APPENDIX A

MINTO MINE: PHASE V/VI EXPANSION WATER BALANCE AND WATER QUALITY PREDICTION

Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

Prepared for

Minto Explorations Ltd.

Prepared by

SRK Consulting (Canada) Inc.
1CM002.003
July 2013

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List of Abbreviations

Types of Tests:

HCT	Humidity Cell Test

Acid Base Accounting:

ABA	Acid Base Accounting
NP	Neutralization Potential
AP	Acid Potential
TIC	Total Inorganic Carbon
NP_{TIC}	Neutralization Potential derived from Total Inorganic Carbon content
NP_{BCR}	Neutralization Potential determined by the BC Research Method
NPR	Neutralization Potential Ratio (NP:AP)
NPR_{TIC}	Neutralization Potential Ratio derived from NP_{TIC}:AP
PAG	Potentially Acid Generating
ARD	Acid Rock Drainage
S(T)	Total sulphur
$S(S^{2-})$	Sulphide sulphur
$S(SO_4)$	Sulphate sulphur

Water Quality Predictions:

WLB	Water and Load Balance

Mine Site Facilities:

DSTSF	Dry Stack Tailings Storage Facility
MWD	Main Waste Dump
MWDE	Main Waste Dump Expansion
SWD	Southwest Waste Dump
RWD	Ridgetop Waste Dump
MVF	Mill Valley Fill
MVFE	Mill Valley Fill Expansion

1 Introduction

As part of plans to expand the Minto Mine, Minto Explorations Ltd. (Minto) asked SRK to carry out an assessment of the metal leaching and acid rock drainage (ML/ARD) potential of the waste rock and tailings that will be produced during mining of new deposits. This report covers ML/ARD assessment of the Minto Mine Expansion- Phase V/VI, which consists of open pit mining of near-surface portions of the Area 2, Ridgetop, and Minto North deposits, and underground exploration and mining of related mineralization at greater depths. Finally, this report also describes the derivation of geochemical source terms that have been used in developing Phase V/VI water quality predictions.

2 Background

2.1 Geological Setting

Section 2.1 is adapted from Section 7 of Minto (2012).

2.1.1 Regional Geology

The Minto Project is found in the north-northwest trending Carmacks Copper Belt along the eastern margin of the Yukon-Tanana Composite Terrain, which is comprised of several metamorphic assemblages and batholiths (Figure 1). The Belt is host to several intrusion-related Cu-Au mineralized hydrothermal systems. The Yukon-Tanana Composite Terrain is the easternmost and largest of the pericratonic terranes accreted to the Paleozoic northwestern margin of North America (e.g., Colpron et al., 2005). It is regarded to be the product of a continental arc and back-arc system, preserving meta-igneous and metasedimentary rocks of Permian age on top of a pre-Late Devonian metasedimentary basement (e.g., Piercey et al. 2002).

The Minto Property and surrounding area are underlain by plutonic rocks of the Granite Mountain Batholith (Early Mesozoic Age) (Figure 2) that have intruded into the Yukon-Tanana Composite Terrain. They vary in composition from quartz diorite and granodiorite to quartz monzonite. The batholith is unconformably overlain by clastic sedimentary rocks thought to be the Tantalus Formation and andesitic to basaltic volcanic rocks of the Carmacks Group. Both are assigned a Late Cretaceous age. Immediately flanking the Granite Mountain Batholith to the east is a package of undated mafic volcanic rocks which outcrop in the banks of the Yukon River. The structural relationship between the batholith and the undated mafic volcanics is poorly understood because the contact zone is not exposed.

2.1.2 Property Geology and Lithological Description

Much of the geological understanding of the rock around the Minto deposits is based on observations from diamond drill core and extrapolation from regional observations. The reason for this is poor outcrop exposure(less than 5% coverage), as well as the deep weathering and oxidation of the exposed outcrop. The terrain was not glaciated during the last ice age event.

The hypogene copper sulphide mineralization at Minto is hosted wholly within the Minto pluton, which intrudes near the boundary between the Stikinia and Yukon-Tanana terrains, however since the contact is not exposed it is unclear if the pluton stitches the two terrains. The Minto pluton is predominantly of granodiorite composition. Hood et al. (2008) distinguish three varieties of the intrusive rocks in the pluton. The first variety is a megacrystic K-feldspar granodiorite. It gradually ranges in mineralogy to quartz diorite and rarely to quartz monzonite or granite, typically maintaining a massive igneous texture. An exception occurs locally where weakly to strongly foliated granodiorite is seen in distinct sub-parallel zones several metres to tens of metres thick.

A second variety of igneous rock is a folded quartzofeldspathic gneiss with centimeter-thick compositional layering and folded by centimetre to decimetre-scale disharmonic, gentle to isoclinal folds (Hood et al., 2008). The third variety of intrusive is a biotite-rich gneiss. Minto geologists consider all units to be similar in origin and are variously deformed equivalents of the same intrusion.

Copper sulphide mineralization is found in the rocks that have a structurally imposed fabric, ranging from a weak foliation to strongly developed gneissic banding. For this reason all core logging by the past and present operators separates the foliated to gneissic textured granodiorite as a distinctly discernable unit. It is generally believed by Minto geologists that this foliated granodiorite is the variably strained equivalent of the two primary granodiorite textures and not a separate lithology.

The contact relationship between the foliated deformation zones and the massive phases of granodiorite is generally very sharp. These contacts do not exhibit chilled margins and are considered by Minto geologists to be structural in nature, separating the variably strained equivalents of the same rock type. Tafti and Mortensen (2004) had interpreted the sharp contacts to be zones of deformed rock within the unfoliated rock (i.e rafts or roof pendants). Supergene mineralization occurs proximal to near-surface extensions of primary mineralization.

Conglomerate and volcanic flows have been logged in drill core by past operators. New drilling has confirmed the presence of conglomerate, but not the volcanic flows. The latter cannot be confirmed by the authors as the drill core from historic campaigns was largely destroyed in forest fires and no new drilling has intersected such rocks. However, undated volcanic rocks are mapped by Hood, near the southwest margin of the property, south of a fault that is inferred from geophysics to separate them from the Jurassic Age intrusive rocks. The conglomerate has been dated (unpublished date pers. com. Dr. Maurice Colpron- Yukon Geological Survey) as Cretaceous Age. It is now recognized as an outcrop within a borrow pit exposure located west of the airstrip as well as in numerous recent drill holes. Observations of foliated and even copper mineralized cobbles in drilling indicate that “Minto-type” mineralization was exposed, eroded and reincorporated in sedimentary deposits by the Cretaceous Age.

Other rock types, albeit volumetrically insignificant, include dykes of simple quartz-feldspar pegmatite, aplite; and an aphanitic textured intermediate composition rock. Bodies of all of these units are relatively thin and rarely exceed the one meter core intersections. These dykes are relatively late, and observed contact relationships suggest they generally postdate the peak ductile deformation event; however some pegmatite and aplite bodies observed in a rock cut located north of the mill complex are openly folded.

It is unclear if this folding is contemporaneous with foliation development in the deformed rocks or post-dates the foliation development. Observations from drill core and open cut benches in the mine show examples where the foliation and the pegmatitic/aplitic intrusions are both folded, as well as examples where the intrusions are not folded, suggesting two populations of minor dykes.

2.1.3 Veining

Veins in the Minto Deposit appear to have been emplaced after the copper sulphide mineralization and are therefore not economically significant. The most common veins are very narrow (less than 30 cm) steeply dipping, simple quartz-feldspar pegmatite veins that often contain cavities that are indicative of shallow emplacement. The veins crosscut foliation in the deformation zones and the sulphide mineralization, and this cross-cutting is interpreted to be evidence of their post-sulphide mineral emplacement. Other types of late veins found in the deposit include thin (less than 2 mm) calcite, epidote, hematite and gypsum stringers, and fracture coatings. Quartz veining is extremely rare and economically insignificant.

2.2 Deposit Types

Section 2.2 is adapted from Section 8 of Minto (2012).

The host rocks to the Minto deposit were emplaced in a deep batholitic setting (exceeding 9 km deep to perhaps as much as 18-20 km deep), which is not considered to be the typical porphyry environment. The host is a moderately oxidized magma (Tafti and Mortensen, 2004) with widespread iron oxide (magnetite and hematite) mineralization. At least some of the hematite is supergene in origin but it is unclear if some hematite is also primary. There are very strong structural controls on ore mineral emplacement and there is no apparent genetic link to a specific phase of intrusion. Typical porphyry-type alteration zoning such as widespread propylitization, argillization, barren silicic core, or large barren pyritic halo are not recognized. Stockwork style, fracture or vein mineralization is also not present.

Minto geologists have been advised (in personal communications) that some examples of IOCG mineralization exhibit some similar characteristics and setting to Minto including Copperstone in Arizona, Candelaria in Chile, and Ernest Henry in Australia (Williams et al., 2005). From a genetic and structural prospective, albeit not size wise, the Sossego Deposit in Brazil may be a reasonable analog. While an IOCG origin for the Minto Deposit cannot be unequivocally demonstrated, Minto geologists are of the opinion that this style of deposit provides the most consistent model for their current level of understanding. However, the unique nature of this mineralization style and apparent lack of close analogs elsewhere suggests the Minto Copper-Gold deposits may represent an unrecognized mineral deposit type.

2.3 Mineralization

Section 0 is adapted from Section 7 of Minto (2012).

2.3.1 Mineralization

The Minto deposits have essentially no surface exposure with the exception of minimal exposure in historical trenches of the shallow partially oxidized zones associated with the Ridgetop deposit. Observations for the deposits are therefore based almost entirely on hand-specimen and petrographic studies of drill core. The primary hypogene sulphide mineralization consists of chalcopyrite, bornite, euhedral chalcocite, and minor pyrite. Metallurgical testing also indicates the presence of covellite, although this sulphide species has never been positively logged macroscopically. Texturally, sulphide minerals predominantly occur as disseminations and foliaform stringers along foliation planes in the deformed granodiorite (i.e. sulphide stringers tend to follow the foliation planes). However, sulphide mineral content tends to increase where this foliation is disrupted by intense folding. In addition, semi-massive to massive mineralization is also observed; this style of mineralization tends to obliterate the foliation altogether. Silver telluride (hessite) is observed in polished samples but has not been logged macroscopically. Native gold and electrum have both been reported as inclusions within bornite and accounts for the high gold recoveries in test copper concentrates. Occasionally, coarse free gold is observed associated with chloritic or epidote lined fractures that cross-cut the sulphide mineralization. The free gold may be due to secondary enrichment during a later hydrothermal process overprinting the main copper sulphide-gold event. Sulphide mineralization is almost always accompanied by variable amounts of magnetite mineralization and biotite alteration. While these minerals occur in the non-deformed rocks they are present in the mineralized horizons in a much greater abundance in the range of an order of magnitude greater than background.

The Minto Main deposit exhibits crude zoning from west to east. The bornite zone is dominant in the west while a thicker, lower grade chalcopyrite zone is dominant on the east side of the deposit. The bornite zone is defined by the metallic mineral assemblage magnetite-chalcopyrite-bornite. Bornite mineralization is conspicuous, but chalcopyrite is the dominant sulphide species. Stringers and massive lenses of chalcopyrite with various quantities of bornite are typical. Massive mineralization occurs locally over intervals exceeding 0.5 m in thickness and semi-massive mineralization over several metres in thickness may occur. In these sulphide rich areas, textures often resemble those seen in magmatic sulphide zones with sulphide mineralization interstitial to the rock forming silicate minerals. The higher grade portion of the Minto Main deposits roughly corresponds to the bornite zone. Local concentrations of bornite of up to 8% are seen. The precious metal grades are elevated in the bornite zone (very fine gold and electrum occur as inclusions in bornite) and occurrences of coarse grained native gold are noted almost exclusively in bornite-rich material. The chalcopyrite zone is characterized by the metallic mineral assemblage of chalcopyrite-pyrite ± very minor bornite and magnetite.

Empirical observations indicate the highest concentrations of bornite are associated with coarse grained, disseminated and stringer-style magnetite mineralization, up to 20% by volume locally. The stringers of magnetite are often folded or boudinaged, suggesting that at least some of the magnetite mineralization predates peak ductile deformation.

Sulphide mineralization on the other hand, shows both evidence and absence of ductile deformation locally and is interpreted to have formed contemporaneous with, or late in the ductile deformation history.

The Minto North and Minto East Deposits also exhibit a zoning from west to east. High-grade bornite-dominant mineralization is observed in the west with lower grade chalcopyrite-dominant mineralization in the east. The bornite zone is defined by the metallic mineral assemblage bornite-magnetite-chalcopyrite. Bornite mineralization occurs as strong disseminations and foliaform stringers locally >10% to occasional semi-massive to massive lenses up to 2 m in thickness. Chalcopyrite concentrations are typically within the 1 to 2% range, but locally can reach concentrations of 10%. Precious metal grades are elevated in the bornite zone, and visible gold has been observed on occasion.

Mineralization at the Area 2/118/Copper Keel resource sub-domains is distinct in that mineralization is predominantly disseminated (plus occasional foliaform stringers) and that semimassive to massive sulphide mineralization is absent; as a whole, the mineralization is more homogenous and consistent as compared to Minto Main and Minto North. The primary mineral assemblage in the Area 2/118/Copper Keel resource sub-domains includes chalcopyrite-bornite-magnetite with minor amounts of pyrite; and a crude zoning is present in that the higher grade northern half of the Minto South Deposit shows increased bornite concentrations up to 8% locally.

Mineralization at both the Ridgetop deposit and the Wildfire resource sub-domain are subdivided into the near surface horizons that have been affected by supergene oxidation and the more typical primary sulphide mineralization of the deeper zones. The lower zones are defined by a mineral assemblage of chalcopyrite-magnetite with minor amounts of pyrite. Chalcopyrite is the dominant sulphide in the lower zones, and bornite is only observed in minor amounts. Texturally, chalcopyrite occurs as disseminations and foliaform stringers, and is rarely observed as semimassive to massive bands. Magnetite is coarse grained, disseminated, stringer-style, and can occur in bands up to 0.3 m in thickness, up to 20% volume locally.

These empirical observations of bornite/chalcopyrite relative abundances are supported by a copper and gold grade trend in mineral resources discovered to date where the Ridgetop deposit and the southern extent of the Minto South Deposit sit at the lower grade southern end and Minto North sits at the much higher grade northern end of the currently defined trend.

2.3.2 Alteration, Weathering and Oxidation

Pervasive, strong potassic alteration occurs within the flat lying zones of mineralization, and is the predominant alteration assemblage observed in all of the Minto deposits. The potassic alteration assemblage is characterized by elevated biotite content and minor secondary k-feldspar overgrowth on plagioclase relative to the more massive textured country rock. Biotite concentrations range up to 30 to 70% by volume locally, compared to about 5 to 8% in waste rock. Additional alteration includes the replacement of mafic minerals by secondary chlorite, epidote, or sericite observed both in mineralized and waste rock interstitially or fracture/vein proximal, as well as variable degrees of hematization of feldspars. Uncommon but locally pervasive sericite-muscovite alteration is observed associated with post-mineral brittle faults; this type of alteration is most common within the Area 2/118 resource sub-domains.

Hematization is the most pervasive at the Minto Main deposit proximal to the DEF fault, whereas in the other deposits it is predominantly fracture controlled within narrow alteration selvages. It is interpreted to be supergene in origin. Minor carbonate overprint is occasionally observed associated with secondary biotite. The contacts between the altered and unaltered rocks are sharp, as are the contacts between mineralized rocks and waste rocks.

Silicification is present but not pervasive nor uniform in distribution in the Minto deposits. At Minto Main, Minto East, and Minto North it is sporadic within the bornite zone (west) and lacking in the chalcopyrite zone (east). Within the Area 2/118/Copper Keel resource sub-domains, silicification intensity is variable in all ore zones. On rare occasions, silicification is pervasive enough to almost entirely overprint both primary and deformation textures (Area 2) while it is essentially absent at Ridgetop and Wildfire. The relationship between silicification and the mineralization is unclear due to inconsistent core logging over three decades, although in most cases higher grade sulphide mineralization is coincident with silicification.

Copper oxide mineralization, like the hematization seen at surface in float, trenches, and in the upper mineralized zones at Ridgetop and Wildfire is the result of supergene oxidation processes. This near surface mineralization represents either the erosion remnants of foliated horizons that are located above the deposits or is vertical remobilization of copper up late brittle faults and fracture zones that intersect primary sulphide mineralization at depth. Chalcocite is the prime mineral in these horizons along with secondary malachite, minor azurite, and rare native copper. The mineralization is found as fracture fill and joint coatings and more rarely interstitial to rock forming silicate minerals.

At the Ridgetop deposit and the Wildfire resource sub-domain, the upper near surface mineralized zones are unique in that the dominant oxide facies mineral is the sulphide chalcocite rather than chalcopyrite or bornite, and it is believed to be a secondary supergene enrichment associated with a paleo water table, or fault proximal oxidation via circulating groundwater. Minor malachite, azurite, remnant chalcopyrite-bornite, and native copper are also present within these near-surface mineralized zones.

Cobbles and pebbles of this supergene chalcocite mineralization in Cretaceous age (unpublished data) conglomerate that unconformably overlies the plutonic rocks of the Granite Mountain Batholith indicate that the upper parts of the Minto System were on surface and being partially oxidized and eroded in the Late Cretaceous.

In addition to the obvious copper oxide minerals, oxidation is also evident by pervasive iron staining (limonite), earthy hematite, clay alteration of feldspars, and a significant loss in bulk density. The degree and distribution of copper oxide minerals appears to be directly related to the depth of the water table. For the most part this is confined to about -30 m (but up to -90 m) beneath the surface and is generally sub parallel with the present topographic surface. The Minto Main zone has experienced relatively little oxidation since it is generally more than 60 m below the surface except at its southern end where it crops out directly beneath unconsolidated overburden in the Minto Creek Valley. Very locally this oxidation may be drawn deeper along late brittle faults cutting primary sulphide mineralization.

2.4 Exploration and Mining History

2.4.1 Pre-production Exploration

The Minto deposit was first identified during the 1970s through exploration that followed up on a stream sediment anomaly in Minto Creek. Drilling by several operators was carried out during the 1970s, ‘80s, and ‘90s, and resulted in the definition of the Minto deposit as a mineable resource.

2.4.2 Initial Phase of Production

The permit to mine the deposit was granted in 1995, and construction began in 1997 only to be halted by an extended period of low copper prices. Minto re-started mine construction in 2005 and commenced production in 2007.

Mining in the Main Pit was carried out by conventional truck and shovel methods. Waste rock was placed initially in the Main Waste Dump (MWD), and later in the Southwest Waste Dump (SWD). Overburden was placed in the Overburden Stockpile. Stockpiles of low grade ore and mixed oxide/sulphide ore were stored in the Blue Stockpile and the Oxide Stockpile, respectively, adjacent to and east of the MWD and west of the Main Pit. All of the stockpiles and dumps noted above are located upgradient of the Main Pit. Ore processing consisted of crushing, grinding and froth flotation. Tailings were dewatered through filtration, hauled, placed and roller-compacted in the Dry Stack Tailings Storage Facility (DSTSF) located southeast (and downgradient) of the Main Pit.

2.4.3 Exploration During Production

Exploration by Minto in the time since construction recommenced in 2005 has identified a number of mineable deposits within the Minto claim block, as well as several prospects that remain the subject of further evaluation. Deposits that have been demonstrated to contain economic reserves to date include Area 2, Area 118, Copper Keel, Wildfire, Ridgetop, Minto East and Minto North. Planning has proceeded to the point that expansion to extract portions of the Area 2 and Area 118 deposits is authorized under the Phase IV expansion. The Phase V/VI expansion proposal (for which this document provides supporting information) seeks authorization to develop additional resources from the Area 2/ Area 118 deposits and to put Copper Keel, Wildfire, Ridgetop, Minto East and Minto North into production.

2.4.4 Phase IV Overview

The Phase IV expansion received final regulatory authorizations in 2012, and the Phase IV mine plan is a key input into the process of planning the next phase of expansion (Phase V/VI). Although the remaining portion of the Phase IV plan will merge with the Phase V/VI mine plan on receipt of Phase V/VI authorizations (thereby make the discrete distinction between Phase IV and Phase V/VI somewhat artificial), it is nevertheless useful to describe selected components of the Phase IV mine plan in advance of the overview of the Phase V/VI.

The Phase IV site components that relate to the management of Phase V/VI waste rock and overburden are shown on the Phase IV plan of arrangement (Figure 3) and briefly described here.

Mill

The mill is located on the north side of the Minto Creek valley east of Main Pit and west of the camp. The mill processes stockpiled and run-of-mine ore at a nominal rate of 3850 tonnes per day and produces slurry tailings that are discharged to Main Pit.

Main Pit

The Main Pit is centered in the Minto Creek valley west of the mill area. It hosted the Minto deposit, which was the first deposit mined at the Minto Mine. Mining in the Main pit ended in April 2011. The tailings management plan for Phase IV entails filling the Main Pit with slurry tailings, the deposition of which began on November 1, 2012.

Area 2 Pit

The Area 2 Pit is located south of the mill area and southeast of the Main Pit. As part of the Phase IV mine plan, the pit is mined in two stages, the first of which was started in April 2011. The second stage, and the final one approved as part of Phase IV, pushes back the walls and deepens the pit; it is expected to be completed in Q1 2014. Once open pit mining of Area 2 Stage 2 is complete, it is scheduled to receive slurry tailings under the final stages of the Phase IV mine plan.

Area 118 Pit

The Area 118 pit is a small pit that is scheduled to be the final open pit mining under the Phase IV mine plan. It will be located uphill and southwest of the Area 2 Stage 2 pit, and is scheduled to be backfilled with waste rock as part of the Phase IV reclamation activities.

Main Waste Dump (MWD)

The MWD is located west of the Main pit, and was the first waste rock storage facility constructed at Minto. The MWD contains waste rock from the initial phases of mining in the Main pit, and is at its original design capacity.

Southwest Waste Dump (SWD)

Construction of the SWD began in March 2009; it has received waste rock continuously since that time, initially from the final stages of mining of the ` pit, and later from mining of Area 2 pit (Stage 1 and Stage 2). Expansions of the dump's height and footprint were permitted as part of Phase IV.

Dry Stack Tailings Storage Facility (DSTSF)

The DSTSF received the mine's tailings output until the licensing of Phase IV authorized Minto to begin using the completed Main pit for tailings storage. Tailings placement in the DSTSF ended on October 31, 2012. The DSTSF contains all tailings from milling of Main pit ore as well as tailings from approximately seven months of milling of Area 2 ore.

Mill Valley Fill Extension (MVFE)

This dump is located at the toe of the DSTSF in the Minto Creek valley, immediately east of the original Mill Valley fill that was constructed early in the mine life to provide space for milling and related activities. Construction of the MVFE was proposed as part of the Phase IV mine plan as a buttress to mitigate the down-slope movement of the DSTSF.

South Wall Buttress (SWB)

The SWB is a rock fill structure that is designed to buttress the south wall of the Main Pit and preserve the remaining volume in the Main pit for tailings, waste rock and water storage purposes. Construction of the SWB began in May 2011 and it has received rock from the Area 2 Stage 2 Pit since that time. It is scheduled for completion to its design capacity during the period of open pit mining under the Phase IV mine plan.

Reclamation Overburden Dump (ROD)

The ROD is located west of the MWD, and contains overburden materials released from both the Area 2 Pit and the Main Pit. The ROD has capacity to store additional overburden material that will be released during Phase V/VI.

2.5 Phase V/VI Expansion Plan

Details of the Phase V/VI expansion plan are provided in the Project Proposal (Minto 2013b). A summary of details that are relevant to the Phase V/VI ML/ARD assessment and water quality prediction are included here for reference.

2.5.1 Phase V/VI Mining

Phase V/VI mining will include open pit components and underground mining components. On receipt of the necessary authorizations by Minto, the remaining components of the Phase IV mine plan will be rolled into the Phase V/VI mine plan, and the following provides a brief description of only those Phase V/VI components that are not currently subject to Phase IV authorizations.

Open pit mining will consist of development of Minto North Pit (MNP), Area 2 Stage 3 Pit (A2S3P), Ridgetop South Pit (RSP) and Ridgetop North Pit (RNP). The pits are scheduled to be mined in the order listed and are shown in Figure 4.

Underground mining will take place via three portals:

- The Minto South Portal is located south of the Area 2 Stage 2 Pit and has been developed as part of Phase IV works. The Minto South Portal will be used to access underground ore reserves in the Minto East zone, the Area 2/ Area 118 zone and Copper Keel zone. Development access will be via decline from the portal.

- The Wildfire Portal will be developed to access the underground ore reserves in the Wildfire zone via a decline. The portal will be located near the Airport Access Road, near the north end of the ridge occupied by the airstrip.

- Portal 3 will be developed to as another access to the underground ore reserves in the Minto East zone via a decline. The portal will be located northwest of the crusher within the existing disturbance footprint.

Both portals will be located at or near the highest elevations of the respective underground workings (with the exception of raises constructed as part of the ventilation system). Figure 6 provides an overview of the underground workings to be developed by the end of Phase V/VI (along with the pit rims for Area 2/Area 118 and Ridgetop North and Ridgetop South pits for spatial reference).

A detailed schedule of Phase V/VI mining and processing activities is included in the Phase V/VI Project Description (Minto 2013b).

2.5.2 Phase V/VI Waste Management

Management of Phase V/VI overburden and waste rock is detailed in the Waste Rock and Overburden Management Plan (Minto 2013c) and management of Phase V/VI tailings is detailed in the Tailings Management Plan (Minto 2013d). Information from these two plans that is relevant to the Phase V/VI ML/ARD assessment and water quality predictions is summarized below.

Waste rock and overburden

Overburden produced during Phase V/VI mining will be used as cover material for concurrent reclamation of completed facilities or stored in one of several locations (Figure 4): Area 118 Backfill Dump; Main Pit Dump; Ridgetop Waste Dump; Ridgetop South Backfill Dump; Reclamation Overburden Dump; Main Waste Dump Expansion.

Bulk waste rock produced during Phase V/VI mining will be stored in several locations as described in the Waste Rock and Overburden Management Plan (the WROMP- (Minto 2013c)). Each location is briefly summarized here for ease of reference.

- Main Waste Dump Expansion
  - The Main Waste Dump will be expanded in Phase V/VI with waste rock and overburden from Minto North. The expansion will increase the footprint area (by 10 ha) and the volume stored (by 4.3 Mm^3 of waste rock and 0.9 Mm^3 of overburden). No segregation of Minto North waste rock is planned.

- Main Pit Dump
  - The Main Pit dump will be constructed on top of the South Wall Buttress. It will receive waste rock and overburden from Area 2 Stage 3 Pit, Ridgetop North Pit, Ridgetop South Pit, and underground development. Planned volumes are 2.7 Mm^3 of bulk waste rock and 0.35 Mm^3 of overburden. The Main Pit Dump footprint is entirely within the existing disturbance area and construction will not result in any incremental disturbance.
- Mill Valley Fill Extension Stage 2
  - The existing Mill Valley Fill Extension (Stage 1) was designed as a buttress to arrest the movement of the slope underlying the DSTSF. Evaluation of whether expansion of the buttress is necessary is in progress; for purposes of environmental assessment, it has been assumed that the buttress will be expanded to the Stage 2 design described in the WROMP. If the MVFE Stage 2 buttress is constructed to the full design extent, it will require 2.9 Mm^3 of bulk waste rock and will create 4.7 ha of new disturbance. It should be noted that any volume placed in the MVFE Stage 2 buttress will reduce the volume of the Main Pit Dump and potentially the Ridgetop Waste Dump.
- Ridgetop Waste Dump
  - The Ridgetop Waste Dump is planned as a new dump to be located on the west side of the ridge hosting the Ridgetop mineralization. This dump has a planned capacity of 3.4 Mm^3 and a total footprint area of 28.8 ha. Topographically, 25.4 ha of the footprint is upgradient of the Main Pit, however the portions of the design footprint that spill over the surface catchment divide to the east will contain. Although there will be minor quantities of overburden placed in this dump, for purposes of environmental assessment is has been assumed that the entire dump volume is composed of bulk waste rock.

Minto will segregate Phase V/VI waste rock based on ABA characteristics using the same approach that has been during Phase IV operations. The Phase IV protocol has adopted the NP:AP value of 3 that is referenced in the site's water use licence as an interim threshold for defining the lower limit of the bulk waste rock category, and Minto plans to carry this interim threshold forward into Phase V/VI waste management practices. Waste rock that is determined to have NP:AP values lower than the threshold value (interim value NP:AP<3) will be stored in locations that will be saturated over the long term. The primary storage location for NP:AP<3 waste rock will be within the Main Pit Tailings Management Facility (TMF) and the Area 2 Pit TMF, with a small portion of NP:AP waste rock stored in underground workings as backfill. The TMFs have been designed with allowance for 20% of Phase V/VI waste rock to be stored under saturated conditions (Minto 2013c and –d). Additional detail on evaluation of the lower threshold value for defining bulk waste rock and on estimation of the quantity of Phase V/VI waster rock requiring saturated storage can be found in Section 4 and in Appendix A.

Underground mining will produce a relatively small volume of waste rock that will be disposed on surface, mostly from initial development prior to availability of mined-out areas underground where waste can be used as backfill. The underground rock slated for surface disposal will be managed using the same protocols as Phase V/VI open pit waste rock.

Tailings

Phase V/VI tailings disposal will continue to follow the Phase IV strategy of hydraulic deposition of tailings slurry into mined out pits. Slurry will be piped to one of three tailings management facilities (TMFs), with anticipated deposition as follows:

- 2013 to Q1 2014: to Main Pit TMF;
- Q1 2014 to Q2 2015: to Area 2 Pit TMF (Stage 2);
- Q2 2015 to Q1 2018: to Main Pit TMF;
- Q1 2018 to Q4 2019: to Ridgetop North Pit TMF;
- Q4 2019 to Q2 2021: to Main Pit TMF;
- Q2 2021 to Q3 2022: Area 2 Pit TMF (Stage 3).

The capacity of the Main Pit TMF will be increased in 2014 by constructing a dam on the east side (the Main Dam). The conceptual design for the Main Dam calls for a low-permeability fine-grained soil core, a final crest elevation of 806m, a full supply level of 804m, development of a tailings beach along the dam and the adjacent south pit wall, a spillway which will route water to the Area 2 Pit in post-closure, and tailings deposition to maximize tailings storage and yield a final post-closure tailings surface that is shaped to allow conveyance of runoff from the upgradient catchment to Area 2 Pit and to provide little to no water storage (SRK 2013a).

2.5.3 Phase V/VI Closure Plan

The preliminary Phase V/VI closure plan (ACG 2013) calls for the following elements that relate to the Phase V/VI water quality predictions.

- Tailings reclamation:
    - The subaerial tailings in the Dry Stack Tailings Storage Facility, the Main Pit TMF and the Ridgetop North Pit TMF will be covered with isolation soil covers.
    - The Area 2 Pit TMF will be flooded and closed as a flow-through pit. Water from both the Main Pit TMF (and its upgradient catchment) and from the subcatchment south of the Area 2 Pit will report through Area 2 Pit. Once the Area 2 Pit fills, there will be greater than 5 m of water over the deposited tailings and waste rock.
- Waste rock reclamation:

- All subaerial waste rock will be covered with isolation soil covers. The main facilities to be covered are the Main Waste Dump, Main Waste Dump Expansion, Southwest Waste Dump, Ridgetop Waste Dump, Main Pit Dump, and the Mill Valley Fill Expansion.

- Water management :
  - Construction of facilities that limit sediment release to lower Minto Creek to less than 15 mg/L. These sediment control facilities will include wetlands at various locations including within the footprint of the current water storage pond; all water leaving site will pass through this wetland before reporting to lower Minto Creek.

2.6 Geochemical Characterization and Monitoring

2.6.1 Mine Rock

Pre-production Testing: Main Pit

During initial review of the Minto Mine project proposal, eight drill core samples were retrieved and subjected to ABA testing, whole rock analysis and petrographic examination (Mills 1997).

The primary conclusions of the pre-production test were that Main Pit waste rock was expected to be net acid neutralizing, and that the main acid neutralizing mineral was calcite (calcium carbonate, $CaCO_3$). Recommendations arising from this work were incorporated into the operational monitoring requirements of the original water license and have been re-affirmed in all subsequent licence amendments up to and including the Phase IV amendment (Amendment 8).

Pre-production Testing: Phase IV

In planning for the Phase IV expansion, Minto carried out pre-production testing on 56 drill core samples from the Area 2/ Area 118 deposit areas and 27 drill core samples from the anticipated alignment of underground workings (SRK 2010a).

Samples for the Area 2/ Area 118 deposit areas tested both unmineralized (bulk) and mineralized granodiorite waste rock, and also included a limited number of ore samples.

The primary conclusions of both the Area 2/ Area 118 and underground development pre-production tests were that bulk granodiorite waste rock was expected to be net acid neutralizing, and that some mineralized waste rock was expected to have NP:AP values less than the threshold value of 3 specified by the water use license (YWB 2012 and its predecessors).

Operational Testing of Waste Rock- External Laboratory

Since mining commenced at Minto, operational ABA monitoring has been carried out on composite samples of blast hole cuttings from each waste blast since mining commenced according to the BC Research Standard Method, as specified by Water Use Licence QZ96-006. Results to date include all Main Pit results along with samples from the parts of Stage 1 and Stage 2 of Area 2 Pit that have already been mined. Samples have been collected by mine geologists and delivered to SGS (formerly SGS CEMI) of Burnaby BC for ABA testing by the BC Research method. Semi-annual waste rock monitoring reports have been prepared on a rolling basis and have been submitted to regulators as part of the mine's compliance reporting.

Results of off-site operational ABA monitoring of waste rock are shown graphically in Figure 7. The results show that Main Pit waste rock generally had low AP and NP:AP[1] ratios greater than the threshold value of 3. Results for Area 2 Pit waste rock were mixed- most samples had NP:AP values greater than 3, there were sufficient samples with NP:AP less than 3 that Minto altered the waste rock management strategy, as discussed in the following section.

Operational Testing of Waste Rock- On-site Laboratory

As noted above, initial results from off-site ABA analysis of compliance monitoring samples for Area 2 waste rock included several samples than the threshold value (NP:AP>3) defined in the water use licence. Although this had been anticipated from pre-production testing, Minto decided to revise its waste rock handling procedure to include segregation of waste rock based on ABA criteria and storage of waste rock with NP:AP<3 in locations that were expected to be saturated over the long term to minimize the potential for oxidation of contained sulphide minerals. To allow classification of waste rock to occur with the time frame of the mine's material handling cycle, it was necessary to develop on-site analytical capabilities and integrate results into the mining process.

The Phase IV waste management plan was adapted by introducing operational characterization of waste rock ABA characteristics into the mine's work flow as part of the grade control program starting in August 2012. To provide ABA results in the short turn-around times required for operational characterization and dispatching, Minto purchased and commissioned an Eltra CS-800 induction furnace that allowed on-site measurement of total carbon and total sulphur content. Prior results from testing of samples from Main Pit and Area 2 at an off-site commercial laboratory showed that total carbon and total sulphur content was nearly identical to total inorganic carbon and total sulphide sulphur content, respectively, and that therefore the relatively-simple total carbon and total sulphur analyses were appropriate for operational ABA characterization.

Operational NP and AP values (NP-C(T) and AP-S(T)) are calculated from the total carbon and total sulphur results, respectively, and then used to calculate NP-C(T):AP-S(T). It should be noted that this approach makes the de facto assumption that all sulphur is hosted in the mineral pyrite (FeS_2); in the case of Minto, pyrite is generally less abundant than copper sulphides.

Samples for on-site ABA testing are split from blast-hole samples collected for grade control purposes. Cuttings from every blasthole are collected and analyzed, and both assay and ABA results are then imported into the mine's grade control software. Using the results, mine geologists define ore and waste polygons for each blast (including delineating NP-C(T):AP-S(T)<3 waste polygons) and then the results are provided to the pit operations staff for staking of ore and waste boundaries and subsequent dispatching of ore and waste to appropriate stockpiles and waste storage facilities.

[1]NP:AP ratios for operational monitoring are based on NP determined by the BC Research method.

The on-site waste rock ABA results for the August 2012 through May 2013 are shown in Figure 8. The results are shown separately for the four copper grade categories (Zero-, Low-, Medium- and High Grade Waste) defined in the Phase IV waste management plan. Over the period of record over 13,800 waste rock samples were analysed, with 12% of the samples returning results corresponding to NP-C(T):AP-S(T)<3. Over 50% of the samples were classified as Zero Grade Waste (Cu<0.03%), and the overwhelming majority of those samples had NP-C(T):AP-S(T)<3.

2.6.2 Tailings

Pre-production Testing

No pre-production characterization tests were carried out on tailings from Main Pit ore. For the Phase IV deposits (Area 2 and Area 118), a range of preproduction tests were carried out on residues from locked cycle testing. Residues from metallurgical testing carried out on Area 2 and Area 118 ore samples were subjected to additional testing for purposes of ML/ARD characterization. For both deposits, locked cycle testing was carried out by G&T Metallurgical Services (G&T) of Kamloops, BC.

Area 2 ore samples consisted of drill core from each of the ore horizons that make up the Area 2 deposit (G&T, 2007). The core samples used to prepare the ore composites were selected by Minto personnel. Each of the seven ore horizons that make up the Area 2 deposit were tested separately, and the cleaner and rougher tails from each were reserved as separate products. To evaluate the acid-generating potential and trace metal content of the tailings, aliquots of rougher and cleaner tails from each ore horizon were combined, according to the ‘as-produced’ mass ratio. A combined sample (37% L Zone tails, 63% M Zone tails) was also tested to evaluate the ML/ARD characteristics of a mixed tailings product that would result from mixing of the tailings from the two main ore horizons (representing approximately 90% of the Area 2 ore) at the expected proportions in the final tailings mass (SRK, 2007).

Two Area 118 ore samples were subject to metallurgical testing. Ore samples consisted of drill core from the upper and lower portions of the Area 118 deposit (G&T (2009) and SRK (2009a)). As for Area 2 samples, aliquots of rougher and cleaner tails from each ore sample were combined, according to the ‘as-produced’ mass ratio.

Results of the pre-production testing on Phase IV tailings indicated that the material would be not potentially acid generating and that risks of neutral pH metal leaching were similar to those for Main Pit tailings from full-scale operations (SRK 2010a).

Operational Testing- Main Pit Tailings

Operational monitoring of Main Pit tailings was carried out to track the ABA characteristics of the tailings produced over the operating period, and to verify that the as-produced tailings remain appropriate for dry-stack disposal of tailings from Main Pit ore. Testing was carried out according to the BC Research Standard Method, as specified by Water Use Licence QZ96-006. Samples for testing consisted of 1 to 2 kg monthly composite samples, prepared from 200 to 500 gram tailings samples which were collected daily and stored in sealed plastic bags prior to preparation of the monthly composite sample.

The monthly composite was sent to Minto's accredited laboratory (SGS) where ABA analysis was conducted. The Acid Potential (AP) is determined from percent sulphide sulphur (obtained by subtracting percent sulphate sulphur from percent total sulphur). Additionally, paste pH and total inorganic carbon (TIC) were determined. Results have been reported to regulators, together with waste rock ABA results, in a semi-annual monitoring report (e.g. Minto Explorations Ltd. (2010)).

Results of operational ABA monitoring of Main Pit and Area 2 Pit (Stages 1 and 2) tailings are shown graphically in Figure 9. The excess of neutralization potential (NP) over acid potential (AP) has confirmed that the tailings produced to date are not expected to be net acid generating.

Operational Testing- Area 2 Stage 2 Pit Tailings

Operational monitoring of tailings from milling of Area 2 Stage 2 Pit ore was carried out using methods and procedures described above for Main Pit tailings from start of processing through the completion of placement of tailings in the DSTSF (May 2012 through October 2012). Similar to results for Main Pit tailings, the Area 2 Stage 2 Pit tailings tested to date have had a substantial excess of NP over AP (Figure 9) and are not expected to be net acid generating.

3 Methods

3.1 Phase V/VI Mine Rock

3.1.1 Static Tests

Exploration Assays

During exploration programs that coincided with early stages of mining at Minto (2005 through 2007), all drill core from the Minto property was split and half of the core was sent for multi-element analyses. However, as Minto's exploration team grew more familiar with the visual characteristics of the mineralization and the host rock at the property, assays were reduced to capture only mineralized zones and to focus only on the metals of economic interest (copper, silver and gold). As a result, there are no exploration multi-element assay results for drilling that occurred post-2007. In terms of Phase V/VI deposits, this results in multi-element assay results only being available from initial (2006 and 2007) drilling in the Ridgetop deposit area. No multi-element assays are available from exploration programs for the Minto North or Area 2 Stage 3 deposits.

For the Ridgetop deposit, there were 136 samples within the pit shells. Multi-element determination was carried out by aqua regia digestion followed by ICP-MS finish. Analyses were carried out at ALS Chemex (North Vancouver BC) and its predecessors.

Acid Base Accounting Testing

Over a period of five years, from 2007 to 2011, a total of 108 Phase V/VI pre-production core samples have undergone acid base accounting (ABA) testing.

Table 3-1 classifies these samples by mine area, material type, and year of analysis. All of the Phase V/VI mine rock samples that underwent ABA analyses also underwent multi-element determination by aqua regia digestion with ICP-MS finish. In 2008 this analysis was carried out at ALS Chemex and from 2009 to 2013 it was carried out at SGS (Burnaby, BC).

Table 3-1: Summary of Phase V/VI Mine Rock Pre-production Static Testing

Mine Area	Material Type	Number of Samples	Year of Analysis
Area 2 Stage 3	Bulk Waste	16	2011 + 2013
Minto North	Hanging Wall	18	2009
Minto North	Footwall	5	2009
Minto North	Dyke	9	2011
Ridgetop	Bulk Waste	36	2008 + 2013
Ridgetop	Mineralized	2	2008
Ridgetop	Ore	2	2008
Ridgetop	Conglomerate	12	2010
Wildfire	Conglomerate	8	2011

Source: T:\1CM002.003_PhaseV_WaterQualityPrediction\Task600_Reporting\020_Tables\[Table3-1_Summary_PhV-VI_ABASampleSources.xlsx]

ABA Testing – Area 2 Stage 3

As part of Phase IV pre-production characterization, 56 drill core samples from within the Area 2 Stage 2 pit shell were tested (SRK 2010a). The Phase IV pre-production testing included bulk waste, mineralized waste, and ore samples.

To expand the coverage into Area 2 Stage 3 in preparation for Phase V/VI, an additional 16 drill core samples were tested in two rounds (2011 and 2013). All 16 samples targeted bulk waste to verify whether this volumetrically-important waste class contained the expected excess of neutralization potential, and therefore be suitable for disposal in upland waste dumps. Samples were selected jointly by a Minto geologist and an SRK geochemist to achieve appropriate spatial coverage within the Area 2 Stage 3 pit shell and to target bulk waste; the selections were made by viewing exploration drilling results together with model ore horizons and planned pit shells using the GEMS software package.

ABA Testing – Minto North

In 2009, ABA testing was carried out at SGS on eighteen hanging wall and five footwall samples from Minto North. Three methods of neutralization potential (NP) determination were used: total inorganic carbon was determined as a measure of carbonate content, and two titration methods were also used (Sobek NP (Sobek et al.,1978) and Modified NP (MEND 1991)). The ABA analysis also included total sulphur determination by induction furnace, sulphate sulphur determination by hydrochloric acid leach, paste pH, and fizz rating (all per MEND 1991 protocols).

The following excerpt from the Minto North initial waste rock characterization sample selection memorandum (SRK 2009b) describes the process that was followed to select the twenty-three hanging wall and footwall samples:

Minto provided a spreadsheet containing available drill logs, summary assay data, and collar locations for diamond drillholes (DDH) in the Minto North deposit area. This file contained selections of DDH and intervals to be used for testing of metallurgical performance.

Minto advised that the bulk of the country rock overlying the mineralization consisted of lithologies logged as unit pG and unit eG. SRK reviewed the summary lithology logs provided and selected intervals for initial ML/ARD characterization by ABA testing and multi-element analysis.

Composite intervals were identified that targeted the majority of the waste rock overlying the ore grade intervals, while avoiding crossing lithological boundaries. In addition, composite intervals immediately underlying the ore grade rock were selected from each DDH to define the ML/ARD characteristics of footwall rock. Intervals were selected for compositing over a distance of approximately 6 m to reflect minimum widths that could be managed by the mining fleet.

Ore and proximal hanging wall waste have not been identified for testing at this time. When ICP results are available for these materials for all Minto North DDH, the results will be reviewed and a limited number of samples will be selected for ABA testing. Assay pulps or crushed rejects will be acceptable for this testing- there will be no need for additional core samples for these tests.

More recently, in 2011, nine drill core samples were selected from intersections of the unmineralized felsic dike that cuts through the proposed Minto North Pit underwent ABA testing at SGS by the same methods as were used for the 2009 Minto North samples. Dike samples were selected from available core intersections by Minto geologists and are considered to be representative of the in-pit dike material.

ABA Testing – Ridgetop

In 2008, sixteen bulk waste, two mineralized waste, and two ore samples from the Ridgetop deposit underwent ABA testing at ALS Chemex. Testing in 2008 was carried out at ALS Chemex according to an in-house method analogous to the Sobek method (Sobek et al., 1978) which included paste pH, fizz rating, Sobek NP, total sulphur, sulphate sulphur, and total inorganic carbon. The BC Research method was not used because it is an uncommon method that has been largely avoided by industry in recent years, and because senior staff at SGS (the only laboratory in western Canada that provides the ABA testing services using the BC Research method) recommended that alternate methods be employed. Selection of the twenty samples was based on similar criteria to those described for the 2009 Minto North selections.

In 2010, ABA testing was conducted on twelve conglomerate samples from the Ridgetop deposit area. The testing was carried out at SGS by the same methods that were used for the Area 118 and Minto North samples.

In 2013, an additional 20 bulk waste samples from within the Ridgetop pit shells were subjected to the same ABA tests as described above for the 2010 Ridgetop samples. The additional tests were undertaken to improve the spatial ABA sample coverage in the Ridgetop deposit area. The testing was carried out at SGS.

ABA Testing – Wildfire

In 2011, eight conglomerate samples from the Wildfire deposit underwent ABA testing at SGS by the same methods that were used for the Minto North, and 2010 Ridgetop samples. The eight Wildfire conglomerate samples were selected by Minto geologists from available core samples to provide respresentative coverage of the conglomerate in the Wildfire area at time when open pit mining was still being considered for a portion of the Wildfire resource.

ABA Testing- Underground

As part of Phase IV pre-production characterization, 27 drill core samples from locations near the initial planned Phase IV underground development were tested (SRK 2010a). As expected, results of this testing were similar in character and in variability to pre-production and operational monitoring results of pit waste rock.

However, the process of identifying drill core intersections of the planned workings had several drawbacks (including drill intersections being 10s of metres away from the planned development, and initial development plans being subsequently revised to locate workings remotely from the tested intervals). Because of these drawbacks, and supported by the expected similarity of pit waste and underground waste, no preproduction testing of underground waste rock was carried out for Phase V/VI. All underground waste rock that is permanently stored in surface facilities will be subject to the same segregation protocols as pit waste rock.

3.1.2 Kinetic Testing: Humidity Cell Tests

Description – Humidity Cell Tests

Four humidity cell tests (HCTs) were started in July 2009 and an additional eight HCTs (as well as a blank and a duplicate for quality control purposes) were started in March 2011. All HCTs were conducted at SGS and were ongoing as of July 2013. The objective of these tests is to evaluate the release rates of weathering products, including major and trace elements, under laboratory weathering conditions. A range of copper and sulphur content was targeted during sample selection in order to provide a broad indication of variation of release rates related to degree of mineralization.

Sample Selection – Humidity Cell Tests

At the time of sample selection for the initial four HCTs (HC1 through HC4), the mine plan envisioned accessing Phase 3 of the Area 2 deposit via an open pit (Phase 3 encompasses what is now referred to as Area 2 Stage 1 and Stage 2, i.e. the Phase IV portions of Area 2 Pit). The exploration ICP database (2005 - 2008) was queried to yield a list of core intervals that were both within the Phase 3 pit shell and contained less than 0.5% copper (i.e were below the ore cutoff grade). The resulting list of 363 core intervals was taken to represent the Area 2 waste rock.

Summary statistics were calculated for the 363 Area 2 waste rock core intervals, including 50th, 75th, and 95th percentile concentrations of copper and sulphur. It was decided that four separate populations would be targeted for testing:

1. 50th percentile concentrations of both copper and sulphur;
2. 50th percentile copper, 75th percentile sulphur;
3. 75th percentile copper, 50th percentile sulphur; and
4. 95th percentile copper and 95th percentile sulphur.

A shortlist of drill core intervals that approximately met each of the above criteria was forwarded to site staff for retrieval from archived diamond drill core from exploration drilling. Samples were collected and forwarded to SGS to commence HCTs. Table 3-2 summarizes the core intervals that were retrieved and the corresponding relative copper and sulphur contents. Note that the HC1 sample was targeted to include rock with 95th percentile copper and sulphur content, but that the actual sample retrieved contained copper and sulphur at roughly 90th percentile concentrations.

The origin and characteristics of the Minto North and Ridgetop HCT samples are also summarized in Table 3-2; samples for testing were selected based on review of assay data (where available) and targeting typical and moderately anomalous waste intervals within the expected pit limits.

- HC5, HC7, and HC8 were chosen from bulk waste of the Minto North deposit by Minto geologists based on recommendations from SRK. Assay data was not available to guide selection, as unmineralized core from Minto North was not assayed. HC5 and HC7 both contained low copper content (0.0004 and 0.0006 % respectively) and sulphur content below the analytical detection limit of 0.02% and were selected as representative of typical Minto North bulk waste. HC8 contained higher copper and sulphur contents (0.05 % Cu and 0.04 % S) and was chosen to represent moderately anomalous or mineralized waste from Minto North. HC6 was established as a duplicate of HC5.

- HC9 and HC10 were chosen from bulk waste of the Ridgetop North deposit based on core available at the time of collection. Both contained moderate copper content (~0.01 %) and sulphur content below the analytical detection limit; within the Ridgetop waste rock population, these samples contain between 25th and 50th percentile copper values and typical sulphur content, and are considered to be representative of bulk unmineralized granodiorite at Minto .

- HC11 and HC12 were selected to evaluate the conglomerate lithology that constitutes a minor component of the Ridgetop North host rock. The selected intervals contain conglomerate rock with moderate copper content (0.01 and 0.02 % respectively) and low sulphur content (0.03 and <0.02 % respectively).

- HC13 was chosen from bulk waste of the Ridgetop South deposit and contained 0.005% copper content and sulphur below the analytical detection limit, similar to HC9 and HC10, this sample represents another variant of the typical unmineralized granodiorite waste rock.

Table 3-2: Phase IV/V/VI Humidity Cell Samples

HCT	Hole ID	From (m)	To (m)	Cu (%)	S (%)	Selection Characteristics	Deposit
HC1	07SWC211	83	86	0.21	0.51	~90th percentile Cu, ~90th percentile S	Area 2
HC2	07SWC196	54	55	0.01	0.01	50th percentile Cu, 50th percentile S	Area 2
HC3	07SWC196	46	47	0.1	0.02	~75th percentile Cu, ~50th percentile S	Area 2
HC4	07SWC211	71	74	0.01	0.08	~50th percentile Cu, ~75th percentile S	Area 2
HC5	09SWC506	30	33	0.0004	<0.02	Bulk waste	Minto North
HC6	09SWC506	30	33	0.0004	<0.02	Bulk waste (dup)	Minto North
HC7	09SWC484	40	43	0.0006	<0.02	Bulk waste	Minto North
HC8	09SWC498	54	57	0.0474	0.04	Moderately anomalous waste	Minto North
HC9	07SWC258	20	23	0.0136	<0.02	Bulk waste	Ridgetop North
HC10	08SWC337	10	13	0.0145	<0.02	Bulk waste	Ridgetop North
HC11	08SWC348	12	15	0.0108	0.03	Conglomerate	Ridgetop North
HC12	08SWC370	10	13	0.0177	<0.02	Conglomerate	Ridgetop North
HC13	09SWC419	15	18	0.0047	<0.02	Bulk waste	Ridgetop South
HC14	n/a	n/a	n/a	n/a	n/a	Method blank	Method blank

Source: T:\1CM002.003_PhaseV_WaterQualityPrediction\Task600_Reporting\020_Tables\[Table3-1_HCT_SampleSources.xlsx]

Test Method – Humidity Cell Tests

The HCTs were established at SGS according to methods defined in ASTM D5744 (ASTM, 2007). For each test, a one kilogram charge of material (crushed to pass a 6.3 mm (¼") sieve) was placed in a Plexiglas column (25.5 cm long, with an inner diameter of 10.2 cm). Each sample was subjected to consecutive 3 day cycles of moist and dry air, and the final day of the weekly cycle consisted of leaching of the sample by flooding with 500 mL (first flush: 750 mL for the initial four HCTs, and 500 mL for the additional ten HCTs) of water and allowing the flood leach to drain into a collection container through a perforated acrylic disk topped with nylon mesh. Laboratory temperatures are maintained between 20 and 22° C.

For the initial four HCTs, monitoring of pH, conductivity, oxidation reduction potential (ORP), and dissolved oxygen (DO) was carried out weekly from July 2009 to January 2011. During this time period, biweekly sampling was carried out to monitor sulphate, chloride, fluoride, acidity, alkalinity, and a suite of elements by ICP-MS. From February 2011 to the time of preparation of this report, sampling frequency for all parameters was reduced to once every three months. The weekly operating protocol remained unchanged during this period of reduced analytical frequency.

For the additional ten HCTs, weekly sampling of pH, conductivity, ORP, and DO as well as biweekly sampling of sulphate, chloride, fluoride, acidity, alkalinity, and a suite of elements by ICP-MS has been ongoing since March 2011.

3.1.3 Kinetic Testing: Barrel Tests

Description – Barrel Tests

Barrel tests are intended to be site-based weathering tests that permit evaluation of rates of release of weathering products under site temperature and precipitation conditions. These tests also provide a larger scale of testing than is typically carried out in a laboratory setting and at the same time provide more certainty regarding the sample characteristics and the related drainage chemistry (unlike a full scale waste rock dump, for which integrated geochemical characteristics and degree of drainage capture are not readily determined to the same degree).

Sample Selection – Barrel Tests

Initial efforts to understand the ML/ARD potential of Area 2 waste rock noted that there were two broad categories of Area 2 waste rock. The first category, containing by far the largest tonnage, was referred to as ‘Bulk Waste’ and was defined as all rock with less than 0.1% sulphur content (as determined by ICP). The second, and much smaller, category, was referred to as ‘Mineralized Waste’ and consisted of all rock with sulphur greater than 0.1% and copper less than 0.5% (as an approximation of mine cut-off grade). The Mineralized Waste material was identified as having a higher risk for ML/ARD, and barrel tests were proposed to evaluate samples of Mineralized Waste.

Exploration diamond drill core intervals within the Area 2 Phase III pit shell that had sulphur content corresponding to four statistical categories were identified. Table 3-3 lists these categories, the target sulphur content, and the number of drill core intervals that met the criteria for selection.

Table 3-3: Barrel Test Sample Selection Characteristics

Barrel ID	Target S (%)	Selection Characteristics	Cu range (%)	S Range (%)	No. of Intervals in S Range
BAR-10	0.15	10th percentile S amongst Mineralized Waste population with S >0.1%	0.005 - 0.45	0.14 - 0.16	292
BAR-50	0.37	50th percentile S amongst Mineralized Waste population with S >0.1%	0.005 - 0.49	0.36 - 0.40	170
BAR-75	0.79	75th percentile S amongst Mineralized Waste population with S >0.1%	0.005 - 0.49	0.74 - 0.84	167
BAR-90	1.41	90th percentile S amongst Mineralized Waste population with S >0.1%	0.05 - 0.49	1.28 - 1.54	159
BAR-B	n/a	blank for quality control	n/a	n/a	n/a

P:\01_SITES\Minto\1CM002.003_PhaseV_WaterQualityPrediction\!080_Deliverables\Phase V&VI MLARD & WQ Prediction Report - 2013\020_Tables\[Table3-3_Barrel_SampleSources_2013.xlsx]

The barrels are open to the atmosphere and incident precipitation falls on them. Rainfall and snowmelt percolate through the rock and accumulate in the drain tube and in bottom of the barrel between sampling events. Sampling of the leachate from the barrels began in June 2010 and has been carried out several times each open-water season since that time. Samples are collected directly from the tubing by opening the ball valve, and the remaining accumulated volume of water is drained during each sampling event. Leachate samples are collected for determination of laboratory pH and conductivity, acidity, alkalinity, anions (chloride, fluoride, and sulphate) and trace-level dissolved metals by ICP-MS/OES.

3.2 Phase V/VI Tailings

3.2.1 Static Tests

Sample Source

Residues from four metallurgical testing programs carried out on ore samples relevant to Phase V/VI were subjected to static testing. A total of 18 tailings samples were available for testing:

- Eight samples from Area 2 (G&T 2007);
- One tailings sample from Minto North (G&T 2009a);
- Five tailings samples from Area 118 and Ridgetop (G&T 2009b);
- Three tailings samples, one each from Wildfire, Copper Keel, & Minto East (G&T 2010).

Test Methods

Tailings residues from metallurgical testing were submitted to ALS Chemex (Area 2 samples) and SGS (all other samples) for further analysis. ABA testing was carried out on all samples, consisting of determination of total sulphur by induction furnace, sulphate- sulphur by hydrochloric acid leach, total inorganic carbon (TIC) by evolved gas analysis, and neutralization potential (NP) by the Sobek method (Sobek et al., 1978). Acid potential (AP) was calculated by multiplying total sulphur less sulphate sulphur by the conventional factor of 31.25.

Elemental analysis of tailings products was by aqua regia digestion followed by determination of major and trace element content by a combination of ICP-MS and ICP-AES.

3.2.2 Kinetic Tests – Subaqueous Column Tests

Description – Subaqueous Column Tests

Two subaqueous tailings columns were started in September 2009 at SGS; these tests were ongoing at the time of preparation of this report. The objective of these tests is to evaluate the porewater chemistry that would develop over a long period of contact with tailings solids under a water cover.

Sample Source – Subaqueous Column Tests

The tailings being tested in these subaqueous columns were produced during metallurgical testing of Area 118 and Ridgetop ore samples. Details are as follows:

- Column 1: is a composite of upper and lower Area 118 ore tails produced in G&T tests 2351-33 and 2351-34 (G&T, 2009a).
- Column 2: is a composite of upper and lower Ridgetop ore tails produced in G&T tests 2351-35 and 2351-36 (G&T, 2009a).

Test Methods – Subaqueous Column Tests

The subaqueous tailings columns were constructed of 5.08 cm (2”) internal diameter Plexiglas columns with an acrylic perforated disk topped with nylon mesh at the base of the column to retain the tailings solids, yet allow drainage for sampling. Approximately 2.5 kg (dry weight) of tailings solids were placed in each column, yielding a height of tailings of roughly 1 m in each column. Sampling ports were installed in the base of the column and in the side of the column above the tailings/ water interface.

Columns were initially saturated by slowly adding deionized water through the bottom sampling port. Once the tailings column was saturated, an additional volume of water was gently added from the top of the column to establish a 30cm column of water above the tailings/ water interface.

Operation of the subaqueous column tests consists of circulation of water in the water cover using a peristaltic pump to ensure fully oxygenated conditions are maintained at the tailings interface. From September 2009 to the time of preparation of this report, sampling has been carried out weekly from both bottom and side ports to determine pH, conductivity, oxidation reduction potential (ORP) and dissolved oxygen (DO). Additionally, from September 2009 to January 2011 biweekly sampling was carried out from both ports to monitor sulphate, chloride, fluoride, acidity, alkalinity, and a suite of elements by ICP-MS. After January 2011 the biweekly sampling and analysis of water chemistry was reduced to sampling and analysis once every 12 weeks. For each sampling round, the minimum amount of water required for analysis is removed. Deionized water is added to the water cover each week to maintain 30 cm of water above the tailings interface.

4 Results and Discussion

4.1 Phase V/VI Mine Rock

4.1.1 Static Tests

Elemental Determinations - Exploration Assays

Summary statistics of exploration assay results for waste rock within the Ridgetop pit shells are provided in Appendix B and summaries for copper and other selected parameters are shown in Table 4-1. Waste rock includes some higher-than-cutoff-grade material where isolated higher copper intercepts could not be laterally modelled to define mineable ore horizons. The large decrease in copper content between the maximum and 90^{th} percentile values indicates that degree to which the maximum values are anomalous. The cadmium content of the Area 2 waste core intervals showed a similar skewed distribution, with the 90^{th} percentile value of 0.25 ppm being equal to the detection limit. Other trace element concentrations in Ridgetop waste core intervals were somewhat less skewed to high values. Selenium determinations were not included in the reported exploration assay results. Results for elemental determinations on pre-production waste characterization samples do include selenium concentrations (see Appendix C).

Table 4-1: Ridgetop Waste Rock: Summary of Selected Elemental Content from Exploration Assays

Mine Area	Summary Statistic	Total Cu %	Cd_ppm	Cr_ppm	Mn_ppm	Zn_ppm
Ridgetop	Count	136	136	136	136	136
	Average	0.074	0.29	6	698	119
	Max	1.8	1.6	23	2590	726
	90th percentile	0.13	0.25	8	1315	245
	50th percentile	0.02	0.25	5	517	76
	10th percentile	0.005	0.25	3	323	51
	Min	0.005	0.25	1	100	10

Source: T:\1CM002.003_PhaseV_WaterQualityPrediction\Task600_Reporting\020_Tables\[u_Table4-2_WR_Element_SummaryStats_2013.xlsx]

Acid Base Accounting

Results of the Phase V/VI waste rock ABA testing are provided in Appendix C. In the figures accompanying the following discussion, results from the Area 2 and Area 118 deposits are included to allow the Phase V/VI waste rock (Area 2 Stage 3, Ridgetop, Minto North and Wildfire) to be put into the context of the operating mine.

Acid Potential

Sulphur in mine rock from the Phase V/VI deposits is dominantly in the sulphide form, as is illustrated by the strong 1:1 correlation in Figure 10. The Minto North, Wildfire, and Area 118 results are all clustered at the origin on the chart because they all had total sulphur below the level of analytical detection of 0.02% (detection levels were adopted for plotting purposes).

The Area 2 ore samples had the highest total sulphur content, ranging from below the level of analytical detection (<0.01%) to 4.4%. The Area 2 bulk waste samples ranged from <0.01 to 0.11%. The Area 2 Stage samples had total sulphur below the level of analytical detection for all except one sample, which had 0.07% total sulphur and sulphide below detection level.

The Ridgetop mineralized waste and ore samples had similar total sulphur contents in the range of 0.1 to 0.4%. The bulk waste samples had a low, narrow range, with a minimum of 0.01% and a maximum of 0.06%. The Ridgetop conglomerate samples were all below the level of analytical detection except for one sample, which had 0.02% total sulphur.

A comparison of sulphide sulphur and copper content showed that the copper mineral chalcopyrite ($CuFeS_2$) could account for much of the sulphide sulphur in the Area 2 and Ridgetop samples (Figure 11). Chalcopyrite is widely observed in Minto rocks, so it is likely an important sulphur host.

Neutralization Potential

In order to evaluate the proportion of neutralization potential (NP) measured by titration that is likely to be derived from carbonate minerals, the NP values were compared with total inorganic carbon content (NP_{TIC}) converted to common units of kg $CaCO_3$/tonne. Figure 12 shows the results of this comparison for the Phase V/VI waste rock samples. NP and NP_{TIC} are generally well correlated at higher concentrations; however, below approximately 30 kg $CaCO_3$/tonne, NP systematically exceeds NP_{TIC}, with relative differences increasing as NP decreases. The typical conclusion when NP is systematically greater than NP_{TIC} is that silicate minerals (such as clays) are contributing a component of the neutralization that is measured in the NP titration. In two exceptional Area 2 samples, the NP_{TIC} is approximately double the NP. This may be due to the presence of siderite ($FeCO_3$), which does not contribute to net neutralization (SRK 2010a).

A conservative and common interpretation is that silicate minerals are insufficiently reactive to maintain circumneutral pH weathering conditions. It is assumed that only calcium and magnesium carbonate minerals can reactive quickly enough to maintain circumneutral pH, which is important for limiting leaching of trace elements like copper. However, for materials with low total sulphur concentrations (like those measured in most Phase V/VI rock) silicate weathering can generate alkalinity at rates that are sufficient to neutralize acidity arising from sulphide oxidation.

For purposes of comparing method performance, operational monitoring results were also charted in a similar fashion, with NP determined by the BC Research method (NP_{BCR}) plotted against NP_{TIC} (Figure 13). During Main Pit monitoring, the BC Research method commonly indicated a higher value for neutralization potential than was indicated by TIC, with NP_{BCR} exceeding NP_{TIC} more than five-fold in some cases. The correlation between the two methods was better for the more recent Area 2 Pit monitoring, although at higher NP values the NP_{TIC} exceeded appeared to be skewed higher than the NP_{BCR}.

Overall Acid Rock Drainage Potential

The current permit for the Minto Mine classifies rock with NP:AP ratio (NPR) greater than 3 as non-potentially acid generating (Non-PAG). It is common practice to categorize rock with a NPR between 1 and 3 as having uncertain potential for acid generation (Uncertain), and to categorize rock with a NPR ratio of less than 1 as potentially acid generating (PAG). These three categories (Non-PAG, Uncertain, and PAG) are adopted here for purposes of discussion.

It should be noted that specifying a NPR of 3 as the lower limit of the Non-PAG category is conservative. Theoretically, if grain-scale weathering is occurring at neutral pH and all NP is in the form of calcium and magnesium carbonates that are available to react, a NPR of 2 is the limit that is required to ensure neutral weathering conditions persist indefinitely. This upper limit is sometimes referred to as the ‘critical NPR’ because it defines the transition from theoretically PAG to Non-PAG. If grain-scale weathering occurs under acidic pH conditions, the ‘critical NPR’ is less than 2 and can be as low as 1. The rationale for adopting a NPR of 3 as the lower limit of the Non-PAG category is to account for uncertainty related to interpreting ABA results. For example, uncertainty can arise from not knowing the mineral form of NP at the screening stage, or from scale effects such as concentration of sulphide grains in the blast fines (which has occurred at some mines, thereby causing the NPR of the blast fines to be lower than the bulk rock NPR). Defining Non-PAG as NPR > 3 provides some insurance, in light of the uncertainty, that Non-PAG rock will not develop dump-scale acidic weathering conditions.

Figure 14 illustrates the NP_{TIC}:AP ratio (NPR_{TIC}) for the Phase V/VI waste rock samples. Of the 200 samples characterized as part of this program, three Area 2 mineralized waste samples and one Area 2 ore sample were classified as PAG; four Area 2 mineralized waste samples and one

Ridgetop ore sample were classified as Uncertain; and the remaining samples, including all of the Minto North, Wildfire, and Area 118 samples, were classified as Non-PAG. It is expected that ore and mineralized waste from the Phase V/VI deposits will display the same range of ABA characteristics as those observed for Area 2 waste rock.

Similarly, Figure 15 shows the NPR (based on Sobek NP) for the Phase V/VI waste rock samples. Of the 200 samples characterized as part of this program, one Area 2 mineralized waste sample is classified as PAG; four Area 2 mineralized waste samples, two Area 2 ore samples, and one Ridgetop ore sample are classified as uncertain; and the remaining samples are classified as Non-PAG.

It should be noted that the results from operational monitoring indicate similar ARD potential (based on NPR_{TIC}), with the great majority of samples being classified as Non-PAG, a minority of samples classified as Uncertain, and two samples classified as PAG (Figure 7 and Figure 8).

4.1.2 Kinetic Tests

Humidity Cell Tests

Results to date for the four Area 2 humidity cell tests (HCTs), the four Minto North HCTs, the five Ridgetop HCTs, and the blank HCT are provided in Appendix D. Results for pH, sulphate, copper, cadmium, and selenium are shown in Figure 16 to Figure 20. For clarity, the HCT results have been plotted separate, with the Area 2 HCTs (start date July 2009) on separate charts from the HCTs started in 2011. The following points discuss selected aspects of the HCT results for pH, sulphate, and the three trace elements that are noteworthy in these tests (i.e., copper, cadmium and selenium).

The leachate pH in all four of the Area 2 HCTs has remained circumneutral for 178 weeks of testing. After an initial slight decrease, from a range of 7.5 – 8 to a range of 7 - 7.8, the pH values have been stable (Figure 16a). Historically, HC1 had marginally greater variability that the other three Area 2 cells, but since cycle 130 all four have been similar. The higher variability prior to cycle 130 is likely due to HC1 having the highest copper and sulphur concentrations of the four cells.

Circumneutral leachate pH levels in the 7.5 to 8 range have remtained stable throughout the duration of testing in five of the tests (HC7, HC8, HC9, HC10, and HC13), (Figure 16b). These five cells have the lowest pH variability. HC6 and HC12 have marginally greater variability and have a stable range that is shifted more towards 7. HC5 and HC11 have notable greater variability with a wider range of 6.5 to 8. HC5 appeared to have a gentle declining trend until cycle 70, after which point the variability increased and the range shifted upwards (Figure 16c). The blank cell (HC14) had somewhat similar results to HC5 and HC11, although it had greater variability and reached a lower limit below 6.5 (which is consistent with operating a blank cell using deionized water).

The leachate pH results do not appear to be strongly related to the solid contents of copper and sulphur in the samples. HC11 has relatively high copper and sulphur content, but HC5 has below average copper and below analytical detection limit sulphur. Furthermore, HC8 has the highest copper and sulphur content but has retained stable pH levels between 7.5 and 8 for the duration of the test.

Sulphate release rates from Area 2 tests HC2, HC3, and HC4 have been below 5 mg/kg/wk and relatively stable over the duration of testing to date. HC1 initially had elevated rates (around 30 mg/kg/week), but over approximately 45 cycles its sulphate release declined to below 5 mg/kg/wk. Since cycle 45, release rates from HC1 have been relatively stable, although slightly higher and more variable that the other three cells (Figure 17a).

Sulphate release in the Minto North and Ridgetop HCTs had similar results to HC2, HC3, and HC4. All nine of them had their highest sulphate release rates during the initial flushing stages of testing (Figure 17b). HC11 had the maximum rate at 4 mg/kg/wk. The cells all stabilised from week 14 onwards between 0.8 and 1.5 mg/kg/wk with occasional spikes reaching 2 mg/kg/wk. The lower limit of this stable range is determined by calculations that are based on adopted detection limits because the sulphate concentrations were below the analytical detection level.

The source deposit of the samples did not have a distinguishable effect on the sulphate release rates. The higher rates observed from HC1 are likely due to its higher degree of mineralization (90th percentile copper and sulphur concentrations) resulting in high sulphide oxidation rates.

Copper release rates from the HCTs appear to be related to the solid copper content of each sample. Release rates from HC1 were an order-of-magnitude higher than the rates from the other cells for the duration of testing to date. The remaining three Area 2 cells, as well as HC8, HC9, HC10, HC11, and HC12, had similar solid copper content and similar ranges and variability of copper release rates. HC5, HC6, HC7, and HC13 all had lower solid copper content and also had the lowest, most variable copper release rates.

With the exception of HC5, HC6, HC7, and HC13, all of the cells had elevated release rates during the initial flushing stages of the testing. HC1 had a maximum rate of 0.05 mg/kg/wk, and the others had initial ranges of approximately 0.001 to 0.01 mg/kg/wk. The release rates from these cells had declining trends until around cycle 10 to 15, after which stage the trends stabilised (Figure 18).

To date, the release rates from the Area 2 HCTs have continued to be stable; HC1 maintained rates just below 0.01 mg/kg/wk, and the remaining three cells were within the 0.0001 to 0.001 mg/kg/wk range. The release rates from HC8, HC9, HC10, HC11, and HC12 started to decline again after about cycle 80, but further testing is required to determine if the decline will continue further.

Copper release rates from HC5, HC6, HC7, and HC13 have been relatively stable for the duration of testing, but their variability was generally higher than the variability from the other cells (Figure 18c). These four cells had similar rates and variability: fluctuating within an approximate range of 0.0001 to 0.001 mg/kg/wk to the blank cell (HC14). The Cu levels in the blank cell are an indication of low level copper contamination, which is likely affecting the waste rock cells. The analytical lab ran experiments on their air filter system and the Plexiglas used to construct the HCTs, but they were unable to isolate the source of copper contamination.

Cadmium concentrations were frequently below the analytical detection limit for all of the HCTs except HC1 and HC11. As a result, the presented cadmium release rates are largely based on adoption of the detection limit, which generates a release rate of approximately 0.000002 mg/kg/wk. With the exception of some spikes, the cadmium release rates from all of the tests except HC1 and HC11 were consistently at or near 0.000002 mg/kg/wk (Figure 19).

Cadmium release rates from HC1 were initially elevated, with a maximum of 0.00004 mg/kg/wk, and have been declining over the duration of testing (Figure 19a). Release rates from HC11 have been relatively stable in a wide range (generally between 0.000002 and 0.00001 mg/kg/wk with some spiking up to 0.00007 mg/kg/wk) for most of the testing; since cycle 80 the variability looks to be reducing and release rates are stable within 0.000004 to 0.000006 mg/kg/wk (Figure 19c).

Selenium concentrations were initially above detection levels for all HCTS, and most cells developed near- or below-detection limit leachate selenium concentrations over time (Figure 20). The notable exceptions include HC1 (the most mineralized of the Area 2 mineralized waste samples) and HC8 (the moderately anomalous Minto North sample). As a result, the presented selenium release rates are largely based on adoption of the detection limit, which generates a release rate of approximately 0.00002 mg/kg/wk. With the exception of some spikes, the selenium release rates from all of the tests except HC1 and HC11 were consistently at or near 0.00002 mg/kg/wk (Figure 20).

Overall, other parameters showed generally stable or declining trends over time.

Barrel Tests

The one blank and four waste rock field barrel tests have been sampled during the non-frozen months since 2010. As discussed in Section 3.1.3, the samples selected for the barrel tests represented the more mineralized waste rock with sulphur contents greater than 0.1%. The BAR-10 barrel targeted the 10^{th} percentile sulphur content of the more mineralized rock (i.e. 0.15% S) , BAR-50 targetted the 50^{th} percentile (0.37% S), BAR-75 targeted the 75^{th} percentile (0.79% S), and BAR-90 targetted the 90^{th} percentile (1.4% S). The full set of barrel test results is available in Appendix E. Selected results are also shown graphically in Figure 21.

- The leachate pH levels from all of the barrels have been consistently circumneutral for the duration of sampling. As expected given the target sulphur content of the samples, BAR-10 had the most variability and generally the highest pH, fluctuating between 7.5 and 8.2. The other three barrels showed similar levels and variability, and were relatively stable between 7.3 and 8. The blank barrel had more acidic leachate with levels dropping from 6.7 to 5.6 over the 2010 sampling season and may reflect flushing of the apparatus by incident precipitation (rainwater in equilibrium with atmospheric carbon dioxide has a pH of around 5.5).

- Sulphate concentrations have been very stable in all four of the barrels over the monitoring record. BAR-10 had the lowest concentrations (40 to 60 mg/L); BAR-50 had order of magnitude higher concentrations (400 to 800 mg/L); and BAR-75 and BAR-90 had the highest concentrations (1100 to 1600 mg/L). The blank barrel had negligible concentrations, around 1 mg/L.

  Sulphate comprises a very small proportion of the solid sulphur content, so most of the sulphate in the leachate is likely derived from sulphide oxidation. Acid production from this sulphide oxidation is being neutralized (as evidenced by the stable circumneutral leachate pH) by calcium and magnesium carbonates. Although BAR-90 has significantly higher solid sulphur content, its leachate sulphate concentrations were almost identical to BAR-75. This may be due to formation of gypsum [$CaSO_4(2H_2O)_s$], which can precipitate if concentrations of calcium and sulphate reach saturation levels; although no evaluation of equilibrium conditions has been carried out, the calcium and sulphate concentrations in BAR-75 and BAR-90 leachate are consistent with gypsum control.

- The calcium and magnesium concentrations reflect the same pattern as the sulphate concentrations and support the hypothesis that sulphide oxidation products are being neutralized by calcium- and magnesium-bearing carbonate minerals. All four barrels have had stable calcium and magnesium concentrations throughout sampling (with the exception of the initial sample points from BAR-10 and BAR-50). BAR-10 had the lowest concentrations, with calcium stable around 20 to 50 mg/L and magnesium stable around 5 to 10 mg/L. BAR-50 had order of magnitude higher concentrations, with calcium stable around 100 to 200 mg/L and magnesium stable around 10 to 30 mg/L. Finally, BAR-75 and BAR-90 had the highest concentrations with calcium stable around 500 mg/L and magnesium stable around 30 to 60 mg/L. For calcium, the BAR-75 and BAR-90 concentrations are nearly identical, as with sulphate (suggesting gypsum control, as noted in the preceding bullet); however, BAR-75 has magnesium concentrations that are approximately 10 mg/L higher than BAR-90 which may indicate the sulphide oxidation and carbonate dissolution rates are highest in BAR-75.

- Copper concentrations in the barrel leachate appear to be loosely related to the sulphur percentile of each sample, although BAR-10 had higher concentrations than might have been expected. BAR-90 had the highest copper concentrations with a maximum of 0.15 mg/L and a median of 0.07 mg/L. BAR-75 had a median of 0.06 mg/L, and BAR-10 was not much lower with a median of 0.05 mg/L. BAR-50 had the lowest concentrations with a median of 0.03 mg/L.

  Generally, the copper concentrations appear to decrease over the sampling season with the highest concentrations recorded around freshet and the lowest recorded in the fall. This higher freshet- lower fall pattern may reflect continued oxidation (but no flushing) over winter months, followed by higher rates of flushing with the initial flows during the onset of the flowing water period. This seasonal pattern is commonly reflected in full-scale seepage monitoring from waste dumps (at Minto and at other sites with similar seasonal climate variation). No clear trend in copper leaching is apparent over the three sampling years.

- Relative cadmium concentrations in the barrel leachates were correlated to the sulphur percentile of each sample. BAR-90 had the highest concentration with a maximum of 0.0004 mg/L and a median of 0.0003 mg/L. BAR-75 had a median of 0.0002 mg/L, BAR-50 had a median of 0.0001 mg/L, and BAR-10 had a median of 0.00004 mg/L. The chart shown in Figure 21f shows concentration on a logarithmic scale; although the apparent decrease in cadmium concentrations between the 2011 and 2012 monitoring seasons is subtle (and may simply reflect variations in sampling date or seasonal effects), it does suggest that cadmium release was fastest from the freshest rock and that release rates are declining with time. This evidence is consistent with the established theory that weathering rates decline over time under stable pH conditions.

- Selenium concentrations show also show a degree of seasonal variability, and an order-of magnitude range between the barrels (roughly 0.003 to 0.03 mg/L). Over the three monitoring seasons to date, selenium concentrations have remained within a stable range and do not appear to exhibit the same declining rates of release over time that were noted for cadmium in the preceding bullet.

Concentrations of other parameters show stable or declining trends within the framework of seasonal variation noted in the preceding discussion points.

4.1.3 Implications for Waste Rock Management

The ABA characterization of Phase V/VI waste rock has shown that Minto North waste rock is expected to have low sulphur content and moderate neutralization potential, and therefore has little to no potential to develop acid weathering conditions. The majority of the granodiorite waste rock from Area 2 Stage 3, Ridgetop North, and Ridgetop South pits is expected to be Non-PAG and suitable for bulk disposal, however the observed release of NP:AP<3 waste rock from the Phase IV Area 2 Stage 2 Pit is expected to be repeated for the Phase V/VI pits to the south of Area 2 Stage 2. As such, operational characterization will be necessary, along with a continuation of the waste segregation program that has been developed for Phase IV. Disposal of waste rock classified as Uncertain or PAG (based on an interim NP:AP threshold of 3) in locations where it will be saturated in the long term (co-disposed in TMFs, or placed in mined-out voids underground) should continue in Phase V/VI.

4.2 Phase V/VI Tailings

4.2.1 Static Test Results

Complete results of Phase V/VI tailings static testing are included in Appendix F.

Total sulphur (S(T)) and sulphide sulphur ($S(S^{2-})$) content (calculated as the difference between S(T) and sulphate sulphur ($S(SO_4)$) for the Phase V/VI tailings are shown in Figure 22. For samples with S(T)<0.2%, most of the sulphur is in the sulphide form. For the three samples with

S(T)>0.2%, S(T) was measurably greater than $S(S^{2-})$ due to the measurable $S(SO_4)$ content, which suggests the test samples may have contained gypsum or other sulphate mineral.

Figure 23 shows a plot of neutralization potential calculated from inorganic carbon content (NP_{TIC}) vs. NP for Phase V/VI tailings samples. All Area 2, Minto North, and Minto East samples had NP_{TIC} < NP, while in contrast Area 118, Copper Keel, Ridgetop and Wildfire samples had NP_{TIC}>NP. These results suggest that both silicate minerals and iron or manganese carbonates contribute to the various NP measurements for the Phase V/VI tailings.

Plots of NP_{TIC} versus AP and NP versus AP are shown in Figure 24 and Figure 25. All Phase V/VI samples had NP:AP ratios greater than 2, and all but one sample had NP_{TIC}:AP ratios greater than 2. Whichever measure is used, the low sulphide sulphur content and the moderate neutralization potential in the Phase V/VI tailings indicate that acidic conditions are unlikely to develop in these materials (under either saturated or unsaturated storage conditions).

4.2.2 Kinetic Tests

Column Test Results

At the time of report preparation, 192 weeks of subaqueous tailings column testing had been received. Results are provided in both tabular and chart form in Appendix G.

Monitoring of water cover pH from both Column 1 (Area 118 tails) and Column 2 (Ridgetop tails) showed an initial decline from circum-neutral pH levels to slightly acidic values (between pH 5.5 and 6.5) to around week 50, followed by a return to circum-neutral pH conditions for the duration of testing. Concentrations of sulphate and major cations in the surface water display an initial decline, and then remain within a stable range over the duration of testing. Trace element concentrations are uniformly low over time in the water cover in both columns. Of note, the manganese concentrations in the surface water in both columns over time suggest that there is a flux of manganese from the tails into the overlying water (although concentrations remain low (~0.03 mg/L or lower).

Monitoring of bottom port leachate showed pH values typically ranging from pH 7 to pH 8 for both columns over the course of testing to date. Sulphate concentrations peaked in Week 6 of testing for both columns (Column 1 peak value of 67 mg/L; Column 2 peak value of 101 mg/L), before rapidly declining to < 20 mg/L by Week 15 and remaining within a stable range for the duration of testing. Similarly, alkalinity concentrations for both columns peaked in Week 8, then declined to long term stable values, with Column 2 (Ridgetop tails) having higher alkalinity concentrations over the duration of testing. Major cations showed a similar pattern, with early peaks and lower stable concentrations in latter weeks of testing.

Most trace elements had similar concentrations in both surface water and bottom port leachate. The following points discuss notably elevated concentrations of trace elements in bottom port water (compared to surface water) from the subaqueous tailings columns:

- Barium increased dramatically in Column 1 leachate beginning in Week 14, and remained at concentrations over 2 mg/L from Week 34 through the duration of testing. Inspection of sulphate concentrations shows an apparent inverse relationship, with a corresponding dramatic decline of sulphate concentrations. The increase in barium concentrations is thought to result from equilibrium dissolution of the sparingly-soluble mineral barite (barium sulphate) when sulphate concentrations became favourable.

- Manganese concentrations for both bottom ports peaked in Week 6, with a maximum concentration of 0.085 mg/L, before declining. In latter weeks, manganese concentrations in Column 2 leachate were observed to increase to roughly 2/3 of initial peak concentrations. There is no obvious correlation with behaviour of other parameters, and the late-stage increase in manganese concentrations remains unexplained.
- Molybdenum concentrations in bottom port leachate from Column 1 stabilized around 0.01 mg/L after Week 22, while Column 2 concentrations peaked at ~0.04 mg/L in Week 56 before declining. Late stage molybdenum concentrations in Column 2 leachate approach coincident concentrations in Column 1.

Over 192 weeks of testing, concentrations of most parameters in both cover and leachate water for both tests showed early peaks followed by generally stable or declining values. Variability over the mid- to late-stage test period ranged across parameters from minimal to ~order of magnitude- this degree of variability is commonly observed in both long term laboratory weathering tests and in full scale operational monitoring. Overall, the differences in porewater geochemistry from the two tailings samples, as represented by column bottom port leachate, are minor, and the results can be considered together when evaluating long term geochemical loadings from saturated tailings.

4.2.3 Implications for Tailings Management

Phase V/VI tailings are expected to be similar to tailings already produced from the Minto and Area 2 ore bodies. Test results indicate that there is minimal risk of acid conditions developing within the Phase V/VI tailings due to a large excess of neutralizing potential over acid potential. Operational monitoring of the DSTSF has shown that there is a potential for neutral pH leaching of selenium, and copper and other metals from the unsaturated tails, and it is expected that the Phase V/VI tails would behave in a geochemically-similar fashion under unsaturated conditions.

Disposal of Phase V/VI tailings as a slurry tails product in the proposed Phase V/VI Tailings Management Facilities (TMFs) will serve to minimize neutral pH metal leaching. Two factors will be significant in considering implications for long-term loadings from Phase V/VI tailings:

- disposal of the bulk of the tailings in a permanently-saturated state will minimize oxidation of contained metal-bearing sulphide minerals, and subsequent leaching of soluble oxidation products; and
- unsaturated tailings beaches in the final Main Pit TMF and Ridgetop North Pit TMF are expected to exhibit leaching characteristics similar to those of the existing unsaturated tailings in the DSTSF.

5 Source Terms for Minto Creek Water Quality Prediction

5.1 Approach

"Source terms" refer to predicted concentrations or loadings in waters that are in contact with various types of geologically-sourced waste materials, under the expected disposal conditions at the site. The source term predictions were key inputs into the Minto Phase V/VI water and load balance model (WLB), which was used to develop water quality predictions for Minto Creek monitoring stations W3 and W1, and the Area 2 pit lake. Predictions were completed for aluminum, ammonia, arsenic, cadmium, chromium, copper, fluoride, iron, lead, manganese, mercury, molybdenum, nickel, nitrate, nitrite, selenium, silver, sulphate, thallium and zinc. A detailed description of the Phase V/VI water and load balance model is provided in a companion report titled "*Minto Mine Phase V/VI Expansion: Water and Load Balance Report*" (SRK 2013b).

This document describes the geochemical source terms that were used as input to the Minto Creek water quality predictions for the period beginning in operations and extending into the post-closure period. For the purposes of the water quality prediction, the post-closure period is assumed to be the period following reclamation and decommissioning of the mine site when steady state conditions have been established. In the context of the Phase V/VI mine plan, a key aspect of these steady state conditions will be the filling of the Area 2 Pit to the spill point and the development of stable chemical loadings to the Area 2 Pit from the site components.

The aim in developing the site wide WLB was to arrive at conservative, but reasonable, estimates of water chemistry in Minto Creek. In practical terms, this aim was met through the selection of appropriate source terms for the various mine components. Where there was uncertainty in the inputs used to develop the source terms, conservative (typically higher) values were selected for use as model inputs. For the major sources of load (those sources related to waste rock and to tailings), two source terms were developed:

- Best Estimate source terms, which were intended to cover the range of typical loading rates from the existing mine components and to allow those rates to be applied on a unit basis (surface area or mass/volume) to existing and future site components;

- Reasonable Worst Case source terms, which were intended to reflect extreme loadings at the upper end of what has been observed from the existing facilities, and to allow those rates to be applied on a unit basis to existing and future site components.

In the context of actual project performance, the predicted 'expected case' concentrations should be considered to be typical performance values (including the range of variability observed over operations at the Minto Mine). The predictions which represent the 'Reasonable Worst Case' scenario are considered to be highly unlikely to occur, and should be considered to represent the extreme upper end of the range of potential water quality performance of the mine. In the unlikely event that water quality concentrations in the range of the 'Reasonable Worst Case' values occur, it is expected that this condition would be transient and of short duration (as observed with the upper range of water quality concentrations in the site monitoring results to date) (SRK 2013b).

In general, the approach used for the Minto source terms was to use data from the site monitoring programs wherever possible, supplemented as required by incorporating laboratory test results and scale up calculations.

5.2 Geochemical Inputs to Water Quality Prediction-Minto Creek

5.2.1 Source Terms - Tailings

Dry Stack Tailings Storage Facility

To appropriately estimate long-term chemical loadings from the Dry Stack Tailings Storage Facility (DSTSF), estimates of tailings pore water chemistry are required. No samples of tailings porewater have been collected to date, but operational monitoring of seepage water quality from finger drains constructed in the foundation of the DSTSF has occurred (stations W8 and W8A). Additionally, seepage surveys downgradient of the DSTSF were conducted in 2012 in which two seeps were identified and sampled (SS9 and SS10). The location of the monitoring stations and the 2012 seeps are presented in Figure 26. The results for these stations are presented in the 2012 annual report (Minto 2013a), and are summarized as follows.

A review of the results from W8 and W8A (from 2005 to present) and from the 2012 seepage survey was carried out. Monitoring results from W8 and W8A show considerable variation in concentrations over time (Figure 27). Generally, the results of the 2012 seepage survey were similar to the 2012 results from W8A. Between the 2011 and 2012 sampling seasons, the base of the DSTSF where W8 and W8A are located was filled in and vertical culverts were installed to allow sampling to continue. Despite this effort, sampling at W8 was not possible in 2012.

For the majority of parameters, the maximum concentrations observed in water downgradient of the DSTSF term have not increased since the Phase IV water quality predictions were developed (SRK 2010a), because the maximum concentrations occurred in or before 2010. The exceptions are molybdenum, selenium, thallium, and zinc, which have marginally increased (Figure 27 shows zinc and selenium concentrations over the period of monitoring). Zinc concentrations at W8a in 2012 are of particular note due to increases in concentrations by more than two orders of magnitude. These 2012 concentrations are uncharacteristic of any water previously observed at Minto and are believed to reflect leaching of zinc from the galvanized culvert that was installed to allow sampling access through the waste rock fill material, rather than leaching from waste rock or the DSTSF. Therefore, these were not considered in the updated source term predictions.

The DSTSF source terms used in the WLB were defined based on the observed water chemistry at station W8, which has experienced the highest concentrations of copper, cadmium, selenium and sulphate of the relevant monitoring stations over the period of record. The following points describe the source terms:

- Best Estimate source term: 50^{th} percentile dissolved concentrations from the complete W8 record;
- Reasonable Worst Case source term: 95^{th} percentile dissolved concentrations from the complete W8 record.

The values for both source terms are included in Appendix H.

Other assumptions made in defining the DSTSF source term include:

- In the post-closure period, tailings seepage will contain minimal suspended solids, and dissolved concentrations will be equal to total concentrations; and
- Tailings seepage will have circumneutral pH.

Tailings Slurry Water

During active milling, soluble load from the processed ore reports to the tailings slurry, and this load can be an important source during the operational period. Operational monitoring of tailings slurry can provide a good indication of actual loading rates, but interpretation of operational monitoring results can be confounded by recycling of process water (as occurred at Minto during the period in which tailings were filtered and dry-stacked) or by reclaim from a TMF pond (as is occurring at Minto presently).

During the transition from filtered tailings to slurry tailings disposal, there was a 5 month period (November 2012 through March 2013) when fresh water was drawn from the Water Storage Pond and discharged to the Main Pit TMF as tailings slurry. The monitoring results from this period therefore provide a good indication of the loading that occurs from ore processing, as no recycling or reclaim was occurring.

The tailings thickener overflow is monitored as station W-14 as part of the routine monitoring program. Average concentrations from W-14 monitoring over the November 2012 to March 2013 period were adopted as the tailings slurry source term and are provided in Appendix H.

Main Pit Tailings Management Facility

The final configuration of the completed Main Pit TMF (MPTMF) will consist of a thin (few metre thick) zone of unsaturated tailings overlying a large saturated mass of tailings. During closure, a soil cover will be constructed on the final tailings surface.

The saturated tailings are not expected to contribute material loadings to Minto Creek over the long term. Proof-of-concept calculations based on groundwater flow estimates and concentrations from saturated column tests showed that loadings via seepage pathways will not be significant[2].

To estimate the future loadings from the unsaturated tailings, operational monitoring results from station W37 (seepage collection sump downgradient of the DSTSF- Figure 4) were used to calculate loadings from the DSTSF, and those loadings were normalized to a mass basis. The following points summarize the estimation process.

[2] Proof-of concept calculations: Darcy flux estimates (400 m * 13 m cross section, 13 m gradient, flux controlled by hydraulic conductivity of tailings (expected: $9.7*10^{-6}$ cm/sec; upper bound : $9.7*10^{-5}$ cm/sec)) and maximum concentrations from saturated column tests (see Appendix G for column test results).

1. Pumped volumes from W37 (111,000 m^3 in 2012) and average or 95^{th} percentile 2012 W37 concentrations were used to develop expected case or worst case load estimates (mg/yr).

2. Load estimates were divided by total mass of DSTSF tailings (5.1 million tonnes) to yield load per unit mass (mg/tonne/yr).

3. Tonnage of unsaturated tails in the final MPTMF configuration was estimated (2 m thick unsaturated tails at 1.3 t/m^3 over the entire footprint (15.2 ha)).

4. Expected case (worst case) source terms for the MPTMF were defined as expected case (worst case) load per unit mass multiplied by unsaturated mass (mg/yr).

These source terms were applied for the operational, closure and post-closure periods.

Loadings from the ore stockpiles, the mill area, and the Mill Valley Fill Extension all report to W37, in addition to loadings from the DSTSF. It is therefore considered conservative to attribute all W37 load to the DSTSF in the derivation of the unsaturated tailings source terms.

The values for both the expected case and worst case source terms are included in Appendix H.

Ridgetop North Pit Tailings Management Facility

The Ridgetop North Pit TMF (RNPTMF) source terms were developed as described above for the MPTMF, using the final footprint area of the RNPTMF (8.2 ha).

The values for both source terms are included in Appendix H.

Area 2 Pit Tailings Storage Facility

Tailings in the Area 2 Pit TMF will be saturated and overlain by a pit lake in the post-closure period. During operations, loadings from deposited tailings are reflected in the tailings slurry source term.

In large tailings facilities, consolidation of slurry-deposited tailings can persist for many years after final tailings deposition. This consolidation process expels tailings porewater and can be an important source of loading.

Minto tailings are relatively coarse, which results in rapid consolidation and a shorter time to a fully-consolidated state relative to finer grained tailings. A scoping evaluation of expected consolidation rates and loadings at the start of the post-closure period (e.g. 3 years after final tailings deposition) indicated that loadings due to ongoing consolidation will be low (scoping results indicate <1% of total site loads) and therefore no consolidation loadings were included in the WLB.

5.2.2 Source Terms- Waste Rock

Waste rock from the Main Pit placed in the Main Waste Dump (MWD) and in the Southwest Waste Dump (SWD), and Area 2 Pit (Stage 1 and 2) waste rock has also been placed in the SWD. Water chemistry of drainage from these facilities has been monitored at several routine monitoring stations (W15, W30, W31, W32, W38, W39, and W40) since 2007, as well as through semi-annual seepage surveys (three seeps were monitored in 2012- SS1, SS3, SS4).

All surface drainage from the MWD and SWD catchment areas reports to routine monitoring station W15 and is transferred to the Main Pit by pumping. Pumped volumes are tracked by the mine for water management purposes, and water chemistry at W15 is regularly monitored. These records were used to develop a waste rock volume- based source term as described in the following steps.

1. Water quality records from 2007 through 2012 were compiled, and average and 95th percentile concentrations were calculated.

2. Average and 95th percentile total catchment loadings were estimated using average and 95th percentile concentrations (from step 1) together with flows estimated based on the mean annual runoff (329 mm) and runoff coefficient (0.3) and catchment area of station W15 (253 ha) (SRK 2013b).

3. Loads estimated in step 2 were assumed to be entirely derived from the SWD and the MWD. Estimates of loading rates per volume of waste rock were made by dividing the total step 2 catchment load by the volume of rock that had been placed at end-of-year 2011 (the latest year records were available).

The results of step 3 were then adopted as the expected case and reasonable worst case source terms for volume-based loadings from bulk waste rock. The advantage of source terms based on units of rock volume is that they can be readily applied to existing and proposed new or expanded waste facilities to estimate future loadings.

5.2.3 Source Terms- Other Sources

Undisturbed Catchment Areas

Access Consulting Group and Minnow Environmental Inc. evaluated background water chemistry by reviewing monitoring records from reference streams within the Minto Creek catchment and from the main stem of Minto Creek. The reviewed records span the pre-operational and operational periods through the end of 2009. One of the outcomes of this review was a recommendation the different water chemistry be used to represent background water quality (also referred to as undisturbed catchment runoff) for the upper and lower portions of the Minto Creek catchment (in this case, upper refers to upstream of the Water Storage Dam (WSD) and lower refers to downstream of the WSD). This recommendation was adopted and implemented in the WLB model.

The seasonally-variable concentrations adopted for runoff from undisturbed upper and lower Minto Creek catchments are provided in Appendix H.

Main Pit and Area 2 Pit Walls

Loadings from the pit walls exposed above the final lake elevations were estimated using results of humidity cell testing (Appendix D) along with estimates of reactive rock mass in the pit walls. This is the same procedure used for the Phase IV water quality prediction (SRK 2010a). Nearly all the mineralized material exposed in pit walls will be well below the final tailings (Main Pit) or lake (Area 2 Pit) elevations.

An average of release rate from all humidity cell tests was adopted as an expected case source term input to estimating loads from pit walls, and the average of the maximum release rates was adopted as the reasonable worst case source term input. Laboratory release rates were multiplied by three scaling factors to estimate equivalent field release rates. These factors were:

- A temperature factor of 0.2, to account for lower rates of chemical reactions under field conditions. Typical lab operating temperatures were 20°C and average site ground temperatures were assumed to be 0°C; application of the Arrhenius equation (assuming an activation energy of 60 kJ/mol) suggests a factor of 0.17 would be justified.
- A particle size factor of 0.2, to account for the difference in reactive surface area between the crushed HCT sample and the blasted rock that will be present at full scale.
- A contact or flushing factor of 0.5, to account incomplete flushing of weathering products from the full scale waste dumps (HCT operating procedure ensure complete flushing of weathering products).

Reactive rock mass was estimated for each pit wall by multiplying the approximate wall rock surface area by a thickness of 2 m. Loadings from the resulting reactive rock mass were then estimated by multiplying rock mass by estimates of field release rates.

Assumptions inherent to the estimates of loadings from Main Pit and Area 2 pit walls were as follows:

- Loading rates remain constant over time, as fresh weathering surfaces are exposed by ravelling of walls; and
- Pit lakes reach final elevation quickly and long-term loadings from pit walls below the final lake elevation are minimal.

The values for both source terms are included in Appendix H.

Area 118 Backfill Dump

The Area 118 Backfill Dump will be constructed entirely with overburden from mining of Area 2 Stage 3 Pit. For water quality prediction purposes, this was assigned the same source term as undisturbed catchment areas.

Ridgetop South Backfill Dump

The Ridgetop South Backfill Dump will be constructed entirely with overburden from mining of Ridgetop North Pit. For water quality prediction purposes, this was assigned the same source term as undisturbed catchment areas.

Ore Stockpile Areas

Separate source terms were developed for the operational and post-closure periods for the ore stockpile areas.

The operational source terms were based on seepage monitoring around the ore stockpiles in 2012 (stations SS5, SS6, SS7, SS8 (Minto 2013a)). Monitoring results were pooled, with the average concentrations adopted as the expected case source term and maximum concentrations as the worst case source term.

The post-closure source terms were estimated based on scale up of humidity cell release rates in a manner similar to that described above for the Main Pit and Area 2 Pit walls (using the same humidity cell test results for expected case and worst case sour case terms). A mine rock thickness of 2 m was assumed to exist over the footprint of the ore stockpile areas to make allowance for any residual loadings that make occur from the ore stockpile footprints.

The values for both source terms are included in Appendix H.

