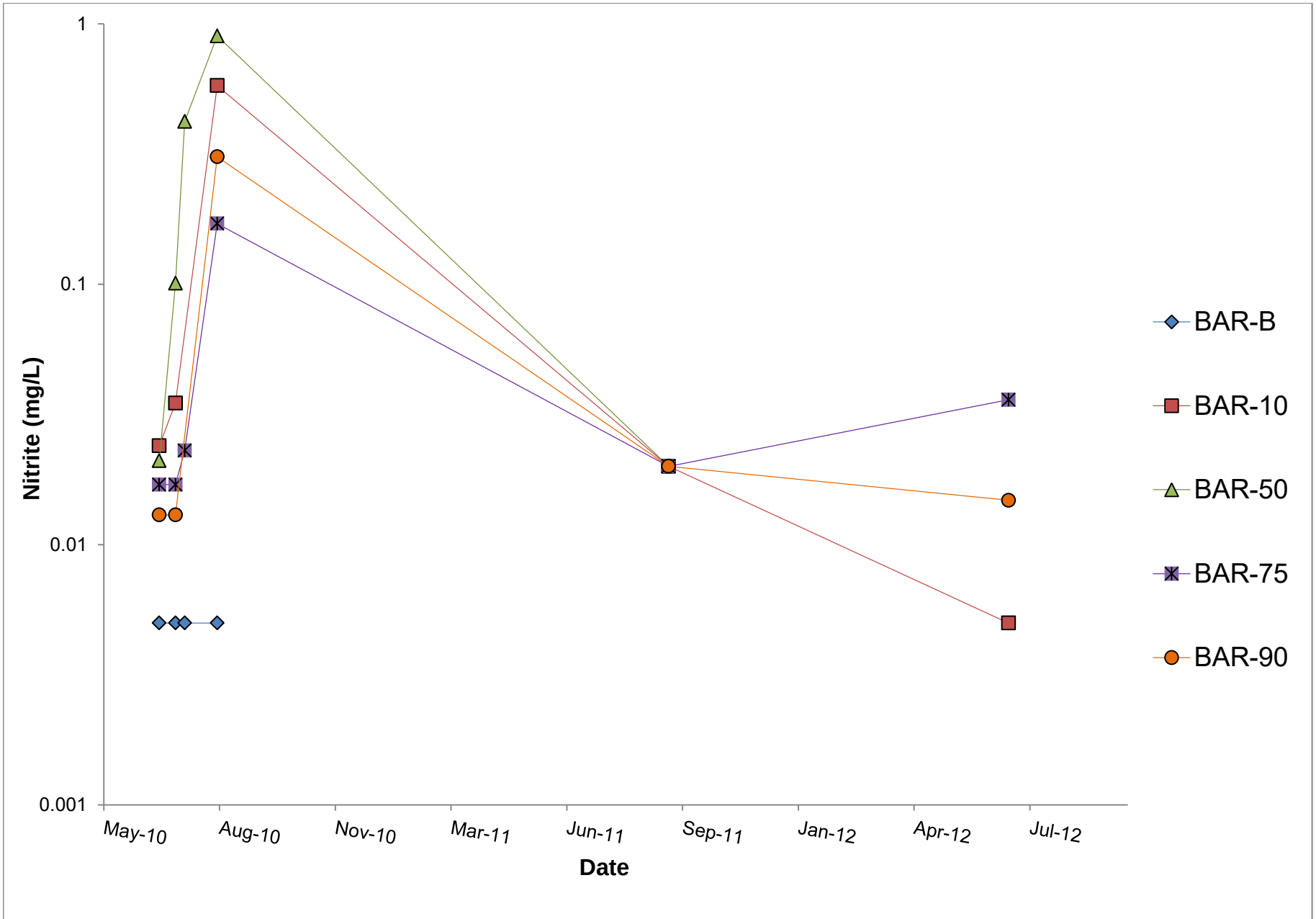

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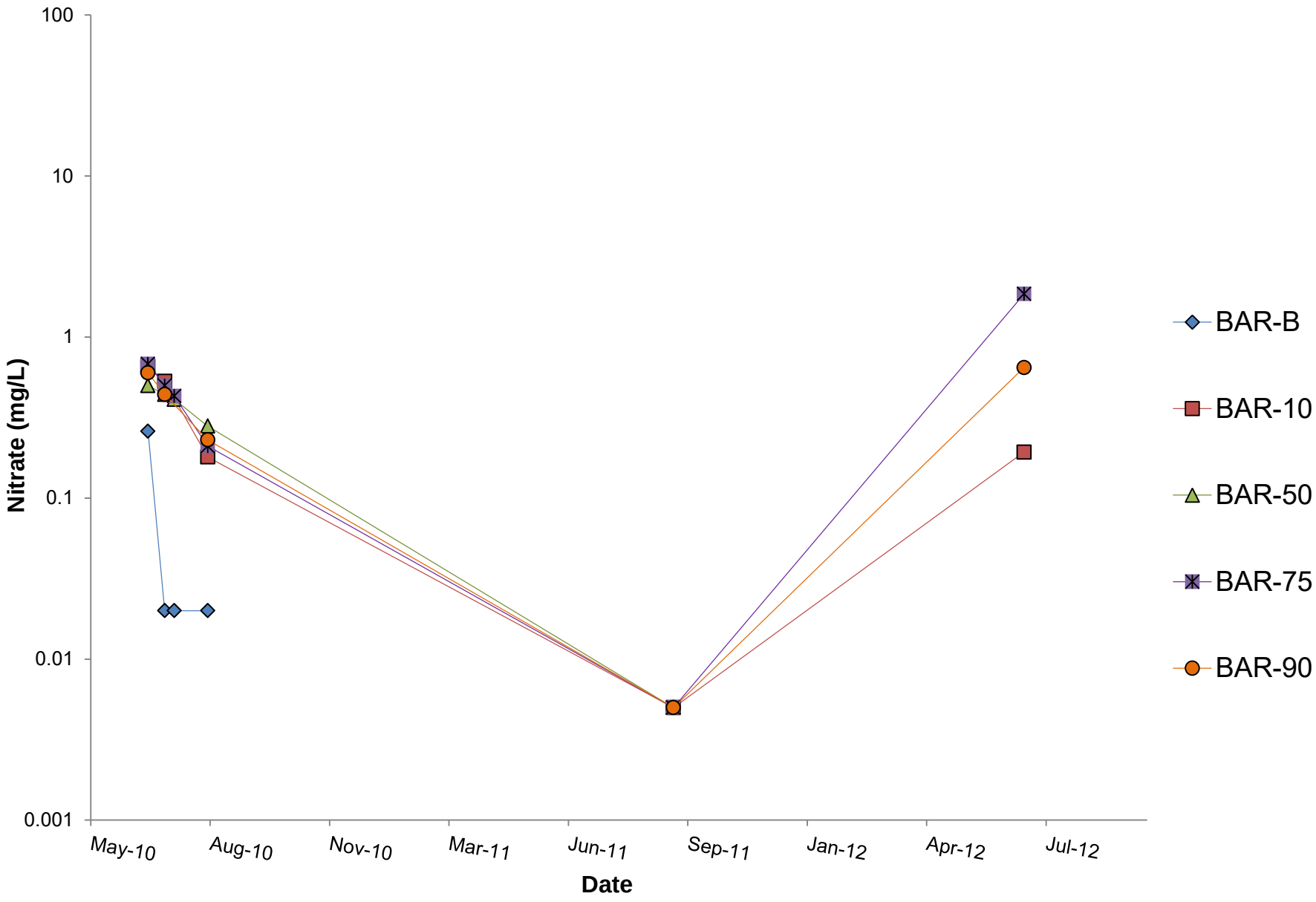

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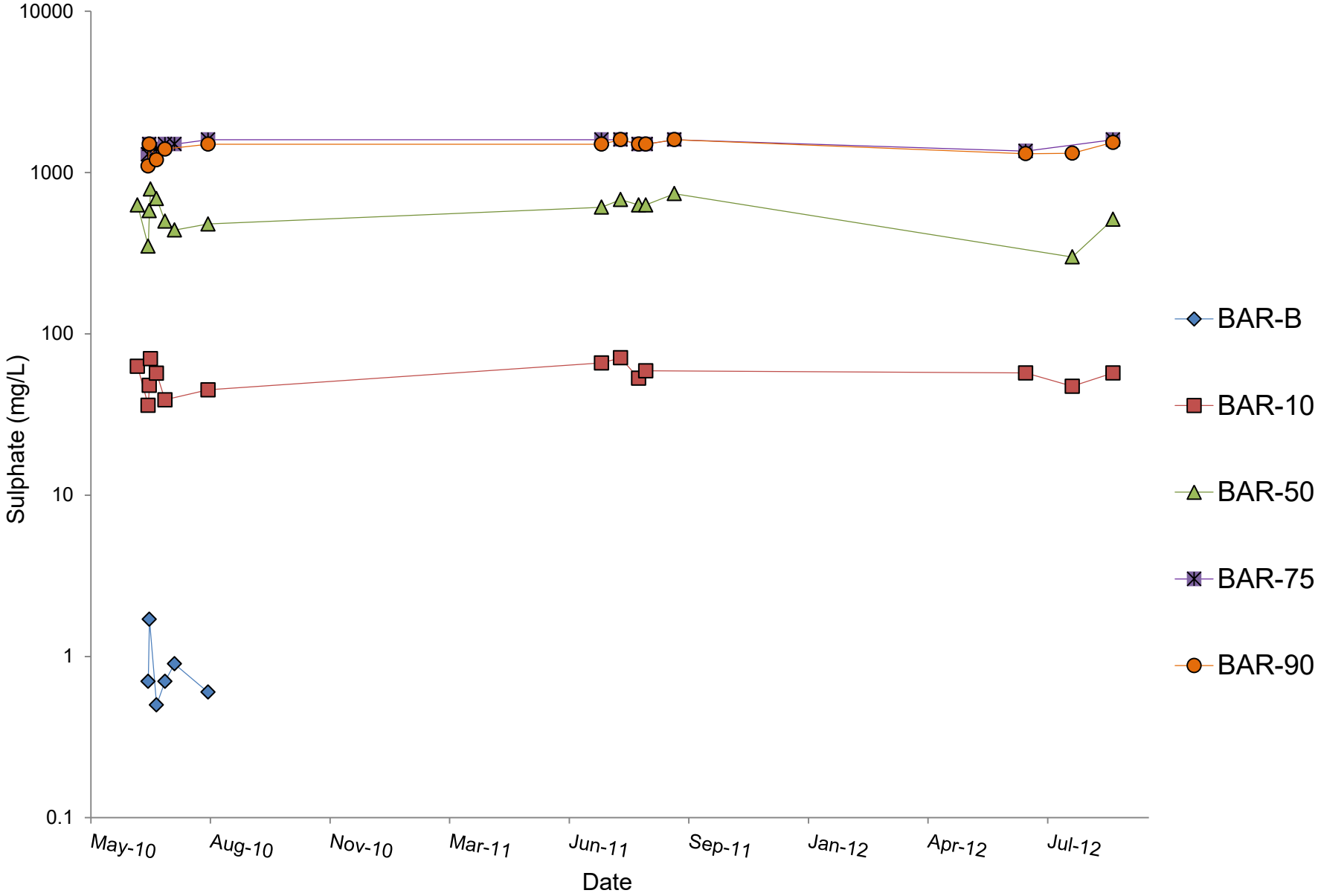

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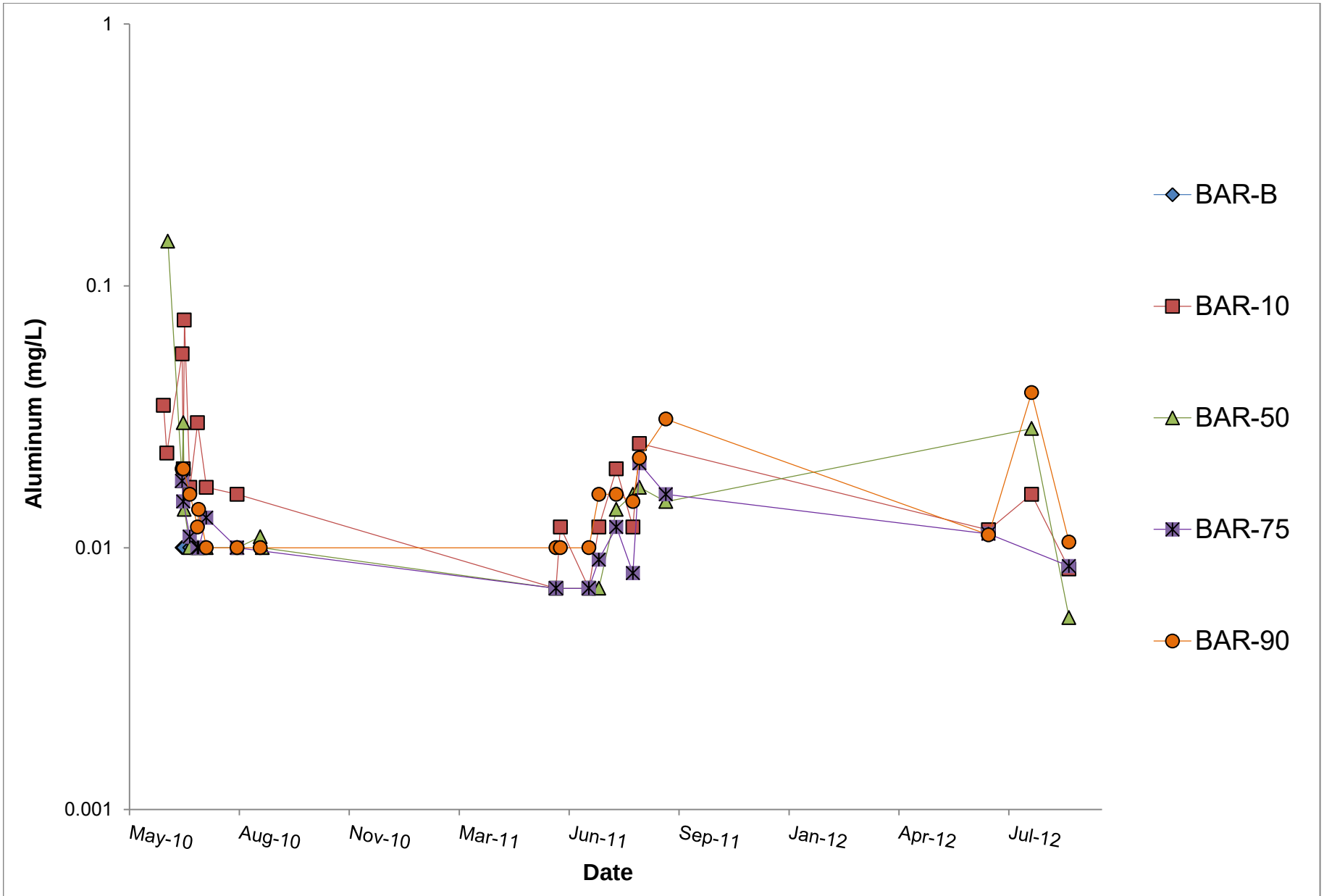

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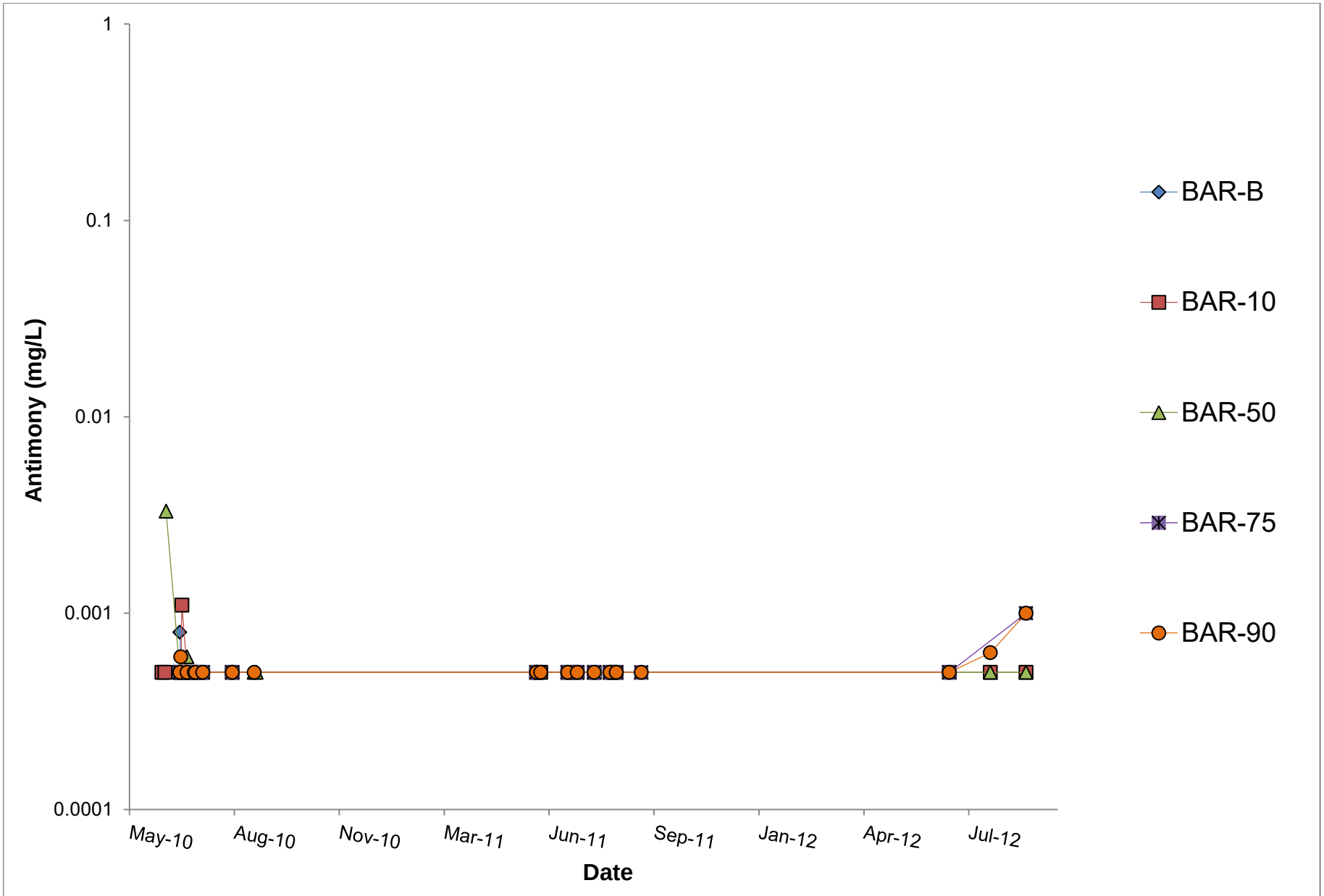

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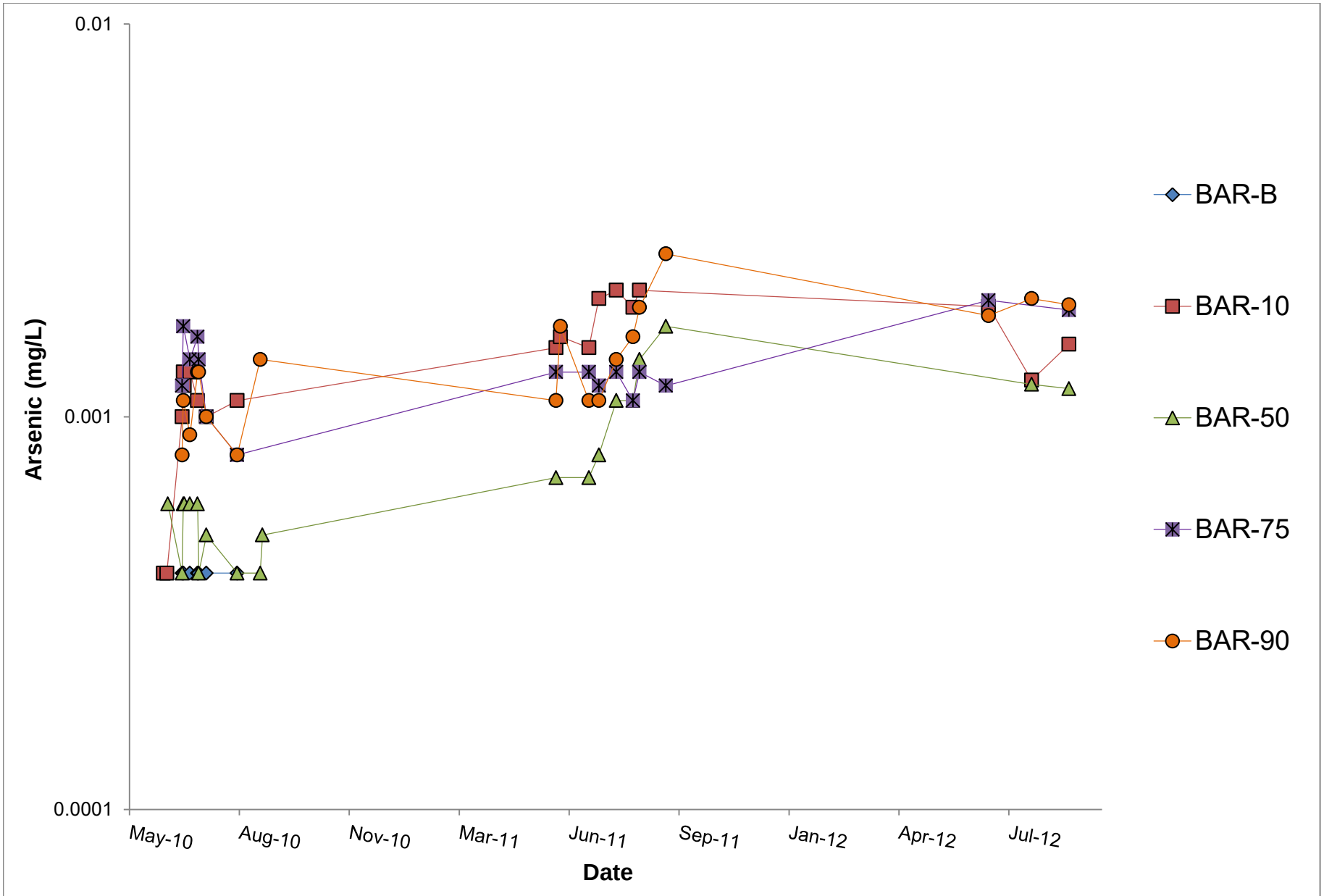

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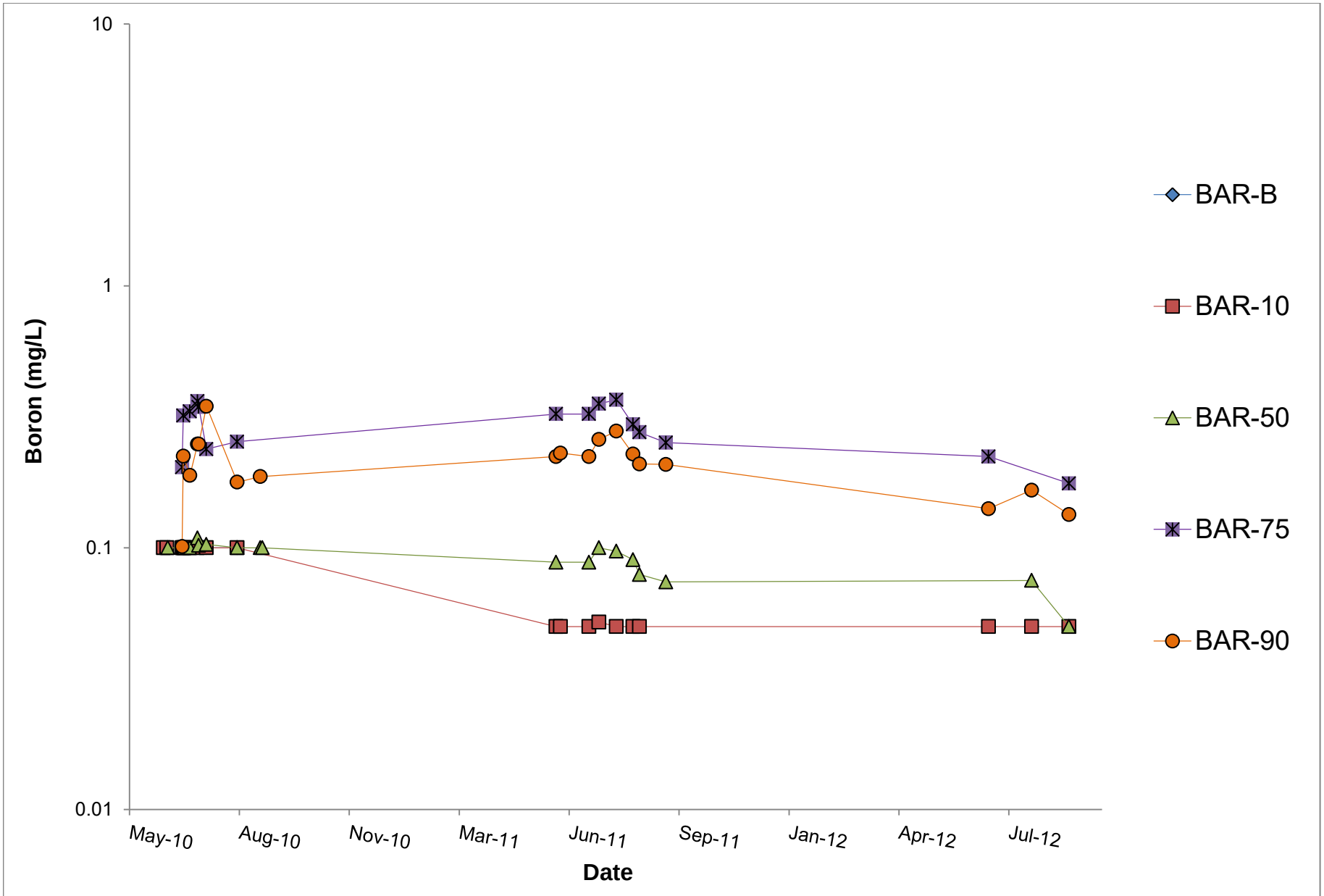

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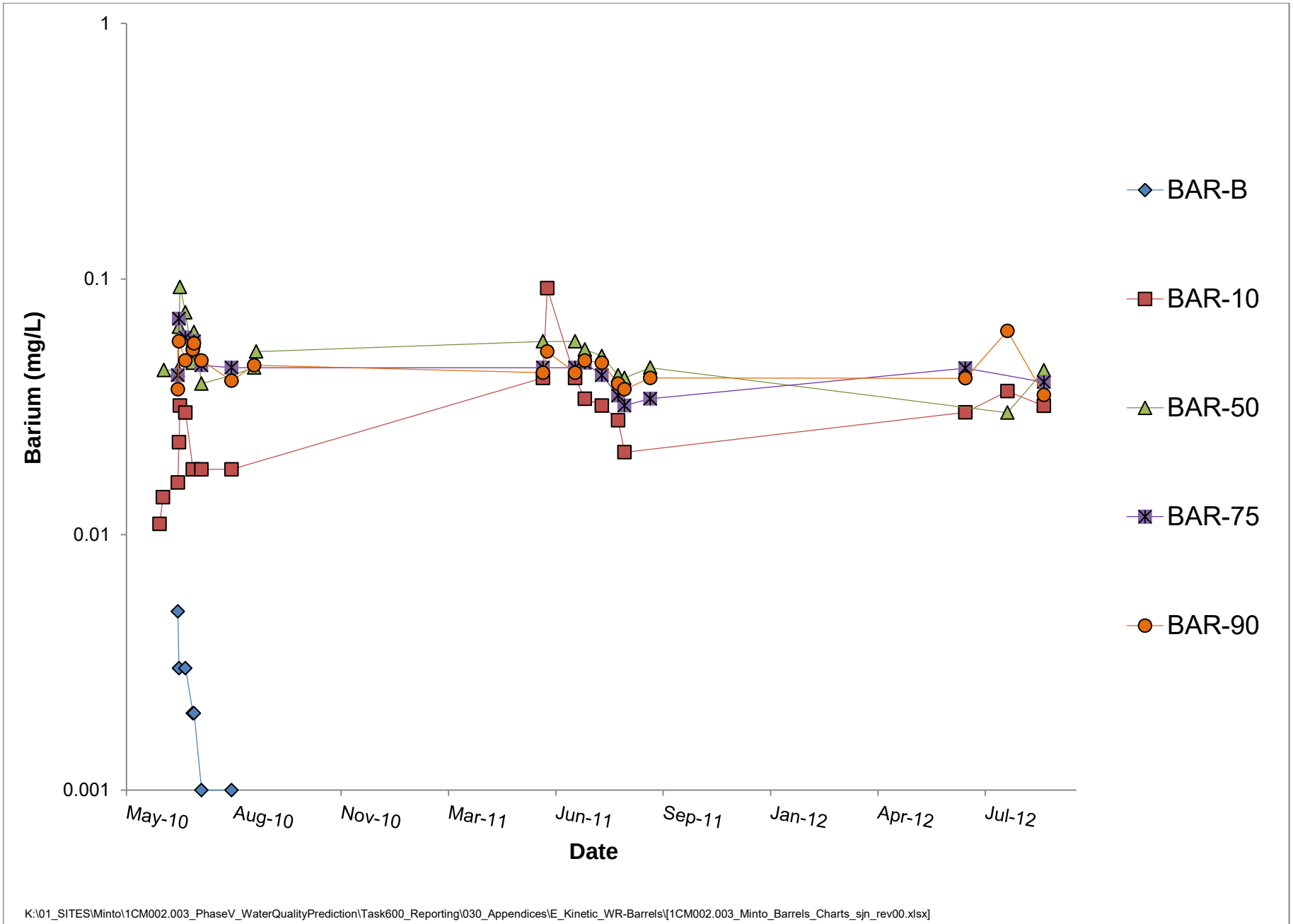

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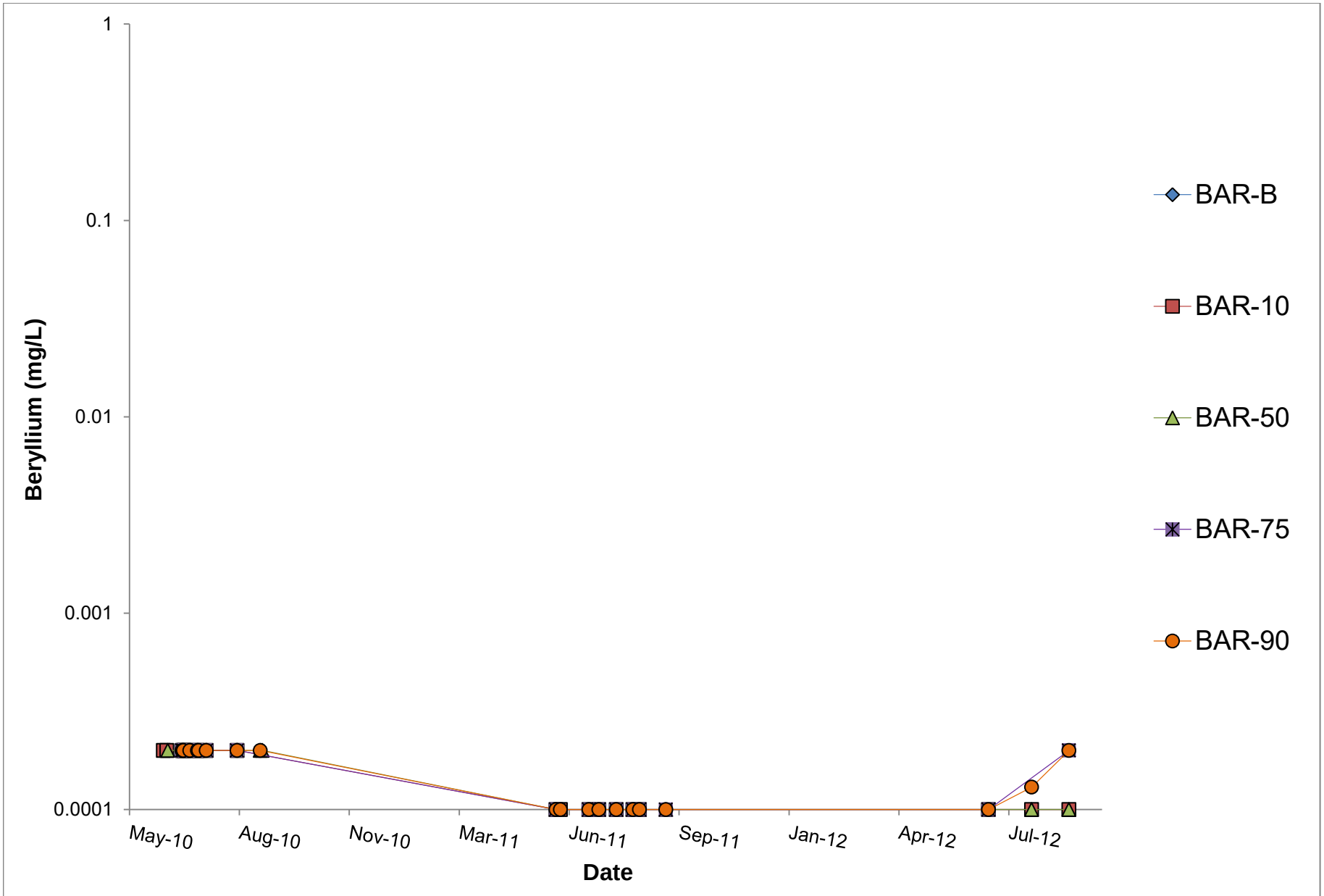

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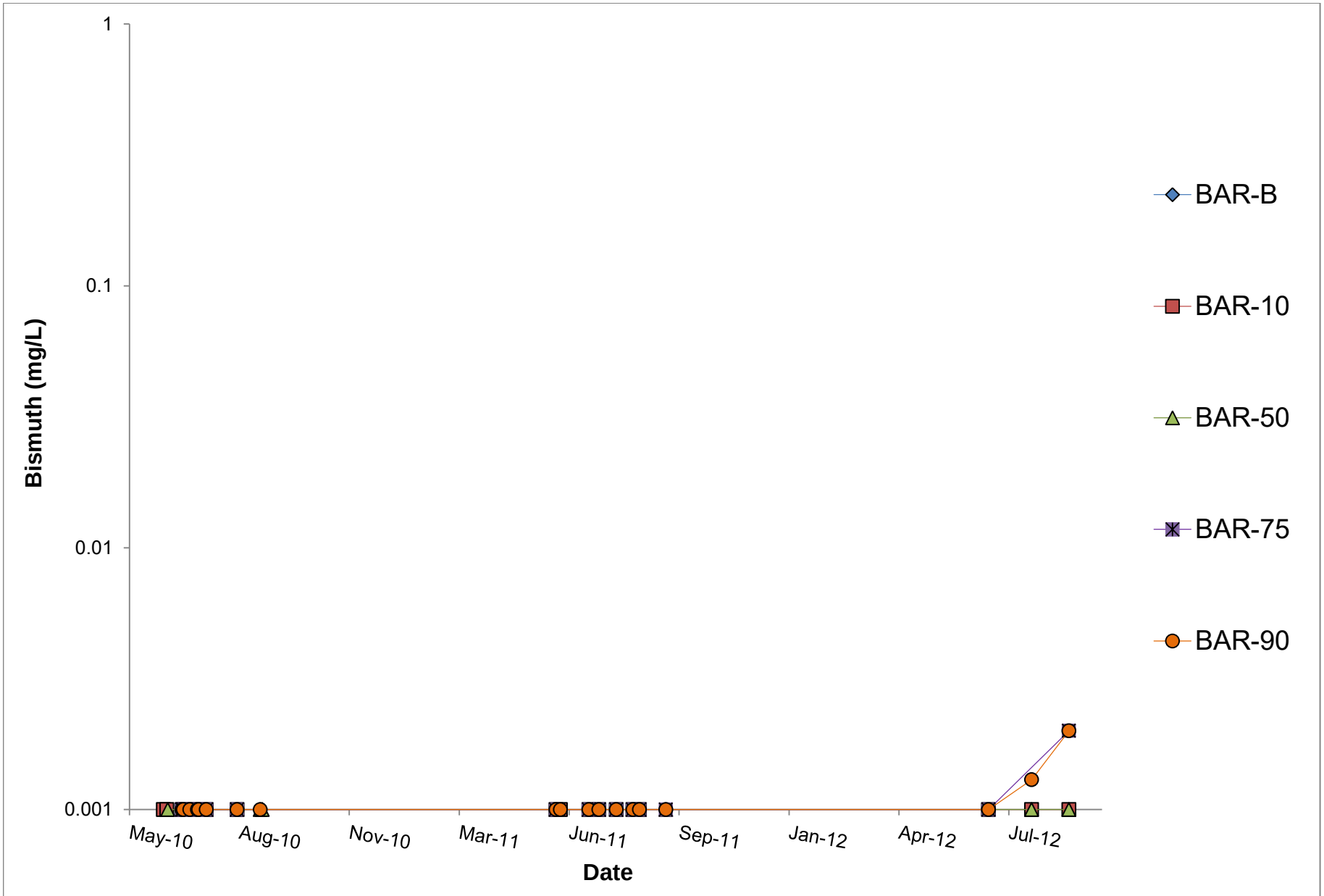

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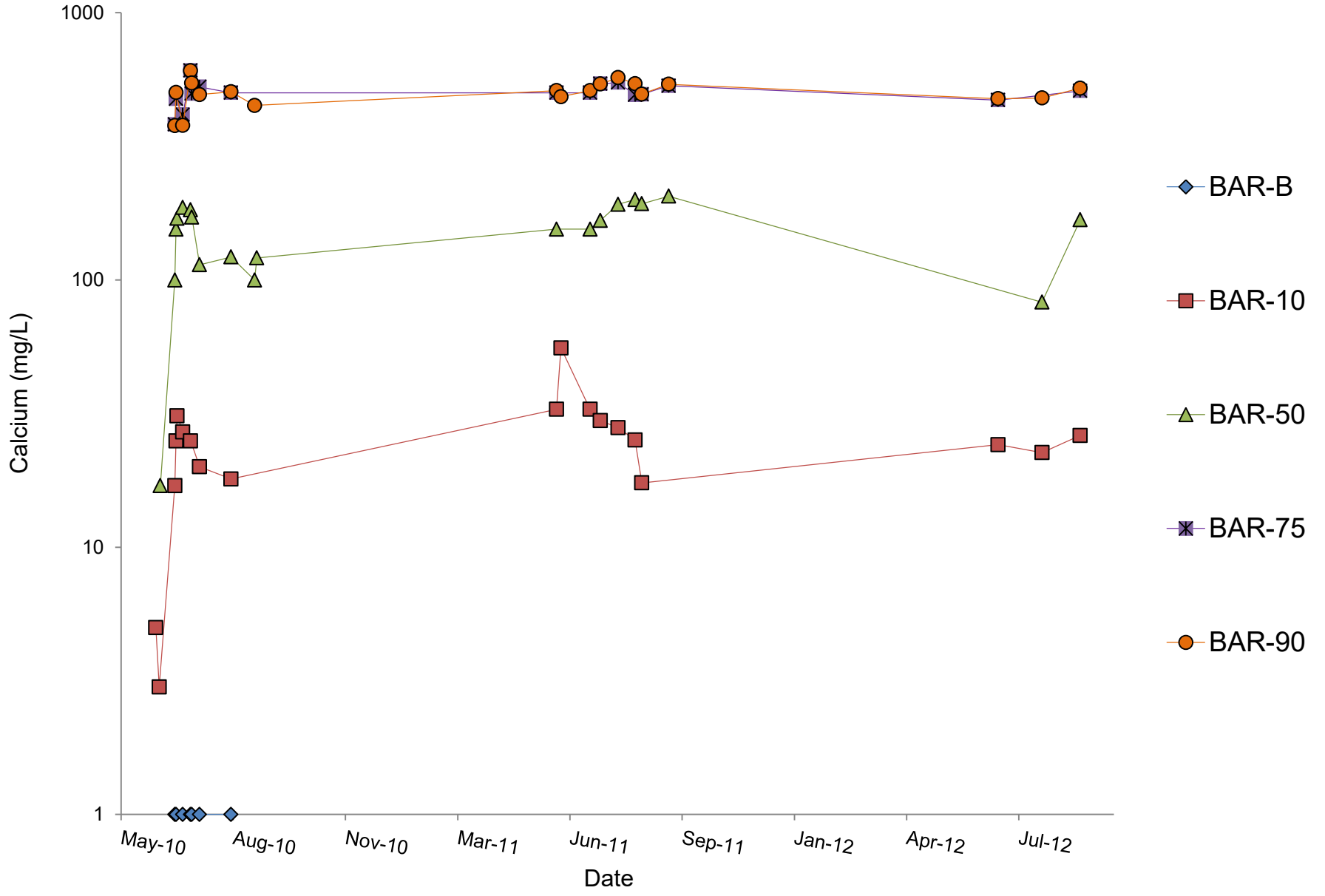

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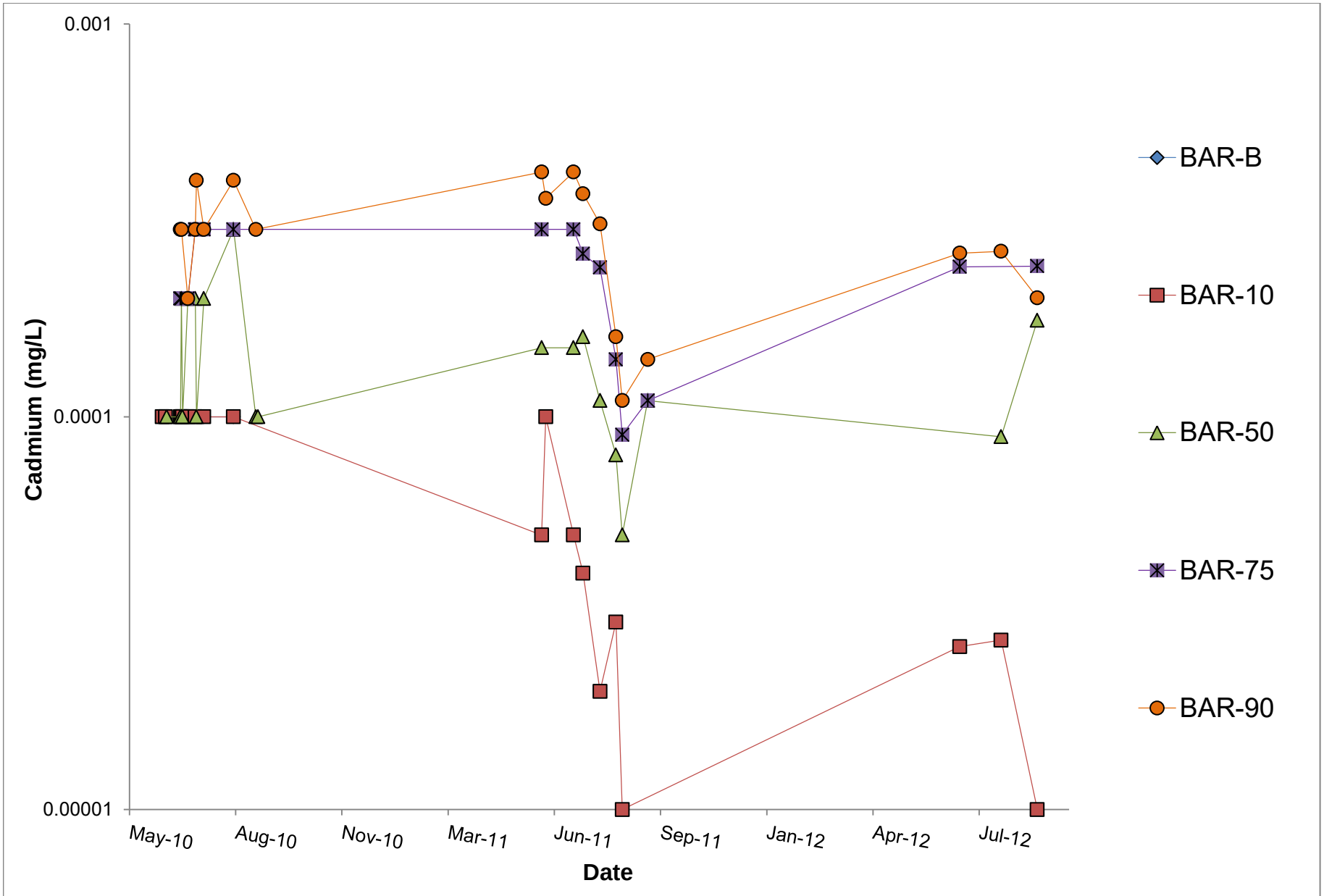

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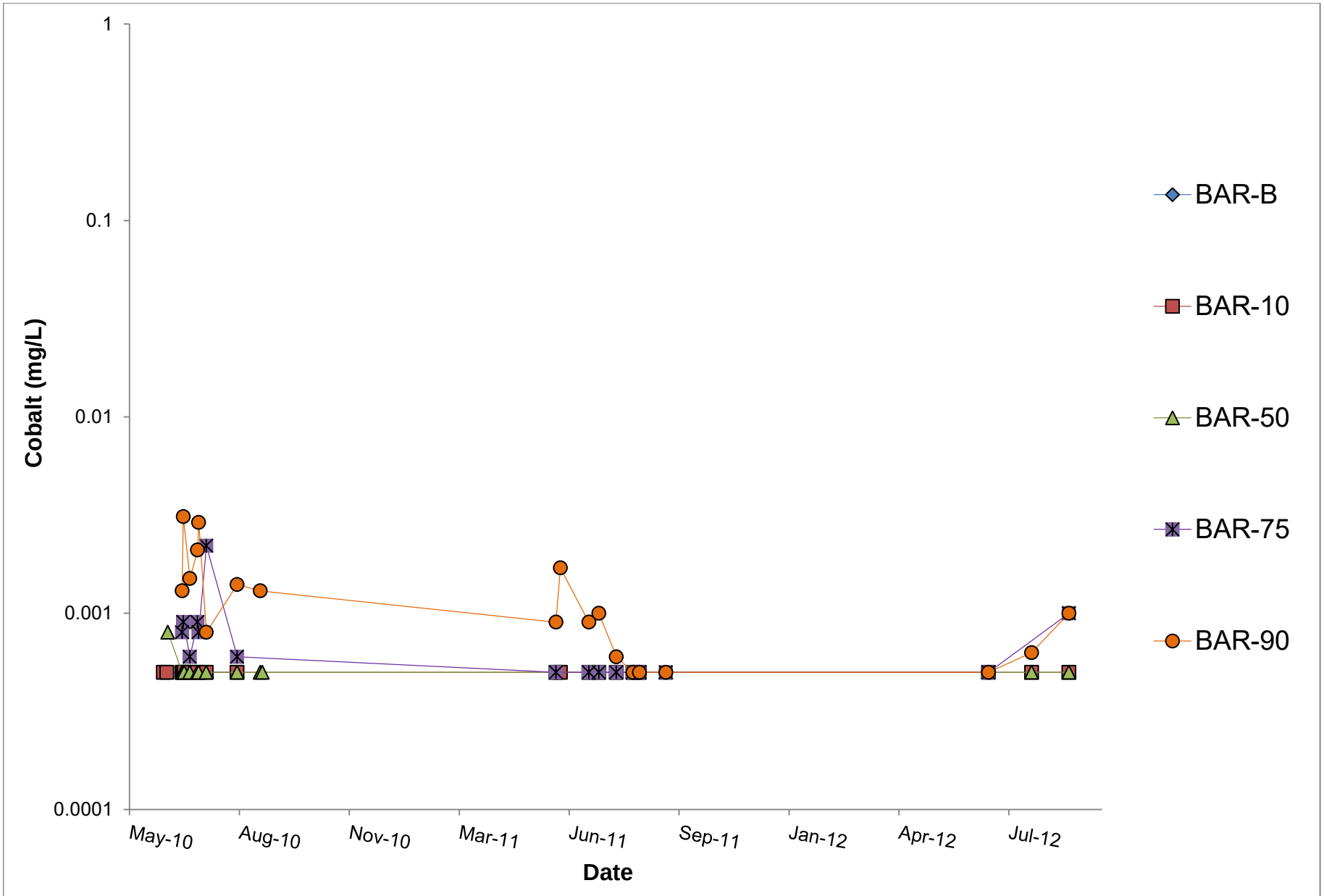

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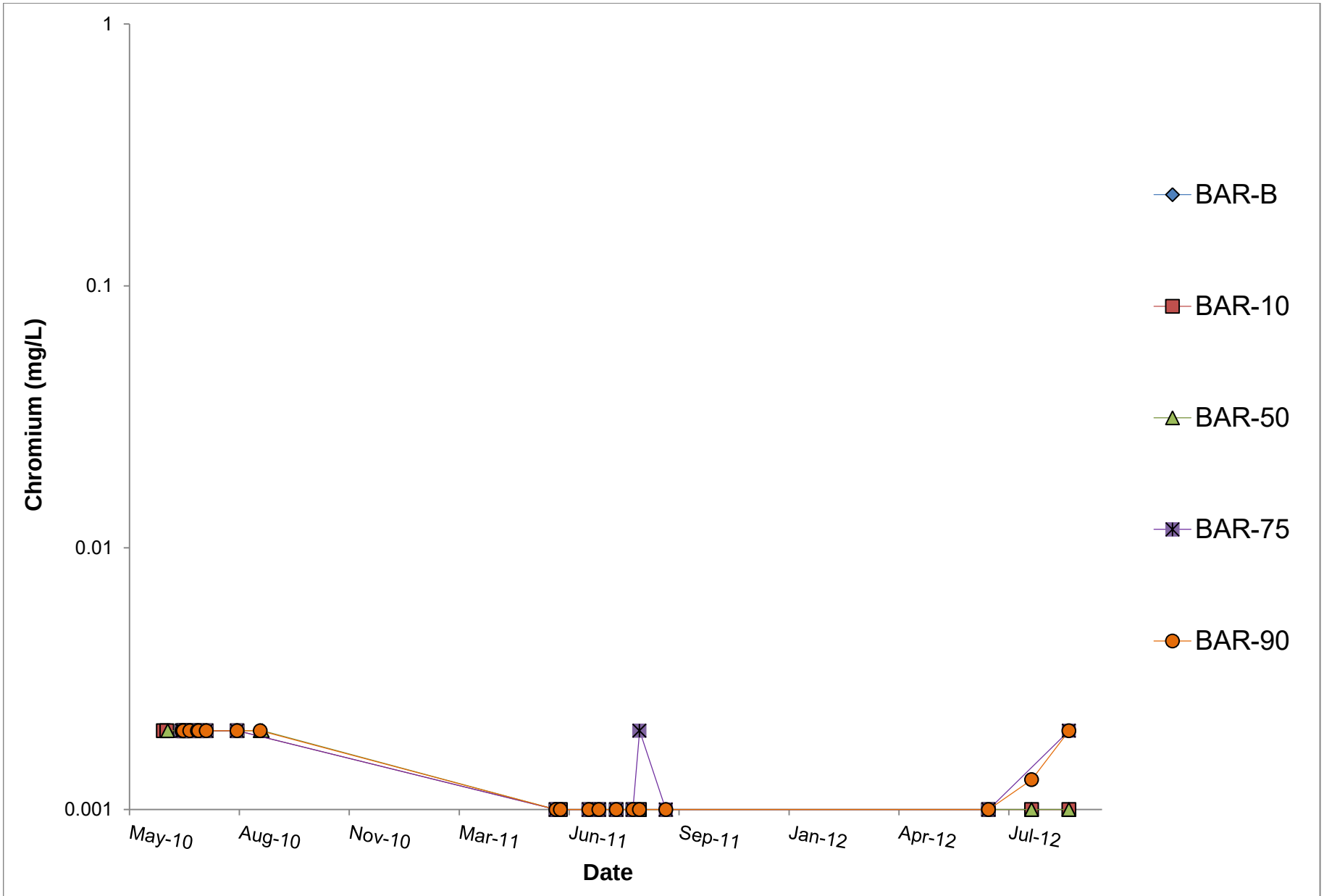

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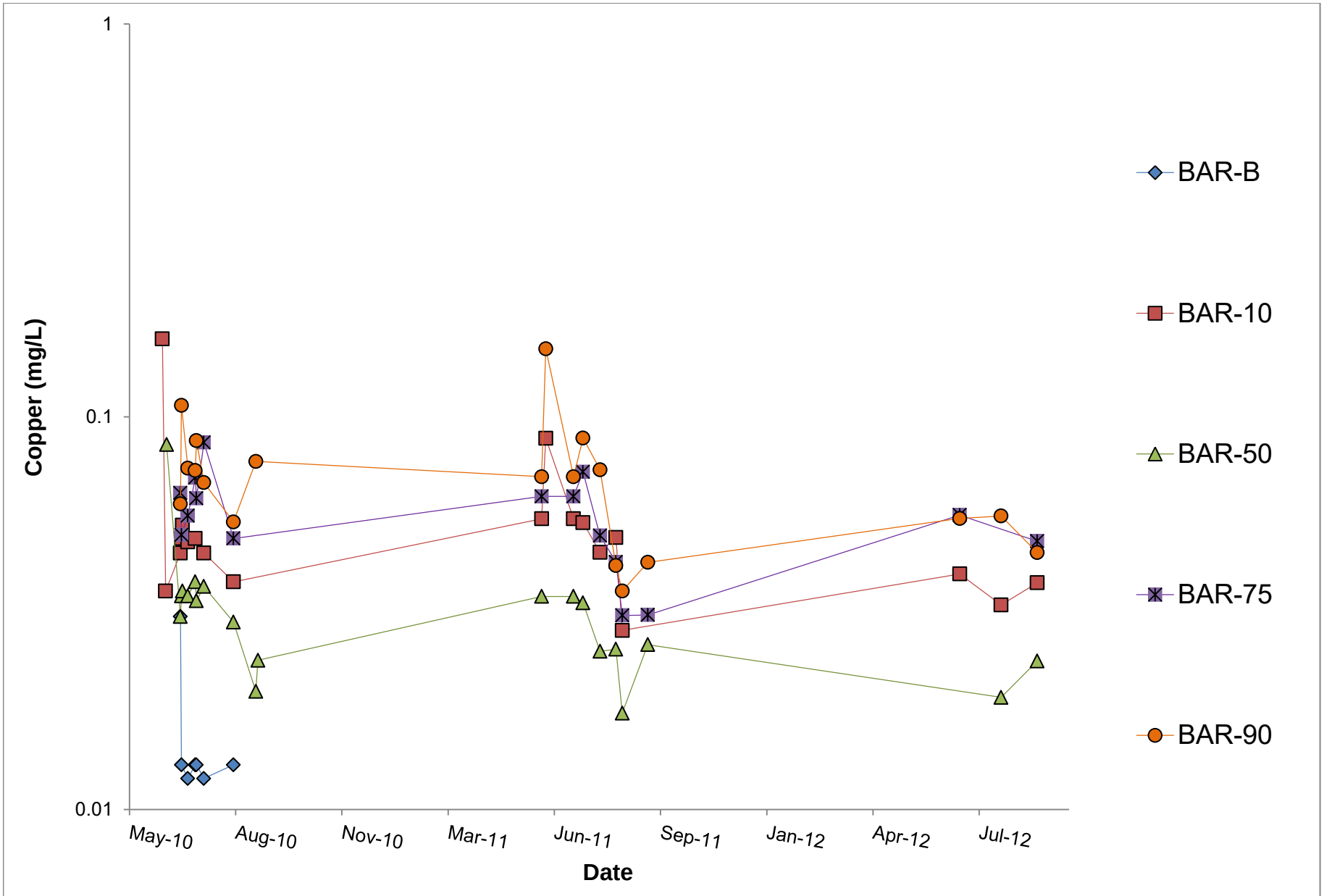

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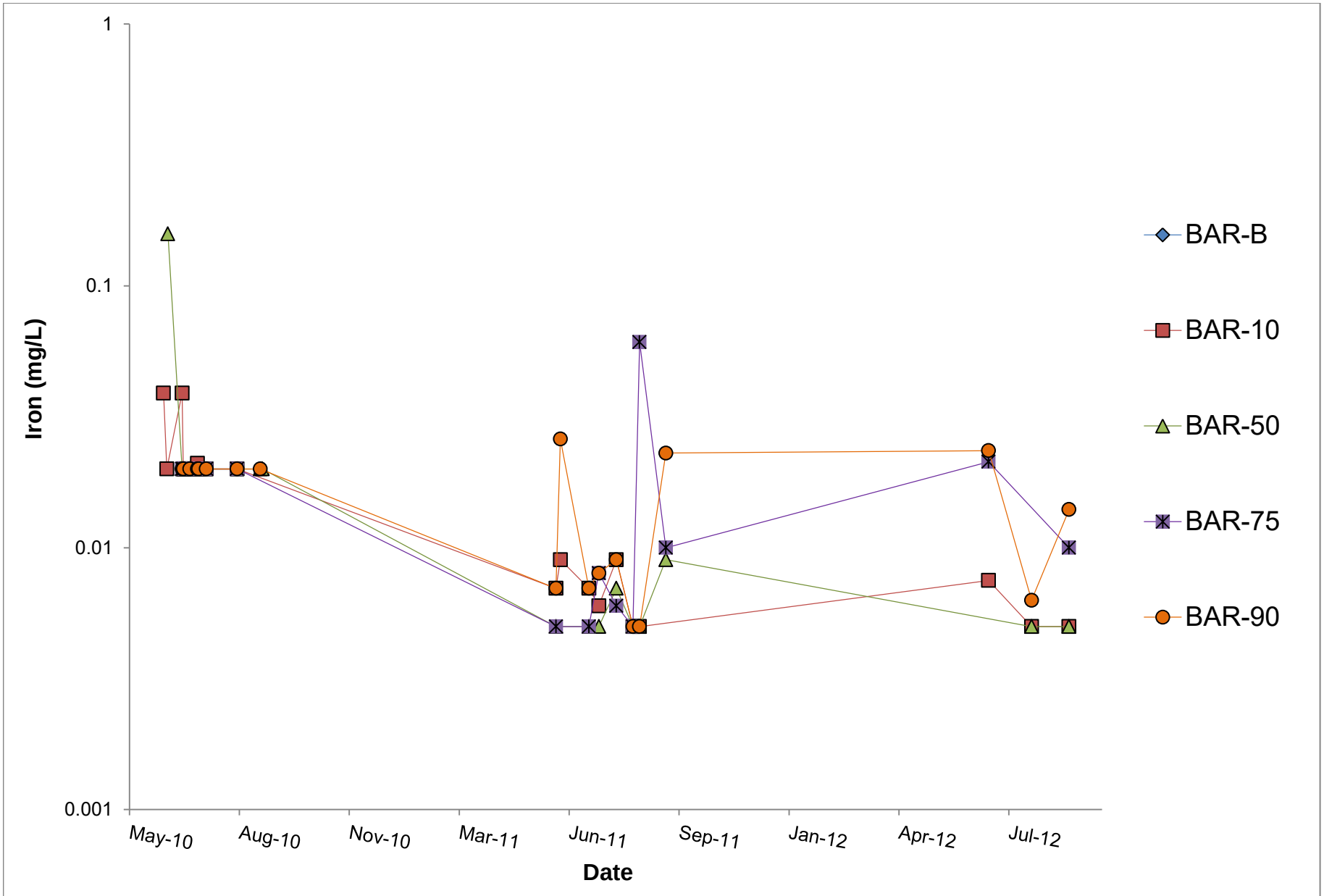

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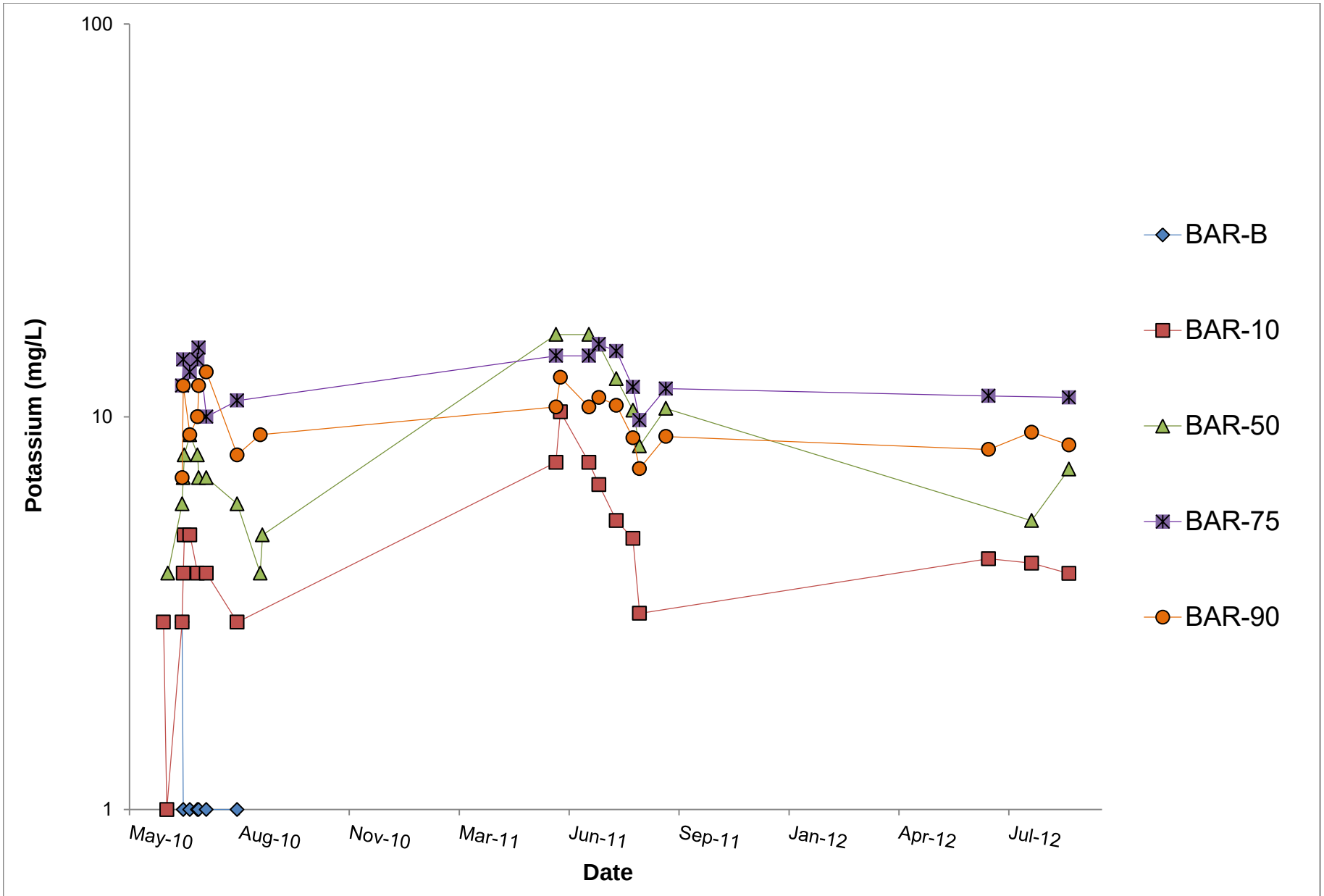

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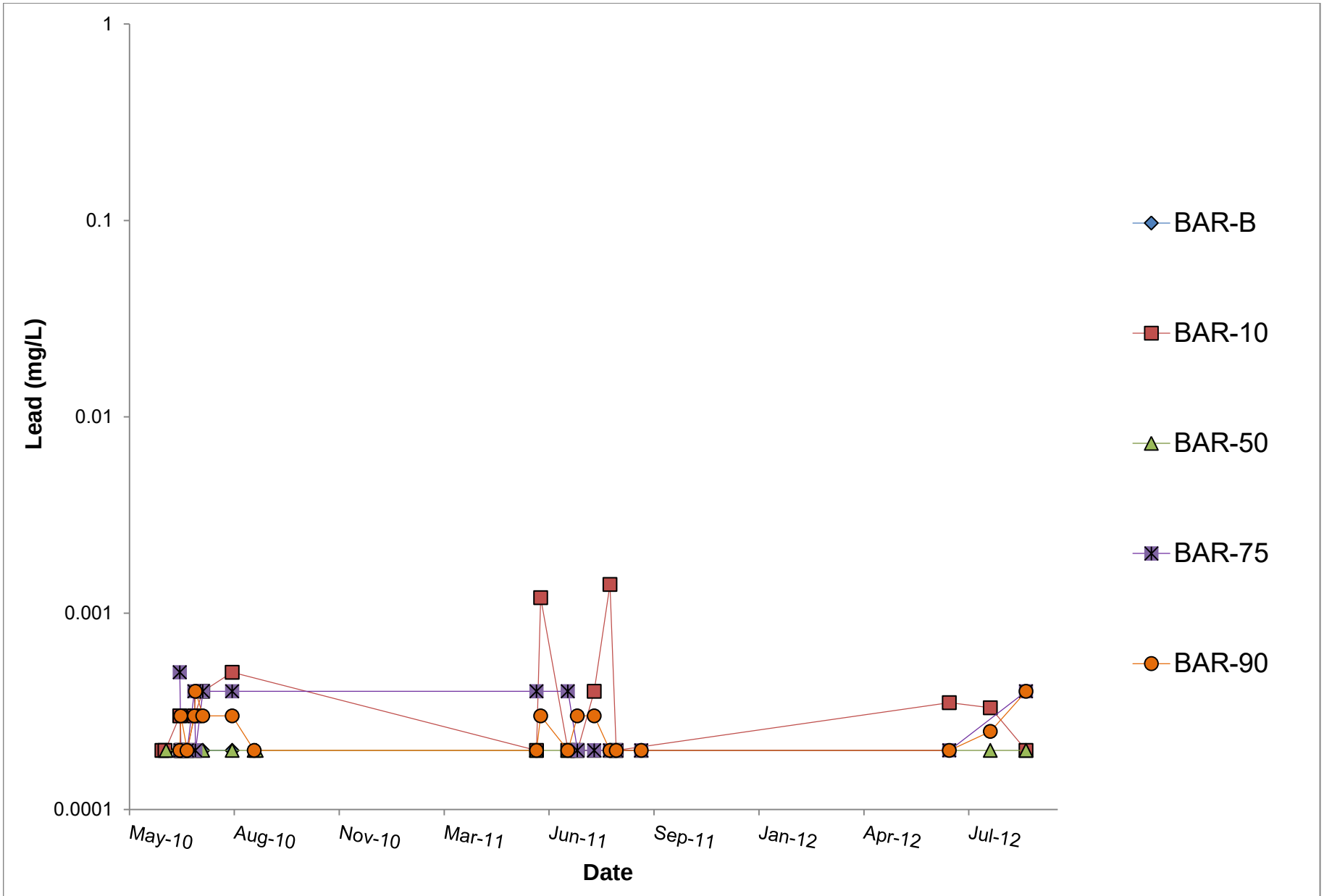

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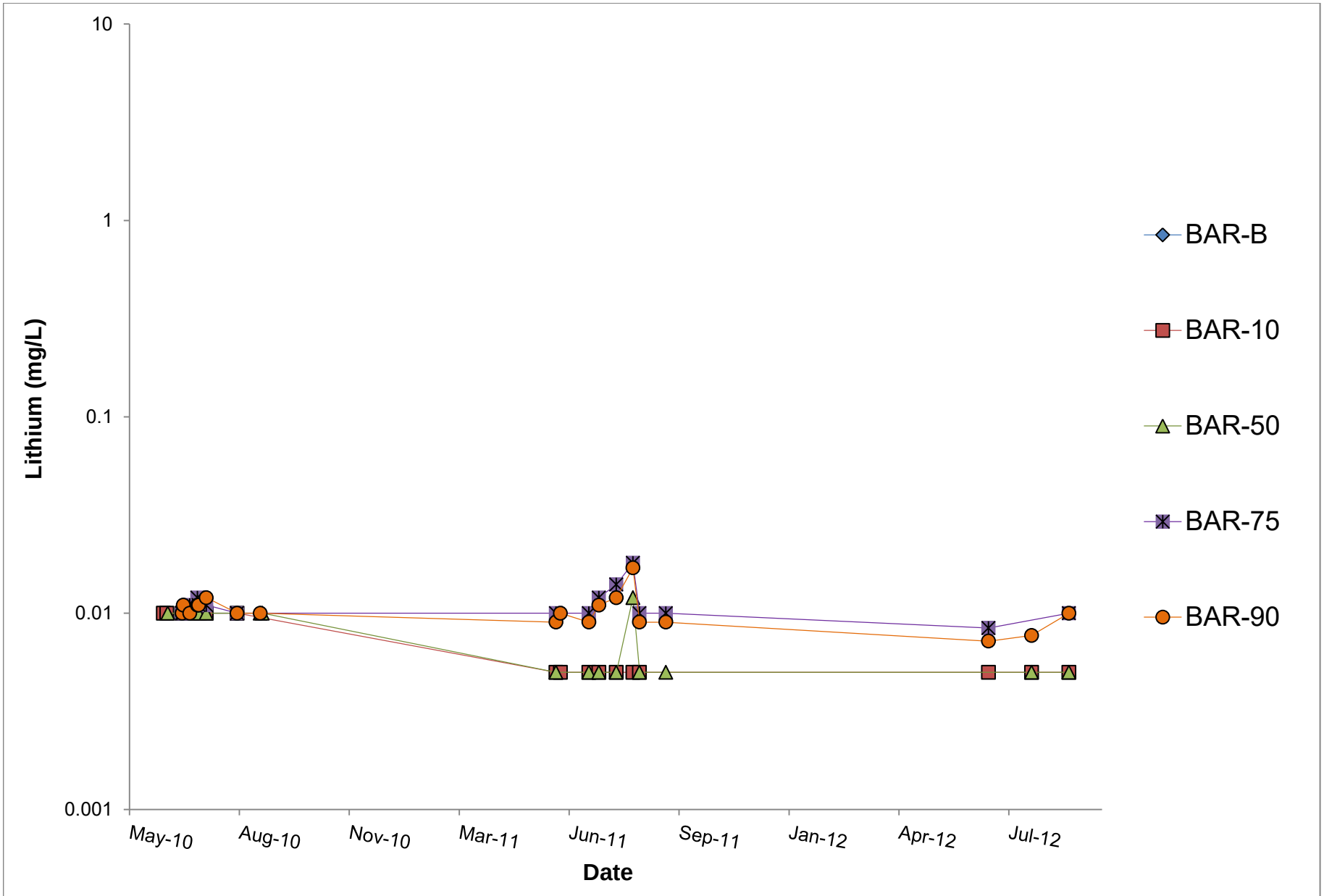

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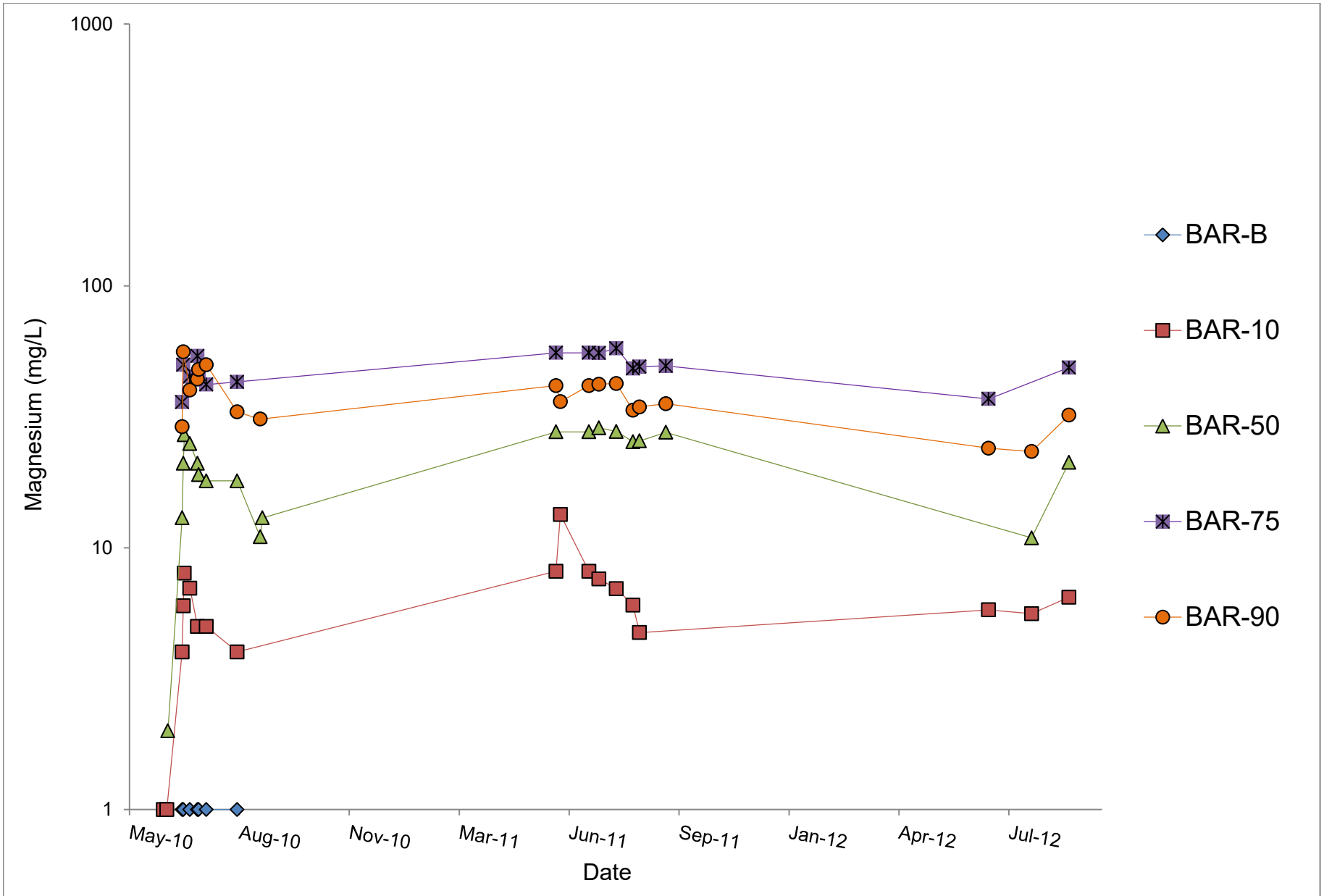

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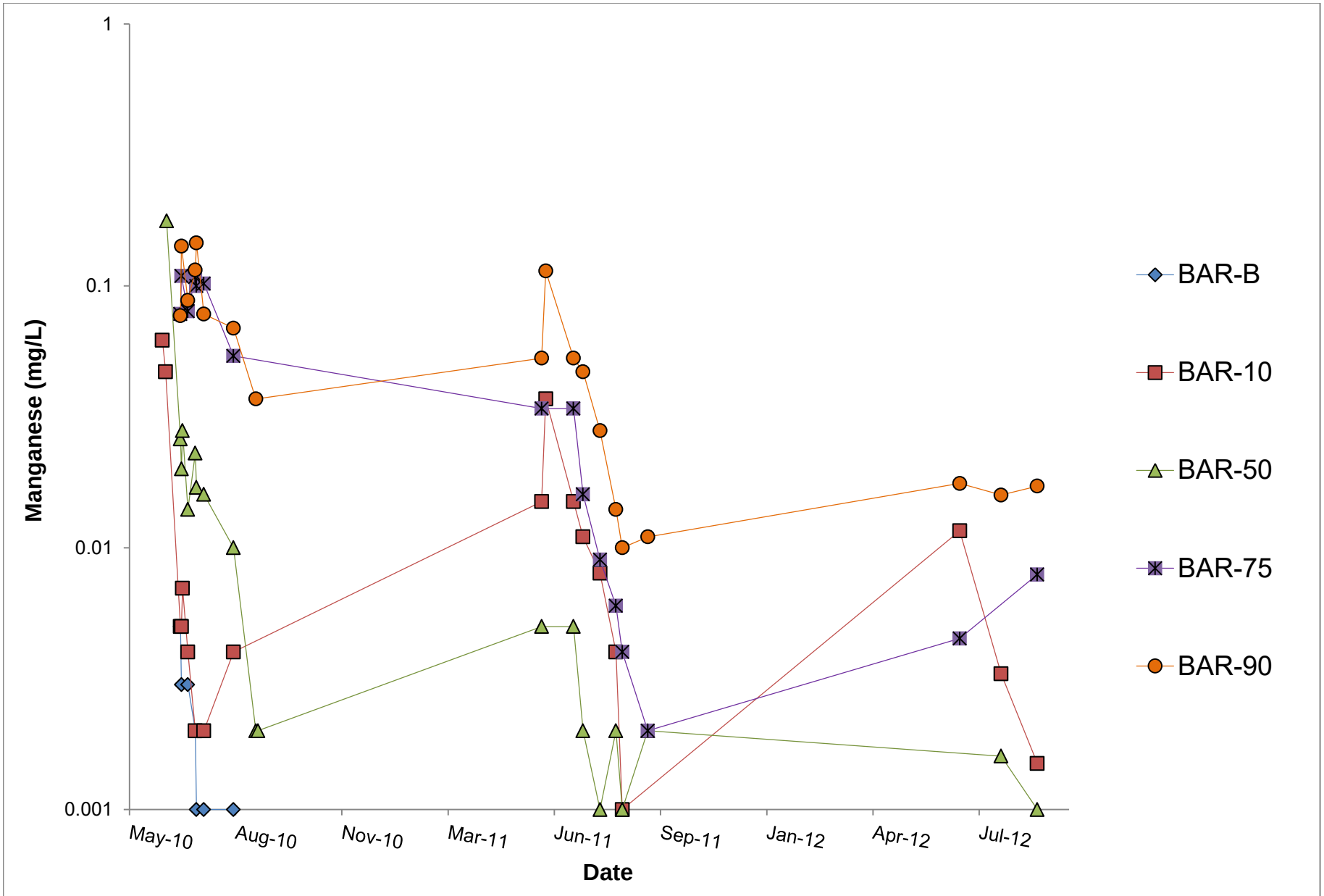

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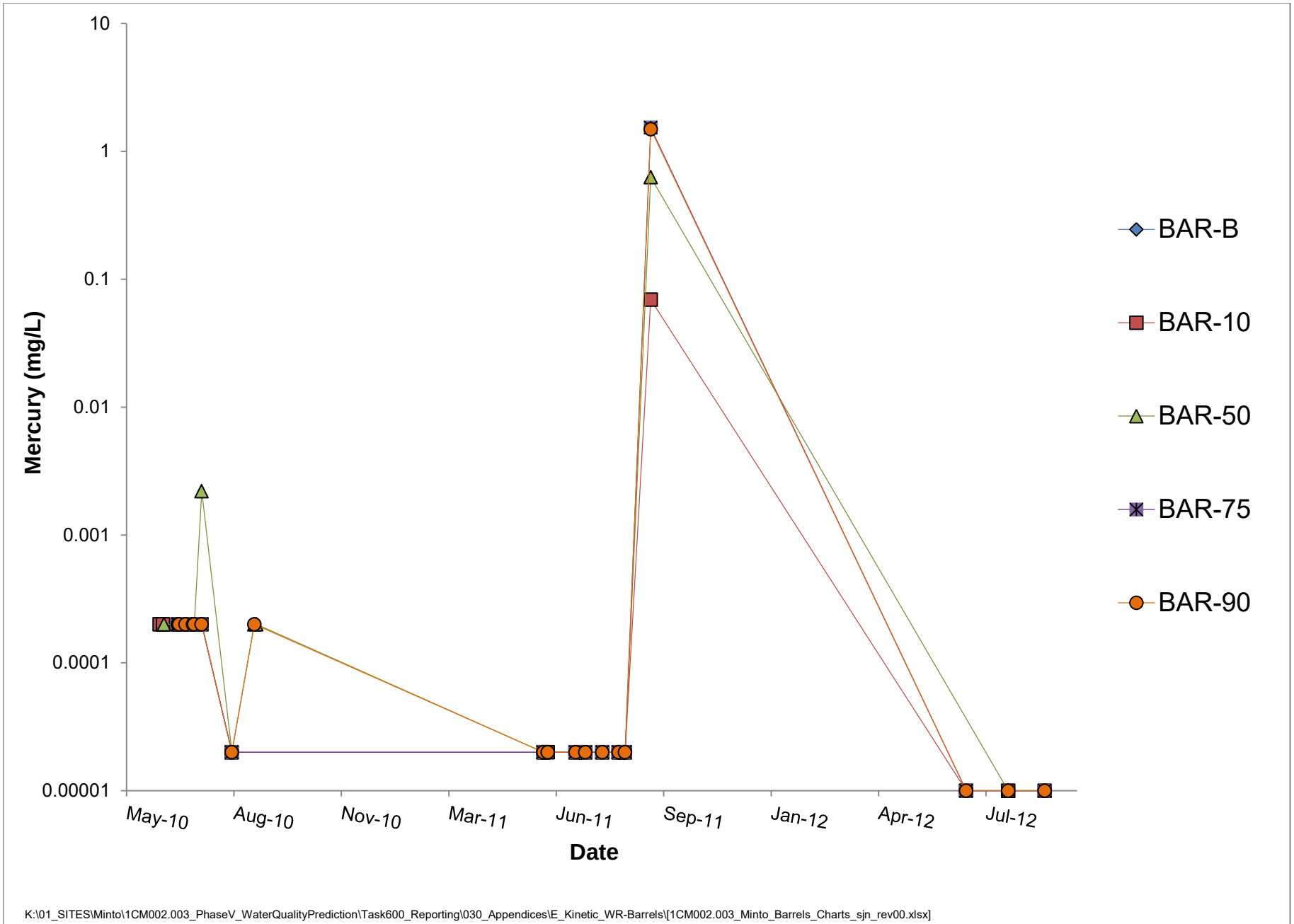
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1
0.1
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Mercury (mg/L)
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BAR-90
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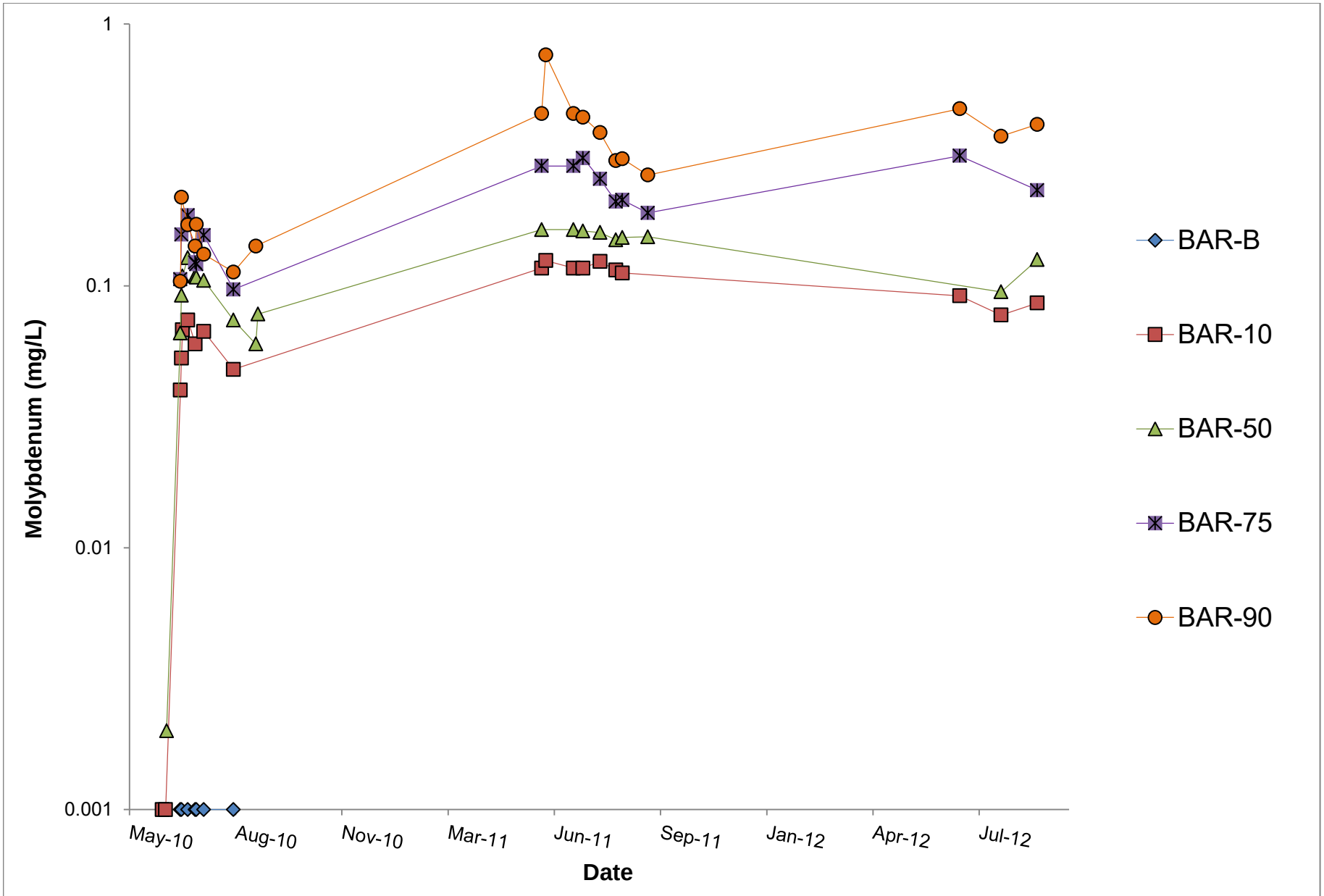

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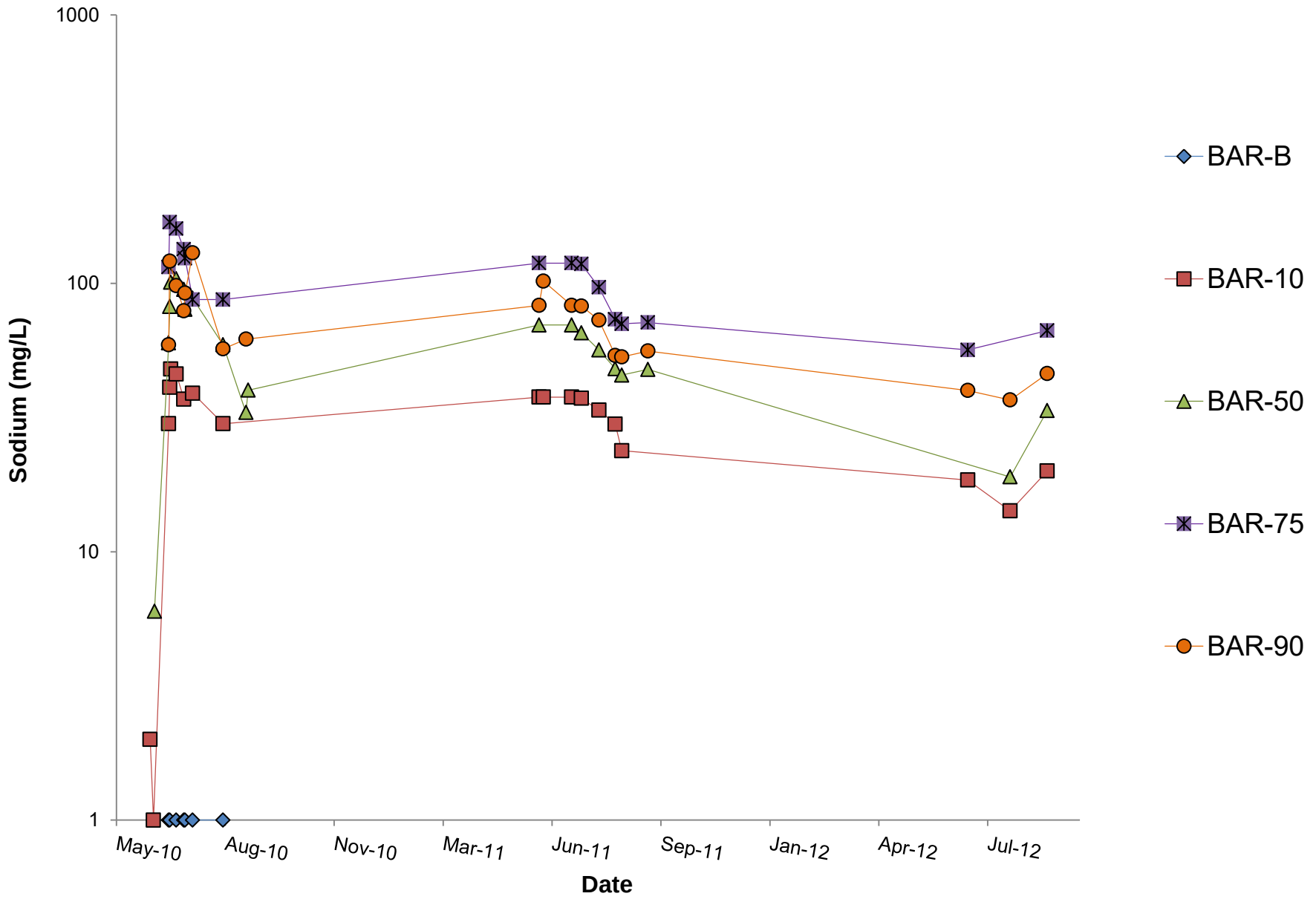

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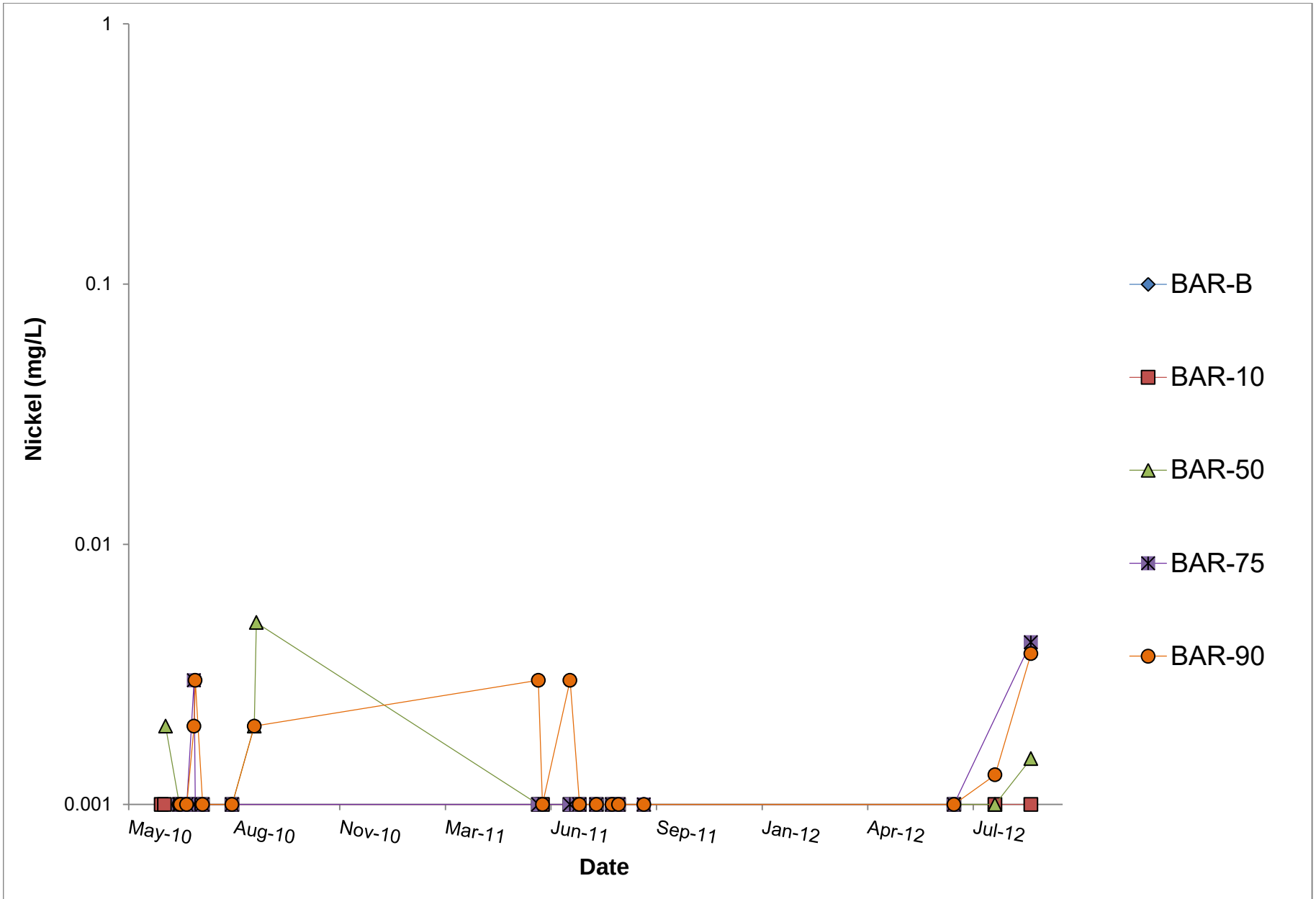

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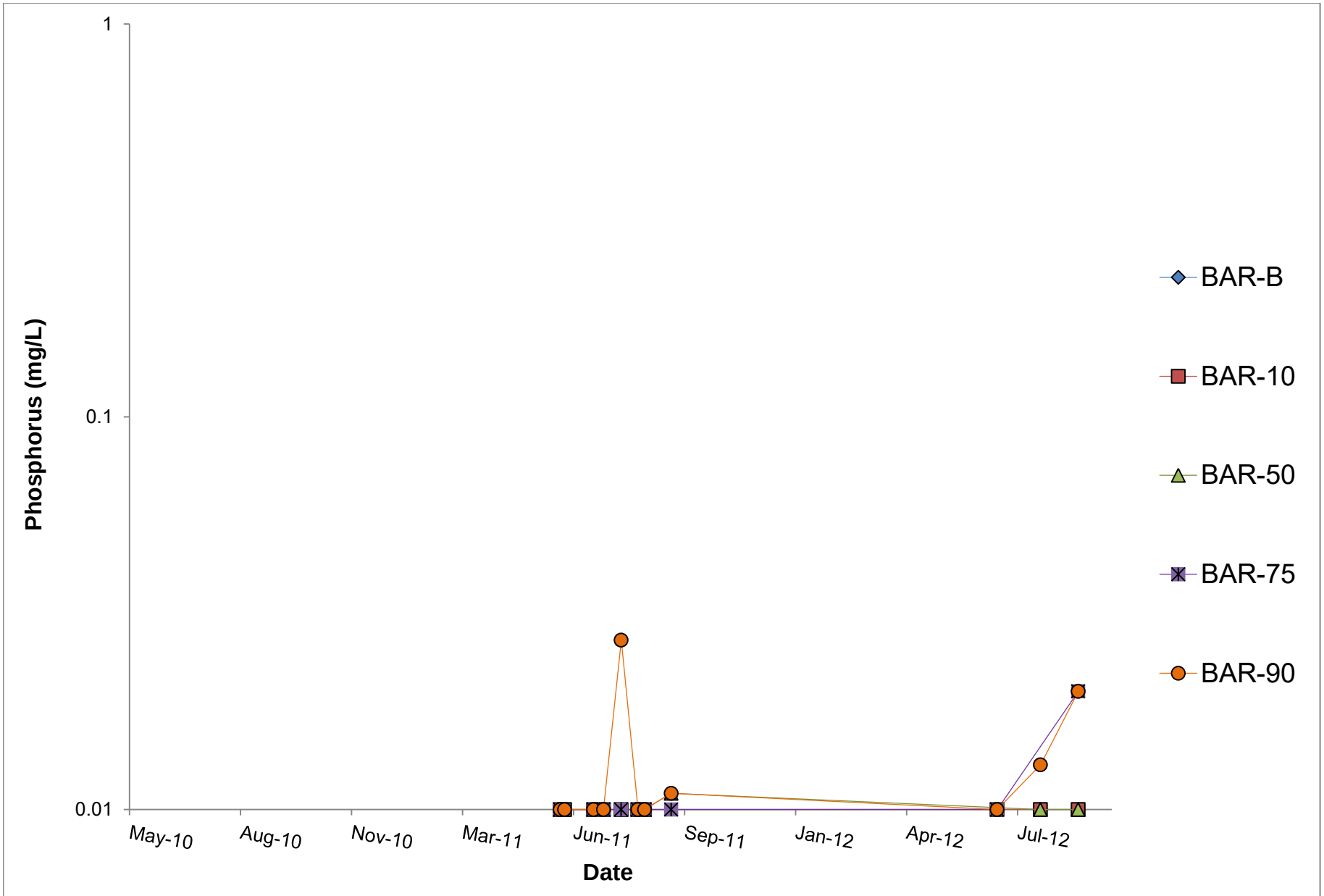

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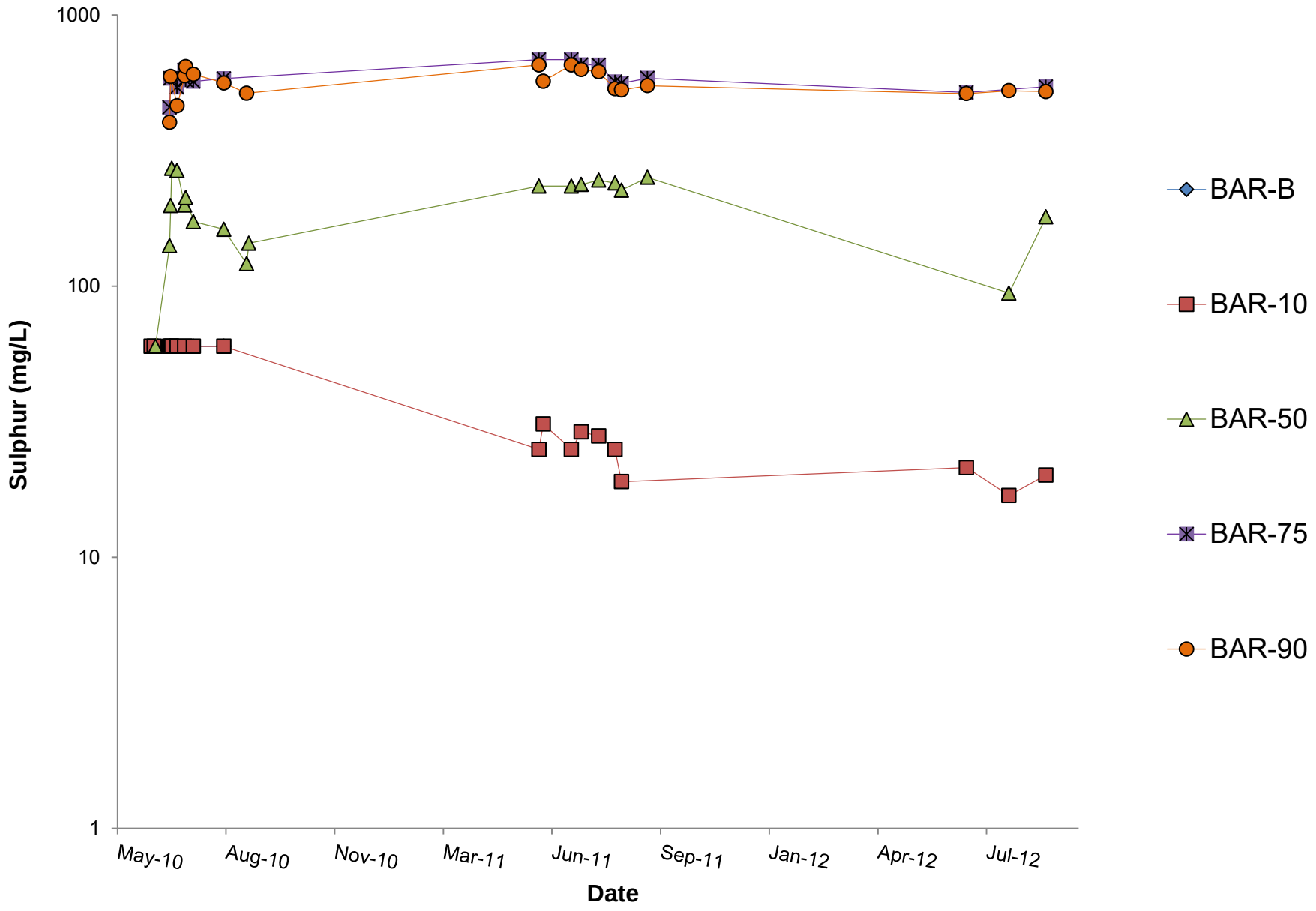

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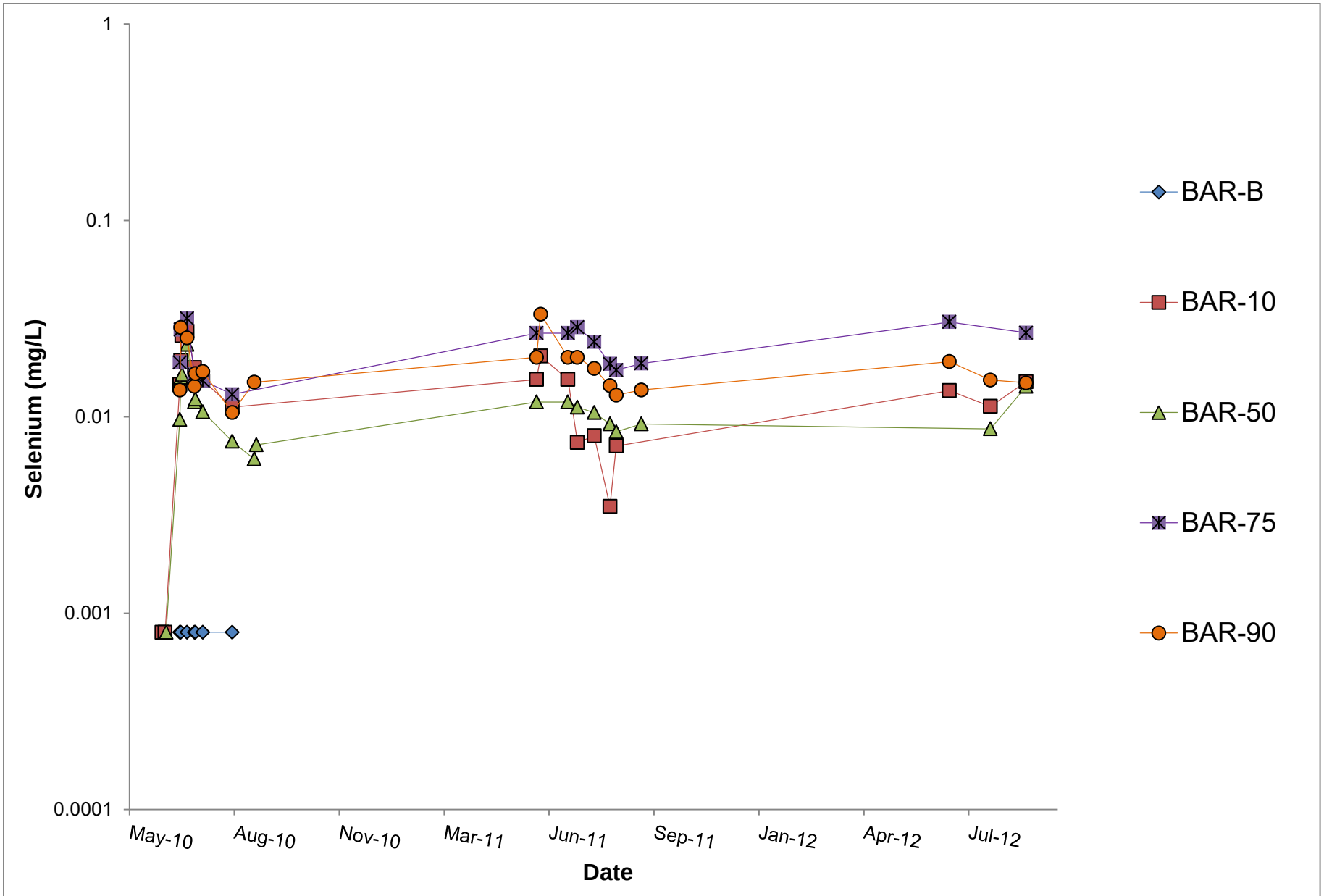

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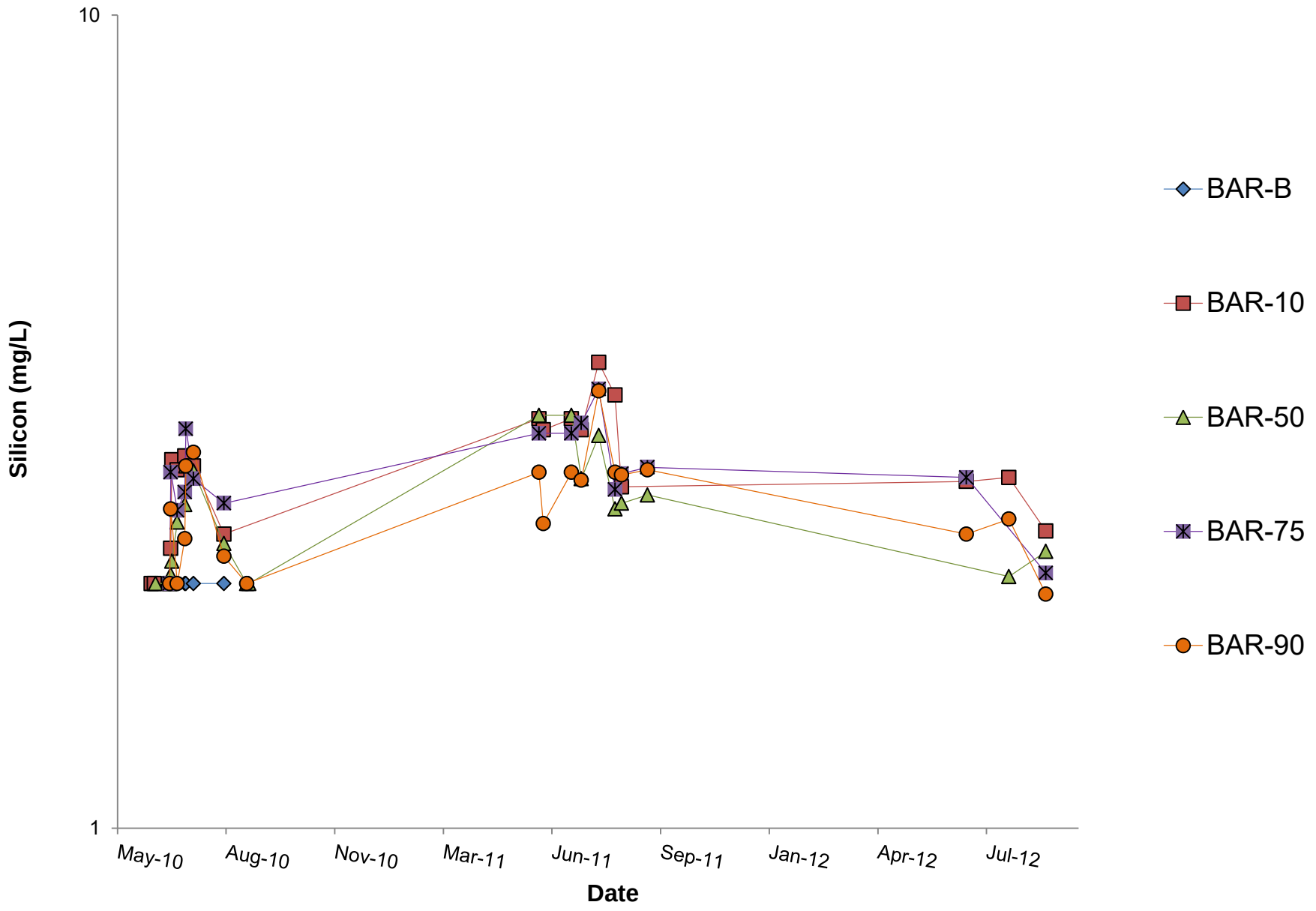

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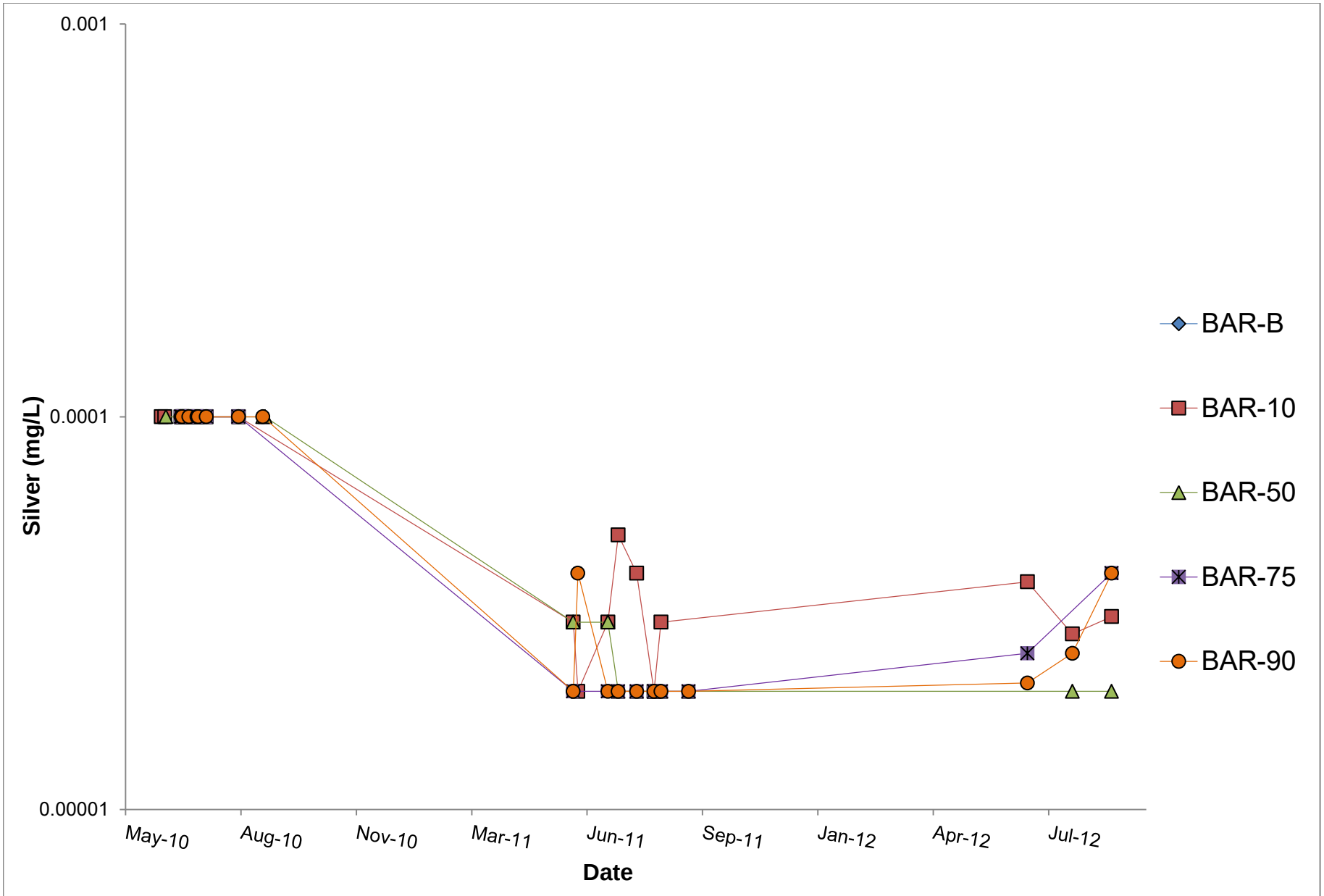

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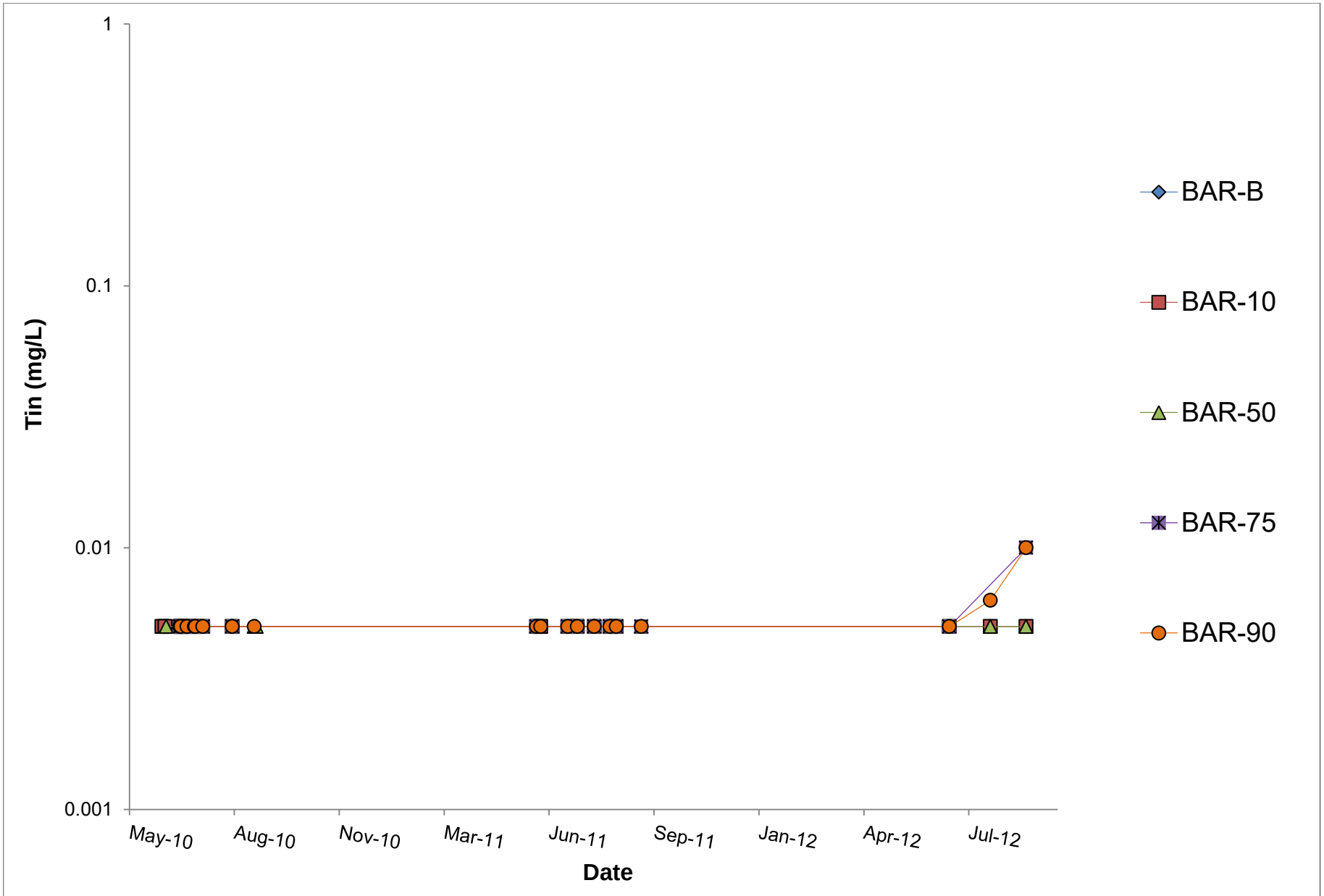

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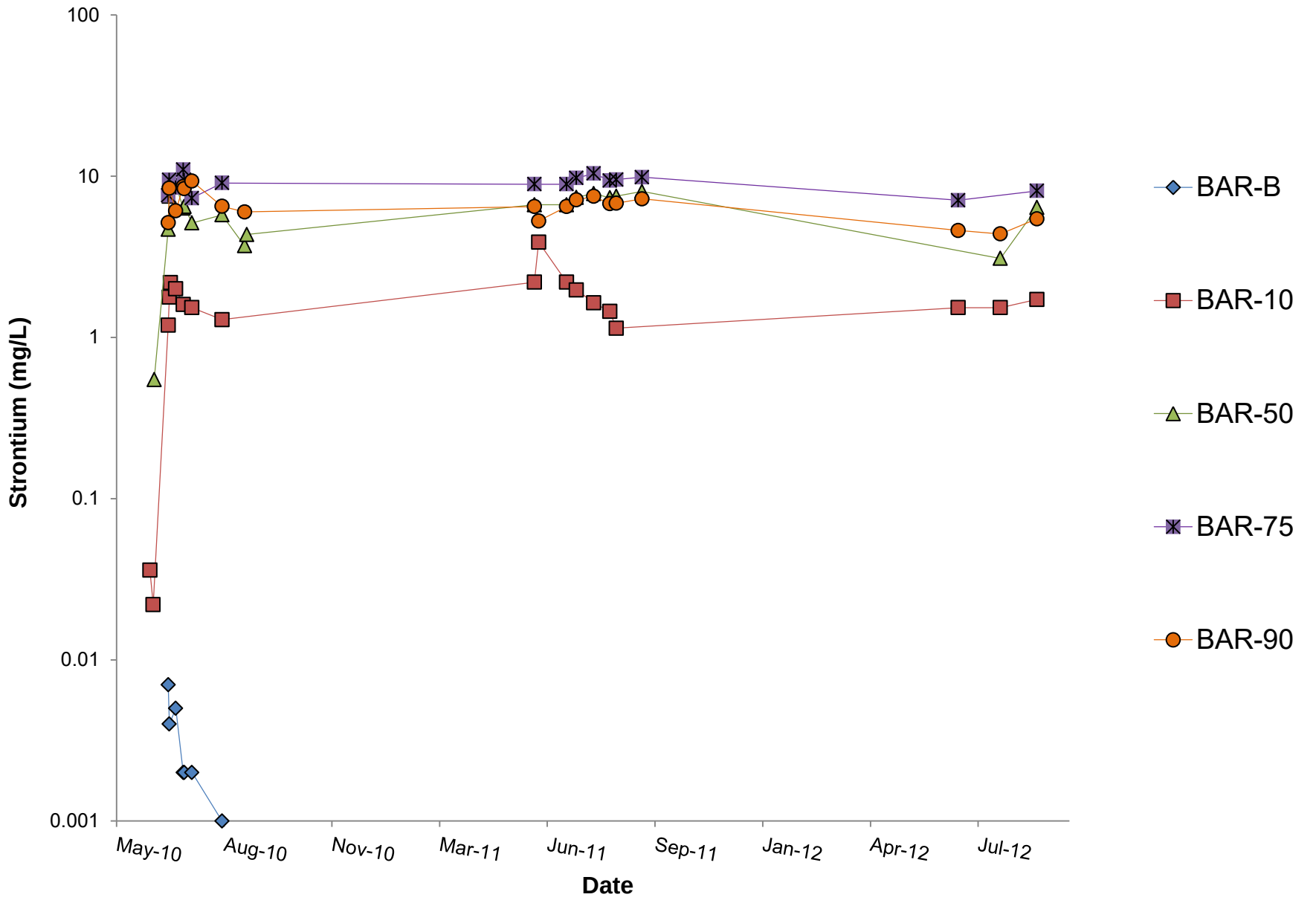

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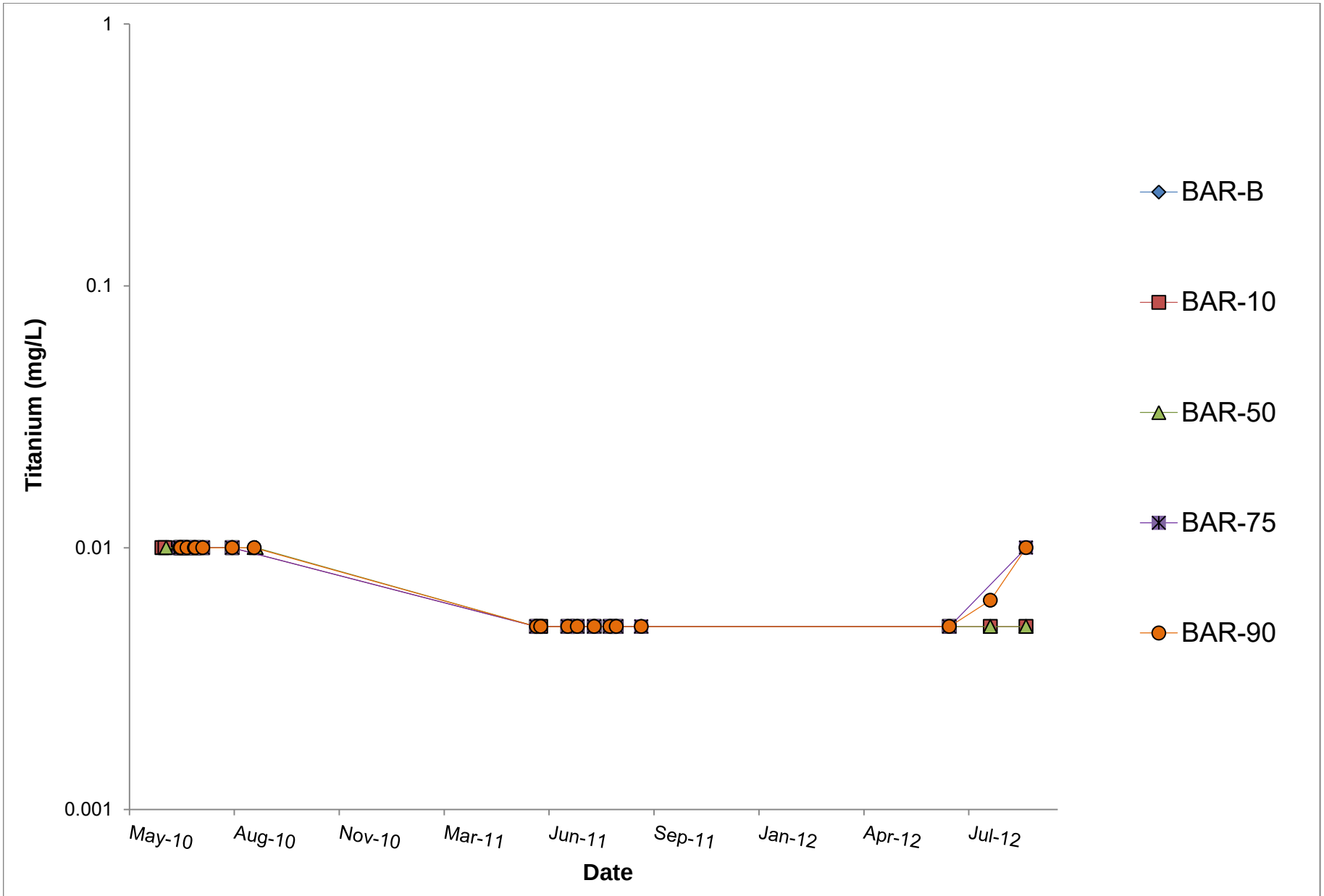

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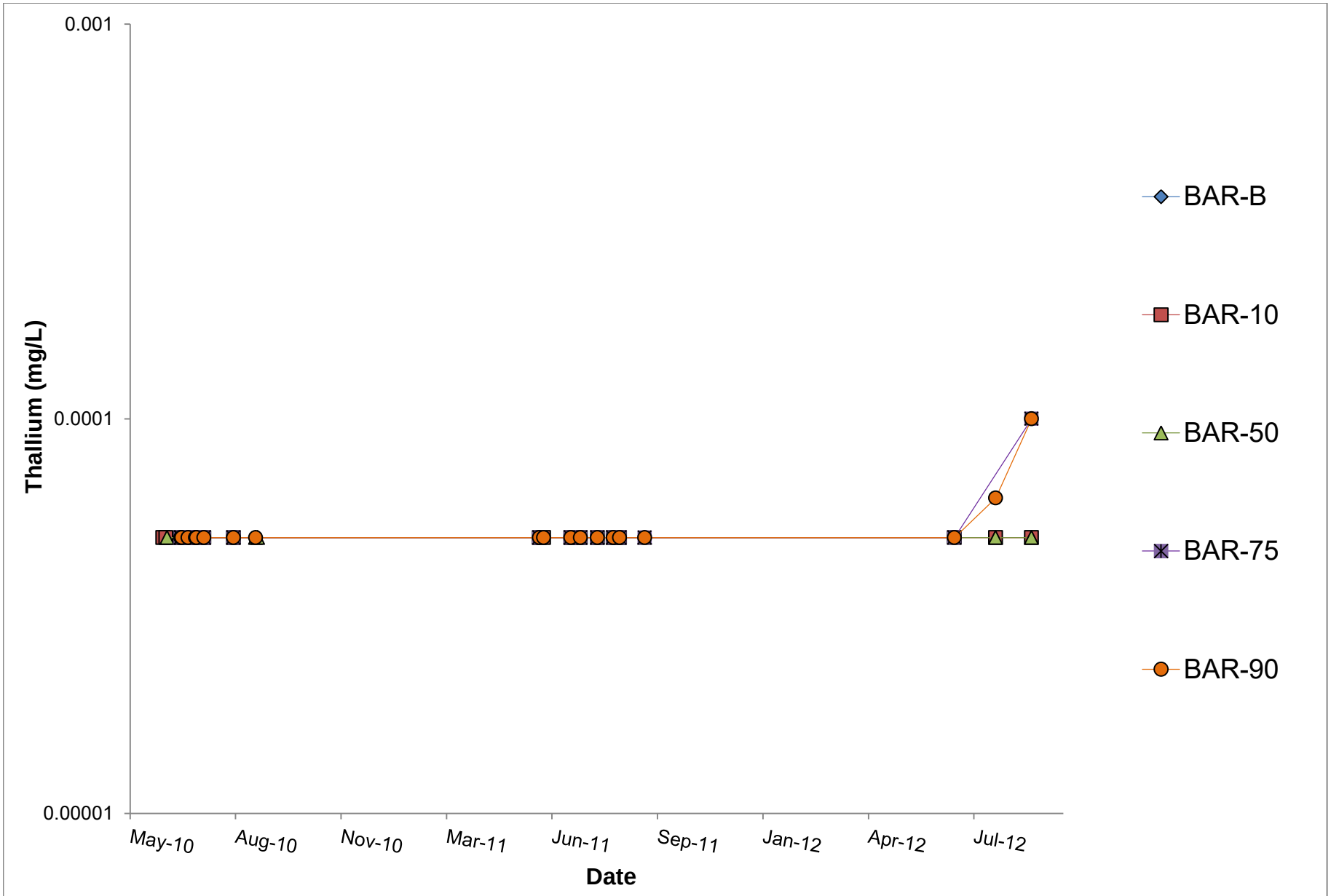

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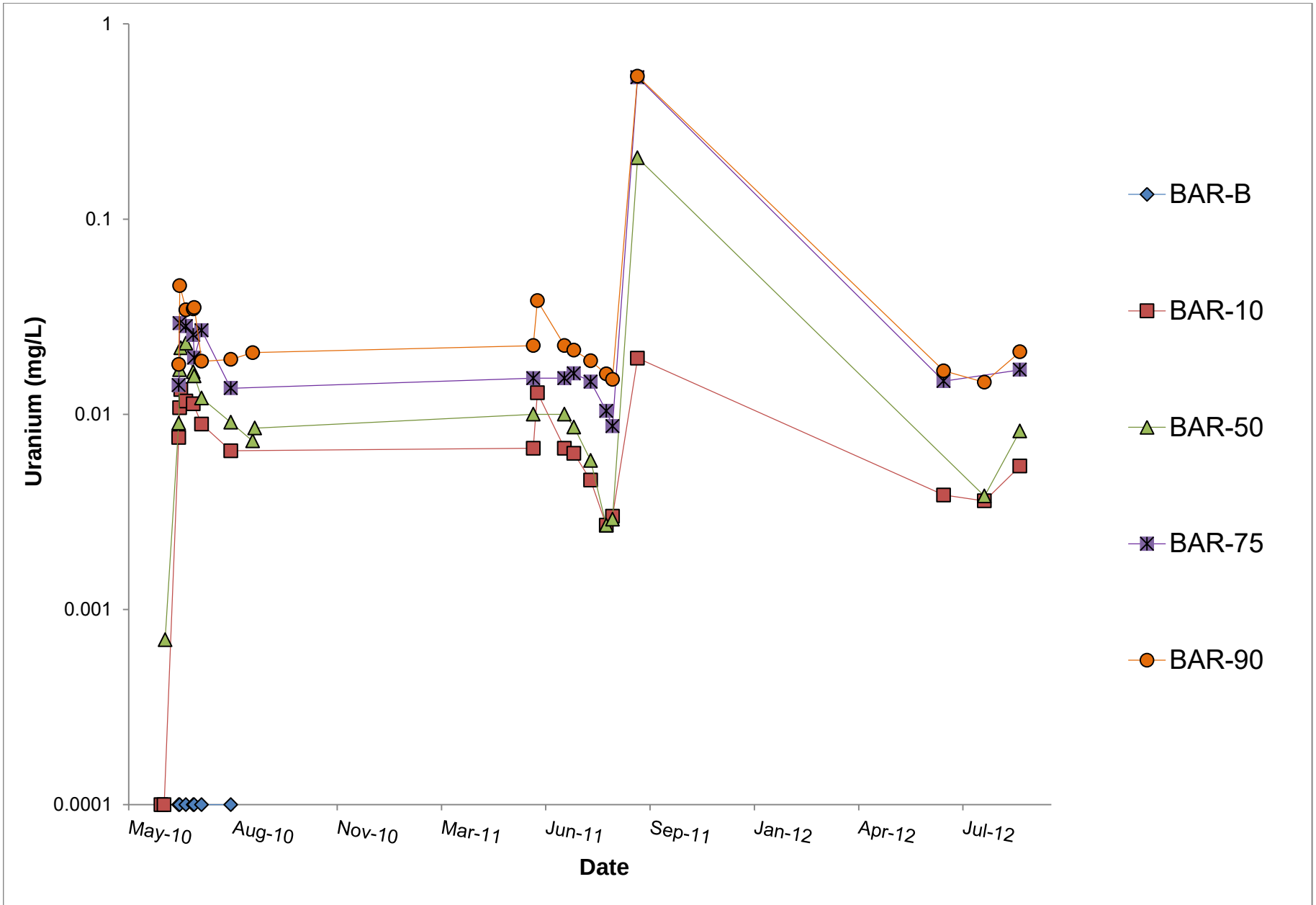