Mill Area

Expected case and worst case source terms were estimated based on scale up of humidity cell release rates in a manner similar to that described above for the Main Pit and Area 2 Pit walls (using the same humidity cell test results for expected case and worst case sour case terms). A mine rock thickness of 2 m was assumed to exist over the footprint of the mill area.

The values for both source terms are included in Appendix H.

Nitrogen Loadings

Residual ammonium nitrate/fuel oil (ANFO) explosives in tailings and water rock contribute the vast majority of nitrogen species to the mine water. Once mining is complete and ANFO use ends, there will be no new sources of nitrate and ammonia loadings.

Explosives use will decline during operations from a projected 3.4 million kg in 2014 to 0.3 million kg in 2019. There will be no explosives use after mining is complete in 2019. During mining, loadings of nitrogen species are expected to within the range observed to date (Figure 32) and to decline thereafter. In order to evaluate effects in lower Minto Creek, the pooled monitoring results from station W3 and related stations W16, W17 and W50 were queried for appropriate source terms:

- Expected case: maximum concentrations observed from July 2011 through the end of 2012;

- Reasonable worst case: maximum concentrations over the entire record, after removal of anomalous outliers (see isolated high concentrations in Figure 32).

The adopted nitrogen species source terms are shown in Table 5-1.

Table 5-1: Source Terms for Nitrogen Species

N-Species	Units	Expected Case	Reasonable Worst Case
N_NH3	mg/L	0.642	1.04
N-NO2	mg/L	0.11	0.64
N-NO3	mg/L	8.77	22.7

Source: T:\1CM002.003_PhaseV_WaterQualityPrediction\Task600_Reporting\020_Tables\[Table5-1_N-SpeciesSourceTerm.xlsx]

Underground Workings

No source term or load has been attributed to the underground workings. The underground workings are expected to be at least partially flooded following the cessation of mining, although there may not be discharge from the portal given the relatively high elevation of the portals (there are no obvious natural springs near the proposed portal areas). The workings themselves are not expected to be a significant source of load, given the small exposed surface area, the low expected rates of water flux, and the geochemical similarity of the underground rocks to the surface-disposed waste rock.

Particulate Loadings from Suspended Solids

To estimate total concentrations of the parameters of interest, operational monitoring records from W3 from 2008 onwards were evaluated to determine the concentrations of metals associated with the suspended sediment. Median elemental concentrations of suspended sediment were calculated from total suspended solids (TSS) results and from the associated elemental load (based on the difference between total (unfiltered) and dissolved (filtered) water chemistry). The suspended metal concentrations were then calculated assuming that the site discharge (at W3) would contain 15 mg/L TSS (the upper limit allowed under the current water licence), and incremental loadings due to suspended solids were calculated for each month. It is important to recognize that this is a technique for conservative estimation of particulate concentrations, and not an expression of the mine’s intention to discharge at the licence limit for TSS.

In the GoldSim model, the incremental loadings from suspended solids were added as a discrete source to the dissolved load reporting to W3. For runoff entering Minto Creek between W3 and W1, the source term was calculated from actual catchment monitoring data; since the total concentrations from undisturbed ground runoff were used, no allowance for additional loading due to suspended solids was necessary.

The particulate loading source term is included in Appendix H.

6 Source Terms for McGinty Creek Water Quality Prediction

6.1 Approach

There is presently no mine development within the McGinty Creek watershed. During Phase V/VI, Minto North Pit (MNP) will be developed in the headwaters of the easternmost of two major tributaries that join to form lower McGinty Creek (Figure 4). To evaluate the potential effects of developing MNP on water quality in McGinty Creek, a scoping level water quality assessment was carried out (SRK 2013b). This document describes the geochemical source terms that were used in that assessment.

6.2 Conceptual Loading Model

During active mining, any water that accumulates in MNP will be transferred to the Minto Creek catchment and managed with other mine water. As a result, loadings to McGinty Creek from the operational phase of MNP are expected to be minimal, and for this reason the water quality evaluation described in the following sections was carried out as a worst case snapshot for the post-operational period only.

To develop the scoping-level evaluation of post-mining water quality in McGinty Creek, a conceptual model of loadings from MNP was required. As loadings from MNP are expected to be a function of the surface area of exposed (i.e. unsaturated) pit walls that remain following mining, it was assumed for evaluation purposes that the pit would not fill with water in the long term and that therefore the entire pit shell would be exposed and generating load. This is considered a conservative approach, since records from a near-by monitoring well (09MW-03) have shown that the groundwater table is typically within a few metres of the ground surface (SRK 2013c) and the most likely post-mining outcome is that MNP will be partially flooded with a water level similar to the pre-mining groundwater table at the low point in the pit rim.

For assessment purposes, it was assumed that loads generated in MNP will report to McGinty Creek instantaneously (in other words, there were no allowances built in for travel time) and that transport is conservative (i.e. no load attenuation occurs along the flow path).

The post-operational estimates of did not consider any residual nitrogen loadings from MNP to McGinty Creek. This was considered appropriate since, during operations, the majority of blasting residues would be exported to Minto Creek with the waste rock and overburden, or with the pit sump water, and only trace quantities of blasting residues would remain in the McGinty Creek catchment following completion of mining.

6.3 Geochemical Inputs to Water Quality Prediction-McGinty Creek

6.3.1 Source Terms

Undisturbed Catchment Areas

Access Consulting Group evaluated background water chemistry in McGinty Creek and developed monthly average total concentrations measured during baseline monitoring at station MN4.5 (located near the mouth of McGinty Creek) for use as the source term for undisturbed catchment runoff (ACG 2013). These values were adopted for the water quality prediction, and the adopted source term is provided in Appendix I.

Minto North Pit Walls

Loadings from the Minto North Pit walls were estimated using results of laboratory humidity cell tests along with estimates of reactive rock mass. Results from Minto North humidity cells HC6, HC7, and HC8 were pooled, and the maximum laboratory release rate for each parameter from the pooled data set was adopted for use in the source term calculations.

Laboratory release rates were scaled to field release rates as described previously for the Area 2 Pit and Main Pit walls (Section 5.2.3).

Reactive rock mass was estimated for the Minto North pit wall by multiplying the three dimensional pit wall surface area (15.7 ha) by an assumed reactive thickness of 2 m and multiplying by an in-situ rock density of 2.7 t/m^3 to convert volume to mass. Loadings from the resulting reactive pit wall mass were then estimated by multiplying reactive wall mass by estimates of field release rates.

Assumptions inherent to the scoping estimates of loadings from Minto North Pit walls include:

- Pit walls consist entirely of rock (no allowance for reduced loadings from overburden, which is expected to make up nearly 20% of the final wall area);
- Loading rates remain constant over time, as fresh weathering surfaces are exposed by ravelling of walls; and
- The pit remains empty and none of the wall area is flooded.

The Minto North pit wall source term is provided in Appendix I.

This report, **Minto Mine Phase V/VI Expansion: Phase V/VI ML/ARD Assessment and Inputs to Water Quality Predictions**, was prepared by

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All data used as source material plus the text, tables, figures, and attachments of this document have been reviewed and prepared in accordance with generally accepted professional engineering and environmental practices.

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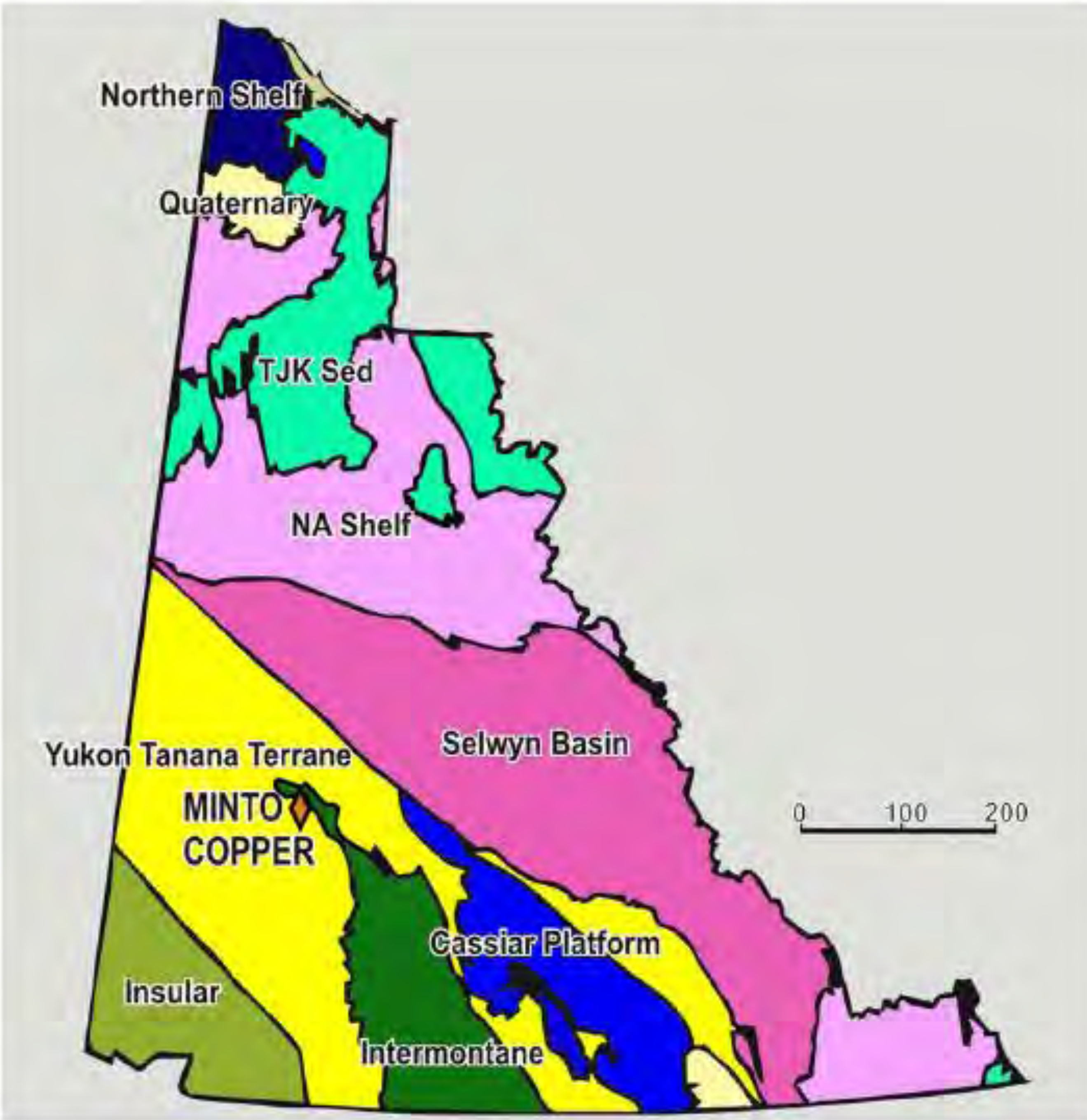

Source: Minto (2012). Minto Phase VI PFS Technical Report.

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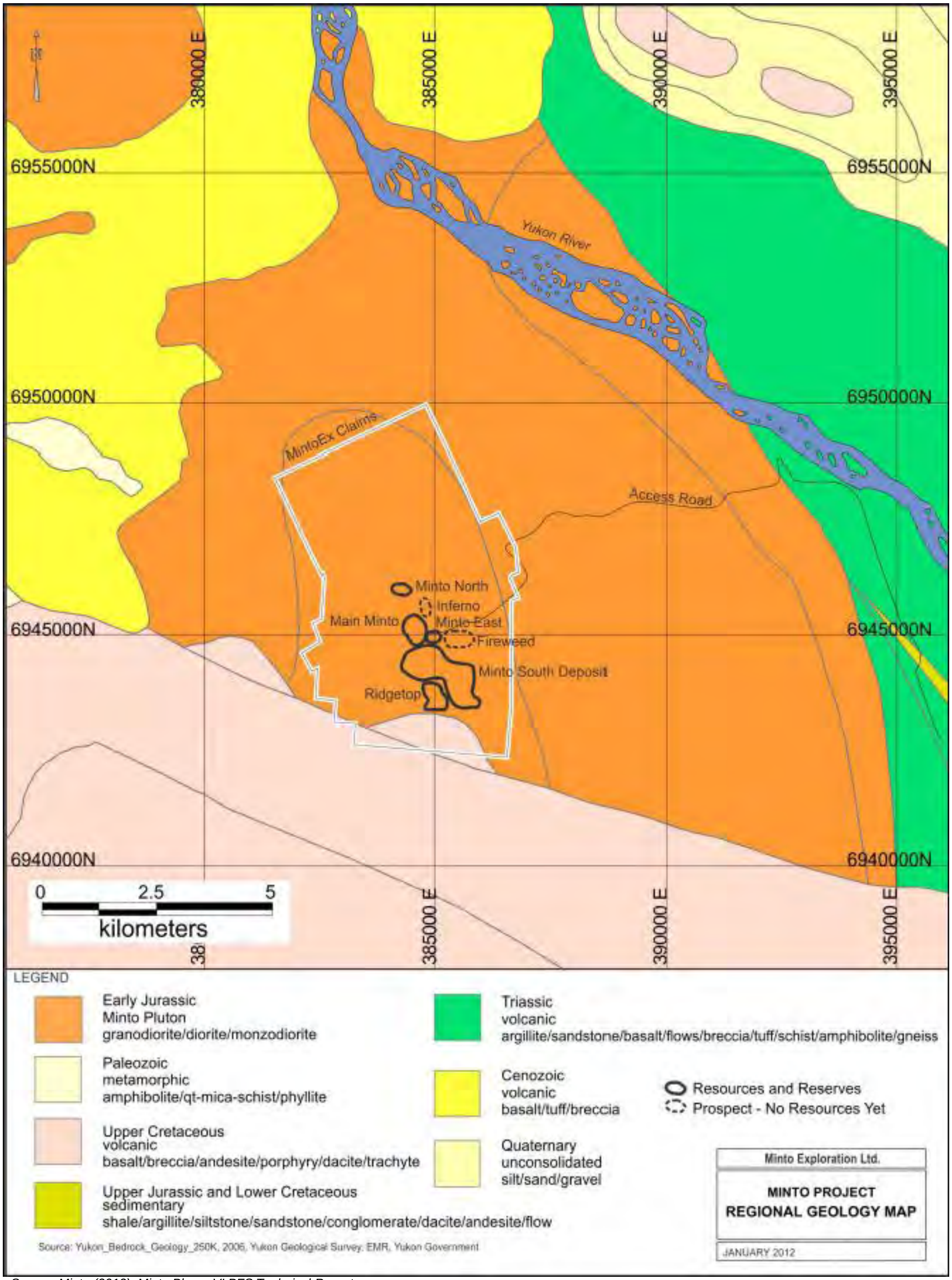
Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

Yukon Geology

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	1



Source: Minto (2012). Minto Phase VI PFS Technical Report.

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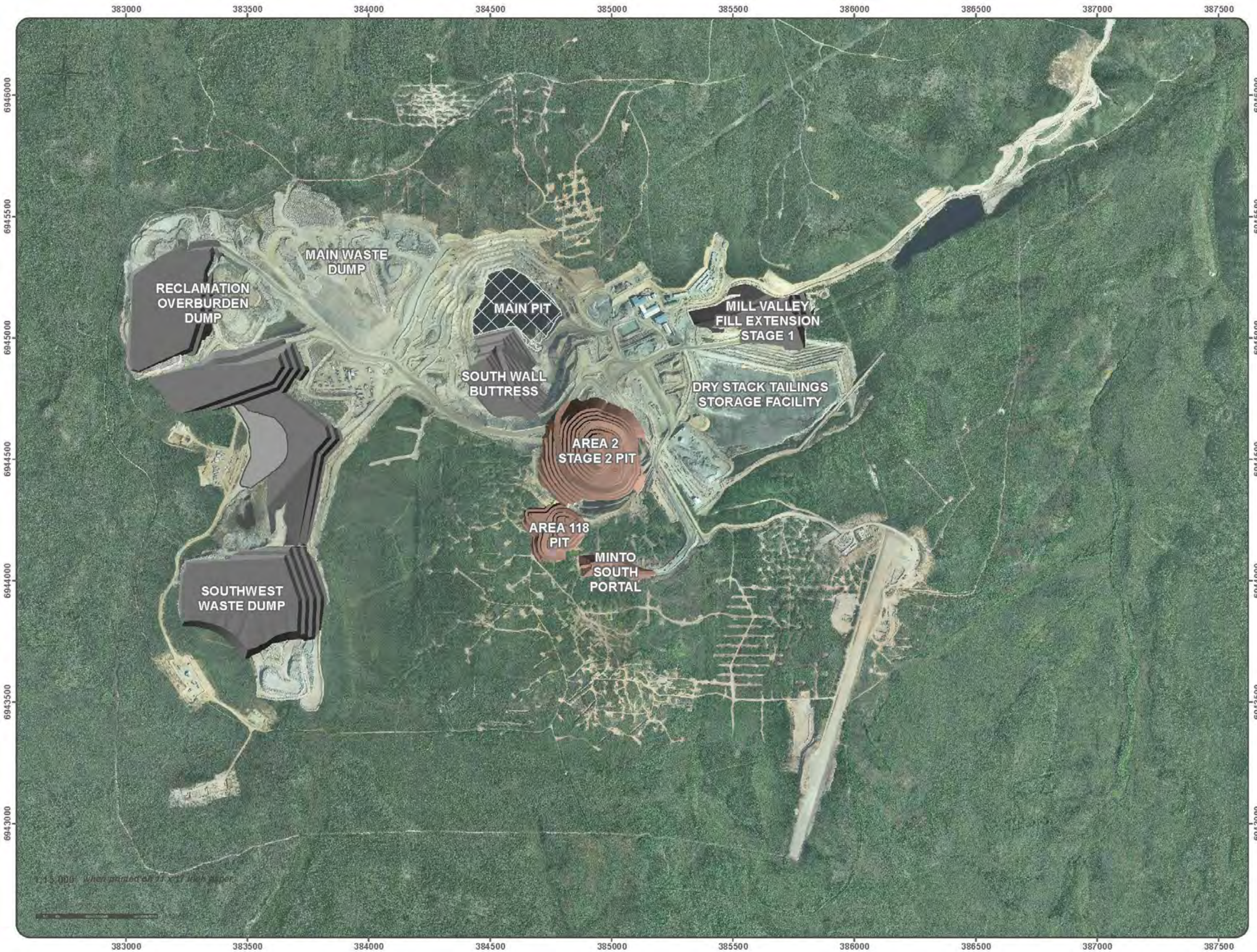
	Regional Geology		
PROJECT: 1CM002.003	DATE: June 2013	APPROVED: DBM	FIGURE: **2**



Phase IV Tailings
Phase IV Dumps
Phase IV Pits

Source: Adapted from original figure in Minto Explorations Ltd. 2013a. Minto Mine Phase V/VI Expansion, Project Proposal: Phase V/VI Expansion of Mining and Milling, Minto Mine, Yukon.

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Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

General Arrangement- End of Phase IV

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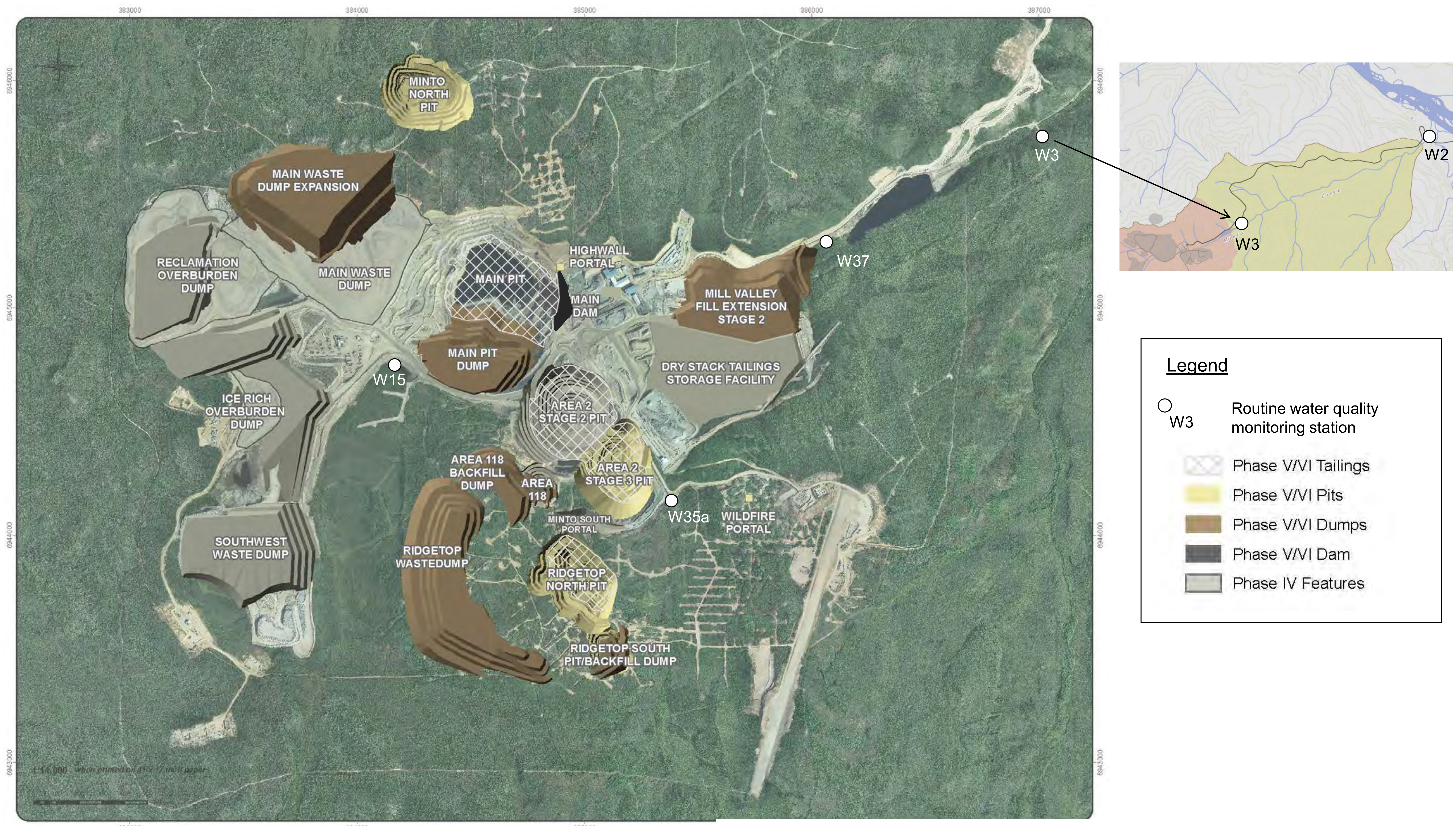

Source: Adapted from Figure 1-1 (prepared by Access Consulting Group) in Minto Explorations Ltd. 2013a. Minto Mine Phase V/VI Expansion, Project Proposal: Phase V/VI Expansion of Mining and Milling, Minto Mine, Yukon.

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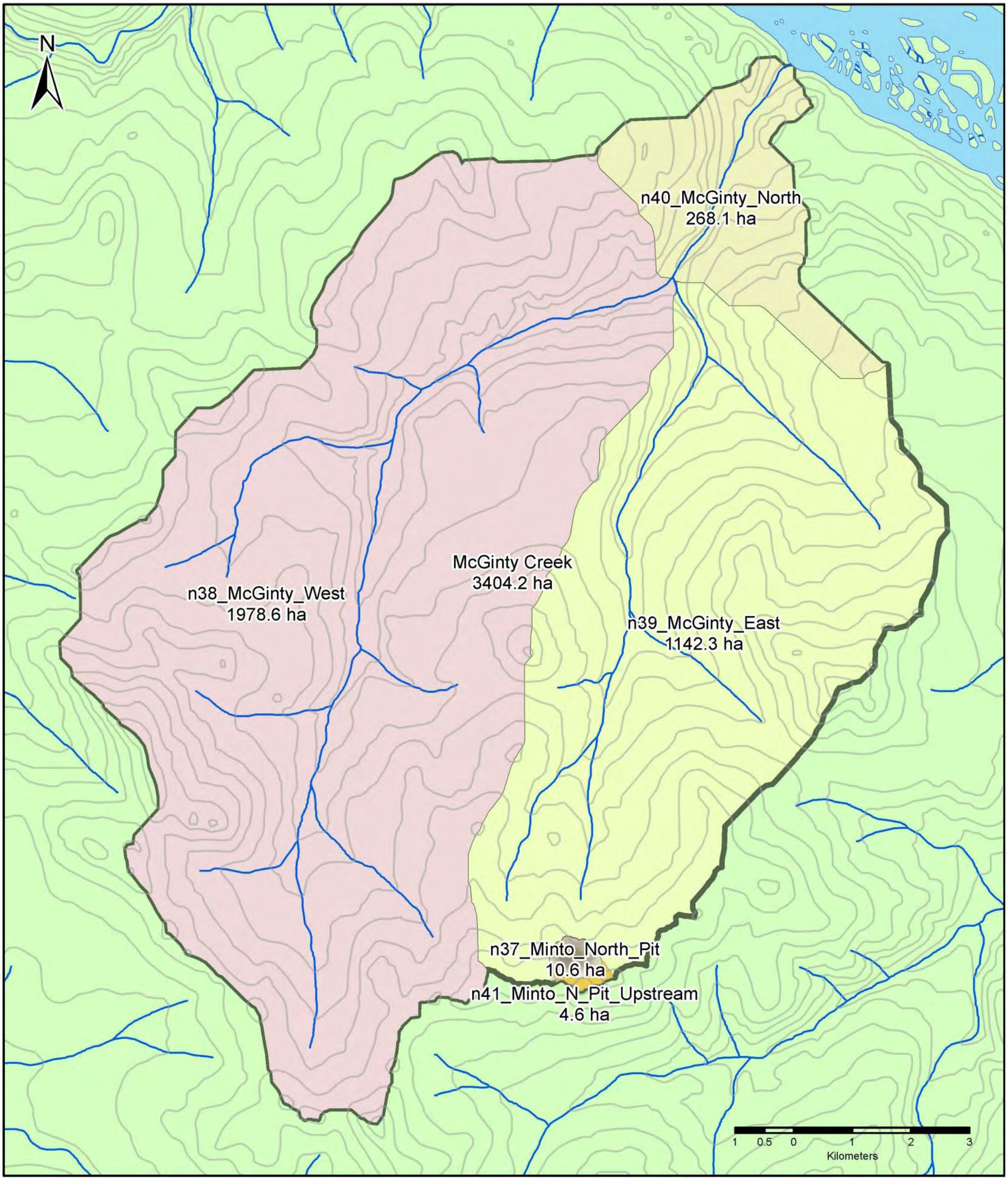
		General Arrangement- End of Phase V/VI
Job No: 1CM002.003 Filename: Fig_4_PhaseV-VI_GeneralArrangement.pptx	Minto Mine	Date: June 2013 / Approved: DBM / Figure: 4



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Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

McGinty Creek Watershed and Proposed Minto North Pit

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	5

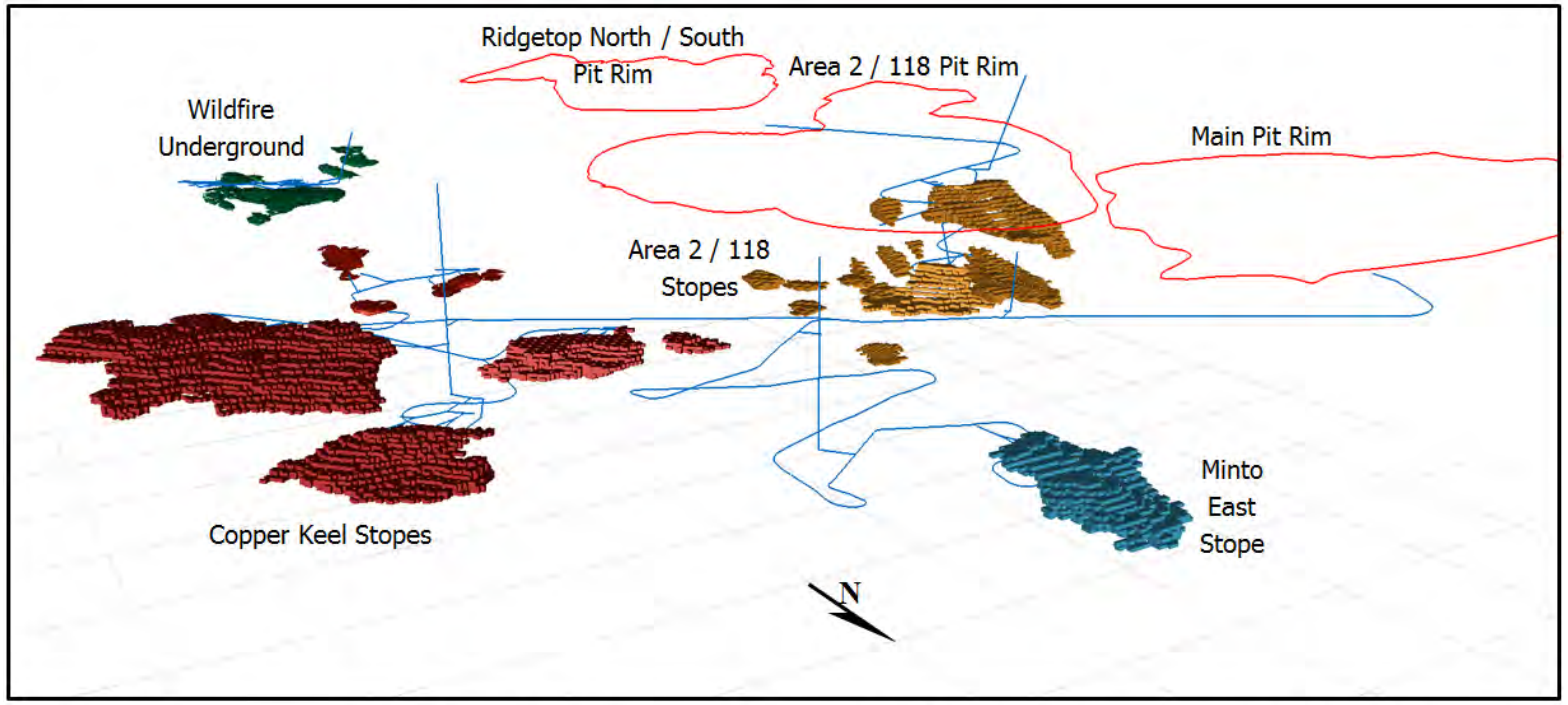

Figure 3-8: Perspective View, Looking Southwest, of Underground Stopes and Development.

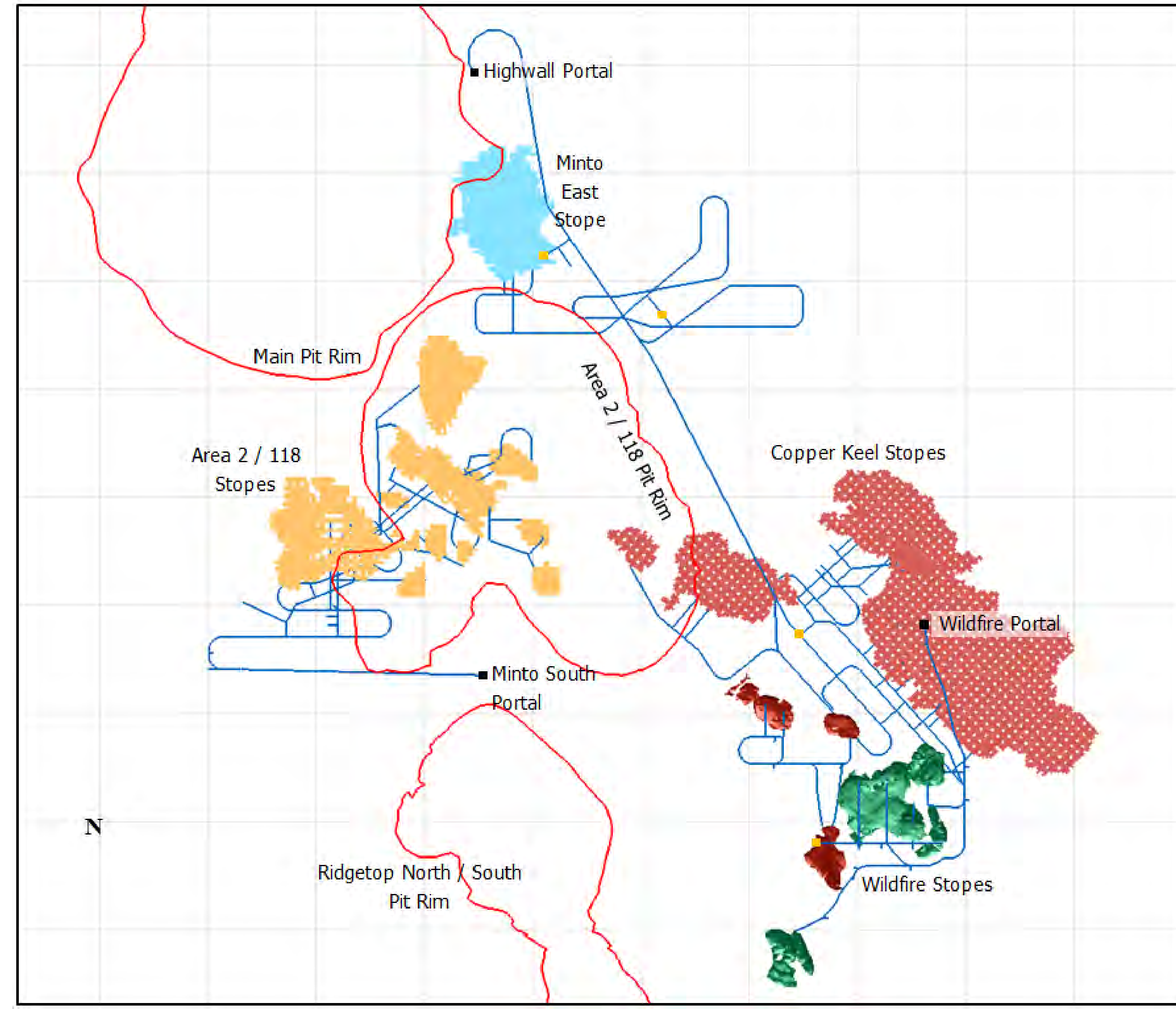

Figure 3-9: Plan View of the Minto South Underground Deposit and Wildfire Underground.

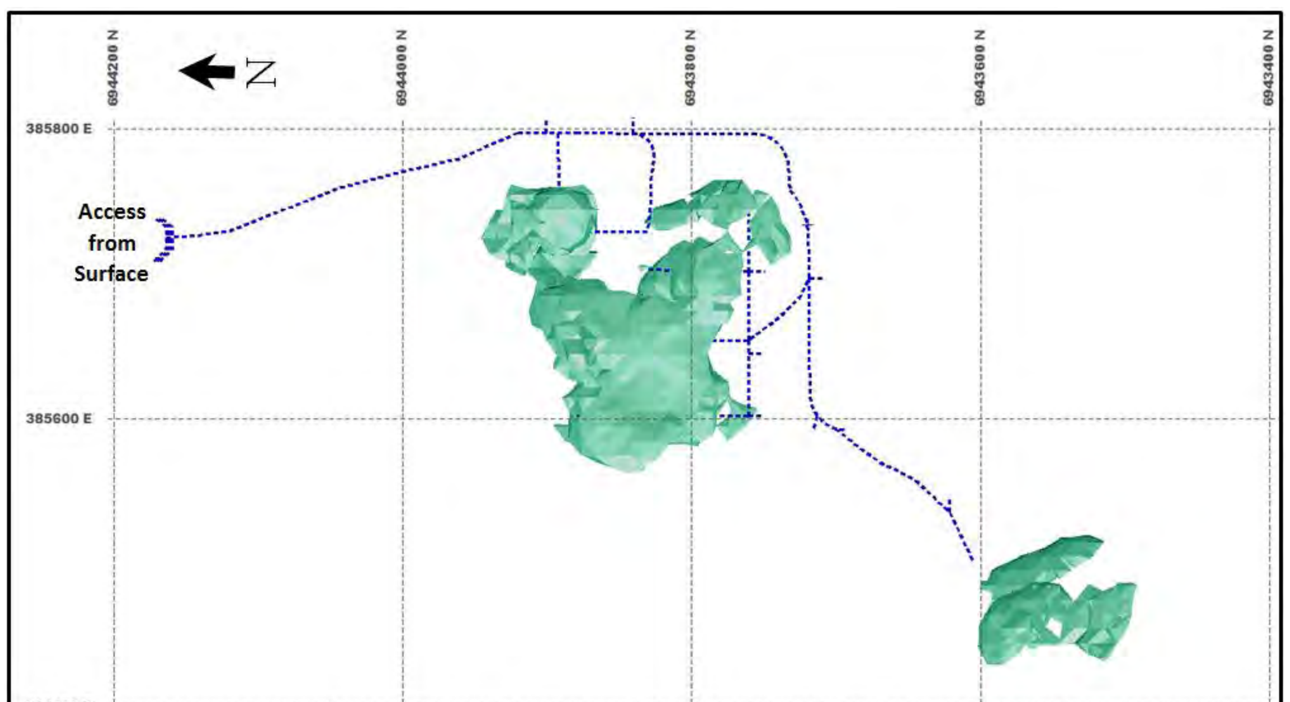

Figure 3-10: Plan View of Wildfire Underground.

Source: Minto Explorations Ltd. 2013a. Minto Mine Phase V/VI Expansion, Project Proposal: Phase V/VI Expansion of Mining and Milling, Minto Mine, Yukon.

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Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

Plan and Perspective Views of Phase V/VI Underground

Job No: 1CM002.003	Minto Mine	Date: June 2013	Approved: DBM	Figure: 6
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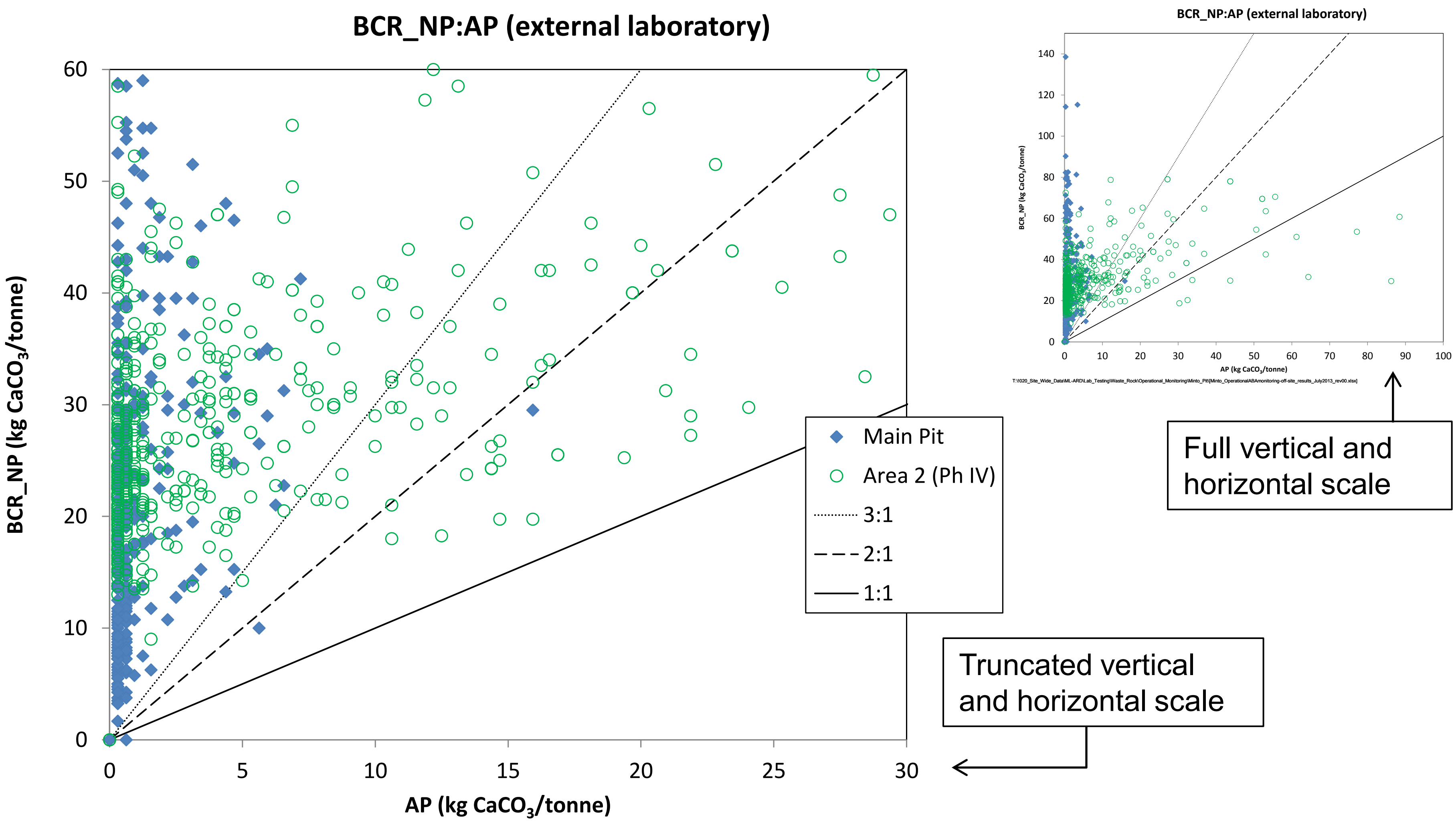

T:\!020_Site_Wide_Data\ML-ARD\Lab_Testing\Waste_Rock\Operational_Monitoring\Minto_Pit\[Minto_OperationalABAmonitoring-off-site_results_July2013_rev00.xlsx]

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Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

Main Pit, Area 2 Pit Operational Monitoring: Results From Off-site ABA Testing

PROJECT:	DATE:	APPROVED:	FIGURE:
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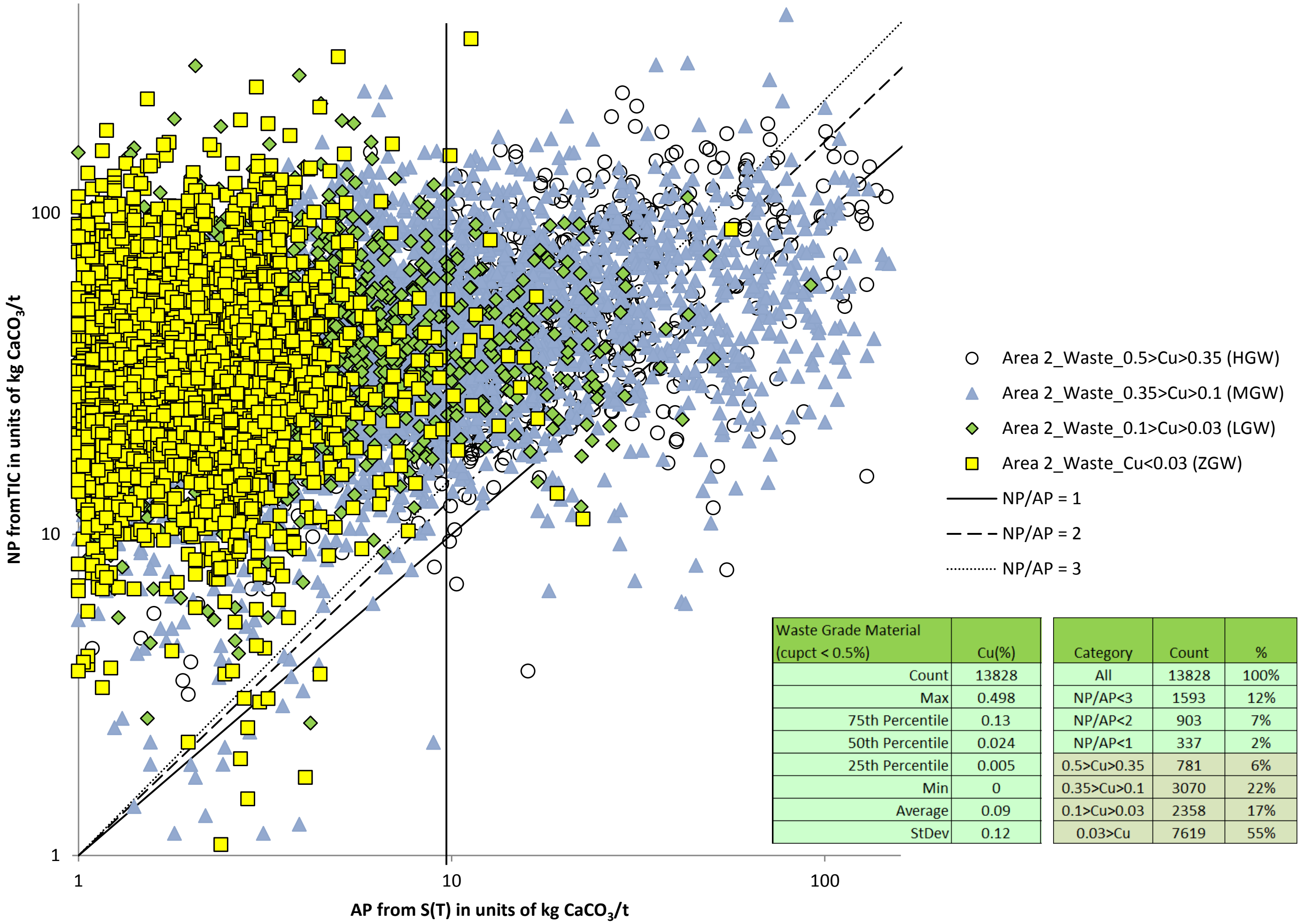

Waste Grade Material (cupct < 0.5%)	Cu(%)
Count	13828
Max	0.498
75th Percentile	0.13
50th Percentile	0.024
25th Percentile	0.005
Min	0
Average	0.09
StDev	0.12

Category	Count	%
All	13828	100%
NP/AP<3	1593	12%
NP/AP<2	903	7%
NP/AP<1	337	2%
0.5>Cu>0.35	781	6%
0.35>Cu>0.1	3070	22%
0.1>Cu>0.03	2358	17%
0.03>Cu	7619	55%

T:\!020_Site_Wide_Data\ML-ARD\Lab_Testing\Waste_Rock\Operational_Monitoring\Area2_Pit\Results_2013June24\[Minto Mine Drillhole Data with ARD_srk_rev03.xlsx]

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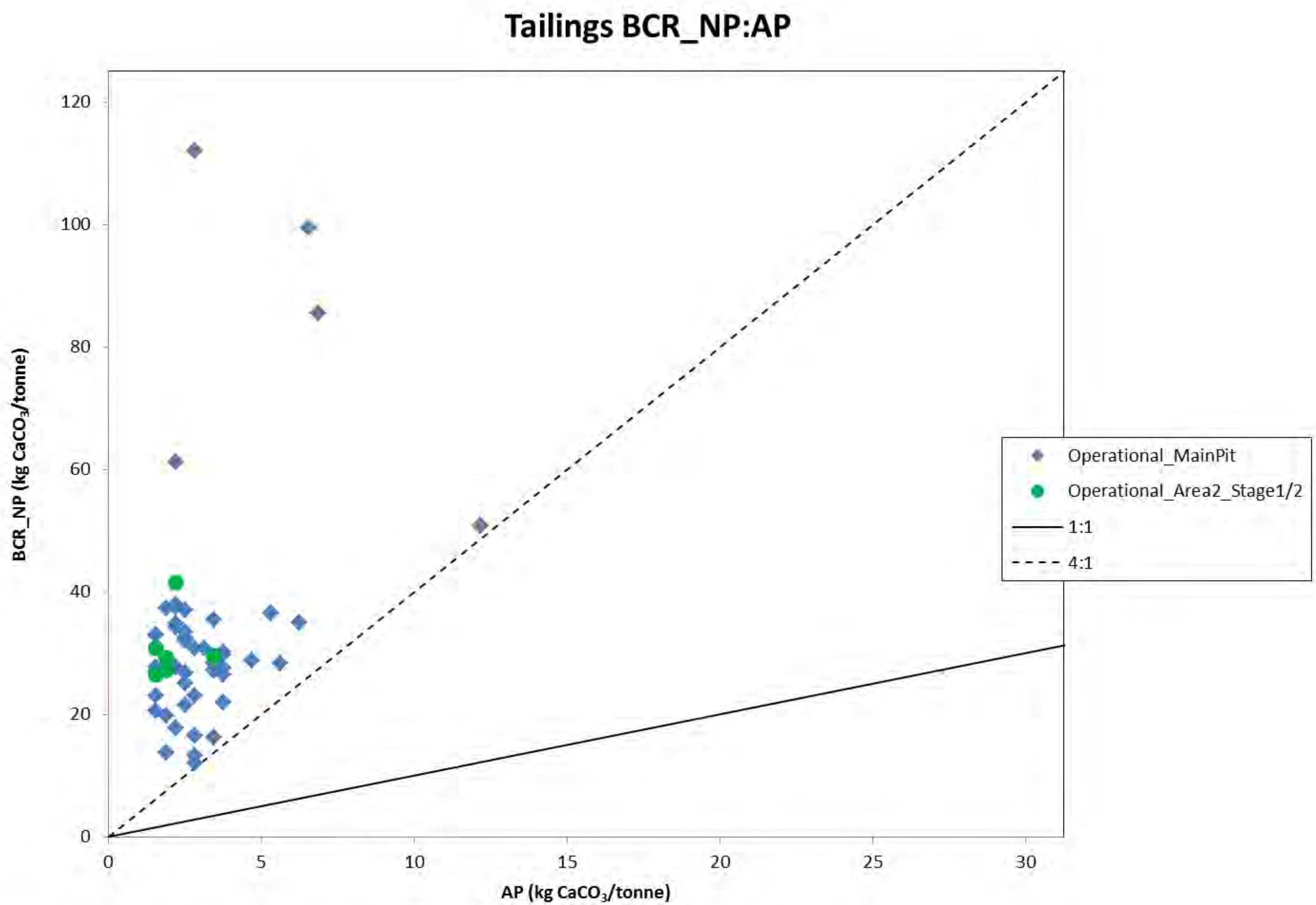
CAPSTONE MINING CORP.
MINTO MINE
OPERATED BY MINTO EXPLORATIONS LTD.

Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

Area 2 (Phase IV) Operational Monitoring: Results From On-site ABA Testing

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	8



T:\020_Site_Wide_Data\ML-ARD\Lab_Testing\Tailings\Operational_Monitoring\[Tailings_ABA_Operational_Compiled_1CM002_003_dbm_REV00.xlsx]

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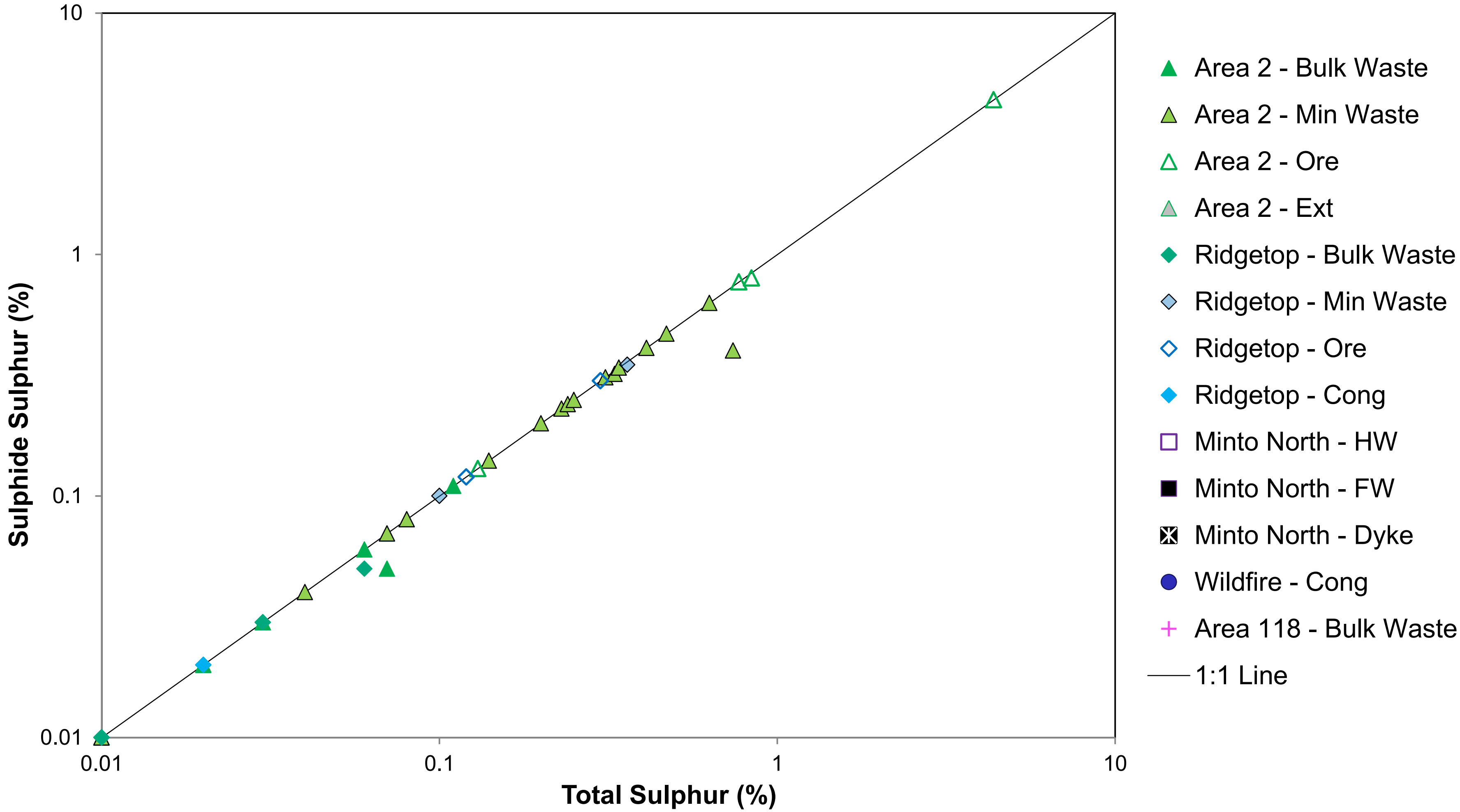
Minto Mine Phase V/VI Expansion:
ML/ARD Assessment and Inputs to Water Quality Predictions

Tailings Operational Monitoring: ABA Results

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	9



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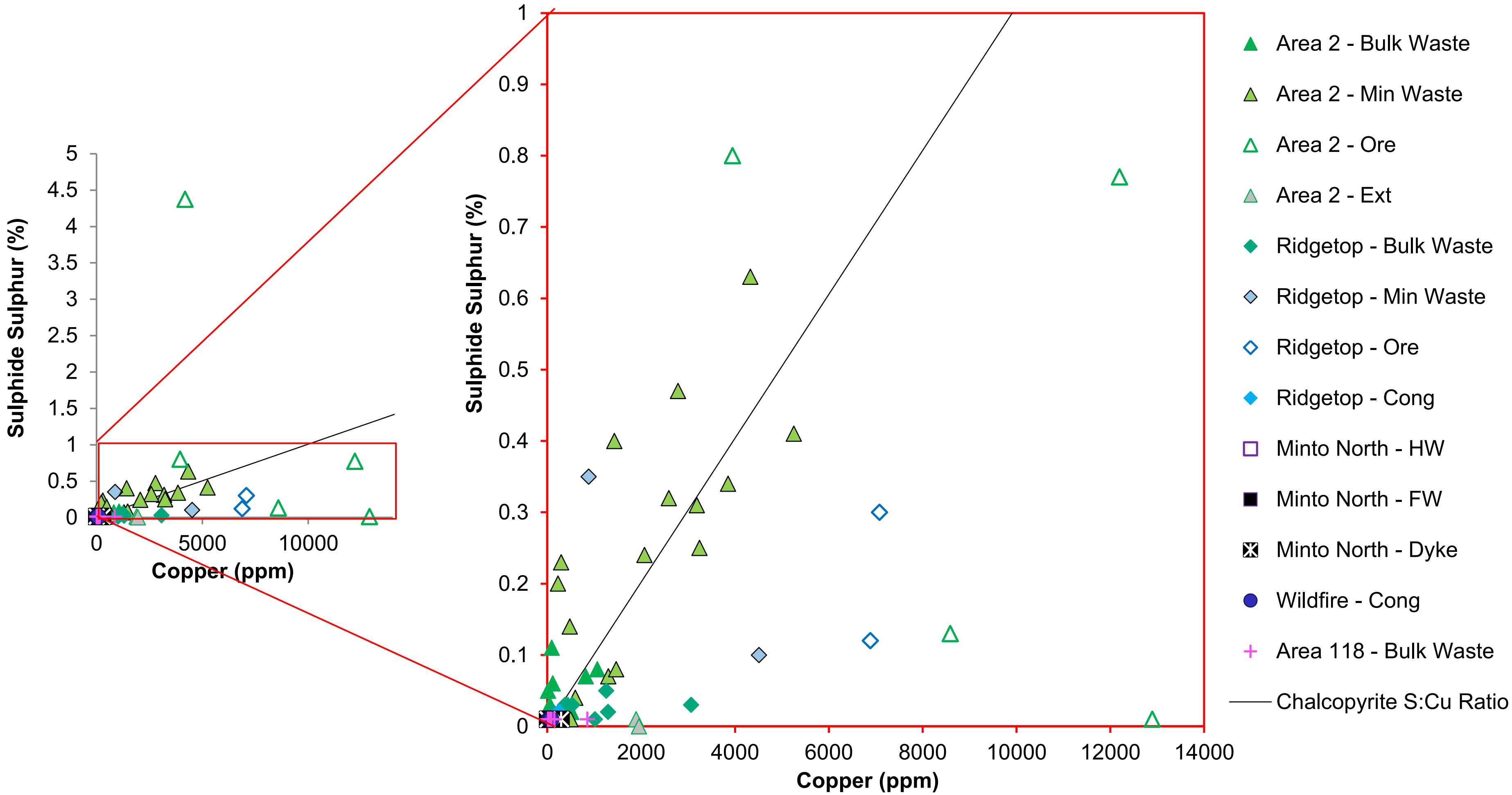
Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

Phase V/VI Waste Rock: Sulphide Sulphur vs. Total Sulphur

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	10



P:\01 SITES\Minto\!020 Site Wide Data\ML-ARD\Lab Testing\Waste Rock\Static Testing\[1CM002.003 WR PhaseV-VI Static Compiled dbm rev00.xlsx]

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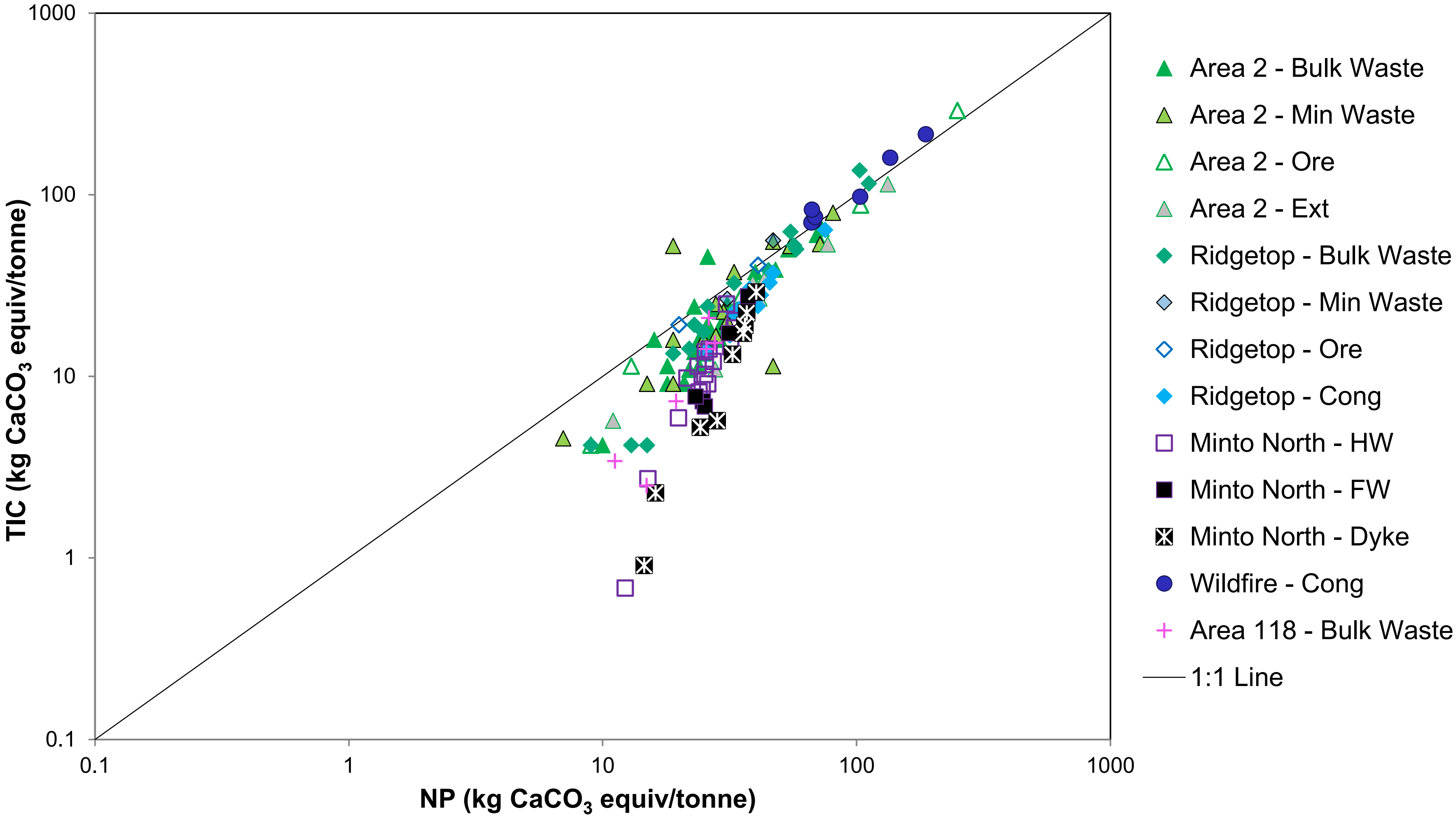
Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

Phase V/VI Waste Rock: Sulphide Sulphur vs. Copper

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	11



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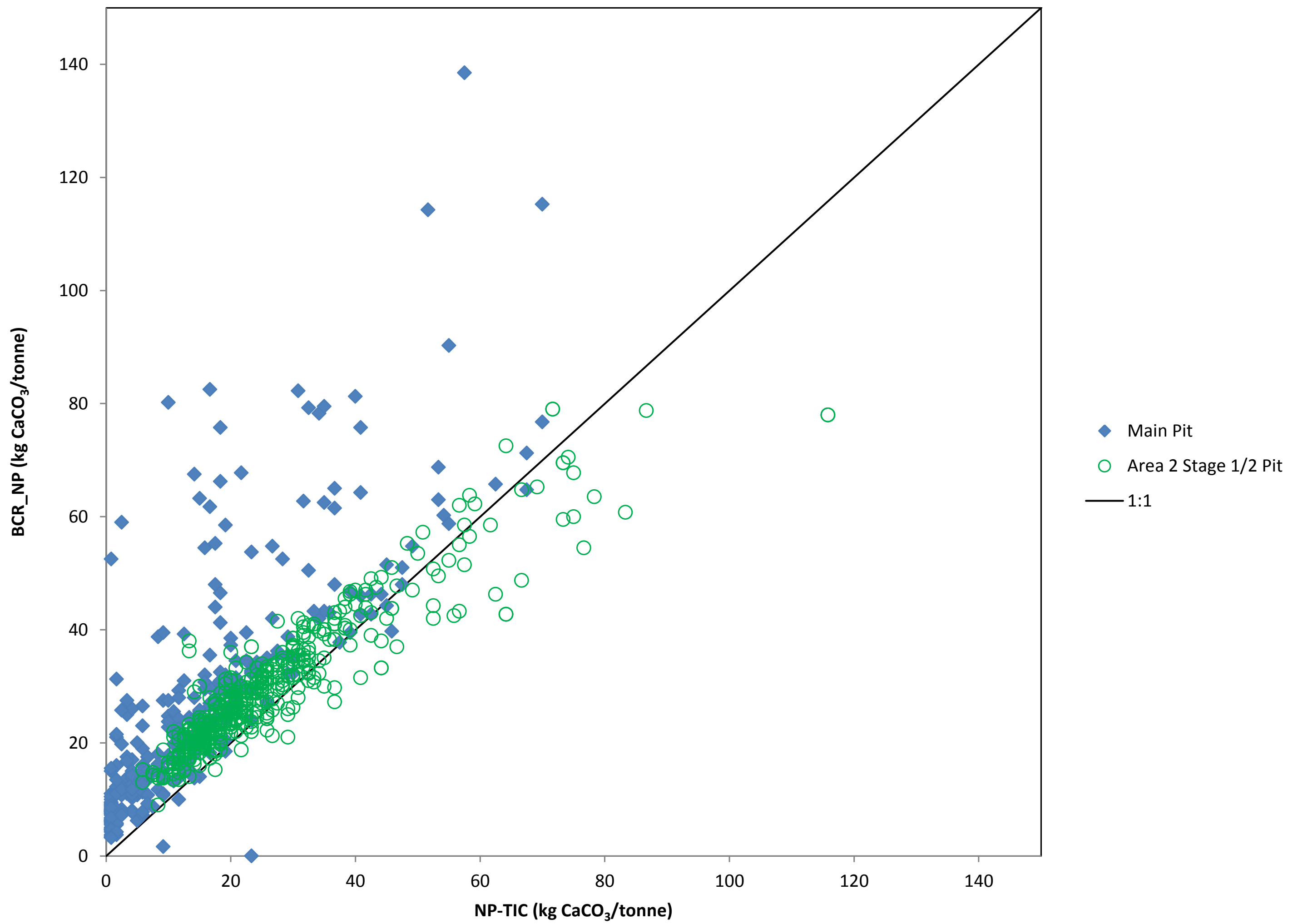
Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

Phase V/VI Waste Rock: NP_{TIC} vs. NP

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	12



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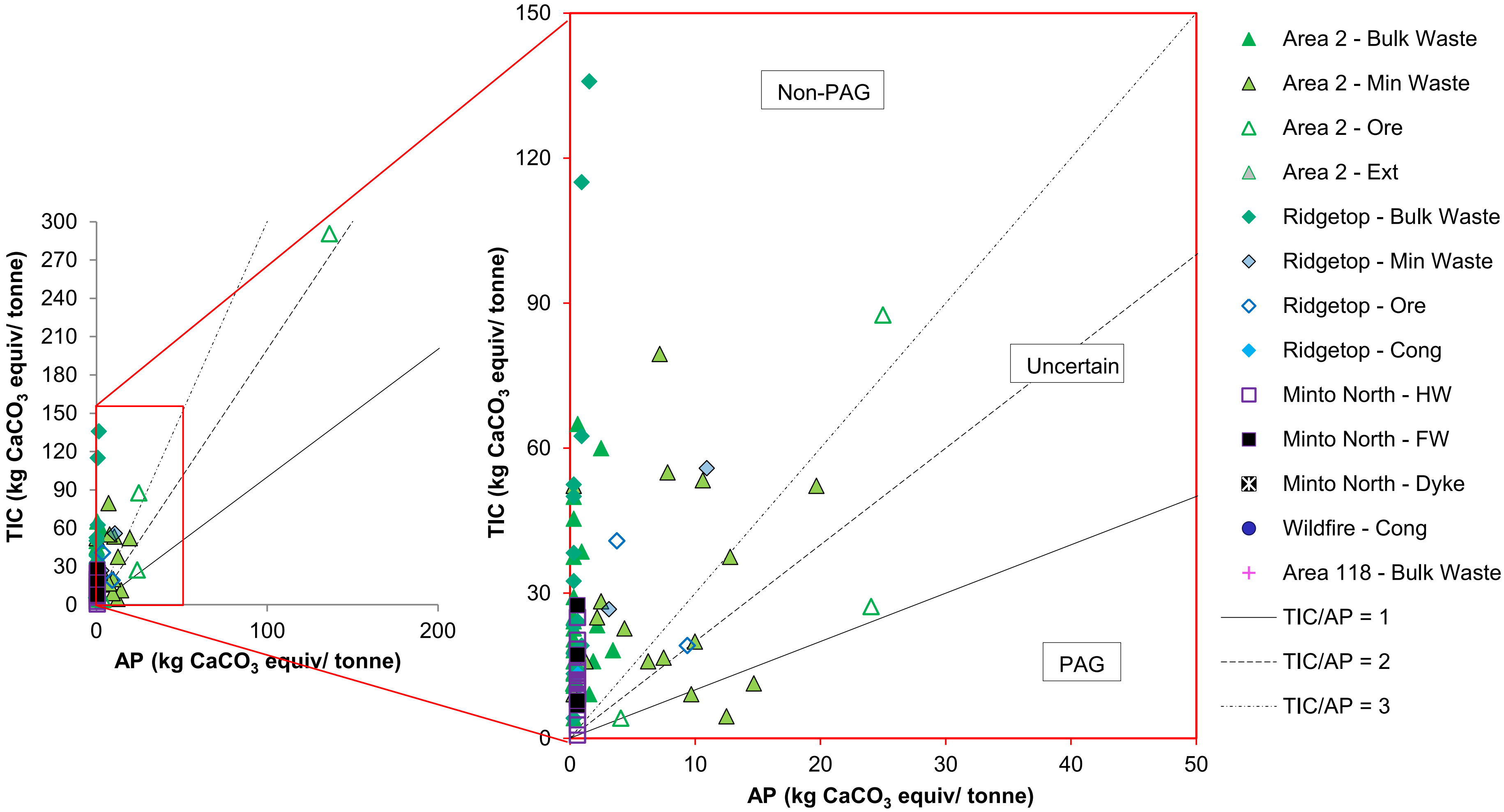
Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Prediction

Main Pit and Area 2: NP_{BCR} vs. NP_{TIC}

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	13



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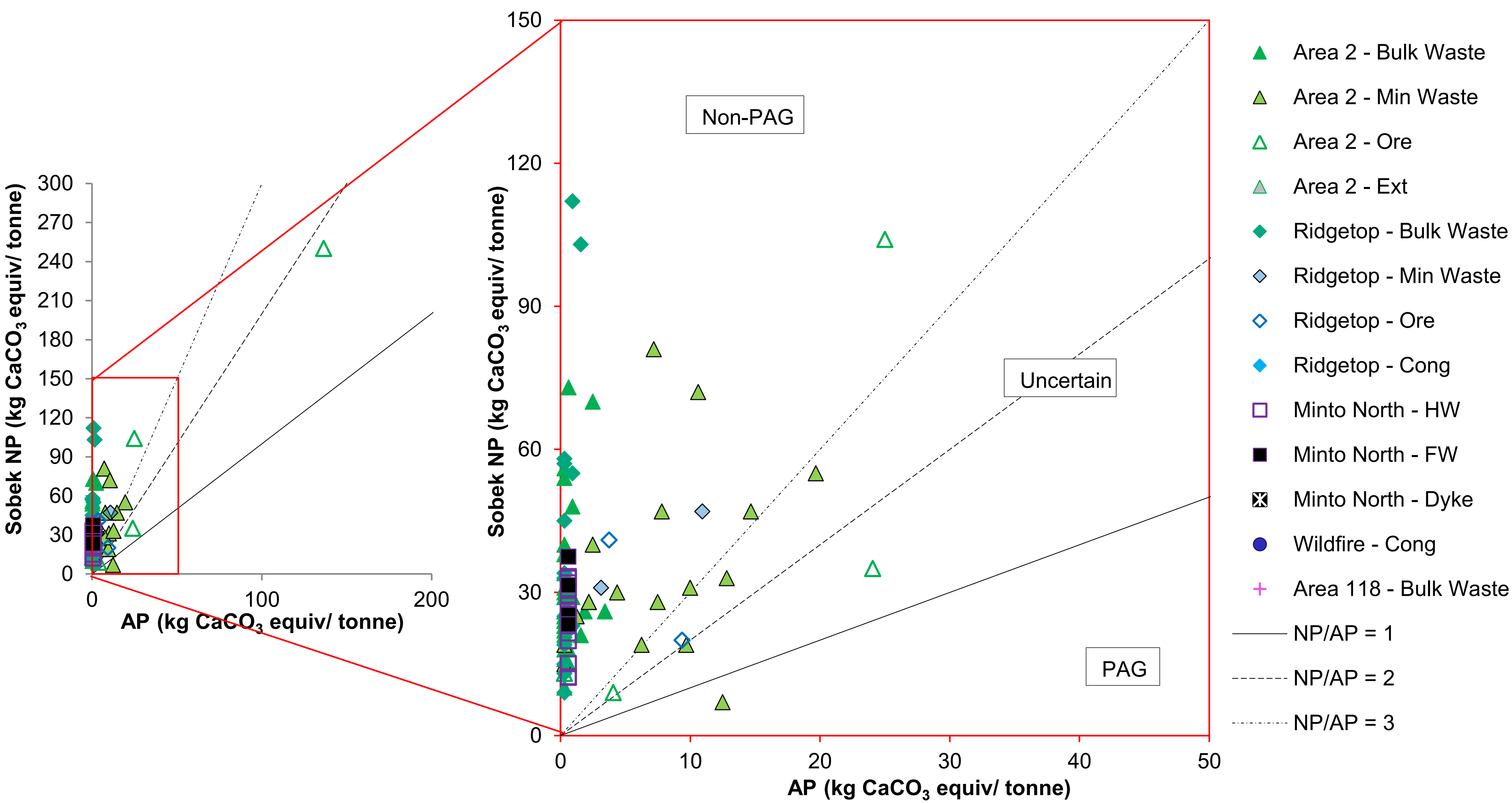
srk consulting	Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions
CAPSTONE MINING CORP. MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	**Phase V/VI Waste Rock: NP_{TIC} vs. AP**

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	14



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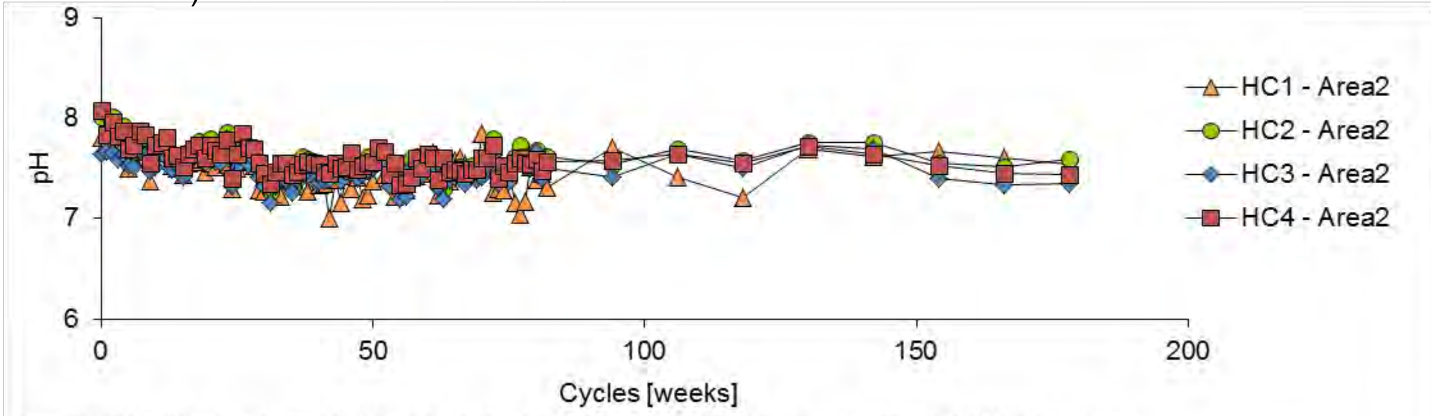
Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

Phase V/VI Waste Rock: Sobek NP vs. AP

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	15

a) Area 2 Mineralized Waste



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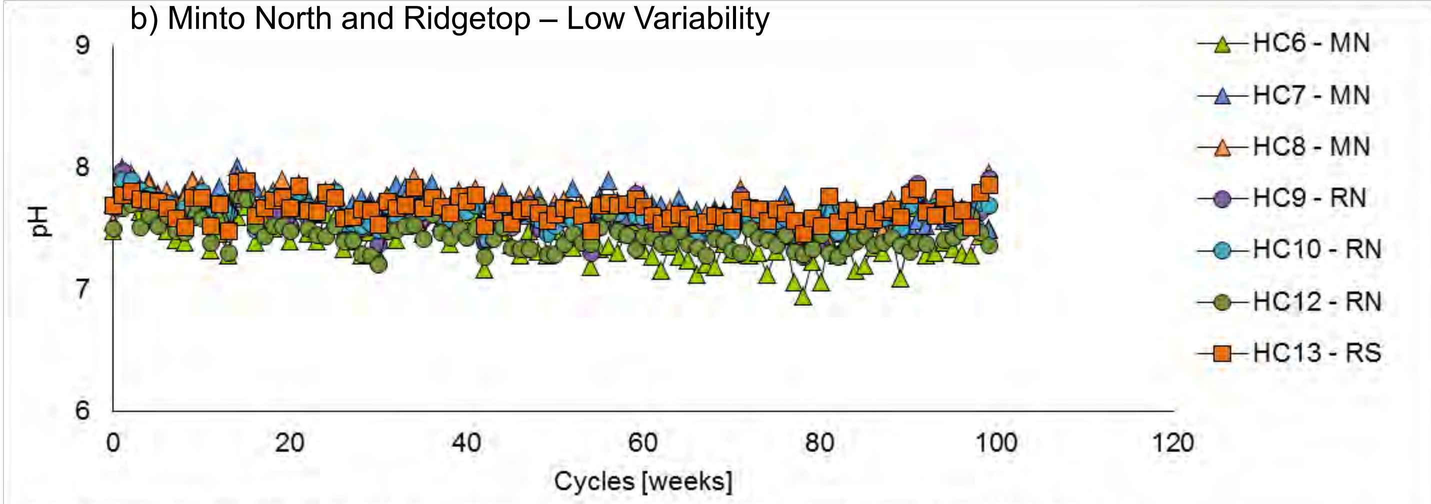
b) Minto North and Ridgetop – Low Variability



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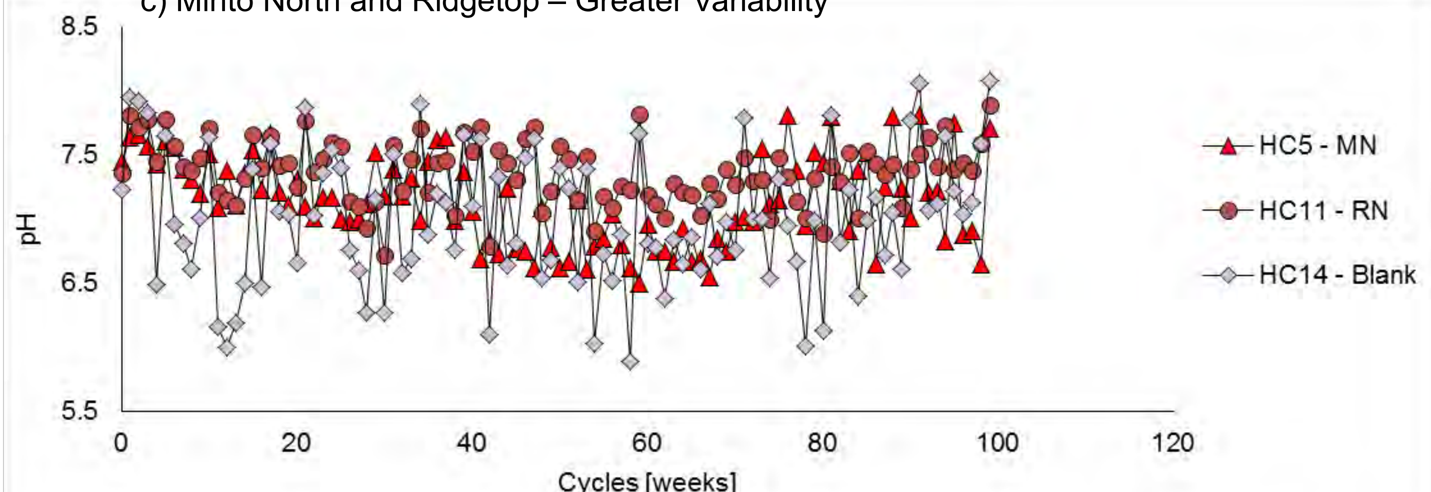
c) Minto North and Ridgetop – Greater Variability



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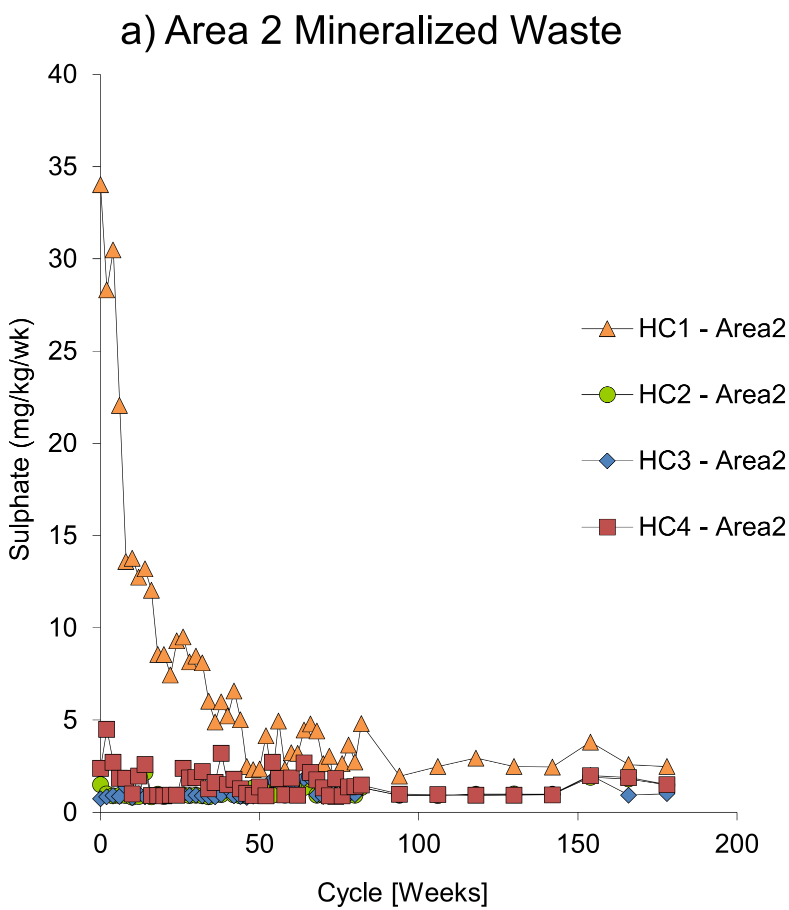
Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

Humidity Cell Tests: Leachate pH Results

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	16



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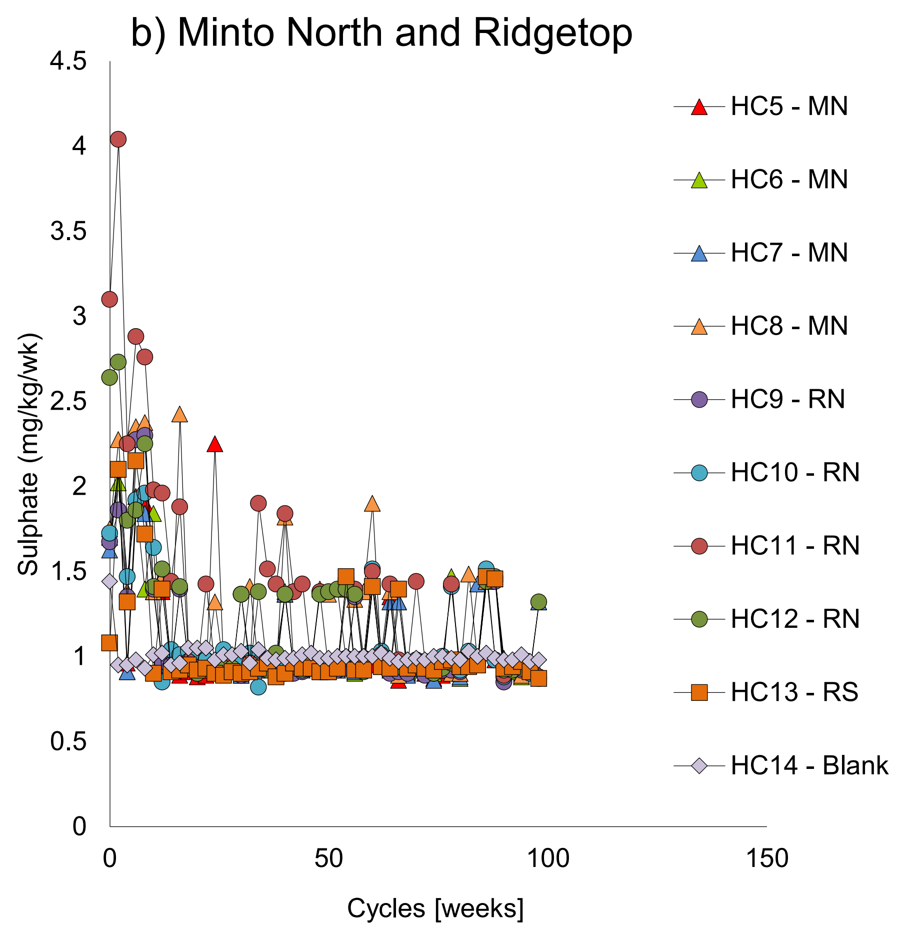

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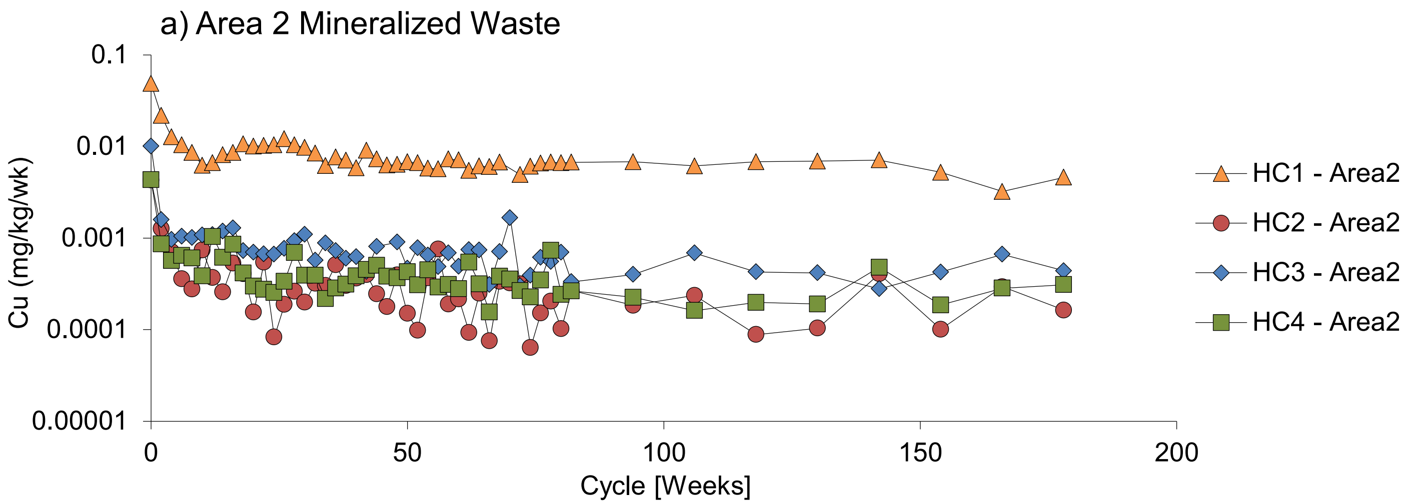
Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

Humidity Cell Tests: Sulphate Release Rates

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	17



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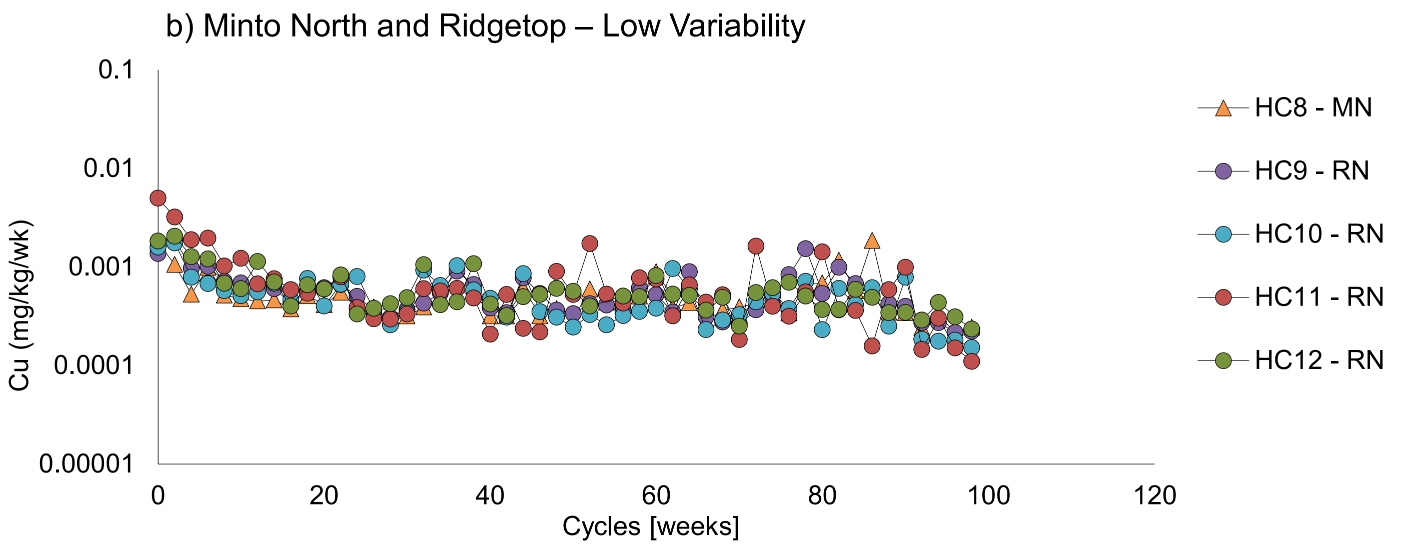

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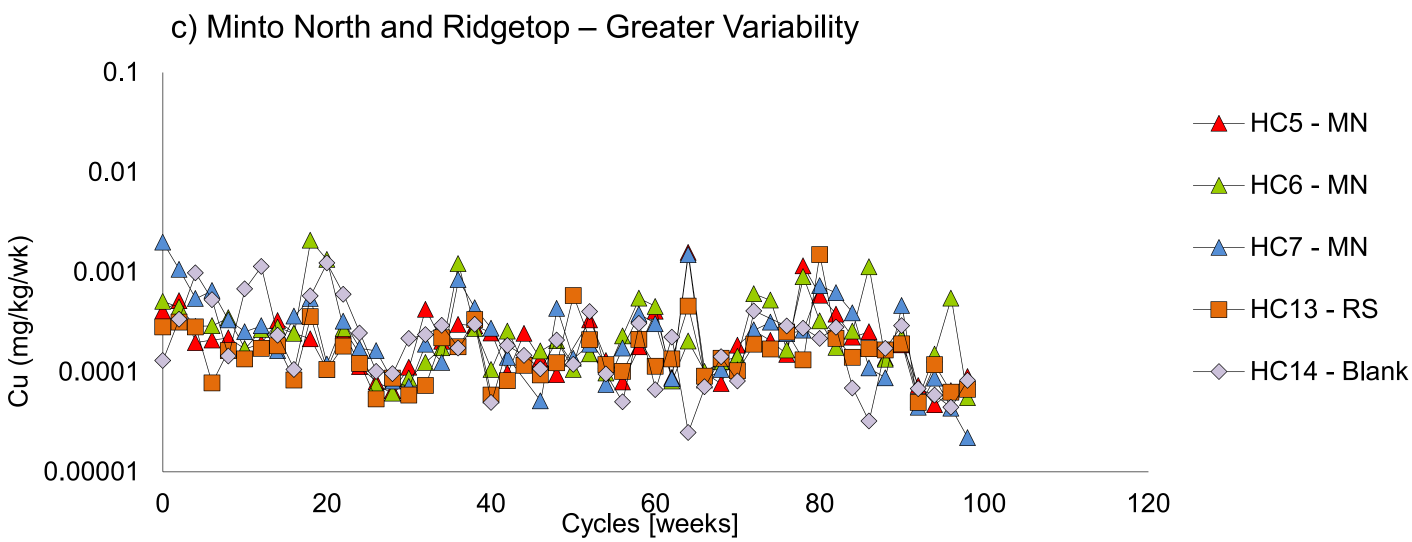

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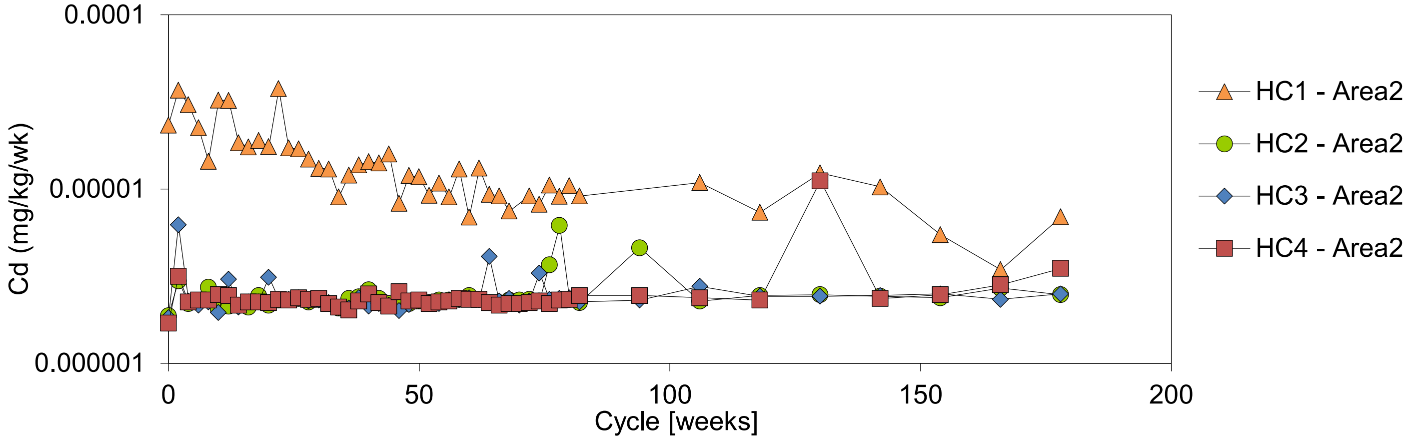
Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

Humidity Cell Tests: Copper Release Rates

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	18

a) Area 2 Mineralized Waste



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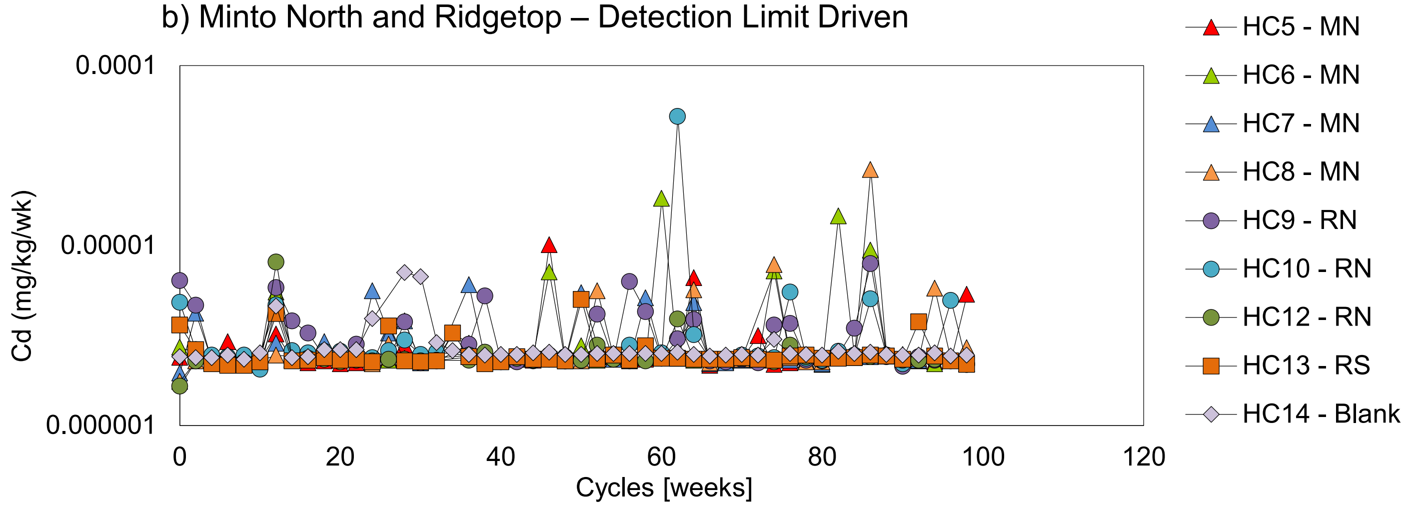
b) Minto North and Ridgetop – Detection Limit Driven



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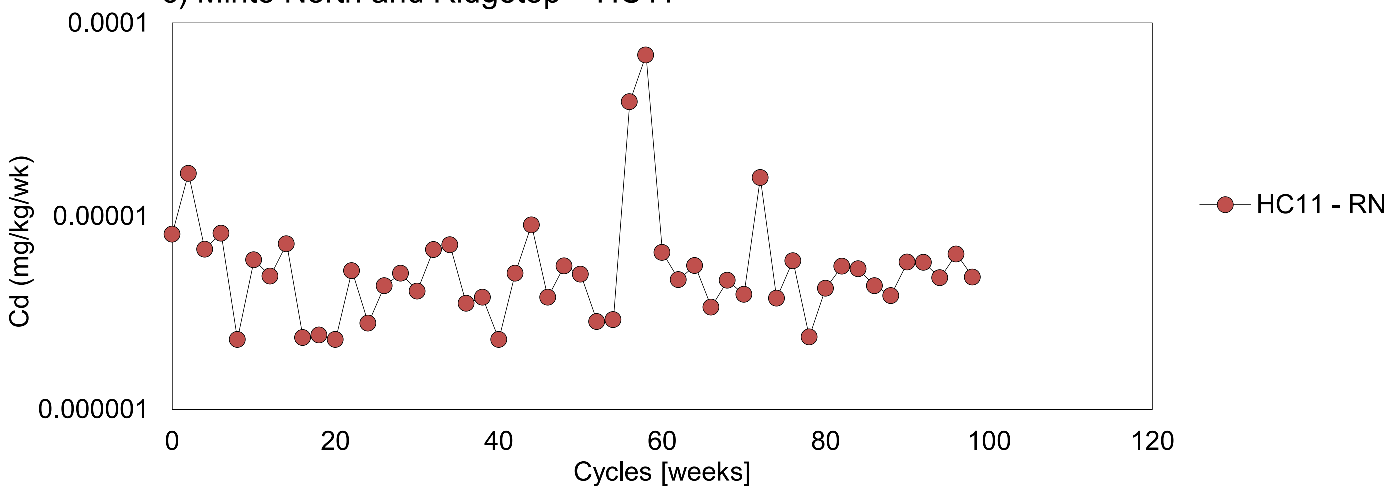
c) Minto North and Ridgetop – HC11



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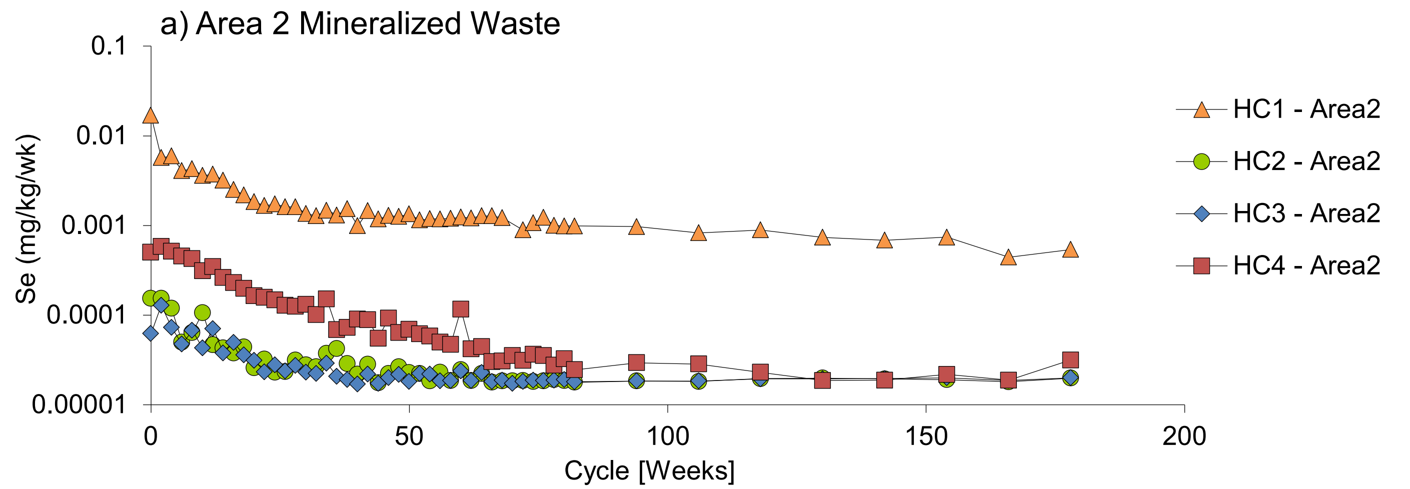
Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

Humidity Cell Tests: Cadmium Release Rates

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	19



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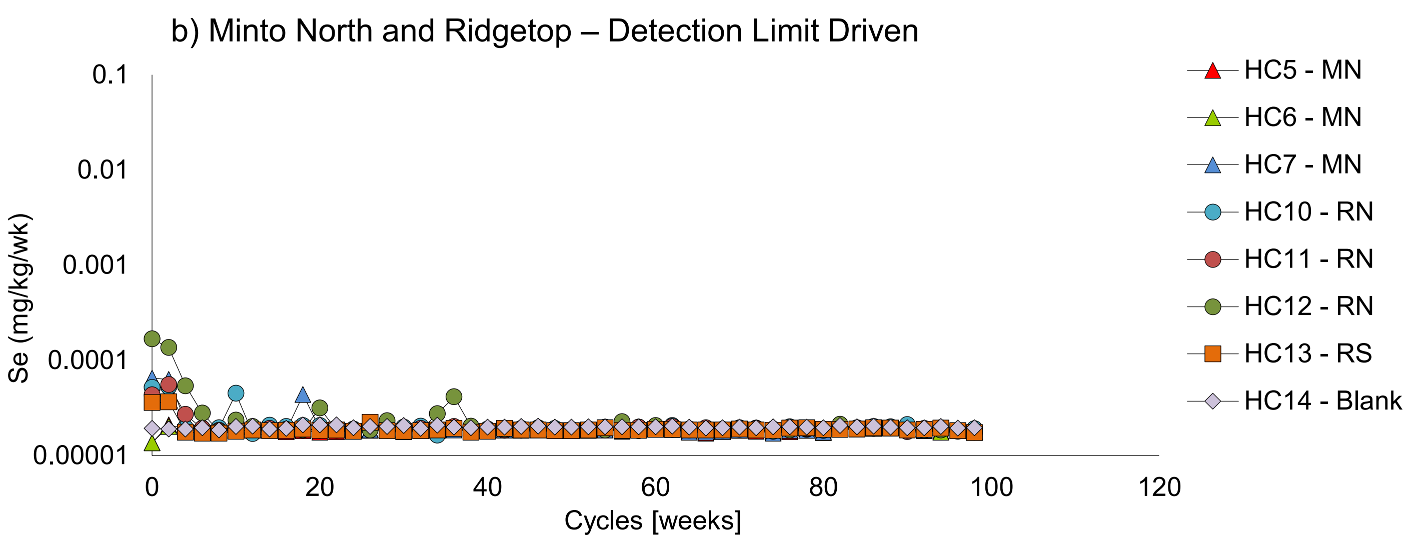

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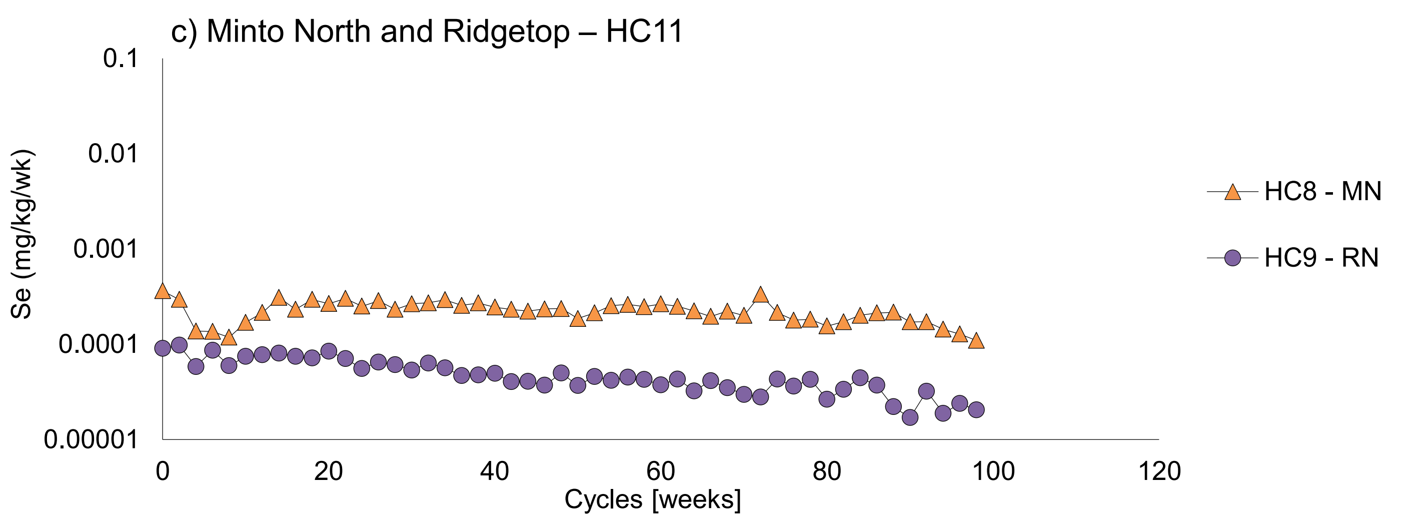

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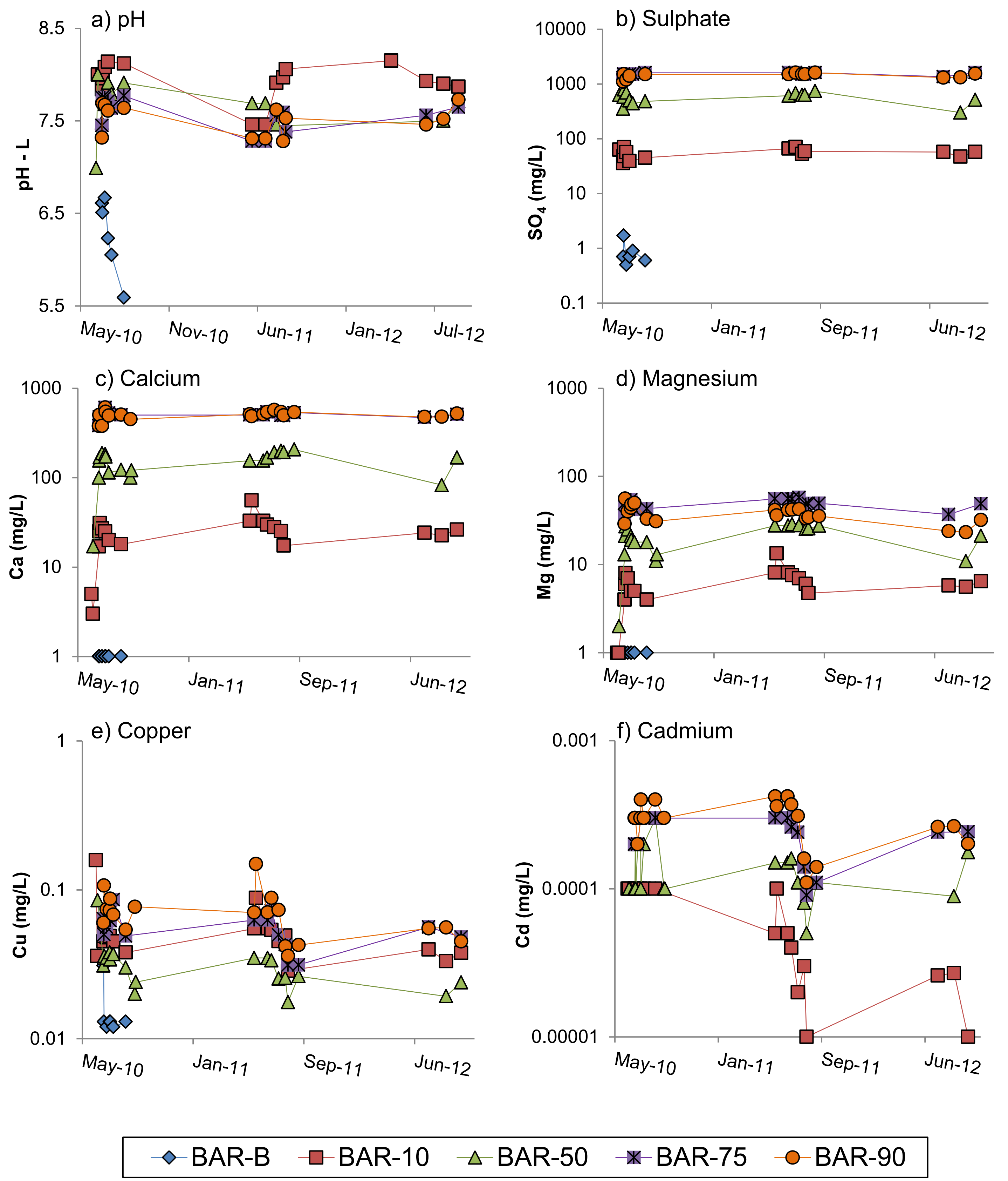
Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

Humidity Cell Tests: Selenium Release Rates

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	20



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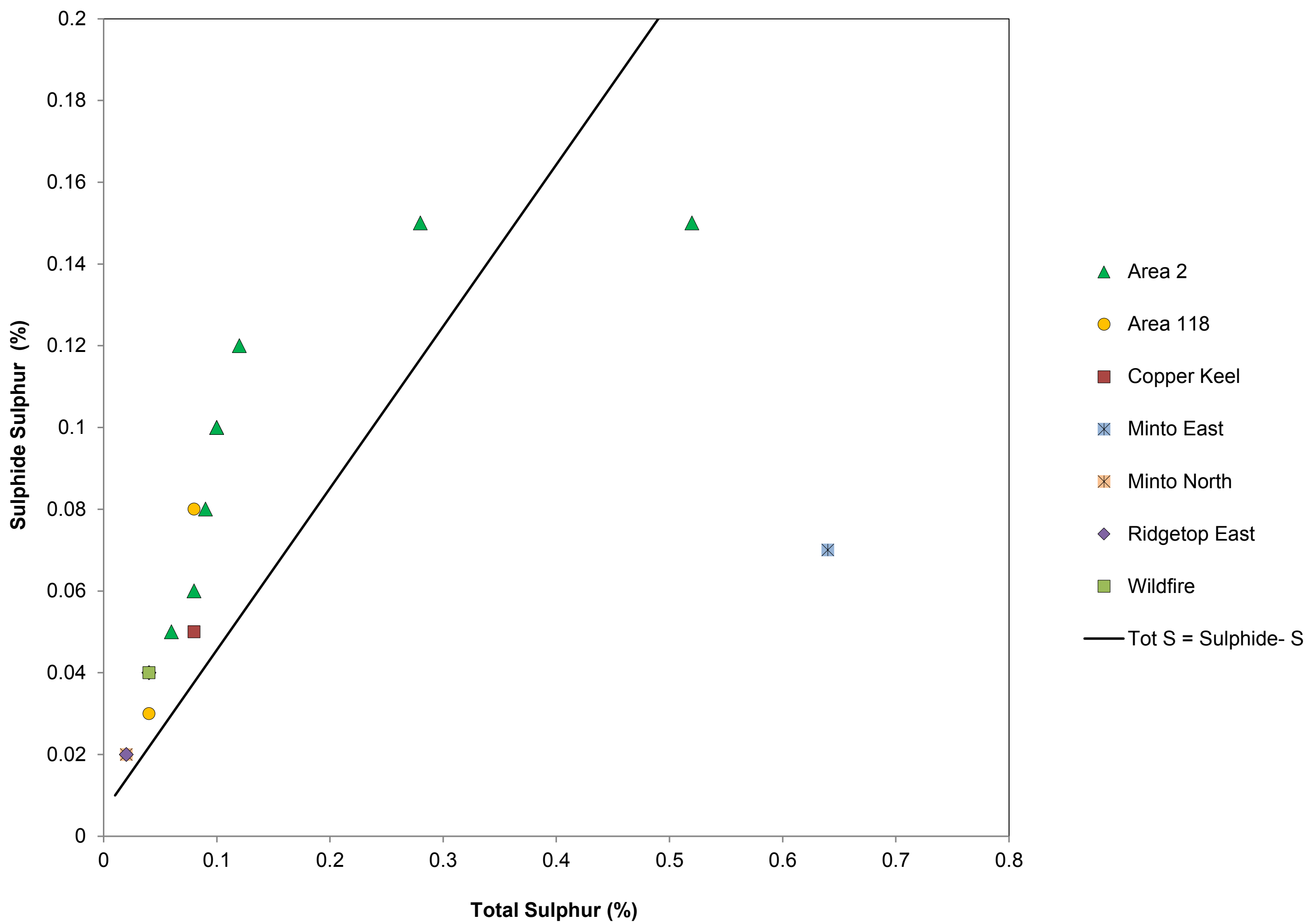
Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

Field Barrel Tests: Selected Results

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	21



T:\!020_Site_Wide_Data\ML-ARD\Lab_Testing\Tailings\Static_Testing\[Minto_Tailings_PhaseV_ML-ARD_Results_Compiled_Mar2013.xlsx]

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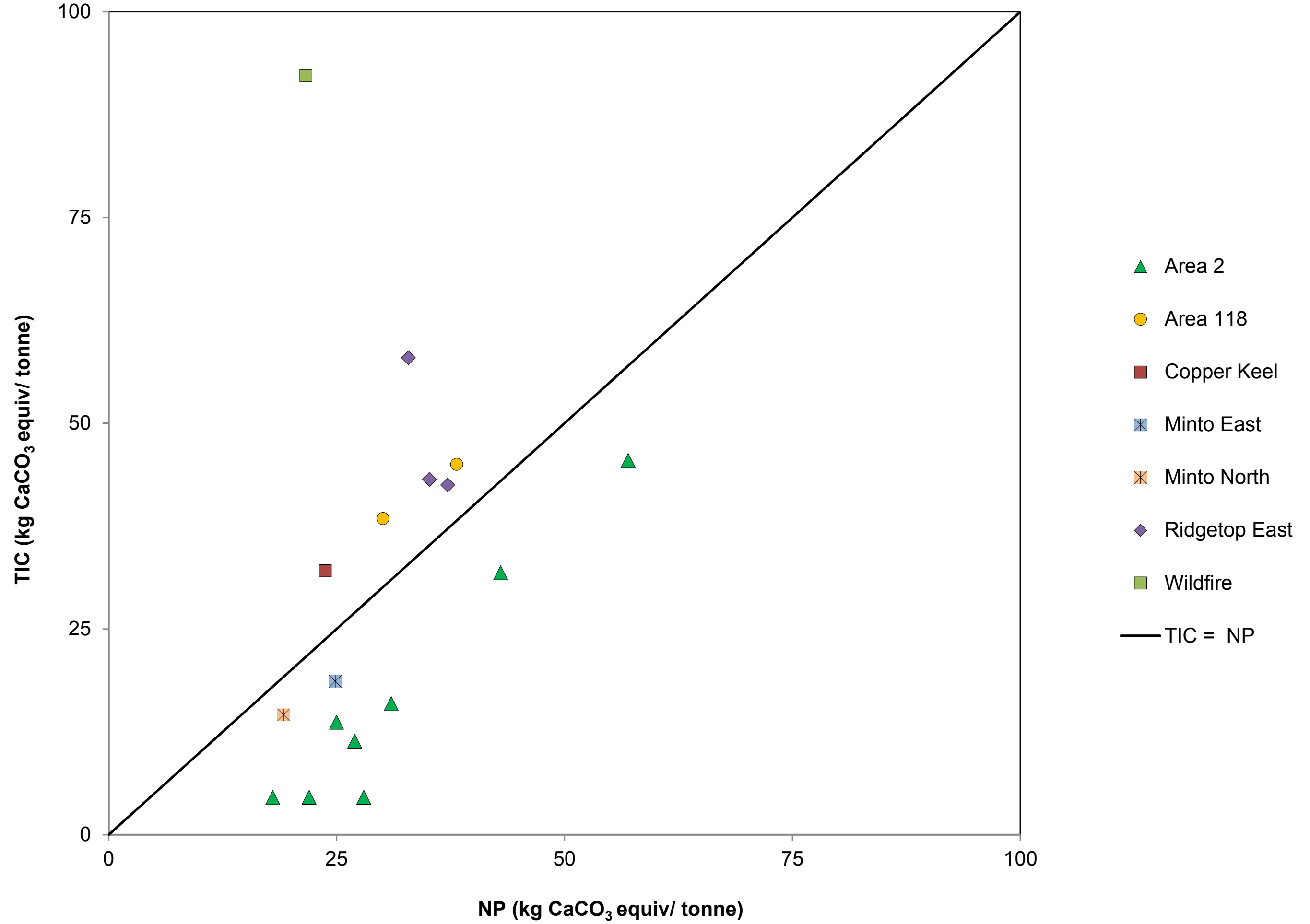
Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

Tailings:
Sulphide Sulphur vs. Total Sulphur

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	22



T:\!020_Site_Wide_Data\ML-ARD\Lab_Testing\Tailings\Static_Testing\[Minto_Tailings_PhaseV_ML-ARD_Results_Compiled_Mar2013.xlsx]

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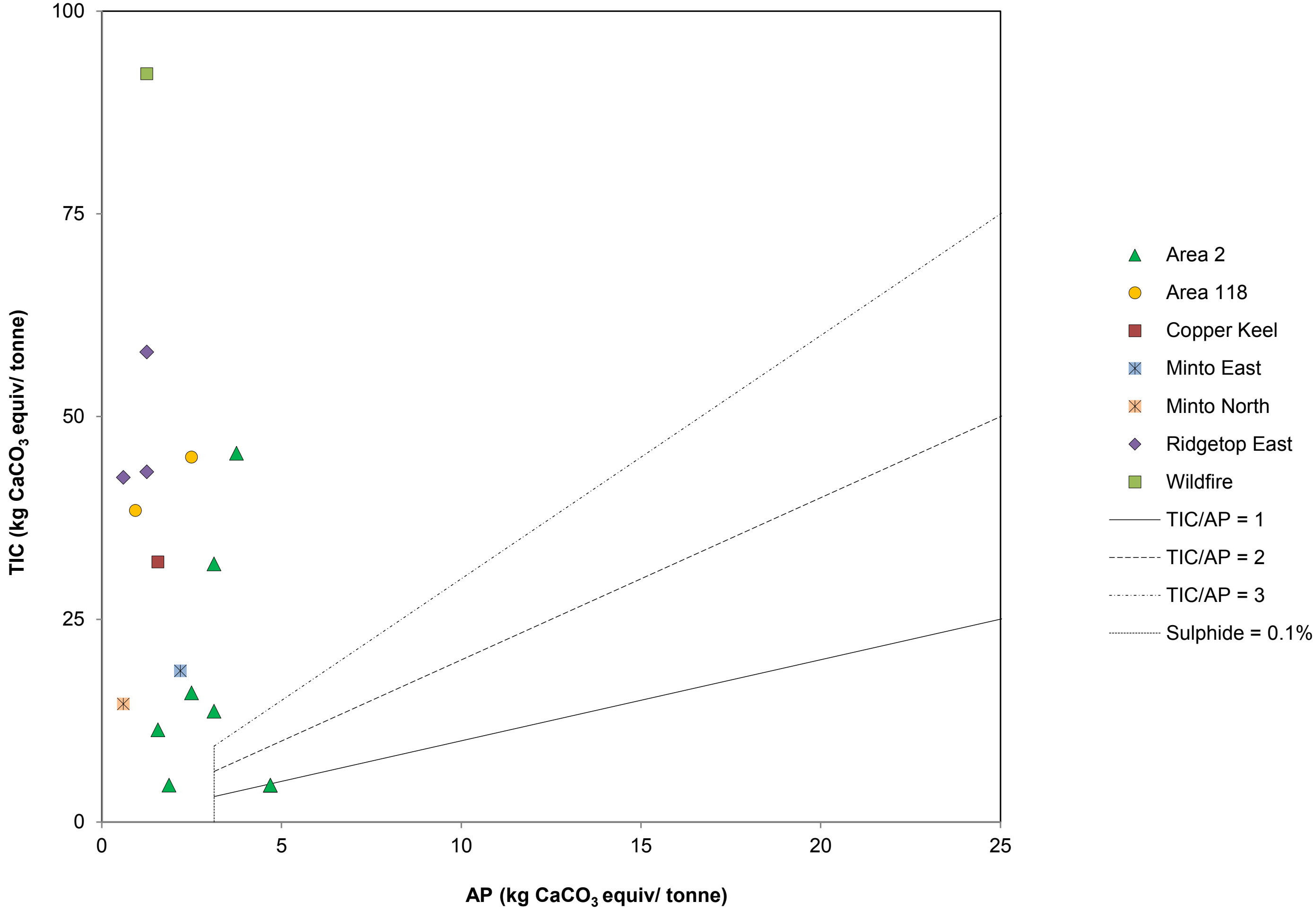
Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

Tailings:
NP_{TIC} vs. NP

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	**23**



T:\!020_Site_Wide_Data\ML-ARD\Lab_Testing\Tailings\Static_Testing\[Minto_Tailings_PhaseV_ML-ARD_Results_Compiled_Mar2013.xlsx]

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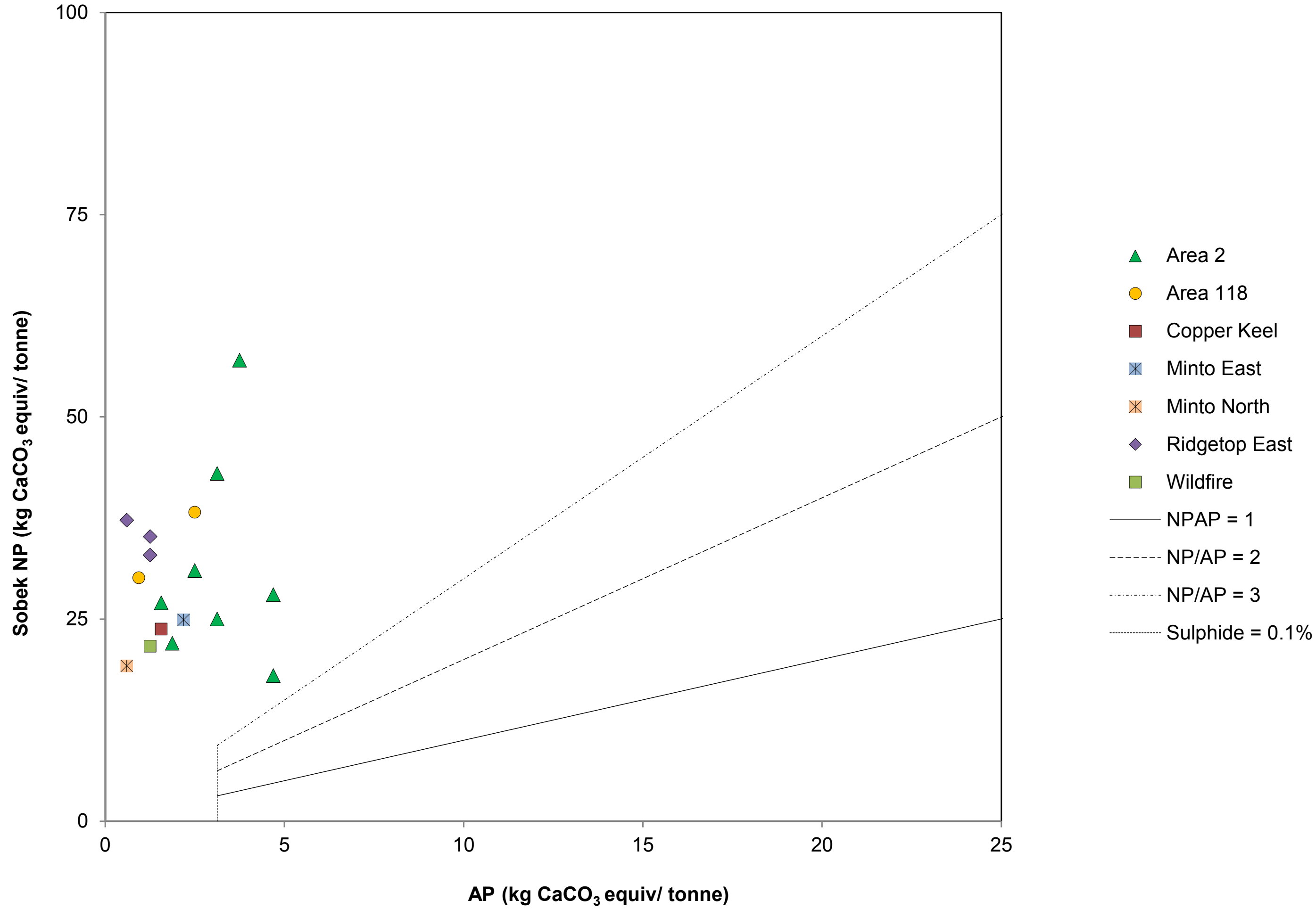
Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

Tailings:
NP_{TIC} vs. AP

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	**24**



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Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

Tailings: Sobek NP vs. AP

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	25

Base orthophoto provided by Minto Mine; compiled from aerial photos flown August 2012.

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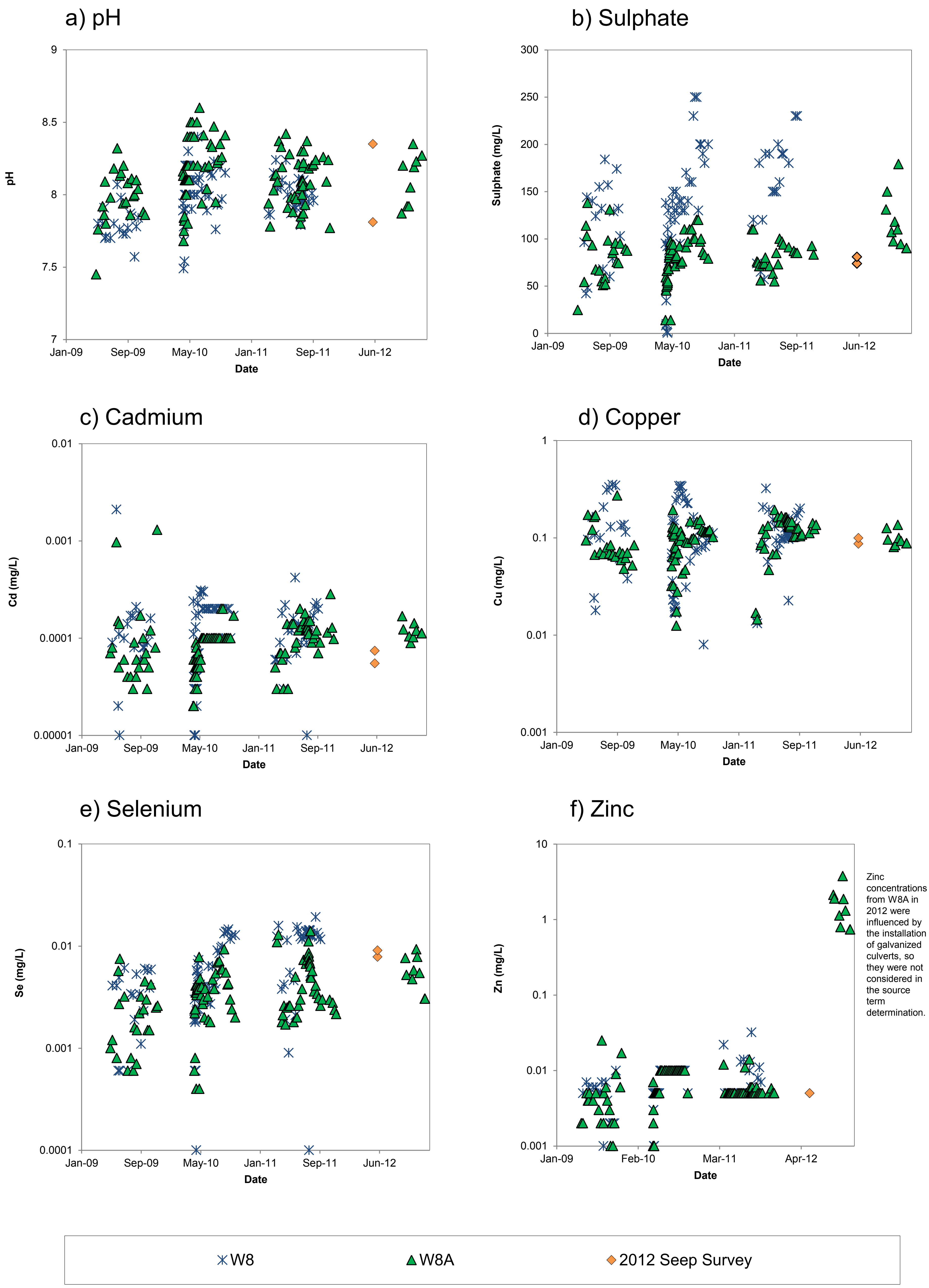
Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

DSTSF: Water Quality Monitoring and 2012 Seepage Survey Stations

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	26



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Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

DSTSF Selected Water Quality Results

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	27

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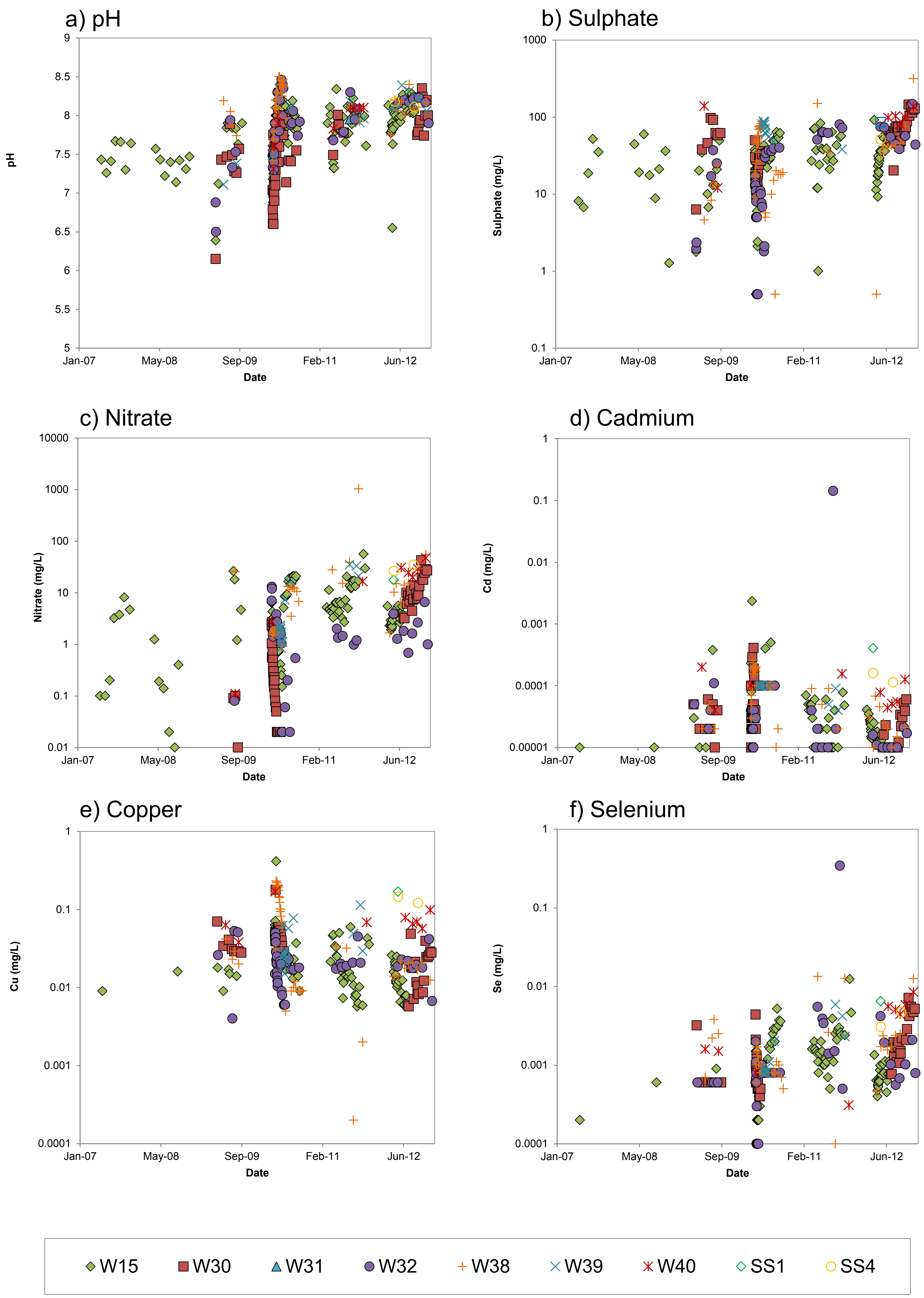
Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

MWD and SWD: Water Quality Monitoring and 2012 Seepage Survey Stations

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	28



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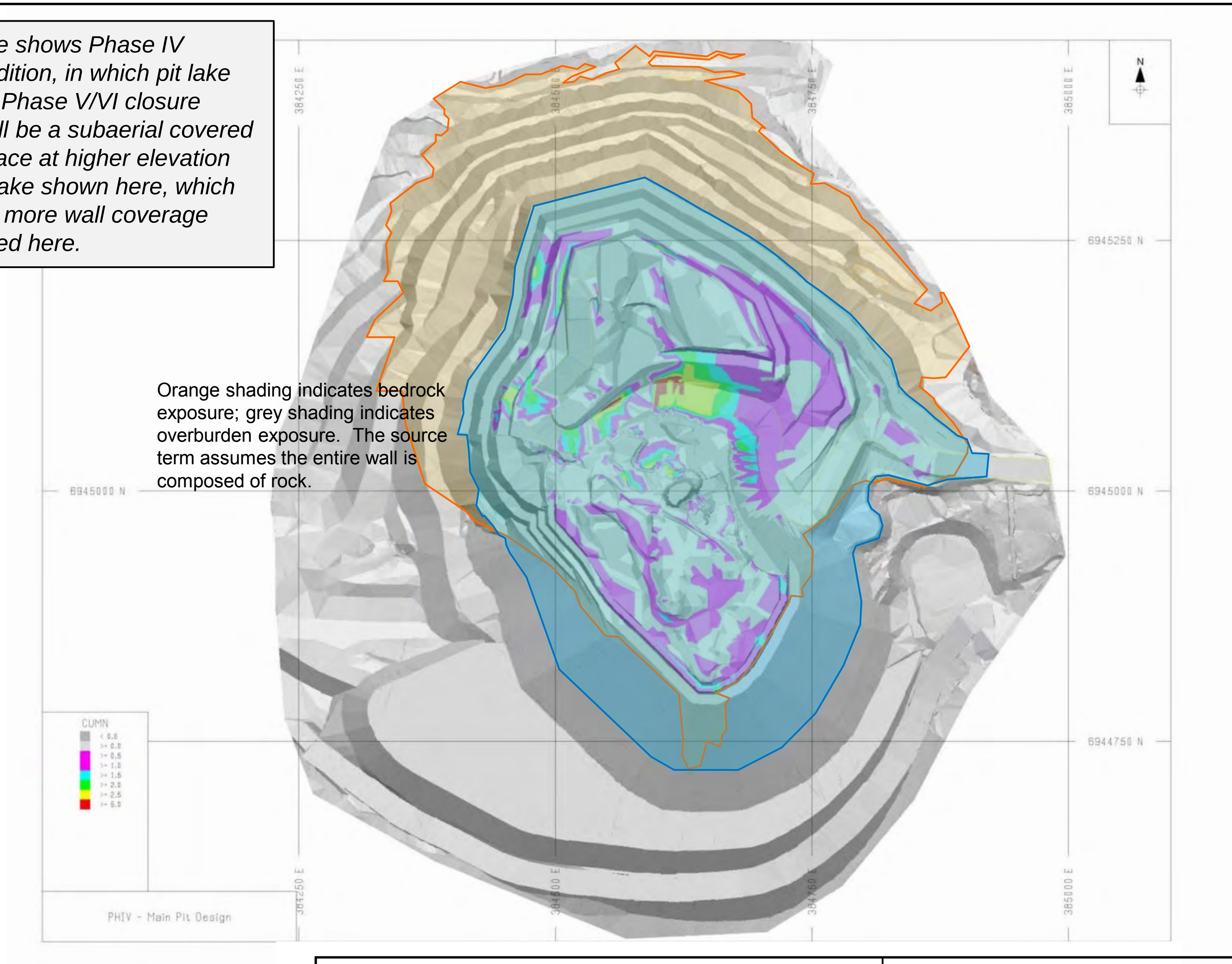
Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

MWD and SWD Selected Water Quality Results

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	29

Note: image shows Phase IV closure condition, in which pit lake forms. The Phase V/VI closure condition will be a subaerial covered tailings surface at higher elevation that the pit lake shown here, which will result in more wall coverage than indicated here.



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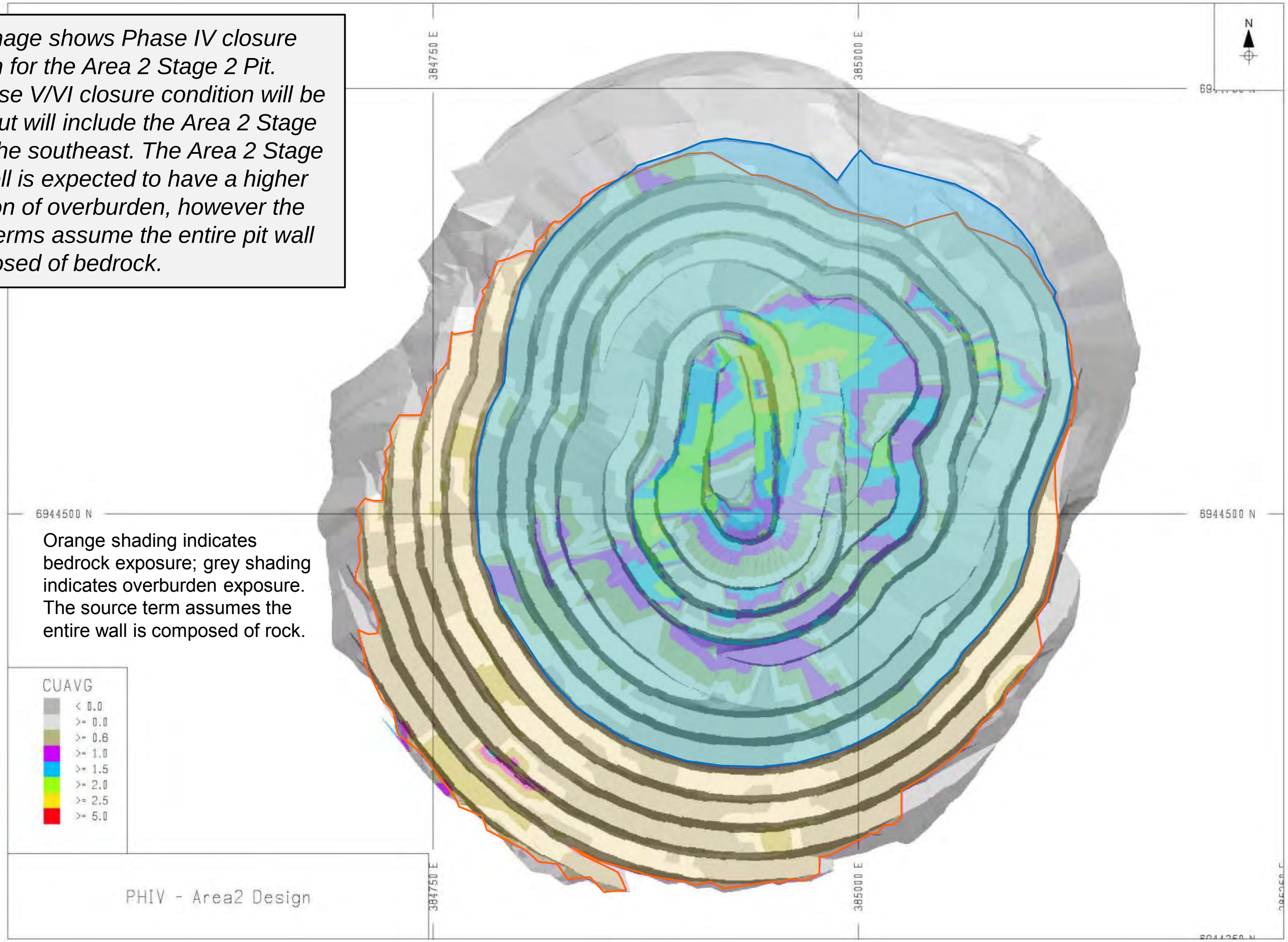
Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

Main Pit: Final Wall

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	30

Note: image shows Phase IV closure condition for the Area 2 Stage 2 Pit. The Phase V/VI closure condition will be similar but will include the Area 2 Stage 3 Pit to the southeast. The Area 2 Stage 3 Pit shell is expected to have a higher proportion of overburden, however the source terms assume the entire pit wall is composed of bedrock.



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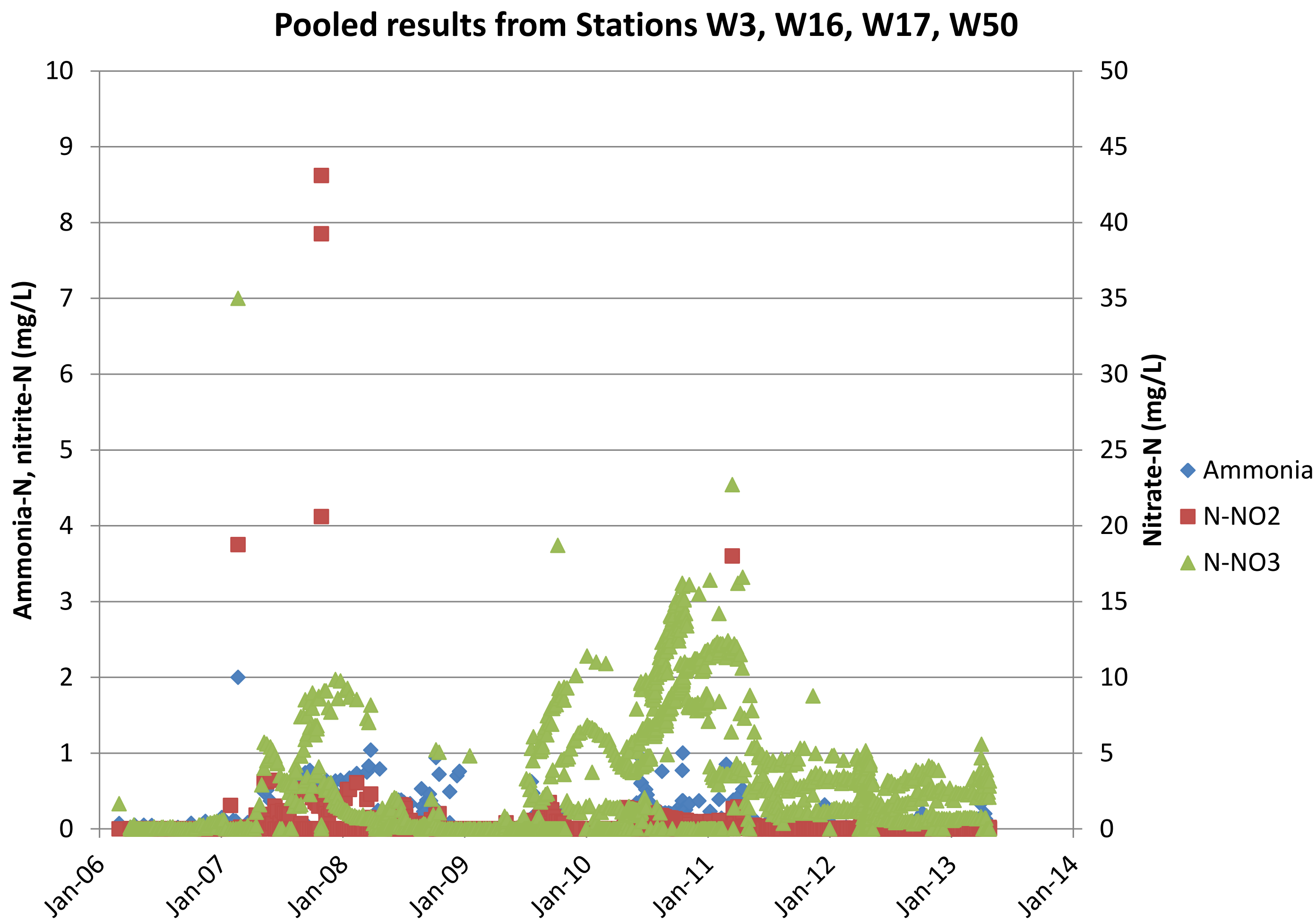
Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

Area 2 Pit: Final Wall

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	31



T:\!020_Site_Wide_Data\ML-ARD\Source_Terms_PhV_VI\N_Species\[1CM002-003_PhV-VI_N-Species_Source_Term_dbm_rev00.xlsx]

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Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions

Nitrate, Nitrite and Ammonia Concentrations at W3 and Related Stations

PROJECT:	DATE:	APPROVED:	FIGURE:
1CM002.003	June 2013	DBM	32

Appendix A

Memo: Volume Estimate for Phase V/VI NP:AP<3 Waste Rock

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Memo

To:	Pooya Mohseni, Chief Engineer, Minto Mine	**Client:**	Capstone Mining Corporation
From:	Dylan MacGregor	**Project No:**	1CM002.003
Cc:		**Date:**	July 5, 2013
Subject:	Minto Mine Phase V/VI Expansion: Volume Estimate for Phase V/VI NP/AP<3 Waste Rock		

1 Introduction

The original Minto Explorations Ltd. (Minto) water use license QZ96-006 (WUL) (and subsequent amendments) noted that material having "*(a)n NP/AP ratio of 3 or greater is generally considered to indicate non-acid generating material*" (Appendix 6 of YWB (2012)). For Phase V/VI waste management planning purposes, a volumetric allowance was made for a volume of NP/AP [1]< 3 waste rock to be stored under conditions that are expected to be saturated in the long term to minimize oxidation of contained sulphide minerals. This memorandum summarizes the method used to develop the volume allowance.

2 Background

2.1 Historical ABA Results

During mining of the Main Pit, operational monitoring of waste rock for acid base accounting (ABA) parameters was carried out in accordance with water license conditions. The results of that operational monitoring confirmed that the ABA characteristics of Main Pit waste rock were consistent with expectations based on pre-production testing (i.e. NP/AP values were consistently greater than 3).

During the metal leaching and acid rock drainage (ML/ARD) investigations that formed the basis of the Phase IV waste management strategy, a small proportion of drill core samples from the future Area 2 Stage 2 pit were identified as having NP/AP<3. Due to the large proportion of samples with NP/AP>3, it was concluded that bulk disposal of waste rock was appropriate and that no allowance for separate disposal of NP/AP<3 material was required.

Once Phase IV mining began, operational monitoring of Area 2 waste rock in 2012 (using an off-site commercial laboratory) indicated that a proportion of as-produced waste rock had NP/AP<3; this result was consistent with the pre-production testing, but after further consideration Minto

[1] NP: neutralization potential; AP: acid potential

elected to revise its waste rock disposal approach. To minimize the long-term risk of development of acidic leaching conditions and associated high metal loadings, the mine adapted the waste rock management strategy to include on-site classification, and separate storage of waste rock with NP/AP>3 and NP/AP<3.

2.2 Adaptation of Phase IV Waste Rock Management Strategy

The Phase IV waste management plan was adapted by introducing operational characterization of waste rock ABA characteristics into the mine's work flow as part of the grade control program starting in August 2012. To provide ABA results in the short turn-around times required for operational characterization and dispatching, Minto purchased and commissioned an Eltra CS-800 induction furnace that allowed on-site measurement of total carbon and total sulphur content. Prior results from testing of samples from Main Pit and Area 2 at an off-site commercial laboratory showed that total carbon and total sulphur content was nearly identical to total inorganic carbon and total sulphide sulphur content, respectively, and therefore the relatively-simple total carbon and total sulphur analyses were appropriate for operational ABA characterization.

Operational NP and AP values (NP-C(T) and AP-S(T)) are calculated from the total carbon and total sulphur results, respectively, and then used to calculate NP-C(T):AP-S(T). It should be noted that this approach makes the de facto assumption that all sulphur is hosted in the mineral pyrite (FeS_2); in the case of Minto, pyrite is generally less abundant than copper sulphides.

Samples for on-site ABA testing are split from blast-hole samples collected for grade control purposes. Cuttings from every blasthole are collected and analyzed, and both assay and ABA results are then imported into the mine's grade control software. Using the results, mine geologists define ore and waste polygons for each blast (including delineating NP-C(T):AP-S(T)< 3 waste polygons) and then the results are provided to the pit operations staff for staking of ore and waste boundaries and subsequent dispatching of ore and waste to appropriate stockpiles and waste storage facilities.

To ensure that waste rock with NP/AP<3 would be stored in a location that would be saturated over the long term, the mine initiated dispatching of waste rock with NP/AP<3 to the mined-out Main Pit, placing it below the final expected water table elevation.

2.3 Phase V/VI Pre-production ABA Results

The Phase V/VI pre-production testing on drill core samples presented a similar range of results for the Area 2 Stage 3 pit (A2S3), the Ridgetop North pit, and the Ridgetop South pit as were found for the Phase IV deposits (i.e. there would not be significant waste rock volumes having NP/AP<3). However, based on the Phase IV mining results, Minto elected to plan for a certain volume of NP:AP <3 waste rock from the Phase V/VI developments to ensure that sufficient storage volume below final water table elevations was reserved.

Drill core from the waste rock intervals within the planned Minto North pit had uniformly low total sulphur content and NP/AP>3, and on that basis, no allowance for waste rock with NP/AP<3 is made for Minto North.

2.4 Classification Criteria

As noted in Section 1, the current Minto WUL notes that waste rock with NP/AP>3 is generally considered to indicate non-acid generating material. This is true in the strictest sense, but it should not be taken to indicate that an NP:AP value of 3 defines a sharp boundary between non-acid generating material and acid generating material. There are cases at individual mining projects in which detailed studies have determined that NP:AP values approaching 1 are appropriate for use as a threshold criterion for segregating non-acid generating waste rock; in the absence of detailed site-specific mineralogical study, it is common to refer to waste rock with NP:AP values between 1 and 3 as having “Uncertain” acid generating potential, and to define up to two additional categories (Potentially Acid Generating and Acid Generating) as summarized in Table 1.

Table 1 Generic Classification of ARD Potential of Mine Wastes

NP:AP Value (X)	Descriptive Classification	ARD Class Designation
X > 3	Not potentially acid generating	NPAG or NAG
1 ≤ X ≤ 3	Uncertain potential to develop acidic weathering conditions	Uncertain
X < 1, paste pH > 5	Potentially Acid Generating	PAG
X < 1, paste pH < 5	Acid Generating	AG

In order to develop the Phase V/VI waste rock management plan, Minto adopted the criterion specified in the current WUL (i.e. NPAG defined as rock with NP:AP > 3) for estimation of the volume of Phase V/VI waste rock with NP:AP ≤ 3. The company may conduct detailed studies in the future to develop a site-specific value for the criterion used to define NPAG waste rock- to the extent that the threshold criterion is lowered, more efficient use of the storage capacity within the in-pit TMFs will be realized.

3 Phase V/VI Estimates of NP:AP<3 Waste Rock Volumes

Two independent methods were used to estimate saturated storage volumes that should be reserved for waste rock storage. These methods are described elsewhere in detail (SRK 2013a) and are summarized here for completeness.

1. The first method was to review the production data from Phase IV mining in the Area 2 pit and calculate the proportion of total waste rock volume that was determined to have NP-C(T):AP-S(T) < 3. This approach was based on samples collected and analysed (on-site) from every blasthole beginning in August 2012.

   a. This approach indicated that roughly 17% of the waste rock assessed had NP-C(T):AP-S(T) < 3.

2. The second method was to create a sulphur block model for the Phase V/VI Minto South pits (A2S3, Ridgetop North, and Ridgetop South) based on sulphur assays from exploration drill core. This approach consisted of estimating sulphur grades for all rock within the ultimate pit shells and calculating the volume of rock that was both below ore grade for copper (and therefore classified as waste) and higher that 0.3% total sulphur (rock with lower than 0.3% sulphur was found to correlate well with rock with NP/AP>3).

   a. This approach indicated that roughly 13% of the A2S3, Ridgetop North and Ridgetop South waste rock could be expected to have sulphur content high than 0.3%, and by correlation this was considered a reasonable proxy for the proportion of NP/AP<3 waste rock.

For planning purposes, Minto has chosen to allow for 20% of the waste rock from the Minto South pits to be stored in locations that will be saturated post-closure. This approach is considered to be appropriately conservative in that it will ensure that more volume will be reserved for NP/AP<3 waste rock than will likely be produced. Actual dispatching of waste rock from the Minto South pits will be done on the basis of blasthole analyses (as currently practised as part of Phase IV operations), not on the basis of pre-production estimates.

Table 2 summarizes the volumetric allowances that have been made for NP/AP<3 waste rock in Phase V/VI.

Table 2: Allowance for NP/AP<3 waste rock volumes in Phase V/VI waste management planning.

Source Location	**Total Phase V/VI Waste Rock Volume (m^3)**	**Estimated Quantity of NP/AP<3 Waste Rock Volume (m^3)**
Minto North	4,250,000	0
Area 2 Stage 3	1,905,000	381,000
Ridgetop South	627,000	125,400
Ridgetop North	3,416,000	683,200
Underground	133,000	26,600
Total Waste Rock (Phase V/VI)	**10,331,000**	
Total NP/AP<3 (Phase V/VI)		**1,216,200**

4 References

Yukon Water Board. 2012. Water Use License QZ96-006 Amendment 8. Issued to Minto Explorations Ltd. on October 18, 2012.

Appendix B
Ridgetop Exploration Assay Results: Statistical Summaries

	Total Cu %	Au_ppm	Ag ppm ICP	Al_%ICP	As_ppmICP	B_ppmICP	Ba_ppmICP	Be_ppmICP	Bi_ppmICP	Ca_%ICP	Cd_ppmICP	Co_ppmICP	Cr_ppmICP	Fe_%ICP	Ga_ppmICP	Hg_ppmICP	K_%ICP	La_ppmICP
Count	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136
Average	0.074	0.018	0.329	1.276	6.654	5.809	428.750	0.349	1.154	1.091	0.290	6.515	6.000	2.725	7.941	0.555	0.776	10.368
Max	1.81	0.471	4.9	2.03	176	10	2140	1.5	7	4.95	1.6	15	23	5.19	10	2	1.63	30
P90	0.13	0.05	0.55	1.86	11.00	10.00	700.00	0.60	2.00	2.17	0.25	9.00	8.00	4.07	10.00	0.50	1.25	20.00
P50	0.02	0.0025	0.2	1.335	4	5	370	0.25	1	0.88	0.25	6	5	2.455	10	0.5	0.8	10
P10	0.005	0.0025	0.1	0.685	1	5	180	0.25	1	0.315	0.25	4	3	1.885	5	0.5	0.34	5
Min	0.005	0.0025	0.1	0.38	1	5	50	0.25	1	0.2	0.25	1	1	0.97	5	0.5	0.19	5

	Mg_%ICP	Mn_ppmICP	Mo_ppmICP	Na_%ICP	Ni_ppmICP	P_ppmICP	Pb_ppmICP	S_%ICP	Sb_ppmICP	Sc_ppmICP	Sr_ppmICP	Ti_%ICP	Tl_ppmICP	U_ppmICP	V_ppmICP	W_ppmICP	Zn_ppmICP
Count	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136
Average	0.640	698.096	2.018	0.068	2.232	822.794	8.051	0.035	1.221	5.397	55.647	0.133	5.441	5.110	66.735	5.000	118.676
Max	1.76	2590	52	0.16	8	1700	67	0.59	7	12	225	0.28	10	10	135	5	726
P90	1.03	1315.00	3.50	0.10	4.00	1210.00	17.00	0.06	2.00	8.00	90.00	0.23	5.00	5.00	100.50	5.00	244.50
P50	0.58	516.5	1	0.06	2	765	5	0.01	1	5.5	47	0.15	5	5	59	5	76
P10	0.23	323	0.5	0.04	0.5	490	2	0.005	1	2	29.5	0.005	5	5	35	5	51
Min	0.04	100	0.5	0.01	0.5	170	1	0.005	1	1	16	0.005	5	5	15	5	10

Appendix C
Phase V/VI Waste Rock: Static Test Results

HOLE ID	FROM (m)	TO (m)	Length (m)	SAMPLE DESCRIPTION	OA-ELE07 pH Unity	OA-VOL08 FIZZ RATING Unity	OA-VOL08 MPA tCaCO3/1000t ore	OA-VOL08 NNP tCaCO3/1000t ore	Calc AP 0	OA-VOL08 NP tCaCO3/1000t ore	OA-VOL08 Ratio (NP:MPA) Unity	Calc Ratio (NP:AP) Unity
07SWC254	2.04	8.45	6.41	RT_ABA-1	8.4	1	0.3	9	0.3	9	29	29
07SWC254	19.95	27.17	7.22	RT_ABA-2	8.9	2	0.3	19	0.3	19	61	61
07SWC251	19.61	26.47	6.86	RT_ABA-3	8.8	2	0.6	21	0.6	22	35	35
07SWC251	66.09	72.08	5.99	RT_ABA-6	8.7	2	0.3	33	0.3	33	106	106
07SWC250	1.77	6.71	4.94	RT_ABA-7	8.4	2	0.3	57	0.3	57	182	182
07SWC250	14.53	20.53	6.00	RT_ABA-8	8.5	2	0.3	58	0.3	58	186	186
07SWC250	30.67	36.40	5.73	RT_ABA-9	9.1	2	0.9	54	0.9	55	59	59
07SWC246	1.46	6.83	5.37	RT_ABA-10	8.6	2	0.9	22	0.9	23	25	25
07SWC244	2.00	6.80	4.80	RT_ABA-11	8.5	1	0.3	13	0.3	13	42	42
07SWC183	5.93	10.90	4.97	RT_ABA-12	8.8	1	0.3	15	0.3	15	48	48
07SWC183	23.61	30.06	6.45	RT_ABA-14	9	2	0.6	25	0.6	26	42	42
07SWC182	4.87	12.23	7.36	RT_ABA-15	8.7	2	0.9	44	0.3	45	48	144
07SWC182	25.64	31.30	5.66	RT_ABA-16	8.4	3	1.9	101	1.6	103	55	66
07SWC182	32.80	38.73	5.93	RT_ABA-17	8.8	3	0.9	111	0.9	112	119	119
07SWC181	3.05	9.20	6.15	RT_ABA-18	8.5	2	0.3	34	0.3	34	109	109
07SWC181	9.20	14.66	5.46	RT_ABA-19	8.5	2	<0.3	25	0.3	25	160	80
07SWC251	48.39	53.16	4.77	RT_ABA-5	8.9	2	11.3	36	10.9	47	4.2	4.3
07SWC181	14.66	20.57	5.91	RT_ABA-20	8.9	2	3.1	28	3.1	31	10	10
07SWC251	40.19	45.80	5.61	RT_ABA-4	8.5	2	3.8	37	3.8	41	11	11
07SWC183	15.88	21.11	5.23	RT_ABA-13	8.2	2	9.4	11	9.4	20	2.1	2.1

				SAMPLE	S-IR08 S	S-GRA06a S	S-CAL06a S	C-GAS05 C	C-GAS05 CO2	Calc TIC-NP	Calc Ratio (TIC-NP:AP)	Composite Class
HOLE ID	FROM (m)	TO (m)	Length (m)	DESCRIPTION	%	%	%	%	%	tCaCO3/1000t ore	Unity	0
07SWC254	2.04	8.45	6.41	RT_ABA-1	0.01	<0.01	0.01	<0.05	<0.2	4	13	B
07SWC254	19.95	27.17	7.22	RT_ABA-2	0.01	<0.01	0.01	0.16	0.6	13	42.7	B
07SWC251	19.61	26.47	6.86	RT_ABA-3	0.02	<0.01	0.02	0.17	0.6	14	22.7	B
07SWC251	66.09	72.08	5.99	RT_ABA-6	0.01	<0.01	0.01	0.39	1.4	33	104	B
07SWC250	1.77	6.71	4.94	RT_ABA-7	0.01	<0.01	0.01	0.63	2.3	53	168.0	B
07SWC250	14.53	20.53	6.00	RT_ABA-8	0.01	<0.01	0.01	0.6	2.2	50	160	B
07SWC250	30.67	36.40	5.73	RT_ABA-9	0.03	<0.01	0.03	0.75	2.8	63	67	B
07SWC246	1.46	6.83	5.37	RT_ABA-10	0.03	<0.01	0.03	0.23	0.8	19	20	B
07SWC244	2.00	6.80	4.80	RT_ABA-11	0.01	<0.01	0.01	<0.05	<0.2	4	13	B
07SWC183	5.93	10.90	4.97	RT_ABA-12	0.01	<0.01	0.01	<0.05	<0.2	4	13	B
07SWC183	23.61	30.06	6.45	RT_ABA-14	0.02	<0.01	0.02	0.29	1.1	24	38.7	B
07SWC182	4.87	12.23	7.36	RT_ABA-15	0.03	0.03	<0.01	0.46	1.7	38	123	B
07SWC182	25.64	31.30	5.66	RT_ABA-16	0.06	0.01	0.05	1.63	6	136	87	B
07SWC182	32.80	38.73	5.93	RT_ABA-17	0.03	<0.01	0.03	1.38	5	115	123	B
07SWC181	3.05	9.20	6.15	RT_ABA-18	0.01	<0.01	0.01	0.28	1	23	75	B
07SWC181	9.20	14.66	5.46	RT_ABA-19	0.01	<0.01	<0.01	0.21	0.8	18	56	B
07SWC251	48.39	53.16	4.77	RT_ABA-5	0.36	0.01	0.35	0.67	2.4	56	5	M
07SWC181	14.66	20.57	5.91	RT_ABA-20	0.1	<0.01	0.1	0.32	1.2	27	9	M
07SWC251	40.19	45.80	5.61	RT_ABA-4	0.12	<0.01	0.12	0.49	1.8	41	10.9	O
07SWC183	15.88	21.11	5.23	RT_ABA-13	0.3	<0.01	0.3	0.23	0.8	19	2	O

					Length-weighted average elemental content from ICP assay database															
HOLE ID	FROM (m)	TO (m)	Length (m)	SAMPLE DESCRIPTION	Total Cu %	NS Cu %	Au_ppm	Ag ppm ICP	Al_%ICP	As_ppm ICP	B_ppm ICP	Ba_ppm ICP	Be_ppm ICP	Bi_ppm ICP	Ca_%ICP	Cd_ppm ICP	Co_ppm ICP	Cr_ppm ICP	Cu_ppm ICP	Fe_%ICP
07SWC254	2.04	8.45	6.41	RT_ABA-1	0.015	0.005	0.005	0.3	1.9	15	5	693	0.44	1	0.4	0.31	10	6	152	4.8
07SWC254	19.95	27.17	7.22	RT_ABA-2	0.010	0.005	0.008	0.2	1.6	7	7	550	0.25	2	0.8	0.25	7	7	94	2.6
07SWC251	19.61	26.47	6.86	RT_ABA-3	0.125	0.049	0.006	0.2	1.6	3	5	511	0.25	2	0.8	0.25	8	7	1297	3.0
07SWC251	66.09	72.08	5.99	RT_ABA-6	0.005	0.001	0.003	0.1	0.8	1	5	198	0.25	1	0.8	0.25	6	5	23	2.2
07SWC250	1.77	6.71	4.94	RT_ABA-7	0.021	0.011	0.040	0.2	1.5	5	8	361	0.61	1	2.2	0.25	7	5	279	2.5
07SWC250	14.53	20.53	6.00	RT_ABA-8	0.095	0.067	0.064	0.1	1.8	4	7	297	0.61	1	2.2	0.65	8	6	1017	3.3
07SWC250	30.67	36.40	5.73	RT_ABA-9	0.050	0.012	0.004	0.1	1.7	3	7	212	0.45	2	1.5	0.71	7	4	530	3.9
07SWC246	1.46	6.83	5.37	RT_ABA-10	0.310	0.204	0.045	0.3	1.4	3	5	307	0.25	1	0.8	0.25	5	14	3068	2.5
07SWC244	2.00	6.80	4.80	RT_ABA-11	0.027	0.007	0.005	0.2	1.1	50	5	376	0.25	1	0.3	0.25	7	6	124	2.5
07SWC183	5.93	10.90	4.97	RT_ABA-12	0.024	0.012	0.004	1.0	1.2	6	5	422	0.25	1	0.3	0.25	6	6	205	2.3
07SWC183	23.61	30.06	6.45	RT_ABA-14	0.015	0.002	0.005	0.3	1.1	10	5	447	0.25	1	0.8	0.25	5	7	126	2.2
07SWC182	4.87	12.23	7.36	RT_ABA-15	0.012	0.006	0.003	0.2	0.6	6	10	1165	0.56	1	1.8	0.25	6	2	139	1.9
07SWC182	25.64	31.30	5.66	RT_ABA-16	0.120	0.070	0.002	0.6	0.7	11	10	963	0.84	1	3.2	0.25	8	2	1255	2.8
07SWC182	32.80	38.73	5.93	RT_ABA-17	0.039	0.019	0.002	0.2	0.7	1	8	679	0.52	1	2.9	0.33	7	3	380	2.6
07SWC181	3.05	9.20	6.15	RT_ABA-18	0.027	0.011	0.003	0.2	1.3	5	5	258	0.31	1	1.3	0.25	9	4	271	3.3
07SWC181	9.20	14.66	5.46	RT_ABA-19	0.005	0.002	0.003	0.3	1.1	3	5	168	0.25	1	1.0	0.25	6	5	37	2.4
07SWC251	48.39	53.16	4.77	RT_ABA-5	0.079	0.011	0.003	0.4	1.5	4	5	322	0.25	1	1.2	0.59	10	5	884	4.2
07SWC181	14.66	20.57	5.91	RT_ABA-20	0.451	0.276	0.140	1.5	1.0	1	5	154	0.29	1	1.1	0.36	5	5	4514	2.4
07SWC251	40.19	45.80	5.61	RT_ABA-4	0.665	0.243	0.057	0.4	1.0	2	6	237	0.39	1	1.2	0.25	6	3	6889	2.4
07SWC183	15.88	21.11	5.23	RT_ABA-13	0.708	0.335	0.047	1.5	1.1	32	6	394	0.25	2	0.7	0.43	8	5	7085	2.7

HOLE ID	FROM (m)	TO (m)	Length (m)	SAMPLE DESCRIPTION	Ga_ppm ICP	Hg_ppm ICP	K_%ICP	La_ppm ICP	Mg_%ICP	Mn_ppm ICP	Mo_ppm ICP	Na_%ICP	Ni_ppm ICP	P_ppm ICP	Pb_ppm ICP	S_%ICP	Sb_ppm ICP	Sc_ppm ICP	Sr_ppm ICP	Ti_%ICP	Tl_ppm ICP
07SWC254	2.04	8.45	6.41	RT_ABA-1	10	1	1.3	12	0.9	1304	2	0.05	6	1027	10	0.01	1	7	37	0.23	6
07SWC254	19.95	27.17	7.22	RT_ABA-2	10	1	1.1	5	0.9	388	1	0.08	3	1158	5	0.01	1	3	57	0.23	5
07SWC251	19.61	26.47	6.86	RT_ABA-3	10	1	1.2	5	0.8	545	1	0.08	1	1041	7	0.02	1	6	39	0.23	5
07SWC251	66.09	72.08	5.99	RT_ABA-6	5	1	0.5	13	0.5	383	1	0.04	1	592	5	0.01	1	2	35	0.09	5
07SWC250	1.77	6.71	4.94	RT_ABA-7	9	1	0.7	12	0.6	866	4	0.07	5	764	10	0.01	1	7	77	0.12	6
07SWC250	14.53	20.53	6.00	RT_ABA-8	10	0	1.0	17	1.0	674	3	0.07	5	1032	7	0.01	1	9	79	0.20	10
07SWC250	30.67	36.40	5.73	RT_ABA-9	10	1	1.0	17	1.2	1926	1	0.08	5	937	19	0.04	1	8	93	0.15	7
07SWC246	1.46	6.83	5.37	RT_ABA-10	10	1	0.8	10	0.7	265	1	0.07	2	845	4	0.03	2	6	53	0.17	5
07SWC244	2.00	6.80	4.80	RT_ABA-11	8	1	0.6	11	0.4	477	1	0.08	1	716	4	0.01	1	6	28	0.11	5
07SWC183	5.93	10.90	4.97	RT_ABA-12	8	1	0.8	7	0.5	434	1	0.08	2	634	35	0.01	1	5	34	0.13	5
07SWC183	23.61	30.06	6.45	RT_ABA-14	5	1	0.8	9	0.5	462	1	0.08	2	554	18	0.01	3	6	41	0.14	5
07SWC182	4.87	12.23	7.36	RT_ABA-15	5	1	0.3	8	0.1	478	2	0.05	1	854	6	0.04	1	1	35	0.01	5
07SWC182	25.64	31.30	5.66	RT_ABA-16	5	0	0.4	12	0.9	1111	16	0.04	2	797	13	0.08	1	2	84	0.00	5
07SWC182	32.80	38.73	5.93	RT_ABA-17	5	1	0.3	10	0.8	970	3	0.05	2	620	8	0.04	1	2	64	0.00	5
07SWC181	3.05	9.20	6.15	RT_ABA-18	8	1	0.8	18	0.6	1478	1	0.05	2	1041	16	0.02	1	7	49	0.13	5
07SWC181	9.20	14.66	5.46	RT_ABA-19	7	1	0.4	12	0.5	575	1	0.07	2	700	5	0.01	1	7	97	0.06	5
07SWC251	48.39	53.16	4.77	RT_ABA-5	10	1	1.2	20	1.2	1655	1	0.05	1	1198	15	0.41	1	8	55	0.21	5
07SWC181	14.66	20.57	5.91	RT_ABA-20	6	1	0.4	10	0.5	499	1	0.07	2	824	4	0.11	1	7	84	0.06	5
07SWC251	40.19	45.80	5.61	RT_ABA-4	7	1	0.8	12	0.7	318	1	0.03	1	886	7	0.09	1	6	63	0.15	5
07SWC183	15.88	21.11	5.23	RT_ABA-13	6	1	0.6	6	0.5	435	29	0.08	3	901	4	0.35	2	4	64	0.08	5

HOLE ID	FROM (m)	TO (m)	Length (m)	SAMPLE DESCRIPTION	U_ppm ICP	V_ppm ICP	W_ppm ICP	Zn_ppm ICP
07SWC254	2.04	8.45	6.41	RT_ABA-1	5	103	5	231
07SWC254	19.95	27.17	7.22	RT_ABA-2	5	78	5	62
07SWC251	19.61	26.47	6.86	RT_ABA-3	5	84	5	73
07SWC251	66.09	72.08	5.99	RT_ABA-6	5	43	5	62
07SWC250	1.77	6.71	4.94	RT_ABA-7	5	83	5	84
07SWC250	14.53	20.53	6.00	RT_ABA-8	5	112	5	82
07SWC250	30.67	36.40	5.73	RT_ABA-9	5	86	5	523
07SWC246	1.46	6.83	5.37	RT_ABA-10	5	83	5	50
07SWC244	2.00	6.80	4.80	RT_ABA-11	5	63	5	78
07SWC183	5.93	10.90	4.97	RT_ABA-12	5	55	5	54
07SWC183	23.61	30.06	6.45	RT_ABA-14	5	52	5	75
07SWC182	4.87	12.23	7.36	RT_ABA-15	5	21	5	63
07SWC182	25.64	31.30	5.66	RT_ABA-16	7	30	5	143
07SWC182	32.80	38.73	5.93	RT_ABA-17	5	31	5	100
07SWC181	3.05	9.20	6.15	RT_ABA-18	5	86	5	235
07SWC181	9.20	14.66	5.46	RT_ABA-19	5	46	5	70
07SWC251	48.39	53.16	4.77	RT_ABA-5	5	105	5	406
07SWC181	14.66	20.57	5.91	RT_ABA-20	5	49	5	68
07SWC251	40.19	45.80	5.61	RT_ABA-4	5	98	5	67
07SWC183	15.88	21.11	5.23	RT_ABA-13	5	79	5	95

Sample Source						ABA Results													
						Sample ID	**Paste pH Std. Units**	**Fizz Test Visual**	**AP kg CaCO3/t**	**Net Sobek NP kg CaCO3/t**	**Sobek NP kg CaCO3/t**	**Sobek NP/AP Ratio**	**Total S % S**	**Sulphate % S**	**Sulphur Diff. % S**	**CO2 % CO2**	**Equiv. CaCO3 kg CaCO3/t**	**Modified NP kg CaCO3/t**	**Net Modified NP kg CaCO3/t**
						LOD	0.01	#N/A	#N/A	#N/A	0.2	#N/A	0.02	0.01	#N/A	0.02	#N/A	0.2	#N/A
						Method Code	Sobek	Sobek	Calc.	Calc.	Modified NP	Calc.	Leco	HCl Leach	Calc.	HCl Leach	Calc.	Modified NP	Calc.
Hole ID	**from (m)**	**to (m)**	**Interval**	**Litho**	**Waste Category**														
09SWC393	6.1	11.9	5.8	pG	HW waste	G0755001	8.41	Slight	<0.6	21.5	21.5	35.8	<0.02	<0.01	<0.02	0.43	9.8		
09SWC393	12.3	18.3	6	pG	HW waste	G0755002	8.58	Slight	<0.6	25.3	25.3	42.2	<0.02	<0.01	<0.02	0.45	10.2		
09SWC393	31.01	37.01	6	pG	HW waste	G0755003	8.80	Slight	<0.6	25.4	25.4	42.3	<0.02	<0.01	<0.02	0.51	11.6		
09SWC393	45.47	51.47	6	pG	HW waste	G0755004	9.18	Slight	<0.6	19.9	19.9	33.2	<0.02	<0.01	<0.02	0.26	5.9		
09SWC393	80.4	86.4	6	multiple	FW waste	G0755005	8.82	Slight	<0.6	31.5	31.5	52.5	<0.02	<0.01	<0.02	0.76	17.3	19.7	19.7
09SWC404	10.84	16.84	6	pG	HW waste	G0755006	8.70	Slight	<0.6	33.0	33.0	55.0	<0.02	<0.01	<0.02	0.81	18.4	22.9	22.9
09SWC404	34.58	40.58	6	pG	HW waste	G0755007	8.73	Slight	<0.6	32.0	32.0	53.3	<0.02	<0.01	<0.02	0.64	14.5	19.1	19.1
09SWC404	52.22	58.22	6	pG	HW waste	G0755008	8.61	Slight	<0.6	33.3	33.3	55.5	<0.02	<0.01	<0.02	0.89	20.2	23.4	23.4
09SWC404	86.35	92.35	6	multiple	FW waste	G0755009	9.20	Slight	<0.6	24.8	24.8	41.3	<0.02	<0.01	<0.02	0.32	7.3	13.6	13.6
09SWC408	21	27	6	pG	HW waste	G0755010	8.85	None	<0.6	12.2	12.2	20.3	<0.02	<0.01	<0.02	<0.02	<0.5		
09SWC408	46.93	52.93	6	pG	HW waste	G0755011	8.63	Slight	<0.6	26.3	26.3	43.8	<0.02	<0.01	<0.02	0.62	14.1		
09SWC408	65.81	71.81	6	pG	HW waste	G0755012	8.88	Slight	<0.6	26.0	26.0	43.3	<0.02	<0.01	<0.02	0.4	9.1		
09SWC408	101.9	107.9	6	G (FW wast	FW waste	G0755013	8.90	Slight	<0.6	23.3	23.3	38.8	<0.02	<0.01	<0.02	0.34	7.7		
09SWC 459	3.14	9.14	6	pG	HW waste	G0755014	9.02	None	<0.6	12.3	12.3	20.5	<0.02	<0.01	<0.02	0.03	0.7		
09SWC 459	30	36	6	pG	HW waste	G0755015	8.95	None	<0.6	15.1	15.1	25.2	<0.02	<0.01	<0.02	0.12	2.7		
09SWC 459	59.35	65.35	6	pG	HW waste	G0755016	8.89	Slight	<0.6	27.3	27.3	45.5	<0.02	<0.01	<0.02	0.53	12.0		
09SWC 459	75.4	81.4	6	pG	HW waste	G0755017	8.92	Slight	<0.6	24.7	24.7	41.2	<0.02	<0.01	<0.02	0.37	8.4		
09SWC 459	109.2	115.2	6	multiple	FW waste	G0755018	9.28	Slight	<0.6	25.3	25.3	42.2	<0.02	<0.01	<0.02	0.3	6.8		
09SWC465	9.14	15.14	6	pG	HW waste	G0755019	8.77	Slight	<0.6	24.0	24.0	40.0	<0.02	<0.01	<0.02	0.36	8.2		
09SWC465	30	36	6	pG	HW waste	G0755020	8.91	Slight	<0.6	23.8	23.8	39.7	<0.02	<0.01	<0.02	0.5	11.4		
09SWC465	49.92	55.92	6	pG	HW waste	G0755021	8.65	Slight	<0.6	30.8	30.8	51.3	<0.02	<0.01	<0.02	1.1	25.0		
09SWC465	73.75	79.75	6	pG	HW waste	G0755022	8.90	Slight	<0.6	25.4	25.4	42.3	<0.02	<0.01	<0.02	0.6	13.6		
09SWC465	88.52	94.52	6	multiple	HW waste	G0755023	8.42	Slight	<0.6	37.5	37.5	62.5	<0.02	<0.01	<0.02	1.21	27.5		

Modified NP/AP Ratio
#N/A
Calc.
32.8
38.2
31.8
39.0
22.7

Metals Results

Sample ID	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm
LOD	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.1	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1	1	0.01	1	0.001	20	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5
Method Code	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX
G0755001	0.2	2.4	1.6	60	<0.1	3.6	6	437	1.9	<0.5	0.1	<0.5	1	71	<0.1	<0.1	<0.1	41	0.69	0.071	6	56	0.63	235	0.104	<20	1.02	0.079	0.48	<0.1	<0.01	2.4	0.1	<0.05	4	<0.5
G0755002	0.2	4.4	2.1	60	<0.1	4.1	6	483	2.01	0.5	0.1	<0.5	1.4	44	<0.1	<0.1	<0.1	41	0.87	0.069	8	59	0.66	175	0.099	<20	1.08	0.085	0.32	<0.1	<0.01	2.6	<0.1	<0.05	5	<0.5
G0755003	0.2	4.2	1.7	63	<0.1	3.5	5.6	473	1.97	<0.5	0.1	<0.5	1.8	71	<0.1	<0.1	<0.1	41	0.79	0.068	9	61	0.61	196	0.098	<20	1.04	0.065	0.5	<0.1	<0.01	2.9	0.1	<0.05	4	<0.5
G0755004	0.2	28.7	1.8	68	<0.1	3.5	5	422	1.91	0.7	0.1	0.8	2.9	39	<0.1	<0.1	<0.1	35	0.49	0.061	10	65	0.63	195	0.12	<20	1.03	0.054	0.55	<0.1	<0.01	1.6	0.1	<0.05	5	<0.5
G0755005	0.2	48.4	2	54	<0.1	2.8	5.8	475	1.91	<0.5	0.2	2.6	2.9	63	<0.1	<0.1	<0.1	37	0.95	0.068	12	58	0.62	153	0.065	<20	1	0.049	0.33	<0.1	<0.01	2.5	0.1	<0.05	4	<0.5
G0755006	0.2	2.9	3.1	47	<0.1	2.3	5.7	442	1.82	1.2	0.2	2.8	1.4	105	<0.1	<0.1	<0.1	33	1.13	0.069	8	42	0.64	54	0.04	<20	1.09	0.041	0.06	<0.1	<0.01	2.8	<0.1	<0.05	5	<0.5
G0755007	0.2	3.8	2.7	61	<0.1	3.1	6.5	484	2.01	1.1	0.2	0.7	1.3	90	<0.1	<0.1	<0.1	36	1.01	0.071	7	48	0.79	60	0.062	<20	1.17	0.044	0.12	<0.1	<0.01	2.6	<0.1	<0.05	6	<0.5
G0755008	0.2	6.4	1.7	55	<0.1	3.2	5.5	415	1.79	0.8	0.1	0.7	1.9	131	<0.1	<0.1	<0.1	27	1.04	0.067	8	58	0.53	128	0.03	<20	0.88	0.042	0.18	<0.1	<0.01	2.4	<0.1	<0.05	4	<0.5
G0755009	8.8	179.1	1.3	58	<0.1	2.9	6.3	440	2.11	1.3	0.5	3	4.2	44	<0.1	<0.1	<0.1	49	0.62	0.084	13	59	0.66	187	0.125	<20	1	0.057	0.62	<0.1	<0.01	2.6	0.2	<0.05	4	<0.5
G0755010	0.3	8.3	1.5	48	0.1	2.9	5.8	429	1.94	0.9	0.1	1.2	1.2	68	<0.1	<0.1	<0.1	43	0.56	0.076	7	59	0.62	161	0.114	<20	1	0.072	0.36	<0.1	<0.01	2.6	<0.1	<0.05	4	<0.5
G0755011	0.2	5.3	3.1	58	<0.1	2.6	6	449	2	0.8	0.1	1	1.2	140	<0.1	<0.1	<0.1	38	1.07	0.077	7	48	0.67	110	0.058	<20	1.12	0.051	0.16	<0.1	<0.01	2.8	<0.1	<0.05	5	<0.5
G0755012	0.2	3.7	2.7	62	<0.1	2.8	6	463	2.01	0.5	0.2	0.8	2.2	84	<0.1	<0.1	<0.1	41	0.87	0.076	10	58	0.74	150	0.1	<20	1.12	0.056	0.28	<0.1	<0.01	2.6	<0.1	<0.05	5	<0.5
G0755013	0.2	9.4	2	66	<0.1	3.1	6.1	467	2.11	0.6	0.2	0.7	1.4	54	<0.1	<0.1	<0.1	45	0.71	0.074	7	61	0.69	173	0.118	<20	1.13	0.062	0.45	<0.1	<0.01	2.1	<0.1	<0.05	5	<0.5
G0755014	0.2	3.2	1.1	41	<0.1	3	5.3	405	1.85	<0.5	0.2	<0.5	1.4	35	<0.1	<0.1	<0.1	43	0.44	0.077	7	65	0.6	177	0.111	<20	0.95	0.075	0.47	<0.1	<0.01	2.4	<0.1	<0.05	4	<0.5
G0755015	0.3	3.4	2	52	<0.1	3.2	6	462	2.04	3	0.2	0.9	1.1	39	<0.1	<0.1	<0.1	46	0.68	0.083	7	60	0.68	108	0.114	<20	1.02	0.069	0.29	<0.1	<0.01	2.9	<0.1	<0.05	5	<0.5
G0755016	0.1	2.4	2.7	58	<0.1	3	5.8	457	2	0.6	2	1.1	1.1	108	<0.1	<0.1	<0.1	39	0.91	0.073	7	57	0.67	127	0.068	<20	1.02	0.06	0.26	<0.1	<0.01	2.8	<0.1	<0.05	5	<0.5
G0755017	0.2	77.9	3.1	62	<0.1	3.3	6.2	525	2.1	<0.5	0.2	0.7	2.9	70	<0.1	<0.1	<0.1	44	0.69	0.076	9	60	0.68	230	0.11	<20	1.09	0.062	0.55	<0.1	<0.01	2.5	0.2	<0.05	5	<0.5
G0755018	0.2	5.9	2	64	<0.1	3	5.9	491	2.04	0.7	0.2	<0.5	1.3	46	<0.1	<0.1	<0.1	42	0.76	0.075	7	54	0.73	107	0.106	<20	1.11	0.062	0.3	<0.1	<0.01	2.3	<0.1	<0.05	6	<0.5
G0755019	0.2	2.1	2.3	47	<0.1	3	5.6	424	1.84	0.6	0.1	<0.5	1.2	63	<0.1	<0.1	<0.1	37	0.85	0.079	7	55	0.64	92	0.074	<20	0.94	0.055	0.21	<0.1	<0.01	2.4	<0.1	<0.05	5	<0.5
G0755020	0.2	2.9	0.8	67	<0.1	3.4	6.4	497	2.3	<0.5	0.1	<0.5	1.3	87	<0.1	<0.1	<0.1	52	0.63	0.087	7	59	0.73	334	0.135	<20	1.16	0.061	0.75	<0.1	<0.01	3.5	0.1	<0.05	5	<0.5
G0755021	2.3	3.1	1.3	54	<0.1	5.1	6.4	486	2.03	<0.5	0.1	<0.5	1.1	63	<0.1	<0.1	<0.1	50	1.01	0.082	6	63	0.57	234	0.093	<20	0.94	0.054	0.52	<0.1	<0.01	3.5	0.1	<0.05	4	<0.5
G0755022	0.2	8.2	2.2	86	<0.1	3.7	6.4	616	2.4	<0.5	0.2	<0.5	3.5	59	<0.1	<0.1	<0.1	50	0.72	0.079	12	64	0.75	296	0.133	<20	1.2	0.053	0.77	<0.1	<0.01	3.2	0.2	<0.05	5	<0.5
G0755023	0.2	231.7	3.6	77	<0.1	3.3	5.3	465	2.08	0.7	0.3	6.8	3.8	112	0.2	<0.1	<0.1	25	1.39	0.06	12	54	0.63	109	0.014	<20	1.14	0.035	0.2	<0.1	<0.01	1	<0.1	<0.05	5	<0.5

CLIENT : **SRK Consulting**
PROJECT : **Minto**
SRK Project # : **2CM022.016.0007**
SGS Project # : **0907**
Test : **Sobek Acid-Base Accounting**
Date : **September 30, 2010**

Hole ID	Sample ID	Paste pH Std. Units	CO2 % CO2	Equiv. CaCO3 kg CaCO3/t	Total S % S	Sulphate % S	Sulphur Diff. % S	AP kg CaCO3/t	NP kg CaCO3/t	Net NP kg CaCO3/t	NP/AP Ratio	Fizz Test Visual	Mo ppm	Cu ppm
	LOD	0.01	0.02	#N/A	0.02	0.01	#N/A	#N/A	0.2	#N/A	#N/A	#N/A	0.1	0.1
	Method Code	Sobek	HCl Leach	Calc.	Leco	HCl Leach	Calc.	Calc.	Sobek NP	Calc.	Calc.	Sobek	1DX	1DX
08SWC351	Ridgetop 7.70-14-84 m	8.33	1.12	25.5	<0.02	<0.01	<0.02	<0.6	37.2	37.2	62.0	Slight	1.5	126.7
08SWC374	Ridgetop 9.10-14.87 m	8.37	1.63	37.0	<0.02	<0.01	<0.02	<0.6	47.0	47.0	78.3	Slight	0.6	130.7
09SWC555	Ridgetop 10.00-16.00 m	8.28	0.58	13.2	0.02	<0.01	0.02	0.6	25.7	25.1	41.1	Slight	1.9	246.6
08SWC355	Ridgetop 10.36-16.36 m	8.54	1.33	30.2	<0.02	<0.01	<0.02	<0.6	37.9	37.9	63.2	Slight	0.8	119.1
09SWC553	Ridgetop 13.00-19.00 m	8.48	1.07	24.3	<0.02	<0.01	<0.02	<0.6	40.9	40.9	68.2	Slight	1.1	150.3
08SWC370	Ridgetop 16.00-22.00 m	8.31	1.23	28.0	<0.02	<0.01	<0.02	<0.6	42.1	42.1	70.2	Slight	2.3	315
07SWC256	Ridgetop 18.00-24.00 m	8.71	1.03	23.4	<0.02	<0.01	<0.02	<0.6	34.5	34.5	57.5	Slight	1.1	223.8
08SWC353	Ridgetop 19.00-26.14 m	8.44	0.74	16.8	<0.02	0.01	<0.02	<0.6	31.8	31.8	53.0	Slight	0.9	155.5
08SWC349	Ridgetop 20.50-26.50 m	8.81	0.98	22.3	<0.02	<0.01	<0.02	<0.6	32.8	32.8	54.7	Slight	0.7	91.1
08SWC355	Ridgetop 28.36-35.90 m	8.64	2.81	63.9	<0.02	<0.01	<0.02	<0.6	75.3	75.3	125.5	Slight	0.8	180.9
08SWC351	Ridgetop 29.65-35.68 m	8.79	0.61	13.9	<0.02	0.01	<0.02	<0.6	25.6	25.6	42.7	Slight	1.2	213.8
09SWC553	Ridgetop 34.00-40.00 m	8.50	1.44	32.7	<0.02	<0.01	<0.02	<0.6	45.6	45.6	76.0	Slight	1.4	128.2
	Duplicates													
08SWC351	Ridgetop 7.70-14-84 m	8.49							37.0			Slight		
08SWC374	Ridgetop 9.10-14.87 m		1.59											

Note:

Equivalent CaCO3 is calculated from the CO2 originating from carbonate minerals.

Sulphur Difference = Total S - Sulphate S

AP = Acid Potential in tonnes CaCO3 equivalent per 1000 tonnes of material. AP is calculated from the sulphur difference.

NP = Neutralization Potential in tonnes CaCO3 equivalent per 1000 tonnes of material.

NET NP = NP - AP

CLIENT : **SRK Consulting**
PROJECT : **Minto**
SRK Project # : **2CM022.016.0007**
SGS Project # : **0907**
Test : **Sobek Acid-Base Accounting**
Date : **September 30, 2010**

Hole ID	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm
	0.1 1DX	1 1DX	0.1 1DX	0.1 1DX	0.1 1DX	1 1DX	0.01 1DX	0.5 1DX	0.1 1DX	0.5 1DX	0.1 1DX	1 1DX	0.1 1DX	0.1 1DX	0.1 1DX	2 1DX	0.01 1DX	0.001 1DX	1 1DX	1 1DX
08SWC351	4.6	74	0.8	5.4	6.8	609	2.78	6.3	0.1	2.9	0.9	63	<0.1	<0.1	<0.1	64	1.24	0.022	3	70
08SWC374	4.6	71	<0.1	4.3	8.1	702	2.55	4.8	0.1	5.3	1.3	79	<0.1	<0.1	<0.1	62	1.72	0.041	3	57
09SWC555	3.6	76	<0.1	5.1	9.8	594	3.64	5.2	<0.1	10.6	1.1	31	0.1	<0.1	<0.1	106	0.75	0.026	3	60
08SWC355	8.2	73	0.2	4.8	7.2	462	2.91	7.6	0.1	10.4	0.9	86	<0.1	<0.1	<0.1	72	1.39	0.019	2	63
09SWC553	5.3	73	<0.1	4.2	6.9	543	3.16	7.8	<0.1	12.9	1	98	<0.1	<0.1	<0.1	76	1.48	0.026	3	59
08SWC370	6.4	76	<0.1	4.3	7.7	579	3.04	5.3	0.2	24.4	1.3	59	<0.1	<0.1	0.1	74	1.55	0.037	3	54
07SWC256	6.8	94	<0.1	4.3	8.4	564	3.34	4.5	<0.1	6.9	0.6	63	<0.1	<0.1	<0.1	81	1.34	0.045	2	61
08SWC353	10.8	81	0.2	5	8.4	407	3.09	7.7	0.2	18	1.1	89	<0.1	<0.1	<0.1	82	1.13	0.022	2	55
08SWC349	9.3	71	0.1	4.4	6.4	391	2.86	7.7	0.2	3.2	1.1	73	<0.1	<0.1	<0.1	70	1.39	0.02	2	56
08SWC355	5	87	<0.1	4	8.4	816	2.95	5.6	0.1	14.4	1.3	61	0.1	<0.1	<0.1	71	2.61	0.053	3	49
08SWC351	3.7	84	0.1	3.6	7.4	557	2.79	3	<0.1	3.7	0.7	47	<0.1	<0.1	<0.1	69	0.86	0.064	2	62
09SWC553	4.5	62	<0.1	4.3	6.2	472	2.49	6	0.2	17.5	1.6	43	<0.1	<0.1	<0.1	67	1.63	0.031	4	62

08SWC351
08SWC374

Note:

Equivalent CaCO3 is calculated from the CO2 originating from carbonate minerals.

Sulphur Difference = Total S - Sulphate S

AP = Acid Potential in tonnes CaCO3 equivalent per 1000 tonnes of material. AP is calculated from the sulphur difference.

NP = Neutralization Potential in tonnes CaCO3 equivalent per 1000 tonnes of material.

NET NP = NP - AP

CLIENT : **SRK Consulting**
PROJECT : **Minto**
SRK Project # : **2CM022.016.0007**
SGS Project # : **0907**
Test : **Sobek Acid-Base Accounting**
Date : **September 30, 2010**

Hole ID	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Hg ppm	Sc ppm	Tl ppm	S %	Ga ppm	Se ppm	Te ppm
	0.01	1	0.001	20	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX
08SWC351	0.51	659	0.149	<20	1.17	0.031	0.8	0.4	<0.01	4.9	0.2	<0.05	6	<0.5	<0.2
08SWC374	0.4	570	0.102	<20	0.98	0.024	0.59	<0.1	<0.01	6.2	0.2	<0.05	5	<0.5	<0.2
09SWC555	0.86	654	0.261	<20	1.64	0.028	1.26	<0.1	<0.01	5.9	0.4	<0.05	8	<0.5	0.2
08SWC355	0.49	692	0.148	<20	1.17	0.026	0.76	<0.1	<0.01	6	0.2	<0.05	6	<0.5	<0.2
09SWC553	0.58	707	0.17	<20	1.32	0.024	0.9	<0.1	<0.01	5.4	0.3	<0.05	7	<0.5	<0.2
08SWC370	0.41	527	0.113	<20	1.02	0.021	0.6	<0.1	0.02	8	0.2	<0.05	5	<0.5	<0.2
07SWC256	0.65	601	0.163	<20	1.33	0.027	0.96	<0.1	<0.01	6.6	0.3	<0.05	8	<0.5	<0.2
08SWC353	0.57	877	0.165	<20	1.28	0.024	0.85	<0.1	0.01	6.6	0.3	<0.05	7	<0.5	<0.2
08SWC349	0.48	694	0.135	<20	1.15	0.024	0.76	<0.1	<0.01	5.8	0.3	<0.05	6	<0.5	<0.2
08SWC355	0.67	712	0.144	22	1.22	0.028	0.82	<0.1	<0.01	4.8	0.2	<0.05	7	<0.5	<0.2
08SWC351	0.61	942	0.176	<20	1.21	0.03	0.93	0.1	<0.01	5.5	0.3	<0.05	7	<0.5	<0.2
09SWC553	0.51	635	0.139	<20	1.11	0.023	0.71	<0.1	<0.01	6.7	0.2	<0.05	5	<0.5	<0.2

08SWC351
08SWC374

Note:

Equivalent CaCO3 is calculated from the CO2 originating from carbonate minerals.

Sulphur Difference = Total S - Sulphate S

AP = Acid Potential in tonnes CaCO3 equivalent per 1000 tonnes of material. AP is calculated from the sulphur difference.

NP = Neutralization Potential in tonnes CaCO3 equivalent per 1000 tonnes of material.