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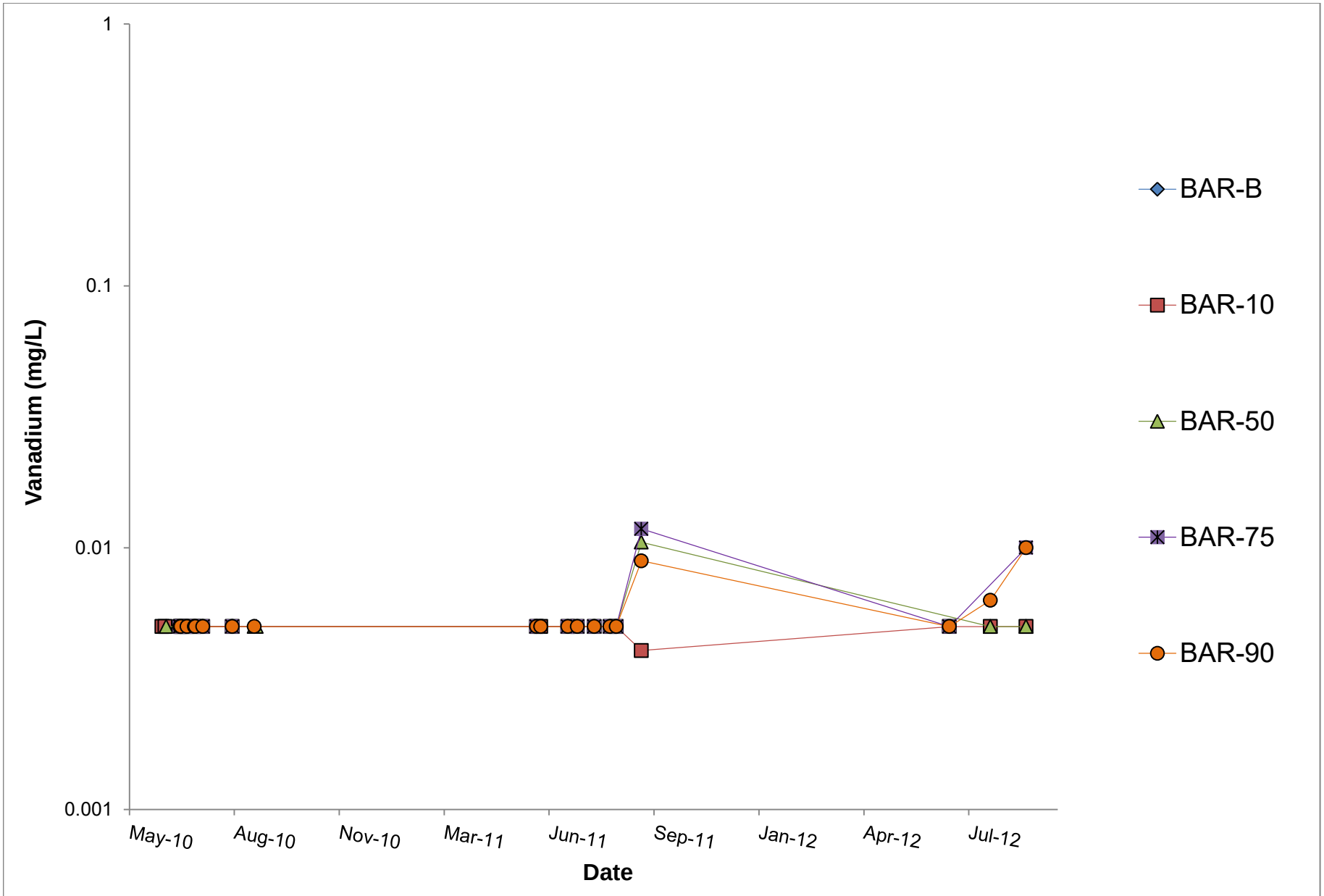

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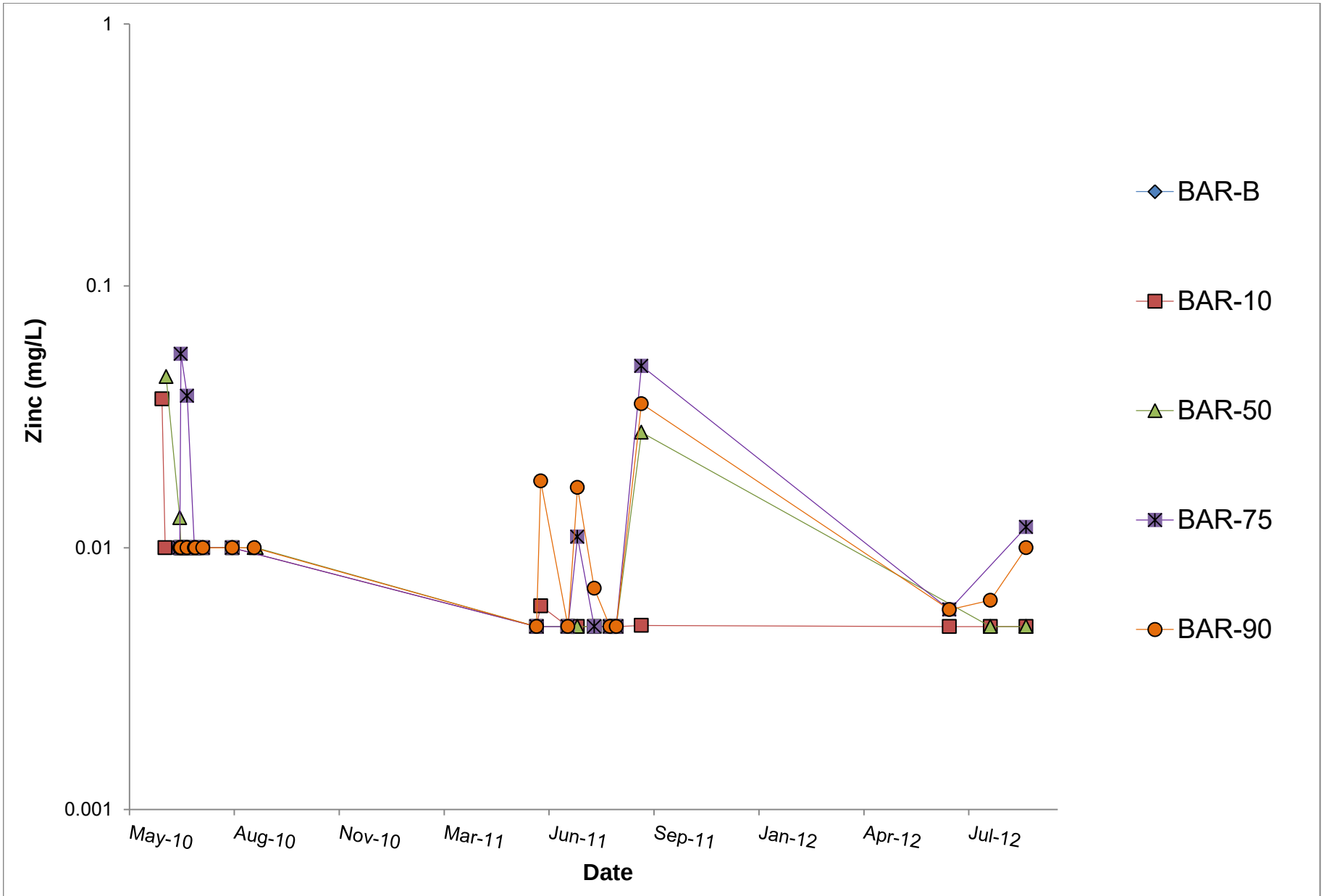

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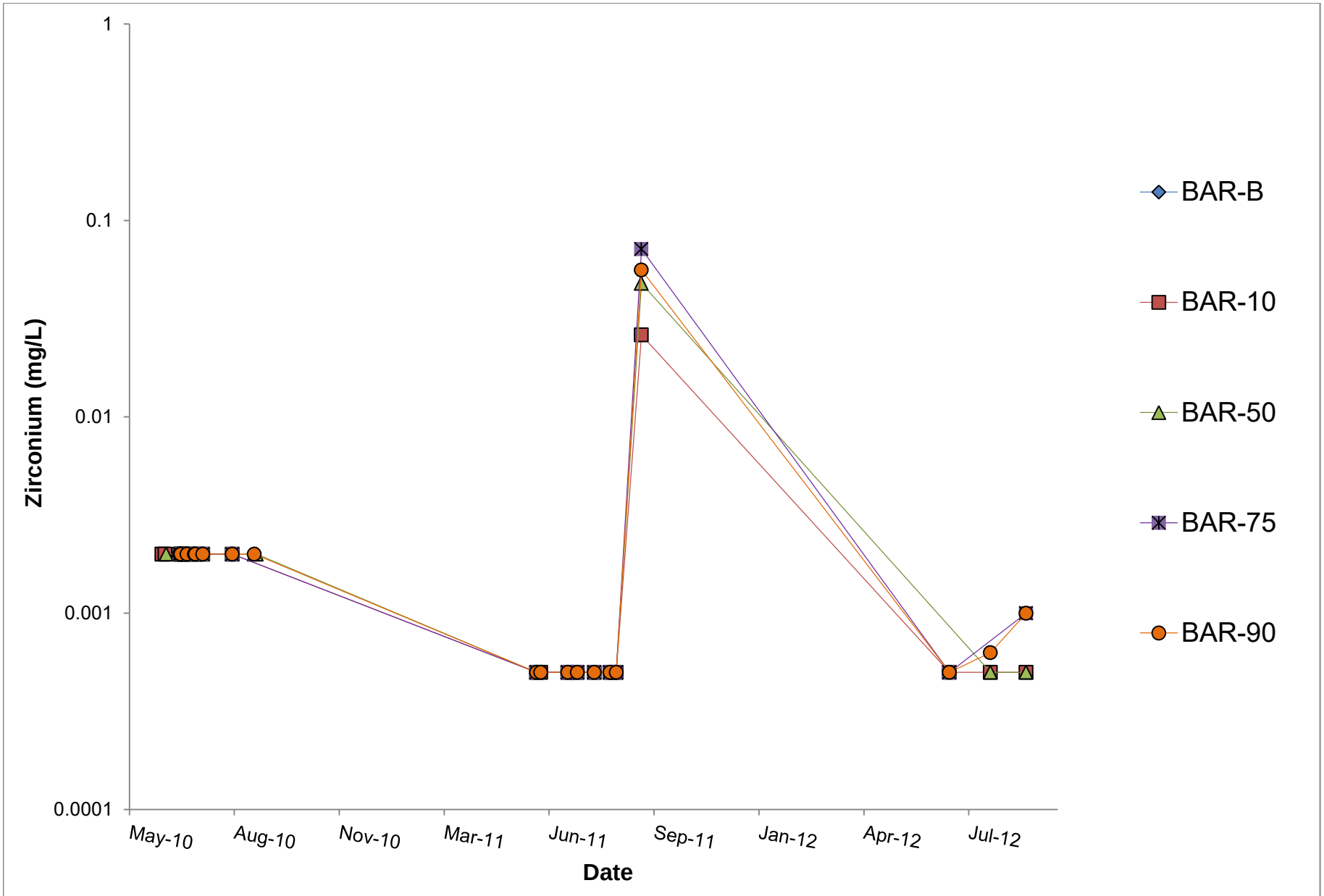

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Appendix F
Phase V/VI Tailings: Static Test Results

Mine Area	Sample ID	Paste pH Std. Units	CO2 % CO2	Equiv. CaCO3 kg CaCO3/t	Total S % S	Sulphate % S	Sulphur Diff. % S	AP kg CaCO3/t	NP kg CaCO3/t	Net NP kg CaCO3/t	NP/AP Ratio	Fizz Test Visual
	LOD Method Code	0.01 Sobek	0.02 HCl Leach	#N/A Calc.	0.02 Leco	0.01 HCl Leach	#N/A Calc.	#N/A Calc.	0.2 Sobek NP	#N/A Calc.	#N/A Calc.	#N/A Sobek
Minto North	2420-10 Cu (Rougher + Cleaner Tails) Composite	8.31	0.64	15	<0.02	<0.01	<0.02	0.6	19.2	19	32	Slight
Area 118- Lower	Composite 2351-33	8.39	1.69	38	0.04	0.01	0.03	0.9	30.1	29	32	Slight
Area 118- Upper	Composite 2351-34	8.62	1.98	45	0.08	<0.01	0.08	2.5	38.2	36	15	Slight
Ridgetop East- Lower	Composite 2351-35	8.58	2.55	58	0.04	<0.01	0.04	1.3	32.9	32	26	Slight
Ridgetop East- Upper	Composite 2351-36	9.01	1.87	43	<0.02	<0.01	<0.02	0.6	37.2	37	62	Slight
Ridgetop East- Upper	Composite 2351-37	9.26	1.9	43	0.04	<0.01	0.04	1.3	35.2	34	28	Slight
Area 2	KM 1966-13,22 MINTO K1	7.9	2	45	0.12	<0.01	0.12	3.8	57.0	53	15	Slight
Area 2	KM 1966-29,30 MINTO L+M ZONE	8.3	0.7	16	0.09	0.01	0.08	2.5	31.0	29	12	Slight
Area 2	KM 1966-28 MINTO N ZONE	8.2	0.2	5	0.08	0.02	0.06	1.9	22.0	20	12	Slight
Area 2	KM 1966-29 MINTO M ZONE	8.4	0.5	11	0.06	0.01	0.05	1.6	27.0	25	17	Slight
Area 2	KM 1966-30 MINTO L ZONE	8.2	0.6	14	0.1	<0.01	0.1	3.1	25.0	22	8.0	Slight
Area 2	KM 1966-40 MINTO O ZONE	8.1	1.4	32	0.1	<0.01	0.1	3.1	43.0	40	14	Slight
Area 2	KM 1966-41 MINTO P ZONE	7.8	<0.2	4.5	0.52	0.37	0.15	4.7	18.0	13	3.8	Slight
Area 2	KM 1966-42 MINTO Q ZONE	7.9	0.2	4.5	0.28	0.13	0.15	4.7	28.0	23	6.0	Slight
Minto East	KM2751-24 RoTL & Cu/CT 3, 4, 5,	7.69	0.82	18.6	0.64	0.57	0.07	2.2	24.9	23	11	slight
Copper Keel	KM2751-25 RoTL & Cu/CT 3, 4, 5,	8.03	1.41	32.0	0.08	0.03	0.05	1.6	23.75621891	22	15.2	slight
Wildfire	KM2751-26 RoTL & Cu/CT 3, 4, 5,	8.52	4.06	92.3	0.04	<0.01	0.04	1.3	21.64179104	20	17.3	slight

Mine Area	Sample ID	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm
	LOD	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.1	0.5	0.1	1	0.1	0.1	0.1
	Method Code	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX
Minto North	2420-10 Cu (Rougher + Cleaner Tails) Composite	0.7	453	4	117	0.5	8	7	542	4.6	1.3	0.2	115.2	3.1	28	0.2	<0.1	0.1
Area 118- Lower	Composite 2351-33	0.4	591	2	151	0.5	5	9	794	4.5	<0.5	0.1	88.9	2	34	0.8	<0.1	0.1
Area 118- Upper	Composite 2351-34	2.6	515	3	109	0.3	9	7	651	3.0	0.6	0.7	45	4.7	57	0.4	<0.1	<0.1
Ridgetop East- Lower	Composite 2351-35	0.7	384	3	129	0.3	5	7	582	4.5	1.1	0.2	66.9	2.8	25	0.6	<0.1	<0.1
Ridgetop East- Upper	Composite 2351-36	2.1	1333	3	69	0.2	3	5	396	2.5	1.1	0.3	35.9	3	28	0.2	<0.1	0.2
Ridgetop East- Upper	Composite 2351-37	2.5	1340	4	68	0.2	3	5	379	2.3	0.8	0.3	37.2	2.7	25	0.2	<0.1	0.2
Area 2	KM 1966-13,22 MINTO K1	7.0	249	14	70	0.2	5	7	677	3.3	1.3	1.4	<200	5.7	90	0.2	0.21	0.05
Area 2	KM 1966-29,30 MINTO L+M ZONE	1.1	1330	43	229	2.4	7	10	953	8.1	2.6	0.35	200	3	33	0.7	30.2	0.27
Area 2	KM 1966-28 MINTO N ZONE	1.4	672	25	145	1.1	5	12	591	3.8	4	1.04	200	4.7	75	0.5	0.8	0.08
Area 2	KM 1966-29 MINTO M ZONE	0.7	1005	9	150	0.9	5	10	869	7.1	1.3	0.35	200	2.9	30	0.4	0.13	0.24
Area 2	KM 1966-30 MINTO L ZONE	0.9	1580	42	253	1.3	6	13	1030	8.3	3.2	0.21	200	2.8	31	0.7	1.34	0.28
Area 2	KM 1966-40 MINTO O ZONE	1.1	1570	5	107	1.1	4	9	885	6.1	1.5	0.46	200	2.7	47	0.2	0.14	0.31
Area 2	KM 1966-41 MINTO P ZONE	0.9	1940	5	151	1.0	7	10	749	4.7	1.7	0.27	200	4.4	272	0.5	0.1	0.15
Area 2	KM 1966-42 MINTO Q ZONE	0.8	1990	4	138	1.1	5	10	771	5.9	1.8	0.35	200	3.5	196	0.4	0.16	0.53
Minto East	KM2751-24 RoTL & Cu/CT 3, 4, 5,	2.9	1762	4	157	0.9	11	8	773	4.3	0.6	<0.1	220.5	2.6	112	0.5	<0.1	0.1
Copper Keel	KM2751-25 RoTL & Cu/CT 3, 4, 5,	1.9	1250	6	115	1.3	10	7	668	3.9	<0.5	0.3	215.7	3.1	81	0.5	<0.1	0.3
Wildfire	KM2751-26 RoTL & Cu/CT 3, 4, 5,	2.6	1554	6	158	2.0	7	7	1220	4.9	<0.5	0.4	363.2	2	32	1.1	<0.1	1.4

Mine Area	Sample ID	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Hg ppm	Sc ppm	Tl ppm	S %	Ga ppm	Se ppm
	LOD	2	0.01	0.001	1	1	0.01	1	0.001	20	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5
	Method Code	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX
Minto North	2420-10 Cu (Rougher + Cleaner Tails) Composite	74	0.51	0.047	4	53	0.53	128	0.108	<20	0.92	0.024	0.5	<0.1	<0.01	2.2	0.2	<0.05	8	0.6
Area 118- Lower	Composite 2351-33	72	0.91	0.067	5	9	0.68	238	0.114	<20	0.92	0.01	0.68	<0.1	0.02	2.6	0.3	<0.05	8	0.6
Area 118- Upper	Composite 2351-34	77	1.12	0.114	12	17	0.91	322	0.161	<20	1.08	0.014	0.99	<0.1	<0.01	4.6	0.3	0.06	6	0.6
Ridgetop East- Lower	Composite 2351-35	67	0.87	0.089	8	10	0.82	246	0.143	<20	0.96	0.012	0.84	<0.1	<0.01	3.7	0.3	<0.05	7	0.7
Ridgetop East- Upper	Composite 2351-36	63	0.84	0.065	7	5	0.69	227	0.105	<20	0.75	0.016	0.62	0.2	<0.01	3.5	0.2	<0.05	5	1.2
Ridgetop East- Upper	Composite 2351-37	60	0.8	0.067	6	6	0.68	227	0.106	<20	0.73	0.014	0.62	0.2	<0.01	3.7	0.2	<0.05	5	0.9
Area 2	KM 1966-13,22 MINTO K1	72	2.13	0.101	30	6	0.82	260	0.112	<10	1.27	0.02	0.65	0.1	<0.01	5.9	0.31	0.13	7.07	0.9
Area 2	KM 1966-29,30 MINTO L+M ZONE	105	0.97	0.061	4.2	12	0.76	260	0.154	<10	1.24	0.02	0.71	0.08	0.84	3.5	0.3	0.1	12.4	1.7
Area 2	KM 1966-28 MINTO N ZONE	97	1.24	0.118	14.7	9	1.02	160	0.223	<10	1.62	0.04	0.33	0.08	0.01	3.9	0.1	0.08	9.27	1.2
Area 2	KM 1966-29 MINTO M ZONE	81	0.91	0.051	4.6	9	0.66	170	0.116	<10	1.02	0.02	0.53	0.06	0.01	3	0.22	0.07	11.85	1.3
Area 2	KM 1966-30 MINTO L ZONE	130	0.81	0.072	3.8	9	0.92	390	0.215	<10	1.52	0.02	1.02	0.07	0.02	5.1	0.41	0.11	14.75	2.2
Area 2	KM 1966-40 MINTO O ZONE	72	1.36	0.047	4.7	6	0.54	200	0.017	<10	0.71	0.01	0.12	0.05	0.06	1.9	0.06	0.11	9.45	1.7
Area 2	KM 1966-41 MINTO P ZONE	87	1.43	0.101	8.6	15	0.99	190	0.231	<10	1.45	0.04	0.47	0.08	0.02	3.3	0.13	0.63	8.98	1.7
Area 2	KM 1966-42 MINTO Q ZONE	87	0.99	0.06	7.1	9	0.7	130	0.142	<10	1.12	0.02	0.33	0.06	0.01	2.7	0.11	0.29	10.5	2.3
Minto East	KM2751-24 RoTL & Cu/CT 3, 4, 5,	64	1.34	0.046	5	47	0.66	99	0.096	<20	0.88	0.01	0.34	<0.1	0.07	2	0.1	0.69	8	1.6
Copper Keel	KM2751-25 RoTL & Cu/CT 3, 4, 5,	61	0.97	0.055	7	63	0.57	194	0.081	<20	0.91	0.024	0.46	<0.1	0.12	2.6	0.1	0.09	7	1.2
Wildfire	KM2751-26 RoTL & Cu/CT 3, 4, 5,	54	0.68	0.036	2	35	0.59	136	0.053	<20	0.42	0.014	0.31	<0.1	0.05	3	0.2	<0.05	5	2.4

Appendix G
Phase V/VI Tailings: Saturated Column Test Results

Appendix G1
Sample Origin

Deposit	Column ID	Origin of Tailings Sample	Reference
Area 118	Col 1	Composite 2351-33 and Composite 2351-34	G&T Metallurgical Services Ltd. 2009. Pre-Feasibility Metallurgical Testing On Samples From The Area 118 And Ridgetop East Zones At The Minto Mine, Yukon, Canada. Report KM2351, prepared for SRK Consulting, May 2009.
Ridgetop	Col 2	Composite 2351-35 and Composite 2351-36	

Source: K:\01_SITES\Minto\1CM002.003_PhaseV_WaterQualityPrediction\Task600_Reporting\030_Appendices\G_PhaseV-VI_Taliings_SatColumns\G1_Sample\[SampleOrigins_Tailings_1CM002-003_dbm_rev00.xlsx]

Appendix G2
Saturated Column Operating Parameters

Cell No.	Sample ID	Sample Type	Method Reference	Column Dimensions			Column Packing			Pore Volume	Total Volume of Initial Flushings	Flushing Rate/Weekly Input*	Temp	Sampling Frequency	Start-up Date	Sampling Day	Operation Procedure	Sample Prep for Flushings
				Inner Diameter (cm)	Length (cm)	Distance from Top of Column to Sample (cm)	Dry Wt. of Sample (kg)	Other Materials Used	Column Material	(mL)	(mL)	(mL)	(°C)		**2009**			
Col 1	2351-33&34 Composite	Tailings	MEND	5.10	60.00		2.50	Acrylic perforated disk & nylon mesh	Plexiglas		160	50	20-22 °C	Weekly	9-Sep	Wednesday	Overlying water circulation	None
Col 2	2351-35&36 Composite	Tailings	MEND	5.10	60.00		2.50	Acrylic perforated disk & nylon mesh	Plexiglas		160	50	20-22 °C	Weekly	9-Sep	Wednesday	Overlying water circulation	None

Appendix G3
Phase V/VI Tailings Saturated Column Test Results: Tables

Col 1 Surface
Sample = 2351-33&34 Composite

CONFIDENTIAL *DRAFT*

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	ORP mV	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	DO mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L
9-Sep-09	0	160	160	6.95	214	79	#N/A	3.1	24.3	20	7.40	0.8	0.26	34.3	0.0196	0.00021	0.00032	0.0682	-0.00001	-0.000005	-0.05	0.000041	11.1	0.0002	0.000077	0.00409	0.005	0.000015
16-Sep-09	1	50	50	6.78	320	49					7.50																	
23-Sep-09	2	160	160	6.99	281	61	#N/A	4.1	22.1	9	8.40	1.5	0.2	27.9	0.0083	0.00016	0.0003	0.0631	-0.00001	-0.000005	-0.05	0.000038	8.96	-0.0001	0.000076	0.00224	0.003	0.00393
30-Sep-09	3	50	50	6.74	399	51					8.50																	
7-Oct-09	4	160	160	6.78	453	56	#N/A	4.2	21.6	17	7.90	-0.5	0.14	25.2	0.0074	0.00007	0.00013	0.0486	-0.00001	-0.000005	-0.05	0.000015	7.96	-0.0001	0.000075	0.00632	0.002	0.00214
14-Oct-09	5	50	50	6.82	370	45					8.50																	
21-Oct-09	6	160	160	7.27	312	51	#N/A	3.1	22.0	9	8.70	0.8	0.27	24.5	0.0113	0.00021	0.00056	0.0449	-0.00001	-0.000005	-0.05	0.000055	7.56	0.0002	0.000046	0.00357	0.008	0.000146
28-Oct-09	7	50	50	6.85	370	45					8.80																	
4-Nov-09	8	160	160	7.40	352	46	#N/A	4.9	22.6	6	9.00	-0.5	0.13	23.5	0.0107	0.00014	0.00023	0.0419	-0.00001	-0.000005	-0.05	0.000024	7.29	0.0006	0.000022	0.00302	0.003	0.000053
11-Nov-09	9	50	50	7.32	294	39					7.90																	
18-Nov-09	10	160	160	6.89	328	58	#N/A	6.4	26.7	5	7.90	-0.5	0.09	22.4	0.0112	0.00011	0.00015	0.0435	0.00003	-0.000005	-0.05	0.000025	6.98	-0.0001	0.000026	0.00212	0.006	0.000084
25-Nov-09	11	50	50	7.02	315	54					7.20																	
2-Dec-09	12	160	160	6.65	364	57	#N/A	4.7	24.5	6	7.50	-0.5	0.08	23.1	0.0237	0.0001	0.00017	0.0422	-0.00001	-0.000005	-0.05	0.000018	7.23	0.0001	0.000029	0.00217	0.009	0.000182
9-Dec-09	13	50	50	6.70	399	54					8.00																	
16-Dec-09	14	160	160	7.31	376	58	#N/A	3.4	23.3	5	7.80	-0.5	0.06	22.2	0.0091	0.00009	0.00007	0.0394	-0.00001	-0.000005	-0.05	0.000014	7.05	0.0001	0.000008	0.0012	0.002	0.000014
23-Dec-09	15	50	50	7.26	430	46					7.50																	
30-Dec-09	16	160	160	6.91	264	52	#N/A	3.3	20.8	6	6.80	0.7	0.06	20.2	0.0074	0.00004	0.00007	0.0392	-0.00001	-0.000005	-0.05	0.00001	6.39	-0.0001	0.000016	0.00341	0.001	0.000007
6-Jan-10	17	50	50	6.35	178	48					7.60																	
13-Jan-10	18	160	160	6.01	329	49	#N/A	3.8	21.0	5	7.40	-0.5	0.04	20.5	0.011	0.0004	0.0007	0.0417	-0.0002	-0.0001	-1	-0.0001	6.5	-0.002	-0.0001	0.002	-0.02	0.0006
20-Jan-10	19	50	50	5.66	352	45					8.20																	
27-Jan-10	20	160	160	5.91	281	50	#N/A	3.0	21.0	6	7.10	-0.5	0.04	20	0.008	-0.0002	0.0004	0.0394	-0.0001	-0.00005	-0.5	-0.00005	6.31	-0.001	-0.00005	0.0029	-0.01	0.00019
3-Feb-10	21	50	50	6.02	293	44					7.50																	
10-Feb-10	22	160	160	7.19	282	50	#N/A	2.8	20.3	5	7.50	1.4	-0.05	23.1	0.011	-0.0001	0.0007	0.0476	-0.00005	-0.00003	-0.3	-0.00003	7.42	-0.0005	0.00003	0.0032	0.006	0.00008
17-Feb-10	23	50	50	6.82	383	47					8.80																	
24-Feb-10	24	160	160	6.82	338	48	#N/A	2.6	20.0	6	6.40	-0.5	0.03	18.7	0.009	-0.0004	-0.0004	0.0423	-0.0002	-0.0001	-1	-0.0001	6.1	-0.002	-0.0001	0.002	-0.02	-0.0001
3-Mar-10	25	50	50	6.29	363	48					6.30																	
10-Mar-10	26	160	160	6.78	404	47	#N/A	2.3	17.7	7	6.80	-0.5	0.04	19.5	0.007	0.0002	-0.0002	0.0409	-0.0001	-0.00005	-0.5	-0.00005	6.1	-0.001	-0.00005	0.0025	-0.01	0.00006
17-Mar-10	27	50	50	6.25	401	43					6.50																	
24-Mar-10	28	160	160	6.76	311	45	#N/A	2.5	15.5	7	6.70	-0.5	-0.05	17	0.007	0.0003	0.0003	0.0334	-0.00005	-0.00003	-0.3	-0.00003	5.5	-0.0005	0.00006	0.0012	-0.005	0.00004
31-Mar-10	29	50	50	6.54	312	41					9.50																	
7-Apr-10	30	160	160	6.37	419	43	#N/A	2.6	15.0	7	9.10	-0.5	0.03	16.2	0.0074	0.00006	0.00003	0.0426	-0.00001	-0.000005	-0.05	0.000019	5.18	-0.0001	0.00003	0.00237	0.004	0.000023
14-Apr-10	31	50	50	6.26	426	38					6.70																	
21-Apr-10	32	160	160	6.45	467	42	#N/A	2.6	15.3	3	9.80	2.1	-0.05	15.2	0.0091	0.00016	0.00031	0.035	-0.00001	-0.000005	-0.05	0.000064	4.85	0.0002	0.00137	0.0027	0.002	0.000158
28-Apr-10	33	50	50	6.74	420	33					9.60																	
5-May-10	34	160	160	5.96	452	38	#N/A	2.8	14.9	3	9.60	-0.5	0.05	16.6	0.005	0.0001	0.00035	0.0332	-0.00001	-0.000005	-0.05	0.000028	5.31	-0.0001	0.000053	0.00161	0.003	0.000018
12-May-10	35	50	50	6.01	418	20					9.80																	
19-May-10	36	160	160	6.00	373	28	#N/A	2.2	10.6	3	9.70	-0.5	0.01	11.6	0.005	0.00006	0.00062	0.0256	-0.00001	-0.000005	-0.05	0.000015	3.76	-0.0001	0.000047	0.00141	0.004	0.00002
26-May-10	37	50	50	5.76	470	29					9.80																	
2-Jun-10	38	160	160	6.04	495	33	#N/A	2.0	12.6	3	8.06	-0.5	0.01	12	0.0056	0.00006	0.00006	0.027	-0.00001	-0.000005	-0.05	0.000019	3.82	-0.0001	0.000067	#N/A	0.002	0.000054
9-Jun-10	39	50	50	5.52	362	29					8.47																	
16-Jun-10	40	160	160	5.88	481	36	#N/A	2.7	13.8	-2	8.55	-0.5	0.02	13.8	0.0062	0.00005	0.00039	0.0273	-0.00001	-0.000005	-0.05	0.000025	4.47	0.0001	0.000065	0.00184	0.006	0.000058
23-Jun-10	41	50	50	6.00	432	33					8.75																	
30-Jun-10	42	160	160	5.32	369	36	#N/A	2.4	15.1	3	8.70	-0.5	0.02	14.4	0.0095	0.00009	0.00017	0.0309	-0.00001	-0.000005	-0.05	0.000024	4.58	-0.0001	0.000074	0.00318	0.009	0.000126
7-Jul-10	43	50	50	5.99	346	32					8.71																	
14-Jul-10	44	160	160	5.59	380	38	#N/A	3.0	14.9	2	8.70	-0.5	0.02	13.6	0.0051	0.00005	0.00017	0.0306	-0.00001	-0.000005	-0.05	0.000026	4.38	-0.0001	0.000105	0.00291	-0.001	0.00002
21-Jul-10	45	50	50	5.65	408	32					8.77																	
28-Jul-10	46	160	160	5.39	475	37	#N/A	3.8	15.8	4	8.63	-0.5	0.02	14.6	0.0064	0.00003	0.0007	0.03	-0.00001	-0.000005	-0.05	0.000022	4.65	0.0004	0.000109	0.00133	0.006	0.000035
4-Aug-10	47	50	50	5.67	420	38					7.86																	
11-Aug-10	48	160	160	5.77	333	26	#N/A	4.2	12.0	-2	8.62	-0.5	0.01	9.9	0.0053	0.00003	0.00005	0.0246	-0.00001	-0.000005	-0.05	0.000016	3.16	0.0002	0.000078	0.00116	0.002	0.000013
18-Aug-10	49	50	50	5.53	405	26					8.52																	
25-Aug-10	50	160	160	5.30	486	28	#N/A	3.2	12.2	4	8.70	-0.5	0.01	10.2	0.0005	-0.00002	0.0008	0.0193	-0.00001	-0.000005	-0.05	-0.000005	3.23	0.0001	0.000041	0.00072	-0.001	-0.000005
1-Sep-10	51	50	50	6.34	454	26					8.56																	
8-Sep-10	52	160	160	6.06	489	29	#N/A	4.1	13.0	4	8.68	-0.5	0.14	12.8	0.0093	0.00003	0.00079	0.0259	-0.00001	-0.000005	-0.05	0.000024	4.12	-0.0001	0.000094	0.00088	0.002	0.000008
15-Sep-10	53	50	50	6.16	460	27					8.62																	
22-Sep-10	54	160	160	6.91	468	33	#N/A	2.8	13.6	4	7.97	-0.5	0.01	13	0.0135	0.00003	0.00025	0.0317	-0.00001	-0.000005	-0.05	0.000029	4.14	0.0003	0.000106	0.00155	0.003	0.000151
29-Sep-10	55	50	50	6.43	421	28					8.28																	
6-Oct-10	56	160	160	6.01	396	32	#N/A	2.8	14.0	4	8.32	-0.5	0.36	13.5	0.0071	0.00002	0.00007	0.0291	-0.00001	-0.000005	-0.05	0.000024	4.3	0.0003	0.000073	0.00195	0.006	0.000444
13-Oct-10	57	50	50	6.28	358	32					8.23																	
20-Oct-10	58	160	160	5.93	401	33	#N/A	2.9	14.8	5	8.46	-0.5	0.06	12.9	0.0039	0.00002	0.00007	0.0321	-0.00001	-0.000005	-0.05	0.000025	4.19	0.0001	0.000129	0.0016	0.001	0.000106
27-Oct-10	59	50	50	6.88	338	28					8.50																	
3-Nov-10	60	160	160	6.89	329	31	#N/A	2.1	15.4	2	8.40	-0.5	0.09	14.1	0.0042	-0.00002	0.00007	0.033	-0.00001	-0.000005	-0.05	0.000029	4.48	-0.0001	0.000058	0.00166	0.001	0.000358
10-Nov-10	61	50	50	7.09	300	30					8.26																	
17-Nov-10	62	160	160	6.70	313	33	#N/A	2.8	14.9	2	8.00	-0.5	0.06	13.1	0.0043	0.00006	0.00007	0.0274	-0.00001	-0.000005	-0.05	0.000024	4.16	-0.0001	0.000061	0.0046	-0.001	0.000016
24-Nov-10	63	50	50	6.85	442	28					8.62																	
1-Dec-10	64	160	160	7.30	459	32	#N/A	4.0	14.7	-2	8.10	-0.5	-0.05	12.8	0.0044	0.00002	0.00023	0.0285	-0.00001	-0.000005	-0.05	0.000024	4.09	-0.0001	0.000052	0.00168	0.001	0.000013
8-Dec-10	65	50	50	7.27	468	27					8.24																	
15-Dec-10	66	160	160	7.39	473	30	#N/A	3.1	13.9	4	8.86	-0.5	0.02	12.3	0.0046	0.00003	0.00007	0.0249	-0.00001	-0.000005	-0.05	0.000018	3.96	-0.0001	0.000039	0.00264	0.003	0.00002
22-Dec-10	67	50	50	7.40	389	28					8.66																	

Col 1 Surface
Sample = 2351-33&

Date	Cycle No.	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L	P mg/L	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L	Maxxam ID	Maxxam File#	Major Anions	Major Cations	Diff	Diff (%)
9-Sep-09	0	0.0008	1.57	0.0362	-0.01	0.00295	0.00036	0.089	4.32	0.00141	0.701	-0.000005	2.92	0.152	8	0.000041	0.00166	-0.0005	0.000097	0.0006	0.0043	-0.0001			0.94	0.92	-0.02	-1.0%
16-Sep-09	1																											
23-Sep-09	2	0.001	1.35	0.0298	-0.01	0.00289	0.00037	0.141	4.18	0.00111	0.728	-0.000005	2.75	0.13	6	0.000019	0.00569	-0.0005	0.000018	0.0002	0.0044	-0.0001			0.68	0.78	0.10	7.0%
30-Sep-09	3																											
7-Oct-09	4	0.0006	1.29	0.0254	-0.01	0.00242	0.00045	0.036	3.4	0.0009	0.757	-0.000005	2.31	0.118	5	0.000005	0.0108	0.0006	0.00003	0.0004	0.0036	-0.0001			0.81	0.69	-0.12	-7.8%
14-Oct-09	5																											
21-Oct-09	6	0.0006	1.36	0.0239	-0.01	0.00168	0.00048	0.21	2.86	0.00078	0.83	0.000036	1.98	0.114	3	0.00004	0.0197	-0.0005	0.000034	0.0003	0.0074	-0.0001			0.66	0.65	-0.02	-1.2%
28-Oct-09	7																											
4-Nov-09	8	-0.0005	1.28	0.0171	-0.01	0.00111	0.00034	0.105	2.35	0.00061	0.683	-0.000005	1.37	0.098	-3	0.000011	0.0255	-0.0005	0.000031	-0.0002	0.0035	-0.0001			0.60	0.59	-0.01	-0.8%
11-Nov-09	9																											
18-Nov-09	10	-0.0005	1.21	0.0161	-0.01	0.0008	0.00035	0.046	1.81	0.00046	0.721	0.00001	0.9	0.0902	-3	0.000033	0.0287	0.0005	0.00005	-0.0002	0.0031	-0.0001			0.66	0.53	-0.12	-10.4%
25-Nov-09	11																											
2-Dec-09	12	0.0006	1.23	0.0136	-0.01	0.00065	0.00036	0.043	1.67	0.00046	0.856	0.000008	0.85	0.0873	-3	0.000018	0.033	0.0005	0.000039	0.0003	0.0067	-0.0001			0.63	0.54	-0.09	-7.8%
9-Dec-09	13																											
16-Dec-09	14	-0.0005	1.11	0.00843	-0.01	0.00047	0.00029	0.034	1.32	0.00046	0.932	-0.000005	0.57	0.0773	-3	0.000009	0.0357	0.0006	0.000037	-0.0002	0.0017	-0.0001			0.59	0.50	-0.09	-7.8%
23-Dec-09	15																											
30-Dec-09	16	-0.0005	1.03	0.00694	-0.01	0.00039	0.00025	0.03	1.19	0.00033	0.878	-0.000005	0.44	0.0723	-3	0.000005	0.0338	-0.0005	0.000042	-0.0002	0.0019	-0.0001			0.56	0.45	-0.11	-10.8%
6-Jan-10	17																											
13-Jan-10	18	-0.01	1	0.006	-0.2	-0.001	0.0026	-0.04	1.2	-0.0008	-2	0.0001	0.4	0.07	-10	0.0001	0.0356	-0.01	-0.00004	0.01	0.006	-0.002			0.54	0.45	-0.09	-8.7%
20-Jan-10	19																											
27-Jan-10	20	-0.005	1.02	0.0061	-0.1	-0.0005	0.0035	0.059	1.06	0.0005	-1	-0.00005	0.37	0.0655	-6	-0.00002	0.041	0.008	0.00004	0.003	0.005	-0.001			0.56	0.44	-0.12	-11.9%
3-Feb-10	21																											
10-Feb-10	22	-0.003	1.1	0.0087	-0.05	0.0004	0.0011	0.031	1.21	0.0003	1.14	-0.00003	0.48	0.0711	-3	-0.00001	0.0413	-0.003	0.00002	-0.001	0.003	-0.0005			0.55	0.51	-0.04	-3.7%
17-Feb-10	23																											
24-Feb-10	24	-0.01	0.9	0.011	-0.2	-0.001	0.0072	-0.04	0.8	-0.0008	-2	-0.0001	0.3	0.06	14	-0.00004	0.0395	-0.01	-0.00004	-0.004	#N/A	-0.002			0.54	0.41	-0.13	-13.5%
3-Mar-10	25																											
10-Mar-10	26	-0.005	1	0.0172	-0.1	-0.0005	0.0002	-0.02	0.9	-0.0004	1.21	-0.00005	-0.5	0.0584	#N/A	-0.00002	0.033	-0.005	0.00002	-0.002	0.003	-0.001			0.52	0.43	-0.08	-8.9%
17-Mar-10	27																											
24-Mar-10	28	-0.003	0.8	0.0165	-0.05	-0.0003	0.0001	0.02	0.7	0.0003	1.08	-0.00003	-0.3	0.0524	-10	0.00001	0.024	-0.003	0.00001	-0.001	0.0029	-0.0005			0.47	0.37	-0.10	-11.9%
31-Mar-10	29																											
7-Apr-10	30	-0.0005	0.78	0.0198	0.01	0.00015	0.00035	0.025	0.72	0.00025	1.14	-0.000005	0.31	0.0492	-2	0.000006	0.0189	-0.0005	0.000008	-0.0002	0.0027	-0.0001			0.46	0.35	-0.11	-13.2%
14-Apr-10	31																											
21-Apr-10	32	-0.0005	0.76	0.0239	-0.01	0.00013	0.00084	0.027	3.38	0.00027	1.34	0.000082	0.42	0.0439	-10	0.000013	0.0147	-0.0005	0.000021	-0.0002	0.0395	0.0004			0.43	0.41	-0.02	-2.6%
28-Apr-10	33																											
5-May-10	34	-0.0005	0.81	0.0276	-0.01	0.00015	0.00031	0.034	0.78	0.00027	1.54	-0.000005	0.27	0.0433	-10	0.000012	0.0192	-0.0005	0.000006	-0.0002	0.0025	-0.0001			0.38	0.36	-0.01	-1.9%
12-May-10	35																											
19-May-10	36	-0.0005	0.54	0.0228	0.02	0.00007	0.0003	0.021	0.65	0.00018	0.941	-0.000005	0.22	0.0296	-10	0.000004	0.0117	-0.0005	0.000021	-0.0002	0.0018	-0.0001			0.29	0.26	-0.03	-5.6%
26-May-10	37																											
2-Jun-10	38	-0.0005	0.59	0.0257	-0.01	0.00008	0.00031	0.025	0.61	0.00019	1.07	-0.000005	0.24	0.0297	-10	0.000005	0.0122	-0.0005	0.000009	-0.0002	0.0042	-0.0001			0.33	0.27	-0.06	-10.9%
9-Jun-10	39																											
16-Jun-10	40	-0.0005	0.64	0.0283	-0.01	0.00011	0.00022	0.027	0.84	0.00025	1.24	0.000022	0.19	0.0313	-10	0.000021	0.0138	-0.0005	0.000007	-0.0002	0.0015	-0.0001			0.33	0.31	-0.03	-4.3%
23-Jun-10	41																											
30-Jun-10	42	-0.0005	0.73	0.0313	-0.01	0.00011	0.00026	0.03	0.66	0.00022	1.41	-0.000005	0.3	0.0357	-10	0.000005	0.0129	0.0005	0.000009	-0.0002	0.0019	-0.0001			0.38	0.32	-0.06	-8.6%
7-Jul-10	43																											
14-Jul-10	44	-0.0005	0.66	0.0319	-0.01	0.00009	0.00032	0.03	0.72	0.00026	1.4	-0.000005	0.22	0.0357	-10	0.000005	0.0159	-0.0005	0.000016	-0.0002	0.0025	-0.0001			0.35	0.30	-0.05	-8.2%
21-Jul-10	45																											
28-Jul-10	46	-0.0005	0.73	0.0333	-0.01	0.00018	0.00041	0.029	0.63	0.00024	1.52	-0.000005	0.31	0.0346	-10	0.000006	0.0134	-0.0005	0.000014	0.0003	0.0048	-0.0001			0.42	0.32	-0.09	-12.7%
4-Aug-10	47																											
11-Aug-10	48	-0.0005	0.48	0.0232	-0.01	0.0001	0.00032	0.009	0.4	0.00015	0.886	-0.000005	0.25	0.0241	-10	0.000003	0.00817	0.0006	0.000006	-0.0002	0.0013	-0.0001			0.30	0.22	-0.08	-15.3%
18-Aug-10	49																											
25-Aug-10	50	-0.0005	0.51	0.0186	-0.01	0.00049	0.00011	0.029	0.49	0.00021	0.996	-0.000005	0.35	0.0232	-10	0.000002	0.00114	-0.0005	-0.000002	-0.0002	0.0002	-0.0001			0.34	0.23	-0.11	-19.2%
1-Sep-10	51																											
8-Sep-10	52	-0.0005	0.61	0.0276	-0.01	0.00011	0.00029	0.044	0.65	0.00019	1.16	-0.000005	0.22	0.0274	-10	0.000004	0.00965	-0.0005	0.000006	-0.0002	0.0012	-0.0001	W89678	B083997	0.36	0.28	-0.08	-12.8%
15-Sep-10	53																											
22-Sep-10	54	-0.0005	0.64	0.0297	-0.01	0.0001	0.00039	0.035	0.63	0.00021	1.16	-0.000005	0.31	0.0297	-10	0.000007	0.0108	-0.0005	0.000065	-0.0002	0.0037	-0.0001	X21181	B091571	0.37	0.29	-0.08	-12.3%
29-Sep-10	55																											
6-Oct-10	56	-0.0005	0.66	0.0291	-0.01	0.00012	0.00029	0.023	0.88	0.00019	1.26	0.000011	0.27	0.0289	-10	0.000011	0.0104	-0.0005	0.000011	-0.0002	0.0024	-0.0001	X52942	B096727	0.40	0.30	-0.09	-13.4%
13-Oct-10	57																											
20-Oct-10	58	-0.0005	0.6	0.0273	-0.01	0.0001	0.00038	0.017	0.56	0.00017	1.34	-0.000005	0.22	0.0292	-10	0.000009	0.00909	-0.0005	0.000017	-0.0002	0.0038	-0.0001	X99708	B0A4122	0.42	0.28	-0.13	-19.2%
27-Oct-10	59																											
3-Nov-10	60	-0.0005	0.69	0.029	-0.01	0.00022	0.00012	0.011	0.53	0.00018	1.42	-0.000005	0.19	0.0305	-10	0.000002	0.0115	-0.0005	#N/A	-0.0002	0.0038	-0.0001	Y24866	B0A8557	0.37	0.30	-0.07	-9.8%
10-Nov-10	61																											
17-Nov-10	62	-0.0005	0.66	0.0275	-0.01	0.00008	0.00028	0.028	0.71	0.0002	1.45	-0.000005	0.29	0.0281	-10	0.000008	0.00867	-0.0005	#N/A	-0.0002	0.0037	-0.0001	Y62099	B0B4325	0.36	0.29	-0.06	-9.8%
24-Nov-10	63																											
1-Dec-10	64	-0.0005	0.62	0.0278	0.01	0.00017	0.00029	0.069	0.66	0.00019	1.44	-0.000005	0.26	0.0274	-10	0.000005	0.0115	-0.0005	0.000019	-0.0002	0.0015	-0.0001	Y83921	B0B8076	0.35	0.28	-0.07	-10.9%
8-Dec-10	65																											
15-Dec-10	66	-0.0005	0.58	0.0255	-0.01	0.00015	0.00027	0.024	0.49	0.00019	1.32	-0.000005	0.2	0.0243	-10	0.000006	0.00944	-0.0005	0.000008	0.0003	0.0019	-0.0001	Z18060	B0C3703	0.38	0.27	-0.11	-17.1%
22-Dec-10	67																											

Col 1 Surface
Sample = 2351-33&34 Composite

CONFIDENTIAL *DRAFT*

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	ORP mV	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	DO mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L
29-Dec-10	68	160	160	7.36	456	31	#N/A	4.1	14.6	4	8.96	-0.5	0.01	10.8	0.004	-0.00002	0.00018	0.0262	-0.00001	-0.000005	-0.05	0.000029	3.34	-0.0001	0.000069	0.0013	-0.001	0.000013
5-Jan-11	69	50	50	7.30	426	25					9.30																	
12-Jan-11	70	160	160	7.36	443	28	#N/A	3.4	12.7	2	9.48	-0.5	0.02	11.8	0.0078	0.00005	0.00023	0.0257	-0.00001	-0.000005	-0.05	0.000038	3.79	-0.0001	0.000047	0.00158	0.002	0.000081
19-Jan-11	71	50	50	7.27	416	24					9.52																	
26-Jan-11	72	160	160	7.13	447	30	#N/A	3.4	13.1	2	9.46	1.4	0.02	12	0.0068	0.00009	0.00019	0.0256	-0.00001	-0.000005	-0.05	0.000033	3.82	0.0001	0.00005	0.00342	0.004	0.000066
2-Feb-11	73	50	50	7.05	460	26					8.30																	
9-Feb-11	74	50	50	6.75	420	27																						
16-Feb-11	75	50	50	6.88	423	30																						
23-Feb-11	76	50	50	6.66	386	31																						
2-Mar-11	77	50	50	6.80	402	34																						
9-Mar-11	78	50	50	6.47	430	34																						
16-Mar-11	79	50	50	6.65	382	34																						
23-Mar-11	80	50	50	5.95	440	37																						
30-Mar-11	81	50	50	#N/A	453	38																						
6-Apr-11	82	50	50	#N/A	407	38																						
13-Apr-11	83	50	50	6.92	392	41																						
20-Apr-11	84	160	160	7.11	400	43	#N/A	5.5	17.5	3	9.20	1.4	0.03	16.8	0.0049	#N/A	0.00017	0.034	-0.00001	-0.000005	-0.05	0.000024	5.29	0.0001	0.000019	0.00251	0.001	#N/A
27-Apr-11	85	50	50	7.18	389	37																						
4-May-11	86	50	50	7.03	361	38																						
11-May-11	87	50	50	7.23	367	40																						
18-May-11	88	50	50	7.52	453	44																						
25-May-11	89	50	50	7.11	459	45																						
1-Jun-11	90	50	50	6.64	384	56																						
8-Jun-11	91	50	50	7.51	210	55																						
15-Jun-11	92	50	50	7.56	321	51																						
22-Jun-11	93	50	50	7.36	359	53																						
29-Jun-11	94	50	50	6.69	353	55																						
6-Jul-11	95	50	50	6.53	350	53																						
13-Jul-11	96	160	160	6.63	337	57	#N/A	4.7	21.0	5	8.73	1.8	0.02	20.2	0.0054	0.00003	0.00025	0.0422	-0.00001	-0.000005	-0.05	0.000028	6.35	0.0003	0.000011	0.002	0.003	0.00005
20-Jul-11	97	50	50	7.37	330	21																						
27-Jul-11	98	50	50	6.60	412	30																						
3-Aug-11	99	50	50	6.91	405	29																						
10-Aug-11	100	160	160	7.02	399	31																						
17-Aug-11	101	50	50	7.30	368	32																						
24-Aug-11	102	160	160	7.04	332	33																						
31-Aug-11	103	50	50	7.23	384	39																						
7-Sep-11	104	160	160	7.61	406	39																						
14-Sep-11	105	50	50	7.05	456	40																						
21-Sep-11	106	160	160	7.15	445	41																						
28-Sep-11	107	50	50	6.59	490	42																						
5-Oct-11	108	160	160	7.20	427	40	#N/A	3.5	16.0	4	9.63	0.9	0.02	17.2	0.005	#N/A	0.00034	0.0347	-0.00001	-0.000005	-0.05	0.000022	5.45	-0.0001	0.000017	0.0021	-0.001	#N/A
12-Oct-11	109	50	50	7.13	443	33																						
19-Oct-11	110	50	50	6.60	446	35																						
26-Oct-11	111	50	50	7.10	452	36																						
2-Nov-11	112	50	50	6.80	451	38																						
9-Nov-11	113	50	50	7.00	470	40																						
16-Nov-11	114	50	50	7.02	467	36																						
23-Nov-11	115	50	50	6.92	265	38																						
30-Nov-11	116	50	50	7.20	439	37																						
7-Dec-11	117	50	50	7.22	439	38																						
14-Dec-11	118	50	50	7.29	462	38																						
21-Dec-11	119	50	50	7.45	492	39																						
28-Dec-11	120	160	160	7.41	513	41	#N/A	3.1	20.8	2	9.51	#N/A	0.022	16.3	0.0086	0.00003	0.00017	0.0322	-0.00001	0.000015	-0.05	#N/A	5.13	0.0002	0.000046	0.0021	#N/A	#N/A
4-Jan-12	121	50	50	7.56	639	34																						
11-Jan-12	122	50	50	7.77	672	33																						
18-Jan-12	123	50	50	7.90	724	34																						
25-Jan-12	124	50	50	6.80	686	32																						
1-Feb-12	125	50	50	7.70	625	35																						
8-Feb-12	126	50	50	7.73	565	21																						
15-Feb-12	127	50	50	7.67	566	22																						
22-Feb-12	128	50	50	7.91	675	24																						
29-Feb-12	129	50	50	7.98	584	24																						
7-Mar-12	130	50	50	7.60	671	24																						
14-Mar-12	131	50	50	7.31	458	26																						
21-Mar-12	132	160	160	6.88	502	30	#N/A	3.4	14.2	4	8.88	0.7	0.019	12.5	0.0045	0.00002	0.00018	0.0264	-0.00001	-0.000005	-0.05	0.000016	3.97	-0.0001	0.00001	0.00164	0.002	0.000126
28-Mar-12	133	50	50	7.17	698	26																						
4-Apr-12	134	50	50	6.87	560	26																						
11-Apr-12	135	50	50	6.68	640	28																						
18-Apr-12	136	50	50	6.92	579	29																						
25-Apr-12	137	50	50	6.91	708	30																						
2-May-12	138	50	50	7.13	683	30																						
9-May-12	139	50	50	6.91	678	24																						
16-May-12	140	50	50	6.94	632	32																						

Col 1 Surface
Sample = 2351-33&

Date	Cycle No.	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L	P mg/L	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L	Maxxam ID	Maxxam File#	Major Anions	Major Cations	Diff	Diff (%)
29-Dec-10	68	-0.0005	0.59	0.025	-0.01	0.00018	0.0003	0.062	0.57	0.00017	1.02	-0.000005	0.25	0.0251	-10	0.000008	0.00681	-0.0005	0.000027	-0.0002	0.0018	-0.0001	Z27191	B0C5481	0.39	0.24	-0.15	-23.5%
5-Jan-11	69																											
12-Jan-11	70	-0.0005	0.57	0.0269	-0.01	0.00007	0.00031	0.043	0.52	0.00016	1.21	0.000009	0.23	0.0241	-10	0.000019	0.00879	-0.0005	0.000018	0.0006	0.0064	-0.0001	Z43444	B103513	0.31	0.26	-0.05	-8.9%
19-Jan-11	71																											
26-Jan-11	72	-0.0005	0.6	0.0264	-0.01	0.00018	0.00038	0.018	0.47	0.00023	1.15	0.000009	0.24	0.0234	-10	0.000009	0.00736	-0.0005	0.000024	0.0002	0.0037	-0.0001	Z63196	B107211	0.34	0.26	-0.08	-13.4%
2-Feb-11	73																											
9-Feb-11	74																											
16-Feb-11	75																											
23-Feb-11	76																											
2-Mar-11	77																											
9-Mar-11	78																											
16-Mar-11	79																											
23-Mar-11	80																											
30-Mar-11	81																											
6-Apr-11	82																											
13-Apr-11	83																											
20-Apr-11	84	-0.0005	0.87	0.0271	-0.01	0.00012	0.00027	0.026	0.7	0.00022	1.33	0.00001	0.24	0.035	-10	0.000009	0.00603	-0.0005	0.000015	-0.0002	0.0043	-0.0001	AJ6920	B132133	0.45	0.36	-0.09	-10.9%
27-Apr-11	85																											
4-May-11	86																											
11-May-11	87																											
18-May-11	88																											
25-May-11	89																											
1-Jun-11	90																											
8-Jun-11	91																											
15-Jun-11	92																											
22-Jun-11	93																											
29-Jun-11	94																											
6-Jul-11	95																											
13-Jul-11	96	-0.0005	1.05	0.0301	-0.01	0.00022	0.0002	0.016	1.69	0.00023	1.6	0.000033	0.3	0.0359	-10	0.00002	0.00438	-0.0005	0.000004	-0.0002	0.0026	-0.0001	AZ8087	B163259	0.58	0.46	-0.12	-11.3%
20-Jul-11	97																											
27-Jul-11	98																											
3-Aug-11	99																											
10-Aug-11	100																											
17-Aug-11	101																											
24-Aug-11	102																											
31-Aug-11	103																											
7-Sep-11	104																											
14-Sep-11	105																											
21-Sep-11	106																											
28-Sep-11	107																											
5-Oct-11	108	-0.0005	0.88	0.0178	-0.01	0.0001	0.00031	0.026	1.17	0.00042	1.14	0.000026	0.2	0.0296	-10	0.000008	0.0042	-0.0005	0.000008	0.0003	0.0077	-0.0001	BU0789	B196969	0.43	0.38	-0.05	-5.8%
12-Oct-11	109																											
19-Oct-11	110																											
26-Oct-11	111																											
2-Nov-11	112																											
9-Nov-11	113																											
16-Nov-11	114																											
23-Nov-11	115																											
30-Nov-11	116																											
7-Dec-11	117																											
14-Dec-11	118																											
21-Dec-11	119																											
28-Dec-11	120	-0.0005	0.85	0.0118	-0.01	0.00012	0.0005	#N/A	#N/A	0.00018	1.18	#N/A	0.33	0.0276	-10	0.000017	0.0046	0.0007	0.000014	0.0002	#N/A	-0.0001	CL2523	B1C4800	#N/A	#N/A	#N/A	#N/A
4-Jan-12	121																											
11-Jan-12	122																											
18-Jan-12	123																											
25-Jan-12	124																											
1-Feb-12	125																											
8-Feb-12	126																											
15-Feb-12	127																											
22-Feb-12	128																											
29-Feb-12	129																											
7-Mar-12	130																											
14-Mar-12	131																											
21-Mar-12	132	-0.0005	0.63	0.0232	-0.01	0.00006	0.0002	#N/A	1.29	0.00011	0.843	#N/A	0.21	0.021	-10	0.000009	0.0029	-0.0005	0.00002	0.0003	0.0017	-0.0001	DA2101	B224526	0.39	0.29	-0.09	-13.8%
28-Mar-12	133																											
4-Apr-12	134																											
11-Apr-12	135																											
18-Apr-12	136																											
25-Apr-12	137																											
2-May-12	138																											
9-May-12	139																											
16-May-12	140																											

Col 1 Surface
Sample = 2351-33&34 Composite

CONFIDENTIAL *DRAFT*

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	ORP mV	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	DO mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L
23-May-12	141	50	50	6.73	628	24																						
30-May-12	142	50	50	7.18	632	24																						
6-Jun-12	143	50	50	7.15	550	38																						
13-Jun-12	144	160	160	6.94	578	34	#N/A	5.2	23.1	4	9.86	-0.5	0.02	14.8	0.00257	0.000027	0.000261	0.0301	-0.00001	-0.000005	-0.05	0.0000162	4.65	0.00054	0.0000078	0.00108	0.001	0.000154
20-Jun-12	145	50	50	6.76	584	26																						
27-Jun-12	146	50	50	6.62	558	22																						
4-Jul-12	147	50	50	7.14	557	22																						
11-Jul-12	148	50	50	7.25	566	22																						
18-Jul-12	149	50	50	7.13	608	34																						
25-Jul-12	150	50	50	6.75	580	33																						
1-Aug-12	151	50	50	6.82	592	32																						
8-Aug-12	152	50	50	7.05	582	36																						
15-Aug-12	153	50	50	6.64	555	34																						
22-Aug-12	154	50	50	7.19	594	33																						
29-Aug-12	155	50	50	7.48	690	27																						
5-Sep-12	156	160	160	7.59	622	27	#N/A	3.8	20.9	6	9.38	-0.5	0.019	14.5	0.00581	0.000035	0.000177	0.0292	-0.00001	-0.000005	-0.05	0.000013	4.49	0.0004	0.000027	0.00451	0.0072	0.000151
12-Sep-12	157	50	50	8.03	711	21																						
19-Sep-12	158	50	50	7.32	620	30																						
26-Sep-12	159	50	50	6.82	610	33																						
3-Oct-12	160	50	50	7.33	626	32																						
10-Oct-12	161	50	50	7.31	688	32																						
17-Oct-12	162	50	50	7.51	514	27																						
24-Oct-12	163	50	50	6.88	469	30																						
31-Oct-12	164	50	50	7.47	500	32																						
7-Nov-12	165	50	50	6.95	557	34																						
14-Nov-12	166	50	50	7.40	657	34																						
21-Nov-12	167	50	50	7.17	645	34																						
28-Nov-12	168	160	160	7.08	538	35	#N/A	6.9	21.2	8	9.62	-0.5	0.019	14.4	0.00416	0.000062	0.000129	0.0308	-0.00001	-0.000005	-0.05	#N/A	4.38	0.00028	0.000011	0.00145	0.0045	0.000126
5-Dec-12	169	50	50	7.48	567	28																						
12-Dec-12	170	50	50	7.88	502	30																						
19-Dec-12	171	50	50	7.77	633	28																						
26-Dec-12	172	50	50	7.87	634	27																						
2-Jan-13	173	50	50	7.88	688	24																						
9-Jan-13	174	50	50	7.65	628	25																						
16-Jan-13	175	50	50	7.23	619	22																						
23-Jan-13	176	50	50	6.52	593	25																						
30-Jan-13	177	50	50	7.06	690	28																						
6-Feb-13	178	50	50	6.50	518	31																						
13-Feb-13	179	50	50	6.97	580	31																						
20-Feb-13	180	160	160	7.00	522	30	#N/A	4.5	16.0	6	8.60	0.56	0.017	13.2	0.00413	0.000079	0.000243	0.0262	-0.00001	-0.000005	-0.05	0.000021	4.14	-0.0001	0.000014	0.00129	0.0011	0.000049
27-Feb-13	181	50	50	7.05	547	32																						
6-Mar-13	182	50	50	7.36	666	24																						
13-Mar-13	183	50	50	6.93	568	27																						
20-Mar-13	184	50	50	7.35	614	29																						
27-Mar-13	185	50	50	6.82	548	28																						
3-Apr-13	186	50	50	6.98	487	29																						
10-Apr-13	187	50	50	7.15	633	29																						
17-Apr-13	188	50	50	7.18	596	30																						
24-Apr-13	189	50	50	6.67	468	29																						
1-May-13	190	50	50	6.30	454	30																						
8-May-13	191	50	50	6.08	548	31																						
15-May-13	192	160	160	6.29	536	32	#N/A	5.9	18.1	3	8.78	-0.5	0.015	13.7	0.00491	0.000024	0.000064	0.0272	-0.00001	-0.000005	-0.05	0.000017	4.27	-0.0001	0.000011	0.00154	0.0019	0.000027
22-May-13	193	50	50	7.22	653	26																						
29-May-13	194	50	50	7.52	578	27																						

Col 1 Surface
Sample = 2351-33&

Date	Cycle No.	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L	P mg/L	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L	Maxxam ID	Maxxam File#	Major Anions	Major Cations	Diff	Diff (%)
23-May-12	141																											
30-May-12	142																											
6-Jun-12	143																											
13-Jun-12	144	-0.0005	0.768	0.0162	-0.01	0.00021	0.00012	0.0263	0.555	0.00019	1.01	0.0000295	0.235	0.0245	-10	0.0000116	0.00193	-0.0005	0.0000044	-0.0002	0.00177	-0.0001	DR7382	B251074	0.56	0.32	-0.24	-27.1%
20-Jun-12	145																											
27-Jun-12	146																											
4-Jul-12	147																											
11-Jul-12	148																											
18-Jul-12	149																											
25-Jul-12	150																											
1-Aug-12	151																											
8-Aug-12	152																											
15-Aug-12	153																											
22-Aug-12	154																											
29-Aug-12	155																											
5-Sep-12	156	-0.0005	0.788	0.00547	-0.01	0.00021	0.00035	#N/A	0.741	0.0001	0.948	#N/A	0.252	0.0234	-10	0.000008	0.00235	-0.0005	#N/A	0.00094	0.00179	-0.0001	EK3364	B280253	0.56	0.32	-0.24	-27.2%
12-Sep-12	157																											
19-Sep-12	158																											
26-Sep-12	159																											
3-Oct-12	160																											
10-Oct-12	161																											
17-Oct-12	162																											
24-Oct-12	163																											
31-Oct-12	164																											
7-Nov-12	165																											
14-Nov-12	166																											
21-Nov-12	167																											
28-Nov-12	168	-0.0005	0.842	0.0135	-0.01	0.00026	0.00017	0.0527	0.593	0.00023	0.911	0.000009	0.204	0.0244	-3	0.000016	0.00267	-0.0005	0.000016	-0.0002	#N/A	-0.0001	FD8560	B2A9774	0.60	0.31	-0.29	-31.8%
5-Dec-12	169																											
12-Dec-12	170																											
19-Dec-12	171																											
26-Dec-12	172																											
2-Jan-13	173																											
9-Jan-13	174																											
16-Jan-13	175																											
23-Jan-13	176																											
30-Jan-13	177																											
6-Feb-13	178																											
13-Feb-13	179																											
20-Feb-13	180	-0.0005	0.697	0.016	-0.01	8.8E-05	0.00015	0.048	0.674	0.0001	0.78	0.000227	0.187	0.0206	-3	0.000011	0.00208	-0.0005	0.000008	0.00027	0.00238	-0.0001	FS0799	B314368	0.46	0.29	-0.17	-22.7%
27-Feb-13	181																											
6-Mar-13	182																											
13-Mar-13	183																											
20-Mar-13	184																											
27-Mar-13	185																											
3-Apr-13	186																											
10-Apr-13	187																											
17-Apr-13	188																											
24-Apr-13	189																											
1-May-13	190																											
8-May-13	191																											
15-May-13	192	-0.0005	0.749	0.00862	-0.01	0.00008	0.00021	0.0145	0.479	0.0001	0.833	0.000015	0.172	0.0206	-3	0.000009	0.00123	-0.0005	0.000002	-0.0002	0.00244	-0.0001	GK4528	B339617	0.44	0.30	-0.14	-19.7%
22-May-13	193																											
29-May-13	194																											

Dec 18/09 checked neoprene pump tubing for possible source of Sn contamination. Found that recirculating nanopure water at ~1 mL/min over 18 days increased Sn from <0.00001 ppm to 0.00046 ppm. All neoprene tubing being replaced with Tygon or Silicon.
Feb 24/10 Bi 0.0004, Cu 0.48, Pb 0.0234 and Zn 0.317. Repeat = -0.0001, 0.002, -0.001, and 0.317.
June 2/10 Cu 0.00778. Repeat = 0.00767. Data confirmed.
Nov 3/10 U 0.000746. Cannot repeat. Sample discarded.
Nov 17/10 Cl 1.4. Repeat = -0.5.
Nov 17/10 U 0.000045. Cannot repeat; sample discarded.
Feb 4/11 Change in analytical schedule.
Mar 30/11 pH 5.80. Suspect probe malfunction.
April 6/11 pH 5.60. Suspect probe malfunction.
Jul 13/11 Leak in pump tubing. 550 mL added to maintain correct volume.
April 20/11 Sb 0.00027 and Pb 0.000141. Repeat Sb= 0.00024, Pb=0.000141. Data confirmed, suspect contamination
Oct 5/11 Pb= 0.000629, Mo=0.00054, Repeat= Pb 0.00062. Data confirmed, suspect contamination. Mo= 0.0001, data accepted
Dec 28/11 Cl=5.1, Cd=0.000145, K=5.82, Ag=0.000144, Fe=0.027, Pb=0.000543, P=.073. cannot repeat, suspect contamination or analytical error
Oct 5/11 Sb=0.00026, repeat=0.00022. Data confirmed, suspect contamination
Mar 21/12 P=0.055, Ag=0.000147 repeat P=0.0566, Ag=0.000146. Data confirmed, suspect contamination
Sept 5/12 P=0.0783, Ag=0.000137. repeat P=0.0653, Ag=0.000147. Data confirmed suspect contamination
Nov 28/12 Cd=0.00004, Zn=0.0061, repeat Cd=0.00004, Zn=0.0061. data confirmed, suspect contamination
Sept 5/12 Cu=0.00451, U=0.000135, Cannot repeat suspect contamination or analytical error

Col 1 Bottom

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Sample = 2351-33&34 Composite

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	ORP mV	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	DO mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L
9-Sep-09	0	160	160	7.39	219	147	#N/A	4.2	73.5	27	4.30	0.8	0.93	79.8	0.0488	0.00025	0.00019	0.297	-0.00001	-0.000005	-0.05	0.000076	26.2	-0.0001	0.000164
16-Sep-09	1	50	50	7.53	319	175					5.20														
23-Sep-09	2	160	160	7.35	217	219	#N/A	2.8	130.7	38	6.00	0.6	1.12	135	0.022	0.00032	0.00021	0.37	-0.00001	-0.000005	-0.05	0.000039	42.2	-0.0001	0.000143
30-Sep-09	3	50	50	7.97	340	262					5.50														
7-Oct-09	4	160	160	7.52	340	298	#N/A	8.2	165.5	49	5.40	1	1.17	160	0.0141	0.00022	0.00014	0.261	0.00002	-0.000005	0.057	0.00003	47.6	-0.0001	0.000072
14-Oct-09	5	50	50	7.96	254	148					6.00														
21-Oct-09	6	160	160	7.93	252	415	#N/A	#N/A	#N/A	67	5.60	2.5	1.21	171	0.0128	0.00033	0.00029	0.15	-0.00001	-0.000005	0.071	0.000052	48.7	0.0004	0.000045
28-Oct-09	7	50	50	7.83	221	401					4.50														
4-Nov-09	8	160	160	6.77	310	357	#N/A	6.9	182.4	48	5.60	2.2	1.31	170	0.0085	0.00028	0.00023	0.113	-0.00001	-0.000005	0.068	0.000017	48.6	-0.0001	0.000022
11-Nov-09	9	50	50	7.61	289	360					3.90														
18-Nov-09	10	160	160	7.66	173	334	#N/A	8.8	155.9	37	5.20	1.4	1.62	138	0.0095	0.00029	0.00023	0.0956	0.00001	-0.000005	0.051	0.000017	39.5	-0.0001	0.000035
25-Nov-09	11	50	50	7.26	105	330					4.80														
2-Dec-09	12	160	160	7.46	70	294	#N/A	6.4	133.3	26	4.60	0.8	1.96	110	0.0278	0.00025	0.0003	0.083	-0.00001	-0.000005	-0.05	0.00001	31.4	0.0002	0.000212
9-Dec-09	13	50	50	7.60	381	105					3.50														
16-Dec-09	14	160	160	7.60	25	210	#N/A	4.1	117.6	8	4.50	0.6	2.25	85.8	0.008	0.00025	0.00018	0.0977	-0.00001	-0.000005	-0.05	0.000028	24.3	0.0002	0.000049
23-Dec-09	15	50	50	7.94	113	192					3.50														
30-Dec-09	16	160	160	7.75	121	204	#N/A	4.6	102.8	4	4.50	1	2.03	76.8	0.0085	0.00016	0.00027	0.46	-0.00001	-0.000005	-0.05	0.000022	22.5	-0.0001	0.000029
6-Jan-10	17	50	50	7.31	161	199					5.10														
13-Jan-10	18	160	160	7.00	184	193	#N/A	6.5	101.3	-2	5.40	-0.5	1.97	68.5	0.034	0.0005	0.0005	0.73	-0.0002	-0.0001	-1	-0.0001	19.3	-0.002	-0.0001
20-Jan-10	19	50	50	7.33	291	187					5.40														
27-Jan-10	20	160	160	6.72	187	187	#N/A	3.3	96.1	-2	4.30	-0.5	2.12	60.1	0.01	0.0002	0.0004	0.844	-0.00005	-0.00003	-0.3	-0.00003	17.2	-0.0005	-0.00003
3-Feb-10	21	50	50	6.93	265	180					4.30														
10-Feb-10	22	160	160	7.82	229	183	#N/A	3.3	94.6	-2	3.80	-0.5	1.86	67	0.011	0.0002	0.0007	1.3	-0.00005	-0.00003	-0.3	-0.00003	19.9	-0.0005	-0.00003
17-Feb-10	23	50	50	7.12	219	191					5.30														
24-Feb-10	24	160	160	7.79	316	181	#N/A	3.1	90.9	-2	4.40	-0.5	1.72	54.7	0.01	-0.0004	-0.0004	1.47	-0.0002	-0.0001	-1	-0.0001	16.6	-0.002	-0.0001
3-Mar-10	25	50	50	7.63	317	179					4.40														
10-Mar-10	26	160	160	7.53	307	180	#N/A	3.1	89.6	-2	5.00	-0.5	1.74	58.1	0.0108	0.00014	0.0003	1.62	-0.00001	-0.000005	-0.05	0.000015	17.2	-0.0001	0.000011
17-Mar-10	27	50	50	7.20	310	176					3.40														
24-Mar-10	28	160	160	7.54	260	179	#N/A	3.1	89.1	5	4.16	-0.5	1.66	53.6	0.012	0.0003	0.0004	1.71	-0.00005	-0.00003	-0.3	-0.00003	15.6	-0.0005	0.00004
31-Mar-10	29	50	50	7.41	265	176					3.80														
7-Apr-10	30	160	160	7.59	398	185	#N/A	3.4	88.3	2	4.70	-0.5	1.66	56.8	0.012	0.0002	0.0002	1.82	-0.00005	-0.00003	-0.3	-0.00003	16.5	-0.0005	-0.00003
14-Apr-10	31	50	50	7.75	217	176					4.00														
21-Apr-10	32	160	160	7.50	370	184	#N/A	3.2	89.4	-2	4.20	-0.5	1.55	54.5	0.0116	0.00011	0.00031	1.87	-0.00001	-0.000005	-0.05	0.000015	16	0.0002	0.000012
28-Apr-10	33	50	50	7.62	330	161					4.60														
5-May-10	34	160	160	6.96	400	170	#N/A	3.6	88.9	-2	5.10	-0.5	1.57	62.2	0.0093	0.00011	0.00051	1.96	-0.00001	-0.000005	-0.05	0.000015	19	-0.0001	0.000007
12-May-10	35	50	50	7.35	316	176					3.70														
19-May-10	36	160	160	6.94	260	185	#N/A	2.8	93.6	-2	4.60	-0.5	1.58	66.9	0.0099	0.00011	0.00029	2.29	-0.00001	-0.000005	-0.05	0.000014	20.5	-0.0001	0.000006
26-May-10	37	50	50	7.06	360	187					4.00														
2-Jun-10	38	160	160	6.76	353	190	#N/A	2.4	91.7	2	3.60	-0.5	1.56	58.2	0.0099	0.00009	0.00019	2.1	-0.00001	-0.000005	-0.05	0.000014	17.3	-0.0001	0.000007
9-Jun-10	39	50	50	7.12	316	174					3.20														
16-Jun-10	40	160	160	7.32	418	175	#N/A	2.7	93.6	-2	3.00	-0.5	1.5	53.4	0.0094	0.00009	0.00058	2.31	-0.00001	-0.000005	-0.05	0.000011	15.5	-0.0001	0.000008
23-Jun-10	41	50	50	6.97	337	170					3.60														
30-Jun-10	42	160	160	7.10	288	171	#N/A	3.0	93.4	-2	2.95	-0.5	1.59	52.8	0.0106	0.0001	0.00048	2.3	-0.00001	-0.000005	-0.05	0.000075	15	-0.0001	0.000037
7-Jul-10	43	50	50	6.87	346	168					2.82														
14-Jul-10	44	160	160	6.52	393	177	#N/A	4.2	88.8	-2	0.85	-0.5	1.42	49.1	0.0069	0.00008	0.00026	2.33	-0.00001	-0.000005	-0.05	0.000019	14.3	-0.0001	0.000013
21-Jul-10	45	50	50	6.58	361	163					3.10														
28-Jul-10	46	160	160	6.33	439	169	#N/A	4.9	87.7	-2	3.20	-0.5	1.37	53	0.0111	0.00006	0.00029	2.39	-0.00001	-0.000005	-0.05	0.000019	15.6	0.0002	0.000016
4-Aug-10	47	50	50	6.65	331	165					3.10														
11-Aug-10	48	160	160	6.56	251	179	#N/A	5.9	88.8	-2	0.70	-0.5	1.34	54.2	0.0166	0.0001	0.00021	2.32	-0.00001	-0.000005	-0.05	0.000013	16	0.0002	0.000008
18-Aug-10	49	50	50	6.60	362	177					1.85														
25-Aug-10	50	160	160	6.29	440	165	#N/A	4.5	89.9	3	0.65	-0.5	1.35	55.7	0.0013	0.00006	0.0002	2.36	-0.00001	-0.000005	-0.05	0.000006	16.3	0.0001	0.000011
1-Sep-10	51	50	50	7.50	406	160					0.70														
8-Sep-10	52	160	160	7.03	431	167	#N/A	6.2	90.9	-2	1.25	-0.5	1.24	55.3	0.0108	0.00007	0.00022	2.51	-0.00001	-0.000005	-0.05	0.000018	16.3	0.0002	0.000016
15-Sep-10	53	50	50	7.00	410	158					1.00														
22-Sep-10	54	160	160	7.26	432	169	#N/A	3.7	90.0	2	0.55	-0.5	1.26	56	0.0181	0.00007	#N/A	2.54	-0.00001	-0.000005	-0.05	0.000017	16.5	0.0002	0.000023
29-Sep-10	55	50	50	7.92	343	159					0.95														
6-Oct-10	56	160	160	7.40	343	167	#N/A	4.0	95.8	2	0.90	2.2	1.27	59.2	0.013	0.00006	0.00019	2.67	-0.00001	-0.000005	-0.05	0.000021	17.8	#N/A	0.00002
13-Oct-10	57	50	50	7.13	315	176					0.98														
20-Oct-10	58	160	160	6.69	291	194	#N/A	4.0	95.0	2	0.85	-0.5	1.23	56.2	0.0072	#N/A	0.00018	2.61	-0.00001	-0.000005	-0.05	0.000017	16.8	-0.0001	0.000021
27-Oct-10	59	50	50	6.85	315	157					0.65														
3-Nov-10	60	160	160	6.89	299	163	#N/A	2.4	99.4	2	0.71	-0.5	1.11	61.8	0.0057	0.00003	0.00014	3.22	-0.00001	-0.000005	-0.05	0.000017	18.5	0.0002	0.000007
10-Nov-10	61	50	50	6.88	370	130					0.88														
17-Nov-10	62	160	160	6.84	315	171	#N/A	3.1	98.2	-2	0.50	-0.5	1.15	65.2	0.0099	0.00008	0.0003	2.74	-0.00001	-0.000005	-0.05	0.000023	19.9	-0.0001	0.000015
24-Nov-10	63	50	50	7.12	398	167					0.85														
1-Dec-10	64	160	160	6.90	425	169	#N/A	5.7	97.2	-2	1.80	-0.5	1.01	59	0.0053	0.00006	0.00018	2.71	-0.00001	-0.000005	-0.05	0.000008	17.8	-0.0001	0.00002
8-Dec-10	65	50	50	7.03	410	172					0.90														
15-Dec-10	66	160	160	6.91	420	170	#N/A	5.5	91.9	-2	0.75	-0.5	1.08	60.3	0.0066	0.00007	0.00019	2.7	-0.00001	-0.000005	-0.05	0.000034	18.6	-0.0001	0.000013
22-Dec-10	67	50	50	7.07	400	169					0.68														
29-Dec-10	68	160	160	7.25	406	171	#N/A	7.0	92.2	-2	0.85	-0.5	0.74	57.9	0.0065	0.00005	0.00016	3.05	-0.00001	-0.000005	-0.05	0.000013	17.5	-0.0001	0.000028
5-Jan-11	69	50	50	7.35	385	172					0.90														
12-Jan-11	70	160	160	7.38	408	157	#N/A	5.4	89.8	-2	0.85	-0.5	0.88	59	0.0114	0.00007	0.00025	2.73	-0.00001	-0.000005	-0.05	0.000017	18	0.0001	0.000007
19-Jan-11	71	50	50	7.41	385	156					0.85														

Col 1 Bottom

Sample = 2351-33&34 Composite

Date	Cycle No.	Cu	Fe	Pb	Li	Mg	Mn	Hg	Mo	Ni	P	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
9-Sep-09	0	0.0102	0.003	0.00156	0.0022	3.48	0.0324	0.01	0.00861	0.00038	0.011	6.49	0.00129	2.16	0.000011	1.81	0.401	9	0.000032	0.0284	0.001	0.00101	0.0009	0.0042	-0.0001
16-Sep-09	1																								
23-Sep-09	2	0.00765	0.003	0.00172	0.0034	7.29	0.0471	-0.01	0.0156	0.00029	0.1	11	0.00198	3.09	-0.000005	4.91	0.742	13	0.00004	0.0231	-0.0005	0.00269	0.0003	0.0033	-0.0001
30-Sep-09	3																								
7-Oct-09	4	0.0102	0.013	0.000104	0.0036	9.95	0.0587	-0.01	0.0242	0.00065	0.007	14.6	0.0027	3.82	-0.000005	11.5	0.893	17	0.000006	0.0226	0.0005	0.00196	-0.0002	0.0027	-0.0001
14-Oct-09	5																								
21-Oct-09	6	0.00365	0.017	0.000098	0.0033	11.9	0.0644	-0.01	0.0287	0.00043	0.013	16.7	0.0022	3.55	-0.000005	16.1	0.985	22	0.000033	0.0167	0.0009	0.000751	0.0003	0.002	-0.0001
28-Oct-09	7																								
4-Nov-09	8	0.00416	0.006	0.00003	0.0026	11.9	0.0638	-0.01	0.0179	0.0002	0.006	17.4	0.00123	3.43	-0.000005	14.8	0.934	19	0.000019	0.0203	-0.0005	0.000257	-0.0002	0.0009	-0.0001
11-Nov-09	9																								
18-Nov-09	10	0.00189	0.012	0.000054	0.0022	9.69	0.0495	-0.01	0.00627	0.00023	0.008	16.9	0.00019	3.1	0.000008	10.8	0.741	13	0.000049	0.023	-0.0005	0.000197	-0.0002	0.0011	-0.0001
25-Nov-09	11																								
2-Dec-09	12	0.00212	0.034	0.00041	0.002	7.75	0.0482	-0.01	0.00415	0.00052	0.007	15.2	0.00008	3.53	0.000007	8.34	0.634	11	0.000028	0.0312	0.0011	0.000185	-0.0002	0.0046	-0.0001
9-Dec-09	13																								
16-Dec-09	14	0.0023	0.011	0.000045	0.0013	6.1	0.0255	-0.01	0.00288	0.00039	0.007	14.2	0.00006	2.87	-0.000005	6.83	0.52	4	0.000026	0.0249	-0.0005	0.000077	-0.0002	0.0013	-0.0001
23-Dec-09	15																								
30-Dec-09	16	0.00264	0.015	0.000016	0.0013	5.02	0.0209	-0.01	0.00617	0.00034	0.006	14.4	-0.00004	3.31	-0.000005	5.97	0.551	-3	0.000002	0.0252	-0.0005	0.000067	-0.0002	0.0014	-0.0001
6-Jan-10	17																								
13-Jan-10	18	0.002	-0.02	0.002	-0.01	4.9	0.016	-0.2	0.006	0.0053	-0.04	14.4	-0.0008	3.54	-0.0001	5.8	0.556	-10	0.00007	0.0204	0.00007	0.00007	0.007	0.004	-0.002
20-Jan-10	19																								
27-Jan-10	20	0.0034	0.02	0.00031	-0.003	4.19	0.0141	-0.05	0.009	0.0018	0.013	13.1	-0.0002	2.8	-0.00003	5.48	0.499	-3	0.00003	0.0197	0.004	0.00005	-0.001	0.0018	-0.0005
3-Feb-10	21																								
10-Feb-10	22	0.0052	0.034	0.00015	-0.003	4.18	0.0143	-0.05	0.0121	0.0006	0.013	15.8	-0.0002	3.19	-0.00003	6.16	0.545	-3	-0.00001	0.0218	-0.003	0.00003	-0.001	0.0037	-0.0005
17-Feb-10	23																								
24-Feb-10	24	0.003	-0.02	0.0001	-0.01	3.2	0.013	-0.2	0.012	0.0055	-0.04	11.7	-0.0008	2.65	-0.0001	4.9	0.541	-10	-0.00004	0.0226	-0.01	-0.00004	-0.004	0.003	-0.002
3-Mar-10	25																								
10-Mar-10	26	0.00346	0.096	0.00029	0.0016	3.68	0.0136	-0.01	0.0115	0.00018	0.02	12.5	0.00004	3.14	0.000007	5.91	0.574	-10	0.000016	0.0198	-0.0005	0.000044	-0.0002	0.0155	-0.0001
17-Mar-10	27																								
24-Mar-10	28	0.0021	0.015	0.00064	-0.003	3.5	0.0106	-0.05	0.0094	0.0002	-0.01	11.7	-0.0002	3.29	-0.00003	5.7	0.553	-10	0.00007	0.0159	-0.003	0.00005	-0.001	0.0041	-0.0005
31-Mar-10	29																								
7-Apr-10	30	0.004	0.02	0.00024	-0.003	3.78	0.009	-0.05	0.0092	0.0004	0.018	12.2	-0.0002	3.1	-0.00003	6.02	0.601	-10	0.00007	0.0154	-0.003	0.00005	-0.001	0.0081	-0.0005
14-Apr-10	31																								
21-Apr-10	32	0.0025	0.023	0.000389	0.0019	3.54	0.00649	-0.01	0.00958	0.00035	0.019	11.5	0.00005	3.44	0.000031	5.79	0.601	-10	0.000029	0.0165	0.0006	0.000045	-0.0002	0.004	-0.0001
28-Apr-10	33																								
5-May-10	34	0.00212	0.008	0.000021	0.0019	3.6	0.0064	-0.01	0.01	0.00017	0.029	11.5	-0.00004	3.54	-0.000005	5.78	0.626	-10	0.000015	0.0148	-0.0005	0.00004	-0.0002	0.0027	-0.0001
12-May-10	35																								
19-May-10	36	0.00279	0.013	0.000236	0.0022	3.8	0.00395	0.02	0.0109	0.00014	0.025	11.7	-0.00004	4.08	-0.000005	5.86	0.697	-10	0.000072	0.0149	-0.0005	0.000047	-0.0002	0.003	-0.0001
26-May-10	37																								
2-Jun-10	38	#N/A	0.006	0.000105	0.0019	3.63	0.00652	-0.01	0.0102	0.00012	0.023	10.5	-0.00004	3.54	-0.000005	5.44	0.631	-10	0.000008	0.0128	-0.0005	0.000042	-0.0002	0.0029	-0.0001
9-Jun-10	39																								
16-Jun-10	40	0.0023	0.01	0.000054	0.0022	3.6	0.0035	-0.01	0.0114	0.00016	0.03	10.6	-0.00004	3.73	0.000008	5.52	0.655	-10	0.000015	0.0134	-0.0005	0.000043	-0.0002	0.0019	-0.0001
23-Jun-10	41																								
30-Jun-10	42	0.00279	0.013	0.00084	0.0023	3.74	0.018	-0.01	0.0113	0.00023	0.271	10.6	-0.00004	3.67	-0.000005	5.68	0.668	-10	0.000012	0.0123	0.0005	0.000088	-0.0002	0.0036	-0.0001
7-Jul-10	43																								
14-Jul-10	44	0.00272	0.006	0.000029	0.0022	3.24	0.00896	-0.01	0.0113	0.00011	0.041	9.17	-0.00004	3.26	-0.000005	4.46	0.683	-10	0.000004	0.0124	-0.0005	0.000078	-0.0002	0.0032	-0.0001
21-Jul-10	45																								
28-Jul-10	46	0.00249	0.012	0.000047	0.0022	3.45	0.00989	-0.01	0.0113	0.00031	0.021	8.63	-0.00004	3.43	-0.000005	4.61	0.67	-10	0.000009	0.0106	-0.0005	0.000046	-0.0002	0.003	-0.0001
4-Aug-10	47																								
11-Aug-10	48	0.00273	0.015	0.000041	0.0023	3.45	0.00778	-0.01	0.0112	0.00041	0.029	8.69	-0.00004	3.51	-0.000005	4.56	0.681	-10	0.000008	0.00905	0.0013	0.000039	-0.0002	0.0028	-0.0001
18-Aug-10	49																								
25-Aug-10	50	0.00112	0.011	0.00004	0.0024	3.67	0.00533	-0.01	0.0128	0.00014	0.016	8.88	-0.00004	3.87	-0.000005	4.57	0.673	-10	0.000005	0.00188	-0.0005	0.000009	-0.0002	0.0019	-0.0001
1-Sep-10	51																								
8-Sep-10	52	0.00262	0.014	0.000211	0.0023	3.55	0.00865	-0.01	0.0116	0.00126	0.012	8.42	-0.00004	3.7	-0.000005	4.19	0.691	-10	0.000003	0.00766	-0.0005	0.000048	-0.0002	0.0038	-0.0001
15-Sep-10	53																								
22-Sep-10	54	0.00297	0.011	0.00032	0.0025	3.56	0.0102	-0.01	0.0121	0.00041	0.031	8.31	-0.00004	3.78	-0.000005	3.91	0.706	-10	0.000005	0.00754	-0.0005	0.000067	-0.0002	0.0054	-0.0001
29-Sep-10	55																								
6-Oct-10	56	0.00268	0.007	0.000589	0.0026	3.61	0.0121	-0.01	0.0122	0.00039	0.021	8.46	-0.00004	3.91	-0.000005	3.75	0.734	-10	0.00001	0.00766	-0.0005	0.000073	-0.0002	0.0032	-0.0001
13-Oct-10	57																								
20-Oct-10	58	0.00335	0.012	0.000323	0.0027	3.49	0.0246	-0.01	0.0122	0.00038	0.012	7.53	-0.00004	3.37	-0.000005	3.5	0.707	-10	0.000078	0.00828	-0.0005	0.000129	-0.0002	0.0048	-0.0001
27-Oct-10	59																								
3-Nov-10	60	0.00252	0.01	0.000253	0.0029	3.78	0.0122	-0.01	0.0122	0.00012	0.011	8.12	-0.00004	3.85	-0.000005	3.75	0.786	-10	-0.000002	0.0072	-0.0005	#N/A	-0.0002	0.0024	-0.0001
10-Nov-10	61																								
17-Nov-10	62	0.0041	0.009	0.000052	0.0025	3.77	0.0115	-0.01	0.0103	0.00034	0.014	7.57	-0.00004	4.29	-0.000005	3.56	0.748	-10	0.000008	0.00475	-0.0005	#N/A	-0.0002	0.0068	-0.0001
24-Nov-10	63																								
1-Dec-10	64	0.00474	0.007	0.000146	0.0025	3.57	0.0108	-0.01	0.0111	0.00034	0.019	7.16	-0.00004	3.88	-0.000005	3.09	0.732	-10	0.000047	0.00565	-0.0005	0.000071	-0.0002	0.0041	-0.0001
8-Dec-10	65																								
15-Dec-10	66	0.00324	0.01	0.000063	0.0025	3.36	0.01	-0.01	0.011	0.00044	0.01	6.45	-0.00004	3.9	-0.000005	2.7	0.728	-10	0.000045	0.0052	0.0006	0.000067	-0.0002	0.0039	-0.0001
22-Dec-10	67																								
29-Dec-10	68	0.00394	0.008	0.000058	0.0024	3.47	0.0079	-0.01	0.00823	0.00036	0.019	6.67	-0.00004	3.81	-0.000005	2.68	0.722	-10	0.00004	0.00463	-0.0005	0.000138	-0.0002	0.0033	-0.0001
5-Jan-11	69																								
12-Jan-11	70	0.00296	0.018	0.000168	0.0023	3.39	0.00199	-0.01	0.011	0.00036	0.012	5.99	-0.00004	3.92	0.000013	2.49	0.715	-10	0.000036	0.0044	-0.0005	#N/A	-0.0002	0.0035	#N/A
19-Jan-11	71																								

Col 1 Bottom

CONFIDENTIAL *DRAFT*

Sample = 2351-33&34 Composite

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	ORP mV	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	DO mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L
26-Jan-11	72	160	160	7.16	413	165	#N/A	5.3	88.9	-2	0.80	-0.5	0.79	57.7	0.0136	0.0001	0.00033	2.63	-0.00001	-0.000005	-0.05	0.000028	17.3	-0.0001	0.000009
2-Feb-11	73	50	50	7.13	420	153					0.60														
9-Feb-11	74	50	50	7.68	382	155																			
16-Feb-11	75	50	50	7.46	396	156																			
23-Feb-11	76	50	50	7.73	362	164																			
2-Mar-11	77	50	50	7.43	409	160																			
9-Mar-11	78	50	50	7.08	388	172																			
16-Mar-11	79	50	50	7.63	366	156																			
23-Mar-11	80	50	50	6.83	386	157																			
30-Mar-11	81	50	50	7.02	336	160																			
6-Apr-11	82	50	50	#N/A	355	160																			
13-Apr-11	83	50	50	7.89	391	163																			
20-Apr-11	84	160	160	8.06	357	168	#N/A	7.1	95.6	3	0.90	-0.5	0.95	61	0.012	0.0001	0.0001	2.74	-0.00005	-0.00003	-0.3	0.00003	18.3	-0.0005	0.00004
27-Apr-11	85	50	50	7.92	373	169																			
4-May-11	86	50	50	7.67	372	169																			
11-May-11	87	50	50	7.87	372	172																			
18-May-11	88	50	50	7.83	371	189																			
25-May-11	89	50	50	7.86	378	165																			
1-Jun-11	90	50	50	7.84	371	173																			
8-Jun-11	91	50	50	7.35	303	170																			
15-Jun-11	92	50	50	7.37	290	160																			
22-Jun-11	93	50	50	8.04	345	165																			
29-Jun-11	94	50	50	7.60	342	173																			
6-Jul-11	95	50	50	7.20	364	177																			
13-Jul-11	96	160	160	7.15	347	183	#N/A	7.9	89.2	2	0.95	-0.5	0.77	66.8	0.005	-0.0001	0.0004	2.88	-0.00005	-0.00003	-0.3	-0.00003	20.3	-0.0005	0.00005
20-Jul-11	97	50	50	7.20	346	182																			
27-Jul-11	98	50	50	7.00	345	186																			
3-Aug-11	99	50	50	7.29	358	160																			
10-Aug-11	100	50	50	7.45	355	165																			
17-Aug-11	101	50	50	7.53	351	171																			
24-Aug-11	102	160	160	7.60	328	177																			
31-Aug-11	103	50	50	7.60	348	193																			
7-Sep-11	104	160	160	7.83	380	181																			
14-Sep-11	105	50	50	7.77	413	187																			
21-Sep-11	106	160	160	7.81	435	191																			
28-Sep-11	107	50	50	7.31	456	188																			
5-Oct-11	108	160	160	7.91	385	171	#N/A	4.5	89.3	2	1.08	#N/A	0.68	67.2	0.01	0.0002	0.0003	2.99	-0.00005	-0.00003	-0.3	-0.00003	20.9	-0.0005	-0.00003
12-Oct-11	109	50	50	7.92	406	170																			
19-Oct-11	110	50	50	7.55	394	171																			
26-Oct-11	111	50	50	7.70	410	170																			
2-Nov-11	112	50	50	7.69	387	175																			
9-Nov-11	113	50	50	7.77	391	179																			
16-Nov-11	114	50	50	7.55	407	162																			
23-Nov-11	115	50	50	7.02	202	166																			
30-Nov-11	116	50	50	6.85	417	166																			
7-Dec-11	117	50	50	7.46	446	168																			
14-Dec-11	118	50	50	7.23	464	165																			
21-Dec-11	119	50	50	7.52	469	199																			
28-Dec-11	120	160	160	7.92	558	174	#N/A	4.7	102.2	2	0.96	-0.5	0.62	67.5	0.008	-0.0001	0.0004	2.87	-0.00005	-0.00003	-0.3	-0.00003	20.7	0.001	0.00005
4-Jan-12	121	50	50	7.45	585	175																			
11-Jan-12	122	50	50	7.45	630	168																			
18-Jan-12	123	50	50	7.41	657	165																			
25-Jan-12	124	50	50	7.53	639	189																			
1-Feb-12	125	50	50	7.35	586	176																			
8-Feb-12	126	50	50	7.37	535	165																			
15-Feb-12	127	50	50	7.25	543	168																			
22-Feb-12	128	50	50	7.34	636	174																			
29-Feb-12	129	50	50	7.80	553	163																			
7-Mar-12	130	50	50	7.33	622	172																			
14-Mar-12	131	50	50	7.71	434	191																			
21-Mar-12	132	160	160	7.35	489	163	#N/A	5.0	91.2	5	1.10	0.9	0.52	61.8	0.009	0.0001	0.0003	2.64	-0.00005	-0.00003	-0.3	-0.00003	18.6	-0.0005	0.00017
28-Mar-12	133	50	50	7.73	643	169																			
4-Apr-12	134	50	50	7.41	543	167																			
11-Apr-12	135	50	50	7.26	603	162																			
18-Apr-12	136	50	50	7.59	580	166																			
25-Apr-12	137	50	50	7.73	641	165																			
2-May-12	138	50	50	7.67	640	157																			
9-May-12	139	50	50	7.31	641	130																			
16-May-12	140	50	50	7.47	615	160																			
23-May-12	141	50	50	7.41	598	125																			
30-May-12	142	50	50	7.53	599	125																			
6-Jun-12	143	50	50	7.64	542	174																			

Col 1 Bottom

Sample = 2351-33&34 Composite

Date	Cycle No.	Cu	Fe	Pb	Li	Mg	Mn	Hg	Mo	Ni	P	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
26-Jan-11	72	0.00216	0.012	0.000054	0.0022	3.54	0.00911	-0.01	0.0108	0.00014	0.014	6.04	0.00009	3.66	0.000007	2.44	0.701	-10	0.000045	0.004	-0.0005	0.000079	0.0003	0.0052	0.0001
2-Feb-11	73																								
9-Feb-11	74																								
16-Feb-11	75																								
23-Feb-11	76																								
2-Mar-11	77																								
9-Mar-11	78																								
16-Mar-11	79																								
23-Mar-11	80																								
30-Mar-11	81																								
6-Apr-11	82																								
13-Apr-11	83																								
20-Apr-11	84	0.0029	0.014	#N/A	-0.003	3.7	0.0245	-0.05	0.0115	0.0003	-0.01	5.8	-0.0002	3.49	#N/A	2.6	0.767	-50	-0.00001	0.00461	-0.003	0.00017	-0.001	0.0054	-0.0005
27-Apr-11	85																								
4-May-11	86																								
11-May-11	87																								
18-May-11	88																								
25-May-11	89																								
1-Jun-11	90																								
8-Jun-11	91																								
15-Jun-11	92																								
22-Jun-11	93																								
29-Jun-11	94																								
6-Jul-11	95																								
13-Jul-11	96	0.003	0.011	0.00017	-0.003	3.9	0.0129	-0.05	0.0143	0.0003	0.02	5.3	-0.0002	4.15	-0.00003	2.5	0.757	-50	0.00003	0.00226	-0.003	0.00018	-0.001	0.0048	-0.0005
20-Jul-11	97																								
27-Jul-11	98																								
3-Aug-11	99																								
10-Aug-11	100																								
17-Aug-11	101																								
24-Aug-11	102																								
31-Aug-11	103																								
7-Sep-11	104																								
14-Sep-11	105																								
21-Sep-11	106																								
28-Sep-11	107																								
5-Oct-11	108	0.002	0.015	#N/A	-0.003	3.7	0.0172	-0.05	0.0087	0.0003	-0.01	5.2	-0.0002	4.1	-0.00003	2.1	0.755	-50	-0.00001	0.00183	-0.003	0.00033	-0.001	0.0043	-0.0005
12-Oct-11	109																								
19-Oct-11	110																								
26-Oct-11	111																								
2-Nov-11	112																								
9-Nov-11	113																								
16-Nov-11	114																								
23-Nov-11	115																								
30-Nov-11	116																								
7-Dec-11	117																								
14-Dec-11	118																								
21-Dec-11	119																								
28-Dec-11	120	0.003	0.022	0.00035	-0.003	3.8	0.0317	-0.05	0.01	0.0003	0.029	5.2	-0.0002	3.78	0.00003	2.1	0.787	-50	-0.00001	0.00308	-0.003	0.00035	-0.001	0.007	-0.0005
4-Jan-12	121																								
11-Jan-12	122																								
18-Jan-12	123																								
25-Jan-12	124																								
1-Feb-12	125																								
8-Feb-12	126																								
15-Feb-12	127																								
22-Feb-12	128																								
29-Feb-12	129																								
7-Mar-12	130																								
14-Mar-12	131																								
21-Mar-12	132	0.0021	0.015	#N/A	-0.003	3.7	0.0185	-0.05	0.0078	0.0005	-0.01	4.9	-0.0002	3.39	-0.00003	1.8	0.701	-50	0.00001	0.001	-0.003	0.00048	-0.001	0.0078	-0.0005
28-Mar-12	133																								
4-Apr-12	134																								
11-Apr-12	135																								
18-Apr-12	136																								
25-Apr-12	137																								
2-May-12	138																								
9-May-12	139																								
16-May-12	140																								
23-May-12	141																								
30-May-12	142																								
6-Jun-12	143																								

Col 1 Bottom

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Sample = 2351-33&34 Composite

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	ORP mV	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	DO mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L
13-Jun-12	144	160	160	7.51	560	157	#N/A	7.2	91.8	4	1.18	0.65	0.49	64.7	0.0124	-0.0001	0.00043	2.64	-0.00005	-0.000025	-0.25	-0.000025	20.1	-0.0005	0.000063
20-Jun-12	145	50	50	7.21	571	140																			
27-Jun-12	146	50	50	7.13	530	126																			
4-Jul-12	147	50	50	7.72	560	123																			
11-Jul-12	148	50	50	7.78	555	115																			
18-Jul-12	149	50	50	7.70	588	162																			
25-Jul-12	150	50	50	7.28	518	156																			
1-Aug-12	151	50	50	7.28	568	156																			
8-Aug-12	152	50	50	7.62	553	166																			
15-Aug-12	153	50	50	7.13	550	155																			
22-Aug-12	154	50	50	7.09	656	156																			
29-Aug-12	155	50	50	7.38	661	133																			
5-Sep-12	156	160	160	7.27	596	131	#N/A	5.5	90.9	5	1.37	0.59	0.39	65.3	0.0097	-0.0001	0.00051	2.46	-0.00005	-0.000025	-0.25	-0.000025	20	-0.0005	0.000146
12-Sep-12	157	50	50	7.83	697	132																			
19-Sep-12	158	50	50	7.20	587	166																			
26-Sep-12	159	50	50	7.13	598	169																			
3-Oct-12	160	50	50	7.88	638	164																			
10-Oct-12	161	50	50	7.60	648	160																			
17-Oct-12	162	50	50	7.87	512	151																			
24-Oct-12	163	50	50	7.42	448	165																			
31-Oct-12	164	50	50	7.42	458	170																			
7-Nov-12	165	50	50	6.91	561	172																			
14-Nov-12	166	50	50	7.20	603	175																			
21-Nov-12	167	50	50	7.22	574	167																			
28-Nov-12	168	160	160	7.24	510	170	#N/A	11.6	97.8	9	2.38	-0.5	0.29	73.1	0.0102	-0.0001	0.00039	2.58	-0.00005	-0.000025	-0.25	#N/A	22.6	0.00055	0.000089
5-Dec-12	169	50	50	7.25	552	167																			
12-Dec-12	170	50	50	7.52	467	174																			
19-Dec-12	171	50	50	7.22	618	170																			
26-Dec-12	172	50	50	7.52	637	171																			
2-Jan-13	173	50	50	7.50	638	166																			
9-Jan-13	174	50	50	7.02	618	168																			
16-Jan-13	175	50	50	7.71	576	171																			
23-Jan-13	176	50	50	7.08	576	170																			
30-Jan-13	177	50	50	7.33	585	167																			
6-Feb-13	178	50	50	7.11	527	167																			
13-Feb-13	179	50	50	7.26	561	172																			
20-Feb-13	180	160	160	7.67	549	167	#N/A	6.9	98.2	8	1.62	0.96	0.29	71.4	0.0077	0.00026	0.00035	2.35	-0.00005	-0.000025	-0.25	-0.000025	21.9	-0.0005	0.000187
27-Feb-13	181	50	50	7.01	594	108																			
6-Mar-13	182	50	50	7.96	630	164																			
13-Mar-13	183	50	50	7.39	594	171																			
20-Mar-13	184	50	50	8.01	582	175																			
27-Mar-13	185	50	50	6.97	566	166																			
3-Apr-13	186	50	50	6.98	420	170																			
10-Apr-13	187	50	50	7.18	602	166																			
17-Apr-13	188	50	50	7.42	593	170																			
24-Apr-13	189	50	50	7.67	488	165																			
1-May-13	190	50	50	7.31	445	165																			
8-May-13	191	50	50	6.67	552	166																			
15-May-13	192	160	160	6.40	518	169	#N/A	10.5	84.1	6	1.08	-0.5	0.27	69.9	0.0104	0.00012	0.00034	2.29	-0.00005	-0.000025	-0.25	-0.000025	21.5	-0.0005	0.000193
22-May-13	193	50	50	7.03	575	172																			
29-May-13	194	50	50	7.22	588	169																			

Col 1 Bottom

Sample = 2351-33&34 Composite

Date	Cycle No.	Cu	Fe	Pb	Li	Mg	Mn	Hg	Mo	Ni	P	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
13-Jun-12	144	0.00169	0.0126	0.000648	-0.0025	3.55	0.0176	-0.05	0.00718	0.00033	0.013	4.11	-0.0002	3.84	0.000063	1.61	0.727	-50	0.000014	0.0021	-0.0025	0.000514	-0.001	0.00299	-0.0005
20-Jun-12	145																								
27-Jun-12	146																								
4-Jul-12	147																								
11-Jul-12	148																								
18-Jul-12	149																								
25-Jul-12	150																								
1-Aug-12	151																								
8-Aug-12	152																								
15-Aug-12	153																								
22-Aug-12	154																								
29-Aug-12	155																								
5-Sep-12	156	0.00189	0.0098	#N/A	-0.0025	3.72	0.0107	-0.05	0.00589	0.00074	0.011	4.18	-0.0002	3.13	#N/A	1.71	0.682	-50	-0.00001	-0.001	-0.0025	0.000504	0.003	0.00687	-0.0005
12-Sep-12	157																								
19-Sep-12	158																								
26-Sep-12	159																								
3-Oct-12	160																								
10-Oct-12	161																								
17-Oct-12	162																								
24-Oct-12	163																								
31-Oct-12	164																								
7-Nov-12	165																								
14-Nov-12	166																								
21-Nov-12	167																								
28-Nov-12	168	0.00148	0.0121	0.000538	-0.0025	4.06	0.022	-0.01	0.0064	0.00037	-0.01	3.98	-0.0002	3.67	-0.000025	1.77	0.742	-15	0.000043	0.0011	-0.0025	0.000626	-0.001	0.0137	-0.0005
5-Dec-12	169																								
12-Dec-12	170																								
19-Dec-12	171																								
26-Dec-12	172																								
2-Jan-13	173																								
9-Jan-13	174																								
16-Jan-13	175																								
23-Jan-13	176																								
30-Jan-13	177																								
6-Feb-13	178																								
13-Feb-13	179																								
20-Feb-13	180	0.00123	0.0066	0.000319	-0.0025	4.05	0.0218	-0.05	0.00546	0.00035	0.066	4.63	-0.0002	3.96	0.000107	1.79	0.706	-15	0.000043	-0.001	-0.0025	0.000573	0.0011	0.00395	-0.0005
27-Feb-13	181																								
6-Mar-13	182																								
13-Mar-13	183																								
20-Mar-13	184																								
27-Mar-13	185																								
3-Apr-13	186																								
10-Apr-13	187																								
17-Apr-13	188																								
24-Apr-13	189																								
1-May-13	190																								
8-May-13	191																								
15-May-13	192	0.00142	0.0771	0.000217	-0.0025	3.97	0.022	-0.05	0.00745	0.00063	0.012	3.74	-0.0002	3.51	-0.000025	1.48	0.688	-15	0.000018	-0.001	-0.0025	0.000556	-0.001	0.00286	-0.0005
22-May-13	193																								
29-May-13	194																								

Oct 21/09 Acidity 16.1 and alkalinity 279.9. Suspect instrument error. Not repeated.
Mar 10/10 Fe 0.101 and Zn 0.0188. Repeat Fe 0.096 and Zn 0.0155, confirmed.
Feb 4/11 Change in analytical schedule.
April 6 pH 6.36. Suspect probe malfunction.
April 20/11 Ag 0.00006. Cannot repeat. Suspect analytical error or contamination
Jan 12/11 U 0.000762 and Zr 0.0018. Cannot repeat.
April 20/11 Pb 0.00046. Repeat =0.00037, data confirmed, suspect contamination
Oct 5/11 Pb=0.00087, repeat=0.00087.Data confirmed, suspect contamination
Oct 5/11 Cl=1.9, cannot repeat, suspect contamination or analytical error.
Dec 29/11 Cu=0.0082, Pb=0.00076, Ni=0.001, repeat Cu= 0.003, Pb= 0.00035, Ni= 0.0003 data accepted
Mar 21/12 Pb=0.00309, repeat=0.00317. Data confirmed, suspect contamination
Sept 5/12 Sb=0.00446, Ag=0.000227. repeat Sb=-0.0001. Data accepted. Ag=0.000229, data confirmed suspect contamination
Nov 28/12 Sb=0.00284, Cd=0.000065. repeat Sb=-0.0001. Data accepted. Cd=0.000065, data confirmed suspect contamination
Sept 5/12 Pb=0.00146, Cannot repeat suspect contamination or analytical error

Col 2 Surface

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Sample = 2351-35&36 Composite

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	ORP mV	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	DO mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L
9-Sep-09	0	160	160	6.98	232	47	#N/A	2.7	23.9	8	7.00	0.5	0.19	18.3	0.0159	0.00012	0.00017	0.0483	-0.00001	-0.000005	-0.05	0.00002	5.85	-0.0001	0.000124	0.0073
16-Sep-09	1	50	50	6.98	381	30					7.60															
23-Sep-09	2	160	160	7.03	285	36	#N/A	4.5	22.3	6	9.00	0.7	0.14	15.4	0.0082	0.00018	0.00024	0.046	-0.00001	-0.000005	-0.05	0.000039	4.93	-0.0001	0.000142	0.00305
30-Sep-09	3	50	50	6.72	394	33					8.20															
7-Oct-09	4	160	160	6.98	445	39	#N/A	4.6	23.3	7	8.40	-0.5	0.14	17.2	0.0066	0.00008	0.00034	0.0426	-0.00001	-0.000005	-0.05	0.000021	5.35	-0.0001	0.000123	0.00439
14-Oct-09	5	50	50	7.35	304	27					8.60															
21-Oct-09	6	160	160	7.13	316	36	#N/A	3.5	21.1	2	8.50	0.6	0.16	17.6	0.019	0.00017	0.00033	0.0395	-0.00001	-0.000005	-0.05	0.00002	5.38	0.0003	0.000084	0.0032
28-Oct-09	7	50	50	6.70	371	32					8.20															
4-Nov-09	8	160	160	6.20	327	32	#N/A	4.2	21.3	2	9.80	-0.5	0.1	16.8	0.0077	0.00019	0.00018	0.0348	-0.00001	-0.000005	-0.05	0.000022	5.04	0.0003	0.000059	0.00224
11-Nov-09	9	50	50	6.91	299	34					7.30															
18-Nov-09	10	160	160	6.85	335	44	#N/A	6.6	26.1	-2	8.10	-0.5	0.07	17.1	0.0079	0.00009	0.00009	0.0333	-0.00001	-0.000005	-0.05	0.000015	5.15	-0.0001	0.000078	0.00154
25-Nov-09	11	50	50	6.91	339	38					7.30															
2-Dec-09	12	160	160	6.63	376	42	#N/A	4.2	21.0	3	8.10	-0.5	0.06	16.2	0.0225	0.00009	0.00026	0.0291	-0.00001	-0.000005	-0.05	0.000012	4.85	-0.0001	0.000061	0.00859
9-Dec-09	13	50	50	6.62	358	43					8.20															
16-Dec-09	14	160	160	7.10	364	47	#N/A	3.4	23.9	-2	7.50	-0.5	0.05	19.2	0.0114	0.00008	0.00013	0.0338	-0.00001	-0.000005	-0.05	0.000008	5.85	0.0002	0.000041	0.00233
23-Dec-09	15	50	50	6.99	157	42					7.60															
30-Dec-09	16	160	160	7.00	220	48	#N/A	3.1	23.9	3	7.00	0.6	0.06	19.5	0.0103	0.00005	0.0003	0.0374	-0.00001	-0.000005	-0.05	0.000009	5.82	-0.0001	0.000042	0.00256
6-Jan-10	17	50	50	6.73	204	44					7.80															
13-Jan-10	18	160	160	6.43	256	45	#N/A	4.5	23.3	-2	6.70	-0.5	0.14	19.1	0.011	-0.0004	0.0011	0.0361	-0.0002	-0.0001	-1	-0.0001	5.7	-0.002	-0.0001	0.002
20-Jan-10	19	50	50	5.80	321	40					7.50															
27-Jan-10	20	160	160	5.64	287	44	#N/A	2.9	22.8	-2	7.50	-0.5	0.03	17.6	0.008	-0.0002	0.0004	0.0302	-0.0001	-0.00005	-0.5	-0.00005	5.15	-0.001	-0.00005	0.003
3-Feb-10	21	50	50	6.06	290	39					7.80															
10-Feb-10	22	160	160	7.02	258	43	#N/A	2.8	22.5	-2	7.50	-0.5	0.05	20	0.009	0.0001	0.0006	0.0401	-0.00005	-0.00003	-0.3	-0.00003	5.88	-0.0005	0.00003	0.0019
17-Feb-10	23	50	50	7.02	321	40					7.80															
24-Feb-10	24	160	160	6.96	339	41	#N/A	2.5	22.0	3	6.56	-0.5	0.03	14.7	0.008	-0.0004	-0.0004	0.0341	-0.0002	-0.0001	-1	-0.0001	4.3	-0.002	-0.0001	0.003
3-Mar-10	25	50	50	7.13	319	38					5.80															
10-Mar-10	26	160	160	6.92	402	40	#N/A	2.4	20.9	5	5.80	-0.5	0.04	17.7	0.009	-0.0002	-0.0002	0.0352	-0.0001	-0.00005	-0.5	-0.00005	5.2	-0.001	0.00006	0.0017
17-Mar-10	27	50	50	6.78	334	35					6.10															
24-Mar-10	28	160	160	6.79	298	38	#N/A	2.4	17.6	5	6.60	-0.5	0.04	14.5	0.008	0.0001	0.0002	0.0337	-0.00005	-0.00003	-0.3	-0.00003	4.2	-0.0005	0.00005	0.0015
31-Mar-10	29	50	50	6.83	291	33					9.20															
7-Apr-10	30	160	160	6.38	411	36	#N/A	2.6	16.3	3	9.18	-0.5	0.03	15.1	0.007	-0.0001	0.0001	0.036	-0.00005	-0.00003	-0.3	-0.00003	4.43	-0.0005	0.00011	0.0014
14-Apr-10	31	50	50	6.55	331	32					6.90															
21-Apr-10	32	160	160	6.46	450	35	#N/A	2.6	17.0	-2	9.80	-0.5	0.1	14.2	0.0081	0.00009	0.00014	0.0267	-0.00001	-0.000005	-0.05	0.000017	4.15	0.0001	0.00008	0.00148
28-Apr-10	33	50	50	6.47	365	30					9.60															
5-May-10	34	160	160	6.05	451	33	#N/A	2.6	17.0	-2	9.60	-0.5	0.05	14.7	0.0062	0.00008	0.0001	0.0267	-0.00001	-0.000005	-0.05	0.000013	4.26	0.0001	0.000086	0.00112
12-May-10	35	50	50	6.36	393	30					9.80															
19-May-10	36	160	160	6.37	326	38	#N/A	2.2	17.3	2	9.80	-0.5	0.03	16.7	0.0071	0.00006	0.00071	0.0377	-0.00001	0.000007	-0.05	0.000011	4.83	0.0002	0.000081	0.00138
26-May-10	37	50	50	6.21	468	36					9.80															
2-Jun-10	38	160	160	6.29	474	39	#N/A	2.2	17.3	7	8.03	-0.5	0.05	14.8	0.0083	0.00006	0.00045	0.0274	-0.00001	-0.000005	-0.05	0.000015	4.22	-0.0001	0.000087	0.00164
9-Jun-10	39	50	50	6.23	353	27					8.49															
16-Jun-10	40	160	160	6.27	450	31	#N/A	2.4	15.8	-2	8.60	-0.5	0.01	12.7	0.0066	0.00004	0.00008	0.0244	-0.00001	-0.000005	-0.05	0.000014	3.61	0.0002	0.000078	0.00142
23-Jun-10	41	50	50	6.14	421	31					8.75															
30-Jun-10	42	160	160	5.56	364	33	#N/A	2.5	17.4	2	8.62	-0.5	0.03	14.7	0.0077	0.00011	0.00019	0.0259	-0.00001	0.000034	-0.05	0.000017	4.23	-0.0001	0.00008	0.00245
7-Jul-10	43	50	50	5.95	365	29					8.63															
14-Jul-10	44	160	160	5.74	365	34	#N/A	3.0	16.9	-2	8.73	-0.5	0.05	13.6	0.0094	0.00003	0.00027	0.0255	-0.00001	-0.000005	-0.05	0.000036	3.87	-0.0001	0.000279	0.00203
21-Jul-10	45	50	50	5.66	405	30					8.73															
28-Jul-10	46	160	160	5.64	452	34	#N/A	3.5	17.8	-2	8.73	-0.5	0.05	13.7	0.0065	0.00003	0.00051	0.0246	-0.00001	-0.000005	-0.05	0.000015	3.82	-0.0001	0.000093	0.00136
4-Aug-10	47	50	50	5.82	388	31					8.46															
11-Aug-10	48	160	160	5.80	321	34	#N/A	4.7	20.7	-2	8.65	-0.5	0.05	14.1	0.0081	0.00002	0.00033	0.0289	-0.00001	-0.000005	-0.05	0.000009	3.92	0.0003	0.000065	0.00151
18-Aug-10	49	50	50	5.74	402	31					8.47															
25-Aug-10	50	160	160	5.55	473	33	#N/A	3.3	17.5	4	8.68	-0.5	0.02	13.2	0.0005	-0.00002	0.00033	0.0212	-0.00001	-0.000005	-0.05	-0.000005	3.68	-0.0001	0.000027	0.00069
1-Sep-10	51	50	50	6.48	450	29					8.63															
8-Sep-10	52	160	160	6.34	475	33	#N/A	3.8	16.8	3	8.57	-0.5	0.12	13.2	0.0069	-0.00002	0.00004	0.0258	-0.00001	-0.000005	-0.05	0.000017	3.62	0.0001	0.000085	0.00097
15-Sep-10	53	50	50	6.06	450	28					8.56															
22-Sep-10	54	160	160	6.78	458	34	#N/A	2.6	17.0	4	8.02	-0.5	-0.05	14.5	0.0123	0.00002	0.00004	0.0272	-0.00001	-0.000005	-0.05	0.000012	4.11	0.0003	0.00008	0.00176
29-Sep-10	55	50	50	6.64	417	28					8.18															
6-Oct-10	56	160	160	6.30	386	32	#N/A	2.9	17.2	3	8.28	-0.5	0.08	14.4	0.0087	-0.00002	0.00008	0.0259	-0.00001	-0.000005	-0.05	0.000013	4.01	0.0003	0.000073	0.00174
13-Oct-10	57	50	50	6.38	360	31					8.18															
20-Oct-10	58	160	160	6.62	396	35	#N/A	3.0	20.3	4	8.25	-0.5	0.07	14.3	0.0061	-0.00002	0.00002	0.027	-0.00001	-0.000005	-0.05	0.000008	4.04	0.0001	0.000146	0.00148
27-Oct-10	59	50	50	6.71	344	29					8.46															
3-Nov-10	60	160	160	6.81	391	31	#N/A	2.3	21.4	2	8.41	-0.5	0.04	14.2	0.0059	-0.00002	0.00003	0.0291	-0.00001	-0.000005	-0.05	0.000018	3.9	-0.0001	0.000058	0.00155
10-Nov-10	61	50	50	7.03	320	29					8.12															
17-Nov-10	62	160	160	7.06	312	32	#N/A	3.0	17.3	-2	8.06	-0.5	0.05	13.7	0.0057	0.00003	0.00018	0.0345	-0.00001	-0.000005	-0.05	0.000019	3.85	-0.0001	0.000056	0.00416
24-Nov-10	63	50	50	6.82	445	29					8.67															
1-Dec-10	64	160	160	6.91	437	33	#N/A	3.7	17.6	-2	8.08	-0.5	0.55	13.6	0.0068	0.00007	0.00037	0.0289	-0.00001	-0.000005	-0.05	0.000015	3.81	-0.0001	0.000051	0.00186
8-Dec-10	65	50	50	7.02	463	30					8.20															
15-Dec-10	66	160	160	7.20	461	31	#N/A	3.5	16.4	-2	9.00	-0.5	0.03	12.2	0.0044	-0.00002	0.00005	0.0229	-0.00001	-0.000005	-0.05	0.000012	3.42	-0.0001	0.000038	0.00208
22-Dec-10	67	50	50	7.38	398	29					8.45															
29-Dec-10	68	160	160	7.26	442	32	#N/A	4.3	17.2	2	8.37	-0.5	0.02	12.5	0.0077	0.00004	0.00031	0.023	-0.00001	-0.000005	-0.05	0.00002	3.42	-0.0001	0.000041	0.00159
5-Jan-11	69	50	50	7.28	430	25					9.18															
12-Jan-11	70	160	160	7.35	443	26	#N/A	3.2	13.2	-2	9.38	-0.5	0.05	11.1	0.0056	0.00003	0.00008	0.0208	-0.00001	-0.000005	-0.05	0.000012	3.07	-0.0001	0.000041	0.00124

Col 2 Surface

Sample = 2351-35&36 Composite

Date	Cycle No.	Fe	Pb	Li	Mg	Mn	Hg	Mo	Ni	P	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
9-Sep-09	0	0.005	0.000034	0.0007	0.89	0.0244	-0.01	0.00178	0.00044	0.02	3.12	0.00106	0.905	-0.000005	2.13	0.0386	-3	0.000022	0.00158	-0.0005	0.000011	0.0004	0.0028	-0.0001
16-Sep-09	1																							
23-Sep-09	2	0.005	0.000021	0.0008	0.76	0.0244	-0.01	0.0015	0.00045	0.212	3.16	0.00076	0.865	-0.000005	1.97	0.0307	-3	0.000015	0.00193	-0.0005	0.000006	-0.0002	0.0037	-0.0001
30-Sep-09	3																							
7-Oct-09	4	0.001	0.000027	0.0008	0.92	0.0237	-0.01	0.00126	0.00047	0.031	2.89	0.00069	1.04	-0.000005	1.75	0.0343	-3	0.000007	0.00493	0.0007	0.000003	0.0005	0.0029	-0.0001
14-Oct-09	5																							
21-Oct-09	6	0.013	0.000115	0.0006	1.02	0.0221	0.01	0.00101	0.00071	0.037	2.17	0.00051	1.03	0.000005	1.48	0.0367	-3	0.000013	0.011	-0.0005	0.000006	-0.0002	0.0037	-0.0001
28-Oct-09	7																							
4-Nov-09	8	0.007	0.000036	-0.0005	1.01	0.0182	-0.01	0.0007	0.00032	0.034	1.82	0.00046	0.986	-0.000005	1.01	0.0345	-3	0.000008	0.0153	-0.0005	0.000004	-0.0002	0.0027	-0.0001
11-Nov-09	9																							
18-Nov-09	10	0.002	0.000019	-0.0005	1.02	0.0194	-0.01	0.00052	0.00037	0.036	1.55	0.00031	0.843	-0.000005	0.77	0.0307	-3	0.000012	0.0172	-0.0005	0.000005	-0.0002	0.0021	-0.0001
25-Nov-09	11																							
2-Dec-09	12	0.01	0.000342	-0.0005	0.99	0.0182	0.02	0.00043	0.00049	0.033	1.26	0.00027	0.861	0.000011	0.64	0.0294	-3	0.000008	0.0174	-0.0005	0.000006	-0.0002	0.0078	-0.0001
9-Dec-09	13																							
16-Dec-09	14	0.005	0.000014	-0.0005	1.11	0.0213	-0.01	0.00035	0.00028	0.035	1.17	0.00027	0.973	-0.000005	0.55	0.0311	-3	0.000008	0.0318	-0.0005	0.000011	-0.0002	0.0025	-0.0001
23-Dec-09	15																							
30-Dec-09	16	0.003	0.000018	-0.0005	1.2	0.0199	-0.01	0.0003	0.00037	0.031	1.11	0.00026	1.13	-0.000005	0.51	0.0313	-3	0.000004	0.0317	-0.0005	0.000008	-0.0002	0.0014	-0.0001
6-Jan-10	17																							
13-Jan-10	18	-0.02	0.0002	-0.01	1.2	0.019	-0.2	-0.001	0.0061	-0.04	0.9	-0.0008	-2	0.0001	0.5	0.03	-10	-0.00004	0.0278	0.013	-0.00004	-0.004	0.004	-0.002
20-Jan-10	19																							
27-Jan-10	20	-0.01	0.00019	-0.005	1.14	0.0171	-0.1	0.0006	0.0035	0.027	0.9	-0.0004	1.01	-0.00005	0.46	0.0258	-6	-0.00002	0.0294	0.006	0.00002	0.002	0.003	-0.001
3-Feb-10	21																							
10-Feb-10	22	-0.005	-0.00003	-0.003	1.29	0.0204	-0.05	-0.0003	0.0003	0.03	1.16	-0.0002	1.23	-0.00003	0.45	0.0291	-3	-0.00001	0.0326	0.003	-0.00001	-0.001	0.0018	-0.0005
17-Feb-10	23																							
24-Feb-10	24	-0.02	-0.0001	-0.01	1	0.018	-0.2	-0.001	0.0048	-0.04	0.8	-0.0008	-2	-0.0001	0.3	0.026	-10	-0.00004	0.0335	-0.01	-0.00004	-0.004	0.003	-0.002
3-Mar-10	25																							
10-Mar-10	26	-0.01	-0.00005	-0.005	1.2	0.0229	-0.1	-0.0005	0.0004	-0.02	0.9	-0.0004	1.31	-0.00005	-0.5	0.0254	#N/A	-0.00002	0.0307	-0.005	-0.00002	-0.002	0.003	-0.001
17-Mar-10	27																							
24-Mar-10	28	-0.005	-0.00003	-0.003	1	0.021	-0.05	-0.0003	0.0003	0.017	0.7	-0.0002	1.24	-0.00003	0.3	0.0241	-10	0.00002	0.0245	-0.003	-0.00001	-0.001	0.0024	-0.0005
31-Mar-10	29																							
7-Apr-10	30	0.019	-0.00003	-0.003	0.99	0.0223	-0.05	-0.0003	0.0004	0.021	0.81	-0.0002	1.43	-0.00003	0.33	0.0235	-10	-0.00001	0.0181	-0.003	-0.00001	-0.001	0.0036	-0.0005
14-Apr-10	31																							
21-Apr-10	32	0.002	0.000018	-0.0005	0.93	0.0223	-0.01	0.00037	0.00028	0.021	0.71	0.0002	1.5	0.00001	0.29	0.021	-10	0.000011	0.0194	-0.0005	0.000007	-0.0002	0.0034	-0.0001
28-Apr-10	33																							
5-May-10	34	0.003	0.000017	-0.0005	0.98	0.024	-0.01	0.00013	0.00042	0.018	0.77	0.00011	1.77	-0.000005	0.31	0.0205	-10	0.00001	0.0177	-0.0005	-0.000002	-0.0002	0.002	-0.0001
12-May-10	35																							
19-May-10	36	0.002	0.000017	-0.0005	1.13	0.0251	0.01	0.00048	0.00035	0.025	0.81	0.00012	1.97	-0.000005	0.39	0.0244	-10	0.000005	0.0193	-0.0005	0.000006	-0.0002	0.0016	-0.0001
26-May-10	37																							
2-Jun-10	38	0.001	0.000014	-0.0005	1.04	0.0234	-0.01	0.00021	0.0004	0.014	0.69	0.00012	2	-0.000005	0.37	0.0204	-10	0.000004	0.0181	-0.0005	0.000004	-0.0002	0.0018	-0.0001
9-Jun-10	39																							
16-Jun-10	40	0.006	0.000034	-0.0005	0.9	0.0217	-0.01	0.00016	0.00034	0.012	0.52	0.00012	1.57	0.000012	0.39	0.0183	-10	0.00001	0.0138	-0.0005	0.000005	-0.0002	0.0017	-0.0001
23-Jun-10	41																							
30-Jun-10	42	0.007	0.000158	-0.0005	1	0.0234	-0.01	0.00033	0.0003	0.018	0.64	0.00016	1.83	-0.000005	0.37	0.0185	-10	0.000015	0.0131	-0.0005	0.000005	-0.0002	0.0023	-0.0001
7-Jul-10	43																							
14-Jul-10	44	0.007	0.000028	-0.0005	0.96	0.0255	-0.01	0.00009	0.00039	0.011	0.62	0.00012	1.62	-0.000005	0.29	0.0196	-10	0.000007	0.0138	-0.0005	0.000011	-0.0002	0.005	-0.0001
21-Jul-10	45																							
28-Jul-10	46	-0.001	0.000069	-0.0005	1.02	0.0236	-0.01	0.00018	0.00031	0.038	0.68	0.00012	1.61	-0.000005	0.32	0.0189	-10	0.000005	0.0127	-0.0005	0.000004	0.0003	0.0025	-0.0001
4-Aug-10	47																							
11-Aug-10	48	0.004	0.00001	-0.0005	1.04	0.0238	-0.01	0.00011	0.00022	0.012	0.62	0.00012	1.66	-0.000005	0.33	0.0199	-10	0.000006	0.014	-0.0005	-0.000002	-0.0002	0.001	-0.0001
18-Aug-10	49																							
25-Aug-10	50	-0.001	0.000018	-0.0005	0.98	0.0178	-0.01	0.00032	0.00008	0.007	0.65	0.00013	1.78	-0.000005	0.32	0.0168	-10	0.000009	0.00173	-0.0005	-0.000002	-0.0002	0.0003	-0.0001
1-Sep-10	51																							
8-Sep-10	52	0.002	0.000036	-0.0005	1.02	0.0236	-0.01	0.00019	0.00027	0.006	0.62	0.00008	1.56	-0.000005	0.29	0.0181	-10	0.000007	0.0116	-0.0005	0.000002	-0.0002	0.0011	-0.0001
15-Sep-10	53																							
22-Sep-10	54	0.004	0.000022	-0.0005	1.03	0.0244	-0.01	0.0002	0.00034	0.012	0.57	0.00013	1.64	-0.000005	0.33	0.0186	-10	0.000005	0.0116	-0.0005	0.000017	-0.0002	0.0023	-0.0001
29-Sep-10	55																							
6-Oct-10	56	0.004	0.000029	-0.0005	1.07	0.0241	-0.01	0.00027	0.00038	0.011	0.67	0.00011	1.59	-0.000005	0.4	0.018	-10	0.000063	0.0104	-0.0005	0.000008	-0.0002	0.0012	-0.0001
13-Oct-10	57																							
20-Oct-10	58	0.001	0.000095	-0.0005	1.03	0.025	-0.01	0.00015	0.0004	0.006	0.58	0.00009	1.63	-0.000005	0.26	0.0181	-10	0.000011	0.0115	-0.0005	0.000006	-0.0002	0.0032	-0.0001
27-Oct-10	59																							
3-Nov-10	60	-0.001	0.000015	-0.0005	1.08	0.0245	-0.01	0.00026	0.00009	0.009	0.6	0.00008	1.58	-0.000005	0.25	0.0189	-10	0.000004	0.0125	-0.0005	#N/A	-0.0002	0.0013	-0.0001
10-Nov-10	61																							
17-Nov-10	62	-0.001	0.000019	-0.0005	0.99	0.022	-0.01	0.00024	0.00022	0.008	0.63	0.0001	1.69	-0.000005	0.27	0.0189	-10	0.000007	0.00969	-0.0005	#N/A	-0.0002	0.0022	-0.0001
24-Nov-10	63																							
1-Dec-10	64	-0.001	0.000029	-0.0005	1	0.0213	-0.01	0.00017	0.00024	0.018	0.6	0.00011	1.64	-0.000005	0.33	0.0201	-10	0.000006	0.0112	-0.0005	0.00002	-0.0002	0.0022	-0.0001
8-Dec-10	65																							
15-Dec-10	66	-0.001	0.000011	-0.0005	0.9	0.0209	-0.01	0.00008	0.00025	0.005	0.53	0.0001	1.48	0.000006	0.26	0.0161	-10	0.000005	0.0102	0.0005	-0.000002	-0.0002	0.0011	-0.0001
22-Dec-10	67																							
29-Dec-10	68	0.005	0.000041	-0.0005	0.95	0.0211	-0.01	0.00007	0.00032	0.011	0.47	0.00009	1.52	-0.000005	0.42	0.0184	-10	0.000007	0.00584	-0.0005	0.000229	-0.0002	0.003	-0.0001
5-Jan-11	69																							
12-Jan-11	70	-0.001	0.000021	-0.0005	0.83	0.0186	-0.01	0.00013	0.0003	0.004	0.44	0.00007	1.31	-0.000005	0.25	0.0144	-10	0.000009	0.00785	-0.0005	0.00001	-0.0002	0.0015	-0.0001