NET NP = NP - AP

CLIENT : **SRK Consulting**
PROJECT : **Minto (Wildfire Project)**
SGS Project # : **0907**
Test : **Sobek Acid-Base Accounting**
Date : **November 4, 2011**

	ABA										
Sample ID	**Paste pH Std. Units**	**CO2 % CO2**	**Equiv. CaCO3 kg CaCO3/t**	**Total S % S**	**Sulphate % S**	**Sulphur Diff. % S**	**AP kg CaCO3/t**	**Sobek NP kg CaCO3/t**	**Net Sobek NP kg CaCO3/t**	**Sobek NP/AP Ratio**	**Fizz Test Visual**
Method Code	Sobek	2A11HCl	Calc.	2A Leco	CSA07V	Calc.	Calc.	Sobek NP	Calc.	Calc.	Sobek
LOD	0.01	0.02	#N/A	0.02	0.01	#N/A	#N/A	0.5	#N/A	#N/A	#N/A
10SWC645 45&48 Composite	8.80	4.29	97.5	<0.02	<0.01	<0.02	<0.6	103.6	103.6	172.7	Moderate
10SWC645 70&73 Composite	8.89	3.19	72.5	<0.02	<0.01	<0.02	<0.6	67.6	67.6	112.7	Slight
10SWC645 93&96 Composite	8.87	3.14	71.4	<0.02	<0.01	<0.02	<0.6	67.9	67.9	113.2	Slight
10SWC645 108&111 Composite	8.94	7.02	159.5	<0.02	<0.01	<0.02	<0.6	135.9	135.9	226.5	Moderate
10SWC658 75&78 Composite	8.92	3.09	70.2	<0.02	0.02	<0.02	<0.6	66.5	66.5	110.8	Slight
10SWC658 87&90 Composite	8.95	3.31	75.2	<0.02	0.01	<0.02	<0.6	68.8	68.8	114.7	Slight
10SWC658 93&96 Composite	9.00	9.46	215.0	<0.02	<0.01	<0.02	<0.6	188.0	188.0	313.3	Moderate
10SWC658 102&105 Composite	9.11	3.64	82.7	<0.02	<0.01	<0.02	<0.6	66.8	66.8	111.3	Slight

CLIENT : SRK Consulting
PROJECT : Minto (Wildfire Project)
SGS Project # : 0907
Test : Metals by Aqua Regia Digestion with ICP-MS Finish
Date : November 23, 2011

Sample ID	Metals Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %
Method Code	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX
LOD	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01
10SWC645 45&48 Composite	0.4	46.5	2.9	46	<0.1	5.5	8	1046	2	2.2	4.9	1.4	66	<0.1	<0.1	<0.1	55	3.37
10SWC645 70&73 Composite	0.3	51.9	2.6	38	<0.1	4.8	5.7	378	1.81	3.4	2.2	1.7	101	<0.1	<0.1	<0.1	59	2.24
10SWC645 93&96 Composite	0.4	54.9	1.5	46	<0.1	8.1	9.2	507	2.4	4	0.5	1.5	86	<0.1	<0.1	<0.1	79	1.96
10SWC645 108&111 Composite	0.3	38.5	3.5	63	<0.1	11	13.3	1092	3.2	2.2	1.5	1.3	152	0.3	<0.1	<0.1	107	3.72
10SWC658 75&78 Composite	0.3	38	2.2	36	<0.1	7.2	7.2	432	2.29	1.4	<0.5	1.9	111	0.1	<0.1	<0.1	76	1.8
10SWC658 87&90 Composite	0.4	68.6	3.1	45	0.1	6.7	8.5	423	2.45	1.4	15	2.1	130	<0.1	<0.1	<0.1	80	1.98
10SWC658 93&96 Composite	0.2	56.7	3.5	49	0.1	6.9	10.6	863	2.87	1.4	<0.5	1.8	220	<0.1	<0.1	<0.1	68	4.74
10SWC658 102&105 Composite	0.2	86.4	3.4	43	<0.1	4.2	6.7	517	2.26	1.2	1.1	2.5	131	<0.1	<0.1	<0.1	59	1.83

CLIENT : **SRK Consulting**
PROJECT : **Minto (Wildfire Project)**
SGS Project # : **0907**
Test : **Metals by Aqua Regia Digestion with ICP-MS Finish**
Date : **November 23, 2011**

	Metals																	
Sample ID	**P**	**La**	**Cr**	**Mg**	**Ba**	**Ti**	**B**	**Al**	**Na**	**K**	**W**	**Hg**	**Sc**	**Tl**	**S**	**Ga**	**Se**	**Te**
	%	**ppm**	**ppm**	**%**	**ppm**	**%**	**ppm**	**%**	**%**	**%**	**ppm**	**ppm**	**ppm**	**ppm**	**%**	**ppm**	**ppm**	**ppm**
Method Code	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX
LOD	0.001	1	1	0.01	1	0.001	20	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
10SWC645 45&48 Composite	0.019	7	74	0.17	343	0.024	<20	0.39	0.034	0.19	<0.1	<0.01	6.8	<0.1	<0.05	2	<0.5	<0.2
10SWC645 70&73 Composite	0.039	4	77	0.32	248	0.029	<20	0.49	0.033	0.23	<0.1	<0.01	6.5	<0.1	<0.05	3	<0.5	<0.2
10SWC645 93&96 Composite	0.051	7	84	0.62	213	0.039	<20	0.73	0.032	0.38	<0.1	<0.01	9.9	<0.1	<0.05	3	<0.5	<0.2
10SWC645 108&111 Composite	0.036	8	197	0.65	307	0.023	<20	0.44	0.034	0.21	<0.1	<0.01	15.3	<0.1	<0.05	3	<0.5	<0.2
10SWC658 75&78 Composite	0.066	7	71	0.55	719	0.032	<20	0.57	0.033	0.24	<0.1	<0.01	9.2	<0.1	<0.05	3	<0.5	<0.2
10SWC658 87&90 Composite	0.051	7	82	0.51	478	0.044	<20	0.58	0.037	0.29	<0.1	<0.01	8.7	<0.1	<0.05	3	0.5	<0.2
10SWC658 93&96 Composite	0.031	9	79	1.18	203	0.024	<20	0.42	0.04	0.18	<0.1	<0.01	9.2	<0.1	<0.05	2	<0.5	<0.2
10SWC658 102&105 Composite	0.055	6	71	0.62	401	0.059	<20	0.6	0.038	0.34	<0.1	0.01	7.1	0.1	<0.05	3	<0.5	<0.2

CLIENT : **SRK Consulting**
PROJECT : **Minto**
SRK Project # : **2CM022.016.0007**
SGS Project # : **0907**
Test : **Sobek Acid-Base Accounting and Modified NP**
Date : **March 4-18, 2011**

	Sample ID	Paste pH Std. Units	CO2 % CO2	Equiv. CaCO3 kg CaCO3/t	Total S % S	Sulphate % S	Sulphur Diff. % S	AP kg CaCO3/t	Sobek NP kg CaCO3/t	Modified NP kg CaCO3/t	Net Sobek NP kg CaCO3/t
	Method Code	Sobek	2A11HCl	Calc.	2A Leco	CSA07V	Calc.	Calc.	Sobek NP	Modified NP	Calc.
	LOD	0.01	0.02	#N/A	0.02	0.01	#N/A	#N/A	0.2	0.2	#N/A
Minto North Dyke	09SWC408 71.81-75.24	8.58	0.76	17.3	<0.02	0.02	<0.02	<0.6	35.9	24.1	35.9
Minto North Dyke	09SWC478 6.64-10.64	8.88	0.1	2.3	<0.02	0.01	<0.02	<0.6	16.2	8.1	16.2
Minto North Dyke	09SWC483 3.00-6.91	8.64	0.04	0.9	<0.02	0.01	<0.02	<0.6	14.6	7.3	14.6
Minto North Dyke	09SWC497 27.10-32.12	8.43	0.58	13.2	<0.02	0.02	<0.02	<0.6	32.5	18.1	32.5
Minto North Dyke	09SWC502 49.72-53.40	8.36	0.98	22.3	<0.02	0.02	<0.02	<0.6	37.0	25.7	37.0
Minto North Dyke	09SWC504 6.00-10.15	8.35	1.28	29.1	<0.02	0.02	<0.02	<0.6	40.3	27.7	40.3
Minto North Dyke	09SWC505 45.50-50.02	9.02	0.25	5.7	<0.02	0.01	<0.02	<0.6	28.3	11.4	28.3
Minto North Dyke	09SWC515 17.36-23.25	8.36	0.84	19.1	<0.02	0.02	<0.02	<0.6	36.4	22.3	36.4
Minto North Dyke	09SWC517 25.30-29.60	9.13	0.23	5.2	<0.02	<0.01	<0.02	<0.6	24.3	10.3	24.3

Note:

Equivalent CaCO3 is calculated from the CO2 originating from carbonate minerals.

Sulphur Difference = Total S - Sulphate S

AP = Acid Potential in tonnes CaCO3 equivalent per 1000 tonnes of material. AP is calculated from the sulphur difference.

NP = Neutralization Potential in tonnes CaCO3 equivalent per 1000 tonnes of material.

NET NP = NP - AP

CLIENT : **SRK Consulting**
PROJECT : **Minto**
SRK Project # : **2CM022.016.0007**
SGS Project # : **0907**
Test : **Sobek Acid-Base Accounting and Modified NP**
Date : **March 4-18, 2011**

	Sample ID	Net Modified NP kg CaCO3/t	Sobek NP/AP Ratio	Modified NP/AP Ratio	Fizz Test Visual	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm
	Method Code	Calc.	Calc.	Calc.	Sobek	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX
	LOD	#N/A	#N/A	#N/A	#N/A	0.1	0.1	0.1	1	0.1	0.1	0.1	1
Minto North Dyke	09SWC408 71.81-75.24	24.1	59.8	40.2	Slight	0.2	200.3	2.9	59	0.1	5.1	7.7	482
Minto North Dyke	09SWC478 6.64-10.64	8.1	27.0	13.5	None	0.2	9.9	2.9	55	<0.1	4.6	7.3	453
Minto North Dyke	09SWC483 3.00-6.91	7.3	24.3	12.2	None	0.3	8.9	3	52	<0.1	4.2	6.9	453
Minto North Dyke	09SWC497 27.10-32.12	18.1	54.2	30.2	Slight	0.2	11.7	1.6	55	<0.1	5	7.2	494
Minto North Dyke	09SWC502 49.72-53.40	25.7	61.7	42.8	Slight	0.1	7.8	2.3	57	<0.1	4.4	7.6	515
Minto North Dyke	09SWC504 6.00-10.15	27.7	67.2	46.2	Slight	0.1	17	2.4	59	0.1	4.6	8	489
Minto North Dyke	09SWC505 45.50-50.02	11.4	47.2	19.0	Slight	0.2	8.3	1.6	51	<0.1	4.3	7.1	468
Minto North Dyke	09SWC515 17.36-23.25	22.3	60.7	37.2	Slight	0.2	10	1.9	56	<0.1	4.8	7.7	472
Minto North Dyke	09SWC517 25.30-29.60	10.3	40.5	17.2	Slight	0.2	296.2	1.1	54	0.1	4.1	7	434

Note:

Equivalent CaCO3 is calculated from the CO2 originating from carbonate minerals.

Sulphur Difference = Total S - Sulphate S

AP = Acid Potential in tonnes CaCO3 equivalent per 1000 tonnes of material. AP is calculated from the sulphur difference.

NP = Neutralization Potential in tonnes CaCO3 equivalent per 1000 tonnes of material.

NET NP = NP - AP

CLIENT : **SRK Consulting**
PROJECT : **Minto**
SRK Project # : **2CM022.016.0007**
SGS Project # : **0907**
Test : **Sobek Acid-Base Accounting and Modified NP**
Date : **March 4-18, 2011**

	Sample ID	Fe %	As ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm
	Method Code	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX
	LOD	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1	1	0.01	1	0.001	20
Minto North Dyke	09SWC408 71.81-75.24	2.17	1.1	7.8	4.1	98	<0.1	<0.1	<0.1	42	1.32	0.082	12	58	0.86	44	0.052	<20
Minto North Dyke	09SWC478 6.64-10.64	2.19	1.3	<0.5	4.7	57	<0.1	<0.1	<0.1	50	0.71	0.083	12	58	0.75	154	0.106	<20
Minto North Dyke	09SWC483 3.00-6.91	2.15	1.8	<0.5	4.8	51	<0.1	<0.1	<0.1	49	0.74	0.086	13	45	0.71	98	0.105	<20
Minto North Dyke	09SWC497 27.10-32.12	2.23	1	<0.5	4.7	83	<0.1	<0.1	<0.1	50	0.95	0.081	13	57	0.73	262	0.074	<20
Minto North Dyke	09SWC502 49.72-53.40	2.27	0.9	<0.5	4.4	62	<0.1	<0.1	<0.1	45	1.26	0.084	13	52	0.61	229	0.063	<20
Minto North Dyke	09SWC504 6.00-10.15	2.3	1.9	<0.5	4.6	100	<0.1	<0.1	<0.1	40	1.39	0.085	14	54	0.67	159	0.044	<20
Minto North Dyke	09SWC505 45.50-50.02	2.17	1	<0.5	5.1	41	<0.1	<0.1	<0.1	52	0.69	0.084	13	56	0.74	268	0.098	<20
Minto North Dyke	09SWC515 17.36-23.25	2.24	1.4	<0.5	4.4	52	<0.1	<0.1	<0.1	45	1.19	0.084	14	48	0.71	141	0.043	<20
Minto North Dyke	09SWC517 25.30-29.60	2.18	1	3.5	4.6	36	<0.1	<0.1	<0.1	50	0.57	0.087	12	54	0.73	276	0.102	<20

Note:

Equivalent CaCO3 is calculated from the CO2 originating from carbonate minerals.

Sulphur Difference = Total S - Sulphate S

AP = Acid Potential in tonnes CaCO3 equivalent per 1000 tonnes of material. AP is calculated from the sulphur difference.

NP = Neutralization Potential in tonnes CaCO3 equivalent per 1000 tonnes of material.

NET NP = NP - AP

CLIENT : **SRK Consulting**
PROJECT : **Minto**
SRK Project # : **2CM022.016.0007**
SGS Project # : **0907**
Test : **Sobek Acid-Base Accounting and Modified NP**
Date : **March 4-18, 2011**

	Sample ID	Al %	Na %	K %	W ppm	Hg ppm	Sc ppm	Tl ppm	S %	Ga ppm	Se ppm	Te ppm
	Method Code	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX
	LOD	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
Minto North Dyke	09SWC408 71.81-75.24	1.29	0.046	0.11	<0.1	<0.01	2.1	<0.1	<0.05	6	<0.5	<0.2
Minto North Dyke	09SWC478 6.64-10.64	1.08	0.077	0.25	<0.1	<0.01	1.6	<0.1	<0.05	6	<0.5	<0.2
Minto North Dyke	09SWC483 3.00-6.91	1.06	0.065	0.15	<0.1	<0.01	2	<0.1	<0.05	6	<0.5	<0.2
Minto North Dyke	09SWC497 27.10-32.12	1.08	0.051	0.4	<0.1	<0.01	2.3	0.1	<0.05	6	<0.5	<0.2
Minto North Dyke	09SWC502 49.72-53.40	1	0.049	0.38	<0.1	<0.01	2.7	<0.1	<0.05	5	<0.5	<0.2
Minto North Dyke	09SWC504 6.00-10.15	0.96	0.049	0.21	<0.1	<0.01	2.4	<0.1	<0.05	5	<0.5	<0.2
Minto North Dyke	09SWC505 45.50-50.02	1.04	0.084	0.47	<0.1	<0.01	2	0.1	<0.05	5	<0.5	<0.2
Minto North Dyke	09SWC515 17.36-23.25	1.01	0.04	0.24	<0.1	<0.01	2.2	<0.1	<0.05	6	<0.5	<0.2
Minto North Dyke	09SWC517 25.30-29.60	0.97	0.072	0.48	<0.1	<0.01	1.7	0.1	<0.05	5	<0.5	<0.2

Note:

Equivalent CaCO3 is calculated from the CO2 originating from carbonate minerals.

Sulphur Difference = Total S - Sulphate S

AP = Acid Potential in tonnes CaCO3 equivalent per 1000 tonnes of material. AP is calculated from the sulphur difference.

NP = Neutralization Potential in tonnes CaCO3 equivalent per 1000 tonnes of material.

NET NP = NP - AP

CLIENT : **SRK Consulting**
PROJECT : **Minto**
SRK Project # : **2CM022.016.0007**
SGS Project # : **0907**
Test : **Sobek Acid-Base Accounting and Modified NP**
Date : **January 29, 2013**

													Additions by SRK			
Field1	**HOLE-ID**	**FROM**	**TO**	**Sample ID** 0	**Paste pH Std. Units**	**CO2 % CO2**	**Equiv. CaCO3 kg CaCO3/t**	**Total S % S**	**Sulphate % S**	**Sobek NP kg CaCO3/t**	**Modified NP kg CaCO3/t**	**Fizz Test Visual**	**AP kg CaCO3/t**	**Sobek NP/AP ratio**	**Modified NP/AP ratio**	**CO3-NP/AP ratio**
				Method Code	Sobek	2A11HCl	Calc.	2A Leco	CSA07V	Sobek NP	Modified NP	Sobek	SRK calc	SRK calc	SRK calc	SRK calc
				LOD	0.20	0.02	#N/A	0.02	0.01	0.5	0.5	#N/A				
Area 2 Stage 3	07SWC269	1.73	8.95	Composite #1	8.48	0.03	0.7	0.06	<0.01	11.9	6.1	None	1.9	6.3	3.3	0.4
Area 2 Stage 3	09SWC416	31.46	37.22	Composite #2	8.59	0.78	17.7	<0.02	<0.01	32.8	23.3	Slight	0.6	52.5	37.3	28.4
Area 2 Stage 3	10SWC602	51.06	56.71	Composite #3	9.01	0.9	20.5	<0.02	<0.01	27.0	17.7	Slight	0.6	43.2	28.3	32.7
Area 2 Stage 3	10SWC621	61.38	67.4	Composite #4	9.12	0.52	11.8	0.02	<0.01	28.2	16.7	Slight	0.6	45.1	26.7	18.9
Area 2 Stage 3	10SWC602	43.3	49.25	Composite #28	8.87	0.69	15.7	0.08	<0.01	32.1	21.7	Slight	2.5	12.8	8.7	6.3
Area 2 Stage 3	10SWC602	59.56	66.35	Composite #29	8.93	0.88	20.0	0.02	<0.01	30.7	22.5	Slight	0.6	49.1	36.0	32.0
Area 2 Stage 3	10SWC621	33.35	49.55	Composite #30	8.62	0.37	8.4	0.02	<0.01	21.8	15.9	Slight	0.6	34.9	25.4	13.5
Ridgetop	10SWC621	12.19	18.46	Composite #8	8.49	0.69	15.7	<0.02	0.01	24.4	20.6	Slight	0.6	39.0	33.0	25.1
Ridgetop	10SWC621	24.46	29.96	Composite #9	8.50	1.54	35.0	0.08	0.01	38.4	35.4	Slight	2.5	15.4	14.2	14.0
Ridgetop	07SWC269	25.3	31.38	Composite #10	8.91	2.97	67.5	<0.02	0.02	58.9	53.3	Slight	0.6	94.2	85.3	108.0
Ridgetop	07SWC269	13	18.96	Composite #11	8.54	0.92	20.9	0.21	0.04	25.9	25.6	Slight	6.6	3.9	3.9	3.2
Ridgetop	07SWC269	20.45	26.92	Composite #12	8.66	1.21	27.5	0.04	0.03	35.5	32.3	Slight	1.3	28.4	25.8	22.0
Ridgetop	07SWC269	29.59	35.59	Composite #13	8.68	0.96	21.8	0.04	0.01	30.0	29.5	Slight	1.3	24.0	23.6	17.5
Ridgetop	07SWC269	55.89	61.89	Composite #14	8.54	1.25	28.4	<0.02	<0.01	33.8	31.2	Slight	0.6	54.1	49.9	45.5
Ridgetop	07SWC269	9.2	15.5	Composite #15	8.83	0.87	19.8	0.19	<0.01	35.1	28.2	Slight	5.9	5.9	4.7	3.3
Ridgetop	09SWC416	19.3	25.16	Composite #16	8.92	0.63	14.3	<0.02	<0.01	30.9	21.6	Slight	0.6	49.4	34.6	22.9
Ridgetop	09SWC416	25.16	31.15	Composite #17	9.00	0.54	12.3	<0.02	<0.01	29.1	18.7	Slight	0.6	46.6	29.9	19.6
Ridgetop	09SWC416	33.95	41	Composite #18	8.94	0.38	8.6	0.03	<0.01	28.0	16.7	Slight	0.9	29.9	17.8	9.2
Ridgetop	09SWC416	41	48.5	Composite #19	9.05	0.2	4.5	0.06	<0.01	24.3	13.9	Slight	1.9	13.0	7.4	2.4
Ridgetop	09SWC417	14.34	21.16	Composite #20	8.80	0.57	13.0	0.04	<0.01	29.3	20.2	Slight	1.3	23.4	16.2	10.4
Ridgetop	09SWC434	11.15	17.71999931	Composite #21	8.75	0.97	22.0	<0.02	<0.01	34.8	29.0	Slight	0.6	55.7	46.4	35.3
Ridgetop	09SWC434	25.3	31.3	Composite #22	8.52	2	45.5	<0.02	<0.01	49.8	48.0	Slight	0.6	79.7	76.8	72.7
Ridgetop	09SWC436	6.9	12.55	Composite #23	8.47	0.23	5.2	<0.02	<0.01	20.5	13.5	Slight	0.6	32.8	21.6	8.4
Ridgetop	09SWC436	31.5	37.37	Composite #24	8.79	0.54	12.3	0.04	<0.01	27.7	19.6	Slight	1.3	22.2	15.7	9.8
Ridgetop	09SWC440	6.17	10.37	Composite #25	9.22	0.19	4.3	0.05	<0.01	19.2	11.5	Slight	1.6	12.3	7.4	2.8
Ridgetop	09SWC440	20.98	27.84	Composite #26	8.86	0.62	14.1	<0.02	<0.01	28.8	20.5	Slight	0.6	46.1	32.8	22.5
Ridgetop	09SWC440	30.84	36.34	Composite #27	8.87	0.55	12.5	<0.02	<0.01	27.8	18.9	Slight	0.6	44.5	30.2	20.0

CLIENT : **SRK Consulting**
PROJECT : **Minto**
SRK Project # : **2CM022.016.0007**
SGS Project # : **0907**
Test : **Sobek Acid-Base Accounting and Modified NP**
Date : **January 29, 2013**

		Metals on ABA Composites																							
Field1	**HOLE-ID**	**Mo ppm**	**Cu ppm**	**Pb ppm**	**Zn ppm**	**Ag ppm**	**Ni ppm**	**Co ppm**	**Mn ppm**	**Fe %**	**As ppm**	**Au ppb**	**Th ppm**	**Sr ppm**	**Cd ppm**	**Sb ppm**	**Bi ppm**	**V ppm**	**Ca %**	**P %**	**La ppm**	**Cr ppm**	**Mg %**	**Ba ppm**	**Ti %**
		1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX
		0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1	1	0.01	1	0.001
Area 2 Stage 3	07SWC269	1.5	496.8	2.6	76	0.1	3.3	7.3	573	2.62	2.7	12.2	6.7	19	<0.1	0.2	<0.1	65	0.32	0.083	33	74	0.65	393	0.142
Area 2 Stage 3	09SWC416	1.5	64.3	2.6	66	<0.1	2.7	7.2	610	2.24	0.8	5.9	3.8	71	<0.1	0.1	<0.1	48	1.16	0.084	15	73	0.66	188	0.066
Area 2 Stage 3	10SWC602	1.3	25	2.6	62	<0.1	3.6	6	589	2.26	0.8	0.9	3.4	55	<0.1	0.1	<0.1	53	0.68	0.063	15	79	0.62	255	0.134
Area 2 Stage 3	10SWC621	1.2	9.3	2.5	62	<0.1	3.1	7.1	614	2.28	0.7	0.8	2.7	57	<0.1	0.1	<0.1	51	0.79	0.072	11	68	0.78	338	0.123
Area 2 Stage 3	10SWC602	1.4	6.5	1.9	65	<0.1	3.5	6.9	549	2.43	0.6	1.5	3.5	41	<0.1	0.1	<0.1	51	0.89	0.075	15	69	0.72	255	0.099
Area 2 Stage 3	10SWC602	1	29.8	2.9	66	<0.1	2.6	4.9	457	2.01	0.7	2.1	2.4	49	<0.1	<0.1	<0.1	38	0.94	0.061	9	64	0.55	231	0.059
Area 2 Stage 3	10SWC621	2.1	602.6	3.5	63	0.1	2.8	6.6	614	2.4	1.8	1.8	4	29	0.1	<0.1	<0.1	50	0.66	0.078	11	62	0.34	328	0.076
Ridgetop	10SWC621	1.8	106.8	3	51	0.1	2.3	4.9	288	1.81	3	18	1.1	29	<0.1	0.5	<0.1	39	1.02	0.077	4	67	0.09	505	0.007
Ridgetop	10SWC621	1.7	103.5	5.6	85	0.5	3.4	7.4	526	2.64	2.1	28.8	0.4	43	0.3	0.5	<0.1	59	1.42	0.064	4	69	0.22	551	0.017
Ridgetop	07SWC269	1.5	99.8	5	74	0.1	2.5	6.7	524	1.97	1.3	1.8	3.6	42	<0.1	<0.1	<0.1	25	1.89	0.063	11	49	0.32	659	0.002
Ridgetop	07SWC269	1.9	126.5	3.8	45	<0.1	2.7	4.3	388	2.03	9.9	2.6	2.6	29	0.2	0.2	<0.1	27	1.19	0.06	5	58	0.04	1707	0.007
Ridgetop	07SWC269	2.1	97.9	3.4	42	0.2	2.4	4.6	495	1.69	5.5	241.8	0.7	33	0.1	0.2	<0.1	27	1.42	0.049	3	72	0.07	1443	0.011
Ridgetop	07SWC269	1.6	49.3	4.6	58	0.1	2.5	5	419	1.64	5.2	7.8	1.3	27	0.1	0.2	<0.1	23	1.27	0.061	4	59	0.06	622	0.006
Ridgetop	07SWC269	5.3	621.1	2.5	78	<0.1	2.4	6.2	783	2.12	2.1	4.8	3.1	43	0.2	0.1	<0.1	33	1.14	0.057	11	48	0.16	477	0.002
Ridgetop	07SWC269	1.7	276.8	2.2	66	0.3	2.9	7.6	641	2.21	7.3	5.4	1.8	69	<0.1	38.5	<0.1	54	1.16	0.068	11	78	0.48	306	0.107
Ridgetop	09SWC416	1.2	16.2	1.3	68	0.1	3.6	6.7	688	2.3	1.5	1.5	2	51	<0.1	3	<0.1	51	0.96	0.066	11	81	0.61	327	0.121
Ridgetop	09SWC416	1.3	273.2	3.7	97	<0.1	3	7.8	870	2.4	3	<0.5	5.3	47	0.1	1.4	<0.1	59	0.87	0.084	17	76	0.71	234	0.128
Ridgetop	09SWC416	1.7	631.9	4.2	142	0.2	2.6	8.4	866	2.78	1.2	4	4.4	34	<0.1	0.7	<0.1	63	0.72	0.077	14	72	0.75	273	0.147
Ridgetop	09SWC416	1.6	899.4	2.7	66	0.3	3	6.7	623	2.36	1.2	9	5.8	30	0.2	0.5	<0.1	60	0.62	0.095	14	70	0.73	239	0.132
Ridgetop	09SWC417	1.5	34.1	2.5	74	<0.1	3.4	6.7	613	2.33	2.3	<0.5	2.8	37	<0.1	<0.1	<0.1	55	0.86	0.066	14	72	0.5	313	0.114
Ridgetop	09SWC434	0.8	25.1	2.4	51	<0.1	2.6	6.5	533	2.05	2.2	<0.5	1.7	64	<0.1	<0.1	<0.1	41	1.26	0.071	9	61	0.55	112	0.046
Ridgetop	09SWC434	1.3	460.4	6.2	136	0.2	2.6	7.8	993	2.54	5	30.2	3.3	50	0.1	0.3	<0.1	57	1.78	0.067	11	57	0.19	146	0.007
Ridgetop	09SWC436	3.3	120.6	2.4	68	0.2	3.1	7.2	691	2.33	2.1	<0.5	2.9	35	<0.1	<0.1	<0.1	44	0.59	0.062	15	64	0.48	231	0.042
Ridgetop	09SWC436	1.7	290.7	2.8	70	0.1	3	6.9	626	2.2	1.6	2.6	4	37	0.1	<0.1	<0.1	52	0.86	0.07	14	64	0.56	175	0.084
Ridgetop	09SWC440	1.1	40.5	3.9	94	<0.1	3.2	6.6	714	2.54	2.7	2.7	4.7	27	<0.1	<0.1	<0.1	64	0.47	0.069	11	71	0.69	512	0.18
Ridgetop	09SWC440	0.8	36	1.7	76	<0.1	3.1	6	632	2.18	2.4	<0.5	2.6	77	<0.1	<0.1	<0.1	45	0.91	0.071	11	72	0.52	244	0.084
Ridgetop	09SWC440	0.8	28.3	1.6	68	<0.1	2.8	5.8	565	2.2	1.4	0.7	3.3	76	<0.1	<0.1	<0.1	46	0.83	0.064	12	69	0.53	278	0.095

CLIENT : SRK Consulting
PROJECT : Minto
SRK Project # : 2CM022.016.0007
SGS Project # : 0907
Test : Sobek Acid-Base Accounting and Modified NP
Date : January 29, 2013

Field1	HOLE-ID	B ppm	Al %	Na %	K %	W ppm	Hg ppm	Sc ppm	Tl ppm	S %	Ga ppm	Se ppm	Te ppm
		1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX
		20	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
Area 2 Stage 3	07SWC269	<20	1.13	0.045	0.82	<0.1	0.02	3.6	0.3	<0.05	5	<0.5	<0.2
Area 2 Stage 3	09SWC416	<20	1.03	0.046	0.46	<0.1	0.02	5	0.2	<0.05	5	<0.5	<0.2
Area 2 Stage 3	10SWC602	<20	0.99	0.05	0.77	<0.1	0.01	4.5	0.2	<0.05	4	<0.5	<0.2
Area 2 Stage 3	10SWC621	<20	1.23	0.062	0.73	<0.1	0.01	3.6	0.2	<0.05	6	<0.5	<0.2
Area 2 Stage 3	10SWC602	<20	1.11	0.042	0.57	<0.1	<0.01	2.3	0.2	<0.05	6	<0.5	<0.2
Area 2 Stage 3	10SWC602	<20	0.87	0.039	0.38	<0.1	<0.01	2.2	0.1	<0.05	5	<0.5	<0.2
Area 2 Stage 3	10SWC621	<20	0.78	0.041	0.52	<0.1	<0.01	6.3	0.2	<0.05	4	<0.5	<0.2
Ridgetop	10SWC621	<20	0.43	0.033	0.27	<0.1	<0.01	2.3	<0.1	<0.05	3	<0.5	<0.2
Ridgetop	10SWC621	<20	0.47	0.034	0.29	<0.1	0.03	3.3	<0.1	<0.05	3	<0.5	<0.2
Ridgetop	07SWC269	<20	0.3	0.034	0.25	<0.1	<0.01	2	<0.1	<0.05	1	<0.5	<0.2
Ridgetop	07SWC269	<20	0.36	0.032	0.21	<0.1	<0.01	3.1	<0.1	<0.05	2	<0.5	<0.2
Ridgetop	07SWC269	<20	0.34	0.033	0.2	<0.1	0.01	1.6	<0.1	<0.05	2	<0.5	<0.2
Ridgetop	07SWC269	<20	0.38	0.035	0.24	<0.1	0.01	1.9	<0.1	<0.05	2	<0.5	<0.2
Ridgetop	07SWC269	<20	0.33	0.038	0.17	<0.1	0.01	2.9	<0.1	<0.05	1	<0.5	<0.2
Ridgetop	07SWC269	<20	0.9	0.05	0.63	1.9	0.01	3.9	0.1	<0.05	5	<0.5	<0.2
Ridgetop	09SWC416	<20	1.04	0.053	0.75	0.2	<0.01	4.9	0.2	<0.05	5	<0.5	<0.2
Ridgetop	09SWC416	<20	1.15	0.052	0.82	<0.1	0.01	4.1	0.4	<0.05	5	<0.5	<0.2
Ridgetop	09SWC416	<20	1.32	0.053	0.88	<0.1	<0.01	4	0.2	<0.05	6	<0.5	<0.2
Ridgetop	09SWC416	<20	1.16	0.063	0.76	<0.1	<0.01	3.1	0.2	<0.05	5	<0.5	<0.2
Ridgetop	09SWC417	<20	0.94	0.045	0.74	<0.1	<0.01	6.5	0.2	<0.05	4	<0.5	<0.2
Ridgetop	09SWC434	<20	0.8	0.053	0.27	<0.1	<0.01	3.7	<0.1	<0.05	5	<0.5	<0.2
Ridgetop	09SWC434	<20	0.32	0.034	0.15	<0.1	0.01	4.6	<0.1	<0.05	2	<0.5	<0.2
Ridgetop	09SWC436	<20	0.91	0.043	0.31	<0.1	<0.01	4.7	<0.1	<0.05	5	<0.5	<0.2
Ridgetop	09SWC436	<20	0.92	0.045	0.52	<0.1	<0.01	4	0.1	<0.05	5	<0.5	<0.2
Ridgetop	09SWC440	<20	1.22	0.048	1	<0.1	<0.01	7.8	0.4	<0.05	6	<0.5	<0.2
Ridgetop	09SWC440	<20	0.92	0.04	0.63	<0.1	0.01	5.8	0.2	<0.05	5	<0.5	<0.2
Ridgetop	09SWC440	<20	0.91	0.043	0.62	<0.1	<0.01	6.4	0.2	<0.05	5	<0.5	<0.2

Appendix D

Phase V/VI Waste Rock: Humidity Cell Test Results

Appendix D1
Sample Origin

HCT	Hole ID	From (m)	To (m)	Cu (%)	S (%)	Selection Characteristics	Deposit
HC1	07SWC211	83	86	0.21	0.51	~90th percentile Cu, ~90th percentile S	Area 2
HC2	07SWC196	54	55	0.01	0.01	50th percentile Cu, 50th percentile S	Area 2
HC3	07SWC196	46	47	0.1	0.02	~75th percentile Cu, ~50th percentile S	Area 2
HC4	07SWC211	71	74	0.01	0.08	~50th percentile Cu, ~75th percentile S	Area 2
HC5	09SWC506	30	33	0.00043	<0.02	Bulk waste	Minto North
HC6	09SWC506	30	33	0.00043	<0.02	Bulk waste (dup)	Minto North
HC7	09SWC484	40	43	0.00064	<0.02	Bulk waste	Minto North
HC8	09SWC498	54	57	0.04735	0.04	Moderately anomalous waste	Minto North
HC9	07SWC258	20	23	0.01359	<0.02	Bulk waste	Ridgetop North
HC10	08SWC337	10	13	0.01448	<0.02	Bulk waste	Ridgetop North
HC11	08SWC348	12	15	0.01078	0.03	Conglomerate	Ridgetop North
HC12	08SWC370	10	13	0.01773	<0.02	Conglomerate	Ridgetop North
HC13	09SWC419	15	18	0.00471	<0.02	Bulk waste	Ridgetop South
HC14	n/a	n/a	n/a	n/a	n/a	Method blank	Method blank

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Appendix D2
Static Characteristics

CLIENT : **SRK Consulting**
PROJECT : **Minto Mine: Phase IV Expansion**
CEMI Project # : **0907**
Test : **Size Fraction Analysis**
Date : **August 4, 2009**

Hole 196 45.64-47.14

Sieve Designation	Aperture (mm)	Weight Retained (g)	(%)	Cumulative (%)
+3/8"	9.500	5.39	5.4%	5.4%
-3/8" + 1/4"	6.300	21.53	21.6%	27.0%
-1/4" + 6	3.360	21.36	21.4%	48.4%
-6 + 10	1.700	12.72	12.7%	61.1%
-10 + 35	0.425	16.82	16.9%	78.0%
-35 + 100	0.150	10.73	10.8%	88.7%
-100 + 270	0.053	6.77	6.8%	95.5%
-270	-0.053	4.49	4.5%	100.0%
TOTAL		99.81	100.0%	

Hole 196 53.94-55.44

Sieve Designation	Aperture (mm)	Weight Retained (g)	(%)	Cumulative (%)
+3/8"	9.500	8.28	8.3%	8.3%
-3/8" + 1/4"	6.300	22.26	22.3%	30.6%
-1/4" + 6	3.360	22.09	22.2%	52.8%
-6 + 10	1.700	15.47	15.5%	68.3%
-10 + 35	0.425	17.97	18.0%	86.3%
-35 + 100	0.150	7.40	7.4%	93.8%
-100 + 270	0.053	3.02	3.0%	96.8%
-270	-0.053	3.20	3.2%	100.0%
TOTAL		99.69	100.0%	

Hole 211 70.79-73.79

Sieve Designation	Aperture (mm)	Weight Retained (g)	(%)	Cumulative (%)
+3/8"	9.500	2.11	2.1%	2.1%
-3/8" + 1/4"	6.300	25.56	25.6%	27.7%
-1/4" + 6	3.360	21.42	21.5%	49.2%
-6 + 10	1.700	12.06	12.1%	61.3%
-10 + 35	0.425	19.16	19.2%	80.5%
-35 + 100	0.150	9.80	9.8%	90.3%
-100 + 270	0.053	4.09	4.1%	94.4%
-270	-0.053	5.54	5.6%	100.0%
TOTAL		99.74	100.0%	

Hole 211 83.08-86.03

Sieve Designation	Aperture (mm)	Weight Retained (g)	(%)	Cumulative (%)
+3/8"	9.500	4.57	4.6%	4.6%
-3/8" + 1/4"	6.300	17.55	17.6%	22.2%
-1/4" + 6	3.360	18.30	18.3%	40.5%
-6 + 10	1.700	12.42	12.4%	52.9%
-10 + 35	0.425	23.05	23.1%	76.0%
-35 + 100	0.150	13.07	13.1%	89.1%
-100 + 270	0.053	5.54	5.5%	94.7%
-270	-0.053	5.32	5.3%	100.0%
TOTAL		99.82	100.0%	

CLIENT : **SRK Consulting**
PROJECT : **Minto Mine: Phase IV Expansion**
CEMI Project # : **0907**
Test : **Sobek Acid-Base Accounting**
Date : **July 15, 2009**

Sample ID	Paste pH Std. Units	CO2 % CO2	Equiv. CaCO3 kg CaCO3/t	Total S % S	Sulphate % S	Sulphur Diff. % S	AP kg CaCO3/t	NP kg CaCO3/t	Net NP kg CaCO3/t	NP/AP Ratio	Fizz Test Visual
LOD	0.01	0.02	#N/A	0.02	0.01	#N/A	#N/A	0.2	#N/A	#N/A	#N/A
Method Code	Sobek	HCl Leach	Calc.	Leco	HCl Leach	Calc.	Calc.	Sobek NP	Calc.	Calc.	Sobek
Hole 196 45.64-47.14	8.43	0.1	2.3	<0.02	<0.01	<0.02	<0.6	11.4	11.4	19.0	None
Hole 196 53.94-55.44	8.36	0.72	16.4	<0.02	<0.01	<0.02	<0.6	27.0	27.0	45.0	Slight
Hole 211 70.79-73.79	8.76	0.36	8.2	0.13	<0.01	0.13	4.1	20.0	15.9	4.9	Slight
Hole 211 83.08-86.03	8.06	0.79	18.0	1.75	<0.01	1.75	54.7	28.2	-26.5	0.5	Slight
Duplicates											
Hole 196 45.64-47.14	8.50				<0.01			10.8			None
Hole 211 83.08-86.03				1.64							

Note:

Equivalent CaCO3 is calculated from the CO2 originating from carbonate minerals.
Sulphur Difference = Total S - Sulphate S

AP = Acid Potential in tonnes CaCO3 equivalent per 1000 tonnes of material. AP is calculated from the sulphur difference.

NP = Neutralization Potential in tonnes CaCO3 equivalent per 1000 tonnes of material.

NET NP = NP - AP

CLIENT : SRK Consulting
PROJECT : Minto Mine: Phase IV Expansion
CEMI Proje : 0907
Test : Metals by Aqua Regia Digestion with ICP-MS Finish
Date : July 20, 2009

CLIENT : SRK Consulting
PROJECT : Minto Mine: Phase IV Expansion
CEMI Proje : 0907
Test : Metals by Aqua Regia Digestion with ICP-MS Finish
Date : July 20, 2009

Sample ID	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %
LOD	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.1	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1	1	0.01	1	0.001	20	0.01	0.001
Method Code	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX
Hole 196 45.64-47.14	3.7	549.2	2.6	105	0.2	3.3	8.1	550	2.93	1	0.4	9.6	8.4	26	0.1	<0.1	<0.1	66	0.37	0.093	16	106	0.77	194	0.175	<20	1.37	0.05
Hole 196 53.94-55.44	2.3	65.5	1.8	68	<0.1	3.5	6.6	600	2.43	0.6	0.3	0.5	2.4	39	<0.1	<0.1	<0.1	53	0.88	0.075	13	115	0.65	437	0.135	<20	1.17	0.055
Hole 211 70.79-73.79	2.3	178	3.3	50	<0.1	3.9	5.8	408	2.34	2.6	0.2	<0.5	2.3	29	<0.1	<0.1	<0.1	51	0.46	0.066	11	111	0.69	432	0.142	<20	1.25	0.066
Hole 211 83.08-86.03	94.4	4151.3	7.4	34	0.5	3.2	13.5	225	2.62	<0.5	0.5	10.1	3.5	54	0.3	<0.1	<0.1	20	1.06	0.071	22	87	0.44	66	0.003	<20	0.94	0.024

Sample ID	K %	W ppm	Hg ppm	Sc ppm	Tl ppm	S %	Ga ppm	Se ppm
LOD	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5
Method Code	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX
Hole 196 45.64-47.14	1.02	<0.1	<0.01	3.8	0.4	<0.05	6	<0.5
Hole 196 53.94-55.44	0.81	<0.1	<0.01	3.7	0.2	<0.05	5	<0.5
Hole 211 70.79-73.79	0.83	<0.1	<0.01	5.1	0.3	0.12	6	<0.5
Hole 211 83.08-86.03	0.14	<0.1	0.02	1.1	<0.1	1.63	3	4.2

CLIENT : **SRK Consulting**
PROJECT : **Minto**
SRK Project # : **2CM022.016.0007**
SGS Project # : **0907**
Test : **Size Fraction Analysis**
Date : **February 25, 2011**

07SWC258 20-23

Sieve Designation	Aperture (mm)	Weight Retained (g)	(%)	Cumulative (%)
+3/8"	9.500	2.69	2.7%	2.7%
-3/8" + 1/4"	6.300	17.94	18.0%	20.7%
-1/4" + 10	1.700	35.01	35.1%	55.7%
-10 + 35	0.425	22.87	22.9%	78.6%
-35 + 100	0.150	11.08	11.1%	89.7%
-100 + 270	0.053	6.00	6.0%	95.7%
-270	-0.053	4.28	4.3%	100.0%
TOTAL		99.87	100.0%	

09SWC419 15-18

Sieve Designation	Aperture (mm)	Weight Retained (g)	(%)	Cumulative (%)
+3/8"	9.500	4.70	4.7%	4.7%
-3/8" + 1/4"	6.300	9.84	9.9%	14.6%
-1/4" + 10	1.700	33.96	34.1%	48.7%
-10 + 35	0.425	31.53	31.7%	80.3%
-35 + 100	0.150	11.21	11.3%	91.6%
-100 + 270	0.053	5.38	5.4%	97.0%
-270	-0.053	3.00	3.0%	100.0%
TOTAL		99.62	100.0%	

08SWC337 10-13

Sieve Designation	Aperture (mm)	Weight Retained (g)	(%)	Cumulative (%)
+3/8"	9.500	1.37	1.4%	1.4%
-3/8" + 1/4"	6.300	14.17	14.2%	15.6%
-1/4" + 10	1.700	37.94	38.1%	53.8%
-10 + 35	0.425	31.18	31.3%	85.1%
-35 + 100	0.150	8.84	8.9%	94.0%
-100 + 270	0.053	3.77	3.8%	97.8%
-270	-0.053	2.20	2.2%	100.0%
TOTAL		99.47	100.0%	

09SWC484 40-43

Sieve Designation	Aperture (mm)	Weight Retained (g)	(%)	Cumulative (%)
+3/8"	9.500	2.24	2.2%	2.2%
-3/8" + 1/4"	6.300	8.24	8.3%	10.5%
-1/4" + 10	1.700	30.24	30.3%	40.8%
-10 + 35	0.425	29.93	30.0%	70.8%
-35 + 100	0.150	15.28	15.3%	86.2%
-100 + 270	0.053	8.63	8.7%	94.8%
-270	-0.053	5.18	5.2%	100.0%
TOTAL		99.74	100.0%	

08SWC348 12-15

Sieve Designation	Aperture (mm)	Weight Retained (g)	(%)	Cumulative (%)
+3/8"	9.500	1.68	1.7%	1.7%
-3/8" + 1/4"	6.300	12.29	12.3%	14.0%
-1/4" + 10	1.700	32.26	32.3%	46.3%
-10 + 35	0.425	28.67	28.7%	75.1%
-35 + 100	0.150	12.20	12.2%	87.3%
-100 + 270	0.053	7.17	7.2%	94.5%
-270	-0.053	5.50	5.5%	100.0%
TOTAL		99.77	100.0%	

09SWC498 54-57

Sieve Designation	Aperture (mm)	Weight Retained (g)	(%)	Cumulative (%)
+3/8"	9.500	3.76	3.8%	3.8%
-3/8" + 1/4"	6.300	9.98	10.0%	13.8%
-1/4" + 10	1.700	19.60	19.7%	33.5%
-10 + 35	0.425	32.55	32.7%	66.2%
-35 + 100	0.150	16.90	17.0%	83.2%
-100 + 270	0.053	10.02	10.1%	93.3%
-270	-0.053	6.66	6.7%	100.0%
TOTAL		99.47	100.0%	

08SWC370 10-13

Sieve Designation	Aperture (mm)	Weight Retained (g)	(%)	Cumulative (%)
+3/8"	9.500	2.05	2.1%	2.1%
-3/8" + 1/4"	6.300	12.19	12.2%	14.3%
-1/4" + 10	1.700	26.64	26.7%	41.0%
-10 + 35	0.425	33.13	33.2%	74.2%
-35 + 100	0.150	14.11	14.2%	88.4%
-100 + 270	0.053	7.11	7.1%	95.5%
-270	-0.053	4.45	4.5%	100.0%
TOTAL		99.68	100.0%	

09SWC506 30-33

Sieve Designation	Aperture (mm)	Weight Retained (g)	(%)	Cumulative (%)
+3/8"	9.500	3.86	3.9%	3.9%
-3/8" + 1/4"	6.300	9.45	9.5%	13.4%
-1/4" + 10	1.700	21.59	21.7%	35.1%
-10 + 35	0.425	30.07	30.2%	65.3%
-35 + 100	0.150	16.81	16.9%	82.2%
-100 + 270	0.053	10.49	10.5%	92.7%
-270	-0.053	7.26	7.3%	100.0%
TOTAL		99.53	100.0%	

CLIENT : SRK Consulting
PROJECT : Minto
SRK Project # : 2CM022.016.0007
SGS Project # : 0907
Test : Sobek Acid-Base Accounting and Modified NP
Date : March 4-18, 2011

Sample ID	Paste pH Std. Units	CO2 % CO2	Equiv. CaCO3 kg CaCO3/t	Total S % S	Sulphate % S	Sulphur Diff. % S	AP kg CaCO3/t	Sobek NP kg CaCO3/t	Modified NP kg CaCO3/t
Method Code	Sobek	2A11HCl	Calc.	2A Leco	CSA07V	Calc.	Calc.	Sobek NP	Modified NP
LOD	0.01	0.02	#N/A	0.02	0.01	#N/A	#N/A	0.2	0.2
07SWC258 20-23	8.96	0.19	4.3	<0.02	0.01	<0.02	<0.6	12.1	7.8
08SWC337 10-13	8.48	2.39	54.3	<0.02	0.03	<0.02	<0.6	56.0	56.7
08SWC348 12-15	7.87	0.04	0.9	0.03	0.05	<0.02	<0.6	4.3	2.6
08SWC370 10-13	8.11	1.16	26.4	<0.02	0.03	<0.02	<0.6	28.9	25.6
09SWC419 15-18	8.30	2.28	51.8	<0.02	0.03	<0.02	<0.6	65.3	52.6
09SWC484 40-43	8.40	1.23	28.0	<0.02	0.02	<0.02	<0.6	35.4	23.9
09SWC498 54-57	8.19	0.99	22.5	0.04	0.04	<0.02	<0.6	36.0	25.0
09SWC506 30-33	8.99	0.07	1.6	<0.02	0.01	<0.02	<0.6	15.7	6.7

Note:

Equivalent CaCO3 is calculated from the CO2 originating from carbonate minerals.

Sulphur Difference = Total S - Sulphate S

AP = Acid Potential in tonnes CaCO3 equivalent per 1000 tonnes of material. AP is calculated from the sulphur difference.

NP = Neutralization Potential in tonnes CaCO3 equivalent per 1000 tonnes of material.

NET NP = NP - AP

Net Sobek NP kg CaCO3/t	Net Modified NP kg CaCO3/t	Sobek NP/AP Ratio	Modified NP/AP Ratio	Fizz Test Visual
Calc.	Calc.	Calc.	Calc.	Sobek
#N/A	#N/A	#N/A	#N/A	#N/A
12.1	7.8	20.2	13.0	None
56.0	56.7	93.3	94.5	Moderate
4.3	2.6	7.2	4.3	None
28.9	25.6	48.2	42.7	Slight
65.3	52.6	108.8	87.7	Moderate
35.4	23.9	59.0	39.8	Slight
36.0	25.0	60.0	41.7	Slight
15.7	6.7	26.2	11.2	None

CLIENT : SRK Consulting
PROJECT : Minto
SRK Project # : 2CM022.016.0007
SGS Project # : 0907
Test : Metals by Aqua Regia Digestion with ICP-MS Finish
Date : March 3, 2011

Sample ID	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	Au ppb
Method Code	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX
LOD	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5
07SWC258 20-23	0.5	135.9	2.2	59	<0.1	3.5	6.6	491	2.38	5	2.9
08SWC337 10-13	1	144.8	5.8	72	0.3	3.8	8.2	845	2.2	5.7	1.4
08SWC348 12-15	1.4	107.8	12.4	77	0.3	3.8	7.5	512	2.62	4.5	8
08SWC370 10-13	0.7	177.3	4.6	71	<0.1	4.2	6.8	369	2.45	2.5	11.6
09SWC419 15-18	0.2	47.1	3.3	83	<0.1	3	7.4	684	2.53	9.2	0.6
09SWC484 40-43	0.2	6.4	1.1	51	<0.1	3.3	6	471	2.01	<0.5	<0.5
09SWC498 54-57	0.2	473.5	1.6	67	0.3	3.5	7.4	573	2.5	<0.5	9.6
09SWC506 30-33	0.2	4.3	1.2	46	<0.1	3.3	5.7	418	1.89	0.5	<0.5

CLIENT : SRK Con
PROJECT : Minto
SRK Project # : 2CM022.(
SGS Project # : 0907
Test : Metals by
Date : March 3,

Sample ID	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %
Method Code	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX
LOD	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1	1	0.01
07SWC258 20-23	2.2	22	<0.1	<0.1	<0.1	61	0.32	0.072	6	64	0.72
08SWC337 10-13	3.1	40	0.1	0.1	<0.1	39	2.1	0.072	11	48	0.14
08SWC348 12-15	0.9	36	0.2	0.1	<0.1	58	0.1	0.019	2	39	0.39
08SWC370 10-13	0.9	70	<0.1	<0.1	<0.1	60	1.1	0.043	3	47	0.37
09SWC419 15-18	2.6	98	0.2	0.1	<0.1	52	2.06	0.072	14	53	0.3
09SWC484 40-43	1.2	53	<0.1	<0.1	<0.1	39	1.09	0.077	7	62	0.54
09SWC498 54-57	1.6	67	<0.1	<0.1	<0.1	48	1.17	0.079	8	60	0.67
09SWC506 30-33	1.1	37	<0.1	<0.1	<0.1	43	0.64	0.085	7	66	0.62

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' Aqua Regia Digestion with ICP-MS Finish
2011

Sample ID	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Hg ppm	Sc ppm	Tl ppm	S %
Method Code	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX
LOD	1	0.001	20	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05
07SWC258 20-23	600	0.188	<20	1.3	0.056	1.04	<0.1	<0.01	4.4	0.3	<0.05
08SWC337 10-13	250	0.005	<20	0.34	0.03	0.17	<0.1	<0.01	4.6	<0.1	<0.05
08SWC348 12-15	1815	0.095	<20	0.94	0.024	0.58	<0.1	<0.01	5.9	0.2	<0.05
08SWC370 10-13	438	0.08	<20	0.88	0.024	0.5	<0.1	0.01	6.2	0.1	<0.05
09SWC419 15-18	178	0.041	<20	0.58	0.033	0.39	<0.1	<0.01	6.1	0.2	<0.05
09SWC484 40-43	159	0.061	<20	0.88	0.047	0.4	<0.1	<0.01	3.1	<0.1	<0.05
09SWC498 54-57	226	0.076	<20	1.23	0.041	0.55	<0.1	<0.01	2.7	0.1	<0.05
09SWC506 30-33	136	0.105	<20	0.97	0.072	0.29	<0.1	<0.01	2.2	<0.1	<0.05

Sample ID	Ga ppm	Se ppm	Te ppm
Method Code	1DX	1DX	1DX
LOD	1	0.5	0.2
07SWC258 20-23	6	<0.5	<0.2
08SWC337 10-13	2	<0.5	<0.2
08SWC348 12-15	6	<0.5	<0.2
08SWC370 10-13	5	<0.5	<0.2
09SWC419 15-18	4	<0.5	<0.2
09SWC484 40-43	4	<0.5	<0.2
09SWC498 54-57	6	0.8	<0.2
09SWC506 30-33	4	<0.5	<0.2

Appendix D3
Humidity Cell Operating Parameters

Cell No.	Sample ID	Sample Type	Method Reference	Column Dimensions			Column Packing			Pore Volume	Total Volume of Initial Flushings	Flushing Rate/Weekly Input*	Temp	Sampling Frequency	Start-up Date	Sampling Day	Operation Procedure	Sample Prep for Flushings
				Inner Diameter (cm)	Length (cm)	Distance from Top of Column to Sample (cm)	Dry Wt. of Sample (kg)	Other Materials Used	Column Material	(mL)	(mL)	(mL)	(°C)		2009/2011			
HC 1	Hole 211 83.08-86.03	Waste Rock	MEND	10.20	25.50		1.00	Acrylic perforated disk & nylon mesh	Plexiglas		750	500	20-22 °C	Weekly	3-Jul	Friday	Flood Leach	None
HC 2	Hole 196 53.94-66.44	Waste Rock	MEND	10.20	25.50		1.00	Acrylic perforated disk & nylon mesh	Plexiglas		750	500	20-22 °C	Weekly	3-Jul	Friday	Flood Leach	None
HC 3	Hole 196 45.64-47.14	Waste Rock	MEND	10.20	25.50		1.00	Acrylic perforated disk & nylon mesh	Plexiglas		750	500	20-22 °C	Weekly	3-Jul	Friday	Flood Leach	None
HC 4	Hole 211 70.79-73.79	Waste Rock	MEND	10.20	25.50		1.00	Acrylic perforated disk & nylon mesh	Plexiglas		750	500	20-22 °C	Weekly	3-Jul	Friday	Flood Leach	None
HC 5	09SWC506 30-33	Waste Rock	MEND	10.20	25.50		1.00	Acrylic perforated disk & nylon mesh	Plexiglas		500	500	20-22 °C	Weekly	18-Mar	Friday	Flood Leach	None
HC 6	09SWC506 30-33 DUP	Waste Rock	MEND	10.20	25.50		1.00	Acrylic perforated disk & nylon mesh	Plexiglas		500	500	20-22 °C	Weekly	18-Mar	Friday	Flood Leach	None
HC 7	09SWC484 40-43	Waste Rock	MEND	10.20	25.50		1.00	Acrylic perforated disk & nylon mesh	Plexiglas		500	500	20-22 °C	Weekly	18-Mar	Friday	Flood Leach	None
HC 8	09SWC498 54-57	Waste Rock	MEND	10.20	25.50		1.00	Acrylic perforated disk & nylon mesh	Plexiglas		500	500	20-22 °C	Weekly	18-Mar	Friday	Flood Leach	None
HC 9	07SWC258 20-23	Waste Rock	MEND	10.20	25.50		1.00	Acrylic perforated disk & nylon mesh	Plexiglas		500	500	20-22 °C	Weekly	18-Mar	Friday	Flood Leach	None
HC 10	08SWC337 10-13	Waste Rock	MEND	10.20	25.50		1.00	Acrylic perforated disk & nylon mesh	Plexiglas		500	500	20-22 °C	Weekly	18-Mar	Friday	Flood Leach	None
HC 11	08SWC348 12-15	Waste Rock	MEND	10.20	25.50		1.00	Acrylic perforated disk & nylon mesh	Plexiglas		500	500	20-22 °C	Weekly	18-Mar	Friday	Flood Leach	None
HC 12	08SWC370 10-13	Waste Rock	MEND	10.20	25.50		1.00	Acrylic perforated disk & nylon mesh	Plexiglas		500	500	20-22 °C	Weekly	18-Mar	Friday	Flood Leach	None
HC 13	09SWC419 15-18	Waste Rock	MEND	10.20	25.50		1.00	Acrylic perforated disk & nylon mesh	Plexiglas		500	500	20-22 °C	Weekly	18-Mar	Friday	Flood Leach	None
HC 14	Blank		MEND	10.20	25.50		1.00	Acrylic perforated disk & nylon mesh	Plexiglas		500	500	20-22 °C	Weekly	18-Mar	Friday	Flood Leach	None

Appendix D4
Phase V/VI HCT Results: Tables

HC 1

CONFIDENTIAL *DRAFT*

Sample = Hole 211
83.08-86.03

Date	Cycle No.	Volume mL		pH	Cond.	Acidity (pH 4.5)	Acidity (pH 8.3)	Alkalinity	Sulphate	Chloride	Fluoride	Hardness CaCO3	Al	Sb	As	Ba	Be	Bi	B	Cd	Ca	Cr
		Input	Output		umhos/cm	mgCaCO3/L	mgCaCO3/L	mgCaCO3/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
3-Jul-09	0	750	315	7.81	580	#N/A	3.3	102.3	108	25	2.94	125	0.041	0.00901	0.00086	0.0232	-0.00001	-0.000005	-0.05	0.000074	33.1	-0.0001
10-Jul-09	1	500	455	7.77	296																	
17-Jul-09	2	500	480	7.88	250	#N/A	2.8	68.6	59	0.8	1.23	72	0.0221	0.00291	0.00031	0.0287	-0.00001	-0.000005	-0.05	0.000077	19	-0.0001
24-Jul-09	3	500	470	7.69	251																	
31-Jul-09	4	500	455	7.75	236	#N/A	2.6	48.5	67	1	0.49	109	0.0239	0.00206	0.0002	0.0334	-0.00001	-0.000005	-0.05	0.000067	30	-0.0001
7-Aug-09	5	500	485	7.51	198																	
14-Aug-09	6	500	450	7.61	191	#N/A	3.2	45.3	49	0.6	0.76	96.5	0.0137	0.00193	0.0002	0.0314	-0.00001	-0.000005	-0.05	0.00005	27	-0.0001
21-Aug-09	7	500	465	7.77	172																	
28-Aug-09	8	500	425	7.71	144	#N/A	2.6	44.1	32	0.6	0.91	75.4	0.0583	0.00189	0.00016	0.0264	-0.00001	-0.000005	-0.05	0.000034	20.3	-0.0001
4-Sep-09	9	500	445	7.37	134																	
11-Sep-09	10	500	405	7.73	135	#N/A	2.3	41.9	34	0.6	0.92	65.2	0.0387	0.0017	0.00012	0.0238	-0.00001	-0.000005	-0.05	0.00008	17.5	-0.0001
18-Sep-09	11	500	455	7.66	134																	
25-Sep-09	12	500	425	7.66	122	#N/A	2.6	44.9	30	0.9	0.75	63.1	0.0283	0.00135	0.00011	0.0277	-0.00001	-0.000005	-0.05	0.000076	17.4	-0.0001
2-Oct-09	13	500	425	7.53	131																	
9-Oct-09	14	500	440	7.50	129	#N/A	4.8	42.1	30	-0.5	0.71	68.6	0.1	0.00146	0.00017	0.0288	-0.00001	-0.000005	-0.05	0.000042	18.7	-0.0001
16-Oct-09	15	500	420	7.44	147																	
23-Oct-09	16	500	415	7.56	135	#N/A	3.8	48.7	29	-0.5	0.84	72.4	0.0266	0.00153	0.00008	0.0303	-0.00001	-0.000005	-0.05	0.000042	19.6	-0.0001
30-Oct-09	17	500	445	7.57	120																	
6-Nov-09	18	500	475	7.59	135	#N/A	4.8	50.3	18	-0.5	0.79	71.4	0.0193	0.00117	0.00005	0.0318	-0.00001	-0.000005	-0.05	0.00004	19.5	-0.0001
13-Nov-09	19	500	470	7.47	122																	
20-Nov-09	20	500	450	7.56	133	#N/A	5.3	46.6	19	-0.5	0.72	66.8	0.0291	0.00108	0.00006	0.0331	-0.00001	-0.000005	-0.05	0.000039	18.4	-0.0001
27-Nov-09	21	500	460	7.52	126																	
4-Dec-09	22	500	465	7.59	128	#N/A	3.8	50.8	16	-0.5	0.73	67.6	0.0182	0.00096	0.00005	0.0338	-0.00001	-0.000005	-0.05	0.000081	19	-0.0001
11-Dec-09	23	500	455	7.54	116																	
18-Dec-09	24	500	465	7.30	122	#N/A	5.5	46.5	20	-0.5	0.66	60.9	0.0247	0.00094	0.00006	0.0354	-0.00001	-0.000005	-0.05	0.000037	16.8	-0.0001
25-Dec-09	25	500	460	7.51	101																	
1-Jan-10	26	500	500	7.57	118	#N/A	2.6	47.5	19	0.6	0.65	65.2	0.0157	0.00093	0.00009	0.0354	-0.00001	-0.000005	-0.05	0.000034	18.7	-0.0001
8-Jan-10	27	500	490	7.74	118																	
15-Jan-10	28	500	480	7.53	110	#N/A	6.6	44.1	17	-0.5	0.65	59.4	0.0173	0.00085	0.0001	0.0355	-0.00001	-0.000005	-0.05	0.000031	17	-0.0001
22-Jan-10	29	500	490	7.29	98																	
29-Jan-10	30	500	470	7.27	89	#N/A	5.4	40.5	18	-0.5	0.66	53.2	0.0277	0.0007	0.00006	0.0322	-0.00001	-0.000005	-0.05	0.000028	15.3	-0.0001
5-Feb-10	31	500	450	7.42	86																	
12-Feb-10	32	500	450	7.47	102	#N/A	2.9	39.5	18	-0.5	0.62	57.2	0.018	0.00066	0.00006	0.0342	-0.00001	-0.000005	-0.05	0.000029	16.6	-0.0001
19-Feb-10	33	500	410	7.22	95																	
26-Feb-10	34	500	430	7.40	87	#N/A	3.3	38.8	14	-0.5	0.67	54.1	0.0226	0.00081	0.00005	0.0342	-0.00001	-0.000005	-0.05	0.000021	15.5	-0.0001
5-Mar-10	35	500	400	7.37	92																	
12-Mar-10	36	500	445	7.33	94	#N/A	4.8	43.6	11	-0.5	0.59	51.2	0.0169	0.00065	0.00006	0.0336	-0.00001	-0.000005	-0.05	0.000027	14.6	-0.0001
19-Mar-10	37	500	450	7.57	97																	
26-Mar-10	38	500	460	7.27	94	#N/A	3.7	40.1	13	-0.5	0.7	48	0.0151	0.00068	0.00009	0.0327	-0.00001	-0.000005	-0.05	0.00003	13.5	0.0001
2-Apr-10	39	500	435	7.55	95																	
9-Apr-10	40	500	435	7.34	89	#N/A	3.6	37.9	12	-0.5	0.54	47.3	0.0174	0.00051	0.00006	0.0321	-0.00001	-0.000005	-0.05	0.000033	13.8	-0.0001
16-Apr-10	41	500	445	7.35	113																	
23-Apr-10	42	500	470	7.00	104	#N/A	7.1	44.0	14	-0.5	0.63	52.4	0.0179	0.00074	0.00006	0.0377	-0.00001	-0.000005	-0.05	0.00003	14.9	-0.0001
30-Apr-10	43	500	460	7.39	110																	
7-May-10	44	500	455	7.16	90	#N/A	5.6	40.0	11	-0.5	0.55	50.1	0.0158	0.00062	0.00005	0.0358	-0.00001	-0.000005	-0.05	0.000035	15	-0.0001
14-May-10	45	500	440	7.43	89																	
21-May-10	46	500	415	7.30	91	#N/A	3.5	40.2	6	-0.5	0.65	53.6	0.0297	0.00073	0.00007	0.0421	-0.00001	-0.000005	-0.05	0.00002	15.8	-0.0001
28-May-10	47	500	445	7.42	91																	
4-Jun-10	48	500	460	7.20	85	#N/A	4.7	38.8	5	-0.5	0.59	43.8	0.0148	0.00052	0.00008	0.0352	-0.00001	-0.000005	-0.05	0.000026	12.6	-0.0001
11-Jun-10	49	500	455	7.24	97																	
18-Jun-10	50	500	470	7.38	92	#N/A	4.4	44.8	5	-0.5	0.7	49.5	0.0149	0.00061	0.00006	0.041	-0.00001	-0.000005	-0.05	0.000025	14	0.0001
25-Jun-10	51	500	455	7.61	95																	
2-Jul-10	52	500	460	7.44	85	#N/A	2.7	42.3	9	-0.5	0.58	44.7	0.0184	0.00047	0.00003	0.0392	-0.00001	-0.000005	-0.05	0.00002	12.6	-0.0001
9-Jul-10	53	500	440	7.57	85																	
16-Jul-10	54	500	450	7.22	68	#N/A	4.1	32.2	4	-0.5	0.4	37.9	0.0085	0.00043	0.00005	0.0302	-0.00001	-0.000005	-0.05	0.000024	11.6	-0.0001
23-Jul-10	55	500	435	7.40	89																	
30-Jul-10	56	500	450	7.29	85	#N/A	3.9	39.5	11	-0.5	0.6	43.2	0.0147	0.0005	0.00011	0.0396	-0.00001	-0.000005	-0.05	0.00002	12.7	-0.0001
6-Aug-10	57	500	460	7.57	82																	
13-Aug-10	58	500	465	7.43	90	#N/A	4.7	44.7	5	-0.5	0.56	45.9	0.0132	0.00052	0.00006	0.0438	-0.00001	-0.000005	-0.05	0.000028	13.4	-0.0001
20-Aug-10	59	500	460	7.45	81																	
27-Aug-10	60	500	460	7.58	93	#N/A	3.1	47.9	7	-0.5	0.56	49.7	0.0117	0.00052	-0.00002	0.0503	-0.00001	-0.000005	-0.05	0.000015	14.4	0.0001
3-Sep-10	61	500	465	7.66	83																	
10-Sep-10	62	500	455	7.24	87	#N/A	4.7	40.1	7	-0.5	0.57	43.8	0.0415	0.00042	0.00016	0.0422	-0.00001	-0.000005	-0.05	0.000029	13.2	0.0003
17-Sep-10	63	500	505	7.49	88																	
24-Sep-10	64	500	445	7.38	76	#N/A	3.5	42.0	10	-0.5	0.57	46.6	0.0112	0.00054	0.00005	0.0467	-0.00001	-0.000005	-0.05	0.000021	14	0.0001
1-Oct-10	65	500	435	7.58	68																	
8-Oct-10	66	500	435	7.60	100	#N/A	3.1	48.8	11	-0.5	0.63	48.6	0.0173	0.00058	0.00002	0.0509	-0.00001	-0.000005	-0.05	0.000021	14.5	0.0001
15-Oct-10	67	500	440	7.54	93																	
22-Oct-10	68	500	440	7.45	101	#N/A	3.8	52.0	10	-0.5	0.6	51.7	0.0085	#N/A	0.00005	0.0516	-0.00001	-0.000005	-0.05	0.000017	15.4	-0.0001
29-Oct-10	69	500	430	7.45	93																	
5-Nov-10	70	500	440	7.85	81	#N/A	2.8	72.5	6	-0.5	0.53	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
12-Nov-10	71	500	450	7.55	#N/A							#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
19-Nov-10	72	500	435	7.26	96	#N/A	4.1	43.2	7	-0.5	0.5	38.6	0.0078	0.00042	0.00003	0.0443	-0.00001	-0.000005	-0.05	0.000021	11.6	-0.0001
26-Nov-10	73	500	440	7.30	95																	
3-Dec-10	74	500	430	7.29	94	#N/A	5.2	49.0	2	0.6	0.46	46.1	0.0057	0.00048	0.0002	0.0497	-0.00001	-0.000005	-0.05	0.000019	14.2	-0.0001
10-Dec-10	75	500	445	7.51	95																	
17-Dec-10	76	500	440	7.16	95	#N/A	6.3	50.7	6	-0.5	#N/A	50	0.0046	0.00051	0.00005	0.051	-0.00001	-0.000005	-0.05	0.000024	15.6	-0.0001
24-Dec-10	77	500	455	7.05	85																	
31-Dec-10	78	500	455	7.17	78	#N/A	6.4	46.9	8	-0.5	0.45	43.2	0.0089	0.00039	0.00004	0.0469	-0.00001	-0.000005	-0.05	0.00002	13.3	0.0002
7-Jan-11	79	500	465	7.52	66																	
14-Jan-11	80	500	455	7.39	68	#N/A	3.2	47.3	6	-0.5	0.43	44.1	0.0096	0.00042	0.00004	0.0471	-0.00001	-0.000005	-0.05	0.000023	13.6	-0.0001
21-Jan-11	81	500	465	7.45	75																	
28-Jan-11	82	500	480	7.31	72	#N/A	4.9	49.9	10	-0.5	0.45	46.6	0.0065	0.00041	#N/A	0.0492	-0.00001	-0.000005	-0.05	0.000019	14.7	-0.0001
4-Feb-11	83	500	475																			
11-Feb-11	84	500	470																			
18-Feb-11	85	500	445																			
25-Feb-11	86	500	465																			
4-Mar-11	87	500	475																			
11-Mar-11	88	500	480																			
18-Mar-11	89	500	490																			
25-Mar-11	90	500	480																			
1-Apr-11	91	500	485																			
8-Apr-11	92	500	470																			
15-Apr-11	93	500	470																			
22-Apr-11	94	500	490	7.71	91	#N/A	2.7	45.2	4	-0.5	0.4	41.6	0.0047	0.00031	0.00003	0.0504	-0.00001	-0.000005	-0.05	#N/A	13.5	-0.0001
29-Apr-11	95	500	460																			
6-May-11	96	500	485																			
13-May-11	97	500	470																			
20-May-11	98	500	500																			
27-May-11	99	500	480																			
3-Jun-11	100	500	490																			
10-Jun-11	101	500	490																			
17-Jun-11	102	500	485																			
24-Jun-11	103	500	505																			
1-Jul-11	104	500	490																			
8-Jul-11	105	500	505																			
15-Jul-11	106	500	495	7.41	81	#N/A	6.6	38.2	5	-0.5	0.36	36	0.006	0.00023	0.00012	0.0431	-0.00001	-0.000005	-0.05	0.000022	12.2	0.0001
22-Jul-11	107	500	495																			
29-Jul-11	108	500	490																			
5-Aug-11	109	500	500																			
12-Aug-11	110	500	490																			
19-Aug-11	111	500	485																			
26-Aug-11	112	500	490																			
2-Sep-11	113	500	485																			

Date	Co	Cu	Fe	Pb	Li	Mg	Mn	Hg	Mo	Ni	P	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
3-Jul-09	0.000105	0.154	0.002	0.00006	0.014	10.4	0.0184	0.1	0.199	0.00062	0.008	6.78	0.0537	2.35	-0.000005	70.6	0.773	40	0.000012	0.00026	-0.0005	0.000595	0.001	0.0006	-0.0001
17-Jul-09	0.000086	0.0455	0.004	0.00007	0.0088	5.95	0.0186	-0.01	0.117	0.00009	0.002	5.13	0.0119	3.24	-0.000005	27.5	0.441	23	0.000011	0.00007	-0.0005	0.000372	0.0007	0.0009	-0.0001
31-Jul-09	0.000076	0.0279	0.002	0.000042	0.0064	8.29	0.0224	-0.01	0.0608	-0.00002	0.005	5.28	0.0131	2.3	-0.000005	13.2	0.617	28	0.000012	0.00004	-0.0005	0.000103	0.0003	0.0004	-0.0001
14-Aug-09	0.000068	0.0232	0.002	0.000049	0.0039	7.09	0.0201	-0.01	0.0442	0.00008	0.002	3.77	0.00905	1.81	-0.000005	4.39	0.555	22	0.000011	0.00028	-0.0005	0.000055	-0.0002	0.0019	-0.0001
28-Aug-09	0.00004	0.0201	0.005	0.000063	0.0026	6.03	0.0103	-0.01	0.0399	0.00008	0.003	3.01	0.0101	2.09	-0.000005	2.63	0.432	13	0.000009	0.00008	-0.0005	0.000047	0.0002	0.0006	-0.0001
11-Sep-09	0.000038	0.0153	0.004	0.00181	0.002	5.24	0.00913	-0.01	0.0262	0.00016	0.003	2.24	0.00891	1.69	-0.000005	1.82	0.397	10	0.000015	0.00006	0.0006	0.000024	0.0003	0.0038	-0.0001
25-Sep-09	0.000036	0.0156	0.003	0.000199	0.0017	4.77	0.00936	0.01	0.0225	0.00011	-0.002	1.6	0.00878	1.61	-0.000005	1.24	0.36	9	0.000007	0.00001	0.0005	0.000024	-0.0002	0.0019	-0.0001
9-Oct-09	0.000039	0.0184	0.005	0.000115	0.0016	5.32	0.00898	-0.01	0.0233	0.00005	0.012	1.44	0.00724	1.56	-0.000005	1.31	0.378	11	0.000006	0.00001	0.0005	0.000029	0.0004	0.001	-0.0001
23-Oct-09	0.000042	0.0206	0.004	0.000036	0.0017	5.71	0.00906	-0.01	0.0237	0.00018	0.003	1.32	0.00605	1.65	0.000008	1.04	0.415	9	0.000006	0.0001	-0.0005	0.000054	-0.0002	0.001	-0.0001
6-Nov-09	0.000048	0.0224	0.003	0.00004	0.0013	5.5	0.00903	-0.01	0.0225	0.00012	0.004	1.08	0.00462	1.57	-0.000005	0.82	0.402	9	0.000006	0.00001	-0.0005	0.000067	0.0002	0.0006	-0.0001
20-Nov-09	0.000106	0.0224	0.007	0.000152	0.0012	5.07	0.00834	-0.01	0.0219	0.00044	0.005	0.91	0.00408	1.41	-0.000005	0.72	0.379	8	0.000007	0.00009	-0.0005	0.00002	-0.0002	0.0034	-0.0001
4-Dec-09	0.000044	0.022	0.003	0.000036	0.001	4.92	0.00836	-0.01	0.0208	0.00013	0.004	0.82	0.00358	1.31	-0.000005	0.67	0.376	9	0.000006	0.00074	-0.0005	0.000027	-0.0002	0.0004	-0.0001
18-Dec-09	0.000041	0.0223	0.003	0.000028	0.001	4.58	0.00772	-0.01	0.02	0.00006	-0.002	0.74	0.00373	1.46	-0.000005	0.56	0.353	7	0.000004	-0.00001	-0.0005	0.000034	-0.0002	0.0001	-0.0001
1-Jan-10	0.000046	0.0242	0.002	0.000033	0.0008	4.48	0.00847	0.02	0.0197	0.00002	-0.002	0.67	0.00323	1.3	-0.000005	0.51	0.351	6	0.000005	-0.00001	-0.0005	0.000028	-0.0002	0.0005	-0.0001
15-Jan-10	0.000038	0.0216	0.002	0.000027	0.0008	4.12	0.00715	-0.01	0.0186	0.00003	-0.002	0.65	0.00335	1.24	-0.000005	0.5	0.305	7	0.000004	-0.00001	-0.0005	0.000031	-0.0002	0.0003	-0.0001
29-Jan-10	0.000037	0.0207	0.006	0.000054	0.0007	3.62	0.00645	0.02	0.0186	0.00006	0.002	0.55	0.0029	1.12	0.000015	0.45	0.288	5	0.000004	0.00017	0.0008	0.000019	-0.0002	0.0003	-0.0001
12-Feb-10	0.00004	0.0188	0.002	0.000035	0.0008	3.86	0.00602	-0.01	0.0172	0.00014	-0.002	0.62	0.00284	1.2	0.000008	0.49	0.301	6	0.000005	-0.00001	-0.0005	0.000139	-0.0002	0.0003	-0.0001
26-Feb-10	0.000077	0.0143	0.003	0.000037	0.0008	3.76	0.00513	-0.01	0.0177	0.00024	0.002	0.67	0.00343	1.28	-0.000005	0.54	0.286	6	0.000008	0.00008	-0.0005	0.000012	-0.0002	0.0019	-0.0001
12-Mar-10	0.000024	0.0172	0.003	0.000035	0.0008	3.56	0.00554	-0.01	0.0161	0.0001	0.002	0.55	0.00294	1.06	-0.000005	0.45	0.274	-10	0.000006	0.00002	-0.0005	0.00002	-0.0002	0.0005	-0.0001
26-Mar-10	0.00003	0.0154	0.002	0.000029	0.0008	3.48	0.0054	-0.01	0.0181	0.00013	-0.002	0.52	0.00333	1.09	-0.000005	0.48	0.28	5	0.000004	-0.00001	-0.0005	0.000013	-0.0002	0.0004	-0.0001
9-Apr-10	0.000034	0.0134	0.002	0.00006	0.0006	3.11	0.00563	-0.01	0.0136	0.00023	0.005	0.53	0.00228	0.997	-0.000005	0.4	0.24	-10	0.000003	0.00003	-0.0005	0.000024	-0.0002	0.0011	-0.0001
23-Apr-10	0.000036	0.0193	0.003	0.000048	0.0008	3.68	0.00597	-0.01	0.0162	0.00029	-0.002	0.54	0.0031	1.18	-0.000005	0.46	0.283	-10	0.000002	-0.00001	-0.0005	0.000013	-0.0002	0.0007	-0.0001
7-May-10	0.000028	0.0161	0.001	0.000029	0.0007	3.1	0.00576	-0.01	0.0135	0.00017	-0.002	0.53	0.00259	1.12	-0.000005	0.4	0.247	-10	-0.000002	-0.00001	-0.0005	0.000011	-0.0002	0.0002	-0.0001
21-May-10	0.000034	0.0151	0.019	0.000035	0.0007	3.43	0.00474	-0.01	0.0146	0.00031	-0.002	0.58	0.00311	1.42	-0.000005	0.5	0.279	-10	0.000003	0.00002	-0.0005	0.000011	-0.0002	0.0006	-0.0001
4-Jun-10	0.000024	0.0138	-0.001	0.000023	0.0007	3.01	0.00401	-0.01	0.012	0.00018	-0.002	0.47	0.00273	1.17	-0.000005	0.42	0.225	-10	0.000004	-0.00001	-0.0005	0.000013	-0.0002	0.0003	-0.0001
18-Jun-10	0.000025	0.0145	0.002	0.000032	0.0007	3.5	0.00444	-0.01	0.0135	0.00016	0.002	0.56	0.00286	1.32	-0.000005	0.51	0.254	-10	0.000003	0.00001	-0.0005	0.000016	-0.0002	0.0003	-0.0001
2-Jul-10	0.000025	0.0144	-0.001	0.000022	0.0007	3.19	0.00388	-0.01	0.0118	-0.00002	-0.002	0.48	0.0025	1.14	-0.000005	0.42	0.236	-10	0.000003	0.00028	-0.0005	0.000012	-0.0002	-0.0001	-0.0001
16-Jul-10	0.000028	0.0129	-0.001	0.000017	-0.0005	2.19	0.00353	-0.01	0.00829	0.00014	-0.002	0.31	0.00264	0.876	-0.000005	0.32	0.18	-10	0.000003	0.00004	-0.0005	0.000008	-0.0002	0.0001	-0.0001
30-Jul-10	0.000026	0.0126	0.001	0.000035	0.0006	2.78	0.00343	-0.01	0.0103	0.00015	-0.002	0.43	0.00263	1.12	0.000007	0.4	0.227	-10	0.000009	-0.00001	-0.0005	0.000022	0.0002	0.0004	-0.0001
13-Aug-10	0.000029	0.0157	0.001	0.000026	0.0006	3.02	0.00384	-0.01	0.00998	0.00035	-0.002	0.44	0.00258	1.02	-0.000005	0.42	0.24	-10	0.000004	-0.00001	-0.0005	0.000013	-0.0002	0.0003	-0.0001
27-Aug-10	0.000024	0.0155	0.001	0.00008	0.0006	3.35	0.00401	-0.01	0.0106	0.0002	-0.002	0.49	0.00269	1.09	-0.000005	0.46	0.256	-10	0.000003	-0.00001	-0.0005	0.00002	-0.0002	0.0006	-0.0001
10-Sep-10	0.00003	0.012	0.008	0.000017	-0.0005	2.64	0.0033	-0.01	0.0101	#N/A	-0.002	0.4	0.00266	1.07	-0.000005	0.38	0.217	-10	0.000003	0.00004	-0.0005	#N/A	-0.0002	0.0002	-0.0001
24-Sep-10	0.00004	0.0137	0.012	0.000117	0.0006	2.83	0.00367	-0.01	0.0106	0.00015	-0.002	0.51	0.00287	1.16	-0.000005	0.41	0.235	-10	0.000004	0.00002	-0.0005	0.000021	0.0002	0.001	-0.0001
8-Oct-10	0.000022	0.0138	0.002	0.000025	0.0007	3.04	0.00328	-0.01	0.0106	0.00015	-0.002	0.53	0.00294	1.28	-0.000005	0.41	0.254	-10	0.000005	-0.00001	-0.0005	0.000024	-0.0002	0.0003	-0.0001
22-Oct-10	0.000029	0.0153	-0.001	0.000099	0.0007	3.23	0.00369	0.01	0.0108	0.00019	-0.002	0.5	0.00277	1.13	-0.000005	0.43	0.252	-10	0.000009	-0.00001	-0.0005	0.000016	-0.0002	0.0017	-0.0001
5-Nov-10	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
12-Nov-10	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
19-Nov-10	0.00002	0.0113	0.003	0.000027	-0.0005	2.34	0.00325	0.02	0.00855	0.00007	0.003	1.19	0.00205	0.989	-0.000005	0.54	0.204	-10	0.000005	0.00001	-0.0005	0.000021	-0.0002	0.0003	-0.0001
3-Dec-10	0.000027	0.0141	0.001	0.000055	0.0006	2.58	0.00402	-0.01	0.00916	-0.00002	-0.002	1.12	0.00248	1.22	-0.000005	0.51	0.232	-10	0.000004	-0.00001	0.0009	#N/A	-0.0002	-0.0001	-0.0001
17-Dec-10	0.000026	0.015	-0.001	0.000034	-0.0005	2.67	0.00388	-0.01	0.00875	0.00014	-0.002	0.96	0.0028	1.23	-0.000005	0.48	0.232	-10	0.000005	-0.00001	-0.0005	0.000019	0.0002	0.0001	-0.0001
31-Dec-10	0.000023	0.0148	0.002	0.000025	0.0005	2.42	0.00374	-0.01	0.00825	0.00019	-0.002	0.79	0.0022	1.05	0.000021	0.4	0.211	-10	0.000006	0.00002	-0.0005	0.000022	-0.0002	0.0005	#N/A
14-Jan-11	0.000025	0.0146	0.002	0.000021	-0.0005	2.45	0.00384	-0.01	0.00738	0.00005	-0.002	0.68	0.00217	1.06	0.000007	0.33	0.211	-10	0.000002	-0.00001	-0.0005	0.000016	0.0002	0.0001	0.0002
28-Jan-11	0.000023	0.014	-0.001	0.000015	-0.0005	2.41	0.0038	-0.01	0.00812	0.00019	-0.002	0.63	0.00206	1.02	0.000006	0.33	0.218	-10	0.000005	-0.00001	-0.0005	#N/A	-0.0002	0.0002	-0.0001
22-Apr-11	0.000026	0.0139	-0.001	0.000062	-0.0005	1.92	0.00435	-0.01	0.00591	0.00011	-0.002	0.49	0.00198	0.935	-0.000005	0.27	0.181	-10	0.000002	0.00001	-0.0005	0.000012	-0.0002	#N/A	-0.0001
15-Jul-11	#N/A	0.0124	-0.001	0.000039	-0.0005	1.37	0.00454	-0.01	0.00545	#N/A	-0.002	0.38	0.00167	0.845	-0.000005	0.24	0.149	-10	0.000002	0.00022	-0.0005	0.000015	-0.0002	0.0008	-0.0001

HC 1

CONFIDENTIAL *DRAFT*

Sample = Hole 211
83.08-86.03

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L
9-Sep-11	114	500	495									
16-Sep-11	115	500	490									
23-Sep-11	116	500	495									
30-Sep-11	117	500	500									
7-Oct-11	118	500	490	7.21	86	#N/A	6.6	43.9	6	-0.5	0.32	43.1
14-Oct-11	119	500	490									
21-Oct-11	120	500	490									
28-Oct-11	121	500	500									
4-Nov-11	122	500	500									
11-Nov-11	123	500	490									
18-Nov-11	124	500	495									
25-Nov-11	125	500	495									
2-Dec-11	126	500	485									
9-Dec-11	127	500	495									
16-Dec-11	128	500	480									
23-Dec-11	129	500	495									
30-Dec-11	130	500	495	7.69	77	#N/A	5.4	47.1	5	-0.5	0.28	42
6-Jan-12	131	500	485									
13-Jan-12	132	500	490									
20-Jan-12	133	500	500									
27-Jan-12	134	500	480									
3-Feb-12	135	500	495									
10-Feb-12	136	500	495									
17-Feb-12	137	500	500									
24-Feb-12	138	500	495									
2-Mar-12	139	500	490									
9-Mar-12	140	500	495									
16-Mar-12	141	500	485									
23-Mar-12	142	500	490	7.62	84	#N/A	6.2	44.1	5	-0.5	0.25	37.9
30-Mar-12	143	500	505									
6-Apr-12	144	500	485									
13-Apr-12	145	500	490									
20-Apr-12	146	500	465									
27-Apr-12	147	500	455									
4-May-12	148	500	455									
11-May-12	149	500	460									
18-May-12	150	500	455									
25-May-12	151	500	460									
1-Jun-12	152	500	445									
8-Jun-12	153	500	475									
15-Jun-12	154	500	475	7.67	87	#N/A	3.6	41.9	8	-0.5	0.25	37.3
22-Jun-12	155	500	445									
29-Jun-12	156	500	455									
6-Jul-12	157	500	455									
13-Jul-12	158	500	465									
20-Jul-12	159	500	455									
27-Jul-12	160	500	460									
3-Aug-12	161	500	460									
10-Aug-12	162	500	460									
17-Aug-12	163	500	430									
24-Aug-12	164	500	440									
31-Aug-12	165	500	450									
7-Sep-12	166	500	430	7.60	58	#N/A	4.7	#N/A	6	0.75	0.13	27.4
14-Sep-12	167	500	460									
21-Sep-12	168	500	435									
28-Sep-12	169	500	455									
5-Oct-12	170	500	455									
12-Oct-12	171	500	450									
19-Oct-12	172	500	465									
26-Oct-12	173	500	455									
2-Nov-12	174	500	460									
9-Nov-12	175	500	455									
16-Nov-12	176	500	460									
23-Nov-12	177	500	495									
30-Nov-12	178	500	495	7.54	75	#N/A	4.7	39.0	5	-0.5	0.16	37.3
7-Dec-12	179	500	475									
14-Dec-12	180	500	485									
21-Dec-12	181	500	465									
28-Dec-12	182	500	440									
4-Jan-13	183	500	430									
11-Jan-13	184	500	470									
18-Jan-13	185	500	470									
25-Jan-13	186	500	465									
1-Feb-13	187	500	440									
8-Feb-13	188	500	455									
15-Feb-13	189	500	465									
22-Feb-13	190	500	425	7.19	76	#N/A	7.4	41.4	7	0.53	0.12	37.6
1-Mar-13	191	500	455									
8-Mar-13	192	500	460									
15-Mar-13	193	500	435									
22-Mar-13	194	500	440									
29-Mar-13	195	500	425									
5-Apr-13	196	500	435									
12-Apr-13	197	500	450									
19-Apr-13	198	500	445									
26-Apr-13	199	500	400									
3-May-13	200	500	430									
10-May-13	201	500	390									
17-May-13	202	500	435	7.77	78	#N/A	10.8	41.7	7	-0.5	0.12	39.6
24-May-13	203	500	435									

Date	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L
7-Oct-11	0.0092	0.00027	0.0002	0.0504	-0.00001	-0.000005	-0.05	0.000015	14.8	-0.0001	0.000025	0.0139
30-Dec-11	0.0089	0.0002	0.00006	0.049	-0.00001	-0.000005	-0.05	0.000025	14.8	-0.0001	0.00002	0.014
23-Mar-12	0.0065	0.00019	0.00005	0.0473	-0.00001	-0.000005	-0.05	0.000021	13.5	-0.0001	0.000023	0.0145
15-Jun-12	0.00874	0.000205	0.000222	0.046	-0.00001	-0.000005	-0.05	0.0000115	13.4	-0.0001	0.0000202	0.011
7-Sep-12	0.0138	0.00013	0.000082	0.0339	-0.00001	-0.000005	-0.05	0.000008	#N/A	0.0001	0.000025	0.00749
30-Nov-12	0.0123	0.000175	0.00004	0.0437	-0.00001	-0.000005	-0.05	0.000014	13.7	-0.0001	0.00001	0.00932
22-Feb-13	0.0143	0.000155	0.000152	0.0458	-0.00001	-0.000005	-0.05	0.000009	13.9	-0.0001	0.000019	0.0352
17-May-13	0.0174	0.000155	0.000046	0.0481	-0.00001	-0.000005	-0.05	0.000009	14.7	-0.0001	0.000018	0.0091

Date	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L	P mg/L	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L
7-Oct-11	-0.001	0.00002	-0.0005	1.47	0.00456	-0.01	0.00483	0.00003	-0.002	0.41	0.00182	0.988	-0.000005	0.22	0.153	-10	0.000004	0.00012	-0.0005	0.000013	-0.0002	0.0002	-0.0001
30-Dec-11	0.002	0.000054	-0.0005	1.23	0.00509	-0.01	0.00561	0.00002	-0.002	0.38	0.00149	0.886	-0.000005	0.19	0.128	-10	0.000004	0.00015	-0.0005	0.000021	-0.0002	0.0003	-0.0001
23-Mar-12	-0.001	#N/A	-0.0005	1.06	0.00518	-0.01	0.00559	0.00014	-0.002	0.34	0.0014	0.775	-0.000005	0.23	0.119	-10	0.000003	-0.0002	-0.0005	0.000013	-0.0002	0.0005	-0.0001
15-Jun-12	-0.001	0.000061	-0.0005	0.903	0.00398	-0.01	0.00487	0.000021	-0.002	0.332	0.00156	0.929	-0.000005	0.195	0.107	-10	0.0000043	-0.0002	-0.0005	0.0000131	-0.0002	0.00024	-0.0001
7-Sep-12	0.0059	0.000012	-0.0005	#N/A	0.00307	-0.01	0.00352	0.000085	-0.002	0.272	0.00103	0.596	-0.000005	#N/A	#N/A	-10	0.000002	-0.0002	-0.0005	0.00001	-0.0002	0.00045	-0.0001
30-Nov-12	0.003	0.000047	-0.0005	0.788	0.0033	-0.01	0.00507	0.000022	-0.002	0.303	0.00109	0.888	-0.000005	0.171	0.103	-3	0.000003	0.00025	-0.0005	0.00006	-0.0002	0.00088	-0.0001
22-Feb-13	0.0024	0.000194	-0.0005	0.695	0.00443	-0.01	0.00409	0.000069	-0.002	0.322	0.00112	0.773	0.000006	0.195	0.0897	-3	0.000002	0.00101	-0.0005	0.000014	-0.0002	0.00025	-0.0001
17-May-13	0.0026	0.000021	-0.0005	0.709	0.00427	-0.01	0.00463	0.000068	-0.002	0.329	0.00109	0.825	-0.000005	0.174	0.091	-3	0.000003	-0.0002	-0.0005	0.000017	-0.0002	0.00024	-0.0001

Sept 10/10 U 0.000383 and Ni 0.00291. Repeat = Sample Discarded.
Oct 22/10 Sb 0.00138. Repeat = 0.00138. Data confirmed. Suspect contamination.
Nov 5/10 Most metals have high bias. Repeat. Data confirmed. Data suggests metals were contaminated. Data removed.
Nov 12/10 Conductivity 181. Suspect analytical error. Cannot repeat.
Dec 3/10 U 0.0028; repeat = sample discarded.
Dec 17/10 F 0.03. Repeat = 0.03. Suspect sample mix-up with HC 2.
Dec 31/10 Zr 0.0083. Repeat = 0.0083. Suspect contamination.
Jan 28/11 As 0.00071 and U 0.00092. Cannot repeat. Sample discarded.
Feb 4/11 Change in analytical schedule.
April 22/11 Cd 0.000065; Zn 0.0015. Repeat Cd=0.000065, Zn= 0.0037 data confirmed suspect contamination
July 15/11 Co 0.00014 and Ni 0.00064. Repeat: Co 0.000143 and Ni 0.00061. Data confirmed. Suspect contamination..
Mar 23/12 Pb=0.000256, repeat=0.000268. Data confirmed, suspect contamination
Jun 15 12 Pb=0.00543, repeat=0.000061. Data accepted
Sept 7/12 Alkalinity=29.4. Cannot repeat suspect titrator error
Sept 7/12 Ca=9.89, Mg=0.657, Sr=0.0768, Na=0.452. repeat confirms original result, suspect contamination

HC 2

CONFIDENTIAL *DRAFT*

Sample = Hole 196 53.94-55.44

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L	P mg/L	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L
3-Jul-09	0	750	375	8.02	164	#N/A	1.5	53.8	4	3.5	0.69	50.7	0.139	0.00006	0.00021	0.0127	-0.00001	-0.000005	-0.05	-0.000005	14.5	-0.0001	0.000106	0.0115	0.013	0.000138	0.0017	3.49	0.012	-0.01	0.0133	0.00085	0.005	3.34	0.00041	1.44	-0.000005	10.4	0.181	-3	0.000004	0.00023	-0.0005	0.000224	0.0013	0.0009	-0.0001
10-Jul-09	1	500	455	7.86	82																																										
17-Jul-09	2	500	495	8.01	65	#N/A	1.7	43.0	-2	0.8	0.84	24.9	0.0816	0.00009	0.00017	0.00628	-0.00001	-0.000005	-0.05	0.000006	7	-0.0001	0.000026	0.00256	0.011	0.000041	0.0008	1.81	0.0131	-0.01	0.0236	0.00004	-0.002	2.14	0.00031	1.89	-0.000005	5.88	0.092	-3	0.000002	0.00006	-0.0005	0.000817	0.0022	0.0003	-0.0001
24-Jul-09	3	500	455	7.89	54																																										
31-Jul-09	4	500	440	7.92	53	#N/A	1.6	35.1	-2	-0.5	0.64	23.4	0.125	0.00004	0.00014	0.0062	-0.00001	-0.000005	-0.05	-0.000005	6.87	-0.0001	0.000025	0.00161	0.044	0.000042	0.0005	1.51	0.0154	-0.01	0.0103	0.00011	0.003	1.95	0.00027	2.02	-0.000005	3.34	0.0749	-3	-0.000002	0.00003	0.002	0.000466	0.0024	0.0002	-0.0001
7-Aug-09	5	500	435	7.71	41																																										
14-Aug-09	6	500	455	7.67	44	#N/A	2.3	29.3	-2	0.6	0.44	21.8	0.0502	0.00004	0.00018	0.00402	-0.00001	-0.000005	-0.05	-0.000005	6.39	-0.0001	0.000012	0.00079	0.005	0.000012	0.0006	1.42	0.0129	-0.01	0.00517	0.00002	-0.002	1.78	0.00011	1.32	-0.000005	1.78	0.0717	-3	-0.000002	0.00016	-0.0005	0.000347	0.0015	0.0001	-0.0001
21-Aug-09	7	500	465	7.80	44																																										
28-Aug-09	8	500	455	7.81	43	#N/A	1.8	28.4	-2	-0.5	0.36	21.5	0.075	0.00006	0.00015	0.00478	-0.00001	-0.000005	-0.05	0.000006	6.15	-0.0001	0.000011	0.00061	0.009	0.000015	-0.0005	1.5	0.0115	0.01	0.0034	0.00003	-0.002	1.73	0.00014	1.51	-0.000005	1.12	0.0729	-3	0.000003	0.00003	-0.0005	0.000316	0.0016	0.0002	-0.0001
4-Sep-09	9	500	450	7.58	38																																										
11-Sep-09	10	500	410	7.67	38	#N/A	1.9	25.8	-2	-0.5	0.38	18.6	0.141	0.00002	0.00019	0.00569	-0.00001	-0.000005	-0.05	-0.000005	5.13	-0.0001	0.000046	0.0018	0.039	0.000038	-0.0005	1.41	0.00918	-0.01	0.00233	0.00008	0.004	1.71	0.00026	1.63	-0.000005	0.97	0.0647	-3	0.000003	0.00006	0.0014	0.00025	0.0023	0.0006	-0.0001
18-Sep-09	11	500	460	7.73	41																																										
25-Sep-09	12	500	425	7.81	41	#N/A	1.9	29.0	-2	0.8	0.26	19.9	0.0896	0.00004	0.0001	0.00498	-0.00001	-0.000005	-0.05	-0.000005	5.74	-0.0001	0.000014	0.00087	0.021	0.000028	-0.0005	1.36	0.0106	0.01	0.00171	0.00011	0.002	1.7	0.00011	1.32	-0.000005	0.66	0.0653	-3	0.000003	-0.00001	0.0008	0.000218	0.0016	0.0003	-0.0001
2-Oct-09	13	500	425	7.57	42																																										
9-Oct-09	14	500	430	7.60	41	#N/A	3.6	29.9	5	-0.5	0.2	21.4	0.0684	0.00004	0.00011	0.00484	-0.00001	-0.000005	-0.05	-0.000005	6.14	-0.0001	0.000009	0.0006	0.007	0.000031	-0.0005	1.47	0.012	-0.01	0.00185	0.00002	-0.002	1.78	0.0001	1.35	0.00002	0.49	0.0707	-3	-0.000002	0.00002	0.0009	0.000244	0.0015	0.0004	-0.0001
16-Oct-09	15	500	415	7.54	45																																										
23-Oct-09	16	500	420	7.67	43	#N/A	3.0	30.4	-2	-0.5	0.17	22.4	0.0665	0.00002	0.00005	0.00475	-0.00001	-0.000005	-0.05	-0.000005	6.46	-0.0001	0.000014	0.00127	0.011	0.000136	0.0005	1.53	0.0109	-0.01	0.00143	0.00013	0.003	1.83	0.00009	1.26	-0.000005	0.44	0.0737	-3	-0.000002	0.00009	0.0006	0.000248	0.0014	0.0004	-0.0001
30-Oct-09	17	500	430	7.67	39																																										
6-Nov-09	18	500	490	7.77	43	#N/A	3.7	31.0	-2	-0.5	0.13	23.5	0.0478	-0.00002	0.00004	0.00488	-0.00001	-0.000005	-0.05	-0.000005	6.73	-0.0001	0.000007	0.00083	0.003	0.000012	-0.0005	1.62	0.00966	-0.01	0.00109	0.00007	0.003	1.65	0.00009	1.25	-0.000005	0.36	0.0794	-3	-0.000002	0.00002	-0.0005	0.000269	0.0013	0.0004	-0.0001
13-Nov-09	19	500	460	7.65	39																																										
20-Nov-09	20	500	430	7.80	43	#N/A	3.8	29.6	-2	-0.5	0.12	19.9	0.0539	0.00002	0.00006	0.00408	-0.00001	-0.000005	-0.05	-0.000005	5.69	-0.0001	0.000007	0.00036	0.007	0.000025	-0.0005	1.39	0.00888	-0.01	0.00083	0.00011	0.004	1.58	0.00006	1.06	-0.000005	0.29	0.0691	-3	-0.000002	0.00003	-0.0005	0.000205	0.0013	0.0012	-0.0001
27-Nov-09	21	500	455	7.68	44																																										
4-Dec-09	22	500	460	7.61	43	#N/A	3.0	29.6	-2	-0.5	0.1	21.2	0.0403	-0.00002	0.00004	0.0044	-0.00001	-0.000005	-0.05	-0.000005	6.14	-0.0001	0.000008	0.00118	0.004	0.000014	-0.0005	1.43	0.00767	-0.01	0.00076	0.00012	0.003	1.55	0.00007	0.991	-0.000005	0.34	0.0718	-3	-0.000002	0.00041	-0.0005	0.000214	0.0011	0.0003	-0.0001
11-Dec-09	23	500	440	7.86	41																																										
18-Dec-09	24	500	460	7.41	42	#N/A	4.7	26.6	-2	-0.5	0.11	20.2	0.0496	-0.00002	0.00007	0.00436	-0.00001	-0.000005	-0.05	-0.000005	5.81	-0.0001	-0.000005	0.00018	0.004	-0.000005	0.0005	1.39	0.00874	-0.01	0.00069	0.00011	-0.002	1.49	0.00005	1.07	-0.000005	0.27	0.069	-3	-0.000002	0.00002	-0.0005	0.000204	0.001	-0.0001	-0.0001
25-Dec-09	25	500	460	7.61	36																																										
1-Jan-10	26	500	470	7.84	42	#N/A	2.0	29.2	-2	-0.5	0.07	21.5	0.0528	-0.00002	0.00004	0.00453	-0.00001	-0.000005	-0.05	-0.000005	6.29	-0.0001	-0.000005	0.0004	0.006	0.00005	-0.0005	1.4	0.00761	-0.01	0.00062	0.00002	-0.002	1.49	0.00005	1.05	-0.000005	0.2	0.0703	-3	0.000002	-0.00001	-0.0005	0.000205	0.001	0.0004	-0.0001
8-Jan-10	27	500	505	7.68	46																																										
15-Jan-10	28	500	450	7.70	41	#N/A	4.3	29.7	-2	-0.5	0.11	20.9	0.0526	-0.00002	0.00011	0.00425	-0.00001	-0.000005	-0.05	-0.000005	6.1	-0.0001	0.000005	0.00058	0.005	0.000017	-0.0005	1.37	0.00708	-0.01	0.00078	0.00002	-0.002	1.52	0.00007	0.982	-0.000005	0.2	0.0663	-3	-0.000002	0.00001	-0.0005	0.000224	0.0009	0.0002	-0.0001
22-Jan-10	29	500	480	7.52	36																																										
29-Jan-10	30	500	465	7.38	31	#N/A	4.9	28.2	2	-0.5	0.1	20.2	0.0591	0.00002	0.00012	0.00431	-0.00001	-0.000005	-0.05	-0.000005	5.93	-0.0001	0.000007	0.00043	0.008	0.000025	-0.0005	1.32	0.00655	-0.01	0.0005	0.00006	-0.002	1.44	0.00006	0.953	0.000006	0.19	0.0665	-3	-0.000002	0.00012	0.0005	0.000199	0.0009	0.0004	-0.0001
5-Feb-10	31	500	445	7.27	27																																										
12-Feb-10	32	500	440	7.41	37	#N/A	2.4	25.2	-2	-0.5	0.06	19.8	0.0561	0.00002	0.00004	0.00415	-0.00001	-0.000005	-0.05	-0.000005	5.87	-0.0001	0.000009	0.00073	0.006	0.000103	-0.0005	1.24	0.00687	-0.01	0.00056	0.00013	-0.002	1.52	0.00006	0.975	0.000007	0.2	0.0627	-3	-0.000002	-0.00001	-0.0005	0.00017	0.001	0.0005	-0.0001
19-Feb-10	33	500	425	7.51	36																																										
26-Feb-10	34	500	415	7.49	31	#N/A	2.7	23.6	2	-0.5	0.07	18.1	0.114	-0.00002	0.00004	0.00505	-0.00001	-0.000005	-0.05	-0.000005	5.27	-0.0001	0.000044	0.00073	0.027	0.00002	-0.0005	1.2	0.00602	-0.01	0.0006	0.00017	-0.002	1.59	0.00009	1.11	-0.000005	0.24	0.0563	-3	-0.000002	0.00004	0.0013	0.000143	0.0013	0.0006	-0.0001
5-Mar-10	35	500	395	7.33	35																																										
12-Mar-10	36	500	470	7.50	37	#N/A	3.8	26.1	2	-0.5	0.05	30.1	0.0426	-0.00002	0.00007	0.00407	-0.00001	-0.000005	-0.05	-0.000005	9.89	-0.0001	0.000008	0.00109	0.008	0.00004	-0.0005	1.31	0.00525	-0.01	0.00068	0.0001	-0.002	1.45	0.00009	0.962	-0.000005	0.21	0.0646	-10	-0.000002	0.00002	-0.0005	0.000192	0.001	0.0006	-0.0001
19-Mar-10	37	500	450	7.62	39																																										
26-Mar-10	38	500	480	7.59	36	#N/A	3.1	25.7	-2	-0.5	0.05	18.6	0.0423	0.00002	0.00007	0.00389	-0.00001	-0.000005	-0.05	0.000005	5.45	-0.0001	0.000007	0.00063	0.002	0.000012	-0.0005	1.21	0.00596	-0.01	0.00062	0.00017	0.002	1.45	0.00006	0.851	-0.000005	0.2	0.0611	-2	0.000003	-0.00001	-0.0005	0.000159	0.001	0.0007	-0.0001
2-Apr-10	39	500	435	7.52	34																																										
9-Apr-10	40	500	440	7.50	36	#N/A	2.7	23.7	3	-0.5	0.04	17.7	0.0513	-0.00002	0.0002	0.00466	-0.00001	-0.000005	-0.05	0.000006	5.38	-0.0001	0.000011	0.00083	0.01	0.00004	-0.0005	1.05	0.00658	-0.01	0.00046	0.00025	0.005	1.49	0.00005	0.872	-0.000005	0.19	0.0532	-10	-0.000002	0.00003	-0.0005	0.000124	0.0011	0.0018	-0.0001
16-Apr-10	41	500	465	7.51	38																																										
23-Apr-10	42	500	470	7.49	40	#N/A	5.0	27.7	-2	-0.5	0.04	18.6	0.0409	0.00002	0.00005	0.00462	-0.00001	0.000009	-0.05	-0.000005	5.56	0.0001	-0.000005	0.00085	0.002	0.000011	-0.0005	1.16	0.00635	-0.01	0.00055	0.00008	-0.002	1.53	0.00006	0.9	-0.000005	0.21	0.0621	-10	-0.000002	0.00001	-0.0005	0.000143	0.0008	0.0022	-0.0001
30-Apr-10	43	500	465	7.56	37																																										
7-May-10	44	500	440	7.47	35	#N/A	4.5	25.5	2	-0.5	0.04	18.2	0.0403	-0.00002	0.00005	0.00392	-0.00001	-0.000005	-0.05	-0.000005	5.56	-0.0001	0.000008	0.00056	0.002	0.000016	-0.0005	1.04	0.00712	-0.01	0.0005	0.00011	-0.002	1.43	-0.00004	0.84	-0.000005	0.17	0.0546	-10	-0.000002	-0.00001	-0.0005	0.000115	0.0009	0.0003	-0.0001
14-May-10	45	500	460	7.56	35																																										
21-May-10	46	500	445	7.58	33	#N/A	2.8	24.0	-2	-0.5	0.04	18.4	0.0509	-0.00002	0.00006	0.00367	-0.00001	-0.000005	-0.05	-0.000005	5.6	-0.0001	0.00001	0.0004	0.002	-0.000005	-0.0005	1.07	0.00578	-0.01	0.00055	0.00018	-0.002	1.46	0.00005	0.926	-0.000005	0.18	0.0557	-10	-0.000002	0.00002	-0.0005	0.000116	0.0009	0.0002	-0.0001
28-May-10	47	500	425	7.49	33																																										
4-Jun-10	48	500	440	7.49	32	#N/A	3.7	22.7	3	-0.5	0.04	15.4	0.0432	-0.00002	0.00007	0.00355	-0.00001	-0.000005	-0.05	-0.000005	4.56	-0.0001	0.000005	0.0009	0.001	0.000022	-0.0005	0.98	0.00623	-0.01	0.00052	0.0001	-0.002	1.35	0.00006	0.794	-0.000005	0.19	0.0471	-10	-0.000002	-0.00001	-0.0005	0.000098	0.0009	0.0002	-0.0001
11-Jun-10	49	500	455	7.62	33																																										
18-Jun-10	50	500	455	7.58	34	#N/A	3.9	26.2	-2	-0.5	0.04	16.9	0.0412	-0.00002	0.00006	0.00378	-0.00001	-0.000005	-0.05	-0.000005	4.95	0.0002	0.000008	0.00033	0.004	0.000009	-0.0005	1.11	0.00463	-0.01	0.00046	0.00017	0.002	1.45	0.00005	0.898	-0.000005	0.21	0.052	-10	-0.000002	0.00001	-0.0005	0.000102	0.001	0.0003	-0.0001
25-Jun-10	51	500	465	7.68	33																																										
2-Jul-10	52	500	445	7.66	33	#N/A	2.3	24.1	3	-0.5	0.04	16.5	0.0547	-0.00002	0.00002	0.0039	-0.00001	-0.000005	-0.05	-0.000005	4.88	-0.0001	-0.000005	0.00022	0.003	0.000006	-0.0005	1.04	0.00493	-0.01	0.00051	-0.00002	-0.002	1.32	0.00005	0.805	-0.000005	0.16	0.052	-10	-0.000002	0.00013	-0.0005	0.000107	0.0007	-0.0001	-0.0001
9-Jul-10	53	500	450	7.46	34																																										
16-Jul-10	54	500	460	7.52	33	#N/A	3.4	23.3	-2	-0.5	0.04	15.7	0.0342	-0.00002	0.00004	0.00353	-0.00001	-0.000005	-0.05	-0.000005	4.8	-0.0001	0.000008	0.0008	-0.001	-0.000005	-0.0005	0.9	0.00441	-0.01	0.0004	0.00015	-0.002	1.21	0.00004	0.755	-0.000005	0.16	0.0557	-10	-0.000002	-0.00001	-0.0005	0.000119	0.0008	-0.0001	-0.0001
23-Jul-10	55	500	430	7.34	31																																										
30-Jul-10	56	500	460	7.35	33	#N/A	3.4	24.1	4	-0.5	0.04	17.1	0.0385	-0.00002	0.00008	0.00419	-0.00001	-0.000005	-0.05	-0.000005	5.13	-0.0001	0.000007	0.00164	0.001	0.000022	-0.0005	1.03	0.00437	-0.01	0.0004	0.00015	-0.002	1.24	0.00005	0.813	-0.000005	0.16	0.0535	-10	0.000004	-0.00001	-0.0005	0.000113	0.0008	0.0003	-0.0001
6-Aug-10	57	500	470	7.59	34																																										
13-Aug-10	58	500	465	7.62	35	#N/A	3.9	26.8	-2	-0.5	0.03	17.7	0.035	-0.00002	0.00003	0.00387	-0.00001	-0.000005	-0.05	-0.000005	5.35	-0.0001	0.000019	0.00041	-0.001	0.000008	-0.0005	1.05	0.00405	-0.01	0.00036	#N/A	-0.002	1.27	-0.00004	0.686	-0.000005	0.53	0.0563	-10	-0.000002	-0.00001	-0.0005	0.00013	0.0007	0.0002	-0.0001
20-Aug-10	59	500	510	7.53	39																																										
27-Aug-10	60	500	490	7.63	40	#N/A	2.4	29.2	2	-0.5	0.03	20.3	0.03	-0.00002	-0.00002	0.00466	-0.00001	-0.000005	-0.05	-0.000005	6.13	-0.0001	0.00001	0.00044	0.001	0.000007	-0.0005	1.2	0.00297	-0.01	0.00037	0.00017	-0.002	1.3	0.00005	0.75	-0.000005	0.17	0.066	-10	-0.000002	0.00001	-0.0005	0.000126	0.0005	0.001	-0.0001
3-Sep-10	61	500	500	7.63	37																																										
10-Sep-10	62	500	465	7.34	34	#N/A	3.8	24.1	-2	-0.5	0.03	16.1	0.0319	-0.00002	-0.00002	0.00391	-0.00001	-0.000005	-0.05	-0.000005	4.89	-0.0001	0.000008	0.0002	0.003	0.000012	-0.0005	0.95	0.00263	-0.01	0.0004	0.00019	-0.002	1.27	-0.00004	0.679	-0.000005	0.16	0.0539	-10	-0.000002	0.00006	-0.0005	0.000108	0.0004	0.0002	-0.0001
17-Sep-10	63	500	450	7.30	30																																										
24-Sep-10	64	500	445	7.47	26	#N/A	3.0	23.5	3	-0.5	0.05	15.8	0.0442	-0.00002	0.00003	0.0038	-0.00001	-0.000005	-0.05	-0.000005	4.79	-0.0001	0.000012	0.00056	-0.001	0.000017	-0.0005	0.92	0.00286	-0.01	0.00055	0.00013	-0.002	1.47	0.00005	0.736	-0.000005	0.17	0.0515	-10	-0.000002	0.00002	-0.0005	0.000101	0.0009	0.0003	-0.0001
1-Oct-10	65	500	455	7.48	23																																										
8-Oct-10	66	500	445	7.52	35	#N/A	2.4	26.0	4	-0.5	0.04	15.5	0.0509	-0.00002	0.00014	0.00401	-0.00001	-0.000005	-0.05	-0.000005	4.74	0.0002	0.00001	0.00017	0.001	-0.000005	-0.0005	0.88	0.00257	-0.01	0.00046	0.00019	-0.002	1.31	-0.00004	0.742	-0.000005	0.15	0.054	-10	-0.000002	-0.00001	-0.0005	0.000104	0.0008	0.0003	-0.0001
15-Oct-10	67	500	445	7.41	34																																										
22-Oct-10	68	500	460	7.53	35	#N/A	2.7	26.2	2	-0.5	0.04	18.9	0.0396	-0.00002	-0.00002	0.00408	-0.00001	-0.000005	-0.05	-0.000005	5.94	-0.0001	-0.000005	0.00073	-0.001	0.000046	-0.0005	0.98	0.00248	-0.01	0.00047	0.00013	-0.002	1.35	-0.00004	0.808	-0.000005	0.17	0.0544	-10	0.000003	0.00002	-0.0005	0.000102	0.0007	0.0006	-0.0001
29-Oct-10	69	500	465	7.51	36																																										
5-Nov-10	70	500	460	7.59	39	#N/A	2.1	26.4	-2	-0.5	0.09	16.5	0.0409	-0.00002	0.00003	0.00381	-0.00001	-0.000005	-0.05	-0.000005	5.19	-0.0001	0.000005	0.0007	-0.001	0.000008	-0.0005	0.87	0.0027	-0.01	0.00027	0.00011	-0.002	1.33	-0.00004	0.812	-0.000005	0.15	0.0516	-10	-0.000002	0.00001	-0.0005	0.000095	0.0008	0.0002	-0.0001
12-Nov-10	71	500	495	7.60	29																																										
19-Nov-10	72	500	465	7.80	38	#N/A	3.1	28.5	-2	-0.5	0.05	19.5	0.0299	-0.00002	0.00004	0.00408	-0.00001	-0.000005	-0.05	-0.000005	6.34	-0.0001	0.000018	0.00068	0.002	0.000016	-0.0005	0.88	0.00192	-0.01	0.00019	0.00019	-0.002	1.14	-0.00004	0.807	-0.000005	0.15	0.0545	-10	-0.000002	0.00001	-0.0005	0.00015	0.0006	0.0002	-0.0001
26-Nov-10	73	500	460	7.43	38																																										
3-Dec-10	74	500	455	7.51	35	#N/A	4.3	25.8	-2	-0.5	0.03	17.3	0.034	-0.00002	0.00002	0.00423	-0.00001	-0.000005	-0.05	-0.000005	5.43	-0.0001	-0.000005	0.00014	-0.001	-0.000005	-0.0005	0.91	0.00212	-0.01	0.00029	-0.00002	-0.002	1.29	-0.00004	0.679	-0.000005	0.12	0.0563	-10	-0.000002	-0.00001	0.0008	0.000116	0.0007	-0.0001	-0.0001
10-Dec-10	75	500	450	7.40	33																																										
17-Dec-10	76	500	460	7.62	33	#N/A	4.3	25.8	-2	-0.5	#N/A	16.8	0.0364	-0.00002	0.00006	0.00456	-0.00001	-0.000005	-0.05	0.000008	5.29	-0.0001	0.000007	0.00033	-0.001	0.000041	-0.0005	0.87	0.00195	-0.01	0.00032	0.00014	-0.002	1.13	-0.00004	0.658	-0.000005	0.13	0.0511	-10	0.000002	0.00003	-0.0005	0.00025	0.0007	0.0008	-0.0001
24-Dec-10	77	500	470	7.73	33																																										
31-Dec-10	78	500	475	7.62	32	#N/A	4.8	26.5	-2	-0.5	0.02	17.8	0.0326	-0.00002	-0.00002	0.00433	-0.00001	-0.000005	-0.05	0.000013	5.67	-0.0001	-0.000005	0.00043	-0.001	0.000023	-0.0005	0.88	0.00236	-0.01	0.00032	0.00014	-0.002	1.22	-0.00004	0.694	0.000008	0.12	0.0562	-10	0.000004	0.00001	-0.0005	0.000111	0.0006	0.0003	-0.0001
7-Jan-11	79	500	465	7.57	26																																										
14-Jan-11	80	500	465	7.68	26	#N/A	2.4	24.8	-2	-0.5	0.04	16.5	0.0312	-0.00002	-0.00002	0.00407	-0.00001	-0.000005	-0.05	-0.000005	5.21	-0.0001	-0.000005	0.00022	-0.001	0.000007	-0.0005	0.85	0.002	-0.01	0.0002	0.00002	-0.002	1.16	0.00004	0.57	-0.000005	0.1	0.0517	-10	0.000002	-0.00001	-0.0005	0.000219	0.0004	0.0001	-0.0001
21-Jan-11	81	500	475	7.46	31																																										
28-Jan-11	82	500	445	7.62	25	#N/A	3.9	24.6	3	-0.5	0.05	16.4	0.0307	-0.00002	0.00003	0.00408	-0.00001	-0.000005	-0.05	-0.000005	5.3	-0.0001	-0.000005	0.0006	0.001	-0.000005	-0.0005	0.77	0.00257	-0.01	0.00026	0.00008	-0.002	1.13	-0.00004	0.579	-0.000005	0.12	0.0504	-10	0.000002	0.00001	-0.0005	0.000088	0.0005	-0.0001	-0.0001
4-Feb-11	83	500	450																																												
11-Feb-11	84	500	440																																												
18-Feb-11	85	500	460																																												
25-Feb-11	86	500	445																																												
4-Mar-11	87	500	465																																												
11-Mar-11	88	500	470																																												
18-Mar-11	89	500	475																																												
25-Mar-11	90	500	460																																												
1-Apr-11	91	500	465																																												
8-Apr-11	92	500	495																																												
15-Apr-11	93	500	470																																												
22-Apr-11	94	500	460	7.54	35	#N/A	2.2	24.6	-2	-0.5	0.03	16	0.0382	-0.00002	-0.00002	0.00459	-0.00001	-0.000005	-0.05	0.00001	5.23	-0.0001	-0.000005	0.0004	0.002	0.000011	-0.0005	0.71	0.00162	-0.01	0.00036	0.00009	-0.002	1.15	-0.00004	0.559	-0.000005	0.1	0.0497	-10	-0.000002	-0.00001	-0.0005	0.000079	0.0006	#N/A	-0.0001
29-Apr-11	95	500	460																																												
6-May-11	96	500	455																																												
13-May-11	97	500	440																																												
20-May-11	98	500	485																																												
27-May-11	99	500	460																																												
3-Jun-11	100	500	445																																												
10-Jun-11	101	500	460																																												
17-Jun-11	102	500	460																																												
24-Jun-11	103	500	450																																												
1-Jul-11	104	500	455																																												
8-Jul-11	105	500	460																																												
15-Jul-11	106	500	455	7.70	33	#N/A	5.2	25.1	-2	-0.5	#N/A	15.7	0.0329	-0.00002	0.00007	0.00382	-0.00001	-0.000005	-0.05	-0.000005	5.27	-0.0001	0.000005	0.00052	-0.001	0.000016	-0.0005	0.61	0.00153	-0.01	0.00024	0.00019	-0.002	1.03	-0.00004	0.556	-0.000005	0.11	0.0469	-10	-0.000002	0.00011	-0.0005	0.000073	0.0004	0.0003	-0.0001
22-Jul-11	107	500	465																																												
29-Jul-11	108	500	475																																												
5-Aug-11	109	500	460																																												

HC 2

CONFIDENTIAL *DRAFT*

Sample = Hole 196 53.94-55.44

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L	P mg/L	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L
12-Aug-11	110	500	490																																												
19-Aug-11	111	500	465																																												
26-Aug-11	112	500	475																																												
2-Sep-11	113	500	490																																												
9-Sep-11	114	500	485																																												
16-Sep-11	115	500	475																																												
23-Sep-11	116	500	465																																												
30-Sep-11	117	500	480																																												
7-Oct-11	118	500	490	7.58	38	#N/A	4.9	25.2	-2	-0.5	0.02	18.7	0.0393	-0.00002	0.00002	0.00478	-0.00001	-0.000005	-0.05	-0.000005	6.31	-0.0001	-0.000005	0.00018	0.001	0.000008	-0.0005	0.71	0.00035	-0.01	0.00022	0.00003	-0.002	1.22	-0.00004	0.586	-0.000005	0.08	0.0527	-10	0.000002	0.00017	-0.0005	0.000084	0.0005	0.0002	-0.0001
14-Oct-11	119	500	485																																												
21-Oct-11	120	500	495																																												
28-Oct-11	121	500	485																																												
4-Nov-11	122	500	490																																												
11-Nov-11	123	500	480																																												
18-Nov-11	124	500	490																																												
25-Nov-11	125	500	480																																												
2-Dec-11	126	500	475																																												
9-Dec-11	127	500	480																																												
16-Dec-11	128	500	495																																												
23-Dec-11	129	500	480																																												
30-Dec-11	130	500	495	7.76	40	#N/A	4.5	31.5	2	-0.5	0.019	22.1	0.0358	-0.00002	0.0001	0.00647	-0.00001	-0.000005	-0.05	-0.000005	7.7	-0.0001	-0.000005	0.00021	0.002	0.000012	-0.0005	0.7	0.00098	-0.01	0.00021	-0.00002	0.003	1.34	-0.00004	0.59	-0.000005	0.07	0.0573	-10	0.000003	0.0001	-0.0005	0.000089	0.0004	0.0001	-0.0001
6-Jan-12	131	500	490																																												
13-Jan-12	132	500	480																																												
20-Jan-12	133	500	495																																												
27-Jan-12	134	500	485																																												
3-Feb-12	135	500	485																																												
10-Feb-12	136	500	490																																												
17-Feb-12	137	500	485																																												
24-Feb-12	138	500	480																																												
2-Mar-12	139	500	485																																												
9-Mar-12	140	500	475																																												
16-Mar-12	141	500	485																																												
23-Mar-12	142	500	485	7.76	40	#N/A	5.4	28.0	-2	-0.5	0.019	17.1	0.0285	-0.00002	-0.00002	0.00493	-0.00001	-0.000005	-0.05	-0.000005	5.95	-0.0001	-0.000005	0.00084	0.002	-0.000005	-0.0005	0.55	0.00081	-0.01	0.00014	0.0001	-0.002	1.1	-0.00004	0.426	-0.000005	0.13	0.0465	-10	-0.000002	-0.0002	-0.0005	0.000066	0.0003	0.0004	-0.0001
30-Mar-12	143	500	485																																												
6-Apr-12	144	500	485																																												
13-Apr-12	145	500	490																																												
20-Apr-12	146	500	470																																												
27-Apr-12	147	500	460																																												
4-May-12	148	500	450																																												
11-May-12	149	500	470																																												
18-May-12	150	500	450																																												
25-May-12	151	500	455																																												
1-Jun-12	152	500	465																																												
8-Jun-12	153	500	470																																												
15-Jun-12	154	500	475	7.55	43	#N/A	3.1	28.4	4	-0.5	0.017	17.5	0.034	-0.00002	0.000028	0.00494	-0.00001	-0.000005	-0.05	-0.000005	6.2	-0.0001	-0.000005	0.00021	-0.001	-0.000005	-0.0005	0.495	0.00059	-0.01	0.000166	-0.00002	-0.002	1.14	-0.00004	0.521	-0.000005	0.092	0.048	-10	-0.000002	-0.0002	-0.0005	0.0000657	0.00036	0.00013	-0.0001
22-Jun-12	155	500	455																																												
29-Jun-12	156	500	470																																												
6-Jul-12	157	500	460																																												
13-Jul-12	158	500	460																																												
20-Jul-12	159	500	475																																												
27-Jul-12	160	500	455																																												
3-Aug-12	161	500	460																																												
10-Aug-12	162	500	470																																												
17-Aug-12	163	500	455																																												
24-Aug-12	164	500	445																																												
31-Aug-12	165	500	470																																												
7-Sep-12	166	500	450	7.52	32	#N/A	4.1	23.9	4	-0.5	0.014	15.6	0.0341	-0.00002	0.000037	0.00484	-0.00001	-0.000005	-0.05	0.000006	5.55	-0.0001	0.000006	0.00065	0.0018	0.000023	-0.0005	0.427	0.00092	-0.01	0.000128	0.000089	-0.002	1.06	-0.00004	0.42	-0.000005	0.124	0.0389	-10	0.000002	-0.0002	-0.0005	0.00005	0.00032	0.00062	-0.0001
14-Sep-12	167	500	500																																												
21-Sep-12	168	500	440																																												
28-Sep-12	169	500	445																																												
5-Oct-12	170	500	465																																												
12-Oct-12	171	500	465																																												
19-Oct-12	172	500	445																																												
26-Oct-12	173	500	4455																																												
2-Nov-12	174	500	455																																												
9-Nov-12	175	500	445																																												
16-Nov-12	176	500	450																																												
23-Nov-12	177	500	490																																												
30-Nov-12	178	500	495	7.59	40	#N/A	3.9	28.6	3	-0.5	0.017	18.6	0.0303	-0.00002	0.00004	0.00545	-0.00001	-0.000005	-0.05	-0.000005	6.7	-0.0001	0.000006	0.00033	0.0012	0.00001	-0.0005	0.456	0.00049	-0.01	0.000406	-0.00002	-0.002	1.05	-0.00004	0.445	-0.000005	0.059	0.0454	-3	0.000002	0.00022	-0.0005	0.00007	0.00023	0.00072	-0.0001
7-Dec-12	179	500	485																																												
14-Dec-12	180	500	500																																												
21-Dec-12	181	500	465																																												
28-Dec-12	182	500	435																																												
4-Jan-13	183	500	445																																												
11-Jan-13	184	500	445																																												
18-Jan-13	185	500	465																																												
25-Jan-13	186	500	460																																												
1-Feb-13	187	500	465																																												
8-Feb-13	188	500	455																																												
15-Feb-13	189	500	455																																												
22-Feb-13	190	500	435	7.71	32	#N/A	5.5	27.5	4	0.58	0.014	14.8	0.0516	-0.00002	0.000078	0.00438	-0.00001	-0.000005	-0.05	-0.000005	5.33	-0.0001	-0.000005	0.00057	0.0045	0.000008	-0.0005	0.36	0.00147	-0.01	0.000144	0.000064	-0.002	1.1	5.6E-05	0.389	-0.000005	0.111	0.0361	-3	0.000003	-0.0002	-0.0005	0.000046	0.0003	0.00014	-0.0001
1-Mar-13	191	500	440																																												
8-Mar-13	192	500	465																																												
15-Mar-13	193	500	440																																												
22-Mar-13	194	500	425																																												
29-Mar-13	195	500	440																																												
5-Apr-13	196	500	430																																												
12-Apr-13	197	500	455																																												
19-Apr-13	198	500	475																																												
26-Apr-13	199	500	400																																												
3-May-13	200	500	435																																												
10-May-13	201	500	405																																												
17-May-13	202	500	435	7.81	32	#N/A	8.0	23.6	4	-0.5	0.016	13.7	0.0343	-0.00002	0.000031	0.00399	-0.00001	-0.000005	-0.05	-0.000005	4.92	-0.0001	-0.000005	0.00019	0.0024	-0.000005	-0.0005	0.329	0.00137	-0.01	0.000076	0.000058	-0.002	1.11	-0.00004	0.344	-0.000005	0.08	0.0323	-3	0.000002	-0.0002	-0.0005	0.000048	0.00025	0.00033	-0.0001
24-May-13	203	500	450																																												

Aug 13/10 Ni 0.00072. Sample discarded cannot repeat.
Oct 22/10 Sb 0.00031. Repeat = -0.00002.
Dec 17/10 F 0.48. Repeat = 0.55. Suspect sample mix-up with HC 1.
Feb 4/11 Change in analytical schedule.
April 22/11 Zn 0.0007. Repeat =0.0007 data confirmed suspect contamination
Jul 15, 2011 F=0.18, cannot repeat suspect contamination or analytical error

HC 3

CONFIDENTIAL *DRAFT*

Sample = Hole 196 45.64-47.14

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L
3-Jul-09	0	750	365	7.65	130	#N/A	2.1	37.4	2	2.2	0.4	43.5	0.108	0.00005	0.00032	0.0345	-0.00001	-0.000005	-0.05	-0.000005	12.4	-0.0001	0.000022	0.0276
10-Jul-09	1	500	450	7.67	66																			
17-Jul-09	2	500	415	7.66	41	#N/A	1.9	24.2	2	0.8	0.44	15.9	0.105	0.00006	0.00044	0.0101	-0.00001	-0.000005	-0.05	0.000015	4.46	-0.0001	0.000014	0.00381
24-Jul-09	3	500	435	7.59	38																			
31-Jul-09	4	500	455	7.64	39	#N/A	2.0	25.7	-2	-0.5	0.34	17.1	0.0679	0.00006	0.00037	0.0106	-0.00001	-0.000005	-0.05	-0.000005	4.92	-0.0001	0.000008	0.00211
7-Aug-09	5	500	430	7.53	32																			
14-Aug-09	6	500	430	7.52	38	#N/A	2.3	24.5	-2	0.9	0.26	17.9	0.0655	0.00005	0.0005	0.0123	-0.00001	-0.000005	-0.05	-0.000005	5.19	-0.0001	0.000013	0.00243
21-Aug-09	7	500	460	7.67	39																			
28-Aug-09	8	500	450	7.63	38	#N/A	2.1	24.8	3	0.7	0.24	18.2	0.0885	0.00006	0.00051	0.0134	-0.00001	-0.000005	-0.05	-0.000005	5.11	-0.0001	0.000012	0.00224
4-Sep-09	9	500	440	7.48	33																			
11-Sep-09	10	500	390	7.52	31	#N/A	1.9	22.4	-2	-0.5	0.22	14.3	0.138	-0.00002	0.00054	0.0106	-0.00001	-0.000005	-0.05	-0.000005	3.95	-0.0001	0.000019	0.00277
18-Sep-09	11	500	435	7.67	42																			
25-Sep-09	12	500	505	7.60	53	#N/A	2.5	32.3	-2	0.5	0.17	22.6	0.0741	0.00005	0.00049	0.0178	-0.00001	-0.000005	-0.05	0.000006	6.5	-0.0001	0.000012	0.00216
2-Oct-09	13	500	410	7.49	37																			
9-Oct-09	14	500	420	7.53	37	#N/A	3.8	26.3	2	-0.5	0.14	18.2	0.121	0.00004	0.00056	0.0149	-0.00001	-0.000005	-0.05	-0.000005	5.12	-0.0001	0.00001	0.00282
16-Oct-09	15	500	380	7.42	41																			
23-Oct-09	16	500	450	7.56	42	#N/A	2.8	29.7	-2	-0.5	0.1	21.5	0.081	0.00003	0.00044	0.0165	-0.00001	-0.000005	-0.05	-0.000005	6.05	0.0001	0.000011	0.00287
30-Oct-09	17	500	435	7.62	39																			
6-Nov-09	18	500	450	7.69	38	#N/A	3.7	26.8	-2	-0.5	0.08	19.4	0.079	0.00002	0.00038	0.0152	-0.00001	-0.000005	-0.05	0.000005	5.44	-0.0001	0.000008	0.00162
13-Nov-09	19	500	465	7.55	37																			
20-Nov-09	20	500	445	7.67	38	#N/A	4.0	25.6	-2	-0.5	0.08	17.4	0.0777	0.00003	0.00036	0.0141	-0.00001	-0.000005	-0.05	0.000007	4.94	-0.0001	0.00001	0.00157
27-Nov-09	21	500	445	7.57	40																			
4-Dec-09	22	500	465	7.56	41	#N/A	3.2	27.9	-2	-0.5	0.06	20.2	0.0698	-0.00002	0.0003	0.0162	-0.00001	-0.000005	-0.05	-0.000005	5.91	-0.0001	0.000008	0.00144
11-Dec-09	23	500	470	7.80	40																			
18-Dec-09	24	500	465	7.32	38	#N/A	4.7	24.8	-2	-0.5	0.04	17.7	0.0816	0.00002	0.00036	0.0153	-0.00001	-0.000005	-0.05	-0.000005	5.12	-0.0001	0.000006	0.00143
25-Dec-09	25	500	465	7.52	33																			
1-Jan-10	26	500	475	7.75	39	#N/A	2.1	26.8	-2	0.5	0.04	18.9	0.0702	-0.00002	0.00027	0.0158	-0.00001	-0.000005	-0.05	-0.000005	5.64	-0.0001	0.000007	0.00162
8-Jan-10	27	500	465	7.54	37																			
15-Jan-10	28	500	455	7.59	37	#N/A	5.2	26.0	-2	-0.5	0.04	18.1	0.0776	-0.00002	0.00035	0.015	-0.00001	-0.000005	-0.05	-0.000005	5.35	-0.0001	-0.000005	0.00205
22-Jan-10	29	500	500	7.42	32																			
29-Jan-10	30	500	460	7.32	28	#N/A	4.5	25.0	-2	-0.5	0.04	17.9	0.0962	0.00002	0.00031	0.0153	-0.00001	-0.000005	-0.05	-0.000005	5.38	0.0002	0.000018	0.00238
5-Feb-10	31	500	470	7.16	25																			
12-Feb-10	32	500	445	7.33	33	#N/A	2.6	23.7	-2	-0.5	0.04	17.4	0.0673	0.00002	0.00028	0.0154	-0.00001	-0.000005	-0.05	-0.000005	5.25	-0.0001	0.000007	0.00128
19-Feb-10	33	500	400	7.40	29																			
26-Feb-10	34	500	415	7.39	25	#N/A	2.7	17.3	-2	-0.5	0.04	13.8	0.12	-0.00002	0.00032	0.0128	-0.00001	-0.000005	-0.05	-0.000005	4.1	-0.0001	0.000011	0.00212
5-Mar-10	35	500	490	7.26	33																			
12-Mar-10	36	500	415	7.39	30	#N/A	3.8	21.2	2	-0.5	0.04	13.6	0.094	-0.00002	0.00031	0.013	-0.00001	0.00001	-0.05	-0.000005	4.09	0.0002	0.000016	0.00175
19-Mar-10	37	500	445	7.41	30																			
26-Mar-10	38	500	475	7.46	29	#N/A	3.2	22.1	-2	-0.5	0.03	14.5	0.0626	-0.00002	0.00023	0.013	-0.00001	-0.000005	-0.05	-0.000005	4.4	0.0002	0.000005	0.00126
2-Apr-10	39	500	425	7.37	23																			
9-Apr-10	40	500	425	7.36	28	#N/A	2.9	18.2	3	-0.5	0.03	13.9	0.0708	-0.00002	0.00028	0.0118	-0.00001	-0.000005	-0.05	-0.000005	4.26	-0.0001	0.000015	0.00147
16-Apr-10	41	500	440	7.37	32																			
23-Apr-10	42	500	440	7.39	33	#N/A	5.1	24.1	2	-0.5	0.04	15.4	0.0636	-0.00002	0.00029	0.0141	-0.00001	-0.000005	-0.05	-0.000005	4.72	-0.0001	-0.000005	0.00098
30-Apr-10	43	500	460	7.48	36																			
7-May-10	44	500	430	7.37	31	#N/A	4.3	22.3	-2	-0.5	0.03	14.8	0.0789	-0.00002	0.00025	0.0128	-0.00001	-0.000005	-0.05	-0.000005	4.63	-0.0001	0.000009	0.00188
14-May-10	45	500	450	7.46	27																			
21-May-10	46	500	400	7.53	24	#N/A	2.8	16.5	-2	-0.5	0.03	12.4	#N/A	-0.00002	0.0003	0.0151	-0.00001	-0.000005	-0.05	-0.000005	3.83	-0.0001	0.000034	#N/A
28-May-10	47	500	410	7.40	27																			
4-Jun-10	48	500	435	7.44	30	#N/A	3.6	22.5	-2	-0.5	0.03	13.3	0.0872	-0.00002	0.00032	0.0116	-0.00001	-0.000005	-0.05	-0.000005	4.05	-0.0001	0.000009	0.00207
11-Jun-10	49	500	440	7.48	31																			
18-Jun-10	50	500	455	7.50	27	#N/A	3.9	20.8	2	-0.5	0.02	13.8	0.0704	-0.00002	0.00024	0.0123	-0.00001	-0.000005	-0.05	-0.000005	4.25	-0.0001	0.000007	0.00103
25-Jun-10	51	500	455	7.55	28																			
2-Jul-10	52	500	445	7.54	27	#N/A	2.4	20.7	-2	-0.5	0.02	14.2	0.101	-0.00002	0.00022	0.0128	-0.00001	-0.000005	-0.05	-0.000005	4.38	-0.0001	0.00001	0.00176
9-Jul-10	53	500	450	7.32	26																			
16-Jul-10	54	500	440	7.49	28	#N/A	3.2	20.8	4	-0.5	0.02	14.3	0.0565	-0.00002	0.0002	0.0123	-0.00001	-0.000005	-0.05	-0.000005	4.59	-0.0001	0.00001	0.00148
23-Jul-10	55	500	450	7.20	29																			
30-Jul-10	56	500	460	7.22	26	#N/A	3.6	17.5	4	-0.5	0.02	12.9	0.058	-0.00002	0.00023	0.0121	-0.00001	-0.000005	-0.05	-0.000005	4.04	-0.0001	0.000008	0.00106
6-Aug-10	57	500	455	7.52	30																			
13-Aug-10	58	500	465	7.53	30	#N/A	3.6	22.0	3	-0.5	0.03	14.5	0.0594	-0.00002	0.00017	0.0134	-0.00001	-0.000005	-0.05	-0.000005	4.56	-0.0001	0.000008	0.00148
20-Aug-10	59	500	465	7.43	24																			
27-Aug-10	60	500	475	7.50	28	#N/A	2.3	22.7	3	-0.5	0.02	13.4	0.0641	-0.00002	0.00021	0.0127	-0.00001	-0.000005	-0.05	-0.000005	4.18	0.0002	0.000007	0.00103
3-Sep-10	61	500	485	7.50	27																			
10-Sep-10	62	500	465	7.31	34	#N/A	3.7	24.6	-2	-0.5	0.03	15.6	0.0552	-0.00002	0.00014	0.014	-0.00001	-0.000005	-0.05	-0.000005	4.94	0.0002	0.000025	0.0016
17-Sep-10	63	500	465	7.20	26																			
24-Sep-10	64	500	455	7.39	22	#N/A	3.1	21.6	4	-0.5	0.03	13.5	0.0681	-0.00002	0.0002	0.0128	-0.00001	-0.000005	-0.05	0.000009	4.35	-0.0001	0.000009	0.00163
1-Oct-10	65	500	465	7.41	22																			
8-Oct-10	66	500	455	7.42	29	#N/A	2.3	22.0	4	-0.5	0.03	13.5	0.0753	-0.00002	0.00017	0.0128	-0.00001	-0.000005	-0.05	-0.000005	4.39	0.0001	-0.000005	0.00068
15-Oct-10	67	500	470	7.35	31																			
22-Oct-10	68	500	470	7.43	29	#N/A	3.1	23.2	2	-0.5	0.03	15.1	0.0592	-0.00002	0.00017	0.0131	-0.00001	-0.000005	-0.05	-0.000005	5	-0.0001	-0.000005	0.00151
29-Oct-10	69	500	455	7.39	28																			
5-Nov-10	70	500	430	7.42	11	#N/A	2.2	15.2	-2	-0.5	0.03	10.4	#N/A	-0.00002	0.00022	0.0119	-0.00001	-0.000005	-0.05	-0.000005	3.36	-0.0001	0.000018	0.00388
12-Nov-10	71	500	460	7.53	23																			
19-Nov-10	72	500	455	7.63	30	#N/A	3.0	23.5	-2	-0.5	0.02	13	0.0556	-0.00002	0.00015	0.0121	-0.00001	-0.000005	-0.05	-0.000005	4.22	0.0003	-0.000005	0.00066
26-Nov-10	73	500	460	7.35	31																			
3-Dec-10	74	500	470	7.40	29	#N/A	4.0	22.3	-2	-0.5	0.07	13.6	0.0602	-0.00002	0.00014	0.0132	-0.00001	-0.000005	-0.05	0.000007	4.47	-0.0001	0.000005	0.00083
10-Dec-10	75	500	465	7.36	29																			
17-Dec-10	76	500	465	7.55	28	#N/A	4.1	22.3	2	-0.5	0.03	13.7	0.0685	-0.00002	0.00015	0.0133	-0.00001	-0.000005	-0.05	-0.000005	4.54	0.0001	0.000006	0.00132
24-Dec-10	77	500	465	7.60	30																			
31-Dec-10	78	500	470	7.52	29	#N/A	4.5	24.8	-2	-0.5	0.03	14.7	0.0761	-0.00002	0.00018	0.0149	-0.00001	-0.000005	-0.05	-0.000005	4.88	-0.0001	0.000008	0.00118
7-Jan-11	79	500	485	7.51	24																			
14-Jan-11	80	500	475	7.67	25	#N/A	2.5	23.9	-2	-0.5	0.03	14.5	0.0653	-0.00002	0.00016	0.0148	-0.00001	-0.000005	-0.05	-0.000005	4.85	-0.0001	-0.000005	0.00147
21-Jan-11	81	500	475	7.40	26																			
28-Jan-11	82	500	450	7.50	19	#N/A	3.8	20.9	3	0.5	0.03	12.6	0.0677	-0.00002	0.00016	0.0126	-0.00001	-0.000005	-0.05	-0.000005	4.29	-0.0001	0.000007	0.00074
4-Feb-11	83	500	455																					
11-Feb-11	84	500	435																					
18-Feb-11	85	500	450																					
25-Feb-11	86	500	455																					
4-Mar-11	87	500	460																					
11-Mar-11	88	500	465																					
18-Mar-11	89	500	495																					
25-Mar-11	90	500	465																					
1-Apr-11	91	500	500																					
8-Apr-11	92	500	455																					
15-Apr-11	93	500	465																					
22-Apr-11	94	500	460	7.41	25	#N/A	2.1	16.8	-2	#N/A	0.02	10.9	0.0631	-0.00002	0.00013	0.0115	-0.00001	-0.000005	-0.05	0.000005	3.78	-0.0001	-0.000005	0.00087
29-Apr-11	95	500	455																					
6-May-11	96	500	460																					
13-May-11	97	500	445																					
20-May-11	98	500	485																					
27-May-11	99	500	450																					
3-Jun-11	100	500	455																					
10-Jun-11	101	500	465																					
17-Jun-11	102	500	455																					
24-Jun-11	103	500	520																					
1-Jul-11	104	500	455																					
8-Jul-11	105	500	465																					
15-Jul-11	106	500	460	7.64	27	#N/A	5.4	20.4	-2	-0.5	#N/A	12	0.0991	-0.00002	0.00013	0.0126	-0.00001	-0.000005	-0.05	0.000006	4.27	-0.0001	0.000017	0.00149
22-Jul-11	107	500	470																					
29-Jul-11	108	500	475																					
5-Aug-11	109	500	480																					
12-Aug-11	110	500	485																					
19-Aug-11	111	500	480																					

Date	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L	P mg/L	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L
3-Jul-09	0.003	0.000047	0.0019	3.04	0.0257	-0.01	0.0163	0.00063	0.006	4.39	0.00017	1.26	-0.000005	5.13	0.129	-3	0.000005	0.00023	-0.0005	0.000013	0.0005	0.0005	-0.0001
17-Jul-09	0.019	0.00004	0.0006	1.15	0.0136	-0.01	0.033	-0.00002	0.003	2.41	0.00031	1.51	-0.000005	2.98	0.0463	-3	-0.000002	0.00008	0.0005	0.000121	0.0011	0.0007	-0.0001
31-Jul-09	0.007	0.000114	0.0005	1.18	0.0133	-0.01	0.0161	0.00006	0.006	2.31	0.00016	1.62	-0.000005	1.99	0.0489	-3	-0.000002	0.00006	-0.0005	0.000152	0.0011	0.0005	-0.0001
14-Aug-09	0.006	0.000016	0.0007	1.19	0.0134	-0.01	0.00875	0.00006	0.002	2.31	0.00011	1.59	-0.000005	1.39	0.0526	-3	-0.000002	0.00016	-0.0005	0.000151	0.0008	0.0004	-0.0001
28-Aug-09	0.008	0.000016	-0.0005	1.32	0.0114	-0.01	0.00506	0.00004	-0.002	2.33	0.00015	1.91	-0.000005	1	0.0541	-3	0.000002	0.00006	-0.0005	0.00016	0.0011	0.0002	-0.0001
11-Sep-09	0.027	0.000032	-0.0005	1.07	0.0074	-0.01	0.00305	0.00006	0.003	2.09	0.00011	1.78	-0.000005	0.74	0.0432	-3	0.000002	0.00008	0.0013	0.000107	0.0013	0.0004	-0.0001
25-Sep-09	0.008	0.000197	0.0006	1.53	0.00907	0.02	0.00296	0.0001	-0.002	2.55	0.00014	2.02	-0.000005	0.56	0.0647	-3	0.000003	0.00002	-0.0005	0.000191	0.0012	0.0005	-0.0001
9-Oct-09	0.017	0.000049	0.0006	1.31	0.00734	-0.01	0.00215	-0.00002	0.004	2.49	0.00009	2.14	-0.000005	0.52	0.0559	-3	-0.000002	0.00003	0.0009	0.000155	0.0014	0.0008	-0.0001
23-Oct-09	0.013	0.000042	0.0006	1.55	0.00836	-0.01	0.00184	0.00028	0.003	2.29	0.00011	1.77	0.000017	0.41	0.0648	-3	-0.000002	0.0001	0.0005	0.000203	0.0012	0.0008	-0.0001
6-Nov-09	0.008	0.000014	-0.0005	1.41	0.00683	-0.01	0.00141	0.00011	0.003	2.18	0.00008	1.68	-0.000005	0.33	0.0595	-3	-0.000002	0.00002	0.0006	0.000164	0.0013	0.0005	-0.0001
20-Nov-09	0.01	0.000041	-0.0005	1.24	0.00654	-0.01	0.00113	0.00008	0.005	2.03	0.00007	1.49	-0.000005	0.29	0.0535	-3	-0.000002	0.00002	0.0006	0.000126	0.0011	0.0006	-0.0001
4-Dec-09	0.011	0.000016	-0.0005	1.33	0.00731	-0.01	0.00103	0.00012	0.002	2.08	0.00005	1.45	-0.000005	0.24	0.0605	-3	-0.000002	0.00023	-0.0005	0.000133	0.001	0.0003	-0.0001
18-Dec-09	0.009	0.000009	-0.0005	1.19	0.00633	-0.01	0.00091	0.00005	-0.002	1.86	0.00006	1.49	-0.000005	0.24	0.0555	-3	-0.000002	0.00002	-0.0005	0.000118	0.0008	-0.0001	-0.0001
1-Jan-10	0.009	0.000055	-0.0005	1.18	0.00684	-0.01	0.00078	-0.00002	-0.002	1.79	0.00005	1.38	-0.000005	0.19	0.0551	-3	-0.000002	-0.00001	-0.0005	0.000123	0.0008	0.0004	-0.0001
15-Jan-10	0.007	0.000062	-0.0005	1.16	0.00656	-0.01	0.00087	-0.00002	-0.002	1.9	0.00006	1.52	-0.000005	0.2	0.0529	-3	-0.000002	0.00002	0.0005	0.000121	0.0008	0.0008	-0.0001
29-Jan-10	0.02	0.000083	-0.0005	1.08	0.00641	0.01	0.00073	0.00011	0.004	1.68	0.00005	1.33	0.000011	0.23	0.054	-3	0.000002	0.00021	0.0011	0.000149	0.001	0.0005	-0.0001
12-Feb-10	0.004	0.000013	-0.0005	1.05	0.00624	-0.01	0.00062	0.00014	-0.002	1.82	0.00005	1.29	-0.000005	0.21	0.0501	-3	-0.000002	-0.00001	-0.0005	0.000125	0.0007	0.0004	-0.0001
26-Feb-10	0.019	0.000019	-0.0005	0.86	0.0049	-0.01	0.00069	0.00034	-0.002	1.83	0.00007	1.39	-0.000005	0.23	0.0404	-3	-0.000002	0.00005	0.0011	0.000082	0.001	0.0027	-0.0001
12-Mar-10	0.016	0.000043	-0.0005	0.82	0.00475	-0.01	0.00058	0.00028	-0.002	1.6	0.00005	1.2	-0.000005	0.19	0.0431	-10	-0.000002	0.00002	0.0007	0.000087	0.0008	0.0018	-0.0001
26-Mar-10	0.006	0.000016	-0.0005	0.85	0.00464	-0.01	0.00057	0.00015	-0.002	1.55	0.00004	1.01	-0.000005	0.2	0.043	-2	-0.000002	-0.00001	-0.0005	0.000071	0.0007	0.0004	-0.0001
9-Apr-10	0.008	0.000014	-0.0005	0.8	0.00489	-0.01	0.00052	0.00014	0.004	1.67	-0.00004	1.14	-0.000005	0.19	0.0393	-10	-0.000002	0.00002	0.0006	0.000076	0.0008	0.0005	-0.0001
23-Apr-10	0.01	0.000011	-0.0005	0.89	0.00464	-0.01	0.00052	0.00011	-0.002	1.81	0.00005	1.35	-0.000005	0.26	0.0463	-10	-0.000002	-0.00001	-0.0005	0.000019	0.0004	0.0007	-0.0001
7-May-10	0.009	0.000013	-0.0005	0.8	0.00446	-0.01	0.00056	0.00013	-0.002	1.7	-0.00004	1.29	-0.000005	0.18	0.0414	-10	-0.000002	0.00002	-0.0005	0.000064	0.0008	0.0004	-0.0001
21-May-10	#N/A	0.000072	-0.0005	0.7	0.0057	-0.01	0.00046	0.00017	-0.002	1.69	0.00005	1.48	-0.000005	0.25	0.0361	-10	-0.000002	0.00004	0.0027	0.000057	0.001	0.0008	-0.0001
4-Jun-10	0.015	0.00002	-0.0005	0.78	0.00376	-0.01	0.00065	0.00013	-0.002	1.65	0.00005	1.34	-0.000005	0.25	0.0395	-10	-0.000002	0.00004	0.0006	0.000068	0.001	0.0006	-0.0001
18-Jun-10	0.004	0.000014	-0.0005	0.78	0.00351	-0.01	0.00052	0.00012	-0.002	1.71	-0.00004	1.25	-0.000005	0.2	0.0382	-10	-0.000002	0.00001	-0.0005	0.000062	0.0008	0.0001	-0.0001
2-Jul-10	0.014	0.000013	-0.0005	0.78	0.004	-0.01	0.00052	-0.00002	-0.002	1.53	0.00005	1.24	-0.000005	0.2	0.0403	-10	-0.000002	0.00008	0.0008	0.00006	0.0006	0.0002	-0.0001
16-Jul-10	0.004	0.000013	-0.0005	0.68	0.00349	-0.01	0.00049	0.00011	-0.002	1.38	0.00005	1.14	-0.000005	0.18	0.0415	-10	-0.000002	0.00003	-0.0005	0.000068	0.0007	0.0001	-0.0001
30-Jul-10	0.003	0.00001	-0.0005	0.67	0.00332	-0.01	0.00044	0.00012	-0.002	1.25	-0.00004	1.1	-0.000005	0.16	0.0377	-10	0.000003	-0.00001	-0.0005	0.000053	0.0007	0.0002	-0.0001
13-Aug-10	0.003	0.000008	-0.0005	0.74	0.00373	-0.01	0.00041	0.00023	-0.002	1.45	-0.00004	1.01	-0.000005	0.18	0.0421	-10	-0.000002	-0.00001	-0.0005	0.000064	0.0007	0.0002	-0.0001
27-Aug-10	0.003	0.000062	-0.0005	0.73	0.00372	-0.01	0.00042	0.00013	-0.002	1.48	0.00005	0.944	-0.000005	0.19	0.0406	-10	-0.000002	-0.00001	-0.0005	0.000053	0.0006	0.0004	-0.0001
10-Sep-10	0.005	-0.000005	-0.0005	0.79	0.00414	-0.01	0.00037	0.00022	-0.002	1.53	-0.00004	0.961	-0.000005	0.17	0.0449	-10	-0.000002	0.00002	-0.0005	0.000069	0.0003	0.0003	-0.0001
24-Sep-10	0.002	0.000065	-0.0005	0.63	0.00285	-0.01	0.00041	0.00017	-0.002	1.49	0.00005	1.09	-0.000005	0.19	0.0381	-10	0.000002	-0.00001	-0.0005	0.000061	0.0008	0.0002	-0.0001
8-Oct-10	0.003	-0.000005	-0.0005	0.61	0.00268	-0.01	0.00043	0.00014	0.003	1.48	-0.00004	1.13	-0.000005	0.16	0.0392	-10	-0.000002	-0.00001	-0.0005	0.000054	0.0007	0.0002	-0.0001
22-Oct-10	0.001	0.000028	-0.0005	0.64	0.00287	-0.01	0.0004	0.00012	-0.002	1.45	-0.00004	1.04	-0.000005	0.16	0.0395	-10	0.000002	-0.00001	-0.0005	0.000052	0.0005	0.0008	-0.0001
5-Nov-10	#N/A	0.000044	-0.0005	0.48	0.00312	-0.01	0.00039	0.00013	-0.002	1.49	0.00004	1.31	0.000007	0.21	0.0296	-10	0.000002	0.00002	0.0018	0.00008	0.0008	0.0003	-0.0001
19-Nov-10	0.003	0.00001	-0.0005	0.58	0.00191	-0.01	0.0003	0.00016	-0.002	1.43	-0.00004	0.876	-0.000005	0.17	0.038	-10	-0.000002	-0.00001	-0.0005	0.000046	0.0005	-0.0001	-0.0001
3-Dec-10	0.004	0.000126	-0.0005	0.6	0.00272	-0.01	0.0003	-0.00002	-0.002	1.46	-0.00004	0.953	-0.000005	0.13	0.0401	-10	-0.000002	-0.00001	0.0009	0.000065	0.0006	0.0003	-0.0001
17-Dec-10	0.006	0.000044	-0.0005	0.56	0.00217	-0.01	0.00034	0.00012	-0.002	1.37	-0.00004	0.928	-0.000005	0.16	0.0361	-10	0.000002	-0.00001	-0.0005	0.000042	0.0006	0.0001	-0.0001
31-Dec-10	0.005	0.00003	-0.0005	0.6	0.00231	-0.01	0.00035	0.00015	-0.002	1.59	-0.00004	0.981	0.000007	0.14	0.0425	-10	0.000003	0.00002	0.0006	0.000068	0.0007	0.0002	-0.0001
14-Jan-11	0.003	0.000008	-0.0005	0.57	0.00316	-0.01	0.00025	0.00024	-0.002	1.43	-0.00004	0.834	-0.000005	0.17	0.0414	-10	-0.000002	-0.00001	-0.0005	0.000111	0.0006	0.0003	-0.0001
28-Jan-11	0.004	0.000006	-0.0005	0.46	0.00248	-0.01	0.00028	0.00009	-0.002	1.37	-0.00004	0.887	-0.000005	0.12	0.0346	-10	0.000002	-0.00001	-0.0005	0.000034	0.0005	-0.0001	-0.0001
22-Apr-11	0.004	0.000043	-0.0005	0.35	0.0016	-0.01	0.00034	0.00011	-0.002	1.2	-0.00004	0.753	-0.000005	0.1	0.0295	-10	-0.000002	0.00001	-0.0005	0.000033	0.0004	#N/A	-0.0001
15-Jul-11	0.007	0.000017	-0.0005	0.32	0.00137	-0.01	0.00026	0.00021	-0.002	1.22	-0.00004	0.865	-0.000005	0.14	0.0331	-10	0.000002	0.00006	-0.0005	0.000029	0.0005	0.0004	-0.0001

HC 3

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Sample = Hole 196 45.64-47.14

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L
26-Aug-11	112	500	475																	
2-Sep-11	113	500	480																	
9-Sep-11	114	500	490																	
16-Sep-11	115	500	490																	
23-Sep-11	116	500	485																	
30-Sep-11	117	500	490																	
7-Oct-11	118	500	485	7.51	28	#N/A	4.6	20.2	-2	-0.5	0.02	13.5	0.105	-0.00002	0.00024	0.014	-0.00001	-0.000005	-0.05	-0.000005
14-Oct-11	119	500	495																	
21-Oct-11	120	500	480																	
28-Oct-11	121	500	480																	
4-Nov-11	122	500	490																	
11-Nov-11	123	500	485																	
18-Nov-11	124	500	485																	
25-Nov-11	125	500	480																	
2-Dec-11	126	500	480																	
9-Dec-11	127	500	490																	
16-Dec-11	128	500	505																	
23-Dec-11	129	500	490																	
30-Dec-11	130	500	485	7.73	28	#N/A	4.2	23.5	2	-0.5	0.02	14.1	0.0888	-0.00002	0.00015	0.0143	-0.00001	-0.000005	-0.05	-0.000005
6-Jan-12	131	500	490																	
13-Jan-12	132	500	480																	
20-Jan-12	133	500	490																	
27-Jan-12	134	500	490																	
3-Feb-12	135	500	490																	
10-Feb-12	136	500	490																	
17-Feb-12	137	500	495																	
24-Feb-12	138	500	475																	
2-Mar-12	139	500	490																	
9-Mar-12	140	500	490																	
16-Mar-12	141	500	480																	
23-Mar-12	142	500	490	7.70	29	#N/A	4.9	21.6	-2	-0.5	0.024	12.1	0.0804	-0.00002	0.00009	0.014	-0.00001	-0.000005	-0.05	-0.000005
30-Mar-12	143	500	490																	
6-Apr-12	144	500	485																	
13-Apr-12	145	500	505																	
20-Apr-12	146	500	465																	
27-Apr-12	147	500	485																	
4-May-12	148	500	475																	
11-May-12	149	500	450																	
18-May-12	150	500	475																	
25-May-12	151	500	470																	
1-Jun-12	152	500	455																	
8-Jun-12	153	500	480																	
15-Jun-12	154	500	500	7.40	25	#N/A	3.0	15.2	4	0.53	0.025	9.54	0.0905	-0.00002	0.000205	0.0107	-0.00001	-0.000005	-0.05	-0.000005
22-Jun-12	155	500	470																	
29-Jun-12	156	500	465																	
6-Jul-12	157	500	490																	
13-Jul-12	158	500	470																	
20-Jul-12	159	500	485																	
27-Jul-12	160	500	505																	
3-Aug-12	161	500	475																	
10-Aug-12	162	500	475																	
17-Aug-12	163	500	480																	
24-Aug-12	164	500	460																	
31-Aug-12	165	500	475																	
7-Sep-12	166	500	465	7.34	19	#N/A	3.9	13.0	-2	-0.5	0.025	8.47	0.0698	-0.00002	0.000073	0.0105	-0.00001	-0.000005	-0.05	-0.000005
14-Sep-12	167	500	495																	
21-Sep-12	168	500	500																	
28-Sep-12	169	500	450																	
5-Oct-12	170	500	460																	
12-Oct-12	171	500	465																	
19-Oct-12	172	500	460																	
26-Oct-12	173	500	470																	
2-Nov-12	174	500	465																	
9-Nov-12	175	500	455																	
16-Nov-12	176	500	460																	
23-Nov-12	177	500	480																	
30-Nov-12	178	500	500	7.35	18	#N/A	3.6	12.5	-2	-0.5	0.031	9.41	0.0753	-0.00002	0.00007	0.00973	-0.00001	-0.000005	-0.05	-0.000005
7-Dec-12	179	500	470																	
14-Dec-12	180	500	495																	
21-Dec-12	181	500	460																	
28-Dec-12	182	500	475																	
4-Jan-13	183	500	460																	
11-Jan-13	184	500	485																	
18-Jan-13	185	500	475																	
25-Jan-13	186	500	470																	
1-Feb-13	187	500	475																	
8-Feb-13	188	500	460																	
15-Feb-13	189	500	470																	
22-Feb-13	190	500	440	7.63	14	#N/A	4.5	11.8	3	-0.5	0.024	6.5	0.0744	-0.00002	0.000064	0.00833	-0.00001	-0.000005	-0.05	-0.000005
1-Mar-13	191	500	475																	
8-Mar-13	192	500	470																	
15-Mar-13	193	500	470																	
22-Mar-13	194	500	445																	
29-Mar-13	195	500	450																	
5-Apr-13	196	500	470																	
12-Apr-13	197	500	475																	
19-Apr-13	198	500	475																	
26-Apr-13	199	500	425																	
3-May-13	200	500	460																	
10-May-13	201	500	425																	
17-May-13	202	500	450	7.90	13	#N/A	5.9	11.7	4	-0.5	0.03	6.08	0.14	-0.00002	0.000062	0.00965	-0.00001	-0.000005	-0.05	-0.000005
24-May-13	203	500	455																	

Date	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L	P mg/L	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L
7-Oct-11	4.86	-0.0001	0.000006	0.00088	0.006	0.000013	-0.0005	0.34	0.00109	-0.01	0.00025	0.00002	-0.002	1.25	-0.00004	0.881	-0.000005	0.1	0.0332	-10	-0.000002	0.0001	-0.0005	0.000029	0.0005	0.0002	-0.0001
30-Dec-11	5.12	-0.0001	0.000006	0.00086	0.007	0.00001	-0.0005	0.32	0.00156	-0.01	0.00025	0.00003	-0.002	1.36	-0.00004	0.79	-0.000005	0.08	0.0315	-10	0.000002	0.00015	-0.0005	0.000026	0.0004	0.0004	-0.0001
23-Mar-12	4.43	-0.0001	-0.000005	0.00057	0.003	-0.000005	-0.0005	0.25	0.00116	-0.01	0.00021	-0.00002	-0.002	1.15	-0.00004	0.676	-0.000005	0.07	0.0278	-10	0.000003	-0.0002	-0.0005	0.000024	0.0003	0.0002	-0.0001
15-Jun-12	3.52	-0.0001	-0.000005	0.00085	0.0049	8.6E-06	-0.0005	0.183	0.00083	-0.01	0.00024	-0.00002	-0.002	1.05	-0.00004	0.743	-0.000005	0.077	0.022	-10	0.0000023	-0.0002	-0.0005	0.0000128	0.00027	0.00029	-0.0001
7-Sep-12	3.1	-0.0001	0.000005	0.00143	0.0083	0.00002	-0.0005	0.175	0.00114	-0.01	0.00021	0.000085	0.0022	0.992	-0.00004	0.607	-0.000005	0.101	0.0199	-10	0.000002	0.00023	-0.0005	0.000013	0.00023	0.00125	-0.0001
30-Nov-12	3.5	-0.0001	-0.000005	0.00088	0.0055	0.000027	-0.0005	0.163	0.00095	-0.01	0.00028	0.000091	-0.002	0.976	-0.00004	0.784	-0.000005	0.096	0.0186	-3	0.000003	0.00029	-0.0005	0.000013	-0.0002	0.0025	-0.0001
22-Feb-13	2.4	-0.0001	-0.000005	0.0009	0.0089	0.000034	-0.0005	0.121	0.00096	-0.01	0.00015	0.000064	-0.002	0.883	-0.00004	0.662	0.000005	0.118	0.0146	-3	0.000003	-0.0002	-0.0005	0.000006	0.00028	0.00055	-0.0001
17-May-13	2.25	-0.0001	0.000006	0.00182	0.0191	0.000043	-0.0005	0.114	0.00142	-0.01	0.00016	0.000085	-0.002	0.932	-0.00004	1	-0.000005	0.119	0.0134	-3	0.000003	-0.0002	0.00077	0.000006	-0.0002	0.00055	-0.0001

May 21/10 Al 0.23, Cu 0.00829 and Fe 0.068. Repeat = 0.273, 0.00863, and 0.077, respectively. Data confirmed, suspect contamination.
Oct 22/10 Sb 0.00019. Repeat = -0.00002.
Nov 5/10 Al 0.172 and Fe 0.038. Repeat = 0.226 and 0.044, respectively. Data confirmed. Suspect contamination.
Feb 4/11 Change in analytical schedule.
April 22/11 Zn 0.0028. Repeat =0.0025, data confirmed suspect contamination
Apr 22/11 Cl 2.0 Cannot repeat, suspect contamination or analytical error.
Jul 15, 2011 F=0.15, Cannot repeat suspect contamination or analytical error

HC 4

CONFIDENTIAL *DRAFT*

Sample = Hole 211 70.79-73.79

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L	P mg/L	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L
3-Jul-09	0	750	340	8.08	203	#N/A	1.2	58.4	7	6.1	1.13	44.8	0.198	0.00018	0.00048	0.0358	-0.00001	-0.000005	-0.05	-0.000005	13.1	-0.0001	0.000031	0.0127	0.004	0.000052	0.0045	2.94	0.00422	-0.01	0.00524	0.00071	0.01	7.79	0.00148	1.93	-0.000005	19.6	0.242	-3	0.00001	0.00043	-0.0005	0.000138	0.0037	0.0016	-0.0001
10-Jul-09	1	500	455	7.83	123																																										
17-Jul-09	2	500	450	7.97	84	#N/A	1.3	44.5	10	-0.5	1.01	34.9	0.197	0.00026	0.00045	0.0374	-0.00001	-0.000005	-0.05	0.000007	10	-0.0001	0.000011	0.00192	0.011	0.000113	0.0029	2.39	0.00699	-0.01	0.00258	0.00003	-0.002	5.2	0.00129	2.39	-0.000005	5.38	0.191	3	0.000005	0.00006	0.0011	0.00138	0.0049	0.0011	-0.0001
24-Jul-09	3	500	450	7.82	85																																										
31-Jul-09	4	500	450	7.87	82	#N/A	1.7	40.4	6	-0.5	1.02	39.2	0.21	0.00018	0.00035	0.0467	-0.00001	-0.000005	-0.05	-0.000005	11.9	-0.0001	0.000007	0.00126	0.014	0.000073	0.0022	2.27	0.00869	-0.01	0.00089	0.00012	0.005	4.06	0.00114	2.51	-0.000005	1.93	0.195	4	0.000004	0.0001	0.0008	0.00117	0.0037	0.0004	-0.0001
7-Aug-09	5	500	460	7.69	66																																										
14-Aug-09	6	500	460	7.73	72	#N/A	2.2	36.3	4	0.9	0.81	37.8	0.141	0.00011	0.00032	0.0508	-0.00001	-0.000005	-0.05	-0.000005	11.7	-0.0001	0.000005	0.0014	0.004	0.000021	0.0017	2.09	0.00887	-0.01	0.00049	0.00005	-0.002	3.31	0.00099	1.97	-0.000005	1.05	0.188	4	0.000003	0.00022	-0.0005	0.000969	0.003	0.0002	-0.0001
21-Aug-09	7	500	475	7.87	71																																										
28-Aug-09	8	500	460	7.84	71	#N/A	1.8	36.9	4	0.5	0.74	36.6	0.197	0.00011	0.0003	0.054	-0.00001	-0.000005	-0.05	-0.000005	11.3	-0.0001	0.000007	0.00131	0.008	0.000037	0.0015	2.05	0.00929	0.01	0.0004	-0.00002	-0.002	2.81	0.00093	2.14	-0.000005	0.78	0.185	-3	0.000004	0.00002	0.0008	0.000796	0.0033	0.0003	-0.0001
4-Sep-09	9	500	475	7.56	63																																										
11-Sep-09	10	500	495	7.74	38	#N/A	1.5	25.6	2	0.6	0.42	19.6	0.286	-0.00002	0.00032	0.0276	-0.00001	-0.000005	-0.05	-0.000005	6.2	-0.0001	0.000006	0.00078	0.004	0.000026	-0.0005	0.99	0.00396	-0.01	0.00008	-0.00002	0.002	1.53	0.00063	1.47	-0.000005	0.32	0.0942	-3	0.000002	0.00002	-0.0005	0.00027	0.0035	0.0003	-0.0001
18-Sep-09	11	500	460	7.76	61																																										
25-Sep-09	12	500	490	7.81	66	#N/A	2.1	40.2	4	0.5	0.7	34.3	0.151	0.00009	0.00023	0.0557	-0.00001	-0.000005	-0.05	-0.000005	11.1	-0.0001	-0.000005	0.00211	0.004	0.00004	0.0011	1.61	0.00631	0.03	0.00032	0.00013	-0.002	2	0.00071	1.97	-0.000005	0.54	0.161	-3	0.000004	-0.00001	0.0006	0.000554	0.0027	0.0004	-0.0001
2-Oct-09	13	500	440	7.60	64																																										
9-Oct-09	14	500	430	7.63	61	#N/A	3.5	33.9	6	-0.5	0.69	33.3	0.216	0.00006	0.00026	0.0544	-0.00001	-0.000005	-0.05	-0.000005	10.8	-0.0001	0.000007	0.00143	0.007	0.000053	0.0009	1.55	0.00522	-0.01	0.0003	-0.00002	0.005	1.95	0.00061	1.91	-0.000005	0.51	0.151	-3	0.000002	0.00001	-0.0005	0.000421	0.0031	0.0005	-0.0001
16-Oct-09	15	500	405	7.52	65																																										
23-Oct-09	16	500	450	7.65	60	#N/A	3.2	34.1	2	-0.5	0.65	31.2	0.167	0.00005	0.00018	0.0529	-0.00001	-0.000005	-0.05	-0.000005	10.1	-0.0001	0.000009	0.0019	0.01	0.000246	0.0009	1.45	0.00499	-0.01	0.00027	0.0002	-0.002	1.68	0.00051	1.64	-0.000005	0.45	0.145	-3	0.000003	-0.00001	0.0008	0.000386	0.0024	0.003	-0.0001
30-Oct-09	17	500	465	7.70	56																																										
6-Nov-09	18	500	450	7.74	59	#N/A	3.4	32.5	2	-0.5	0.67	30.8	0.204	0.00002	0.00015	0.0519	-0.00001	-0.000005	-0.05	-0.000005	10.1	-0.0001	-0.000005	0.00092	0.006	0.000026	0.0006	1.37	0.00412	-0.01	0.00022	0.00009	0.003	1.64	0.00044	1.7	-0.000005	0.39	0.139	-3	-0.000002	-0.00001	0.0008	0.00032	0.0027	0.0005	-0.0001
13-Nov-09	19	500	470	7.61	57																																										
20-Nov-09	20	500	445	7.73	62	#N/A	3.9	31.5	-2	-0.5	0.61	28.7	0.191	0.00003	0.00014	0.049	-0.00001	-0.000005	-0.05	-0.000005	9.49	-0.0001	-0.000005	0.00067	0.005	0.000038	0.0007	1.22	0.00388	-0.01	0.00025	0.00013	0.004	1.48	0.00037	1.44	-0.000005	0.37	0.13	-3	0.000002	0.00001	0.0008	0.000259	0.0023	0.0003	-0.0001
27-Nov-09	21	500	450	7.68	62																																										
4-Dec-09	22	500	465	7.65	63	#N/A	3.1	34.5	2	-0.5	0.64	32.6	0.157	0.00002	0.00012	0.0548	-0.00001	-0.000005	-0.05	-0.000005	11	-0.0001	0.000006	0.00059	0.005	0.00002	0.0006	1.25	0.00392	-0.01	0.00027	0.00007	-0.002	1.53	0.00034	1.48	-0.000005	0.31	0.14	-3	0.000002	0.00018	0.0008	0.000266	0.0019	0.0002	-0.0001
11-Dec-09	23	500	475	7.79	62																																										
18-Dec-09	24	500	460	7.40	62	#N/A	4.6	32.8	2	-0.5	0.61	29.7	0.18	0.00003	0.00014	0.0574	-0.00001	-0.000005	-0.05	-0.000005	10.1	-0.0001	-0.000005	0.00055	0.006	0.000022	0.0007	1.12	0.00405	-0.01	0.00026	0.00007	-0.002	1.41	0.00032	1.53	-0.000005	0.32	0.132	-3	-0.000002	-0.00001	-0.0005	0.000245	0.0017	-0.0001	-0.0001
25-Dec-09	25	500	460	7.64	55																																										
1-Jan-10	26	500	475	7.85	59	#N/A	1.9	31.9	5	-0.5	0.55	30	0.138	0.00003	0.00011	0.0525	-0.00001	-0.000005	-0.05	-0.000005	10.4	-0.0001	-0.000005	0.00071	0.005	0.000019	-0.0005	0.98	0.00358	-0.01	0.00032	0.00003	-0.002	1.25	0.00027	1.26	-0.000005	0.25	0.116	-3	0.000004	-0.00001	-0.0005	0.000251	0.0015	0.0004	-0.0001
8-Jan-10	27	500	445	7.71	67																																										
15-Jan-10	28	500	465	7.69	61	#N/A	5.9	31.7	4	-0.5	0.66	30.9	0.174	-0.00002	0.00018	0.055	-0.00001	-0.000005	-0.05	-0.000005	10.7	-0.0001	-0.000005	0.00149	0.004	0.000101	-0.0005	1.01	0.00337	-0.01	0.00039	0.00004	-0.002	1.45	0.00027	1.31	-0.000005	0.29	0.12	-3	0.000003	-0.00001	0.0007	0.000204	0.0018	0.0008	-0.0001
22-Jan-10	29	500	500	7.55	59																																										
29-Jan-10	30	500	470	7.45	50	#N/A	4.2	30.6	4	-0.5	0.66	30.5	0.195	0.00003	0.00018	0.0542	-0.00001	-0.000005	-0.05	-0.000005	10.7	-0.0001	0.000006	0.00083	0.008	0.000043	-0.0005	0.9	0.00312	-0.01	0.00037	0.00004	0.003	1.34	0.00028	1.39	-0.000005	0.26	0.12	-3	0.000003	0.00014	0.001	0.000233	0.0016	0.0002	-0.0001
5-Feb-10	31	500	445	7.35	43																																										
12-Feb-10	32	500	440	7.47	56	#N/A	2.6	28.8	5	-0.5	0.61	29.3	0.149	0.00003	0.0001	0.0528	-0.00001	-0.000005	-0.05	-0.000005	10.3	-0.0001	-0.000005	0.00089	0.005	0.000046	-0.0005	0.84	0.00284	-0.01	0.00035	0.00017	-0.002	1.31	0.00023	1.33	-0.000005	0.27	0.11	-3	0.000003	-0.00001	0.0007	0.000166	0.0014	0.0009	-0.0001
19-Feb-10	33	500	500	7.56	62																																										
26-Feb-10	34	500	420	7.56	50	#N/A	2.5	29.6	3	-0.5	0.66	29.2	0.199	0.00002	0.0001	0.0498	-0.00001	-0.000005	-0.05	-0.000005	10.4	-0.0001	-0.000005	0.00052	0.004	0.000021	-0.0005	0.8	0.00239	-0.01	0.0004	0.0002	-0.002	1.37	0.00036	1.58	-0.000005	0.31	0.105	-3	0.000002	0.00004	-0.0005	0.000147	0.0017	0.0021	-0.0001
5-Mar-10	35	500	450	7.44	41																																										
12-Mar-10	36	500	405	7.47	46	#N/A	3.5	26.8	4	-0.5	0.59	22.5	0.153	-0.00002	0.00009	0.0434	-0.00001	0.000006	-0.05	-0.000005	8.01	-0.0001	0.000006	0.0007	0.007	0.000033	-0.0005	0.61	0.00519	-0.01	0.00028	0.00019	-0.002	1.06	0.00017	1.07	-0.000005	0.22	0.0855	-10	0.000004	0.00001	-0.0005	0.000118	0.0013	0.0004	-0.0001
19-Mar-10	37	500	385	7.54	48																																										
26-Mar-10	38	500	455	7.57	48	#N/A	3.3	26.1	7	-0.5	0.66	23.4	0.154	0.00002	0.0001	0.0428	-0.00001	-0.000005	-0.05	-0.000005	8.37	-0.0001	-0.000005	0.00069	0.003	0.000024	-0.0005	0.61	0.00194	-0.01	0.00035	0.00015	0.003	1.16	0.00016	1.01	0.000012	0.26	0.0895	-2	0.000004	0.00001	-0.0005	0.000123	0.0015	0.0004	-0.0001
2-Apr-10	39	500	430	7.56	47																																										
9-Apr-10	40	500	500	7.54	55	#N/A	2.9	31.1	3	-0.5	0.69	27	0.15	0.00002	0.0002	0.0489	-0.00001	-0.000005	-0.05	-0.000005	9.86	-0.0001	-0.000005	0.00077	0.007	0.000027	-0.0005	0.58	0.00169	-0.01	0.00027	0.0001	0.004	1.17	0.00018	1.25	-0.000005	0.25	0.093	-10	-0.000002	0.00002	0.0006	0.000141	0.0014	0.0006	-0.0001
16-Apr-10	41	500	445	7.47	51																																										
23-Apr-10	42	500	445	7.45	57	#N/A	5.4	29.3	4	-0.5	0.66	26.2	0.166	0.00002	0.00007	0.0505	-0.00001	0.000014	-0.05	0.000005	9.54	-0.0001	-0.000005	0.00102	0.004	0.00002	-0.0005	0.59	0.00203	-0.01	0.00035	0.00013	-0.002	1.24	0.0002	1.28	-0.000005	0.3	0.0958	-10	-0.000002	-0.00001	-0.0005	0.000149	0.0013	0.0006	-0.0001
30-Apr-10	43	500	455	7.56	54																																										
7-May-10	44	500	425	7.51	52	#N/A	4.1	28.7	3	-0.5	0.57	25.9	0.153	-0.00002	0.00007	0.0492	-0.00001	-0.000005	-0.05	-0.000005	9.52	-0.0001	-0.000005	0.00118	0.003	0.000022	-0.0005	0.53	0.00222	-0.01	0.00028	0.00012	-0.002	1.23	0.00013	1.21	-0.000005	0.26	0.0856	-10	-0.000002	-0.00001	-0.0005	0.000119	0.0014	0.0005	-0.0001
14-May-10	45	500	430	7.52	48																																										
21-May-10	46	500	515	7.66	54	#N/A	3.1	29.4	-2	-0.5	0.65	28.9	0.16	0.00003	0.0001	0.0525	-0.00001	-0.000005	-0.05	-0.000005	10.7	-0.0001	-0.000005	0.00074	0.002	0.000016	-0.0005	0.54	0.00132	-0.01	0.00032	0.00011	-0.002	1.21	0.00018	1.35	-0.000005	0.28	0.096	-10	-0.000002	0.00003	-0.0005	0.000148	0.0015	0.0004	-0.0001
28-May-10	47	500	520	7.49	53																																										
4-Jun-10	48	500	455	7.53	49	#N/A	3.4	26.0	2	-0.5	0.61	23.1	0.169	-0.00002	0.00008	0.0442	-0.00001	-0.000005	-0.05	-0.000005	8.53	-0.0001	-0.000005	0.00081	0.002	0.000022	-0.0005	0.44	0.00141	-0.01	0.00028	0.0001	-0.002	1.05	0.00014	1.25	-0.000005	0.27	0.0715	-10	0.000002	-0.00001	-0.0005	0.000101	0.0014	0.0002	-0.0001
11-Jun-10	49	500	440	7.56	50																																										
18-Jun-10	50	500	460	7.57	47	#N/A	4.3	27.5	3	-0.5	0.68	24.1	0.181	0.00002	0.00012	0.0482	-0.00001	-0.000005	-0.05	-0.000005	8.88	0.0001	-0.000005	0.00093	0.005	0.00002	-0.0005	0.48	0.00165	-0.01	0.00025	0.00019	0.002	1.26	0.00015	1.34	-0.000005	0.32	0.0755	-10	-0.000002	0.00001	-0.0005	0.000122	0.0015	0.0006	-0.0001
25-Jun-10	51	500	460	7.71	48																																										
2-Jul-10	52	500	440	7.67	45	#N/A	2.3	28.0	2	-0.5	0.6	20.9	0.178	-0.00002	0.00013	0.0464	-0.00001	-0.000005	-0.05	-0.000005	7.72	-0.0001	-0.000005	0.0007	0.006	0.000045	-0.0005	0.39	0.00162	-0.01	0.00022	0.00006	-0.002	0.96	0.00014	1.04	-0.000005	0.25	0.0728	-10	0.000002	-0.00001	-0.0005	0.00011	0.0011	0.0004	-0.0001
9-Jul-10	53	500	455	7.44	42																																										
16-Jul-10	54	500	450	7.55	46	#N/A	3.4	27.6	6	-0.5	0.59	24.2	0.107	0.00002	0.00008	0.0464	-0.00001	-0.000005	-0.05	-0.000005	9.07	-0.0001	-0.000005	0.001	0.001	0.000017	-0.0005	0.36	0.00175	-0.01	0.0002	0.00013	-0.002	0.98	0.00013	1.17	-0.000005	0.25	0.0726	-10	0.000002	0.00003	-0.0005	0.00011	0.0011	0.0001	-0.0001
23-Jul-10	55	500	425	7.34	40																																										
30-Jul-10	56	500	455	7.35	40	#N/A	3.4	23.3	4	-0.5	0.55	19.5	0.137	-0.00002	0.00012	0.0421	-0.00001	-0.000005	-0.05	-0.000005	7.28	-0.0001	-0.000005	0.00064	0.003	0.000017	-0.0005	0.32	0.00176	-0.01	0.00015	0.00009	-0.002	0.9	0.00011	1.01	-0.000005	0.24	0.0595	-10	0.000004	-0.00001	0.0005	0.0001	0.0012	0.0001	-0.0001
6-Aug-10	57	500	450	7.41	47																																										
13-Aug-10	58	500	470	7.61	44	#N/A	3.8	27.6	2	-0.5	0.56	21.3	0.119	-0.00002	0.00008	0.0462	-0.00001	-0.000005	-0.05	-0.000005	7.96	-0.0001	-0.000005	0.00066	0.002	0.000013	-0.0005	0.36	0.00195	-0.01	0.00016	0.00028	-0.002	0.98	0.0001	0.878	-0.000005	0.26	0.0651	-10	0.000003	-0.00001	-0.0005	0.000112	0.0011	0.0002	-0.0001
20-Aug-10	59	500	470	7.50	43																																										
27-Aug-10	60	500	465	7.64	45	#N/A	2.3	28.4	4	-0.5	0.55	22.2	0.14	-0.00002	0.00003	0.0486	-0.00001	-0.000005	-0.05	-0.000005	8.35	0.0001	-0.000005	0.0006	0.003	0.000018	-0.0005	0.33	0.00193	-0.01	0.00014	0.00012	-0.002	1.01	0.00025	1.14	-0.000005	0.26	0.0663	-10	0.000003	-0.00001	-0.0005	0.000092	0.0011	0.0005	-0.0001
3-Sep-10	61	500	480	7.61	42																																										
10-Sep-10	62	500	465	7.39	46	#N/A	3.9	27.3	2	-0.5	0.56	21.5	0.108	-0.00002	0.00004	0.0499	-0.00001	-0.000005	-0.05	-0.000005	8.11	-0.0001	0.000005	0.00117	0.003	0.000019	-0.0005	0.3	0.00198	-0.01	0.00015	0.00013	-0.002	0.93	0.00009	0.908	-0.000005	0.23	0.063	-10	-0.000002	0.00002	-0.0005	0.000082	0.0005	-0.0001	-0.0001
17-Sep-10	63	500	455	7.61	39																																										
24-Sep-10	64	500	445	7.46	32	#N/A	2.9	23.6	6	-0.5	0.66	19.2	0.154	-0.00002	0.00006	0.0423	-0.00001	-0.000005	-0.05	-0.000005	7.22	-0.0001	-0.000005	0.00071	0.001	0.000041	-0.0005	0.27	0.00159	-0.01	0.00015	0.00011	-0.002	1.05	0.0001	1.05	-0.000005	0.26	0.0547	-10	0.000004	-0.00001	-0.0005	0.000082	0.0015	0.0002	-0.0001
1-Oct-10	65	500	445	7.49	32																																										
8-Oct-10	66	500	430	7.48	38	#N/A	2.2	23.2	5	-0.5	0.61	17.6	0.147	-0.00002	0.00004	0.041	-0.00001	-0.000005	-0.05	-0.000005	6.66	0.0001	-0.000005	0.00036	0.005	0.000091	-0.0005	0.24	0.00166	-0.01	0.00016	0.00015	-0.002	0.94	0.00007	1.04	-0.000005	0.23	0.0526	-10	0.000003	-0.00001	-0.0005	0.000078	0.0012	-0.0001	-0.0001
15-Oct-10	67	500	455	7.45	43																																										
22-Oct-10	68	500	440	7.49	41	#N/A	3.1	27.3	4	-0.5	0.61	20.7	0.138	-0.00002	0.00005	0.044	-0.00001	-0.000005	-0.05	-0.000005	7.82	-0.0001	-0.000005	0.00087	-0.001	0.000034	-0.0005	0.27	0.00175	-0.01	0.00016	0.00013	-0.002	1.05	0.00007	1.03	-0.000005	0.27	0.0545	-10	0.000003	-0.00001	-0.0005	0.000083	0.0012	0.0004	-0.0001
29-Oct-10	69	500	440	7.49	44																																										
5-Nov-10	70	500	440	7.60	43	#N/A	2.1	28.2	3	-0.5	0.48	22	0.156	-0.00002	0.00005	0.048	-0.00001	-0.000005	-0.05	-0.000005	8.4	-0.0001	-0.000005	0.00081	0.002	0.000019	-0.0005	0.26	0.00173	-0.01	0.00011	0.0001	-0.002	1.09	0.00008	1.14	-0.000005	0.25	0.0582	-10	0.000003	-0.00001	-0.0005	0.000085	0.0013	0.0002	-0.0001
12-Nov-10	71	500	450	7.60	37																																										
19-Nov-10	72	500	445	7.74	46	#N/A	3.3	28.3	-2	-0.5	0.5	21.3	0.122	-0.00002	0.00006	0.0471	-0.00001	-0.000005	-0.05	-0.000005	8.09	0.0004	0.000007	0.0006	0.003	0.000013	-0.0005	0.26	0.00165	-0.01	0.00008	0.00019	-0.002	0.96	0.00007	0.99	-0.000005	0.28	0.0569	-10	0.000004	-0.00001	-0.0005	0.000097	0.0009	0.0001	-0.0001
26-Nov-10	73	500	440	7.40	47																																										
3-Dec-10	74	500	455	7.53	47	#N/A	3.7	30.6	4	-0.5	0.63	21	0.189	-0.00002	0.00007	0.0519	-0.00001	-0.000005	-0.05	-0.000005	7.99	-0.0001	-0.000005	0.0005	0.004	0.000118	-0.0005	0.27	0.00171	-0.01	0.00012	-0.00002	-0.002	1.07	0.00008	1.09	-0.000005	0.24	0.0617	-10	0.000003	-0.00001	0.0015	0.000112	0.0014	0.0002	-0.0001
10-Dec-10	75	500	445	7.46	48																																										
17-Dec-10	76	500	440	7.56	42	#N/A	4.4	28.3	2	-0.5	0.55	21.3	0.139	-0.00002	0.00011	0.0446	-0.00001	-0.000005	-0.05	-0.000005	8.14	-0.0001	-0.000005	0.00079	0.002	0.000208	-0.0005	0.24	0.00149	-0.01	0.00014	0.00012	-0.002	0.93	0.00008	0.945	-0.000005	0.23	0.0499	-10	0.000002	-0.00001	-0.0005	0.000162	0.0011	0.0003	-0.0001
24-Dec-10	77	500	445	7.60	39																																										
31-Dec-10	78	500	460	7.56	38	#N/A	5.0	28.8	3	-0.5	0.53	20.1	0.117	-0.00002	0.00004	0.0473	-0.00001	0.00004	-0.05	-0.000005	7.68	-0.0001	0.00001	0.00159	0.003	0.000021	-0.0005	0.22	0.00165	-0.01	0.00013	0.00013	-0.002	0.93	0.00006	0.878	0.00001	0.2	0.0528	-10	0.000003	-0.00001	-0.0005	0.00008	0.0009	0.0004	0.0008
7-Jan-11	79	500	460	7.54	31																																										
14-Jan-11	80	500	465	7.59	35	#N/A	2.9	29.6	3	-0.5	0.53	21.5	0.134	-0.00002	0.00003	0.0518	-0.00001	-0.000005	-0.05	-0.000005	8.23	-0.0001	-0.000005	0.00052	0.003	0.000021	-0.0005	0.23	0.00209	-0.01	0.00007	-0.00002	-0.002	0.93	0.00007	0.918	-0.000005	0.21	0.0549	-10	0.000002	-0.00001	-0.0005	0.000065	0.0008	0.0001	-0.0001
21-Jan-11	81	500	465	7.48	38																																										
28-Jan-11	82	500	490	7.57	32	#N/A	3.9	28.5	3	-0.5	0.48	19.5	0.1	-0.00002	0.00004	0.0471	-0.00001	-0.000005	-0.05	-0.000005	7.52	-0.0001	-0.000005	0.00054	0.001	0.000008	-0.0005	0.19	0.00228	-0.01	0.00012	0.0001	-0.002	0.81	0.00005	0.785	-0.000005	0.17	0.0467	-10	0.000003	-0.00001	-0.0005	0.000064	0.0007	-0.0001	-0.0001
4-Feb-11	83	500	435																																												
11-Feb-11	84	500	490																																												
18-Feb-11	85	500	480																																												
25-Feb-11	86	500	485																																												
4-Mar-11	87	500	490																																												
11-Mar-11	88	500	490																																												
18-Mar-11	89	500	470																																												
25-Mar-11	90	500	490																																												
1-Apr-11	91	500	475																																												
8-Apr-11	92	500	470																																												
15-Apr-11	93	500	475																																												
22-Apr-11	94	500	490	7.58	49	#N/A	2.0	28.2	-2	-0.5	0.48	21.3	0.14	-0.00002	0.00004	0.05	-0.00001	-0.000005	-0.05	0.000005	8.26	-0.0001	-0.000005	0.00046	0.002	0.000037	-0.0005	0.15	0.00167	-0.01	0.00018	0.00011	0.002	0.95	0.00006	0.836	-0.000005	0.18	0.0436	-10	-0.000002	0.00001	-0.0005	0.000066	0.0009	#N/A	-0.0001
29-Apr-11	95	500	465																																												
6-May-11	96	500	485																																												
13-May-11	97	500	460																																												
20-May-11	98	500	500																																												
27-May-11	99	500	480																																												
3-Jun-11	100	500	485																																												
10-Jun-11	101	500	480																																												
17-Jun-11	102	500	480																																												
24-Jun-11	103	500	475																																												
1-Jul-11	104	500	475																																												
8-Jul-11	105	500	475																																												
15-Jul-11	106	500	475	7.64	49	#N/A	5.6	28.7	2	-0.5	0.44	22.6	0.199	-0.00002	0.0001	0.0492	-0.00001	-0.000005	-0.05	-0.000005	8.84	-0.0001	-0.000005	0.00034	0.002	0.000025	-0.0005	0.12	0.0017	-0.01	0.00014	-0.00002	-0.002	0.9	0.00006	0.955	-0.000005	0.14	0.0402	-10	0.000002	0.00006	-0.0005	0.000062	0.0009	-0.0001	-0.0001
22-Jul-11	107	500	490																																												
29-Jul-11	108	500	465																																												

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Sample = Hole 211 70.79-73.79

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L	P mg/L	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L
5-Aug-11	109	500	460																																													
12-Aug-11	110	500	475																																													
19-Aug-11	111	500	470																																													
26-Aug-11	112	500	480																																													
2-Sep-11	113	500	470																																													
9-Sep-11	114	500	480																																													
16-Sep-11	115	500	465																																													
23-Sep-11	116	500	455																																													
30-Sep-11	117	500	455																																													
7-Oct-11	118	500	460	7.56	44	#N/A	5.4	27.8	-2	-0.5	0.39	22.6	0.182	-0.00002	0.00005	0.0472	-0.00001	-0.000005	-0.05	-0.000005	8.85	-0.0001	-0.000005	0.00043	0.002	0.00002	-0.0005	0.11	0.00212	-0.01	0.00012	0.00003	-0.002	0.94	0.00005	0.948	-0.000005	0.17	0.0329	-10	0.000003	0.0002	-0.0005	0.000055	0.0008	0.0001	-0.0001
14-Oct-11	119	500	505																																													
21-Oct-11	120	500	470																																													
28-Oct-11	121	500	465																																													
4-Nov-11	122	500	475																																													
11-Nov-11	123	500	470																																													
18-Nov-11	124	500	470																																													
25-Nov-11	125	500	475																																													
2-Dec-11	126	500	470																																													
9-Dec-11	127	500	495																																													
16-Dec-11	128	500	495																																													
23-Dec-11	129	500	470																																													
30-Dec-11	130	500	465	7.72	49	#N/A	4.3	35.3	2	-0.5	0.38	26.3	0.163	-0.00002	0.00009	0.0549	-0.00001	-0.000005	-0.05	0.000024	10.3	-0.0001	-0.000005	0.00041	0.002	0.000016	-0.0005	0.11	0.00312	-0.01	0.00012	-0.00002	-0.002	1.04	-0.00004	0.869	-0.000005	0.14	0.034	-10	0.000004	0.00022	-0.0005	0.000057	0.0007	0.0002	-0.0001
6-Jan-12	131	500	475																																													
13-Jan-12	132	500	465																																													
20-Jan-12	133	500	460																																													
27-Jan-12	134	500	480																																													
3-Feb-12	135	500	460																																													
10-Feb-12	136	500	480																																													
17-Feb-12	137	500	475																																													
24-Feb-12	138	500	465																																													
2-Mar-12	139	500	470																																													
9-Mar-12	140	500	470																																													
16-Mar-12	141	500	480																																													
23-Mar-12	142	500	470	7.65	45	#N/A	5.3	28.9	2	-0.5	0.29	21.5	0.11	-0.00002	0.00003	0.0489	-0.00001	-0.000005	-0.05	-0.000005	8.46	-0.0001	-0.000005	0.00102	-0.001	#N/A	-0.0005	0.08	0.00415	-0.01	0.00011	0.00012	-0.002	0.83	-0.00004	0.61	-0.000005	0.14	0.0244	-10	0.000005	-0.0002	-0.0005	0.000041	0.0004	0.0005	-0.0001
30-Mar-12	143	500	480																																													
6-Apr-12	144	500	460																																													
13-Apr-12	145	500	495																																													
20-Apr-12	146	500	485																																													
27-Apr-12	147	500	450																																													
4-May-12	148	500	485																																													
11-May-12	149	500	460																																													
18-May-12	150	500	465																																													
25-May-12	151	500	475																																													
1-Jun-12	152	500	465																																													
8-Jun-12	153	500	470																																													
15-Jun-12	154	500	495	7.53	52	#N/A	3.3	28.6	4	0.87	0.3	20.3	0.145	-0.00002	5.7E-05	0.0479	-0.00001	-0.000005	-0.05	-0.000005	8	-0.0001	-0.000005	0.00038	-0.001	0.0000051	-0.0005	0.071	0.00356	-0.01	0.00019	-0.00002	-0.002	0.842	4.4E-05	0.724	-0.000005	0.12	0.0238	-10	0.0000034	-0.0002	-0.0005	0.0000497	0.00062	0.00016	-0.0001
22-Jun-12	155	500	455																																													
29-Jun-12	156	500	470																																													
6-Jul-12	157	500	480																																													
13-Jul-12	158	500	485																																													
20-Jul-12	159	500	475																																													
27-Jul-12	160	500	485																																													
3-Aug-12	161	500	465																																													
10-Aug-12	162	500	475																																													
17-Aug-12	163	500	455																																													
24-Aug-12	164	500	465																																													
31-Aug-12	165	500	470																																													
7-Sep-12	166	500	470	7.45	45	#N/A	4.3	26.7	4	-0.5	0.25	21.7	0.18	-0.00002	0.0001	0.0464	-0.00001	-0.000005	-0.05	0.000006	8.56	-0.0001	-0.000005	0.0006	0.0043	#N/A	-0.0005	0.075	0.00351	-0.01	0.00015	0.000073	0.0022	0.847	-0.00004	0.742	-0.000005	0.166	0.0233	-10	0.000004	0.00029	-0.0005	0.00004	0.00054	0.00091	-0.0001
14-Sep-12	167	500	490																																													
21-Sep-12	168	500	465																																													
28-Sep-12	169	500	445																																													
5-Oct-12	170	500	465																																													
12-Oct-12	171	500	465																																													
19-Oct-12	172	500	470																																													
26-Oct-12	173	500	465																																													
2-Nov-12	174	500	450																																													
9-Nov-12	175	500	480																																													
16-Nov-12	176	500	465																																													
23-Nov-12	177	500	495																																													
30-Nov-12	178	500	500	7.44	43	#N/A	3.8	26.0	3	-0.5	0.2	20.8	0.176	-0.00002	0.00015	0.041	-0.00001	-0.000005	-0.05	0.000007	8.2	-0.0001	-0.000005	0.00062	0.0026	0.00002	-0.0005	0.066	0.00279	-0.01	0.0002	0.000065	-0.002	0.779	6.3E-05	0.718	-0.000005	0.129	0.0201	-3	0.000004	-0.0002	-0.0005	0.000046	0.00066	0.00137	-0.0001
7-Dec-12	179	500	488																																													
14-Dec-12	180	500	485																																													
21-Dec-12	181	500	470																																													
28-Dec-12	182	500	435																																													
4-Jan-13	183	500	450																																													
11-Jan-13	184	500	470																																													
18-Jan-13	185	500	485																																													
25-Jan-13	186	500	460																																													
1-Feb-13	187	500	430																																													
8-Feb-13	188	500	460																																													
15-Feb-13	189	500	440																																													
22-Feb-13	190	500	430	7.68	33	#N/A	5.3	22.8	5	-0.5	0.15	15.3	0.0927	-0.00002	0.00013	0.0376	-0.00001	-0.000005	-0.05	-0.000005	6.01	-0.0001	0.000006	0.00036	0.0023	0.00002	-0.0005	0.064	0.00336	-0.01	0.00013	0.000183	-0.002	0.717	7.2E-05	0.474	-0.000005	0.147	0.0167	-3	0.000005	-0.0002	-0.0005	0.000029	0.0004	0.00017	-0.0001
1-Mar-13	191	500	435																																													
8-Mar-13	192	500	450																																													
15-Mar-13	193	500	455																																													
22-Mar-13	194	500	435																																													
29-Mar-13	195	500	425																																													
5-Apr-13	196	500	435																																													
12-Apr-13	197	500	460																																													
19-Apr-13	198	500	435																																													
26-Apr-13	199	500	410																																													
3-May-13	200	500	430																																													
10-May-13	201	500	415																																													
17-May-13	202	500	445	7.54	30	#N/A	7.6	17.9	4	-0.5	0.13	15.3	0.078	-0.00002	3.1E-05	0.0314	-0.00001	-0.000005	-0.05	-0.000005	6.11	-0.0001	-0.000005	0.00036	0.0018	0.000008	-0.0005	-0.05	0.00247	-0.01	0.00011	0.000039	-0.002	0.654	-0.00004	0.529	-0.000005	0.09	0.014	-3	0.000003	-0.0002	-0.0005	0.000029	0.00023	-0.0001	-0.0001
24-May-13	203	500	405																																													

Oct 22/10 Sb 0.00016. Repeat = -0.00002.
Dec 31/10 Bi 0.00004. Repeat = 0.000037. Data confirmed.
Feb 4/11 Change in analytical schedule.
April 22/11 Zn 0.0008. Repeat =0.0009, data confirmed suspect contamination
July 15/11 F 1.6. Repeat =0.44, data confirmed
Mar 23/12 Pb=0.000137, repeat=0.000139. Data confirmed, suspect contamination
Sept 7/12 Pb=0.000306, repeat confirms original result, data removed suspect contamination