Col 2 Surface

CONFIDENTIAL *DRAFT*

Sample = 2351-35&36 Composite

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	ORP mV	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	DO mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L
19-Jan-11	71	50	50	7.23	420	23					9.45															
26-Jan-11	72	160	160	7.30	445	28	#N/A	3.5	13.9	-2	9.52	-0.5	0.62	11.7	0.0059	0.00007	0.00016	0.024	-0.00001	-0.000005	-0.05	0.000013	3.21	-0.0001	0.000036	0.00091
2-Feb-11	73	50	50	7.15	451	24					8.20															
9-Feb-11	74	50	50	6.78	415	26																				
16-Feb-11	75	50	50	6.72	427	28																				
23-Feb-11	76	50	50	6.74	393	28																				
2-Mar-11	77	50	50	6.17	436	31																				
9-Mar-11	78	50	50	6.59	427	31																				
16-Mar-11	79	50	50	6.74	397	33																				
23-Mar-11	80	50	50	6.06	435	34																				
30-Mar-11	81	50	50	#N/A	443	35																				
6-Apr-11	82	50	50	#N/A	406	36																				
13-Apr-11	83	50	50	7.00	412	37																				
20-Apr-11	84	160	160	7.32	400	34	#N/A	4.6	16.6	4	9.08	1.2	0.03	16	0.0055	0.00008	0.00013	0.0254	-0.00001	-0.000005	-0.05	0.000018	4.31	0.0001	0.000007	0.0013
27-Apr-11	85	50	50	7.18	392	34																				
4-May-11	86	50	50	7.11	402	36																				
11-May-11	87	50	50	7.22	376	34																				
18-May-11	88	50	50	7.19	446	36																				
25-May-11	89	50	50	7.37	449	40																				
1-Jun-11	90	50	50	6.87	383	40																				
8-Jun-11	91	50	50	7.63	289	41																				
15-Jun-11	92	50	50	7.38	324	38																				
22-Jun-11	93	50	50	7.30	363	22																				
29-Jun-11	94	50	50	6.89	370	23																				
6-Jul-11	95	50	50	6.79	353	26																				
13-Jul-11	96	160	160	6.77	341	28	#N/A	4.8	14.3	3	8.67	-0.5	0.02	11.4	0.0054	-0.00002	0.00004	0.0189	-0.00001	-0.000005	-0.05	0.000021	3.12	0.0005	-0.000005	0.00202
20-Jul-11	97	50	50	7.20	354	26																				
27-Jul-11	98	50	50	6.72	397	28																				
3-Aug-11	99	50	50	7.01	398	38																				
10-Aug-11	100	50	50	7.12	408	39																				
17-Aug-11	101	50	50	7.41	377	40																				
24-Aug-11	102	50	50	7.21	347	41																				
31-Aug-11	103	50	50	7.31	373	45																				
7-Sep-11	104	160	160	7.68	401	41																				
14-Sep-11	105	50	50	7.20	449	44																				
21-Sep-11	106	160	160	7.32	443	45																				
28-Sep-11	107	50	50	6.82	480	46																				
5-Oct-11	108	160	160	7.63	392	41	#N/A	3.2	25.0	3	9.65	0.5	0.04	18	0.0075	0.00008	0.00022	0.0355	-0.00001	-0.000005	-0.05	0.000014	4.86	-0.0001	-0.000005	0.00151
12-Oct-11	109	50	50	7.28	438	36																				
19-Oct-11	110	50	50	7.03	435	37																				
26-Oct-11	111	50	50	7.16	444	38																				
2-Nov-11	112	50	50	6.94	449	39																				
9-Nov-11	113	50	50	7.08	456	42																				
16-Nov-11	114	50	50	7.07	469	20																				
23-Nov-11	115	50	50	6.86	261	22																				
30-Nov-11	116	50	50	7.21	438	23																				
7-Dec-11	117	50	50	7.44	483	25																				
14-Dec-11	118	50	50	7.28	518	26																				
21-Dec-11	119	50	50	7.30	515	28																				
28-Dec-11	120	160	160	7.32	576	30	#N/A	3.1	20.8	2	9.66	0.8	0.021	12.8	0.011	-0.00002	#N/A	0.0211	-0.00001	0.000016	-0.05	0.00001	3.6	0.0001	0.000031	0.00152
4-Jan-12	121	50	50	7.67	650	26																				
11-Jan-12	122	50	50	7.77	679	26																				
18-Jan-12	123	50	50	7.72	709	27																				
25-Jan-12	124	50	50	7.13	691	27																				
1-Feb-12	125	50	50	7.75	625	30																				
8-Feb-12	126	50	50	7.67	565	30																				
15-Feb-12	127	50	50	7.51	568	31																				
22-Feb-12	128	50	50	7.74	672	32																				
29-Feb-12	129	50	50	7.89	591	31																				
7-Mar-12	130	50	50	7.88	673	31																				
14-Mar-12	131	50	50	7.40	460	31																				
21-Mar-12	132	160	160	7.07	516	41	#N/A	3.6	23.2	3	8.98	-0.5	0.022	15.5	0.006	-0.00002	0.0001	0.0249	-0.00001	-0.000005	-0.05	0.000007	4.2	-0.0001	-0.000005	#N/A
28-Mar-12	133	50	50	7.40	696	31																				
4-Apr-12	134	50	50	6.99	583	31																				
11-Apr-12	135	50	50	6.90	650	31																				
18-Apr-12	136	50	50	7.15	601	33																				
25-Apr-12	137	50	50	7.21	701	34																				
2-May-12	138	50	50	7.24	688	35																				
9-May-12	139	50	50	6.89	658	27																				
16-May-12	140	50	50	7.16	647	35																				
23-May-12	141	50	50	6.91	635	26																				

Col 2 Surface

Sample = 2351-35&36 Composite

Date	Cycle No.	Fe	Pb	Li	Mg	Mn	Hg	Mo	Ni	P	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
19-Jan-11	71																							
26-Jan-11	72	0.003	0.000119	-0.0005	0.88	0.0188	-0.01	0.00009	0.00027	0.009	0.48	0.00012	1.24	-0.000005	0.28	0.0148	-10	0.000008	0.00743	0.0006	0.000004	0.0002	0.003	-0.0001
2-Feb-11	73																							
9-Feb-11	74																							
16-Feb-11	75																							
23-Feb-11	76																							
2-Mar-11	77																							
9-Mar-11	78																							
16-Mar-11	79																							
23-Mar-11	80																							
30-Mar-11	81																							
6-Apr-11	82																							
13-Apr-11	83																							
20-Apr-11	84	0.001	#N/A	-0.0005	1.26	0.0174	-0.01	0.00007	0.00017	0.006	1.44	0.00013	1.42	#N/A	0.29	0.0205	-10	0.000012	0.00574	-0.0005	0.000009	-0.0002	0.0036	-0.0001
27-Apr-11	85																							
4-May-11	86																							
11-May-11	87																							
18-May-11	88																							
25-May-11	89																							
1-Jun-11	90																							
8-Jun-11	91																							
15-Jun-11	92																							
22-Jun-11	93																							
29-Jun-11	94																							
6-Jul-11	95																							
13-Jul-11	96	0.002	0.000029	-0.0005	0.86	0.0082	-0.01	0.00013	0.0002	0.005	0.42	0.00009	1.04	0.00001	0.24	0.0136	-10	0.000004	0.00427	0.0012	-0.000002	-0.0002	0.0018	-0.0001
20-Jul-11	97																							
27-Jul-11	98																							
3-Aug-11	99																							
10-Aug-11	100																							
17-Aug-11	101																							
24-Aug-11	102																							
31-Aug-11	103																							
7-Sep-11	104																							
14-Sep-11	105																							
21-Sep-11	106																							
28-Sep-11	107																							
5-Oct-11	108	0.001	0.000016	-0.0005	1.43	0.00467	0.02	#N/A	0.0001	-0.002	0.98	0.00037	1.4	0.000007	0.31	0.0275	-10	0.000013	0.00485	-0.0005	0.000009	0.0002	0.0024	-0.0001
12-Oct-11	109																							
19-Oct-11	110																							
26-Oct-11	111																							
2-Nov-11	112																							
9-Nov-11	113																							
16-Nov-11	114																							
23-Nov-11	115																							
30-Nov-11	116																							
7-Dec-11	117																							
14-Dec-11	118																							
21-Dec-11	119																							
28-Dec-11	120	#N/A	#N/A	-0.0005	0.93	0.00681	-0.01	0.00017	#N/A	#N/A	1.55	0.00009	1.02	#N/A	0.27	0.0152	-10	0.000009	0.00343	-0.0005	0.000009	0.0003	0.0019	-0.0001
4-Jan-12	121																							
11-Jan-12	122																							
18-Jan-12	123																							
25-Jan-12	124																							
1-Feb-12	125																							
8-Feb-12	126																							
15-Feb-12	127																							
22-Feb-12	128																							
29-Feb-12	129																							
7-Mar-12	130																							
14-Mar-12	131																							
21-Mar-12	132	0.004	0.000056	-0.0005	1.21	0.0021	-0.01	0.00016	0.00019	#N/A	0.93	0.00008	1.09	#N/A	0.26	0.0178	-10	0.000008	0.0041	-0.0005	0.000016	0.0004	0.0017	-0.0001
28-Mar-12	133																							
4-Apr-12	134																							
11-Apr-12	135																							
18-Apr-12	136																							
25-Apr-12	137																							
2-May-12	138																							
9-May-12	139																							
16-May-12	140																							
23-May-12	141																							

Col 2 Surface

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Sample = 2351-35&36 Composite

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	ORP mV	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	DO mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L
30-May-12	142	50	50	7.13	634	27																				
6-Jun-12	143	50	50	7.38	553	40																				
13-Jun-12	144	160	160	7.05	584	37	#N/A	5.9	26.9	5	9.86	-0.5	0.021	16.6	0.00434	-0.00002	0.000225	0.0263	-0.00001	-0.000005	-0.05	-0.000005	4.47	0.00016	-0.000005	0.00125
20-Jun-12	145	50	50	6.96	588	28																				
27-Jun-12	146	50	50	6.72	559	24																				
4-Jul-12	147	50	50	7.27	574	25																				
11-Jul-12	148	50	50	7.55	578	24																				
18-Jul-12	149	50	50	7.36	611	37																				
25-Jul-12	150	50	50	6.86	580	34																				
1-Aug-12	151	50	50	6.82	592	36																				
8-Aug-12	152	50	50	7.29	590	38																				
15-Aug-12	153	50	50	6.88	558	37																				
22-Aug-12	154	50	50	7.21	575	36																				
29-Aug-12	155	50	50	7.55	691	28																				
5-Sep-12	156	160	160	7.48	627	28	#N/A	3.9	22.9	4	9.36	0.53	0.02	16	0.00508	0.00002	0.000244	0.0232	-0.00001	-0.000005	-0.05	0.000006	4.25	0.00023	0.000014	0.00206
12-Sep-12	157	50	50	7.96	676	23																				
19-Sep-12	158	50	50	7.43	567	30																				
26-Sep-12	159	50	50	6.92	608	34																				
3-Oct-12	160	50	50	7.50	632	33																				
10-Oct-12	161	50	50	7.40	680	33																				
17-Oct-12	162	50	50	7.68	522	30																				
24-Oct-12	163	50	50	7.09	473	35																				
31-Oct-12	164	50	50	7.62	491	35																				

Col 2 Surface

Sample = 2351-35&36 Composite

Date	Cycle No.	Fe	Pb	Li	Mg	Mn	Hg	Mo	Ni	P	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
30-May-12	142																							
6-Jun-12	143																							
13-Jun-12	144	0.0015	0.0000568	-0.0005	1.31	0.00076	-0.01	0.00049	0.00013	0.0053	0.554	0.000106	1.15	0.0000113	0.224	0.0188	-10	0.0000094	0.0019	-0.0005	0.0000028	-0.0002	0.00172	-0.0001
20-Jun-12	145																							
27-Jun-12	146																							
4-Jul-12	147																							
11-Jul-12	148																							
18-Jul-12	149																							
25-Jul-12	150																							
1-Aug-12	151																							
8-Aug-12	152																							
15-Aug-12	153																							
22-Aug-12	154																							
29-Aug-12	155																							
5-Sep-12	156	0.0041	0.000032	-0.0005	1.29	0.00067	-0.01	0.00016	0.00024	0.0174	0.641	0.000066	1.03	#N/A	0.242	0.0165	-10	0.000007	0.00171	-0.0005	0.000014	0.00098	0.00084	-0.0001
12-Sep-12	157																							
19-Sep-12	158																							
26-Sep-12	159																							
3-Oct-12	160																							
10-Oct-12	161																							
17-Oct-12	162																							
24-Oct-12	163																							
31-Oct-12	164																							

Col 2 Surface

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Sample = 2351-35&36 Composite

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	ORP mV	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	DO mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L
7-Nov-12	165	50	50	7.08	566	36																				
14-Nov-12	166	50	50	7.37	657	37																				
21-Nov-12	167	50	50	7.08	622	36																				
28-Nov-12	168	160	160	7.09	530	38	#N/A	6.8	27.3	6	9.50	-0.5	0.019	16.3	0.00593	0.00004	0.000059	0.0258	-0.00001	-0.000005	-0.05	0.000011	4.41	-0.0001	0.00001	0.00331
5-Dec-12	169	50	50	7.52	565	31																				
12-Dec-12	170	50	50	7.85	482	31																				
19-Dec-12	171	50	50	7.62	642	20																				
26-Dec-12	172	50	50	7.90	636	20																				
2-Jan-13	173	50	50	7.98	684	19																				
9-Jan-13	174	50	50	7.60	628	19																				
16-Jan-13	175	50	50	7.18	604	19																				
23-Jan-13	176	50	50	6.54	594	20																				
30-Jan-13	177	50	50	7.05	598	23																				
6-Feb-13	178	50	50	6.52	522	26																				
13-Feb-13	179	50	50	6.92	583	28																				
20-Feb-13	180	160	160	7.04	525	28	#N/A	4.2	20.5	4	8.55	-0.5	0.015	12.3	0.00533	0.000028	0.000025	0.0195	-0.00001	-0.000005	-0.05	0.000008	3.33	0.00019	0.000007	0.00196
27-Feb-13	181	50	50	7.15	550	26																				
6-Mar-13	182	50	50	7.31	665	23																				
13-Mar-13	183	50	50	7.03	580	26																				
20-Mar-13	184	50	50	7.43	614	28																				
27-Mar-13	185	50	50	6.72	583	27																				
3-Apr-13	186	50	50	6.97	484	28																				
10-Apr-13	187	50	50	6.98	641	28																				
17-Apr-13	188	50	50	7.13	603	29																				
24-Apr-13	189	50	50	6.88	483	29																				
1-May-13	190	50	50	6.46	464	29																				
8-May-13	191	50	50	6.08	560	30																				
15-May-13	192	160	160	6.21	534	31	#N/A	6.6	21.1	3	8.78	-0.5	0.02	14.4	0.00405	0.000022	0.000044	0.0221	-0.00001	-0.000005	-0.05	-0.000005	3.89	-0.0001	0.000006	0.00071
22-May-13	193	50	50	7.01	643	27																				
29-May-13	194	50	50	7.34	582	27																				

Col 2 Surface

Sample = 2351-35&36 Composite

Date	Cycle No.	Fe	Pb	Li	Mg	Mn	Hg	Mo	Ni	P	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
7-Nov-12	165																							
14-Nov-12	166																							
21-Nov-12	167																							
28-Nov-12	168	0.0097	#N/A	-0.0005	1.29	0.00077	-0.01	0.0002	0.00022	0.0193	0.568	0.000098	1.28	0.00001	0.206	0.0174	-3	0.000009	0.00223	-0.0005	0.000014	0.00038	#N/A	-0.0001
5-Dec-12	169																							
12-Dec-12	170																							
19-Dec-12	171																							
26-Dec-12	172																							
2-Jan-13	173																							
9-Jan-13	174																							
16-Jan-13	175																							
23-Jan-13	176																							
30-Jan-13	177																							
6-Feb-13	178																							
13-Feb-13	179																							
20-Feb-13	180	0.0075	0.000323	-0.0005	0.973	0.0014	-0.01	8.7E-05	0.00013	0.0125	0.628	-0.00004	0.975	0.000029	0.197	0.0123	-3	0.000005	0.00107	-0.0005	0.000002	0.00031	0.00112	-0.0001
27-Feb-13	181																							
6-Mar-13	182																							
13-Mar-13	183																							
20-Mar-13	184																							
27-Mar-13	185																							
3-Apr-13	186																							
10-Apr-13	187																							
17-Apr-13	188																							
24-Apr-13	189																							
1-May-13	190																							
8-May-13	191																							
15-May-13	192	0.0021	0.000012	-0.0005	1.15	0.00129	-0.01	0.00014	0.00014	0.004	0.49	0.000071	1.01	0.000008	0.197	0.0146	-3	0.000006	0.00105	-0.0005	-0.000002	-0.0002	0.00073	-0.0001
22-May-13	193																							
29-May-13	194																							

Dec 18/09 checked neoprene pump tubing for possible source of Sn contamination. Found that recirculating nanopure water at ~1 mL/min over 18 days increased Sn from <0.00001 ppm to 0.00046 ppm. All neoprene tubing being replaced with Tygon or Silicon.
Mar 10/10 S <100. Repeat
Nov 3/10 U 0.000346. Cannot repeat. Sample discarded.
Nov 17/10 Cl 1.6. Repeat = -0.5.
Nov 17/10 U 0.000408. Cannot repeat. Samples discarded.
Feb 4/11 Change in analytical schedule.
Mar 30/11 pH 5.73. Suspect probe malfunction.
April 6/11 pH 5.59. Suspect probe malfunction.
April 20/11 Ag 0.00107 and Pb 000603. Repeat =0.000626. Data confirmed, suspect contamination. Cannot repeat Ag, suspect contamination or analytical error
Oct 5/11 Mo=0.00065, repeat= 0.00058. data confirmed, suspect contamination
Dec 28/11 Fe=0.026, Pb= 0.00017, Ni=0.00044, P=0.012, repeat, Fe= 0.025, Pb= 0.000183, Ni= 0.00045, P= 0.013. Data confirmed, suspect contamination
Dec 28/11 As=0.00077, Ag=0.000038. Repeat As=0.000763, Ag=0.000367. Data confirmed, suspect contamination
Mar 21/12 P=0.013, Ag=0.000034, repeat P=0.0147, Ag=0.0000424. Data confirmed suspect contamination
Mar 21/12 Cu=0.00489. Cannot repeat suspect contamination or analytical error
Sept 5/12 Ag=0.000867, repeat=0.00093. Data confirmed suspect contamination
Nov 28/12 Pb=0.000243, Zn=0.00334, repeat Pb=0.000243, Zn=0.00334. Data confirmed, suspect contamination

Col 2 Bottom

CONFIDENTIAL *DRAFT*

Sample = 2351-35&36 Composite

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	ORP mV	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	DO mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L
9-Sep-09	0	160	160	7.48	351	30	#N/A	1.2	78.5	22	4.10	-0.5	1.08	72.6	0.0556	0.00036	0.0002	0.271	-0.00001	-0.000005	-0.05	0.000115	23.3	-0.0001	0.000104
16-Sep-09	1	50	50	7.51	337	28					5.80														
23-Sep-09	2	160	160	7.76	309	217	#N/A	2.2	126.2	33	7.40	0.9	1.15	100	0.0238	0.00032	0.00026	0.294	-0.00001	-0.000005	-0.05	0.000051	30.3	0.0001	0.000062
30-Sep-09	3	50	50	8.02	276	252					5.90														
7-Oct-09	4	160	160	7.40	375	342	#N/A	8.8	159.9	71	6.10	4.3	1.22	145	0.0193	0.0004	0.00051	0.266	-0.00001	-0.000005	0.057	0.000134	42.3	-0.0001	0.000083
14-Oct-09	5	50	50	8.02	196	434					6.40														
21-Oct-09	6	160	160	8.02	158	494	#N/A	5.9	203.8	101	5.50	4.7	1.18	179	0.0138	0.00045	0.00032	0.129	-0.00001	-0.000005	0.069	0.000063	49.8	0.0003	0.000062
28-Oct-09	7	50	50	8.03	165	473					5.70														
4-Nov-09	8	160	160	7.30	215	420	#N/A	5.9	223.7	56	6.20	5.7	1.36	164	0.0095	0.0003	0.00029	0.0919	-0.00001	-0.000005	0.078	0.000024	44.6	-0.0001	0.000039
11-Nov-09	9	50	50	7.91	221	389					5.20														
18-Nov-09	10	160	160	7.82	25	394	#N/A	9.0	207.6	31	5.20	1.9	1.53	150	0.0096	0.00086	0.00027	0.0948	-0.00001	-0.000005	0.063	0.000013	40	-0.0001	0.000038
25-Nov-09	11	50	50	7.72	19	356					5.10														
2-Dec-09	12	160	160	7.57	23	368	#N/A	6.2	190.8	23	5.20	0.7	1.7	135	0.0198	0.00047	0.00028	0.0947	-0.00001	-0.000005	0.061	0.000026	35.4	-0.0001	0.000069
9-Dec-09	13	50	50	7.87	359	259					5.20														
16-Dec-09	14	160	160	7.71	-59	333	#N/A	3.8	187.6	16	4.90	-0.5	1.83	126	0.0085	0.00025	0.00016	0.102	-0.00001	-0.000005	0.05	0.000017	32.7	0.0002	0.000069
23-Dec-09	15	50	50	7.89	120	316					5.80														
30-Dec-09	16	160	160	6.78	149	339	#N/A	4.7	177.6	14	4.30	1.2	1.72	128	0.0074	0.0001	0.00058	0.129	-0.00001	-0.000005	-0.05	0.000012	33.3	-0.0001	0.000048
6-Jan-10	17	50	50	7.60	176	340					4.20														
13-Jan-10	18	160	160	7.83	88	341	#N/A	6.7	177.1	11	5.70	-0.5	1.84	126	0.009	-0.0004	0.0004	0.154	-0.0002	-0.0001	-1	-0.0001	31.1	-0.002	-0.0001
20-Jan-10	19	50	50	7.50	258	336					3.80														
27-Jan-10	20	160	160	8.18	85	332	#N/A	3.7	178.3	13	4.20	-0.5	1.82	119	0.007	0.0002	0.0004	0.153	-0.00005	-0.00003	-0.3	-0.00003	29.9	-0.0005	-0.00003
3-Feb-10	21	50	50	7.81	195	336					4.20														
10-Feb-10	22	160	160	8.06	100	336	#N/A	3.9	181.4	12	5.30	0.8	1.75	147	0.011	0.0002	0.0006	0.19	-0.00005	-0.00003	-0.3	-0.00003	37.9	-0.0005	0.00003
17-Feb-10	23	50	50	7.91	119	331					4.10														
24-Feb-10	24	160	160	7.91	136	338	#N/A	3.3	179.7	14	5.10	-0.5	1.74	123	0.007	-0.0002	-0.0002	0.209	-0.0001	-0.00005	-0.5	-0.00005	31.3	-0.001	-0.00005
3-Mar-10	25	50	50	7.68	290	362					5.40														
10-Mar-10	26	160	160	7.77	78	357	#N/A	3.9	177.2	14	4.50	-0.5	1.78	136	0.0065	0.00005	0.00024	0.226	-0.00001	-0.000005	-0.05	0.000013	34.8	-0.0001	0.00004
17-Mar-10	27	50	50	7.56	176	335					4.60														
24-Mar-10	28	160	160	7.73	123	353	#N/A	3.9	175.3	14	4.70	-0.5	-2	130	0.007	0.0001	0.0005	0.221	-0.00005	-0.00003	-0.3	-0.00003	32.2	-0.0005	-0.00003
31-Mar-10	29	50	50	7.70	261	318					6.53														
7-Apr-10	30	160	160	7.56	184	351	#N/A	3.7	169.4	14	7.20	-0.5	1.66	135	0.01	0.0001	0.0001	0.229	-0.00005	-0.00003	-0.3	-0.00003	34.2	-0.0005	-0.00003
14-Apr-10	31	50	50	7.92	175	340					4.60														
21-Apr-10	32	160	160	7.94	296	349	#N/A	3.6	168.8	9	4.60	-0.5	1.65	125	0.011	0.00007	0.00026	0.232	-0.00001	-0.000005	-0.05	0.000023	32.6	0.0002	0.000036
28-Apr-10	33	50	50	7.72	326	310					4.20														
5-May-10	34	160	160	7.18	220	311	#N/A	4.9	168.8	8	4.40	-0.5	1.64	131	0.0067	0.00007	0.00034	0.235	-0.00001	-0.000005	-0.05	0.000015	35.3	-0.0001	0.000037
12-May-10	35	50	50	7.61	312	313					4.30														
19-May-10	36	160	160	7.45	279	350	#N/A	3.0	173.5	6	4.30	-0.5	1.64	144	0.0064	0.00005	0.00033	0.271	-0.00001	-0.000005	-0.05	0.000011	39.3	-0.0001	0.000032
26-May-10	37	50	50	7.39	360	340					4.70														
2-Jun-10	38	160	160	6.91	353	358	#N/A	3.0	170.5	10	4.80	-0.5	1.69	140	0.0111	0.00005	#N/A	0.271	-0.00001	-0.000005	-0.05	0.000019	37.9	0.0002	0.000042
9-Jun-10	39	50	50	7.72	302	317					3.20														
16-Jun-10	40	160	160	7.31	382	317	#N/A	2.5	169.6	4	4.85	-0.5	1.6	124	0.0051	0.00005	0.00023	0.262	-0.00001	-0.000005	-0.05	0.000014	33	0.0001	0.000041
23-Jun-10	41	50	50	7.40	316	310					2.80														
30-Jun-10	42	160	160	7.30	278	309	#N/A	3.5	167.9	6	4.35	-0.5	1.61	128	0.006	0.00006	0.00059	0.275	-0.00001	-0.000005	-0.05	0.000011	34.2	-0.0001	0.000099
7-Jul-10	43	50	50	7.39	336	297					2.70														
14-Jul-10	44	160	160	6.78	371	327	#N/A	6.0	161.9	2	3.51	0.5	1.45	118	0.0071	0.00005	0.0011	0.274	-0.00001	-0.000005	-0.05	0.000026	32.6	-0.0001	0.000151
21-Jul-10	45	50	50	6.93	260	295					2.38														
28-Jul-10	46	160	160	6.68	410	306	#N/A	5.4	157.3	4	3.25	-0.5	1.33	122	0.0085	0.00004	0.00054	0.291	-0.00001	-0.000005	-0.05	0.000018	34.2	0.0003	0.000067
4-Aug-10	47	50	50	6.95	310	302					3.10														
11-Aug-10	48	160	160	6.71	283	312	#N/A	6.1	157.6	4	0.65	-0.5	1.33	124	0.0126	0.00004	0.00012	0.284	-0.00001	-0.000005	-0.05	0.000013	34.7	-0.0001	0.000045
18-Aug-10	49	50	50	7.08	346	311					1.80														
25-Aug-10	50	160	160	6.72	416	292	#N/A	5.8	158.0	7	0.75	-0.5	1.3	123	0.001	0.00005	0.00011	0.291	-0.00001	-0.000005	-0.05	0.000019	35.5	-0.0001	0.000029
1-Sep-10	51	50	50	7.43	380	276					1.10														
8-Sep-10	52	160	160	7.29	423	292	#N/A	7.9	158.4	6	0.98	-0.5	1.22	116	0.0082	0.00004	0.00012	0.306	-0.00001	-0.000005	-0.05	0.000032	32.9	0.0002	0.000058
15-Sep-10	53	50	50	7.35	389	282					1.75														

Col 2 Bottom

Sample = 2351-35&36 Composite

Date	Cycle No.	Cu	Fe	Pb	Li	Mg	Mn	Hg	Mo	Ni	P	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
9-Sep-09	0	0.00922	0.002	0.000018	0.0039	3.52	0.0246	-0.01	0.0128	0.0004	0.011	7.68	0.00211	2.82	-0.000005	2.84	0.174	8	0.000029	0.0425	-0.0005	0.000121	0.0012	0.0035	-0.0001
16-Sep-09	1																								
23-Sep-09	2	0.0131	0.004	0.00335	0.0072	5.93	0.0438	-0.01	0.0196	0.00035	0.013	11.7	0.00277	3.48	-0.000005	6.92	0.26	9	0.000041	0.034	-0.0005	0.000274	0.0005	0.0046	-0.0001
30-Sep-09	3																								
7-Oct-09	4	0.0383	0.012	0.00135	0.0097	9.69	0.0658	-0.01	0.0279	0.00105	0.009	18.5	0.00677	4.45	0.000007	18.9	0.375	25	0.000107	0.0223	0.0015	0.000643	0.001	0.0058	-0.0001
14-Oct-09	5																								
21-Oct-09	6	0.0123	0.019	0.000301	0.0114	13.2	0.0846	0.01	0.029	0.00047	0.01	22.4	0.00634	4.73	-0.000005	30.4	0.419	30	0.000053	0.0332	-0.0005	0.000375	0.0003	0.0031	-0.0001
28-Oct-09	7																								
4-Nov-09	8	0.00528	0.008	0.000034	0.0105	12.8	0.0832	-0.01	0.00473	0.00022	0.008	21.9	0.00108	4	-0.000005	26.3	0.385	19	0.000013	0.0351	-0.0005	0.000093	-0.0002	0.0007	-0.0001
11-Nov-09	9																								
18-Nov-09	10	0.00243	0.014	0.000037	0.0087	12.1	0.0762	-0.01	0.00164	0.00019	0.01	22.4	0.00008	3.58	-0.000005	17.9	0.352	12	0.000021	0.0295	-0.0005	0.000066	-0.0002	0.001	-0.0001
25-Nov-09	11																								
2-Dec-09	12	0.00378	0.025	0.000656	0.0082	11.3	0.0747	-0.01	0.00264	0.00067	0.017	21.6	0.00006	3.24	-0.000005	12.7	0.338	9	0.000094	0.0349	-0.0005	0.00015	-0.0002	0.005	-0.0001
9-Dec-09	13																								
16-Dec-09	14	0.0043	0.007	0.000025	0.0068	10.8	0.0753	-0.01	0.00185	0.00069	0.134	21.5	0.00007	3.09	-0.000005	9.89	0.324	6	0.000014	0.0286	-0.0005	0.000092	-0.0002	0.0008	-0.0001
23-Dec-09	15																								
30-Dec-09	16	0.00523	0.003	0.000019	0.0069	11	0.0683	-0.01	0.00179	0.00081	0.008	21.7	0.00004	3.46	-0.000005	8.17	0.366	6	0.000005	0.0302	-0.0005	0.000385	-0.0002	0.0007	-0.0001
6-Jan-10	17																								
13-Jan-10	18	0.012	-0.02	0.0013	-0.01	11.8	0.055	-0.2	0.002	0.0045	-0.04	21.6	-0.0008	3.76	0.0001	7.3	0.388	-10	-0.00004	0.0231	0.00008	0.00008	-0.004	0.003	-0.002
20-Jan-10	19																								
27-Jan-10	20	0.0086	0.016	0.00093	0.007	10.9	0.0496	-0.05	0.0023	0.0019	-0.01	20	-0.0002	3.47	-0.00003	6.52	0.373	-3	0.00005	0.0211	0.005	0.00007	-0.001	0.0022	-0.0005
3-Feb-10	21																								
10-Feb-10	22	0.0077	0.011	0.00011	0.007	12.6	0.0596	-0.05	0.0032	0.0007	0.016	24.6	-0.0002	3.88	-0.00003	7.46	0.427	-3	0.00004	0.0232	-0.003	0.00011	-0.001	0.0021	-0.0005
17-Feb-10	23																								
24-Feb-10	24	0.0046	0.014	0.00019	0.007	10.8	0.0605	-0.1	0.0043	0.0074	-0.02	18	-0.0004	3.77	-0.00005	5.76	0.416	8	-0.00002	0.019	-0.005	0.00004	-0.002	0.003	-0.001
3-Mar-10	25																								
10-Mar-10	26	0.00272	0.004	0.000029	0.0075	11.9	0.0561	-0.01	0.00544	0.00029	0.008	18.7	-0.00004	4.51	-0.000005	6.56	0.452	-10	0.000037	0.0163	-0.0005	0.000046	-0.0002	0.0012	-0.0001
17-Mar-10	27																								
24-Mar-10	28	0.0032	-0.005	0.0001	0.007	12	0.044	-0.05	0.0067	0.0003	-0.01	17	-0.0002	4.5	-0.00003	6.3	0.446	-10	0.00005	0.0134	-0.003	0.00005	-0.001	0.0013	-0.0005
31-Mar-10	29																								
7-Apr-10	30	0.0028	0.026	0.00004	0.007	12.1	0.0428	-0.05	0.0081	0.0005	-0.01	17	-0.0002	4.56	-0.00003	6.03	0.448	-10	0.00002	0.0109	-0.003	0.00005	-0.001	0.0019	-0.0005
14-Apr-10	31																								
21-Apr-10	32	0.00488	0.011	0.000192	0.0068	10.5	0.0422	-0.01	0.0108	0.0004	0.013	15.2	0.00008	4.82	0.000024	5.7	0.44	-10	0.000023	0.0106	0.001	0.00006	-0.0002	0.0036	-0.0001
28-Apr-10	33																								
5-May-10	34	0.00145	0.007	0.000009	0.0061	10.4	0.0416	-0.01	0.0124	0.00031	0.009	14.5	0.00004	5.11	-0.000005	5.46	0.441	-10	0.000033	0.0123	-0.0005	0.000065	-0.0002	0.0008	-0.0001
12-May-10	35																								
19-May-10	36	0.00183	0.007	0.000038	0.0069	11.1	0.0347	0.02	0.0166	0.00057	0.006	14.9	0.00004	5.93	-0.000005	5.69	0.489	-10	0.000037	0.0122	-0.0005	0.000073	-0.0002	0.0009	-0.0001
26-May-10	37																								
2-Jun-10	38	0.00189	0.003	0.000017	0.006	11.1	0.0386	0.01	0.0176	0.00045	0.006	14.1	0.00006	5.75	-0.000005	5.9	0.466	-10	0.000008	0.0113	-0.0005	0.000089	-0.0002	0.0007	-0.0001
9-Jun-10	39																								
16-Jun-10	40	0.00152	0.002	0.000019	0.006	9.99	0.0421	-0.01	0.0206	0.00046	0.006	12.6	0.00006	5.78	-0.000005	5.42	0.454	-10	0.000039	0.0101	-0.0005	0.000089	-0.0002	0.0005	-0.0001
23-Jun-10	41																								
30-Jun-10	42	0.002	0.002	0.000072	0.0057	10.3	0.0687	-0.01	0.0237	0.00056	0.016	12.2	0.00012	6.33	-0.000005	5.74	0.46	-10	0.000017	0.00983	-0.0005	0.000122	-0.0002	0.0018	-0.0001
7-Jul-10	43																								
14-Jul-10	44	0.00249	0.001	0.000101	0.0057	8.91	0.05	-0.01	0.0266	0.00055	0.008	10.6	0.00009	5.88	-0.000005	4.76	0.468	-10	0.000025	0.00935	-0.0005	0.000217	-0.0002	0.0015	-0.0001
21-Jul-10	45																								
28-Jul-10	46	0.00124	0.006	0.00007	0.0052	8.85	0.0468	-0.01	0.0285	0.00058	0.005	10.1	0.00007	5.75	-0.000005	4.59	0.459	-10	0.000008	0.00728	-0.0005	0.000128	-0.0002	0.0008	-0.0001
4-Aug-10	47																								
11-Aug-10	48	0.00122	0.005	0.000022	0.0054	8.96	0.049	-0.01	0.0308	0.00083	0.006	10.3	0.00007	5.82	-0.000005	4.69	0.461	-10	0.000005	0.00614	-0.0005	0.000115	-0.0002	0.0006	-0.0001
18-Aug-10	49																								
25-Aug-10	50	0.00081	0.009	0.000063	0.0054	8.48	0.0416	-0.01	0.0344	0.00033	0.003	9.77	0.00012	6.05	-0.000005	4.5	0.445	-10	0.000014	0.00126	-0.0005	0.000113	-0.0002	0.0007	-0.0001
1-Sep-10	51																								
8-Sep-10	52	0.00133	0.033	0.0001	0.0048	8.13	0.0423	-0.01	0.0328	0.00083	0.003	9.32	0.00008	5.87	-0.000005	4.34	0.434	-10	0.000008	0.00491	-0.0005	0.000135	-0.0002	0.001	-0.0001
15-Sep-10	53																								

Col 2 Bottom

CONFIDENTIAL *DRAFT*

Sample = 2351-35&36 Composite

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	ORP mV	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	DO mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L
22-Sep-10	54	160	160	7.12	418	293	#N/A	5.3	151.9	9	0.75	-0.5	1.27	124	0.016	0.00005	0.0003	0.324	-0.00001	-0.000005	-0.05	0.000018	36.4	0.0002	0.000062
29-Sep-10	55	50	50	8.07	318	270					1.02														
6-Oct-10	56	160	160	7.32	339	278	#N/A	5.4	158.7	8	0.50	-0.5	1.29	120	0.009	0.00004	0.00025	0.36	-0.00001	-0.000005	-0.05	0.000012	35.7	0.0003	0.000043
13-Oct-10	57	50	50	7.44	309	292					0.55														
20-Oct-10	58	160	160	7.26	345	288	#N/A	5.7	156.6	9	1.20	-0.5	1.2	117	0.004	0.00004	0.00016	0.333	-0.00001	-0.000005	-0.05	0.000014	35.1	-0.0001	0.000055
27-Oct-10	59	50	50	7.38	304	258					1.40														
3-Nov-10	60	160	160	7.31	301	261	#N/A	2.9	157.9	5	1.30	-0.5	1.05	117	0.0045	-0.00002	0.00014	0.401	-0.00001	-0.000005	-0.05	0.000016	35.3	-0.0001	0.000011
10-Nov-10	61	50	50	7.08	362	254					0.60														
17-Nov-10	62	160	160	7.06	327	270	#N/A	3.9	154.3	4	0.72	-0.5	1.12	118	0.0088	0.00006	0.00014	0.376	-0.00001	-0.000005	-0.05	0.000023	36	-0.0001	0.000013
24-Nov-10	63	50	50	7.10	385	258					0.60														
1-Dec-10	64	160	160	7.19	409	263	#N/A	6.9	149.5	4	0.60	-0.5	0.94	111	0.0044	0.00006	0.00015	0.365	-0.00001	-0.000005	-0.05	0.000015	34.4	-0.0001	0.000016
8-Dec-10	65	50	50	7.10	396	262					0.68														
15-Dec-10	66	160	160	7.16	400	263	#N/A	6.9	140.1	5	0.76	-0.5	1.02	104	0.0051	0.00006	0.0003	0.363	-0.00001	-0.000005	-0.05	0.000013	32.4	-0.0001	0.000013
22-Dec-10	67	50	50	7.30	373	230					0.85														
29-Dec-10	68	160	160	7.18	404	267	#N/A	7.5	143.7	5	0.80	-0.5	0.74	105	0.0078	0.00006	0.00017	0.466	-0.00001	-0.000005	-0.05	0.000009	32.3	-0.0001	0.000016
5-Jan-11	69	50	50	7.30	366	268					0.70														
12-Jan-11	70	160	160	7.31	399	239	#N/A	7.1	141.7	4	0.90	-0.5	0.94	112	0.0095	0.00005	0.00022	0.381	-0.00001	-0.000005	-0.05	0.000024	35	0.0001	0.000035
19-Jan-11	71	50	50	7.38	365	236					0.80														
26-Jan-11	72	160	160	7.33	410	252	#N/A	7.5	138.8	4	0.75	-0.5	0.84	111	0.0095	0.00014	0.0003	0.38	-0.00001	-0.000005	-0.05	0.000017	34.6	-0.0001	0.00001
2-Feb-11	73	50	50	7.36	382	233					0.85														
9-Feb-11	74	50	50	7.76	352	242																			
16-Feb-11	75	50	50	7.56	386	237																			
23-Feb-11	76	50	50	7.78	345	238																			
2-Mar-11	77	50	50	7.62	388	230																			
9-Mar-11	78	50	50	7.54	368	240																			
16-Mar-11	79	50	50	7.68	363	248																			
23-Mar-11	80	50	50	7.20	394	241																			
30-Mar-11	81	50	50	#N/A	349	241																			
6-Apr-11	82	50	50	#N/A	341	247																			
13-Apr-11	83	50	50	7.94	380	257																			
20-Apr-11	84	160	160	7.86	358	256	#N/A	8.5	144.7	5	0.70	0.8	0.83	108	0.0114	0.00016	0.00019	0.385	-0.00001	-0.000005	-0.05	-0.000005	34.9	0.0001	0.000071
27-Apr-11	85	50	50	8.04	380	255																			
4-May-11	86	50	50	7.86	360	257																			
11-May-11	87	50	50	7.95	358	260																			
18-May-11	88	50	50	7.91	363	278																			
25-May-11	89	50	50	7.95	365	263																			
1-Jun-11	90	50	50	7.64	358	267																			
8-Jun-11	91	50	50	7.44	298	266																			
15-Jun-11	92	50	50	7.40	296	240																			
22-Jun-11	93	50	50	8.19	335	254																			
29-Jun-11	94	50	50	7.77	330	265																			
6-Jul-11	95	50	50	7.48	353	271																			
13-Jul-11	96	160	160	7.49	345	272	#N/A	8.7	136.3	3	0.80	-0.5	0.71	108	0.0039	0.00005	0.0003	0.468	-0.00001	-0.000005	-0.05	-0.000005	33.9	0.0002	0.000019
20-Jul-11	97	50	50	7.35	340	266																			
27-Jul-11	98	50	50	7.16	330	268																			
3-Aug-11	99	50	50	7.63	342	238																			
10-Aug-11	100	50	50	7.52	347	239																			
17-Aug-11	101	50	50	7.63	338	240																			
24-Aug-11	102	50	50	7.67	321	245																			
31-Aug-11	103	50	50	7.63	336	270																			
7-Sep-11	104	160	160	7.91	362	255																			
14-Sep-11	105	50	50	7.89	394	265																			

Col 2 Bottom

Sample = 2351-35&36 Composite

Date	Cycle No.	Cu	Fe	Pb	Li	Mg	Mn	Hg	Mo	Ni	P	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
22-Sep-10	54	0.0013	0.013	0.000096	0.0048	7.99	0.0395	-0.01	0.0352	0.00073	0.023	9.04	0.00009	6.66	-0.000005	4.18	0.443	-10	0.000009	0.00333	-0.0005	0.000306	-0.0002	0.0023	0.0002
29-Sep-10	55																								
6-Oct-10	56	0.001	0.015	0.000049	0.0048	7.64	0.0314	-0.01	0.0376	0.00073	0.008	9.01	0.0001	6.56	-0.000005	3.81	0.455	-10	#N/A	0.00427	-0.0005	0.000197	-0.0002	0.0009	-0.0001
13-Oct-10	57																								
20-Oct-10	58	0.00109	0.004	0.000087	0.0045	7.19	0.0363	-0.01	0.0357	0.00067	0.006	8.24	0.00007	6.29	-0.000005	3.61	0.436	-10	0.000013	0.00524	-0.0005	0.000148	-0.0002	0.0013	-0.0001
27-Oct-10	59																								
3-Nov-10	60	0.00122	0.004	0.000012	0.0044	7.05	0.00446	-0.01	0.0373	0.00042	0.007	8.11	0.00007	6.34	-0.000005	3.6	0.453	-10	0.000004	0.00447	-0.0005	#N/A	-0.0002	0.0005	-0.0001
10-Nov-10	61																								
17-Nov-10	62	0.00174	0.015	0.000151	0.0042	6.77	0.00401	-0.01	0.0298	0.00065	0.009	7.47	0.00008	6.43	-0.000005	3.4	0.437	-10	0.000009	0.00224	-0.0005	#N/A	-0.0002	0.0017	-0.0001
24-Nov-10	63																								
1-Dec-10	64	0.00224	0.015	0.000051	0.0037	6.12	0.00425	-0.01	0.0351	0.00059	0.015	7.04	0.00006	6.25	-0.000005	3.02	0.416	-10	0.000038	0.00274	-0.0005	0.000138	-0.0002	0.0011	-0.0001
8-Dec-10	65																								
15-Dec-10	66	0.00319	0.041	0.00005	0.0037	5.58	0.00235	-0.01	0.035	0.00048	0.009	6.54	0.0001	5.85	-0.000005	2.65	0.413	-10	0.000004	0.00287	-0.0005	0.000168	-0.0002	0.0013	-0.0001
22-Dec-10	67																								
29-Dec-10	68	0.00257	0.016	0.000052	0.0036	5.94	0.00171	-0.01	0.0327	0.00059	0.016	6.87	0.00006	5.79	-0.000005	2.78	0.435	-10	0.00004	0.00337	-0.0005	0.000255	-0.0002	0.0012	-0.0001
5-Jan-11	69																								
12-Jan-11	70	0.00212	0.042	0.00016	0.0033	5.91	0.0164	-0.01	0.0336	0.00051	0.011	6.22	0.00005	6.07	0.000011	2.76	0.388	-10	0.000036	0.00321	-0.0005	#N/A	-0.0002	0.0016	#N/A
19-Jan-11	71																								
26-Jan-11	72	0.00104	0.003	0.00005	0.0031	5.91	0.00547	-0.01	0.0317	0.00033	0.01	6.27	0.00007	5.78	-0.000005	2.8	0.393	-10	0.000034	0.00233	-0.0005	0.000122	-0.0002	0.0017	-0.0001
2-Feb-11	73																								
9-Feb-11	74																								
16-Feb-11	75																								
23-Feb-11	76																								
2-Mar-11	77																								
9-Mar-11	78																								
16-Mar-11	79																								
23-Mar-11	80																								
30-Mar-11	81																								
6-Apr-11	82																								
13-Apr-11	83																								
20-Apr-11	84	0.00134	0.059	#N/A	0.0027	5.16	#N/A	-0.01	0.0244	0.00057	0.02	5.69	0.00004	5.93	#N/A	2.36	0.388	-10	0.000019	0.00186	-0.0005	0.000155	-0.0002	0.0027	-0.0001
27-Apr-11	85																								
4-May-11	86																								
11-May-11	87																								
18-May-11	88																								
25-May-11	89																								
1-Jun-11	90																								
8-Jun-11	91																								
15-Jun-11	92																								
22-Jun-11	93																								
29-Jun-11	94																								
6-Jul-11	95																								
13-Jul-11	96	0.00231	0.03	0.000101	0.0031	5.79	0.00478	-0.01	0.0208	0.00044	0.013	5.61	-0.00004	5.78	0.000006	2.71	0.405	-10	0.000013	0.00113	-0.0005	0.000147	-0.0002	0.0013	-0.0001
20-Jul-11	97																								
27-Jul-11	98																								
3-Aug-11	99																								
10-Aug-11	100																								
17-Aug-11	101																								
24-Aug-11	102																								
31-Aug-11	103																								
7-Sep-11	104																								
14-Sep-11	105																								

Col 2 Bottom

CONFIDENTIAL *DRAFT*

Sample = 2351-35&36 Composite

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	ORP mV	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	DO mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L
21-Sep-11	106	160	160	7.90	416	269																			
28-Sep-11	107	50	50	7.53	442	265																			
5-Oct-11	108	160	160	7.62	378	243	#N/A	5.5	132.8	3	0.65	0.6	0.59	111	0.0087	#N/A	0.00027	0.484	-0.00001	-0.000005	-0.05	0.000013	37.1	0.0002	0.000023
12-Oct-11	109	50	50	7.89	390	240																			
19-Oct-11	110	50	50	7.82	378	238																			
26-Oct-11	111	50	50	7.88	393	241																			
2-Nov-11	112	50	50	7.56	395	249																			
9-Nov-11	113	50	50	7.54	392	262																			
16-Nov-11	114	50	50	7.80	390	238																			
23-Nov-11	115	50	50	7.45	200	238																			
30-Nov-11	116	50	50	7.30	407	241																			
7-Dec-11	117	50	50	7.31	429	237																			
14-Dec-11	118	50	50	7.33	470	235																			
21-Dec-11	119	50	50	7.23	492	240																			
28-Dec-11	120	160	160	7.73	560	241	#N/A	4.8	148.1	2	0.85	-0.5	0.52	107	0.0041	0.00006	0.00031	0.462	-0.00001	-0.000005	-0.05	-0.000005	34.4	-0.0001	0.00005
4-Jan-12	121	50	50	7.45	584	239																			
11-Jan-12	122	50	50	7.56	617	230																			
18-Jan-12	123	50	50	7.55	645	233																			
25-Jan-12	124	50	50	7.63	623	291																			
1-Feb-12	125	50	50	7.54	573	236																			
8-Feb-12	126	50	50	7.41	526	228																			
15-Feb-12	127	50	50	7.41	535	233																			
22-Feb-12	128	50	50	7.43	629	227																			
29-Feb-12	129	50	50	7.64	551	217																			
7-Mar-12	130	50	50	7.67	612	210																			
14-Mar-12	131	50	50	7.85	430	248																			
21-Mar-12	132	160	160	7.68	480	239	#N/A	5.5	133.5	5	0.80	-0.5	0.46	110	0.0063	0.00005	0.00024	0.484	-0.00001	-0.000005	-0.05	0.000012	36.1	0.0001	0.000086
28-Mar-12	133	50	50	7.95	633	230																			
4-Apr-12	134	50	50	7.62	542	227																			
11-Apr-12	135	50	50	7.52	586	224																			
18-Apr-12	136	50	50	7.78	566	230																			
25-Apr-12	137	50	50	7.85	628	231																			
2-May-12	138	50	50	7.72	630	221																			
9-May-12	139	50	50	7.51	629	188																			
16-May-12	140	50	50	7.51	601	225																			
23-May-12	141	50	50	7.64	584	183																			
30-May-12	142	50	50	7.78	585	180																			
6-Jun-12	143	50	50	7.74	531	243																			
13-Jun-12	144	160	160	7.53	570	218	#N/A	8.4	135.5	4	1.18	0.91	0.45	105	0.0047	0.000031	0.00026	0.504	-0.00001	-0.000005	-0.05	-0.000005	33.9	#N/A	0.0000344
20-Jun-12	145	50	50	7.50	557	200																			
27-Jun-12	146	50	50	7.28	520	180																			
4-Jul-12	147	50	50	7.82	545	176																			
11-Jul-12	148	50	50	7.99	541	162																			
18-Jul-12	149	50	50	7.84	578	222																			
25-Jul-12	150	50	50	7.64	499	215																			
1-Aug-12	151	50	50	7.58	556	216																			
8-Aug-12	152	50	50	7.78	545	223																			
15-Aug-12	153	50	50	7.41	540	215																			
22-Aug-12	154	50	50	7.17	643	209																			
29-Aug-12	155	50	50	7.47	648	180																			
5-Sep-12	156	160	160	7.20	596	176	#N/A	6.2	123.8	5	1.12	#N/A	0.38	97.3	0.00482	0.000046	0.00019	0.474	-0.00001	-0.000005	-0.05	-0.000005	31.6	-0.0001	0.000024
12-Sep-12	157	50	50	7.78	664	174																			
19-Sep-12	158	50	50	7.40	564	215																			

Col 2 Bottom

Sample = 2351-35&36 Composite

Date	Cycle No.	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L	P mg/L	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L
21-Sep-11	106																								
28-Sep-11	107																								
5-Oct-11	108	0.00105	0.046	#N/A	0.0031	4.57	0.0182	-0.01	0.0209	0.00042	0.008	4.98	0.00008	5.78	0.00001	1.94	0.382	-10	#N/A	0.00164	-0.0005	0.000184	-0.0002	0.0023	-0.0001
12-Oct-11	109																								
19-Oct-11	110																								
26-Oct-11	111																								
2-Nov-11	112																								
9-Nov-11	113																								
16-Nov-11	114																								
23-Nov-11	115																								
30-Nov-11	116																								
7-Dec-11	117																								
14-Dec-11	118																								
21-Dec-11	119																								
28-Dec-11	120	0.00197	0.038	0.000161	0.0026	5.07	0.0346	-0.01	0.0175	0.0005	0.02	5.5	0.00009	5.29	0.00002	2.19	0.363	-10	0.000014	0.00084	-0.0005	0.000144	-0.0002	0.002	-0.0001
4-Jan-12	121																								
11-Jan-12	122																								
18-Jan-12	123																								
25-Jan-12	124																								
1-Feb-12	125																								
8-Feb-12	126																								
15-Feb-12	127																								
22-Feb-12	128																								
29-Feb-12	129																								
7-Mar-12	130																								
14-Mar-12	131																								
21-Mar-12	132	0.00159	0.02	#N/A	0.0025	4.89	0.0241	-0.01	0.0163	#N/A	0.013	5.23	0.00004	5.35	0.000015	1.97	0.339	-10	0.00001	0.0008	-0.0005	0.000162	-0.0002	0.002	-0.0001
28-Mar-12	133																								
4-Apr-12	134																								
11-Apr-12	135																								
18-Apr-12	136																								
25-Apr-12	137																								
2-May-12	138																								
9-May-12	139																								
16-May-12	140																								
23-May-12	141																								
30-May-12	142																								
6-Jun-12	143																								
13-Jun-12	144	0.00072	0.0228	5.51E-05	0.00265	4.81	0.0284	-0.01	0.016	0.00036	0.008	4.6	0.000049	5.43	0.0000069	2.09	0.34	-10	1.17E-05	0.00089	-0.0005	0.000183	-0.0002	0.00248	-0.0001
20-Jun-12	145																								
27-Jun-12	146																								
4-Jul-12	147																								
11-Jul-12	148																								
18-Jul-12	149																								
25-Jul-12	150																								
1-Aug-12	151																								
8-Aug-12	152																								
15-Aug-12	153																								
22-Aug-12	154																								
29-Aug-12	155																								
5-Sep-12	156	0.00176	0.0108	0.000179	0.00211	4.49	0.0125	-0.01	0.0132	0.0004	0.0129	4.45	-0.00004	5.03	#N/A	2.37	0.3	-10	0.00001	0.0006	-0.0005	0.000244	-0.0002	0.00121	-0.0001
12-Sep-12	157																								
19-Sep-12	158																								

Col 2 Bottom

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Sample = 2351-35&36 Composite

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	ORP mV	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	DO mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L
26-Sep-12	159	50	50	7.41	580	220																			
3-Oct-12	160	50	50	7.95	597	212																			
10-Oct-12	161	50	50	7.82	627	218																			
17-Oct-12	162	50	50	8.00	498	202																			
24-Oct-12	163	50	50	7.64	431	218																			
31-Oct-12	164	50	50	7.67	445	221																			
7-Nov-12	165	50	50	7.24	550	223																			
14-Nov-12	166	50	50	7.48	587	226																			
21-Nov-12	167	50	50	7.52	565	224																			
28-Nov-12	168	160	160	7.37	492	221	#N/A	11.7	134.7	9	2.11	0.82	0.29	98.6	0.011	#N/A	0.00029	0.486	-0.00001	-0.000005	-0.05	#N/A	32.2	0.00025	0.00004
5-Dec-12	169	50	50	7.47	530	216																			
12-Dec-12	170	50	50	7.53	448	222																			
19-Dec-12	171	50	50	7.26	604	216																			
26-Dec-12	172	50	50	7.58	613	213																			
2-Jan-13	173	50	50	7.51	621	207																			
9-Jan-13	174	50	50	6.92	597	208																			
16-Jan-13	175	50	50	7.87	545	198																			
23-Jan-13	176	50	50	7.31	560	222																			
30-Jan-13	177	50	50	7.22	585	215																			
6-Feb-13	178	50	50	7.32	476	215																			
13-Feb-13	179	50	50	7.40	551	226																			
20-Feb-13	180	160	160	7.69	531	221	#N/A	6.2	137.5	8	1.32	-0.5	0.29	101	0.00701	0.00012	0.0003	0.501	-0.00001	0.000039	-0.05	-0.000005	32.8	-0.0001	0.000046
27-Feb-13	181	50	50	7.21	602	190																			
6-Mar-13	182	50	50	8.00	618	208																			
13-Mar-13	183	50	50	7.69	577	215																			
20-Mar-13	184	50	50	8.07	570	228																			
27-Mar-13	185	50	50	7.29	550	212																			
3-Apr-13	186	50	50	7.39	401	220																			
10-Apr-13	187	50	50	7.49	581	217																			
17-Apr-13	188	50	50	7.50	582	222																			
24-Apr-13	189	50	50	7.76	469	219																			
1-May-13	190	50	50	7.43	420	216																			
8-May-13	191	50	50	7.17	528	219																			
15-May-13	192	160	160	6.96	490	223	#N/A	11.5	115.2	4	1.21	-0.5	0.29	99.9	0.00668	0.000052	0.00018	0.539	-0.00001	-0.000005	-0.05	0.000005	32.2	-0.0001	0.000039
22-May-13	193	50	50	7.18	552	219																			
29-May-13	194	50	50	7.18	565	220																			

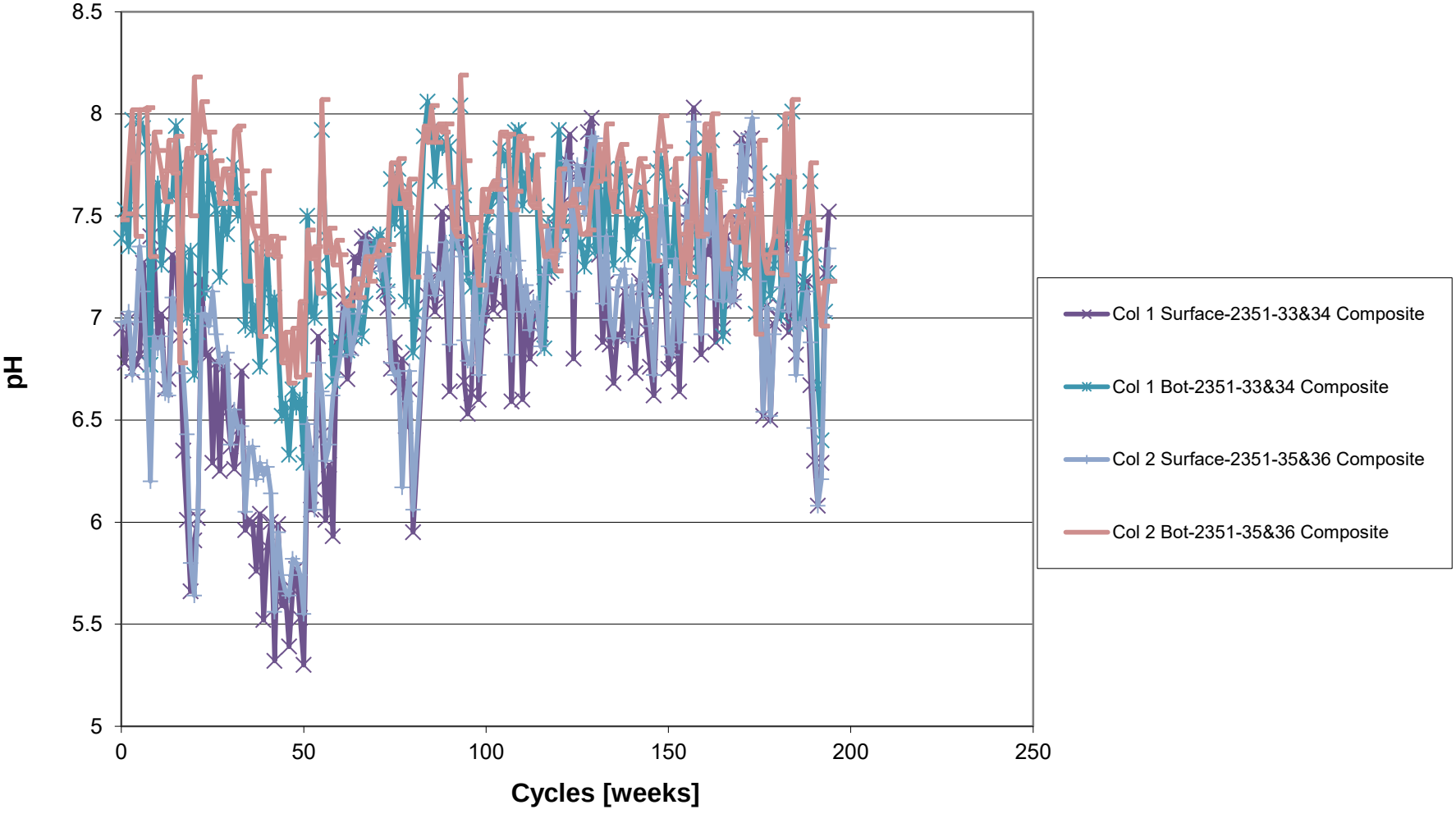
Col 2 Bottom

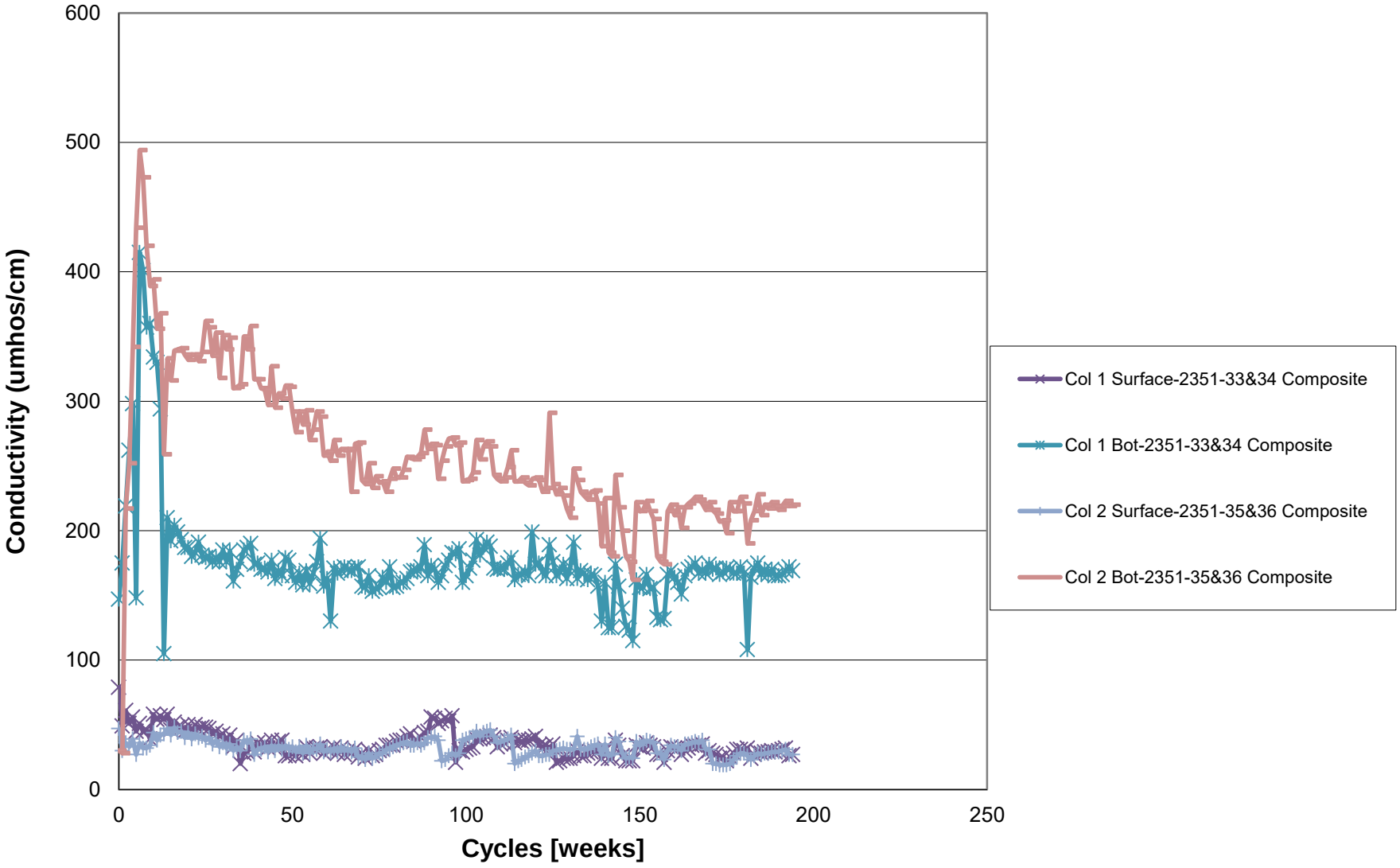
Sample = 2351-35&36 Composite

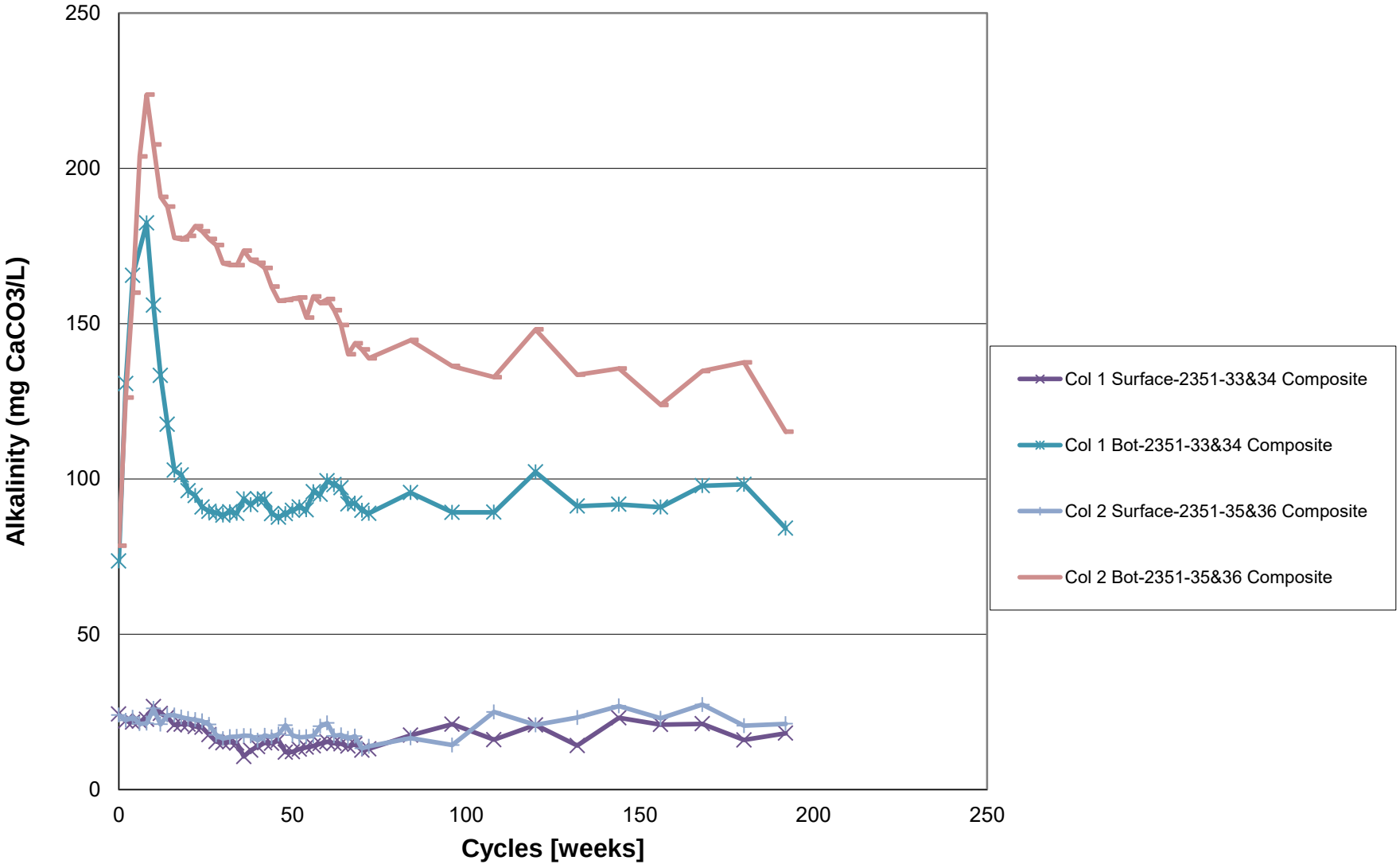
Date	Cycle No.	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L	P mg/L	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L
26-Sep-12	159																								
3-Oct-12	160																								
10-Oct-12	161																								
17-Oct-12	162																								
24-Oct-12	163																								
31-Oct-12	164																								
7-Nov-12	165																								
14-Nov-12	166																								
21-Nov-12	167																								
28-Nov-12	168	0.00137	0.0243	0.000168	0.00204	4.42	0.0407	-0.01	0.0119	0.00057	0.0163	4	0.000061	5.13	0.000005	1.73	0.294	-3	0.000013	0.00138	-0.0005	0.000166	0.00044	#N/A	-0.0001
5-Dec-12	169																								
12-Dec-12	170																								
19-Dec-12	171																								
26-Dec-12	172																								
2-Jan-13	173																								
9-Jan-13	174																								
16-Jan-13	175																								
23-Jan-13	176																								
30-Jan-13	177																								
6-Feb-13	178																								
13-Feb-13	179																								
20-Feb-13	180	0.00052	0.0119	0.000023	0.00195	4.59	0.0505	-0.01	0.0114	0.00042	0.015	4.23	-0.00004	5.2	0.000043	1.58	0.303	-3	0.000011	0.00063	-0.0005	0.000203	-0.0002	0.00203	-0.0001
27-Feb-13	181																								
6-Mar-13	182																								
13-Mar-13	183																								
20-Mar-13	184																								
27-Mar-13	185																								
3-Apr-13	186																								
10-Apr-13	187																								
17-Apr-13	188																								
24-Apr-13	189																								
1-May-13	190																								
8-May-13	191																								
15-May-13	192	0.00079	0.0154	0.000037	0.00199	4.72	0.0581	-0.01	0.0111	0.00056	0.012	4.13	-0.00004	4.73	0.000061	1.58	0.305	-3	0.000003	0.00046	-0.0005	0.000186	-0.0002	0.00157	-0.0001
22-May-13	193																								
29-May-13	194																								

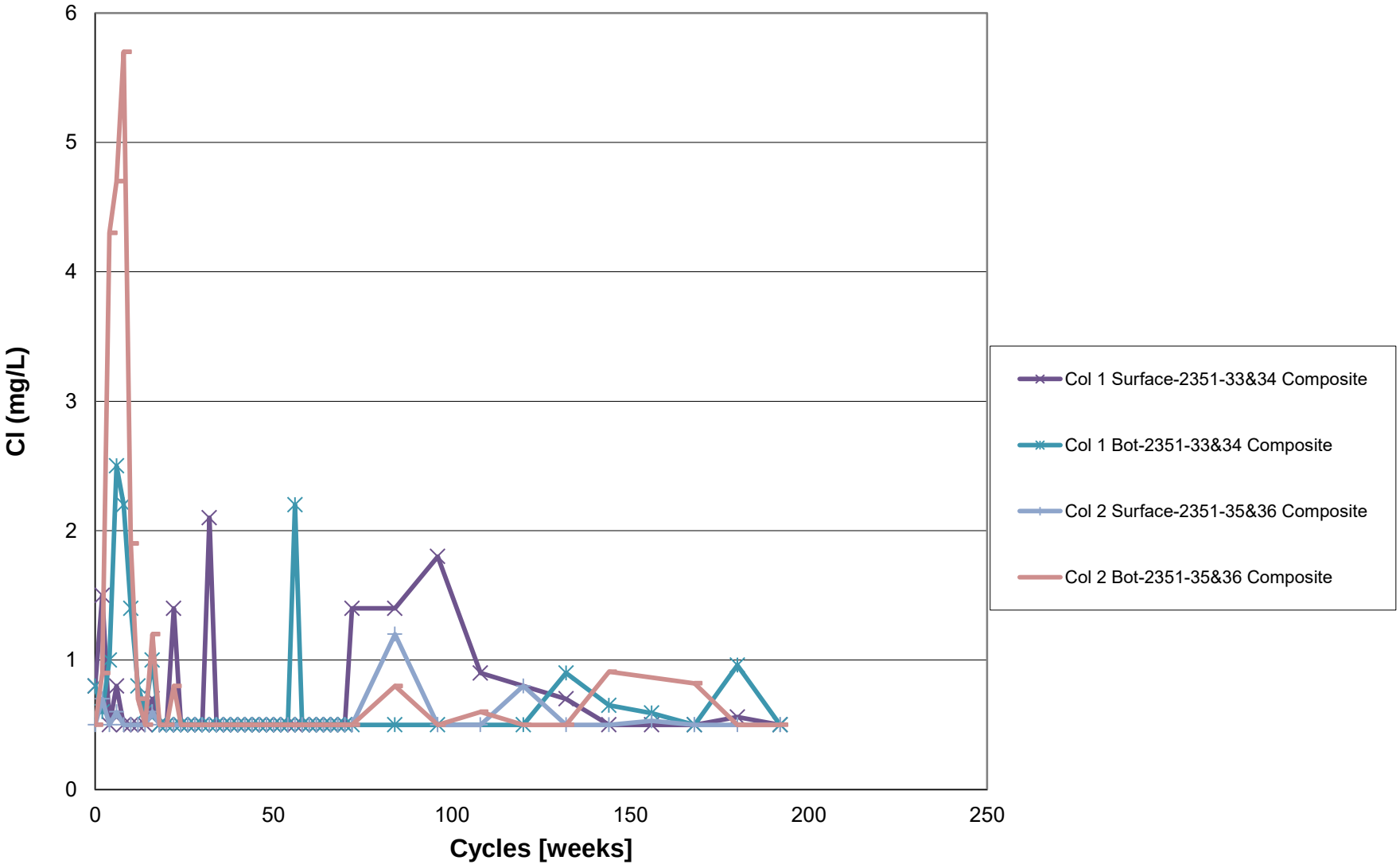
Jan 13/10 Ti 0.018. Repeat =0.00008.
May 5/10 F 0.51. Repeat = 1.64
June 2/10 As 0.00107. Repeat = 0.00106. Data confirmed.
Oct 6/10 Tl 0.000112. Repeat = sample discarded.
Nov 3/10 U 0.00268. Repeat = sample discarded.
Nov 17/10 Cl 1.4. Repeat = -0.5.
Nov 17/10 U 0.00156. Cannot repeat. Sample discarded.
Feb 4/11 Change in analytical schedule.
Mar 30/11 pH 6.71. Suspect probe malfunction.
April 6/11 pH 6.70. Suspect probe malfunction.
April 20/11 Ag 0.000065, Mn 0.043 and Pb 0.000392 . Repeat Pb= 0.000439, Mn= 0.051, data confirmed suspect contamination. Cannot repeat Ag, suspect contamination or analytical error
Jan 12/11 U 0.000644 and Zr 0.0013. Cannot repeat.
Oct 5/11 Pb=0.000295, repeat=0.000281. data confirmed, suspect contamination
Oct 5/11 Tl=0.000053, repeat=0.000056. Data confirmed suspect contamination
Oct 5/11 Sb=0.00013, repeat=0.00011. Data confirmed, suspect contamination
Mar 21/12 Pb=0.00201, repeat=0.00203. Data confirmed, suspect contamination
Mar 21/12 Ni=0.00135. Cannot repeat, suspect contamination or analytical error
Sept 5/12 Cl=1.7, Ag=0.000051. repeat Cl=1.3, Ag=0.000057. Data confirmed suspect contamination
Jun 13/12 Cr=0.00487, repeat=0.00525. Data confirmed, suspect contamination or analytical error
Nov 28/12 Sb=0.000498, Cd=0.000348, Zn=0.00458, Cannot repeat not enough sample. Suspect contamination or analytical error

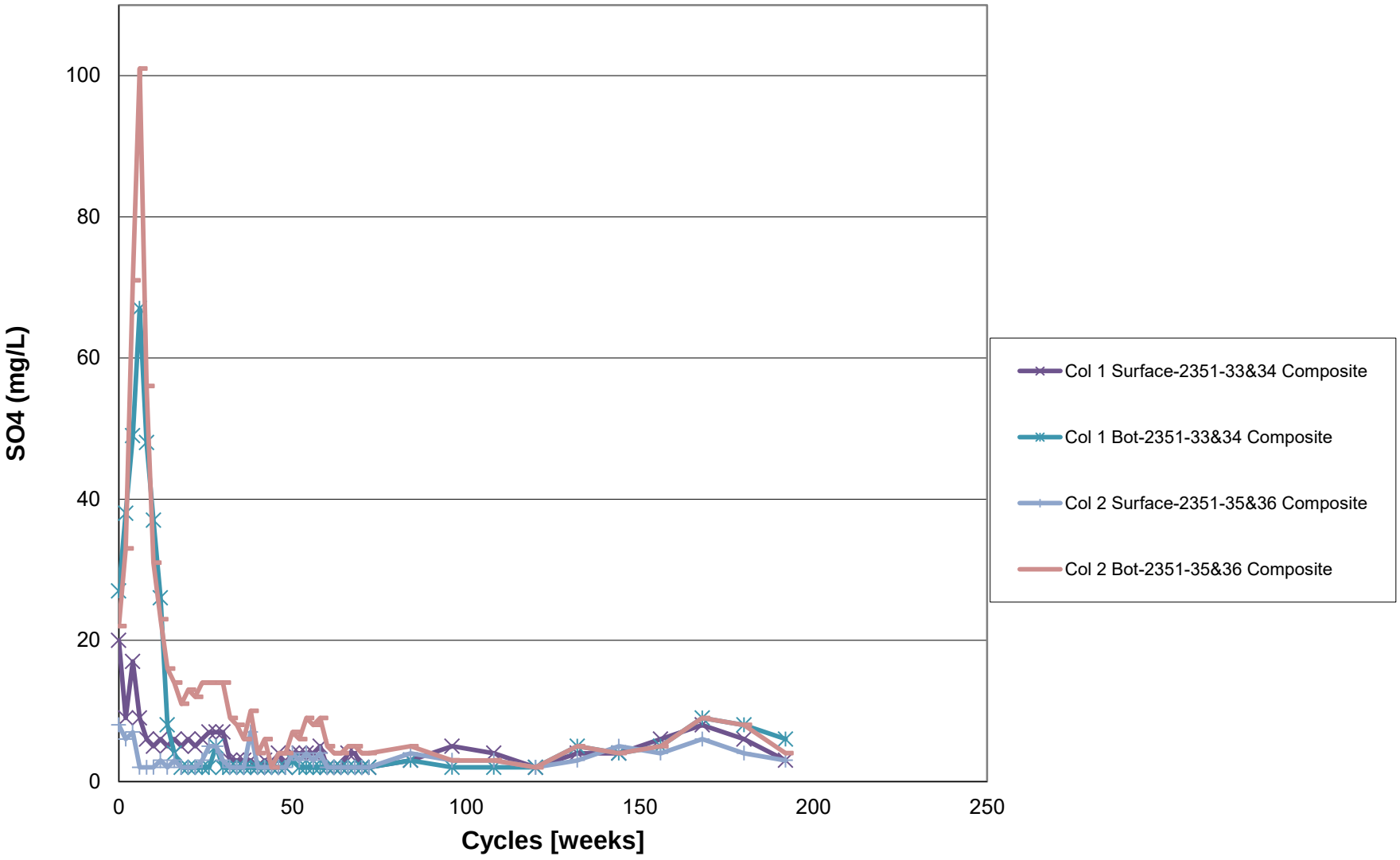
Appendix G4
Phase V/VI Tailings Saturated Column Test Results: Charts

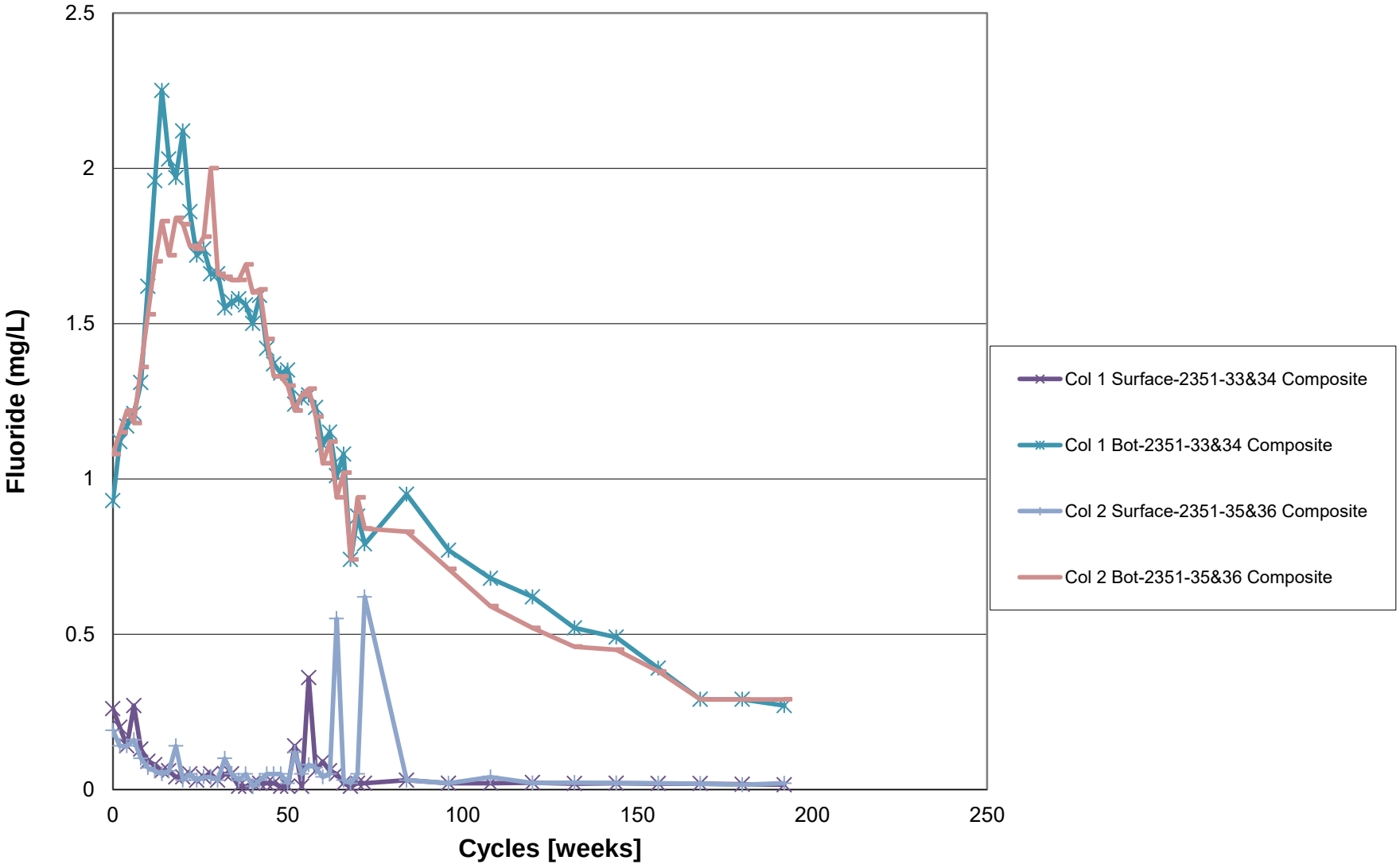

8.5
8
7.5
7
6.5
6
5.5
5
pH
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

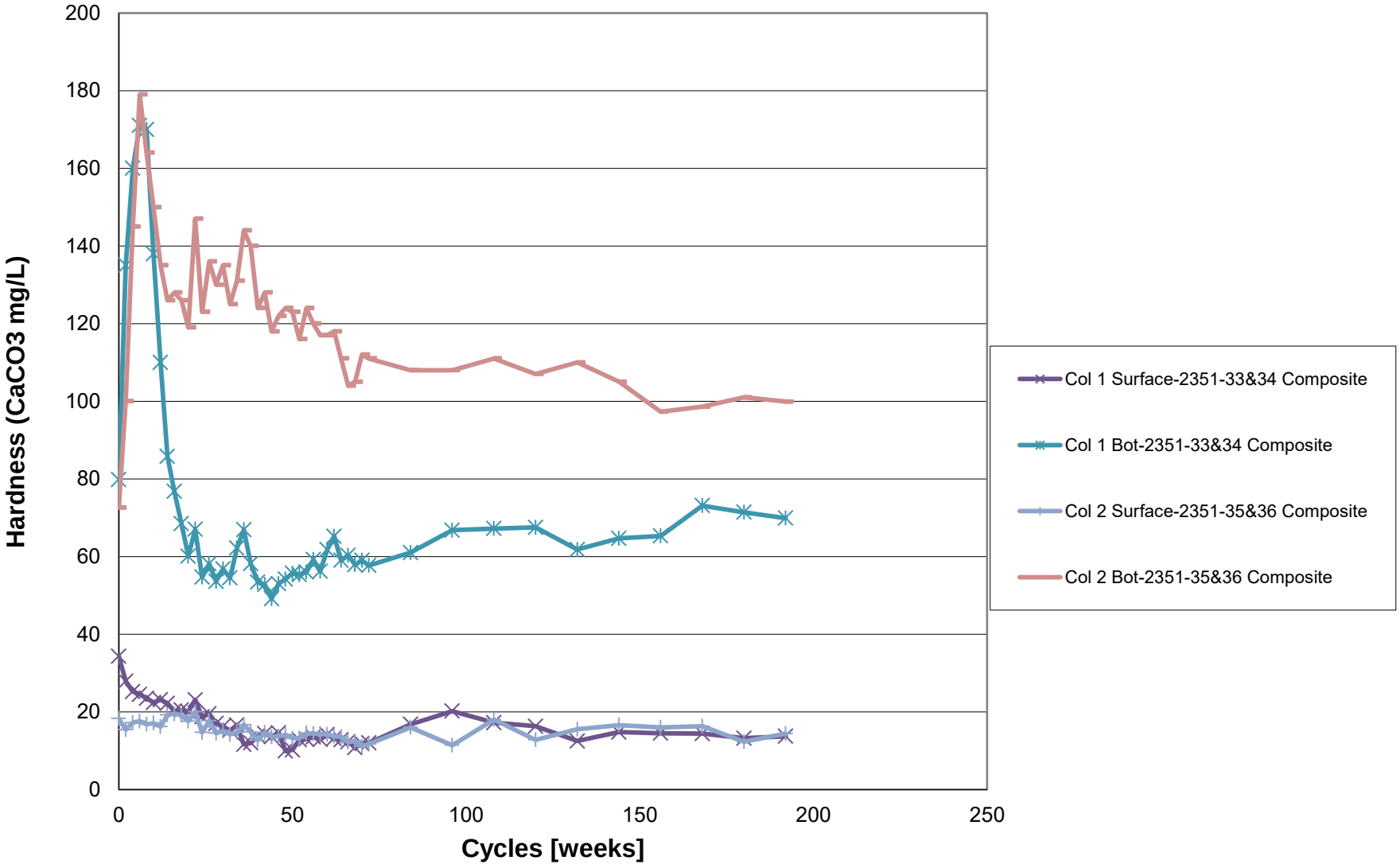

600
500
400
300
200
100
0
Conductivity (umhos/cm)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

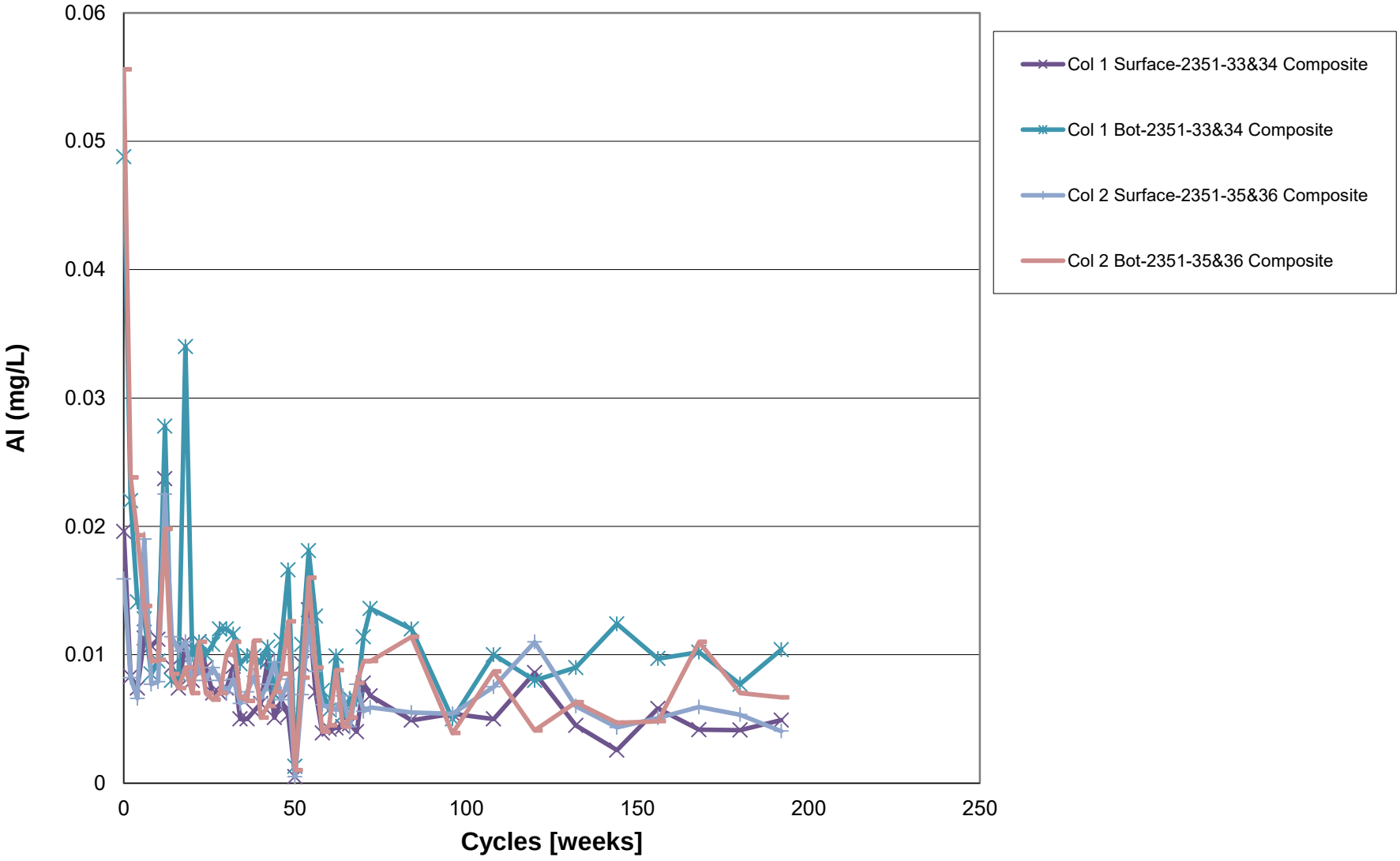

250
200
150
100
50
0
Alkalinity (mg CaCO3/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

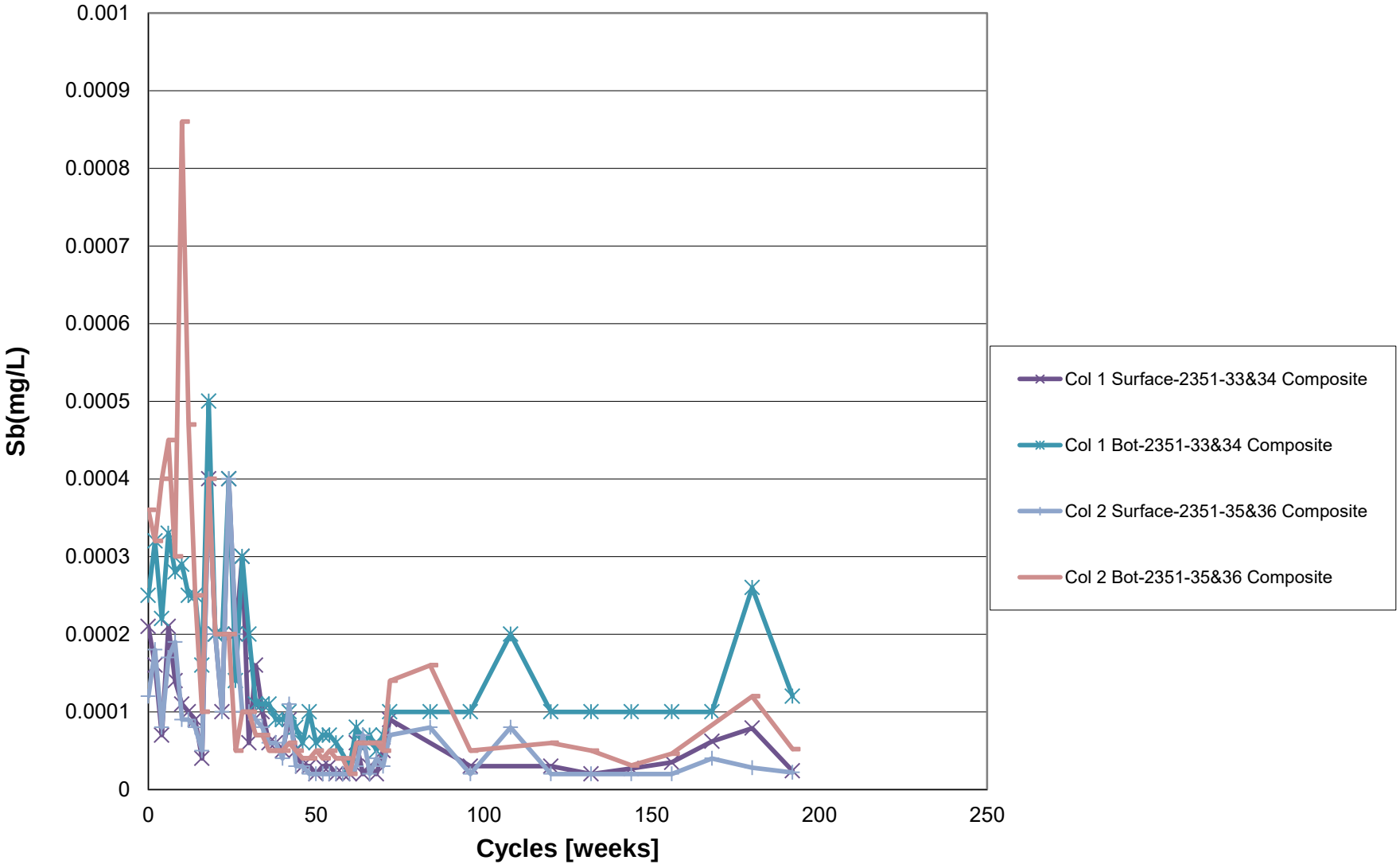

6
5
4
3
2
1
0
Cl (mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

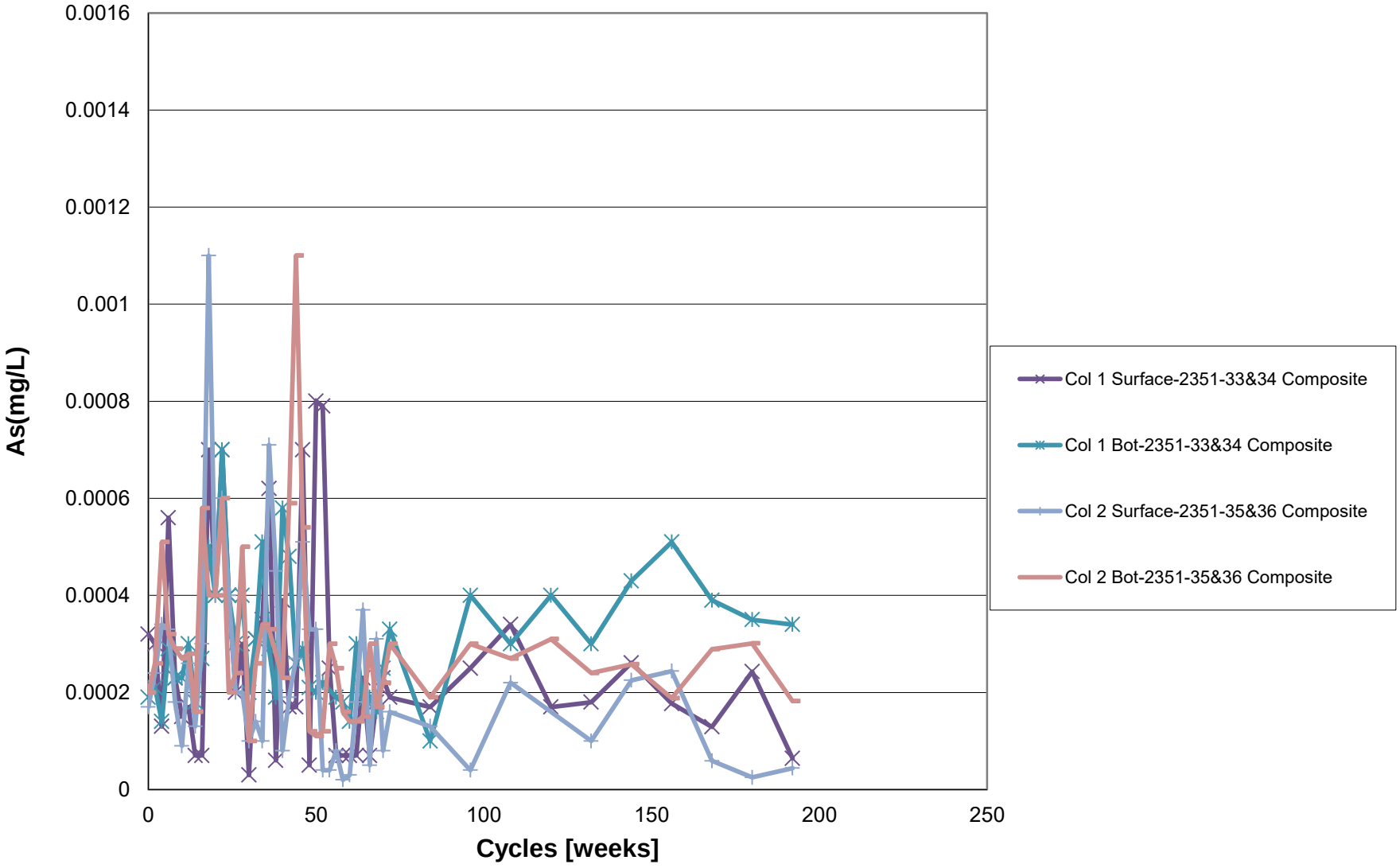

SO4 (mg/L)
100
80
60
40
20
0
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

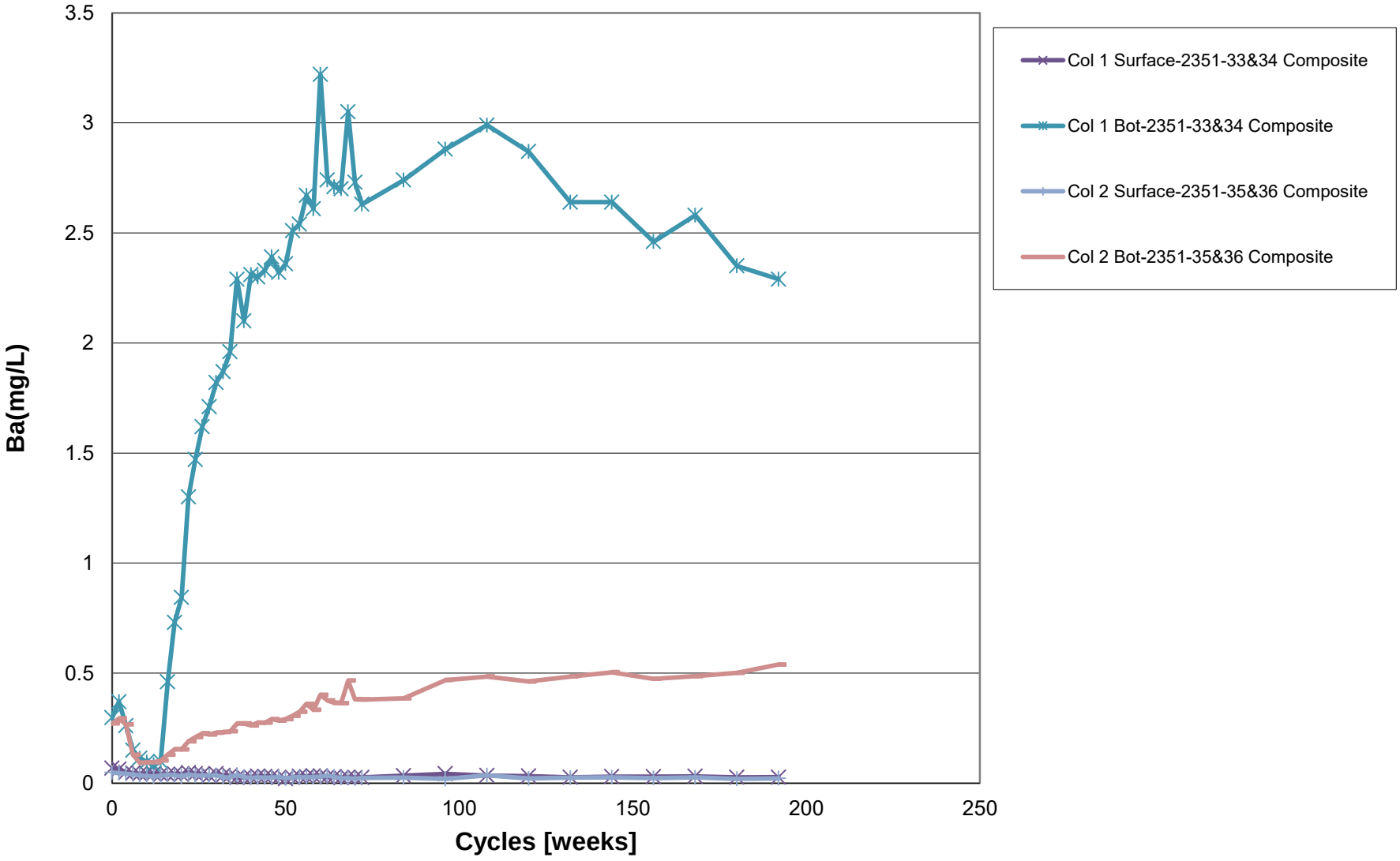

2.5
2
1.5
1
0.5
0
Fluoride (mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

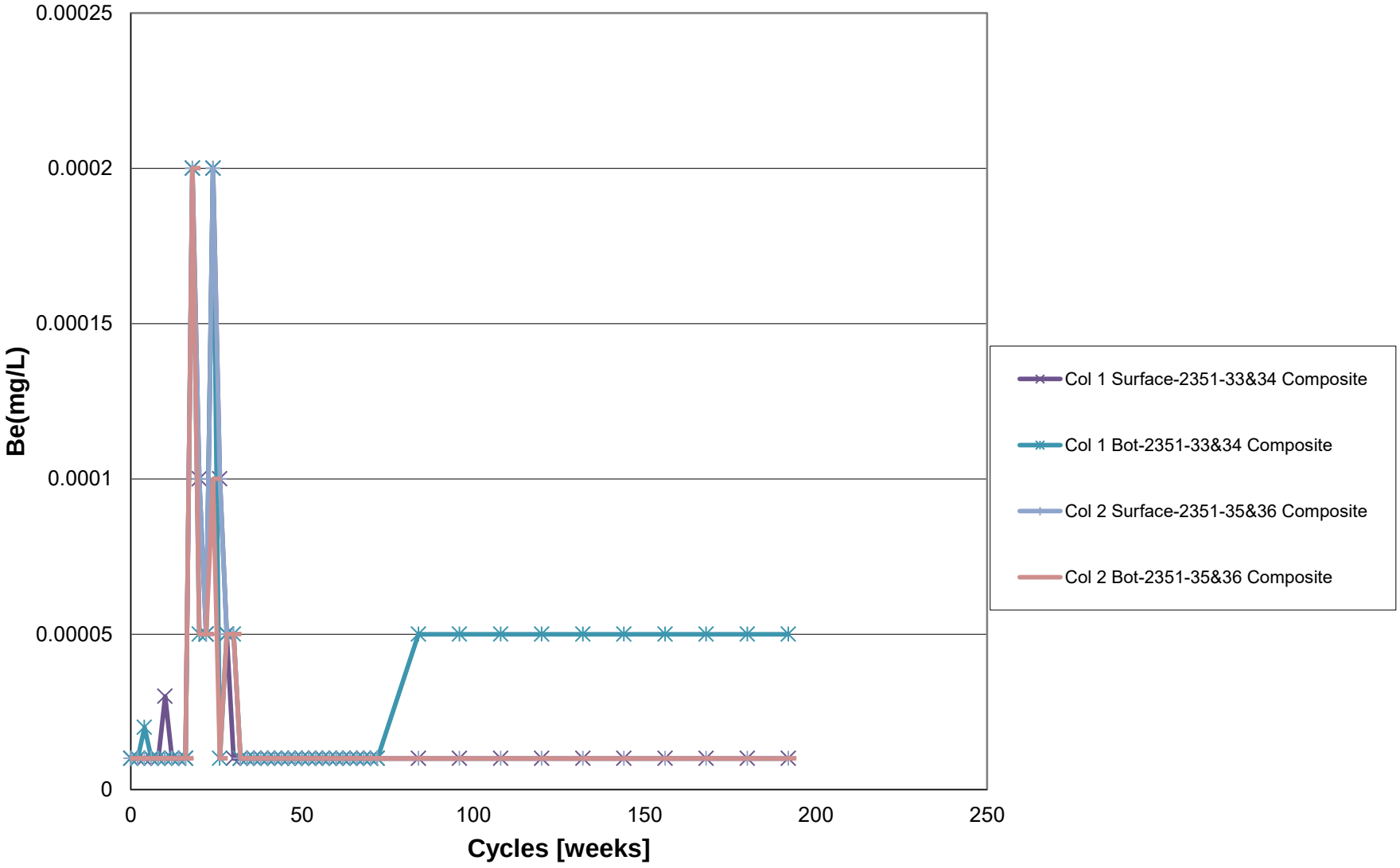

200
180
160
140
120
100
80
60
40
20
0
Hardness (CaCO3 mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

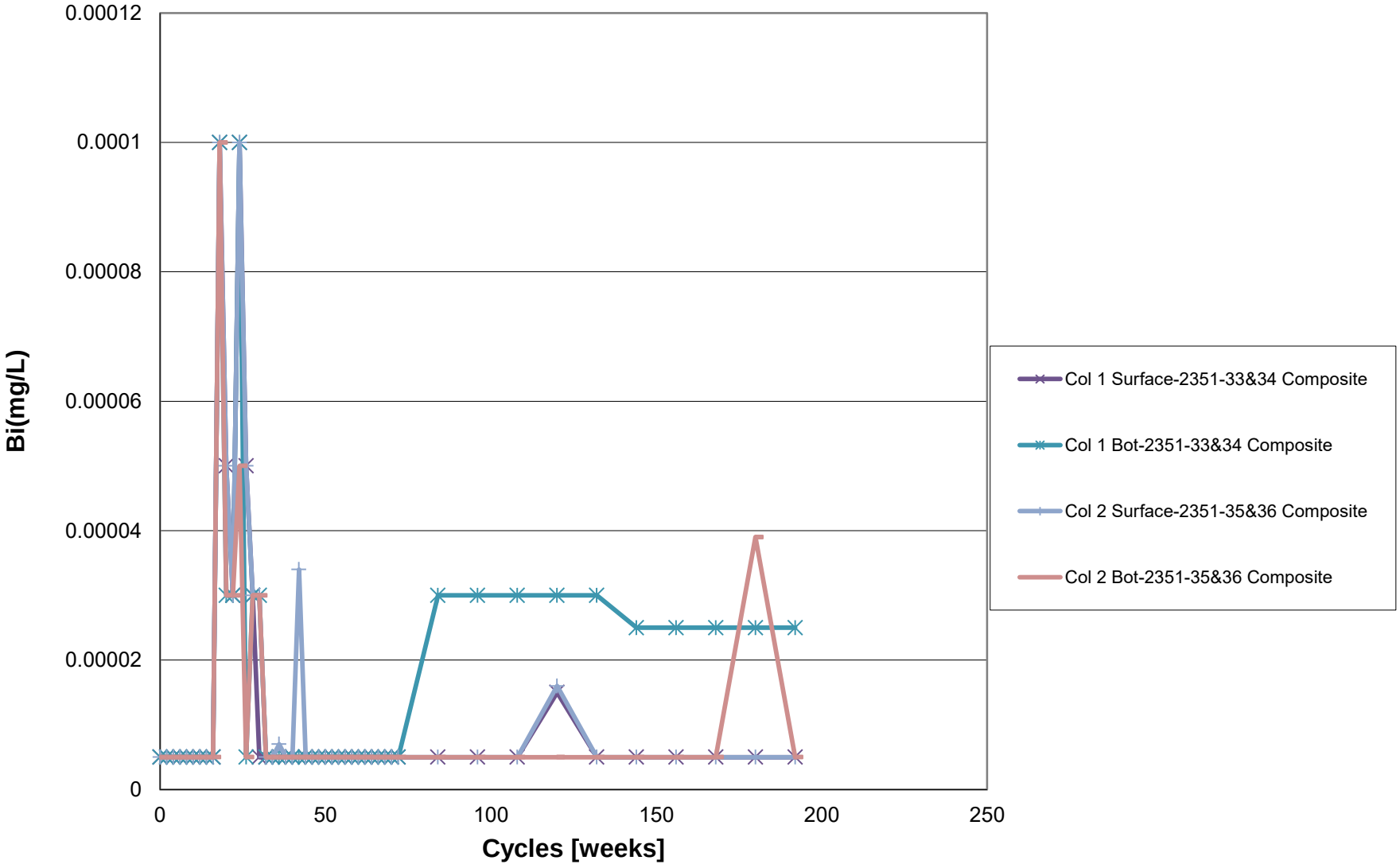

0.06
0.05
0.04
0.03
0.02
0.01
0
Al (mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

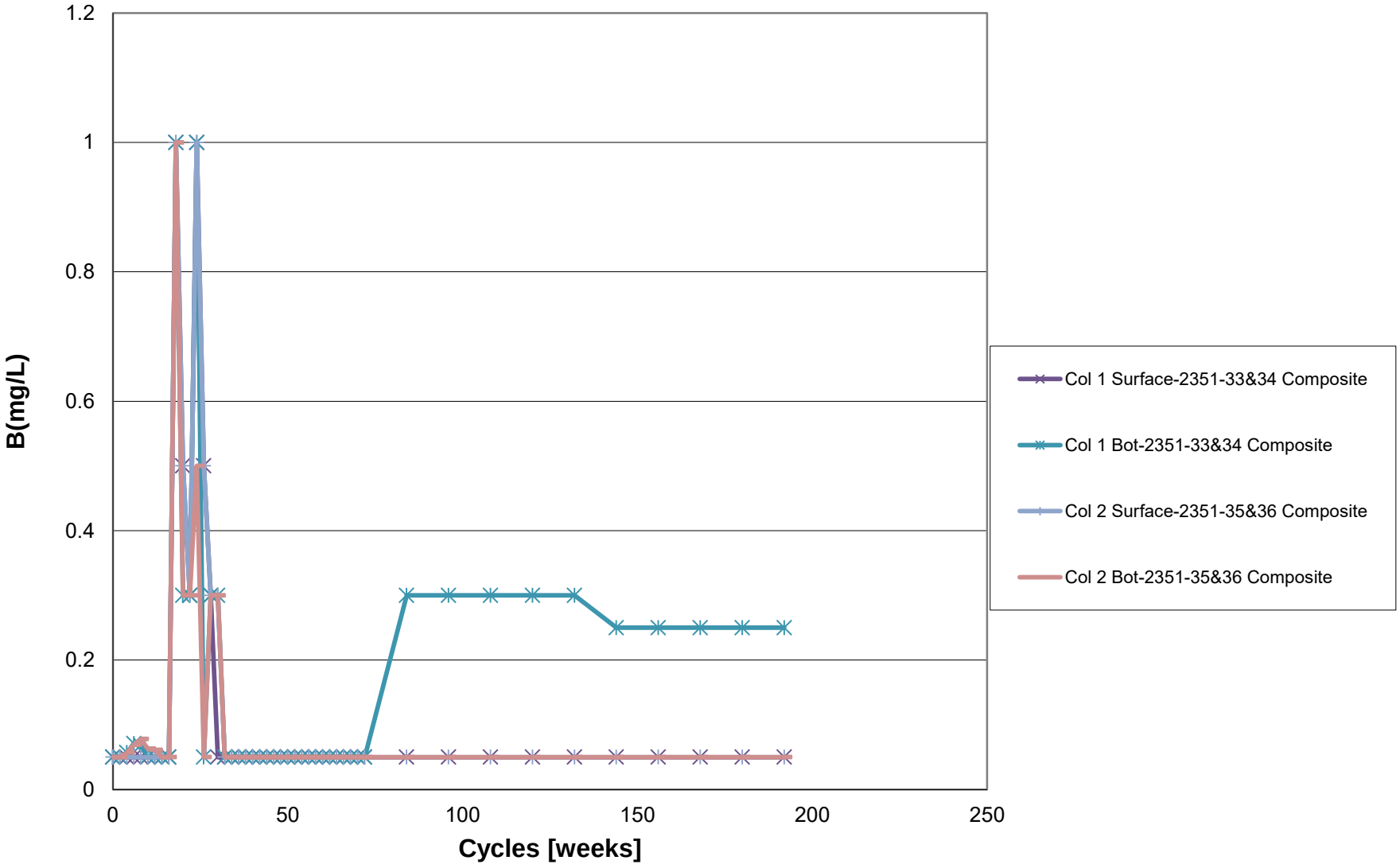

0.001
0.0009
0.0008
0.0007
0.0006
0.0005
0.0004
0.0003
0.0002
0.0001
0
Sb(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

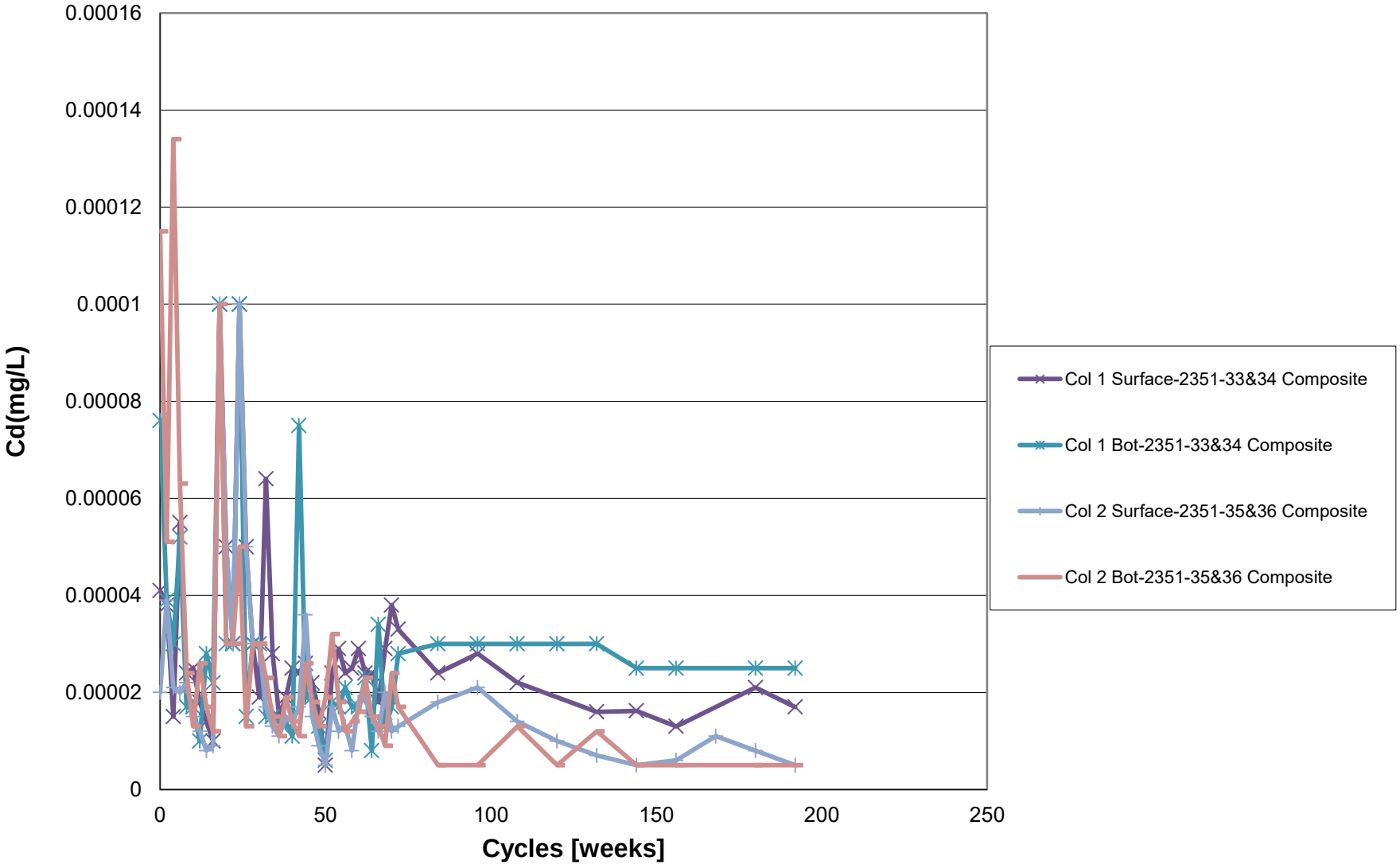

0.0016
0.0014
0.0012
0.001
0.0008
0.0006
0.0004
0.0002
0
As(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

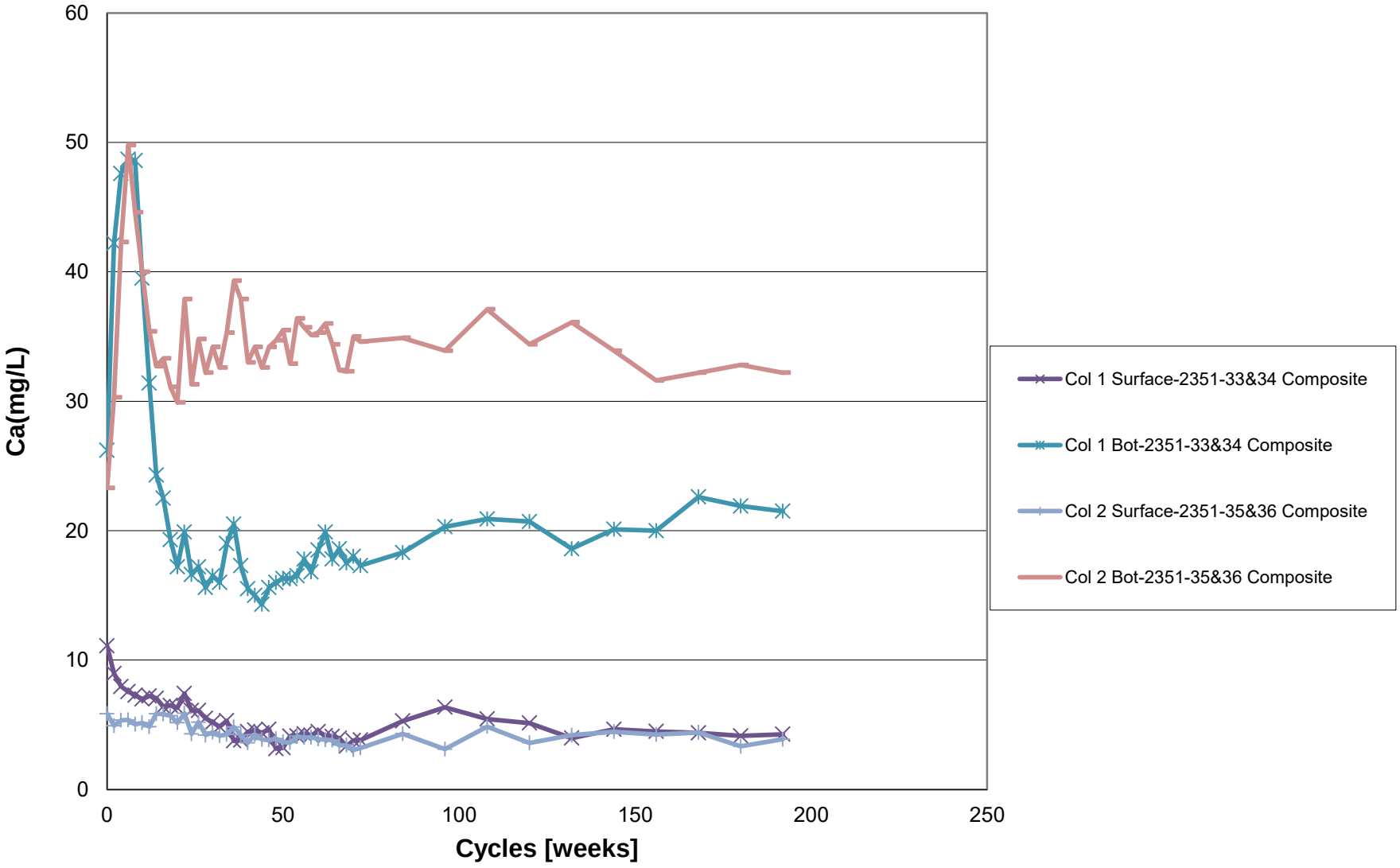

3.5
3
2.5
2
1.5
1
0.5
0
Ba(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

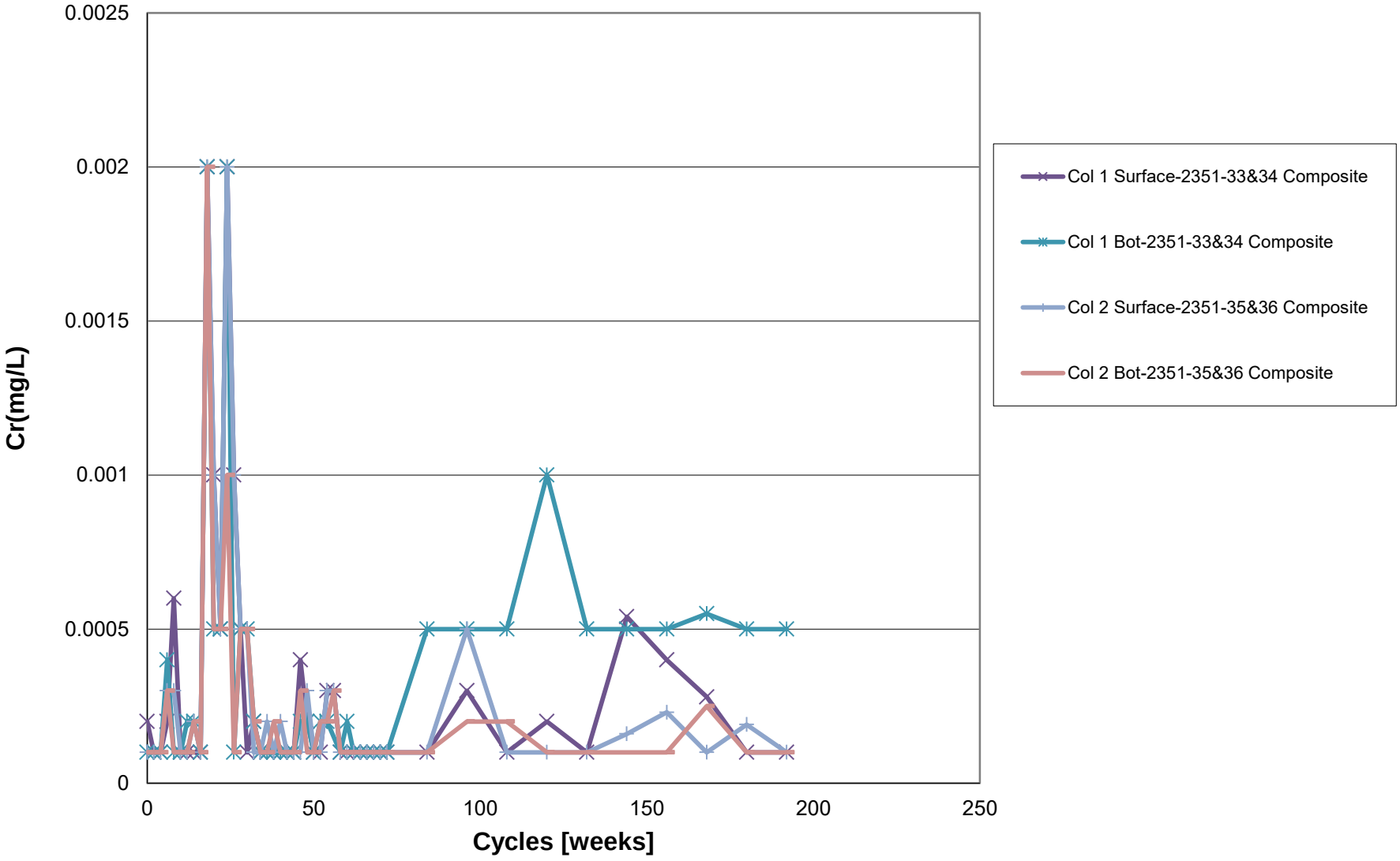

0.00025
0.0002
0.00015
0.0001
0.00005
0
Be(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

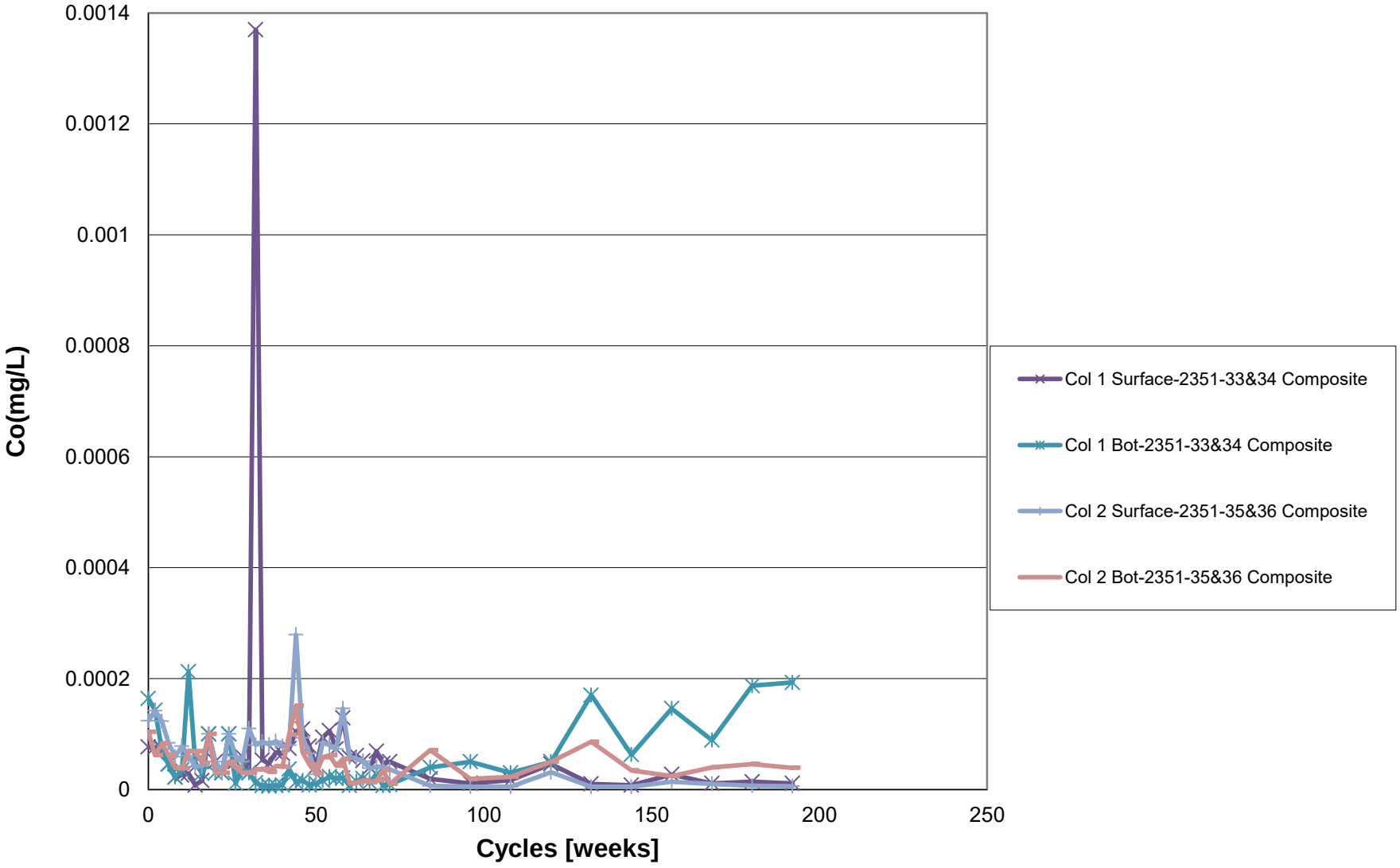

0.00012
0.0001
0.00008
0.00006
0.00004
0.00002
0
Bi(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

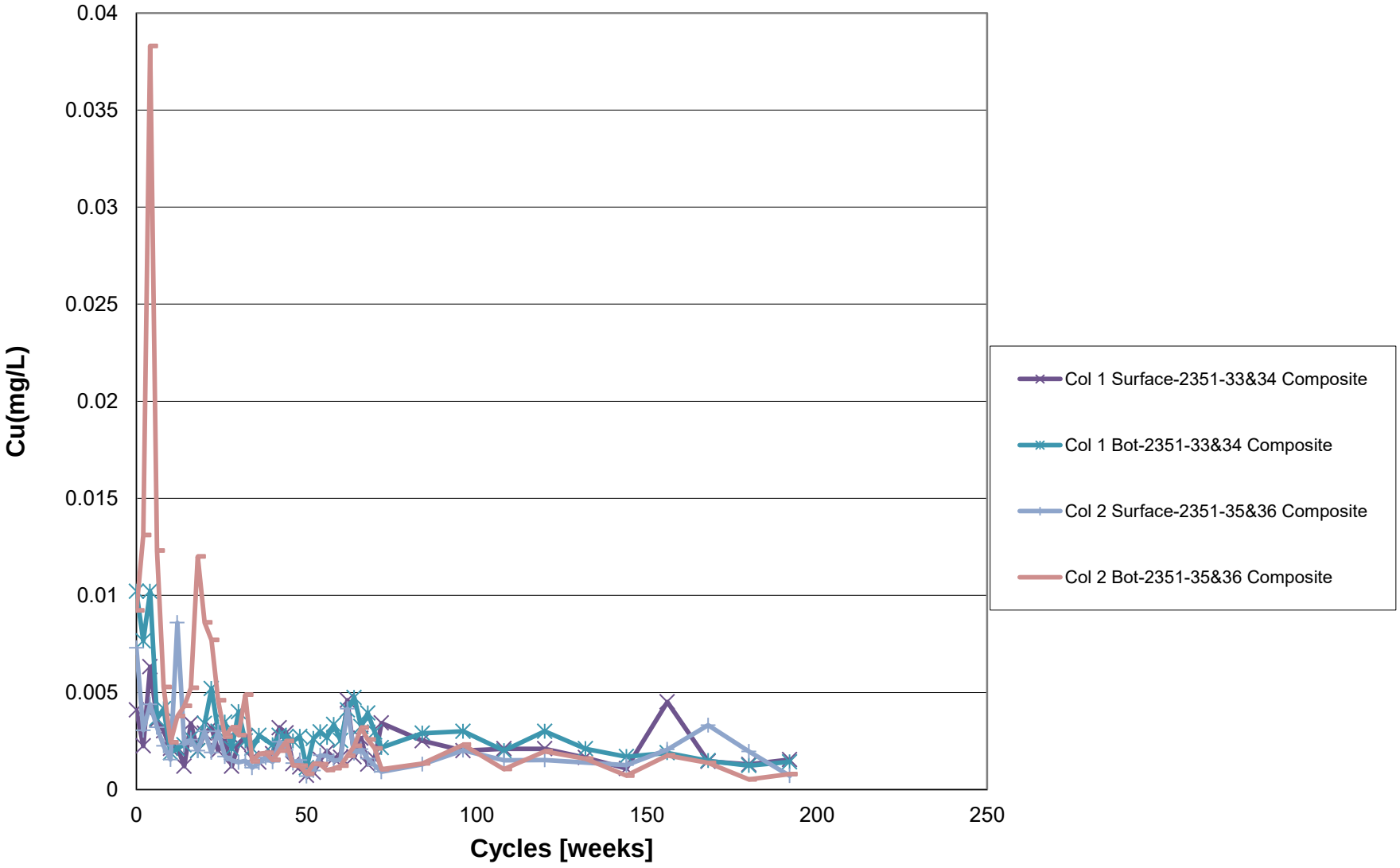

1.2
1
0.8
0.6
0.4
0.2
0
B(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

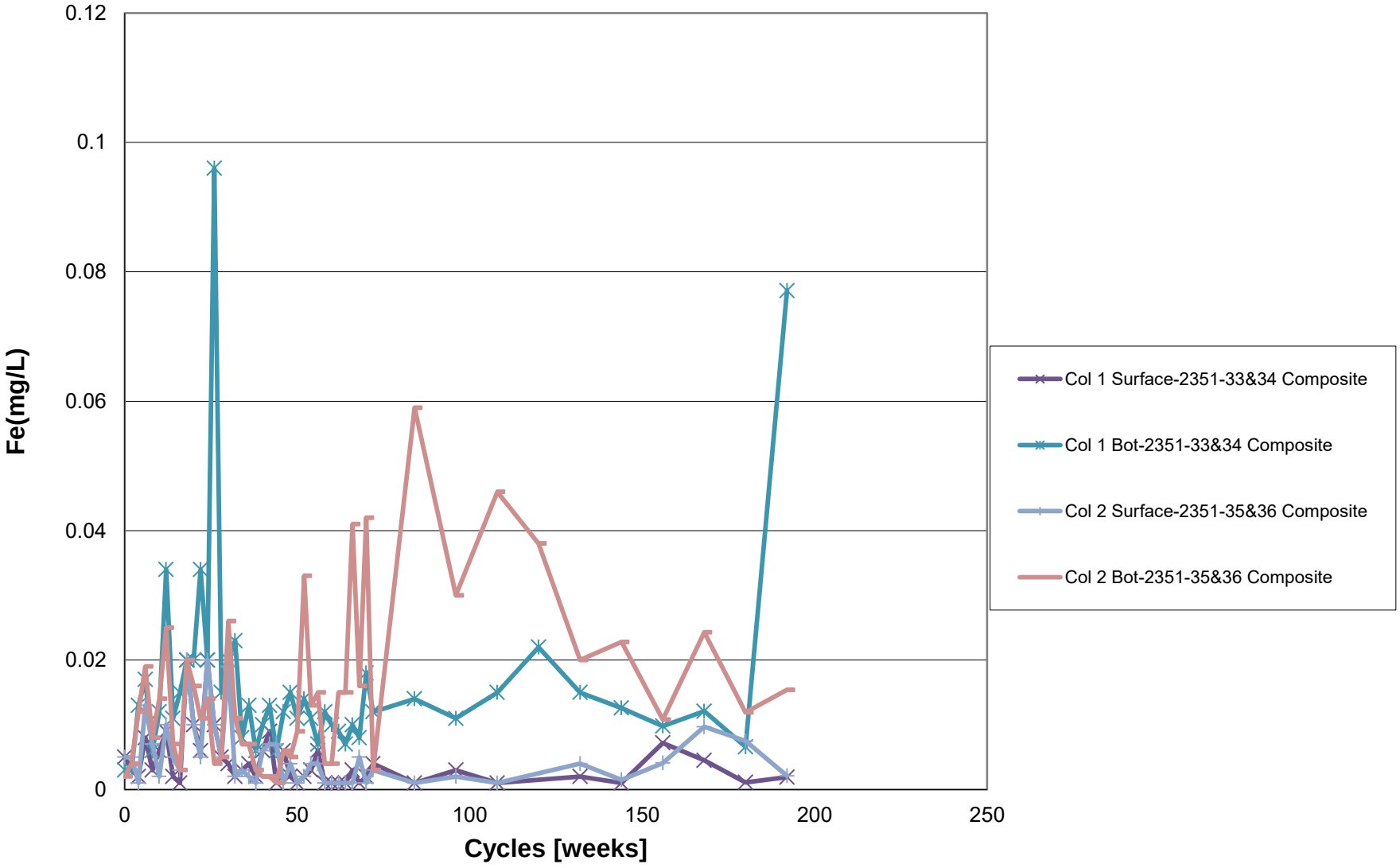

0.00016
0.00014
0.00012
0.0001
0.00008
0.00006
0.00004
0.00002
0
Cd(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

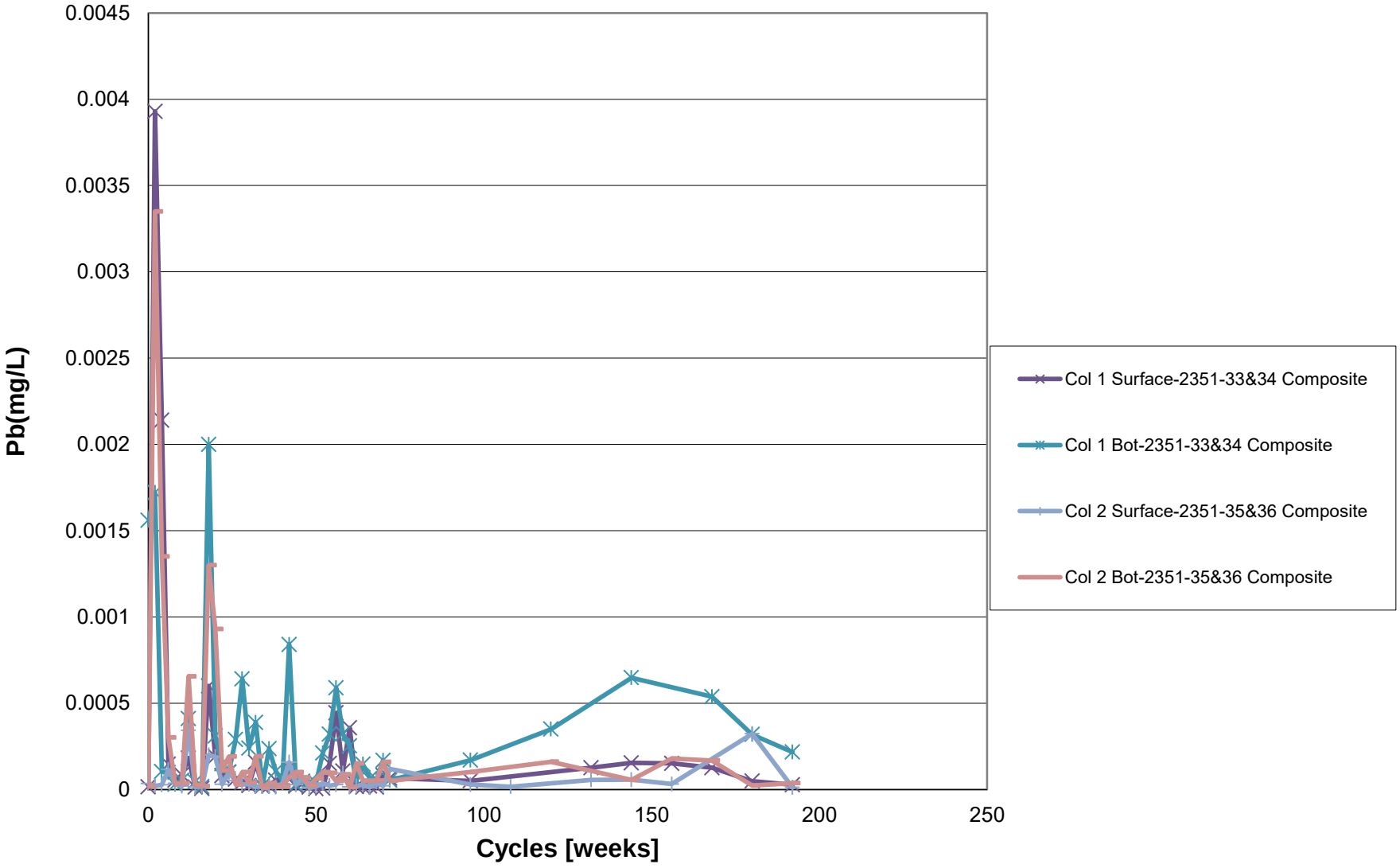

60
50
40
30
20
10
0
Ca(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

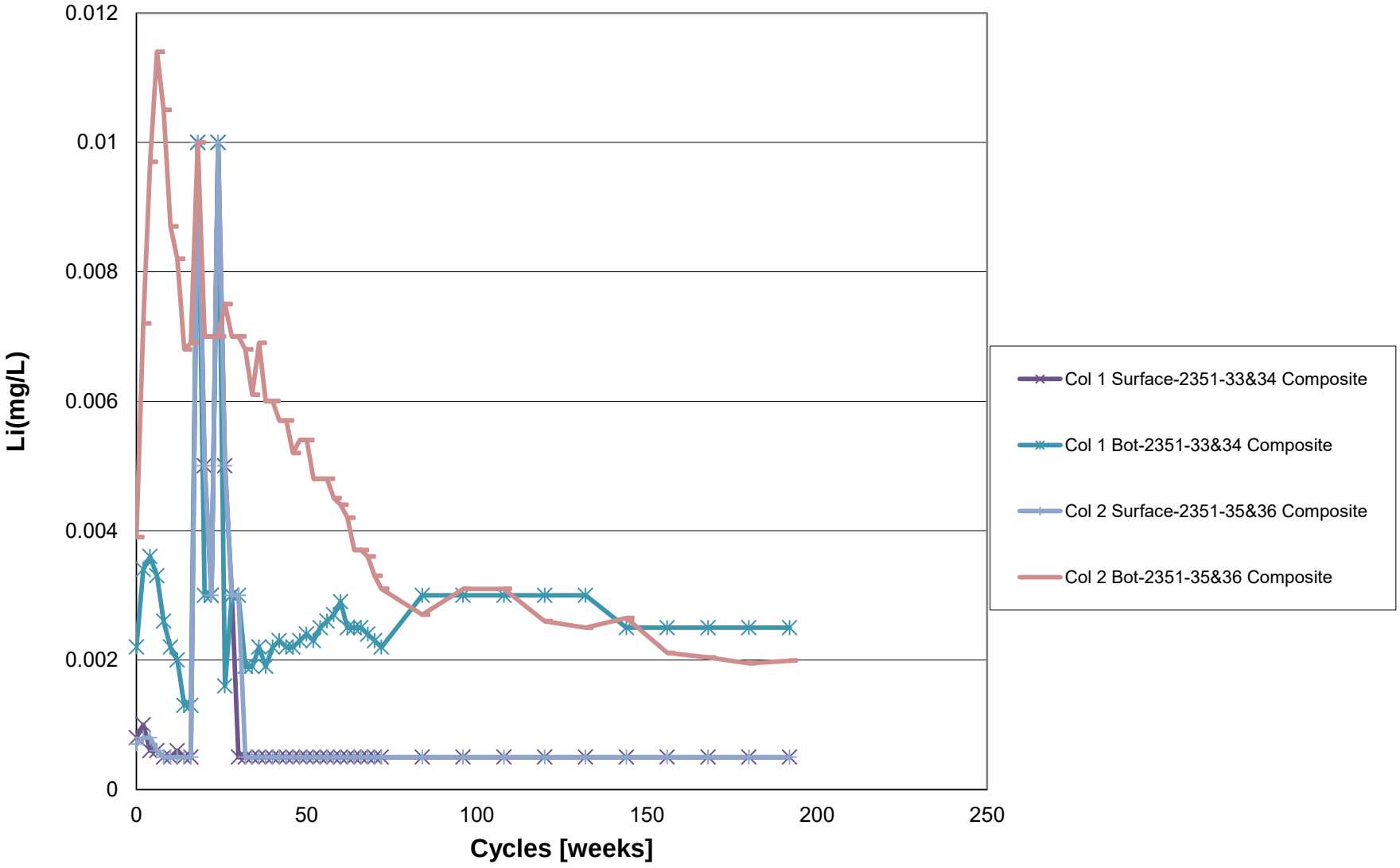

0.0025
0.002
0.0015
0.001
0.0005
0
Cr(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

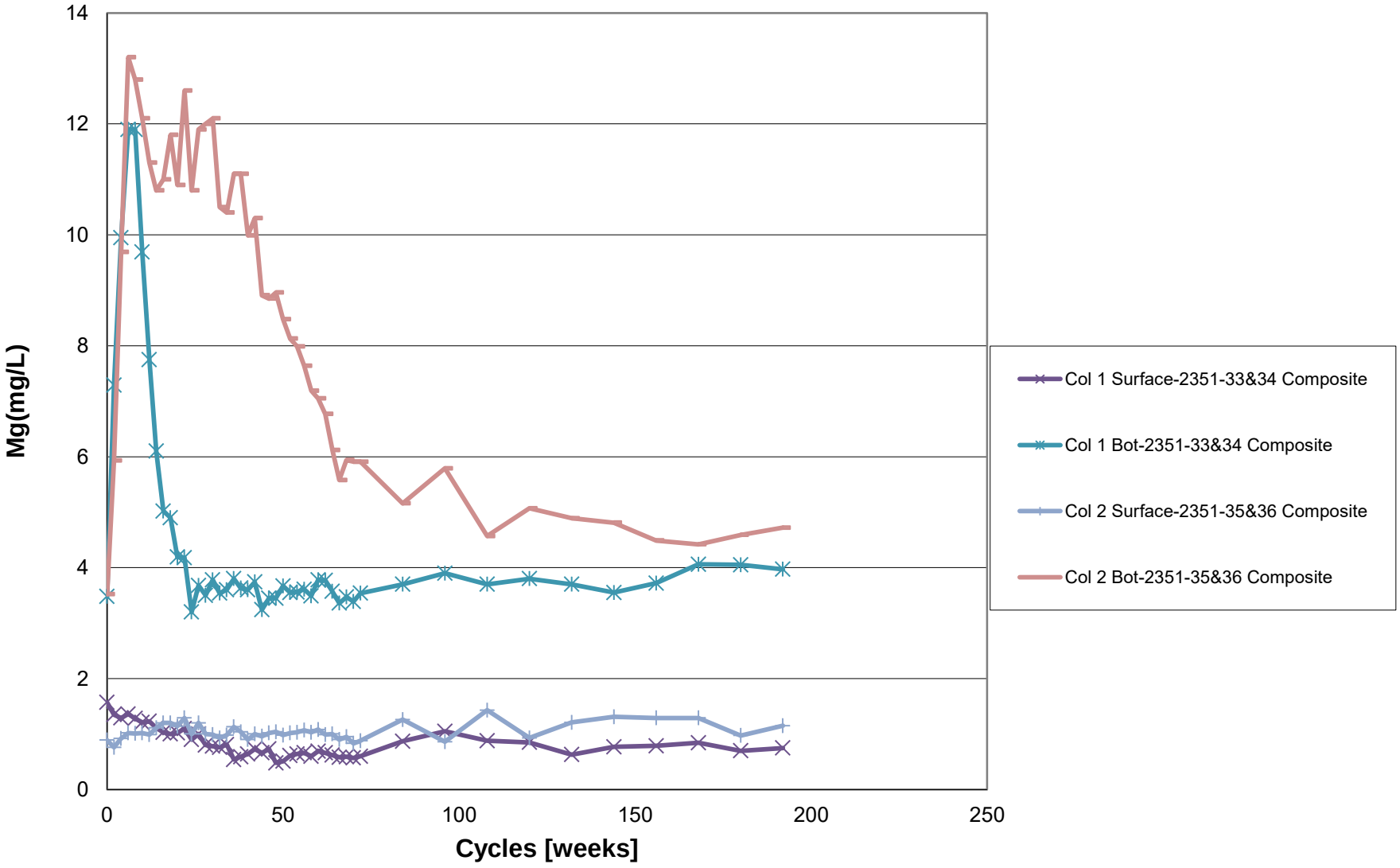

0.0014
0.0012
0.001
0.0008
0.0006
0.0004
0.0002
0
Co(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

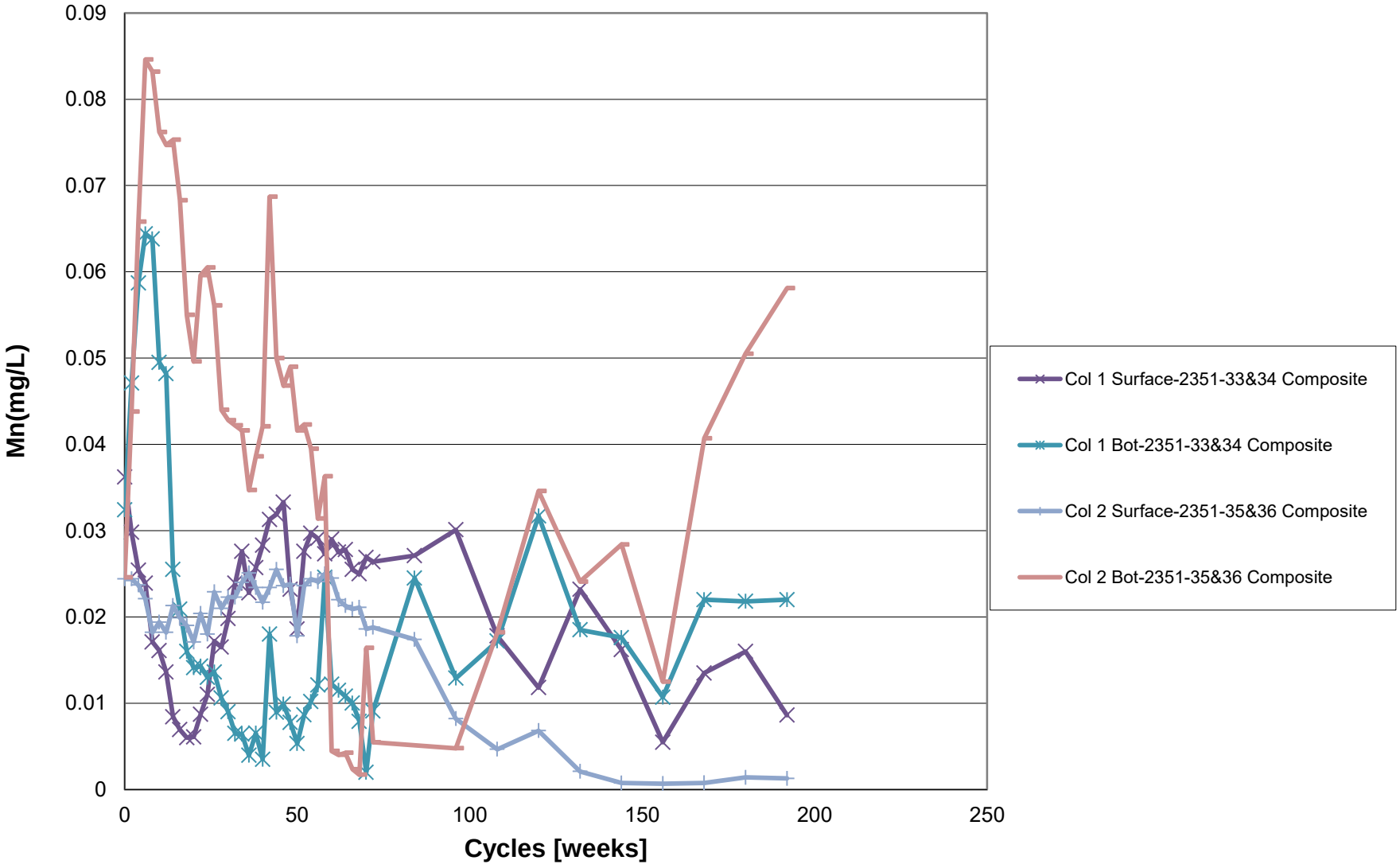

0.04
0.035
0.03
0.025
0.02
0.015
0.01
0.005
0
Cu(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

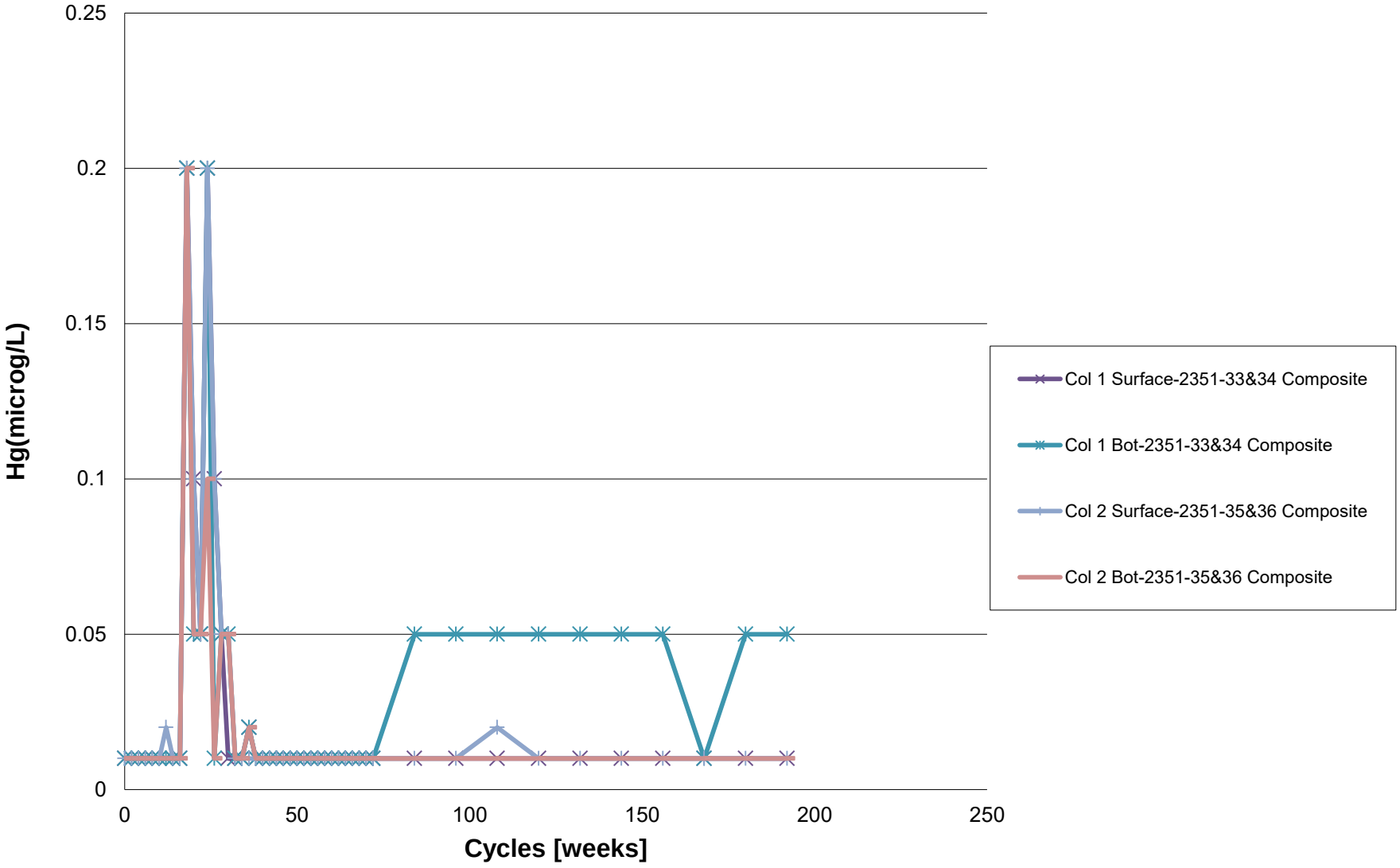

0.12
0.1
0.08
0.06
0.04
0.02
0
Fe(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

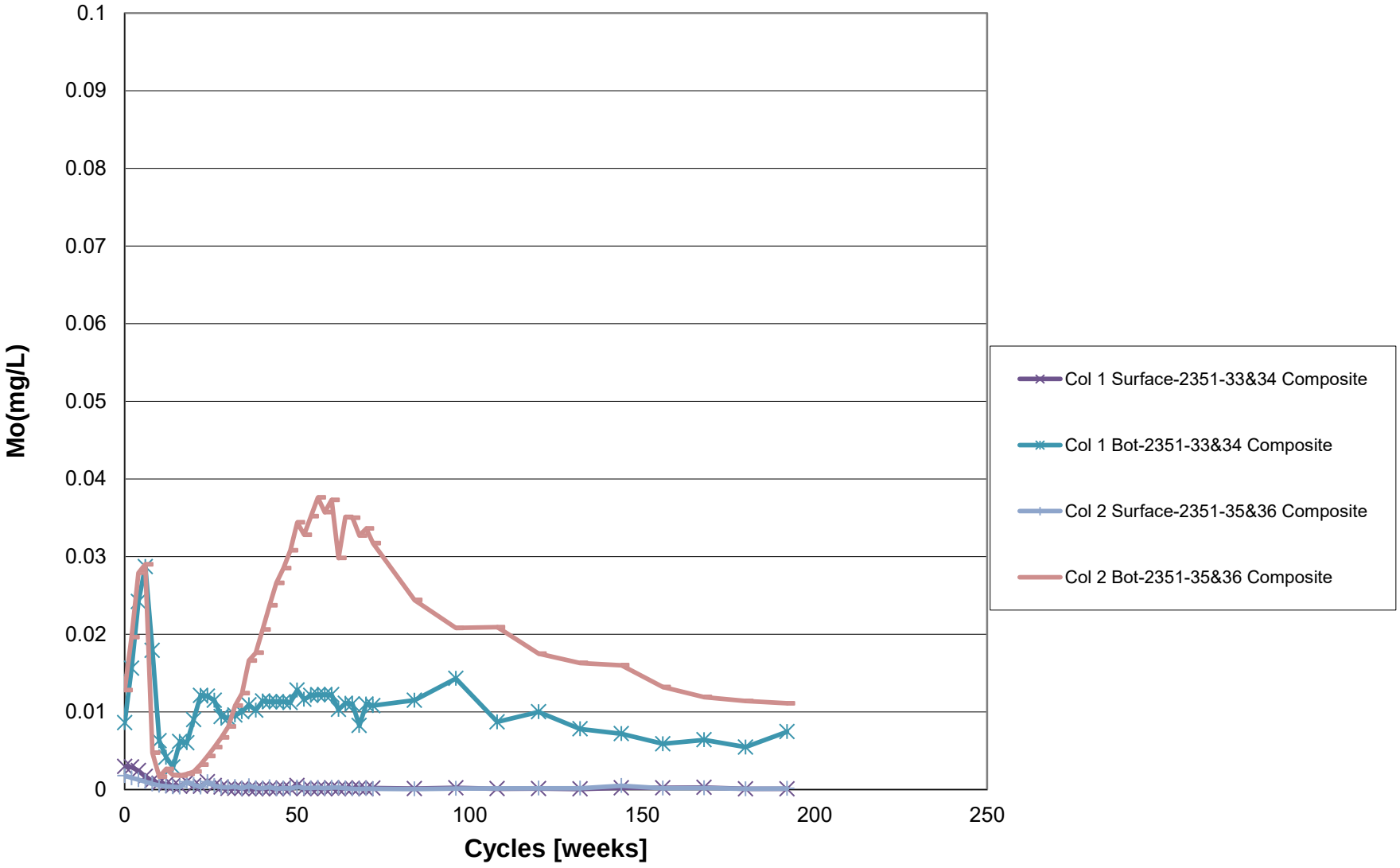

0.0045
0.004
0.0035
0.003
0.0025
0.002
0.0015
0.001
0.0005
0
Pb(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

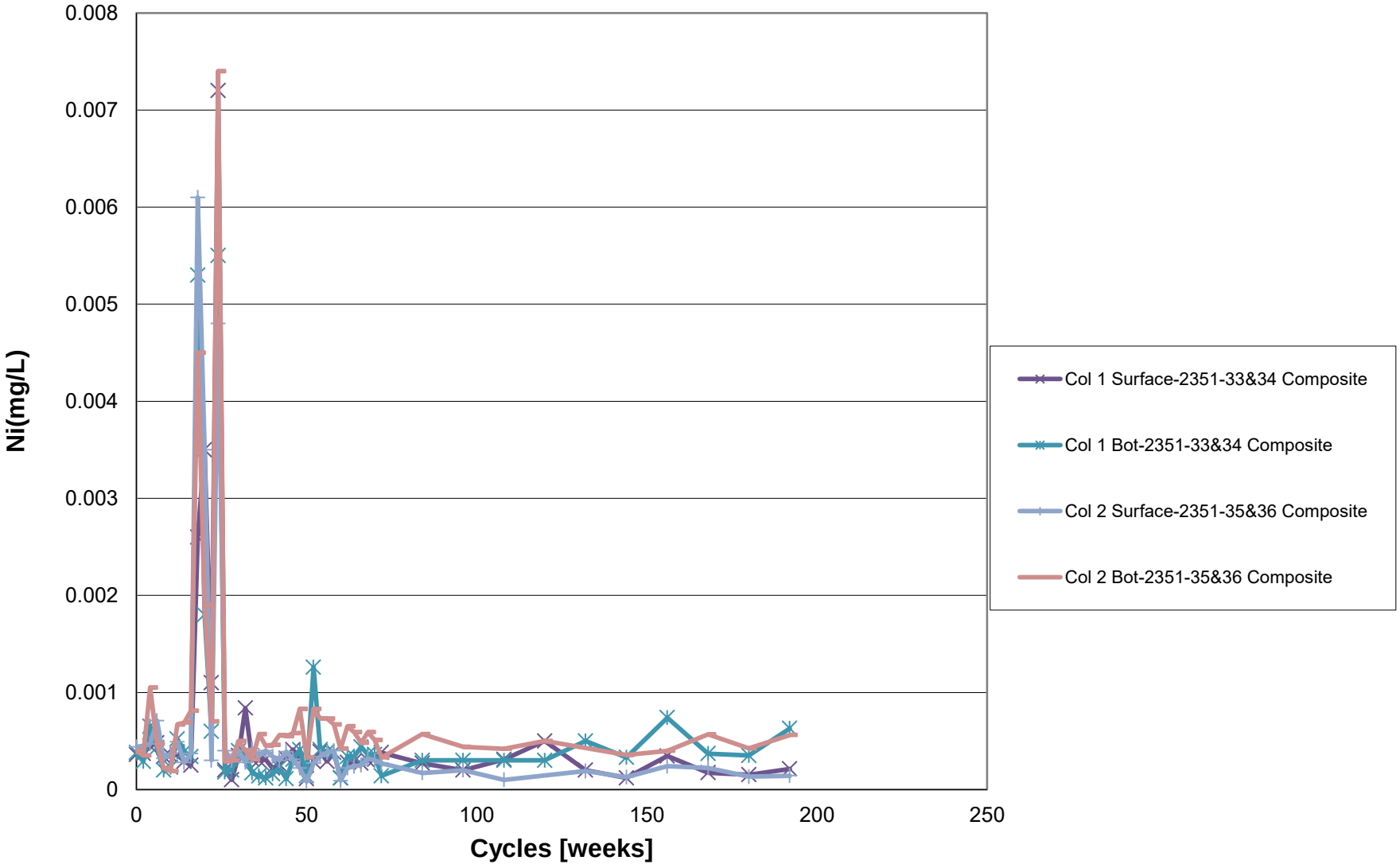

0.012
0.01
0.008
0.006
0.004
0.002
0
Li(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

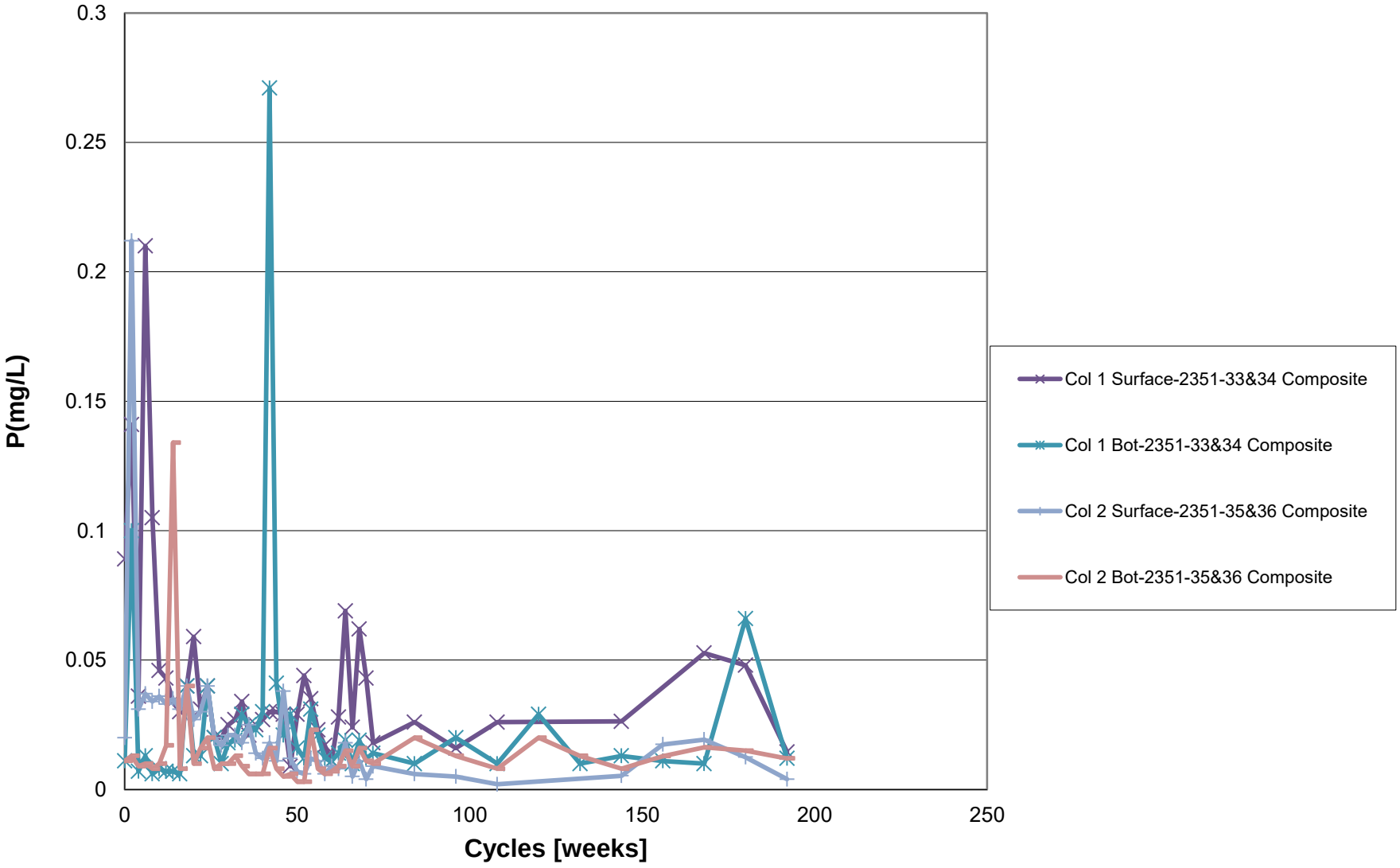

14
12
10
8
6
4
2
0
Mg(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

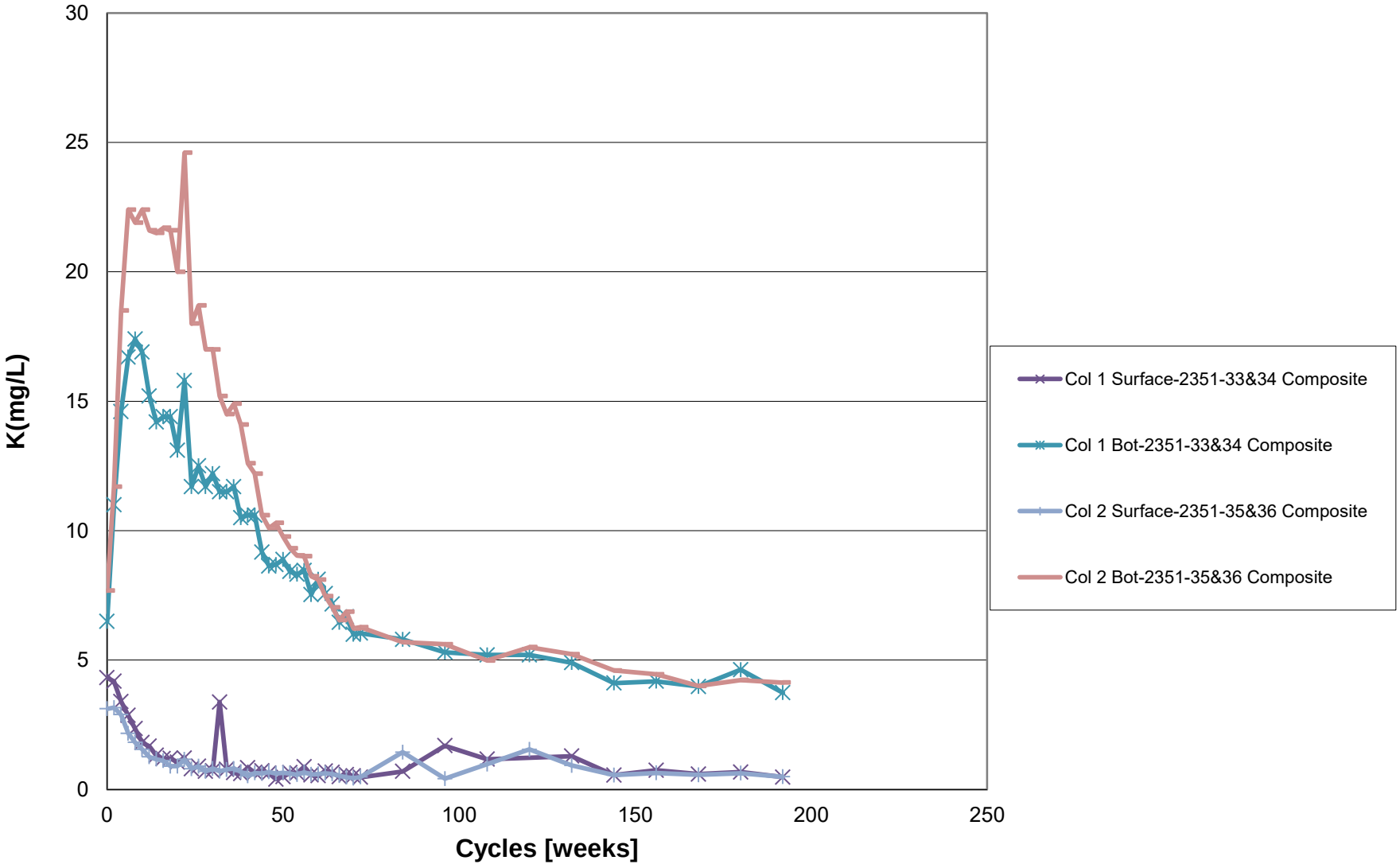

0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
Mn(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

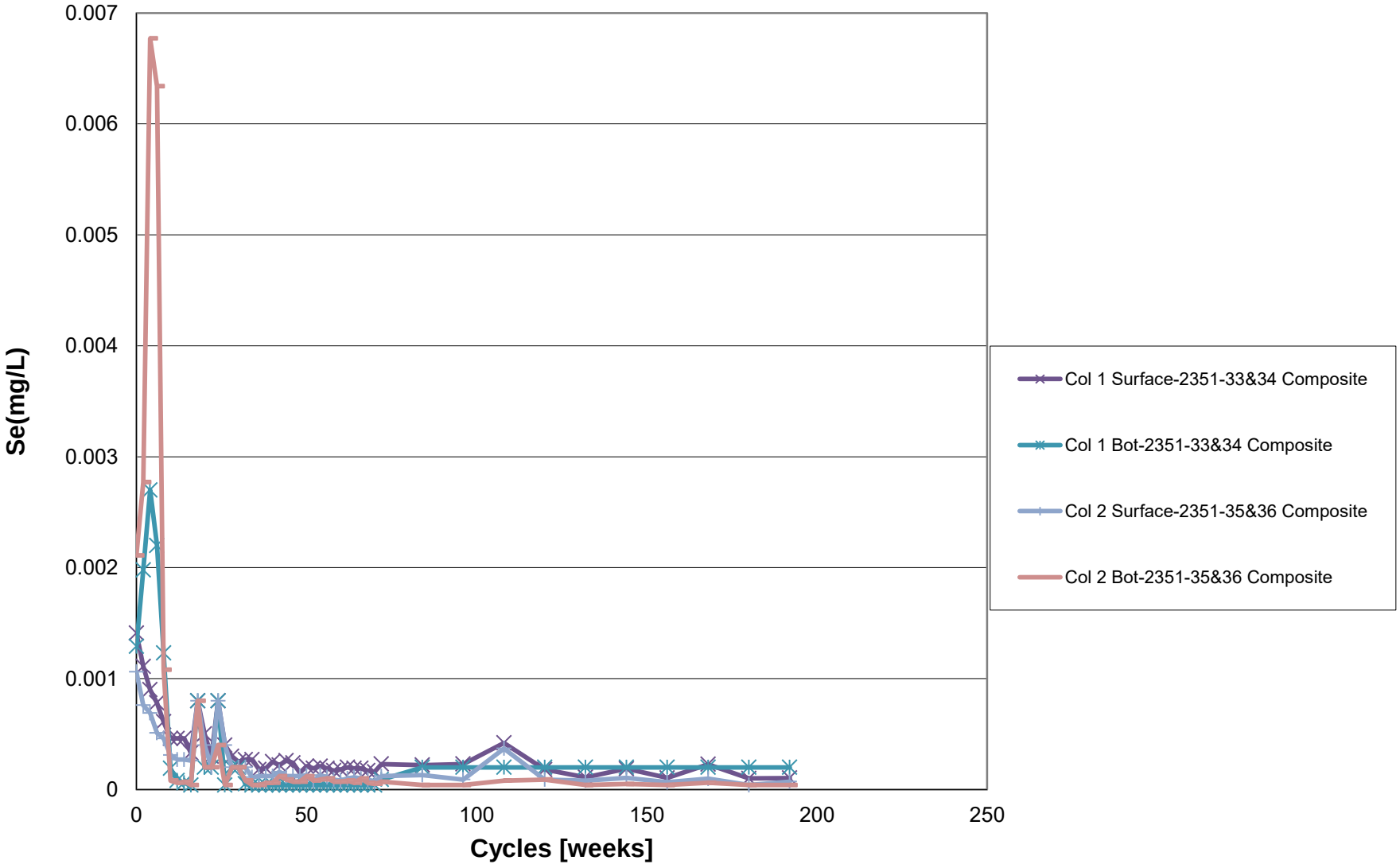

0.25
0.2
0.15
0.1
0.05
0
Hg(microg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

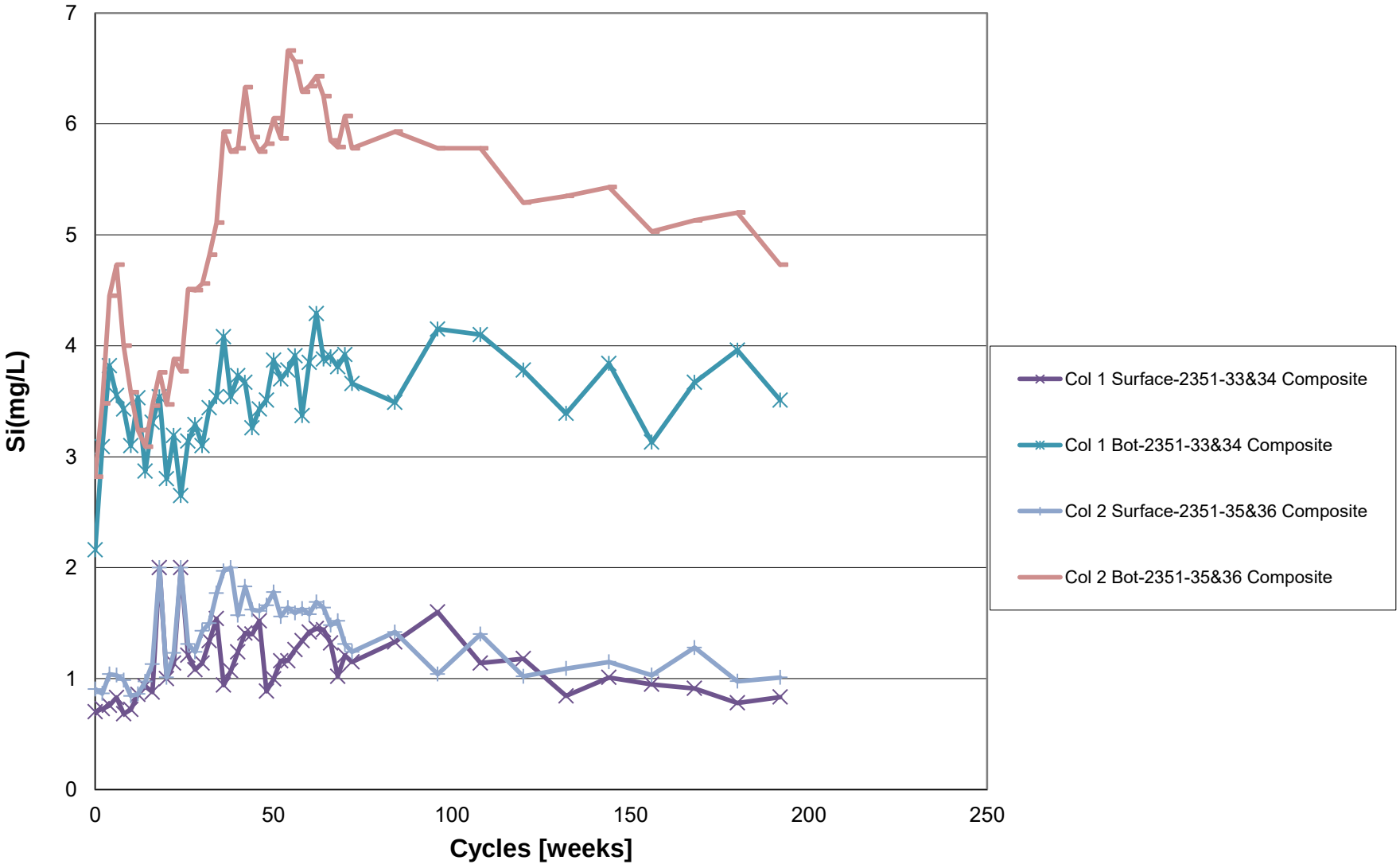

0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
Mo(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

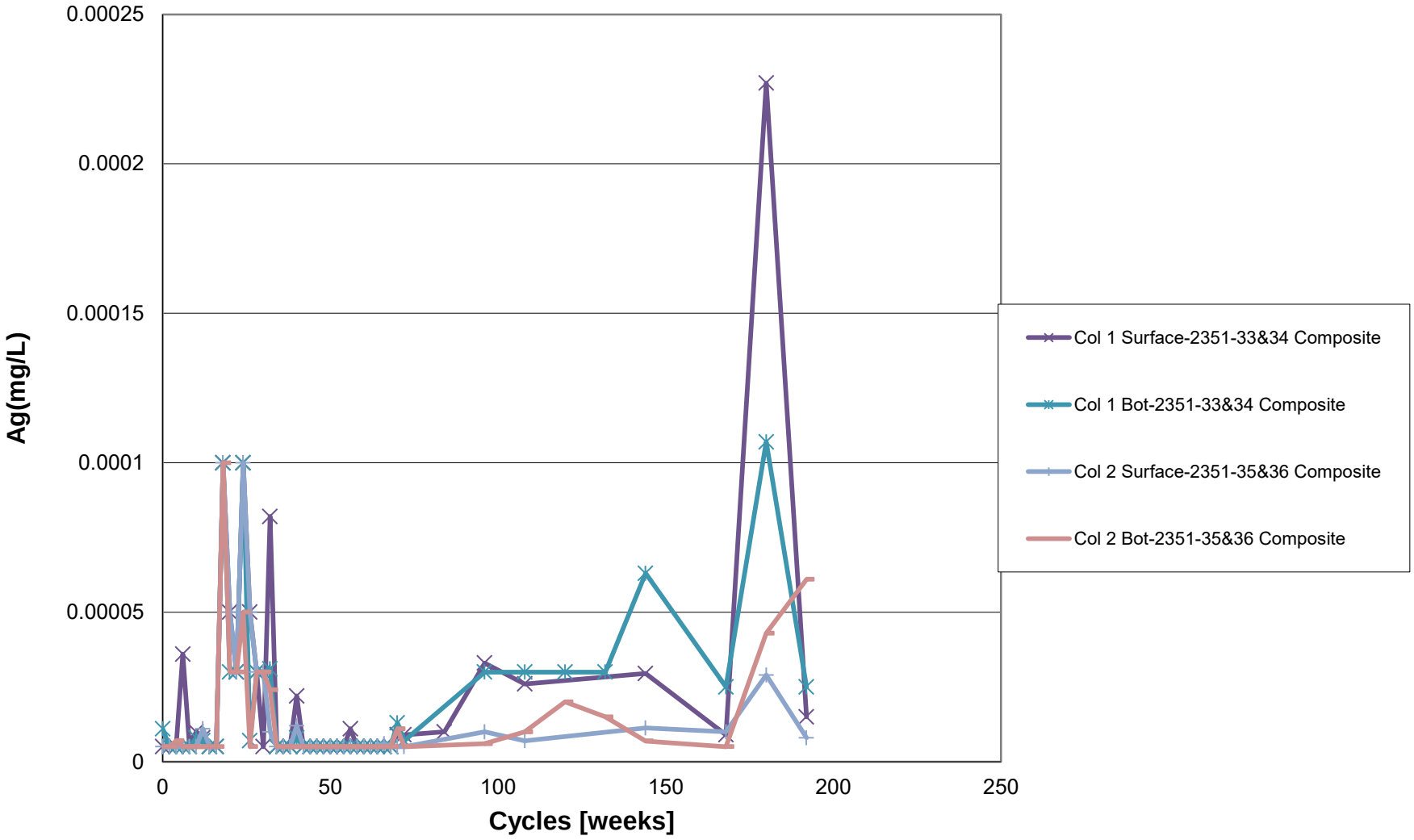

0.008
0.007
0.006
0.005
0.004
0.003
0.002
0.001
0
Ni(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

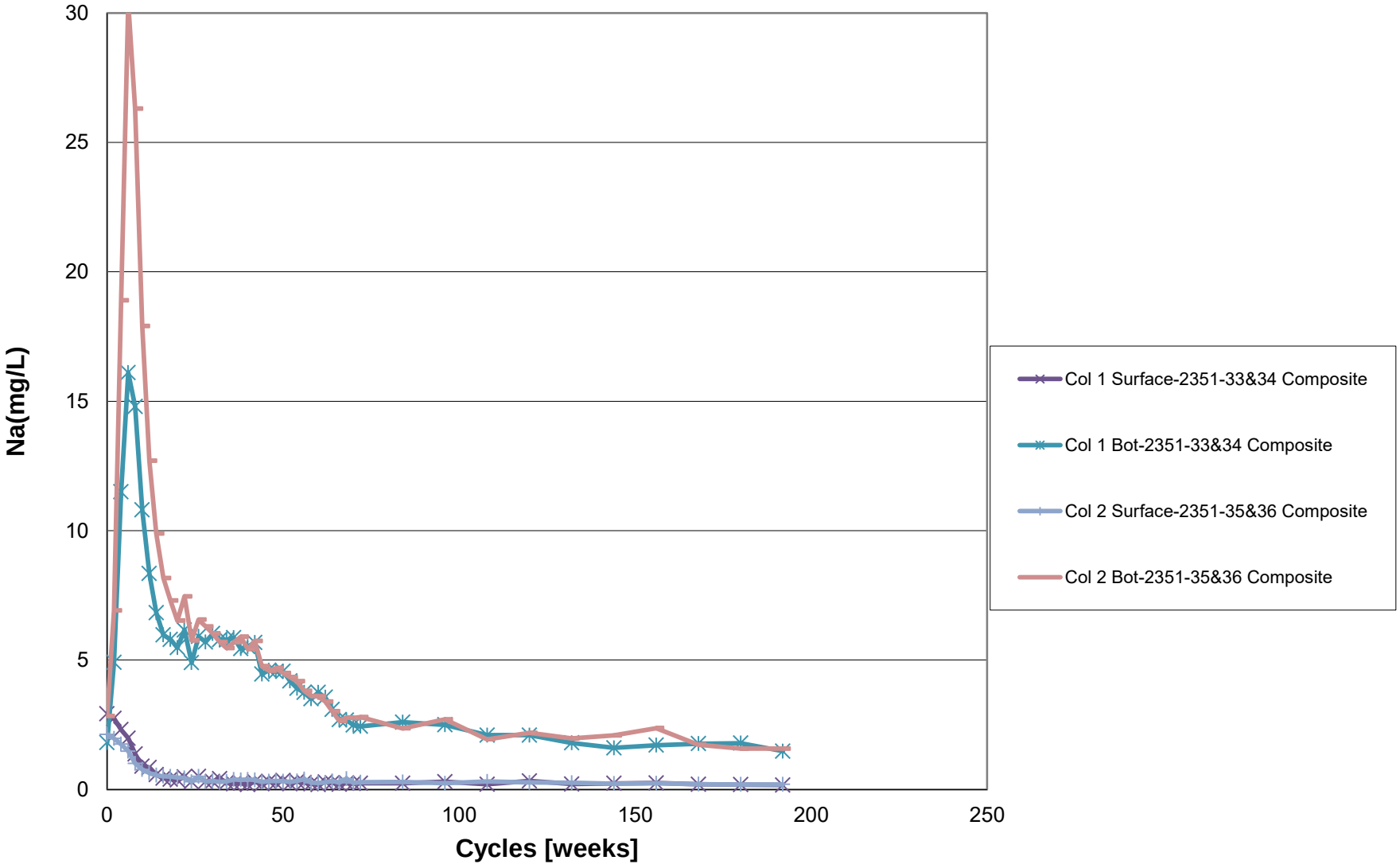

0.3
0.25
0.2
0.15
0.1
0.05
0
P(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

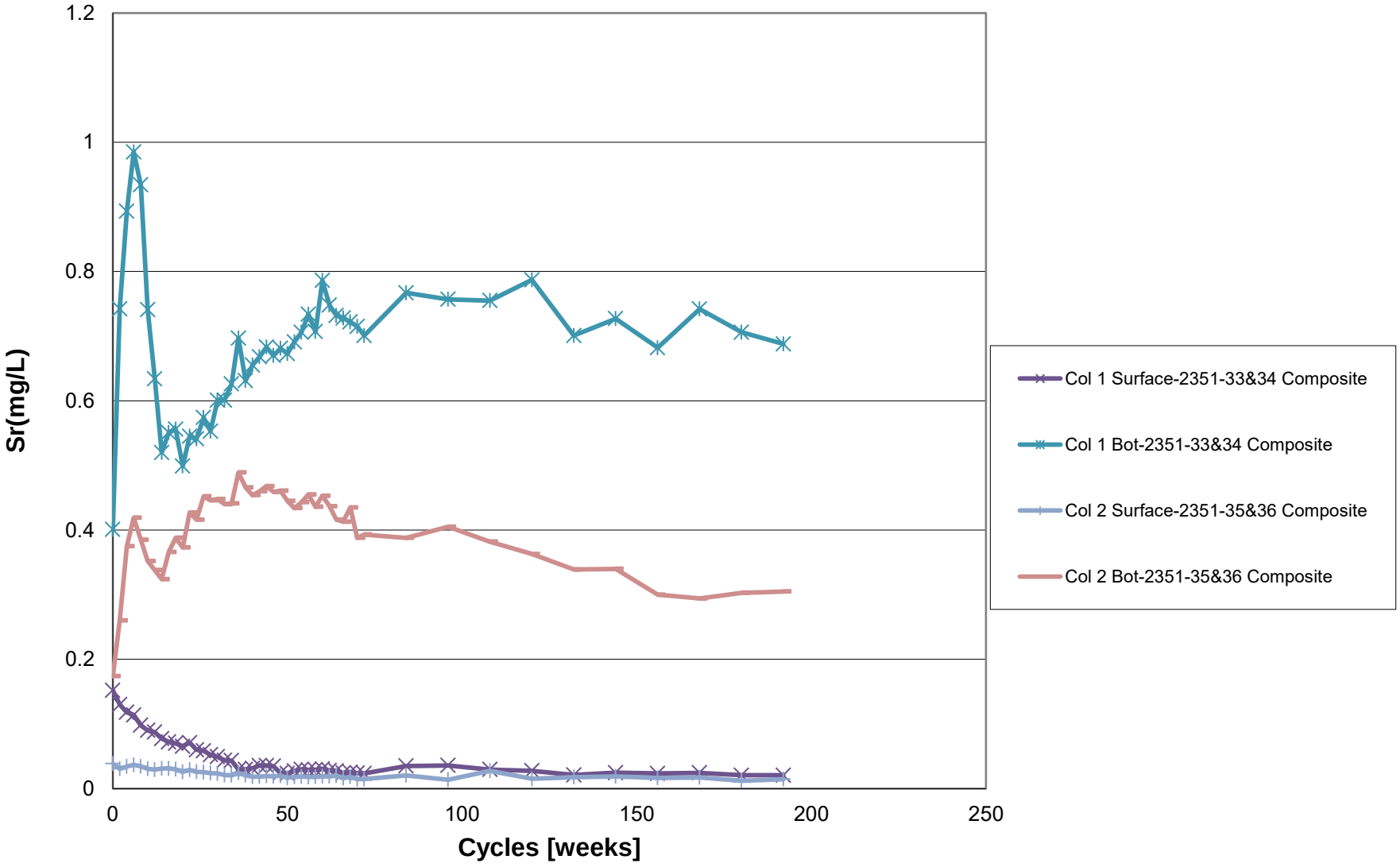

30
25
20
15
10
5
0
K(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

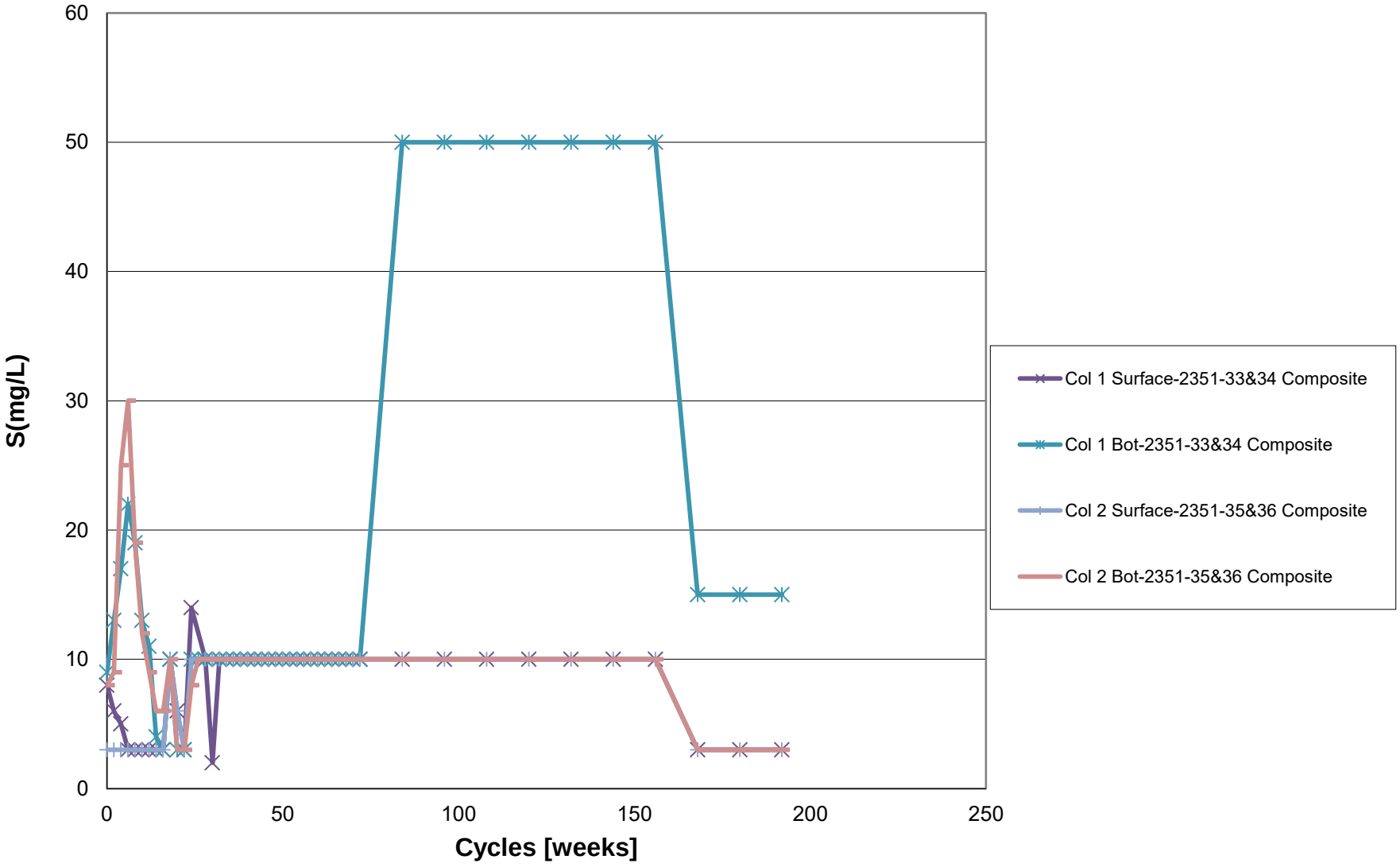

0.007
0.006
0.005
0.004
0.003
0.002
0.001
0
Se(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

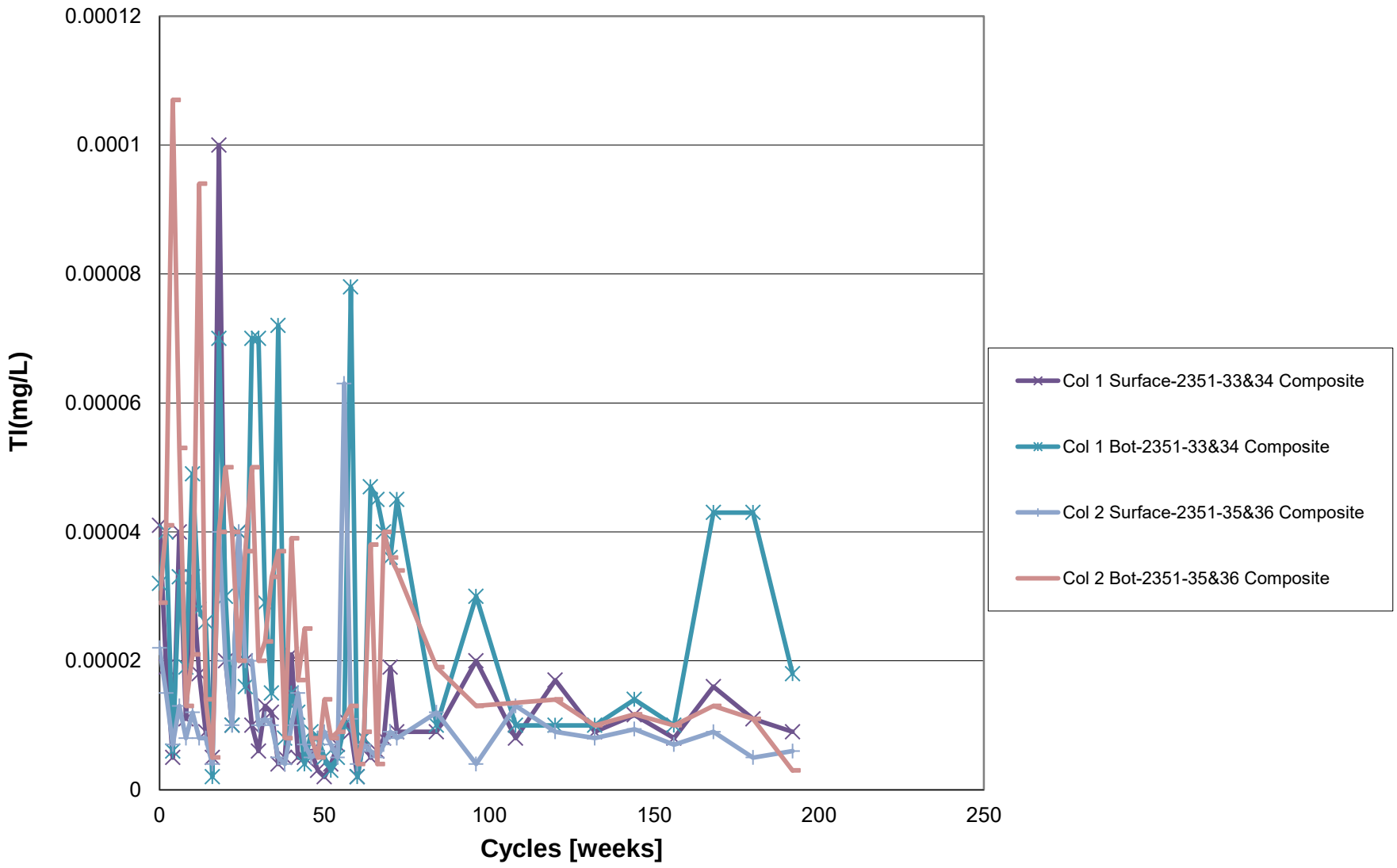

7
6
5
4
3
2
1
0
Si(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

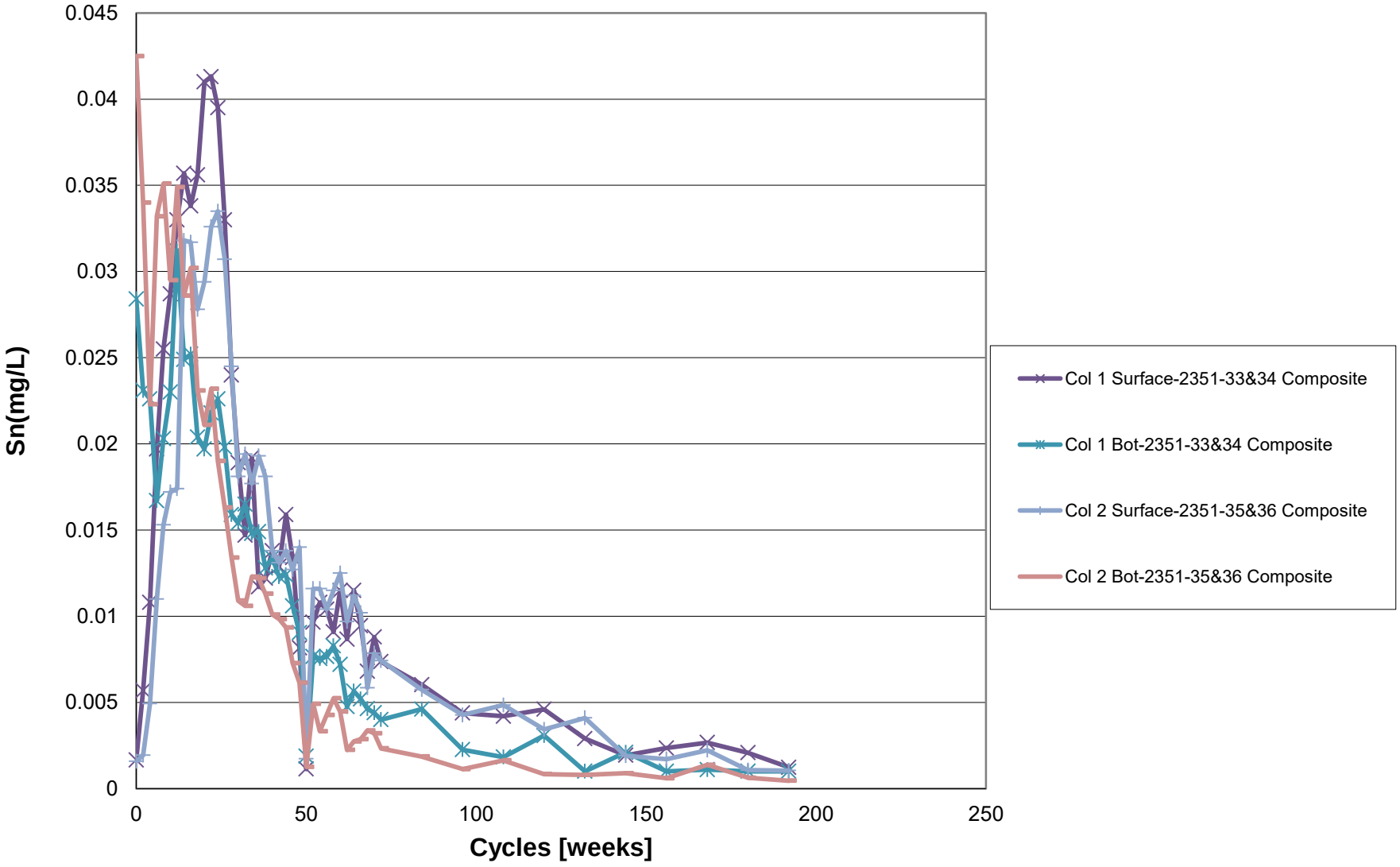

0.00025
0.0002
0.00015
0.0001
0.00005
0
Ag(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

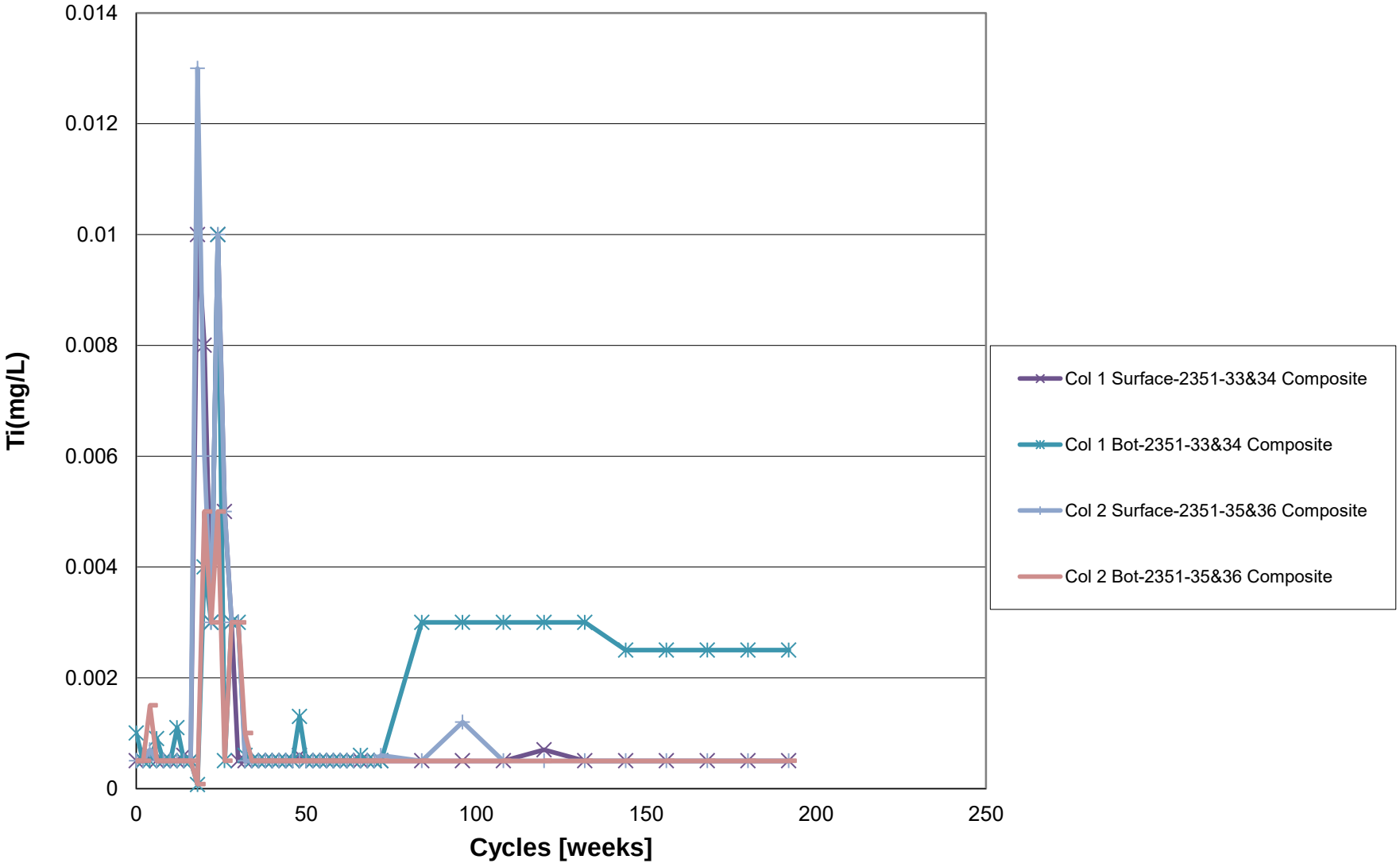

30
25
20
15
10
5
0
Na(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

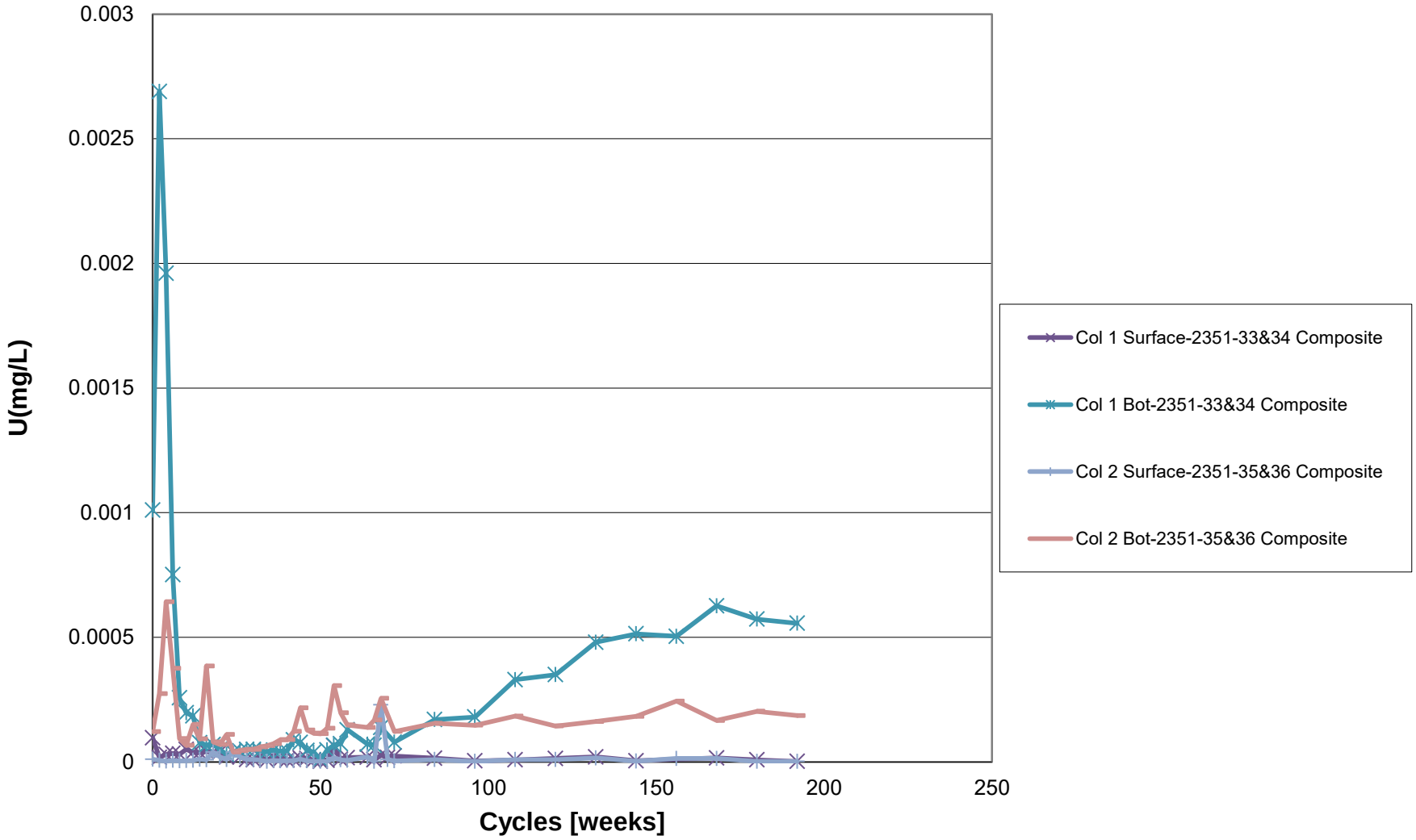

1.2
1
0.8
0.6
0.4
0.2
0
Sr(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

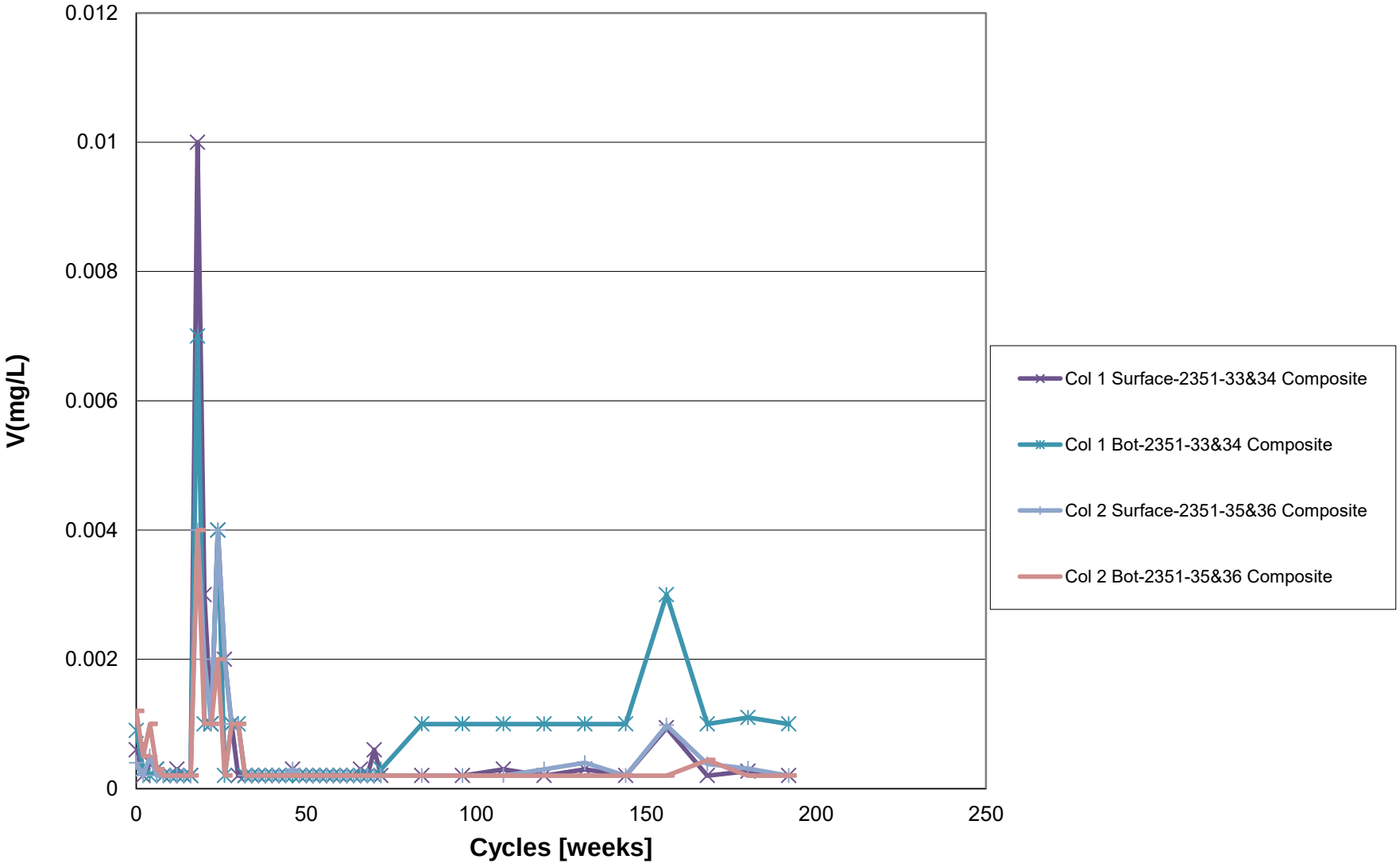

60
50
40
30
20
10
0
S(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

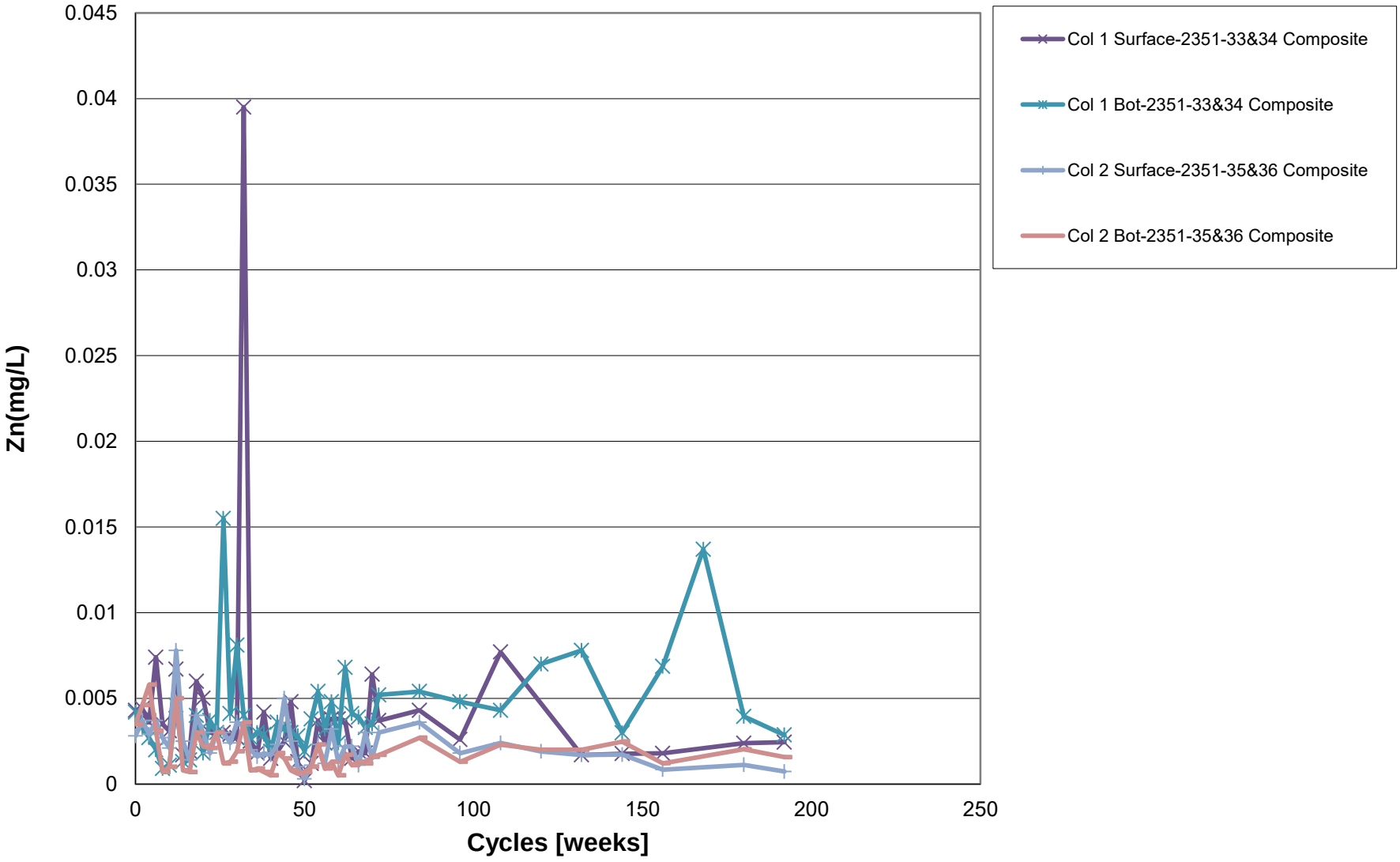

0.00012
0.0001
0.00008
0.00006
0.00004
0.00002
0
Tl(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

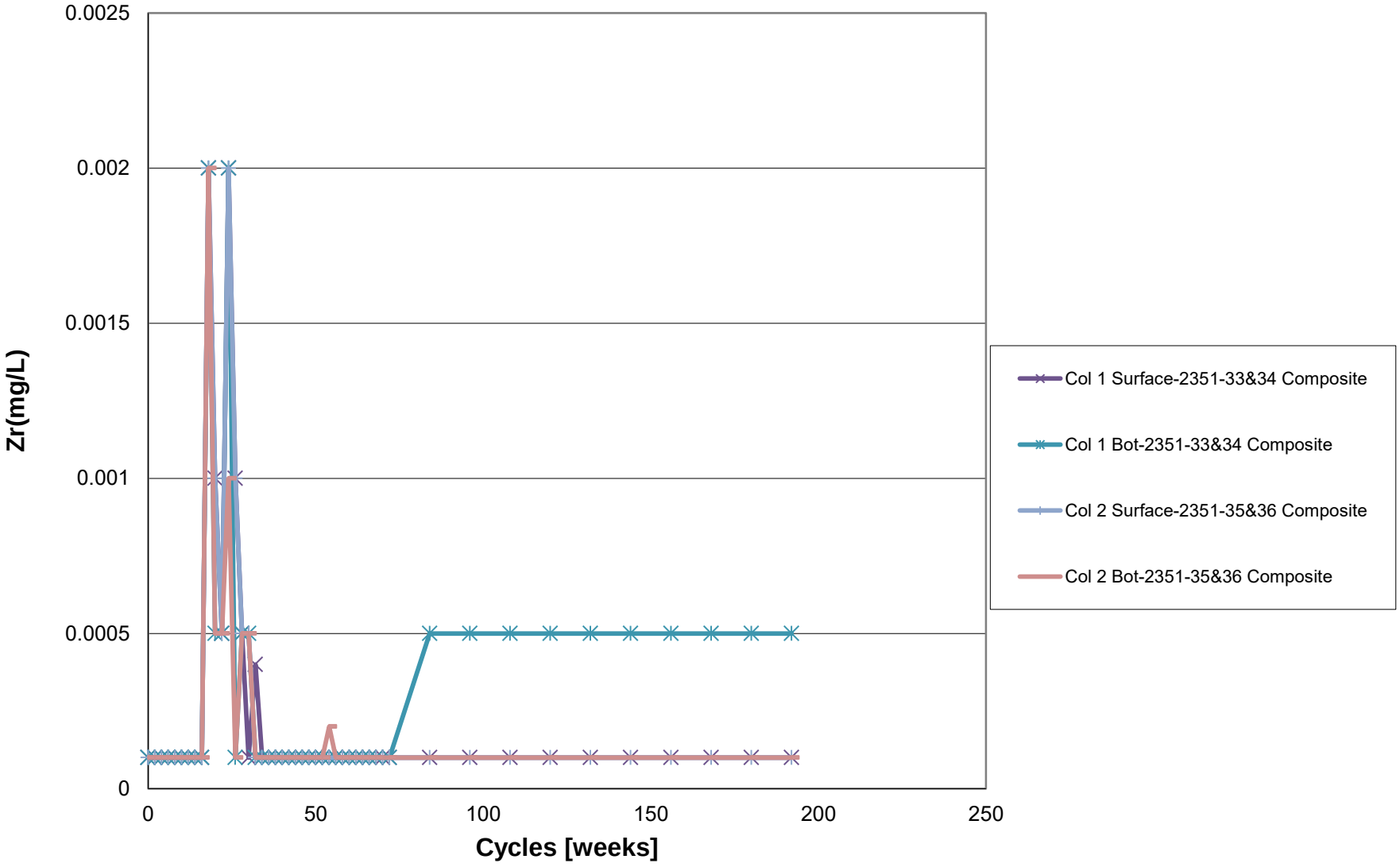

0.045
0.04
0.035
0.03
0.025
0.02
0.015
0.01
0.005
0
Sn(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite


0.014
0.012
0.01
0.008
0.006
0.004
0.002
0
Ti(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite


0.003
0.0025
0.002
0.0015
0.001
0.0005
0
U(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite


0.012
0.01
0.008
0.006
0.004
0.002
0
V(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite


0.045
0.04
0.035
0.03
0.025
0.02
0.015
0.01
0.005
0
Zn(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite


0.0025
0.002
0.0015
0.001
0.0005
0
Zr(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

Appendix H
Source Terms for Use as Inputs to Water Quality Predictions: Minto Creek

DSTSF Source Terms

	Expected Case	Reasonable Worst Case
	Station W8- 50th percentile	Station W8- 95th percentile
	mg/L	mg/L
Ag	0.000020	0.00010
Al	0.010	0.069
Alk-T	220	410
Ammonia	0.12	0.98
As	0.00050	0.00090
Ba	0.12	0.21
B	0.062	0.11
Be	0.00010	0.00085
Bi	0.0010	0.0010
Ca	132	235
Cd	0.00011	0.00024
Cl	6.9	31
Co	0.00060	0.0022
Cr	0.0010	0.0020
Cu	0.094	0.32
Fe	0.089	0.39
F	0.32	1.4
Hg	0.000020	0.00020
K	6.6	18
Li	0.0050	0.010
Mg	31	48
Mn	0.60	3.2
Mo	0.0070	0.038
Na	24	46
Ni	0.0018	0.0050
NO3	22	84
NO2	0.12	2.5
Pb	0.00020	0.00064
Sb	0.00050	0.0011
S	48	83
Se	0.0039	0.014
Si	6.6	8.0
Sn	0.0050	0.0050
SO4-D	120	200
Sr	1.5	2.1
Ti	0.0050	0.010
Tl	0.000050	0.00010
U	0.0020	0.0037
V	0.0050	0.022
Zn	0.0050	0.010
Zr	0.00050	0.0020

W14 Data from November 2012 to March 2013

Parameter (Units mg/L)	Expected Case	Reasonable Worst Case
Ag	0.000020	0.000020
Al	0.070	0.110
Alk-T	179	185
Ammonia	0.82	1.1
As	0.00044	0.00047
Ba	0.087	0.10
B	0.11	0.12
Be	0.00010	0.00010
Bi	0.0010	0.0010
Ca	46	52
Cd	0.000021	0.000031
Cl	13	13
Co	0.00050	0.00050
Cr	0.0010	0.0010
Cu	0.0047	0.0091
Fe	0.010	0.022
F	1.3	1.5
Hg	0.000010	0.000010
K	30	35
Li	0.020	0.023
Mg	18	22
Mn	0.038	0.053
Mo	0.059	0.067
Na	65	69
Ni	0.0013	0.0019
NO3	22	25
NO2	0.42	0.46
Pb	0.00020	0.00020
Sb	0.00058	0.00075
S	50	58
Se	0.012	0.021
Si	2.2	2.4
Sn	0.0050	0.0050
SO4-D	131	151
Sr	3.8	5.2
Ti	0.0050	0.0050
Tl	0.000050	0.000050
U	0.00045	0.00077
V	0.0050	0.0050
Zn	0.0052	0.0057
Zr	0.00050	0.00050

Main Pit TMF Source Terms

	Expected Case	Reasonable Worst Case
	mg/yr	mg/yr
Ag	0.0E+00	0.0E+00
Al	1.8E+05	6.1E+05
Alk-T	2.4E+09	2.7E+09
Ammonia	7.8E+05	1.4E+06
As	4.0E+03	4.6E+03
Ba	9.9E+05	1.1E+06
B	0.0E+00	0.0E+00
Be	0.0E+00	0.0E+00
Bi	0.0E+00	0.0E+00
Ca	7.3E+08	8.3E+08
Cd	5.3E+02	5.9E+02
Cl	7.0E+07	7.9E+07
Co	0.0E+00	0.0E+00
Cr	0.0E+00	0.0E+00
Cu	4.9E+05	6.3E+05
Fe	6.3E+05	1.5E+06
F	3.4E+06	4.0E+06
Hg	0.0E+00	0.0E+00
K	4.4E+07	5.0E+07
Li	0.0E+00	0.0E+00
Mg	2.5E+08	2.9E+08
Mn	3.7E+06	4.2E+06
Mo	7.8E+04	1.1E+05
Na	1.9E+08	2.2E+08
Ni	1.0E+04	1.3E+04
NO3	8.6E+07	1.2E+08
NO2	7.5E+05	1.8E+06
Pb	0.0E+00	0.0E+00
Sb	0.0E+00	0.0E+00
S	2.3E+08	2.5E+08
Se	4.4E+04	5.6E+04
Si	5.9E+07	6.5E+07
Sn	0.0E+00	0.0E+00
SO4-D	6.8E+08	7.5E+08
Sr	9.6E+06	1.1E+07
Ti	7.9E+04	7.9E+04
Tl	0.0E+00	0.0E+00
U	2.1E+04	2.6E+04
V	0.0E+00	0.0E+00
Zn	4.9E+04	5.3E+04
Zr	0.0E+00	0.0E+00

Ridgetop North Pit TMF Source Terms

	Expected Case	Reasonable Worst Case
	mg/yr	mg/yr
Ag	0.0E+00	0.0E+00
Al	1.8E+05	6.1E+05
Alk-T	2.4E+09	2.7E+09
Ammonia	7.8E+05	1.4E+06
As	4.0E+03	4.6E+03
Ba	9.9E+05	1.1E+06
B	0.0E+00	0.0E+00
Be	0.0E+00	0.0E+00
Bi	0.0E+00	0.0E+00
Ca	7.3E+08	8.3E+08
Cd	5.3E+02	5.9E+02
Cl	7.0E+07	7.9E+07
Co	0.0E+00	0.0E+00
Cr	0.0E+00	0.0E+00
Cu	4.9E+05	6.3E+05
Fe	6.3E+05	1.5E+06
F	3.4E+06	4.0E+06
Hg	0.0E+00	0.0E+00
K	4.4E+07	5.0E+07
Li	0.0E+00	0.0E+00
Mg	2.5E+08	2.9E+08
Mn	3.7E+06	4.2E+06
Mo	7.8E+04	1.1E+05
Na	1.9E+08	2.2E+08
Ni	1.0E+04	1.3E+04
NO3	8.6E+07	1.2E+08
NO2	7.5E+05	1.8E+06
Pb	0.0E+00	0.0E+00
Sb	0.0E+00	0.0E+00
S	2.3E+08	2.5E+08
Se	4.4E+04	5.6E+04
Si	5.9E+07	6.5E+07
Sn	0.0E+00	0.0E+00
SO4-D	6.8E+08	7.5E+08
Sr	9.6E+06	1.1E+07
Ti	7.9E+04	7.9E+04
Tl	0.0E+00	0.0E+00
U	2.1E+04	2.6E+04
V	0.0E+00	0.0E+00
Zn	4.9E+04	5.3E+04
Zr	0.0E+00	0.0E+00

Waste Rock: Volume-based source term

	Expected Case	Reasonable Worst Case
	mg m^3-1 yr-1	mg m^3-1 yr-1
Ag	0.00048	0.0024
Al	0.90	3.6
Alk-T	3103	5591
Ammonia	1.5	4.5
As	0.012	0.021
Ba	2.3	3.6
B	1.2	2.4
Be	0.0024	0.0048
Bi	0.024	0.024
Ca	1180	2092
Cd	0.00072	0.0024
Cl	62	147
Co	0.012	0.029
Cr	0.024	0.048
Cu	0.45	1.0
Fe	10	22
F	3.1	4.2
Hg	0.00048	0.0048
K	57	102
Li	0.12	0.24
Mg	337	602
Mn	8.4	20
Mo	0.048	0.085
Na	167	309
Ni	0.024	0.048
NO3	103	436
NO2	1.2	6.3
Pb	0.0048	0.0048
Sb	0.012	0.012
S	360	1432
Se	0.024	0.075
Si	125	171
Sn	0.12	0.12
SO4-D	728	1734
Sr	9.8	21
Ti	0.12	0.24
Tl	0.0012	0.0012
U	0.014	0.037
V	0.12	0.12
Zn	0.12	0.24
Zr	0.012	0.048

Lower Minto Creek Background Water Quality

Parameter	pH-L	Cond-L	Hard-D	Hard-T	TDS	TSS	ANIONS	SO4-D	Chloride	Fluoride	NUTRIENTS	N-NO2	N-NO3	Ammonia	TOTAL META	Ag-T	Al-T	As-T	Ba-T	B-T	Be-T
Units	pH units	µS/cm	mg/L	mg/L	mg/L	mg/L	0	mg/L	mg/L	mg/L	0	mg/L	mg/L	mg/L	0	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
January	8.1	349	169	158	226	2.0	0	18.0	0.80	0.43	0	0.0025	0.32	0.005	0	0.00001	0.01	0.0004	0.087	0.025	0.00005
February	8.0	339	165	160	216	2.0	0	17.8	0.90	0.42	0	0.0025	0.29	0.006	0	0.00001	0.02	0.0003	0.082	0.025	0.00005
March	8.2	343	161	159	176	3.2	0	19.0	0.50	0.42	0	0.0025	0.20	0.007	0	0.00001	0.04	0.0004	0.083	0.025	0.00005
April	7.6	131	65	43	115	3.2	0	7.4	1.11	0.10	0	0.0216	0.01	0.013	0	0.00002	0.22	0.0004	0.036	0.015	0.00004
May	7.7	134	55	91	116	357.1	0	29.8	0.41	0.16	0	0.0024	0.03	0.042	0	0.00007	7.16	0.0037	0.188	0.043	0.00063
June	7.9	211	101	100	156	17.2	0	15.5	1.32	0.20	0	0.0051	0.04	0.025	0	0.00001	0.34	0.0006	0.057	0.006	0.00022
July	7.8	243	116	137	163	171.1	0	2.8	0.51	0.27	0	0.0040	0.05	0.039	0	0.00004	3.90	0.0024	0.140	0.010	0.00031
August	8.1	224	124	130	165	243.3	0	8.9	0.64	0.72	0	0.0037	0.04	0.036	0	0.00004	3.30	0.0026	0.156	0.040	0.00049
September	7.8	200	108	109	154	15.1	0	10.6	0.48	0.21	0	0.0015	0.02	0.014	0	0.00002	0.15	0.0005	0.055	0.042	0.00041
October	7.7	208	121	114	153	7.8	0	5.7	0.52	0.22	0	0.0037	0.06	0.018	0	0.00001	0.11	0.0005	0.052	0.007	0.00022
November	7.9	287	153	152	174	8.3	0	10.1	0.96	0.26	0	0.0025	0.09	0.024	0	0.00001	0.13	0.0005	0.075	0.025	0.00005
December	8.1	444	223	206	262	0.5	0	29.1	1.90	0.43	0	0.0025	0.06	0.025	0	0.00001	0.01	0.0004	0.104	0.025	0.00005

Lower Minto Creek Background Water Quality

Parameter	Bi-T	Ca-T	Cd-T	Co-T	Cr-T	Cu-T	Fe-T	Hg-T	K-T	Li-T	Mg-T	Mn-T	Mo-T	Na-T	Ni-T	Pb-T	P-T	Sb-T	S-T	Se-T	Si-T
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
January	0.0005	39.5	0.00001	0.0003	0.0005	0.001	0.11	0.00001	1.57	0.003	14.5	0.060	0.0010	8.4	0.001	0.0001	0.01	0.00025	5.90	0.0003	6.4
February	0.0005	41.0	0.00003	0.0003	0.0005	0.006	0.04	0.00001	1.51	0.003	13.9	0.004	0.0010	8.1	0.001	0.0001	0.01	0.00025	6.00	0.0003	6.3
March	0.0005	39.7	0.00001	0.0003	0.0005	0.007	0.11	0.00001	1.46	0.003	14.6	0.005	0.0010	8.4	0.001	0.0001	0.02	0.00025	5.60	0.0004	6.4
April	0.0004	15.9	0.00004	0.0002	0.0008	0.008	0.39	0.00001	1.70	0.002	6.5	0.028	0.0007	4.0	0.001	0.0001	0.07	0.00018	1.36	0.0002	3.2
May	0.0005	22.2	0.00016	0.0052	0.0145	0.023	12.32	0.00001	1.58	0.007	8.4	0.324	0.0009	3.4	0.014	0.0036	1.08	0.00040	2.62	0.0006	43.0
June	0.0003	27.5	0.00003	0.0004	0.0010	0.004	0.76	0.00004	0.97	0.002	9.5	0.036	0.0008	6.5	0.002	0.0002	0.18	0.00007	4.08	0.0005	6.0
July	0.0003	34.9	0.00009	0.0028	0.0075	0.014	6.50	0.00004	1.29	0.004	11.8	0.192	0.0012	6.5	0.008	0.0019	0.65	0.00021	3.79	0.0005	12.3
August	0.0005	33.7	0.00008	0.0031	0.0063	0.012	6.68	0.00001	1.23	0.004	10.8	0.310	0.0009	5.7	0.008	0.0020	0.59	0.00032	2.75	0.0004	20.1
September	0.0003	27.6	0.00001	0.0002	0.0006	0.005	0.63	0.00001	0.91	0.002	9.1	0.057	0.0006	5.2	0.002	0.0002	0.03	0.00023	4.53	0.0005	6.9
October	0.0003	27.8	0.00003	0.0002	0.0005	0.005	0.47	0.00001	0.97	0.002	9.3	0.073	0.0009	5.3	0.001	0.0001	0.04	0.00008	2.90	0.0005	6.2
November	0.0005	40.1	0.00007	0.0003	0.0006	0.005	0.32	0.00001	0.82	0.003	12.5	0.050	0.0008	6.7	0.002	0.0003	0.03	0.00025	3.65	0.0002	8.2
December	0.0005	49.6	0.00002	0.0003	0.0005	0.003	0.07	0.00001	2.29	0.003	19.9	0.041	0.0012	11.7	0.002	0.0001	0.02	0.00025	7.90	0.0003	7.7

Lower Minto Creek Background Water Quality

Parameter	Sn-T	Sr-T	Ti-T	Tl-T	U-T	V-T	Zn-T	Zr-T
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
January	0.0025	0.45	0.0025	0.00003	0.0019	0.0025	0.003	0.0003
February	0.0025	0.47	0.0025	0.00003	0.0015	0.0025	0.003	0.0003
March	0.0025	0.49	0.0025	0.00003	0.0015	0.0025	0.003	0.0003
April	0.0017	0.16	0.0073	0.00002	0.0006	0.0015	0.004	0.0002
May	0.0009	0.20	0.2465	0.00014	0.0010	0.0348	0.032	0.0030
June	0.0002	0.19	0.0151	0.00005	0.0006	0.0016	0.006	0.0006
July	0.0006	0.25	0.1226	0.00007	0.0012	0.0124	0.018	0.0022
August	0.0009	0.29	0.1002	0.00010	0.0009	0.0219	0.018	0.0018
September	0.0004	0.19	0.0062	0.00008	0.0003	0.0122	0.003	0.0005
October	0.0004	0.20	0.0053	0.00005	0.0004	0.0009	0.001	0.0003
November	0.0025	0.28	0.0069	0.00003	0.0008	0.0025	0.005	0.0003
December	0.0025	0.49	0.0025	0.00003	0.0012	0.0025	0.003	0.0003

Upper Minto Creek Background Water Quality

Parameter	pH-L	Cond-L	Hard-D	Hard-T	TDS	TSS	ANIONS	SO4-D	Chloride	Fluoride	NUTRIENTS	N-NO2	N-NO3	Ammonia	TOTAL METALS	Ag-T	Al-T	As-T
Units	pH units	µS/cm	mg/L	mg/L	mg/L	mg/L	0	mg/L	mg/L	mg/L	0	mg/L	mg/L	mg/L	0	mg/L	mg/L	mg/L
January	8.1	349	169	158	226	2.0	0	18.0	0.80	0.43	0	0.0025	0.32	0.005	0	0.00001	0.01	0.0004
February	8.0	339	165	160	216	2.0	0	17.8	0.90	0.42	0	0.0025	0.29	0.006	0	0.00001	0.02	0.0003
March	8.2	343	161	159	176	3.2	0	19.0	0.50	0.42	0	0.0025	0.20	0.007	0	0.00001	0.04	0.0004
April	7.6	166	81	50	135	1.5	0	11.4	0.75	0.09	0	0.0369	0.01	0.020	0	0.00002	0.08	0.0003
May	7.9	145	83	75	121	15.3	0	39.8	0.28	0.21	0	0.0014	0.03	0.019	0	0.00001	0.34	0.0005
June	7.9	212	104	104	157	16.1	0	15.7	1.33	0.20	0	0.0054	0.05	0.022	0	0.00001	0.27	0.0006
July	7.8	250	119	131	166	12.5	0	9.6	0.38	0.22	0	0.0016	0.04	0.011	0	0.00001	0.58	0.0006
August	8.1	216	121	110	160	6.4	0	11.0	0.33	0.36	0	0.0019	0.02	0.028	0	0.00002	0.17	0.0005
September	7.8	200	113	108	156	16.7	0	10.8	0.43	0.22	0	0.0016	0.02	0.015	0	0.00002	0.16	0.0005
October	7.7	206	122	112	152	5.1	0	10.4	0.47	0.23	0	0.0050	0.05	0.018	0	0.00001	0.09	0.0005
November	7.9	287	153	152	174	8.3	0	10.1	0.96	0.26	0	0.0025	0.09	0.024	0	0.00001	0.13	0.0005
December	8.1	444	223	206	262	0.5	0	29.1	1.90	0.43	0	0.0025	0.06	0.025	0	0.00001	0.01	0.0004

Upper Minto Creek Background Water Quality

Parameter	Ba-T	B-T	Be-T	Bi-T	Ca-T	Cd-T	Co-T	Cr-T	Cu-T	Fe-T	Hg-T	K-T	Li-T	Mg-T	Mn-T	Mo-T	Na-T
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
January	0.087	0.025	0.00005	0.0005	39.5	0.00001	0.0003	0.0005	0.001	0.11	0.00001	1.57	0.003	14.5	0.060	0.0010	8.4
February	0.082	0.025	0.00005	0.0005	41.0	0.00003	0.0003	0.0005	0.006	0.04	0.00001	1.51	0.003	13.9	0.004	0.0010	8.1
March	0.083	0.025	0.00005	0.0005	39.7	0.00001	0.0003	0.0005	0.007	0.11	0.00001	1.46	0.003	14.6	0.005	0.0010	8.4
April	0.038	0.009	0.00003	0.0003	19.6	0.00005	0.0001	0.0006	0.007	0.14	0.00001	1.80	0.001	8.5	0.018	0.0008	5.4
May	0.050	0.049	0.00048	0.0005	19.0	0.00003	0.0003	0.0011	0.008	0.61	0.00001	1.01	0.003	6.4	0.030	0.0007	3.4
June	0.056	0.006	0.00022	0.0003	27.5	0.00003	0.0003	0.0009	0.004	0.66	0.00005	0.97	0.002	9.5	0.035	0.0008	6.6
July	0.066	0.007	0.00023	0.0003	32.6	0.00003	0.0006	0.0014	0.008	0.96	0.00008	0.98	0.002	11.4	0.058	0.0011	6.8
August	0.059	0.043	0.00043	0.0004	28.1	0.00001	0.0002	0.0006	0.004	0.54	0.00002	0.96	0.002	9.4	0.044	0.0009	5.7
September	0.055	0.042	0.00041	0.0002	27.5	0.00001	0.0002	0.0007	0.005	0.62	0.00002	0.92	0.002	9.1	0.056	0.0006	5.2
October	0.051	0.006	0.00023	0.0003	27.4	0.00003	0.0002	0.0004	0.005	0.43	0.00002	1.00	0.002	9.2	0.069	0.0009	5.2
November	0.075	0.025	0.00005	0.0005	40.1	0.00007	0.0003	0.0006	0.005	0.32	0.00001	0.82	0.003	12.5	0.050	0.0008	6.7
December	0.104	0.025	0.00005	0.0005	49.6	0.00002	0.0003	0.0005	0.003	0.07	0.00001	2.29	0.003	19.9	0.041	0.0012	11.7

Upper Minto Creek Background Water Quality

Parameter	Ni-T	Pb-T	P-T	Sb-T	S-T	Se-T	Si-T	Sn-T	Sr-T	Ti-T	Tl-T	U-T	V-T	Zn-T	Zr-T
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
January	0.001	0.0001	0.01	0.00025	5.90	0.0003	6.4	0.0025	0.45	0.0025	0.00003	0.0019	0.0025	0.003	0.0003
February	0.001	0.0001	0.01	0.00025	6.00	0.0003	6.3	0.0025	0.47	0.0025	0.00003	0.0015	0.0025	0.003	0.0003
March	0.001	0.0001	0.02	0.00025	5.60	0.0004	6.4	0.0025	0.49	0.0025	0.00003	0.0015	0.0025	0.003	0.0003
April	0.001	0.0001	0.07	0.00013	1.22	0.0002	3.0	0.0012	0.22	0.0025	0.00001	0.0008	0.0008	0.005	0.0002
May	0.002	0.0003	0.04	0.00025	11.56	0.0005	7.7	0.0004	0.21	0.0125	0.00010	0.0003	0.0144	0.004	0.0005
June	0.002	0.0002	0.19	0.00007	5.51	0.0005	5.8	0.0001	0.19	0.0127	0.00004	0.0006	0.0014	0.006	0.0006
July	0.002	0.0004	0.00	0.00008	12.63	0.0005	6.4	0.0002	0.24	0.0267	0.00005	0.0007	0.0021	0.004	0.0007
August	0.002	0.0002	0.02	0.00023	4.92	0.0005	6.7	0.0004	0.24	0.0068	0.00009	0.0005	0.0127	0.004	0.0008
September	0.002	0.0002	0.03	0.00023	6.58	0.0005	6.8	0.0003	0.19	0.0068	0.00008	0.0003	0.0123	0.003	0.0006
October	0.001	0.0001	0.02	0.00006	3.15	0.0005	6.0	0.0002	0.20	0.0050	0.00005	0.0004	0.0008	0.001	0.0004
November	0.002	0.0003	0.03	0.00025	3.65	0.0002	8.2	0.0025	0.28	0.0069	0.00003	0.0008	0.0025	0.005	0.0003
December	0.002	0.0001	0.02	0.00025	7.90	0.0003	7.7	0.0025	0.49	0.0025	0.00003	0.0012	0.0025	0.003	0.0003

Pit Wall Source Terms

	Expected Case	Reasonable Worst Case
	Average stable field release rates	Max stable field release rates
	mg/yr	mg/yr
Ag	7720	20089
Al	72692632	141800208
Alk-T	0	0
Ammonia	0	0
As	391898	1079195
Ba	41844240	59330344
B	0	0
Be	0	0
Bi	0	0
Ca	0	0
Cd	9934	48770
Cl	0	0
Co	0	0
Cr	163796	701594
Cu	2287835	5999847
Fe	8426326	24984539
F	176498613	296273802
Hg	12550	17944
K	0	0
Li	0	0
Mg	0	0
Mn	5597073	15592355
Mo	1360801	5826929
Na	0	0
Ni	118226	551124
NO3	0	0
NO2	0	0
Pb	46984	522343
Sb	54956	121824
S	0	0
Se	290983	551124
Si	0	0
Sn	0	0
SO4-D	3314665447	6632630784
Sr	91374017	146365307
Ti	0	0
Tl	3379	9815
U	0	0
V	0	0
Zn	738188	3469519
Zr	0	0

Ore Stockpile Source Terms- Operational Period

	Expected Case	Reasonable Worst Case
	Average seepage concentration	Max seepage concentration
	mg/L	mg/L
Ag	0.00006	0.000076
Al	0.11784	0.549
Alk-T	392.8	410
Ammonia	0.468	0.55
As	0.000598	0.00084
Ba	0.0907	0.115
B	0.054	0.056
Be	0.0001	0.0001
Bi	0.0001	0.0001
Ca	185	196
Cd	0.000364	0.000501
Cl	4.82	5.2
Co	0.0005	0.0005
Cr	0.001	0.001
Cu	0.2236	0.393
Fe	0.1676	0.656
F	0.45	0.47
Hg	0.00001	0.00001
K	6.416	7.21
Li	0.0051	0.0051
Mg	44.44	46.7
Mn	0.653	0.983
Mo	0.01686	0.0183
Na	22.26	22.6
Ni	0.0024	0.0024
NO3	46.3	48.5
NO2	0.3414	0.553
Pb	0.00115	0.00193
Sb	0.0005	0.0005
S	451.02	2070
Se	0.02358	0.0263
Si	7.84	8.68
Sn	0.005	0.005
SO4-D	132	136
Sr	3.26	3.86
Ti	0.005	0.005
Tl	0.00005	0.00005
U	0.00629	0.00944
V	0.005	0.005
Zn	0.006	0.0063
Zr	0.0005	0.0005

Ore Stockpile Source Terms- Post-closure Period

	Expected Case	Reasonable Worst Case
	Average stable field release rates	Max stable field release rates
	mg/yr	mg/yr
Ag	1678	4366
Al	15797582	30816058
Alk-T	0	0
Ammonia	0	0
As	85167	234531
Ba	9093601	12893686
B	0	0
Be	0	0
Bi	0	0
Ca	0	0
Cd	2159	10599
Cl	0	0
Co	0	0
Cr	35596	152471
Cu	497193	1303888
Fe	1831211	5429646
F	38356725	64386300
Hg	2727	3900
K	0	0
Li	0	0
Mg	0	0
Mn	1216357	3388535
Mo	295730	1266310
Na	0	0
Ni	25693	119771
NO3	0	0
NO2	0	0
Pb	10210	113516
Sb	11943	26475
S	0	0
Se	63237	119771
Si	0	0
Sn	0	0
SO4-D	720343961	1441405056
Sr	19857425	31808147
Ti	0	0
Tl	734	2133
U	0	0
V	0	0
Zn	160423	753997
Zr	0	0

Mill Area Source Terms

	Expected Case	Reasonable Worst Case
	Average stable field release rates	Max Stable Field Release Rates
	mg/yr	mg/yr
Ag	2018	5252
Al	19004610	37071950
Alk-T	0	0
Ammonia	0	0
As	102457	282143
Ba	10939671	15511201
B	0	0
Be	0	0
Bi	0	0
Ca	0	0
Cd	2597	12750
Cl	0	0
Co	0	0
Cr	42823	183423
Cu	598127	1568588
Fe	2202961	6531906
F	46143428	77457203
Hg	3281	4691
K	0	0
Li	0	0
Mg	0	0
Mn	1463287	4076433
Mo	355765	1523380
Na	0	0
Ni	30909	144085
NO3	0	0
NO2	0	0
Pb	12283	136560
Sb	14368	31849
S	0	0
Se	76074	144085
Si	0	0
Sn	0	0
SO4-D	866579202	1734021120
Sr	23888632	38265440
Ti	0	0
Tl	883	2566
U	0	0
V	0	0
Zn	192990	907064
Zr	0	0

Particulate Loading Source Term

For predictive purposes, mass added to each litre of water due to suspended solids:

Ag	Al	As	Ba	B	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Hg	K	Li	Mg	Mn	Mo
mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
7.6E-05	0.47	0.00022	0.015	0.0043	5.9E-06	0.00068	3.6	4.4E-05	0.00026	0.00050	0.0075	0.68	7.5E-06	0.25	0.0011	1.8	0.038	0.00054

Na	Ni	Pb	P	Sb	S	Se	Si	Sn	Sr	Te	Th	Ti	Tl	U	V	Zn	Zr
mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
1.1	0.0010	0.00022	0.072	0.00038	1.1	0.00038	1.1	0	0.055	0	0.00012	0.017	4.19643E-06	0.00040	0.0011	0.0064	0.00019

Appendix I
Source Terms for Use as Inputs to Water Quality Predictions: McGinty Creek

McGinty Creek Background Source Term

	Units	Ag	Al	As	Cd	Cr	Cu	Fe	Fluoride	Hg	Mn	Mo	Ni	Pb	Se	Sulphate	Tl	Zn
January	mg/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
February	mg/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
March	mg/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
April	mg/L	3.43333E-06	0.1150333	0.0004097	3.04333E-05	0.0003267	0.00321	0.21	0.1266667	0.000005	0.014187	0.00029	0.001283	0.0000516	0.000104	1	0.000001	0.003877
May	mg/L	0.0000062	0.2188286	0.0005343	2.95286E-05	0.0005514	0.00322857	0.541	0.1414286	3.57214E-06	0.040934	0.000462	0.001791	0.000195857	0.000119	1.692857	1.75714E-06	0.002919
June	mg/L	0.000013475	1.0323	0.00134	0.000082375	0.0018875	0.00781	2.46075	0.2425	0.00000375	0.194525	0.000688	0.004868	0.001193	0.000155	4.3125	0.000006975	0.009075
July	mg/L	0.00002425	3.3262	0.00205	0.000091125	0.0061625	0.0114575	5.3965	0.255	0.00001	0.1813	0.000826	0.00741	0.00202275	0.000225	2.8475	0.00002425	0.017448
August	mg/L	0.0000115	1.6579667	0.0014133	0.000066	0.0032667	0.00850333	3.03366667	0.2266667	0.000005	0.14141	0.00064	0.005307	0.001294333	0.00015	2.516667	1.26667E-05	0.008967
September	mg/L	0.0000025	0.03455	0.000375	0.0000245	0.0003	0.00222	0.127	0.265	0.0000025	0.006735	0.000775	0.002455	0.0001065	0.00017	5.45	0.000001	0.03275
October	mg/L	0.0000025	0.0361333	0.0003733	1.06667E-05	0.0002667	0.0016	0.14366667	0.3033333	0.000005	0.012287	0.000897	0.00098	0.000046	0.000177	7.633333	0.000001	0.000967
November	mg/L	0.0000025	0.0085	0.00024	0.000019	0.0002	0.00154	0.012	0.35	0.000005	0.0005	0.00103	0.00053	0.000066	0.00017	9.1	0.000001	0.0015
December	mg/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Minto North Pit Source Term

	Ag	Al	As	Cd	Cr	Cu	Fe	Fluoride	Hg	Mn	Mo	Ni	Pb	Se	Sulphate	Tl	Zn
	mg/month	mg/month	mg/month	mg/month	mg/month	mg/month	mg/month	mg/month	mg/month	mg/month	mg/month	mg/month	mg/month	mg/month	mg/month	mg/month	mg/month
January	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
February	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
March	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
April	4927.3	1.8E+07	215303	6705.19	120008	527221	3565944	1.3E+08	2463.65	6266309	654709	55555.3	70404.5	84937.5	6.16E+08	2148.71	451458
May	4927.3	1.8E+07	215303	6705.19	120008	527221	3565944	1.3E+08	2463.65	6266309	654709	55555.3	70404.5	84937.5	6.16E+08	2148.71	451458
June	1407.8	5240429	61515.1	1915.77	34287.9	150635	1018841	3.6E+07	703.9	1790374	187060	15873	20115.6	24267.9	1.76E+08	613.917	128988
July	1407.8	5240429	61515.1	1915.77	34287.9	150635	1018841	3.6E+07	703.9	1790374	187060	15873	20115.6	24267.9	1.76E+08	613.917	128988
August	1407.8	5240429	61515.1	1915.77	34287.9	150635	1018841	3.6E+07	703.9	1790374	187060	15873	20115.6	24267.9	1.76E+08	613.917	128988
September	1407.8	5240429	61515.1	1915.77	34287.9	150635	1018841	3.6E+07	703.9	1790374	187060	15873	20115.6	24267.9	1.76E+08	613.917	128988
October	1407.8	5240429	61515.1	1915.77	34287.9	150635	1018841	3.6E+07	703.9	1790374	187060	15873	20115.6	24267.9	1.76E+08	613.917	128988
November	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
December	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

APPENDIX 1-9

2017 GEOTECHNICAL ANNUAL REVIEW, MINTO MINE, YT

2017 Geotechnical Annual Review, Minto Mine, YT

Prepared for

Minto Explorations Ltd.

Prepared by

SRK Consulting (Canada) Inc.
1CM002.059
August 2017

2017 Geotechnical Annual Review, Minto Mine, YT

August 2017

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1 Introduction

On June 26-28, 2017, SRK Consulting (Canada) Inc. completed a geotechnical inspection of the Minto Mine site. The purpose of the inspection was to document the physical condition of the site based on visual observations and to provide geotechnical assessment, noting potential signs of physical instability such as erosion, differential settlement, sloughing or bulging of material, seepage, etc. The inspection is documented in the photographic compilation provided in Appendix A. This report summarizes the findings and recommendations.

This is the sixth year of geotechnical inspections of the site completed by SRK, with the first inspection completed in September 2012 (SRK 2012a). Previous inspections were completed by EBA Engineering Consultants Ltd.

This report is in partial fulfillment of the requirements of Minto Explorations Ltd.'s existing Water License QZ14-031 Clause 100 and Quartz Licence QML-001 Paragraph 13.2 that require the physical stability of all engineered structures, works and installations be inspected by an engineer after the spring thaw of each year (by June).

2 Conditions

The geotechnical inspection was completed by Peter Mikes, PEng, of SRK. Dale Heffernan, EIT, of Minto accompanied Mr. Mikes during the inspection and was SRK's primary contact for information about the activities during the past year.

Weather during the site inspection was mostly sunny with a brief rain showers in the afternoons of the June 26 and 27. Temperatures were estimated at approximately 10 °C in the morning, and up to approximately 20 °C in the afternoon. The site was generally dry throughout the inspection period.

3 Scope

The following engineered structures, works, and installations were inspected during the site visit:

- Big Creek Bridge;
- Mill and camp site;
- Dry Stack Tailings Storage Facility and Mill Valley Fill Extension (Stage 1 and 2);
- Fuel containment facility;
- Main Waste Dump;
- Ore stockpiles;
- Reclamation Overburden Dump;
- Ice Rich Overburden Dump;
- South Diversion Ditch;

- Tailings Diversion Ditch
- Southwest Waste Dump;
- Main Pit including South Wall Buttress, In-Pit Dump, and SAT Dump;
- Water Storage Dam;
- Area 118 and Area 2 Pit; and,
- Minto North Pit.

During the inspection, previous year's reports, instrumentation data, design reports and monitoring guidance documents were reviewed as required to guide the inspections. The instrumentation data was reviewed to check for indications of unusual performance or change in trends. Section 4 of this report presents a list of data reviewed, including the last data collection date.

4 Monitoring and Instrumentation Data

Table 4.1 lists instrumentation data reviewed as part of the inspection, with the date of the most recent data. Changes to the list of instrumentation compared to the last inspection are listed below the table in the notes.

Instrumentation plots are provided in the appendices. Data that has not been updated since the last geotechnical inspection is not included in the appendices. Appendix B provides a site-wide summary of the survey hub data including the direction of movement for each hub.

Table 4.1: Summary of Instrumentation Data

Facility	Instrumentation Type	List of Reviewed Instrumentation	Last Reading Date
Area 2 Pit	Inclinometers	A2I-1	May 2017
	Ground Temperature Cables	A2T-1	May 2017
Dry Stack Tailings Storage Facility and Mill Valley Fill Extension (DSTSF and MVFE)	Survey Hubs	**Active:** DSSH06, DSSH10, DSSH12, DSSH14, DSSH15, DSSH17, DSSH18, DSSH19, DSSH20, DSSH24, *DSSH26, DSSH27, DSSH29, DSSH31, MV1, MV2.* **Destroyed in past year:** DSSH28, DSSH30	June 2017
	Inclinometers	**Active:** DSI-22, DSI-24 **Destroyed in past year:** DSI-23	May 2017
	Piezometers	**Active:** DSP-05 (A and B), DSP-06 (A and B), *DSP-07 (1 to 6), DSP-08 (1 to 6), DSP-10*	June 2017
	Ground Temperature Cables	DST-10, DST-11, DST-13, DST-14, DST-15	May 2017
Main Waste Rock Dump (MWD)	Inclinometers	MDI-2	May 2017
Southwest Waste Dump (SWD)	Survey Hubs[1]	**Active:** SWD-01, SWD-02A, SWD-04A, SWD-05A, SWD-06, *SWD-07, SWD-08, SWD-09* **Destroyed in past year:** SWD-01A, SWD-02, SWD-04A	June 2017
	Inclinometers	SDI-3	March 2017
	Piezometers	SDP-2 (A and B), SDP-3 (A and B), SDP-4 (A and B)	June 2017
	Ground Temperature Cables	SDT-1, SDT-2, SDT-3, SDT-4	April 2017
Main Pit	Survey Hubs [2]	**Active:** M73, M75, M79, M80, M81, M82, M83, M84, *M85, M86, M87* **Destroyed in past year:** M76	May 2017
Water Storage Pond Dam	Survey Hubs	WSP-1, WSP-3, WSP-4, WSP-5	June 2017
	Piezometers	WDP-2, WDP-3, WDP-3A, WDP-4, WDP-5, WDP-6, WDP-7, WDP-8, WDP-9, WDP-10, WDP-11, WDP-12, WDP-13	June 2017
	Ground Temperature Cables	WDT-1, WDT-2, WDT-3, WDT-4, WDT-5, WDT-6, WDT-7, WDT-8	June 2017

Note(s):

(1) Instrumentation in italics are new instrumentation installed since the previous inspection.