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Sample =
09SWC506 30-33

Date	Cycle	Volume mL		pH	Cond.	Acidity	Acidity	Alkalinity	Sulphate	Chloride	Fluoride	Hardness	Al	Sb	As	Ba	Be	Bi	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Li	Mg	Mn	Hg	Mo	Ni	P
	No.	Input	Output		umhos/cm	(pH 4.5)	(pH 8.3)					CaCO3																					
						mgCaCO3/L	mgCaCO3/L	mgCaCO3/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
18-Mar-11	0	500	340	7.45	80	#N/A	2.4	25.3	5	3.2	0.14	25.4	0.215	0.00003	0.00148	0.00451	-0.00001	-0.000005	-0.05	0.000007	8.96	-0.0001	0.000024	0.00119	0.001	0.000025	-0.0005	0.73	0.00289	-0.01	0.00457	0.00016	0.007
25-Mar-11	1	500	520	7.64	88																												
1-Apr-11	2	500	525	7.66	51	#N/A	5.0	27.9	4	0.9	0.24	16.9	0.101	0.00003	0.00076	0.00307	-0.00001	-0.000005	-0.05	-0.000005	5.88	-0.0001	0.000013	0.00098	0.004	0.000021	-0.0005	0.54	0.00228	-0.01	0.00313	0.00017	-0.002
8-Apr-11	3	500	525	7.57	36																												
15-Apr-11	4	500	480	7.43	24	#N/A	2.0	14.3	-2	-0.5	0.15	10.7	0.0849	0.00002	#N/A	0.00238	-0.00001	-0.000005	-0.05	-0.000005	3.61	-0.0001	0.000008	0.00041	0.003	0.000028	-0.0005	0.4	0.0019	-0.01	0.00079	0.00039	-0.002
22-Apr-11	5	500	455	7.61	31																												
29-Apr-11	6	500	485	7.56	23	#N/A	3.2	14.8	4	-0.5	0.08	9.1	0.0825	0.00003	0.00098	0.002	-0.00001	-0.000005	-0.05	0.000006	3.13	-0.0001	-0.000005	0.00043	0.004	0.000025	-0.0005	0.32	0.00149	-0.01	0.00039	0.00009	-0.002
6-May-11	7	500	455	7.39	22																												
13-May-11	8	500	475	7.31	21	#N/A	2.9	13.3	4	-0.5	0.07	8.7	0.0808	-0.00002	0.00071	0.00274	-0.00001	-0.000005	-0.05	-0.000005	2.96	-0.0001	-0.000005	0.00046	0.001	0.000018	-0.0005	0.32	0.00133	-0.01	0.00025	0.00008	-0.002
20-May-11	9	500	450	7.20	24																												
27-May-11	10	500	460	7.51	22	#N/A	4.9	13.9	3	1.3	0.07	9.1	0.0895	-0.00002	0.00081	0.00184	-0.00001	-0.000005	-0.05	-0.000005	3.12	-0.0001	-0.000005	0.00037	0.002	0.000015	-0.0005	0.33	0.00128	-0.01	0.00021	-0.00002	-0.002
3-Jun-11	11	500	430	7.09	24																												
10-Jun-11	12	500	460	7.38	27	#N/A	2.3	16.0	3	0.7	0.07	10.7	0.106	0.00002	0.00085	0.00327	-0.00001	-0.000005	-0.05	0.000007	3.64	-0.0001	-0.000005	0.00042	0.004	0.000031	-0.0005	0.38	0.00115	-0.01	0.00016	0.00009	-0.002
17-Jun-11	13	500	450	7.11	25																												
24-Jun-11	14	500	465	7.36	25	#N/A	2.2	15.7	2	0.7	0.04	11.9	0.124	-0.00002	0.00066	0.00389	-0.00001	-0.000005	-0.05	-0.000005	4.09	-0.0001	-0.000005	0.0007	0.007	0.000039	-0.0005	0.4	0.00113	-0.01	0.00017	-0.00002	-0.002
1-Jul-11	15	500	450	7.54	23																												
8-Jul-11	16	500	445	7.23	25	#N/A	2.9	13.5	2	-0.5	0.03	10.1	0.104	-0.00002	0.00049	0.00274	-0.00001	-0.000005	-0.05	-0.000005	3.54	0.0001	0.000006	0.00055	0.005	0.000032	-0.0005	0.31	0.00055	-0.01	0.0001	0.00017	-0.002
15-Jul-11	17	500	430	7.67	26																												
22-Jul-11	18	500	455	7.21	24	#N/A	3.6	13.5	-2	0.8	0.04	10.3	0.107	-0.00002	0.00053	0.00432	-0.00001	-0.000005	-0.05	-0.000005	3.5	0.0002	0.000009	0.00047	0.005	0.000029	-0.0005	0.39	0.00055	-0.01	0.00011	#N/A	-0.002
29-Jul-11	19	500	445	7.11	23																												
5-Aug-11	20	500	440	7.31	24	#N/A	3.0	13.6	-2	-0.5	0.03	9.8	0.125	-0.00002	0.00053	0.00347	-0.00001	-0.000005	-0.05	-0.000005	3.35	0.0002	-0.000005	0.00024	0.005	0.00003	-0.0005	0.36	0.00028	-0.01	0.00009	-0.00002	-0.002
12-Aug-11	21	500	450	7.10	25																												
19-Aug-11	22	500	445	7.01	23	#N/A	3.8	12.2	-2	0.6	0.03	9.1	0.113	0.00002	0.00051	0.00321	-0.00001	-0.000005	-0.05	-0.000005	3.14	0.0001	0.000008	0.00059	0.006	0.000035	-0.0005	0.3	0.00037	-0.01	0.00009	#N/A	-0.002
26-Aug-11	23	500	440	7.17	22																												
2-Sep-11	24	500	450	7.17	21	#N/A	3.7	12.4	5	0.6	0.03	-10	0.11	-0.00002	0.0005	0.0027	-0.00001	-0.000005	-0.05	-0.000005	2.99	-0.0001	0.000014	0.00025	0.004	0.000028	-0.0005	0.28	0.00054	-0.01	0.00012	0.00008	-0.002
9-Sep-11	25	500	445	7.00	23																												
16-Sep-11	26	500	470	6.98	25	#N/A	4.1	14.8	-2	0.8	0.03	10.3	0.0984	-0.00002	0.00043	0.00302	-0.00001	-0.000005	-0.05	-0.000005	3.68	-0.0001	0.000006	0.00017	0.004	0.000018	-0.0005	0.28	0.00017	-0.01	0.00009	-0.00002	-0.002
23-Sep-11	27	500	450	7.00	23																												
30-Sep-11	28	500	465	7.12	23	#N/A	2.7	13.5	-2	0.6	0.03	10.2	0.0812	-0.00002	0.00043	0.00292	-0.00001	-0.000005	-0.05	0.000006	3.61	-0.0001	0.000005	0.00014	0.002	0.000021	-0.0005	0.27	0.00016	-0.01	-0.00005	-0.00002	-0.002
7-Oct-11	29	500	460	7.52	21																												
14-Oct-11	30	500	445	7.18	24	#N/A	3.0	14.2	-2	-0.5	0.04	10.7	0.104	-0.00002	0.00045	0.00346	-0.00001	-0.000005	-0.05	-0.000005	3.8	-0.0001	-0.000005	0.00025	0.002	0.000017	-0.0005	0.29	0.00013	-0.01	0.00007	0.00003	-0.002
21-Oct-11	31	500	475	7.39	24																												
28-Oct-11	32	500	475	7.18	25	#N/A	3.5	14.7	-2	-0.5	0.03	11	0.104	-0.00002	0.00041	0.00338	-0.00001	0.000015	-0.05	-0.000005	3.94	0.0001	-0.000005	0.00089	0.005	0.00003	-0.0005	0.29	0.00017	-0.01	0.00009	0.00016	-0.002
4-Nov-11	33	500	465	7.32	23																												
11-Nov-11	34	500	460	6.99	21	#N/A	5.3	13.9	-2	-0.5	0.02	9.8	0.104	0.00002	0.00043	0.00333	-0.00001	-0.000005	-0.05	#N/A	3.5	-0.0001	-0.000005	0.00044	0.004	#N/A	-0.0005	0.26	0.00037	-0.01	0.00008	0.00004	-0.002
18-Nov-11	35	500	475	7.45	28																												
25-Nov-11	36	500	490	7.62	24	#N/A	3.0	16.3	-2	-0.5	0.023	10.2	0.0871	-0.00002	0.00037	0.00305	-0.00001	-0.000005	-0.05	-0.000005	3.69	-0.0001	-0.000005	0.00061	0.006	0.000025	-0.0005	0.24	0.00034	-0.01	0.0001	0.00015	-0.002
2-Dec-11	37	500	465	7.64	26																												
9-Dec-11	38	500	485	6.99	23	#N/A	4.9	13.5	2	-0.5	0.015	9.9	0.0715	-0.00002	0.00029	0.00314	-0.00001	-0.000005	-0.05	-0.000005	3.57	0.0001	-0.000005	0.0006	0.003	0.000023	-0.0005	0.23	0.00017	-0.01	0.00008	0.0001	-0.002
16-Dec-11	39	500	465	7.37	25																												
23-Dec-11	40	500	455	7.06	20	#N/A	3.9	13.4	3	-0.5	0.02	9.3	0.0784	-0.00002	0.00028	0.00367	-0.00001	-0.000005	-0.05	-0.000005	3.34	#N/A	0.000015	0.00054	0.004	0.000034	-0.0005	0.23	0.00071	-0.01	-0.00005	0.00023	-0.002
30-Dec-11	41	500	475	6.69	18																												
6-Jan-12	42	500	465	6.83	18	#N/A	3.5	11.7	2	-0.5	0.018	8	0.0843	-0.00002	0.00032	0.00319	-0.00001	-0.000005	-0.05	-0.000005	2.89	-0.0001	-0.000005	0.00021	0.004	0.000021	-0.0005	0.19	0.00021	-0.01	-0.00005	0.00002	-0.002
13-Jan-12	43	500	485	6.73	22																												
20-Jan-12	44	500	460	7.24	20	#N/A	2.4	13.9	-2	-0.5	0.024	8.3	0.0635	-0.00002	0.00035	0.00299	-0.00001	-0.000005	-0.05	-0.000005	3.01	0.0002	0.000012	0.00053	0.006	0.00005	-0.0005	0.18	0.00033	-0.01	0.00006	0.00019	-0.002
27-Jan-12	45	500	475	6.77	18																												
3-Feb-12	46	500	480	6.75	18	#N/A	5.5	12.1	2	-0.5	0.024	8.4	0.0808	-0.00002	0.0003	0.00251	-0.00001	-0.000005	-0.05	0.000021	3.08	0.0001	-0.000005	0.00028	0.003	0.000036	-0.0005	0.18	0.0002	-0.01	0.00008	0.00007	0.003
10-Feb-12	47	500	465	6.62	19																												
17-Feb-12	48	500	470	7.09	20	#N/A	2.6	11.6	-2	0.5	0.02	9.1	0.0829	-0.00002	0.00036	0.00289	-0.00001	-0.000005	-0.05	-0.000005	3.35	-0.0001	-0.000005	0.0002	0.003	0.00001	-0.0005	0.19	0.0006	-0.01	0.00006	0.00017	-0.002
24-Feb-12	49	500	455	6.78	20																												
2-Mar-12	50	500	465	6.62	19	#N/A	6.5	12.4	-2	-0.5	0.018	8.2	0.0759	-0.00002	0.00032	0.00391	-0.00001	-0.000005	-0.05	#N/A	2.98	-0.0001	0.000034	#N/A	0.01	#N/A	-0.0005	0.18	0.00109	-0.01	0.00006	0.00009	#N/A
9-Mar-12	51	500	475	6.67	17																												
16-Mar-12	52	500	465	7.15	18	#N/A	2.9	10.4	-2	-0.5	0.018	7.7	0.078	-0.00002	0.00028	0.00289	-0.00001	-0.000005	-0.05	-0.000005	2.83	-0.0001	0.00001	0.00071	0.003	0.000024	-0.0005	0.15	0.00022	-0.01	0.00006	0.00019	-0.002
23-Mar-12	53	500	480	6.61	17																												
30-Mar-12	54	500	465	6.79	15	#N/A	3.9	10.1	-2	-0.5	0.018	7.3	0.064	-0.00002	0.00019	0.00341	-0.00001	-0.000005	-0.05	-0.000005	2.7	-0.0001	-0.000005	0.00028	0.004	0.000028	-0.0005	0.13	0.00025	-0.01	-0.00005	0.00003	-0.002
6-Apr-12	55	500	465	6.85	15																												
13-Apr-12	56	500	465	7.04	14	#N/A	2.3	8.8	2	-0.5	0.015	6.3	0.0588	-0.00002	0.0003	0.00341	-0.00001	-0.000005	-0.05	#N/A	2.32	-0.0001	0.000008	0.00017	0.002	0.00001	-0.0005	0.11	0.00024	-0.01	0.00006	0.00009	-0.002
20-Apr-12	57	500	470	6.80	15																												
27-Apr-12	58	500	465	6.62	12	#N/A	4.4	7.8	2	-0.5	0.013	5.6	0.052	-0.00002	0.0003	0.00252	-0.00001	-0.000005	-0.05	-0.000005	2.08	0.00011	-0.000005	0.00038	0.0022	0.000016	-0.0005	0.1	0.00026	-0.01	-0.00005	#N/A	-0.002
4-May-12	59	500	470	6.50	16																												
11-May-12	60	500	475	6.96	11	#N/A	3.1	6.8	2	-0.5	0.018	5.07	0.0431	-0.00002	0.00038	0.00253	-0.00001	-0.000005	-0.05	-0.000005	1.89	0.00012	0.000033	0.00085	0.0022	0.000032	-0.0005	0.083	0.00056	-0.01	0.000084	#N/A	-0.002
18-May-12	61	500	470	6.75	14																												
25-May-12	62	500	480	6.75	11	#N/A	3.4	7.4	2	-0.5	0.016	5.36	0.0722	-0.00002	0.00035	0.00284	-0.00001	-0.000005	-0.05	-0.000005	1.98	-0.0001	0.0000101	0.00018	0.0068	0.00005	-0.0005	0.104	0.00041	-0.01	-0.00005	0.000041	-0.002
1-Jun-12	63	500	515	6.67	12																												
8-Jun-12	64	500	450	6.93	7	#N/A	3.3	6.4	3	0.7	0.011	3.9	0.0355	-0.00002	0.0002	0.0021	-0.00001	-0.000005	-0.05	0.0000147	1.44	-0.0001	-0.000005	0.00349	0.0017	0.00162	-0.0005	0.071	0.00035	-0.01	-0.00005	0.000092	0.0028
15-Jun-12	65	500	480	6.67	11																												
22-Jun-12	66	500	430	6.69	10	#N/A	4.2	6.7	2	-0.5	0.015	4.54	0.0839	-0.00002	0.00047	0.00288	-0.00001	-0.000005	-0.05	-0.000005	1.67	-0.0001	0.0000061	0.00023	0.0049	0.0000304	-0.0005	0.09	0.00024	-0.01	0.000146	0.00004	-0.002
29-Jun-12	67	500	450	6.55	8																												
6-Jul-12	68	500	450	6.85	8	#N/A	4.2	6.1	2	-0.5	0.013	3.72	0.0615	-0.00002	0.00052	0.00235	-0.00001	-0.000005	-0.05	-0.000005	1.39	-0.0001	-0.000005	0.00017	0.0027	0.0000141	-0.0005	0.064	0.00038	-0.01	0.000059	0.000026	-0.002
13-Jul-12	69	500	470	6.75	13																												
20-Jul-12	70	500	470	6.98	13	#N/A	4.1	9.3	2	-0.5	0.013	6	#N/A	-0.00002	0.0004	0.00246	-0.00001	-0.000005	-0.05	-0.000005	2.23	-0.0001	0.0000077	0.00039	0.0042	0.0000295	-0.0005	0.106	0.00014	-0.01	-0.00005	0.000112	-0.002

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Sample = 09SWC506 30-33

Date	Cycle No.	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
18-Mar-11	0	2.31	-0.00004	1.33	-0.000005	4.55	0.0769	-10	-0.000002	0.00004	-0.0005	0.000012	0.0006	0.0002	-0.0001
25-Mar-11	1														
1-Apr-11	2	1.51	-0.00004	1.58	-0.000005	2.57	0.054	-10	-0.000002	0.00023	-0.0005	0.000059	0.0008	0.0005	-0.0001
8-Apr-11	3														
15-Apr-11	4	1.26	-0.00004	1.29	-0.000005	1.37	0.042	-10	-0.000002	0.00015	-0.0005	#N/A	0.0009	0.0004	-0.0001
22-Apr-11	5														
29-Apr-11	6	1.04	-0.00004	1.33	-0.000005	0.85	0.0297	-10	-0.000002	0.00011	-0.0005	0.000055	0.0008	0.0002	-0.0001
6-May-11	7														
13-May-11	8	1.08	-0.00004	1.22	-0.000005	0.6	0.0291	-10	0.000002	0.00009	-0.0005	0.000038	0.0008	0.0002	-0.0001
20-May-11	9														
27-May-11	10	1.06	-0.00004	1.25	0.000006	0.45	0.0308	-10	-0.000002	0.00008	-0.0005	0.000041	0.0008	0.0002	-0.0001
3-Jun-11	11														
10-Jun-11	12	1.26	-0.00004	1.19	0.000007	0.39	0.0419	-10	0.000002	0.00008	-0.0005	0.000061	0.0009	0.0001	-0.0001
17-Jun-11	13														
24-Jun-11	14	1.36	-0.00004	1.38	-0.000005	0.38	0.0384	-10	-0.000002	0.00008	0.0005	0.000036	0.0008	0.0003	-0.0001
1-Jul-11	15														
8-Jul-11	16	1.15	-0.00004	1.15	0.000007	0.31	0.0353	-10	-0.000002	0.00004	0.0005	0.000029	0.0007	0.0017	-0.0001
15-Jul-11	17														
22-Jul-11	18	1.28	-0.00004	1.01	-0.000005	0.31	0.0364	-10	-0.000002	0.00006	-0.0005	0.000028	0.0007	0.0004	-0.0001
29-Jul-11	19														
5-Aug-11	20	1.3	-0.00004	1.02	0.000016	0.27	0.0348	-10	-0.000002	0.00004	-0.0005	0.000024	0.0008	0.0003	-0.0001
12-Aug-11	21														
19-Aug-11	22	1.31	-0.00004	0.885	0.000007	0.32	0.033	-10	-0.000002	0.00003	0.0005	0.000018	0.0007	0.0005	-0.0001
26-Aug-11	23														
2-Sep-11	24	1.15	-0.00004	0.95	-0.000005	0.27	0.0308	-10	-0.000002	0.00004	-0.0005	0.00002	0.0009	0.0004	-0.0001
9-Sep-11	25														
16-Sep-11	26	1.2	-0.00004	0.984	-0.000005	0.14	0.0345	-10	-0.000002	0.00004	-0.0005	0.000024	0.0009	0.0003	-0.0001
23-Sep-11	27														
30-Sep-11	28	1.21	-0.00004	0.86	0.000006	0.16	0.0338	-10	0.000008	0.00009	0.0006	0.00002	0.0002	-0.0001	-0.0001
7-Oct-11	29														
14-Oct-11	30	1.34	-0.00004	1.01	-0.000005	0.19	0.0349	-10	-0.000002	0.00002	-0.0005	0.00002	0.0007	0.0005	-0.0001
21-Oct-11	31														
28-Oct-11	32	1.29	-0.00004	0.959	-0.000005	0.2	0.0396	-10	0.000003	0.00028	-0.0005	0.000021	0.0008	0.0005	-0.0001
4-Nov-11	33														
11-Nov-11	34	1.14	-0.00004	0.96	-0.000005	0.18	0.032	-10	0.000007	0.00027	-0.0005	0.00003	0.0006	0.0009	-0.0001
18-Nov-11	35														
25-Nov-11	36	1.13	-0.00004	0.919	-0.000005	0.19	0.0313	-10	0.000002	0.00023	-0.0005	0.000073	0.0006	0.0006	-0.0001
2-Dec-11	37														
9-Dec-11	38	1.02	-0.00004	0.751	-0.000005	0.15	0.0321	-10	-0.000002	0.00013	-0.0005	0.000012	0.0005	0.0005	-0.0001
16-Dec-11	39														
23-Dec-11	40	1.15	-0.00004	0.782	-0.000005	0.37	0.0296	-10	-0.000002	-0.00001	-0.0005	0.000013	0.0004	0.0006	-0.0001
30-Dec-11	41														
6-Jan-12	42	0.98	-0.00004	0.756	-0.000005	0.15	0.0262	-10	-0.000002	0.0001	-0.0005	0.000008	0.0005	0.0002	-0.0001
13-Jan-12	43														
20-Jan-12	44	0.96	-0.00004	0.712	-0.000005	0.19	0.0272	-10	0.000003	-0.0002	-0.0005	0.000012	0.0008	0.0009	-0.0001
27-Jan-12	45														
3-Feb-12	46	1.01	-0.00004	0.841	-0.000005	0.18	0.0257	-10	-0.000002	-0.0002	-0.0005	0.000009	0.0004	0.0003	-0.0001
10-Feb-12	47														
17-Feb-12	48	1.08	-0.00004	0.885	-0.000005	0.16	0.0271	-10	-0.000002	-0.0002	-0.0005	0.000026	0.0006	-0.0001	-0.0001
24-Feb-12	49														
2-Mar-12	50	#N/A	-0.00004	0.723	#N/A	0.42	0.0266	-10	#N/A	-0.0002	-0.0005	0.000014	0.0004	#N/A	-0.0001
9-Mar-12	51														
16-Mar-12	52	0.92	-0.00004	0.796	-0.000005	0.19	0.0222	-10	-0.000002	-0.0002	-0.0005	0.000004	0.0003	0.0002	-0.0001
23-Mar-12	53														
30-Mar-12	54	0.83	-0.00004	0.69	-0.000005	0.13	0.0212	-10	-0.000002	-0.0002	-0.0005	0.000007	-0.0002	0.0002	-0.0001
6-Apr-12	55														
13-Apr-12	56	0.85	-0.00004	0.718	-0.000005	0.13	0.0175	-10	0.000003	0.0005	-0.0005	0.000004	0.0004	0.0016	-0.0001
20-Apr-12	57														
27-Apr-12	58	0.803	-0.00004	0.569	-0.000005	0.15	0.017	-10	-0.000002	0.0003	-0.0005	0.000005	0.00139	0.00012	-0.0001
4-May-12	59														
11-May-12	60	0.705	-0.00004	0.61	-0.000005	0.119	0.0136	-10	0.000002	-0.0002	-0.0005	0.000004	0.00029	0.00034	-0.0001
18-May-12	61														
25-May-12	62	0.755	-0.00004	0.739	-0.000005	0.122	0.0151	-10	0.000002	-0.0002	-0.0005	0.0000059	0.00041	0.0005	-0.0001
1-Jun-12	63														
8-Jun-12	64	0.536	-0.00004	0.529	-0.000005	0.125	0.0108	-10	0.0000022	-0.0002	-0.0005	0.0000038	0.00023	0.00092	-0.0001
15-Jun-12	65														
22-Jun-12	66	0.711	-0.00004	0.713	-0.000005	0.123	0.0145	-10	0.0000025	-0.0002	-0.0005	0.0000037	0.00064	0.00026	-0.0001
29-Jun-12	67														
6-Jul-12	68	0.676	-0.00004	0.676	-0.000005	0.132	0.0107	-10	-0.000002	-0.0002	-0.0005	0.0000027	0.00048	0.00013	-0.0001
13-Jul-12	69														
20-Jul-12	70	0.79	-0.00004	0.975	-0.000005	0.15	0.017	-10	-0.000002	-0.0002	-0.0005	0.000005	0.00069	0.00195	-0.0001

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Sample =
09SWC506 30-33

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L	P mg/L
27-Jul-12	71	500	450	7.02	12																												
3-Aug-12	72	500	450	6.98	8	#N/A	3.2	6.3	2	-0.5	0.016	4.1	0.0585	-0.00002	0.00026	0.00219	-0.00001	-0.000005	-0.05	0.000007	1.54	-0.0001	-0.000005	0.00058	0.003	0.000064	-0.0005	0.065	0.00026	-0.01	0.000229	0.000048	-0.002
10-Aug-12	73	500	450	7.55	10																												
17-Aug-12	74	500	435	7.12	10	#N/A	3.9	7.2	2	-0.5	0.012	4.47	0.0783	0.000031	0.00036	0.00257	-0.00001	-0.000005	-0.05	-0.000005	1.65	0.0001	0.000008	0.00047	0.0111	0.000066	-0.0005	0.087	0.00067	-0.01	-0.00005	0.000048	-0.002
24-Aug-12	75	500	435	7.15	7																												
31-Aug-12	76	500	445	7.81	22	#N/A	2.5	9.3	2	-0.5	-0.01	3.3	0.0508	-0.00002	0.00038	0.0022	-0.00001	-0.000005	-0.05	-0.000005	1.23	-0.0001	0.000007	0.00034	0.0066	0.000027	-0.0005	0.056	0.00055	-0.01	0.000073	0.000177	-0.002
7-Sep-12	77	500	450	7.38	5																												
14-Sep-12	78	500	480	6.95	6	#N/A	3.3	6.3	2	-0.5	-0.01	3.84	0.0395	-0.00002	0.00024	0.00224	-0.00001	-0.000005	-0.05	-0.000005	1.43	-0.0001	-0.000005	0.0024	0.0019	0.000034	-0.0005	0.064	0.00023	-0.01	-0.00005	0.000044	-0.002
21-Sep-12	79	500	465	7.52	10																												
28-Sep-12	80	500	450	7.44	8	#N/A	2.5	7.3	2	-0.5	0.014	3.29	0.0529	-0.00002	0.00025	0.00211	-0.00001	-0.000005	-0.05	-0.000005	1.23	-0.0001	-0.000005	0.0013	0.003	0.000022	-0.0005	0.054	0.00022	-0.01	-0.00005	0.000103	-0.002
5-Oct-12	81	500	435	7.80	6																												
12-Oct-12	82	500	505	7.30	14	#N/A	4.5	11.1	2	-0.5	0.016	6.49	0.0702	-0.00002	0.00031	0.00333	-0.00001	-0.000005	-0.05	-0.000005	2.41	-0.0001	-0.000005	0.00075	0.0033	0.000058	-0.0005	0.113	0.00018	-0.01	0.000052	-0.00002	-0.002
19-Oct-12	83	500	505	6.91	12																												
26-Oct-12	84	500	495	7.38	12	#N/A	3.0	8.4	2	-0.5	0.012	5.05	0.0628	-0.00002	0.00026	0.00271	-0.00001	-0.000005	-0.05	-0.000005	1.89	-0.0001	-0.000005	0.00045	0.0043	0.000057	-0.0005	0.078	0.00046	-0.01	0.000088	0.000055	-0.002
2-Nov-12	85	500	485	7.52	10																												
9-Nov-12	86	500	490	6.65	11	#N/A	4.9	8.2	3	-0.5	0.019	5.87	0.0836	-0.00002	0.00038	0.0034	-0.00001	-0.000005	-0.05	-0.000005	2.2	-0.0001	-0.000005	0.00052	0.0034	0.000203	-0.0005	0.09	0.0002	-0.01	0.000052	0.000542	-0.002
16-Nov-12	87	500	495	7.25	10																												
23-Nov-12	88	500	490	7.80	21	#N/A	2.9	12.0	2	-0.5	0.016	5.41	0.0553	-0.00002	0.00031	0.00264	-0.00001	-0.000005	-0.05	-0.000005	2.03	-0.0001	-0.000005	0.00028	0.0018	0.000016	-0.0005	0.082	0.00014	-0.01	-0.00005	0.000054	-0.002
30-Nov-12	89	500	490	7.24	10																												
7-Dec-12	90	500	475	7.01	6	#N/A	5.8	7.2	-2	-0.5	0.015	4.24	0.0725	-0.00002	0.0003	0.0029	-0.00001	-0.000005	-0.05	-0.000005	1.59	-0.0001	-0.000005	0.00039	0.003	0.000019	-0.0005	0.065	0.00018	-0.01	0.000061	#N/A	-0.002
14-Dec-12	91	500	465	7.81	10																												
21-Dec-12	92	500	465	7.21	8	#N/A	3.3	6.3	-2	-0.5	0.016	3.76	0.0494	-0.00002	0.00036	0.00231	-0.00001	-0.000005	-0.05	-0.000005	1.42	-0.0001	0.00001	0.00016	0.0029	0.000026	-0.0005	0.051	0.00042	-0.01	-0.00005	0.000129	-0.002
28-Dec-12	93	500	440	7.22	8																												
4-Jan-13	94	500	450	6.83	4	#N/A	4.2	5.3	-2	0.88	0.015	2.96	0.0458	-0.00002	0.00029	0.00222	-0.00001	-0.000005	-0.05	-0.000005	1.1	-0.0001	0.000005	0.0001	-0.001	0.00003	-0.0005	0.051	0.00025	-0.01	-0.00005	0.000074	-0.002
11-Jan-13	95	500	475	7.75	9																												
18-Jan-13	96	500	460	6.88	7	#N/A	2.4	6.2	2	-0.5	0.015	3.68	0.048	-0.00002	0.00032	0.00313	-0.00001	-0.000005	-0.05	-0.000005	1.38	-0.0001	-0.000005	0.00014	0.0013	0.000021	-0.0005	0.058	0.00016	-0.01	-0.00005	0.000024	-0.002
25-Jan-13	97	500	450	6.91	9																												
1-Feb-13	98	500	445	6.65	8	#N/A	3.2	6.2	2	-0.5	0.023	3.94	0.0763	-0.00002	0.00055	0.00223	-0.00001	-0.000005	-0.05	0.000012	1.47	-0.0001	0.000044	0.0002	0.0062	0.000026	-0.0005	0.066	0.00054	-0.01	0.000063	0.000023	-0.002
8-Feb-13	99	500	445	7.71	4																												
15-Feb-13	100	500	445	6.85	9	#N/A	2.73	5.11	2	-0.5	0.013	3.63	0.056	-0.00002	0.00038	0.00232	-0.00001	-0.000005	-0.05	-0.000005	1.35	-0.0001	-0.000005	0.00022	0.0017	0.000019	-0.0005	0.061	0.00011	-0.01	-0.00005	0.000024	-0.002
22-Feb-13	101	500	435	7.82	6																												
1-Mar-13	102	500	435	6.71	5	#N/A	4.4	4.9	3	-0.5	0.011	2.58	0.0521	-0.00002	0.00042	0.00198	-0.00001	-0.000005	-0.05	-0.000005	1.03	-0.0001	-0.000005	0.00012	0.0111	0.000017	-0.0005	-0.05	0.00022	-0.01	0.000108	-0.00002	-0.002
8-Mar-13	103	500	460	6.81	5																												
15-Mar-13	104	500	440	7.35	8	#N/A	4.2	5.5	2	0.59	0.017	3.14	0.0626	-0.00002	0.00046	0.00195	-0.00001	-0.000005	-0.05	0.000019	1.26	-0.0001	-0.000005	0.00021	0.0019	0.000014	-0.0005	-0.05	0.00016	-0.01	0.000054	-0.00002	-0.002
22-Mar-13	105	500	440	7.71	4																												
29-Mar-13	106	500	430	7.24	9	#N/A	2.7	5.3	3	-0.5	0.01	3.84	0.082	-0.00002	0.00044	0.0023	-0.00001	-0.000005	-0.05	-0.000005	1.44	-0.0001	0.000006	0.00013	0.002	0.00003	-0.0005	0.06	0.00012	-0.01	-0.00005	0.000057	-0.002
5-Apr-13	107	500	430	7.61	3																												
12-Apr-13	108	500	450	6.89	4	#N/A	3.8	4.6	2	0.69	-0.01	2.08	0.0456	-0.00002	0.00039	0.00198	-0.00001	-0.000005	-0.05	-0.000005	0.831	-0.0001	-0.000005	8.9E-05	0.0026	0.000017	-0.0005	-0.05	0.00017	-0.01	-0.00005	0.00005	-0.002
19-Apr-13	109	500	450	7.31	6																												
26-Apr-13	110	500	425	7.31	4	#N/A	2.9	3.8	3	-0.5	0.01	1.75	0.0641	-0.00002	0.00033	0.00249	-0.00001	-0.000005	-0.05	-0.000005	0.7	-0.0001	-0.000005	0.00019	0.0037	0.000033	-0.0005	-0.05	0.00037	-0.01	-0.00005	0.000025	-0.002
3-May-13	111	500	425	7.97	3																												
10-May-13	112	500	410	7.33	4	#N/A	3.1	4.3	2	-0.5	-0.01	1.98	0.109	-0.00002	0.00036	0.00384	-0.00001	-0.000005	-0.05	-0.000005	0.791	-0.0001	-0.000005	0.00019	0.0065	0.000059	-0.0005	-0.05	0.00041	-0.01	-0.00005	-0.00002	-0.002
17-May-13	113	500	435	7.63	4																												
24-May-13	114	500	445	7.10	3	#N/A	3.8	3.7	2																								

April 15/11 As 0.00339 and U 0.00136. Repeat As= 0.00309, U= 0.00132. data confirmed, suspect contamination
Aug 5/11 Cl 2.8. Repeat = -0.5, data accepted.
Aug 19/11 Cr 0.0018. Repeat = 0.0001, data accepted.
Jul 22/11 Ni=0.00025, repeat=0.00025. Data confirmed, suspect contamination
Aug 19/11 Ni=0.00024, repeat=0.00024. Data removed, suspect contamination
Nov 11/11 Cd=0.000021, Pb=0.00049. Repeat = 0.000021, 0.000479 respectively. Data confirmed suspect contamination
Dec 23/11 Cr=0.0009, repeat=0.001. data confirmed, suspect contamination
Mar 2/12 Cl=2.4, Cd=0.000074, Cu=0.011, Pb=0.00265, P=0.237, K=2.93, Ag=0.000523, Tl=0.000066, Zn=0.0072. Repeat Cl=-0.5, Data accepted.
Mar 2/12 Repeat Cd=0.000072, Cu=0.0111, Pb=0.00265, P=0.241,K=2.93, Ag=0.00055, Tl=0.000061, Zn=0.0077. Data confirmed, suspect contamination
Jan 20/12 Pb=0.000086, repeat=0.00005. Repeat accepted, fits within 4X Stdev
Apr 13/12 Cd=0.000011, Repeat=0.0000147. Data confirmed, suspect contamination
Apr 27/12 Ni=0.000118, repeat=.000121. Data confirmed, suspect contamination
May 25/12 Tl=0.0000058, repeat=0.000002. Data accepted
May 11/12 Ni=0.000496. Repeat=0.000502. Data confirmed, suspect contamination or analytical error
Jul 20/12 Al=0.112, repeat=0.136. Data confirmed, suspect contamination
Aug 3/12 Sb=0.00018, repeat -0.00002. Data accepted
Dec 7/12 Ni=0.00033, repeat=0.00033. Data confirmed, suspect contamination
Feb 1/13 Zn=0.0036, repeat confirms original result, suspect contamination

HC 5

Sample = 09SWC506 30-33

Date	Cycle No.	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L
27-Jul-12	71														
3-Aug-12	72	0.668	-0.00004	0.576	0.00001	0.135	0.0116	-10	0.000002	0.0003	-0.0005	0.000004	0.00025	0.00101	-0.0001
10-Aug-12	73														
17-Aug-12	74	0.8	-0.00004	0.696	-0.000005	0.167	0.0134	-10	0.000002	-0.0002	-0.0005	0.000002	0.00043	0.00184	-0.0001
24-Aug-12	75														
31-Aug-12	76	0.541	-0.00004	0.489	-0.000005	0.18	0.00859	-10	-0.000002	0.00027	-0.0005	0.000005	0.00021	0.00058	-0.0001
7-Sep-12	77														
14-Sep-12	78	0.653	-0.00004	0.486	-0.000005	0.106	0.0109	-10	0.000003	-0.0002	-0.0005	0.000002	0.00026	0.00013	-0.0001
21-Sep-12	79														
28-Sep-12	80	0.597	-0.00004	0.576	-0.000005	0.135	0.00895	-10	0.000002	0.00024	-0.0005	0.000002	0.00029	0.00045	-0.0001
5-Oct-12	81														
12-Oct-12	82	0.919	-0.00004	0.878	-0.000005	0.146	0.019	-10	-0.000002	-0.0002	-0.0005	0.000004	0.00022	0.00016	-0.0001
19-Oct-12	83														
26-Oct-12	84	0.672	-0.00004	0.673	-0.000005	0.103	0.0131	-10	0.000002	0.0003	-0.0005	0.000005	0.00024	0.00082	-0.0001
2-Nov-12	85														
9-Nov-12	86	0.845	-0.00004	0.854	-0.000005	0.143	0.0159	-3	0.000003	0.00024	-0.0005	0.000005	0.00022	0.00085	-0.0001
16-Nov-12	87														
23-Nov-12	88	0.759	-0.00004	0.73	-0.000005	0.111	0.0139	-3	0.000002	0.00036	-0.0005	-0.000002	0.00025	0.00039	-0.0001
30-Nov-12	89														
7-Dec-12	90	0.702	-0.00004	0.609	-0.000005	0.108	0.0117	-3	0.000002	-0.0002	-0.0005	0.000003	0.00036	0.00193	-0.0001
14-Dec-12	91														
21-Dec-12	92	0.616	-0.00004	0.538	-0.000005	0.112	0.00933	-3	0.000002	-0.0002	-0.0005	0.000003	0.00029	0.00026	-0.0001
28-Dec-12	93														
4-Jan-13	94	0.66	-0.00004	0.449	-0.000005	0.123	0.0087	-3	-0.000002	-0.0002	-0.0005	0.000002	0.00024	0.00018	-0.0001
11-Jan-13	95														
18-Jan-13	96	0.728	-0.00004	0.541	-0.000005	0.104	0.00996	-3	-0.000002	-0.0002	-0.0005	0.000002	0.00029	0.00027	-0.0001
25-Jan-13	97														
1-Feb-13	98	0.837	-0.00004	0.688	-0.000005	0.134	0.0109	-3	0.000002	-0.0002	-0.0005	0.000003	0.00079	0.0036	-0.0001
8-Feb-13	99														
15-Feb-13	100	0.82	-0.00004	0.589	-0.000005	0.124	0.0101	-3	0.000002	-0.0002	-0.0005	0.000002	0.00029	0.00036	-0.0001
22-Feb-13	101														
1-Mar-13	102	0.653	-0.00004	0.545	-0.000005	0.109	0.00743	-3	-0.000002	-0.0002	-0.0005	0.000002	0.00027	0.00014	-0.0001
8-Mar-13	103														
15-Mar-13	104	0.683	-0.00004	0.654	-0.000005	0.106	0.00875	-3	-0.000002	-0.0002	-0.0005	0.000003	0.00037	0.00025	-0.0001
22-Mar-13	105														
29-Mar-13	106	0.879	-0.00004	0.705	0.000044	0.122	0.0106	-3	-0.000002	-0.0002	-0.0005	0.000003	0.0004	0.00015	-0.0001
5-Apr-13	107														
12-Apr-13	108	0.534	-0.00004	0.417	-0.000005	0.085	0.00588	-3	-0.000002	-0.0002	0.00316	-0.000002	0.00058	0.00021	-0.0001
19-Apr-13	109														
26-Apr-13	110	0.646	-0.00004	0.45	0.000736	0.1	0.00537	-3	-0.000002	-0.0002	-0.0005	0.000002	-0.0002	0.00014	-0.0001
3-May-13	111														
10-May-13	112	0.603	-0.00004	0.679	0.000006	0.132	0.00621	-3	-0.000002	-0.0002	-0.0005	-0.000002	0.00022	0.00015	-0.0001
17-May-13	113														
24-May-13	114														

HC 6
Sample =
09SWC506 30-33
DUP

CONFIDENTIAL *DRAFT*

Date	Cycle No.	Volume mL		pH	Cond.	Acidity (pH 4.5)	Acidity (pH 8.3)	Alkalinity	Sulphate	Chloride	Fluoride	Hardness CaCO3	Al	Sb	As	Ba	Be	Bi	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Li	Mg	Mn	Hg	Mo	Ni
		Input	Output		umhos/cm	mgCaCO3/L	mgCaCO3/L	mgCaCO3/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	ug/L	mg/L	mg/L
18-Mar-11	0	500	340	7.49	88	#N/A	3.2	26.3	5	3.7	0.16	26.7	0.209	0.00005	0.00161	0.00463	-0.00001	-0.000005	-0.05	0.000008	9.45	-0.0001	0.000023	0.0015	0.003	0.000036	-0.0005	0.76	0.00308	-0.01	0.00517	0.00016
25-Mar-11	1	500	525	7.83	97																											
1-Apr-11	2	500	505	7.71	69	#N/A	5.5	35.6	4	1.3	0.33	21.1	0.143	0.00005	0.0012	0.00389	-0.00001	-0.000005	-0.05	-0.000005	7.22	-0.0001	0.000007	0.00088	0.005	0.000049	-0.0005	0.76	0.00385	-0.01	0.00479	0.0003
8-Apr-11	3	500	495	7.64	50																											
15-Apr-11	4	500	455	7.58	48	#N/A	2.3	29.9	2	-0.5	0.22	17.9	0.116	0.00004	0.00102	0.00392	-0.00001	-0.000005	-0.05	-0.000005	6.18	-0.0001	0.000005	0.00063	0.008	0.000053	-0.0005	0.61	0.00192	-0.01	0.00075	0.00007
22-Apr-11	5	500	460	7.67	49																											
29-Apr-11	6	500	475	7.49	44	#N/A	3.8	28.3	4	-0.5	0.12	18.9	0.122	0.00003	0.00123	0.0035	-0.00001	-0.000005	-0.05	-0.000005	6.47	-0.0001	-0.000005	0.00061	0.003	0.000026	-0.0005	0.67	0.00212	-0.01	0.00039	0.00008
6-May-11	7	500	460	7.41	38																											
13-May-11	8	500	465	7.39	34	#N/A	3.4	24.2	3	-0.5	0.07	15.5	0.0939	0.00003	0.00088	0.00314	-0.00001	-0.000005	-0.05	-0.000005	5.29	-0.0001	-0.000005	0.00075	0.002	0.000021	-0.0005	0.54	0.00164	-0.01	0.00023	0.00005
20-May-11	9	500	455	7.61	40																											
27-May-11	10	500	460	7.60	40	#N/A	5.4	23.2	4	-0.5	0.09	17.2	0.103	-0.00002	0.00108	0.00318	-0.00001	-0.000005	-0.05	-0.000005	5.91	-0.0001	-0.000005	0.00037	0.002	0.000015	-0.0005	0.58	0.00165	-0.01	0.00023	0.00002
3-Jun-11	11	500	450	7.33	36																											
10-Jun-11	12	500	500	7.46	35	#N/A	2.2	22.7	2	-0.5	0.07	14.9	0.0968	0.00003	0.001	0.00308	-0.00001	-0.000005	-0.05	0.000011	5.22	-0.0001	-0.000005	0.00053	0.003	0.00002	-0.0005	0.45	0.0014	-0.01	0.00018	0.00004
17-Jun-11	13	500	480	7.29	38																											
24-Jun-11	14	500	500	7.60	32	#N/A	2.3	22.3	2	-0.5	-0.01	15.9	0.101	0.00002	0.00083	0.00375	-0.00001	-0.000005	-0.05	-0.000005	5.57	-0.0001	-0.000005	0.00056	0.002	0.00003	-0.0005	0.47	0.00106	-0.01	0.00017	-0.00002
1-Jul-11	15	500	485	7.68	35																											
8-Jul-11	16	500	475	7.39	36	#N/A	3.1	22.9	2	0.7	0.05	14.5	0.124	-0.00002	0.0009	0.00381	-0.00001	-0.000005	-0.05	-0.000005	5.15	-0.0001	-0.000005	0.00051	0.006	0.000038	-0.0005	0.41	0.00095	-0.02	0.00012	0.0002
15-Jul-11	17	500	465	7.59	44																											
22-Jul-11	18	500	485	7.51	35	#N/A	3.6	21.3	-2	0.8	0.04	14.9	0.106	-0.00002	0.00057	0.00891	-0.00001	-0.000005	-0.05	-0.000005	5.26	-0.0001	0.000009	0.00428	0.006	0.000035	-0.0005	0.43	0.00091	-0.01	0.00016	#N/A
29-Jul-11	19	500	475	7.62	40																											
5-Aug-11	20	500	465	7.40	38	#N/A	3.8	22.9	-2	0.5	0.04	15.3	0.141	-0.00002	0.00077	0.00476	-0.00001	-0.000005	-0.05	-0.000005	5.44	-0.0001	0.000005	0.00287	0.007	#N/A	-0.0005	0.42	0.00081	-0.01	0.00012	0.00004
12-Aug-11	21	500	470	7.65	37																											
19-Aug-11	22	500	475	7.46	38	#N/A	3.7	23.3	-2	0.9	0.04	16.9	0.144	-0.00002	0.0007	0.00476	-0.00001	-0.000005	-0.05	-0.000005	6.12	0.0001	0.000006	0.00057	0.007	0.000036	-0.0005	0.39	0.00074	-0.01	0.00012	#N/A
26-Aug-11	23	500	480	7.40	35																											
2-Sep-11	24	500	470	7.62	37	#N/A	3.9	23.9	2	0.8	0.04	15	0.152	-0.00002	0.00072	0.00615	-0.00001	-0.000005	-0.05	-0.000005	5.59	0.0002	0.000006	0.00032	0.006	0.000039	-0.0005	0.37	0.00107	-0.01	0.00015	0.00007
9-Sep-11	25	500	470	7.59	29																											
16-Sep-11	26	500	460	7.34	34	#N/A	4.1	21.9	-2	0.9	0.03	14	0.122	-0.00002	0.00051	0.00459	-0.00001	-0.000005	-0.05	-0.000005	5.09	-0.0001	0.000009	0.00016	0.006	0.000028	-0.0005	0.3	0.00068	-0.01	0.0001	0.00006
23-Sep-11	27	500	505	7.40	38																											
30-Sep-11	28	500	470	7.29	29	#N/A	4.1	21.9	2	0.7	0.03	13.2	0.0994	-0.00002	0.00039	0.00439	-0.00001	-0.000005	-0.05	0.000005	4.87	0.0001	-0.000005	0.00013	0.006	0.000025	-0.0005	0.26	0.00048	-0.01	-0.00005	-0.00002
7-Oct-11	29	500	450	7.47	30																											
14-Oct-11	30	500	455	7.30	29	#N/A	3.3	16.8	2	-0.5	0.03	12.7	0.119	-0.00002	0.0005	0.00394	-0.00001	-0.000005	-0.05	-0.000005	4.65	-0.0001	-0.000005	0.00019	0.002	0.000017	-0.0005	0.26	0.00057	-0.01	0.00008	-0.00002
21-Oct-11	31	500	465	7.62	31																											
28-Oct-11	32	500	460	7.41	30	#N/A	3.6	17.3	-2	-0.5	0.02	14	0.106	-0.00002	0.00048	0.00391	-0.00001	-0.000005	-0.05	-0.000005	5.17	0.0001	-0.000005	0.00027	0.004	0.00002	-0.0005	0.26	0.00029	-0.01	0.00012	0.00011
4-Nov-11	33	500	455	7.53	27																											
11-Nov-11	34	500	470	7.70	28	#N/A	5.0	21.5	2	-0.5	0.02	12.3	0.135	0.00002	0.00055	0.0042	-0.00001	-0.000005	-0.05	#N/A	4.54	0.0003	-0.000005	0.00037	0.005	0.000093	-0.0005	0.24	0.00042	-0.01	0.00012	0.00005
18-Nov-11	35	500	455	7.46	29																											
25-Nov-11	36	500	480	7.62	30	#N/A	3.2	20.3	2	-0.5	0.023	12.7	0.117	0.00002	0.00054	0.00699	-0.00001	-0.000005	-0.05	-0.000005	4.67	-0.0001	0.000006	0.00253	0.007	0.000056	-0.0005	0.24	0.00034	-0.01	0.00012	0.00016
2-Dec-11	37	500	470	7.56	30																											
9-Dec-11	38	500	460	7.38	26	#N/A	4.8	16.3	-2	-0.5	0.014	10.8	0.102	-0.00002	0.00029	0.00375	-0.00001	-0.000005	-0.05	#N/A	3.97	-0.0001	0.000012	0.00059	0.004	#N/A	-0.0005	0.21	0.00195	-0.01	0.00009	0.00028
16-Dec-11	39	500	455	7.59	28																											
23-Dec-11	40	500	460	7.57	28	#N/A	4.1	20.3	3	-0.5	0.021	12.7	0.114	-0.00002	0.00043	0.00467	-0.00001	-0.000005	-0.05	-0.000005	4.68	-0.0001	0.000009	0.00023	0.005	0.000027	-0.0005	0.24	0.0004	-0.01	0.00009	0.00015
30-Dec-11	41	500	465	7.62	24																											
6-Jan-12	42	500	465	7.17	20	#N/A	3.5	13.5	2	-0.5	0.017	8.7	0.0752	-0.00002	0.00035	0.00362	-0.00001	-0.000005	-0.05	-0.000005	3.22	-0.0001	-0.000005	0.00055	0.003	0.000028	-0.0005	0.17	0.00023	-0.01	0.00008	0.00003
13-Jan-12	43	500	465	7.48	22																											
20-Jan-12	44	500	485	7.47	23	#N/A	2.9	15.6	2	-0.5	0.021	9.3	0.0569	-0.00002	0.00034	0.00486	-0.00001	-0.000005	-0.05	-0.000005	3.43	0.0001	0.000007	0.00025	0.003	0.000039	-0.0005	0.16	0.00029	-0.01	0.00008	0.00018
27-Jan-12	45	500	460	7.37	19																											
3-Feb-12	46	500	475	7.29	20	#N/A	5.3	15.0	2	-0.5	0.022	9.7	0.0631	-0.00002	0.00032	0.00313	-0.00001	-0.000005	-0.05	0.000015	3.62	0.0002	0.000006	0.00034	0.003	0.000018	-0.0005	0.16	0.0002	-0.01	0.00007	0.00006
10-Feb-12	47	500	465	7.48	24																											
17-Feb-12	48	500	455	7.32	22	#N/A	2.6	13.2	-2	-0.5	0.018	10.3	0.0812	-0.00002	0.00036	0.00371	-0.00001	-0.000005	-0.05	-0.000005	3.88	-0.0001	0.000006	0.00045	0.003	0.000015	-0.0005	0.16	0.00044	-0.01	0.00007	-0.00002
24-Feb-12	49	500	465	7.29	23																											
2-Mar-12	50	500	460	7.48	22	#N/A	6.6	16.4	-2	-0.5	0.018	9.8	0.0742	-0.00002	0.00034	0.00394	-0.00001	-0.000005	-0.05	0.000006	3.65	-0.0001	0.000006	0.00023	0.007	0.000023	-0.0005	0.16	0.00023	-0.01	0.0001	-0.00002
9-Mar-12	51	500	485	7.41	20																											
16-Mar-12	52	500	460	7.35	22	#N/A	2.9	12.8	-2	-0.5	0.02	9.3	0.0785	-0.00002	0.00034	0.0036	-0.00001	-0.000005	-0.05	-0.000005	3.48	-0.0001	0.000009	0.00033	0.004	0.000044	-0.0005	0.15	0.00029	-0.01	0.00011	#N/A
23-Mar-12	53	500	430	7.47	20																											
30-Mar-12	54	500	485	7.19	22	#N/A	4.0	13.5	2	-0.5	0.022	10.4	0.118	-0.00002	0.00041	0.00486	-0.00001	-0.000005	-0.05	-0.000005	3.92	-0.0001	-0.000005	0.0002	0.008	0.00004	-0.0005	0.15	0.00026	-0.01	0.00009	0.00002
6-Apr-12	55	500	475	7.34	23																											
13-Apr-12	56	500	450	7.36	24	#N/A	2.3	13.9	2	-0.5	0.019	10.2	0.107	-0.00002	0.00045	0.00441	-0.00001	-0.000005	-0.05	#N/A	3.83	0.0001	-0.000005	0.00051	0.005	#N/A	-0.0005	0.15	0.00027	-0.01	0.00011	0.00005
20-Apr-12	57	500	470	7.31	21																											
27-Apr-12	58	500	475	7.46	21	#N/A	4.4	13.5	2	-0.5	0.018	8.83	0.0954	-0.00002	0.000484	0.0037	-0.00001	-0.000005	-0.05	-0.000005	3.32	-0.0001	0.000006	0.00115	0.0042	0.00004	-0.0005	0.132	0.000247	-0.01	0.00007	#N/A
4-May-12	59	500	470	7.56	21																											
11-May-12	60	500	480	7.33	18	#N/A	3.4	10.7	3	-0.5	0.021	8.12	0.107	-0.00002	0.000474	0.00335	-0.00001	-0.000005	-0.05	0.000038	3.09	0.00013	0.000011	0.000942	0.0054	0.00011	-0.0005	0.099	0.000337	-0.01	0.000079	0.000197
18-May-12	61	500	480	7.27	18																											
25-May-12	62	500	470	7.16	17	#N/A	4.1	11.2	2	-0.5	0.016	7.69	0.101	-0.00002	0.000374	0.00353	-0.00001	-0.000005	-0.05	-0.000005	2.9	-0.0001	0.0000104	0.000172	0.0044	0.0000383	-0.0005	0.108	0.000285	-0.01	0.000059	-0.00002
1-Jun-12	63	500	495	7.36	16																											
8-Jun-12	64	500	460	7.27	18	#N/A	3.5	11.7	2	0.64	0.015	8.08	0.0893	-0.00002	0.000575	0.00466	-0.00001	-0.000005	-0.05	-0.000005	3.04	-0.0001	0.0000117	0.000442	0.0041	0.0000224	-0.0005	0.121	0.000375	-0.01	0.000113	0.000249
15-Jun-12	65	500	475	7.24	19																											
22-Jun-12	66	500	440	7.13	13	#N/A	4.3	9.2	3	-0.5	0.024	6.1	0.085	0.000021	0.000467	0.00314	-0.00001	-0.000005	-0.05	-0.000005	2.31	-0.0001	-0.000005	0.000229	0.0035	0.0000264	-0.0005	0.081	0.000229	-0.01	0.000109	0.000026
29-Jun-12	67	500	450	7.21	14																											

HC 6
Sample =
09SWC506 30-33
DUP

Date	Cycle No.	P mg/L	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L
18-Mar-11	0	0.031	2.45	-0.00004	1.37	-0.000005	5.14	0.0786	-10	0.000002	0.00006	-0.0005	0.000016	0.0006	0.0002	-0.0001
25-Mar-11	1															
1-Apr-11	2	-0.002	2.15	-0.00004	2.04	-0.000005	4.15	0.0704	-10	-0.000002	0.00006	-0.0005	0.000085	0.0012	0.0002	-0.0001
8-Apr-11	3															
15-Apr-11	4	-0.002	1.53	-0.00004	1.69	-0.000005	1.63	0.0675	-10	-0.000002	0.00003	0.0006	0.000143	0.001	0.0007	-0.0001
22-Apr-11	5															
29-Apr-11	6	-0.002	1.69	-0.00004	1.98	-0.000005	0.9	0.0619	-10	-0.000002	0.00003	-0.0005	0.000117	0.0012	0.0002	-0.0001
6-May-11	7															
13-May-11	8	-0.002	1.17	-0.00004	1.42	-0.000005	0.56	0.0493	-10	0.000003	0.00003	-0.0005	0.000156	0.0009	0.0002	-0.0001
20-May-11	9															
27-May-11	10	-0.002	1.22	-0.00004	1.65	-0.000005	0.46	0.056	-10	-0.000002	0.00002	-0.0005	0.000072	0.001	0.0003	-0.0001
3-Jun-11	11															
10-Jun-11	12	-0.002	1.08	-0.00004	1.41	-0.000005	0.32	0.0534	-10	-0.000002	0.00032	-0.0005	0.000049	0.0009	0.0003	-0.0001
17-Jun-11	13															
24-Jun-11	14	-0.002	1.45	-0.00004	1.62	-0.000005	0.35	0.0493	-10	-0.000002	0.00031	-0.0005	0.000043	0.0009	0.0002	-0.0001
1-Jul-11	15															
8-Jul-11	16	-0.002	1.33	-0.00004	1.48	-0.000005	0.35	0.0473	-10	0.000002	0.00004	-0.0005	0.000036	0.0009	0.0005	-0.0001
15-Jul-11	17															
22-Jul-11	18	-0.002	1.45	-0.00004	1.19	-0.000005	0.28	0.0476	-10	-0.000002	0.00005	-0.0005	0.000027	0.0007	0.0006	-0.0001
29-Jul-11	19															
5-Aug-11	20	-0.002	1.64	-0.00004	1.25	0.000011	0.27	0.0527	-10	-0.000002	0.00004	-0.0005	0.000113	0.001	0.0005	-0.0001
12-Aug-11	21															
19-Aug-11	22	-0.002	1.68	-0.00004	1.32	-0.000005	0.26	0.0513	-10	0.000002	-0.00001	-0.0005	0.000029	0.001	0.0004	-0.0001
26-Aug-11	23															
2-Sep-11	24	-0.002	1.62	-0.00004	1.3	-0.000005	0.28	0.0488	-10	-0.000002	0.00022	-0.0005	0.000027	0.001	0.0003	-0.0001
9-Sep-11	25															
16-Sep-11	26	-0.002	1.52	-0.00004	1.08	-0.000005	0.17	0.0431	-10	-0.000002	0.00003	-0.0005	0.000019	0.0009	0.0006	-0.0001
23-Sep-11	27															
30-Sep-11	28	-0.002	1.33	-0.00004	0.968	-0.000005	0.17	0.0386	-10	-0.000002	0.00011	-0.0005	0.000016	0.0003	0.0001	-0.0001
7-Oct-11	29															
14-Oct-11	30	-0.002	1.48	-0.00004	1.08	-0.000005	0.21	0.0358	-10	-0.000002	0.00001	-0.0005	0.000016	0.0008	0.0002	-0.0001
21-Oct-11	31															
28-Oct-11	32	-0.002	1.49	-0.00004	1.13	-0.000005	0.22	0.04	-10	0.000003	0.00024	-0.0005	0.000015	0.0007	0.0002	-0.0001
4-Nov-11	33															
11-Nov-11	34	-0.002	1.42	-0.00004	1.16	0.000005	0.23	0.0363	-10	0.000018	0.00017	-0.0005	0.000021	0.0007	0.0015	-0.0001
18-Nov-11	35															
25-Nov-11	36	-0.002	1.4	-0.00004	1.11	-0.000005	0.22	0.0369	-10	0.000002	0.0004	-0.0005	0.000013	0.0008	0.0009	-0.0001
2-Dec-11	37															
9-Dec-11	38	-0.002	1.24	-0.00004	0.735	-0.000005	0.17	0.032	-10	#N/A	0.00022	-0.0005	0.000011	0.0004	#N/A	-0.0001
16-Dec-11	39															
23-Dec-11	40	-0.002	1.47	-0.00004	1.03	-0.000005	0.25	0.0372	-10	0.000003	-0.00001	0.0005	0.000014	0.0006	0.0004	-0.0001
30-Dec-11	41															
6-Jan-12	42	-0.002	1.08	-0.00004	0.789	-0.000005	0.15	0.0258	-10	-0.000002	0.00059	-0.0005	0.000005	0.0005	0.0004	-0.0001
13-Jan-12	43															
20-Jan-12	44	-0.002	0.97	-0.00004	0.711	-0.000005	0.19	0.0278	-10	0.000002	-0.0002	-0.0005	0.000009	0.0007	0.0006	-0.0001
27-Jan-12	45															
3-Feb-12	46	-0.002	1.01	-0.00004	0.854	-0.000005	0.18	0.0247	-10	-0.000002	-0.0002	-0.0005	0.000008	0.0003	0.0001	-0.0001
10-Feb-12	47															
17-Feb-12	48	-0.002	1.17	-0.00004	0.918	0.000005	0.18	0.0256	-10	-0.000002	-0.0002	-0.0005	0.000022	0.0007	-0.0001	-0.0001
24-Feb-12	49															
2-Mar-12	50	-0.002	1.06	-0.00004	0.839	-0.000005	0.16	0.0269	-10	-0.000002	0.0003	-0.0005	0.000012	0.0004	0.0003	-0.0001
9-Mar-12	51															
16-Mar-12	52	-0.002	1.06	-0.00004	0.891	-0.000005	0.2	0.0248	-10	0.000003	-0.0002	-0.0005	0.000005	0.0004	0.0009	-0.0001
23-Mar-12	53															
30-Mar-12	54	-0.002	1.15	-0.00004	1.16	-0.000005	0.19	0.0279	-10	-0.000002	-0.0002	-0.0005	0.000009	0.0005	0.0001	-0.0001
6-Apr-12	55															
13-Apr-12	56	-0.002	1.24	-0.00004	1.11	-0.000005	0.18	0.0281	-10	0.000004	0.0006	-0.0005	0.000009	0.0006	#N/A	-0.0001
20-Apr-12	57															
27-Apr-12	58	-0.002	1.13	-0.00004	0.985	-0.000005	0.194	0.0232	-10	0.000002	0.00045	-0.0005	0.000007	0.00174	0.00054	-0.0001
4-May-12	59															
11-May-12	60	-0.002	1.08	-0.00004	1.06	-0.000005	0.18	0.0185	-10	0.000003	0.00022	-0.0005	0.000004	0.00056	0.00156	-0.0001
18-May-12	61															
25-May-12	62	-0.002	0.97	-0.00004	0.924	-0.000005	0.151	0.0199	-10	0.0000044	-0.0002	-0.0005	0.0000057	0.00051	0.00059	-0.0001
1-Jun-12	63															
8-Jun-12	64	0.0031	0.946	-0.00004	0.949	-0.000005	0.249	0.0199	-10	0.0000023	-0.0002	-0.0005	0.0000055	0.00056	0.00031	-0.0001
15-Jun-12	65															
22-Jun-12	66	-0.002	0.823	-0.00004	0.828	-0.000005	0.138	0.0155	-10	0.0000026	-0.0002	-0.0005	0.0000035	0.00058	0.00015	-0.0001
29-Jun-12	67															

HC 6
Sample =
09SWC506 30-33
DUP

CONFIDENTIAL *DRAFT*

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L
6-Jul-12	68	500	455	7.19	13	#N/A	4.1	8.4	2	-0.5	0.014	5.85	0.0904	-0.00002	0.000385	0.00288	-0.00001	-0.000005	-0.05	-0.000005	2.22	-0.0001	-0.000005	0.000277	0.0031	0.0000262	-0.0005	0.073	0.000251	-0.01	0.000078	-0.00002
13-Jul-12	69	500	470	7.38	13																											
20-Jul-12	70	500	475	7.30	14	#N/A	3.8	9.0	2	0.63	0.014	6.02	0.104	-0.00002	0.000458	0.00261	-0.00001	-0.000005	-0.05	-0.000005	2.28	-0.0001	-0.000005	0.0003	0.0025	0.0000289	-0.0005	0.08	0.000325	-0.01	0.000055	0.000068
27-Jul-12	71	500	435	7.62	14																											
3-Aug-12	72	500	465	7.29	13	#N/A	3.5	9.3	2	-0.5	0.016	6.29	0.129	-0.00002	0.000378	0.00519	-0.00001	-0.000005	-0.05	#N/A	2.38	0.00014	0.00001	0.0013	0.0097	0.000174	-0.0005	0.082	0.000486	-0.01	0.000069	0.000092
10-Aug-12	73	500	450	7.31	10																											
17-Aug-12	74	500	450	7.13	12	#N/A	4.1	7.8	2	-0.5	0.013	5.03	0.078	0.000032	0.000341	0.00335	-0.00001	-0.000005	-0.05	0.000016	1.89	0.00012	0.000005	0.00116	0.0065	#N/A	-0.0005	0.078	0.00062	-0.01	0.00005	0.000093
24-Aug-12	75	500	465	7.32	11																											
31-Aug-12	76	500	460	7.44	13	#N/A	3.0	8.8	2	-0.5	0.018	5.34	0.0909	-0.00002	0.000307	0.00358	-0.00001	-0.000005	-0.05	-0.000005	2.02	-0.0001	0.000008	0.00036	0.0036	0.000028	-0.0005	0.071	0.000338	-0.01	0.000062	0.000125
7-Sep-12	77	500	455	7.06	9																											
14-Sep-12	78	500	490	6.95	12	#N/A	3.1	8.7	3	-0.5	0.015	5.62	0.0907	0.000021	#N/A	0.00401	-0.00001	-0.000005	-0.05	-0.000005	2.11	0.00016	0.000033	0.00183	0.007	0.000172	-0.0005	0.084	0.000419	-0.01	-0.00005	#N/A
21-Sep-12	79	500	470	7.23	16																											
28-Sep-12	80	500	435	7.06	10	#N/A	2.6	7.6	2	-0.5	0.014	4.68	0.113	-0.00002	0.00034	0.00413	-0.00001	-0.000005	-0.05	-0.000005	1.77	0.00024	0.000005	0.000744	0.0081	0.000044	-0.0005	0.063	0.00039	-0.01	0.00005	0.00008
5-Oct-12	81	500	430	7.41	7																											
12-Oct-12	82	500	485	7.28	12	#N/A	5.1	8.6	2	-0.5	0.014	5.39	0.0875	0.000132	0.000367	0.00357	-0.00001	-0.000005	-0.05	0.00003	2.04	-0.0001	-0.000005	0.000362	0.0045	0.000361	-0.0005	0.072	0.000266	-0.01	0.000071	0.000033
19-Oct-12	83	500	505	7.43	14																											
26-Oct-12	84	500	485	7.16	12	#N/A	2.9	8.8	2	-0.5	0.014	5.31	0.0926	-0.00002	0.000435	0.00362	-0.00001	-0.000005	-0.05	-0.000005	2.02	-0.0001	-0.000005	0.000529	0.0062	0.000041	-0.0005	0.066	0.000338	-0.01	0.000095	0.000054
2-Nov-12	85	500	480	7.20	11																											
9-Nov-12	86	500	495	7.35	11	#N/A	4.8	9.2	3	-0.5	0.02	6.07	0.0996	-0.00002	0.000648	0.00362	-0.00001	0.000007	-0.05	0.000019	2.3	-0.0001	0.000009	0.00228	0.0051	0.00056	-0.0005	0.08	0.000309	-0.01	0.00135	0.000311
16-Nov-12	87	500	475	7.31	11																											
23-Nov-12	88	500	490	7.48	14	#N/A	3.0	8.4	3	-0.5	0.017	6.57	0.085	-0.00002	#N/A	0.00307	-0.00001	-0.000005	-0.05	-0.000005	2.49	-0.0001	0.000029	0.000273	0.0092	0.000021	-0.0005	0.083	0.00015	-0.01	0.000065	0.000497
30-Nov-12	89	500	495	7.10	11																											
7-Dec-12	90	500	475	7.45	8	#N/A	5.2	8.7	-2	-0.5	0.016	4.95	0.0796	-0.00002	0.000418	0.00271	-0.00001	-0.000005	-0.05	-0.000005	1.87	-0.0001	-0.000005	0.000465	0.0023	0.000019	-0.0005	0.065	0.000168	-0.01	0.000053	0.00011
14-Dec-12	91	500	480	7.67	7																											
21-Dec-12	92	500	455	7.29	9	#N/A	3.5	7.4	-2	-0.5	0.015	4.22	0.0677	-0.00002	0.000401	0.0025	-0.00001	-0.000005	-0.05	-0.000005	1.6	-0.0001	-0.000005	0.000117	0.0029	0.000032	-0.0005	0.052	0.000172	-0.01	0.000052	0.000039
28-Dec-12	93	500	450	7.31	12																											
4-Jan-13	94	500	440	7.39	6	#N/A	4.2	7.4	-2	-0.5	0.016	4	0.0514	-0.00002	0.000376	0.00279	-0.00001	-0.000005	-0.05	-0.000005	1.51	-0.0001	0.000007	0.000343	0.0033	0.000289	-0.0005	0.059	0.000424	-0.01	0.00006	0.000117
11-Jan-13	95	500	475	7.34	7																											
18-Jan-13	96	500	460	7.30	9	#N/A	2.4	6.5	2	-0.5	0.017	3.79	0.0464	-0.00002	0.000327	0.00266	-0.00001	-0.000005	-0.05	-0.000005	1.42	-0.0001	-0.000005	0.00119	0.0017	0.000049	-0.0005	0.056	0.000318	-0.01	-0.00005	0.000123
25-Jan-13	97	500	455	7.28	13																											
1-Feb-13	98	500	440	7.44	5	#N/A	3.5	5.6	3	-0.5	0.018	2.96	0.0611	-0.00002	0.000333	0.00243	-0.00001	-0.000005	-0.05	-0.000005	1.18	-0.0001	-0.000005	0.000125	0.0032	0.000046	-0.0005	-0.05	0.000273	-0.01	0.000059	-0.00002
8-Feb-13	99	500	445	7.51	6																											
15-Feb-13	100	500	445	7.06	7	#N/A	2.6	5.0	2	-0.5	0.012	2.7	0.0453	-0.00002	0.000293	0.00241	-0.00001	-0.000005	-0.05	-0.000005	1.08	-0.0001	-0.000005	0.0001	0.0017	0.000017	-0.0005	-0.05	0.000199	-0.01	-0.00005	-0.00002
22-Feb-13	101	500	455	7.64	6																											
1-Mar-13	102	500	440	7.12	5	#N/A	4.4	5.6	3	-0.5	0.012	2.75	0.0561	-0.00002	0.000375	0.00245	-0.00001	-0.000005	-0.05	-0.000005	1.1	-0.0001	-0.000005	0.000217	0.004	0.000026	-0.0005	-0.05	0.000227	-0.01	0.000079	-0.00002
8-Mar-13	103	500	490	7.21	11																											
15-Mar-13	104	500	460	7.27	6	#N/A	4.6	5.6	3	0.65	0.017	3.05	0.048	-0.00002	0.000357	0.00235	-0.00001	-0.000005	-0.05	-0.000005	1.22	0.00071	-0.000005	0.000166	0.0013	0.000017	-0.0005	-0.05	0.000308	-0.01	0.000072	0.000027
22-Mar-13	105	500	445	7.40	4																											
29-Mar-13	106	500	435	7.12	4	#N/A	2.9	4.0	2	-0.5	0.012	2.43	0.0512	-0.00002	0.000404	0.00215	-0.00001	-0.000005	-0.05	-0.000005	0.974	-0.0001	-0.000005	0.000298	0.0021	0.000034	-0.0005	-0.05	0.000289	-0.01	-0.00005	0.000027
5-Apr-13	107	500	435	7.26	3																											
12-Apr-13	108	500	460	7.33	5	#N/A	4.1	5.4	3	0.56	0.011	2.4	0.0555	-0.00002	0.000411	0.00241	-0.00001	-0.000005	-0.05	-0.000005	0.961	-0.0001	-0.000005	0.00011	0.0015	0.000014	-0.0005	-0.05	0.000284	-0.01	0.000063	0.000027
19-Apr-13	109	500	450	7.50	5																											
26-Apr-13	110	500	430	6.98	5	#N/A	3.2	4.4	3	-0.5	0.013	2.5	0.0803	-0.00002	0.000472	0.00332	-0.00001	-0.000005	-0.05	-0.000005	1	-0.0001	-0.000005	0.000199	0.0037	0.000021	-0.0005	-0.05	0.000297	-0.01	0.000058	0.000115
3-May-13	111	500	485	7.22	8																											
10-May-13	112	500	410	6.94	4	#N/A	3.3	3.8	2	1	-0.01	1.95	0.0642	-0.00002	0.000302	0.00265	-0.00001	-0.000005	-0.05	-0.000005	0.783	-0.0001	0.000006	0.000183	0.0021	0.000023	-0.0005	-0.05	0.000353	-0.01	-0.00005	0.000086
17-May-13	113	500	435	7.42	4																											
24-May-13	114	500	435	6.98	4	#N/A	3.8	3.6	2																							

Aug 5/11 Zn 0.0031. Repeat =0.0005, data accepted.
Aug 5/11 Pb=0.000149, repeat= 0.000149. Data confirmed, suspect contamination
Jul 22/11 Ni=0.00069, repeat=0.00069. Data confirmed, suspect contamination
Aug 19/11 Ni=0.0002, repeat=0.0002. Data confirmed, suspect contamination
Dec 9/11 Cl=2.6, Cd=0.000048, Pb=0.000984, Tl=0.000031, Zn=0.0055, repeat= Cl=0.5. data accepted. Cd= 0.000047, Pb= 0.00105, Tl= 0.00003, Zn= 0.0056. data confirmed suspect contamination
Nov 11/11 Cd=0.000052 repeat=0.000049. Data confirmed, suspect contamination
Mar 16/12 Ni=0.00027, repeat=0.00027. Data confirmed, suspect contamination
Apr 13/12 Pb=0.000268, Cd=0.000174, Zn=0.0026. Repeat Cd=0.000162, Pb=0.000296, Zn=0.00279. Data confirmed, suspect contamination
Apr 27,12 Ni=0.000133, repeat=0.000154. Data confirmed, suspect contamination
Sept 14/12 As=0.00166, Ni=0.000621. repeat As=0.000177, Ni=0.00066. Data confirmed suspect contamination
Aug 3/12 Sb=0.000096, Cd=0.000066, repeat Sb=-0.00002, Data accepted. Cd=0.000058, Data confirmed suspect contamination
Aug 17/12 Pb=0.00238, repeat =0.00235
Nov 23/12 As=0.00173, Ni=0.000688, repeat As=0.00173, Data confirmed, suspect contamination Ni=0.000497. Data accepted within 4X stdev

HC 6
Sample =
09SWC506 30-33
DUP

Date	Cycle No.	P mg/L	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L
6-Jul-12	68	-0.002	0.866	-0.00004	0.863	-0.000005	0.157	0.014	-10	-0.000002	-0.0002	-0.0005	0.0000036	0.00047	-0.0001	-0.0001
13-Jul-12	69															
20-Jul-12	70	-0.002	0.856	-0.00004	1.02	-0.000005	0.165	0.0143	-10	0.0000022	-0.0002	-0.0005	0.0000028	0.00068	0.00165	-0.0001
27-Jul-12	71															
3-Aug-12	72	-0.002	0.897	-0.00004	1.03	-0.000005	0.213	0.0152	-10	0.000003	0.00029	-0.0005	0.000006	0.00039	0.00336	-0.0001
10-Aug-12	73															
17-Aug-12	74	-0.002	0.886	-0.00004	0.69	-0.000005	0.221	0.0128	-10	0.000002	0.00036	-0.0005	0.000004	0.00034	0.00395	-0.0001
24-Aug-12	75															
31-Aug-12	76	-0.002	0.767	-0.00004	0.79	-0.000005	0.199	0.0126	-10	0.000002	-0.0002	-0.0005	0.000003	0.00025	0.0004	-0.0001
7-Sep-12	77															
14-Sep-12	78	-0.002	0.816	-0.00004	0.824	-0.000005	0.247	0.0157	-10	0.000003	-0.0002	-0.0005	0.000011	0.0004	0.00092	-0.0001
21-Sep-12	79															
28-Sep-12	80	-0.002	0.74	-0.00004	0.868	-0.000005	0.177	0.0112	-10	0.000002	-0.0002	-0.0005	0.000002	0.00026	0.00031	-0.0001
5-Oct-12	81															
12-Oct-12	82	0.0076	0.836	-0.00004	0.88	-0.000005	0.16	0.0126	-10	-0.000002	-0.0002	-0.0005	0.000008	0.00024	0.00218	-0.0001
19-Oct-12	83															
26-Oct-12	84	0.0099	0.753	-0.00004	0.938	-0.000005	0.139	0.0129	-10	0.000002	0.00023	-0.0005	0.000003	0.00038	0.00031	-0.0001
2-Nov-12	85															
9-Nov-12	86	-0.002	0.947	-0.00004	1.16	-0.000005	0.212	0.0142	-3	0.000003	0.00035	-0.0005	0.000006	0.00078	0.00197	-0.0001
16-Nov-12	87															
23-Nov-12	88	-0.002	0.935	-0.00004	1.01	-0.000005	0.148	0.0154	-3	0.000003	0.00046	-0.0005	0.000002	0.00036	0.00069	-0.0001
30-Nov-12	89															
7-Dec-12	90	-0.002	0.788	-0.00004	0.728	-0.000005	0.12	0.0115	-3	0.000002	-0.0002	-0.0005	0.000002	0.00048	0.0009	-0.0001
14-Dec-12	91															
21-Dec-12	92	-0.002	0.708	-0.00004	0.687	-0.000005	0.132	0.00969	-3	0.000002	-0.0002	-0.0005	-0.000002	0.00036	0.00017	-0.0001
28-Dec-12	93															
4-Jan-13	94	-0.002	0.736	-0.00004	0.592	-0.000005	0.144	0.00985	-3	0.000002	0.00023	-0.0005	-0.000002	0.00024	0.00067	-0.0001
11-Jan-13	95															
18-Jan-13	96	0.0027	0.659	-0.00004	0.631	-0.000005	0.113	0.00917	-3	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.00076	-0.0001
25-Jan-13	97															
1-Feb-13	98	0.0021	0.667	-0.00004	0.649	-0.000005	0.13	0.00751	-3	0.000002	-0.0002	-0.0005	-0.000002	0.0006	0.00026	-0.0001
8-Feb-13	99															
15-Feb-13	100	-0.002	0.627	-0.00004	0.557	-0.000005	0.111	0.00706	-3	0.000002	-0.0002	-0.0005	-0.000002	-0.0002	-0.0001	-0.0001
22-Feb-13	101															
1-Mar-13	102	-0.002	0.683	-0.00004	0.647	-0.000005	0.138	0.00714	-3	-0.000002	-0.0002	-0.0005	-0.000002	0.00026	0.00024	-0.0001
8-Mar-13	103															
15-Mar-13	104	-0.002	0.621	-0.00004	0.681	-0.000005	0.121	0.00733	-3	-0.000002	-0.0002	-0.0005	-0.000002	0.00029	0.00011	-0.0001
22-Mar-13	105															
29-Mar-13	106	-0.002	0.611	-0.00004	0.57	-0.000005	0.115	0.00627	-3	-0.000002	-0.0002	-0.0005	-0.000002	0.00029	0.00015	-0.0001
5-Apr-13	107															
12-Apr-13	108	-0.002	0.617	-0.00004	0.562	-0.000005	0.115	0.0068	-3	-0.000002	-0.0002	0.00083	-0.000002	0.00043	-0.0001	-0.0001
19-Apr-13	109															
26-Apr-13	110	-0.002	0.649	-0.00004	0.621	0.000045	0.157	0.00684	-3	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.00101	-0.0001
3-May-13	111															
10-May-13	112	-0.002	0.5	-0.00004	0.528	-0.000005	0.111	0.00525	-3	-0.000002	-0.0002	-0.0005	-0.000002	0.00025	0.00016	-0.0001
17-May-13	113															
24-May-13	114															

HC 7

CONFIDENTIAL *DRAFT*

Sample = 09SWC484 40-43

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L
18-Mar-11	0	500	325	7.71	172	#N/A	3.7	69.5	5	2.2	0.99	42	0.0795	-0.00002	0.00017	0.0155	-0.00001	-0.000005	-0.05	0.000006	11.2	-0.0001	0.000062	0.00614	0.003	-0.000005	0.0058	3.44	0.0282	-0.01	0.00406	0.00011
25-Mar-11	1	500	515	8.00	130																											
1-Apr-11	2	500	525	7.90	119	#N/A	5.3	68.8	4	0.8	0.95	30.2	0.0629	0.00002	0.00038	0.00947	-0.00001	-0.000005	-0.05	0.000008	7.94	0.0009	0.000033	0.00203	0.008	0.000017	0.005	2.53	0.0221	-0.01	0.00491	0.00012
8-Apr-11	3	500	465	7.75	91																											
15-Apr-11	4	500	455	7.90	105	#N/A	2.6	59.8	2	-0.5	0.66	26.4	0.0533	-0.00002	0.00008	0.00799	-0.00001	-0.000005	-0.05	-0.000005	6.84	-0.0001	0.00002	0.00119	0.008	0.000023	0.0042	2.25	0.0191	-0.01	0.00212	0.0001
22-Apr-11	5	500	470	7.79	95																											
29-Apr-11	6	500	465	7.79	91	#N/A	3.8	58.4	4	-0.5	0.55	30.9	0.0643	-0.00002	0.00008	0.00972	-0.00001	-0.000005	-0.05	-0.000005	7.83	-0.0001	0.000019	0.0014	0.007	0.00001	0.0044	2.75	0.0213	-0.01	0.00111	0.00008
6-May-11	7	500	450	7.74	112																											
13-May-11	8	500	460	7.79	100	#N/A	3.8	50.0	4	0.5	0.41	40.3	0.0498	-0.00002	0.00017	0.0107	-0.00001	-0.000005	-0.05	-0.000005	10.4	-0.0001	0.00002	0.00072	0.004	0.000011	0.0043	3.49	0.0256	-0.01	0.00057	0.00009
20-May-11	9	500	460	7.89	88																											
27-May-11	10	500	460	7.80	84	#N/A	5.2	47.8	3	-0.5	0.3	36	0.0451	-0.00002	0.00012	0.00945	-0.00001	-0.000005	-0.05	-0.000005	9.21	-0.0001	0.00002	0.00055	0.002	0.000017	0.0034	3.16	0.0301	-0.01	0.00042	0.00003
3-Jun-11	11	500	455	7.72	90																											
10-Jun-11	12	500	475	7.84	91	#N/A	2.4	56.7	2	0.9	0.24	38.7	0.0506	-0.00002	0.00075	0.0104	-0.00001	-0.000005	-0.05	0.000006	9.95	-0.0001	0.000038	0.00061	0.004	0.00001	0.0035	3.36	0.0327	-0.01	0.0003	#N/A
17-Jun-11	13	500	435	7.69	91																											
24-Jun-11	14	500	465	8.01	97	#N/A	2.0	60.5	2	-0.5	0.21	49.7	0.0412	-0.00002	0.00065	0.012	-0.00001	-0.000005	-0.05	-0.000005	12.7	-0.0001	0.000026	0.00035	0.003	0.000009	0.0034	4.4	0.0435	-0.01	0.00024	-0.00002
1-Jul-11	15	500	470	7.91	109																											
8-Jul-11	16	500	465	7.83	114	#N/A	3.6	64.7	2	-0.5	0.21	46.1	0.0519	-0.00002	0.00004	0.0119	-0.00001	-0.000005	-0.05	-0.000005	12.1	-0.0001	0.00004	0.00078	0.005	0.000031	0.0032	3.87	0.0398	-0.01	0.00014	0.00018
15-Jul-11	17	500	460	7.72	113																											
22-Jul-11	18	500	485	7.78	106	#N/A	3.8	55.5	-2	0.8	0.2	48.5	0.0603	-0.00002	0.00005	0.0133	-0.00001	0.00001	-0.05	0.000006	12.4	-0.0001	0.000065	0.00112	0.017	#N/A	0.0034	4.26	0.0422	-0.01	0.0001	0.0002
29-Jul-11	19	500	450	7.90	114																											
5-Aug-11	20	500	480	7.74	115	#N/A	4.2	65.7	-2	0.8	0.21	50.2	0.0373	-0.00002	0.00003	0.0139	-0.00001	-0.000005	-0.05	-0.000005	12.3	-0.0001	0.000063	0.00025	0.002	-0.000005	0.0035	4.73	0.0514	-0.01	0.0001	0.00002
12-Aug-11	21	500	460	7.80	102																											
19-Aug-11	22	500	465	7.76	106	#N/A	4.4	63.2	-2	0.8	0.23	49.3	0.0409	-0.00002	0.00006	0.0131	-0.00001	-0.000005	-0.05	-0.000005	12.9	-0.0001	0.000057	0.00069	0.003	0.000017	0.0035	4.17	0.0412	-0.01	0.00009	#N/A
26-Aug-11	23	500	460	7.65	103																											
2-Sep-11	24	500	465	7.81	103	#N/A	4.8	64.1	2	0.6	0.22	48	0.0358	-0.00002	0.00013	0.0123	-0.00001	-0.000005	-0.05	0.000012	12.4	-0.0001	0.000059	0.00037	0.003	0.000008	0.0034	4.14	0.0429	-0.01	0.00007	0.00004
9-Sep-11	25	500	470	7.82	105																											
16-Sep-11	26	500	465	7.65	109	#N/A	5.2	64.6	-2	0.9	0.23	50.7	0.0311	-0.00002	0.00012	0.0128	-0.00001	0.000006	-0.05	0.000007	13.4	-0.0001	0.000061	0.00035	0.003	0.000012	0.0034	4.18	0.0411	-0.01	0.00006	0.00004
23-Sep-11	27	500	450	7.71	106																											
30-Sep-11	28	500	475	7.76	108	#N/A	3.4	66.5	-2	0.6	0.24	50.8	0.0224	-0.00002	0.00005	0.0122	-0.00001	-0.000005	-0.05	0.000008	13	-0.0001	0.000045	0.00017	0.004	-0.000005	0.0039	4.46	0.0343	-0.01	-0.00005	-0.00002
7-Oct-11	29	500	455	7.73	107																											
14-Oct-11	30	500	445	7.68	89	#N/A	3.5	51.9	-2	-0.5	0.21	44.3	0.0283	-0.00002	0.0001	0.00956	-0.00001	-0.000005	-0.05	-0.000005	11.4	-0.0001	0.000025	0.00016	0.001	-0.000005	0.0033	3.87	0.0292	-0.01	-0.00005	0.00008
21-Oct-11	31	500	455	7.77	89																											
28-Oct-11	32	500	460	7.86	124	#N/A	3.6	73.8	-2	-0.5	0.25	59.4	0.0322	-0.00002	0.00005	0.0146	-0.00001	-0.000005	-0.05	-0.000005	15.2	-0.0001	0.000039	0.00041	0.008	0.000017	0.0038	5.2	0.0353	-0.01	-0.00005	0.00005
4-Nov-11	33	500	460	7.84	110																											
11-Nov-11	34	500	460	7.81	116	#N/A	6.1	70.6	-2	-0.5	0.26	58.1	0.0214	-0.00002	0.00007	0.0139	-0.00001	-0.000005	-0.05	#N/A	14.8	-0.0001	0.000042	0.00027	0.002	0.000037	0.0047	5.15	0.0306	-0.02	-0.00005	0.00017
18-Nov-11	35	500	455	7.83	125																											
25-Nov-11	36	500	465	7.87	128	#N/A	4.0	78.3	2	-0.5	0.28	61.5	0.0242	-0.00002	0.00004	0.0148	-0.00001	-0.000005	-0.05	0.000013	15.5	-0.0001	0.000041	0.0018	0.003	0.000018	0.0049	5.51	0.0318	-0.01	-0.00005	0.00018
2-Dec-11	37	500	455	7.76	129																											
9-Dec-11	38	500	470	7.70	116	#N/A	5.3	71.5	2	-0.5	0.24	57.6	0.029	-0.00002	0.00005	0.0132	-0.00001	-0.000005	-0.05	-0.000005	14.2	-0.0001	0.000037	0.00093	0.003	0.000007	0.004	5.4	0.0275	-0.01	-0.00005	0.00022
16-Dec-11	39	500	455	7.74	124																											
23-Dec-11	40	500	455	7.76	119	#N/A	4.9	76.7	3	-0.5	0.27	59.8	0.0288	-0.00002	-0.00002	0.0149	-0.00001	-0.000005	-0.05	-0.000005	14.7	#N/A	0.000047	0.0006	0.003	0.000021	0.004	5.6	0.0241	-0.01	-0.00005	0.00031
30-Dec-11	41	500	470	7.73	119																											
6-Jan-12	42	500	465	7.69	114	#N/A	3.7	82.1	2	-0.5	0.24	57.6	0.0149	-0.00002	0.00004	0.0131	-0.00001	-0.000005	-0.05	-0.000005	14.1	-0.0001	0.000027	0.0003	0.001	0.000007	0.0041	5.46	0.022	-0.01	-0.00005	-0.00002
13-Jan-12	43	500	460	7.68	113																											
20-Jan-12	44	500	465	7.80	125	#N/A	3.1	89.6	2	-0.5	0.26	56.6	0.0218	-0.00002	0.00008	0.0171	-0.00001	0.000005	-0.05	#N/A	14.1	0.0002	0.000049	#N/A	0.014	#N/A	0.004	5.18	0.0203	-0.01	-0.00005	#N/A
27-Jan-12	45	500	460	7.68	120																											
3-Feb-12	46	500	465	7.63	121	#N/A	7.4	82.8	2	-0.5	0.25	62.4	0.0186	-0.00002	0.00005	0.0122	-0.00001	-0.000005	-0.05	-0.000005	15.8	-0.0001	0.000016	0.00011	0.002	-0.000005	0.0038	5.58	0.0179	-0.01	0.00011	0.00003
10-Feb-12	47	500	465	7.61	119																											
17-Feb-12	48	500	465	7.77	122	#N/A	3.5	76.3	-2	-0.5	0.26	64.7	0.0231	-0.00002	0.00008	0.0139	-0.00001	-0.000005	-0.05	-0.000005	16.7	-0.0001	0.000018	0.00093	0.009	0.000019	0.0041	5.58	0.0132	-0.01	-0.00005	-0.00002
24-Feb-12	49	500	450	7.62	115																											
2-Mar-12	50	500	455	7.56	114	#N/A	8.9	71.8	-2	-0.5	0.24	54.8	0.0169	-0.00002	0.00004	0.0123	-0.00001	-0.000005	-0.05	0.000012	13.8	-0.0001	0.000017	0.0003	0.002	#N/A	0.0033	4.94	0.00858	-0.01	-0.00005	0.00005
9-Mar-12	51	500	465	7.66	127																											
16-Mar-12	52	500	460	7.83	134	#N/A	3.6	78.6	-2	-0.5	0.24	64.2	0.0159	-0.00002	-0.00002	0.0142	-0.00001	-0.000005	-0.05	0.000006	16.1	-0.0001	0.000018	0.00041	0.004	0.000006	0.0037	5.8	0.0032	-0.01	-0.00005	0.00019
23-Mar-12	53	500	455	7.62	131																											
30-Mar-12	54	500	465	7.64	125	#N/A	4.6	73.5	3	-0.5	0.21	60.4	0.02	-0.00002	0.00007	0.0133	-0.00001	-0.000005	-0.05	-0.000005	15.7	-0.0001	0.000008	0.00016	0.005	0.000009	0.0033	5.17	0.00089	-0.01	-0.00005	0.00004
6-Apr-12	55	500	455	7.77	125																											
13-Apr-12	56	500	455	7.89	121	#N/A	2.6	72.3	2	-0.5	0.19	59.7	0.023	-0.00002	-0.00002	0.0139	-0.00001	-0.000005	-0.05	-0.000005	15.3	-0.0001	-0.000005	0.00038	0.004	0.000067	0.0032	5.23	0.00048	-0.01	-0.00005	0.00004
20-Apr-12	57	500	465	7.73	127																											
27-Apr-12	58	500	465	7.71	117	#N/A	5.5	70.6	2	-0.5	0.19	54	0.016	-0.00002	0.000073	0.0142	-0.00001	-0.000005	-0.05	0.000011	13.8	0.00021	0.000014	0.000815	0.005	0.000008	0.00272	4.71	0.000627	-0.01	0.000084	#N/A
4-May-12	59	500	465	7.60	115																											
11-May-12	60	500	480	7.78	107	#N/A	3.5	63.9	3	-0.5	0.17	54	0.0159	-0.00002	0.000074	0.0124	-0.00001	-0.000005	-0.05	0.000005	14.2	-0.0001	0.000008	0.000632	0.0036	0.000016	0.00241	4.51	0.000662	-0.01	-0.00005	0.000128
18-May-12	61	500	460	7.71	119																											
25-May-12	62	500	470	7.69	117	#N/A	4.8	68.3	2	0.51	0.2	55.7	0.024	-0.00002	0.000181	0.0126	-0.00001	-0.000005	-0.05	-0.000005	14.4	-0.0001	0.0000095	0.000182	0.005	0.0000448	0.00299	4.79	0.000547	-0.01	-0.00005	0.000022
1-Jun-12	63	500	500	7.60	118																											
8-Jun-12	64	500	440	7.75	93	#N/A	3.6	55.6	3	0.77	0.16	43.5	0.0175	-0.00002	0.000025	0.0101	-0.00001	-0.000005	-0.05	0.0000109	11.2	-0.0001	0.0000084	0.00339	0.0042	0.0000513	0.00221	3.8	0.000497	-0.01	-0.00005	0.000236
15-Jun-12	65	500	470	7.62	101																											
22-Jun-12	66	500	440	7.65	96	#N/A	5.1	59.5	3	-0.5	0.2	46.2	0.0253	-0.00002	0.00011	0.0114	-0.00001	-0.000005	-0.05	-0.000005	11.9	-0.0001	0.0000104	0.000188	0.0028	0.000267	0.00249	4	0.00156	-0.01	0.00008	0.000065
29-Jun-12	67	500	455	7.52	91																											
6-Jul-12	68	500	445	7.66	94	#N/A	5.1	57.0	2	-0.5	0.19	42.5	0.0207	-0.00002	0.000147	0.0107	-0.00001	-0.000005	-0.05	-0.000005	10.7	-0.0001	0.0000053	0.000238	0.0038	0.0000106	0.00265	3.84	0.00107	-0.01	-0.00005	0.000041
13-Jul-12	69	500	445	7.64	87																											

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Date	Cycle No.	P mg/L	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L
18-Mar-11	0	0.038	4.91	0.0002	1.27	-0.000005	16.7	0.301	-10	-0.000002	0.00003	-0.0005	0.000334	0.0014	0.0004	0.0002
25-Mar-11	1															
1-Apr-11	2	-0.002	3.49	0.00012	1.53	-0.000005	10.1	0.217	-10	-0.000002	0.00024	0.0006	0.000765	0.0015	0.0004	-0.0001
8-Apr-11	3															
15-Apr-11	4	-0.002	3.1	0.00005	1.11	-0.000005	6.11	0.218	-10	-0.000002	0.00017	0.0005	0.000571	0.0013	0.0007	-0.0001
22-Apr-11	5															
29-Apr-11	6	-0.002	3.49	-0.00004	1.3	-0.000005	4.25	0.243	-10	-0.000002	0.00013	-0.0005	0.000533	0.0012	0.0002	-0.0001
6-May-11	7															
13-May-11	8	-0.002	3.51	-0.00004	1.27	-0.000005	2.41	0.292	-10	0.000004	0.00006	-0.0005	0.000464	0.0008	0.0002	-0.0001
20-May-11	9															
27-May-11	10	-0.002	2.66	0.00005	0.915	-0.000005	1.36	0.264	-10	-0.000002	0.00008	-0.0005	0.000337	0.0006	0.0002	-0.0001
3-Jun-11	11															
10-Jun-11	12	-0.002	2.46	-0.00004	0.751	-0.000005	0.81	0.31	-10	0.000003	0.00025	-0.0005	0.000293	0.0004	0.0008	-0.0001
17-Jun-11	13															
24-Jun-11	14	-0.002	2.75	-0.00004	0.913	-0.000005	0.89	0.335	-10	0.000005	0.00003	-0.0005	0.000434	0.0004	0.0002	-0.0001
1-Jul-11	15															
8-Jul-11	16	-0.002	2.27	-0.00004	0.766	-0.000005	0.63	0.35	-10	-0.000002	0.00004	-0.0005	0.000259	0.0003	0.0002	-0.0001
15-Jul-11	17															
22-Jul-11	18	#N/A	2.99	0.00009	0.693	0.00004	0.64	0.347	-10	0.000004	0.00002	-0.0005	0.000201	0.0002	0.0011	-0.0001
29-Jul-11	19															
5-Aug-11	20	-0.002	3.14	-0.00004	0.556	0.000007	0.58	0.387	-10	0.000002	0.00004	-0.0005	0.000225	0.0002	0.0004	-0.0001
12-Aug-11	21															
19-Aug-11	22	-0.002	3.12	-0.00004	0.582	-0.000005	0.52	0.348	-10	0.000003	0.00002	-0.0005	0.000184	-0.0002	0.0002	-0.0001
26-Aug-11	23															
2-Sep-11	24	-0.002	2.96	-0.00004	0.491	-0.000005	0.52	0.336	-10	0.000003	0.00031	-0.0005	0.00017	0.0002	0.0005	-0.0001
9-Sep-11	25															
16-Sep-11	26	-0.002	2.98	-0.00004	0.468	-0.000005	0.43	0.353	-10	0.000003	0.00002	-0.0005	0.00015	-0.0002	0.0004	-0.0001
23-Sep-11	27															
30-Sep-11	28	-0.002	3.04	-0.00004	0.423	-0.000005	0.5	0.361	-10	0.000002	0.00012	-0.0005	0.00013	-0.0002	-0.0001	-0.0001
7-Oct-11	29															
14-Oct-11	30	-0.002	2.66	-0.00004	0.363	-0.000005	0.46	0.285	-10	0.000004	0.00003	-0.0005	0.000088	-0.0002	0.0003	-0.0001
21-Oct-11	31															
28-Oct-11	32	-0.002	3.42	-0.00004	0.405	-0.000005	0.6	0.423	-10	0.000006	0.00031	-0.0005	0.000112	-0.0002	0.0003	-0.0001
4-Nov-11	33															
11-Nov-11	34	-0.002	3.44	-0.00004	0.411	-0.000005	0.63	0.376	-10	0.000018	0.0001	-0.0005	0.000094	-0.0002	#N/A	-0.0001
18-Nov-11	35															
25-Nov-11	36	-0.002	3.34	-0.00004	0.386	-0.000005	0.59	0.397	-10	0.000005	0.00022	-0.0005	0.000077	-0.0002	0.0005	-0.0001
2-Dec-11	37															
9-Dec-11	38	-0.002	3.17	-0.00004	0.329	-0.000005	0.57	0.372	-10	0.000004	0.00017	-0.0005	0.000085	-0.0002	0.0004	-0.0001
16-Dec-11	39															
23-Dec-11	40	-0.002	3.38	-0.00004	0.326	-0.000005	0.65	0.378	-10	0.000006	-0.00001	-0.0005	0.000074	-0.0002	0.0005	-0.0001
30-Dec-11	41															
6-Jan-12	42	-0.002	3.08	-0.00004	0.305	-0.000005	0.48	0.364	-10	0.000005	0.00006	-0.0005	0.000065	-0.0002	0.0002	-0.0001
13-Jan-12	43															
20-Jan-12	44	#N/A	4.57	-0.00004	0.299	#N/A	0.76	0.359	-10	#N/A	-0.0002	-0.0005	0.000062	-0.0002	#N/A	-0.0001
27-Jan-12	45															
3-Feb-12	46	-0.002	2.95	-0.00004	0.323	-0.000005	0.46	0.343	-10	0.000003	-0.0002	-0.0005	0.000062	-0.0002	0.0001	-0.0001
10-Feb-12	47															
17-Feb-12	48	-0.002	3.13	-0.00004	0.364	-0.000005	0.46	0.357	-10	0.000004	-0.0002	-0.0005	0.000056	-0.0002	0.0003	-0.0001
24-Feb-12	49															
2-Mar-12	50	-0.002	2.74	-0.00004	0.272	-0.000005	0.4	0.315	-10	0.000005	-0.0002	-0.0005	0.000056	-0.0002	0.0002	-0.0001
9-Mar-12	51															
16-Mar-12	52	-0.002	2.98	-0.00004	0.327	0.000008	0.46	0.355	-10	0.000007	-0.0002	-0.0005	0.000049	-0.0002	0.0001	-0.0001
23-Mar-12	53															
30-Mar-12	54	-0.002	2.64	-0.00004	0.321	-0.000005	0.37	0.32	-10	0.000005	-0.0002	-0.0005	0.000045	-0.0002	0.0002	-0.0001
6-Apr-12	55															
13-Apr-12	56	-0.002	2.73	-0.00004	0.345	-0.000005	0.36	0.318	-10	0.000006	0.0007	-0.0005	0.00004	-0.0002	0.0017	-0.0001
20-Apr-12	57															
27-Apr-12	58	-0.002	2.63	-0.00004	0.288	-0.000005	0.345	0.308	-10	0.000005	0.00098	-0.0005	0.000044	0.00059	0.0019	-0.0001
4-May-12	59															
11-May-12	60	-0.002	2.62	-0.00004	0.323	-0.000005	0.317	0.291	-10	0.000006	-0.0002	-0.0005	0.000037	-0.0002	0.00022	-0.0001
18-May-12	61															
25-May-12	62	-0.002	2.51	-0.00004	0.353	-0.000005	0.333	0.296	-10	0.0000067	0.0003	-0.0005	0.0000425	-0.0002	0.00071	-0.0001
1-Jun-12	63															
8-Jun-12	64	0.0029	2.12	-0.00004	0.238	-0.000005	0.363	0.211	-10	0.0000046	0.00031	-0.0005	0.0000297	-0.0002	0.00084	-0.0001
15-Jun-12	65															
22-Jun-12	66	-0.002	2.35	-0.00004	0.29	-0.000005	0.33	0.239	-10	0.0000044	-0.0002	-0.0005	0.0000306	-0.0002	0.00016	-0.0001
29-Jun-12	67															
6-Jul-12	68	-0.002	2.54	-0.00004	0.285	-0.000005	0.326	0.224	-10	0.0000051	-0.0002	-0.0005	0.0000286	-0.0002	0.00012	-0.0001
13-Jul-12	69															