(2) Survey hub SWD-07 has replaced SWD-02A, survey hub SWD-08 has replaced SWD-02, and survey hub SWD-09 has replaced SWD-04A.

4.1 Area 2 Pit

Area 2 Pit instrumentation data is provided in Appendix C and includes a ground temperature cable (A2T-1) and an inclinometer (A2I-1) were installed in 2013 in the southeast corner of the planned Area 2 Stage 3 Pit.

The inclinometer data is shown in Figure 1 of Appendix C. The data shows a shear occurred within the waste rock fill near the surface during the initial year of data collection, along with some minor displacement at lower depths with no significant movement prior to 2017. The reading collected in March 2017, indicates some movement towards the pit (most visible on the polar plot in Figure 1), which may be related to the excavation of the Area 2 Stage 3 Pit. Additional readings are required to confirm the trends.

The ground temperature data indicates permafrost conditions down to an elevation of approximately 767 m. The bottom two sensors at elevations 765 m and 762m are consistently above 0 degrees and are situated in clay material.

4.2 Dry Stack Tailings Storage Facility

Instrumentation data for the Dry Stack Tailings Storage Facility (DSTSF) and Mill Valley Fill Extension (MVFE) are provided in Appendix D.

Movements in the Dry Stack Tailings Storage Facility (DSTSF) were first identified in early 2009. The Mill Valley Fill Extension (MVFE) Stage 1 was designed to mitigate the movement and construction of the facility, which began in January 2012 and was completed in 2013. The survey hubs used to monitor rates of the DSTSF showed a deceleration ranging from 20 to 60 percent since the start of the MVFE Stage 1 placement. Construction of a second extension (MVFE Stage 2) began in late 2015 was completed in the summer of 2016. The MVFE Stage 2 doubled the size of the Stage 1 buttress.

Survey Hubs

Survey hub movement data are presented in Figure 1 to 19 of Appendix D. All survey hubs show a decelerating trend[1], except for survey hubs DSSH20 and DSSH24, where additional data is needed to evaluate the trends. These hubs are located on cover soils and movement may be due to seasonal freeze/thaw effects.

Two additional hubs (ASH05 and ASH06) are located further to the south of the DSTSF on the airport access road (Appendix D, Figure 20). ASH05 shows no significant movement trend. ASH06 shows a slight increase to the movement rates, which may be related to disturbance as a result of a nearby pipeline installation. Additional data is needed to confirm the trend.

Piezometers

Piezometric data from the DSTSF are presented in Figures 21 to 24 in Appendix D.

[1] Based on a comparison of June 2016 and June 2017 movement rates.

DSP-05B (Figure 21, Appendix D) shows an increase in pore pressure in the past year. The cause of the pore pressure increase in unclear. The temperature at the sensor is approximately at the freezing point of water (-0.5°C) and the excess pore pressure as a result of an increase in the unfrozen water being unable to dissipate are a result of unfrozen conditions in the surround soils. As the survey hubs in the vicinity of the sensor shows decelerating movement, no additional action is recommended at this time.

During construction of the MVFE Stage 2, excess pore pressures were generated at DSP-09 and DSP-10 (Figure 24, Appendix D), with pressures beginning to dissipate following construction. These sensors are located at the base of the Minto Creek Valley where the MVFE Stage 2 fill thickness is the largest and are located approximately 5 m below the original ground surface. Flow meter readings for the MVFE Stage 2 collection sump indicate that the drainage blanket at the base of the MVFE Stage 2 is functional. The high pore pressures are believed to be the result of winter construction and the preservation of frozen ground conditions within the foundation resulting in impeded dissipation of the generated pore pressure. Discussion on the remaining piezometers are provided in Appendix D.

Ground Temperature Cables

Ground temperature profiles are provided in Figures 25 to 29 of Appendix D. The temperature readings below the active layer in the instrumentation installed in 2013 are generally in equilibrium with the surrounding soils, or continue to show a slight cooling trend. The profiles indicate that warm permafrost is present at all locations, except in the lower portions of DST-11 and DST-13. DST-11 is located near the crest of the DSTSF, while DST-13 is located approximately 300 m east of the DSTSF in an undisturbed location.

Inclinometers

Three inclinometer were installed between December 2016 and February 2017 in the eastern portion of the MVFES2. The inclinometer data are presented in Figures 30 to 32 of Appendix D.

- DSI-22 is located at the toe of the MVFES2 and shows no significant movement (Figure 30, Appendix D).
- DSI-23 is located on the lowest tier of the MVFES2 (Figure 31, Appendix D). The inclinometer is blocked within the waste rock at an depth of 14 m with the last reading obtained in April 2017. The previous readings have shown a shear zone in the soft organic layer immediately below the waste rock fill with a movement rate of 0.7 mm/day with a decelerating trend.
- DSI-24 is located between the MVFES2 and the DSTSF (Figure 32, Appendix D). As a result of the ice within the inclinometer casing, no readings were able to be obtained until July 2017, with 4 sets of readings collected at the time of writing. The data obtained has been inconsistent with high check-sum values indicating the readings are of poor quality. Plots of the B-axis indicate a potential shear zone at a depth of 53 m, however as the data from the A-axis is of poor quality, the magnitude of the movement along the shear zone is unable to be determined.

4.3 Main Waste Dump

Instrumentation data for the Main Waste Dump (MWD) are provided in Appendix E. Two inclinometers, MDI-1 and MDI-2, have been installed at the MWD. Of the two, only MDI-2 is functional. The last reading of MDI-1 was obtained in November 2012.

There has been no significant movement trend detected in MDI-2 since 2012. The past movement at MDI-2 occurred primarily within rock fill and was determined to have been the result of the removal of the rock fill placed between the instrument location and the Main Pit (EBA 2011).

4.4 Southwest Waste Dump

Instrumentation data for the Southwest Dump (SWD) are provided in Appendix F.

Survey hub movement data are presented in Figure 1 to 11 of Appendix F. All hubs show either no significant changes in horizontal movement, or a decelerating movement trend.

Three of the four active hubs located along the two of the SWD have been replaced.

- SWD-06 has replaced SWD-01A
- SWD-07 has replaced SWD-02A
- SWD-09 has replaced SWD-04A

These hubs were disturbed due to heaving caused by frost action as evidenced by exposed concrete and as a result the movement rates obtained from the surveys were questionable. This frost action is also evidenced by the seasonal variability in the movement data. SWD-05A has yet to be replaced. The replacement hubs have been mounted on standard lock-blocks or large boulders. The replacement hubs are expected to show seasonable variability as a result of ground freezing and thawing, but horizontal movement rates are expected to be indicative of any ground movement.

Inclinometer data from SDI-3 is presented in Figure 12 of Appendix F. The displacement profile indicates an upper and lower shear zone with both shear zones having the same direction of movement orientated parallel to the slope of the bedrock surface. Movement rates in both shear zones are similar to those in 2016 with the upper shear zone moving approximately 0.4 mm/day and the lower zone moving approximately 0.07 mm/day. The upper shear zone shows a jump in the displacement rate between May and June 2016, which may be due to resloping of the dump.

The upper shear zone movement is suspected to be related to thawing of the permafrost colluvium with potentially high excess pore water pressures, which is supported by the slight warming trend in temperature data at SDT-2 and SDT-3. The movement rate of the upper shear zone is expected to decrease as the pore water pressure dissipates. The upper shear zone shows a jump in the displacement rate between May and June 2016, which may be due to cover placement on the dump during the winter.

The lower shear zone is located 7 to 10 m above the bedrock contact in an ice-rich zone consisting of stratified ice (frequent 5 to 75 mm thick ice lenses). The conditions at this shear zone are similar to other movement zones observed at the DSTSF and south wall of the Main Pit believed to be caused by ice creep and/or plastic deformations.

Ground temperature data for the Southwest Dump are presented in Figures 13 to 16 of Appendix F, with the temperature cable location shown in Figure 1. The profiles indicate that warm permafrost is present at all locations with time graphs generally indicating a warming trend at all locations.

Piezometric data for the Southwest Dump are presented in Figure 17 of Appendix F. The pore pressures for all piezometers show a decreasing trend.

4.5 Main Pit

Instrumentation data for the Main Pit are provided in Appendix G.

The initial indication of movement in the Main Pit south wall was observed in April 2009. A waste rock buttress was subsequently designed and constructed. Substantial completion of the buttress (South Wall Buttress) was completed in 2013. A detailed assessment and history of the physical stability associated with the Main Pit south wall is provided in the letter report “Detailed Review of Foundation Performance at Select Mine Waste Facilities and Main Pit South Wall” (SRK 2012b).

The Main Pit is a disposal location for waste rock with an NP:AP ratio less than 3 (SAT) with the material to be placed below the final water elevation of the pit. In addition to the South Wall Buttress, several In-Pit Dumps have been constructed in the pit at various times that did not have the same stringent compaction requirements. The In-Pit Dump noted in Appendix A was end-dumped into the pit water with a high dump height and significant cracking and settlement has been observed since. In April 2015, construction of a new dump (SAT Dump) began that will be constructed on top of the tailings and will also buttress the In-Pit Dump. In February 2017, construction of the Main Pit Dump (MPD) began over areas of the south wall of the Main Pit that do not contain SAT. Footprints of the South Wall Buttress, In-Pit Dump, SAT Dump, and MPD are provided in Figure 15 of Appendix A.

Survey hub movement data for the Main Pit are presented in Figures 1 to 15 of Appendix G. All hubs show no significant changes in horizontal movement rates or decelerating movement rates, except for M82, M83, and M86. Details of the movement at each hub is described below. During the 2016 instrumentation review, the movement rate at M84, located near the crest of the In-Pit Dump had increased from 0.2mm/day to 0.7 mm/day. The increase was believed to be the result of the SAT Dump construction. The movement rate at M84 has since decreased significantly, likely as a result of the SAT Dump acting as a buttress to the In-Pit Dump.

- M82 (Figure 8, Appendix G) was relocated in March 2017 to be located outside of the MPD footprint, with 3 months of data collected since the time of writing. The survey hub is mounted on a lock-block set on surface. The data indicates a horizontal movement rate of 2 mm/day. The movement may be the result of MPD construction. However, the as the ground upon which it was set was not cleared/leveled, and as a result some of the

measured movement may be due to shifting or rocks beneath the lock-block (see Figure 14, Appendix A).

- M83 is located along the crest of the In-pit Dump. The movement rate increased from approximately 0.2 mm/day to 0.7 mm/day beginning in the spring of 2017. Addition readings are needed to determine if the increase in movement is due to seasonal effects, SAT dump or MPD construction, or large scale ground movement. The survey frequency at the Main Pit has increased to weekly since the construction of the MPD began, and this frequency is recommended to continue for the remainder of the dump construction.

- M86 is located along the south rim of the Main Pit. The hub was a replacement for M75, and was removed in February 2017 due to construction of the MPD, and reinstalled in April 2017. Movement rates at the new hub are similar as during the 2016 inspection.

4.6 Water Storage Pond Dam

Instrumentation data for the Water Storage Pond Dam are provided in Appendix H and consists of eight ground temperature cables, 13 vibrating wire piezometers, and five survey hubs.

Survey hub movement data are presented in Figure 1 and 2 of Appendix H. No significant movement was observed.

Ground temperature data are presented in Figures 3 to 10 of Appendix H. All temperature sensors are above zero and show an increasing trend. WDT-5 shows an approximate 2 degree increase in temperatures in the two deepest sensors located in bedrock. The temperatures are within the range of observed groundwater temperatures in Westbays MW-12-05 and MW-12-06

Piezometric data are presented in Figures 11 to 14 of Appendix H. In general, pressures continue to follow historical patterns and fluctuate with the pond water elevation.

5 Results and Recommendations

Findings of the inspection are documented in the photographic compilation of figures in Appendix A. Fifteen figures provide a record of observations across the site.

A summary of the recommendations is provided in Table 5.1. Where appropriate, each recommendation includes a priority classification of low, medium, or high that should be addressed in 3, 1, and 0.5 years respectively.

Table 5.1: Summary of Recommendations

Area	Recommendations
Instrumentation	• **(High Priority) More attention needs to be paid to the stability of the inclinometer readings during collection to ensure quality data is collected. Data should be reviewed following collection and new readings should be taken if data is of poor quality.** • **(High Priority) All survey hubs mounted on lock-blocks should be inspected to determine if readings may be affected by uneven ground conditions. The ground should be level and clear of all debris/loose rocks.**
DSTSF	• **(High Priority): Two readings should be collected from DSI-24 on the same day confirm accuracy of the readings, and readings collected on a weekly basis until the quality of inclinometer data can be confirmed.** • **(Medium Priority): Additional fill should be placed in the pooled depression at the south end of the facility to prevent ponding.** • Continue to monitor the exposed slope south of the Minto Creek Seepage Collection System for signs of retrogressive failure to determine if any slope stabilization measures are required.
Tailings Diversion Ditch	• **(High Priority): The vegetation in the western portion of the channel should be removed prior to the planned diversion of the South Diversion Ditch into the Tailings Diversion Ditch.**
Camp Site	• Continue to monitor the slough at the west end of the camp area and the erosion channels below the camp pad following large rainfall events.
South Diversion Ditch	• No actions are required provided the SDD is decommissioned in August 2017, as planned. However, should the SDD not be decommissioned the followings actions are recommended: o **(High Priority): Clean the overflow spillway on both sides of the access road and clear the inlet to the culverts.** o **(High Priority) Clear the vegetation within the SDD prior to 2018 freshet.**
South Wall Buttress / In-Pit Dump / SAT Dump	• **(High Priority):** o **Clear the loose rocks beneath M82** o **During SAT material placement, truck traffic is to be maintained a minimum of 5 meters away from the dump face, or a spotter is to be present.** • Continue to limit access to the In-Pit Dump area near M84.
Area 2 Pit	• **(High Priority): Review radar data of the Area 2 Stage 3 Pit to confirm any areas of movement and the rate of movement. Based on the results, establish a survey hub(s) to monitor displacement.**

Note(s):

(1) High and medium priority actions are highlighted in **bold**.

(2) Low, medium, and high priority recommendations should be addressed in 3, 1, and 0.5 years respectively.

This report, “2017 Geotechnical Annual Review, Minto Mine, YT”, was prepared by SRK Consulting (Canada) Inc.

Original signed and stamped by

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and reviewed by

Original signed by

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All data used as source material plus the text, tables, figures, and attachments of this document have been reviewed and prepared in accordance with generally accepted professional engineering and environmental practices.

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The opinions expressed in this report have been based on the information available to SRK at the time of preparation. SRK has exercised all due care in reviewing information supplied by others for use on this project. Whilst SRK has compared key supplied data with expected values, the accuracy of the results and conclusions from the review are entirely reliant on the accuracy and completeness of the supplied data. SRK does not accept responsibility for any errors or omissions in the supplied information, except to the extent that SRK was hired to verify the data.

6 References

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Appendix A: Photographic Report

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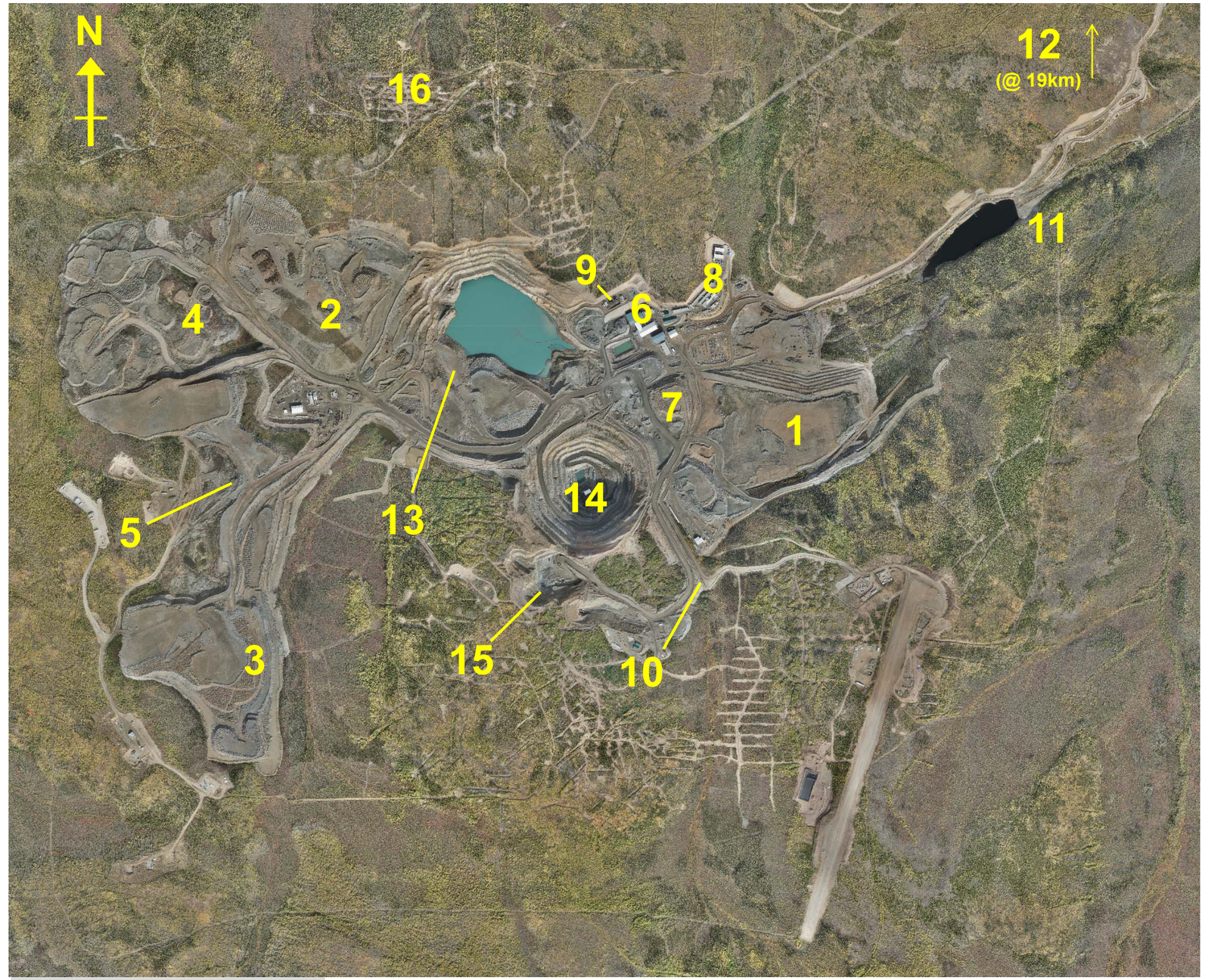

2014 Orthophoto.

Inspection Area Number

srk consulting

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capstone MINTO MINE
OPERATED BY MINTO EXPLORATIONS LTD.

Minto Mine

2017 Geotechnical Inspection

Site Overview

Date:	Approved:	Figure:
August 2017	PHM	1

1 Dry Stack Tailings Storage Facility

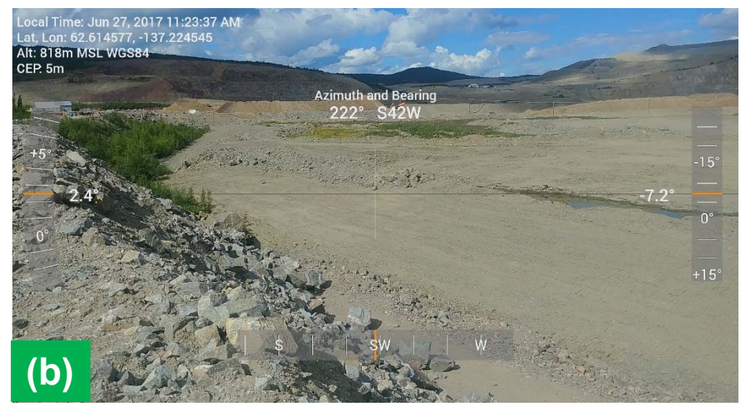
- Since the 2016 inspection, the implementation of closure measures has begun at the DSTSF and are currently on-going. The waste rock shell has been regraded, bulk landform regrading of the DSTSF surface has been completed, unsuitable cover soils have been removed and replaced with suitable cover soil, and overburden was placed on the south slope of the DSTSF to cover all exposed tailings and to provide positive drainage of the area between the Tailings Diversion Ditch and the DSTSF.
- Additional 'fine tuning' regrading of the cover surface and placement of cover soils over the waste rock shell remains to be completed.

- No signs of instability observed. Due to the placement of cover materials, the cracking noted in the 2016 inspection were unable to be observed.

- Photo (a) shows cover at the south end of the DSTSF and fill placed at the south slope of the DSTSF.
- Photos (b) and (c) shows the south slope fill and a strip of pooled water in a surface depression that is believed to be located near (but outside of) the former crest of the DSTSF. The pooled water is suspected to be due to settlement of the recently placed south slope fill.
- Photo (d) shows the eastern end of the south slope fill and the former TDD.
- Photo (e) shows the north side of the waste rock shell. Cover soil has been stockpiled at the crest of the waste rock shell.

Recommendations

- Additional fill should be placed in the pooled depression to prevent ponding and provide positive drainage.



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		Dry Stack Tailings Storage Facility		
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1 Dry Stack Tailings Storage Facility - Mill Valley Fill Extension

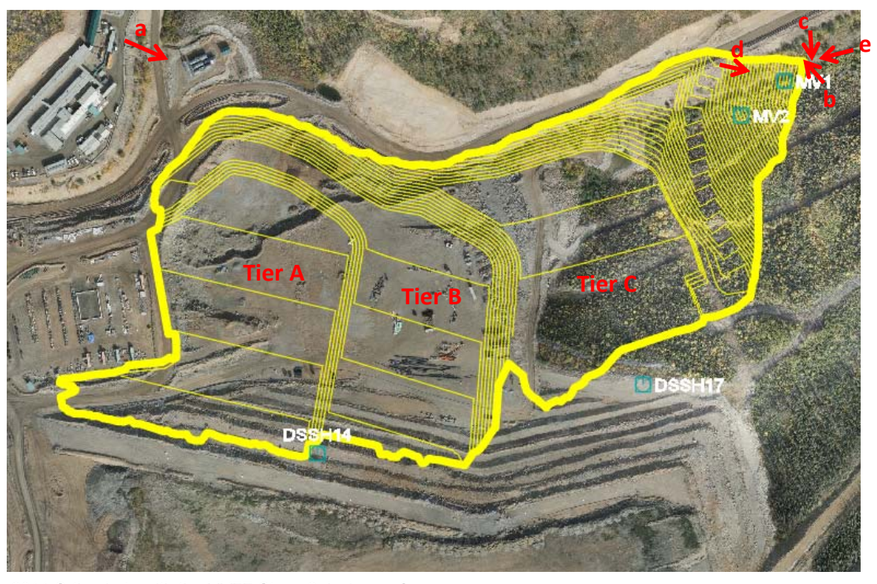
Waste rock placement at the MVFE Stage 2 began in late 2015 and was completed in the summer of 2016. Since 2016, the slopes of the MVFE Stage 2 were regraded to 3H:1V or flatter, cover soils were spread on the flat surfaces and were in the process of being spread on the slopes (photo (a)).

No major signs of instability were observed at the time of the inspection.

- Photo (a) shows cover soils being spread on the north slopes of the MVFE Stage 2.
- Photo (b) shows the Minto Creek Seepage Collection System. The system appears to be functioning as per design, no signs of seepage immediately downstream of the system.
- Photo (c) shows the slope south of the Minto Creek Seepage Collection System. Minor sloughing of the slope has occurred as a result of permafrost thaw.
- Photo (d): View of the down-valley slope of the MVFE Stage 2.
- Photo (e): View of one of three new inclinometers installed (DSI-22) to monitor movement rates on the east side of the DSTSF and MVFE Stage 2.

Recommendations

- Continue to monitor the slope to the south of the Minto Creek Seepage Collection System for signs of retrogressive sloughing to determine if any slope stabilization measures are required.



2014 Orthophoto with the MVFE Stage 2 design surface

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		Dry Stack Tailings Storage Facility – Mill Valley Fill Extension
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1 Dry Stack Tailings Storage Facility - Tailings Diversion Ditch

- In general, the berm and ditch appeared functional, with conditions the same as those in observed in previous inspections. No signs of instability or ditch obstructions were noted along the ditch alignment.
- Photos (a) and (b): View of the upper, unarmored portion of the diversion ditch. Vegetation growth is significant over a small portion of the ditch, but is not believed to be impacting the flow capacity due to the excess design capacity of the ditch. However, as the South Diversion Ditch is planned to be diverted into the Tailings Diversion Ditch, the vegetation is recommended to be removed.
- Photos (c) and (d): View of the middle armored portion of the diversion ditch. Rip-rap is well placed, and compacted, and the ditch is free of debris.
- Photos (e) and (f): View of the lower portion of the ditch and outlet. The ditch outlet was excavated through placed waste rock. The slopes were steep, and a high amount of finer material was noted along the excavated slopes. This may be susceptible to erosion during large flow events.

Recommendations

- Prior to the diversion of the South Diversion Ditch into the Tailings Diversion Ditch, the vegetation in the western portion of the channel should be cleared.

2014 Orthophoto

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		Dry Stack Tailings Storage Facility – TDD		
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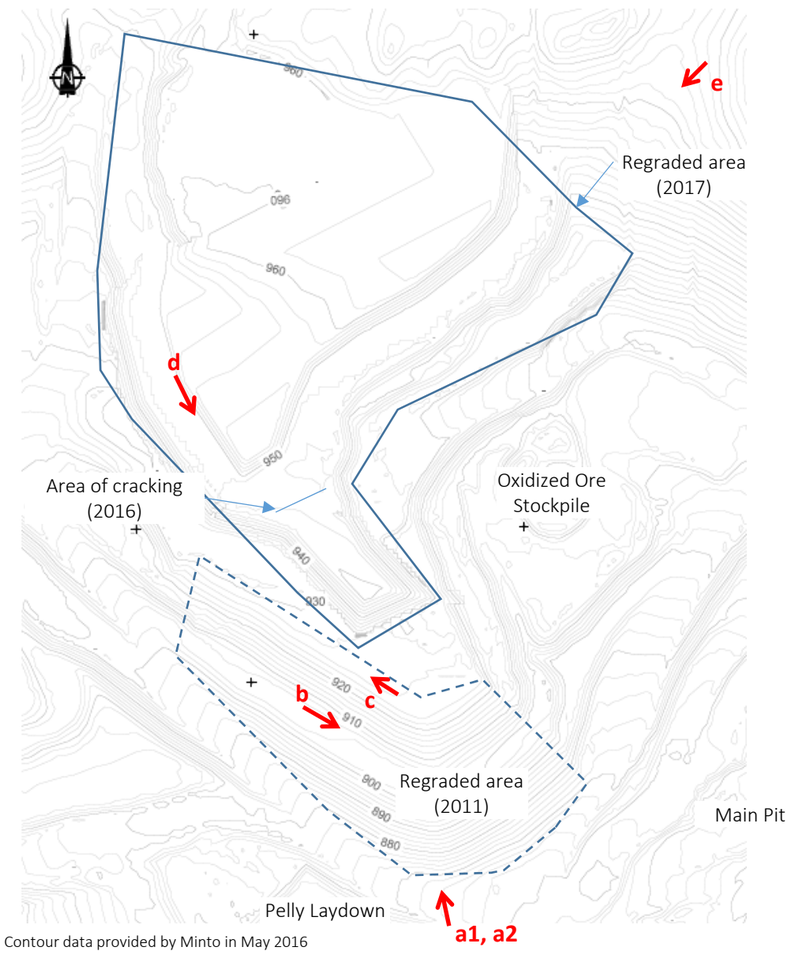
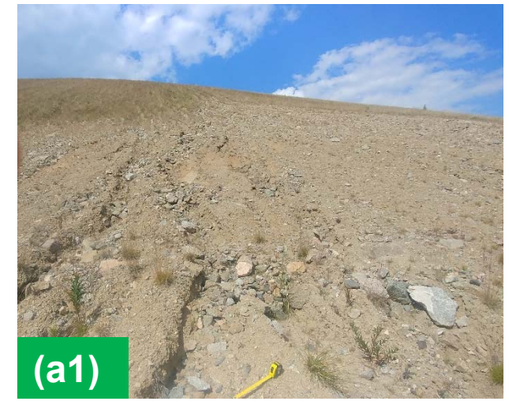
2 Main Waste Dump and Main Waste Dump Expansion

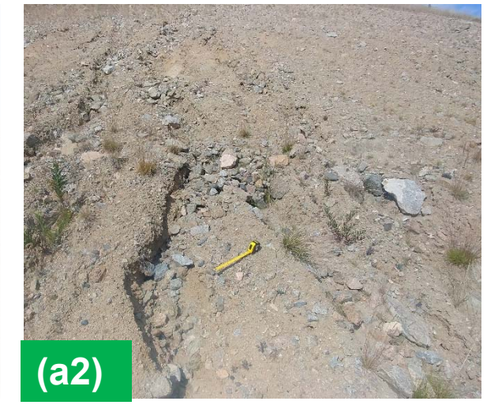
- No waste rock has been placed at the Main Waste Dump (MWD) or Main Waste Dump Expansion (MWDE) in the past year. The majority of the MWDE slopes have been regraded. Overburden was placed over the top surface of the MWDE and stockpiled along the dump crests for future cover placement on the dump slopes.
- Cover material spread on the top surface was generally undulating with significant random cracking as a result of the winter placement. It is understood additional 'fine-tune' grading is to be completed on the top surface.
- No major signs of instability were observed. The minor cracking observed in the 2016 geotechnical inspection was unable to be observed as a result of the overburden placement. The cracking was located at the location noted in the plan below and was believed to be due to differential settlement of the waste rock as a result of differences in the fill height on either side of the cracks.
- The gully erosion at the south end of the regraded MWD appears to be ongoing with evidence of deepening gullies and fresh sediments at the base of the slope (photos a1 and a2)

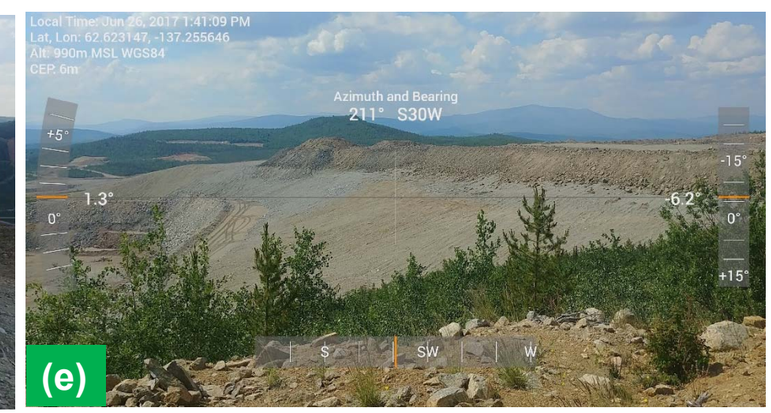
- Photo (b): View of the 2011 regraded slope taken from the mid-bench toe.
- Photo (c): View of the animal burrow (fox?) at the top of the MWD. The burrow diameter is approximately 15-20 cm.
- Photo (d): View of the 2016 regraded MWDE slope
- Photo (e): View of the stockpiled cover material on the MWDE to be placed on the slopes as cover.



Contour data provided by Minto in May 2016







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		Main Waste Dump		
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3 Southwest Waste Dump

- Since, the 2016 inspection, additional regraded of the dump area has been completed, overburden cover soil from the Area 2 Stage 3 Pit has been spread on the flat dump surfaces and stockpiled along the crest of the slope. Cracks and depressions noted in the 2015 and 2016 inspections were unable to observed as a result of the cover placement.
- The majority of the dump surfaces where cover soils were spread during the winter show differential settlement and cracking as a result of the winter placement. It is understood that additional 'fine-tune' grading of the cover soil surfaces is planned to be completed at a later date.
- Photo (a): View of regraded slope on the east side of the dump and stockpiled overburden along the crest of the slope.
- Photo (b): View of the north end of the Southwest dump taken from the Main Waste Dump. The photo shows the stockpiling of overburden along the regraded crests of the dump.
- Photos (c) and (d) show depressions, areas of differential settlement, and cracking of the overburden slope that was placed during the winter.

- Photo (e): Survey hub SWD-06 has been installed to replace SWD-01A that was impacted by frost heave. The remainder of the hubs that have experienced frost heave (SWD-02A, -03A, -04A, and -05A) have also been replaced with hubs mounted on lock-blocks or large boulders.
- Photo (f) shows the outlet of the culvert below the Pelly Laydown area. The appearance of the waste rock rip-rap below the culvert appears the same as in previous years inspection photos.

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		Southwest Waste Dump		
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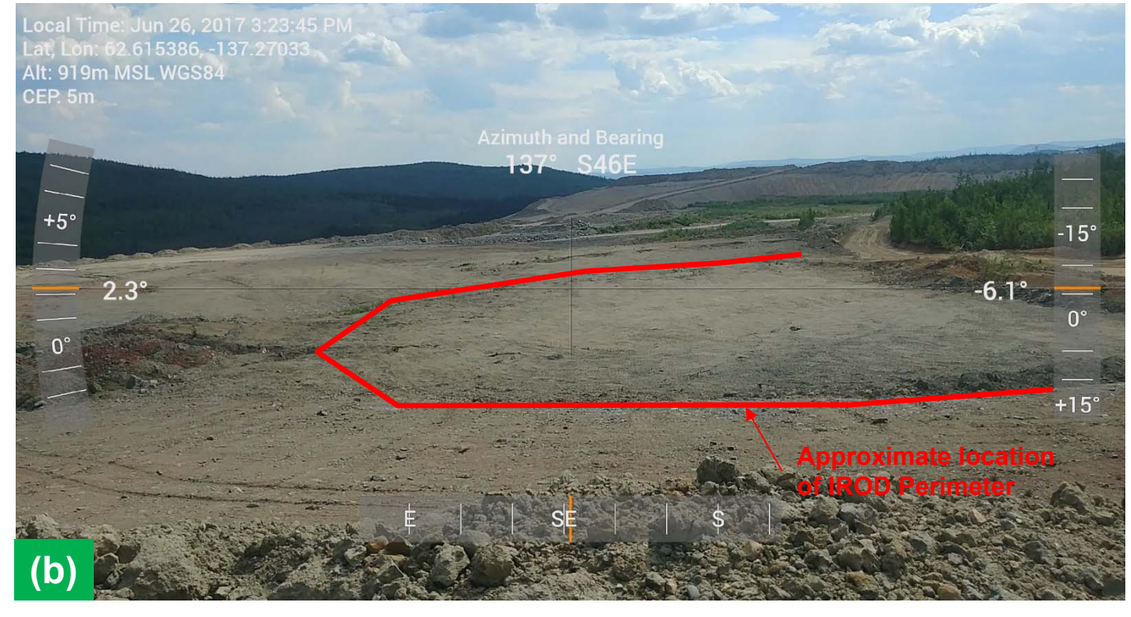
4 Reclamation Overburden Dump

- Conditions at the Reclamation Overburden dump (ROD) remain the same as noted in previous years' inspections:
  - Slumping, settlement and tension cracks are expected in the dump as it is constructed with frozen overburden with thawing expected.
  - Discontinuous tension cracks and differential settlement observed along the perimeter crest.
  - Ground undulation is typically 0.3 m and is prevalent throughout the facility.

- The dashed yellow line in Photo (a) shows the small slope failure first observed in 2014. Vegetation has firmly been established within its footprint. The failure has not compromised the overall dump slope angle and as a result, the failure is not expected to reduce the overall stability of the dump.

5 Ice Rich Overburden Dump

- The IROD is completely contained by the Southwest Dump. Since the previous years' inspection, additional overburden has been placed over the IROD location to provide positive drainage and prevent pooling.



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		Reclamation and Ice Rich Overburden Dumps
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6 Mill Site

Conditions of the mill area are similar to those observed in previous inspections with minor ongoing erosion of the slope to the north of the mill.

Since the 2016 inspection a larger ‘falling rocks’ warning sign has been placed, and fallen rocks/cobbles have been cleaned from the base of the slope and from behind the concrete barriers (photo d).

7 Ore Stockpiles

- The ore stockpiles were investigated briefly in passing. All slopes appeared in good condition: no slumping, bulges, cracks, or other signs of instability were observed.

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		Mill Site and Ore Stockpiles		
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8 Camp Site

Photo (a): Slope above the main camp site appears stable, with some minor erosion of sands and gravels observed. Eroded sand/gravel is generally present at the base of the slope with occasional cobbles/boulders up to 300 mm.

Photo (b): A small slump was observed at the west end of the slope above the camp area. There is evidence of channelized surface flow above the slump area indicating that the slump may have occurred during a high rainfall event.

Photo (c): View of the channel to the north of the camp area. There is minor sloughing in the ditch in areas, but flow is not impeded. No water was observed in the upper diversion ditch.

Photo (d): View of the regraded camp pad south of the site services trailer. In 2016, the area was regraded to prevent flow of the slope and to direct flow into a sump with a pipe outlet that discharges at the base of the slope. These mitigation measures to minimize erosion of the slope below the camp pad appear to have been effective.

Photo (e): View of the camp pad crest looking south.

Recommendations

- Continue to monitor the slough at the west end of the camp area and the erosion channels below the camp pad following larger rainfall events.

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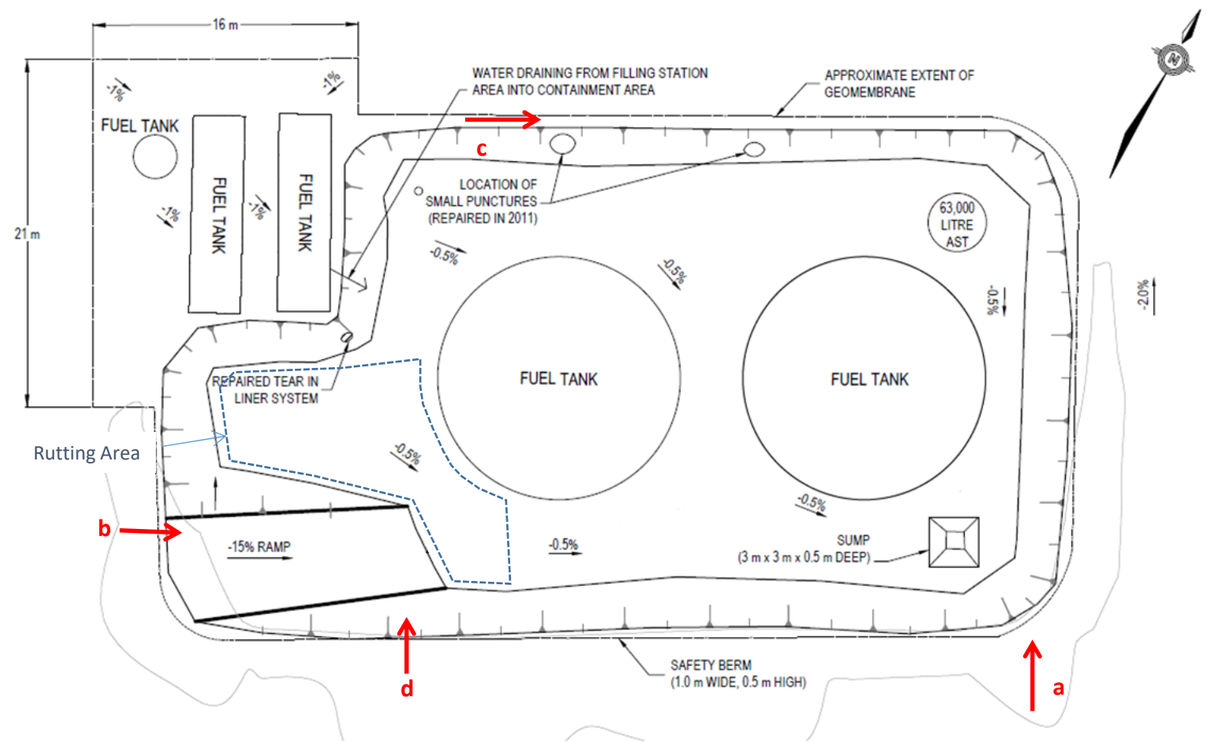
9 Fuel Containment Facility

Observations

- Conditions at the fuel containment facility are unchanged from the previous inspection in June 2016.
- Photos (a) to (d) show the condition of the liner on each side of the facility.
- The erosion gully along the access ramp (Photos (b) and (d)) appears to be unchanged compared to the June 2016 photos.
- Photos (b) and (d) also show two areas of folding of the liner. No tears or defects in the liner were observed.
- Minor pooling was observed. The facility appears to drain into containment area as per design.
- No new rutting observed. Ruts are present in the southern half of the facility. Rutting is significant (approximate 2-3 inches deep) between the two tanks where equipment was turning. No liner is exposed as a result of the trafficking.

Recommendations

- The bedding layer over the geomembrane (150 mm thick) was not meant for heavy equipment. Vehicle access should be limited to the occasional visit with low ground pressure equipment.
- No actions required.



Source: Figure 1, EBA letter "Fuel Containment Facility – 2011 Annual Review, Minto Mine, YT", dated September 30, 2011.

Photograph vantage point

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		Fuel Containment Facility		
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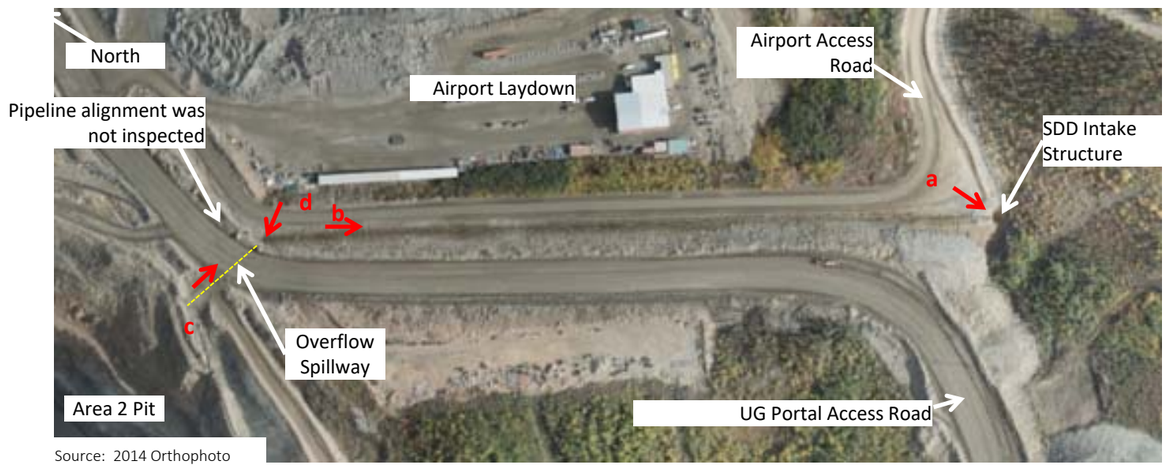
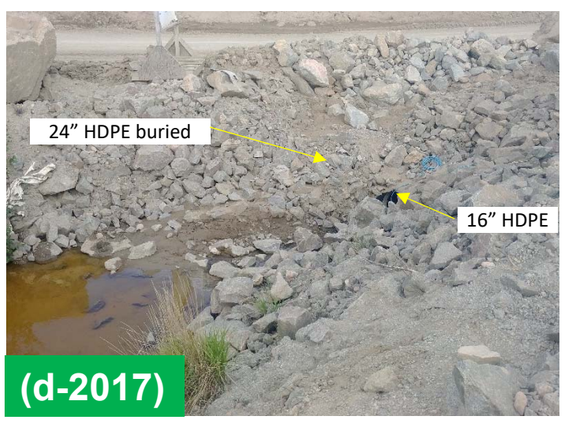
10 South Diversion Ditch



Source: 2014 Orthophoto

Photograph vantage point



- The South Diversion Ditch was inspected between the overflow spillway and the intake structure. The ditch along the Airport Access road was also inspected. The pipeline alignment between the overflow spillway and the Main Pit Confluence area was not inspected during the site visit.
- No signs of instability were noted along the side-slopes.
- Due to the future development of the Area 2 Stage 3 Pit, the SDD is to be decommissioned with water at the SDD Intake Structure is to be diverted to the Tailings Diversion Ditch (TDD), with any flow that exceeds the TDD capacity, directed into the Area 2 Pit. It is understood that these works will start in August 2017 and be completed prior to the 2018 freshet.

- Photo (a): The inlet structure at the upstream end of the ditch is unobstructed.
- Photo (b):Vegetation growth in the channel is likely impacting the flow capacity of the ditch and overtopping is possible during extreme events.
- Photo (c): Routine grading of the UG Portal Access Road has resulted in the creation of berms on both sides of the road that is blocking the overflow spillway. Should the capacity of the HDPE pipes be exceeded and the ditch overtopped, flow would enter the Airport Laydown Area.
- Photo (d): View of the HDPE pipe intake area in 2017 and 2014. The grading of the UG Portal Access Road has also resulted in the larger 24" HDPE pipe being buried. This greatly reduces the capacity of the piping, and with the current blockage of the overflow spillway, there is a significant risk of overtopping of the SDD. of the west bank. Conditions the same as noted in previous inspections.

Recommendations

No actions are required as the SDD is to be decommissioned in August 2017. However, if the SDD is not decommissioned:

- **High Priority**:
  - the overflow spillway and HDPE pipe intake area should be cleaned as soon as possible, and the area surveyed to ensure that the spillway meets the design requirements (minimum channel width and depth are met).
  - The vegetation within the South Diversion Ditch should be cleared.

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		South Diversion Ditch		
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11 Water Storage Pond Dam

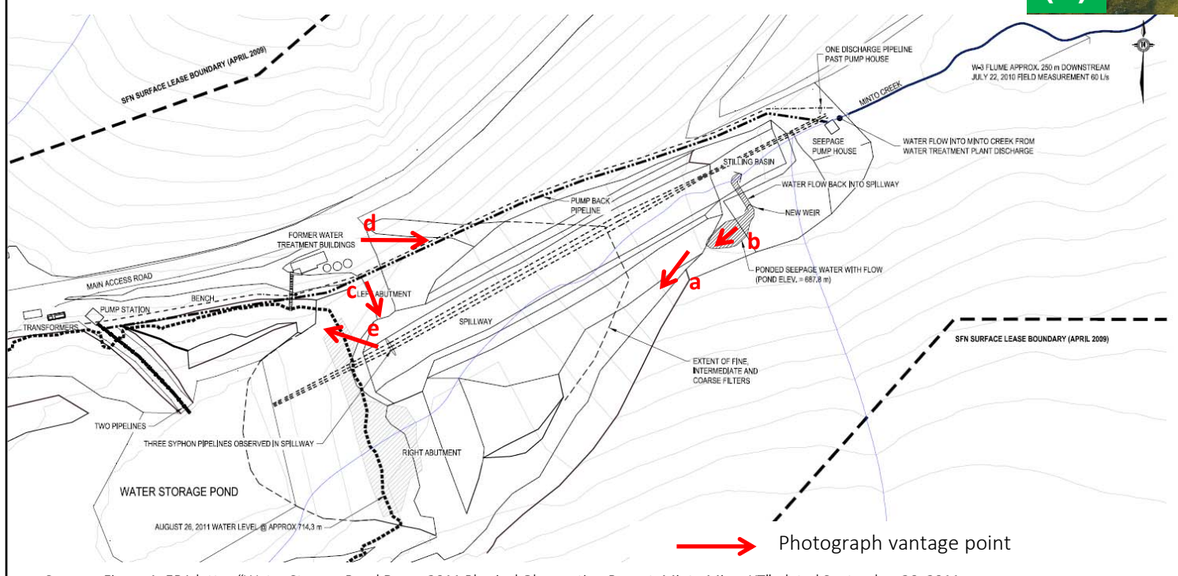
The June 2015 geotechnical inspection reported a large area of erosion on the left (north) abutment of the dam that was exposed as a result of the water level being lower than the normal operating level. The area was repaired in July 2015 by placing additional rip-rap as protection after consulting with the Engineer of Record for the dam, TetraTech EBA. The repaired area could not be observed during in 2016 inspection, as the pond water level was within normal range, but was visible during the 2017 inspection (e).

- Pond elevation during the inspection was approximately 709.5 m (spillway elevation 716.2m)
- No signs of instability along the dam, or at the abutments.
- Seepage water downstream of the dam was clear and no accumulation of sediments was observed.
- The weir present downstream of the dam had an estimated flow rate of <1 L/s. Condition of the seepage water appears unchanged compared to the 2016 inspection. Water flow could not be heard in the rockfill adjacent to the seep. The water was clear with no turbidity.

Photo (a): View of the downstream slope taken from the ponded seepage water area looking towards the right abutment.
Photo (b) View of the ponded seepage pond at the toe of the dam.
Photo (c): View of the crest of the dam
Photo (d): View of the downstream slope of the dam taken from the left abutment.
Photo (e): View of the upstream slope at the right abutment.

Recommendations

- Continue regular monitoring of the dam as per the OMS Manual.



Source: Figure 1, EBA letter "Water Storage Pond Dam– 2011 Physical Observation Report, Minto Mine, YT", dated September 30, 2011.

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		Water Storage Pond Dam		
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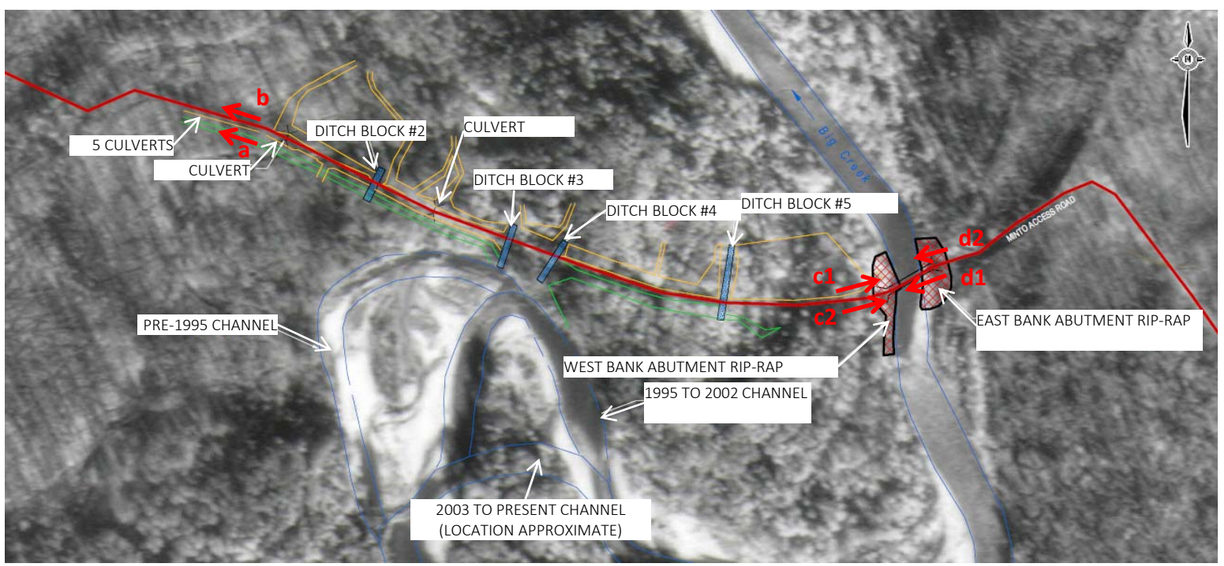
12 Big Creek Bridge

- Conditions of the culverts are unchanged since the previous June 2016 inspection. All culverts are in satisfactory conditions with no major blockages or sediment accumulation at either end of the culverts. The first culvert west of the bridge is in satisfactory condition.
- Photos (a) and (b) show the upstream and downstream ends of the group of 5 culverts, each with diameter of 1.1 m. The culverts are in satisfactory condition, with no blockages at either end. Small portions of geotextile are exposed at either end, but is not impacting the culvert performance.
- Ditch Blocks #2 to #5 are unchanged from previous inspections and are in satisfactory condition. Ditch Block #1 has not been constructed.
- Photos (c) and (d) show the east and west abutments, respectively. The bridge abutments and road approaches are in good condition, with no signs of instability observed.

Recommendations

- Continue regular annual monitoring of sediment accumulation in the culverts, and clean out if sediments continue to accumulate.



Source: Figure 1, EBA letter "Big Creek Bridge– 2011 Annual Review, Minto Mine, YT", dated September 30, 2011.

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		Big Creek Bridge		
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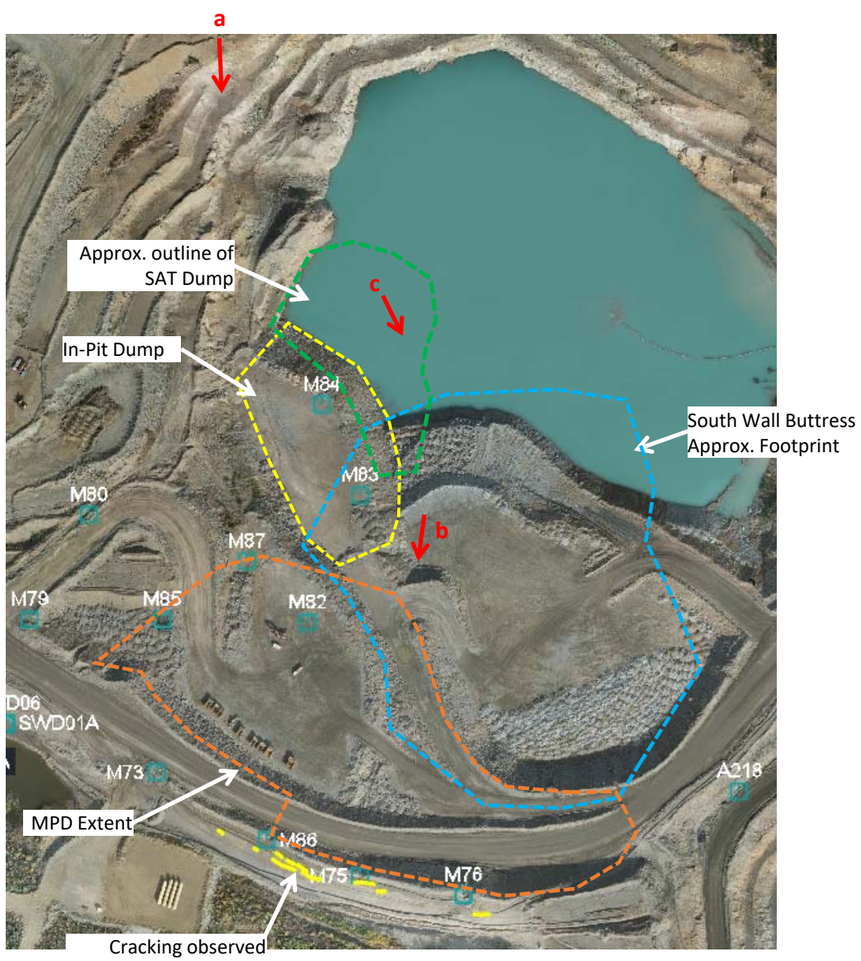
13 Main Pit Dump, SAT Dump, & In-Pit Dumps

Since the 2016 inspection, construction of dump continued periodically as SAT material was produced, and construction of the Main Pit Dump began in February 2017. At the time of the inspection, the MPD was nearing completion at an elevation of 835 m.

- No waste rock was placed on the 'in-pit dump' (photo (a)) and no visible changes of the cracking were observed in the with no change in the condition of the cracking observed.
- The cracks noted during the 2016 inspection parallel to the pit wall at the south end of the pit was not observed during the 2017 inspection as a result of construction of an access road over the cracking location. The 2016 cracking was believed to be due to settlement of the waste rock within Main Pit.
- Survey hub M82 (Photo (b)) was observed with rocks underneath its lock block, which is likely the cause of the variability in the survey hub readings.



SAT Dump

- Minor cracks were observed parallel to the advancing face of the SAT dump (Photo (c)). The maximum crack width observed was 3 cm. The SAT dump is being advanced in a controlled manner with the dump face advanced 5m, followed by a minimum 7 day tailings consolidation period, and as a result, cracking is to be expected as a result of consolidation of the underlying tailings. The cracks are routinely monitored by Minto staff and spray painted to monitor propagation.
- Tracks from haul trucks were observed close to the dump face – truck traffic should be maintained a minimum of 5 meters away from the dump face, or a spotter should be present.

Recommendations:

- **High Priority:** Clear the loose rocks beneath M82
- Continue to limit access to the In-Pit Dump area near M84.
- During SAT material placement, truck traffic should be maintained a minimum of 5 meters away from the dump face, or a spotter should be present.

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		Main Pit, South Wall Buttress, and In-pit Dumps		
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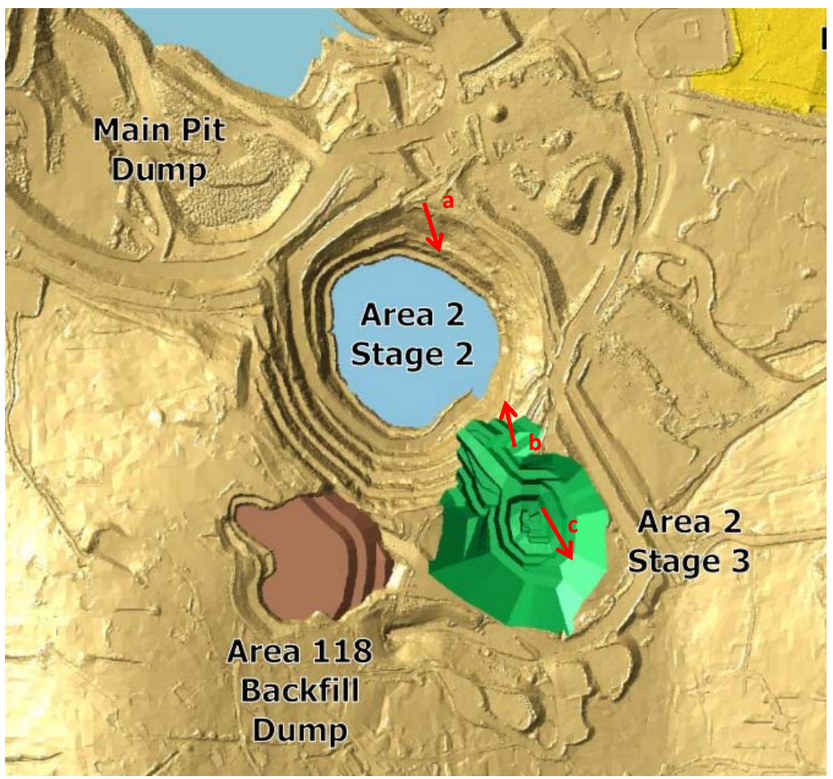
14 Area 2 Pit

Since the 2016 Inspection, mining of the Area 2 Stage 3 Pit started with most of the overburden removed at the time of the 2017 inspection.

- Photo (a): View of the Area 2 Stage 2 Pit taken from the north side looking south.
- Photo (b): View of the Area 2 Stage 2 Pit looking north.
- Photo (c): View of the Area 2 Stage 3 overburden slope in the south east corner of the pit. The photo notes a layer of wet, fine grained silts and clays that was thawed at the surface, with melt water draining onto the pit floor. No ice or ice lenses were observed, but the zone likely contains excess ice. The area is likely to be subject to localized instability and sloughing as a result of the melting ice similar to that experienced on the east wall of the Area 2 Stage 2 Pit (photo b), but large scale movement of the slope is a possibility. The area should be closely monitored, and it is recommended that a survey prism be established above the zone to monitor displacement.



Source: Figure 4, Minto Explorations, 2016. Area 2 Stage 3 Pit – Mine Development and Operations Plan 2016-01, October.

Photograph vantage point

Recommendations:

- **High Priority:** Review displacement of the slope based on radar (or I-site scanner) data to confirm any areas of movement and the rate of movement. Based on the results of the review, establish a survey prism/hub to monitor displacement of the south wall of the Area 2 Stage 3 Pit.

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		Area 2 Pit
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15 Area 118 Pit

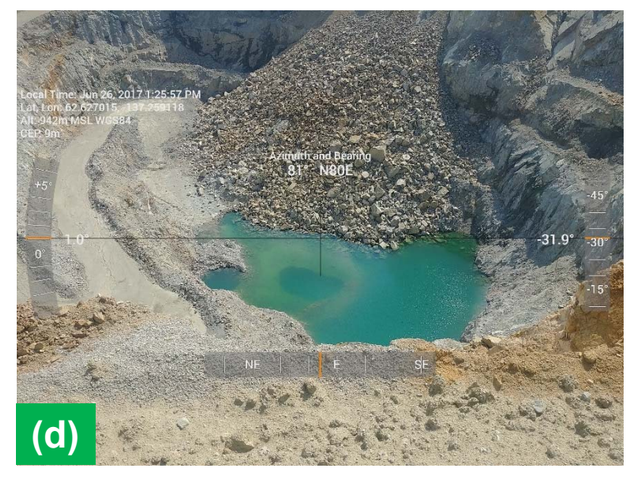
Since the previous inspection, the Area 118 Pit has been backfilled with coarse grained overburden from the Area 2 Stage 3 pit expansion that is unsuitable for reclamation covers (fines content < 10%). The pit is nearly backfilled to the invert pit elevation.

Photo a: View of the Area 118 Pit looking west..

16 Minto North Pit

The Minto North Pit was visually observed from the rim at the north side of the pit. Mining at the pit was completed in October 1, 2016 with no additional mining operations planned at Minto North at this time.

The failure of the south pit wall (debris shown in photos (b) and (d)) occurred one day following completion of the pit and removal of all equipment and personnel, as was predicted based on pit wall monitoring. No additional pit slopes failures have occurred since.



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2017 Geotechnical Inspection

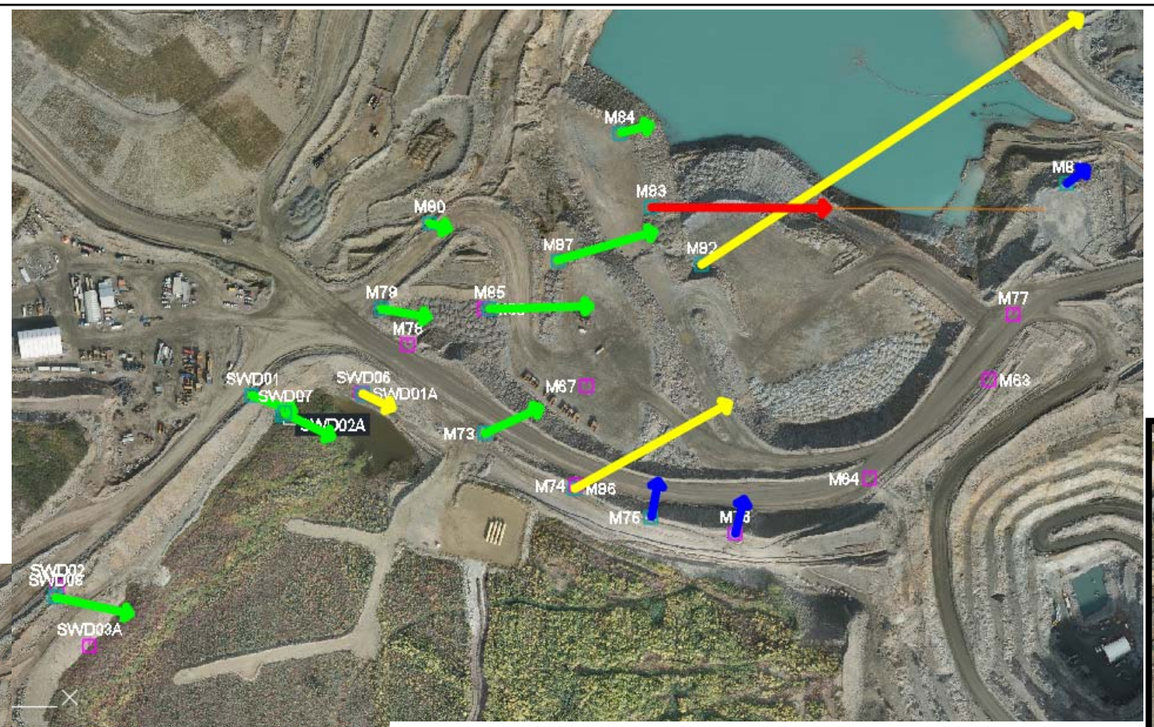
Area 2, Area 118, and Minto North Pits

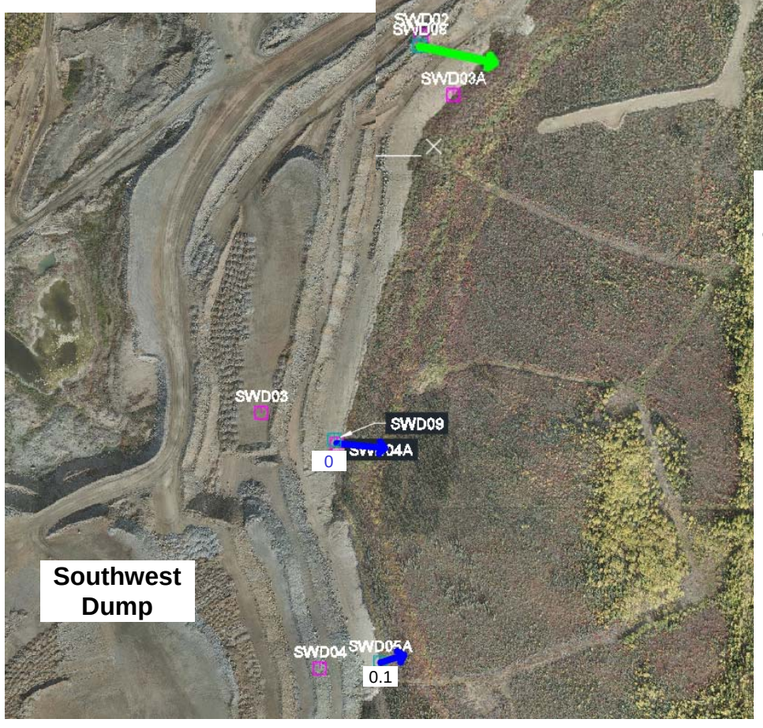
Job No: 1CM002.059
Filename: AppA_2017InspectionPhoto.pptx

Minto Mine

Date: August 2017
Approved: PHM
Figure: 16

Appendix B: Survey Hub Summary

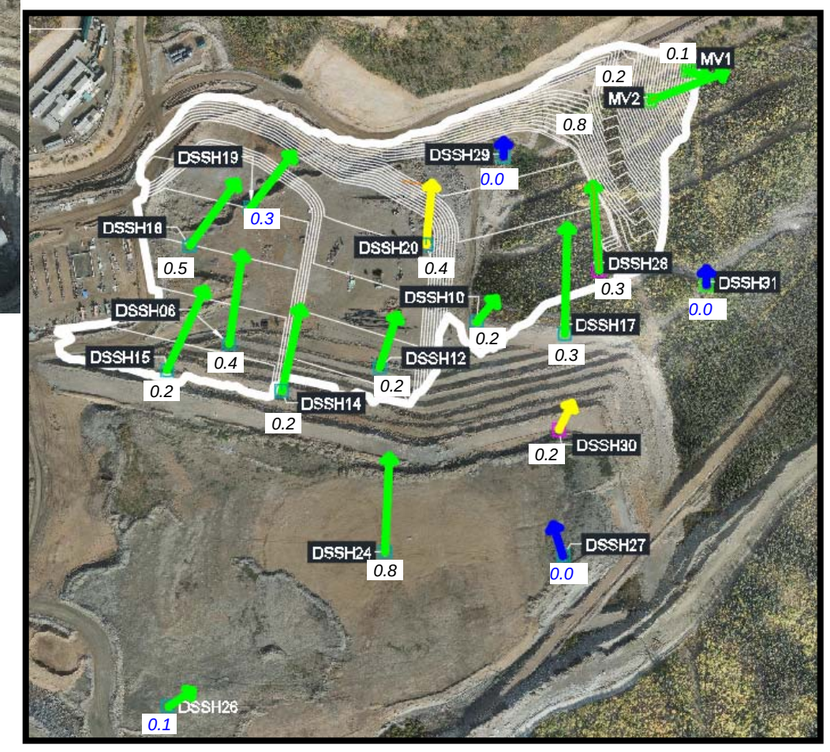




a) Southwest Dump and Main Pit Areas

LEGEND

- Survey Hubs - Active
- Survey Hubs - Destroyed
- 0.5 Total Movement Rate (mm/day)
- 0.5 Horizontal Movement Rate (mm/day)
- Movement Vector - No Current Movement
- Movement Vector - Decelerating Movement
- Movement Vector - Steady Movement
- Movement Vector - Accelerating Movement



b) Dry Stack Tailings Storage Facility

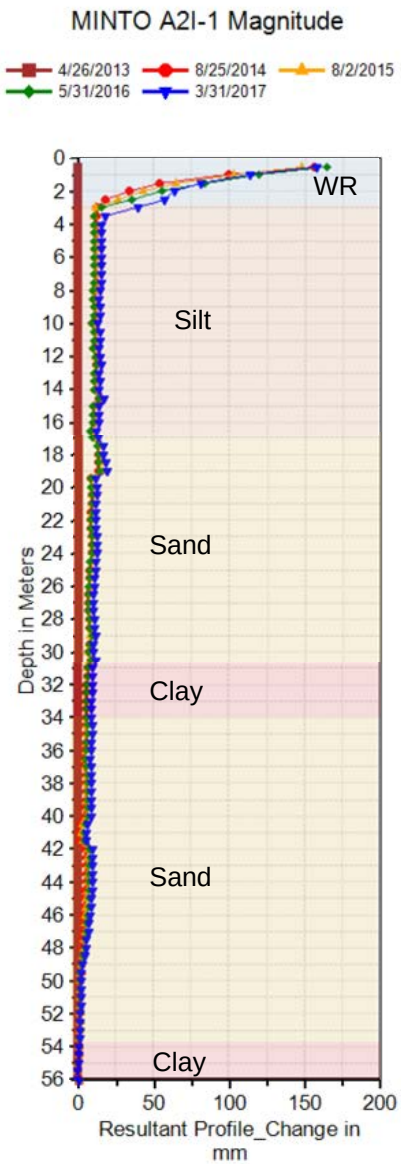
Notes:

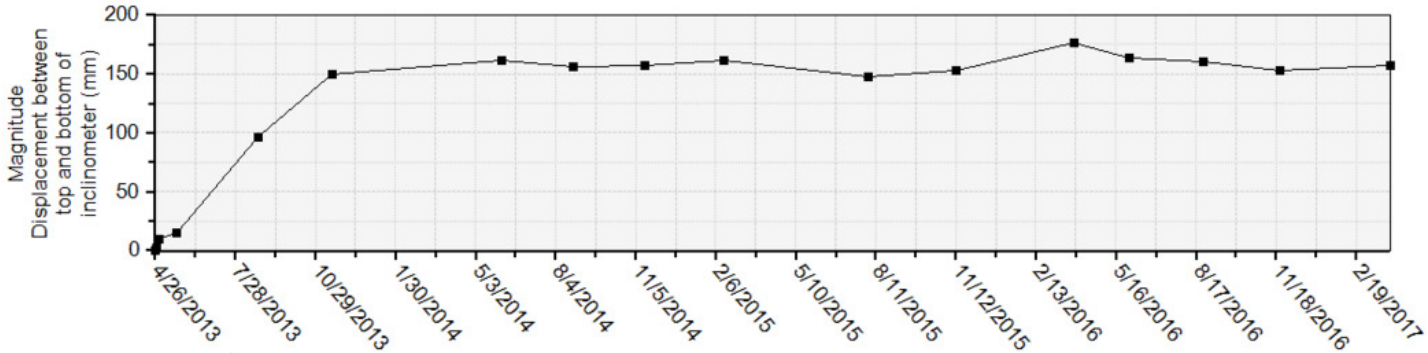
1. Movement vectors have been scaled by a factor of 250 (i.e. length equals 250 times the current velocity in mm/day) except for the blue vectors where no current movement is observed. The length of the blue vectors is arbitrary, but is included to show the direction of past movement.
2. The orthophoto was taken in 2014.
3. Survey hub M82 in the Main Pit has a limited data set, and the readings are suspect at this time due to rocks underneath the lock-block that ths survey hub is mounted on (See Figure 14, Appendix A).

Source file: \\VAN-SVR0\Projects\01_SITES\Minto\1CM002.050_2016 Geotech Op Support\!040_AutoCAD\1CM002.050-Site Plan Showing Instrumentation.dwg

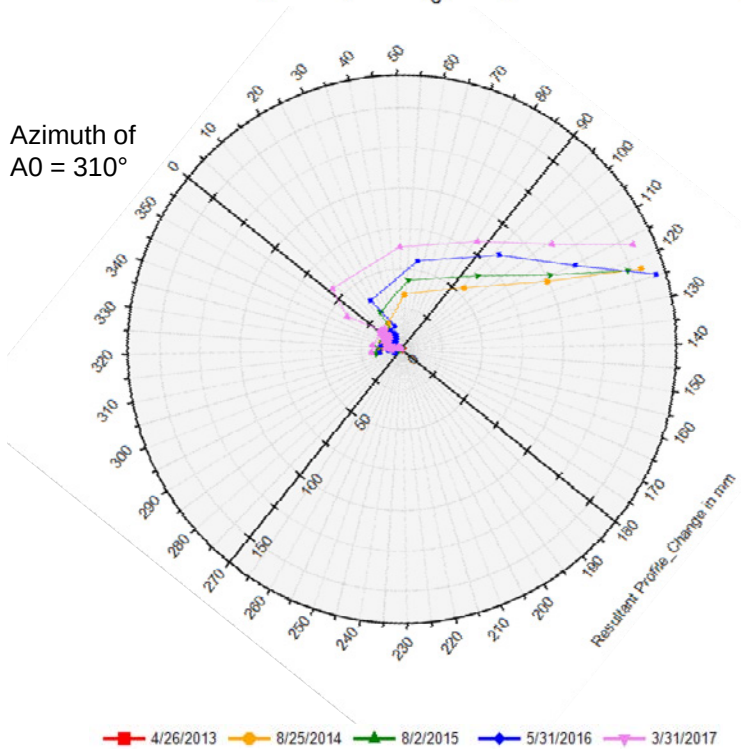
srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	2017 Survey Hub Data		
		Survey Hub Summary		
Job No: 1CM002.059 Filename: MintoSurveySummary11x17.pptx	Minto Mine	Date: August 2017	Prepared by: PHM	Figure: 1

Appendix C: Area 2 Pit Instrumentation Data





Azimuth of A0 = 310°



Note: Inclinometer software (DigiPro2 v2.12.4) plots A0 as 0 degrees. The plot above has been rotated such that the orientation matches the plan (north is up).

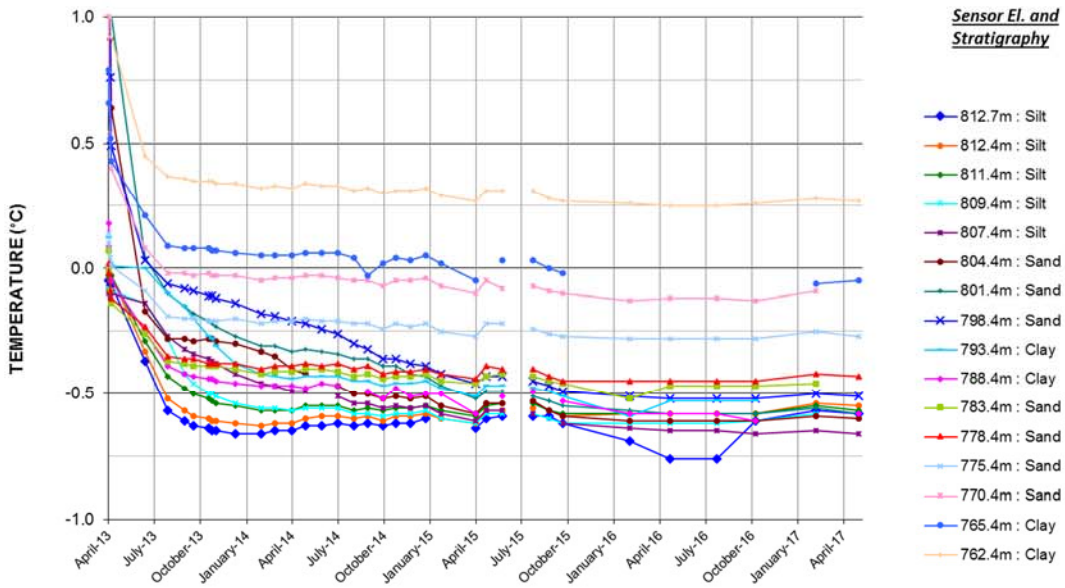
North

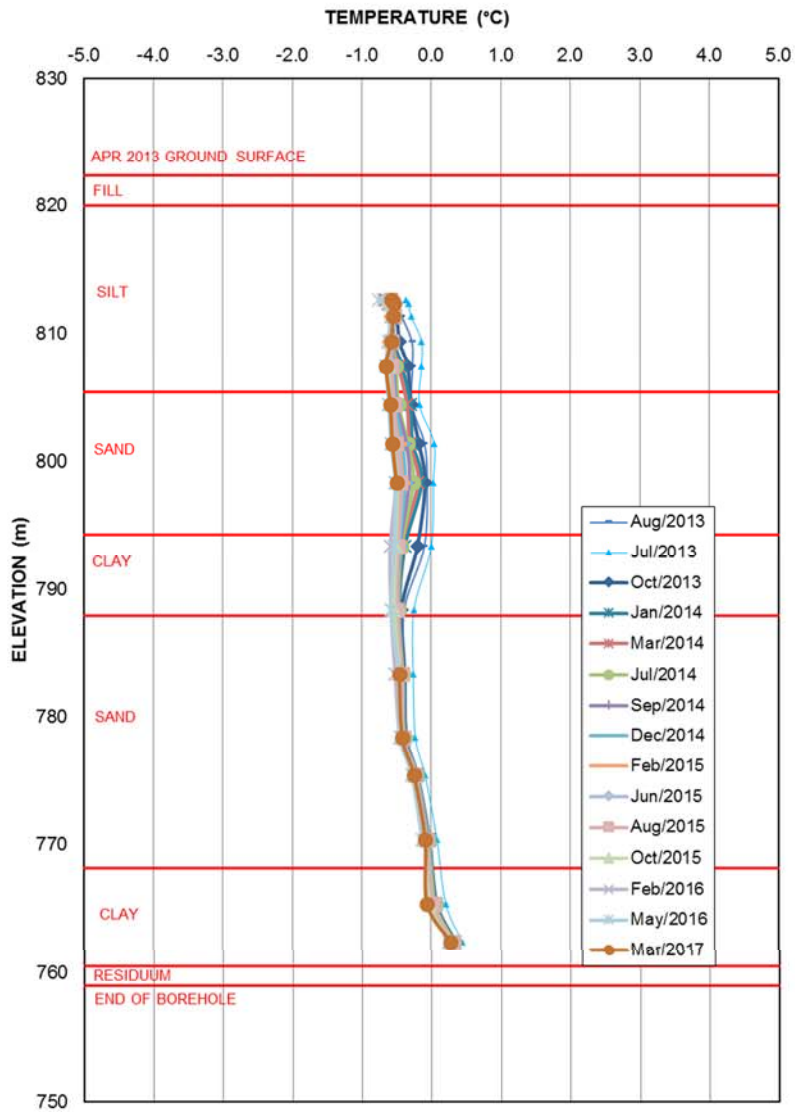
Inclinometer location

Source files:

1. AutoCAD: \\VAN-SVR0\Projects\01_SITES\Minto\1CM002.050_2016 Geotech Op Support\!040_AutoCAD\1CM002.050-Site Plan Showing Instrumentation.dwg
2. Instrumentation data: \\VAN-SVR0\Projects\01_SITES\Minto\!020_Site_Wide_Data\Geotechnical\Geotech Monitoring Data\Minto SI Instrumentation Database.dpw

srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	Area 2 Pit Instrumentation Data		
Job No: 1CM002.059 Filename: ApC_2017Area2Pit.pptx	Minto Mine	**Inclinometer A2I-1**		
		Date: August 2017	Prepared by PHM	Figure: **1**





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Job No: 1CM002.059

Filename: ApC_2017Area2Pit.pptx

Minto Mine

Area 2 Pit Instrumentation Data

Ground Temperature Cable – A2T-1

Date:	Prepared by	Figure:
August 2017	PHM	2

Appendix D: Dry Stack Tailings Storage Facility Instrumentation Data

Active Survey Hubs					
Survey Hub	Last Reading	Movement Rate (mm/day)		Bearing (Cumulative)	Comments
		June 16	June 17		
DSSH06	6/24/2017	n/a	0.4	8	**Decelerating**. Hub was removed in January 2016 when construction of the MVFES2 began, and was re-installed in August 2017. The movement rate prior to MVFES2 construction was 1.0 mm/day.
DSSH10	6/25/2017	n/a	0.2	40	**Decelerating**. Hub was removed in December 2015 when construction of the MVFES2 began, and was re-installed in August 2017. The movement rate prior to MVFES2 construction was 0.9mm/day.
DSSH12	6/24/2017	n/a	0.2	18	**Decelerating**. Hub was removed in December 2015 when construction of the MVFES2 began, and was re-installed in August 2017. The movement rate prior to MVFES2 construction was 1.1mm/day.
DSSH14	6/24/2017	0.5	0.2	13	**Decelerating**.
DSSH15	6/24/2017	n/a	0.2	25	**Decelerating**. Hub was removed in February 2016 when construction of the MVFES2 began, and was re-installed in August 2017. The movement rate prior to MVFES2 construction was 0.6 mm/day.
DSSH17	6/25/2017	0.4	0.3	16	**Horizontal movement is decelerating** and the upward vertical movement is steady. The increase in upward trajectory of the movement indicates the MVSE2 is having a positive effect on slowing the movement.
DSSH18	6/25/2017	0.6	0.5	36	**Decelerating.** Hub was removed in December 2015 when construction of the MVFES2 began, and was re-installed in August 2017. The movement rate prior to MVFES2 construction was 0.5 mm/day.
DSSH19	6/25/2017	0.5	0.3	38	**Decelerating**. Horizontal rates listed. Hub was removed in December 2015 when construction of the MVFES2 began, and was re-installed in August 2017. The movement rate prior to MVFES2 construction was 0.5 mm/day.
DSSH20	6/25/2017	0.1	0.4	5	**Additional data needed** to evaluate trend. Hub was removed in December 2015 when construction of the MVFES2 began, and was re-installed in August 2017. The movement rate prior to MVFES2 construction was 0.1 mm/day. Since reinstallation movement primarily appears to be due to settlement of the hub on the fill.
DSSH24	6/25/2017	0.8	0.8	3	**Additional data needed** to evaluate trend. Most movement is appears to be related to freeze-thaw cycle of the cover.
DSSH26	6/25/2017	0.2	0.1	56	**Slight deceleration trend observable**, horizontal movement rates listed.
DSSH27	6/18/2017	0.0	0.0	276	**No significant horizontal movement trend**
DSSH29	6/25/2017	n/a	0.0	88	**No significant horizontal movement trend**
DSSH31	6/25/2017	n/a	0.0	343	**No significant horizontal movement trend**
MV1	6/25/2017	0.3	0.1	111	**Decelerating**
MV2	6/25/2017	0.8	0.2	61	**Decelerating**
Destroyed in past year					
Survey Hub	Last Reading	Movement Rate (mm/day)		Bearing (Cumulative)	Comments
		June 15	At last reading		
DSSH28	1/22/2017	n/a	0.3	356	**Decelerating**
DSSH30	4/2/2017	n/a	0.2	13	**Additional data needed**, limited data set (5 months)

Notes:

1. Blue text indicates horizontal movement rates.

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DSTSF Instrumentation Data

DSTSF Survey Hub Summary

Job No: 1CM002.059

Filename: ApD_DSTSFPort.pptx

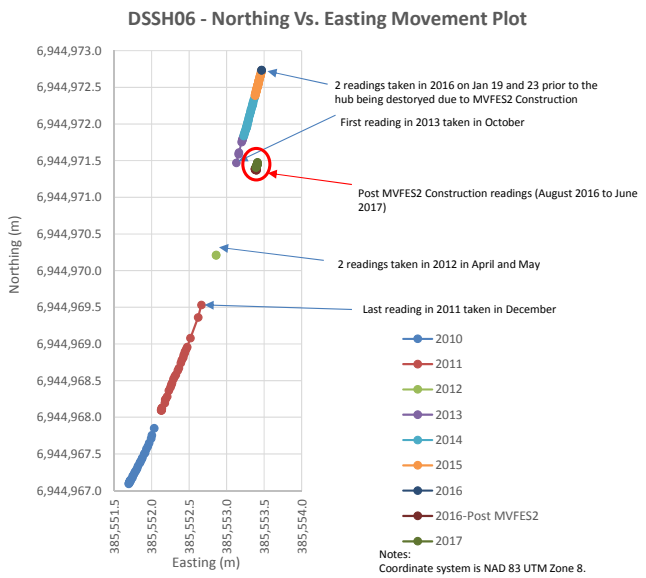
Minto Mine

Date: August 2017

Prepared by: PHM

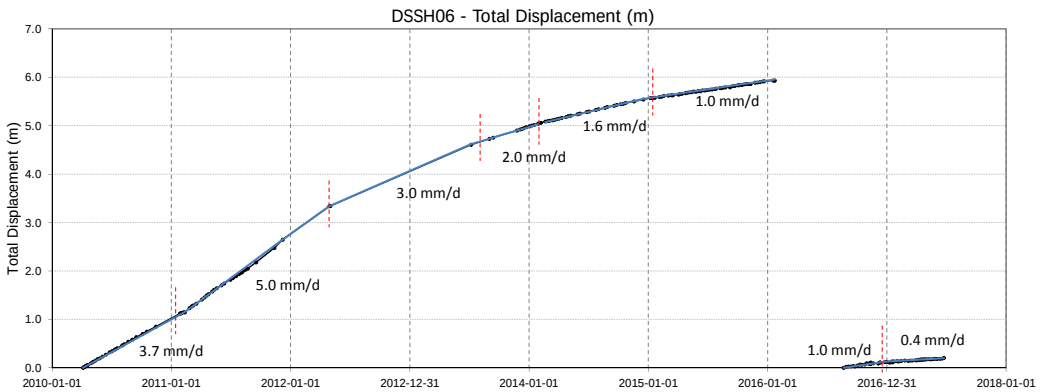
Figure: 1

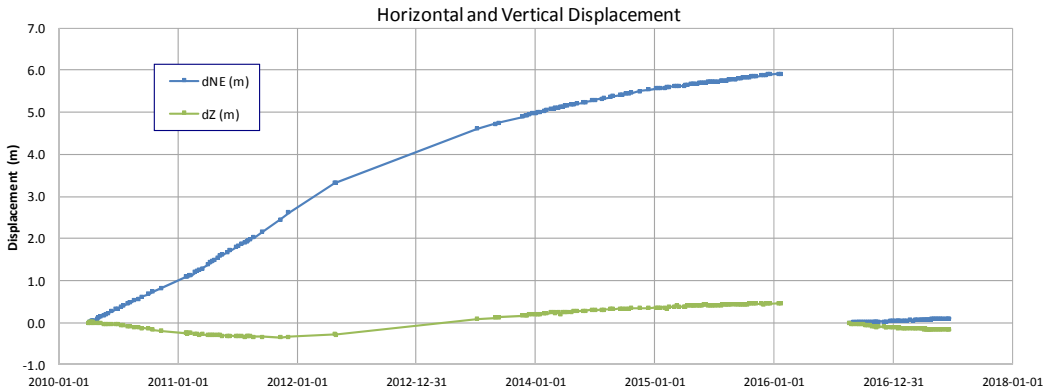
Source file:
Excel instrumentation data: \\VAN-SVR0\Projects\01_SITES\Minto\020_Site_Wide_Data\Geotechnical\Geotech Monitoring Data\DSTFSurveyHubMonitoring_SRK.xlsm

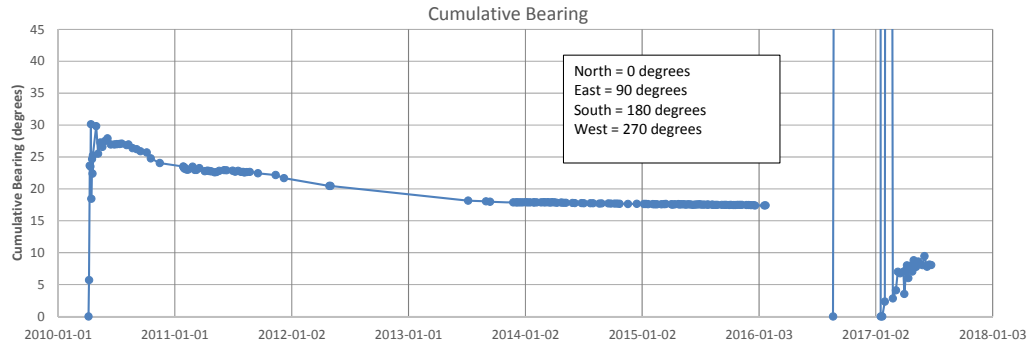


Note:

1. The survey hub was removed in January 2016 prior to MVFES2 construction. The hub was reinstalled in August 2016 following completion of construction.







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2. Excel instrumentation data: \\VAN-SVR0\Projects\01_SITES\Minto\!020_Site_Wide_Data\Geotechnical\Geotech Monitoring Data\DSTFSurveyHubMonitoring_SRK.xlsm

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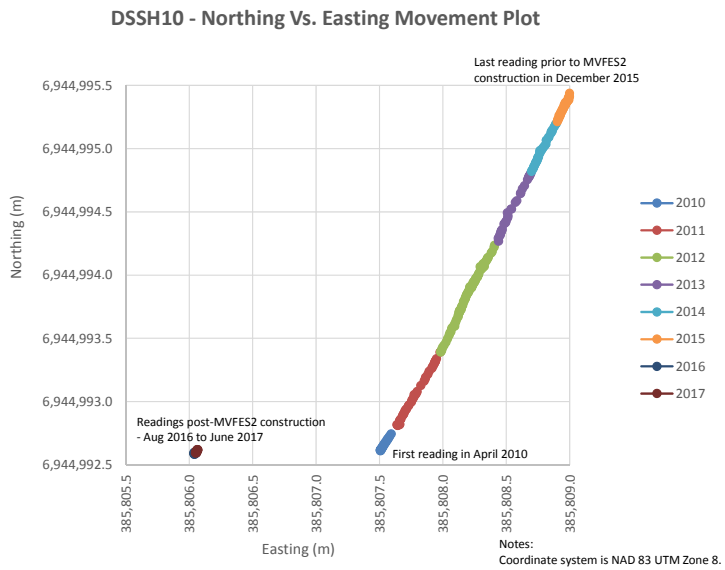
DSTSF Instrumentation Data

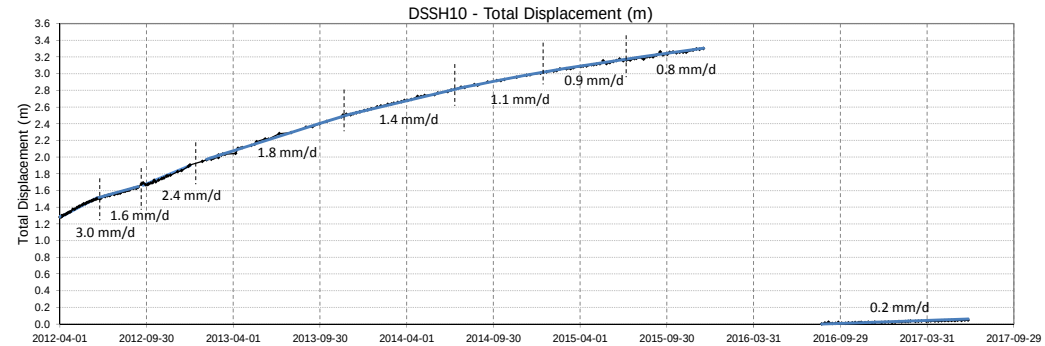
DSTSF – DSSH06

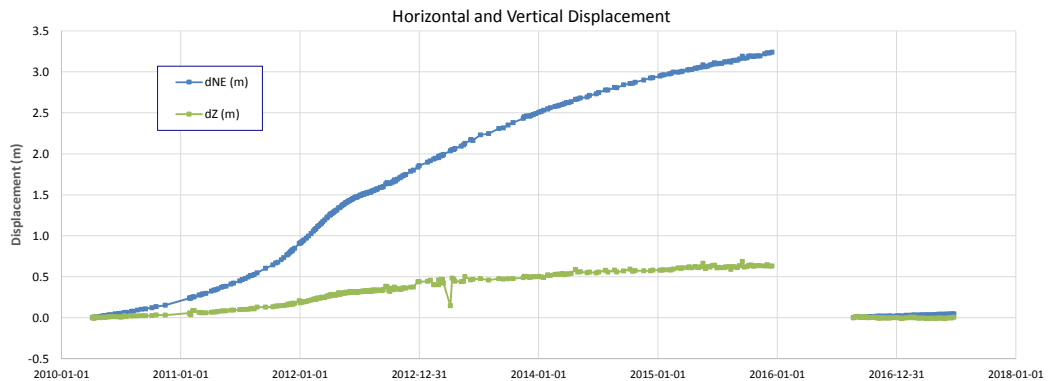
Job No: 1CM002.059
Filename: ApD_2017DSTSFLandscape.pptx

Minto Mine

Date:	Prepared by	Figure:
August 2017	PHM	2

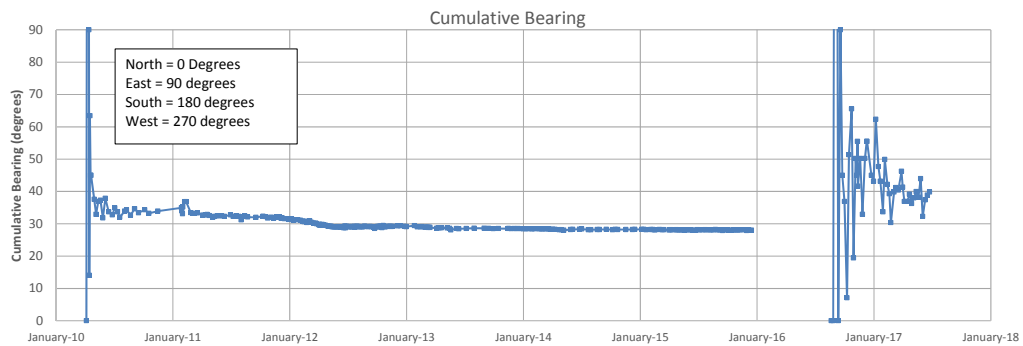






Note:

1. The survey hub was removed in December prior to MVFES2 construction. The hub was reinstalled in August 2016 following completion of construction.



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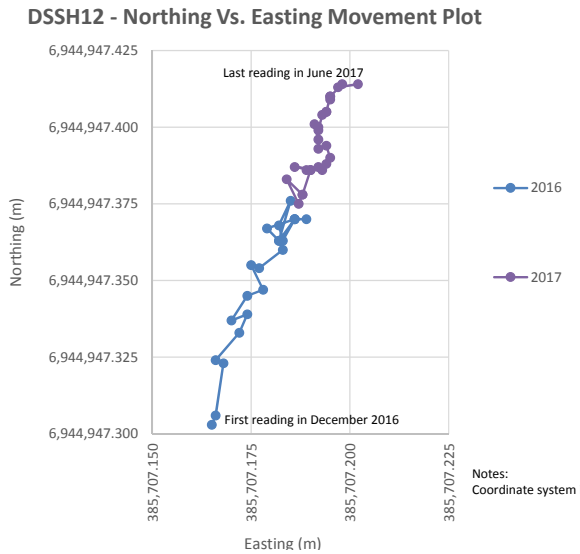
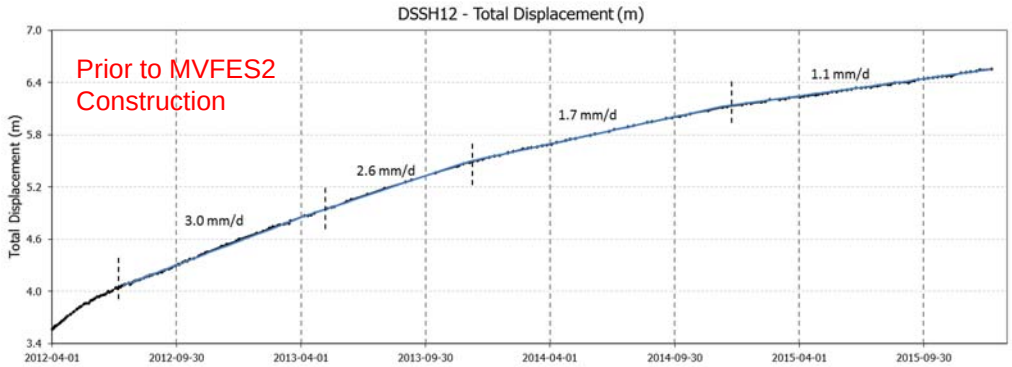
Job No: 1CM002.059 Filename: ApD_2017DSTSFLandscape.pptx	Minto Mine	**Survey Hub – DSSH10**	
		Date: August 2017	Prepared by PHM	Figure: **3**

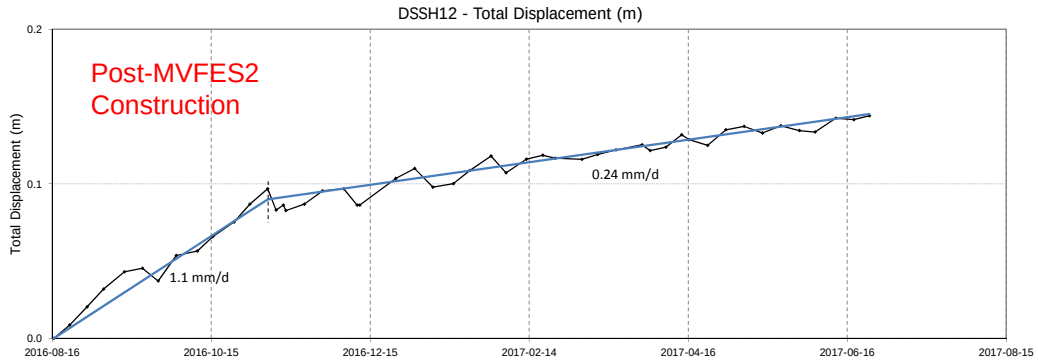


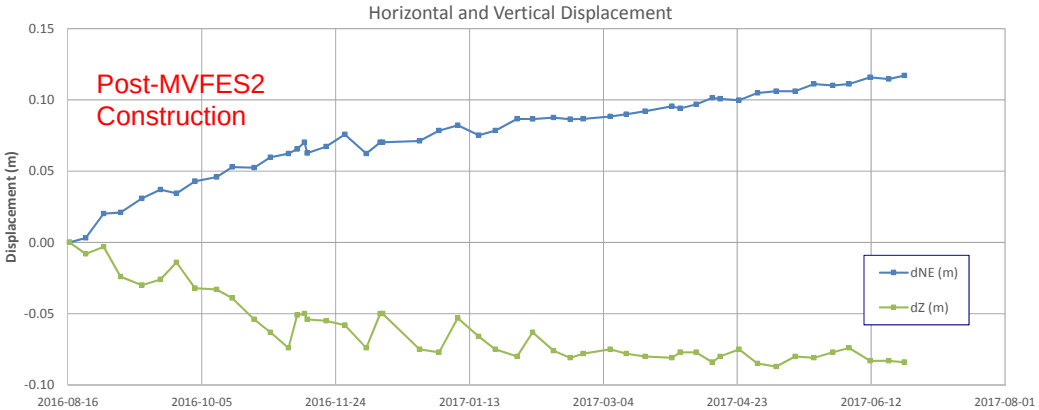
Notes:
Coordinate system is NAD 83 UTM Zone 8.

Note:

1. The survey hub was removed in January 2016 prior to MVFES2 construction. The hub was reinstalled in December 2016 following completion of construction.







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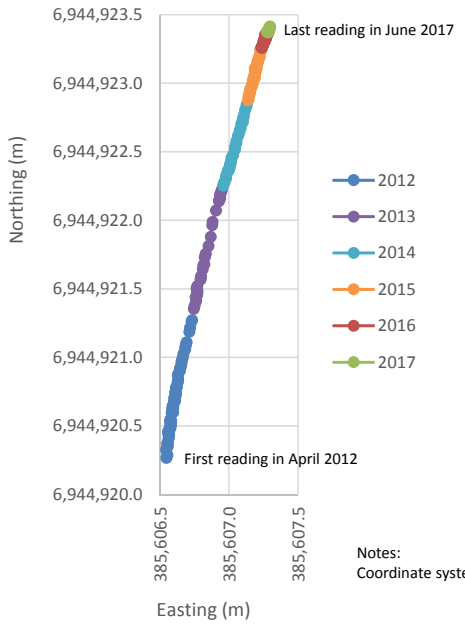
Job No: 1CM002.059 Filename: ApD_2017DSTSFLandscape.pptx	Minto Mine	**Survey Hub – DSSH12**	
		Date: August 2017	Prepared by PHM	Figure: **4**

DSSH14 - Northing Vs. Easting Movement Plot



Notes:
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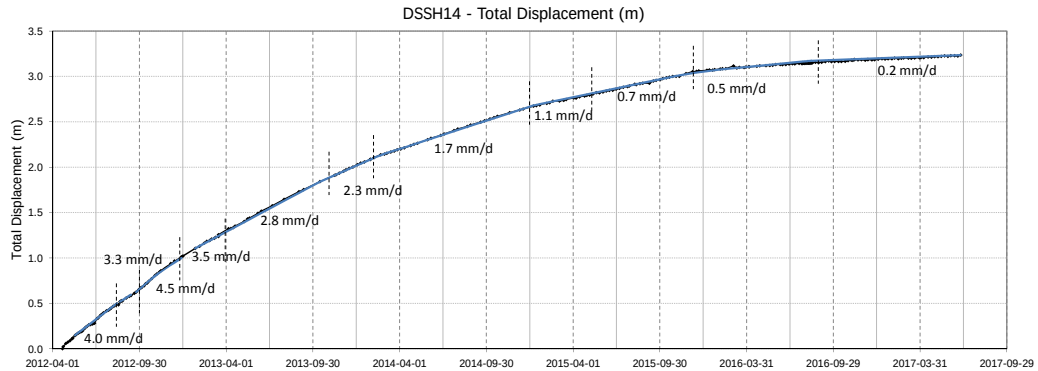

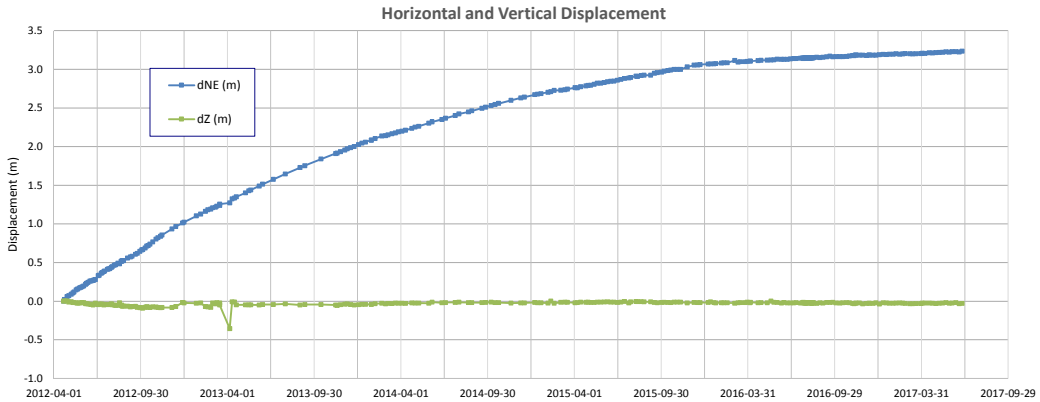

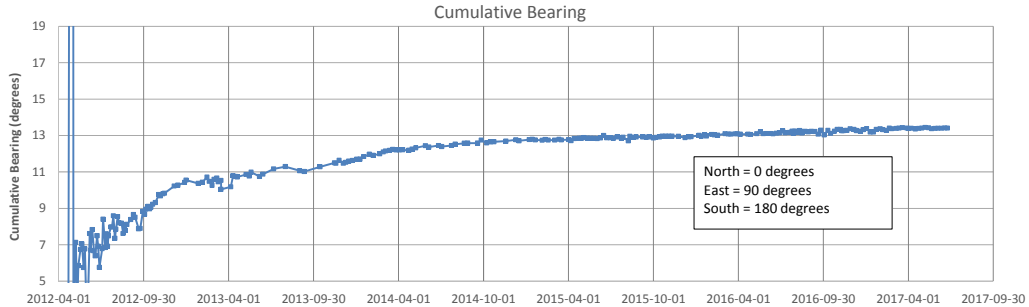

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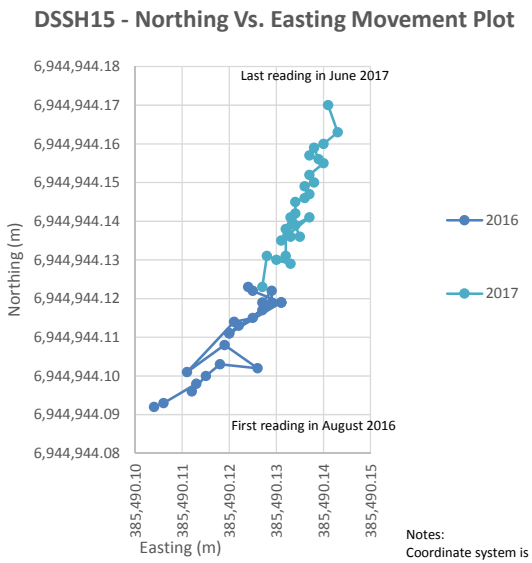
DSTSF Instrumentation Data

Survey Hub – DSSH14

Job No: 1CM002.059
Filename: ApD_2017DSTSFLandscape.pptx

Minto Mine

Date:	Prepared by	Figure:
August 2017	PHM	5



Notes:
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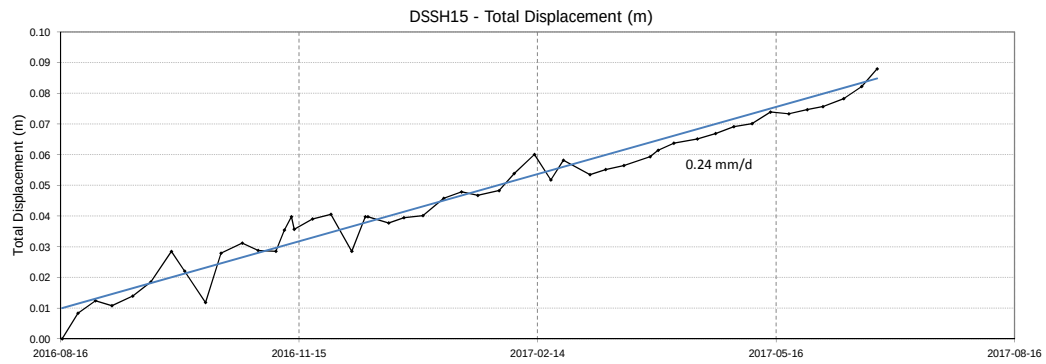

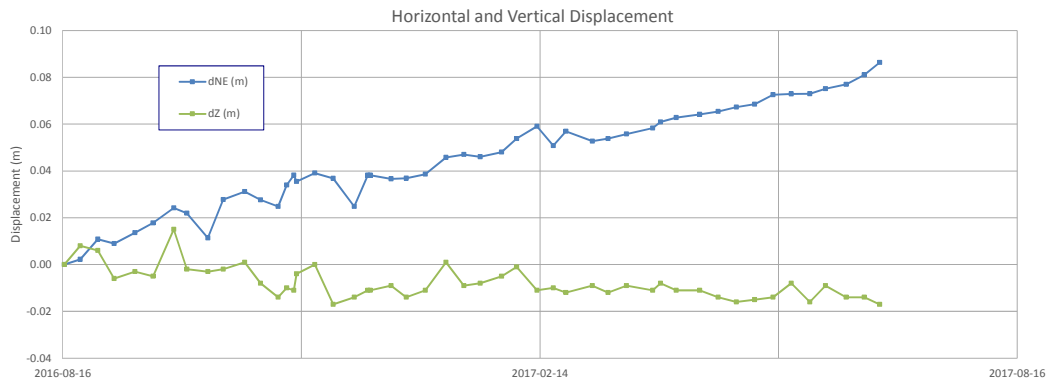

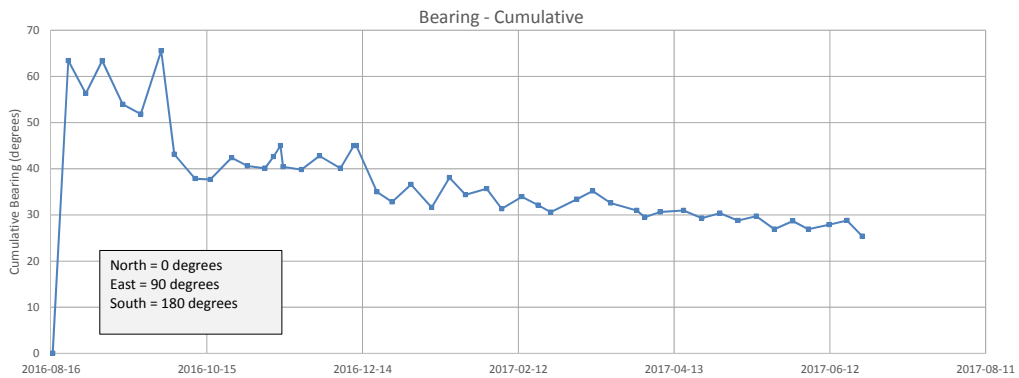

Note:

1. The survey hub was removed in February 2016 prior to MVFES2 construction. The hub was reinstalled in August 2016 following completion of construction.

Source files:

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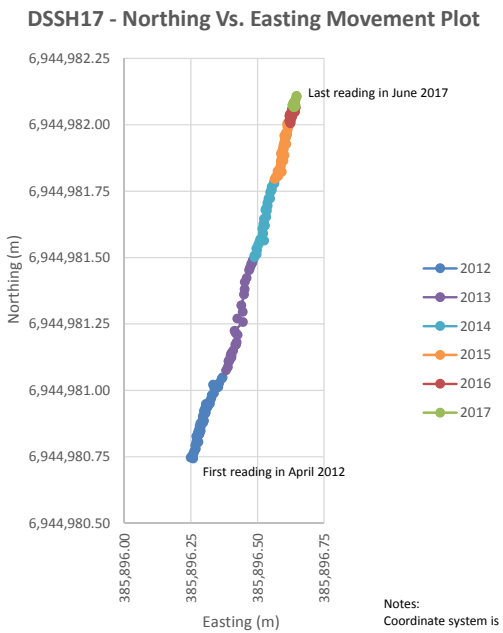
srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	DSTSF Instrumentation Data	
Job No: 1CM002.059 Filename: ApD_2017DSTSFLandscape.pptx	Minto Mine	**Survey Hub – DSSH15**	
		Date: August 2017	Prepared by PHM	Figure: **6**



Notes:
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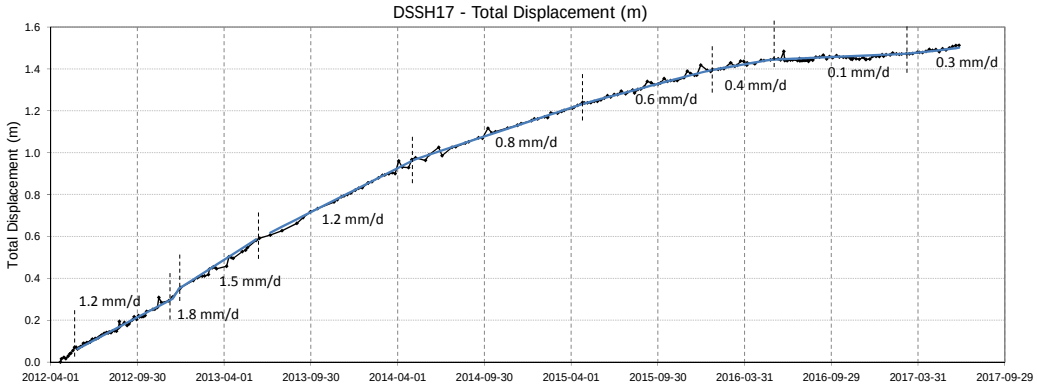

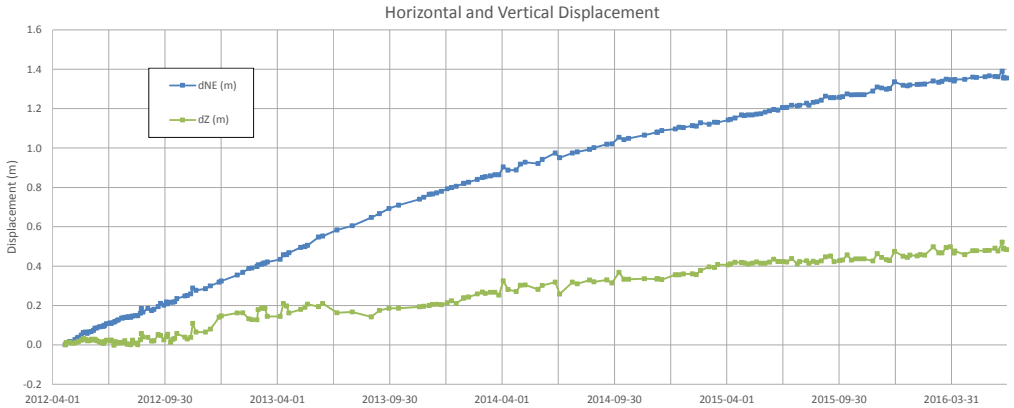

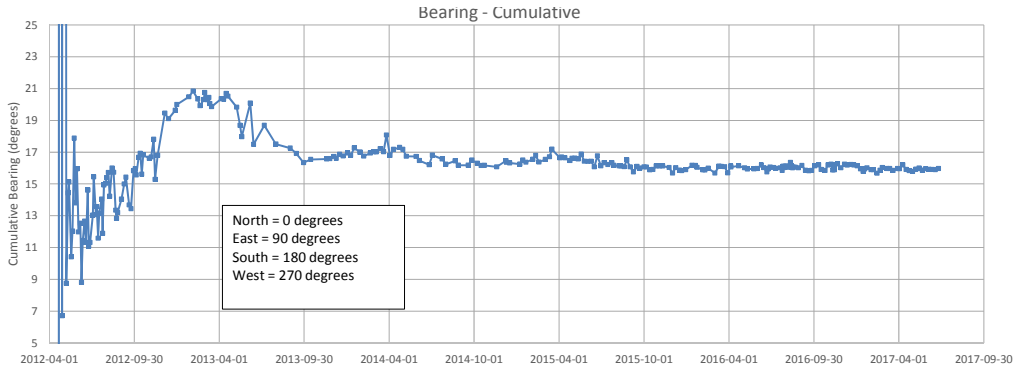

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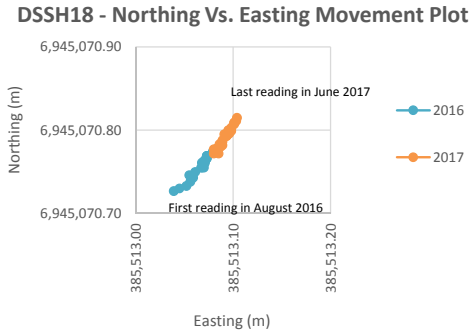
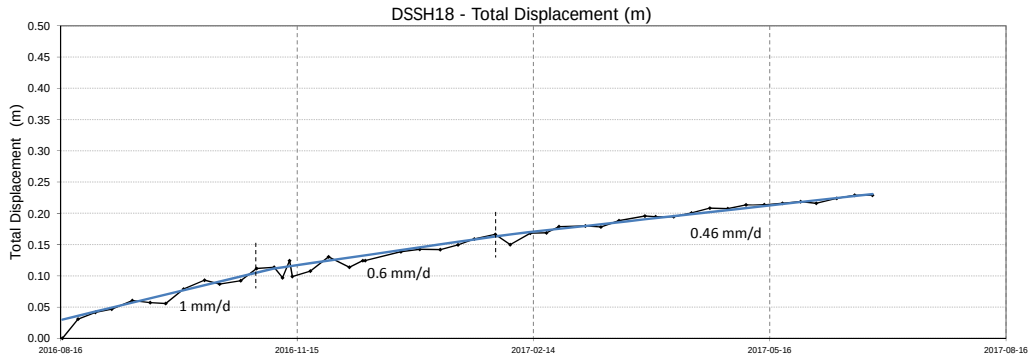
2. Excel instrumentation data: \\VAN-SVR0\Projects\01_SITES\Minto\!020_Site_Wide_Data\Geotechnical\Geotech Monitoring Data\DSTFSurveyHubMonitoring_SRK.xlsm

srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	DSTSF Instrumentation Data	
Job No: 1CM002.059		**Survey Hub – DSSH17**	
Filename: ApD_2017DSTSFLandscape.pptx	Minto Mine	Date: August 2017	Prepared by PHM	Figure: 7

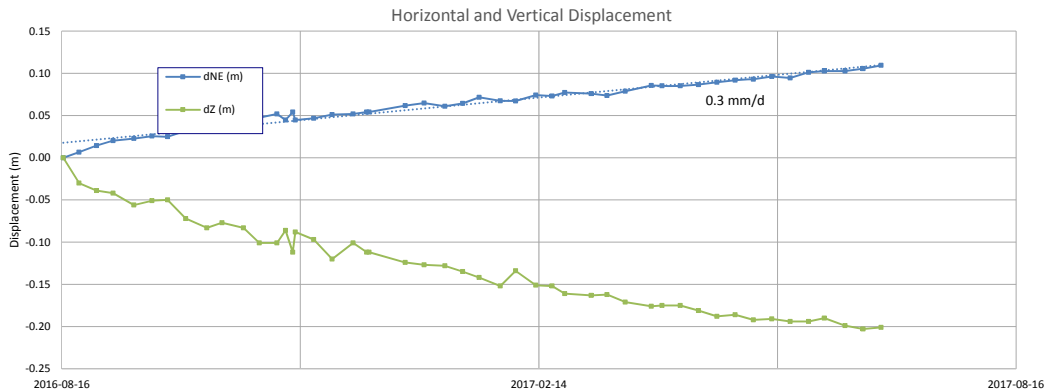


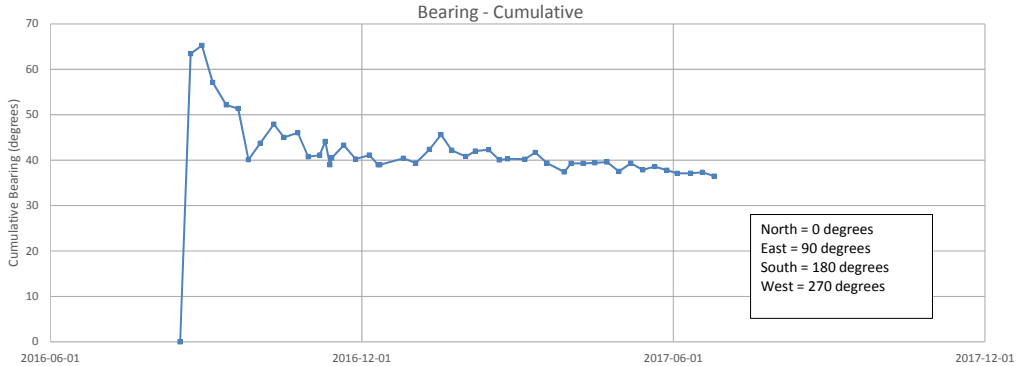


Notes:
Coordinate system is NAD 83 UTM Zone 8.

Note:

1. The survey hub was removed in December 2015 prior to MVFES2 construction. The hub was reinstalled in August 2016 following completion of construction.





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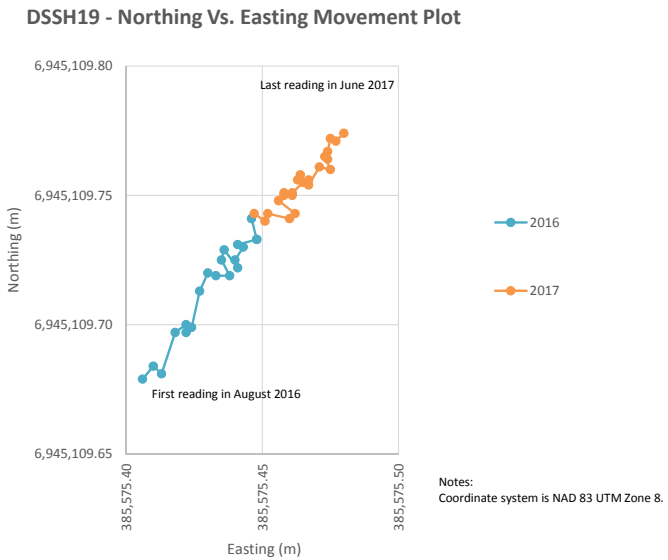
DSTSF Instrumentation Data

Survey Hub – DSSH18

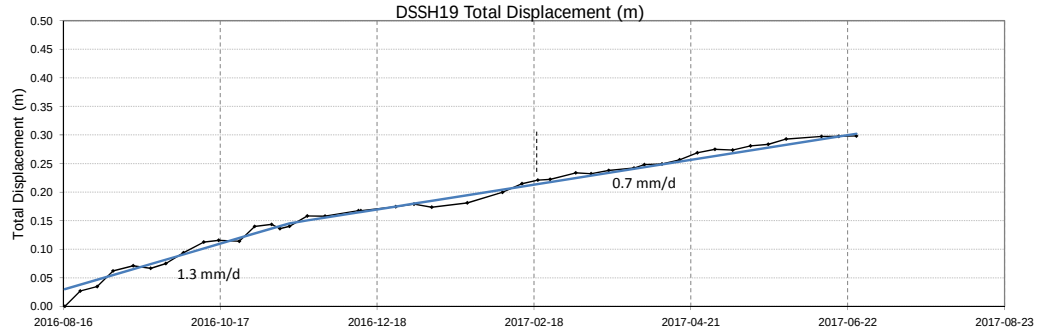
Job No: 1CM002.059
Filename: ApD_2017DSTSFLandscape.pptx

Minto Mine

Date:	Prepared by	Figure:
August 2017	PHM	8

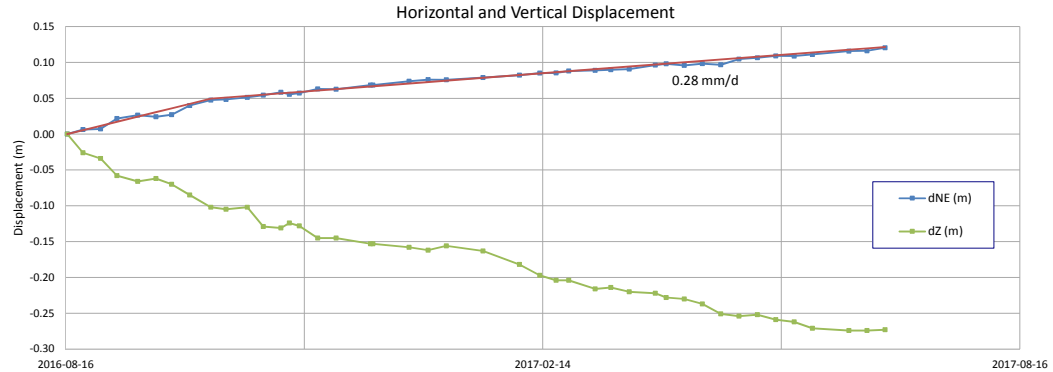


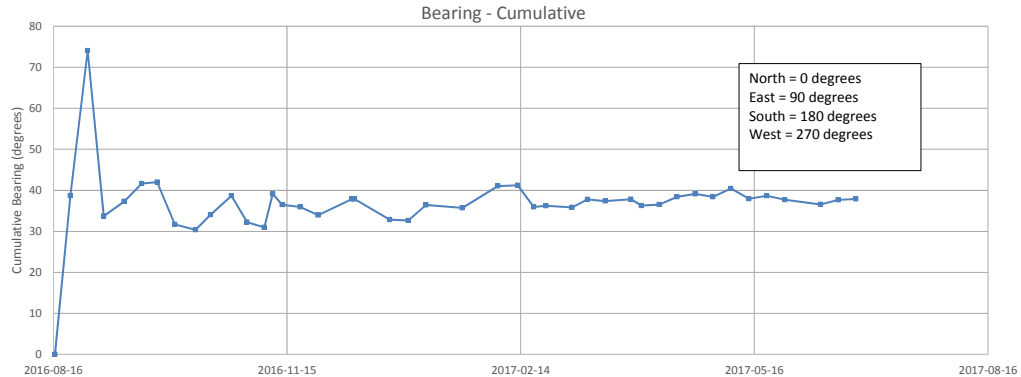
Notes:
Coordinate system is NAD 83 UTM Zone 8.



Note:

1. The survey hub was removed in December 2015 prior to MVFES2 construction. The hub was reinstalled in August 2016 following completion of construction.





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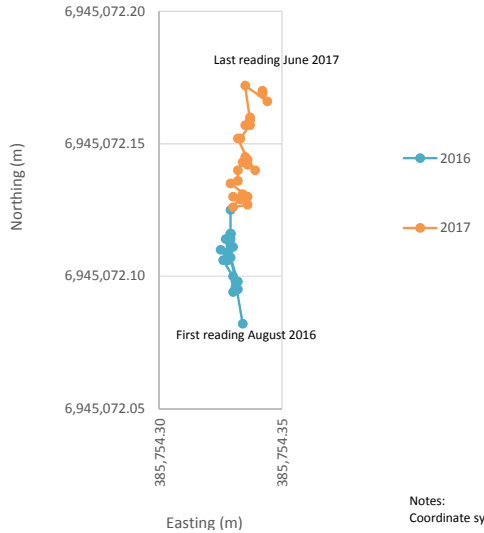
srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	DSTSF Instrumentation Data	
Job No: 1CM002.059 Filename: ApD_2017DSTSFLandscape.pptx	Minto Mine	**Survey Hub – DSSH19**	
		Date: August 2017	Prepared by PHM	Figure: **9**

DSSH20 - Northing Vs. Easting Movement Plot



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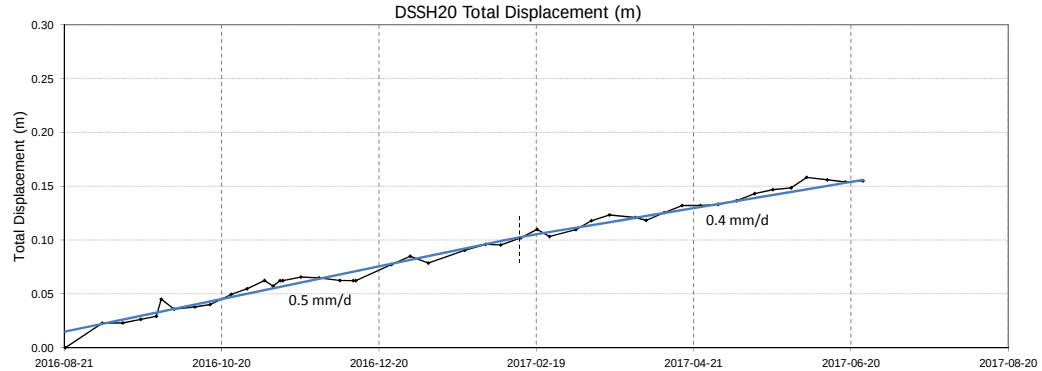

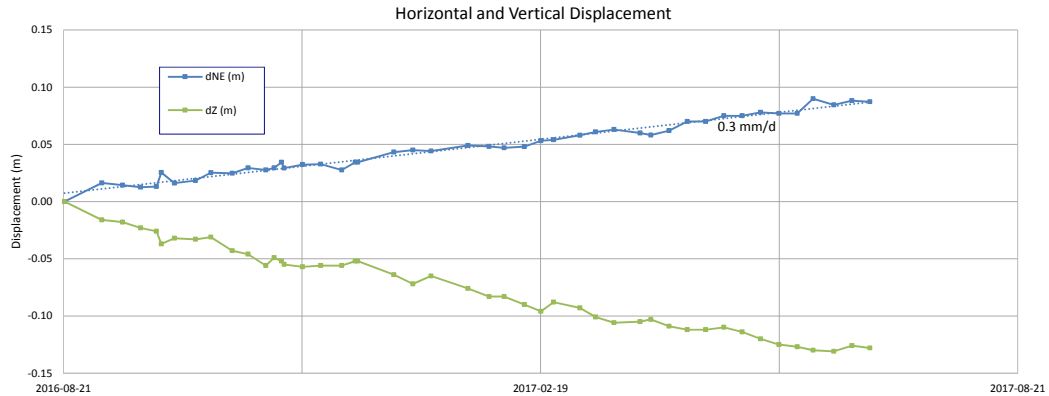

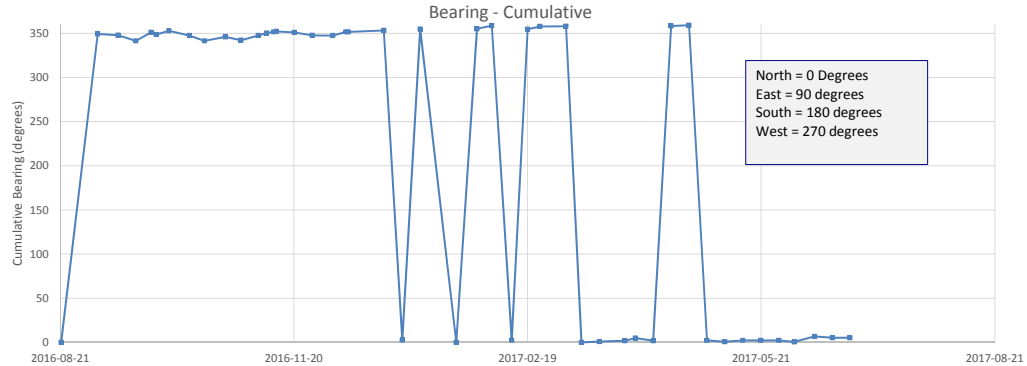

Note:

1. The survey hub was removed in December 2015 prior to MVFES2 construction. The hub was reinstalled in August 2016 following completion of construction.