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CONFIDENTIAL *DRAFT*

Sample =
09SWC484 40-43

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L
20-Jul-12	70	500	460	7.61	95	#N/A	5.0	58.1	2	-0.5	0.17	49.2	0.0462	-0.00002	0.000101	0.0102	-0.00001	-0.000005	-0.05	-0.000005	13.2	-0.0001	0.0000088	0.000228	0.0027	0.0000101	0.00269	3.93	0.000371	-0.01	0.000052	0.000039
27-Jul-12	71	500	440	7.57	83																											
3-Aug-12	72	500	470	7.70	85	#N/A	3.7	53.0	2	-0.5	0.16	40	0.0303	-0.00002	-0.00002	0.0102	-0.00001	-0.000005	-0.05	-0.000005	10.2	-0.0001	0.000008	0.00056	0.0084	0.000007	0.00226	3.56	0.000832	-0.01	-0.00005	0.000073
10-Aug-12	73	500	440	7.64	73																											
17-Aug-12	74	500	430	7.57	82	#N/A	4.3	50.0	2	-0.5	0.15	38.7	0.0367	0.00003	0.000043	0.0105	-0.00001	-0.000005	-0.05	#N/A	10.1	-0.0001	0.000015	0.000731	0.0096	0.000118	0.00226	3.27	0.00161	-0.01	-0.00005	#N/A
24-Aug-12	75	500	450	7.55	76																											
31-Aug-12	76	500	460	7.78	86	#N/A	3.5	53.4	2	-0.5	0.14	41.8	0.0133	-0.00002	0.000032	0.0101	-0.00001	-0.000005	-0.05	-0.000005	11.4	-0.0001	0.000011	0.000523	0.0026	0.000095	0.00201	3.28	0.00124	-0.01	-0.00005	0.000041
7-Sep-12	77	500	455	7.52	76																											
14-Sep-12	78	500	460	7.52	81	#N/A	4.1	49.7	2	-0.5	0.12	37.2	0.0243	-0.00002	0.000092	0.00917	-0.00001	-0.000005	-0.05	-0.000005	9.56	0.00014	0.000006	0.000568	0.0055	0.000024	0.00191	3.24	0.000242	-0.01	-0.00005	0.000092
21-Sep-12	79	500	485	7.53	94																											
28-Sep-12	80	500	440	7.65	85	#N/A	3.0	55.1	2	-0.5	0.13	38.5	0.0327	-0.00002	0.000047	0.00995	-0.00001	-0.000005	-0.05	-0.000005	10.3	0.00047	0.000011	0.00166	0.0094	0.000253	0.00193	3.1	0.00133	-0.01	-0.00005	0.000193
5-Oct-12	81	500	430	7.46	#N/A																											
12-Oct-12	82	500	495	7.46	85	#N/A	6.6	55.5	2	-0.5	0.13	44.1	0.0136	-0.00002	0.000122	0.0104	-0.00001	-0.000005	-0.05	-0.000005	12	-0.0001	-0.000005	0.00125	0.0031	0.00001	0.00215	3.41	0.000235	-0.01	-0.00005	-0.00002
19-Oct-12	83	500	480	7.55	88																											
26-Oct-12	84	500	475	7.66	84	#N/A	2.8	53.1	3	-0.5	0.1	40.4	0.024	-0.00002	-0.00002	0.0097	-0.00001	-0.000005	-0.05	-0.000005	11	-0.0001	-0.000005	0.000822	0.0082	0.000018	0.0017	3.15	0.00029	-0.01	0.00008	0.000051
2-Nov-12	85	500	475	7.53	87																											
9-Nov-12	86	500	480	7.55	82	#N/A	5.9	57.5	3	-0.5	0.1	43.5	0.0155	-0.00002	-0.00002	0.011	-0.00001	-0.000005	-0.05	-0.000005	11.9	-0.0001	0.000005	0.000228	0.0041	0.000034	0.00191	3.34	0.000388	-0.01	0.000072	0.000066
16-Nov-12	87	500	480	7.55	87																											
23-Nov-12	88	500	485	7.72	89	#N/A	4.1	54.9	3	-0.5	0.1	44.1	0.0156	-0.00002	#N/A	0.00998	-0.00001	-0.000005	-0.05	-0.000005	11.8	-0.0001	0.000022	0.00018	0.003	0.000027	0.00211	3.55	0.000281	-0.01	-0.00005	#N/A
30-Nov-12	89	500	500	7.58	87																											
7-Dec-12	90	500	480	7.53	80	#N/A	7.2	52.2	2	-0.5	0.093	40.1	0.0233	-0.00002	0.000067	0.0088	-0.00001	-0.000005	-0.05	-0.000005	11.3	-0.0001	-0.000005	0.000965	0.0056	0.000031	0.00157	2.91	0.00103	-0.01	0.000058	0.000029
14-Dec-12	91	500	475	7.57	70																											
21-Dec-12	92	500	460	7.53	64	#N/A	3.8	41.0	-2	-0.5	0.082	29.6	0.0199	-0.00002	0.000047	0.00723	-0.00001	-0.000005	-0.05	-0.000005	8.28	-0.0001	0.000005	0.000096	0.005	0.000009	0.00123	2.17	0.00114	-0.01	-0.00005	0.000044
28-Dec-12	93	500	450	7.61	65																											
4-Jan-13	94	500	490	7.57	59	#N/A	5.8	40.9	-2	0.9	0.082	29.6	0.0158	-0.00002	-0.00002	0.0081	-0.00001	-0.000005	-0.05	0.000005	8.18	0.0008	0.000021	0.000176	0.0042	0.000149	0.00107	2.22	0.000944	-0.01	-0.00005	0.000095
11-Jan-13	95	500	465	7.59	77																											
18-Jan-13	96	500	460	7.56	68	#N/A	2.5	44.6	2	0.6	0.062	33.7	0.0161	-0.00002	0.000021	0.00867	-0.00001	-0.000005	-0.05	-0.000005	9.34	-0.0001	-0.000005	0.000094	0.0029	0.000021	0.00135	2.52	0.000394	-0.01	-0.00005	0.000074
25-Jan-13	97	500	460	7.53	60																											
1-Feb-13	98	500	440	7.54	72	#N/A	4.2	43.9	3	-0.5	0.068	35	0.0168	-0.00002	0.000034	0.00926	-0.00001	-0.000005	-0.05	-0.000005	9.9	-0.0001	0.000005	-0.00005	0.0036	0.000006	0.0014	2.49	0.00077	-0.01	0.000053	0.000049
8-Feb-13	99	500	510	7.50	79																											
15-Feb-13	100	500	460	7.59	74	#N/A	3.5	41.1	2	0.56	0.073	33.8	0.0236	-0.00002	0.000024	0.00863	-0.00001	-0.000005	-0.05	-0.000005	9.64	-0.0001	0.000006	0.000076	0.0063	0.000008	0.00121	2.37	0.0005	-0.01	0.000051	0.000029
22-Feb-13	101	500	440	7.55	69																											
1-Mar-13	102	500	450	7.41	67	#N/A	5.7	43.8	3	-0.5	0.055	31.3	0.0277	-0.00002	-0.00002	0.00822	-0.00001	-0.000005	-0.05	-0.000005	9.11	-0.0001	0.000005	0.000145	0.0069	0.000013	0.00132	2.08	0.000942	-0.01	0.000195	-0.00002
8-Mar-13	103	500	470	7.53	59																											
15-Mar-13	104	500	465	7.52	69	#N/A	5.6	38.4	3	0.65	0.061	32.1	0.0134	-0.00002	0.000037	0.00834	-0.00001	-0.000005	-0.05	-0.000005	9.35	-0.0001	-0.000005	0.000098	0.0035	-0.000005	0.00128	2.13	0.000625	-0.01	0.000058	0.000049
22-Mar-13	105	500	440	7.44	63																											
29-Mar-13	106	500	440	7.53	61	#N/A	4.3	34.7	3	-0.5	0.054	29.6	0.0201	-0.00002	0.00002	0.00776	-0.00001	-0.000005	-0.05	-0.000005	8.66	-0.0001	0.000005	0.000075	0.0047	0.000018	0.00127	1.95	0.000773	-0.01	0.000062	0.000044
5-Apr-13	107	500	445	7.40	57																											
12-Apr-13	108	500	470	7.50	63	#N/A	6.8	37.4	2	0.54	0.051	28.8	0.0264	-0.00002	-0.00002	0.00841	-0.00001	-0.000005	-0.05	-0.000005	8.41	-0.0001	-0.000005	0.000209	0.0069	0.000007	0.00112	1.89	0.000654	-0.01	-0.00005	-0.00002
19-Apr-13	109	500	460	7.46	57																											
26-Apr-13	110	500	445	7.50	57	#N/A	4.1	32.6	3	0.6	0.048	25.3	0.0268	-0.00002	0.000029	0.00795	-0.00001	-0.000005	-0.05	-0.000005	7.52	-0.0001	0.000006	0.00014	0.0071	-0.000005	0.00105	1.59	0.000689	-0.01	0.000071	0.000036
3-May-13	111	500	440	7.42	62																											
10-May-13	112	500	420	7.41	57	#N/A	4.3	31.2	2	-0.5	0.044	25.9	0.0307	-0.00002	0.000024	0.00709	-0.00001	-0.000005	-0.05	-0.000005	7.61	-0.0001	-0.000005	0.000108	0.0095	0.000038	0.00101	1.66	0.000928	-0.01	0.00005	0.000066
17-May-13	113	500	445	7.35	57																											
24-May-13	114	500	450	7.41	50	#N/A	4.2	30.6	2																							

April 1 Alkalinity 70.2. Repeat = 68.8.
June 10/11 Ni 0.00298. Repeat =0.0031, data confirmed suspect contamination
July 22/11 Pb 0.000776 and P 0.137. Repeat P=0.122. Data confirmed, suspect contamination.
Aug 19/11 Ni=0.00026, repeat=0.00026. Data confirmed, suspect contamination
Nov 11/11 Cd=0.000065, Zn=0.0021, repeat=0.000066, Zn= 0.0026. Data confirmed, suspect contamination
Dec 23/11 Cr=0.001, repeat=0.0011. Data confirmed, susepct contamination
Jan 20/12 P=0.186, Ag=0.00131, Pb=0.00281. repeat Pb=0.0029, P= 0.221, Ag=0.00135. Data onfirmed, suspect contamination
Jan 20/12 Cd=0.000075, Cu=0.00902, Ni=0.00049, Tl=0.000028, Zn=0.0077. Repeat Cd=0.000075, Cu=0.00878, Zn=0.0078, Tl=0.000028, Ni=0.00047. Data confirmed, suspect contamination.
Mar 2/12 Pb=0.000234, repeat=0.000228. Data confirmed, suspect contamination
Apr 27/12 Ni=0.000162, repeat=0.000187. Data confirmed, suspect contamination
Aug 17/12 Ni=0.0979, Cd=0.000178, Zn=0.00344. repeat Ni=0.102, Cd=0.000177, Zn=0.00299. Data confirmed, suspect contamination
Jun 22/12 Fe=0.108, repeat=0.0028. Data accepted
Aug 3/12 Sb=0.000048, repeat= -0.00002. Data accepted
Oct 5/12 Conductivity= 5. Cannot repeat suspect titrator malfunction
Nov 23/12 As=0.000812, Ni=0.000451. repeat As=0.000812, Ni=0.000197. Data confirmed, suspect contamination
Dec 7/12 Ni=0.000227, repeat= 0.000029. data accepted

HC 7

Sample = 09SWC484 40-43

Date	Cycle No.	P mg/L	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L
20-Jul-12	70	-0.002	2.43	-0.00004	0.343	-0.000005	0.311	0.238	-10	0.0000043	-0.0002	-0.0005	0.0000378	0.00032	0.00098	-0.0001
27-Jul-12	71															
3-Aug-12	72	-0.002	2.32	-0.00004	0.294	-0.000005	0.325	0.204	-10	0.000006	-0.0002	-0.0005	0.000027	-0.0002	0.00025	-0.0001
10-Aug-12	73															
17-Aug-12	74	0.0075	2.31	-0.00004	0.292	-0.000005	0.315	0.198	-10	0.000005	0.00039	-0.0005	0.000027	-0.0002	#N/A	-0.0001
24-Aug-12	75															
31-Aug-12	76	-0.002	2.21	-0.00004	0.279	-0.000005	0.283	0.204	-10	0.000005	-0.0002	-0.0005	0.000025	-0.0002	0.00028	-0.0001
7-Sep-12	77															
14-Sep-12	78	-0.002	2.06	-0.00004	0.272	-0.000005	0.277	0.188	-10	0.000004	-0.0002	-0.0005	0.000022	-0.0002	0.00053	-0.0001
21-Sep-12	79															
28-Sep-12	80	-0.002	2.12	-0.00004	0.324	-0.000005	0.301	0.185	-10	0.000005	-0.0002	-0.0005	0.000031	-0.0002	0.00047	-0.0001
5-Oct-12	81															
12-Oct-12	82	-0.002	2.23	-0.00004	0.328	-0.000005	0.241	0.207	-10	0.000004	-0.0002	-0.0005	0.000026	-0.0002	0.00034	-0.0001
19-Oct-12	83															
26-Oct-12	84	0.0093	1.9	-0.00004	0.327	-0.000005	0.184	0.196	-10	0.000005	-0.0002	-0.0005	0.000024	-0.0002	0.00027	-0.0001
2-Nov-12	85															
9-Nov-12	86	-0.002	2.15	-0.00004	0.353	-0.000005	0.216	0.204	-3	0.000005	-0.0002	-0.0005	0.000024	-0.0002	0.00036	-0.0001
16-Nov-12	87															
23-Nov-12	88	-0.002	2.19	-0.00004	0.371	-0.000005	0.197	0.191	-3	0.000004	0.00043	-0.0005	0.000027	-0.0002	0.0005	-0.0001
30-Nov-12	89															
7-Dec-12	90	-0.002	2.01	-0.00004	0.339	-0.000005	0.169	0.175	-3	0.000004	0.00028	-0.0005	0.000026	-0.0002	0.00112	-0.0001
14-Dec-12	91															
21-Dec-12	92	-0.002	1.54	-0.00004	0.275	-0.000005	0.148	0.135	-3	0.000003	-0.0002	-0.0005	0.000016	-0.0002	0.00017	-0.0001
28-Dec-12	93															
4-Jan-13	94	-0.002	1.71	-0.00004	0.254	-0.000005	0.189	0.13	-3	0.000004	-0.0002	-0.0005	0.000012	-0.0002	0.00042	-0.0001
11-Jan-13	95															
18-Jan-13	96	-0.002	1.77	-0.00004	0.314	-0.000005	0.147	0.145	-3	0.000003	-0.0002	-0.0005	0.000019	-0.0002	0.00023	-0.0001
25-Jan-13	97															
1-Feb-13	98	-0.002	2	-0.00004	0.353	-0.000005	0.172	0.15	-3	0.000004	-0.0002	-0.0005	0.000017	-0.0002	-0.0001	-0.0001
8-Feb-13	99															
15-Feb-13	100	-0.002	2	-0.00004	0.341	-0.000005	0.164	0.149	-3	0.000004	-0.0002	-0.0005	0.000022	-0.0002	0.00013	-0.0001
22-Feb-13	101															
1-Mar-13	102	-0.002	1.79	-0.00004	0.351	-0.000005	0.165	0.133	-3	0.000003	-0.0002	-0.0005	0.000013	-0.0002	0.00048	-0.0001
8-Mar-13	103															
15-Mar-13	104	-0.002	1.91	-0.00004	0.361	-0.000005	0.153	0.138	-3	0.000003	-0.0002	-0.0005	0.000017	-0.0002	-0.0001	-0.0001
22-Mar-13	105															
29-Mar-13	106	-0.002	1.81	-0.00004	0.333	-0.000005	0.145	0.128	-3	-0.000002	-0.0002	-0.0005	0.000019	-0.0002	0.0001	-0.0001
5-Apr-13	107															
12-Apr-13	108	-0.002	1.74	-0.00004	0.324	-0.000005	0.137	0.125	-3	0.000002	-0.0002	0.00066	0.000014	-0.0002	0.00029	-0.0001
19-Apr-13	109															
26-Apr-13	110	-0.002	1.58	-0.00004	0.275	0.000008	0.133	0.11	-3	-0.000002	-0.0002	-0.0005	0.000014	-0.0002	0.00022	-0.0001
3-May-13	111															
10-May-13	112	-0.002	1.61	-0.00004	0.338	-0.000005	0.161	0.105	-3	-0.000002	-0.0002	-0.0005	0.000012	-0.0002	0.00056	-0.0001
17-May-13	113															
24-May-13	114															

HC 8

CONFIDENTIAL DRAFT

Sample = 09SWC498 54-57

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L
18-Mar-11	0	500	350	7.56	259	#N/A	3.9	79.1	5	2.1	0.64	101	0.0727	-0.00002	0.00021	0.0112	-0.00001	-0.000005	-0.05	0.000005	32.5	-0.0001	0.000061	0.00504	0.002	0.000015	0.0016	4.74	0.0251	-0.01	0.00106
25-Mar-11	1	500	465	8.00	141																										
1-Apr-11	2	500	455	7.96	99	#N/A	5.0	50.8	5	0.7	0.91	27.6	0.0902	0.00003	0.00032	0.00259	-0.00001	-0.000005	-0.05	-0.000005	8.85	-0.0001	0.000041	0.00232	0.007	0.000009	0.0007	1.34	0.0125	-0.01	0.002
8-Apr-11	3	500	440	7.84	82																										
15-Apr-11	4	500	460	7.87	77	#N/A	2.3	43.7	3	-0.5	0.75	24	0.0729	-0.00002	0.00011	0.00264	-0.00001	-0.000005	-0.05	-0.000005	7.77	0.0002	0.000014	0.00115	0.008	0.000015	-0.0005	1.11	0.0144	-0.01	0.00062
22-Apr-11	5	500	445	7.78	77																										
29-Apr-11	6	500	470	7.81	77	#N/A	3.8	44.4	5	-0.5	0.74	29.8	0.0847	0.00002	0.0001	0.00265	-0.00001	-0.000005	-0.05	-0.000005	9.81	-0.0001	0.000009	0.00211	0.009	0.00001	0.0008	1.3	0.018	-0.01	0.00029
6-May-11	7	500	455	7.71	67																										
13-May-11	8	500	475	7.77	69	#N/A	3.4	33.3	5	-0.5	0.68	24.8	0.076	-0.00002	0.00012	0.00229	-0.00001	-0.000005	-0.05	-0.000005	7.96	-0.0001	-0.000005	0.00109	0.006	0.000009	-0.0005	1.2	0.0142	-0.01	0.00019
20-May-11	9	500	455	7.90	67																										
27-May-11	10	500	460	7.85	65	#N/A	5.2	33.9	3	-0.5	0.59	25.8	0.0586	0.00004	0.00043	0.00202	-0.00001	-0.000005	-0.05	-0.000005	8.36	-0.0001	-0.000005	0.00103	0.003	0.000007	-0.0005	1.19	0.014	-0.01	0.00017
3-Jun-11	11	500	465	7.69	68																										
10-Jun-11	12	500	490	7.69	69	#N/A	2.5	36.6	3	0.5	0.58	27.5	0.0711	-0.00002	0.00012	0.00238	-0.00001	-0.000005	-0.05	0.000005	9	-0.0001	-0.000005	0.00092	0.009	0.000021	0.0007	1.22	0.0154	-0.01	0.00013
17-Jun-11	13	500	470	7.71	52																										
24-Jun-11	14	500	485	7.94	67	#N/A	1.7	36.8	2	0.8	0.52	38.7	0.0812	-0.00002	0.00012	0.00262	-0.00001	-0.000005	-0.05	-0.000005	13.2	-0.0001	0.000008	0.00095	#N/A	0.000008	0.0005	1.42	0.0174	-0.01	0.00011
1-Jul-11	15	500	475	7.92	64																										
8-Jul-11	16	500	485	7.68	67	#N/A	3.1	36.0	5	-0.5	0.56	27.5	0.0568	-0.00002	0.00044	0.0021	-0.00001	-0.000005	-0.05	0.000005	8.99	-0.0001	-0.000005	0.00077	0.004	0.000009	0.0006	1.22	0.0133	-0.02	0.00006
15-Jul-11	17	500	480	7.77	75																										
22-Jul-11	18	500	500	7.81	68	#N/A	3.2	36.0	-2	0.7	0.58	28.5	0.0698	-0.00002	0.0001	0.00309	-0.00001	-0.000005	-0.05	-0.000005	9.19	-0.0001	0.000018	0.00102	0.008	0.000014	0.0007	1.35	0.014	-0.01	-0.00005
29-Jul-11	19	500	460	7.91	72																										
5-Aug-11	20	500	460	7.69	68	#N/A	3.2	36.0	-2	-0.5	0.59	30.6	0.0615	-0.00002	0.0002	0.00229	-0.00001	-0.000005	-0.05	-0.000005	9.88	0.0001	0.000007	0.0009	0.007	0.000008	-0.0005	1.44	0.0161	-0.01	0.00007
12-Aug-11	21	500	495	7.87	74																										
19-Aug-11	22	500	465	7.72	73	#N/A	4.2	38.9	2	-0.5	0.72	32.9	0.0707	-0.00002	0.00012	0.00294	-0.00001	-0.000005	-0.05	-0.000005	10.9	-0.0001	0.00001	0.00119	0.01	0.000026	0.0006	1.41	0.0128	-0.01	0.00006
26-Aug-11	23	500	475	7.70	65																										
2-Sep-11	24	500	440	7.80	60	#N/A	4.0	34.4	3	0.7	0.6	27	0.0532	-0.00002	0.00008	0.00204	-0.00001	-0.000005	-0.05	-0.000005	8.78	-0.0001	0.000006	0.00086	0.004	0.000009	0.0005	1.15	0.0127	-0.01	-0.00005
9-Sep-11	25	500	435	7.83	64																										
16-Sep-11	26	500	470	7.59	68	#N/A	4.7	38.0	-2	0.9	0.71	31.1	0.0583	-0.00002	0.00011	0.0026	-0.00001	-0.000005	-0.05	0.000006	10.2	-0.0001	0.000009	0.00083	0.007	0.000008	0.0006	1.39	0.0107	-0.01	-0.00005
23-Sep-11	27	500	460	7.61	61																										
30-Sep-11	28	500	465	7.60	59	#N/A	3.0	32.4	-2	-0.5	0.54	27.7	0.0482	0.00003	0.0002	0.00229	-0.00001	-0.000005	-0.05	-0.000005	9.08	-0.0001	0.00001	0.00077	0.005	0.000015	0.0006	1.21	0.0138	-0.01	-0.00005
7-Oct-11	29	500	465	7.68	53																										
14-Oct-11	30	500	475	7.52	55	#N/A	3.3	30.8	2	-0.5	0.64	26.6	0.0557	-0.00002	0.00008	0.00228	-0.00001	-0.000005	-0.05	-0.000005	8.72	-0.0001	-0.000005	0.00067	0.003	0.000006	-0.0005	1.17	0.0153	-0.01	-0.00005
21-Oct-11	31	500	465	7.77	55																										
28-Oct-11	32	500	470	7.67	60	#N/A	3.8	32.5	3	-0.5	0.55	28.3	0.0565	-0.00002	0.00006	0.0023	-0.00001	-0.000005	-0.05	-0.000005	9.3	-0.0001	-0.000005	0.00083	0.005	0.00001	-0.0005	1.23	0.0151	-0.01	-0.00005
4-Nov-11	33	500	465	7.75	55																										
11-Nov-11	34	500	465	7.93	59	#N/A	5.1	35.6	2	-0.5	0.6	28.6	0.0656	-0.00002	0.00008	0.00284	-0.00001	-0.000005	-0.05	0.000007	9.36	-0.0001	0.000007	0.00106	0.008	0.000015	0.0006	1.27	0.0158	-0.01	-0.00005
18-Nov-11	35	500	460	7.70	60																										
25-Nov-11	36	500	475	7.71	58	#N/A	3.8	32.9	-2	-0.5	0.46	27.8	0.0651	-0.00002	0.0001	0.00373	-0.00001	-0.000005	-0.05	0.000006	9.15	-0.0001	0.000017	0.00214	0.01	0.000124	0.0006	1.2	0.0143	-0.01	-0.00005
2-Dec-11	37	500	460	7.77	58																										
9-Dec-11	38	500	460	7.65	58	#N/A	4.4	34.4	2	-0.5	0.57	28.4	0.0658	-0.00002	0.00005	0.00249	-0.00001	-0.000005	-0.05	-0.000005	9.39	0.0003	0.000008	0.00124	0.009	0.000015	0.0005	1.2	0.0164	-0.01	-0.00005
16-Dec-11	39	500	465	7.81	58																										
23-Dec-11	40	500	455	7.77	52	#N/A	3.8	31.4	4	-0.5	0.56	24.2	0.0625	-0.00002	0.00003	0.00287	-0.00001	-0.000005	-0.05	-0.000005	7.88	-0.0001	0.00001	0.0007	0.006	0.000014	-0.0005	1.1	0.0117	-0.01	-0.00005
30-Dec-11	41	500	485	7.83	52																										
6-Jan-12	42	500	475	7.51	50	#N/A	3.6	31.6	2	-0.5	0.53	24.4	0.0545	-0.00002	0.00005	0.00256	-0.00001	-0.000005	-0.05	-0.000005	8.03	-0.0001	0.000006	0.00067	0.005	0.000014	0.0005	1.05	0.0146	-0.01	-0.00005
13-Jan-12	43	500	470	7.73	48																										
20-Jan-12	44	500	465	7.68	53	#N/A	2.9	35.4	2	-0.5	0.56	23.3	0.0599	#N/A	0.00035	0.00275	-0.00001	-0.000005	-0.05	-0.000005	7.68	-0.0001	0.000006	0.00131	0.01	0.000027	0.0005	0.99	0.0137	-0.01	-0.00005
27-Jan-12	45	500	475	7.64	49																										
3-Feb-12	46	500	480	7.74	53	#N/A	5.9	35.3	2	-0.5	0.56	25	0.0565	-0.00002	0.00006	0.00258	-0.00001	-0.000005	-0.05	-0.000005	8.3	-0.0001	0.000008	0.00066	0.008	0.000014	0.0005	1.02	0.0161	0.01	-0.00005
10-Feb-12	47	500	465	7.78	60																										
17-Feb-12	48	500	465	7.62	55	#N/A	3.0	31.2	3	-0.5	0.56	26.2	0.0614	-0.00002	0.00013	0.00298	-0.00001	-0.000005	-0.05	-0.000005	8.68	0.0002	0.000007	0.00081	0.007	0.000005	0.0007	1.09	0.0145	-0.01	-0.00005
24-Feb-12	49	500	460	7.56	53																										
2-Mar-12	50	500	455	7.72	53	#N/A	7.6	34.9	3	-0.5	0.51	23.2	0.0505	-0.00002	0.00008	0.00285	-0.00001	-0.000005	-0.05	-0.000005	7.59	-0.0001	-0.000005	0.00065	0.005	0.000008	0.0006	1.03	0.0152	-0.01	-0.00005
9-Mar-12	51	500	485	7.74	55																										
16-Mar-12	52	500	465	7.65	52	#N/A	2.8	29.2	3	-0.5	0.54	23.9	0.0495	-0.00002	-0.00002	0.00281	-0.00001	-0.000005	-0.05	0.000012	7.96	-0.0001	0.000007	0.00128	0.006	0.000069	-0.0005	0.97	0.0128	-0.01	-0.00005
23-Mar-12	53	500	460	7.71	60																										
30-Mar-12	54	500	480	7.48	60	#N/A	4.1	32.4	2	-0.5	0.65	26.8	0.0458	0.00003	0.00004	0.0037	-0.00001	-0.000005	-0.05	-0.000005	8.99	-0.0001	-0.000005	0.00091	0.005	0.000008	0.0006	1.05	0.0143	-0.01	-0.00005
6-Apr-12	55	500	480	7.72	61																										
13-Apr-12	56	500	445	7.71	60	#N/A	2.3	33.0	3	-0.5	0.6	27.4	0.0643	-0.00002	0.00002	0.00363	-0.00001	-0.000005	-0.05	#N/A	9.18	-0.0001	-0.000005	0.00104	0.012	#N/A	0.0007	1.09	0.0148	-0.01	-0.00005
20-Apr-12	57	500	465	7.69	63																										
27-Apr-12	58	500	460	7.71	57	#N/A	4.4	32.0	3	-0.5	0.62	24.9	0.0483	0.000034	0.000131	0.00317	-0.00001	-0.000005	-0.05	0.000006	8.29	0.00013	0.000011	0.0011	0.011	0.000043	-0.0005	1.02	0.0132	-0.01	-0.00005
4-May-12	59	500	470	7.80	57																										
11-May-12	60	500	475	7.69	62	#N/A	3.3	32.8	4	0.51	0.67	28.2	0.0539	-0.00002	0.000108	0.00376	-0.00001	-0.000005	-0.05	-0.000005	9.49	0.0001	0.000009	0.00187	0.0064	0.000016	0.00051	1.08	0.015	-0.01	0.000054
18-May-12	61	500	465	7.65	57																										
25-May-12	62	500	475	7.53	60	#N/A	4.2	33.6	2	-0.5	0.66	26.2	0.0697	-0.00002	0.000058	0.00407	-0.00001	-0.000005	-0.05	-0.000005	8.84	0.00043	0.0000081	0.000812	0.0113	0.000142	0.00064	1.01	0.0168	-0.01	-0.00005
1-Jun-12	63	500	495	7.66	63																										
8-Jun-12	64	500	460	7.64	62	#N/A	3.3	34.5	3	-0.5	0.66	26.5	0.0585	-0.00002	0.000041	0.00399	-0.00001	-0.000005	-0.05	0.0000123	8.86	-0.0001	0.0000102	0.000943	0.0078	0.0000204	0.00064	1.05	0.0159	-0.01	-0.00005
15-Jun-12	65	500	475	7.61	61																										
22-Jun-12	66	500	445	7.54	48	#N/A	4.3	26.6	2	-0.5	0.57	21.5	0.056	-0.00002	0.000354	0.00328	-0.00001	-0.000005	-0.05	-0.000005	7.32	-0.0001	0.0000061	0.000632	0.0075	0.0000103	-0.0005	0.781	0.0148	-0.01	-0.00005

HC 8

Sample = 09SWC498 54-57

Date	Cycle No.	Ni mg/L	P mg/L	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L
18-Mar-11	0	0.00011	-0.002	5.81	0.00104	1.18	-0.000005	11.6	0.858	-10	0.000006	0.00003	-0.0005	0.000277	0.0007	0.0001	0.0001
25-Mar-11	1																
1-Apr-11	2	0.00011	0.002	2.58	0.00065	1.39	-0.000005	5.47	0.221	-10	0.000004	0.00026	0.0006	0.000549	0.0024	0.0002	-0.0001
8-Apr-11	3																
15-Apr-11	4	0.0001	-0.002	2.15	0.0003	1.14	-0.000005	3.56	0.211	-10	0.000003	0.00019	0.0007	0.00035	0.0023	0.0006	-0.0001
22-Apr-11	5																
29-Apr-11	6	0.00008	-0.002	2.4	0.00029	1.57	-0.000005	2.64	0.219	-10	-0.000002	0.00012	0.0008	0.000307	0.0024	0.0004	-0.0001
6-May-11	7																
13-May-11	8	0.0001	-0.002	1.97	0.00025	1.15	-0.000005	1.94	0.197	-10	0.000004	0.00007	0.001	0.000274	0.0019	0.0001	-0.0001
20-May-11	9																
27-May-11	10	-0.00002	-0.002	1.68	0.00037	1.08	-0.000005	1.28	0.204	-10	0.000003	0.00006	-0.0005	0.00018	0.0018	0.0001	-0.0001
3-Jun-11	11																
10-Jun-11	12	0.00004	-0.002	1.68	0.00044	1.12	-0.000005	0.87	0.229	-10	0.000002	0.00006	-0.0005	0.00017	0.0017	-0.0001	-0.0001
17-Jun-11	13																
24-Jun-11	14	-0.00002	-0.002	1.71	0.00064	1.62	-0.000005	0.8	0.229	-10	0.000002	0.00003	0.0012	0.000152	0.0016	0.0017	-0.0001
1-Jul-11	15																
8-Jul-11	16	0.00004	-0.002	1.39	0.00048	1.07	-0.000005	0.61	0.216	-10	-0.000002	0.00006	-0.0005	0.00014	0.0014	0.0017	-0.0001
15-Jul-11	17																
22-Jul-11	18	#N/A	-0.002	1.49	0.00059	1.13	-0.000005	0.53	0.221	-10	-0.000002	0.00012	0.0007	0.000131	0.0016	0.0007	-0.0001
29-Jul-11	19																
5-Aug-11	20	0.00003	0.003	1.43	0.00058	1.09	-0.000005	0.49	0.229	-10	0.000002	0.00004	-0.0005	0.000137	0.0015	0.0003	-0.0001
12-Aug-11	21																
19-Aug-11	22	#N/A	-0.002	1.49	0.00065	1.3	-0.000005	0.45	0.255	-10	0.000003	-0.00001	0.0009	0.000154	0.0017	0.0002	-0.0001
26-Aug-11	23																
2-Sep-11	24	0.00002	-0.002	1.1	0.00057	0.876	-0.000005	0.3	0.208	-10	0.000002	0.00003	0.0005	0.000098	0.0011	0.0003	-0.0001
9-Sep-11	25																
16-Sep-11	26	0.00004	-0.002	1.28	0.00061	0.995	-0.000005	0.29	0.247	-10	0.000002	0.00002	-0.0005	0.00014	0.0014	0.0003	-0.0001
23-Sep-11	27																
30-Sep-11	28	-0.00002	-0.002	1.1	0.0005	0.852	-0.000005	0.3	0.209	-10	0.000005	0.00014	0.0006	0.000103	0.0009	-0.0001	-0.0001
7-Oct-11	29																
14-Oct-11	30	-0.00002	-0.002	1.11	0.00056	0.854	-0.000005	0.29	0.192	-10	-0.000002	0.00002	-0.0005	0.000135	0.0012	0.0004	-0.0001
21-Oct-11	31																
28-Oct-11	32	0.00004	-0.002	1.1	0.00058	0.828	-0.000005	0.25	0.212	-10	0.000003	0.00028	-0.0005	0.000093	0.0011	0.0002	-0.0001
4-Nov-11	33																
11-Nov-11	34	0.00018	-0.002	1.15	0.00063	0.895	-0.000005	0.31	0.211	-10	0.000009	0.00013	0.0007	0.000094	0.001	0.0004	-0.0001
18-Nov-11	35																
25-Nov-11	36	0.00019	-0.002	1.12	0.00054	0.812	-0.000005	0.26	0.197	-10	0.000002	0.00033	0.0006	0.000078	0.001	0.001	-0.0001
2-Dec-11	37																
9-Dec-11	38	0.00012	-0.002	1.11	0.00059	0.741	-0.000005	0.26	0.201	-10	0.000002	0.00015	0.0007	0.000091	0.0008	0.0003	-0.0001
16-Dec-11	39																
23-Dec-11	40	0.00028	-0.002	1.13	0.00054	0.673	-0.000005	0.23	0.18	-10	0.000002	-0.00001	-0.0005	0.000073	0.0007	0.0003	-0.0001
30-Dec-11	41																
6-Jan-12	42	0.00004	-0.002	1.13	0.00049	0.694	-0.000005	0.22	0.178	-10	-0.000002	0.00008	-0.0005	0.000065	0.0008	0.0003	-0.0001
13-Jan-12	43																
20-Jan-12	44	0.00013	-0.002	1.02	0.00048	0.635	0.000006	0.44	0.182	-10	0.000002	-0.0002	0.0005	0.000067	0.0009	0.0003	-0.0001
27-Jan-12	45																
3-Feb-12	46	0.00002	-0.002	1.31	0.00049	0.677	-0.000005	0.2	0.163	-10	0.000002	-0.0002	-0.0005	0.000059	0.0007	-0.0001	-0.0001
10-Feb-12	47																
17-Feb-12	48	-0.00002	-0.002	1.57	0.00051	0.688	-0.000005	0.23	0.179	-10	0.000003	-0.0002	-0.0005	0.0001	0.001	-0.0001	-0.0001
24-Feb-12	49																
2-Mar-12	50	0.00004	-0.002	1.41	0.00041	0.53	-0.000005	0.19	0.166	-10	0.000003	-0.0002	-0.0005	0.000059	0.0005	0.0002	-0.0001
9-Mar-12	51																
16-Mar-12	52	0.00011	-0.002	1.38	0.00046	0.645	-0.000005	0.22	0.157	-10	0.000004	-0.0002	-0.0005	0.000057	0.0005	0.0003	-0.0001
23-Mar-12	53																
30-Mar-12	54	0.00003	-0.002	1.55	0.00053	0.658	-0.000005	0.2	0.185	-10	0.000004	-0.0002	0.0005	0.00006	0.0006	-0.0001	-0.0001
6-Apr-12	55																
13-Apr-12	56	0.00002	-0.002	1.72	0.00059	0.739	-0.000005	0.19	0.187	-10	0.000006	0.0002	0.0013	0.000064	0.0007	0.0005	-0.0001
20-Apr-12	57																
27-Apr-12	58	#N/A	-0.002	1.7	0.00054	0.633	-0.000005	0.225	0.177	-10	0.000015	0.00085	0.00058	0.000057	0.00138	0.00174	-0.0001
4-May-12	59																
11-May-12	60	0.000097	-0.002	1.96	0.000558	0.764	-0.000005	0.227	0.193	-10	0.000004	-0.0002	0.00062	0.000048	0.00071	0.00031	-0.0001
18-May-12	61																
25-May-12	62	0.000076	-0.002	1.72	0.000527	0.772	-0.000005	0.243	0.177	-10	0.0000052	-0.0002	0.00126	0.000052	0.00074	0.00135	-0.0001
1-Jun-12	63																
8-Jun-12	64	0.000173	0.0043	1.79	0.000486	0.645	-0.000005	0.253	0.173	-10	0.0000087	0.0005	0.00058	0.0000537	0.00069	0.00076	-0.0001
15-Jun-12	65																
22-Jun-12	66	0.000031	0.002	1.48	0.00044	0.555	-0.000005	0.151	0.141	-10	0.0000043	-0.0002	0.00075	0.0000363	0.0006	0.00016	-0.0001

HC 8 *CONFIDENTIAL* *DRAFT*

Sample =
09SWC498 54-57

Date	Cycle	Volume mL		pH	Cond.	Acidity	Acidity	Alkalinity	Sulphate	Chloride	Fluoride	Hardness	Al	Sb	As	Ba	Be	Bi	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Li	Mg	Mn	Hg	Mo
	No.	Input	Output		umhos/cm	(pH 4.5)	(pH 8.3)					CaCO3																			
						mgCaCO3/L	mgCaCO3/L	mgCaCO3/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	ug/L	mg/L
29-Jun-12	67	500	455	7.63	55																										
6-Jul-12	68	500	465	7.63	55	#N/A	4.4	30.4	2	-0.5	0.59	24.2	0.06	-0.00002	0.000098	0.00381	-0.00001	-0.000005	-0.05	-0.000005	8.31	-0.0001	0.0000074	0.000784	0.0085	0.0000161	0.00069	0.835	0.0148	-0.01	-0.00005
13-Jul-12	69	500	465	7.63	52																										
20-Jul-12	70	500	465	7.60	50	#N/A	4.1	29.9	2	0.65	0.56	24.9	0.0734	-0.00002	0.000174	0.00317	-0.00001	-0.000005	-0.05	-0.000005	8.51	-0.0001	0.000005	0.000839	0.0031	0.0000156	0.00054	0.881	0.0149	-0.01	-0.00005
27-Jul-12	71	500	450	7.83	52																										
3-Aug-12	72	500	460	7.64	54	#N/A	3.5	29.6	2	-0.5	0.65	23.9	0.0596	0.000028	-0.00002	0.00377	-0.00001	-0.000005	-0.05	-0.000005	8.11	-0.0001	0.00001	0.000926	0.0106	0.000012	0.0006	0.875	0.0166	-0.01	-0.00005
10-Aug-12	73	500	475	7.64	47																										
17-Aug-12	74	500	460	7.56	50	#N/A	4.0	29.8	2	-0.5	0.6	24	0.0613	0.000026	0.000058	0.00392	-0.00001	-0.000005	-0.05	0.000017	8.15	-0.0001	0.000017	0.00117	0.0127	#N/A	0.00065	0.877	0.0168	-0.01	-0.00005
24-Aug-12	75	500	455	7.66	52																										
31-Aug-12	76	500	475	7.70	54	#N/A	3.6	31.5	2	-0.5	0.62	24.8	0.0565	-0.00002	0.000089	0.00371	-0.00001	-0.000005	-0.05	-0.000005	8.51	-0.0001	0.000008	0.000716	0.008	0.000028	0.00053	0.873	0.0179	0.01	-0.00005
7-Sep-12	77	500	445	7.56	48																										
14-Sep-12	78	500	450	7.44	51	#N/A	3.7	28.7	2	0.5	0.59	22	0.0468	-0.00002	0.000443	0.00329	-0.00001	-0.000005	-0.05	-0.000005	7.41	#N/A	0.000018	0.00147	#N/A	0.000077	0.00057	0.843	0.0152	-0.01	-0.00005
21-Sep-12	79	500	480	7.58	53																										
28-Sep-12	80	500	450	7.53	50	#N/A	2.8	30.0	2	-0.5	0.58	23	0.0551	-0.00002	0.000081	0.00923	-0.00001	-0.000005	-0.05	-0.000005	7.88	-0.0001	0.000006	0.00152	0.0156	0.000094	0.0006	0.809	0.0147	-0.01	-0.00005
5-Oct-12	81	500	460	7.39	50																										
12-Oct-12	82	500	495	7.57	53	#N/A	6.2	33.3	3	-0.5	0.73	24.5	0.0489	-0.00002	0.000074	0.00369	-0.00001	-0.000005	-0.05	-0.000005	8.35	-0.0001	-0.000005	0.00235	0.0042	0.000013	0.00063	0.884	0.0159	-0.01	-0.00005
19-Oct-12	83	500	480	7.67	58																										
26-Oct-12	84	500	480	7.61	57	#N/A	3.0	33.2	2	-0.5	0.65	25.7	0.0562	-0.00002	0.000079	0.00365	-0.00001	-0.000005	-0.05	-0.000005	8.81	-0.0001	0.000007	0.00119	0.0105	0.000016	0.00056	0.889	0.0137	-0.01	0.000109
2-Nov-12	85	500	475	7.59	55																										
9-Nov-12	86	500	480	7.62	53	#N/A	5.0	33.7	3	-0.5	0.65	26.3	0.0589	-0.00002	0.000037	0.00429	-0.00001	0.000014	-0.05	0.000055	8.92	-0.0001	0.000016	0.00387	0.0089	0.000495	0.0007	0.982	0.0186	-0.01	-0.00005
16-Nov-12	87	500	480	7.49	49																										
23-Nov-12	88	500	485	7.74	62	#N/A	3.8	34.7	3	-0.5	0.71	29.3	0.0509	-0.00002	0.000167	0.00405	-0.00001	-0.000005	-0.05	-0.000005	9.95	-0.0001	0.000007	0.000717	0.0075	0.000015	0.00089	1.07	0.0136	-0.01	0.00007
30-Nov-12	89	500	500	7.62	57																										
7-Dec-12	90	500	495	7.81	56	#N/A	6.6	37.5	2	-0.5	0.63	26.3	0.0512	-0.00002	0.000051	0.00397	-0.00001	-0.000005	-0.05	-0.000005	9.04	-0.0001	0.000006	0.000692	0.004	0.000008	0.00065	0.9	0.0154	-0.01	-0.00005
14-Dec-12	91	500	505	7.83	53																										
21-Dec-12	92	500	470	7.68	52	#N/A	3.6	31.3	-2	-0.5	0.56	23.4	0.0543	-0.00002	0.00004	0.0034	-0.00001	-0.000005	-0.05	-0.000005	8.13	-0.0001	-0.000005	0.000512	0.008	0.000027	0.00058	0.746	0.0133	-0.01	-0.00005
28-Dec-12	93	500	455	7.75	55																										
4-Jan-13	94	500	445	7.72	47	#N/A	5.0	32.6	-2	0.86	0.53	29.3	0.0462	-0.00002	0.000032	0.00374	-0.00001	-0.000005	-0.05	0.000013	10.4	0.00037	0.000014	0.000712	0.0053	0.000048	-0.0005	0.806	0.0127	-0.01	-0.00005
11-Jan-13	95	500	465	7.70	47																										
18-Jan-13	96	500	460	7.67	49	#N/A	2.4	30.2	-2	0.56	0.5	21.3	0.0489	-0.00002	0.000034	0.00318	-0.00001	-0.000005	-0.05	-0.000005	7.25	-0.0001	0.000005	0.000472	0.0033	0.000008	0.00079	0.772	0.0138	-0.01	-0.00005
25-Jan-13	97	500	440	7.61	50																										
1-Feb-13	98	500	450	7.74	46	#N/A	3.9	26.6	2	-0.5	0.54	21.2	0.0492	-0.00002	0.000127	0.0032	-0.00001	-0.000005	-0.05	0.000006	7.26	-0.0001	0.000008	0.000543	0.0051	0.000007	-0.0005	0.745	0.0116	-0.01	-0.00005
8-Feb-13	99	500	440	7.96	45																										
15-Feb-13	100	500	445	7.57	48	#N/A	3.3	25.1	3	-0.5	0.56	21.2	0.0589	-0.00002	0.00002	0.00353	-0.00001	-0.000005	-0.05	-0.000005	7.29	-0.0001	0.000007	0.000462	0.0095	0.00001	0.0005	0.737	0.0147	-0.01	-0.00005
22-Feb-13	101	500	440	7.96	46																										
1-Mar-13	102	500	450	7.64	49	#N/A	5.2	31.5	3	0.53	0.54	22	0.0582	-0.00002	-0.00002	0.00498	-0.00001	-0.000005	-0.05	-0.000005	7.58	-0.0001	-0.000005	0.00291	0.0112	0.000017	0.00057	0.739	0.014	-0.01	-0.00005
8-Mar-13	103	500	455	7.63	53																										
15-Mar-13	104	500	445	7.64	50	#N/A	5.2	26.7	3	0.63	0.56	22	0.0464	0.000087	0.000031	0.0033	-0.00001	-0.000005	-0.05	-0.000005	7.6	-0.0001	-0.000005	0.000452	0.0062	0.000008	0.00054	0.741	0.013	-0.01	0.000081
22-Mar-13	105	500	435	7.77	45																										
29-Mar-13	106	500	445	7.63	48	#N/A	3.7	25.8	3	-0.5	0.56	21.5	0.0534	-0.00002	0.000049	0.00378	-0.00001	-0.000005	-0.05	-0.000005	7.42	-0.0001	-0.000005	0.000579	0.0048	0.000018	0.00066	0.723	0.0127	-0.01	-0.00005
5-Apr-13	107	500	455	7.71	49																										
12-Apr-13	108	500	460	7.77	49	#N/A	6.3	28.0	3	0.55	0.56	21.1	0.0644	-0.00002	0.000045	0.00378	-0.00001	-0.000005	-0.05	-0.000005	7.24	-0.0001	0.000008	0.00102	0.009	0.000012	-0.0005	0.726	0.0123	-0.01	-0.00005
19-Apr-13	109	500	450	7.83	44																										
26-Apr-13	110	500	445	7.45	44	#N/A	3.8	23.6	2	-0.5	0.5	18.8	0.0537	-0.00002	0.000039	0.00359	-0.00001	-0.000005	-0.05	-0.000005	6.39	-0.0001	-0.000005	0.000603	0.0077	-0.000005	-0.0005	0.689	0.0129	-0.01	-0.00005
3-May-13	111	500	425	7.69	48																										
10-May-13	112	500	405	7.52	49	#N/A	4.5	25.9	2	0.61	0.56	21.1	0.0643	-0.00002	0.000035	0.00357	-0.00001	-0.000005	-0.05	-0.000005	7.27	-0.0001	-0.000005	0.000583	0.0101	-0.000005	-0.0005	0.724	0.0134	-0.01	-0.00005
17-May-13	113	500	440	7.86	49																										
24-May-13	114	500	440	7.52	40	#N/A	3.9	23.7	2																						

April 1/11 Alkalinity 55.2. Repeat = 50.8.
June 24/11 Fe 0.03. Repeat =0.021, data confirmed, suspect contamination
Jul 22/11 Ni=0.00018, repeat=0.00018. Data confirmed, suspect contamination
Aug 19/11 Ni=0.00035, repeat=0.00035. Data confirmed, suspect contamination
Jan 20/12 Sb=0.0001, repeat=0.0001. Data confirmed, suspect contamination
Apr 13/12 Pb=0.00022, Cd=0.000052. Repeat Cd=0.0000549, pb=0.000239. Data confirmed, suspect contamination
Apr 27/12 Ni=0.00019, repeat=0.000203. Data confirmed, suspect contamination
Sept 14/12 Fe=0.0859, Ni=0.000253, Cr=0.00134. Repeat Ni=0.000199, Fe=0.0881, Cr=0.00124. Data confirmed suspect contamination
Aug 31/12 Ni=0.000433, repeat=0.000053. Data accepted
Aug 17/12 Pb=0.0001, Cannot repeat suspect contamination or analytical error

HC 8

Sample = 09SWC498 54-57

Date	Cycle No.	Ni mg/L	P mg/L	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L
29-Jun-12	67																
6-Jul-12	68	0.000022	-0.002	1.63	0.000479	0.626	-0.000005	0.166	0.152	-10	0.0000035	-0.0002	0.00099	0.0000427	0.00078	0.00024	-0.0001
13-Jul-12	69																
20-Jul-12	70	0.000024	-0.002	1.66	0.000431	0.618	-0.000005	0.156	0.156	-10	0.0000045	-0.0002	-0.0005	0.0000454	0.00081	0.00149	-0.0001
27-Jul-12	71																
3-Aug-12	72	0.000066	-0.002	1.78	0.000727	0.586	-0.000005	0.188	0.158	-10	0.000004	-0.0002	0.00065	0.000039	0.00054	0.0003	-0.0001
10-Aug-12	73																
17-Aug-12	74	0.000123	-0.002	1.78	0.000468	0.571	-0.000005	0.182	0.154	-10	0.000005	0.00089	0.00063	0.000037	0.00055	0.00165	-0.0001
24-Aug-12	75																
31-Aug-12	76	0.000053	-0.002	1.74	0.000378	0.577	-0.000005	0.158	0.163	-10	0.000006	-0.0002	-0.0005	0.000046	0.00044	-0.0001	-0.0001
7-Sep-12	77																
14-Sep-12	78	#N/A	-0.002	1.62	0.000406	0.506	-0.000005	0.225	0.152	-10	0.000004	-0.0002	0.00074	0.000049	0.00056	0.00057	-0.0001
21-Sep-12	79																
28-Sep-12	80	0.000107	0.0024	1.62	0.000345	0.568	-0.000005	0.139	0.148	-10	0.000006	0.00023	0.00092	0.000036	0.00047	0.00043	-0.0001
5-Oct-12	81																
12-Oct-12	82	0.000023	-0.002	1.75	0.000349	0.577	-0.000005	0.143	0.158	-10	0.000005	-0.0002	0.00054	0.00004	0.00029	0.00015	-0.0001
19-Oct-12	83																
26-Oct-12	84	0.000069	0.0094	1.68	0.00042	0.592	-0.000005	0.12	0.173	-10	0.000006	-0.0002	0.00052	0.000041	0.00055	0.00026	-0.0001
2-Nov-12	85																
9-Nov-12	86	0.000179	-0.002	1.94	0.000444	0.606	-0.000005	0.164	0.168	-3	0.000006	-0.0002	0.00073	0.000044	0.00038	0.00183	-0.0001
16-Nov-12	87																
23-Nov-12	88	0.000122	-0.002	2	0.000447	0.738	-0.000005	0.172	0.183	-3	0.000004	0.00057	-0.0005	0.000043	0.00051	0.00055	-0.0001
30-Nov-12	89																
7-Dec-12	90	0.00015	-0.002	1.71	0.000347	0.585	-0.000005	0.105	0.163	-3	0.000005	-0.0002	-0.0005	0.000041	0.00058	0.00072	-0.0001
14-Dec-12	91																
21-Dec-12	92	-0.00002	-0.002	1.6	0.000367	0.54	-0.000005	0.101	0.148	-3	0.000004	-0.0002	-0.0005	0.000034	0.00058	0.0005	-0.0001
28-Dec-12	93																
4-Jan-13	94	0.000095	-0.002	1.69	0.000323	0.625	-0.000005	0.147	0.146	-3	0.000004	-0.0002	-0.0005	0.000028	0.00053	0.00115	-0.0001
11-Jan-13	95																
18-Jan-13	96	0.000091	0.0029	1.56	0.000279	0.46	-0.000005	0.093	0.131	-3	0.000004	-0.0002	-0.0005	0.000029	0.00029	0.00015	-0.0001
25-Jan-13	97																
1-Feb-13	98	0.000045	-0.002	1.61	0.000244	0.483	-0.000005	0.115	0.129	-3	0.000004	-0.0002	-0.0005	0.000031	0.00062	0.00081	-0.0001
8-Feb-13	99																
15-Feb-13	100	-0.00002	-0.002	1.63	0.000266	0.515	-0.000005	0.116	0.13	-3	0.000006	-0.0002	0.0008	0.000033	0.00038	0.00046	-0.0001
22-Feb-13	101																
1-Mar-13	102	0.000138	-0.002	1.64	0.000308	0.526	-0.000005	0.117	0.139	-3	0.000005	-0.0002	0.00061	0.000027	0.00043	0.00052	-0.0001
8-Mar-13	103																
15-Mar-13	104	0.000054	-0.002	1.69	0.000408	0.527	-0.000005	0.106	0.136	-3	0.000005	-0.0002	-0.0005	0.000029	0.00042	0.00019	-0.0001
22-Mar-13	105																
29-Mar-13	106	-0.00002	-0.002	1.71	0.000184	0.493	-0.000005	0.104	0.149	-3	0.000004	-0.0002	-0.0005	0.000031	0.00042	-0.0001	-0.0001
5-Apr-13	107																
12-Apr-13	108	0.000024	-0.002	1.64	0.000242	0.491	-0.000005	0.096	0.138	-3	0.000003	-0.0002	0.00216	0.000028	0.00062	0.00023	-0.0001
19-Apr-13	109																
26-Apr-13	110	0.000062	-0.002	1.61	0.000212	0.384	-0.000005	0.1	0.119	-3	0.000002	-0.0002	0.00089	0.000024	0.00021	0.00024	-0.0001
3-May-13	111																
10-May-13	112	0.000051	-0.002	1.67	0.000223	0.5	-0.000005	0.103	0.126	-3	0.000003	-0.0002	0.0011	0.000025	0.0005	0.00014	-0.0001
17-May-13	113																
24-May-13	114																

HC 9

CONFIDENTIAL *DRAFT*

Sample =
07SWC258 20-23

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L
18-Mar-11	0	500	335	7.69	77	#N/A	2.7	34.2	5	2.2	0.19	16.9	0.279	-0.00002	0.00782	0.0193	-0.00001	-0.000005	-0.05	0.000019	5.6	-0.0001	0.000022	0.00408	0.011	0.000101	0.0017	0.7	0.00499	-0.01	0.0253
25-Mar-11	1	500	490	7.98	129																										
1-Apr-11	2	500	465	7.85	80	#N/A	5.0	47.9	4	0.8	0.27	19.4	0.0985	0.00003	0.0072	0.029	-0.00001	-0.000005	-0.05	0.00001	5.76	-0.0001	0.000013	0.00405	0.005	0.000091	0.0018	1.22	0.0119	-0.01	0.0284
8-Apr-11	3	500	445	7.72	69																										
15-Apr-11	4	500	450	7.74	60	#N/A	2.2	36.5	3	-0.5	0.13	20.2	0.0774	0.00002	0.0059	0.0385	-0.00001	-0.000005	-0.05	-0.000005	6.07	0.0006	0.000007	0.00215	0.006	0.000062	0.0012	1.22	0.0127	-0.01	0.00564
22-Apr-11	5	500	455	7.74	57																										
29-Apr-11	6	500	455	7.70	59	#N/A	3.1	35.8	5	0.9	0.09	23.8	0.0944	0.00002	0.00662	0.0508	-0.00001	-0.000005	-0.05	-0.000005	7.25	-0.0001	0.000012	0.00222	0.007	0.000023	0.001	1.38	0.0112	-0.01	0.00271
6-May-11	7	500	455	7.53	50																										
13-May-11	8	500	460	7.57	50	#N/A	3.4	28.3	5	1.7	0.08	20.9	0.0973	-0.00002	0.00509	0.0456	-0.00001	-0.000005	-0.05	-0.000005	6.48	-0.0001	-0.000005	0.00155	0.005	0.000025	0.0007	1.15	0.0106	-0.01	0.00179
20-May-11	9	500	460	7.77	56																										
27-May-11	10	500	465	7.74	50	#N/A	5.3	26.6	3	1.2	0.05	20.9	0.088	0.00008	0.00429	0.0484	-0.00001	-0.000005	-0.05	-0.000005	6.63	-0.0001	0.000013	0.00147	0.003	0.000012	0.0006	1.05	0.0102	-0.01	0.00133
3-Jun-11	11	500	470	7.55	50																										
10-Jun-11	12	500	485	7.60	47	#N/A	2.2	28.5	2	1.4	0.06	19.7	0.0945	-0.00002	0.00422	0.0548	-0.00001	-0.000005	-0.05	0.000012	6.47	-0.0001	0.000008	0.00137	0.009	#N/A	0.0006	0.86	0.00964	-0.01	0.00097
17-Jun-11	13	500	485	7.51	54																										
24-Jun-11	14	500	475	7.75	45	#N/A	2.0	27.5	2	0.9	0.04	21.1	0.0989	-0.00002	0.00396	0.0569	-0.00001	-0.000005	-0.05	0.000008	6.92	-0.0001	0.000007	0.00126	0.004	0.000011	-0.0005	0.94	0.0104	-0.01	0.00072
1-Jul-11	15	500	465	7.82	44																										
8-Jul-11	16	500	465	7.51	46	#N/A	2.9	27.0	3	0.8	0.04	19.4	0.0975	-0.00002	0.00399	0.0549	-0.00001	-0.000005	-0.05	0.000007	6.54	-0.0001	0.000005	0.00092	0.005	0.000023	-0.0005	0.76	0.00835	-0.02	0.00053
15-Jul-11	17	500	460	7.68	49																										
22-Jul-11	18	500	480	7.63	43	#N/A	3.4	25.1	-2	1	0.03	18.8	0.104	-0.00002	0.00341	0.0582	-0.00001	-0.000005	-0.05	-0.000005	6.29	0.0001	0.000012	0.00119	0.008	0.000022	-0.0005	0.75	0.00888	-0.01	0.00043
29-Jul-11	19	500	465	7.76	46																										
5-Aug-11	20	500	470	7.53	48	#N/A	3.6	28.3	-2	-0.5	0.03	21.8	0.113	-0.00002	0.00412	0.0658	-0.00001	-0.000005	-0.05	-0.000005	7.49	-0.0001	0.000008	0.0013	0.008	0.000021	-0.0005	0.75	0.00861	-0.01	0.00046
12-Aug-11	21	500	470	7.81	44																										
19-Aug-11	22	500	470	7.59	43	#N/A	4.1	27.0	2	1	0.03	19.8	0.101	-0.00002	0.00313	0.0663	-0.00001	-0.000005	-0.05	0.000006	6.96	0.0002	0.000008	0.00141	0.007	0.000014	-0.0005	0.59	0.00865	-0.01	0.00037
26-Aug-11	23	500	470	7.62	46																										
2-Sep-11	24	500	465	7.72	43	#N/A	4.2	29.4	2	0.6	0.03	20	0.106	-0.00002	0.00318	0.0719	-0.00001	-0.000005	-0.05	-0.000005	7.03	-0.0001	0.000013	0.00108	0.005	0.000012	-0.0005	0.61	0.00984	-0.01	0.00046
9-Sep-11	25	500	460	7.77	43																										
16-Sep-11	26	500	465	7.49	45	#N/A	4.1	27.4	-2	0.9	0.03	20.4	0.1	-0.00002	0.00297	0.0735	-0.00001	-0.000005	-0.05	0.000005	7.26	-0.0001	0.000007	0.00077	0.006	0.000012	-0.0005	0.54	0.00848	-0.01	0.00036
23-Sep-11	27	500	450	7.48	40																										
30-Sep-11	28	500	470	7.51	44	#N/A	3.1	27.6	-2	0.6	0.03	19.2	0.0865	-0.00002	0.00271	0.0757	-0.00001	-0.000005	-0.05	0.000008	6.86	-0.0001	0.000008	0.00065	0.004	0.000012	-0.0005	0.49	0.00839	-0.01	0.00029
7-Oct-11	29	500	455	7.57	37																										
14-Oct-11	30	500	445	7.38	36	#N/A	3.1	22.9	-2	-0.5	0.03	16.5	0.12	-0.00002	0.00288	0.0623	-0.00001	-0.000005	-0.05	-0.000005	5.92	-0.0001	-0.000005	0.00083	0.005	0.000023	-0.0005	0.42	0.00638	-0.01	0.00028
21-Oct-11	31	500	465	7.69	38																										
28-Oct-11	32	500	455	7.61	44	#N/A	3.5	27.2	-2	-0.5	0.03	21.8	0.116	-0.00002	0.00295	0.0835	-0.00001	-0.000005	-0.05	-0.000005	7.91	0.0001	-0.000005	0.00094	0.007	0.000038	-0.0005	0.5	0.0079	-0.01	0.0003
4-Nov-11	33	500	455	7.58	35																										
11-Nov-11	34	500	470	7.82	37	#N/A	5.1	26.5	-2	0.5	0.029	18	0.0967	-0.00002	0.00253	0.0724	-0.00001	-0.000005	-0.05	#N/A	6.54	-0.0001	0.000008	0.00115	0.006	0.000038	-0.0005	0.41	0.00708	-0.01	0.00028
18-Nov-11	35	500	455	7.59	38																										
25-Nov-11	36	500	470	7.71	38	#N/A	3.1	25.4	2	-0.5	0.022	17.6	0.0903	-0.00002	0.00237	0.0734	-0.00001	-0.000005	-0.05	0.000006	6.35	-0.0001	0.00001	0.00192	0.006	0.000016	-0.0005	0.41	0.00775	-0.01	0.00023
2-Dec-11	37	500	470	7.62	35																										
9-Dec-11	38	500	475	7.48	37	#N/A	4.6	23.0	2	-0.5	0.025	15.9	0.097	-0.00002	0.00214	0.0718	-0.00001	-0.000005	-0.05	0.000011	5.73	0.0003	-0.000005	0.00139	0.006	#N/A	-0.0005	0.38	0.00749	-0.01	0.00021
16-Dec-11	39	500	455	7.76	37																										
23-Dec-11	40	500	450	7.70	35	#N/A	4.1	23.8	2	-0.5	0.021	15.8	0.0927	-0.00002	0.00194	0.077	-0.00001	-0.000005	-0.05	-0.000005	5.79	-0.0001	0.000009	0.00085	0.005	0.000026	-0.0005	0.33	0.00684	-0.01	0.00017
30-Dec-11	41	500	470	7.74	37																										
6-Jan-12	42	500	450	7.39	36	#N/A	3.7	26.4	2	-0.5	0.019	17	0.0975	-0.00002	0.00223	0.0794	-0.00001	-0.000005	-0.05	-0.000005	6.26	-0.0001	-0.000005	0.00076	0.004	0.000014	-0.0005	0.34	0.0066	-0.01	0.00018
13-Jan-12	43	500	470	7.66	37																										
20-Jan-12	44	500	455	7.61	36	#N/A	2.7	26.8	-2	-0.5	0.023	15.5	0.0837	-0.00002	0.00202	0.0757	-0.00001	-0.000005	-0.05	-0.000005	5.7	0.0007	0.000008	0.0017	0.006	#N/A	-0.0005	0.3	0.00625	-0.01	0.00018
27-Jan-12	45	500	460	7.52	35																										
3-Feb-12	46	500	465	7.67	38	#N/A	5.6	28.6	2	-0.5	0.025	17.9	0.0965	-0.00002	0.00216	0.0695	-0.00001	-0.000005	-0.05	-0.000005	6.61	-0.0001	-0.000005	0.00115	0.003	0.000013	-0.0005	0.33	0.00665	0.01	0.00017
10-Feb-12	47	500	465	7.71	36																										
17-Feb-12	48	500	455	7.51	35	#N/A	2.9	22.8	2	-0.5	0.02	16.6	0.11	-0.00002	0.00218	0.0721	-0.00001	-0.000005	-0.05	-0.000005	6.16	-0.0001	-0.000005	0.0008	0.005	0.000012	-0.0005	0.29	0.00573	-0.01	0.00019
24-Feb-12	49	500	455	7.50	37																										
2-Mar-12	50	500	460	7.65	35	#N/A	6.8	25.9	2	-0.5	0.018	15.7	0.0908	-0.00002	0.002	0.075	-0.00001	-0.000005	-0.05	-0.000005	5.83	-0.0001	-0.000005	0.00073	0.005	0.000013	-0.0005	0.28	0.00579	-0.01	0.00015
9-Mar-12	51	500	475	7.59	39																										
16-Mar-12	52	500	460	7.57	41	#N/A	2.8	25.6	2	-0.5	0.021	17.6	0.117	-0.00002	0.00264	0.0853	-0.00001	-0.000005	-0.05	0.000009	6.52	-0.0001	0.000009	0.00092	0.006	0.000049	-0.0005	0.31	0.00566	-0.01	0.00021
23-Mar-12	53	500	465	7.61	37																										
30-Mar-12	54	500	465	7.31	36	#N/A	4.1	23.8	2	-0.5	0.019	16.6	0.116	-0.00002	0.00185	0.0794	-0.00001	-0.000005	-0.05	-0.000005	6.22	-0.0001	-0.000005	0.00088	0.007	0.000015	-0.0005	0.26	0.00595	-0.01	0.00015
6-Apr-12	55	500	460	7.57	37																										
13-Apr-12	56	500	450	7.57	36	#N/A	2.2	22.6	3	-0.5	0.017	16.7	0.112	-0.00002	0.00216	0.0809	-0.00001	-0.000005	-0.05	0.000014	6.25	-0.0001	-0.000005	0.00078	0.007	0.000019	-0.0005	0.27	0.00523	-0.01	0.00016
20-Apr-12	57	500	460	7.56	35																										
27-Apr-12	58	500	475	7.60	33	#N/A	4.5	23.0	2	-0.5	0.015	15.1	0.0837	-0.00002	0.00142	0.0773	-0.00001	-0.000005	-0.05	0.000009	5.65	0.00011	0.000006	0.00129	0.0057	0.00002	-0.0005	0.231	0.00539	-0.01	0.000136
4-May-12	59	500	470	7.79	34																										
11-May-12	60	500	470	7.56	35	#N/A	3.1	21.3	3	-0.5	0.019	16.7	0.09	-0.00002	0.0018	0.079	-0.00001	-0.000005	-0.05	-0.000005	6.3	0.00013	-0.000005	0.00111	0.0042	0.00002	-0.0005	0.229	0.00596	-0.01	0.000131
18-May-12	61	500	455	7.58	35																										
25-May-12	62	500	480	7.45	34	#N/A	4.0	21.7	2	-0.5	0.017	15.2	0.121	-0.00002	0.00172	0.0756	-0.00001	-0.000005	-0.05	0.0000063	5.7	-0.0001	0.000006	0.000723	0.0087	0.0000282	-0.0005	0.22	0.00587	-0.01	0.000112
1-Jun-12	63	500	495	7.54	33																										
8-Jun-12	64	500	450	7.50	32	#N/A	3.1	20.4	2	0.67	0.015	13.9	0.0782	-0.00002	0.00141	0.0714	-0.00001	-0.000005	-0.05	0.0000086	5.21	0.0007	0.0000056	0.00198	0.0059	0.000975	-0.0005	0.216	0.00499	-0.01	0.000143
15-Jun-12	65	500	485	7.48	35																										
22-Jun-12	66	500	455	7.41	30	#N/A	4.4	21.0	2	-0.5	0.018	13.9	0.118	-0.00002	0.00184	0.0743	-0.00001	-0.000005	-0.05	-0.000005	5.22	-0.0001	-0.000005	0.000681	0.0056	0.0000149	-0.0005	0.212	0.00434	-0.01	0.000169
29-Jun-12	67	500	455	7.53	30																										

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Sample = 07SWC258 20-23

Date	Cycle No.	Ni	P	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
18-Mar-11	0	0.00003	0.016	4.2	0.00027	1.77	-0.000005	8.52	0.0352	-10	0.000002	0.00003	0.0005	0.000048	0.003	0.0002	-0.0001
25-Mar-11	1																
1-Apr-11	2	0.00009	0.002	4.55	0.00021	2.29	-0.000005	6.62	0.0415	-10	0.000002	0.00042	-0.0005	0.000187	0.0028	0.0002	-0.0001
8-Apr-11	3																
15-Apr-11	4	0.00007	-0.002	3.55	0.00013	1.74	-0.000005	1.77	0.0499	-10	-0.000002	0.00019	-0.0005	0.000094	0.0025	0.0012	-0.0001
22-Apr-11	5																
29-Apr-11	6	0.00009	-0.002	3.49	0.00019	2.24	-0.000005	0.87	0.0564	-10	-0.000002	0.00015	-0.0005	0.00009	0.0028	0.0003	-0.0001
6-May-11	7																
13-May-11	8	0.0001	-0.002	2.49	0.00013	1.75	-0.000005	0.53	0.0466	-10	0.000004	0.0001	-0.0005	0.000054	0.0022	0.0005	-0.0001
20-May-11	9																
27-May-11	10	0.00004	-0.002	1.95	0.00016	1.65	-0.000005	0.44	0.0488	-10	-0.000002	0.00006	-0.0005	0.000045	0.0019	0.0003	-0.0001
3-Jun-11	11																
10-Jun-11	12	#N/A	-0.002	1.77	0.00016	1.51	-0.000005	0.32	0.052	-10	-0.000002	0.00012	-0.0005	0.000042	0.0019	0.0009	-0.0001
17-Jun-11	13																
24-Jun-11	14	-0.00002	-0.002	1.76	0.00017	1.6	-0.000005	0.36	0.0482	-10	-0.000002	0.00005	-0.0005	0.000039	0.0019	-0.0001	-0.0001
1-Jul-11	15																
8-Jul-11	16	0.00002	-0.002	1.47	0.00016	1.47	-0.000005	0.26	0.0469	-10	-0.000002	0.00004	-0.0005	0.000034	0.002	0.0002	-0.0001
15-Jul-11	17																
22-Jul-11	18	#N/A	-0.002	1.39	0.00015	1.33	-0.000005	0.3	0.0442	-10	-0.000002	0.00003	-0.0005	0.000028	0.0017	0.0005	-0.0001
29-Jul-11	19																
5-Aug-11	20	0.00004	-0.002	1.46	0.00018	1.49	-0.000005	0.26	0.0491	-10	-0.000002	0.00003	-0.0005	0.000071	0.002	0.0005	-0.0001
12-Aug-11	21																
19-Aug-11	22	#N/A	-0.002	1.33	0.00015	1.29	-0.000005	0.33	0.0452	-10	-0.000002	-0.00001	0.0005	0.000026	0.0019	0.0002	-0.0001
26-Aug-11	23																
2-Sep-11	24	0.00003	-0.002	1.32	0.00012	1.26	-0.000005	0.26	0.0476	-10	-0.000002	0.00016	-0.0005	0.000035	0.002	0.0006	-0.0001
9-Sep-11	25																
16-Sep-11	26	-0.00002	-0.002	1.27	0.00014	1.21	-0.000005	0.18	0.0465	-10	0.000002	0.00002	-0.0005	0.000032	0.0017	0.0003	-0.0001
23-Sep-11	27																
30-Sep-11	28	-0.00002	-0.002	1.18	0.00013	1.14	-0.000005	0.22	0.0449	-10	0.000004	0.00012	-0.0005	0.000025	0.0012	0.0001	-0.0001
7-Oct-11	29																
14-Oct-11	30	#N/A	-0.002	1.11	0.00012	1.14	-0.000005	0.22	0.0377	-10	-0.000002	0.00018	-0.0005	0.000024	0.0017	0.0012	-0.0001
21-Oct-11	31																
28-Oct-11	32	0.00005	-0.002	1.31	0.00014	1.32	-0.000005	0.24	0.0504	-10	0.000003	0.00023	-0.0005	0.000023	0.0018	0.0003	-0.0001
4-Nov-11	33																
11-Nov-11	34	0.00019	-0.002	1.14	0.00012	1.15	-0.000005	0.29	0.0396	-10	0.000007	0.00012	-0.0005	0.000019	0.0014	0.0016	-0.0001
18-Nov-11	35																
25-Nov-11	36	0.00014	-0.002	1.12	0.0001	1.03	-0.000005	0.25	0.0382	-10	-0.000002	0.00016	-0.0005	0.000014	0.0014	0.0006	-0.0001
2-Dec-11	37																
9-Dec-11	38	0.00014	-0.002	1.09	0.0001	0.85	-0.000005	0.23	0.0379	-10	0.000006	0.00011	-0.0005	0.000018	0.0012	0.0009	-0.0001
16-Dec-11	39																
23-Dec-11	40	0.00022	-0.002	1	0.00011	0.877	-0.000005	0.24	0.0367	-10	0.000002	-0.00001	-0.0005	0.000021	0.001	0.0009	-0.0001
30-Dec-11	41																
6-Jan-12	42	-0.00002	-0.002	1.06	0.00009	0.993	-0.000005	0.19	0.0377	-10	-0.000002	0.00014	-0.0005	0.000013	0.0014	0.0003	-0.0001
13-Jan-12	43																
20-Jan-12	44	#N/A	-0.002	0.96	0.00009	0.861	-0.000005	0.28	0.0359	-10	0.000003	-0.0002	-0.0005	0.000016	0.0014	0.0012	-0.0001
27-Jan-12	45																
3-Feb-12	46	0.00013	-0.002	1.1	0.00008	1	-0.000005	0.23	0.0354	-10	0.000002	-0.0002	-0.0005	0.000012	0.0012	0.0002	-0.0001
10-Feb-12	47																
17-Feb-12	48	-0.00002	-0.002	1.04	0.00011	1.01	-0.000005	0.2	0.0337	-10	-0.000002	-0.0002	-0.0005	0.000017	0.0015	-0.0001	-0.0001
24-Feb-12	49																
2-Mar-12	50	0.00003	-0.002	0.94	0.00008	0.827	-0.000005	0.17	0.0317	-10	0.000002	-0.0002	-0.0005	0.00001	0.0011	0.0002	-0.0001
9-Mar-12	51																
16-Mar-12	52	0.00006	-0.002	1.02	0.0001	1.06	-0.000005	0.32	0.0375	-10	0.000007	-0.0002	0.0005	0.000014	0.0014	0.0002	-0.0001
23-Mar-12	53																
30-Mar-12	54	0.00004	-0.002	0.92	0.00009	0.936	-0.000005	0.18	0.0353	-10	-0.000002	-0.0002	0.0006	0.000014	0.001	0.0003	-0.0001
6-Apr-12	55																
13-Apr-12	56	0.00005	-0.002	1	0.0001	1.06	-0.000005	0.18	0.0342	-10	0.000003	-0.0002	0.0006	0.000014	0.0012	0.0005	-0.0001
20-Apr-12	57																
27-Apr-12	58	#N/A	-0.002	0.894	0.00009	0.754	-0.000005	0.191	0.0297	-10	0.000002	0.00022	-0.0005	0.000014	0.00155	0.00024	-0.0001
4-May-12	59																
11-May-12	60	0.000142	-0.002	0.97	0.00008	0.955	-0.000005	0.205	0.0302	-10	0.000003	-0.0002	-0.0005	0.000011	0.00108	0.00023	-0.0001
18-May-12	61																
25-May-12	62	0.000083	-0.002	0.865	0.00009	0.966	-0.000005	0.199	0.0309	-10	0.0000035	-0.0002	-0.0005	0.000011	0.001	0.0002	-0.0001
1-Jun-12	63																
8-Jun-12	64	0.000163	0.0025	0.784	0.000072	0.728	-0.000005	0.291	0.0274	-10	0.0000024	-0.0002	-0.0005	0.0000121	0.00091	0.00049	-0.0001
15-Jun-12	65																
22-Jun-12	66	0.000055	0.0027	0.802	0.000091	0.871	-0.000005	0.181	0.0277	-10	-0.000002	-0.0002	-0.0005	0.0000105	0.00111	0.00021	-0.0001
29-Jun-12	67																

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CONFIDENTIAL *DRAFT*

Sample =
07SWC258 20-23

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L
6-Jul-12	68	500	450	7.48	30	#N/A	3.9	20.9	2	-0.5	0.015	13.6	0.0832	-0.00002	0.0016	0.0727	-0.00001	-0.000005	-0.05	-0.000005	5.13	-0.0001	-0.000005	0.000613	0.0032	0.0000122	-0.0005	0.2	0.00455	-0.01	0.000147
13-Jul-12	69	500	465	7.58	30																										
20-Jul-12	70	500	465	7.49	30	#N/A	4.2	20.0	2	-0.5	0.013	14.5	0.119	-0.00002	0.00134	0.0712	-0.00001	-0.000005	-0.05	-0.000005	5.46	-0.0001	0.0000056	0.000569	0.0047	0.0000167	-0.0005	0.212	0.00482	-0.01	0.000126
27-Jul-12	71	500	455	7.78	29																										
3-Aug-12	72	500	445	7.55	28	#N/A	3.5	16.6	2	-0.5	0.017	13.6	0.0991	0.00002	0.00159	0.0694	-0.00001	-0.000005	-0.05	-0.000005	5.12	-0.0001	0.000006	0.000821	0.0043	0.000014	-0.0005	0.2	0.00417	-0.01	0.000107
10-Aug-12	73	500	460	7.56	26																										
17-Aug-12	74	500	450	7.45	32	#N/A	4.5	21.0	2	-0.5	0.016	14.8	0.106	-0.00002	0.00154	0.08	-0.00001	-0.000005	-0.05	0.000008	5.53	0.00102	0.000011	0.00112	0.0238	0.000065	-0.0005	0.239	0.00502	-0.01	0.000111
24-Aug-12	75	500	475	7.62	34																										
31-Aug-12	76	500	460	7.60	32	#N/A	3.3	21.8	2	-0.5	0.019	15.3	0.117	-0.00002	0.00157	0.078	-0.00001	-0.000005	-0.05	0.000008	5.76	0.00153	0.00001	0.00181	0.0127	0.000079	-0.0005	0.221	0.00503	-0.01	0.000111
7-Sep-12	77	500	445	7.45	26																										
14-Sep-12	78	500	460	7.27	27	#N/A	3.4	17.0	2	-0.5	0.012	12.6	0.0894	-0.00002	0.00143	0.0738	-0.00001	-0.000005	-0.05	-0.000005	4.72	-0.0001	-0.000005	0.00333	0.0076	0.000033	-0.0005	0.199	0.00493	-0.01	0.000108
21-Sep-12	79	500	475	7.48	33																										
28-Sep-12	80	500	455	7.37	31	#N/A	2.8	22.0	2	-0.5	0.015	14.4	0.112	-0.00002	0.00111	0.0774	-0.00001	-0.000005	-0.05	0.000005	5.39	-0.0001	0.000005	0.00118	0.0078	0.000028	-0.0005	0.23	0.00502	-0.01	0.000105
5-Oct-12	81	500	320	7.73	30																										
12-Oct-12	82	500	495	7.47	33	#N/A	5.8	23.0	2	-0.5	0.016	15.5	0.0903	-0.00002	0.00135	0.0862	-0.00001	-0.000005	-0.05	-0.000005	5.81	-0.0001	-0.000005	0.002	0.0045	0.000022	-0.0005	0.245	0.00469	-0.01	0.000111
19-Oct-12	83	500	495	7.58	31																										
26-Oct-12	84	500	495	7.48	33	#N/A	2.8	22.6	2	-0.5	0.016	15.4	0.0913	-0.00002	0.00133	0.0816	-0.00001	-0.000005	-0.05	0.000007	5.82	-0.0001	0.000005	0.00137	0.0086	0.000134	-0.0005	0.223	0.00426	-0.01	0.000119
2-Nov-12	85	500	485	7.54	34																										
9-Nov-12	86	500	495	7.57	30	#N/A	5.1	23.1	3	-0.5	0.019	15.6	0.0807	-0.00002	0.00126	0.0843	-0.00001	-0.000005	-0.05	0.000016	5.84	0.00058	0.000048	0.00101	0.0051	0.000023	-0.0005	0.25	#N/A	-0.01	0.000106
16-Nov-12	87	500	490	7.65	28																										
23-Nov-12	88	500	480	7.60	34	#N/A	3.8	22.4	3	-0.5	0.018	16.4	0.0984	-0.00002	#N/A	0.0861	-0.00001	-0.000005	-0.05	-0.000005	6.16	-0.0001	0.000017	0.000878	0.0066	0.000027	-0.0005	0.252	0.00401	-0.01	0.000094
30-Nov-12	89	500	505	7.48	34																										
7-Dec-12	90	500	425	7.81	25	#N/A	5.6	21.5	2	-0.5	0.017	13	0.121	-0.00002	0.00118	0.0704	-0.00001	-0.000005	-0.05	-0.000005	4.87	-0.0001	0.000005	0.000938	0.0068	0.000022	-0.0005	0.199	0.00331	-0.01	0.000085
14-Dec-12	91	500	485	7.87	23																										
21-Dec-12	92	500	480	7.66	30	#N/A	3.5	21.6	-2	0.56	0.019	13.9	0.0932	-0.00002	0.00107	0.0787	-0.00001	-0.000005	-0.05	-0.000005	5.22	-0.0001	0.000005	0.000566	0.0059	0.000015	-0.0005	0.201	0.00361	-0.01	0.000088
28-Dec-12	93	500	465	7.61	35																										
4-Jan-13	94	500	460	7.74	27	#N/A	4.5	21.5	-2	0.87	0.024	13.9	0.0784	-0.00002	0.00086	0.0831	-0.00001	-0.000005	-0.05	-0.000005	5.17	-0.0001	0.000011	0.000589	0.0036	0.000019	-0.0005	0.238	0.00405	-0.01	0.00007
11-Jan-13	95	500	465	7.58	27																										
18-Jan-13	96	500	460	7.62	29	#N/A	2.6	20.8	2	0.66	0.016	13.9	0.0869	-0.00002	0.000928	0.0806	-0.00001	-0.000005	-0.05	-0.000005	5.18	-0.0001	0.000006	0.000469	0.0048	0.000017	-0.0005	0.225	0.00389	-0.01	0.000065
25-Jan-13	97	500	460	7.54	40																										
1-Feb-13	98	500	435	7.64	24	#N/A	4.0	15.7	2	0.54	0.023	11.5	0.0918	-0.00002	0.00106	0.0643	-0.00001	-0.000005	-0.05	-0.000005	4.29	-0.0001	0.000005	0.000511	0.0044	0.000009	-0.0005	0.192	0.00301	-0.01	0.000079
8-Feb-13	99	500	445	7.92	21																										
15-Feb-13	100	500	440	7.43	22	#N/A	3.0	11.2	2	-0.5	0.012	10.1	0.088	-0.00002	0.000786	0.058	-0.00001	-0.000005	-0.05	-0.000005	3.74	-0.0001	-0.000005	0.000403	0.0041	0.000011	-0.0005	0.178	0.00298	-0.01	0.000069
22-Feb-13	101	500	425	7.86	22																										
1-Mar-13	102	500	445	7.58	22	#N/A	5.1	15.5	3	-0.5	0.02	10.2	0.0924	-0.00002	0.000845	0.0612	-0.00001	-0.000005	-0.05	-0.000005	3.76	-0.0001	-0.000005	0.000504	0.0059	0.000018	-0.0005	0.187	0.00297	-0.01	0.00008
8-Mar-13	103	500	445	7.71	31																										
15-Mar-13	104	500	440	7.55	21	#N/A	4.5	12.7	2	0.66	0.016	9.68	0.081	-0.00002	0.000769	0.0547	-0.00001	-0.000005	-0.05	0.000017	3.59	-0.0001	-0.000005	0.000578	0.0055	0.000012	-0.0005	0.17	0.00272	-0.01	0.000059
22-Mar-13	105	500	455	7.84	20																										
29-Mar-13	106	500	435	7.44	20	#N/A	3.1	11.2	3	0.97	0.012	9.27	0.0738	-0.00002	0.000704	0.0535	-0.00001	-0.000005	-0.05	-0.000005	3.44	-0.0001	-0.000005	0.000408	0.0034	0.000022	-0.0005	0.163	0.00266	-0.01	0.00007
5-Apr-13	107	500	430	7.70	21																										
12-Apr-13	108	500	450	7.71	24	#N/A	5.2	15.3	3	-0.5	0.011	10.3	0.0719	-0.00002	0.000812	0.0631	-0.00001	-0.000005	-0.05	-0.000005	3.8	-0.0001	0.000005	0.0005	0.0035	0.000011	-0.0005	0.19	0.00275	-0.01	0.000066
19-Apr-13	109	500	440	7.80	21																										
26-Apr-13	110	500	440	7.42	22	#N/A	3.8	12.0	2	-0.5	0.013	9.25	0.0766	-0.00002	0.00071	0.0573	-0.00001	-0.000005	-0.05	-0.000005	3.42	-0.0001	0.000005	0.000606	0.0093	0.00004	-0.0005	0.174	0.00274	-0.01	0.000062
3-May-13	111	500	430	7.74	22																										
10-May-13	112	500	425	7.38	20	#N/A	3.8	11.5	2	-0.5	-0.01	8.83	0.0756	-0.00002	0.000657	0.0504	-0.00001	-0.000005	-0.05	-0.000005	3.26	-0.0001	-0.000005	0.000521	0.0058	0.000009	-0.0005	0.171	0.00247	-0.01	0.000053
17-May-13	113	500	440	7.89	23																										
24-May-13	114	500	440	7.41	20	#N/A	3.7	11.8	2																						

June 10/11 Pb 0.000042 and Ni . Repeat Pb=0.000045, Ni= 0.00398 data confirmed suspect contamination
June 24/11 Cl 3.1. Repeat = 0.9, data accepted.
Jul 22/11 Ni=0.00023, repeat=0.00023. data confirmed, suspect contamination
Aug 19/11 Ni= 0.00021, repeat=0.00021. Data confirmed, suspect contamination
Nov 11/11 Cd=0.000057, repeat=0.000054. data confirmed, suspect contamination
Dec 9/11 Pb=0.000631, repeat=0.000634. data confirmed, suspect contamination.
Oct 14/11 Ni=0.00034, repeat=0.00041. Data confirmed, suspect contamination.
Jan 20/12 Pb=0.000271, Ni=0.00025. Repeat Pb=0.000254, Ni=0.00023. Data confirmed, suspect contamination
Apr 27/12 Ni=0.000109, repeat=0.000132. Data confirmed, suspect contamination
Nov 23/12 As=0.00212, repeat=0.00212. Data confirmed, suspect contamination
Nov 9/12 Mn=0.00876, repeat confirms original result, suspect contamination

HC 9

Sample =
07SWC258 20-23

Date	Cycle No.	Ni	P	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
6-Jul-12	68	0.000022	-0.002	0.839	0.000078	0.81	-0.000005	0.17	0.0253	-10	-0.000002	-0.0002	-0.0005	0.0000111	0.00114	0.00014	-0.0001
13-Jul-12	69																
20-Jul-12	70	-0.00002	-0.002	0.793	0.000064	0.873	-0.000005	0.17	0.0261	-10	0.000002	-0.0002	0.00056	0.0000095	0.00103	0.00115	-0.0001
27-Jul-12	71																
3-Aug-12	72	0.000095	-0.002	0.845	0.000063	0.799	-0.000005	0.19	0.0246	-10	0.000002	-0.0002	-0.0005	0.000011	0.00102	0.00031	-0.0001
10-Aug-12	73																
17-Aug-12	74	0.00015	-0.002	0.939	0.000096	0.775	-0.000005	0.244	0.0281	-10	0.000003	0.00074	-0.0005	0.00001	0.00095	0.00109	-0.0001
24-Aug-12	75																
31-Aug-12	76	0.000175	-0.002	0.837	0.000079	0.858	-0.000005	0.315	0.0286	-10	0.000003	0.0003	-0.0005	0.000013	0.00094	0.00086	-0.0001
7-Sep-12	77																
14-Sep-12	78	0.000068	-0.002	0.718	0.000093	0.648	-0.000005	0.142	0.0254	-10	0.000005	-0.0002	0.00064	0.000008	0.00072	0.00027	-0.0001
21-Sep-12	79																
28-Sep-12	80	0.000173	-0.002	0.838	0.000058	0.851	-0.000005	0.198	0.029	-10	0.000002	0.00023	-0.0005	0.00001	0.00089	0.0002	-0.0001
5-Oct-12	81																
12-Oct-12	82	0.000038	-0.002	0.883	0.000068	0.772	-0.000005	0.149	0.0282	-10	0.000002	-0.0002	-0.0005	0.000011	0.0007	0.00031	-0.0001
19-Oct-12	83																
26-Oct-12	84	0.000072	0.0083	0.797	0.00009	0.754	-0.000005	0.137	0.0282	-10	0.000003	0.00036	-0.0005	0.000018	0.0009	0.00109	-0.0001
2-Nov-12	85																
9-Nov-12	86	0.00023	-0.002	0.859	0.000075	0.742	-0.000005	0.208	0.0271	-3	0.000003	0.00026	-0.0005	0.000015	0.00094	0.00304	-0.0001
16-Nov-12	87																
23-Nov-12	88	0.000384	-0.002	0.879	0.000046	0.867	-0.000005	0.164	0.0315	-3	0.000003	0.00036	-0.0005	0.000011	0.00078	0.00075	-0.0001
30-Nov-12	89																
7-Dec-12	90	0.000293	-0.002	0.786	-0.00004	0.722	-0.000005	0.132	0.0246	-3	0.000002	-0.0002	-0.0005	0.00001	0.00101	0.00142	-0.0001
14-Dec-12	91																
21-Dec-12	92	0.000046	-0.002	0.799	0.000067	0.643	-0.000005	0.116	0.0224	-3	0.000002	-0.0002	-0.0005	0.000009	0.00075	0.00017	-0.0001
28-Dec-12	93																
4-Jan-13	94	0.000165	-0.002	0.833	0.000041	0.549	-0.000005	0.159	0.0232	-3	0.000003	-0.0002	-0.0005	0.000006	0.00067	0.00032	-0.0001
11-Jan-13	95																
18-Jan-13	96	-0.00002	0.0037	0.851	0.000052	0.636	-0.000005	0.126	0.0232	-3	0.000002	-0.0002	-0.0005	0.000007	0.00063	0.00047	-0.0001
25-Jan-13	97																
1-Feb-13	98	0.000116	-0.002	0.778	0.000047	0.606	-0.000005	0.124	0.0189	-3	0.000002	-0.0002	-0.0005	0.000025	0.00074	0.00017	-0.0001
8-Feb-13	99																
15-Feb-13	100	-0.00002	-0.002	0.788	0.000059	0.516	-0.000005	0.121	0.0168	-3	0.000002	-0.0002	-0.0005	0.000006	0.00058	-0.0001	-0.0001
22-Feb-13	101																
1-Mar-13	102	-0.00002	-0.002	0.783	0.000088	0.562	-0.000005	0.131	0.0177	-3	-0.000002	-0.0002	-0.0005	0.000006	0.00053	0.00033	-0.0001
8-Mar-13	103																
15-Mar-13	104	0.000104	-0.002	0.707	-0.00004	0.566	-0.000005	0.137	0.0159	-3	0.000002	-0.0002	-0.0005	0.000004	0.00049	0.00053	-0.0001
22-Mar-13	105																
29-Mar-13	106	0.000029	-0.002	0.767	-0.00004	0.473	-0.000005	0.113	0.0154	-3	-0.000002	-0.0002	-0.0005	0.000005	0.00049	0.00016	-0.0001
5-Apr-13	107																
12-Apr-13	108	0.000026	-0.002	0.761	0.000098	0.463	-0.000005	0.11	0.0182	-3	-0.000002	-0.0002	0.00095	0.000006	0.00071	0.00401	-0.0001
19-Apr-13	109																
26-Apr-13	110	0.000076	0.014	0.742	0.000057	0.438	0.000414	0.133	0.0163	-3	-0.000002	0.00025	0.00095	0.000006	0.0003	0.00067	-0.0001
3-May-13	111																
10-May-13	112	0.00003	-0.002	0.71	0.000057	0.482	-0.000005	0.117	0.0145	-3	-0.000002	-0.0002	0.00063	0.000004	0.0005	0.00021	-0.0001
17-May-13	113																
24-May-13	114																

HC 10

CONFIDENTIAL *DRAFT*

Sample =
08SWC337 10-13

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond.	Acidity (pH 4.5)	Acidity (pH 8.3)	Alkalinity	Sulphate	Chloride	Fluoride	Hardness CaCO3	Al	Sb	As	Ba	Be	Bi	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Li	Mg	Mn	Hg	Mo	Ni
					umhos/cm	mgCaCO3/L	mgCaCO3/L	mgCaCO3/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	ug/L	mg/L	mg/L
18-Mar-11	0	500	345	7.68	105	#N/A	2.8	50.2	5	2.8	0.29	27.8	0.0568	-0.00002	0.00072	0.0195	-0.00001	-0.000005	-0.05	0.000014	7.75	0.0001	0.000181	0.0046	0.013	0.000024	0.0008	2.05	0.0123	-0.01	0.0122	0.00018
25-Mar-11	1	500	470	7.91	121																											
1-Apr-11	2	500	525	7.91	96	#N/A	5.1	56.3	4	0.6	0.33	29.8	0.0351	0.00003	0.00086	0.017	-0.00001	-0.000005	-0.05	-0.000005	8.06	0.0003	0.000112	0.00334	0.009	0.000022	0.0007	2.35	0.0068	-0.01	0.0133	0.00016
8-Apr-11	3	500	520	7.82	78																											
15-Apr-11	4	500	490	7.78	61	#N/A	2.1	37.6	3	-0.5	0.2	22.9	0.0243	0.00002	0.00173	0.0128	-0.00001	-0.000005	-0.05	-0.000005	6.33	0.0003	0.000056	0.0016	0.007	0.00002	-0.0005	1.73	0.00646	-0.01	0.00829	0.00015
22-Apr-11	5	500	490	7.73	65																											
29-Apr-11	6	500	480	7.72	59	#N/A	3.1	39.1	4	-0.5	0.15	26.2	0.0293	-0.00002	0.00052	0.0151	-0.00001	-0.000005	-0.05	-0.000005	7.61	0.0002	0.000034	0.00141	0.008	0.000008	-0.0005	1.74	0.00381	-0.01	0.00631	0.00009
6-May-11	7	500	470	7.61	59																											
13-May-11	8	500	490	7.67	75	#N/A	3.1	33.2	4	-0.5	0.16	26.4	0.0305	0.00002	0.00065	0.0159	-0.00001	-0.000005	-0.05	-0.000005	7.28	0.0003	0.000028	0.00117	0.007	0.000011	-0.0005	2	0.0049	-0.01	0.0058	0.00013
20-May-11	9	500	450	7.78	55																											
27-May-11	10	500	410	7.81	52	#N/A	4.9	31.4	4	-0.5	0.15	23.1	0.0203	0.00003	0.00077	0.0145	-0.00001	-0.000005	-0.05	-0.000005	6.55	0.0001	0.000016	0.00124	0.003	0.000016	-0.0005	1.64	0.00068	-0.01	0.0063	0.00019
3-Jun-11	11	500	400	7.61	50																											
10-Jun-11	12	500	425	7.72	53	#N/A	2.0	33.6	2	0.7	0.12	21.5	0.0309	0.00002	0.00194	0.014	-0.00001	-0.000005	-0.05	0.000011	6.16	-0.0001	0.000016	0.00131	0.009	0.000009	-0.0005	1.49	0.00117	-0.01	0.00498	0.00005
17-Jun-11	13	500	450	7.63	53																											
24-Jun-11	14	500	520	7.90	52	#N/A	1.6	34.3	2	-0.5	0.08	26.2	0.0193	0.00003	0.00053	0.0175	-0.00001	-0.000005	-0.05	-0.000005	7.48	0.0001	0.000011	0.00131	0.003	-0.000005	-0.0005	1.83	0.00044	-0.01	0.00379	-0.00002
1-Jul-11	15	500	520	7.89	48																											
8-Jul-11	16	500	505	7.50	47	#N/A	2.8	29.4	2	-0.5	0.07	20	0.0161	-0.00002	0.00023	0.0133	-0.00001	-0.000005	-0.05	-0.000005	5.81	0.0002	0.000012	0.00092	0.003	0.000009	-0.0005	1.34	0.00036	-0.01	0.00259	0.00005
15-Jul-11	17	500	505	7.71	64																											
22-Jul-11	18	500	515	7.77	51	#N/A	3.1	31.0	-2	0.5	0.08	23.3	0.0226	-0.00002	0.00021	0.0173	-0.00001	-0.000005	-0.05	-0.000005	6.41	0.0002	0.000013	0.00148	0.007	0.000017	-0.0005	1.76	0.00099	-0.01	0.00313	#N/A
29-Jul-11	19	500	490	7.77	52																											
5-Aug-11	20	500	515	7.70	59	#N/A	3.4	35.3	-2	-0.5	0.07	26.8	0.0177	-0.00002	0.00022	0.0193	-0.00001	-0.000005	-0.05	-0.000005	7.6	0.0002	0.000008	0.00078	0.004	0.000007	-0.0005	1.9	0.00042	-0.01	0.00312	0.00003
12-Aug-11	21	500	500	7.80	53																											
19-Aug-11	22	500	490	7.68	58	#N/A	3.8	35.4	-2	-0.5	0.08	26.9	0.0263	-0.00002	0.00029	0.0206	-0.00001	-0.000005	-0.05	-0.000005	7.81	0.0002	0.000011	0.00136	0.009	0.000011	-0.0005	1.79	0.0011	-0.01	0.00308	#N/A
26-Aug-11	23	500	515	7.63	59																											
2-Sep-11	24	500	475	7.76	48	#N/A	3.9	32.7	2	-0.5	0.06	23	0.0332	-0.00002	0.00033	0.0154	-0.00001	-0.000005	-0.05	-0.000005	6.71	#N/A	0.000011	0.00168	0.011	0.000013	-0.0005	1.46	0.0012	-0.01	0.00254	#N/A
9-Sep-11	25	500	510	7.81	51																											
16-Sep-11	26	500	520	7.55	48	#N/A	3.9	31.1	-2	0.7	0.05	23.2	0.0179	-0.00002	0.00025	0.0173	-0.00001	-0.000005	-0.05	-0.000005	6.85	0.0002	0.00001	0.00069	0.004	-0.000005	-0.0005	1.49	0.00085	-0.01	0.00201	-0.00002
23-Sep-11	27	500	510	7.55	47																											
30-Sep-11	28	500	495	7.53	48	#N/A	3.1	30.1	-2	-0.5	0.05	21.8	0.0125	-0.00002	0.00021	0.016	-0.00001	-0.000005	-0.05	0.000006	6.55	0.0001	0.000009	0.00052	0.003	0.000038	-0.0005	1.32	0.00032	-0.01	0.00177	-0.00002
7-Oct-11	29	500	495	7.55	46																											
14-Oct-11	30	500	495	7.50	48	#N/A	3.4	30.3	-2	-0.5	0.06	25.4	0.0232	-0.00002	0.00025	0.0182	-0.00001	-0.000005	-0.05	-0.000005	7.37	0.0001	-0.000005	0.0007	0.004	0.000009	-0.0005	1.69	0.00068	-0.01	0.00226	-0.00002
21-Oct-11	31	500	505	7.69	46																											
28-Oct-11	32	500	510	7.60	57	#N/A	3.5	36.3	-2	-0.5	0.05	29.8	0.0195	-0.00002	0.00016	0.0226	-0.00001	-0.000005	-0.05	-0.000005	8.57	0.0002	-0.000005	0.00181	0.002	0.000006	-0.0005	2.04	0.00027	-0.01	0.00207	0.00005
4-Nov-11	33	500	505	7.68	53																											
11-Nov-11	34	500	410	7.84	52	#N/A	5.2	35.7	2	-0.5	0.054	25.5	#N/A	0.00002	0.00031	0.0209	-0.00001	-0.000005	-0.05	#N/A	7.47	0.0001	0.000026	0.00158	#N/A	0.000054	-0.0005	1.67	0.00582	-0.01	0.00231	0.0002
18-Nov-11	35	500	420	7.64	53																											
25-Nov-11	36	500	490	7.73	56	#N/A	3.3	36.3	2	-0.5	0.043	27.4	0.0235	0.00002	0.00022	0.0257	-0.00001	-0.000005	-0.05	-0.000005	7.84	0.0002	0.00001	0.00209	0.008	0.000023	-0.0005	1.9	0.00174	-0.01	0.00187	0.00016
2-Dec-11	37	500	485	7.61	53																											
9-Dec-11	38	500	495	7.58	57	#N/A	4.1	36.2	2	0.9	0.036	27.5	0.0233	-0.00002	0.00017	0.0222	-0.00001	-0.000005	-0.05	-0.000005	7.85	0.0002	0.000011	0.00118	0.006	0.000013	-0.0005	1.91	0.00134	-0.01	0.00145	0.00012
16-Dec-11	39	500	485	7.68	60																											
23-Dec-11	40	500	475	7.64	58	#N/A	4.8	38.3	2	-0.5	0.038	28.5	0.0243	-0.00002	0.00015	0.0266	-0.00001	-0.000005	-0.05	-0.000005	7.97	0.0003	0.000009	0.00101	0.006	0.000028	-0.0005	2.09	0.00115	-0.01	0.00133	0.00023
30-Dec-11	41	500	485	7.70	49																											
6-Jan-12	42	500	475	7.42	41	#N/A	3.5	31.0	2	-0.5	0.03	20.7	0.0408	-0.00002	0.00012	0.0168	-0.00001	-0.000005	-0.05	-0.000005	6.08	0.0001	0.000015	0.00065	0.017	0.000013	-0.0005	1.35	0.00262	-0.01	0.00111	-0.00002
13-Jan-12	43	500	480	7.62	46																											
20-Jan-12	44	500	480	7.73	55	#N/A	3.0	41.7	2	-0.5	0.036	25	0.0358	-0.00002	0.0002	0.0216	-0.00001	-0.000005	-0.05	-0.000005	7.45	0.0003	0.000011	0.00178	0.017	#N/A	-0.0005	1.55	0.00179	-0.01	0.00118	#N/A
27-Jan-12	45	500	485	7.56	49																											
3-Feb-12	46	500	480	7.64	52	#N/A	5.8	36.3	2	-0.5	0.033	24.6	0.0208	-0.00002	0.00011	0.0179	-0.00001	-0.000005	-0.05	-0.000005	7.32	0.0001	0.000014	0.00073	0.005	0.000009	-0.0005	1.55	0.00154	-0.01	0.00114	0.00014
10-Feb-12	47	500	465	7.63	52																											
17-Feb-12	48	500	480	7.58	51	#N/A	3.0	33.6	2	-0.5	0.031	25.4	0.0196	0.00002	0.00025	0.0212	-0.00001	-0.000005	-0.05	-0.000005	7.59	0.0002	0.00001	0.00064	0.005	0.000008	-0.0005	1.56	0.0012	-0.01	0.00118	-0.00002
24-Feb-12	49	500	485	7.46	52																											
2-Mar-12	50	500	470	7.53	52	#N/A	7.3	35.4	2	-0.5	0.026	25	0.0156	-0.00002	0.00015	0.021	-0.00001	-0.000005	-0.05	-0.000005	7.43	-0.0001	-0.000005	0.00052	0.003	0.000009	-0.0005	1.56	0.00055	-0.01	0.00086	0.00004
9-Mar-12	51	500	465	7.59	47																											
16-Mar-12	52	500	475	7.57	48	#N/A	2.9	29.9	2	-0.5	0.026	23	0.0189	-0.00002	0.00009	0.0173	-0.00001	-0.000005	-0.05	-0.000005	6.99	0.0001	0.000009	0.00069	0.006	0.000007	-0.0005	1.36	0.0014	-0.01	0.00087	0.00015
23-Mar-12	53	500	465	7.55	53																											
30-Mar-12	54	500	495	7.50	63	#N/A	4.2	38.2	2	-0.5	0.033	29.2	0.0186	0.00002	0.0001	0.0247	-0.00001	-0.000005	-0.05	-0.000005	8.73	0.0001	-0.000005	0.00052	0.005	0.000008	-0.0005	1.79	0.00051	-0.01	0.00123	0.00004
6-Apr-12	55	500	465	7.66	56																											
13-Apr-12	56	500	465	7.69	57	#N/A	2.2	36.2	2	-0.5	0.029	29.2	0.0281	-0.00002	0.00015	0.0247	-0.00001	-0.000005	-0.05	0.000006	8.84	0.0001	-0.000005	0.00069	0.009	0.000041	-0.0005	1.74	0.00129	-0.01	0.00141	-0.00002
20-Apr-12	57	500	480	7.63	57																											
27-Apr-12	58	500	495	7.70	59	#N/A	4.8	37.9	-2	-0.5	0.029	27	0.0223	-0.00002	0.000225	0.0227	-0.00001	-0.000005	-0.05	#N/A	8.23	0.00024	0.000011	0.00071	0.0077	0.000025	-0.0005	1.57	0.00134	-0.01	0.00113	#N/A
4-May-12	59	500	495	7.61	51																											
11-May-12	60	500	505	7.60	51	#N/A	3.4	32.0	3	-0.5	0.033	26.2	0.0128	-0.00002	0.000227	0.0214	-0.00001	-0.000005	-0.05	0.000005	8.13	0.00019	0.000015	0.00075	0.004	0.000017	-0.0005	1.43	0.00137	-0.01	0.00097	0.000177
18-May-12	61	500	520	7.61	52																											
25-May-12	62	500	515	7.59	51	#N/A	3.9	31.9	2	-0.5	0.027	24.2	0.0203	0.00009	0.000239	0.0209	-0.00001	-0.000005	-0.05	0.000101	7.43	0.00027	0.0000096	0.00186	0.0138	0.0000258	-0.0005	1.38	0.00159	-0.01	0.00092	0.000066
1-Jun-12	63	500	520	7.55	51																											
8-Jun-12	64	500	475	7.63	55	#N/A	3.2	34.4	2	0.61	0.026	25.4	0.0242	-0.00002	0.000217	0.0219	-0.00001	-0.000005	-0.05	0.0000067	7.75	0.00015	0.0000276	0.00125	0.011	0.0000282	-0.0005	1.47	0.00149	-0.01	0.00104	0.000234
15-Jun-12	65	500	490	7.51	49																											
22-Jun-12	66	500	470	7.45	42	#N/A	4.2	29.2	2	-0.5	0.03	21	0.0206	-0.00002	0.000356	0.0185	-0.00001	-0.000005	-0.05	-0.000005	6.43	0.00012	-0.000005	0.00049	0.0043	0.0000065	-0.0005	1.19	0.00053	-0.01	0.00092	0.000029
29-Jun-12	67	500	470	7.52	44																											
6-Jul-12	68	500	465	7.54	47	#N/A	4.4	30.1	2	-0.5	0.026	21.9	0.02	-0.00002	0.000301	0.0196	-0.00001	-0.000005	-0.05	-0.000005	6.73	0.00014	0.0000053	0.00062	0.0049	0.0000072	-0.0005	1.23	0.00076	-0.01	0.00091	0.000033