Source files:

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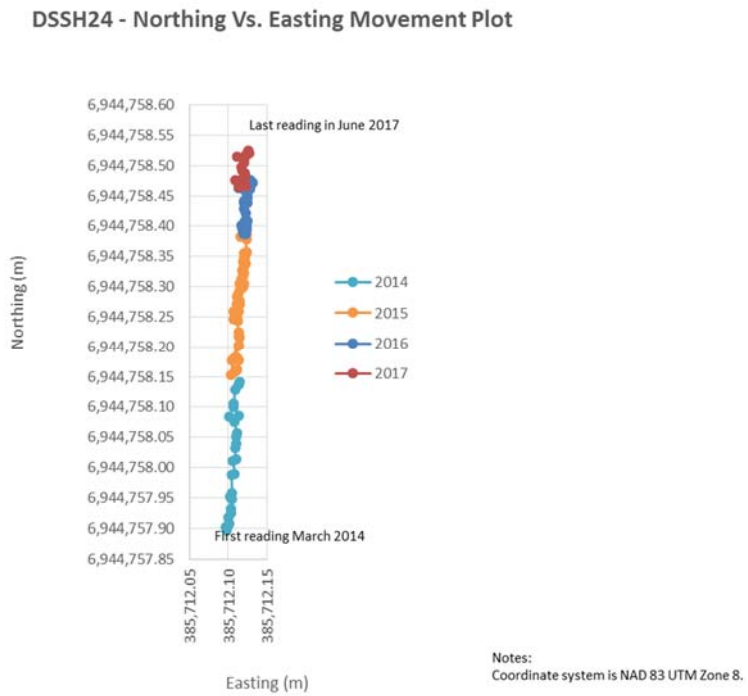
DSTSF Instrumentation Data

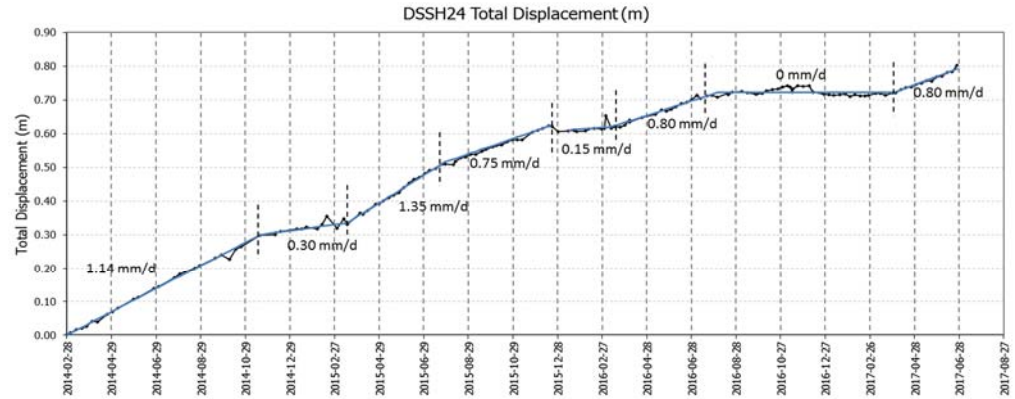
Survey Hub – DSSH20

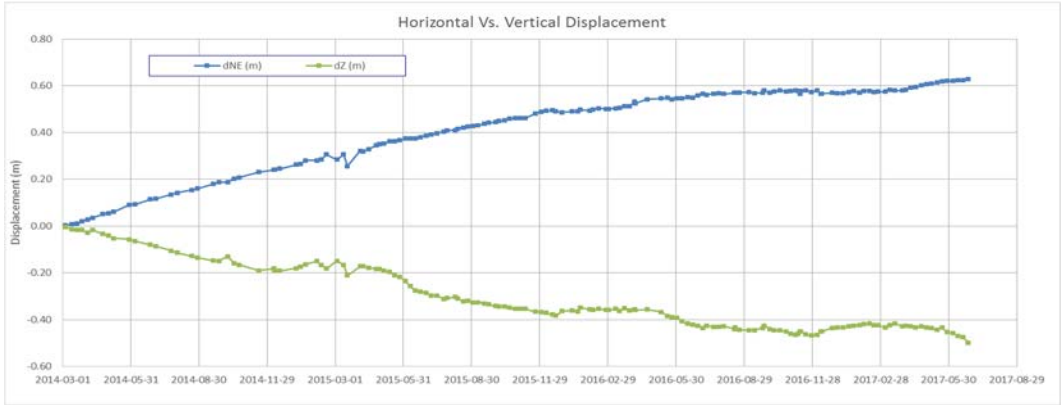
Job No: 1CM002.059
Filename: ApD_2017DSTSFLandscape.pptx

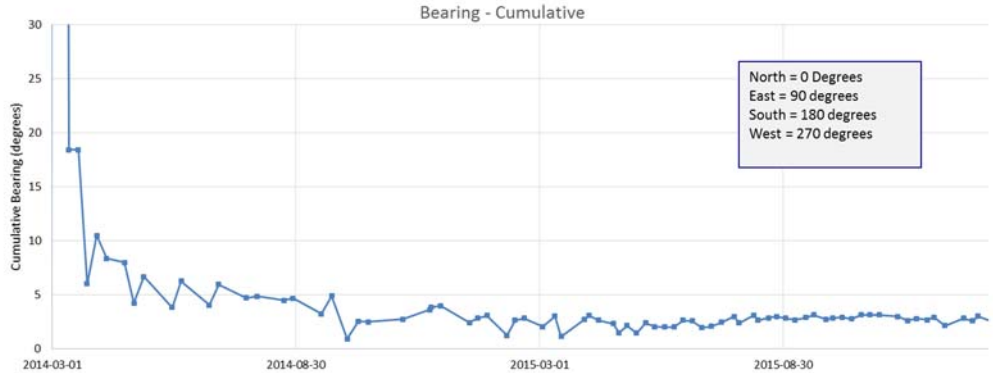
Minto Mine

Date:	Prepared by	Figure:
August 2017	PHM	10









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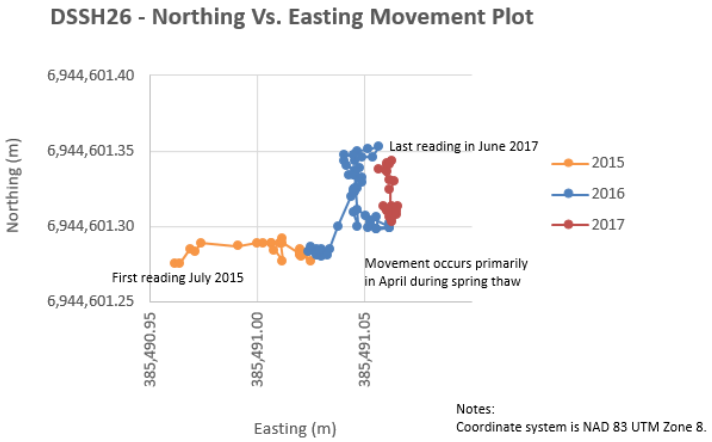
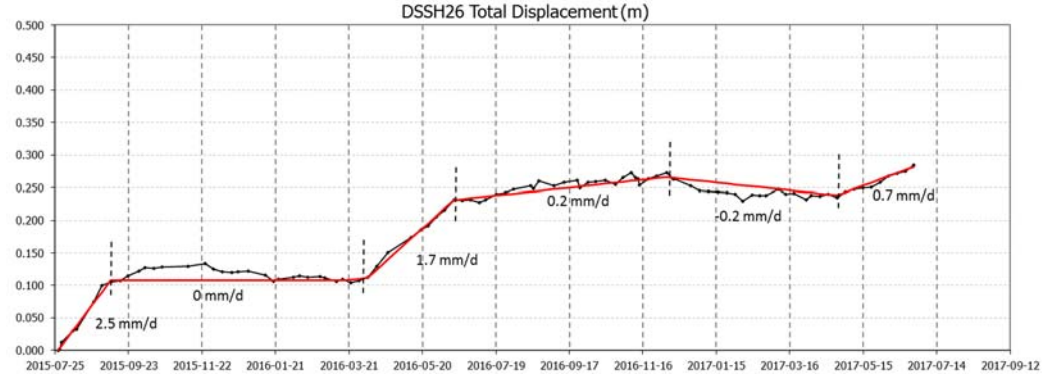
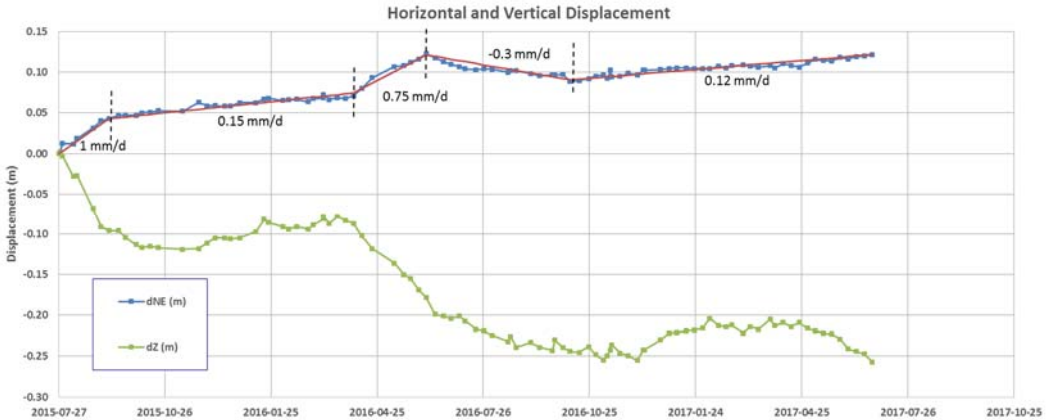
srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	DSTSF Instrumentation Data	
Job No: 1CM002.059	Minto Mine	**Survey Hub – DSSH24**	
Filename: ApD_2017DSTSFLandscape.pptx		Date: August 2017	Prepared by PHM	Figure: **11**



Notes:
Coordinate system is NAD 83 UTM Zone 8.





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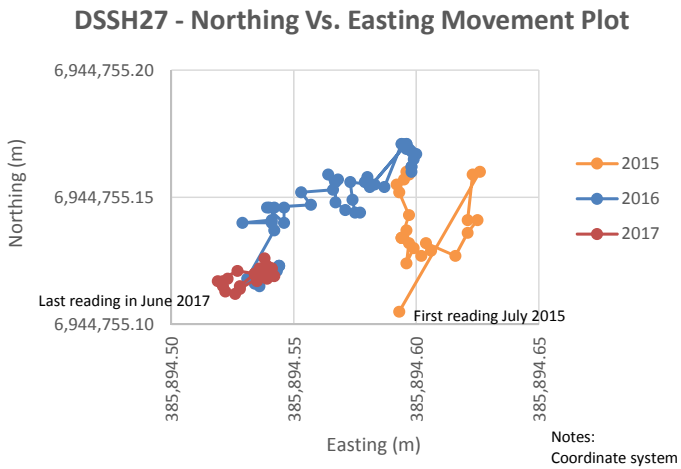
Job No: 1CM002.059		**Survey Hub – DSSH26**	
Filename: ApD_2017DSTSFLandscape.pptx	Minto Mine	Date: August 2017	Prepared by PHM	Figure: **12**



Notes:
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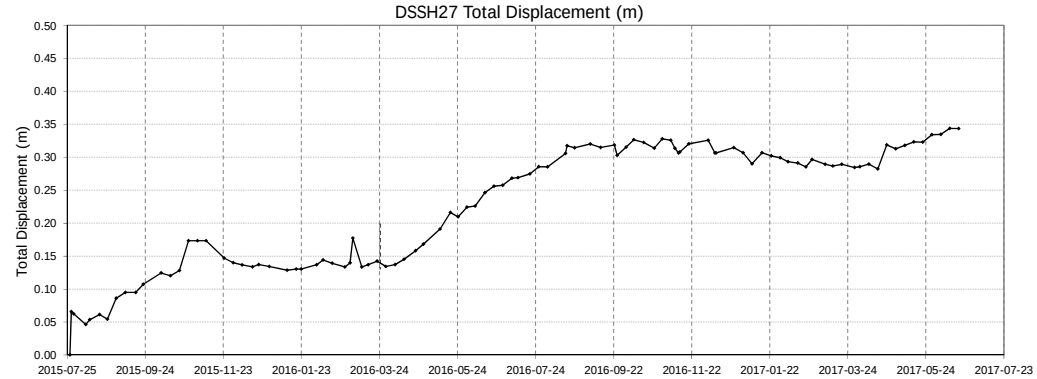

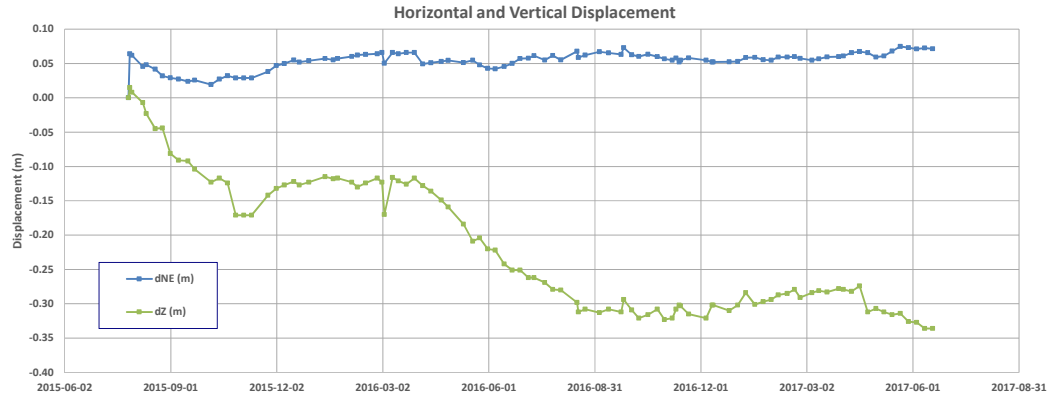

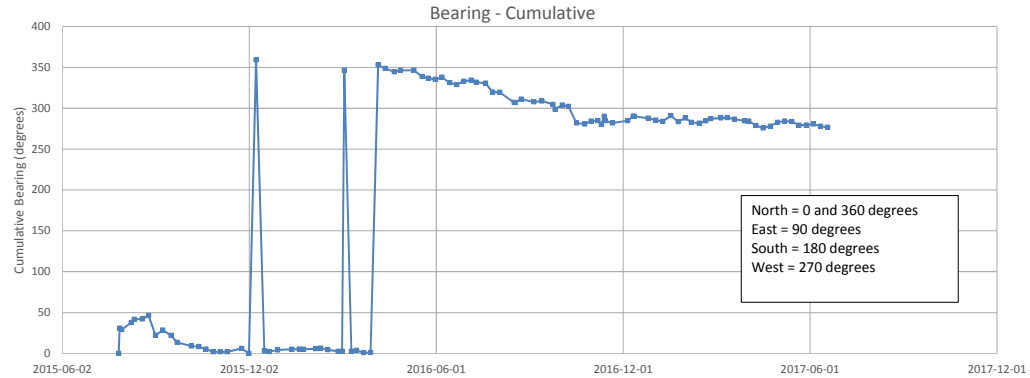

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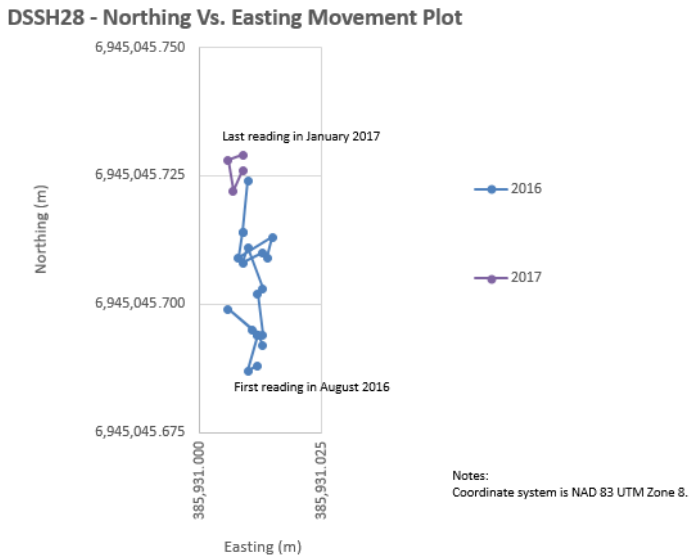
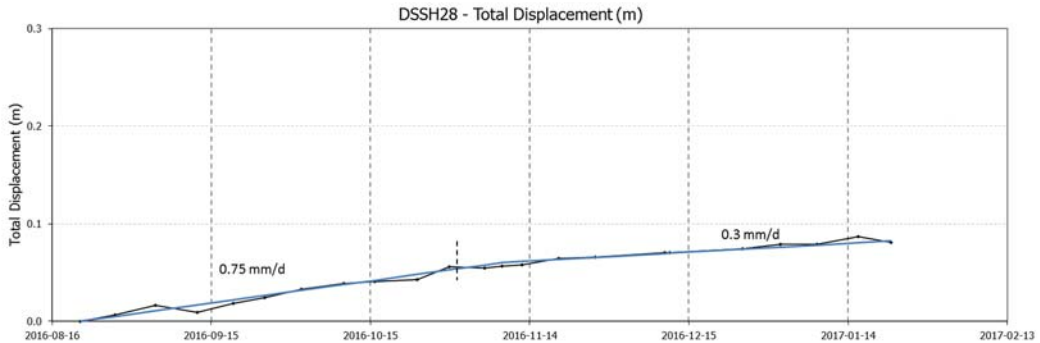
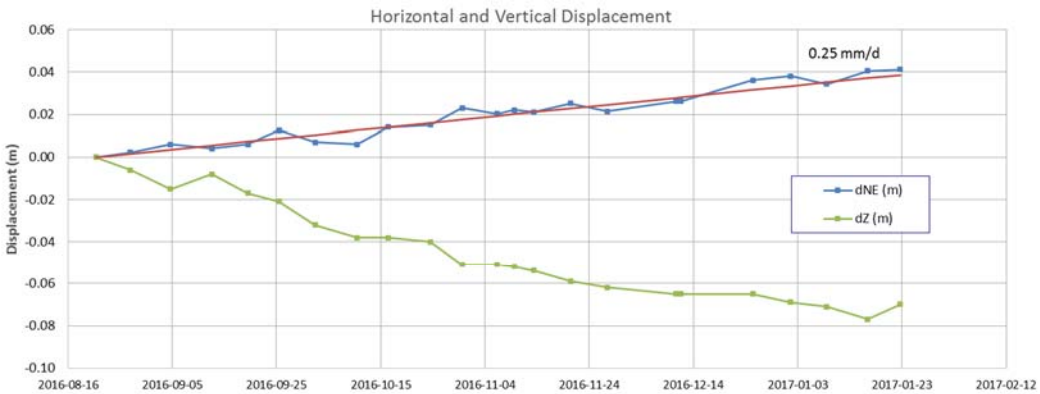
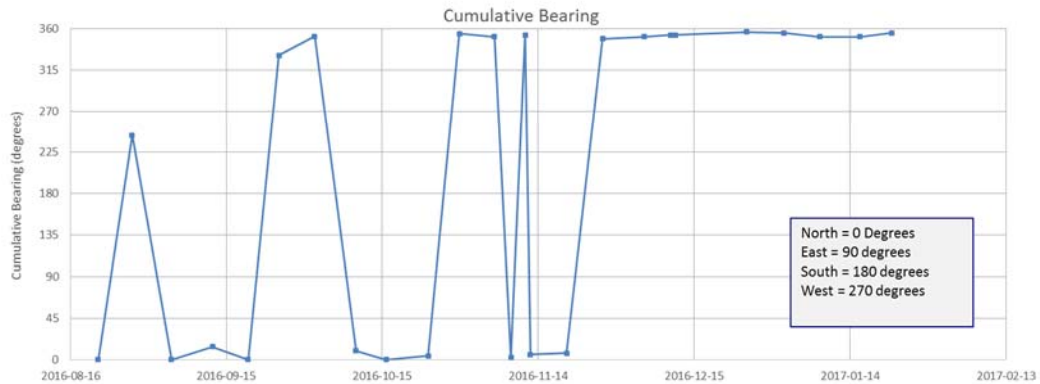
srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	DSTSF Instrumentation Data	
Job No: 1CM002.059 Filename: ApD_2017DSTSFLandscape.pptx	Minto Mine	**Survey Hub – DSSH27**	
		Date: August 2017	Prepared by PHM	Figure: **13**









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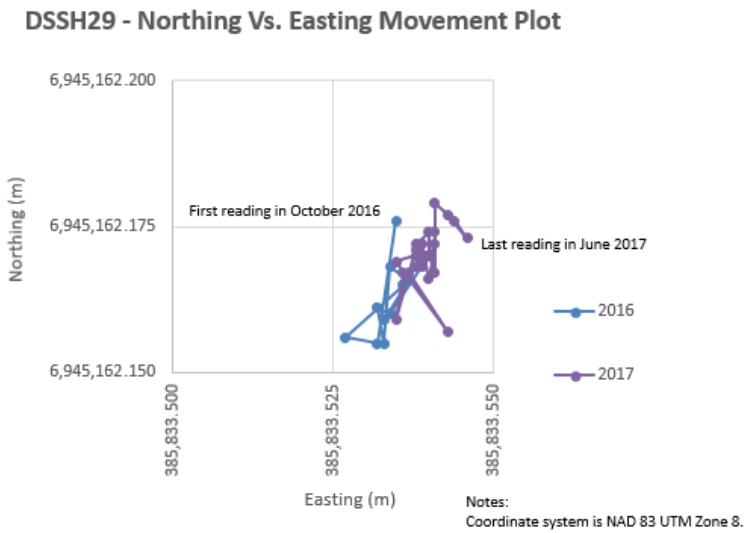
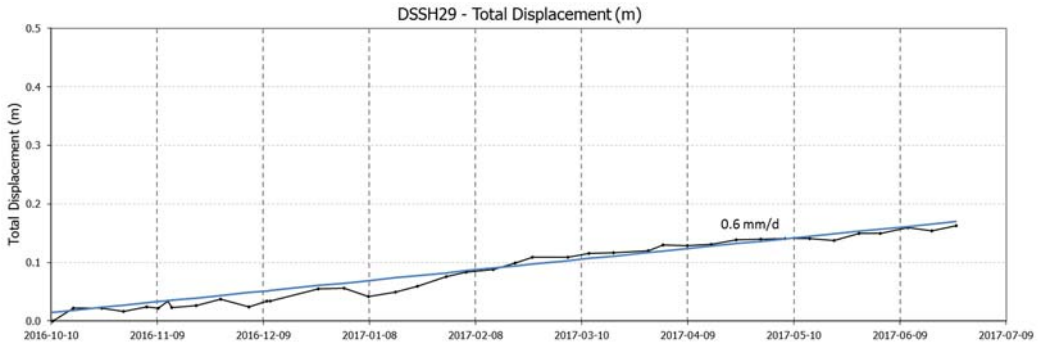
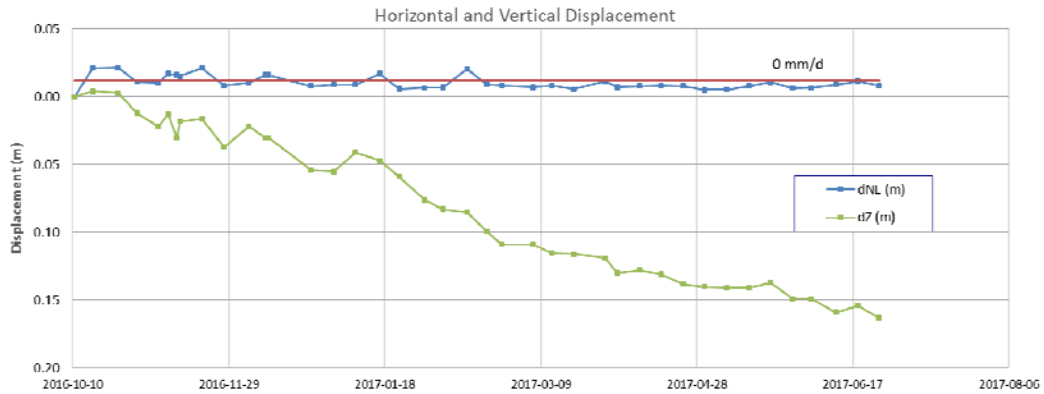
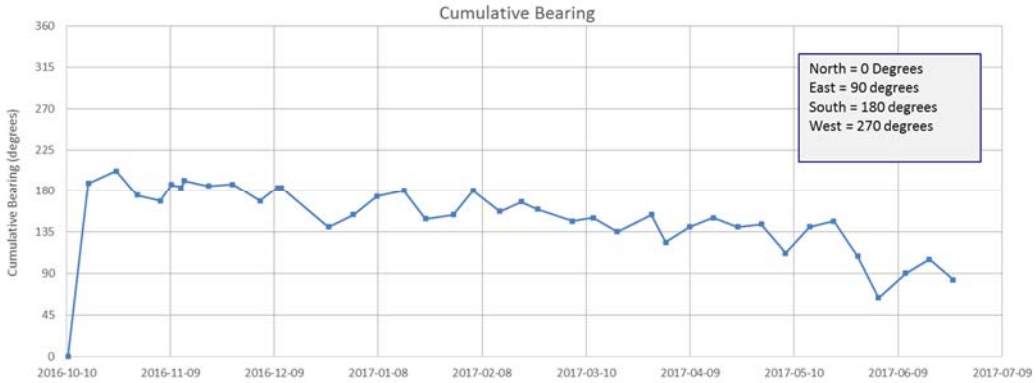
srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	DSTSF Instrumentation Data	
Job No: 1CM002.059 Filename: ApD_2017DSTSFLandscape.pptx	Minto Mine	**Survey Hub – DSSH28**	
		Date: August 2017	Prepared by PHM	Figure: **14**









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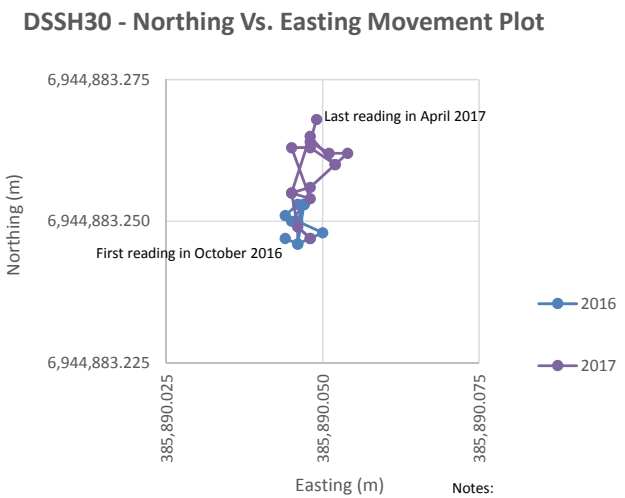
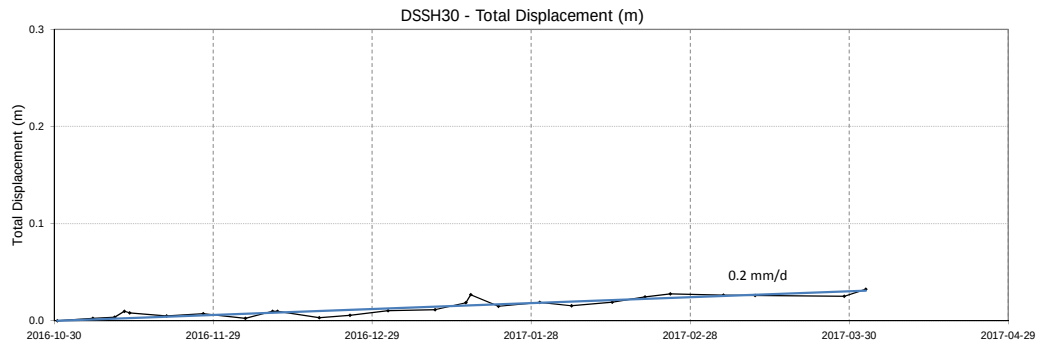
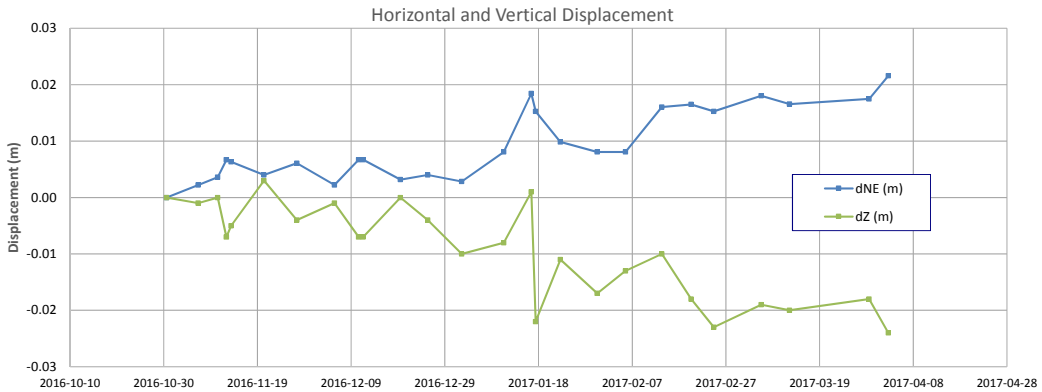
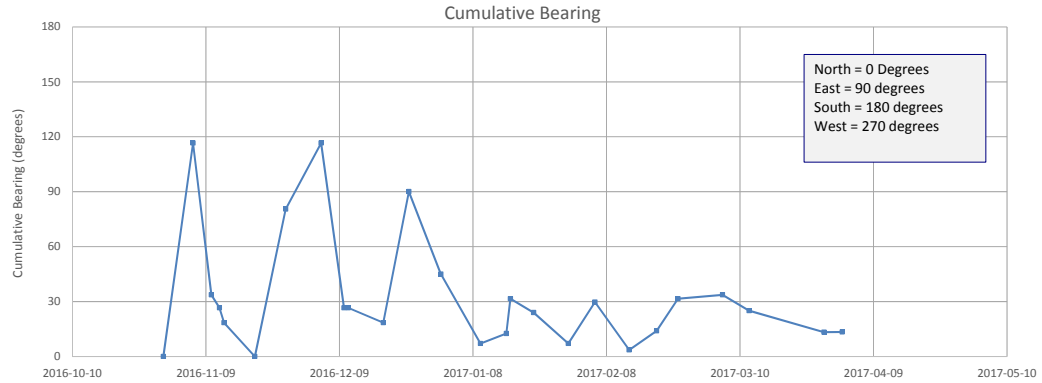
srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	DSTSF Instrumentation Data	
Job No: 1CM002.059 Filename: ApD_2017DSTSFLandscape.pptx	Minto Mine	**Survey Hub – DSSH29**	
		Date: August 2017	Prepared by PHM	Figure: **15**



Notes:
Coordinate system is NAD 83 UTM Zone 8.







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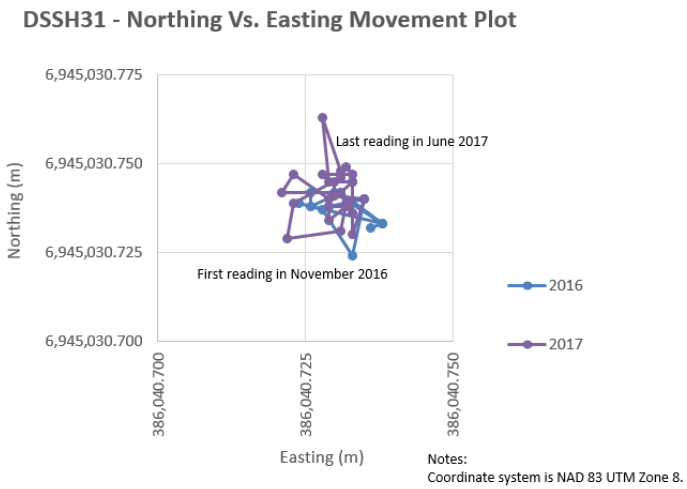
DSTSF Instrumentation Data

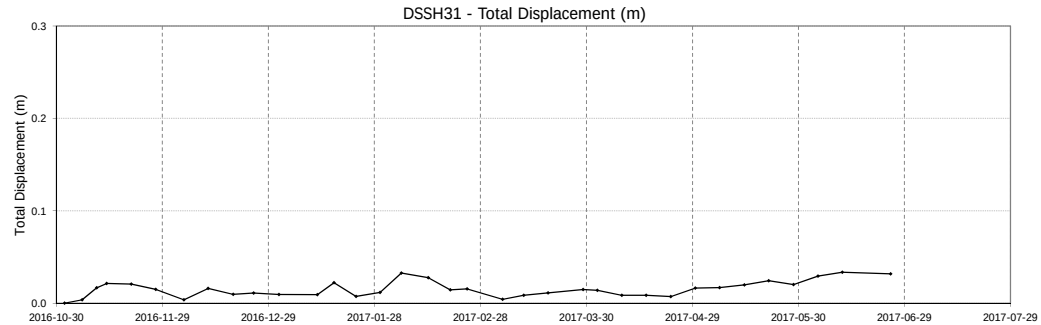
Survey Hub – DSSH30

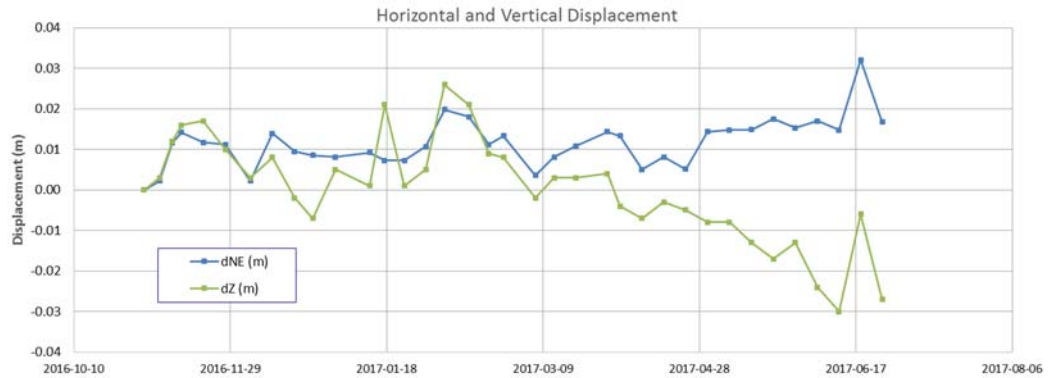
Job No: 1CM002.059
Filename: ApD_2017DSTSFLandscape.pptx

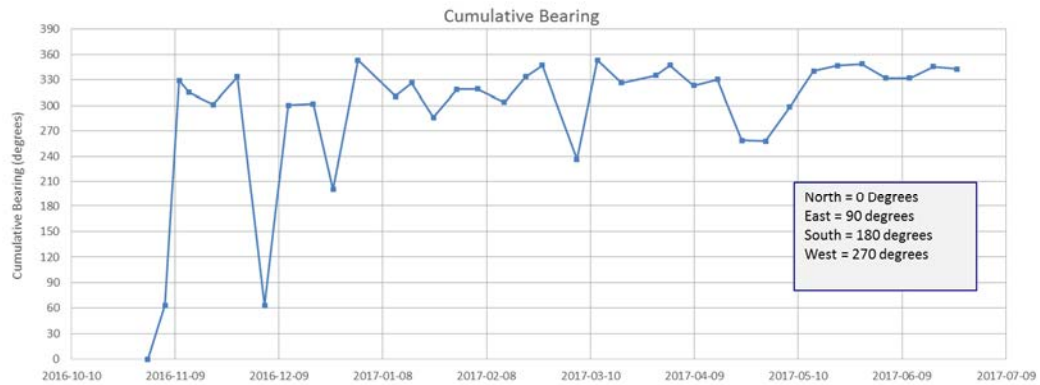
Minto Mine

Date:	Prepared by	Figure:
August 2017	PHM	16









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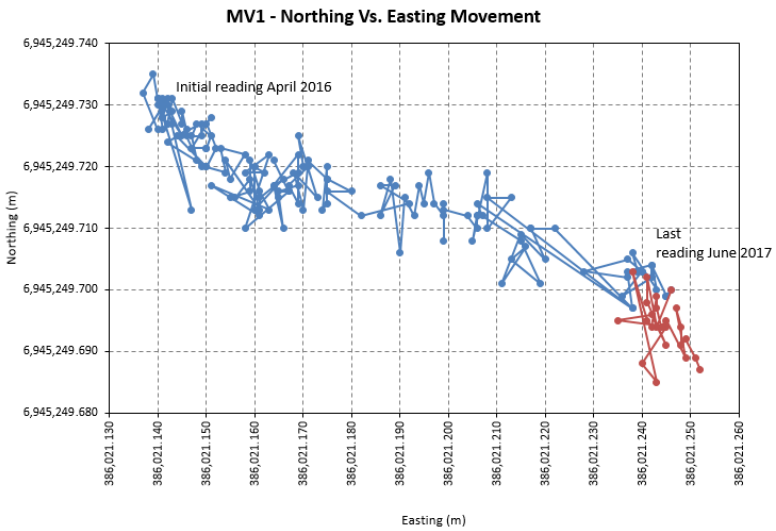
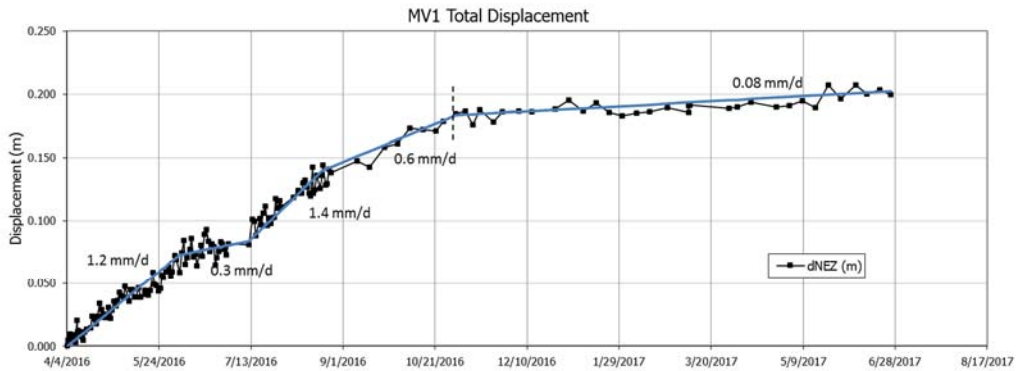
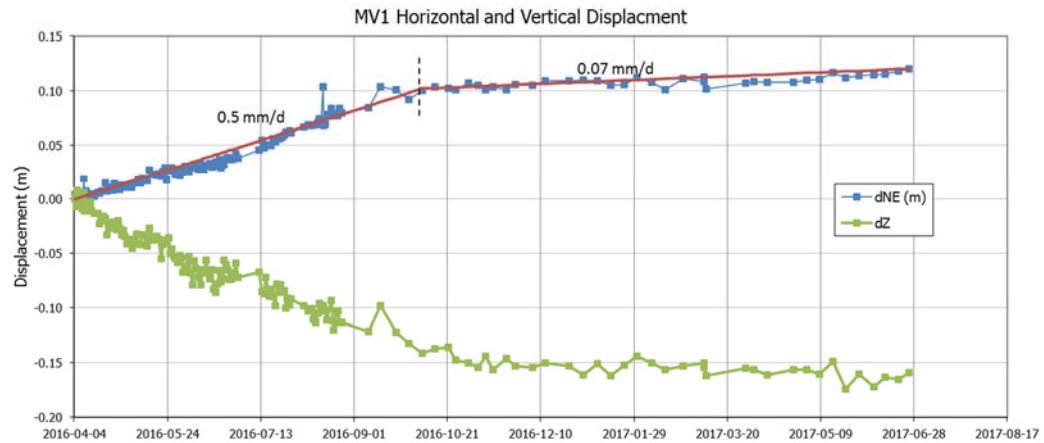
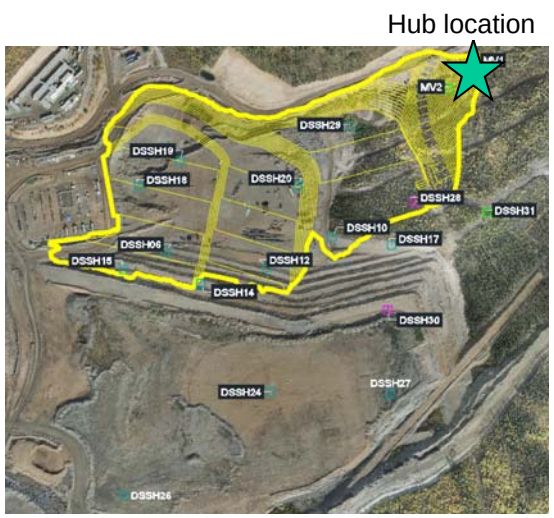
2. Excel instrumentation data: \\VAN-SVR0\Projects\01_SITES\Minto\!020_Site_Wide_Data\Geotechnical\Geotech Monitoring Data\DSTFSurveyHubMonitoring_SRK.xlsm

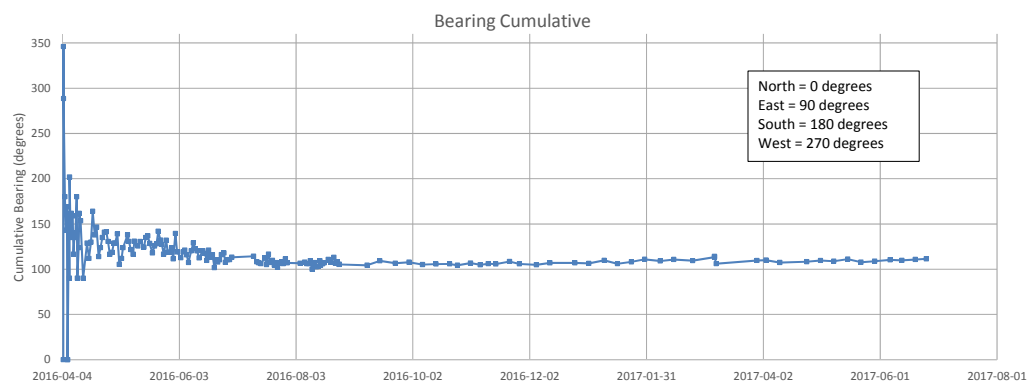
srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	DSTSF Instrumentation Data	
Job No: 1CM002.059 Filename: ApD_2017DSTSFLandscape.pptx	Minto Mine	**Survey Hub – DSSH31**	
		Date: August 2017	Prepared by PHM	Figure: **17**











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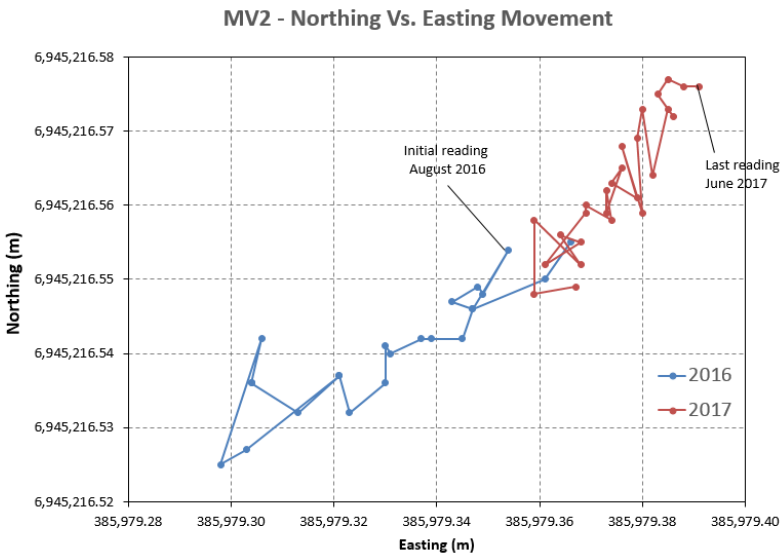
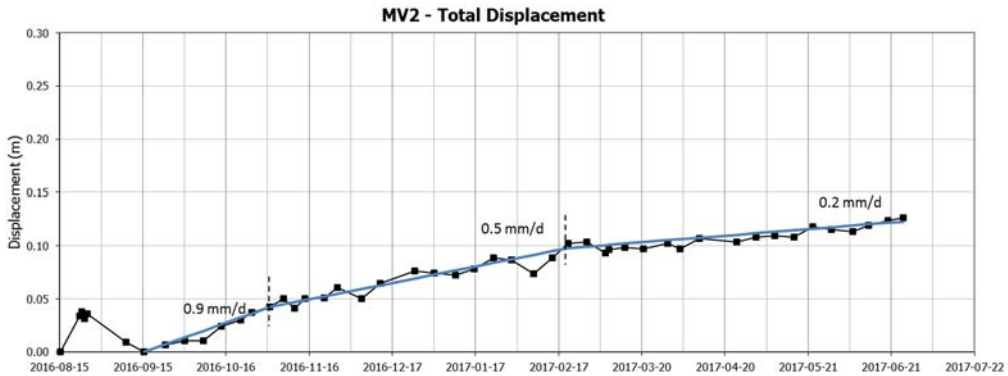
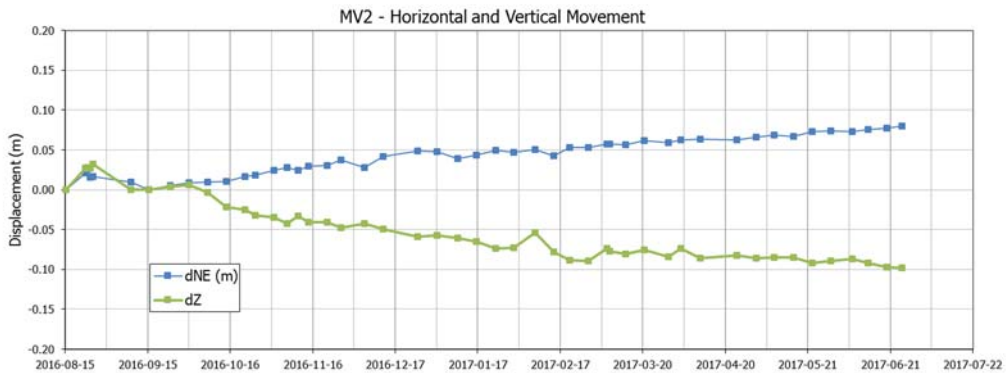
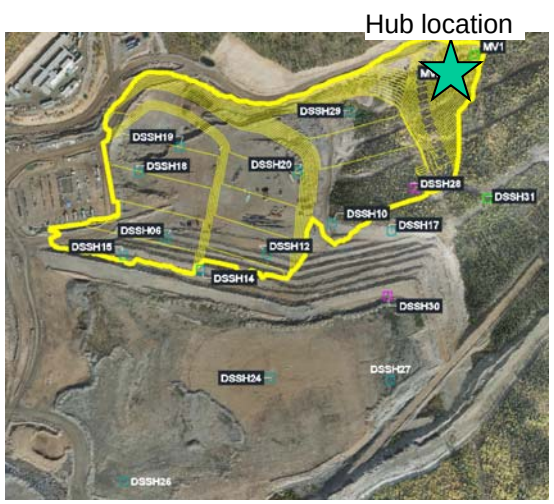
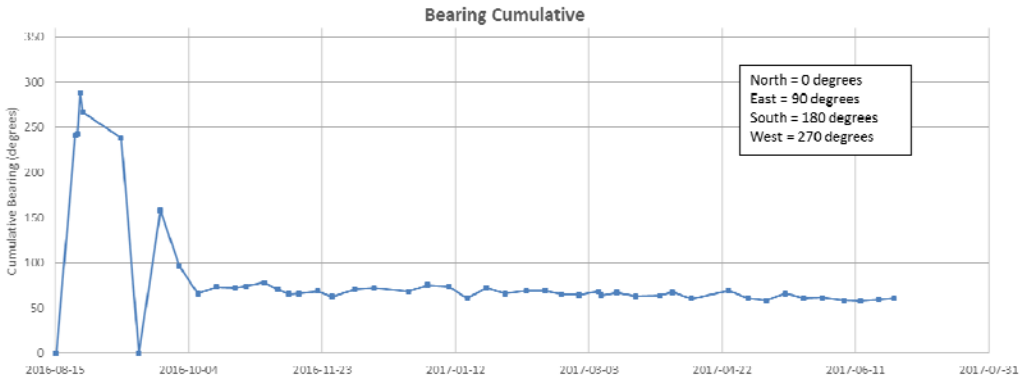
srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	DSTSF Instrumentation Data	
Job No: 1CM002.059		**Survey Hub – MV1**	
Filename: ApD_2017DSTSFLandscape.pptx	Minto Mine	Date: August 2017	Prepared by PHM	Figure: **18**











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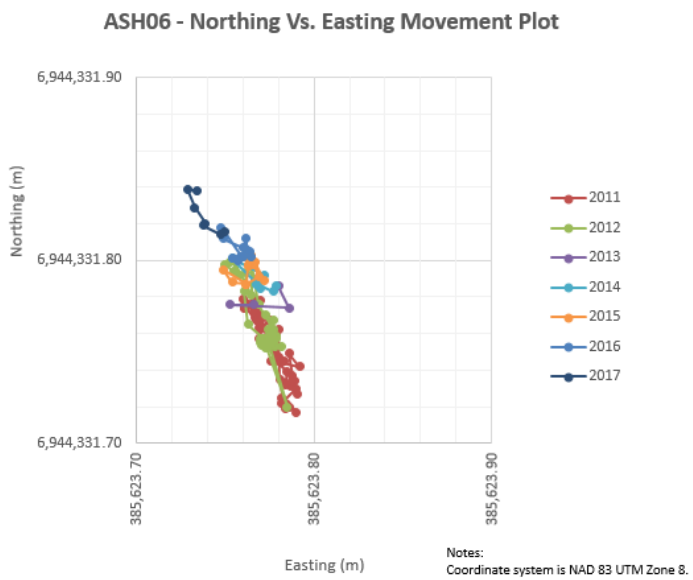
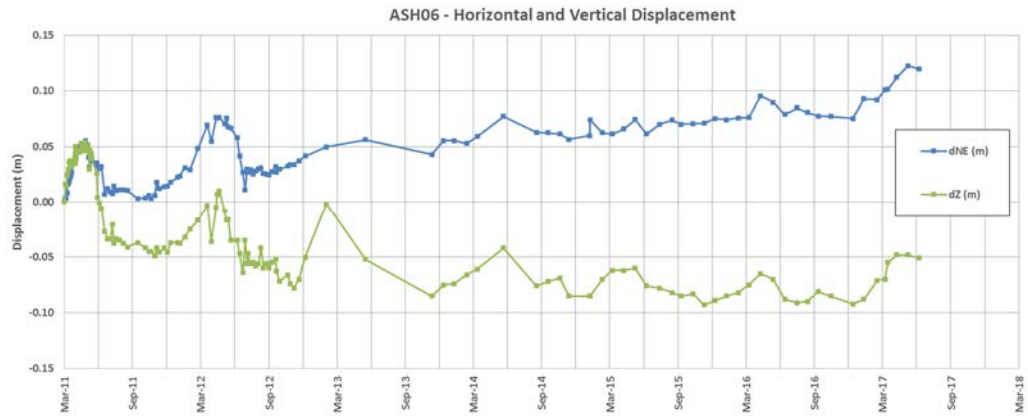
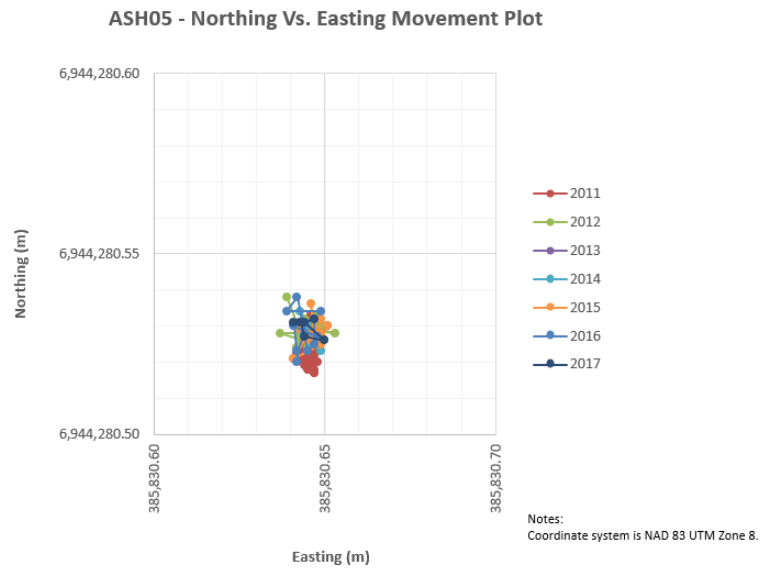
		Survey Hub – MV2	
Job No: 1CM002.059 Filename: ApD_2017DSTSFLandscape.pptx	Minto Mine	Date: August 2017	Prepared by PHM	Figure: **19**





Notes:

1. Minto's survey reading comments on January 14, 207 notes ASH06 may have been disturbed as a result of a pipeline installation.



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DSTSF Instrumentation Data

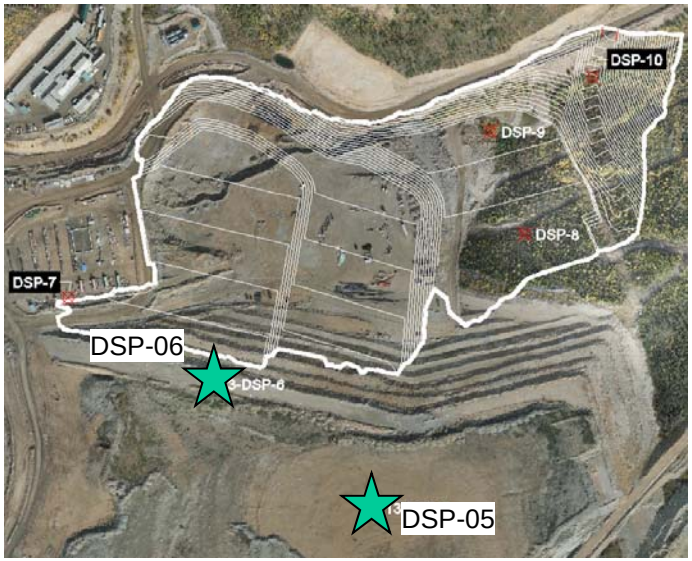
Survey Hubs – ASH05 and ASH06

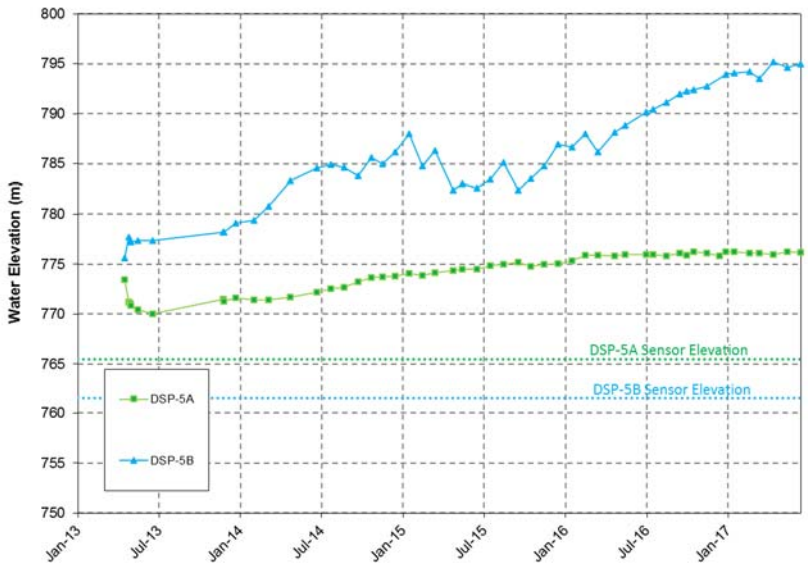
Job No: 1CM002.059

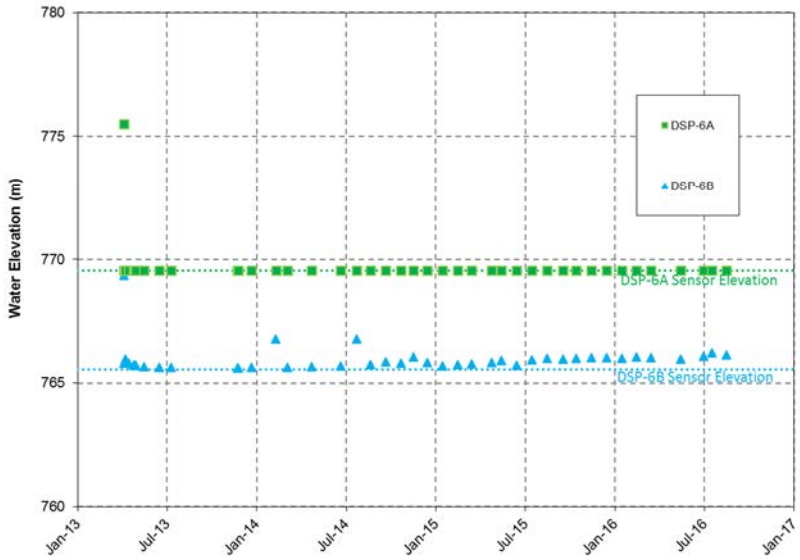
Filename: ApD_2017DSTSFLandscape.pptx

Minto Mine

Date:	Prepared by	Figure:
August 2017	PHM	20







Notes:

1. The pore pressure sensors at DSP-05 and 06 are located approximately 2 m above original ground in tailings (A) and 2 m below original ground.
2. Sensors at DSP-06 and the top sensor DSP-05A show no significant change in pore pressure in the past year.
3. The bottom sensor at DSP-05 (B) shows an increase in pore pressure. Temperature at the sensor is at the freezing point of water -0.5°. The sensor is located in an area of silt with stratified ice lenses.

Source files:

1. AutoCAD: \\VAN-SVR0\Projects\01_SITES\Minto\1CM002.050_2016 Geotech Op Support\!040_AutoCAD\1CM002.050-Site Plan Showing Instrumentation.dwg
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DSTSF Instrumentation Data

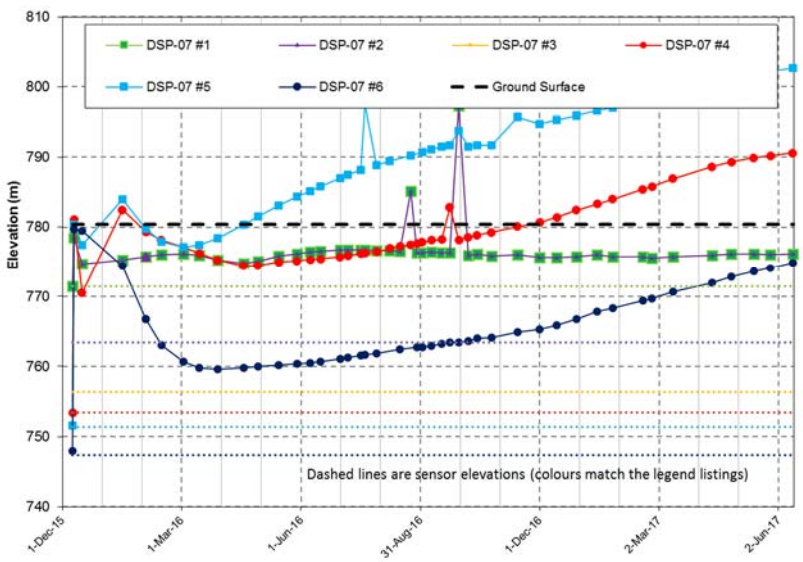
Piezometers – DSP-05 and DSP-06

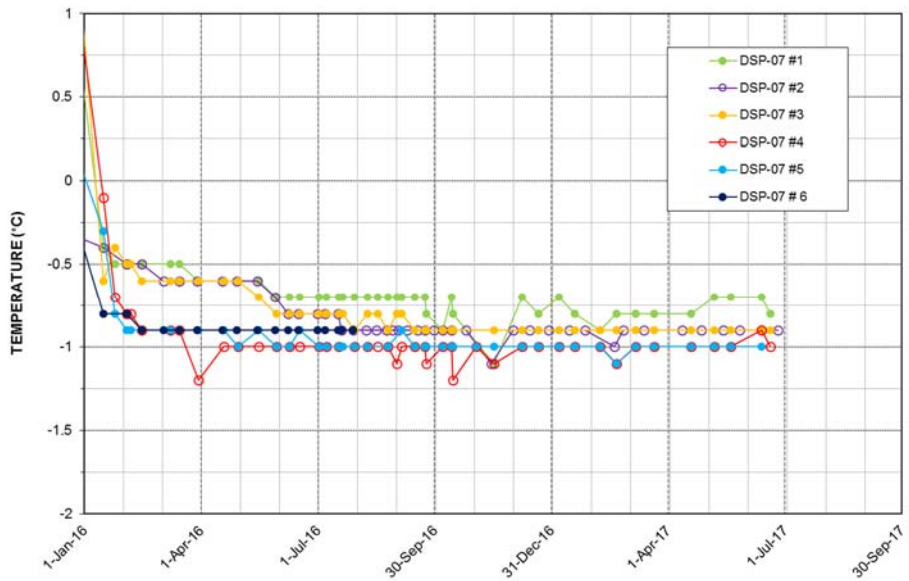
Job No: 1CM002.059
Filename: ApD_2017DSTSFLandscape.pptx

Minto Mine

Date: August 2017
Prepared by PHM
Figure: 21

Sensor #	Stratigraphy, Ice Description	Ice Description	Comment
1	Silt. Some clay, little sand, trace gravel, soft, wet, medium plastic, varved.	Vr, Ice/moisture content up to 50%.	
2	Sand, few gravel, loose, unrounded, no fines.	Vr. Mostly no visible ice, some small random ice lenses up to 1.5 cm thick.	
3 4 5	Clay, some silt, trace gravel and sand, wet, high plastic. (MC=50%)	Vr; Approx. 50% ice, lenses between 2 and 20 mm thick, parallel and nearly horizontal, interbedded with clay.	A shear zone at DSI-20 was identified in 2013-14 at an elevation of 752.5 -730m. The higher pore pressure observed at in the three sensors in the clay unit may be related to pore pressure induced by on going movement.
6	Weathered Bedrock; Highly weathered granite. Rust staining. Friable.	Nbn. No excess ice.	Sensor 6 is believed to have a lower pore pressure due to the coarser sand/gravel material.





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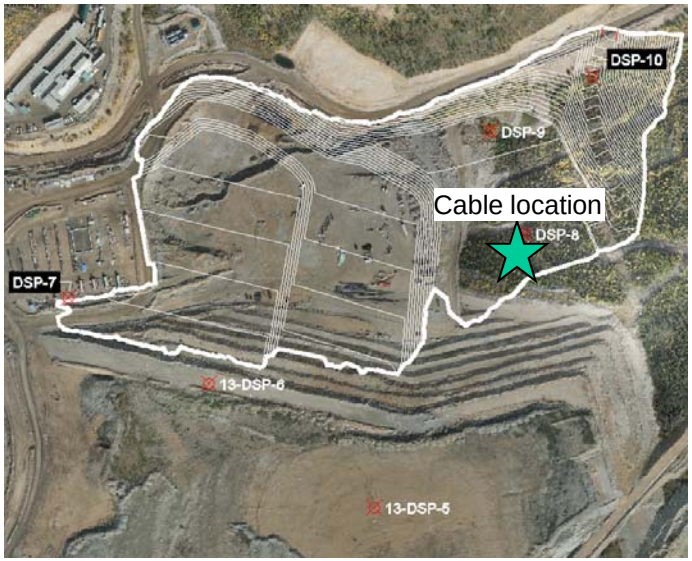
DSTSF Instrumentation Data

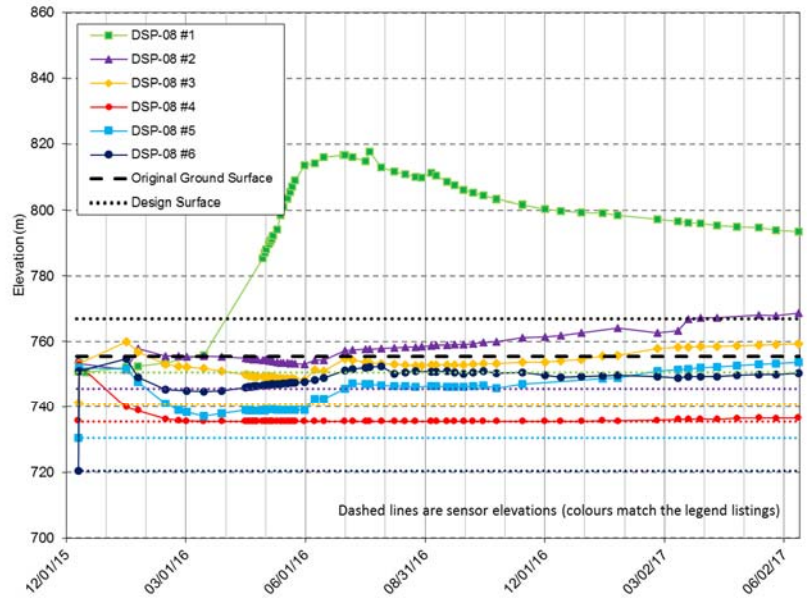
Piezometer – DSP-07

Job No: 1CM002.059
Filename: ApD_2017DSTSFLandscape.pptx

Minto Mine

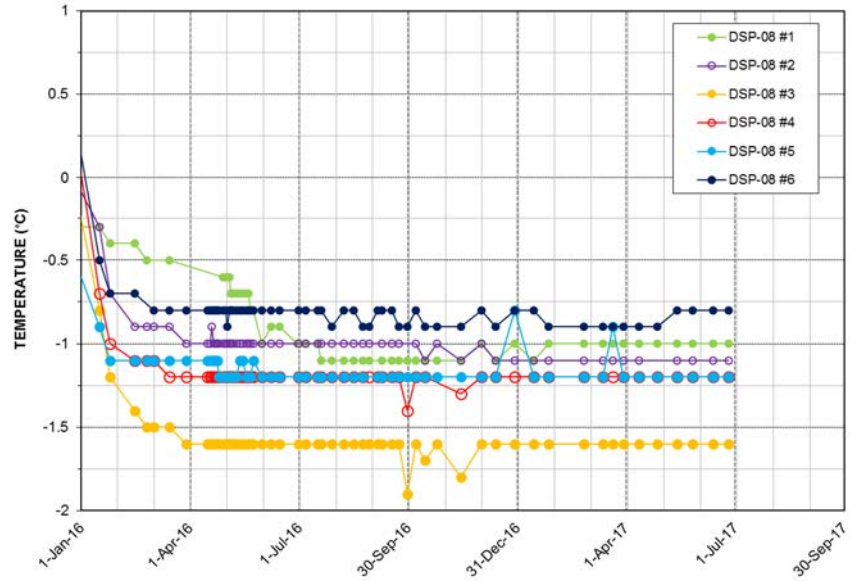
Date: August 2017
Prepared by PHM
Figure: 22





Notes:

1. Negative pressure readings are plotted at the elevation of the sensor in order to indicate dates readings were taken.
2. The pore pressure in Sensor 1 has increased by approx. 700 kPa (700 m of water). This sensor is located closest to surface (depth of 5m). Since the construction was completed, the readings have dissipated. The temperature at Sensor 1 has also dropped significantly compared to the other sensors at DSP-08. The higher pore pressures at Sensor 1 may be the result of freezing and the expansion of pore water into ice.



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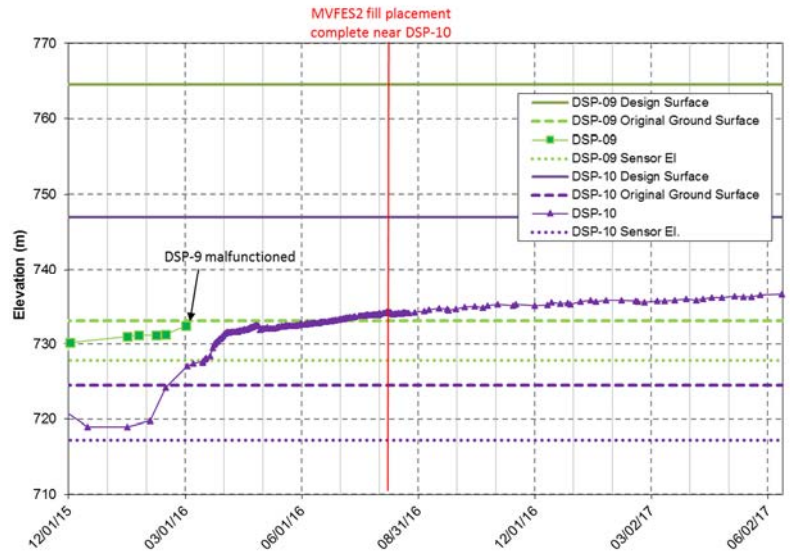
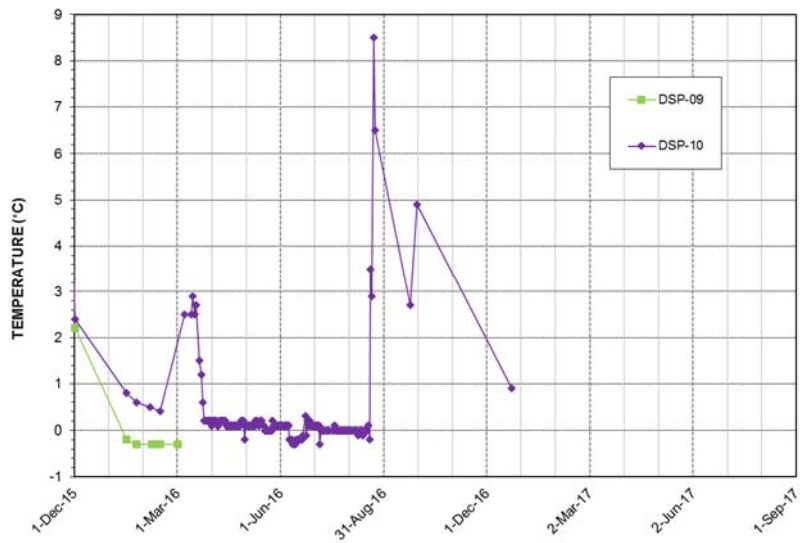
		Piezometer – DSP-08	
Job No: 1CM002.059 Filename: ApD_2017DSTSFLandscape.pptx	Minto Mine	Date: August 2017	Prepared by PHM	Figure: **23**



Notes:

1. The pore pressure sensors at DSP-9 and 10 are located approximately 5 m below original ground.
2. DSP-09 malfunctioned with the last reading on March 1, 2016
3. The large increase in pore pressure at DSP-10 is related to the fill placement over the sensor (approximately 23 m thick).
4. Since fill placement has been completed, the rate of increase in pore pressure is low, but is ongoing.
5. Flow meter readings at the Minto Creek Detention Sump indicate that the blanket drain is functional and no water is building-up at the base of MVFE Stage 2.
6. The temperature readings at DSP-10 show a slight cooling trend up to July 2017. Since July 2017, temperature readings have been infrequently collected and highly variable. The higher temperature may be indicative of the groundwater.



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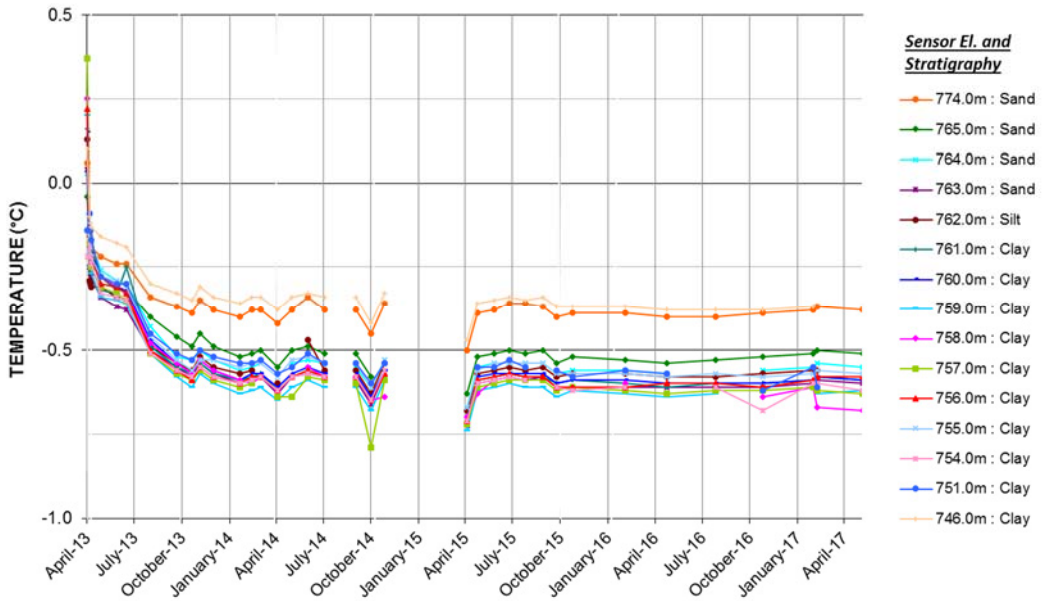
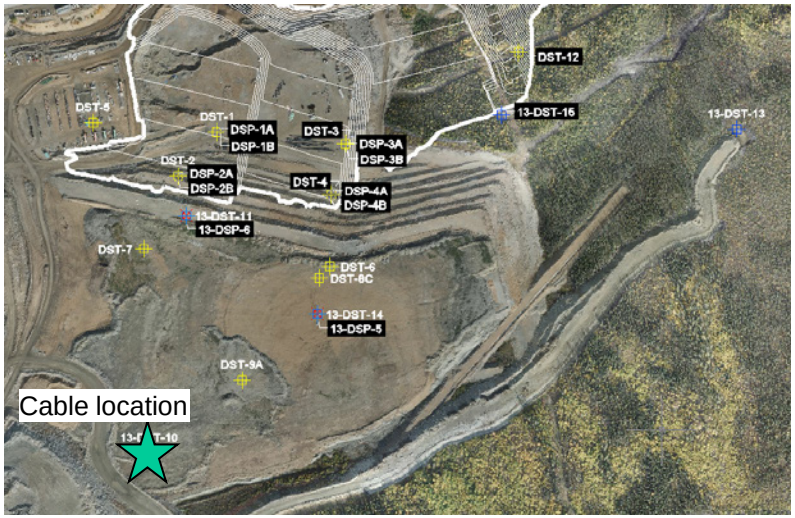
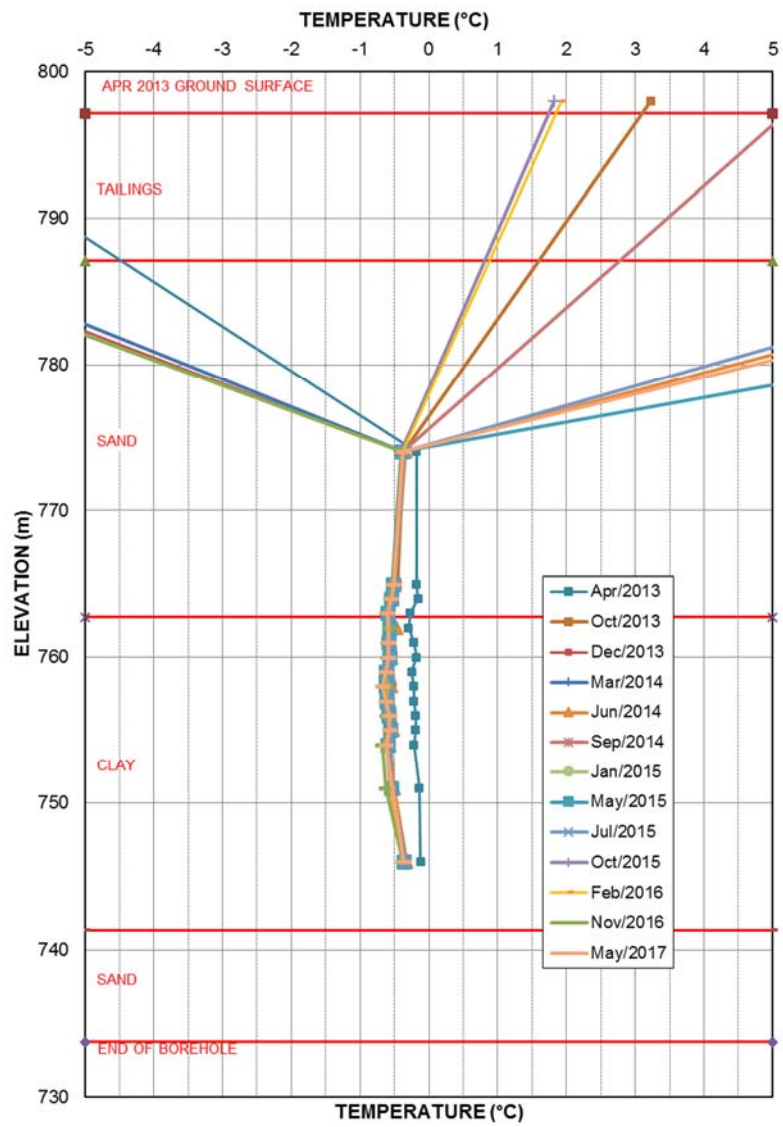
Job No: 1CM002.059 Filename: ApD_2017DSTSFLandscape.pptx	Minto Mine	**Piezometers – DSP-09 and DSP-10**	
		Date: August 2017	Prepared by PHM	Figure: **24**







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DSTSF Instrumentation Data

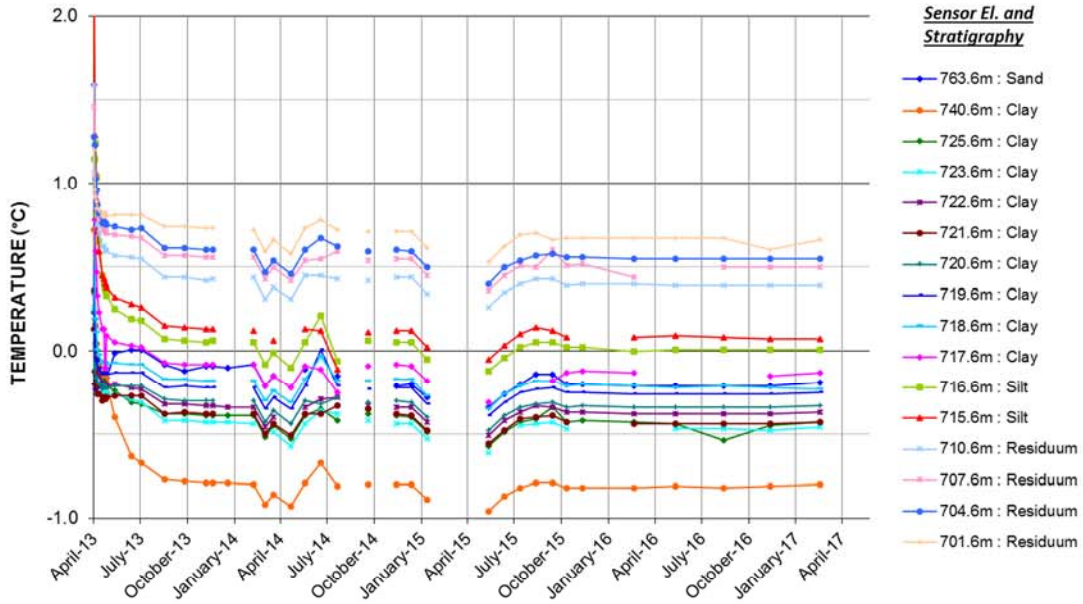
Temperature Cable – DST-10

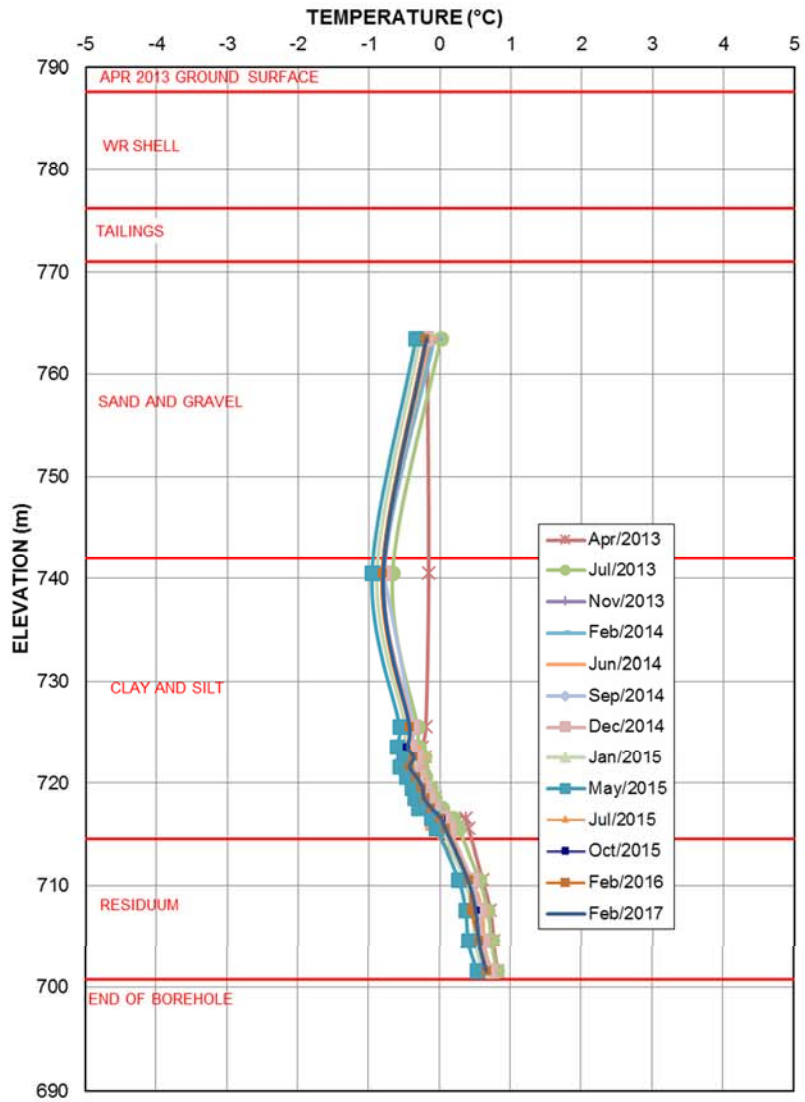
Job No: 1CM002.059

Filename: ApD_2017DSTSFLandscape.pptx

Minto Mine

Date:	Prepared by	Figure:
August 2017	PHM	25





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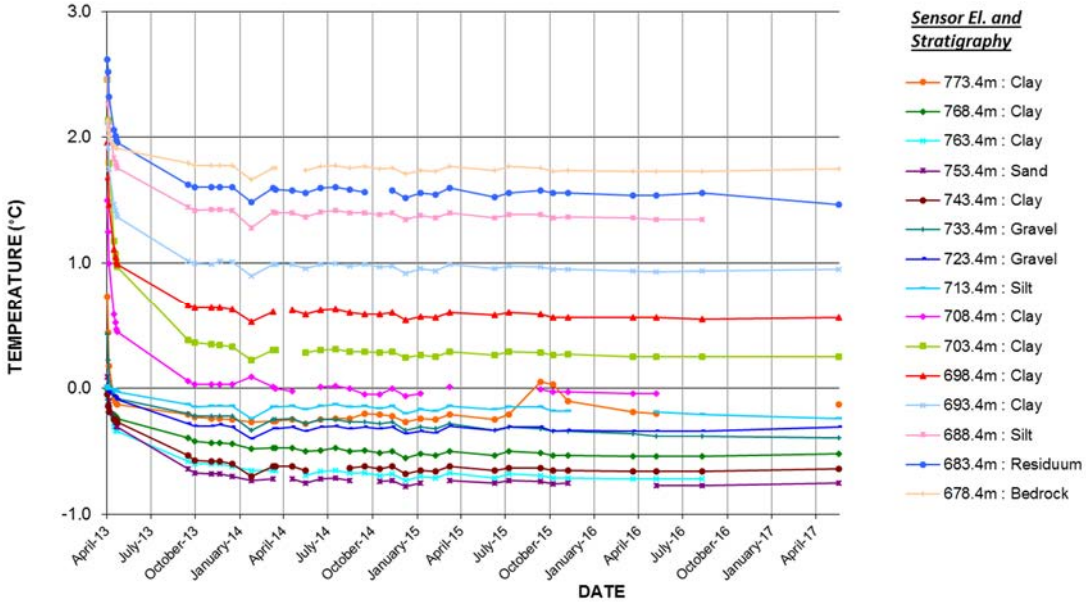
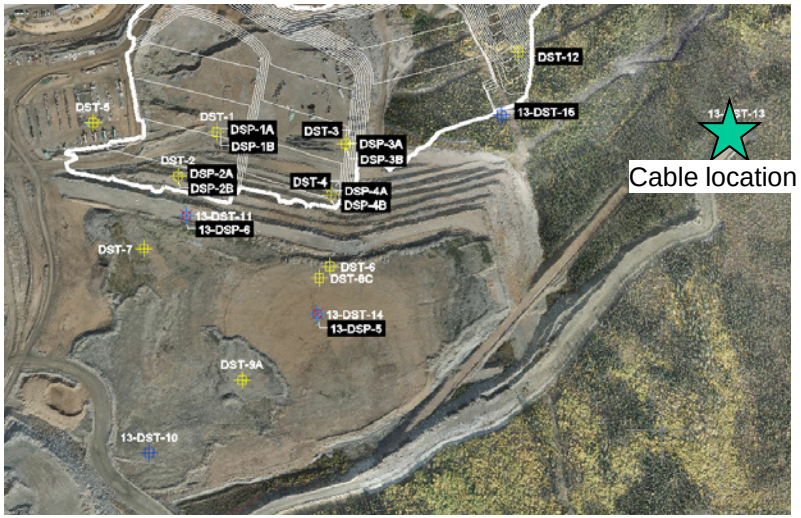
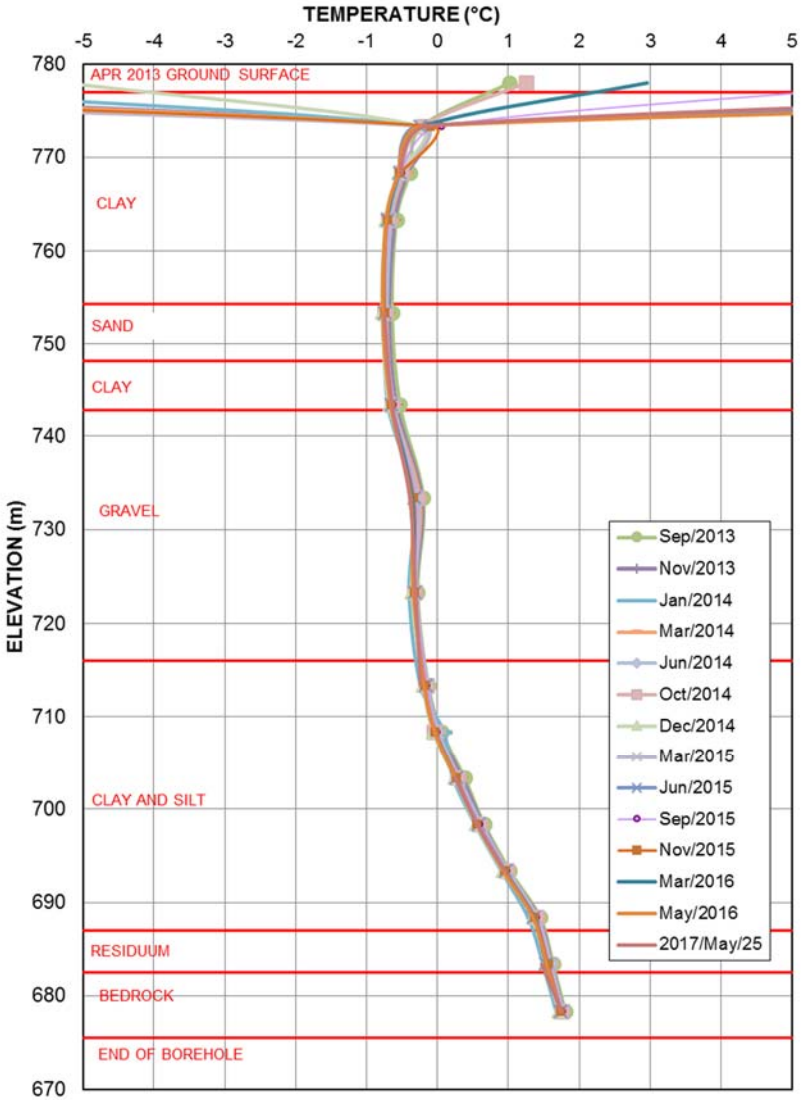
		Temperature Cable – DST-11	
Job No: 1CM002.059 Filename: ApD_2017DSTSFLandscape.pptx	Minto Mine	Date: August 2017	Prepared by PHM	Figure: **26**







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DSTSF Instrumentation Data

Temperature Cable – DST-13

Job No: 1CM002.059

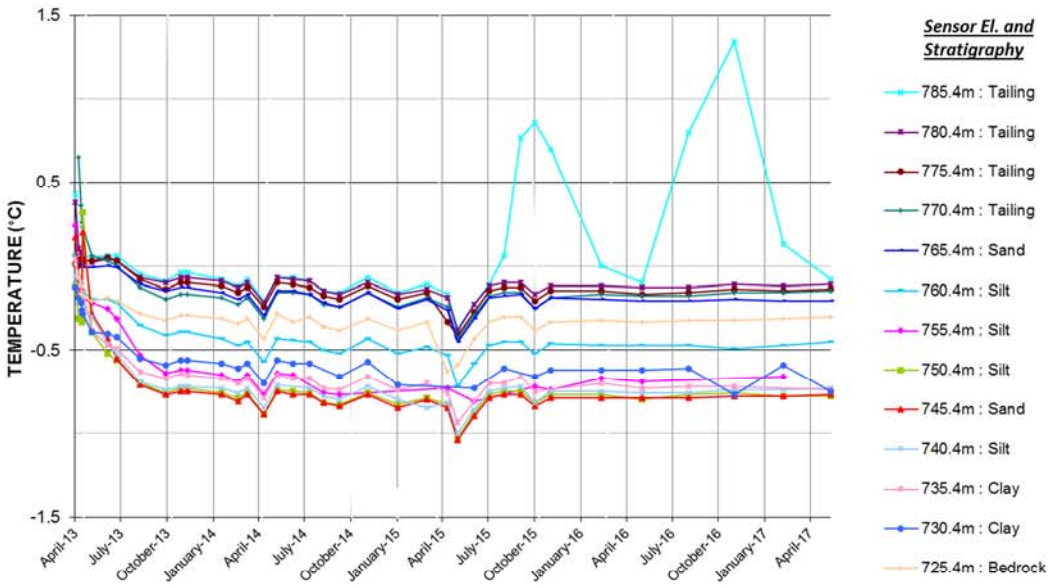
Filename: ApD_2017DSTSFLandscape.pptx

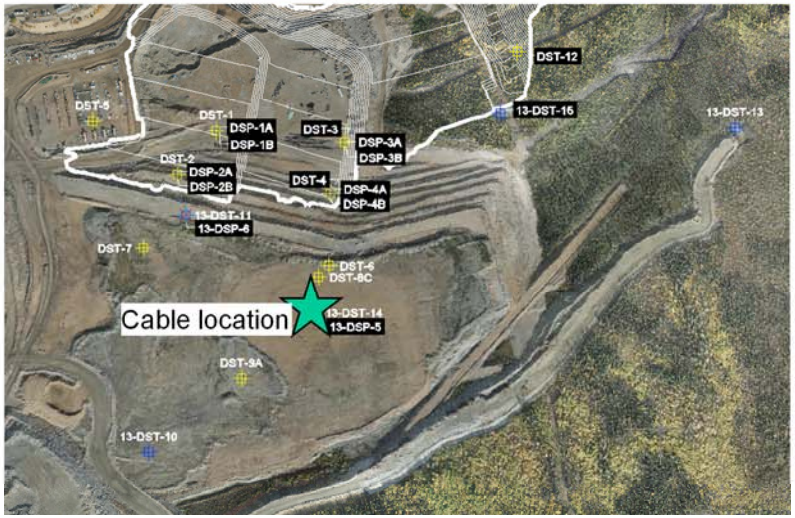
Minto Mine

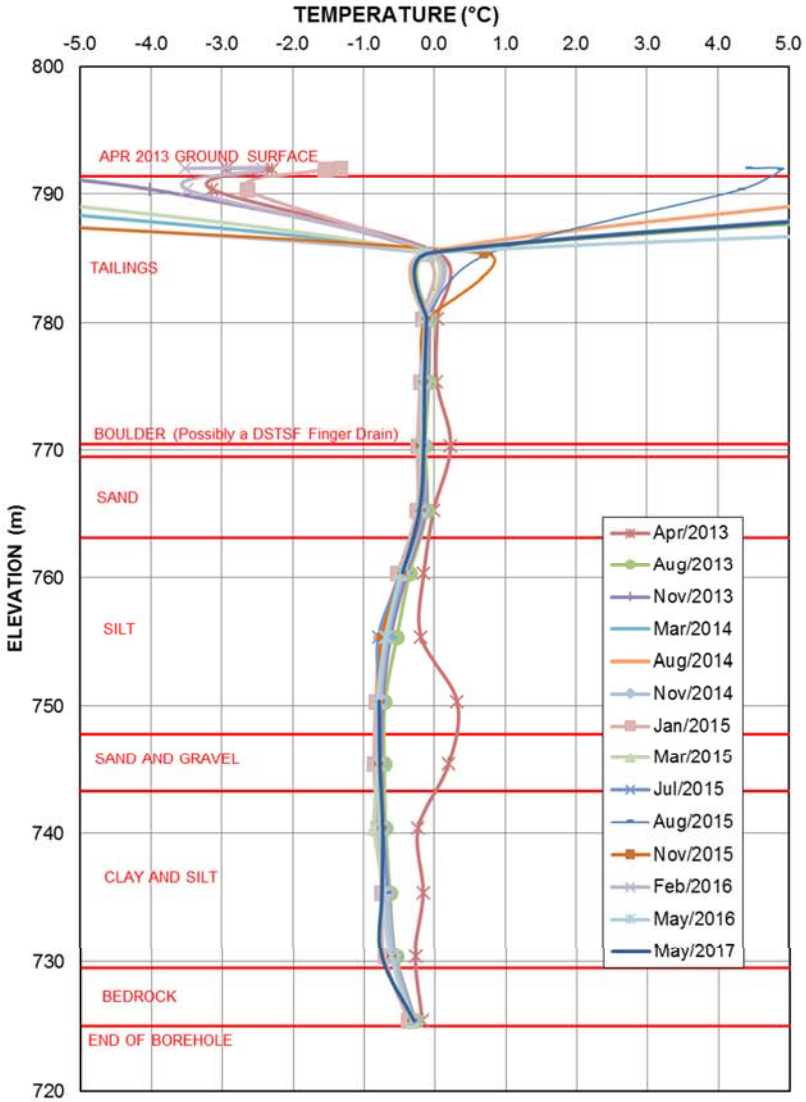
Date: August 2017

Prepared by PHM

Figure: **27**



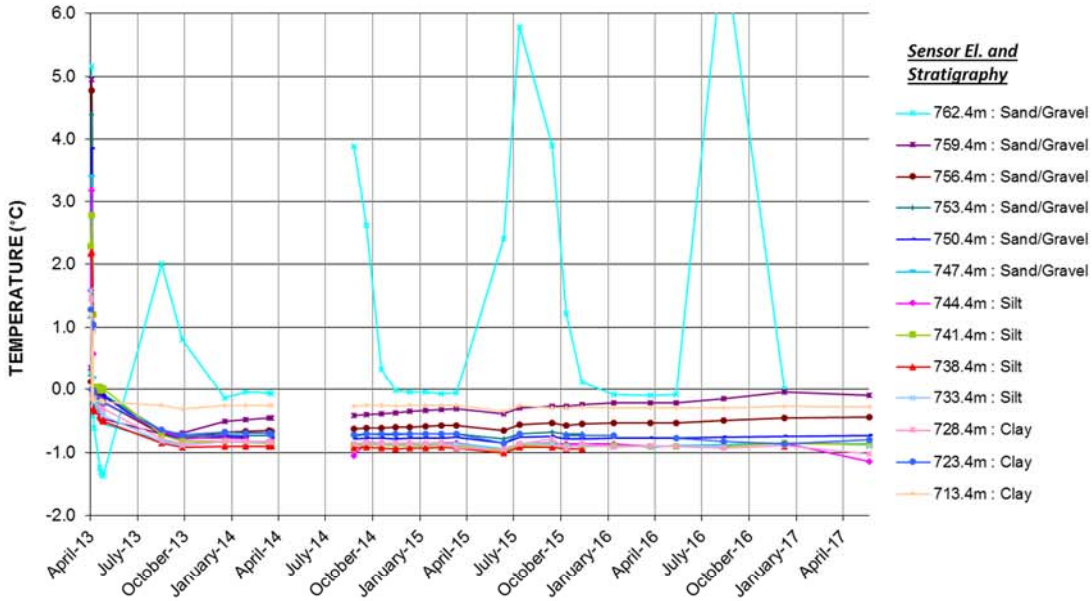


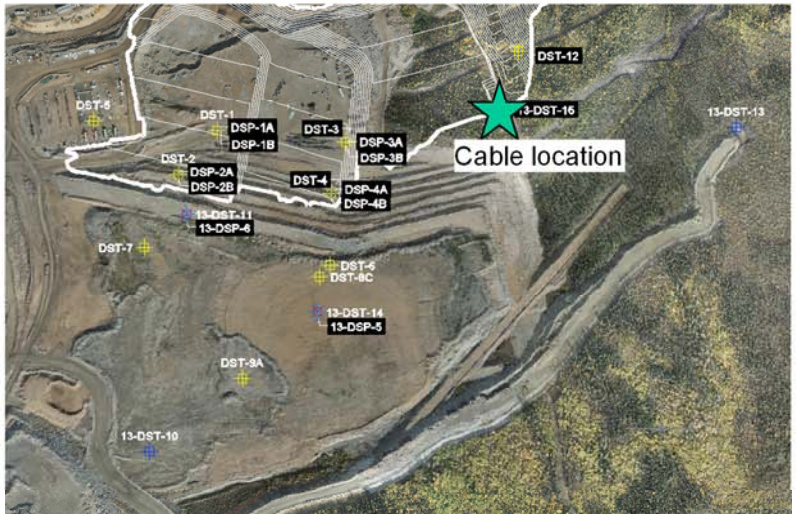


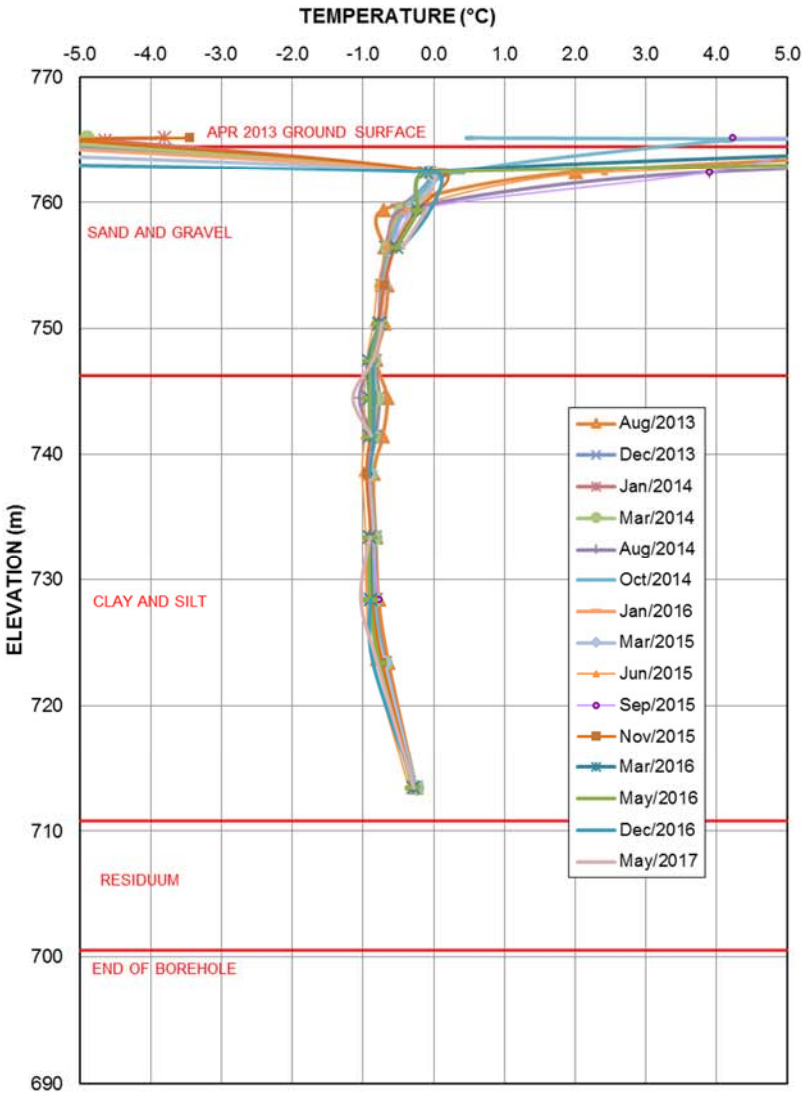
Source files:

1. AutoCAD: \\VAN-SVR0\Projects\01_SITES\Minto\1CM002.050_2016 Geotech Op Support\!040_AutoCAD\1CM002.050-Site Plan Showing Instrumentation.dwg
2. Excel instrumentation data: \\VAN-SVR0\Projects\01_SITES\Minto\!020_Site_Wide_Data\Geotechnical\Geotech Monitoring Data\GTC + Piezometer Instrumentation - DSTSF_2016-Geotech.xlsm

srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	DSTSF Instrumentation Data
		Temperature Cable– DST-14
Job No: 1CM002.059	Minto Mine	Date: August 2017 / Prepared by PHM / Figure: **28**
Filename: ApD_2017DSTSFLandscape.pptx		







Source files:

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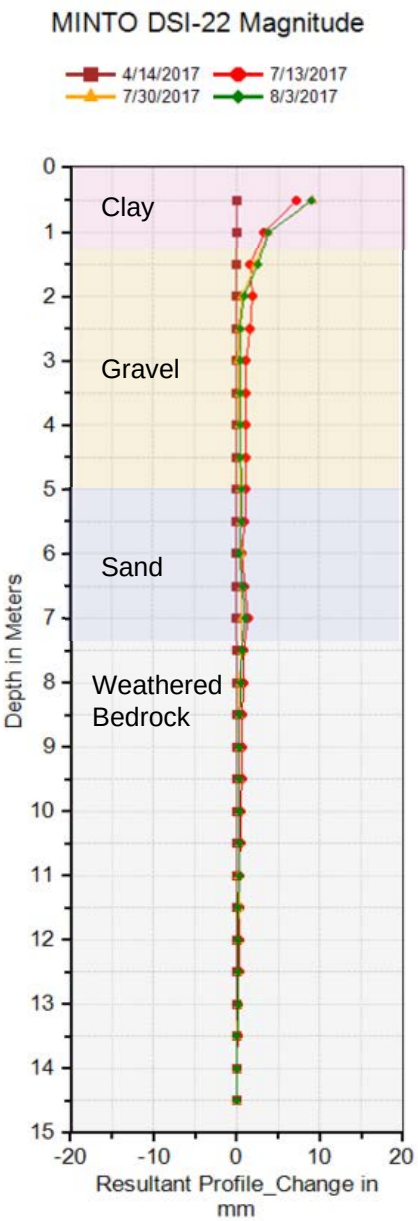
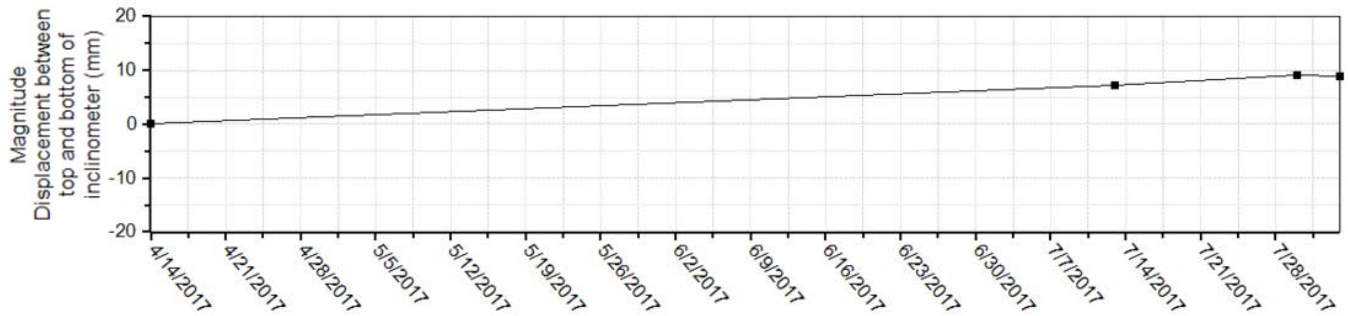
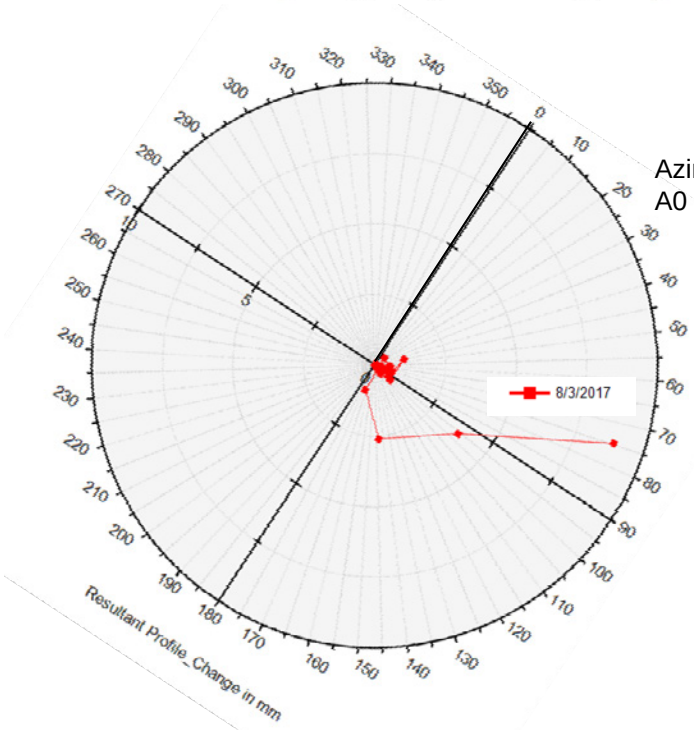
2. Excel instrumentation data: \\VAN-SVR0\Projects\01_SITES\Minto\!020_Site_Wide_Data\Geotechnical\Geotech Monitoring Data\GTC + Piezometer Instrumentation - DSTSF_2016-Geotech.xlsm

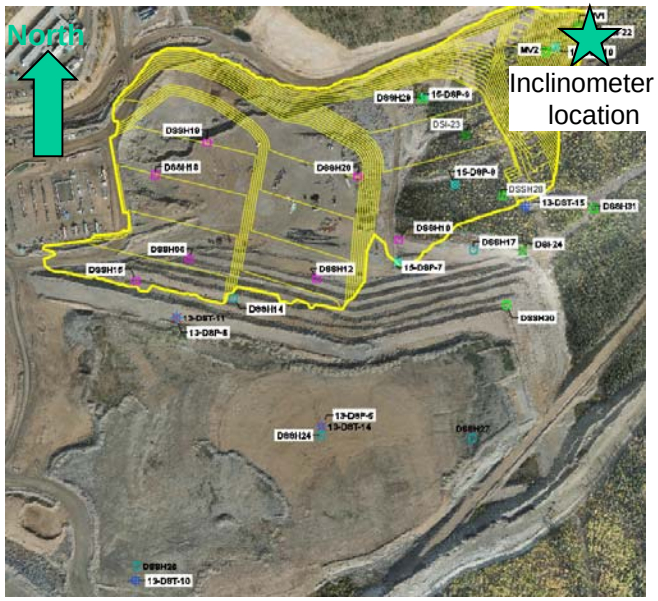
srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	DSTSF Instrumentation Data	
		Temperature Cable – DST-15	
Job No: 1CM002.059	Minto Mine	Date: August 2017	Prepared by PHM	Figure: **29**
Filename: ApD_2017DSTSFLandscape.pptx			







Azimuth of A0 = 34°



Note: Inclinometer software (DigiPro2 v2.12.4) plots A0 as 0 degrees. The plot above has been rotated such that the orientation matches the plan (north is up).

Source files:

1. AutoCAD: \\VAN-SVR0\Projects\01_SITES\Minto\1CM002.050_2016 Geotech Op Support\!040_AutoCAD\1CM002.050-Site Plan Showing Instrumentation.dwg
2. Instrumentation data: \\VAN-SVR0\Projects\01_SITES\Minto\!020_Site_Wide_Data\Geotechnical\Geotech Monitoring Data\Minto SI Instrumentation Database.dpw

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DSTSF Instrumentation Data

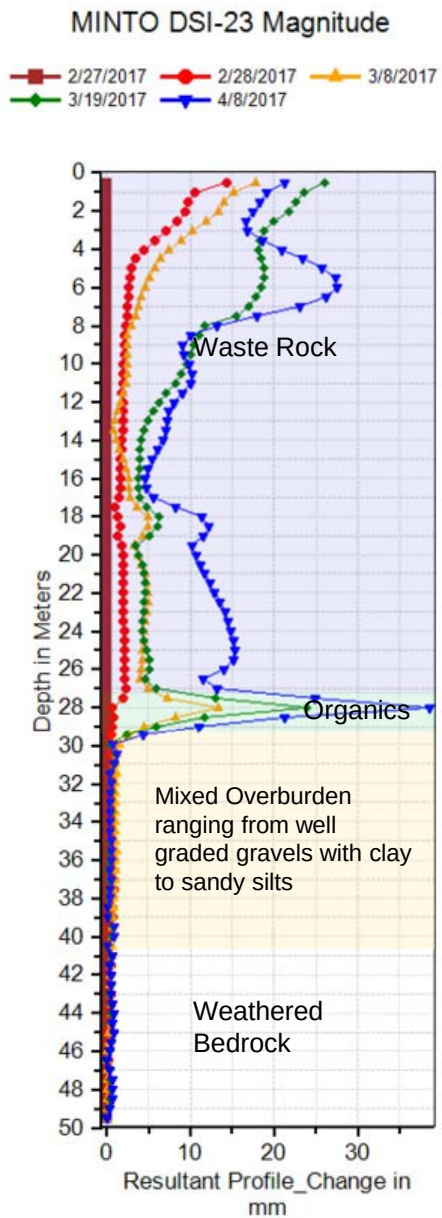
Inclinometer – DSI-22

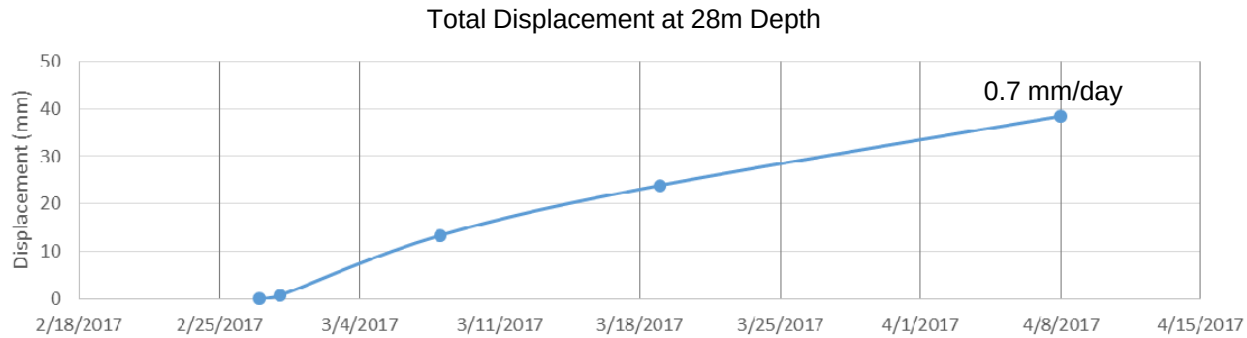
Job No: 1CM002.059

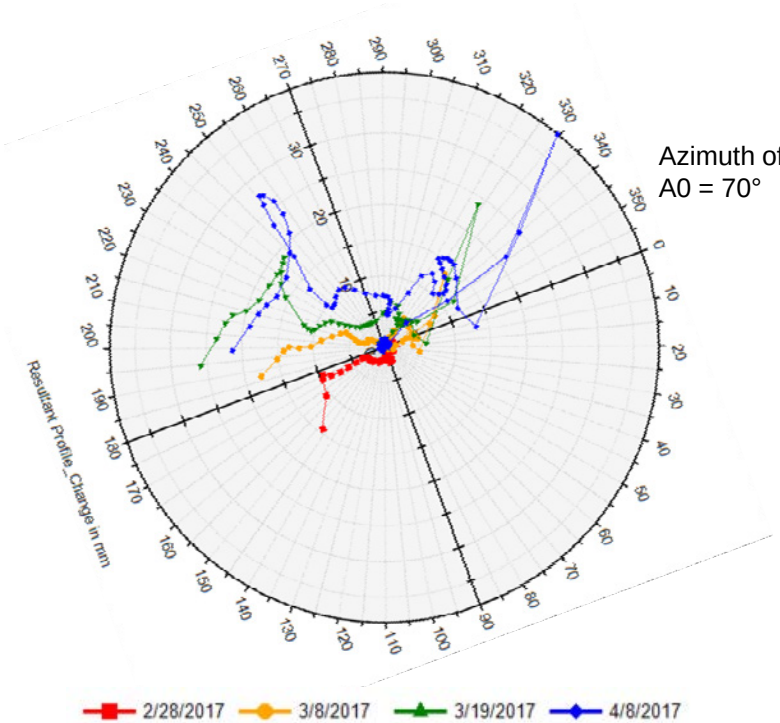
Filename: ApD_2017DSTSFLandscape.pptx

Minto Mine

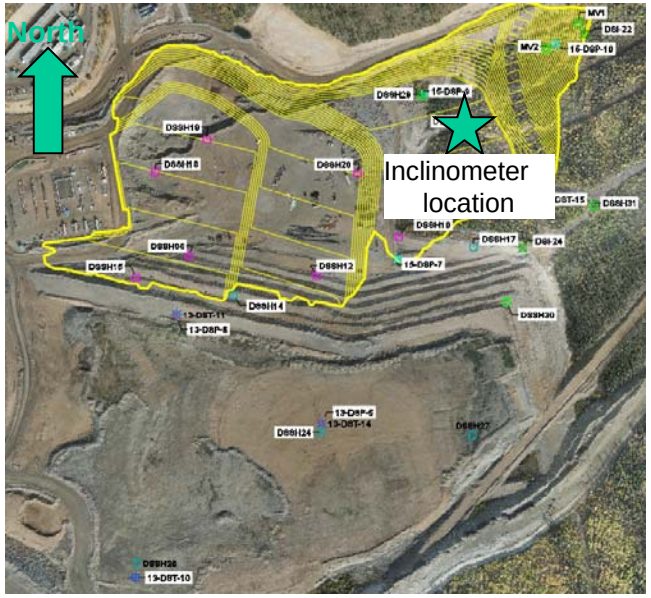
Date:	Prepared by	Figure:
August 2017	PHM	30







Azimuth of A0 = 70°

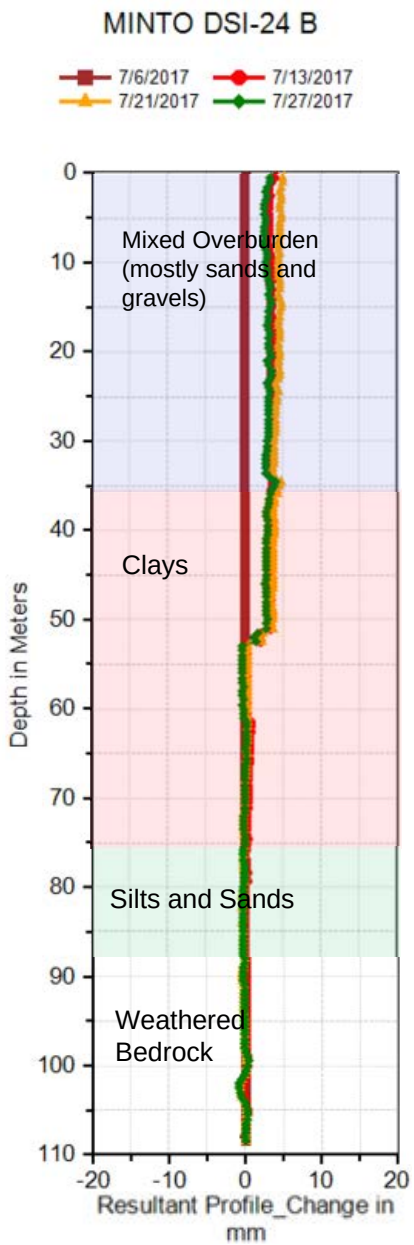


Note: Inclinometer software (DigiPro2 v2.12.4) plots A0 as 0 degrees. The plot above has been rotated such that the orientation matches the plan (north is up).

Source files:

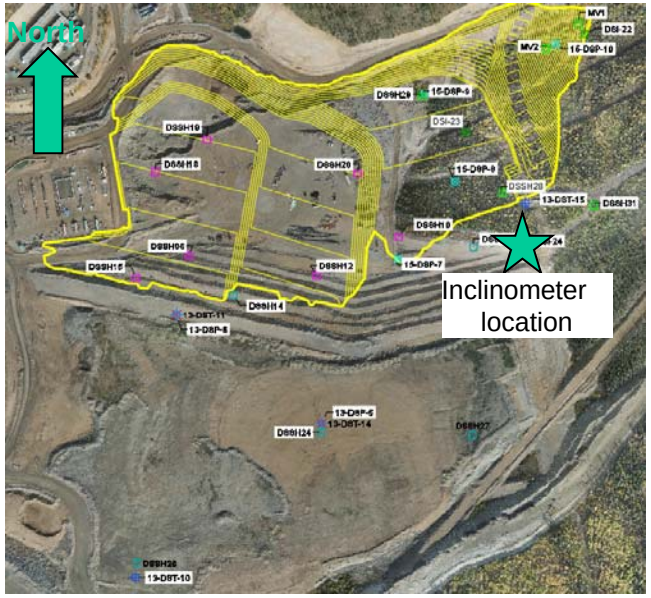
1. AutoCAD: \\VAN-SVR0\Projects\01_SITES\Minto\1CM002.050_2016 Geotech Op Support\!040_AutoCAD\1CM002.050-Site Plan Showing Instrumentation.dwg
2. Instrumentation data: \\VAN-SVR0\Projects\01_SITES\Minto\!020_Site_Wide_Data\Geotechnical\Geotech Monitoring Data\Minto SI Instrumentation Database.dpw

srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	DSTSF Instrumentation Data	
Job No: 1CM002.059 Filename: ApD_2017DSTSFLandscape.pptx	Minto Mine	**Inclinometer – DSI-23**	
		Date: August 2017	Prepared by PHM	Figure: **31**



Notes:

1. Water/glycol inside the inclinometer casing froze following installation in January 2017 and thawed by the start of July.
2. Four sets readings of readings have been collected in July; however, the data from the A-axis has been inconsistent, with only the readings on July 13 and 27 providing good agreement. These two readings show no significant movement.
3. The profile provided in this figure plots results from the B-axis only.
4. No movement rate plot has been provided as insufficient data has been collected to date.



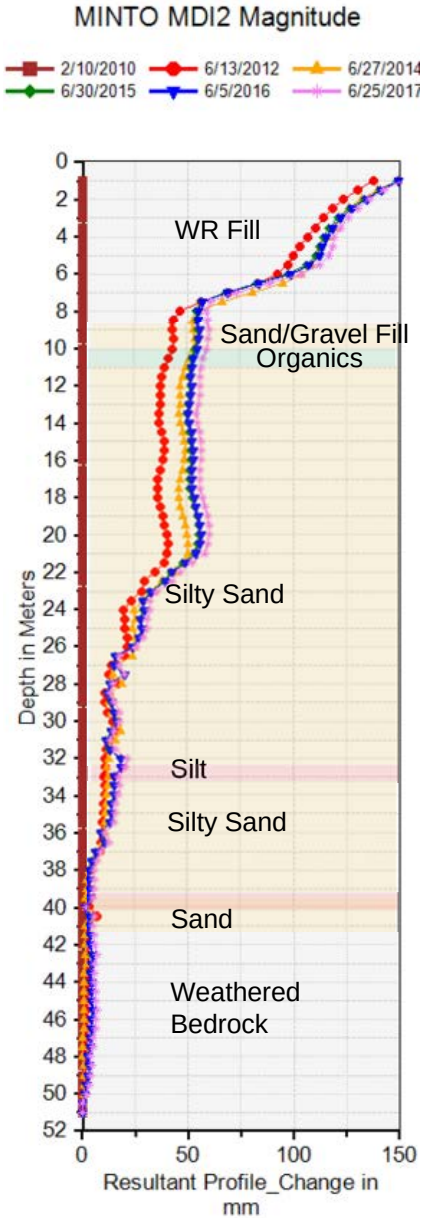
Azimuth of A0 = 5°

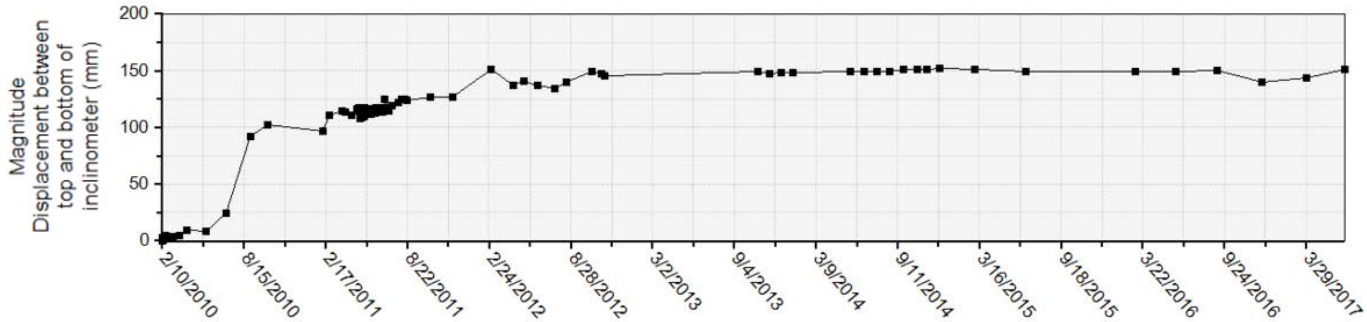
Source files:

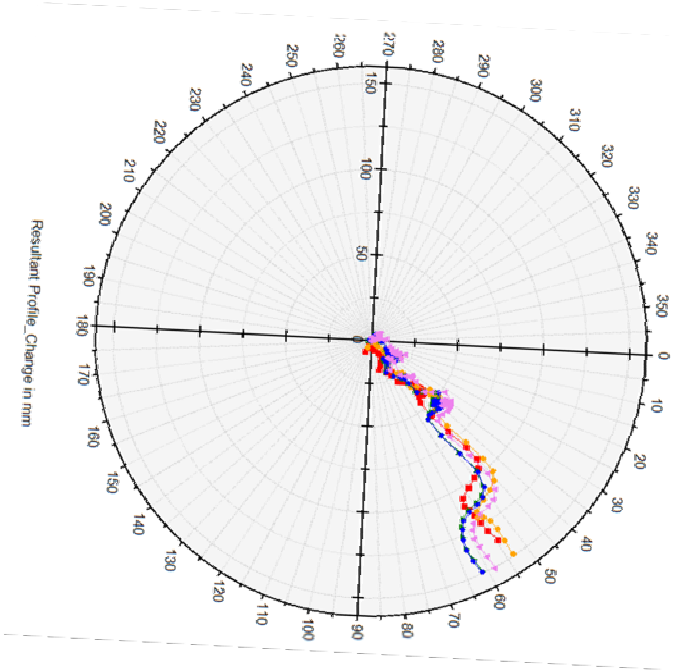
1. AutoCAD: \\VAN-SVR0\Projects\01_SITES\Minto\1CM002.050_2016 Geotech Op Support\!040_AutoCAD\1CM002.050-Site Plan Showing Instrumentation.dwg
2. Instrumentation data: \\VAN-SVR0\Projects\01_SITES\Minto\!020_Site_Wide_Data\Geotechnical\Geotech Monitoring Data\Minto SI Instrumentation Database.dpw

srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	DSTSF Instrumentation Data	
Job No: 1CM002.059	Minto Mine	**Inclinometer – DSI-24**	
Filename: ApD_2017DSTSFLandscape.pptx		Date: August 2017	Prepared by PHM	Figure: **32**

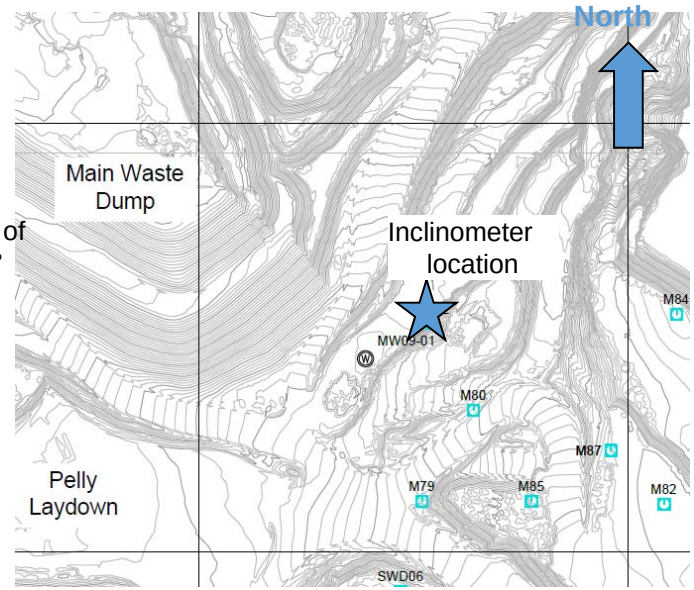
Appendix E: Main Waste Dump Instrumentation Data







Azimuth of
A0 = 93°



Note: Inclinometer software (DigiPro2 v2.12.4) plots A0 as 0 degrees. The plot above has been rotated such that the orientation matches the plan (north is up).

Source files:

1. AutoCAD: \\VAN-SVR0\Projects\01_SITES\Minto\1CM002.050_2016 Geotech Op Support\!040_AutoCAD\1CM002.050-Site Plan Showing Instrumentation.dwg
2. Instrumentation data: \\VAN-SVR0\Projects\01_SITES\Minto\!020_Site_Wide_Data\Geotechnical\Geotech Monitoring Data\Minto SI Instrumentation Database.dpw

srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	MWD Instrumentation Data	
		Inclinometer – MDI-2	
Job No: 1CM002.059 Filename: ApE_2017MWDInstrumentation.pptx	Minto Mine	Date: August 2017	Prepared by PHM	Figure: 1

Appendix F: Southwest Dump Instrumentation Data

Legend/Notes

1. *Values in black are total movement rates in units of mm/day*
2. *Values in blue are horizontal movement rates in mm/day.*
3. *Survey hubs in cyan color are active.*
4. *Survey hubs in magenta area destroyed.*
5. *Survey hubs with no movement rates listed have been inactive for over one year.*

South West Dump Active Survey Hubs

Survey Hub	Last Reading	Movement Rate (mm/day)		Bearing (Cumulative)	Comments
		June 16	June 17		
SWD-01	6/9/2017	0.23	0.18	100	
SWD-02A	5/9/2017	0.35	0.25	114	Instrument is disturbed due to frost heave.
SWD-04A	4/10/2017	0	0	95	Horizontal movement rates listed. Instrument is disturbed due to frost heave.
SWD-05A	5/9/2017	0.1	0	78	Instrument is disturbed due to frost heave.
SWD-06	6/9/2017	0.16 (SWD01A)	0.20	125	• SWD-06 is a replacement hub for SWD-01A. • The last reading of SWD-01A was in Dec. 2016. • Horizontal rate provided.
SWD-07	6/9/2017	-	0.21		Hub is a replacement for SWD-02A
SWD-08	6/9/2017	0.45 (SWD-02)	0.30	100	Replacement hub for SWD-02 that was destroyed as a result of regrading of the SWD.
SWD-09	6/9/2017	-	0.40		Hub is a replacement for SWD-04a Limited data set, additional data needed to evaluate trend.

Source files:

1. AutoCAD: \\VAN-SVR0\Projects\01_SITES\Minto\1CM002.050_2016 Geotech Op Support\!040_AutoCAD\1CM002.050-Site Plan Showing Instrumentation.dwg
2. Excel instrumentation data: \\VAN-SVR0\Projects\01_SITES\Minto\!020_Site_Wide_Data\Geotechnical\Geotech Monitoring Data\SWD_ASH_WSP_SurveyHubMonitoring_SRK.xlsm

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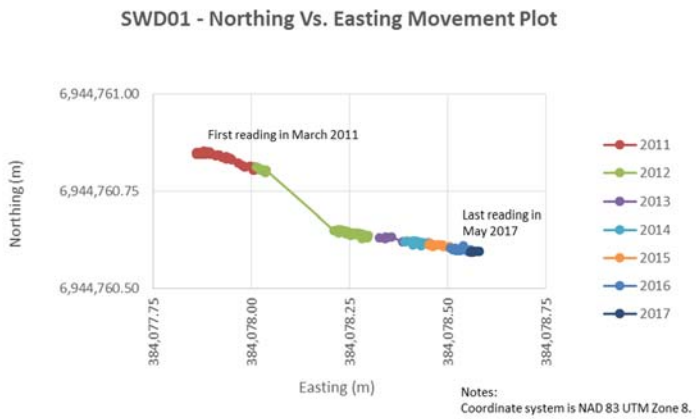
SWD Instrumentation Data

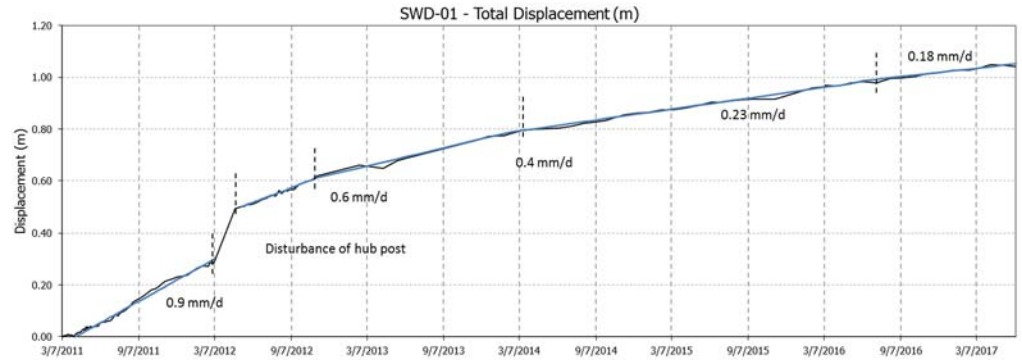
Southwest Dump Survey Hub Summary

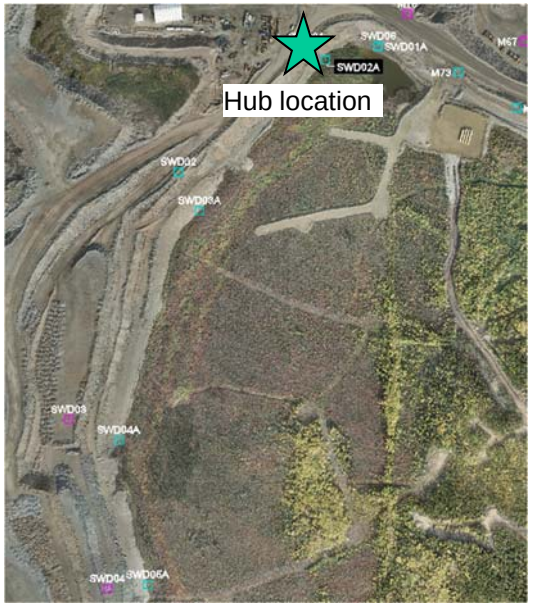
Job No: 1CM002.059
Filename: ApF_2017SWD Instrumentation.pptx

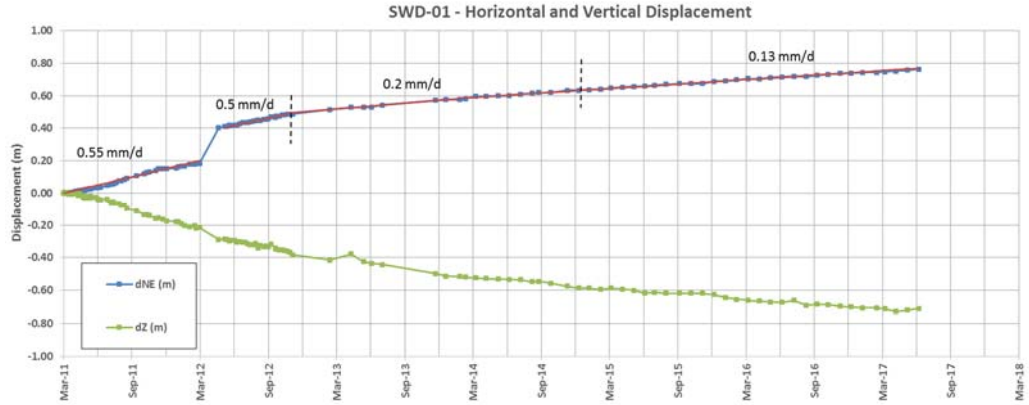
Minto Mine

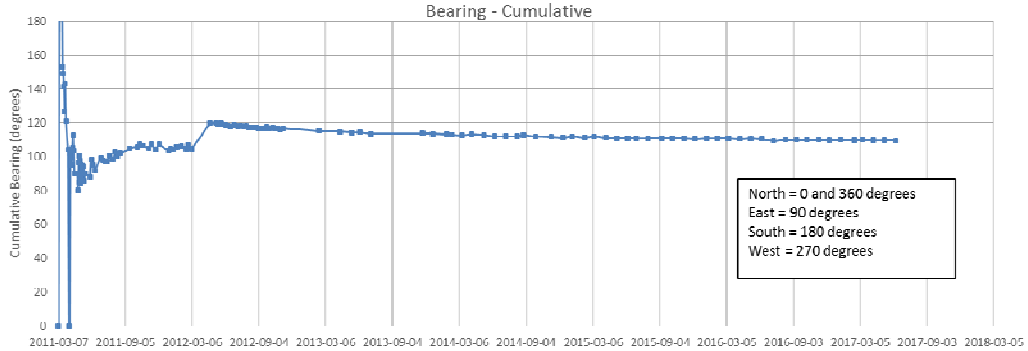
Date: August 2017
Prepared by PHM
Figure: 1











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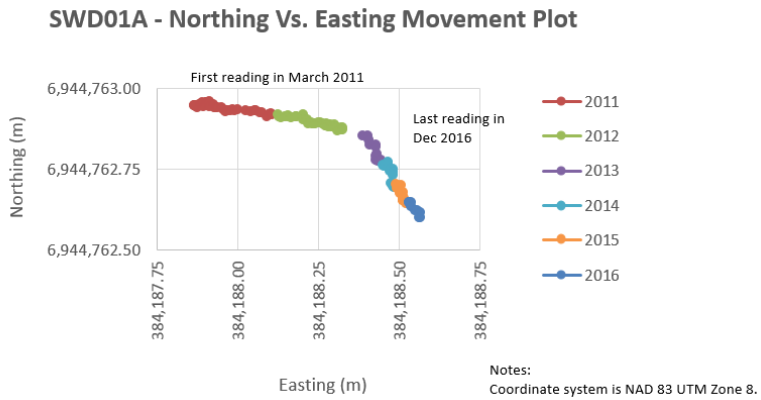
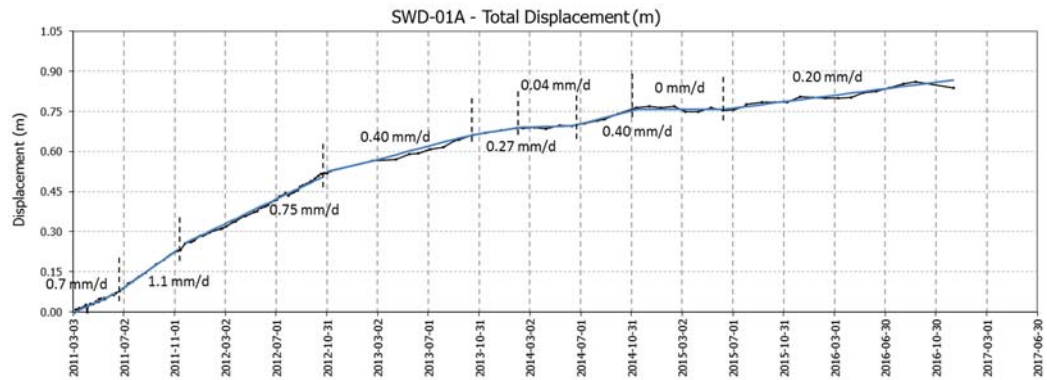
2. Excel instrumentation data: \\VAN-SVR0\Projects\01_SITES\Minto\!020_Site_Wide_Data\Geotechnical\Geotech Monitoring Data\SWD_ASH_WSP_SurveyHubMonitoring_SRK.xlsm

srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	SWD Instrumentation Data		
Job No: 1CM002.059 Filename: ApF_2017SWD Instrumentation.pptx	Minto Mine	**Survey Hub – SWD-01**		
		Date: August 2017	Prepared by PHM	Figure: **2**

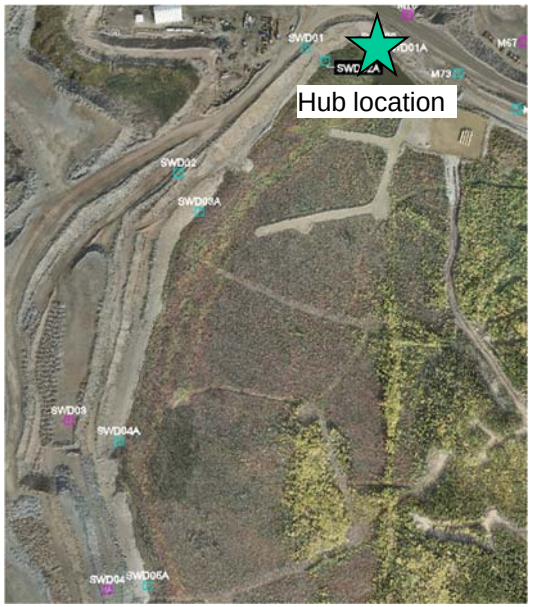


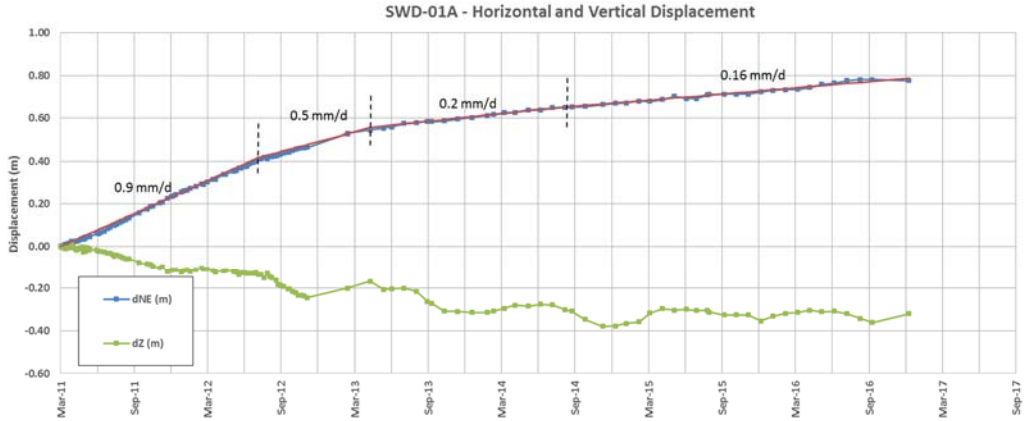
Notes:
Coordinate system is NAD 83 UTM Zone 8.

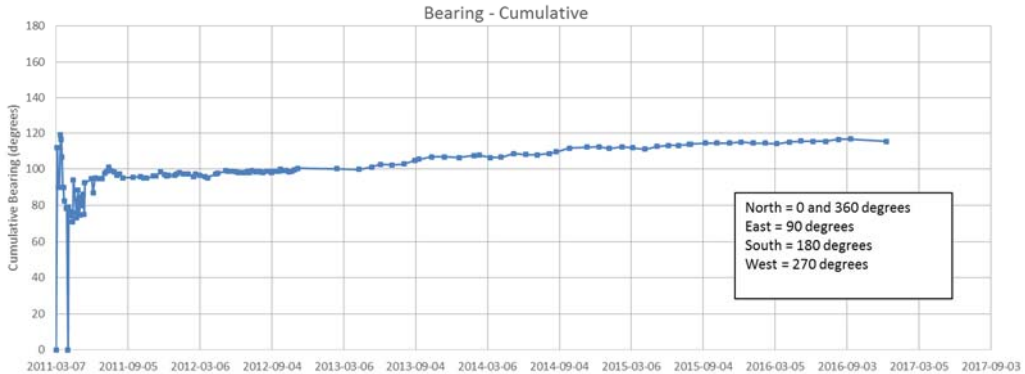


Notes

1. *Last reading of hub in December 2016. Hub is replaced by SWD-06.*







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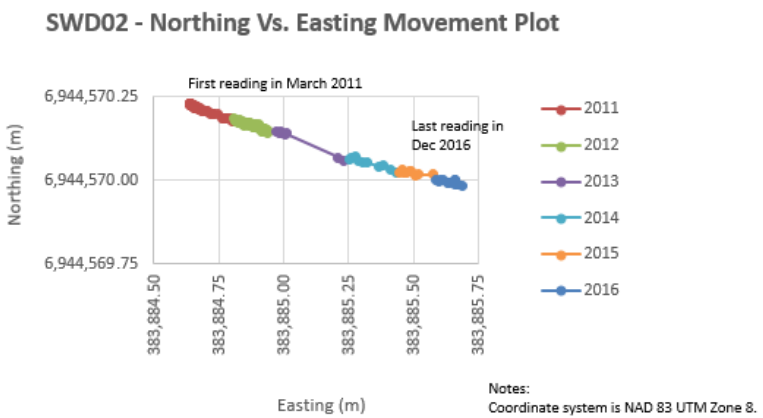
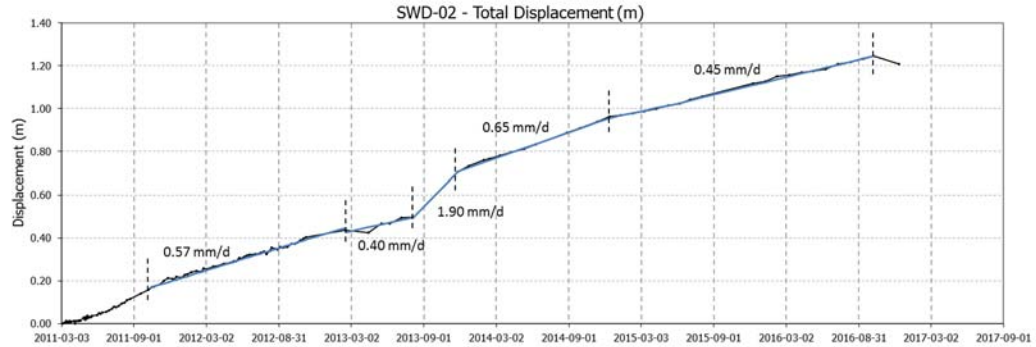
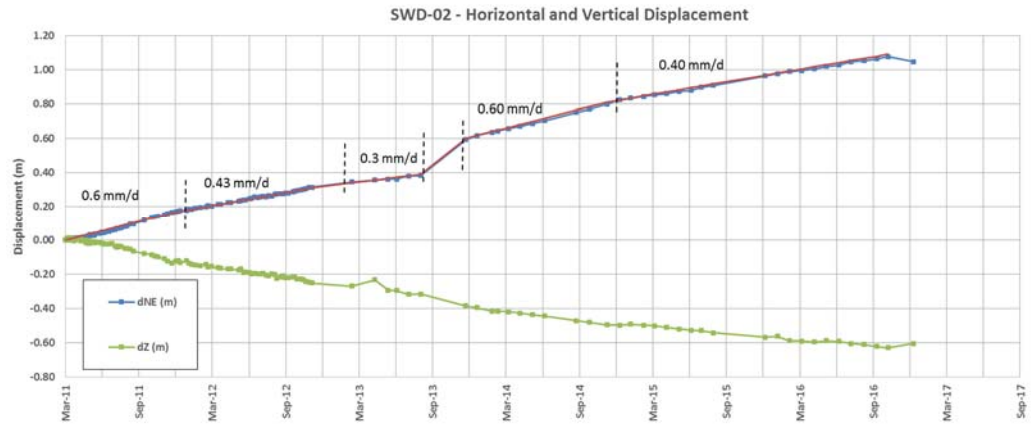
1. AutoCAD: \\VAN-SVR0\Projects\01_SITES\Minto\1CM002.050_2016 Geotech Op Support\!040_AutoCAD\1CM002.050-Site Plan Showing Instrumentation.dwg
2. Excel instrumentation data: \\VAN-SVR0\Projects\01_SITES\Minto\!020_Site_Wide_Data\Geotechnical\Geotech Monitoring Data\SWD_ASH_WSP_SurveyHubMonitoring_SRK.xlsm

srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	SWD Instrumentation Data	
Job No: 1CM002.059 Filename: ApF_2017SWD Instrumentation.pptx	Minto Mine	**Survey Hub – SWD-01A**	
		Date: August 2017	Prepared by PHM	Figure: **3**



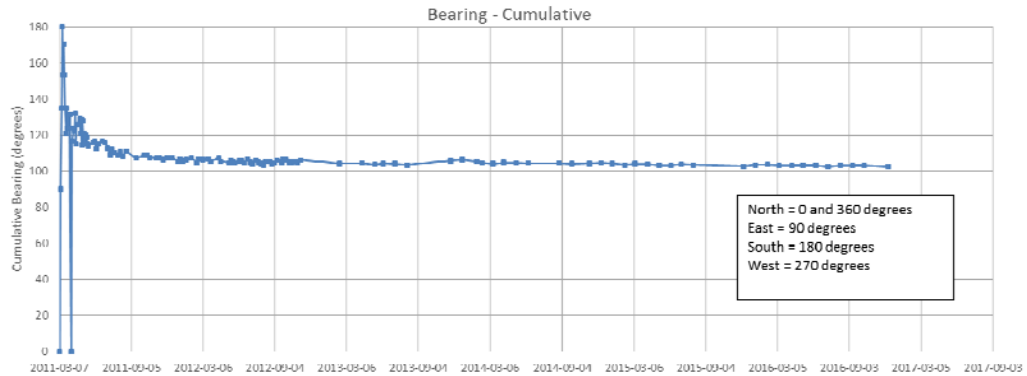
Notes:
Coordinate system is NAD 83 UTM Zone 8.





Notes

1. *Last reading of hub in December 2016. Hub is replaced by SWD-08.*



Source files:

1. AutoCAD: \\VAN-SVR0\Projects\01_SITES\Minto\1CM002.050_2016 Geotech Op Support\!040_AutoCAD\1CM002.050-Site Plan Showing Instrumentation.dwg
2. Excel instrumentation data: \\VAN-SVR0\Projects\01_SITES\Minto\!020_Site_Wide_Data\Geotechnical\Geotech Monitoring Data\SWD_ASH_WSP_SurveyHubMonitoring_SRK.xlsm

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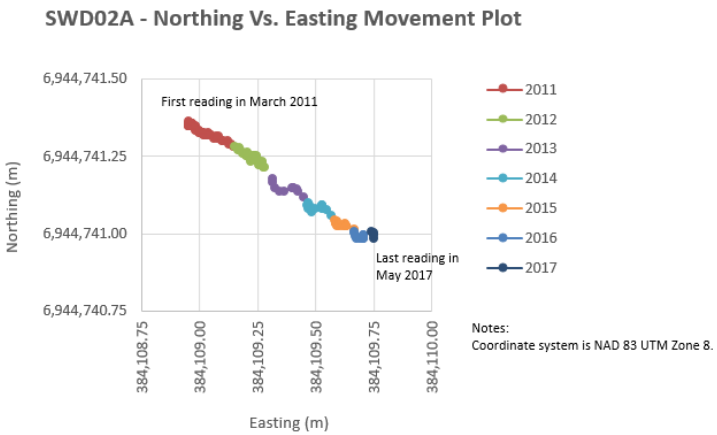
SWD Instrumentation Data

Survey Hub – SWD-02

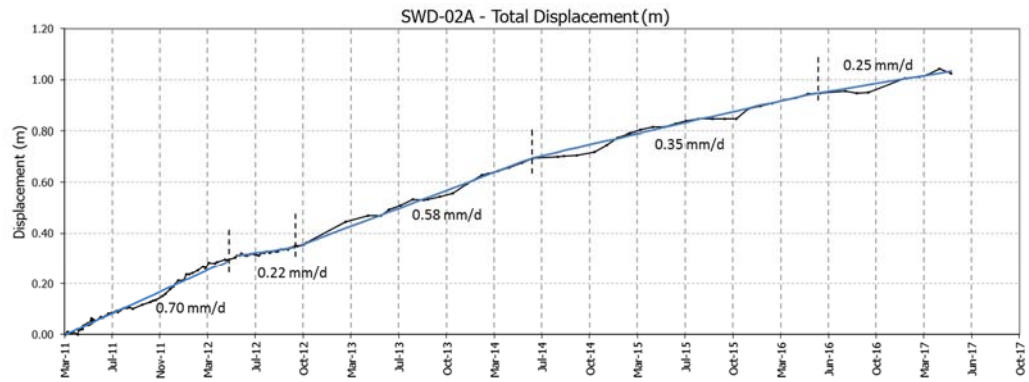
Job No: 1CM002.059
Filename: ApF_2017SWD Instrumentation.pptx

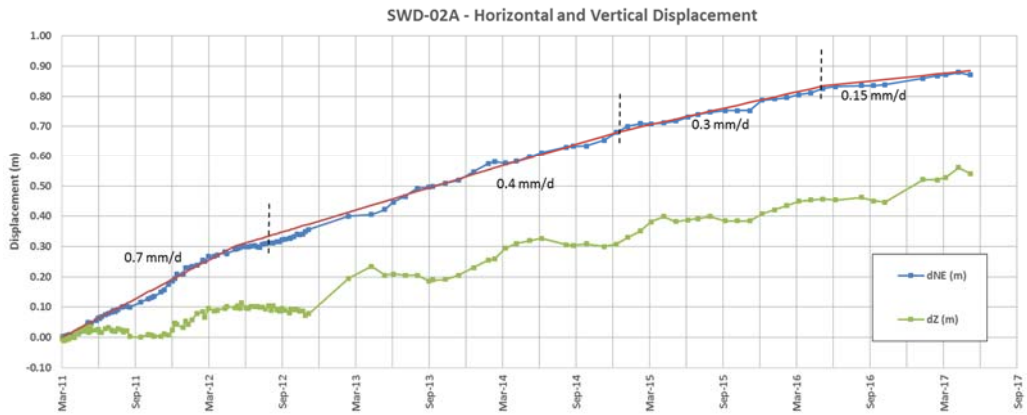
Minto Mine

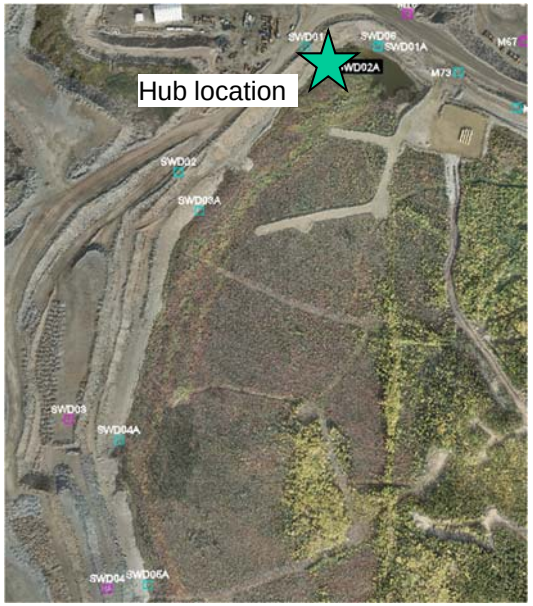
Date:	Prepared by	Figure:
August 2017	PHM	4

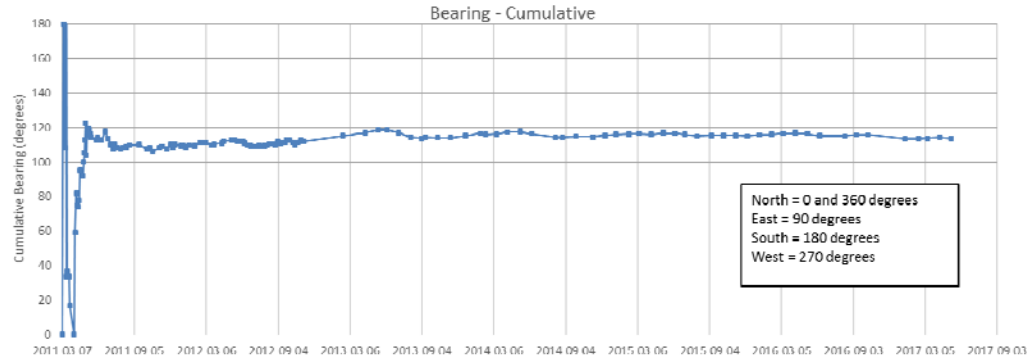


Notes:
Coordinate system is NAD 83 UTM Zone 8.









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2. Excel instrumentation data: \\VAN-SVR0\Projects\01_SITES\Minto\!020_Site_Wide_Data\Geotechnical\Geotech Monitoring Data\SWD_ASH_WSP_SurveyHubMonitoring_SRK.xlsm

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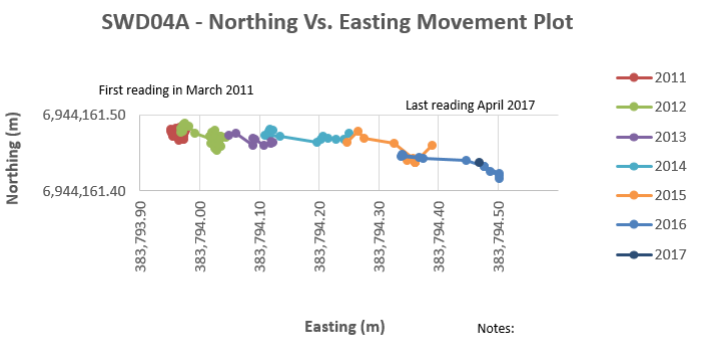
SWD Instrumentation Data

Survey Hub – SWD-02A

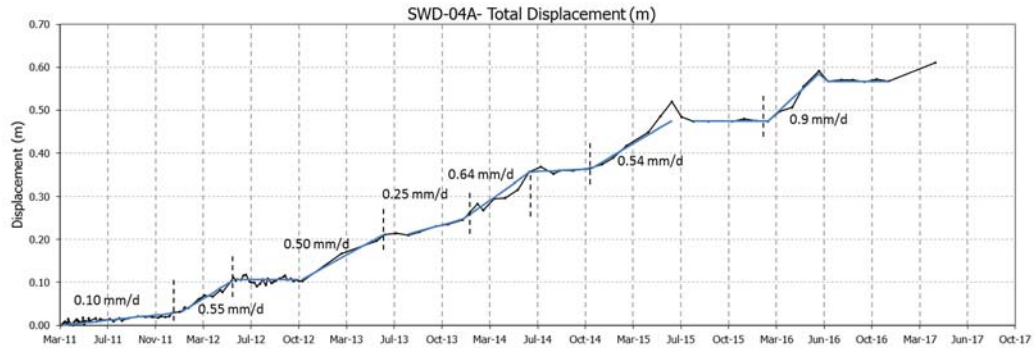
Job No: 1CM002.059
Filename: ApF_2017SWD Instrumentation.pptx

Minto Mine

Date:	Prepared by	Figure:
August 2017	PHM	5

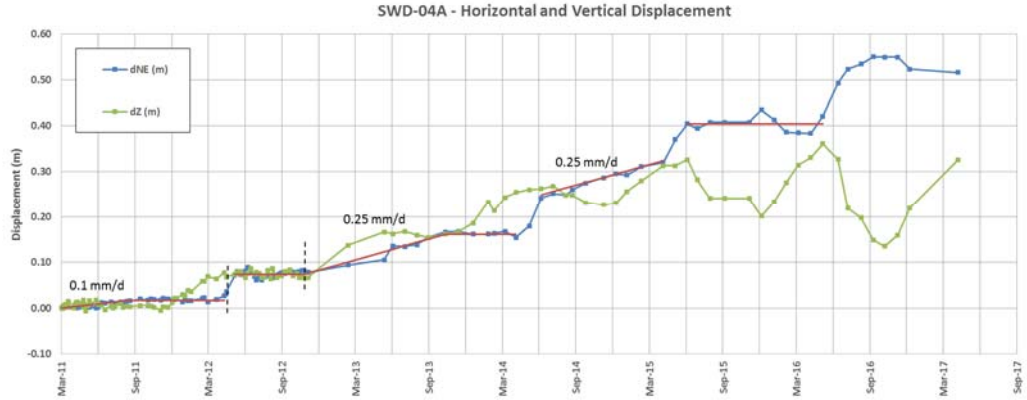


Notes:
Coordinate system is NAD 83 UTM Zone 8.



Notes

1. *Movement of this survey hub is primary due to frost heave. Hub is replaced by SWD-09.*



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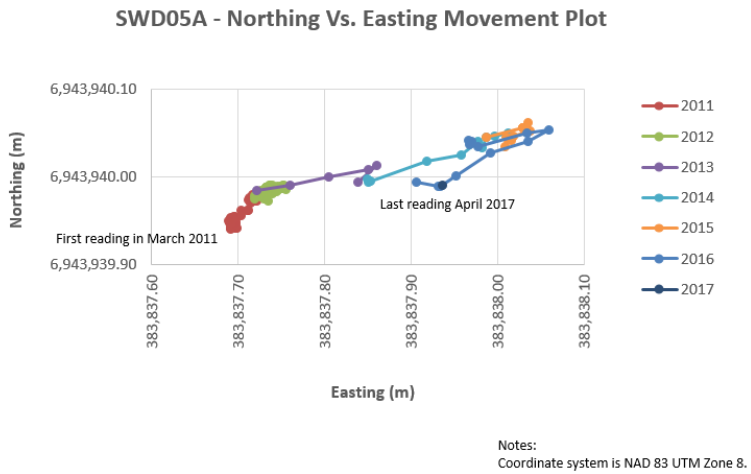
SWD Instrumentation Data

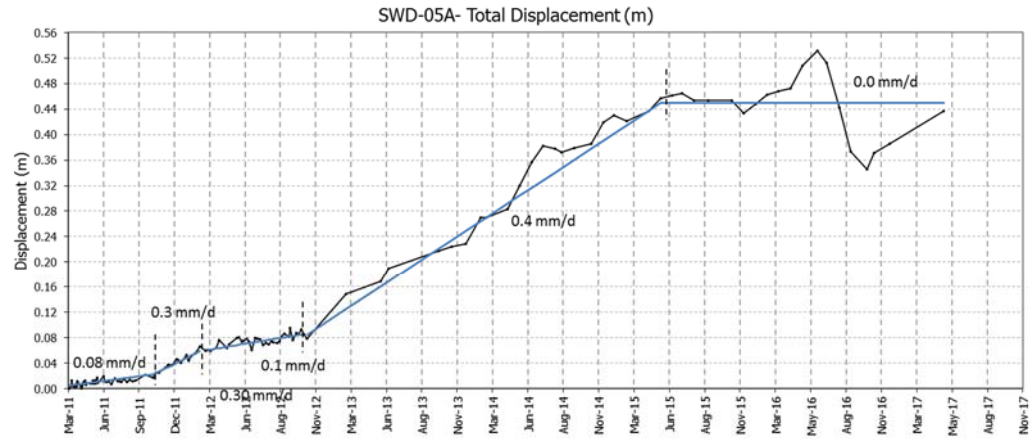
Survey Hub – SWD-04A

Job No: 1CM002.059
Filename: ApF_2017SWD Instrumentation.pptx

Minto Mine

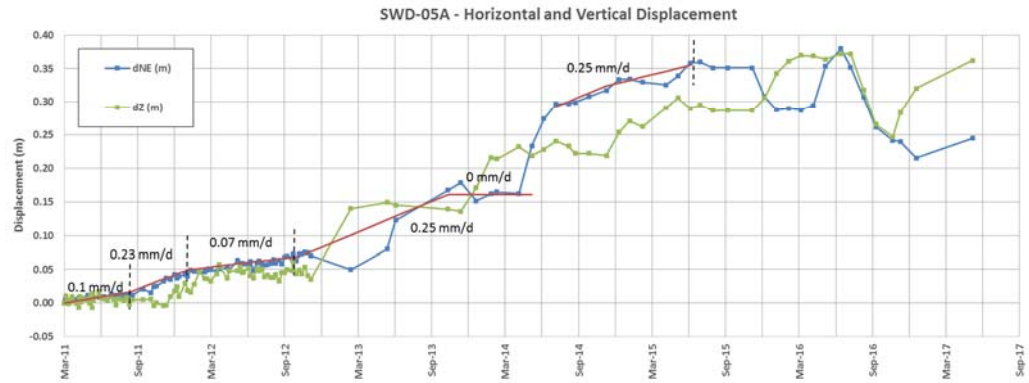
Date:	Prepared by	Figure:
August 2017	PHM	6

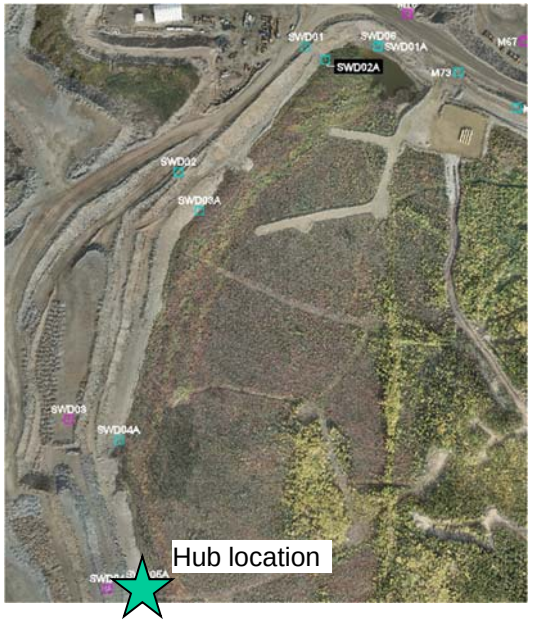


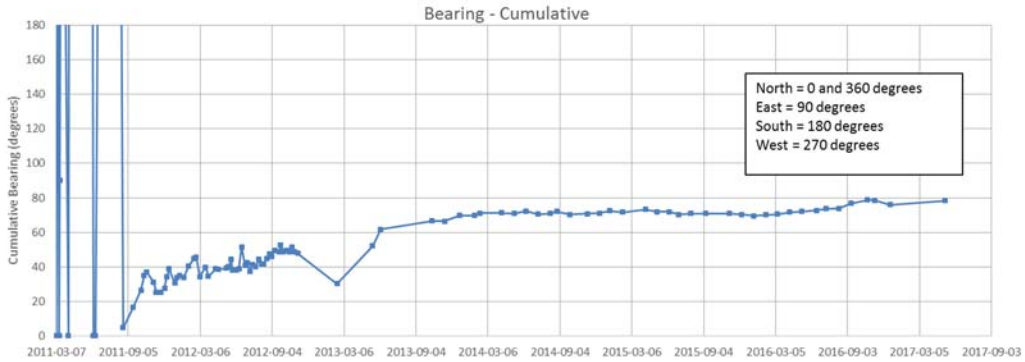


Notes

1. *Movement of this survey hub is primary due to frost heave.*







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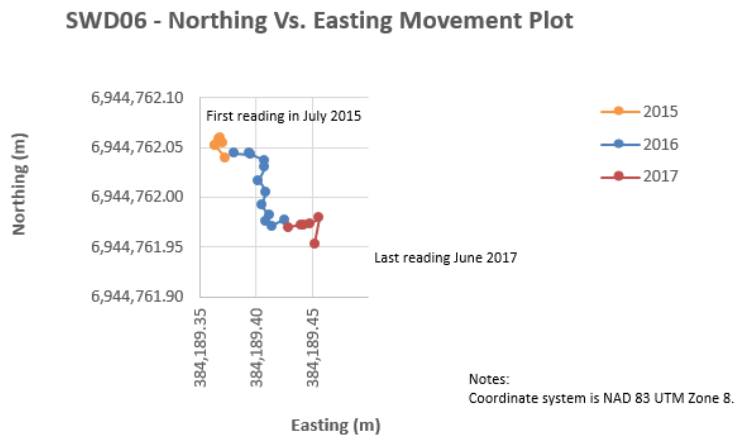
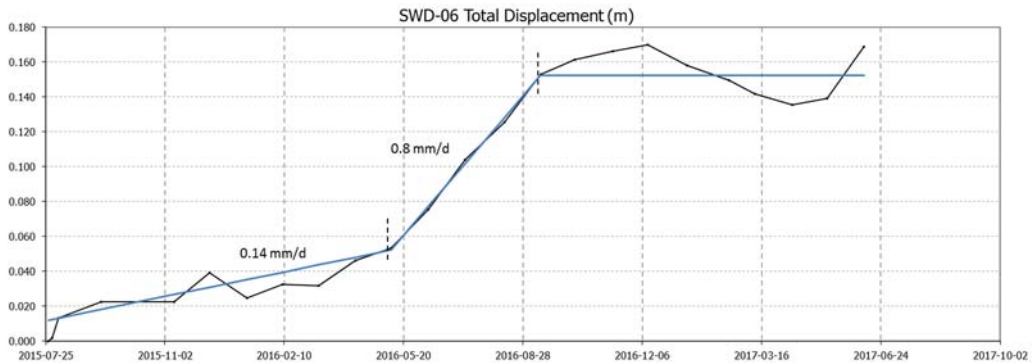
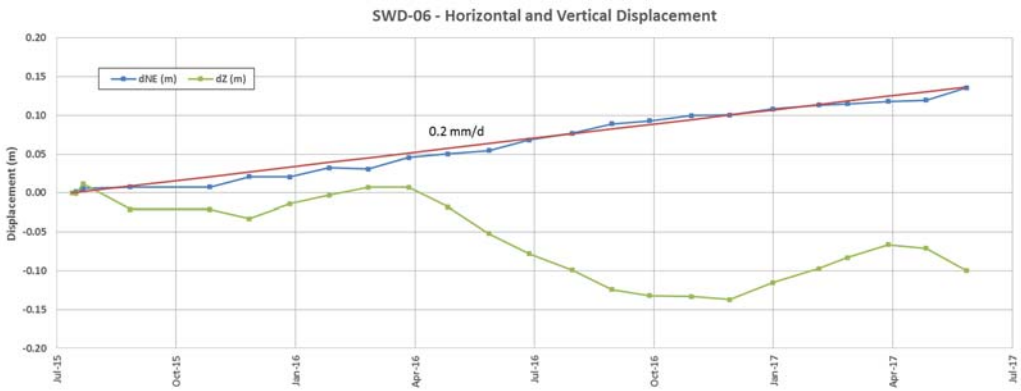
srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	SWD Instrumentation Data	
Job No: 1CM002.059 Filename: ApF_2017SWD Instrumentation.pptx	Minto Mine	**Survey Hub – SWD-05A**	
		Date: August 2017	Prepared by PHM	Figure: **7**



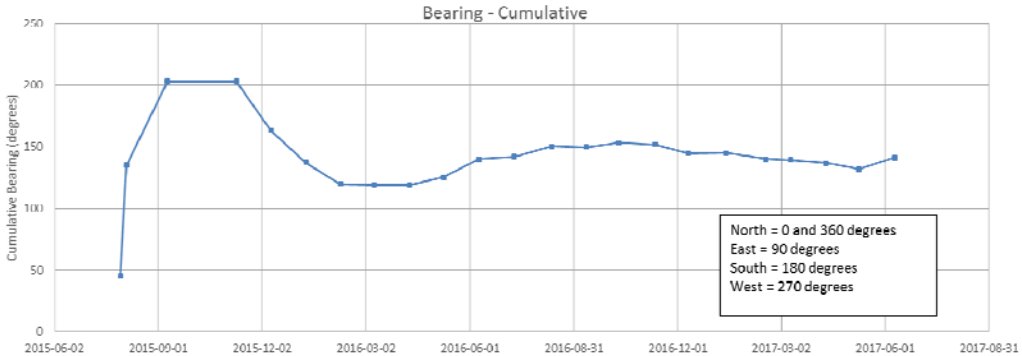




Notes

1. *Hub is a replacement for SWD-01A that was disturbed by frost heave.*
2. *The hub consists of a lock-block on surface, and as a result, seasonal ground movement as a result freeze/thaw cycles may occur that is not indicative of large-scale ground movement. As a result, the horizontal displacement plot is likely to be the most useful plot for monitoring movement.*

Hub location



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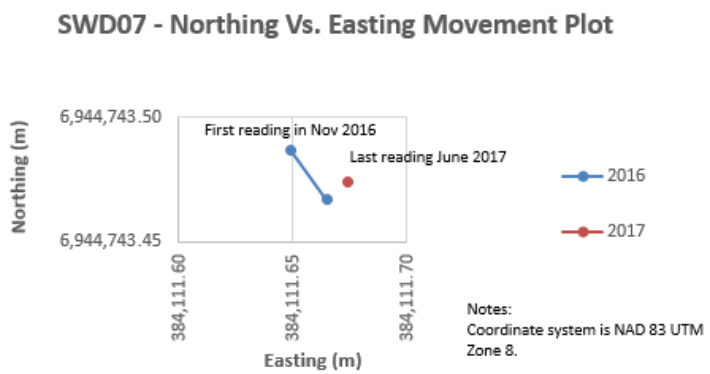
SWD Instrumentation Data

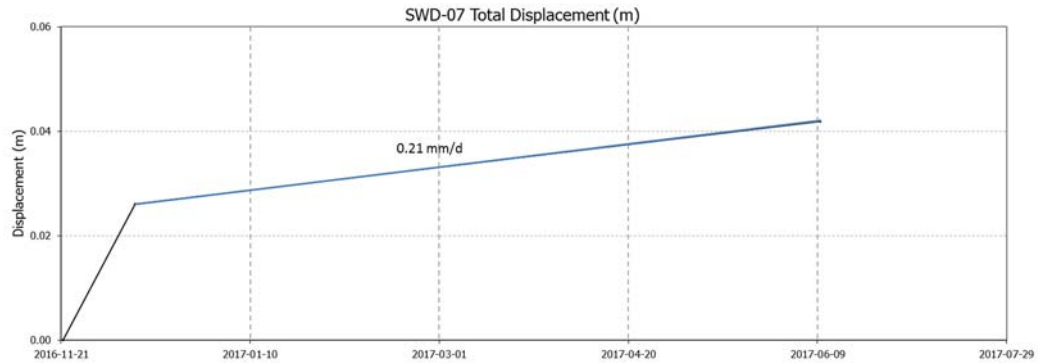
Survey Hub – SWD-06

Job No: 1CM002.059
Filename: ApF_2017SWD Instrumentation.pptx

Minto Mine

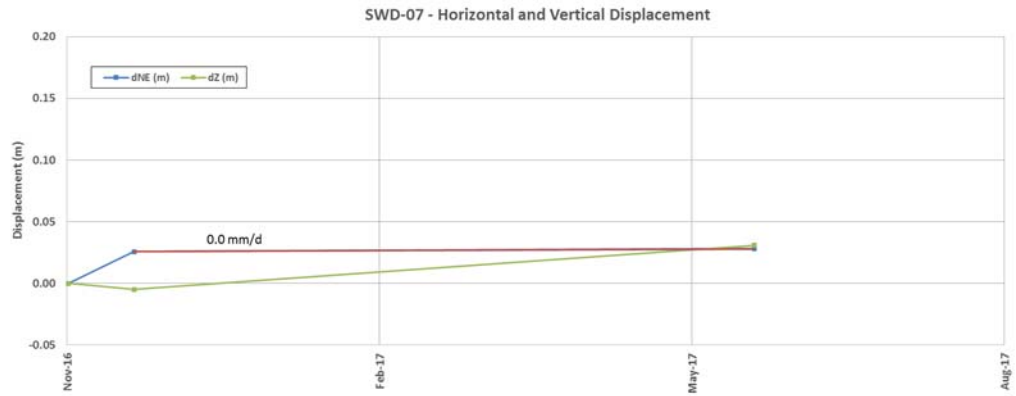
Date: August 2017
Prepared by PHM
Figure: **8**

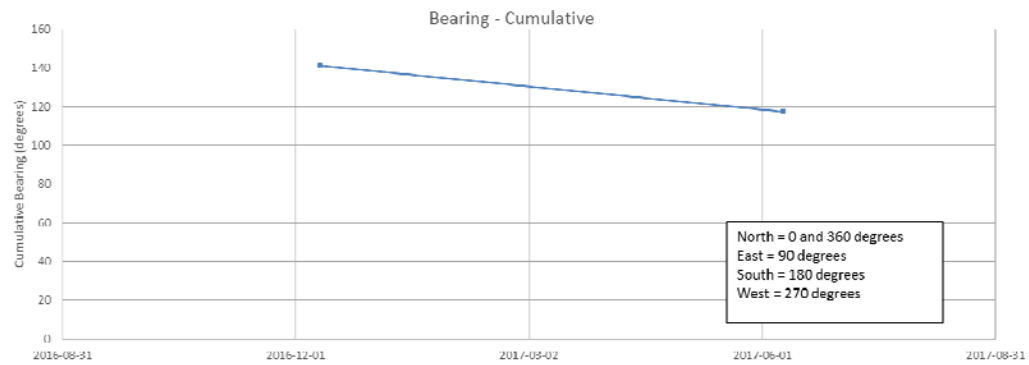




Notes

1. *Hub is a replacement for SWD-02A that was disturbed by frost heave.*





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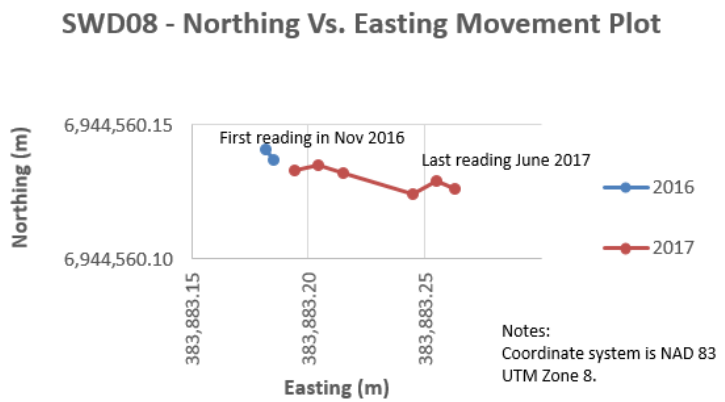
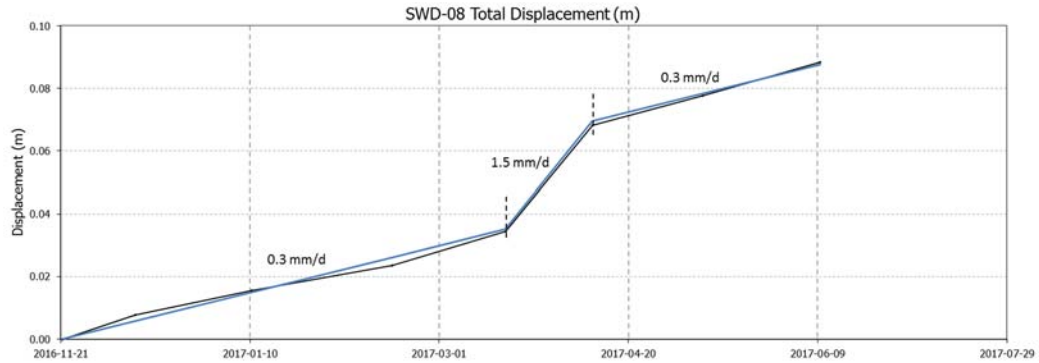
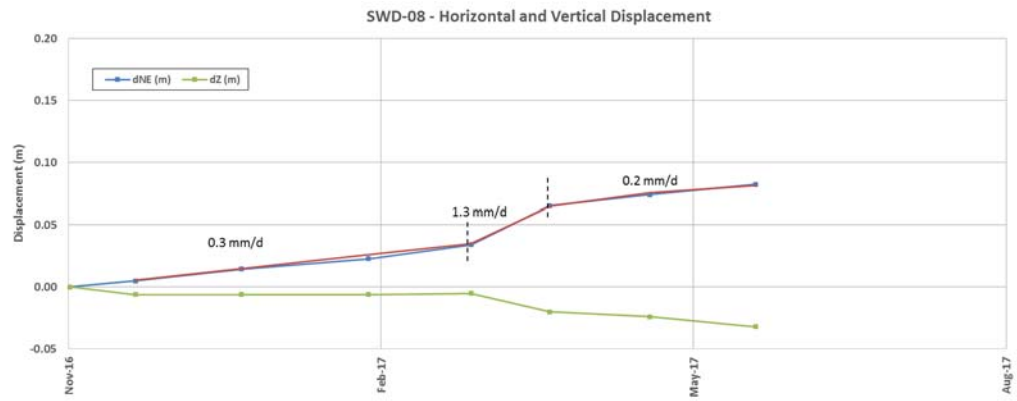
srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	SWD Instrumentation Data	
		Survey Hub – SWD-07	
Job No: 1CM002.059 Filename: ApF_2017SWD Instrumentation.pptx	Minto Mine	Date: August 2017	Prepared by PHM	Figure: **9**

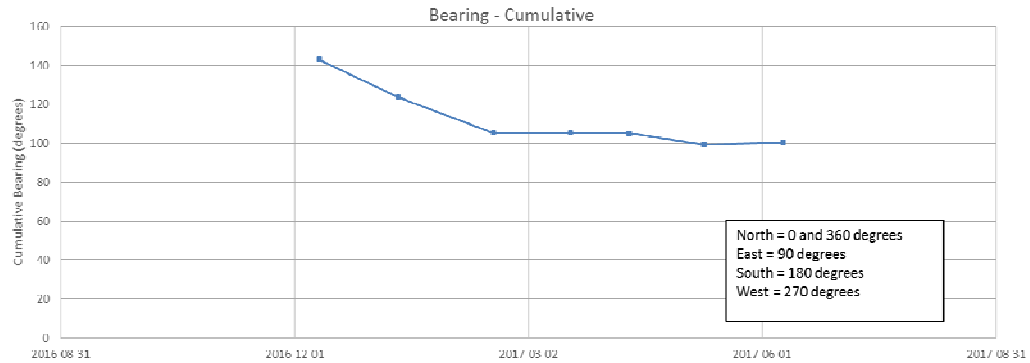






Notes

1. *Hub is a replacement for SWD-02 that was disturbed as a result of regrading of the SWD.*



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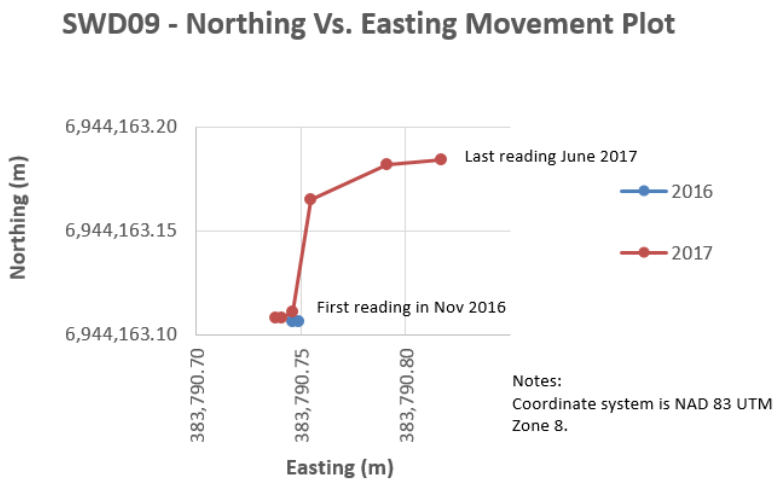
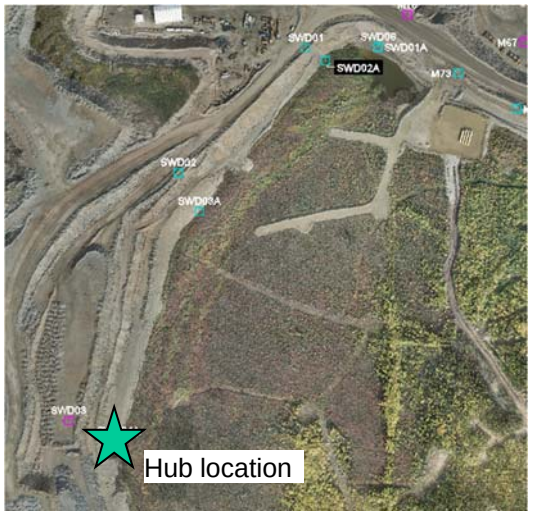
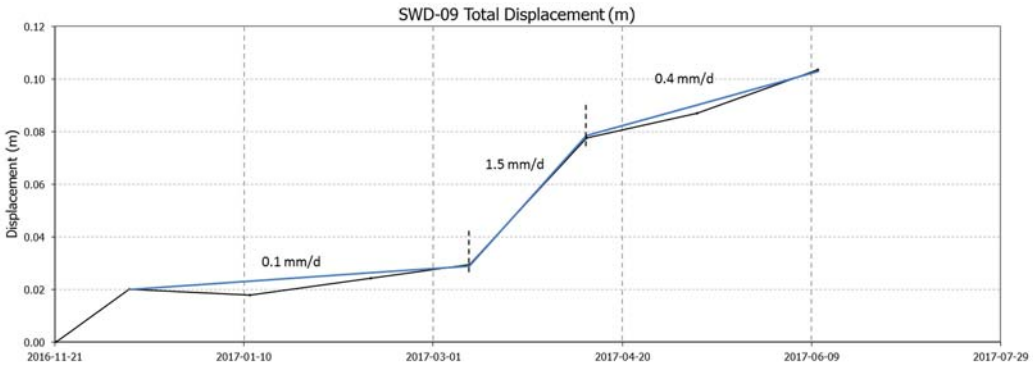
srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	SWD Instrumentation Data	
		Survey Hub – SWD-08	
Job No: 1CM002.059 Filename: ApF_2017SWD Instrumentation.pptx	Minto Mine	Date: August 2017	Prepared by PHM	Figure: **10**

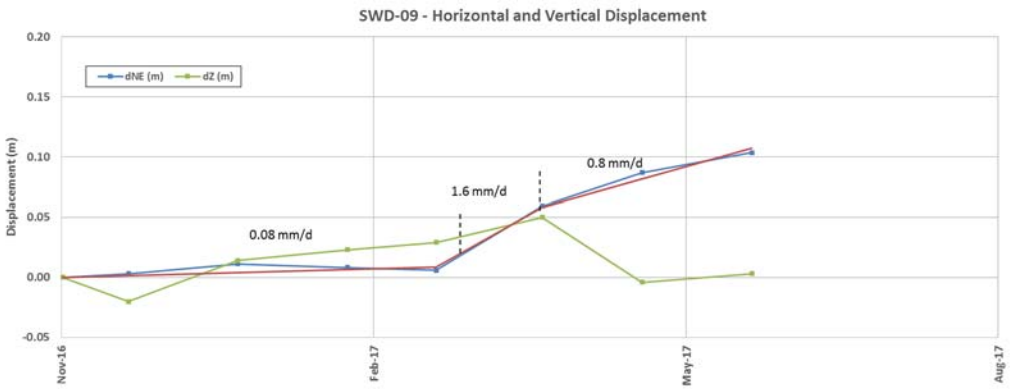


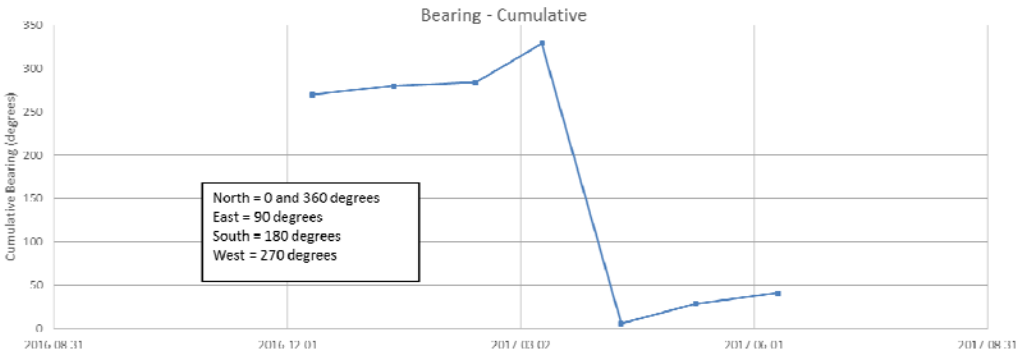
Notes

1. *Hub is a replacement for SWD-04A that was disturbed by frost heave.*
2. *The hub consists of a lock-block on surface, and as a result, seasonal ground movement as a result freeze/thaw cycles may occur that is not indicative of large-scale ground movement. As a result, the horizontal displacement plot is likely to be the most useful plot for monitoring movement.*









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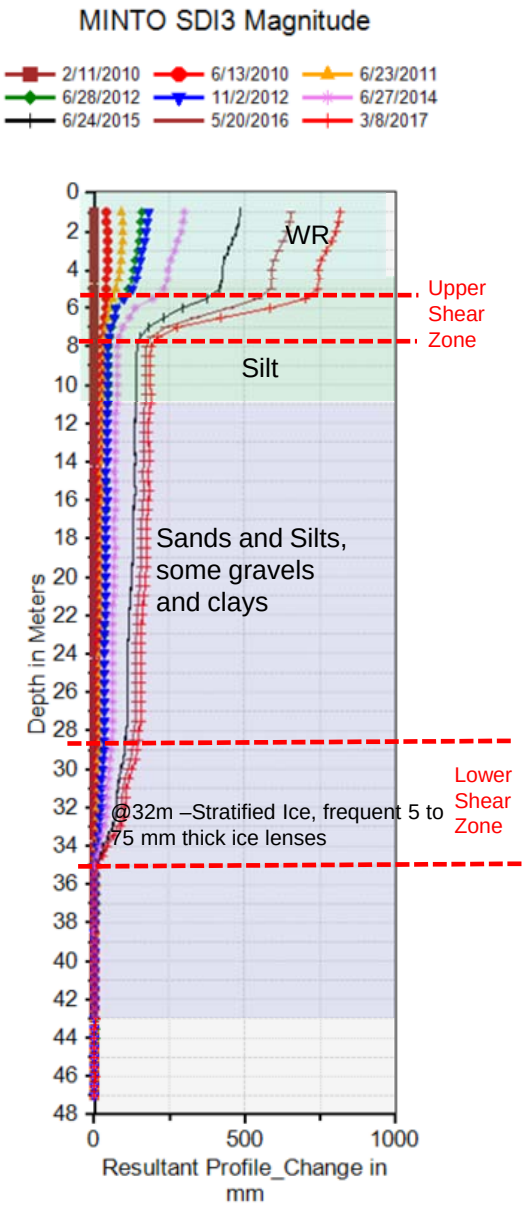
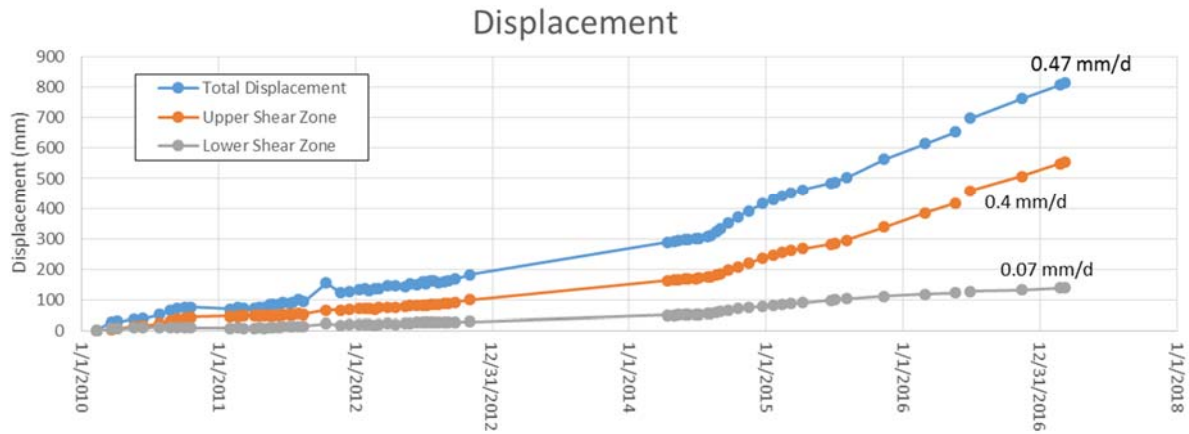
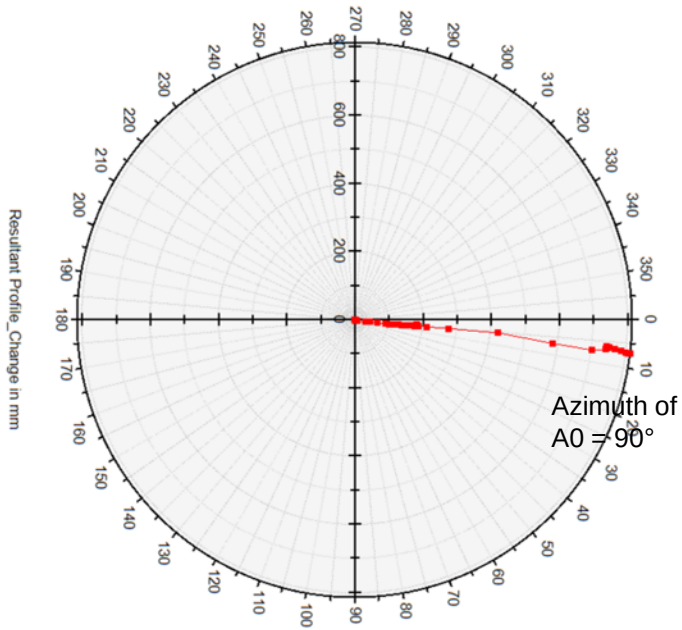
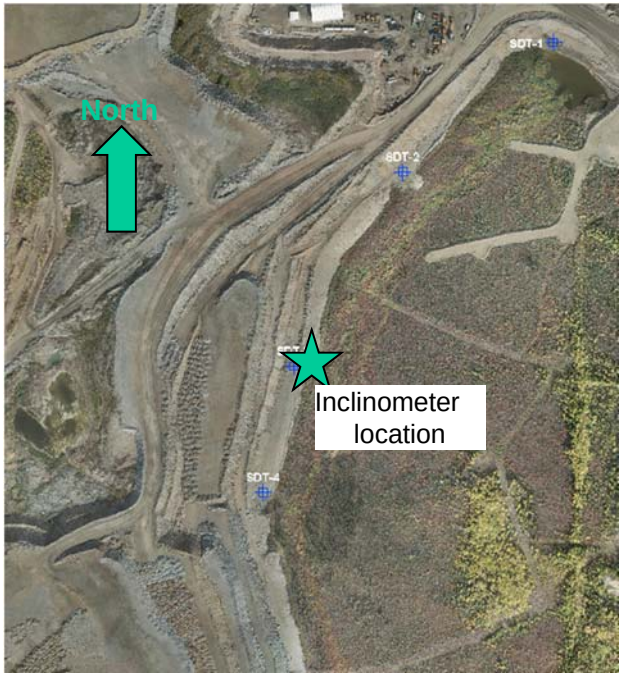
		Survey Hub – SWD-09	
Job No: 1CM002.059 Filename: ApF_2017SWD Instrumentation.pptx	Minto Mine	Date: August 2017	Prepared by PHM	Figure: **11**









Note: Inclinometer software (DigiPro2 v2.12.4) plots A0 as 0 degrees. The plot above has been rotated such that the orientation matches the plan (north is up).

Source files:

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SWD Instrumentation Data

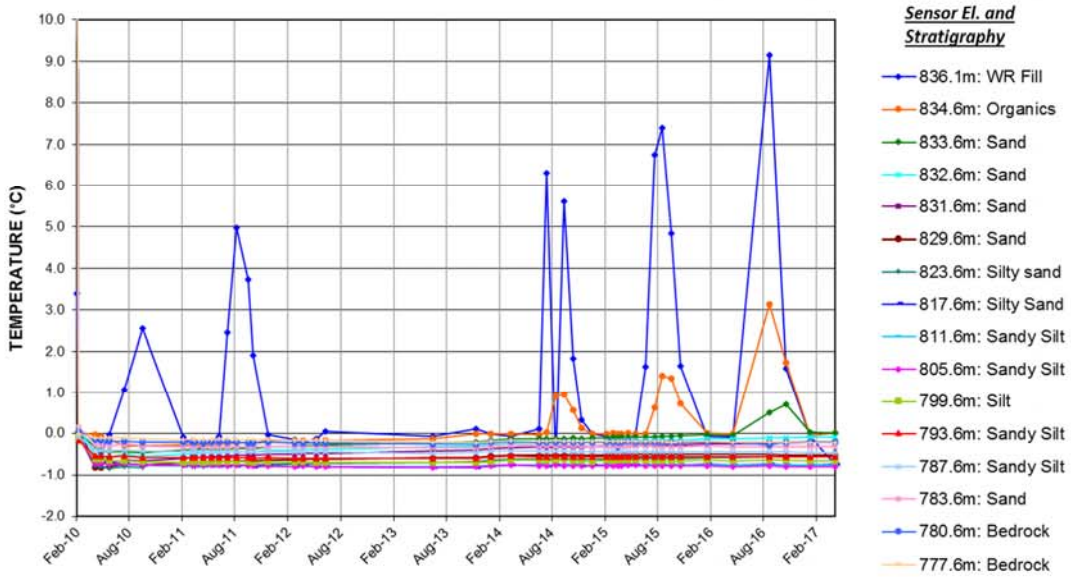
Inclinometer – SDI-3

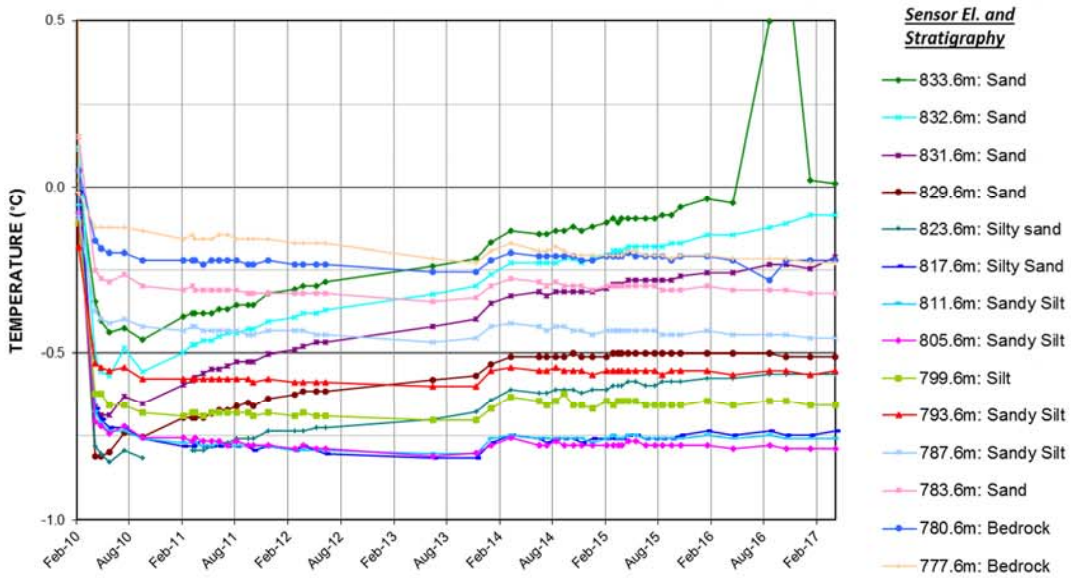
Job No: 1CM002.059

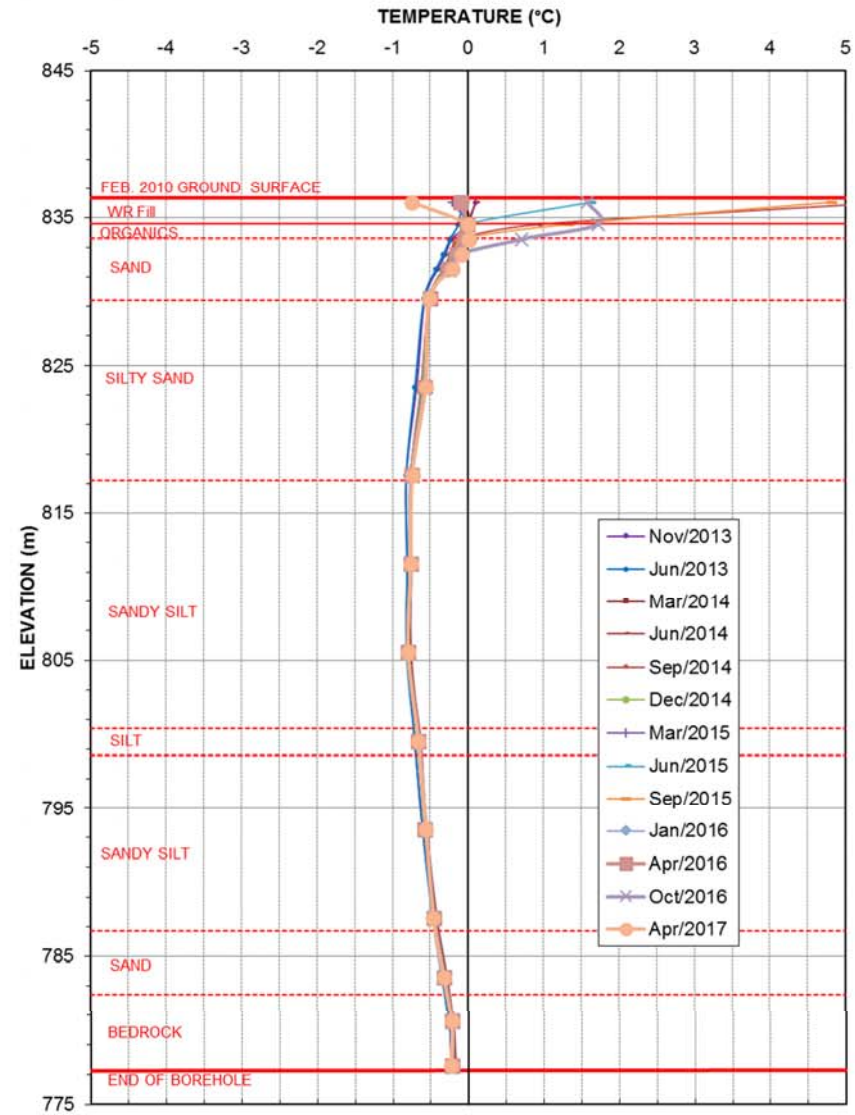
Filename: ApF_2017SWD Instrumentation.pptx

Minto Mine

Date:	Prepared by	Figure:
August 2017	PHM	12







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SWD Instrumentation Data

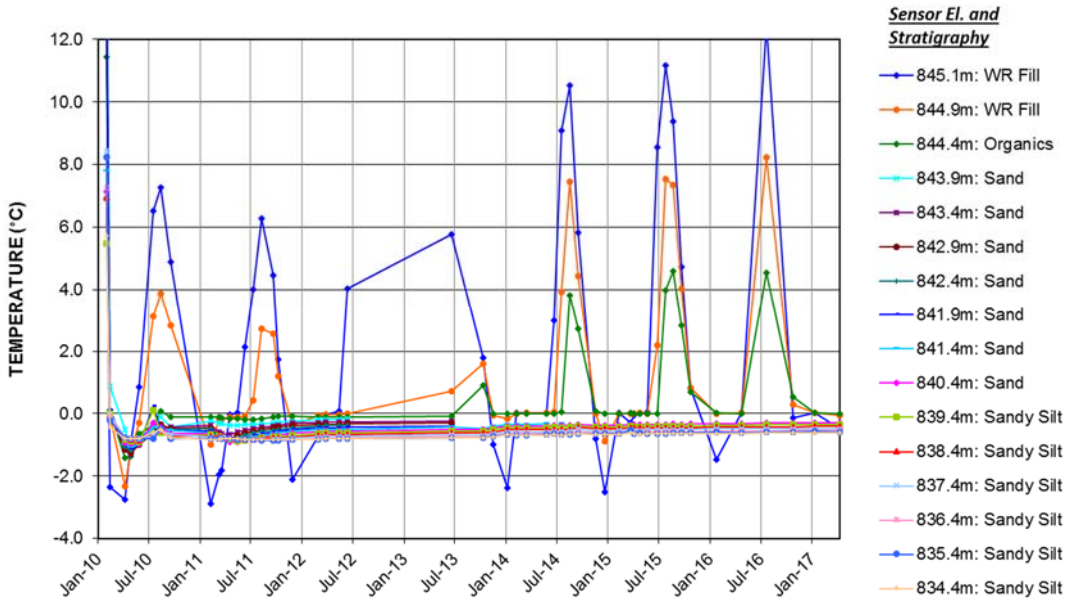
Temperature Cable – SDT-1

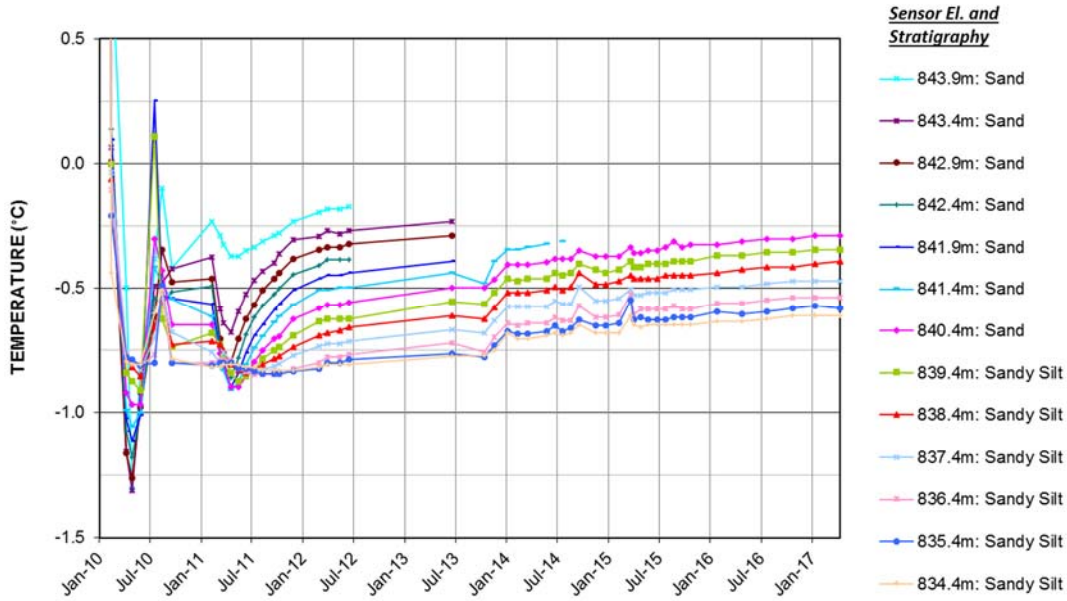
Job No: 1CM002.059

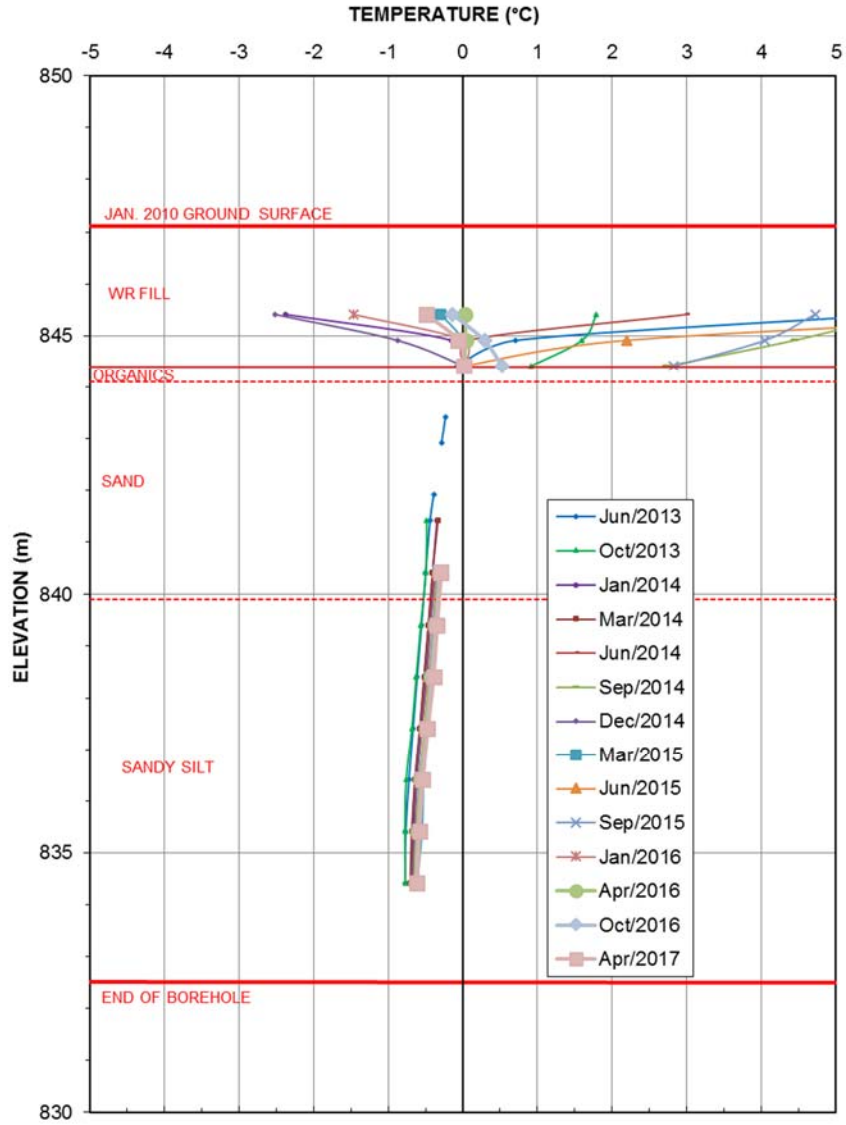
Filename: ApF_2017SWD Instrumentation.pptx

Minto Mine

Date:	Prepared by	Figure:
August 2017	PHM	13







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SWD Instrumentation Data

Temperature Cable – SDT-2

Job No: 1CM002.059

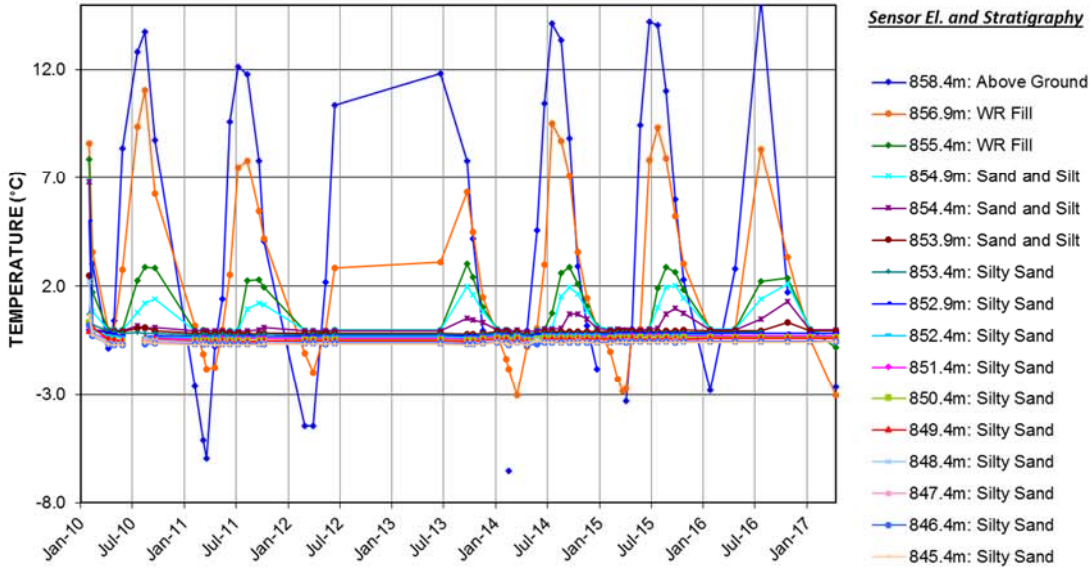
Filename: ApF_2017SWD Instrumentation.pptx

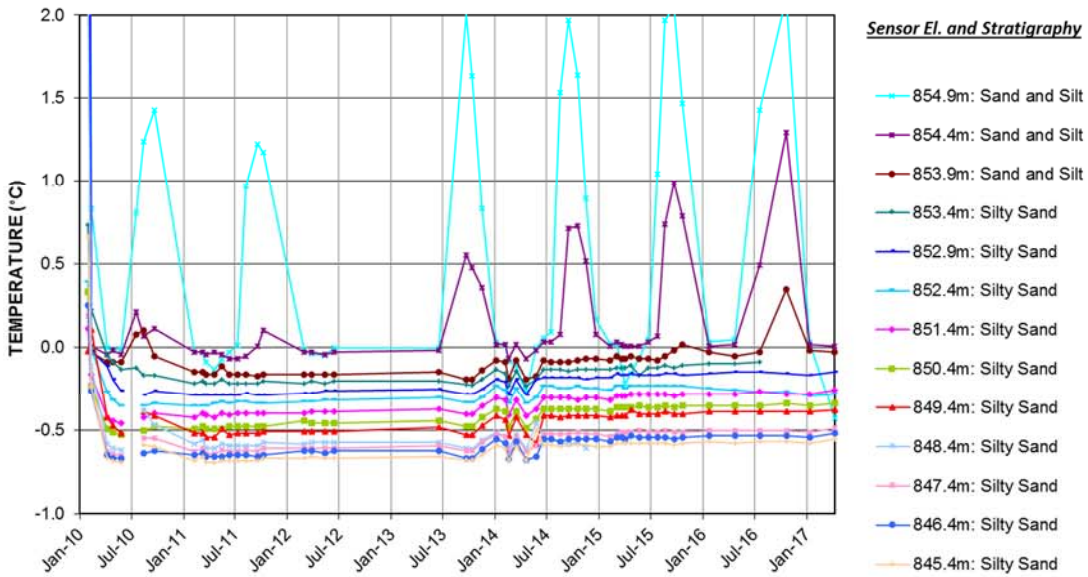
Minto Mine

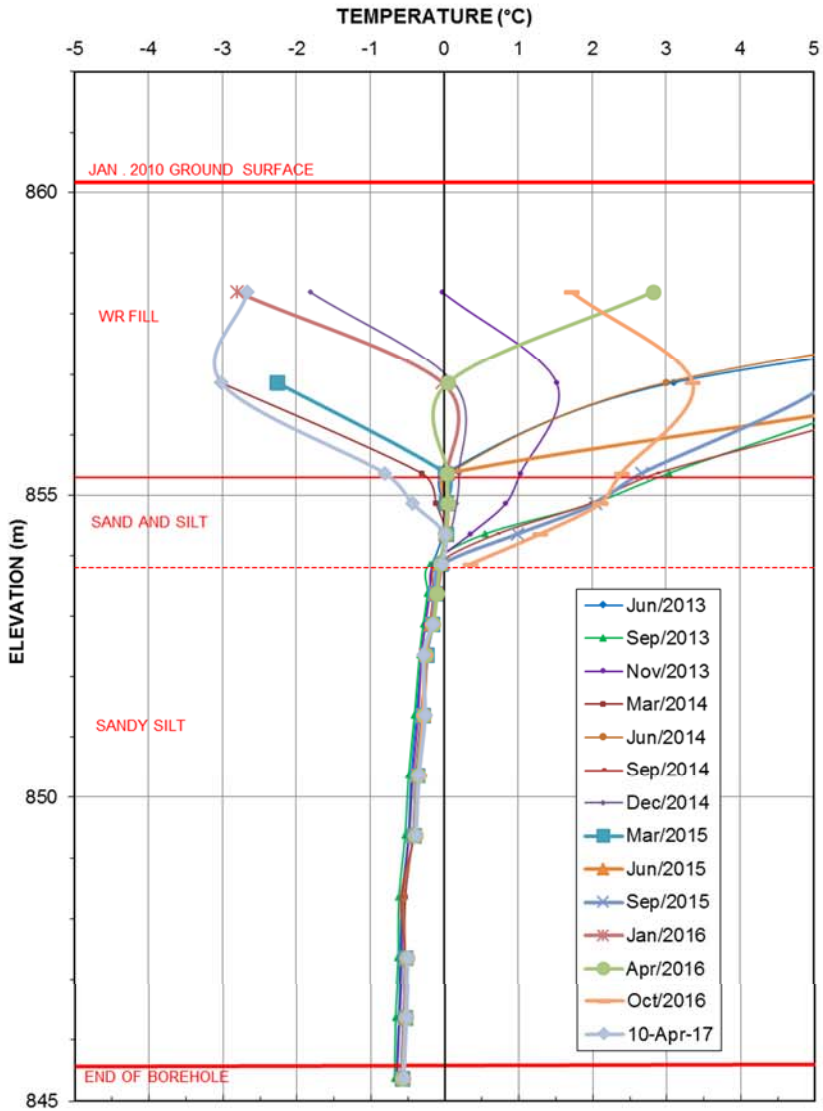
Date: August 2017

Prepared by PHM

Figure: 14







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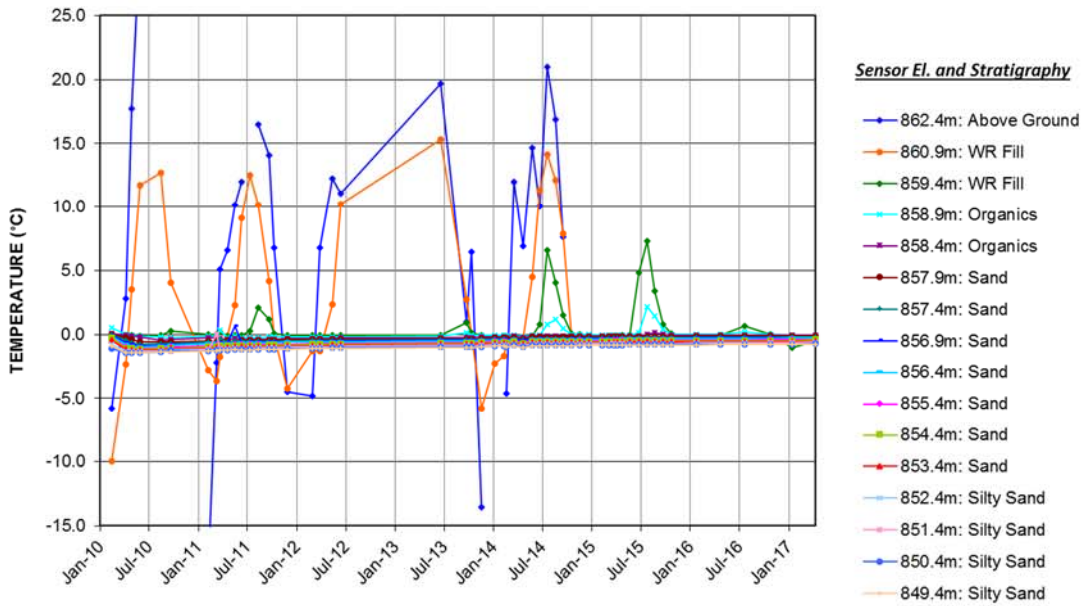
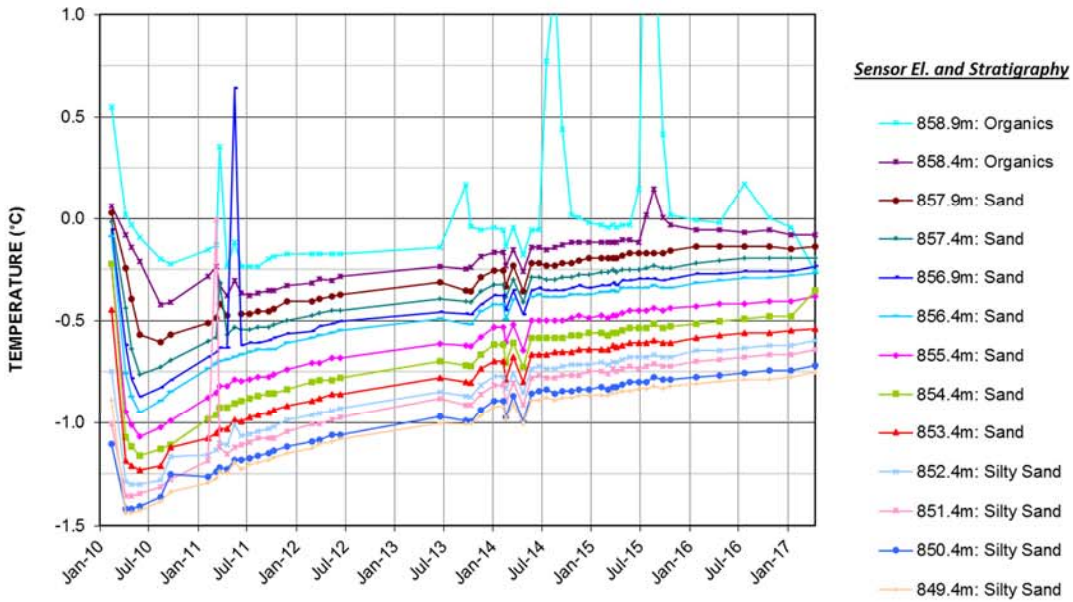
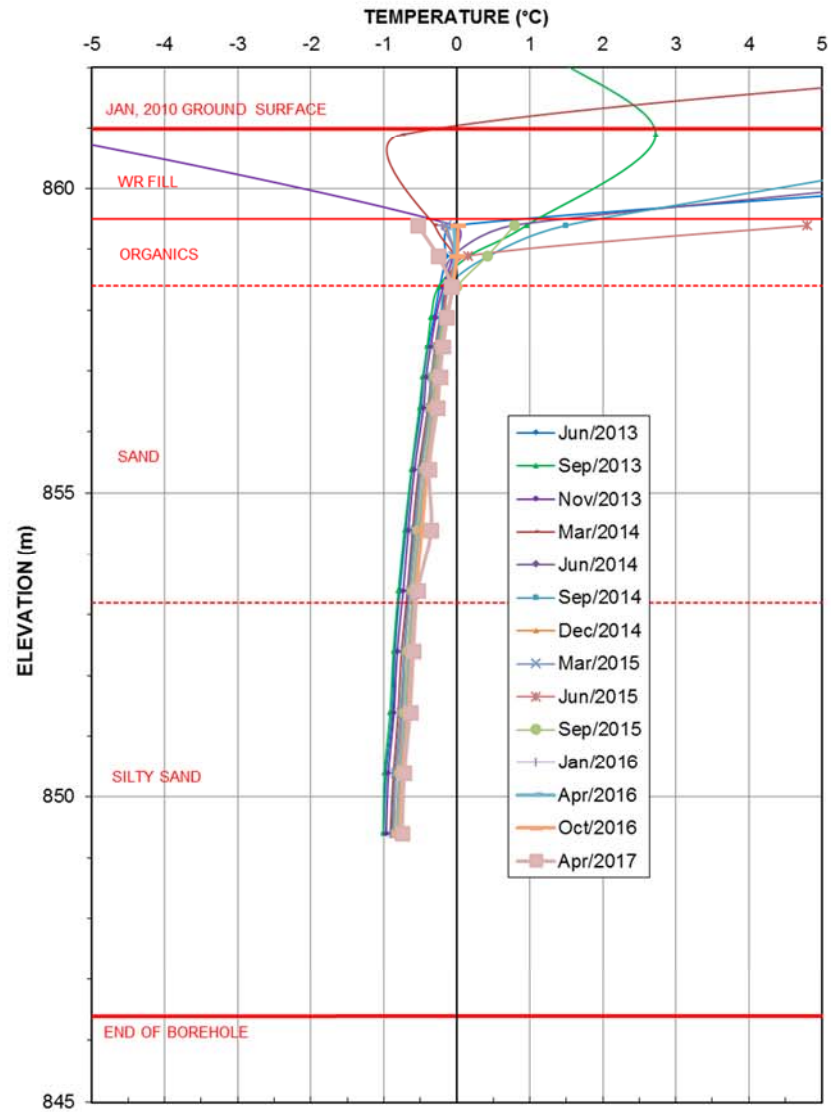
srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	SWD Instrumentation Data	
		Temperature Cable – SDT-3	
Job No: 1CM002.059 Filename: ApF_2017SWD Instrumentation.pptx	Minto Mine	Date: August 2017	Prepared by PHM	Figure: **15**







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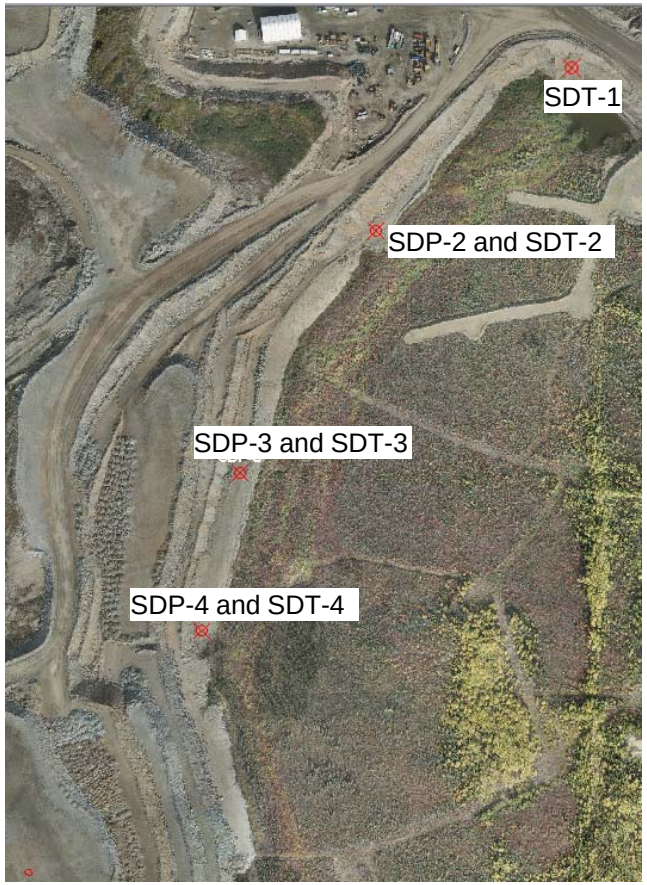
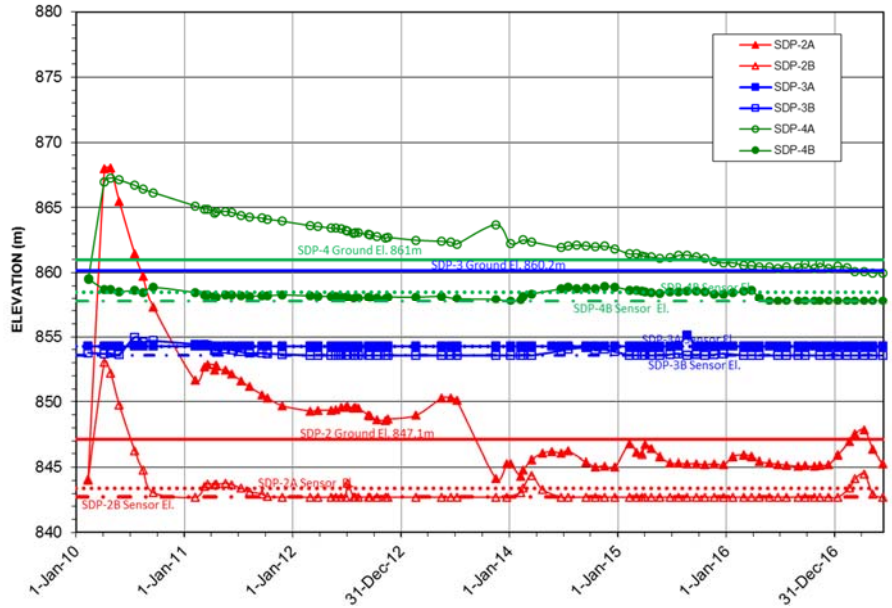
SWD Instrumentation Data

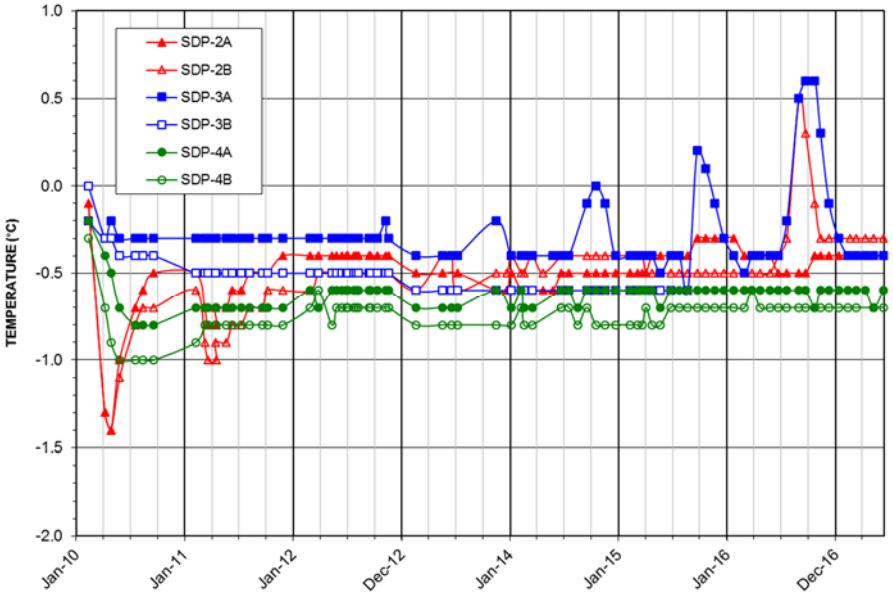
Temperature Cable – SDT-4

Job No: 1CM002.059	Minto Mine	Date: August 2017	Prepared by PHM	Figure: 16
Filename: ApF_2017SWD Instrumentation.pptx			



Southwest Dump Piezometers and Ground Temperature Cables





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Job No: 1CM002.059
Filename: ApF_2017SWD Instrumentation.pptx

Minto Mine

SWD Instrumentation Data

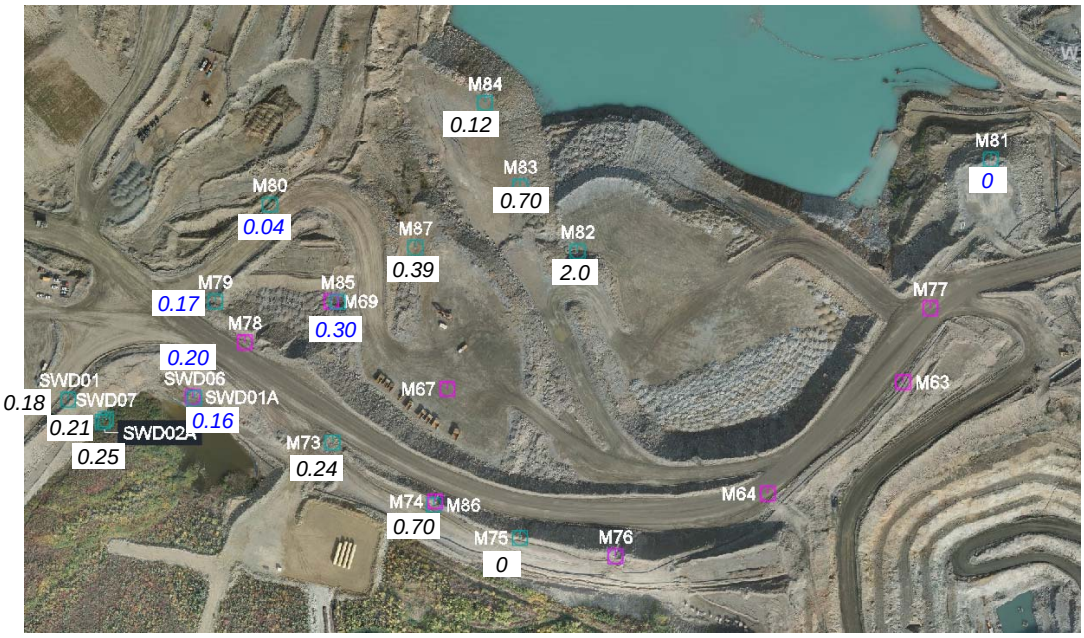
Southwest Dump Piezometers

Date:	Prepared by	Figure:
August 2017	PHM	17

Appendix G: Main Pit Instrumentation Data

Legend/Notes

1. *Values in black are total movement rates in units of mm/day*
2. *Values in blue are horizontal movement rates in mm/day.*
3. *Survey hubs in cyan color are active.*
4. *Survey hubs in magenta area destroyed.*
5. *Survey hubs with no movement rates listed have been inactive for over one year.*



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Main Pit Active Survey Hubs

Survey Hub	Last Reading	Movement Rate (mm/day)		Bearing (Cumulative)	Comments
		June 16	June 17		
M73	6/12/2017	0.3	0.2	65	Slight deceleration trend observed on graph of total displacement
M75	6/23/2017	-	-	10	Minor movement and bearing with a very slight deceleration trend observable. Hub is located on fill placed inside of the ultimate Main Pit crest. Observed movement suspected to be related to settlement of fill in the pit.
M79	6/12/2017	0.2	0.2	100	Horizontal Movement Rate listed. Slight deceleration trend can be observed in the total displacement graph.
M80	6/12/2017	0.1	0.1	107	Slight deceleration trend
M81	6/12/2017	0.0	0.0	52	No significant horizontal movement. Observed movement is largely fill settlement.
M82	6/21/2017	0.7	2.0	44	Increase in movement rate, likely the result of MPD construction, and new survey hub installation
M83	6/21/2017	0.3	0.7	72	**Increase in movement rate starting in May 2017.**
M84	6/21/2017	0.7	0.1	76	Decelerating trend. The increased movement rate in 2016 is believed to be due to construction of the SAT Dump.
M85	5/12/2017	0.4	0.3	74	Slight deceleration trend observable in the horizontal displacement graph.
M86	6/12/2017	0.2	0.6	47	Increase in movement rate. Hub is located on fill placed inside of the ultimate Main Pit crest. Observed movement suspected to be related to settlement of fill in the pit. The hub was replaced in April 2017 - additional data needed to confirm movement trend.
M87	3/15/2017	0.5	0.4	71	Slight deceleration trend observable.

Main Pit Survey Hubs Destroyed in past year

Survey Hub	Last Reading	Movement Rate (mm/day)		Bearing (Cumulative)	Comments
		June 16	At last reading		
M76	3/12/2017	-	-	14	No significant horizontal movement. Observed movement was likely settlement of fill in Main Pit.

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Main Pit Instrumentation Data

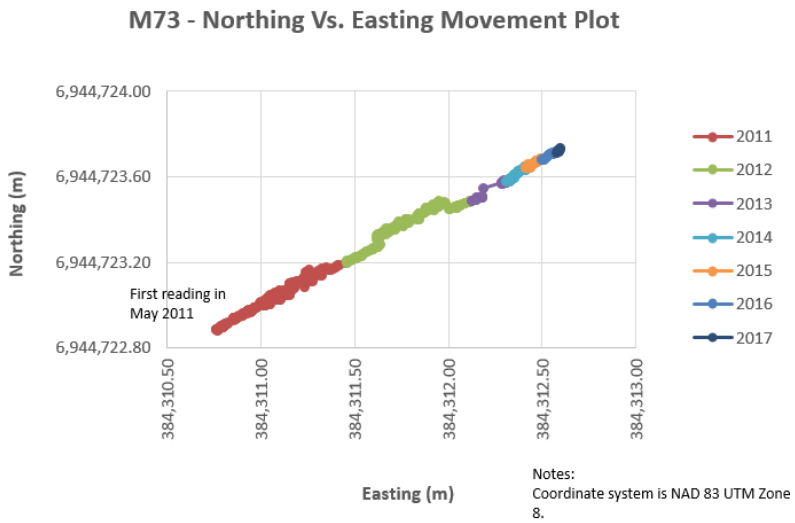
Survey Hub Summary

Job No: 1CM002.059

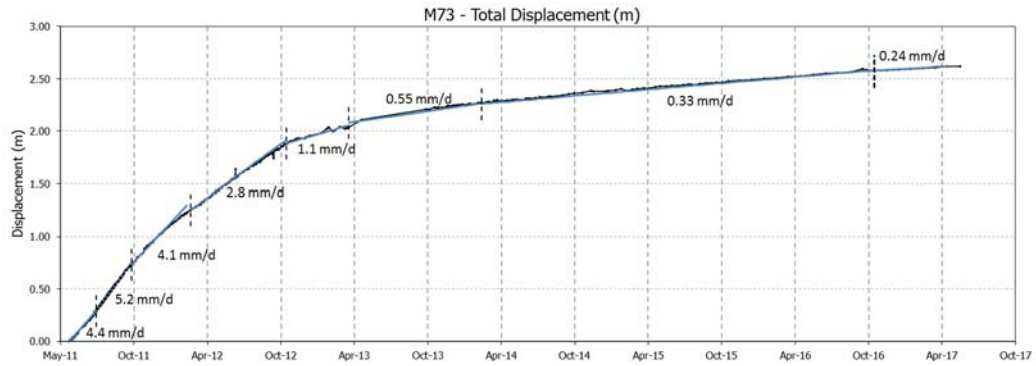
Filename: ApG_MainPitPort.pptx

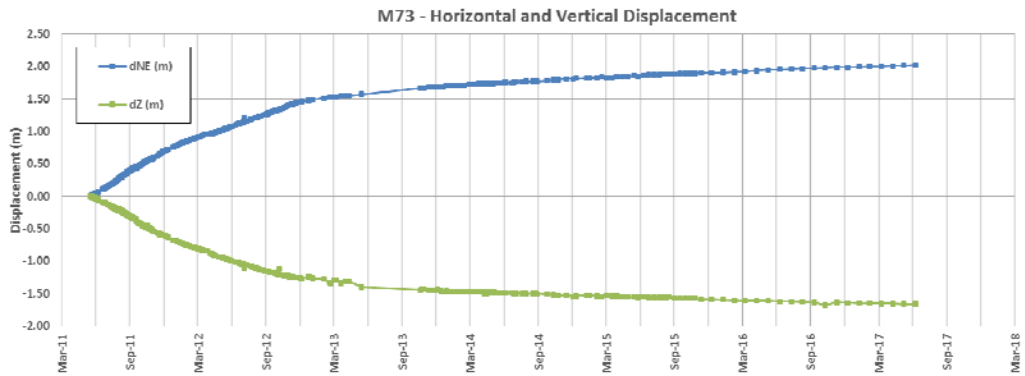
Minto Mine

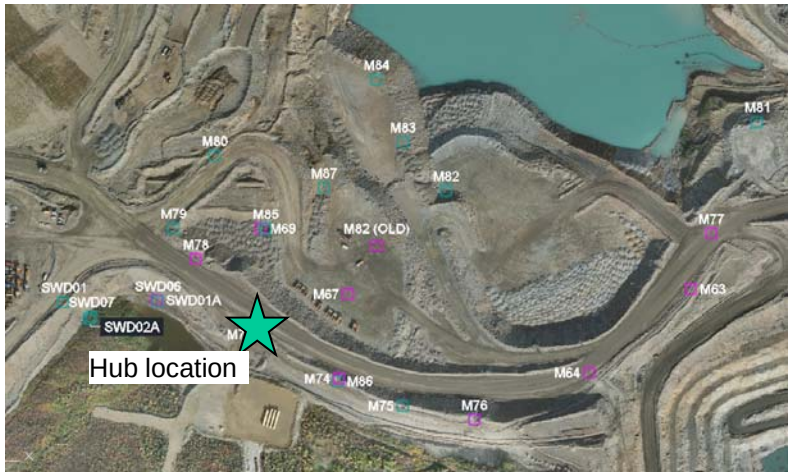
Date: August 2017 | Prepared by: PHM | Figure: 1

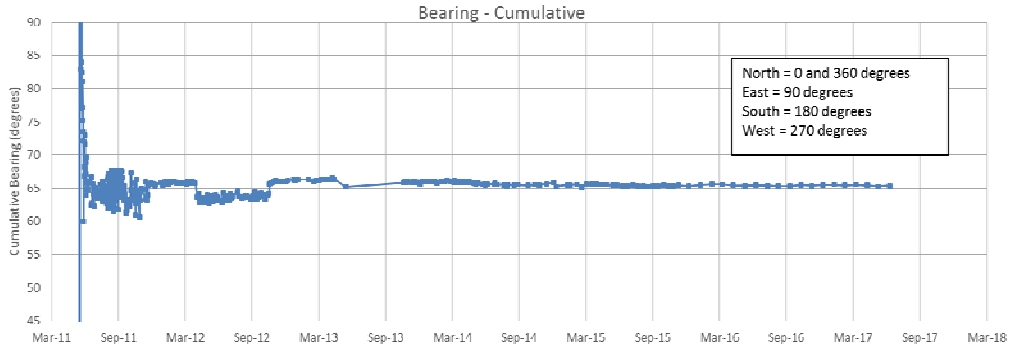


Notes:
Coordinate system is NAD 83 UTM Zone 8.









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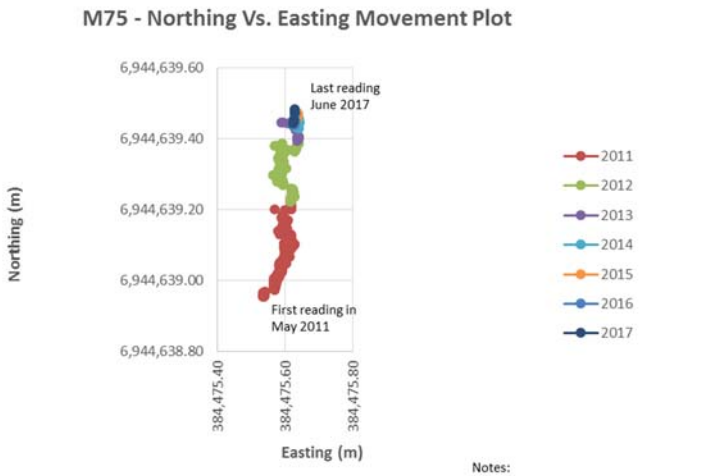
Main Pit Instrumentation Data

Survey Hub – M73

Job No: 1CM002.059
Filename: ApG_2017MainPitInstrumentation.pptx

Minto Mine

Date:	Prepared by	Figure:
August 2017	PHM	2



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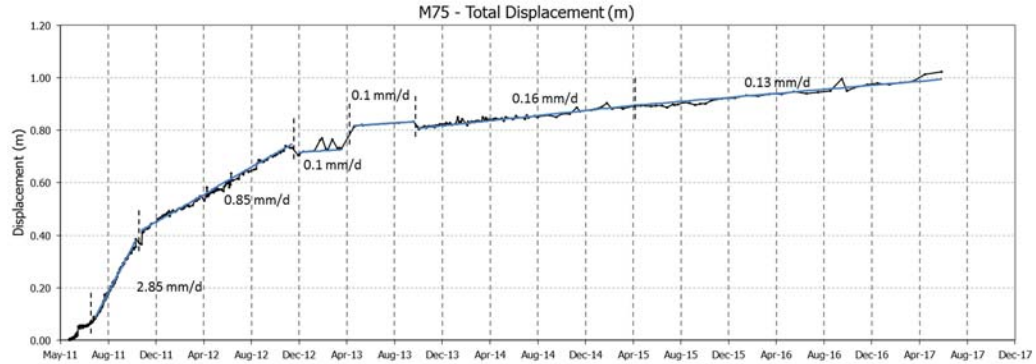
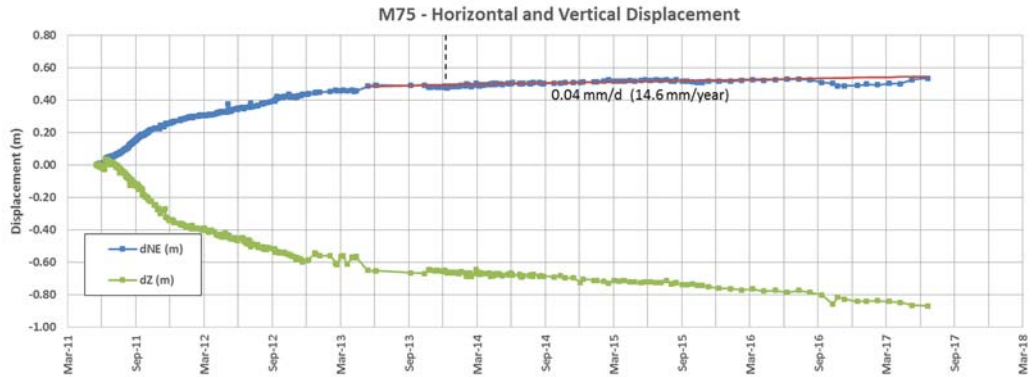
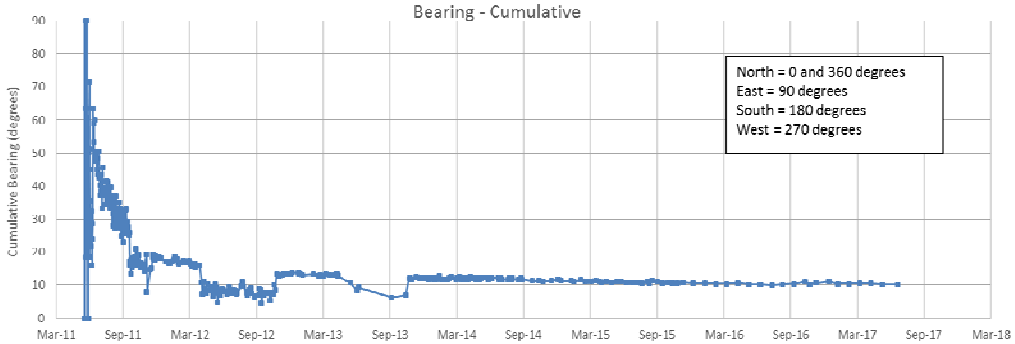




Notes

1. *Hub is to be replaced by M86.*



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Main Pit Instrumentation Data

Survey Hub – M75

Job No: 1CM002.059
Filename: ApG_2017MainPitInstrumentation.pptx

Minto Mine

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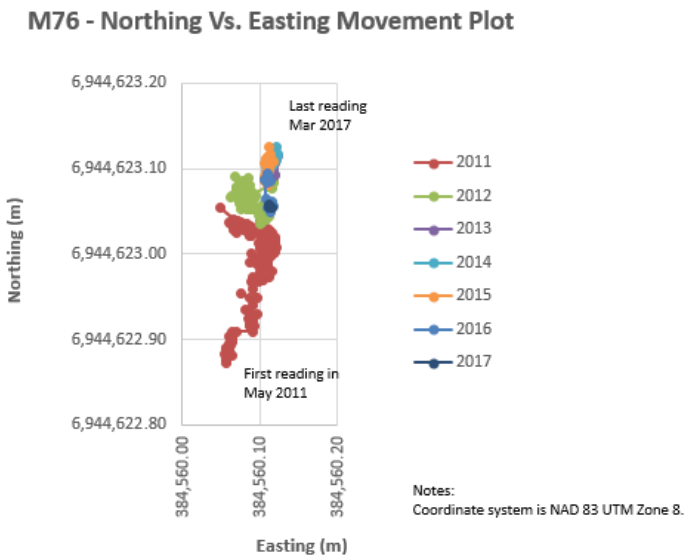
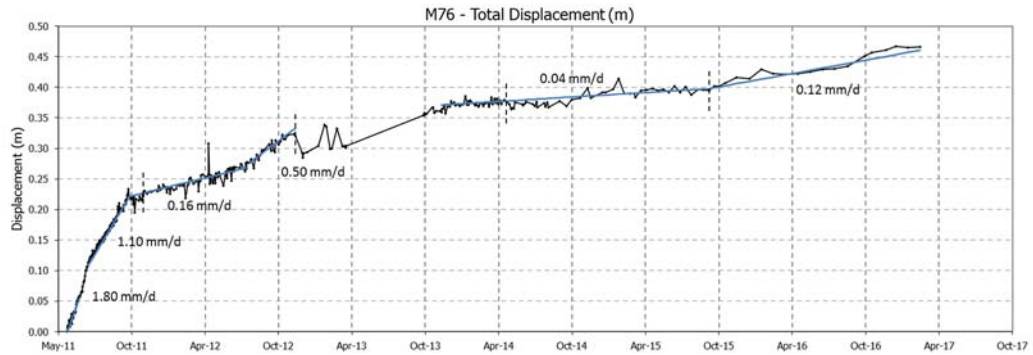
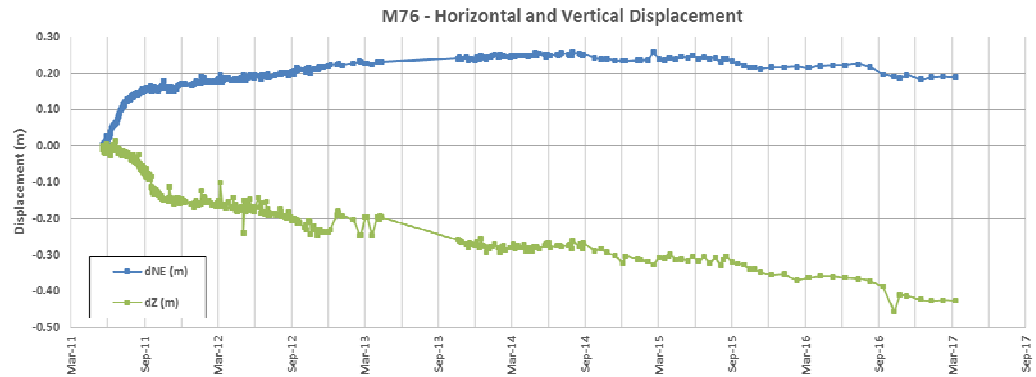
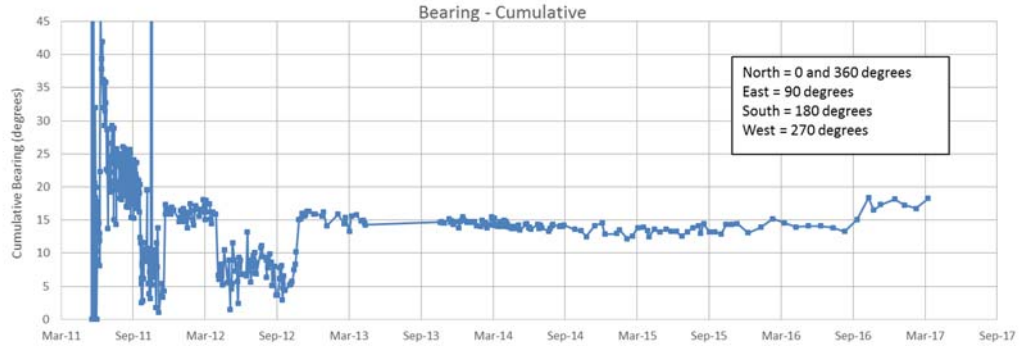
August 2017	PHM	3









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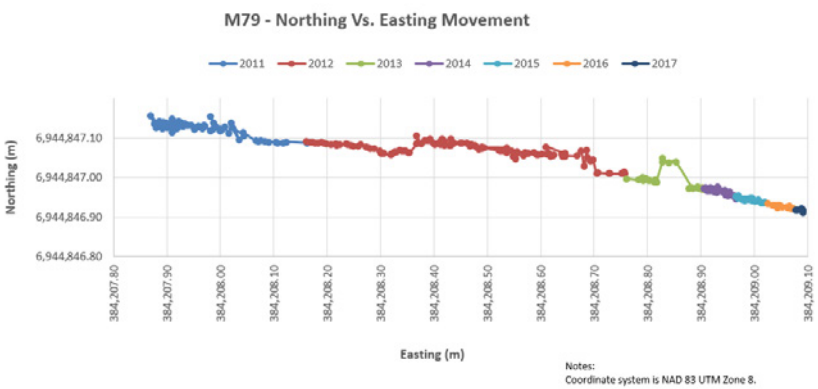
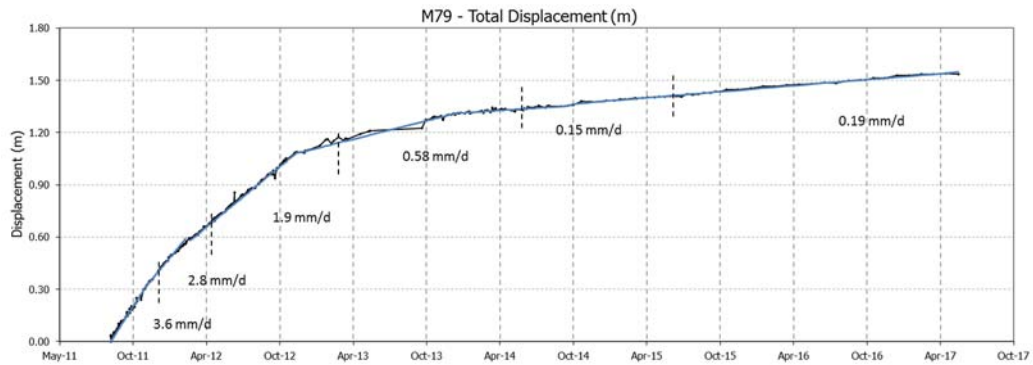
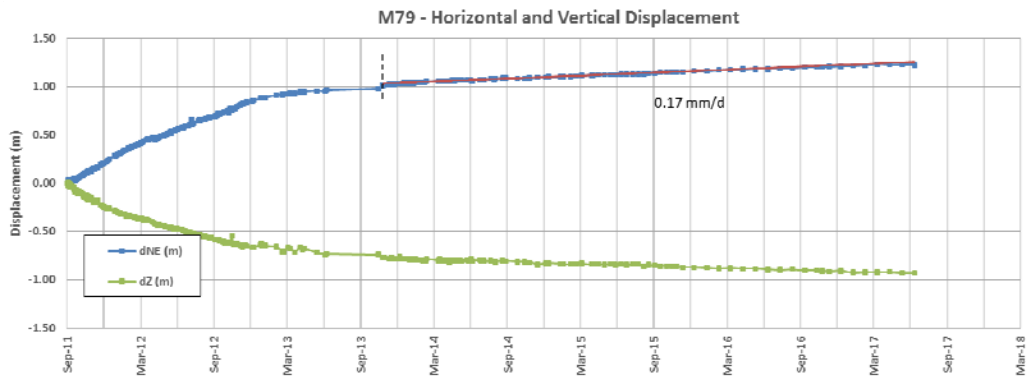
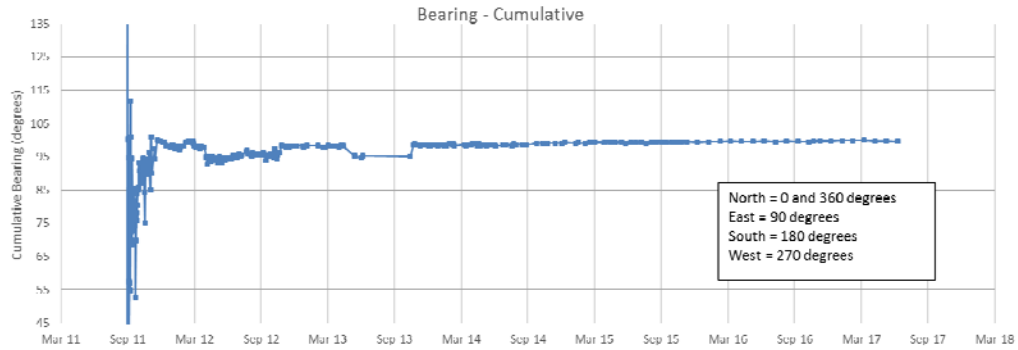
Job No: 1CM002.059 Filename: ApG_2017MainPitInstrumentation.pptx	Minto Mine	**Survey Hub – M76**	
		Date: August 2017	Prepared by PHM	Figure: **4**









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Main Pit Instrumentation Data

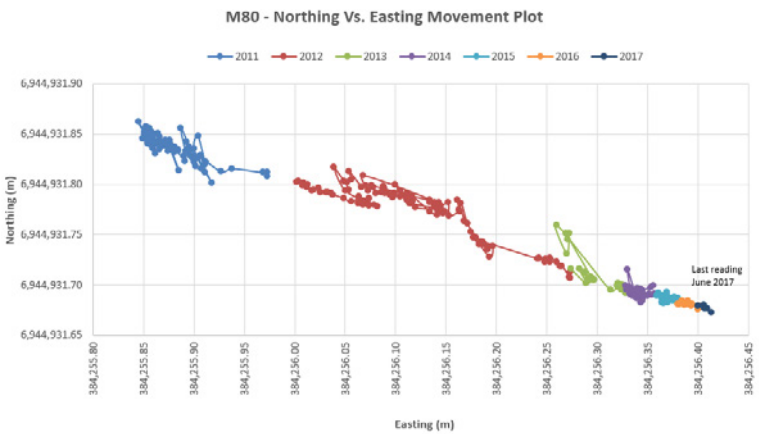
Survey Hub – M79

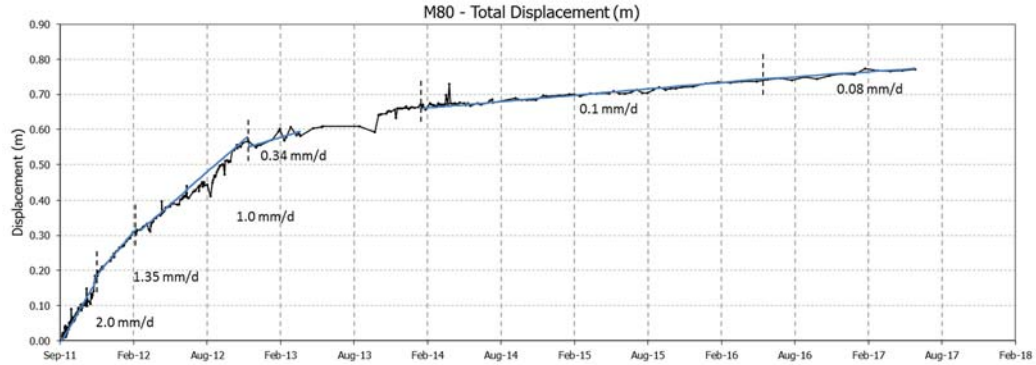
Job No: 1CM002.059

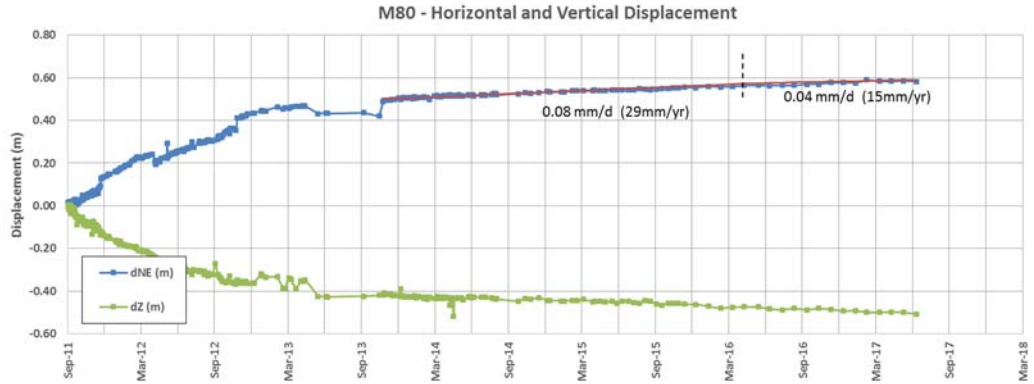
Filename: ApG_2017MainPitInstrumentation.pptx

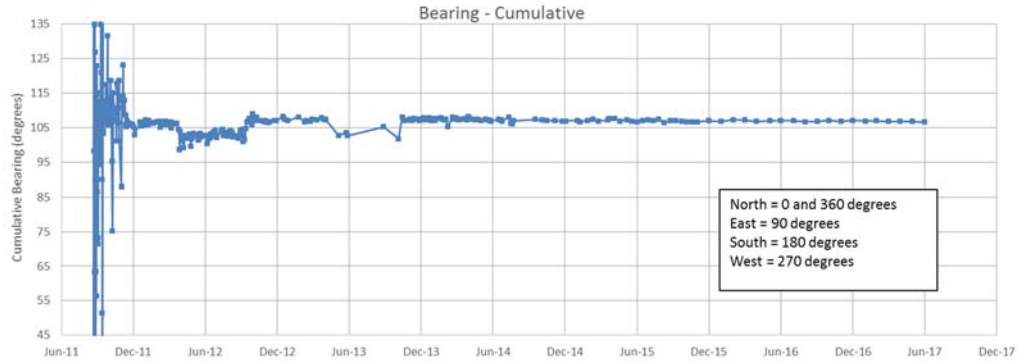
Minto Mine

Date:	Prepared by	Figure:
August 2017	PHM	5









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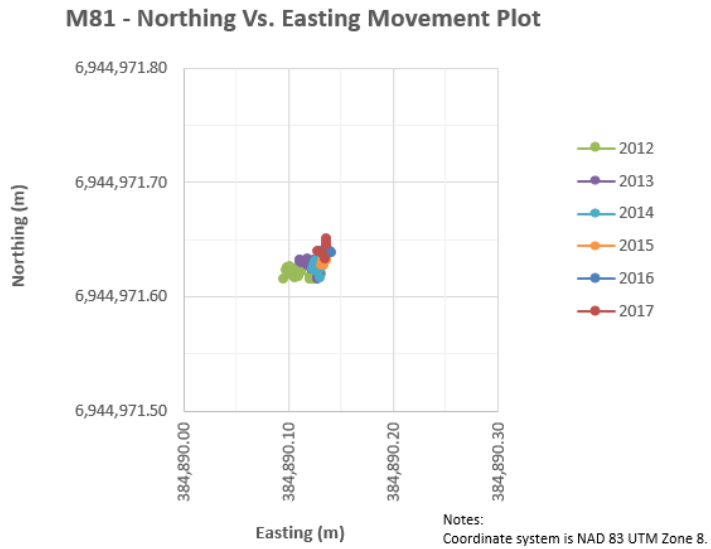
Job No: 1CM002.059 Filename: ApG_2017MainPitInstrumentation.pptx	Minto Mine	Date: August 2017	Prepared by PHM	Figure: **6**



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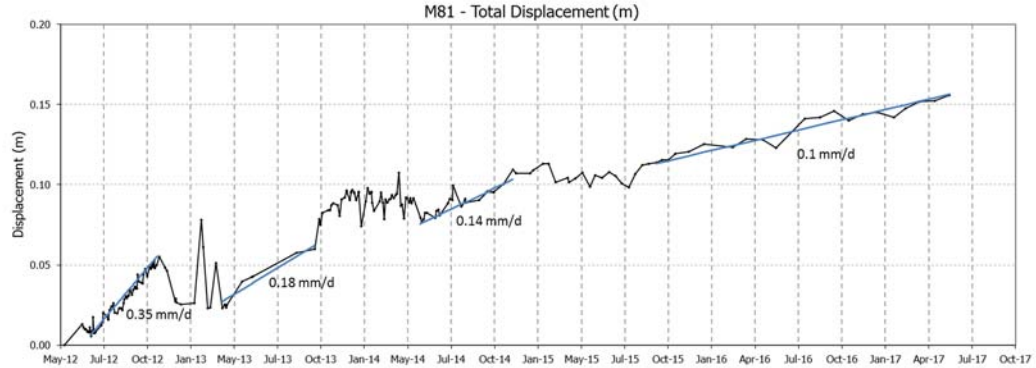

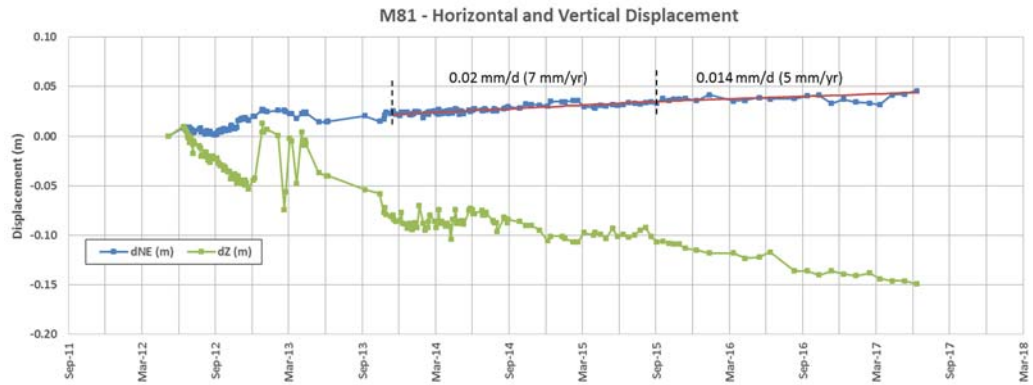

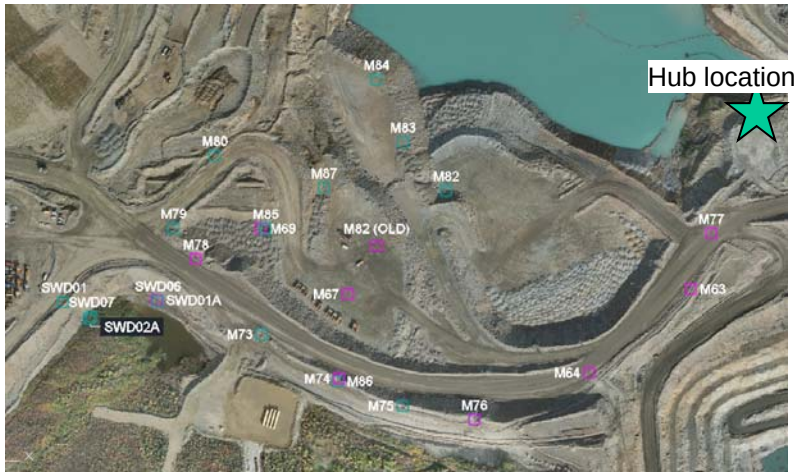

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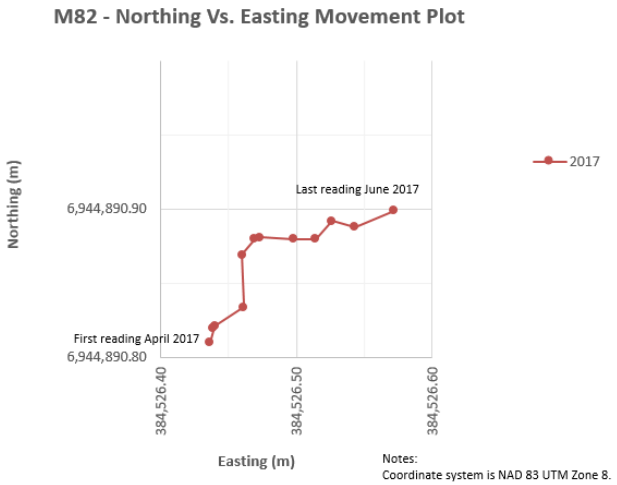
Main Pit Instrumentation Data

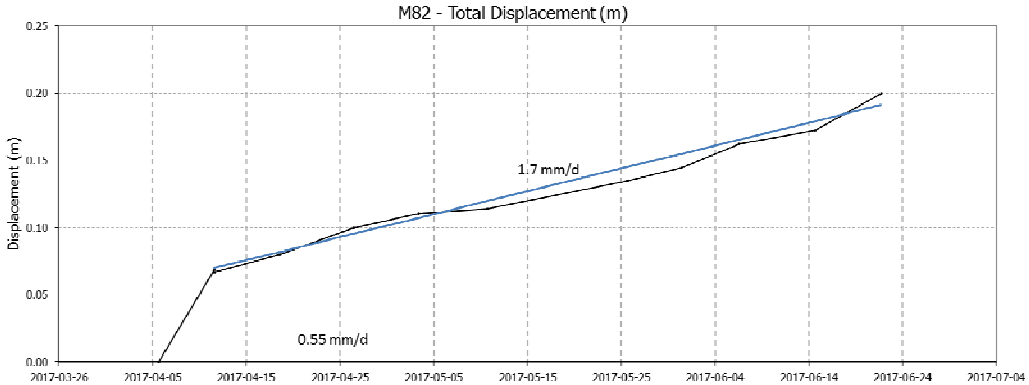
Survey Hub – M81

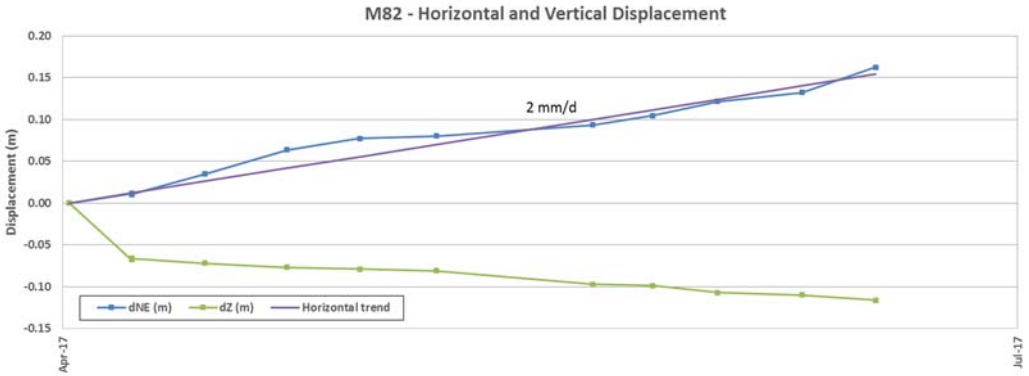
Job No: 1CM002.059
Filename: ApG_2017MainPitInstrumentation.pptx

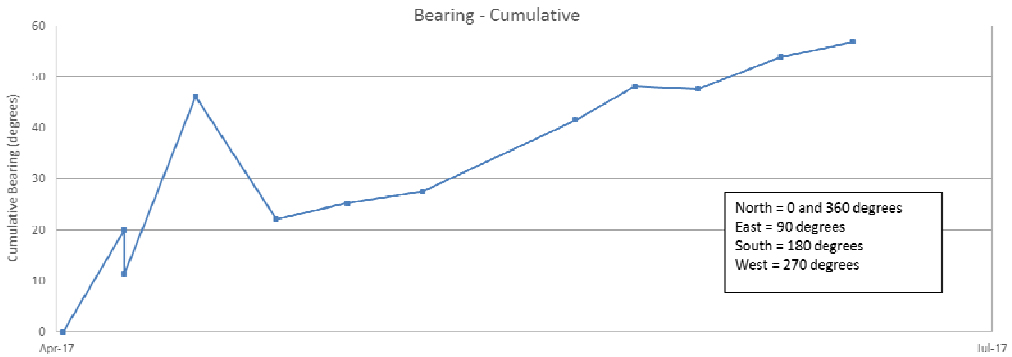
Minto Mine

Date: August 2017
Prepared by PHM
Figure: 7









Notes

1. M-82 was moved to be located outside of the MPD footprint.
2. The survey hub is mounted on a lock-block set on surface. The site inspection noted there surface was not levelled with rocks removed when the block was set, and some of the observed movement may be due to shifting of rocks beneath the block (See Figure 14, Appendix A).

Source files:

1. AutoCAD: \\VAN-SVR0\Projects\01_SITES\Minto\1CM002.050_2016 Geotech Op Support\!040_AutoCAD\1CM002.050-Site Plan Showing Instrumentation.dwg
2. Excel instrumentation data: \\VAN-SVR0\Projects\01_SITES\Minto\!020_Site_Wide_Data\Geotechnical\Geotech Monitoring Data\MintoMainPitSurveyHubs_SRK.xlsm

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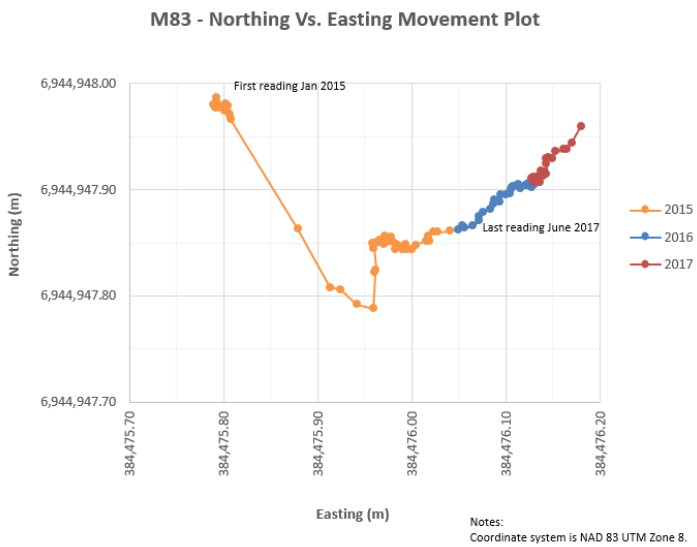
Main Pit Instrumentation Data

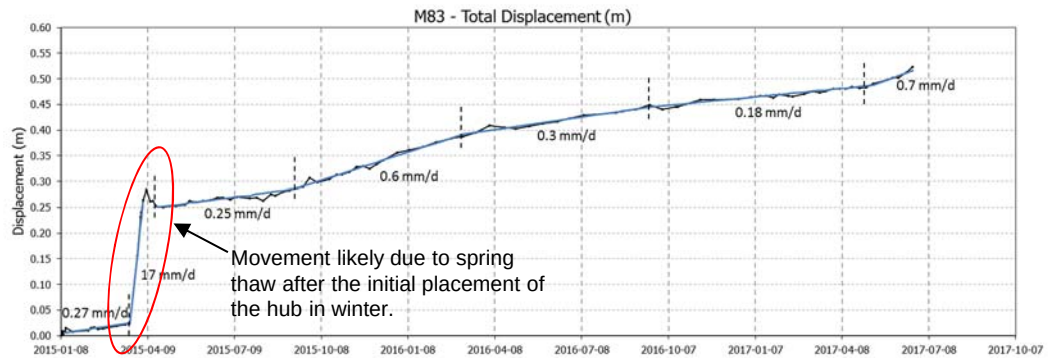
Survey Hub – M82

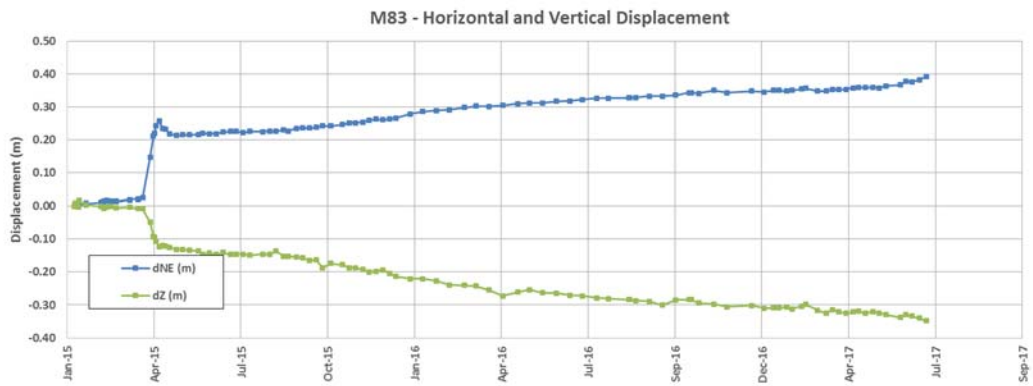
Job No: 1CM002.059
Filename: ApG_2017MainPitInstrumentation.pptx

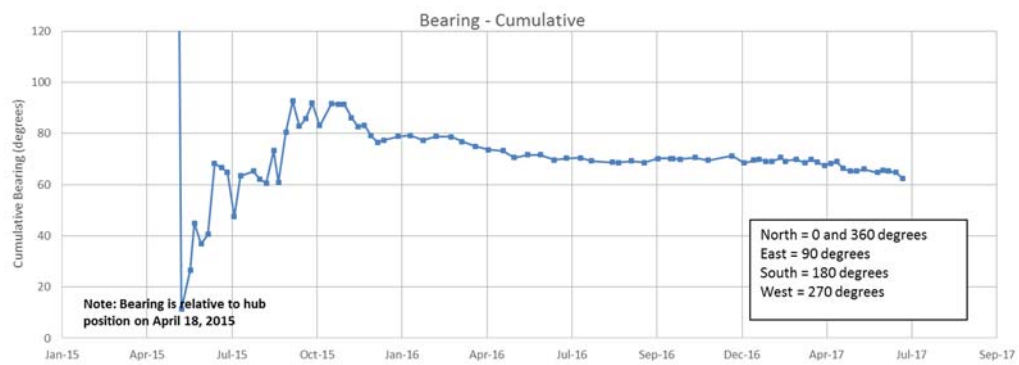
Minto Mine

Date:	Prepared by	Figure:
August 2017	PHM	8









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2. Excel instrumentation data: \\VAN-SVR0\Projects\01_SITES\Minto\!020_Site_Wide_Data\Geotechnical\Geotech Monitoring Data\MintoMainPitSurveyHubs_SRK.xlsm

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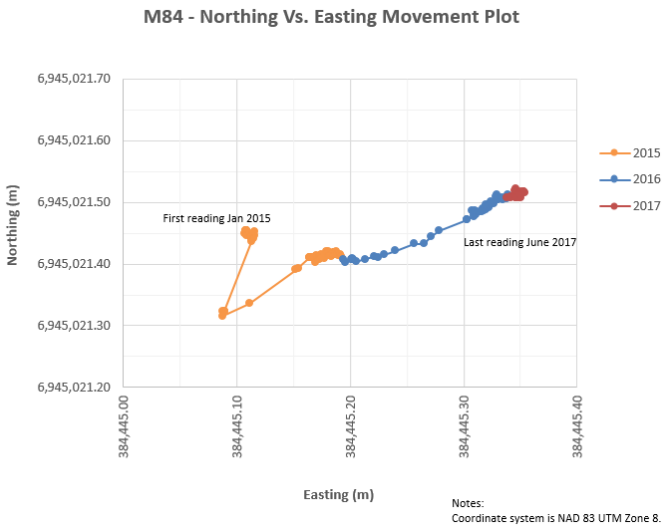
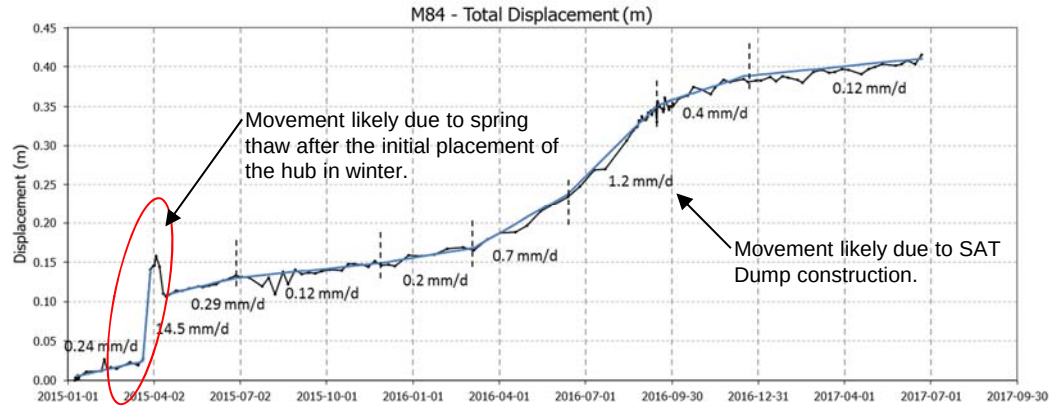
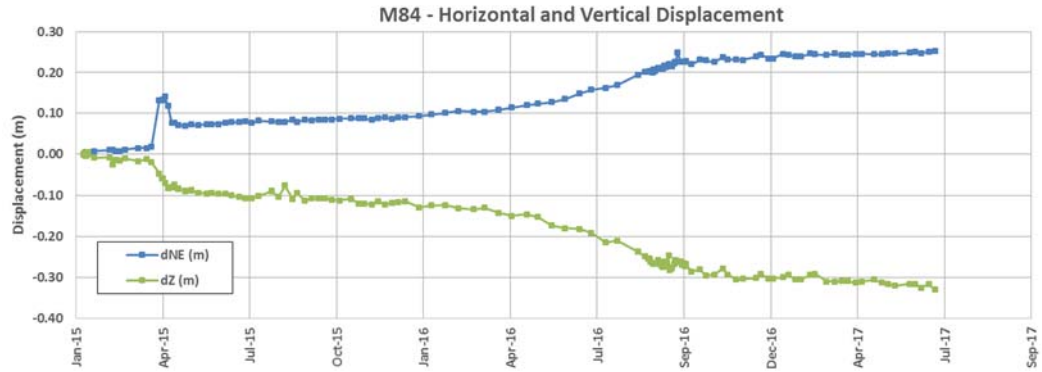
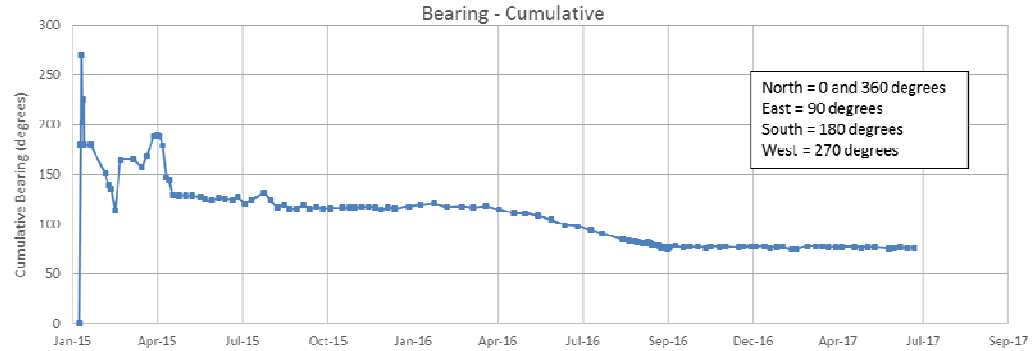
Job No: 1CM002.059 Filename: ApG_2017MainPitInstrumentation.pptx	Minto Mine	**Survey Hub – M83**	
		Date: August 2017	Prepared by PHM	Figure: **9**



Notes:
Coordinate system is NAD 83 UTM Zone 8.







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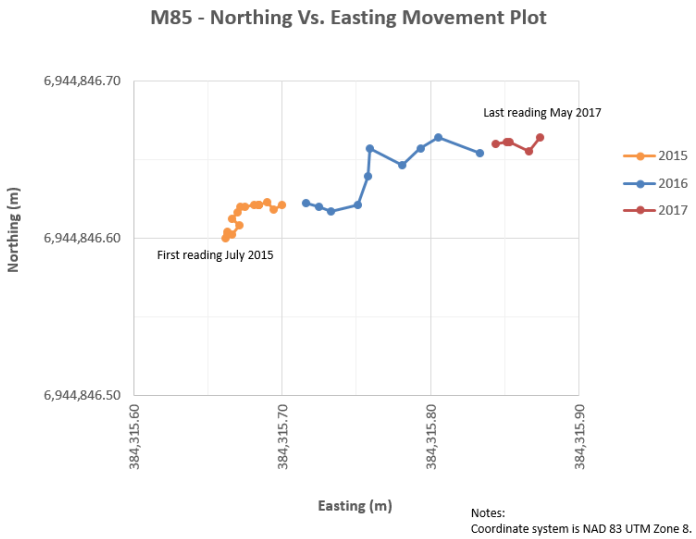
Main Pit Instrumentation Data

Survey Hub – M84

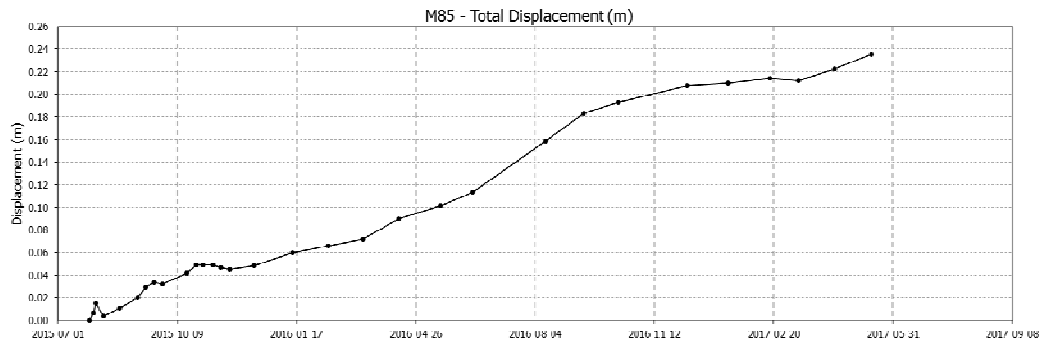
Job No: 1CM002.059
Filename: ApG_2017MainPitInstrumentation.pptx

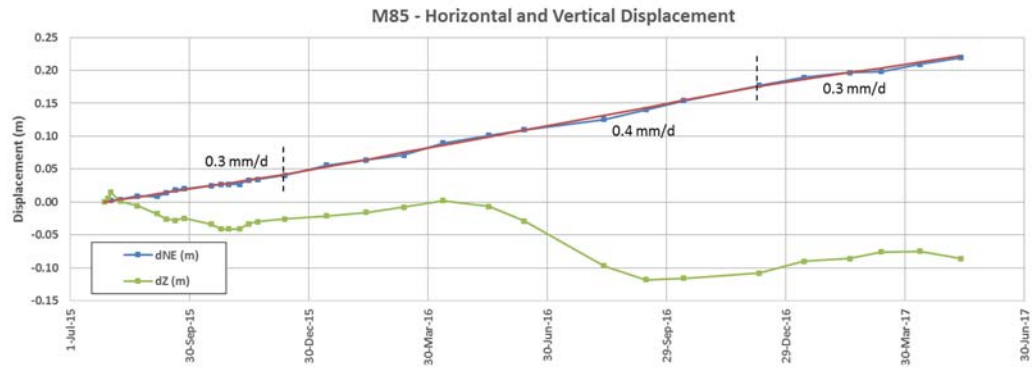
Minto Mine

Date:	Prepared by	Figure:
August 2017	PHM	10



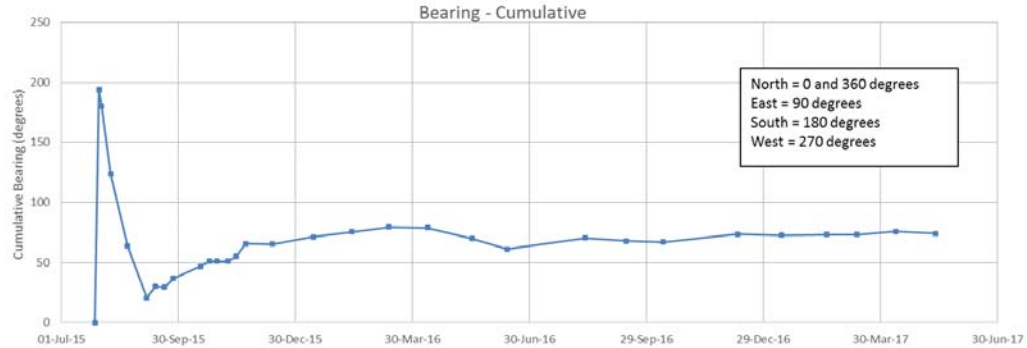
Notes:
Coordinate system is NAD 83 UTM Zone 8.





Notes

1. *The hub consists of a lock-block on surface, and as a result, seasonal ground movement as a result freeze/thaw cycles may occur that is not indicative of large-scale ground movement. As a result, the horizontal displacement plot is likely to be the most useful for monitoring movement.*



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2. Excel instrumentation data: \\VAN-SVR0\Projects\01_SITES\Minto\!020_Site_Wide_Data\Geotechnical\Geotech Monitoring Data\MintoMainPitSurveyHubs_SRK.xlsm

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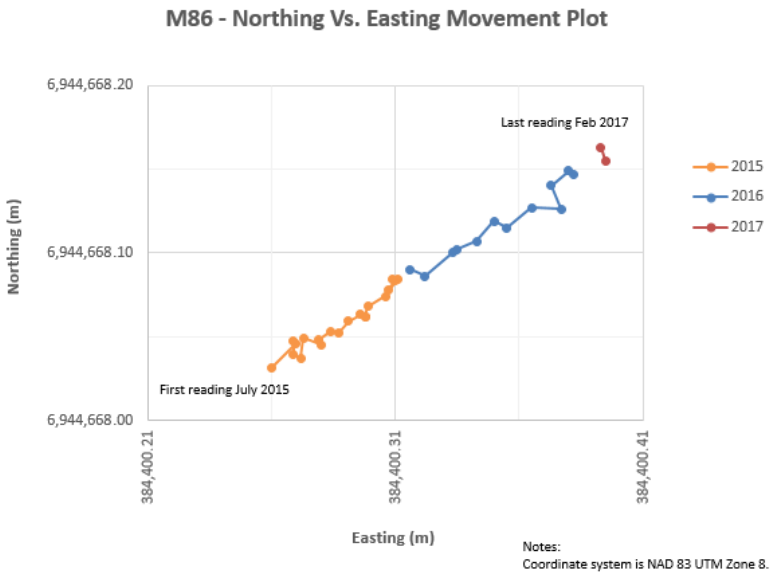
Main Pit Instrumentation Data

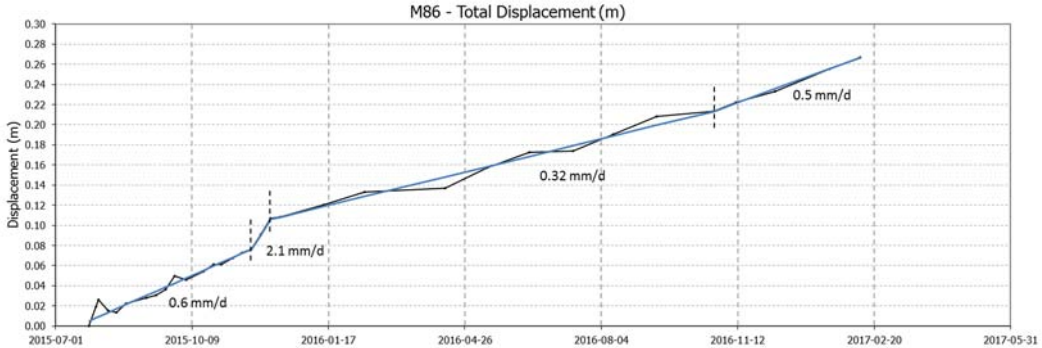
Survey Hub – M85

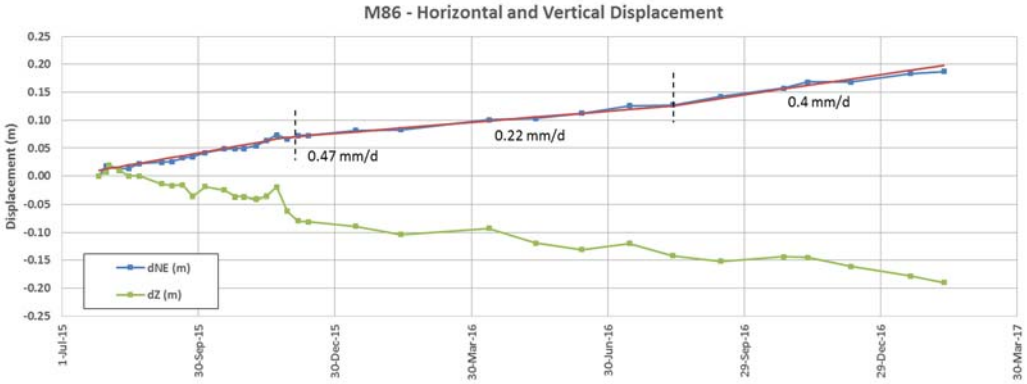
Job No: 1CM002.059
Filename: ApG_2017MainPitInstrumentation.pptx

Minto Mine

Date: August 2017
Prepared by PHM
Figure: **11**

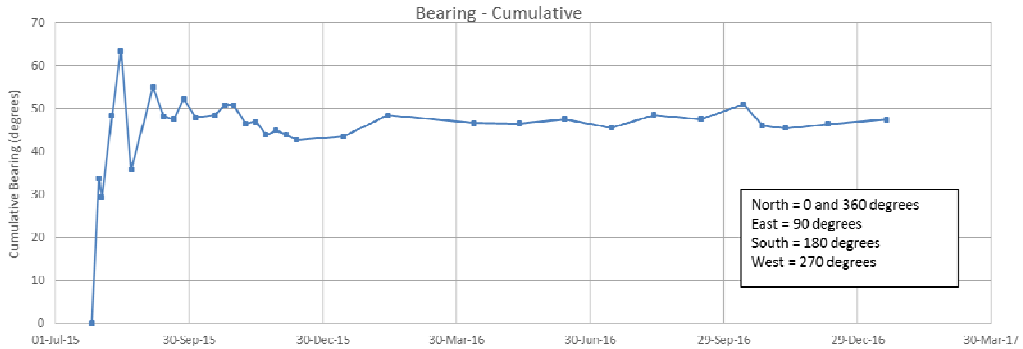






Notes

1. *Hub is a replacement of M75*
2. *Hub destroyed in February 2017 and re-installed in April 2017.*



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Main Pit Instrumentation Data

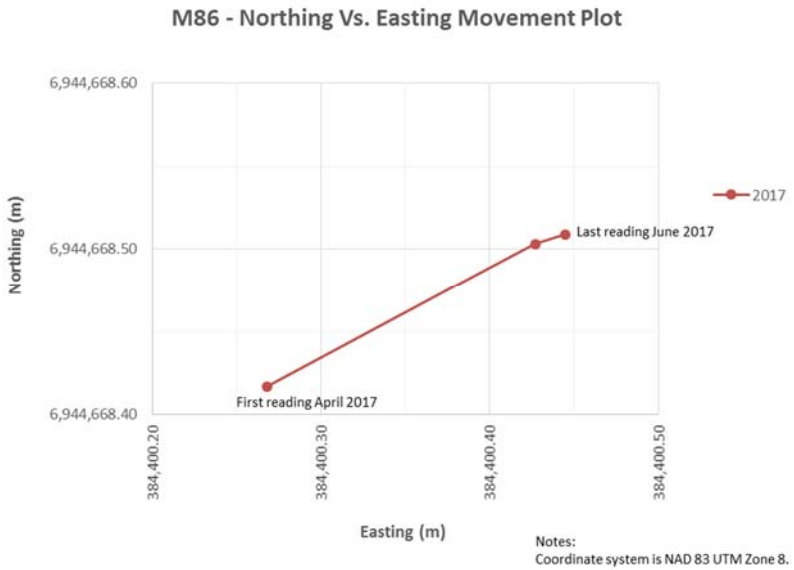
Survey Hub– M86 – Destroyed February 2017

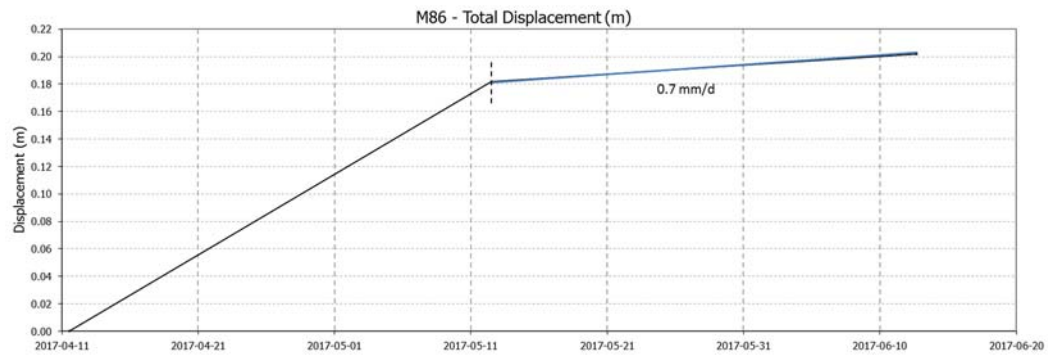
Job No: 1CM002.059

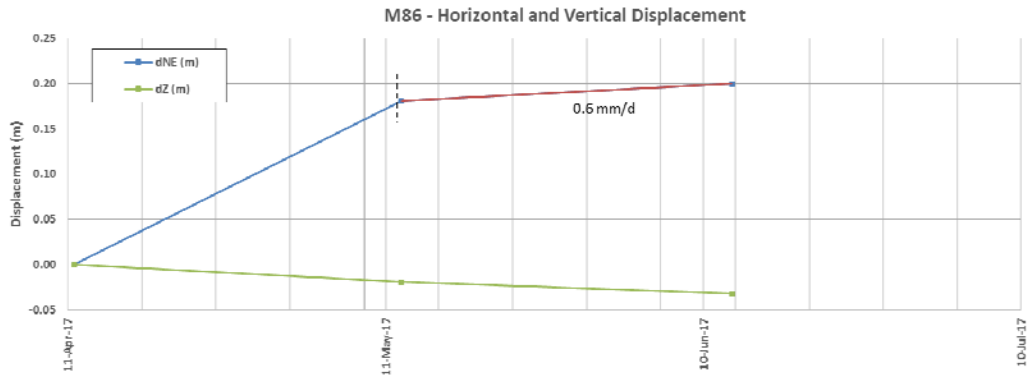
Filename: ApG_2017MainPitInstrumentation.pptx

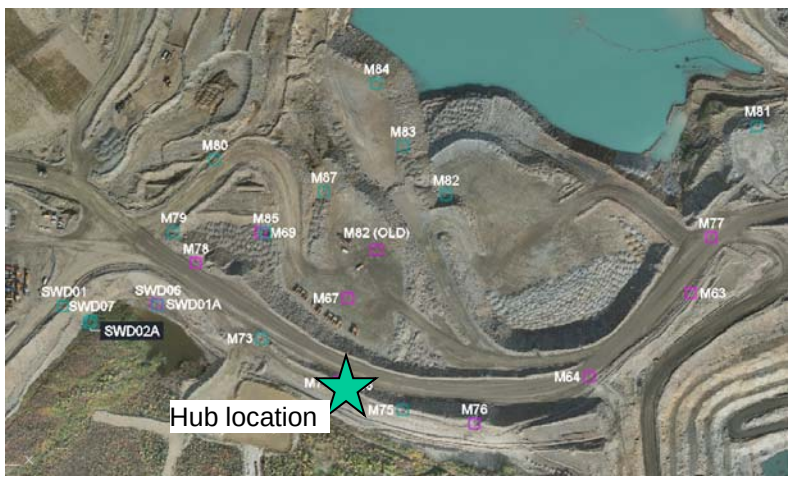
Minto Mine

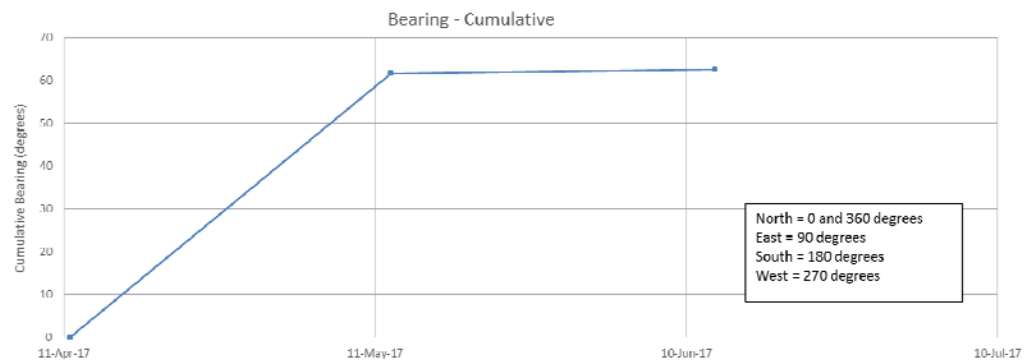
Date:	Prepared by	Figure:
August 2017	PHM	12











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2. Excel instrumentation data: \\VAN-SVR0\Projects\01_SITES\Minto\!020_Site_Wide_Data\Geotechnical\Geotech Monitoring Data\MintoMainPitSurveyHubs_SRK.xlsm

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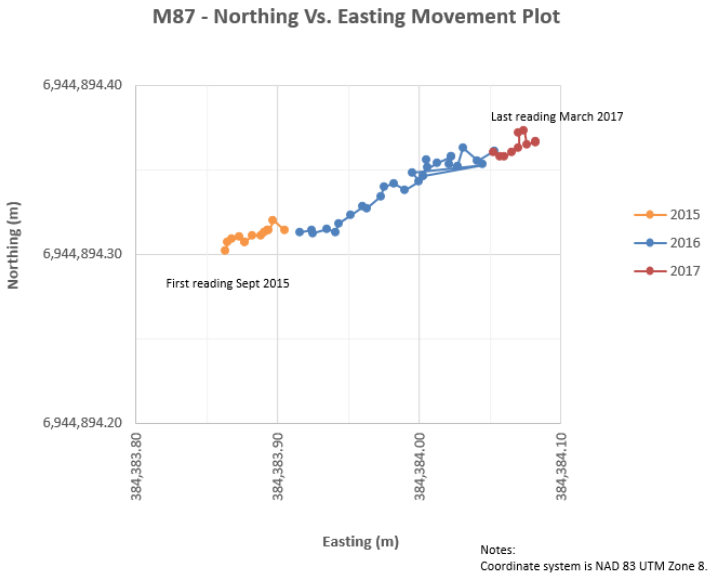
Main Pit Instrumentation Data

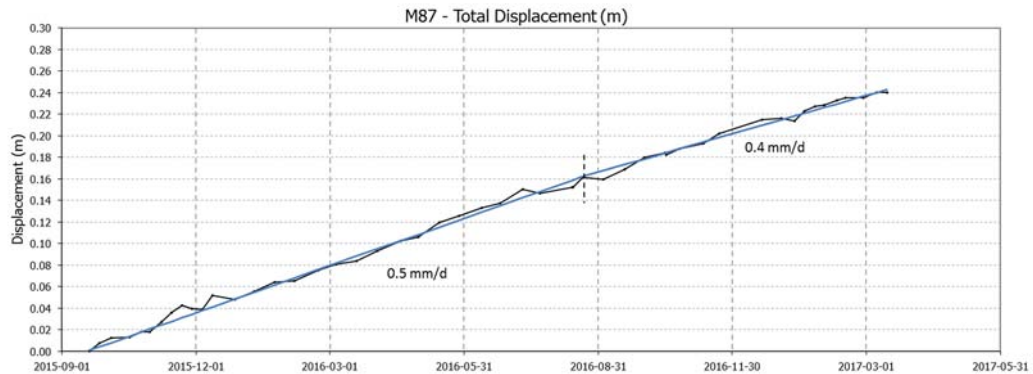
Survey Hub– M86 – Replacement Installed April 2017

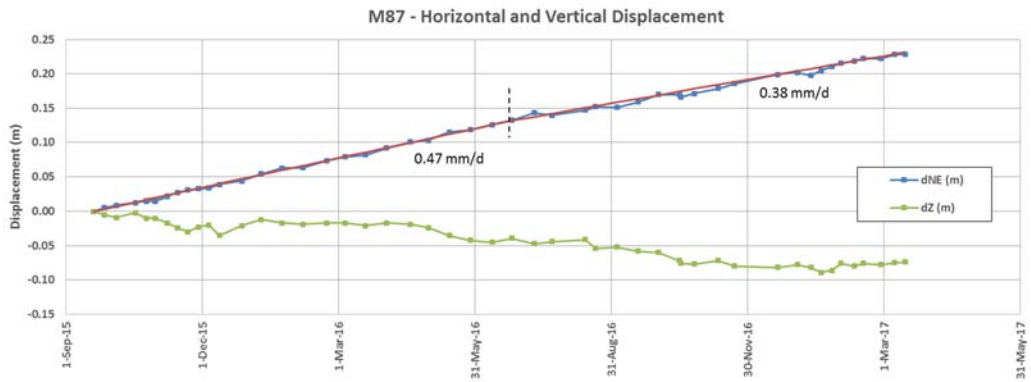
Job No: 1CM002.059
Filename: ApG_2017MainPitInstrumentation.pptx

Minto Mine

Date:	Prepared by	Figure:
August 2017	PHM	13

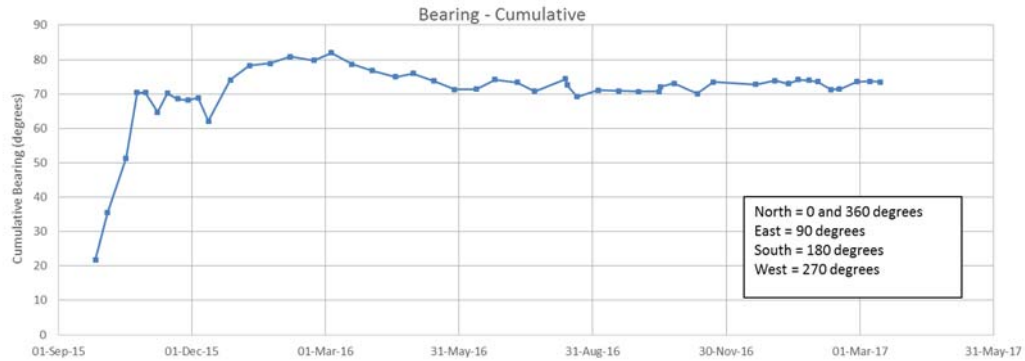






Notes

1. Hub destroyed in March 2017.



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Main Pit Instrumentation Data

Survey Hub – M87

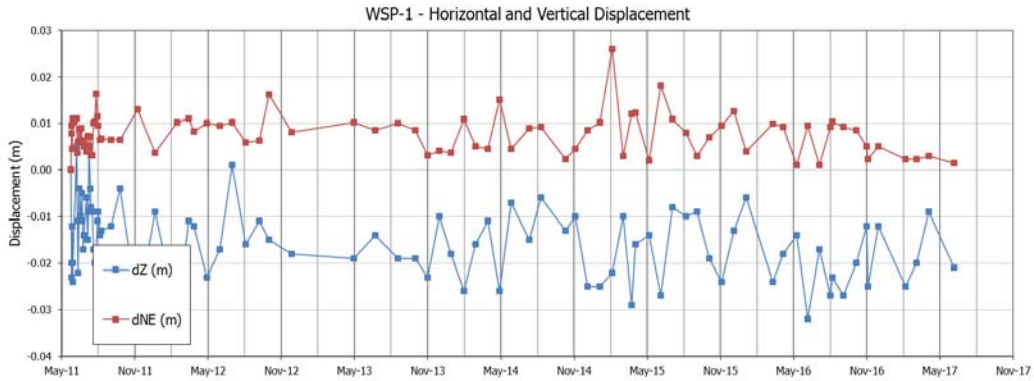
Job No: 1CM002.059

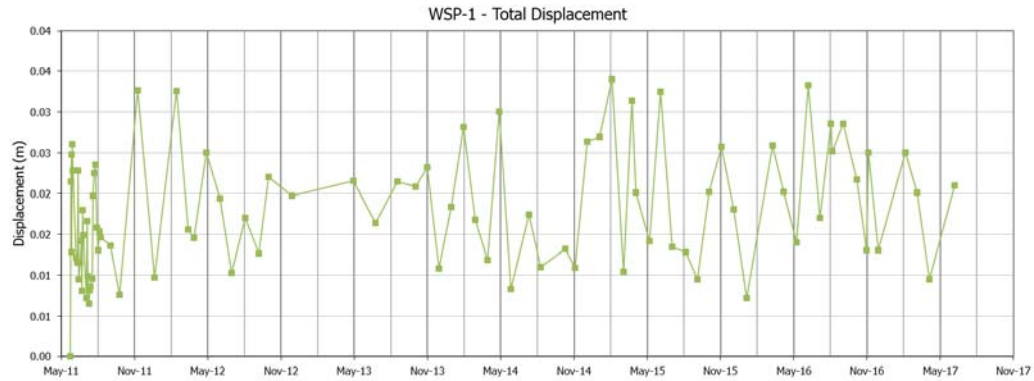
Filename: ApG_2017MainPitInstrumentation.pptx

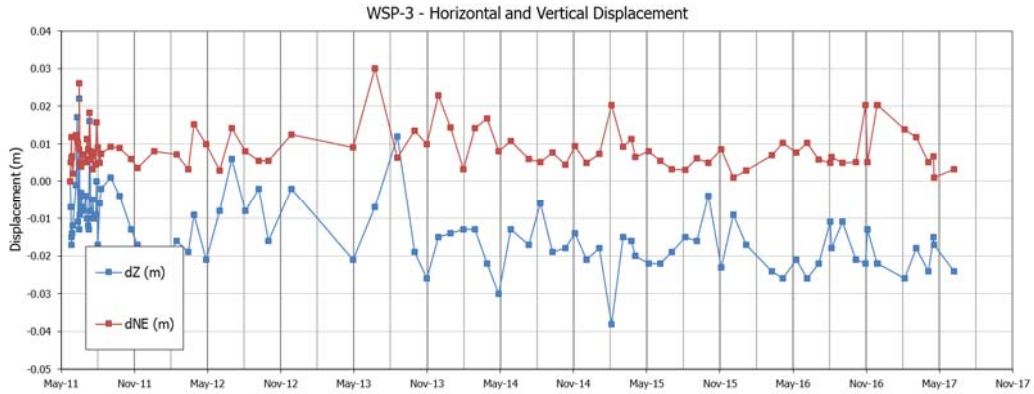
Minto Mine

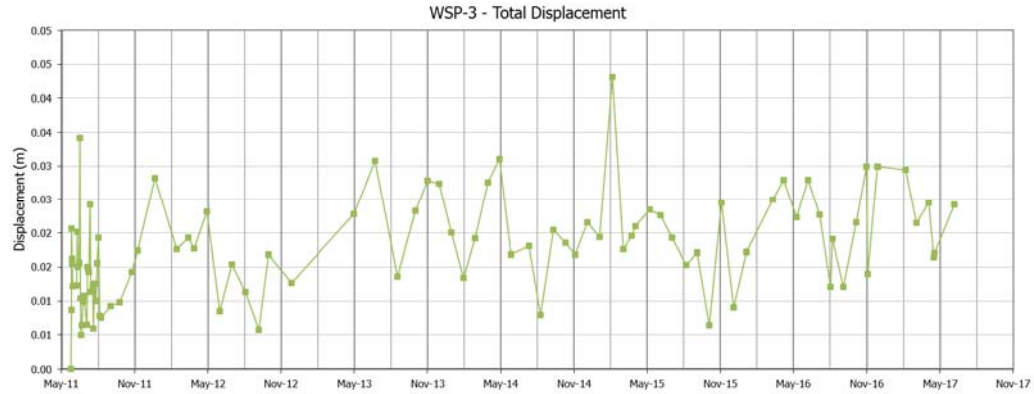
Date:	Prepared by	Figure:
August 2017	PHM	15

Appendix H: Water Storage Pond Instrumentation Data









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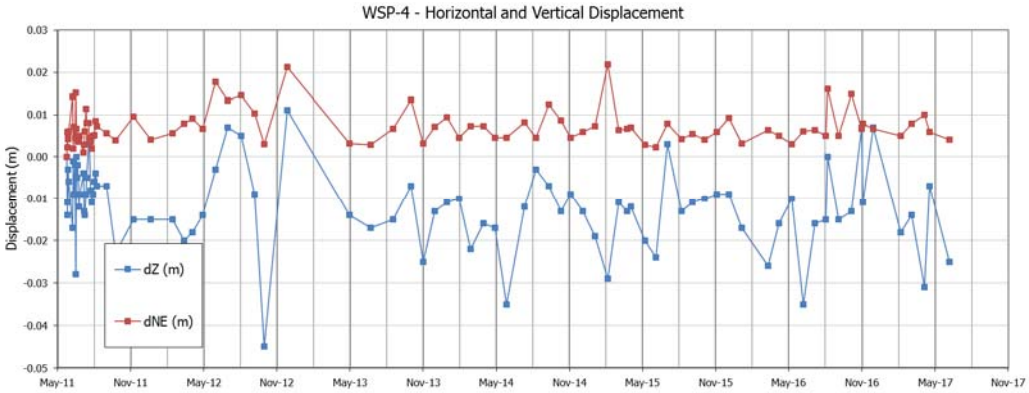
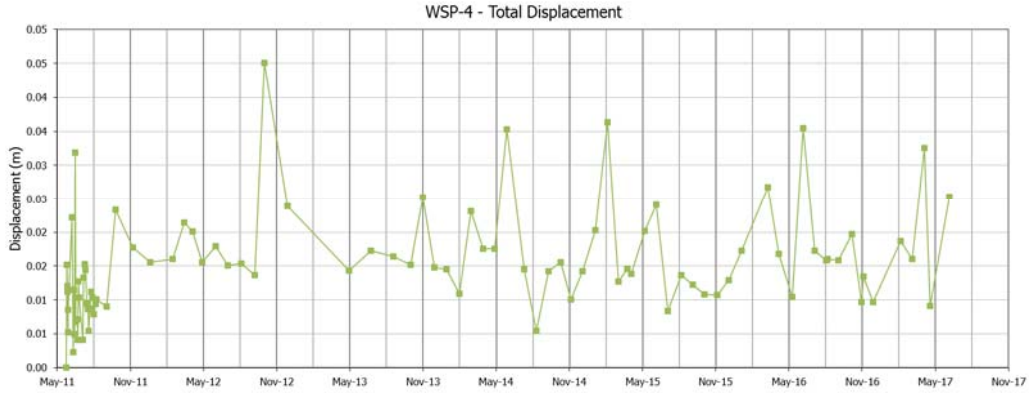
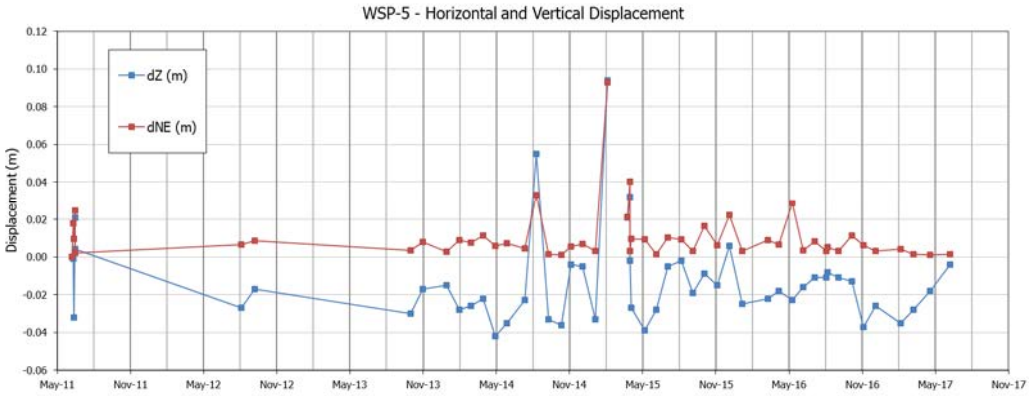
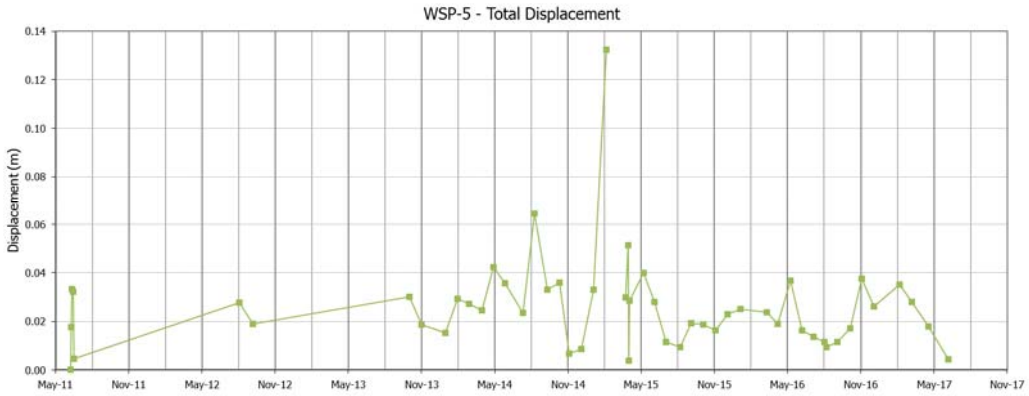
Job No: 1CM002.059 Filename: ApH_WaterStoragePondPort2017.pptx	Minto Mine	Date: August 2017 / Prepared by: PHM / Figure: 1









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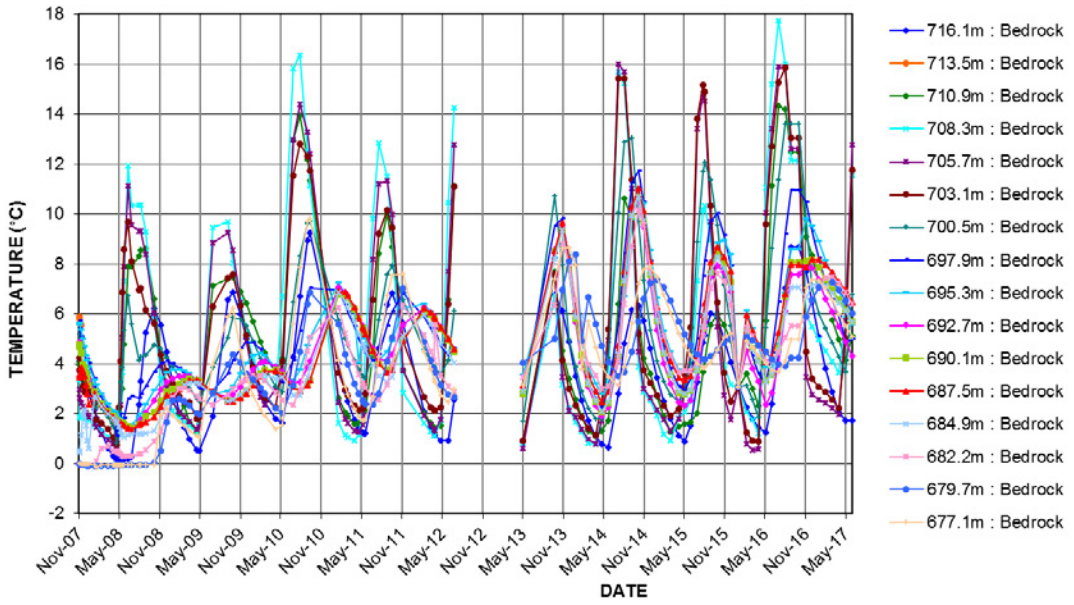
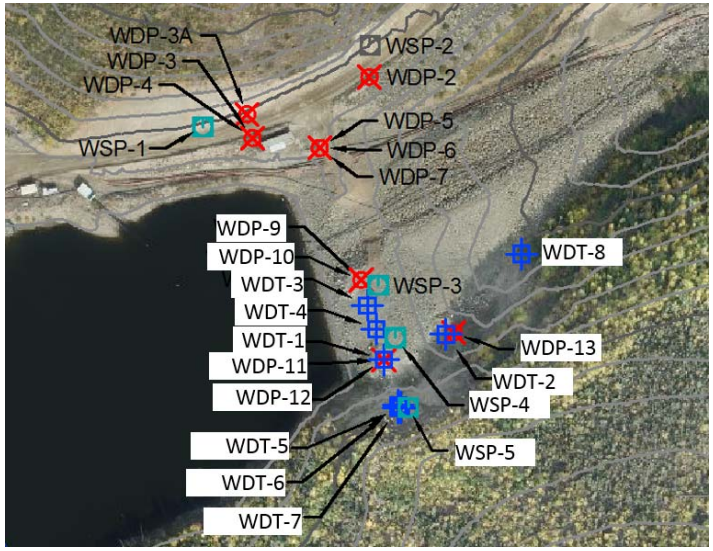
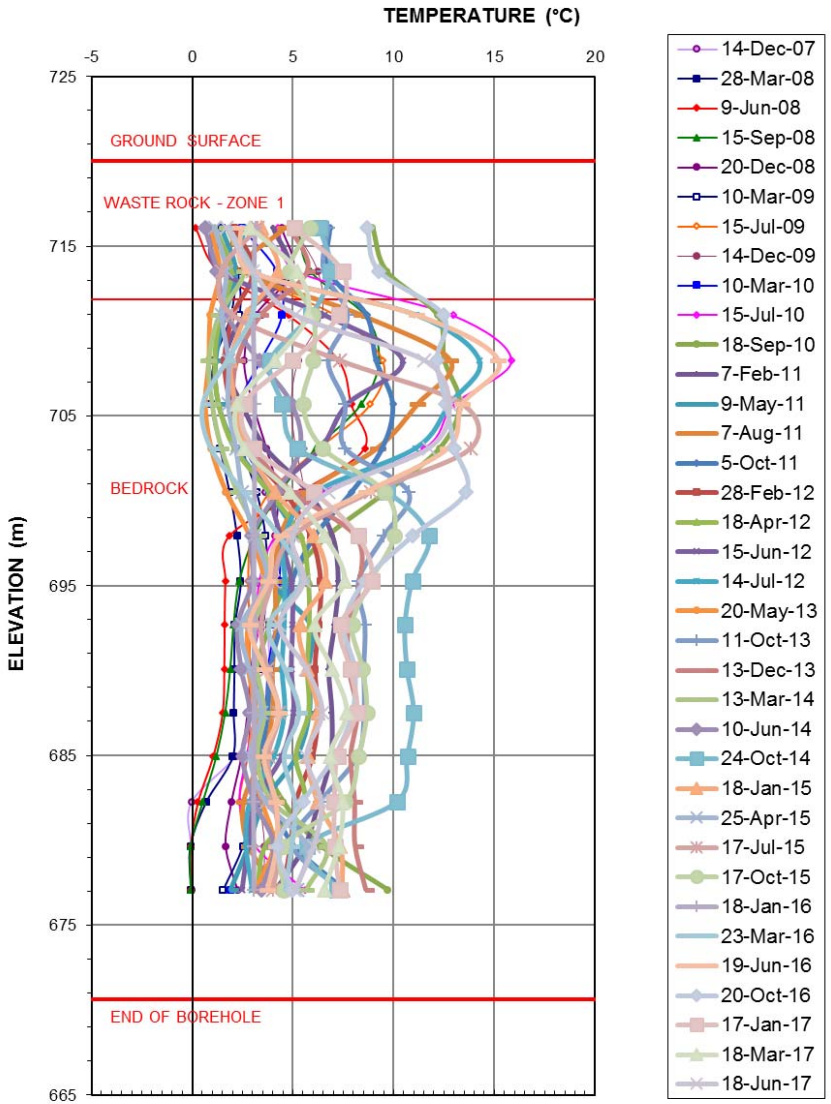
Job No: 1CM002.059 Filename: ApH_WaterStoragePondPort2017.pptx	Minto Mine	Date: August 2017 / Prepared by: PHM / Figure: **2**







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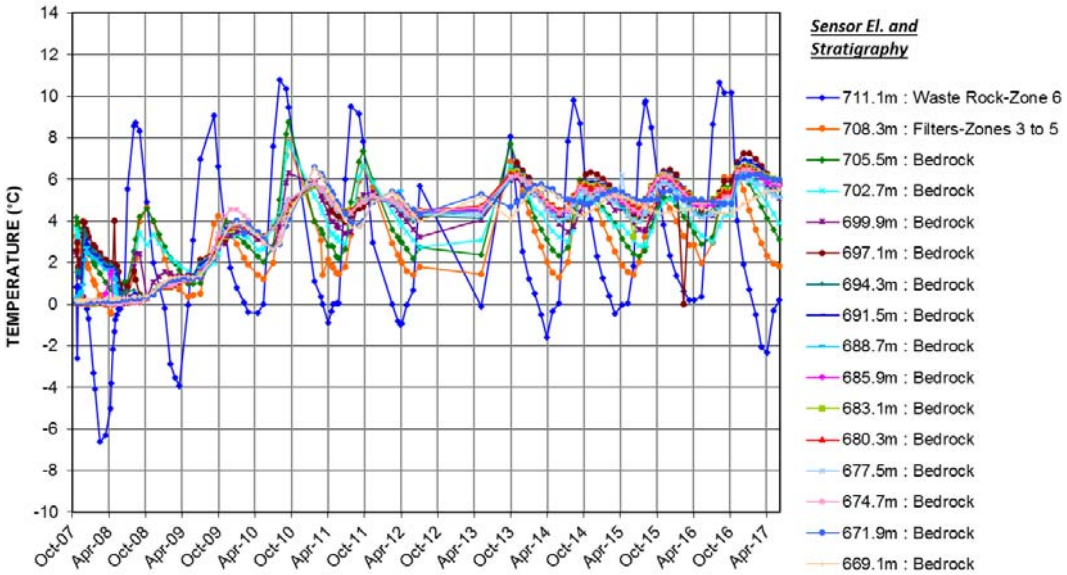
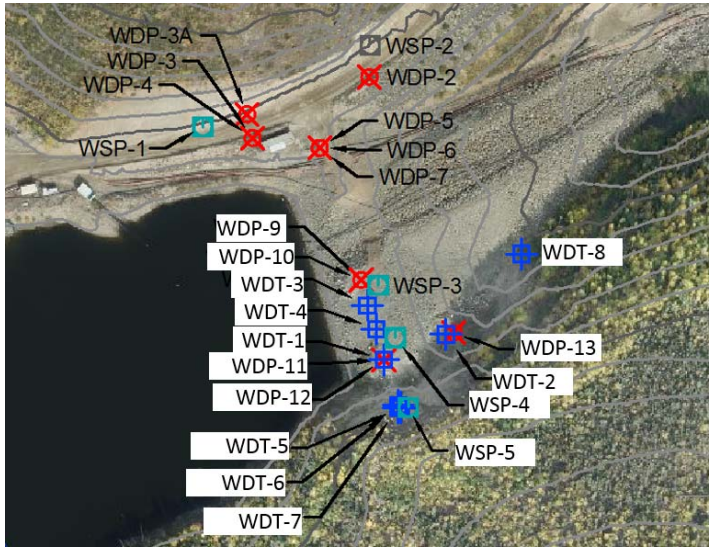
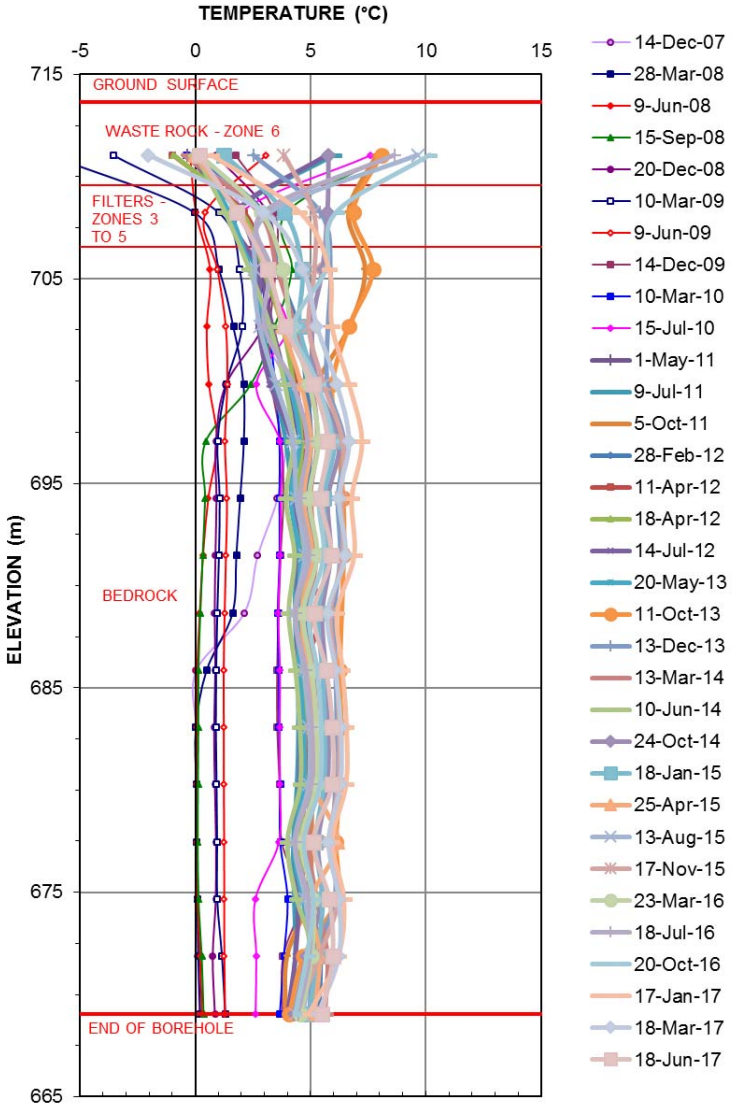
Water Storage Pond Data

Temperature Cable – WDT-1

Job No: 1CM002.059	Minto Mine	Date: August 2017	Prepared by PHM	Figure: 3
Filename: ApH_WaerStoragePond2017.pptx			







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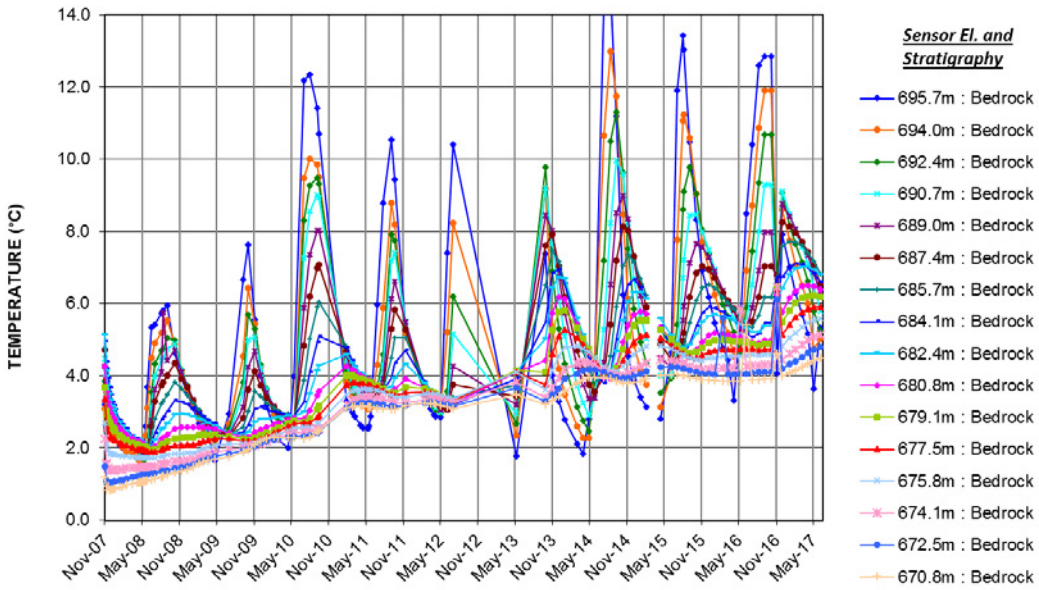
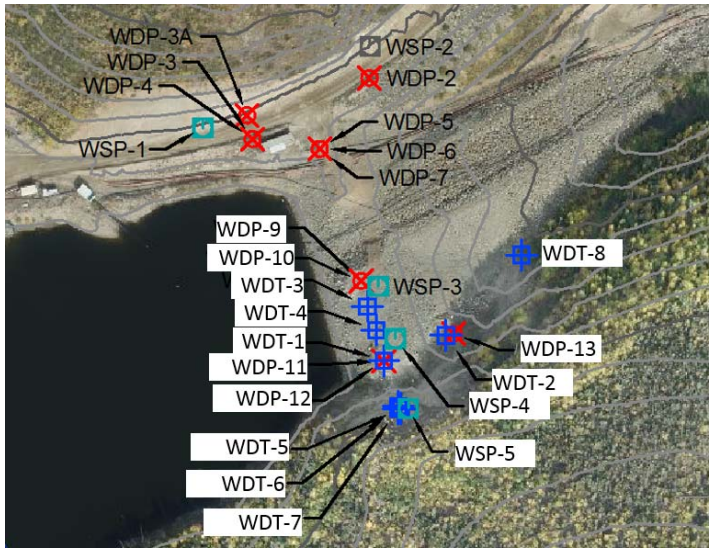
capstone MINTO MINE
OPERATED BY MINTO EXPLORATIONS LTD.

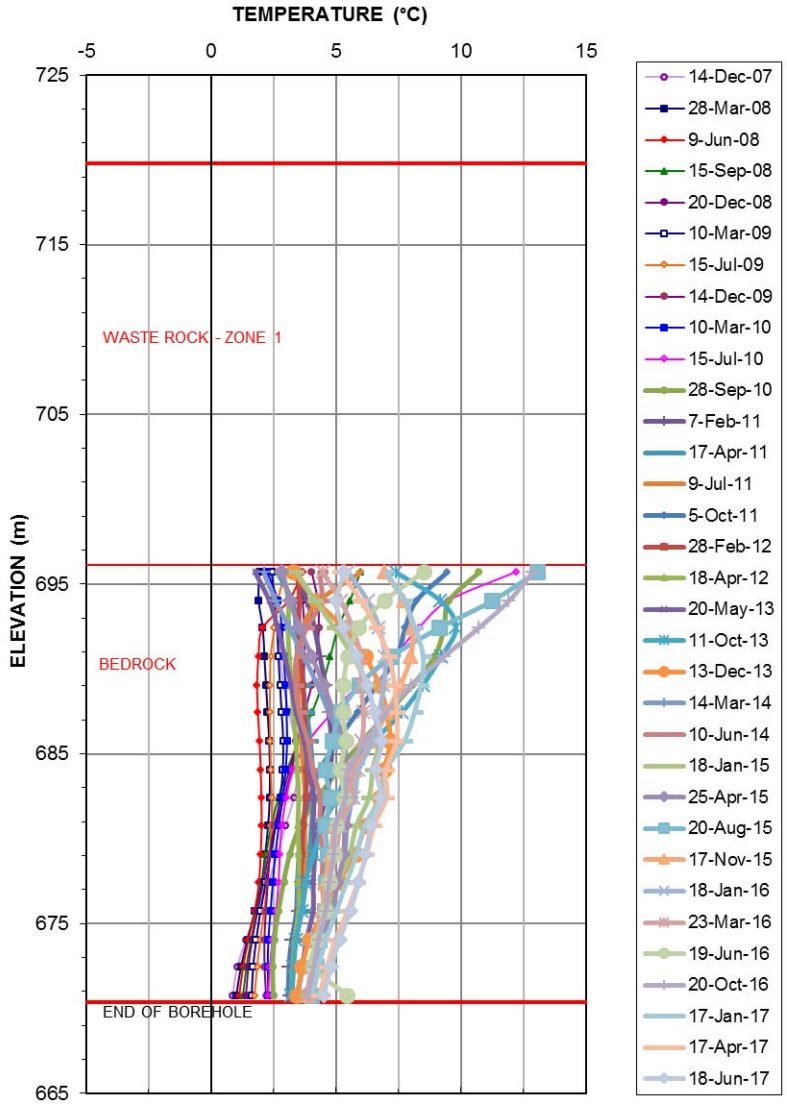
Water Storage Pond Data

Temperature Cable – WDT-2

Job No: 1CM002.059	Minto Mine	Date: August 2017	Prepared by PHM	Figure: 4
Filename: ApH_WaerStoragePond2017.pptx			







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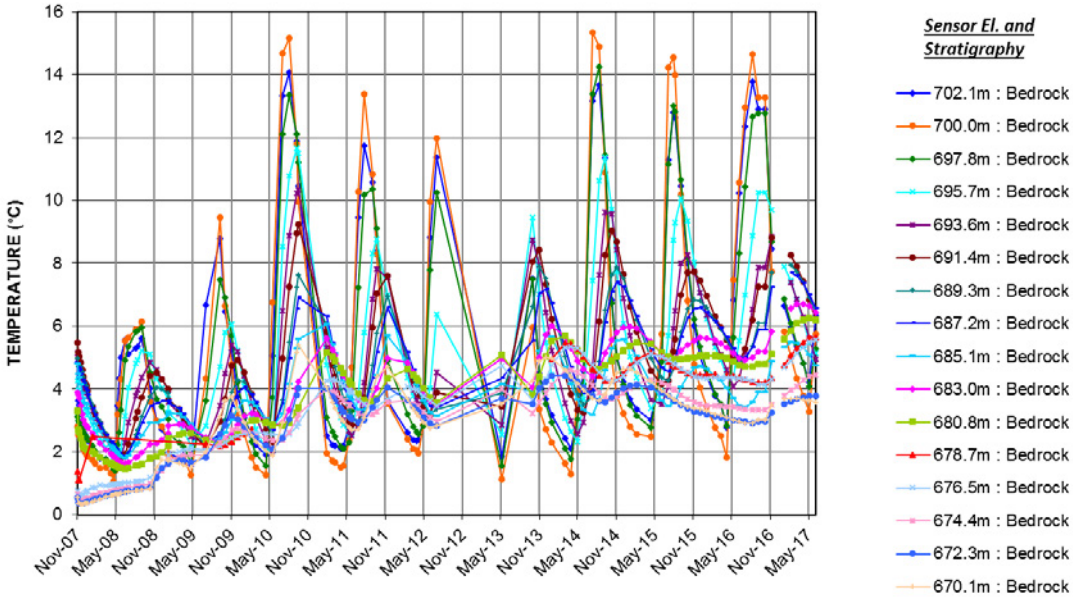
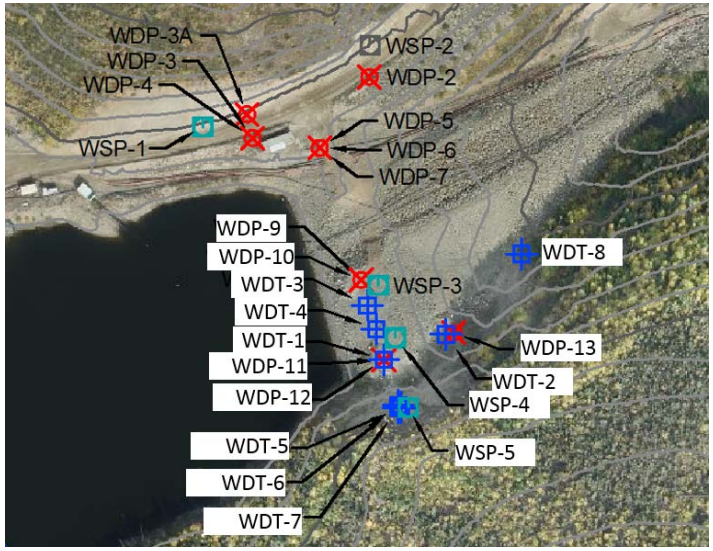
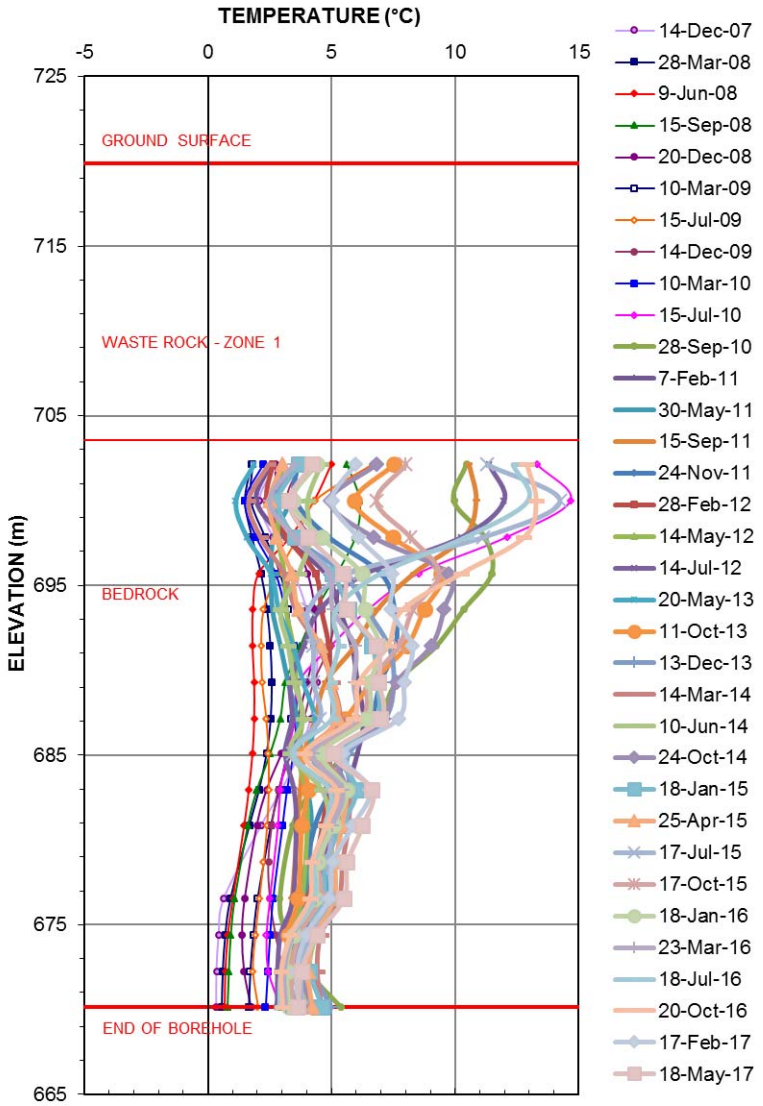
Water Storage Pond Data

Temperature Cable – WDT-3

Job No: 1CM002.059	Minto Mine	Date: August 2017	Prepared by PHM	Figure: 5
Filename: ApH_WaerStoragePond2017.pptx			







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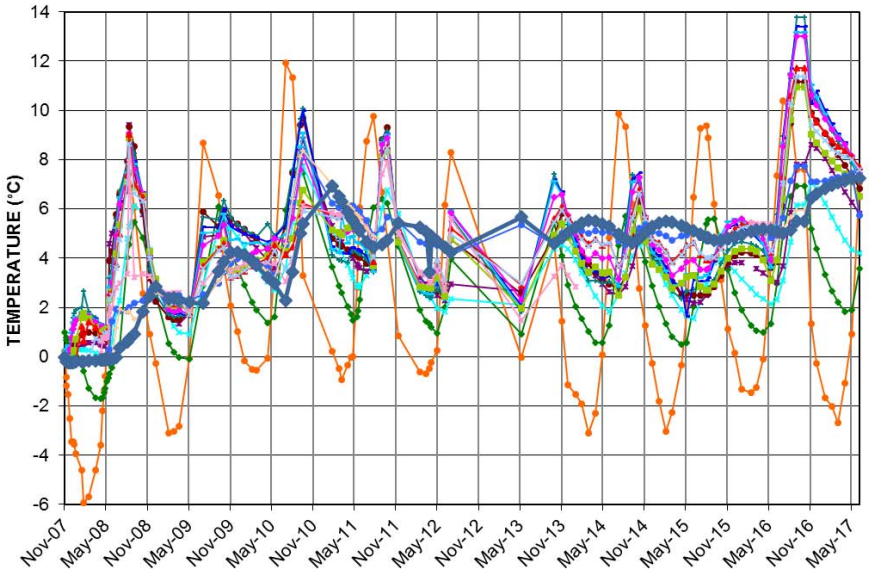
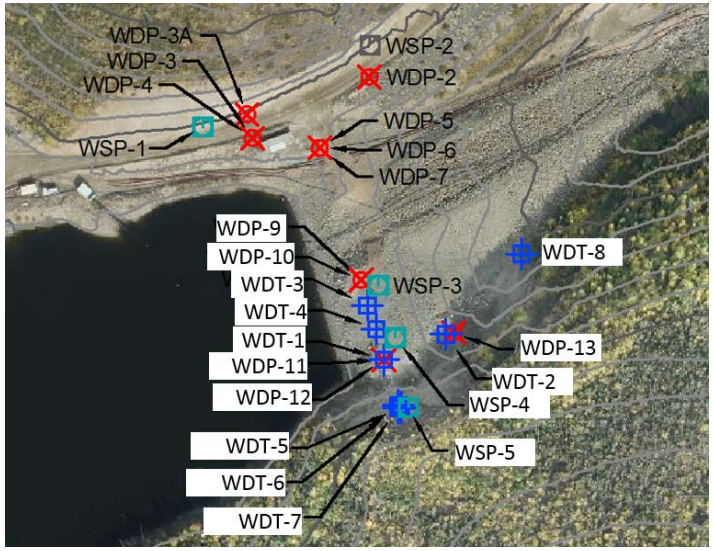
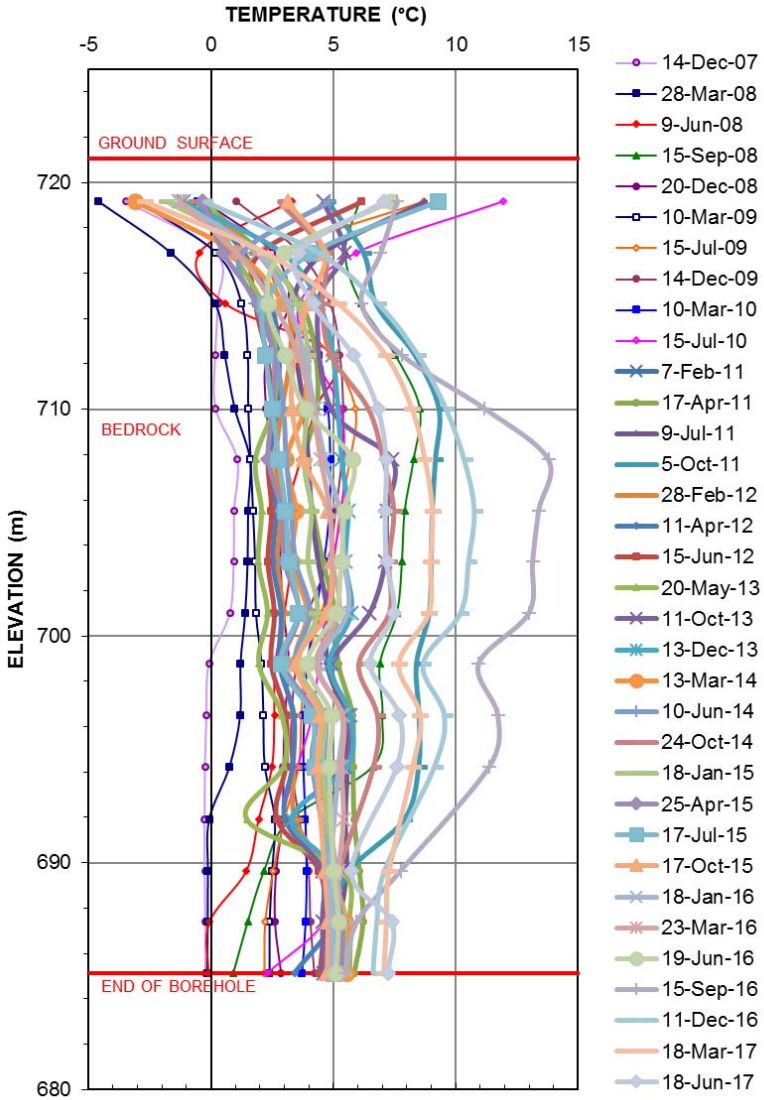
srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	Water Storage Pond Data	
		Temperature Cable – WDT-4	
Job No: 1CM002.059 Filename: ApH_WaerStoragePond2017.pptx	Minto Mine	Date: August 2017	Prepared by PHM	Figure: 6



Sensor El. and Stratigraphy

- 719.2m: Bedrock
- 716.9m: Bedrock
- 714.6m: Bedrock
- 712.4m: Bedrock
- 710.0m: Bedrock
- 707.8m: Bedrock
- 705.5m Bedrock
- 703.3m Bedrock
- 701.0m: Bedrock
- 698.8m Bedrock
- 696.5m Bedrock
- 694.2m Bedrock
- 691.9m: Bedrock
- 689.6m: Bedrock
- 687.4m: Bedrock
- 685.1m: Bedrock





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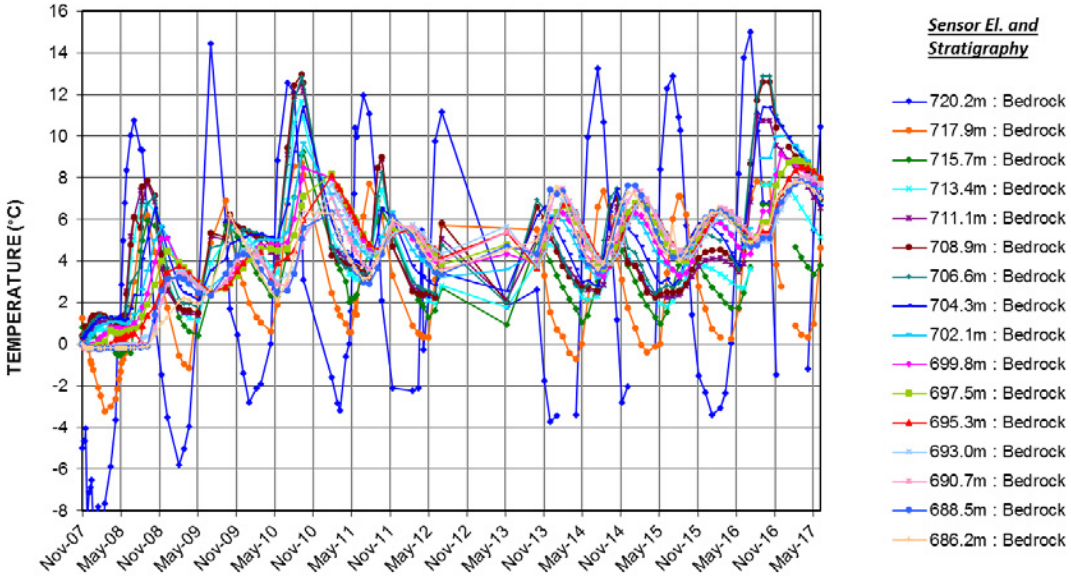
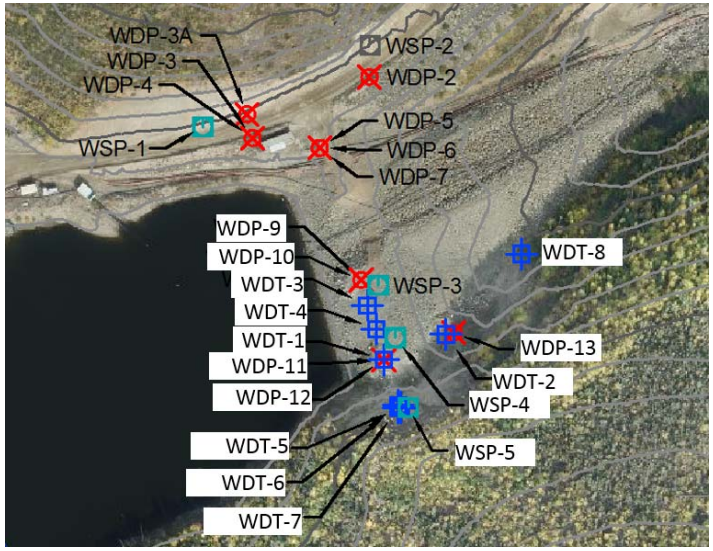
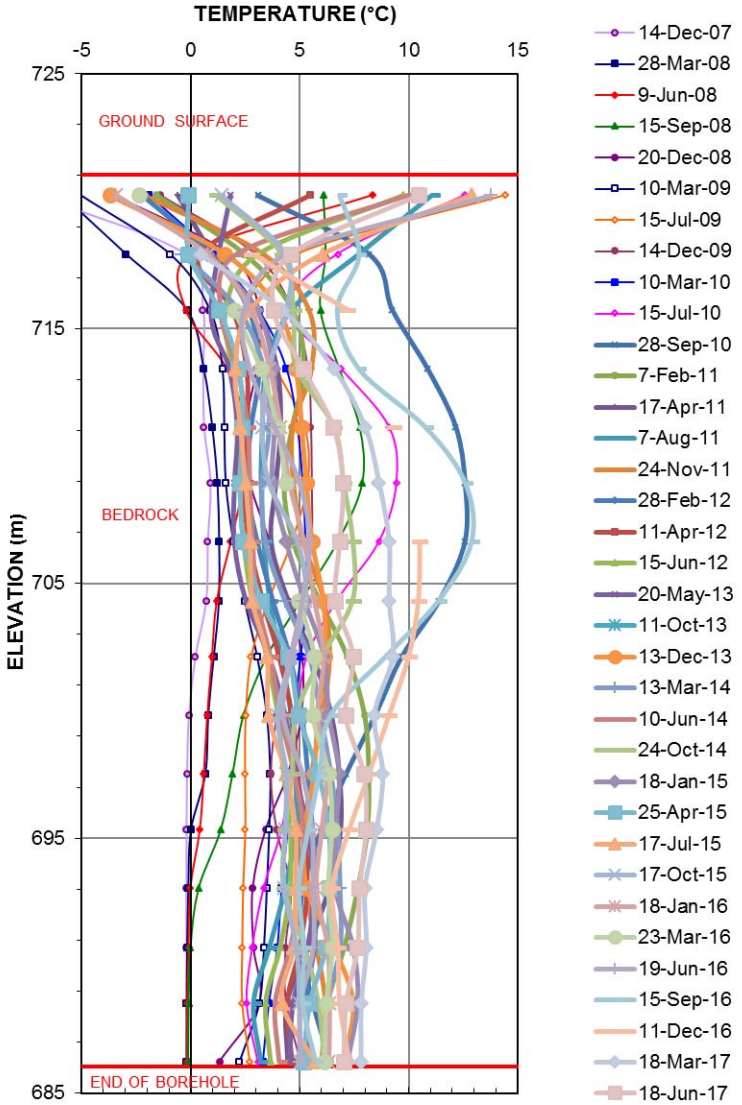
Water Storage Pond Data

Temperature Cable – WDT-5

Job No: 1CM002.059	Minto Mine	Date: August 2017	Prepared by PHM	Figure: 7
Filename: ApH_WaerStoragePond2017.pptx			







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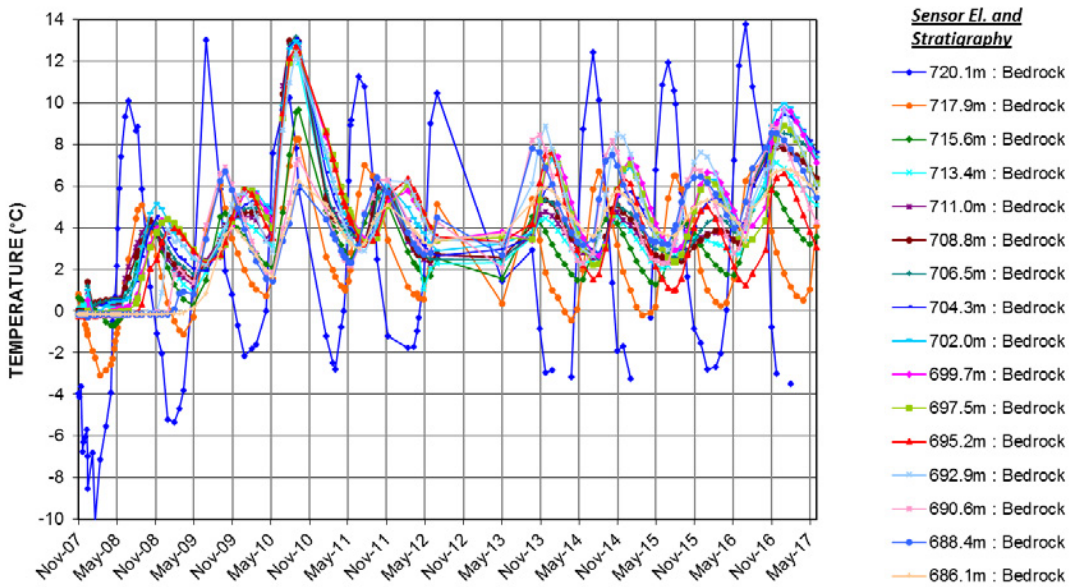
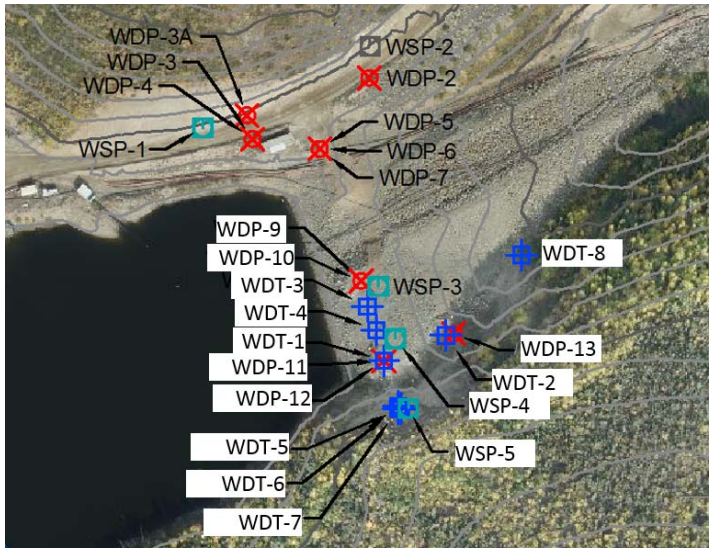
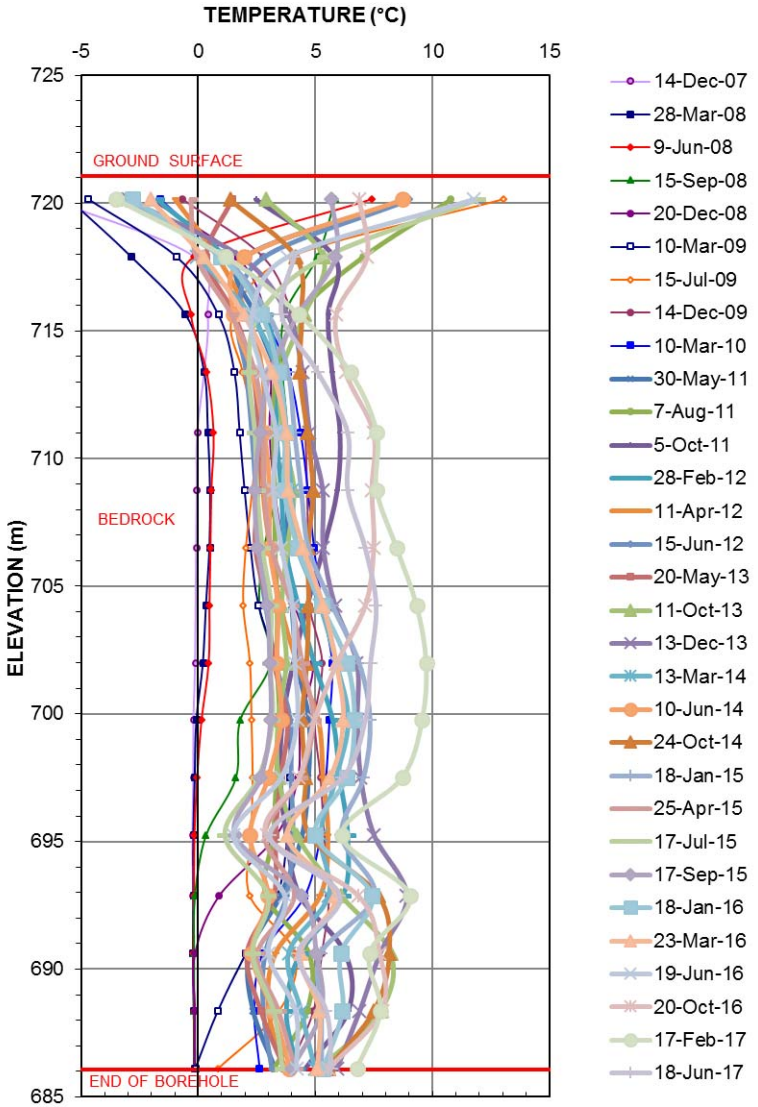
srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	Water Storage Pond Data	
		Temperature Cable – WDT-6	
Job No: 1CM002.059 Filename: ApH_WaerStoragePond2017.pptx	Minto Mine	Date: August 2017	Prepared by PHM	Figure: 8







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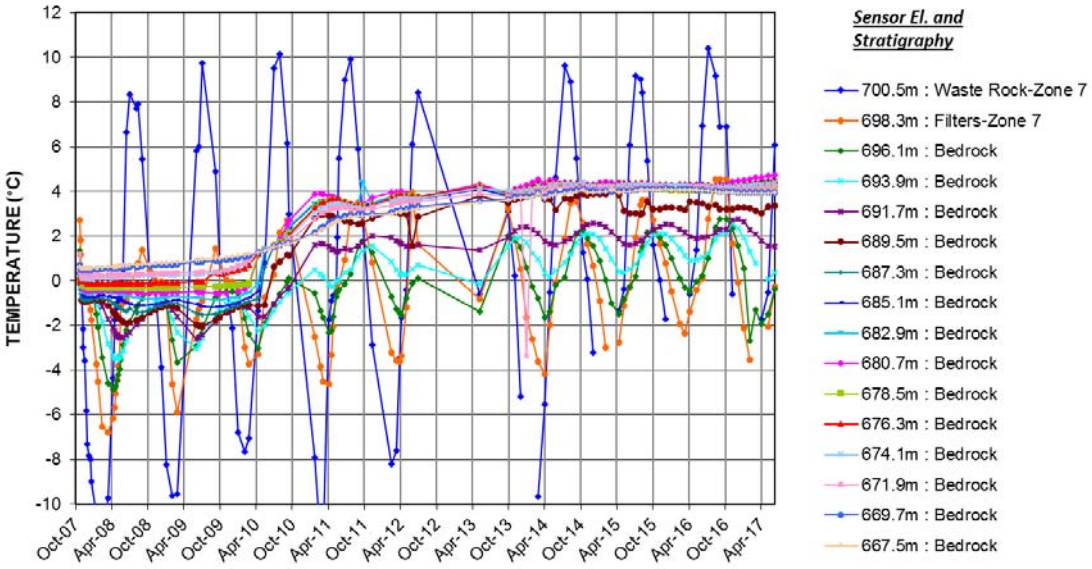
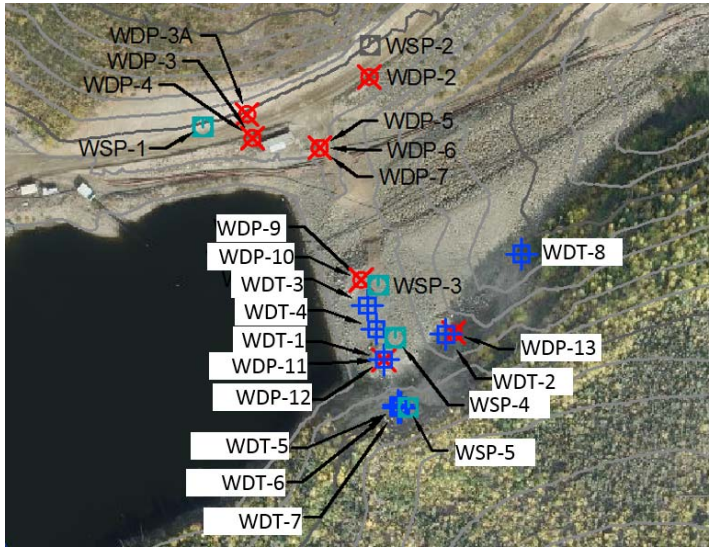
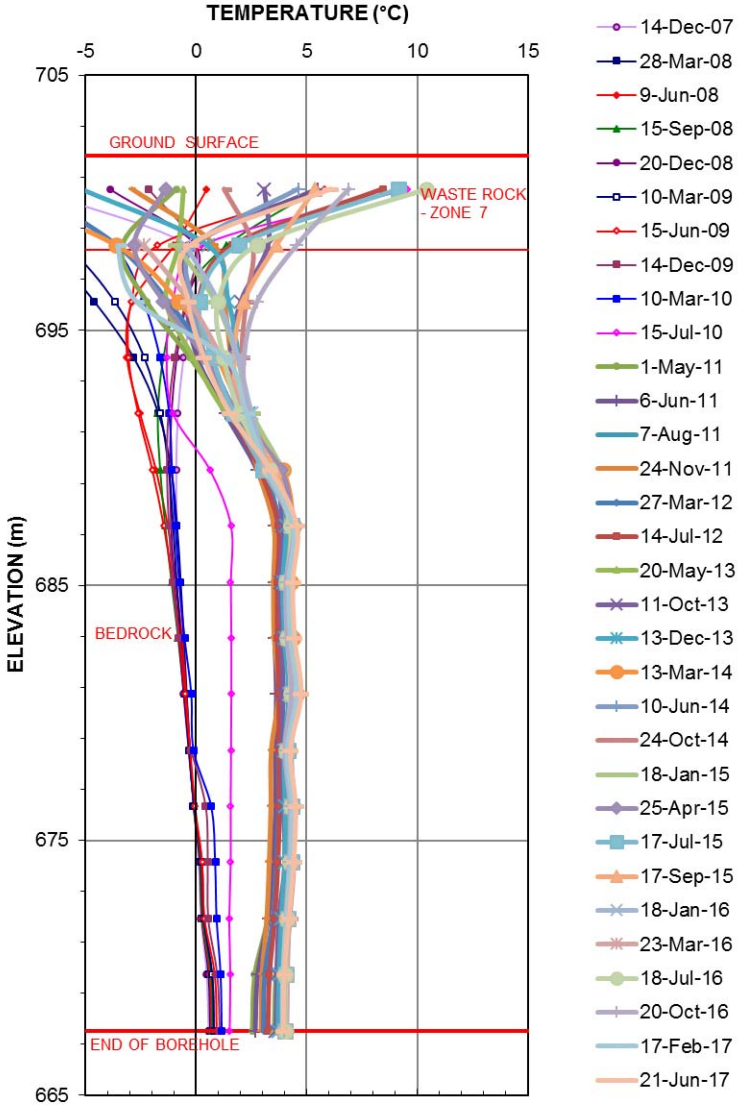
Water Storage Pond Data

Temperature Cable – WDT-7

Job No: 1CM002.059	Minto Mine	Date: August 2017	Prepared by PHM	Figure: 9
Filename: ApH_WaerStoragePond2017.pptx			







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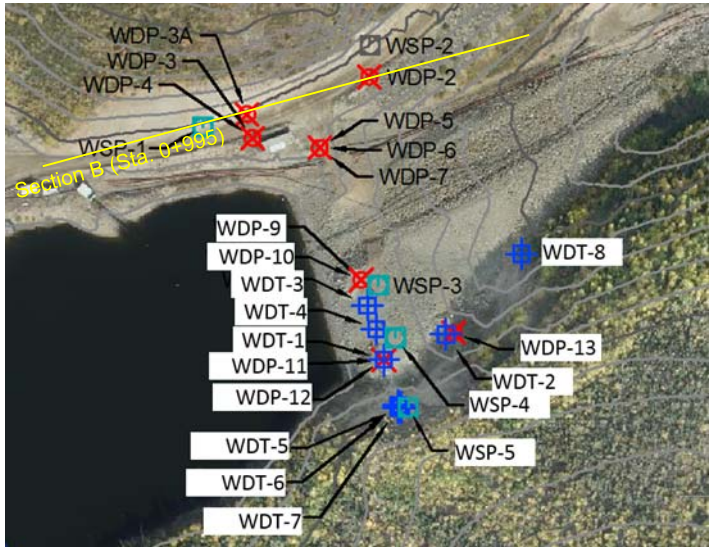
Water Storage Pond Data

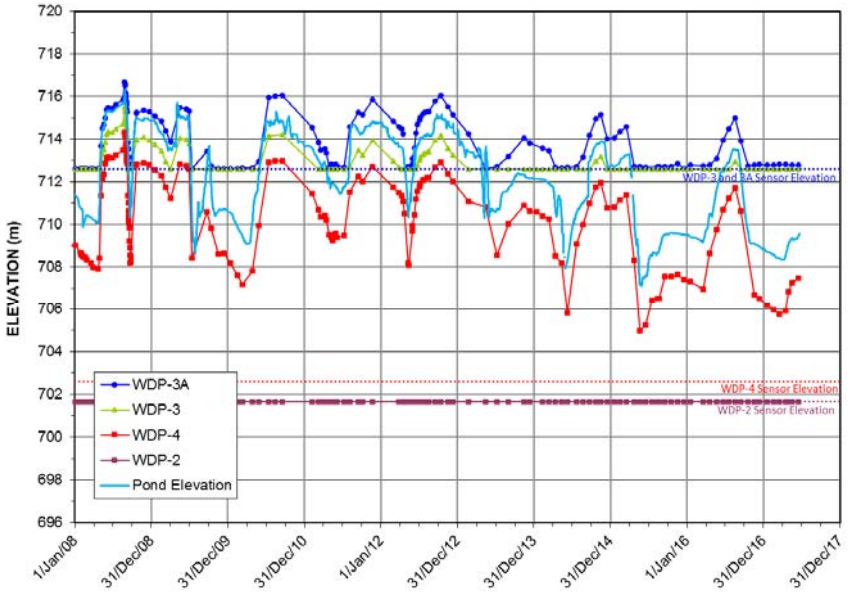
Temperature Cable – WDT-8

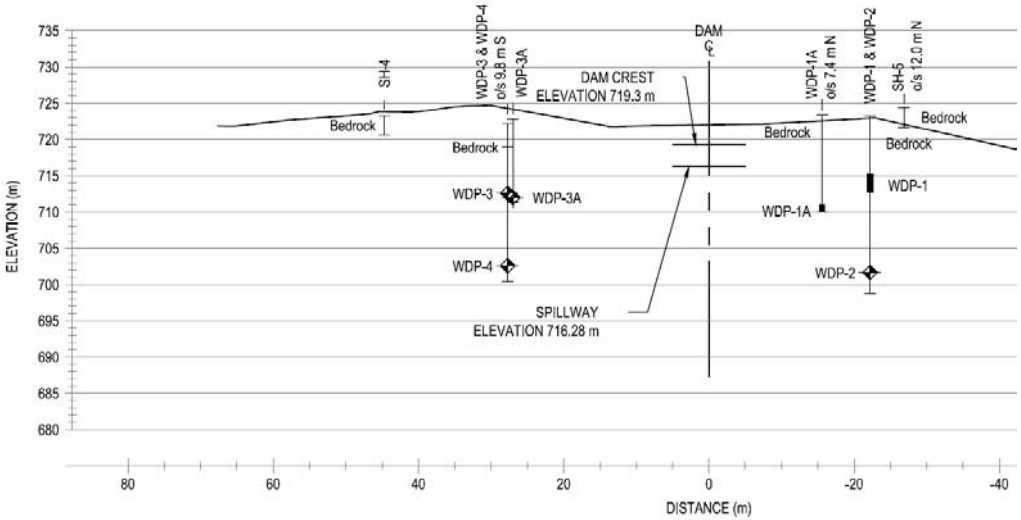
Job No: 1CM002.059
Filename: ApH_WaerStoragePond2017.pptx

Minto Mine

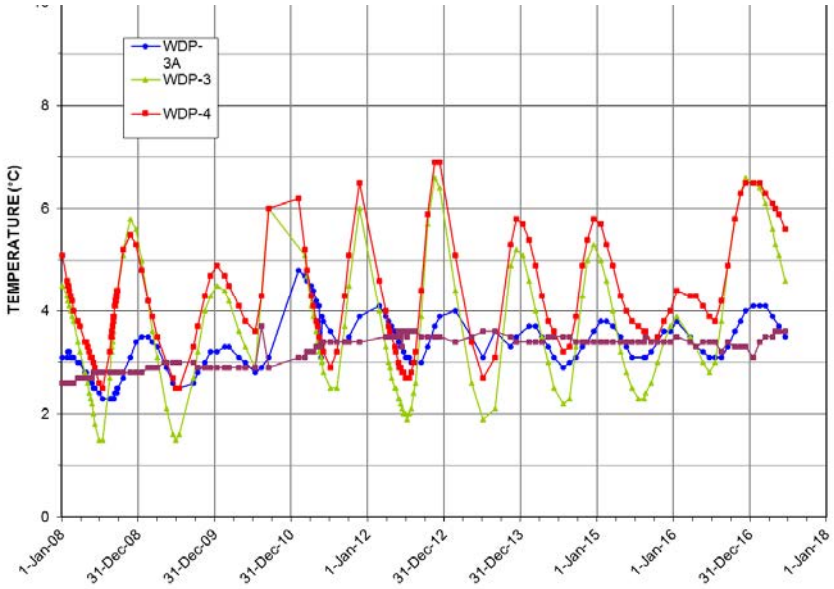
Date:	Prepared by	Figure:
August 2017	PHM	10







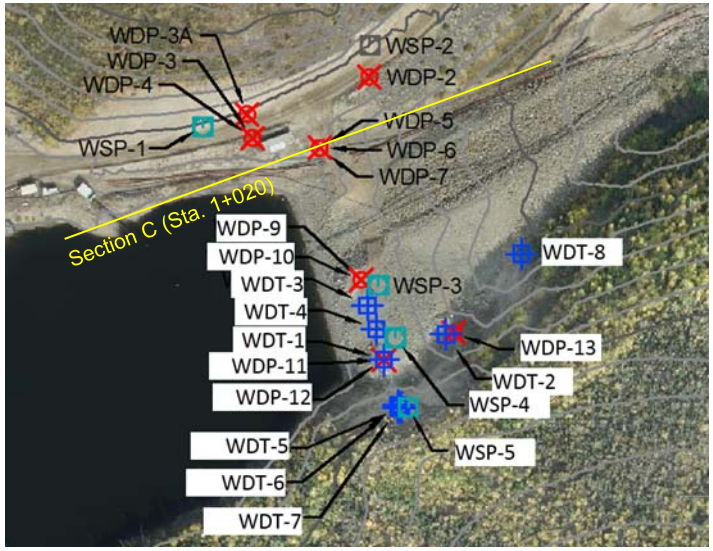
B
5
DAM SECTION B (STATION 0+995)

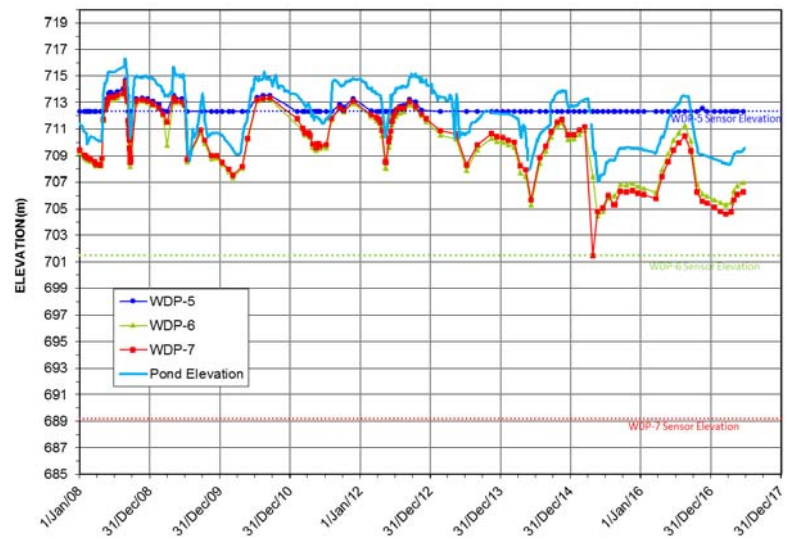


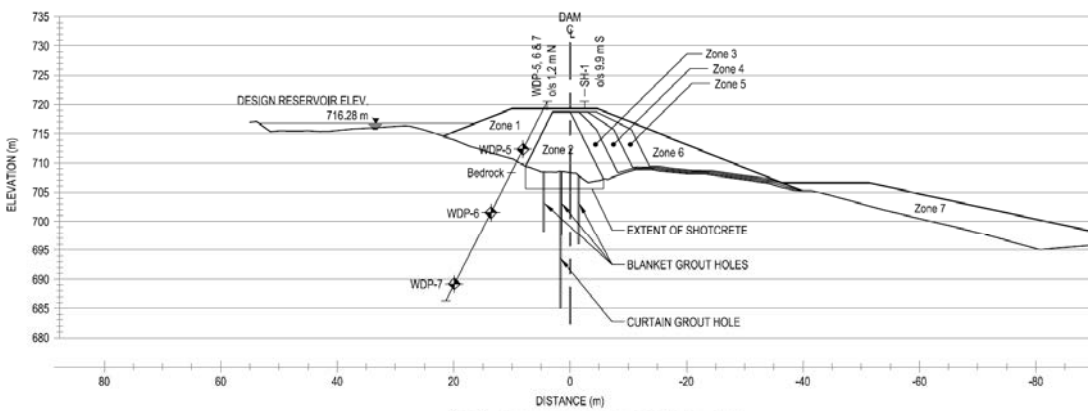
Source files:

1. AutoCAD: \\VAN-SVR0\Projects\01_SITES\Minto\1CM002.050_2016 Geotech Op Support\!040_AutoCAD\1CM002.050-Site Plan Showing Instrumentation.dwg
2. Excel instrumentation data: \\VAN-SVR0\Projects\01_SITES\Minto\!020_Site_Wide_Data\Geotechnical\Geotech Monitoring Data\SRKSet\MintoSWDInstrumentation_SRKSet.xlsm
3. Cross Section B from EBA (2011) report: Water Storage Pond Dam Geotechnical Instrumentation and Seepage Data Review" dated December 23, 2011.

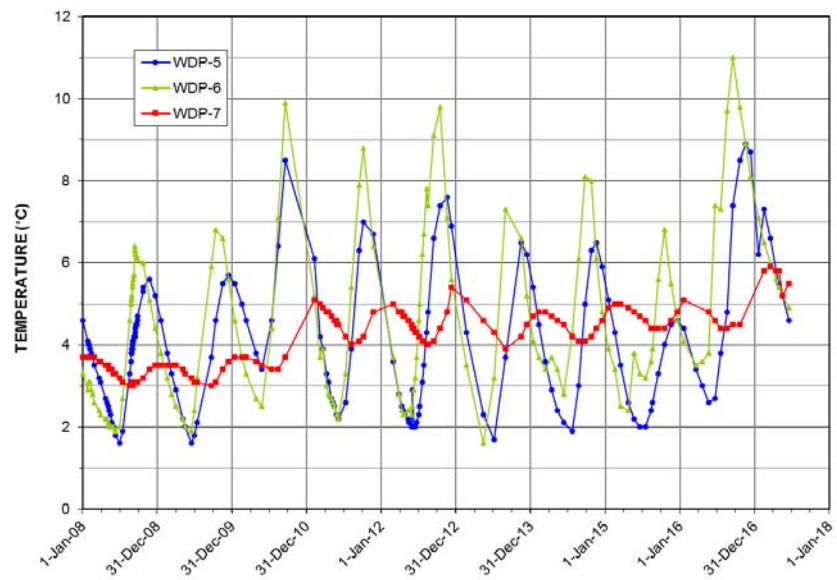
srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	Water Storage Pond Data
		Piezometers – Left Abutment
Job No: 1CM002.059 Filename: ApH_WaerStoragePond2017.pptx	Minto Mine	Date: August 2017 · Prepared by PHM · Figure: **11**







C 5 DAM SECTION C (STATION 1+020)



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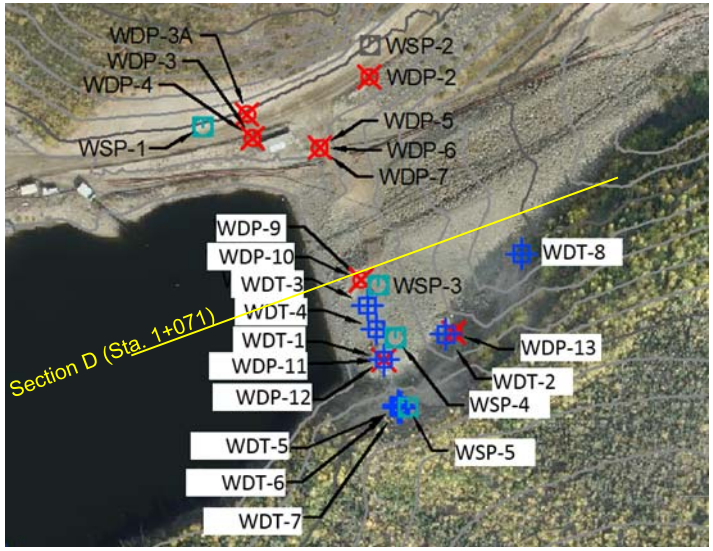
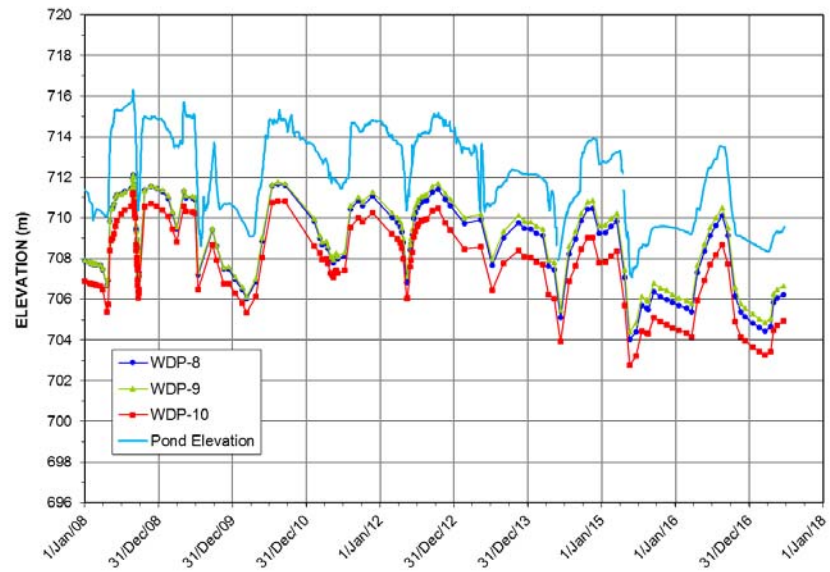
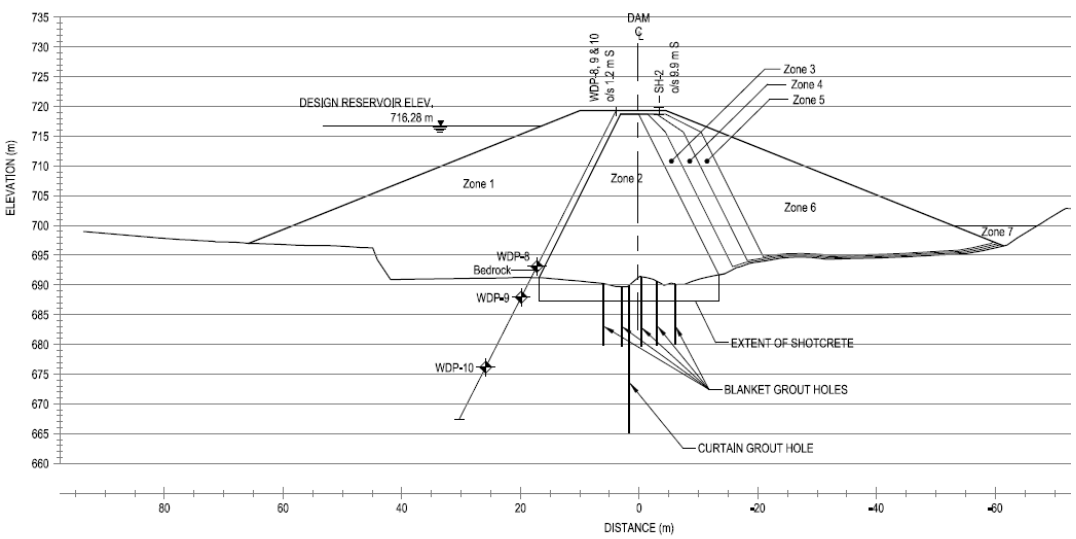
3. Dam section from EBA (2011) report: Water Storage Pond Dam Geotechnical Instrumentation and Seepage Data Review" dated December 23, 2011.

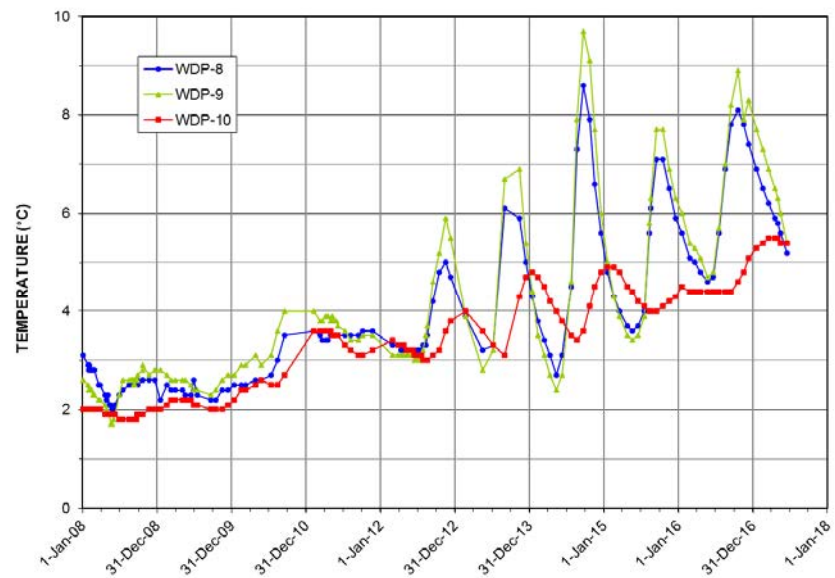
srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	Water Storage Pond Data
		Piezometers – Section C (Station 1+020)
Job No: 1CM002.059	Minto Mine	Date: August 2017 / Prepared by PHM / Figure: 12
Filename: ApH_WaerStoragePond2017.pptx		







D 5 DAM SECTION D (STATION 1+071)



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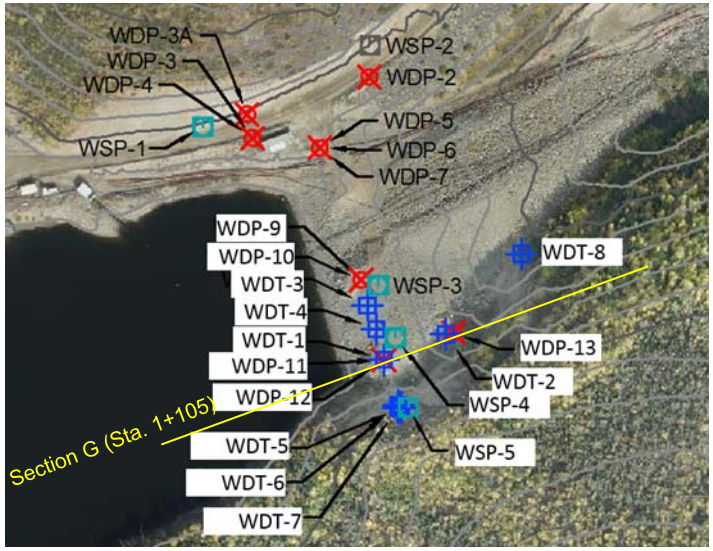
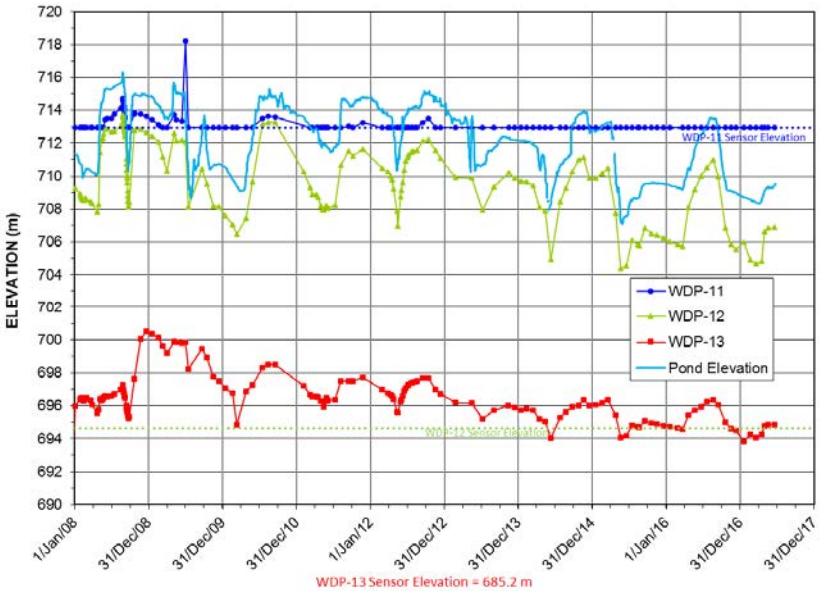
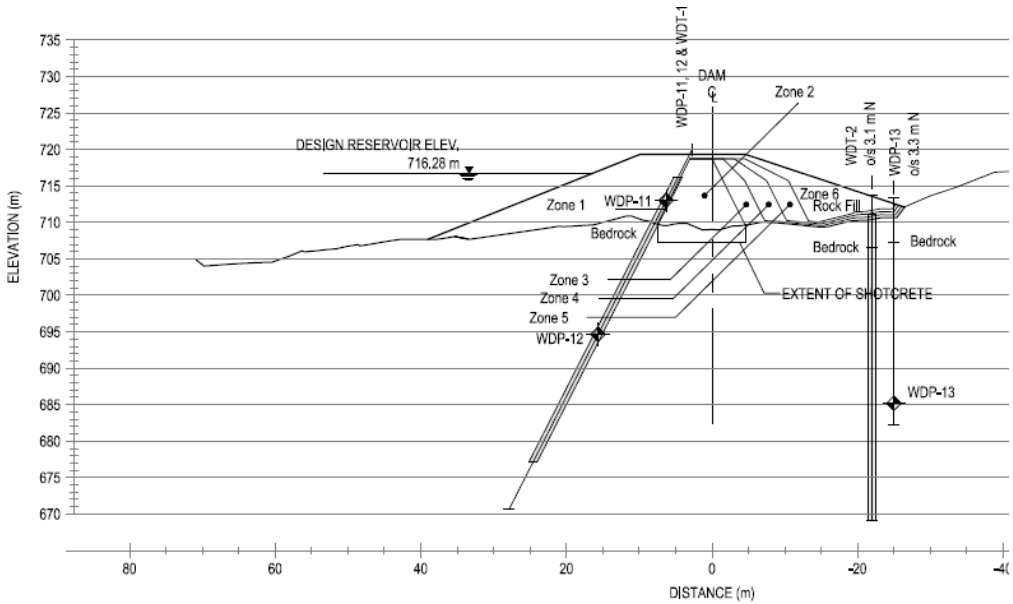
2. Excel instrumentation data: \\VAN-SVR0\Projects\01_SITES\Minto\!020_Site_Wide_Data\Geotechnical\Geotech Monitoring Data\MintoMasterSWDInstrumentation_2016Geotech.xlsm
3. Dam section from EBA (2011) report: Water Storage Pond Dam Geotechnical Instrumentation and Seepage Data Review" dated December 23, 2011.

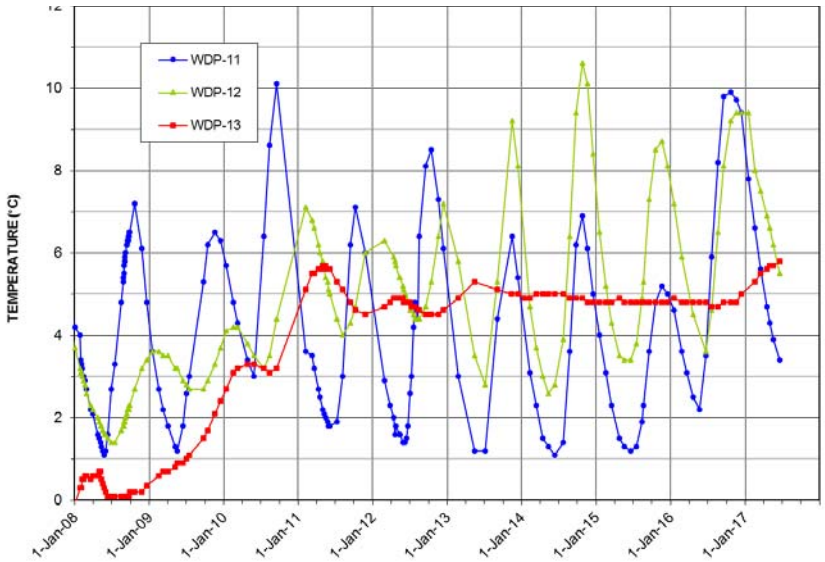
srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	Water Storage Pond Data
		Piezometers – Section D (Station 1+071)
Job No: 1CM002.059 Filename: ApH_WaerStoragePond2017.pptx	Minto Mine	Date: August 2017 · Prepared by PHM · Figure: 13







G/5 DAM SECTION G (STATION 1+105)



Source files:

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3. Dam section from EBA (2011) report: Water Storage Pond Dam Geotechnical Instrumentation and Seepage Data Review" dated December 23, 2011.

srk consulting	capstone MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	Water Storage Pond Data
		Piezometers – Section G (Station 1+105)
Job No: 1CM002.059 Filename: ApH_WaerStoragePond2017.pptx	Minto Mine	Date: August 2017 / Prepared by PHM / Figure: **14**