HC 10

Sample = 08SWC337 10-13

Date	Cycle No.	P mg/L	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L
18-Mar-11	0	-0.002	3.27	0.00015	1.54	0.000009	11.4	0.0369	-10	-0.000002	0.00022	-0.0005	0.00034	0.0008	0.0002	-0.0001
25-Mar-11	1															
1-Apr-11	2	-0.002	2.6	0.0001	2.38	0.000005	7.17	0.0436	-10	-0.000002	0.00047	0.0005	0.000137	0.0011	0.0002	-0.0001
8-Apr-11	3															
15-Apr-11	4	-0.002	1.92	-0.00004	1.58	0.000007	3.38	0.0371	-10	-0.000002	0.00058	-0.0005	#N/A	0.0009	0.0007	-0.0001
22-Apr-11	5															
29-Apr-11	6	-0.002	1.91	-0.00004	1.72	-0.000005	2.3	0.0345	-10	-0.000002	0.00019	-0.0005	0.000067	0.0008	0.0002	-0.0001
6-May-11	7															
13-May-11	8	-0.002	1.75	-0.00004	1.7	0.000006	1.62	0.0384	-10	-0.000002	0.00013	-0.0005	0.000072	0.0009	0.0002	-0.0001
20-May-11	9															
27-May-11	10	-0.002	1.77	0.00011	1.6	0.000005	1.2	0.0316	-10	-0.000002	0.00019	-0.0005	0.000045	0.0009	0.0004	-0.0001
3-Jun-11	11															
10-Jun-11	12	-0.002	1.58	-0.00004	1.41	-0.000005	0.87	0.0341	-10	-0.000002	0.00033	-0.0005	0.000052	0.0008	0.0002	-0.0001
17-Jun-11	13															
24-Jun-11	14	-0.002	1.64	-0.00004	1.6	0.000006	0.74	0.0341	-10	-0.000002	0.00015	-0.0005	0.000056	0.0007	-0.0001	-0.0001
1-Jul-11	15															
8-Jul-11	16	-0.002	1.09	-0.00004	1.2	-0.000005	0.43	0.0299	-10	-0.000002	0.00007	-0.0005	0.000048	0.0005	0.0004	-0.0001
15-Jul-11	17															
22-Jul-11	18	-0.002	1.39	-0.00004	1.37	0.000006	0.5	0.0332	-10	-0.000002	0.00006	-0.0005	0.000044	0.0006	0.0005	-0.0001
29-Jul-11	19															
5-Aug-11	20	-0.002	1.38	-0.00004	1.46	0.000008	0.43	0.0365	-10	-0.000002	0.00006	-0.0005	0.00018	0.0007	0.0002	-0.0001
12-Aug-11	21															
19-Aug-11	22	-0.002	1.45	-0.00004	1.49	0.000006	0.46	0.039	-10	-0.000002	0.00004	-0.0005	0.000051	0.0009	0.0002	-0.0001
26-Aug-11	23															
2-Sep-11	24	-0.002	1.11	-0.00004	1.18	0.000009	0.37	0.0319	-10	-0.000002	0.0001	0.0005	0.00004	0.0007	0.0005	-0.0001
9-Sep-11	25															
16-Sep-11	26	-0.002	1.04	-0.00004	1.12	0.000007	0.2	0.0318	-10	-0.000002	0.00005	-0.0005	0.000048	0.0007	0.0002	-0.0001
23-Sep-11	27															
30-Sep-11	28	-0.002	0.94	-0.00004	0.985	0.000006	0.21	0.0303	-10	-0.000002	0.00013	-0.0005	0.000037	-0.0002	-0.0001	-0.0001
7-Oct-11	29															
14-Oct-11	30	-0.002	1.09	-0.00004	1.32	0.000006	0.27	0.0346	-10	-0.000002	0.00003	-0.0005	0.000044	0.0006	0.0007	-0.0001
21-Oct-11	31															
28-Oct-11	32	-0.002	1.28	-0.00004	1.4	0.000009	0.26	0.0431	-10	-0.000002	0.00063	-0.0005	0.000054	0.0007	-0.0001	-0.0001
4-Nov-11	33															
11-Nov-11	34	-0.002	1.45	-0.00004	1.49	0.000014	0.28	0.0351	-10	0.000004	0.00023	0.0014	0.000046	0.0008	0.001	-0.0001
18-Nov-11	35															
25-Nov-11	36	-0.002	1.55	-0.00004	1.39	0.000008	0.27	0.0397	-10	-0.000002	0.00032	-0.0005	0.00006	0.0007	0.0004	-0.0001
2-Dec-11	37															
9-Dec-11	38	-0.002	1.32	-0.00004	1.11	0.000008	0.21	0.0403	-10	-0.000002	0.00013	-0.0005	0.000058	0.0005	0.0002	-0.0001
16-Dec-11	39															
23-Dec-11	40	-0.002	1.45	-0.00004	1.21	0.000011	0.26	0.0427	-10	-0.000002	0.00002	-0.0005	0.000058	0.0005	0.0012	-0.0001
30-Dec-11	41															
6-Jan-12	42	-0.002	0.94	-0.00004	0.895	0.000008	0.14	0.0287	-10	-0.000002	0.00008	0.0008	0.000026	0.0005	0.0001	-0.0001
13-Jan-12	43															
20-Jan-12	44	-0.002	1.01	-0.00004	0.992	0.000008	0.24	0.0378	-10	-0.000002	-0.0002	0.0005	0.000054	0.0007	0.0009	-0.0001
27-Jan-12	45															
3-Feb-12	46	-0.002	0.97	-0.00004	0.989	0.000006	0.18	0.0311	-10	-0.000002	-0.0002	-0.0005	0.000035	0.0005	-0.0001	-0.0001
10-Feb-12	47															
17-Feb-12	48	-0.002	1.05	-0.00004	1.08	0.000007	0.16	0.036	-10	-0.000002	-0.0002	-0.0005	0.000046	0.0007	0.0003	-0.0001
24-Feb-12	49															
2-Mar-12	50	-0.002	0.9	-0.00004	0.9	0.000009	0.13	0.0322	-10	-0.000002	-0.0002	-0.0005	0.000041	0.0004	0.0001	-0.0001
9-Mar-12	51															
16-Mar-12	52	-0.002	0.82	-0.00004	0.894	-0.000005	0.16	0.0302	-10	-0.000002	-0.0002	-0.0005	0.000027	0.0003	0.0003	-0.0001
23-Mar-12	53															
30-Mar-12	54	-0.002	0.96	-0.00004	1.12	0.000006	0.16	0.0419	-10	-0.000002	-0.0002	-0.0005	0.000042	0.0004	0.0003	-0.0001
6-Apr-12	55															
13-Apr-12	56	-0.002	1.02	-0.00004	1.29	0.000009	0.14	0.04	-10	-0.000002	-0.0002	-0.0005	0.000044	0.0005	0.0002	-0.0001
20-Apr-12	57															
27-Apr-12	58	-0.002	0.949	-0.00004	1.07	0.000008	0.176	0.0369	-10	-0.000002	0.00031	-0.0005	0.000043	0.001	#N/A	-0.0001
4-May-12	59															
11-May-12	60	-0.002	0.896	-0.00004	1.06	0.000011	0.15	0.0326	-10	-0.000002	0.00023	-0.0005	0.000031	0.00047	0.00091	-0.0001
18-May-12	61															
25-May-12	62	-0.002	0.794	-0.00004	1.06	0.0000059	0.151	0.033	-10	#N/A	-0.0002	-0.0005	0.0000321	0.00045	#N/A	-0.0001
1-Jun-12	63															
8-Jun-12	64	0.0035	0.753	-0.00004	0.94	0.0000064	0.241	0.0331	-10	-0.000002	0.00033	-0.0005	0.0000366	0.00046	0.00109	-0.0001
15-Jun-12	65															
22-Jun-12	66	-0.002	0.625	-0.00004	0.831	-0.000005	0.126	0.0284	-10	-0.000002	-0.0002	-0.0005	0.000025	0.00046	0.00011	-0.0001
29-Jun-12	67															
6-Jul-12	68	-0.002	0.75	-0.00004	0.926	-0.000005	0.124	0.0285	-10	-0.000002	-0.0002	-0.0005	0.0000273	0.00064	0.00014	-0.0001

HC 10

CONFIDENTIAL *DRAFT*

Sample =
08SWC337 10-13

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L
13-Jul-12	69	500	510	7.55	47																											
20-Jul-12	70	500	490	7.48	45	#N/A	4.0	28.8	2	0.5	0.023	23.5	#N/A	-0.00002	0.000093	0.0197	-0.00001	-0.000005	-0.05	-0.000005	7.29	0.00013	0.0000099	0.00067	0.0053	0.0000131	-0.0005	1.29	0.00067	-0.01	0.00084	0.000064
27-Jul-12	71	500	475	7.68	44																											
3-Aug-12	72	500	485	7.60	49	#N/A	3.6	31.6	2	-0.5	0.024	25.4	0.0168	0.000023	0.000084	0.022	-0.00001	-0.000005	-0.05	-0.000005	7.94	0.00014	0.00001	0.00091	0.0049	0.000025	-0.0005	1.36	0.0011	-0.01	0.00092	0.000158
10-Aug-12	73	500	480	7.62	44																											
17-Aug-12	74	500	475	7.50	52	#N/A	4.5	32.3	2	-0.5	0.026	25.3	0.0211	0.00002	0.000123	0.0246	-0.00001	-0.000005	-0.05	-0.000005	7.59	0.00017	0.000008	0.00113	0.0071	#N/A	-0.0005	1.54	0.00122	-0.01	0.00104	0.000126
24-Aug-12	75	500	460	7.57	45																											
31-Aug-12	76	500	500	7.59	48	#N/A	3.6	31.9	2	-0.5	0.02	24.2	0.0204	-0.00002	0.000212	0.0206	-0.00001	-0.000005	-0.05	0.000011	7.6	-0.0001	0.000014	0.00076	0.0051	0.000022	-0.0005	1.27	0.00118	-0.01	0.00076	0.000104
7-Sep-12	77	500	465	7.47	47																											
14-Sep-12	78	500	470	7.45	53	#N/A	4.0	34.3	3	-0.5	0.021	25.2	0.0216	-0.00002	0.000486	0.0252	-0.00001	-0.000005	-0.05	-0.000005	7.65	#N/A	0.000009	0.00151	0.0103	0.000072	-0.0005	1.48	0.00116	-0.01	0.00082	0.000182
21-Sep-12	79	500	510	7.51	53																											
28-Sep-12	80	500	460	7.50	49	#N/A	2.9	33.2	2	-0.5	0.024	24.8	0.0259	-0.00002	0.000134	0.0243	-0.00001	-0.000005	-0.05	-0.000005	7.72	-0.0001	0.000008	0.0005	0.0066	0.000009	-0.0005	1.34	0.00093	-0.01	0.00076	0.000066
5-Oct-12	81	500	465	7.65	47																											
12-Oct-12	82	500	515	7.47	47	#N/A	5.9	31.4	2	0.53	0.022	23.8	0.0157	-0.00002	0.00009	0.0211	-0.00001	-0.000005	-0.05	-0.000005	7.47	-0.0001	-0.000005	0.00117	0.0043	0.000021	-0.0005	1.25	0.0004	-0.01	0.00065	-0.00002
19-Oct-12	83	500	505	7.57	48																											
26-Oct-12	84	500	490	7.52	47	#N/A	2.9	30.7	2	-0.5	0.024	22.9	0.0205	-0.00002	0.000088	0.0217	-0.00001	-0.000005	-0.05	-0.000005	7.21	0.00011	0.000009	0.00084	0.0076	0.000064	-0.0005	1.2	0.00113	-0.01	0.00074	0.000094
2-Nov-12	85	500	495	7.53	53																											
9-Nov-12	86	500	505	7.58	48	#N/A	5.2	36.3	3	-0.5	0.022	26.2	0.0189	-0.00002	0.000097	0.0264	-0.00001	-0.000005	-0.05	0.00001	8.18	0.0001	0.000009	0.00121	0.0045	0.000034	-0.0005	1.39	0.00074	-0.01	0.00062	0.000118
16-Nov-12	87	500	495	7.59	45																											
23-Nov-12	88	500	490	7.63	52	#N/A	3.7	34.3	2	-0.5	0.019	27.7	0.0164	-0.00002	0.000132	0.0252	-0.00001	-0.000005	-0.05	-0.000005	8.71	-0.0001	-0.000005	0.00051	0.0047	0.00009	-0.0005	1.44	0.00025	-0.01	0.00058	0.000147
30-Nov-12	89	500	500	7.51	49																											
7-Dec-12	90	500	440	7.70	47	#N/A	6.8	33.5	2	-0.5	0.022	24	0.0214	-0.00002	0.000111	0.0219	-0.00001	-0.000005	-0.05	-0.000005	7.36	-0.0001	0.000006	0.00178	0.005	0.000149	-0.0005	1.37	0.00042	-0.01	0.00064	0.000144
14-Dec-12	91	500	495	7.79	43																											
21-Dec-12	92	500	460	7.64	71	#N/A	3.7	46.5	-2	-0.5	0.026	34.6	0.0159	-0.00002	0.000176	0.0329	-0.00001	-0.000005	-0.05	-0.000005	11.1	-0.0001	0.000006	0.0004	0.005	0.000013	-0.0005	1.7	0.00048	-0.01	0.00092	0.000054
28-Dec-12	93	500	475	7.68	75																											
4-Jan-13	94	500	490	7.72	46	#N/A	4.9	33.1	-2	0.76	0.022	24	0.0226	-0.00002	0.000077	0.0236	-0.00001	-0.000005	-0.05	-0.000005	7.48	-0.0001	0.000013	0.00036	0.0067	0.00003	-0.0005	1.29	0.00088	-0.01	0.00049	0.000152
11-Jan-13	95	500	455	7.60	45																											
18-Jan-13	96	500	450	7.66	51	#N/A	2.9	34.1	-2	0.54	0.018	25.2	0.0274	-0.00002	0.000194	0.0219	-0.00001	-0.000005	-0.05	0.000011	7.99	-0.0001	-0.000005	0.0004	0.0071	0.00018	-0.0005	1.27	0.00147	-0.01	0.00055	0.000022
25-Jan-13	97	500	455	7.53	60																											
1-Feb-13	98	500	435	7.72	47	#N/A	3.7	30.1	2	-0.5	0.025	24.3	0.0169	-0.00002	0.00019	0.0208	-0.00001	-0.000005	-0.05	-0.000005	7.56	-0.0001	-0.000005	0.00035	0.004	0.000021	-0.0005	1.33	0.00042	-0.01	0.00067	0.000022
8-Feb-13	99	500	450	7.69	47																											
15-Feb-13	100	500	445	7.59	50	#N/A	3.1	28.8	3	0.63	0.02	22.9	0.0149	-0.00002	0.00015	0.0209	-0.00001	-0.000005	-0.05	-0.000005	6.95	-0.0001	-0.000005	0.00026	0.0025	0.000007	-0.0005	1.34	0.00042	-0.01	0.0006	-0.00002
22-Feb-13	101	500	425	7.72	45																											
1-Mar-13	102	500	445	7.63	45	#N/A	5.5	31.1	3	0.61	0.017	21.9	0.0303	-0.00002	0.000121	0.0183	-0.00001	-0.000005	-0.05	-0.000005	6.91	-0.0001	0.000008	0.00048	0.0082	0.000011	-0.0005	1.12	0.00124	-0.01	0.00051	-0.00002
8-Mar-13	103	500	450	7.69	69																											
15-Mar-13	104	500	435	7.59	49	#N/A	5.0	29.2	2	0.58	0.021	22.5	0.026	-0.00002	0.000089	0.0192	-0.00001	-0.000005	-0.05	-0.000005	7.14	-0.0001	0.000006	0.00033	0.007	0.000006	-0.0005	1.13	0.00103	-0.01	0.00049	-0.00002
22-Mar-13	105	500	450	7.61	43																											
29-Mar-13	106	500	435	7.64	50	#N/A	3.4	28.2	2	0.58	0.018	24.8	0.015	-0.00002	0.00013	0.0239	-0.00001	-0.000005	-0.05	-0.000005	7.58	0.00012	0.000023	0.00055	0.0028	0.000017	-0.0005	1.43	0.00035	-0.01	0.00063	0.00002
5-Apr-13	107	500	445	7.62	46																											
12-Apr-13	108	500	440	7.64	48	#N/A	5.8	29.5	2	0.53	0.019	22.4	0.0316	-0.00002	0.000094	0.0264	-0.00001	-0.000005	-0.05	-0.000005	6.9	-0.0001	0.000009	0.00056	0.0096	0.000017	-0.0005	1.26	0.00108	-0.01	0.00058	0.00002
19-Apr-13	109	500	435	7.74	47																											
26-Apr-13	110	500	440	7.58	47	#N/A	4.0	26.7	3	-0.5	0.019	21.9	0.0336	-0.00002	0.000107	0.0257	-0.00001	-0.000005	-0.05	-0.000005	6.71	-0.0001	0.000008	0.00047	0.0117	-0.000005	-0.0005	1.25	0.00128	-0.01	0.00055	0.000032
3-May-13	111	500	430	7.59	45																											
10-May-13	112	500	420	7.47	48	#N/A	4.2	27.1	2	0.74	0.017	23	0.0513	-0.00002	0.000141	0.0237	-0.00001	-0.000005	-0.05	-0.000005	7.1	-0.0001	0.000009	0.00047	0.016	0.000018	-0.0005	1.29	0.00159	-0.01	0.00054	0.000048
17-May-13	113	500	445	7.72	50																											
24-May-13	114	500	465	7.51	43	#N/A	4.1	27.7	2																							

April 15/11 U 0.00196. Repeat = 0.00185. Data confirmed, suspect contamination
Sept 2/11 Cr=0.0016, repeat= 0.0012. data confirmed, suspect contamination
Jul 22/11 Ni=0.00025, repeat=0.00025. Data confirmed, suspect contamination
Aug 19/11 Ni=0.00022, repeat=0.00022. Data confirmed, suspect contamination
Sept 2/11 Ni=0.00027, repeat=0.00011. Data confirmed, suspect contamination
Nov 11/11 Al=0.0722, Cd=0.000025, Fe=0.033. Repeat= Al= 0.047, Cd=0.000024, Fe= 0.021. Data rejected, suspect contmaination
Jan 20/12 Pb=0.000498, Ni=0.00034. Repeat Pb=0.000466, Ni=0.00029. Data confirmed, suspect contamination
Apr 27/12 Cd=0.000103, Ni=0.000155, Zn=0.00425. Cannot repeat suspect contamination or analytical error
May 25/12 Tl=0.0000208, Zn=0.00664. repeat Tl=0.000019, Zn=0.00686. Data confirmed, suspect contamination or analytical error
Aug 31/12 Ni=0.000888, repeat=0.000104. Data accepted
Sept 14/12 Ni=0.000216, Cr=0.00346, repeat Ni=0.000182, data accepted within 4X stdev. Cr=0.00321. Data confirmed suspect contamination
Jul 20/12 Al=0.0484, repeat=0.0527. Data confirmed, suspect contamination or analytical error
Dec 21/12 Si=1.18, repeat confirms original result, suspect contamination
Aug 17/12 Pb=0.000136, Cannot repeat suspect contamination or analytical error

HC 10

Sample = 08SWC337 10-13

Date	Cycle No.	P	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
13-Jul-12	69															
20-Jul-12	70	-0.002	0.7	-0.00004	0.999	0.0000051	0.115	0.0298	-10	-0.000002	-0.0002	-0.0005	0.0000323	0.0007	0.00167	-0.0001
27-Jul-12	71															
3-Aug-12	72	-0.002	0.78	-0.00004	0.992	0.000007	0.173	0.0325	-10	-0.000002	0.0003	-0.0005	0.000031	0.00042	0.00034	-0.0001
10-Aug-12	73															
17-Aug-12	74	-0.002	0.854	-0.00004	0.926	-0.000005	0.191	0.0353	-10	-0.000002	0.00078	-0.0005	0.000033	0.00046	0.00118	-0.0001
24-Aug-12	75															
31-Aug-12	76	-0.002	0.697	-0.00004	0.834	0.000005	0.125	0.031	-10	-0.000002	-0.0002	-0.0005	0.000028	0.00035	0.00073	-0.0001
7-Sep-12	77															
14-Sep-12	78	-0.002	0.733	-0.00004	0.833	0.000006	0.308	0.036	-10	0.000002	-0.0002	-0.0005	0.000043	0.0004	0.00044	-0.0001
21-Sep-12	79															
28-Sep-12	80	-0.002	0.746	-0.00004	0.986	-0.000005	0.103	0.032	-10	-0.000002	-0.0002	-0.0005	0.00003	0.00041	0.00016	-0.0001
5-Oct-12	81															
12-Oct-12	82	-0.002	0.639	-0.00004	0.848	-0.000005	0.096	0.0299	-10	-0.000002	-0.0002	-0.0005	0.00003	-0.0002	-0.0001	-0.0001
19-Oct-12	83															
26-Oct-12	84	0.0119	0.67	-0.00004	0.845	0.000007	0.083	0.0316	-10	-0.000002	0.00022	-0.0005	0.000026	0.00038	0.0004	-0.0001
2-Nov-12	85															
9-Nov-12	86	-0.002	0.715	-0.00004	0.881	-0.000005	0.12	0.0337	-3	-0.000002	0.00021	-0.0005	0.000032	0.00028	0.00057	-0.0001
16-Nov-12	87															
23-Nov-12	88	-0.002	0.694	0.000041	0.933	-0.000005	0.106	0.0324	-3	-0.000002	0.0006	-0.0005	0.000052	0.0003	0.00035	-0.0001
30-Nov-12	89															
7-Dec-12	90	-0.002	0.666	0.000048	0.787	-0.000005	0.14	0.0304	-3	-0.000002	0.00039	-0.0005	0.00003	0.00058	0.00154	-0.0001
14-Dec-12	91															
21-Dec-12	92	-0.002	0.825	-0.00004	#N/A	-0.000005	0.105	0.0446	-3	-0.000002	-0.0002	-0.0005	0.000045	0.00048	0.00025	-0.0001
28-Dec-12	93															
4-Jan-13	94	-0.002	0.663	-0.00004	0.67	-0.000005	0.12	0.0307	-3	-0.000002	-0.0002	-0.0005	0.000023	0.00045	0.00023	-0.0001
11-Jan-13	95															
18-Jan-13	96	0.0028	0.649	-0.00004	0.789	-0.000005	0.092	0.03	-3	-0.000002	-0.0002	-0.0005	0.000038	0.00037	0.00089	-0.0001
25-Jan-13	97															
1-Feb-13	98	0.0032	0.652	0.000044	0.841	-0.000005	0.108	0.0295	-3	-0.000002	-0.0002	-0.0005	0.000026	0.00049	0.00018	-0.0001
8-Feb-13	99															
15-Feb-13	100	-0.002	0.687	-0.00004	0.727	-0.000005	0.099	0.0293	-3	-0.000002	-0.0002	-0.0005	0.00003	0.00038	0.00011	-0.0001
22-Feb-13	101															
1-Mar-13	102	-0.002	0.613	-0.00004	0.7	-0.000005	0.087	0.0265	-3	-0.000002	-0.0002	-0.0005	0.000023	0.00037	0.00013	-0.0001
8-Mar-13	103															
15-Mar-13	104	-0.002	0.641	-0.00004	0.762	-0.000005	0.084	0.0273	-3	-0.000002	-0.0002	0.00051	0.000024	0.00036	0.00022	-0.0001
22-Mar-13	105															
29-Mar-13	106	-0.002	0.745	-0.00004	0.814	-0.000005	0.116	0.0308	-3	-0.000002	-0.0002	-0.0005	0.000027	0.00042	0.00013	-0.0001
5-Apr-13	107															
12-Apr-13	108	-0.002	0.702	0.00004	0.767	-0.000005	0.082	0.0323	-3	-0.000002	-0.0002	-0.0005	0.000028	0.00051	0.00021	-0.0001
19-Apr-13	109															
26-Apr-13	110	-0.002	0.681	-0.00004	0.678	0.000053	0.087	0.0307	-3	-0.000002	-0.0002	0.00056	0.000027	0.00028	0.00014	-0.0001
3-May-13	111															
10-May-13	112	-0.002	0.688	-0.00004	0.817	-0.000005	0.1	0.0293	-3	-0.000002	-0.0002	-0.0005	0.000024	0.00049	0.00016	-0.0001
17-May-13	113															
24-May-13	114															

HC 11

CONFIDENTIAL DRAFT

Sample = 08SWC348 12-15

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L
18-Mar-11	0	500	310	7.36	120	#N/A	3.5	36.6	10	4.2	0.25	11.3	0.0462	0.00011	0.0023	0.11	-0.00001	-0.000005	-0.05	0.000026	3.42	0.0001	0.000503	0.016	0.051	0.000087	0.0028	0.66	0.035	-0.01	0.0768
25-Mar-11	1	500	525	7.81	110																										
1-Apr-11	2	500	505	7.72	108	#N/A	5.2	34.1	8	1.5	0.33	6.7	0.0379	0.00006	0.00168	0.0775	-0.00001	-0.000005	-0.05	0.000033	2.03	0.0003	0.000202	0.00636	0.025	0.000033	0.0017	0.4	0.00754	-0.01	0.137
8-Apr-11	3	500	485	7.78	76																										
15-Apr-11	4	500	450	7.45	56	#N/A	2.2	22.0	5	0.6	0.24	2.9	0.0495	0.00004	0.002	0.0574	-0.00001	-0.000005	-0.05	0.000015	0.85	0.0002	0.000111	0.00417	0.049	0.000048	0.0009	0.19	0.00355	-0.01	0.0849
22-Apr-11	5	500	475	7.78	61																										
29-Apr-11	6	500	480	7.57	52	#N/A	3.5	17.4	6	0.9	0.17	3.3	0.0443	0.00006	0.00107	0.0849	-0.00001	-0.000005	-0.05	0.000017	0.96	0.0002	0.000054	0.00406	0.041	0.000054	0.0011	0.22	0.00242	-0.01	0.0512
6-May-11	7	500	455	7.41	39																										
13-May-11	8	500	460	7.38	46	#N/A	3.0	12.5	6	2.1	0.13	2.7	0.0507	0.00003	0.001	0.0585	-0.00001	-0.000005	-0.05	-0.000005	0.81	0.0002	0.000037	0.00222	0.044	0.000042	0.0008	0.16	0.00254	-0.01	0.0309
20-May-11	9	500	450	7.48	30																										
27-May-11	10	500	495	7.71	31	#N/A	4.6	12.9	4	0.9	0.12	3.7	0.0282	0.00002	0.00086	0.0592	-0.00001	-0.000005	-0.05	0.000012	1.11	0.0002	0.000025	0.00246	0.021	0.000074	0.001	0.23	0.0015	-0.01	0.0217
3-Jun-11	11	500	470	7.21	44																										
10-Jun-11	12	500	490	7.15	41	#N/A	2.4	9.3	4	1	0.09	3.9	0.0146	0.00003	0.00089	0.0649	-0.00001	-0.000005	-0.05	0.00001	1.18	0.0002	0.000015	0.00137	0.012	0.000014	0.0013	0.23	0.00048	-0.01	0.0109
17-Jun-11	13	500	475	7.11	49																										
24-Jun-11	14	500	480	7.32	25	#N/A	2.3	8.2	3	0.8	0.06	4.7	0.0396	0.00002	0.00055	0.0792	-0.00001	-0.000005	-0.05	0.000015	1.41	0.0002	0.000038	0.00158	0.042	0.000091	0.0011	0.28	0.00315	-0.01	0.007
1-Jul-11	15	500	480	7.66	21																										
8-Jul-11	16	500	470	7.40	28	#N/A	2.6	12.2	4	0.8	0.05	3.1	0.0093	0.00002	0.00046	0.0602	-0.00001	-0.000005	-0.05	-0.000005	0.95	0.0002	0.000008	0.00125	0.006	0.000026	0.0009	0.18	0.0006	-0.01	0.00554
15-Jul-11	17	500	480	7.65	30																										
22-Jul-11	18	500	485	7.42	32	#N/A	3.5	7.9	2	0.8	0.08	4.3	0.0333	0.00002	0.00066	0.058	-0.00001	-0.000005	-0.05	-0.000005	1.28	0.0002	0.00002	0.00111	0.028	0.000029	0.0011	0.27	0.00099	-0.01	0.00768
29-Jul-11	19	500	470	7.44	27																										
5-Aug-11	20	500	460	7.25	23	#N/A	3.6	8.1	-2	0.5	0.08	5.3	0.0288	0.00003	0.00063	0.0722	-0.00001	-0.000005	-0.05	-0.000005	1.59	0.0003	0.000022	0.00129	0.029	0.00003	0.0011	0.32	0.0009	-0.01	0.00808
12-Aug-11	21	500	470	7.77	16																										
19-Aug-11	22	500	475	7.37	16	#N/A	4.0	6.2	3	0.9	0.05	3.7	0.027	-0.00002	0.00047	0.0623	-0.00001	-0.000005	-0.05	0.000011	1.13	0.0003	0.000013	0.00166	0.022	0.000029	0.0009	0.23	0.0011	-0.01	0.00431
26-Aug-11	23	500	455	7.47	18																										
2-Sep-11	24	500	465	7.60	23	#N/A	3.6	6.3	2	0.7	0.04	-10	0.0355	-0.00002	0.00039	0.0602	-0.00001	-0.000005	-0.05	0.000006	0.97	0.0002	0.000016	0.00083	0.031	0.00004	0.0007	0.2	0.00143	-0.01	0.00347
9-Sep-11	25	500	475	7.57	24																										
16-Sep-11	26	500	485	7.14	14	#N/A	4.0	6.4	-2	0.9	0.04	4	0.0291	-0.00002	0.00032	0.0734	-0.00001	0.000022	-0.05	0.000009	1.2	0.0002	0.000015	0.00061	0.027	0.000027	0.0008	0.24	0.00113	-0.01	0.00305
23-Sep-11	27	500	460	7.10	11																										
30-Sep-11	28	500	460	6.93	15	#N/A	3.0	3.1	2	0.6	0.04	3.1	0.0066	0.00002	0.00035	0.0705	-0.00001	-0.000005	-0.05	0.000011	0.91	0.0003	0.000007	0.00064	0.004	0.000008	0.0007	0.19	0.00091	-0.01	0.00253
7-Oct-11	29	500	450	7.14	16																										
14-Oct-11	30	500	455	6.72	16	#N/A	4.2	3.4	3	-0.5	0.04	3.5	0.012	-0.00002	0.00036	0.0737	-0.00001	-0.000005	-0.05	0.000009	1.06	-0.0001	0.000006	0.00073	0.007	0.000025	0.0006	0.21	0.00157	-0.01	0.00333
21-Oct-11	31	500	475	7.58	11																										
28-Oct-11	32	500	480	7.22	14	#N/A	3.8	5.5	2	-0.5	0.04	4.6	0.0164	0.00002	0.0003	0.0806	-0.00001	-0.000005	-0.05	0.000014	1.38	0.0002	0.000007	0.00125	0.013	0.000074	0.0007	0.28	0.00201	-0.01	0.00323
4-Nov-11	33	500	475	7.47	17																										
11-Nov-11	34	500	475	7.71	9	#N/A	4.3	5.6	4	-0.5	0.026	3.2	0.0222	0.00002	0.00027	0.0642	-0.00001	-0.000005	-0.05	0.000015	0.95	0.0001	0.000014	0.0012	0.015	#N/A	0.0007	0.2	0.00187	-0.01	0.0022
18-Nov-11	35	500	470	7.21	22																										
25-Nov-11	36	500	505	7.44	13	#N/A	3.6	5.8	3	-0.5	0.034	4.1	0.0248	-0.00002	0.0003	0.0701	-0.00001	-0.000005	-0.05	0.000007	1.24	-0.0001	0.000012	0.0012	0.017	0.000035	0.0008	0.24	0.00116	-0.01	0.00252
2-Dec-11	37	500	465	7.46	14																										
9-Dec-11	38	500	475	7.03	11	#N/A	4.2	4.0	3	-0.5	0.021	3	0.027	-0.00002	0.00021	0.0608	-0.00001	-0.000005	-0.05	0.000008	0.88	-0.0001	0.000007	0.00102	0.019	0.000026	0.0006	0.18	0.00145	-0.01	0.00175
16-Dec-11	39	500	465	7.68	10																										
23-Dec-11	40	500	460	7.53	9	#N/A	4.0	4.5	4	-0.5	0.025	2.9	0.0324	-0.00002	0.00021	0.0631	-0.00001	-0.000005	-0.05	-0.000005	0.84	-0.0001	0.000014	0.00045	0.012	0.000033	-0.0005	0.19	0.00133	-0.01	0.00177
30-Dec-11	41	500	455	7.72	8																										
6-Jan-12	42	500	460	6.79	9	#N/A	3.2	3.8	3	-0.5	0.021	2.8	0.0569	-0.00002	0.0002	0.0678	-0.00001	-0.000005	-0.05	0.000011	0.82	-0.0001	0.000019	0.00114	0.047	0.000063	0.0005	0.18	0.00293	-0.01	0.0014
13-Jan-12	43	500	465	7.54	9																										
20-Jan-12	44	500	475	7.44	9	#N/A	3.1	4.6	3	#N/A	0.025	2.7	0.0095	-0.00002	0.00031	0.0733	-0.00001	-0.000005	-0.05	0.000019	0.78	-0.0001	-0.000005	0.0005	0.007	0.000023	-0.0005	0.17	0.0012	-0.01	0.00144
27-Jan-12	45	500	470	7.31	8																										
3-Feb-12	46	500	475	7.63	8	#N/A	4.7	5.0	2	-0.5	0.025	2.9	0.025	-0.00002	0.00022	0.0594	-0.00001	-0.000005	-0.05	0.000008	0.85	0.0001	0.000011	0.00046	0.015	0.000021	0.0005	0.18	0.00178	-0.01	0.00146
10-Feb-12	47	500	465	7.72	7																										
17-Feb-12	48	500	460	7.05	6	#N/A	2.6	3.5	3	-0.5	0.02	2.5	0.0228	0.00003	0.00028	0.056	-0.00001	-0.000005	-0.05	0.000012	0.75	-0.0001	0.000012	0.00195	0.015	0.000052	0.0005	0.16	0.00154	-0.01	0.00121
24-Feb-12	49	500	460	7.22	6																										
2-Mar-12	50	500	455	7.57	6	#N/A	6.6	4.6	2	-0.5	0.017	2.5	0.0391	-0.00002	0.0002	0.0601	-0.00001	-0.000005	-0.05	0.000011	0.74	-0.0001	0.000012	0.00115	0.024	0.000028	-0.0005	0.16	0.00167	-0.01	0.00128
9-Mar-12	51	500	465	7.47	6																										
16-Mar-12	52	500	475	7.15	6	#N/A	2.9	3.3	2	-0.5	0.021	2.3	0.0299	-0.00002	0.00012	0.0526	-0.00001	-0.000005	-0.05	0.000006	0.67	-0.0001	-0.000005	0.00363	0.018	#N/A	-0.0005	0.14	0.00129	-0.01	0.00116
23-Mar-12	53	500	465	7.49	9																										
30-Mar-12	54	500	485	6.91	7	#N/A	4.0	4.0	3	-0.5	0.023	3.3	0.0428	-0.00002	0.00015	0.0708	-0.00001	-0.000005	-0.05	0.000006	0.99	0.0001	0.000016	0.00109	0.029	0.000033	-0.0005	0.19	0.00175	-0.01	0.00133
6-Apr-12	55	500	465	7.18	8																										
13-Apr-12	56	500	465	7.09	8	#N/A	2.4	3.8	3	-0.5	0.017	3.2	0.0543	-0.00002	0.00021	0.0656	-0.00001	-0.000005	-0.05	0.000084	0.96	0.0001	0.00001	0.00092	0.024	#N/A	0.0005	0.19	0.00175	-0.01	0.00146
20-Apr-12	57	500	485	7.26	8																										
27-Apr-12	58	500	495	7.23	7	#N/A	4.0	4.1	2	-0.5	0.018	2.57	0.0334	-0.00002	0.000233	0.0705	-0.00001	-0.000005	-0.05	0.000138	0.761	0.00012	0.00001	0.00156	0.0212	#N/A	-0.0005	0.163	0.00141	-0.01	0.00133
4-May-12	59	500	490	7.82	7																										
11-May-12	60	500	500	7.19	8	#N/A	3.4	3.8	3	-0.5	0.023	2.76	0.0483	-0.00002	0.000212	0.0699	-0.00001	-0.000005	-0.05	0.000013	0.844	0.00013	0.000014	0.0015	0.0313	0.00004	-0.0005	0.159	0.00199	-0.01	0.00142
18-May-12	61	500	505	7.12	7																										
25-May-12	62	500	505	7.01	4	#N/A	3.4	3.6	2	-0.5	0.017	2.25	0.0543	-0.00002	0.000202	0.0624	-0.00001	-0.000005	-0.05	0.0000093	0.675	-0.0001	0.0000107	0.000628	0.0341	0.000057	-0.0005	0.137	0.00208	-0.01	0.00124
1-Jun-12	63	500	500	7.28	3																										
8-Jun-12	64	500	475	7.21	5	#N/A	3.1	3.9	3	-0.5	0.017	2.4	0.0349	-0.00002	0.000168	0.0634	-0.00001	-0.000005	-0.05	0.0000117	0.718	0.00014	0.0000171	0.00138	0.0206	0.000036	-0.0005	0.147	0.00169	-0.01	0.00113
15-Jun-12	65	500	490	7.19	5																										
22-Jun-12	66	500	490	7.03	6	#N/A	3.8	3.7	2	-0.5	0.019	2.57	0.0274	-0.00002	0.000223	0.0728	-0.00001	-0.000005	-0.05	0.0000069	0.766	-0.0001	-0.000005	0.000894	0.0128	0.0000187	-0.0005	0.159	0.00202	-0.01	0.00128

HC 11

Sample = 08SWC348 12-15

Date	Cycle No.	Ni mg/L	P mg/L	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L
18-Mar-11	0	0.00053	0.004	2.42	0.00014	2.67	0.000103	18.5	0.0173	-10	-0.000002	0.00004	0.0039	0.000015	0.0016	0.0014	0.0001
25-Mar-11	1																
1-Apr-11	2	0.00036	0.012	1.45	0.00011	3.22	0.000026	12.8	0.00985	-10	-0.000002	0.00053	0.0016	0.000021	0.0039	0.0009	-0.0001
8-Apr-11	3																
15-Apr-11	4	0.00024	0.017	1.08	0.00006	2.69	0.000042	8.78	0.00489	-10	-0.000002	0.00028	0.003	0.000056	0.0047	0.0009	-0.0001
22-Apr-11	5																
29-Apr-11	6	0.00018	0.012	1.1	-0.00004	2.86	0.000041	6.76	0.00591	-10	-0.000002	0.00022	0.0028	0.000004	0.0034	0.0007	-0.0001
6-May-11	7																
13-May-11	8	0.00015	0.006	0.86	-0.00004	2.51	0.000024	4.9	0.00464	-10	-0.000002	0.00013	0.0029	0.000017	0.003	0.0006	-0.0001
20-May-11	9																
27-May-11	10	0.00014	0.005	0.97	-0.00004	2.66	0.000018	4.33	0.00589	-10	-0.000002	0.00012	0.0009	0.000003	0.0028	0.0007	-0.0001
3-Jun-11	11																
10-Jun-11	12	0.00005	0.005	1.1	-0.00004	2.75	0.000006	3.41	0.00664	-10	-0.000002	0.00016	-0.0005	-0.000002	0.0022	0.0009	-0.0001
17-Jun-11	13																
24-Jun-11	14	-0.00002	-0.002	1.15	-0.00004	3.09	0.000034	2.94	0.00735	-10	-0.000002	0.00007	0.002	-0.000002	0.0021	0.0009	-0.0001
1-Jul-11	15																
8-Jul-11	16	0.00004	-0.002	0.82	-0.00004	2.34	0.000008	1.83	0.00538	-10	-0.000002	0.00004	0.0005	-0.000002	0.0016	0.0007	-0.0001
15-Jul-11	17																
22-Jul-11	18	0.00017	0.005	1.12	-0.00004	3.32	0.000021	2.11	0.00686	-10	-0.000002	0.00007	0.002	-0.000002	0.0023	0.0011	-0.0001
29-Jul-11	19																
5-Aug-11	20	0.00013	0.005	1.27	-0.00004	3.85	0.00002	2	0.00813	-10	-0.000002	0.00007	0.0016	-0.000002	0.0022	0.001	-0.0001
12-Aug-11	21																
19-Aug-11	22	#N/A	0.003	1.02	-0.00004	2.47	0.000021	1.09	0.00603	-10	-0.000002	-0.00001	0.001	-0.000002	0.0027	0.001	-0.0001
26-Aug-11	23																
2-Sep-11	24	0.00004	-0.002	0.82	-0.00004	1.96	0.000014	0.74	0.00532	-10	-0.000002	0.00004	0.0015	-0.000002	0.0016	0.0011	-0.0001
9-Sep-11	25																
16-Sep-11	26	0.00009	-0.002	0.87	-0.00004	2.27	0.000012	0.61	0.00645	-10	-0.000002	0.00004	0.0009	-0.000002	0.0015	0.0014	-0.0001
23-Sep-11	27																
30-Sep-11	28	0.00003	-0.002	0.74	-0.00004	1.68	0.000006	0.58	0.00521	-10	-0.000002	0.00007	-0.0005	-0.000002	0.0009	0.0008	-0.0001
7-Oct-11	29																
14-Oct-11	30	0.00007	-0.002	0.89	-0.00004	2.19	-0.000005	0.55	0.00585	-10	-0.000002	0.00003	-0.0005	-0.000002	0.0015	0.0013	-0.0001
21-Oct-11	31																
28-Oct-11	32	0.00005	-0.002	1.05	-0.00004	2.52	0.000013	0.55	0.00773	-10	-0.000002	0.00073	0.0008	-0.000002	0.0014	0.0011	-0.0001
4-Nov-11	33																
11-Nov-11	34	0.00018	-0.002	0.82	-0.00004	1.87	0.000017	0.37	0.00527	-10	0.000004	0.00018	0.0005	0.000014	0.0012	0.0016	-0.0001
18-Nov-11	35																
25-Nov-11	36	0.00014	-0.002	0.95	-0.00004	2.39	0.000017	0.39	0.00663	-10	-0.000002	0.00016	0.0006	-0.000002	0.0014	0.0009	-0.0001
2-Dec-11	37																
9-Dec-11	38	0.00013	-0.002	0.74	-0.00004	1.47	0.000013	0.27	0.00525	-10	-0.000002	0.0001	0.0013	-0.000002	0.0011	0.0012	-0.0001
16-Dec-11	39																
23-Dec-11	40	0.00006	-0.002	0.74	-0.00004	1.54	0.000014	0.22	0.00521	-10	-0.000002	0.00002	0.0006	0.000002	0.001	0.0013	-0.0001
30-Dec-11	41																
6-Jan-12	42	0.00004	-0.002	0.69	-0.00004	1.56	0.000027	0.2	0.00486	-10	-0.000002	0.00019	0.0031	-0.000002	0.0011	0.0014	-0.0001
13-Jan-12	43																
20-Jan-12	44	0.00012	-0.002	0.63	-0.00004	1.37	0.000005	0.22	0.00494	-10	-0.000002	-0.0002	-0.0005	-0.000002	0.0012	0.0011	-0.0001
27-Jan-12	45																
3-Feb-12	46	0.00013	0.004	0.71	-0.00004	1.56	0.000008	0.23	0.00476	-10	-0.000002	-0.0002	0.0006	-0.000002	0.0009	0.0009	-0.0001
10-Feb-12	47																
17-Feb-12	48	-0.00002	-0.002	0.64	-0.00004	1.42	0.000012	0.17	0.00412	-10	-0.000002	-0.0002	0.0007	-0.000002	0.0014	#N/A	-0.0001
24-Feb-12	49																
2-Mar-12	50	0.00013	-0.002	0.6	-0.00004	1.3	0.000013	0.2	0.00438	-10	-0.000002	-0.0002	0.0013	-0.000002	0.0008	0.0008	-0.0001
9-Mar-12	51																
16-Mar-12	52	0.00013	-0.002	0.56	-0.00004	1.35	0.000013	0.18	0.00383	-10	-0.000002	-0.0002	0.0011	0.000002	0.0007	0.001	-0.0001
23-Mar-12	53																
30-Mar-12	54	0.0002	-0.002	0.68	-0.00004	1.79	0.00002	0.23	0.00589	-10	-0.000002	-0.0002	0.0016	-0.000002	0.0008	0.0015	-0.0001
6-Apr-12	55																
13-Apr-12	56	0.00007	-0.002	0.71	-0.00004	1.93	0.000023	0.17	0.00531	-10	-0.000002	0.0004	0.0016	0.000002	0.001	0.0019	-0.0001
20-Apr-12	57																
27-Apr-12	58	#N/A	-0.002	0.639	-0.00004	1.54	0.000027	0.18	0.00456	-10	0.000002	0.00032	0.00132	-0.000002	0.00166	0.00149	-0.0001
4-May-12	59																
11-May-12	60	0.000126	-0.002	0.686	-0.00004	1.89	0.000038	0.179	0.00458	-10	-0.000002	0.00032	0.00159	-0.000002	0.00105	0.00101	-0.0001
18-May-12	61																
25-May-12	62	0.000068	-0.002	0.525	-0.00004	1.65	0.0000276	0.169	0.00413	-10	-0.000002	-0.0002	0.00189	-0.000002	0.00095	0.00156	-0.0001
1-Jun-12	63																
8-Jun-12	64	0.000215	0.0024	0.543	-0.00004	1.53	0.0000332	0.193	0.0041	-10	-0.000002	-0.0002	0.00121	-0.000002	0.00087	0.00143	-0.0001
15-Jun-12	65																
22-Jun-12	66	0.000053	-0.002	0.557	-0.00004	1.72	0.0000166	0.16	0.00453	-10	-0.000002	-0.0002	0.00056	-0.000002	0.00091	0.00095	-0.0001

HC 11

CONFIDENTIAL DRAFT

Sample =
08SWC348 12-15

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L
29-Jun-12	67	500	475	7.28	5																										
6-Jul-12	68	500	470	7.16	7	#N/A	4.0	3.6	2	-0.5	0.019	2.45	0.0203	-0.00002	0.000222	0.0758	-0.00001	-0.000005	-0.05	0.0000099	0.736	-0.0001	0.0000079	0.00111	0.0125	0.0000141	-0.0005	0.148	0.00249	-0.01	0.00137
13-Jul-12	69	500	515	7.39	4																										
20-Jul-12	70	500	480	7.27	5	#N/A	3.7	3.2	3	-0.5	0.014	2.16	0.0383	-0.00002	0.000193	0.0648	-0.00001	-0.000005	-0.05	0.0000082	0.652	-0.0001	0.0000066	0.000379	0.0047	-0.000005	-0.0005	0.13	0.00228	-0.01	0.0011
27-Jul-12	71	500	475	7.48	4																										
3-Aug-12	72	500	480	7.30	4	#N/A	3.2	3.5	2	-0.5	0.016	2.22	0.0408	-0.00002	0.00014	0.0636	-0.00001	-0.000005	-0.05	0.000033	0.664	-0.0001	0.000024	0.00339	0.0342	#N/A	-0.0005	0.135	0.00222	-0.01	0.00104
10-Aug-12	73	500	485	7.31	3																										
17-Aug-12	74	500	470	7.00	5	#N/A	4.4	3.2	2	-0.5	0.014	2.02	0.0492	0.000022	0.000189	0.069	-0.00001	-0.000005	-0.05	0.000008	0.582	-0.0001	0.000018	0.000847	0.0265	0.000062	-0.0005	0.137	0.00166	-0.01	0.00104
24-Aug-12	75	500	470	7.48	3																										
31-Aug-12	76	500	490	7.33	4	#N/A	3.6	3.4	2	-0.5	0.014	2.02	0.0424	-0.00002	0.000158	0.0602	-0.00001	-0.000005	-0.05	0.000012	0.611	-0.0001	0.000019	0.000645	0.0229	0.000079	-0.0005	0.119	0.00233	-0.01	0.000909
7-Sep-12	77	500	480	7.14	2																										
14-Sep-12	78	500	475	7.01	2	#N/A	3.4	3.1	3	-0.5	0.013	1.87	0.0449	-0.00002	0.000168	0.0606	-0.00001	-0.000005	-0.05	0.000005	0.541	0.00019	0.000014	0.00117	0.0243	0.000226	-0.0005	0.126	0.00168	-0.01	0.00079
21-Sep-12	79	500	500	7.32	8																										
28-Sep-12	80	500	470	6.89	3	#N/A	2.9	3.2	2	-0.5	0.013	1.93	0.0339	-0.00002	0.000127	0.0586	-0.00001	-0.000005	-0.05	0.000009	0.574	-0.0001	0.000011	0.00302	0.0221	0.000329	-0.0005	0.121	0.00244	-0.01	0.00084
5-Oct-12	81	500	475	7.41	4																										
12-Oct-12	82	500	500	7.29	5	#N/A	4.8	4.0	2	-0.5	0.014	2.28	0.0119	-0.00002	0.000195	0.0672	-0.00001	-0.000005	-0.05	0.000011	0.68	-0.0001	0.00001	0.000731	0.0061	0.000008	-0.0005	0.141	0.00226	-0.01	0.000816
19-Oct-12	83	500	490	7.52	5																										
26-Oct-12	84	500	485	7.01	5	#N/A	2.8	3.3	2	-0.5	0.014	2.18	0.0393	-0.00002	0.000167	0.0609	-0.00001	-0.000005	-0.05	0.000011	0.665	-0.0001	0.000013	0.000746	0.0232	0.000067	-0.0005	0.126	0.00281	-0.01	0.000852
2-Nov-12	85	500	485	7.53	14																										
9-Nov-12	86	500	485	7.43	4	#N/A	4.4	3.7	3	0.75	0.017	2.58	0.0108	-0.00002	0.000189	0.0723	-0.00001	-0.000005	-0.05	0.000009	0.765	-0.0001	0.000006	0.000325	0.0062	0.000011	-0.0005	0.162	0.00231	-0.01	0.00104
16-Nov-12	87	500	495	7.35	4																										
23-Nov-12	88	500	485	7.43	4	#N/A	3.5	3.4	3	-0.5	0.014	2.41	0.0116	-0.00002	0.000881	0.0677	-0.00001	-0.000005	-0.05	0.000008	0.715	-0.0001	0.000024	0.00121	0.0077	0.000076	0.00052	0.151	0.00123	-0.01	0.000642
30-Nov-12	89	500	500	7.09	4																										
7-Dec-12	90	500	445	7.39	-1	#N/A	4.9	4.4	-2	-0.5	0.016	1.91	0.0178	-0.00002	0.000153	0.0634	-0.00001	-0.000005	-0.05	0.000013	0.568	-0.0001	0.00001	0.00222	0.0085	0.000046	-0.0005	0.121	0.00317	-0.01	0.000627
14-Dec-12	91	500	490	7.51	7																										
21-Dec-12	92	500	480	7.64	4	#N/A	3.3	3.8	-2	0.54	0.016	2.17	0.0168	-0.00002	0.000163	0.0711	-0.00001	-0.000005	-0.05	0.000012	0.655	-0.0001	0.000011	0.000302	0.0107	0.000017	-0.0005	0.129	0.00336	-0.01	0.000794
28-Dec-12	93	500	480	7.41	5																										
4-Jan-13	94	500	480	7.73	2	#N/A	3.7	4.3	-2	0.75	0.017	2.12	#N/A	-0.00002	0.000132	0.0729	-0.00001	-0.000005	-0.05	0.00001	0.628	0.00012	0.000014	0.000626	0.0283	0.000025	-0.0005	0.133	0.00317	-0.01	0.000629
11-Jan-13	95	500	465	7.39	3																										
18-Jan-13	96	500	455	7.44	4	#N/A	2.6	3.4	-2	0.52	0.012	2.03	0.0254	-0.00002	0.000142	0.0682	-0.00001	-0.000005	-0.05	0.000014	0.589	-0.0001	0.000008	0.00033	0.0119	0.000019	0.00053	0.137	0.00443	-0.01	0.000597
25-Jan-13	97	500	470	7.38	6																										
1-Feb-13	98	500	440	7.59	3	#N/A	3.7	3.4	2	-0.5	0.018	1.99	0.0156	-0.00002	0.000163	0.0628	-0.00001	-0.000005	-0.05	0.000011	0.583	-0.0001	0.000012	0.00025	0.008	0.000012	-0.0005	0.131	0.00509	-0.01	0.000678
8-Feb-13	99	500	450	7.89	4																										
15-Feb-13	100	500	445	7.23	4	#N/A	3.1	3.5	3	-0.5	0.013	1.98	0.0127	-0.00002	0.000148	0.0689	-0.00001	-0.000005	-0.05	0.000015	0.578	-0.0001	0.000008	0.000629	0.0077	0.000019	-0.0005	0.131	0.00506	-0.01	0.000724
22-Feb-13	101	500	430	7.92	4																										
1-Mar-13	102	500	445	7.59	3	#N/A	4.5	4.0	4	-0.5	0.013	1.89	0.0362	-0.00002	0.000198	0.0631	-0.00001	-0.000005	-0.05	0.00001	0.561	-0.0001	0.000008	0.000318	0.0177	0.000034	-0.0005	0.12	0.00523	-0.01	0.000636
8-Mar-13	103	500	440	7.43	4																										
15-Mar-13	104	500	445	7.47	3	#N/A	4.1	3.2	3	0.59	0.016	1.73	0.0226	-0.00002	0.000166	0.0616	-0.00001	-0.000005	-0.05	0.000023	0.518	-0.0001	0.000008	0.000399	0.0118	0.000013	-0.0005	0.107	0.0049	-0.01	0.000552
22-Mar-13	105	500	445	7.76	2																										
29-Mar-13	106	500	460	7.41	5	#N/A	2.9	3.3	3	-0.5	0.018	2.49	0.00792	-0.00002	0.000162	0.0877	-0.00001	-0.000005	-0.05	0.000015	0.746	-0.0001	0.000006	0.000354	0.0044	0.000018	0.00051	0.152	0.00543	-0.01	0.000741
5-Apr-13	107	500	445	7.67	2																										
12-Apr-13	108	500	450	7.79	4	#N/A	4.2	4.2	2	0.51	0.012	2.05	0.0428	-0.00002	0.000194	0.0773	-0.00001	-0.000005	-0.05	0.000014	0.606	-0.0001	0.000013	0.000482	0.0259	0.000024	-0.0005	0.129	0.00521	-0.01	0.000671
19-Apr-13	109	500	455	7.83	3																										
26-Apr-13	110	500	450	7.08	4	#N/A	3.4	2.9	2	-0.5	0.012	1.92	0.0586	-0.00002	0.000172	0.0824	-0.00001	-0.000005	-0.05	0.000014	0.558	-0.0001	0.000014	0.000483	0.035	0.000039	-0.0005	0.127	0.00615	-0.01	0.000607
3-May-13	111	500	450	7.66	3																										
10-May-13	112	500	430	7.12	4	#N/A	3.5	3.1	2	-0.5	0.01	1.87	0.00979	-0.00002	0.00026	0.0656	-0.00001	-0.000005	-0.05	0.000011	0.56	-0.0001	0.000007	0.000273	0.0056	-0.000005	-0.0005	0.115	0.00421	-0.01	0.000618
17-May-13	113	500	455	8.00	4																										
24-May-13	114	500	440	7.18	3	#N/A	3.8	2.8	2																						

June 10/11 Pb 0.000014. Repeat =0.000014. Accepted.
June 24/11 Fe 0.042. Repeat = 0.058, data confirmed, accept original result.
Aug 19/11 Ni=0.0002, repeat=0.0002. Data confirmed, suspect contamination
Nov 11/11 Pb=0.00111, repeat=0.00111. data confirmed, suspect contamination
Jan 20 11 Cl 5.5. Repeat =
Mar 16/12 Pb=0.0023, repeat=0.00228. Data confirmed, suspect contamination
Feb 17/12 Zn=0.0033, repeat=0.0029. Data confirmed, suspect contamination
Apr 13/12 Pb=0.000426, repeat=0.000424. Data confirmed, suspect contamination
Apr 27/12 Pb=0.00345, Ni=0.000132, Repeat Ni=0.000168, Pb=0.00346. Data confirmed, suspect contamination
Aug 3/12 P=0.0782, Ag=0.000197, Pb=0.000711, Zn=0.00335. Repeat P=0.0741, Ag=0.000212, Pb=0.000719, Zn=0.00316. Data confirmed, suspect contamination
Jan 4/12 Al=0.16, repeat=0.402. Data confirmed, suspect contamination

HC 11

Sample =
08SWC348 12-15

Date	Cycle No.	Ni mg/L	P mg/L	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L
29-Jun-12	67																
6-Jul-12	68	0.000047	-0.002	0.566	-0.00004	1.65	0.0000133	0.156	0.00425	-10	-0.000002	-0.0002	0.00076	-0.000002	0.00114	0.0011	-0.0001
13-Jul-12	69																
20-Jul-12	70	0.000111	-0.002	0.432	-0.00004	1.59	0.0000068	0.158	0.00356	-10	-0.000002	-0.0002	-0.0005	-0.000002	0.00095	0.00168	-0.0001
27-Jul-12	71																
3-Aug-12	72	0.000222	#N/A	0.93	-0.00004	1.45	#N/A	0.267	0.00399	-10	0.000002	-0.0002	0.00117	0.00001	0.0008	#N/A	-0.0001
10-Aug-12	73																
17-Aug-12	74	0.000126	-0.002	0.557	-0.00004	1.25	0.000027	0.178	0.00398	-10	-0.000002	0.00058	0.00172	-0.000002	0.00095	0.00119	-0.0001
24-Aug-12	75																
31-Aug-12	76	0.000137	-0.002	0.475	-0.00004	1.25	0.000026	0.145	0.00346	-10	-0.000002	0.00026	0.00091	0.000003	0.00073	0.00125	-0.0001
7-Sep-12	77																
14-Sep-12	78	0.000087	-0.002	0.472	-0.00004	1.1	0.000028	0.163	0.00375	-10	-0.000002	-0.0002	0.00159	0.000002	0.00081	0.00084	-0.0001
21-Sep-12	79																
28-Sep-12	80	0.000125	-0.002	0.473	-0.00004	1.29	0.000015	0.117	0.00436	-10	-0.000002	0.00034	0.00094	0.000004	0.00072	0.00155	-0.0001
5-Oct-12	81																
12-Oct-12	82	0.000041	-0.002	0.523	-0.00004	1.33	0.000006	0.129	0.00399	-10	-0.000002	-0.0002	-0.0005	-0.000002	0.00044	0.00081	-0.0001
19-Oct-12	83																
26-Oct-12	84	0.000062	0.0094	0.488	-0.00004	1.36	0.000035	0.094	0.00378	-10	-0.000002	-0.0002	0.00063	0.000004	0.0008	0.00084	-0.0001
2-Nov-12	85																
9-Nov-12	86	0.000078	-0.002	0.568	-0.00004	1.54	0.000008	0.131	0.00447	-3	-0.000002	0.00027	-0.0005	-0.000002	0.00082	0.00073	-0.0001
16-Nov-12	87																
23-Nov-12	88	0.000271	-0.002	0.54	-0.00004	1.44	0.000006	0.117	0.00426	-3	-0.000002	0.00041	-0.0005	-0.000002	0.00055	0.00242	-0.0001
30-Nov-12	89																
7-Dec-12	90	0.000099	-0.002	0.42	-0.00004	1.03	0.000007	0.109	0.00356	-3	-0.000002	0.00037	-0.0005	-0.000002	0.00075	0.00245	-0.0001
14-Dec-12	91																
21-Dec-12	92	0.000046	-0.002	0.49	-0.00004	1.3	0.000009	0.102	0.00377	-3	-0.000002	-0.0002	-0.0005	-0.000002	0.00072	0.00096	-0.0001
28-Dec-12	93																
4-Jan-13	94	0.000098	-0.002	0.473	-0.00004	1.12	0.000015	0.141	0.00406	-3	-0.000002	-0.0002	0.00131	-0.000002	0.00071	0.00117	-0.0001
11-Jan-13	95																
18-Jan-13	96	0.000048	-0.002	0.463	-0.00004	1.11	0.000008	0.087	0.0038	-3	-0.000002	-0.0002	0.00055	-0.000002	0.00057	0.00104	-0.0001
25-Jan-13	97																
1-Feb-13	98	0.000038	-0.002	0.46	-0.00004	1.12	0.000008	0.118	0.00371	-3	-0.000002	-0.0002	-0.0005	-0.000002	0.00085	0.001	-0.0001
8-Feb-13	99																
15-Feb-13	100	0.000041	-0.002	0.471	-0.00004	1.13	-0.000005	0.125	0.00366	-3	-0.000002	-0.0002	-0.0005	-0.000002	0.00058	0.00091	-0.0001
22-Feb-13	101																
1-Mar-13	102	0.000033	-0.002	0.466	-0.00004	1.06	0.000006	0.098	0.00372	-3	-0.000002	-0.0002	0.00099	-0.000002	0.00058	0.00084	-0.0001
8-Mar-13	103																
15-Mar-13	104	0.000029	-0.002	0.411	-0.00004	1.07	0.000009	0.084	0.00321	-3	-0.000002	-0.0002	-0.0005	-0.000002	0.00065	0.00089	-0.0001
22-Mar-13	105																
29-Mar-13	106	0.000062	-0.002	0.534	-0.00004	1.43	-0.000005	0.142	0.00461	-3	-0.000002	-0.0002	-0.0005	-0.000002	0.00063	0.00089	-0.0001
5-Apr-13	107																
12-Apr-13	108	0.000067	-0.002	0.477	-0.00004	1.12	0.000007	0.087	0.00401	-3	-0.000002	-0.0002	0.00207	-0.000002	0.00132	0.00104	-0.0001
19-Apr-13	109																
26-Apr-13	110	0.000039	-0.002	0.477	-0.00004	0.981	0.000025	0.089	0.00402	-3	-0.000002	-0.0002	0.00231	-0.000002	0.00047	0.00098	-0.0001
3-May-13	111																
10-May-13	112	0.000073	-0.002	0.411	-0.00004	1.03	-0.000005	0.109	0.00347	-3	-0.000002	-0.0002	-0.0005	-0.000002	0.0006	0.00076	-0.0001
17-May-13	113																
24-May-13	114																

HC 12 *CONFIDENTIAL DRAFT*

Sample =
08SWC370 10-13

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L
18-Mar-11	0	500	330	7.51	252	#N/A	4.1	80.4	8	3	0.34	76.6	0.0342	0.00003	0.00052	0.12	-0.00001	-0.000005	-0.05	-0.000005	23.9	0.0002	0.000132	0.00553	0.005	0.000013	0.0045	4.08	0.0112	-0.02	0.0123	0.00029
25-Mar-11	1	500	500	7.67	139																											
1-Apr-11	2	500	455	7.71	115	#N/A	5.3	54.5	6	1	0.44	27.2	0.0337	0.00003	0.00102	0.0374	-0.00001	-0.000005	-0.05	-0.000005	8.48	0.0003	0.000052	0.0045	0.011	0.000009	0.0021	1.46	0.00379	-0.01	0.0183	0.00018
8-Apr-11	3	500	445	7.52	95																											
15-Apr-11	4	500	450	7.61	79	#N/A	2.5	37.1	4	-0.5	0.29	20.9	0.0336	-0.00002	0.00071	0.0337	-0.00001	-0.000005	-0.05	-0.000005	6.57	0.0001	0.00003	0.00282	0.019	0.000011	0.0015	1.09	0.00441	-0.01	0.0132	0.00017
22-Apr-11	5	500	440	7.53	70																											
29-Apr-11	6	500	465	7.61	65	#N/A	3.5	39.5	4	-0.5	0.2	25.1	0.05	-0.00002	0.0006	0.0469	-0.00001	-0.000005	-0.05	-0.000005	8.05	0.0001	0.000027	0.00259	0.027	0.000011	0.0015	1.21	0.00399	-0.01	0.00949	0.00023
6-May-11	7	500	450	7.49	60																											
13-May-11	8	500	450	7.47	67	#N/A	3.0	26.1	5	-0.5	0.14	21.1	0.0385	-0.00002	0.00054	0.0372	-0.00001	-0.000005	-0.05	-0.000005	6.84	-0.0001	0.000018	0.00151	0.017	0.000017	0.001	0.98	0.0028	-0.01	0.00615	0.00013
20-May-11	9	500	455	7.66	49																											
27-May-11	10	500	470	7.59	52	#N/A	4.5	28.8	3	-0.5	0.13	20.5	0.0199	-0.00002	0.00055	0.046	-0.00001	-0.000005	-0.05	-0.000005	6.54	-0.0001	0.00001	0.00128	0.003	0.000015	0.0011	1.02	0.0029	-0.01	0.00515	0.00006
3-Jun-11	11	500	480	7.39	95																											
10-Jun-11	12	500	505	7.58	71	#N/A	2.2	33.4	3	0.6	0.12	23	0.0581	-0.00002	0.00054	0.0574	-0.00001	-0.000005	-0.05	0.000016	7.33	-0.0001	0.000036	0.00224	0.038	0.000019	0.0013	1.14	0.00356	-0.01	0.00407	0.00039
17-Jun-11	13	500	460	7.31	101																											
24-Jun-11	14	500	460	7.78	51	#N/A	1.8	30.3	2	-0.5	0.08	23.9	0.026	0.00002	0.00051	0.0548	-0.00001	-0.000005	-0.05	-0.000005	7.59	0.0004	0.000009	0.00152	0.012	0.000011	0.001	1.21	0.00341	-0.01	0.0034	0.0002
1-Jul-11	15	500	460	7.75	50																											
8-Jul-11	16	500	470	7.53	49	#N/A	3.0	29.5	3	-0.5	0.07	20.9	0.0177	-0.00002	0.00049	0.0472	-0.00001	-0.000005	-0.05	-0.000005	6.69	-0.0001	0.000015	0.00085	0.005	0.000008	0.0009	1.01	0.00293	-0.01	0.00259	0.00005
15-Jul-11	17	500	480	7.44	58																											
22-Jul-11	18	500	465	7.53	44	#N/A	3.4	25.7	-2	0.7	0.06	18.9	0.0351	-0.00002	0.00028	0.0502	-0.00001	-0.000005	-0.05	-0.000005	5.89	0.0003	0.000023	0.00141	0.017	0.000009	0.0008	1.03	0.00253	-0.01	0.00208	0.00015
29-Jul-11	19	500	455	7.53	52																											
5-Aug-11	20	500	450	7.48	56	#N/A	3.3	32.2	-2	-0.5	0.07	25.5	0.0384	-0.00002	0.00047	0.0617	-0.00001	-0.000005	-0.05	-0.000005	8.18	0.0003	0.000015	0.00132	0.016	#N/A	0.001	1.23	0.0029	-0.01	0.00215	0.00017
12-Aug-11	21	500	440	7.65	55																											
19-Aug-11	22	500	460	7.51	52	#N/A	3.7	30.0	2	1.4	0.06	24.3	0.0449	-0.00002	0.00044	0.0662	-0.00001	-0.000005	-0.05	-0.000005	7.97	0.0006	0.000015	0.0018	0.026	0.000014	0.0009	1.07	0.00266	-0.01	0.00161	0.0002
26-Aug-11	23	500	465	7.45	49																											
2-Sep-11	24	500	455	7.44	55	#N/A	4.1	29.1	2	0.7	0.05	22	0.0214	-0.00002	0.00051	0.0625	-0.00001	-0.000005	-0.05	-0.000005	7	0.0001	0.000014	0.00073	0.006	-0.000005	0.0008	1.03	0.00274	-0.01	0.00142	0.00005
9-Sep-11	25	500	455	7.53	54																											
16-Sep-11	26	500	465	7.40	54	#N/A	4.2	31.1	-2	0.7	0.05	24.4	0.0241	-0.00002	0.0004	0.0717	-0.00001	-0.000005	-0.05	-0.000005	7.8	0.0001	0.000013	0.00082	0.01	0.000018	0.001	1.2	0.0024	-0.01	0.00133	0.00005
23-Sep-11	27	500	445	7.41	54																											
30-Sep-11	28	500	465	7.30	55	#N/A	3.7	28.6	2	-0.5	0.05	25.2	0.0133	-0.00002	0.00093	0.0796	-0.00001	-0.000005	-0.05	-0.000005	8.07	-0.0001	0.000013	0.00091	0.003	0.000007	0.0011	1.22	0.00204	-0.01	0.00118	0.00016
7-Oct-11	29	500	450	7.29	57																											
14-Oct-11	30	500	455	7.21	48	#N/A	4.4	25.4	3	-0.5	0.05	23.9	0.0275	-0.00002	0.00055	0.0737	-0.00001	-0.000005	-0.05	-0.000005	7.71	0.0003	0.000009	0.00107	0.009	0.000008	0.0009	1.12	0.00116	-0.01	0.00122	0.00002
21-Oct-11	31	500	470	7.48	49																											
28-Oct-11	32	500	460	7.50	52	#N/A	3.6	30.7	-2	-0.5	0.04	26.7	0.0239	-0.00002	0.00032	0.0856	-0.00001	-0.000005	-0.05	-0.000005	8.6	0.0001	-0.000005	0.00228	0.01	0.00007	0.0008	1.28	0.00054	-0.01	0.00104	0.00004
4-Nov-11	33	500	445	7.53	44																											
11-Nov-11	34	500	460	7.54	50	#N/A	5.5	31.1	3	-0.5	0.036	24	0.0187	-0.00002	0.00037	0.0806	-0.00001	-0.000005	-0.05	#N/A	7.74	-0.0001	0.000008	0.0009	0.005	0.000051	0.0009	1.13	0.00054	-0.01	0.00088	0.00003
18-Nov-11	35	500	465	7.42	52																											
25-Nov-11	36	500	460	7.62	61	#N/A	3.7	37.7	2	-0.5	0.037	29.7	0.022	-0.00002	0.00064	0.105	-0.00001	-0.000005	-0.05	-0.000005	9.52	-0.0001	0.000009	0.00096	0.007	0.000013	0.0012	1.44	0.00109	-0.01	0.00085	0.00009
2-Dec-11	37	500	460	7.47	53																											
9-Dec-11	38	500	510	7.43	56	#N/A	4.5	34.6	2	-0.5	0.032	26.4	0.0419	-0.00002	0.00033	0.0942	-0.00001	-0.000005	-0.05	-0.000005	8.4	0.0006	0.000017	0.0021	0.023	#N/A	0.001	1.33	0.00077	-0.01	0.0007	0.00019
16-Dec-11	39	500	455	7.51	61																											
23-Dec-11	40	500	455	7.43	56	#N/A	4.9	36.0	3	-0.5	0.033	27.4	0.0396	-0.00002	0.00038	0.112	-0.00001	-0.000005	-0.05	-0.000005	8.71	0.0001	0.000012	0.00092	0.012	0.000017	0.0009	1.38	0.00044	-0.01	0.00067	0.00005
30-Dec-11	41	500	465	7.51	55																											
6-Jan-12	42	500	470	7.27	41	#N/A	3.6	28.5	2	-0.5	0.022	19.4	0.0159	-0.00002	0.00026	0.0816	-0.00001	-0.000005	-0.05	-0.000005	6.13	-0.0001	-0.000005	0.00068	0.004	-0.000005	0.0008	0.98	0.00022	-0.01	0.00042	-0.00002
13-Jan-12	43	500	460	7.42	45																											
20-Jan-12	44	500	460	7.52	51	#N/A	3.1	37.0	2	-0.5	0.025	23.3	0.0389	-0.00002	0.00029	0.11	-0.00001	-0.000005	-0.05	-0.000005	7.53	-0.0001	0.000011	0.00108	0.02	0.000022	0.0008	1.08	0.00037	-0.01	0.00043	0.00004
27-Jan-12	45	500	465	7.35	43																											
3-Feb-12	46	500	490	7.34	42	#N/A	5.2	30.2	2	-0.5	0.023	20	0.0259	-0.00002	0.00018	0.0741	-0.00001	-0.000005	-0.05	-0.000005	6.52	-0.0001	0.000007	0.00107	0.011	0.000008	0.0006	0.89	0.00027	-0.01	0.00051	0.00012
10-Feb-12	47	500	455	7.34	42																											
17-Feb-12	48	500	455	7.70	54	#N/A	2.6	32.6	3	-0.5	0.022	20.7	0.0308	-0.00002	0.00028	0.0847	-0.00001	-0.000005	-0.05	-0.000005	6.7	0.0002	0.000011	0.00133	0.013	0.000005	0.0007	0.96	0.00064	-0.01	0.00037	-0.00002
24-Feb-12	49	500	450	7.30	44																											
2-Mar-12	50	500	460	7.30	49	#N/A	7.3	32.7	3	-0.5	0.018	23.8	0.0366	-0.00002	0.00021	0.101	-0.00001	-0.000005	-0.05	-0.000005	7.75	-0.0001	0.000009	0.00123	0.017	0.00002	0.0008	1.09	0.00045	-0.01	0.00033	0.00012
9-Mar-12	51	500	460	7.38	45																											
16-Mar-12	52	500	465	7.46	51	#N/A	3.1	30.5	3	-0.5	0.021	24	0.0278	-0.00002	0.00024	0.108	-0.00001	-0.000005	-0.05	0.000006	7.82	0.0002	0.000013	0.00086	0.011	0.000015	0.0007	1.08	0.00036	-0.01	0.00039	0.00015
23-Mar-12	53	500	460	7.39	53																											
30-Mar-12	54	500	465	7.38	62	#N/A	4.3	35.7	3	-0.5	0.025	29.3	0.0418	-0.00002	0.00022	0.132	-0.00001	-0.000005	-0.05	-0.000005	9.78	0.0002	0.000013	#N/A	0.035	0.000055	0.0008	1.18	0.00065	-0.01	0.00043	#N/A
6-Apr-12	55	500	460	7.52	54																											
13-Apr-12	56	500	455	7.63	62	#N/A	2.5	36.6	3	-0.5	0.02	31.5	0.0336	-0.00002	0.00022	0.145	-0.00001	-0.000005	-0.05	-0.000005	10.5	-0.0001	-0.000005	0.00111	0.015	0.000035	0.001	1.27	0.00023	-0.01	0.00051	0.00005
20-Apr-12	57	500	460	7.48	59																											
27-Apr-12	58	500	455	7.45	57	#N/A	4.6	33.4	2	-0.5	0.019	27.4	0.0294	-0.00002	0.00031	0.129	-0.00001	-0.000005	-0.05	0.000005	9.1	0.00014	0.000009	0.00109	0.0133	0.000015	0.00064	1.13	0.000313	-0.01	0.000379	0.000138
4-May-12	59	500	465	7.34	52																											
11-May-12	60	500	470	7.44	49	#N/A	3.7	29.2	3	-0.5	0.02	24.8	0.0301	-0.00002	0.000277	0.118	-0.00001	-0.000005	-0.05	-0.000005	8.38	0.00011	0.00001	0.00173	0.0169	0.000012	0.00053	0.937	0.000917	-0.01	0.000344	0.000089
18-May-12	61	500	460	7.43	54																											
25-May-12	62	500	470	7.38	48	#N/A	4.0	28.0	2	-0.5	0.015	21.7	0.0446	-0.00002	0.000205	0.107	-0.00001	-0.000005	-0.05	0.0000083	7.29	-0.0001	0.0000169	0.00112	0.0253	0.0000675	0.00058	0.85	0.000481	-0.01	0.00023	0.000091
1-Jun-12	63	500	490	7.39	54																											
8-Jun-12	64	500	465	7.49	53	#N/A	3.6	32.8	2	-0.5	0.016	24.3	0.024	-0.00002	0.000183	0.124	-0.00001	-0.000005	-0.05	-0.000005	8.04	0.00011	0.0000143	0.0011	0.0112	0.0000097	0.00073	1.02	0.000857	-0.01	0.00028	0.000229
15-Jun-12	65	500	495	7.38	55																											
22-Jun-12	66	500	470	7.35	48	#N/A	4.6	29.4	2	-0.5	0.017	23.5	0.0313	-0.00002	0.000443	0.125	-0.00001	-0.000005	-0.05	-0.000005	7.89	-0.0001	0.0000099	0.000773	0.0116	0.0000065	0.00063	0.929	0.000511	-0.01	0.000326	0.000051
29-Jun-12	67	500	475	7.28	51																											

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Sample =
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Date	Cycle No.	P mg/L	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L
18-Mar-11	0	0.013	5.57	0.00051	3.11	-0.000005	23.1	0.0881	-10	-0.000002	0.00003	-0.0005	0.000083	0.0018	0.0013	-0.0001
25-Mar-11	1															
1-Apr-11	2	0.007	2.53	0.0003	3.53	-0.000005	10.9	0.0331	-10	-0.000002	0.00045	0.0005	0.000067	0.0043	0.0003	-0.0001
8-Apr-11	3															
15-Apr-11	4	0.005	2	0.00012	2.7	-0.000005	5.19	0.028	-10	-0.000002	0.0003	0.0012	0.000031	0.004	0.0004	-0.0001
22-Apr-11	5															
29-Apr-11	6	0.004	2.05	0.00006	2.86	-0.000005	3.26	0.0302	-10	-0.000002	0.00022	0.0012	0.000028	0.0035	0.0004	-0.0001
6-May-11	7															
13-May-11	8	0.002	1.54	-0.00004	2.16	-0.000005	1.96	0.023	-10	-0.000002	0.0001	0.0011	0.00001	0.003	0.0003	-0.0001
20-May-11	9															
27-May-11	10	0.002	1.52	0.00005	2.03	-0.000005	1.38	0.0262	-10	-0.000002	0.00008	-0.0005	0.000018	0.0031	0.0003	-0.0001
3-Jun-11	11															
10-Jun-11	12	0.003	1.71	0.00004	2.29	-0.000005	1.01	0.0311	-10	-0.000002	0.00005	0.0022	0.000017	0.0032	0.0005	-0.0001
17-Jun-11	13															
24-Jun-11	14	-0.002	1.56	0.00004	2.16	-0.000005	0.88	0.0281	-10	-0.000002	0.00006	-0.0005	0.000011	0.0028	0.0002	-0.0001
1-Jul-11	15															
8-Jul-11	16	0.003	1.26	-0.00004	1.9	-0.000005	0.65	0.0271	-10	-0.000002	0.00006	-0.0005	0.000011	0.0022	0.0003	-0.0001
15-Jul-11	17															
22-Jul-11	18	-0.002	1.22	-0.00004	1.6	-0.000005	0.52	0.0253	-10	-0.000002	0.00003	0.0008	0.000009	0.0023	0.0005	-0.0001
29-Jul-11	19															
5-Aug-11	20	0.004	1.39	0.00007	2.08	-0.000005	0.52	0.031	-10	-0.000002	0.00004	0.0011	0.000122	0.0027	0.0008	-0.0001
12-Aug-11	21															
19-Aug-11	22	0.003	1.32	-0.00004	1.89	-0.000005	0.5	0.0295	-10	-0.000002	-0.00001	0.0017	0.000012	0.003	0.0004	-0.0001
26-Aug-11	23															
2-Sep-11	24	0.002	1.1	-0.00004	1.56	-0.000005	0.38	0.028	-10	-0.000002	0.00011	0.0007	0.000022	0.0025	0.0004	-0.0001
9-Sep-11	25															
16-Sep-11	26	0.002	1.3	-0.00004	1.77	-0.000005	0.35	0.0316	-10	-0.000002	0.00003	-0.0005	0.000011	0.0024	0.0006	-0.0001
23-Sep-11	27															
30-Sep-11	28	-0.002	1.18	0.00005	1.78	-0.000005	0.41	0.0327	-10	0.000002	0.00007	-0.0005	0.000014	0.0018	0.0002	-0.0001
7-Oct-11	29															
14-Oct-11	30	-0.002	1.29	-0.00004	1.91	-0.000005	0.34	0.0289	-10	-0.000002	0.00002	-0.0005	0.00001	0.0027	0.0005	-0.0001
21-Oct-11	31															
28-Oct-11	32	-0.002	1.38	-0.00004	1.92	-0.000005	0.3	0.0352	-10	-0.000002	0.00043	-0.0005	0.000012	0.0023	#N/A	-0.0001
4-Nov-11	33															
11-Nov-11	34	-0.002	1.17	0.00006	1.75	-0.000005	0.29	0.0314	-10	0.000003	0.00016	-0.0005	0.000012	0.002	0.0007	-0.0001
18-Nov-11	35															
25-Nov-11	36	0.003	1.37	0.00009	2.03	-0.000005	0.31	0.0388	-10	-0.000002	0.00022	-0.0005	0.000017	0.0022	0.0006	-0.0001
2-Dec-11	37															
9-Dec-11	38	0.003	1.38	-0.00004	1.67	0.000006	0.29	0.0359	-10	0.000003	0.00019	0.0009	0.000017	0.0024	0.0008	-0.0001
16-Dec-11	39															
23-Dec-11	40	0.002	1.45	-0.00004	1.81	-0.000005	0.23	0.0371	-10	-0.000002	0.00003	0.0009	0.000016	0.0024	0.0006	-0.0001
30-Dec-11	41															
6-Jan-12	42	-0.002	1	-0.00004	1.18	-0.000005	0.19	0.027	-10	-0.000002	0.00006	-0.0005	0.000006	0.0017	0.0003	-0.0001
13-Jan-12	43															
20-Jan-12	44	-0.002	1.03	-0.00004	1.43	-0.000005	0.18	0.0333	-10	-0.000002	-0.0002	0.0011	0.000015	0.0018	0.0007	-0.0001
27-Jan-12	45															
3-Feb-12	46	0.004	0.93	-0.00004	1.18	-0.000005	0.17	0.0254	-10	-0.000002	-0.0002	-0.0005	0.000006	0.0016	0.0004	-0.0001
10-Feb-12	47															
17-Feb-12	48	0.002	1.02	-0.00004	1.29	0.000005	0.17	0.0268	-10	-0.000002	-0.0002	-0.0005	0.000009	0.0021	0.0002	-0.0001
24-Feb-12	49															
2-Mar-12	50	-0.002	1	-0.00004	1.36	-0.000005	0.18	0.0297	-10	-0.000002	-0.0002	0.0009	0.00001	0.0015	0.0004	-0.0001
9-Mar-12	51															
16-Mar-12	52	-0.002	1.05	-0.00004	1.44	-0.000005	0.2	0.0314	-10	0.000002	-0.0002	0.0005	0.000009	0.0015	0.0004	-0.0001
23-Mar-12	53															
30-Mar-12	54	-0.002	1.09	-0.00004	1.78	0.000006	0.21	0.0371	-10	-0.000002	-0.0002	0.0014	0.000014	0.0016	#N/A	-0.0001
6-Apr-12	55															
13-Apr-12	56	-0.002	1.23	0.00005	1.97	0.000007	0.17	0.0386	-10	-0.000002	0.0005	0.0009	0.000013	0.0019	0.0013	-0.0001
20-Apr-12	57															
27-Apr-12	58	0.0028	1.21	-0.00004	1.76	-0.000005	0.175	0.0346	-10	-0.000002	-0.0002	0.00056	0.000013	0.00246	0.00053	-0.0001
4-May-12	59															
11-May-12	60	-0.002	1.04	0.000044	1.45	-0.000005	0.148	0.0296	-10	-0.000002	-0.0002	0.00086	0.000009	0.00161	0.00047	-0.0001
18-May-12	61															
25-May-12	62	-0.002	0.901	-0.00004	1.31	-0.000005	0.163	0.0284	-10	-0.000002	-0.0002	0.00136	0.0000082	0.0015	0.0015	-0.0001
1-Jun-12	63															
8-Jun-12	64	0.0033	0.984	-0.00004	1.32	-0.000005	0.213	0.0322	-10	-0.000002	-0.0002	0.00053	0.0000135	0.00157	0.00047	-0.0001
15-Jun-12	65															
22-Jun-12	66	0.0034	0.926	-0.00004	1.35	-0.000005	0.129	0.0306	-10	-0.000002	-0.0002	0.00058	0.0000073	0.00178	0.00032	-0.0001
29-Jun-12	67															

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CONFIDENTIAL *DRAFT*

Sample =
08SWC370 10-13

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L
6-Jul-12	68	500	470	7.42	52	#N/A	4.3	31.0	2	-0.5	0.018	26	0.0303	-0.00002	0.000323	0.139	-0.00001	-0.000005	-0.05	-0.000005	8.8	-0.0001	0.0000089	0.00104	0.0129	0.0000146	0.00075	0.975	0.000243	-0.01	0.00034	-0.00002
13-Jul-12	69	500	480	7.40	44																											
20-Jul-12	70	500	470	7.33	51	#N/A	4.1	32.1	2	-0.5	0.015	24.8	0.044	-0.00002	0.000356	0.136	-0.00001	-0.000005	-0.05	-0.000005	8.41	-0.0001	-0.000005	0.00053	0.0033	0.0000053	0.00065	0.916	0.000085	-0.01	0.000258	0.000031
27-Jul-12	71	500	470	7.31	55																											
3-Aug-12	72	500	465	7.51	57	#N/A	3.6	35.1	2	-0.5	0.018	28.1	0.0312	-0.00002	0.000273	0.16	-0.00001	-0.000005	-0.05	-0.000005	9.47	-0.0001	0.000013	0.00118	0.0181	0.000031	0.00081	1.07	0.000418	-0.01	0.000313	0.000122
10-Aug-12	73	500	475	7.43	45																											
17-Aug-12	74	500	450	7.41	57	#N/A	4.0	35.3	2	-0.5	0.014	26.5	0.0355	-0.00002	0.00022	0.166	-0.00001	-0.000005	-0.05	-0.000005	8.87	0.00013	0.00001	0.00136	0.0175	0.000044	0.0008	1.04	0.000719	-0.01	0.000262	0.000098
24-Aug-12	75	500	480	7.37	55																											
31-Aug-12	76	500	465	7.45	48	#N/A	4.1	30.3	2	-0.5	0.013	24	0.0345	-0.00002	0.000238	0.14	-0.00001	-0.000005	-0.05	0.000006	8.27	-0.0001	0.000013	0.0015	0.018	0.000049	0.00062	0.822	0.000389	-0.01	0.000223	0.000104
7-Sep-12	77	500	470	7.32	48																											
14-Sep-12	78	500	480	7.30	47	#N/A	3.6	28.5	2	-0.5	0.012	22.8	0.0292	-0.00002	0.000341	0.136	-0.00001	-0.000005	-0.05	-0.000005	7.84	0.00044	0.000008	0.00105	0.0198	0.000017	0.00065	0.792	0.000526	-0.01	0.0002	0.000036
21-Sep-12	79	500	500	7.34	54																											
28-Sep-12	80	500	475	7.45	55	#N/A	3.4	35.5	2	-0.5	0.015	27.1	0.0253	-0.00002	0.000268	0.168	-0.00001	-0.000005	-0.05	-0.000005	9.28	0.00019	0.000006	0.000775	0.0112	0.000018	0.0007	0.962	0.000255	-0.01	0.000245	0.000035
5-Oct-12	81	500	465	7.31	53																											
12-Oct-12	82	500	495	7.27	62	#N/A	5.8	40.1	2	-0.5	0.017	31.6	0.019	-0.00002	0.000343	0.195	-0.00001	-0.000005	-0.05	-0.000005	10.8	-0.0001	0.000005	0.000744	0.0057	0.000007	0.00087	1.1	0.000145	-0.01	0.000286	0.000062
19-Oct-12	83	500	475	7.35	55																											
26-Oct-12	84	500	480	7.40	45	#N/A	2.9	28.8	2	-0.5	0.013	21.8	0.0263	-0.00002	0.000175	0.138	-0.00001	-0.000005	-0.05	-0.000005	7.55	-0.0001	0.00001	0.00123	0.0145	0.000056	0.00055	0.711	0.000437	-0.01	0.000172	0.000073
2-Nov-12	85	500	475	7.44	52																											
9-Nov-12	86	500	480	7.37	49	#N/A	5.3	32.9	3	-0.5	0.015	25.3	0.0189	-0.00002	0.000375	0.167	-0.00001	-0.000005	-0.05	-0.000005	8.72	-0.0001	0.000006	0.00102	0.0074	0.000069	0.00063	0.852	0.000302	-0.01	0.000203	0.000133
16-Nov-12	87	500	485	7.39	60																											
23-Nov-12	88	500	490	7.43	44	#N/A	3.6	26.7	3	-0.5	0.014	23.2	0.0178	-0.00002	#N/A	0.135	-0.00001	-0.000005	-0.05	-0.000005	8.05	-0.0001	0.000013	0.000701	0.007	0.000008	0.00062	0.747	0.000156	-0.01	0.000169	0.00022
30-Nov-12	89	500	505	7.37	45																											
7-Dec-12	90	500	460	7.32	51	#N/A	6.4	35.2	2	-0.5	0.018	26.6	0.0279	-0.00002	0.000256	0.17	-0.00001	-0.000005	-0.05	-0.000005	9.18	-0.0001	-0.000005	0.000751	0.0088	0.000018	0.00072	0.896	0.000137	-0.01	0.000247	0.000059
14-Dec-12	91	500	490	7.39	38																											
21-Dec-12	92	500	460	7.38	48	#N/A	4.0	30.9	-2	-0.5	0.015	22.5	0.0213	-0.00002	0.000228	0.158	-0.00001	-0.000005	-0.05	-0.000005	7.91	-0.0001	0.000006	0.000627	0.0159	0.000012	0.00061	0.678	0.00023	-0.01	0.000168	0.000041
28-Dec-12	93	500	475	7.65	45																											
4-Jan-13	94	500	465	7.41	52	#N/A	5.3	36.1	-2	0.86	0.019	27.2	0.0281	-0.00002	0.00023	0.193	-0.00001	-0.000005	-0.05	-0.000005	9.3	0.0003	0.000016	0.000936	0.0139	0.000021	0.00069	0.969	0.00065	-0.01	0.000201	0.00011
11-Jan-13	95	500	450	7.43	53																											
18-Jan-13	96	500	455	7.48	52	#N/A	3.0	34.7	2	0.63	0.013	25	0.0253	-0.00002	0.000178	0.176	-0.00001	-0.000005	-0.05	-0.000005	8.67	-0.0001	-0.000005	0.000682	0.0103	0.000013	0.00083	0.811	0.000189	-0.01	0.000187	0.000117
25-Jan-13	97	500	450	7.61	39																											
1-Feb-13	98	500	440	7.47	45	#N/A	3.8	27.8	3	0.56	0.028	21.4	0.0215	#N/A	0.000376	0.148	-0.00001	-0.000005	-0.05	-0.000005	7.38	-0.0001	0.000006	0.000533	0.0075	0.000005	0.0005	0.71	0.000615	-0.01	0.00016	0.00002
8-Feb-13	99	500	450	7.37	48																											
15-Feb-13	100	500	430	7.42	48	#N/A	3.2	27.4	2	0.57	0.012	22.6	0.0193	-0.00002	0.000253	0.167	-0.00001	-0.000005	-0.05	-0.000005	7.84	-0.0001	0.000005	0.000487	0.0067	0.000006	0.00056	0.726	0.000169	-0.01	0.000166	-0.00002
22-Feb-13	101	500	430	7.44	54																											
1-Mar-13	102	500	440	7.44	48	#N/A	5.8	32.1	3	-0.5	0.013	22.5	0.0381	-0.00002	0.000242	0.164	-0.00001	-0.000005	-0.05	-0.000005	7.8	-0.0001	0.000009	0.000847	0.0158	0.000032	0.00061	0.73	0.000298	-0.01	0.000166	-0.00002
8-Mar-13	103	500	440	7.59	35																											
15-Mar-13	104	500	455	7.32	46	#N/A	5.2	26.7	2	-0.5	0.012	22.2	0.0331	-0.00002	0.00026	0.159	-0.00001	-0.000005	-0.05	-0.000005	7.76	-0.0001	0.000009	0.000817	0.0146	0.000006	0.00057	0.678	0.000545	-0.01	0.000135	0.00006
22-Mar-13	105	500	440	7.30	47																											
29-Mar-13	106	500	440	7.44	46	#N/A	3.6	27.0	2	-0.5	0.012	22.5	0.0181	-0.00002	0.000354	0.166	-0.00001	-0.000005	-0.05	-0.000005	7.91	-0.0001	0.000012	0.000642	0.0056	0.000021	0.00054	0.665	0.000148	-0.01	0.000147	0.000071
5-Apr-13	107	500	435	7.33	48																											
12-Apr-13	108	500	440	7.41	43	#N/A	5.5	27.1	2	-0.5	0.011	20.5	0.0394	-0.00002	0.00021	0.158	-0.00001	-0.000005	-0.05	-0.000005	7.18	-0.0001	0.00001	0.00101	0.0209	0.000011	-0.0005	0.624	0.000532	-0.01	0.00012	0.000062
19-Apr-13	109	500	435	7.34	46																											
26-Apr-13	110	500	445	7.34	47	#N/A	4.0	27.0	3	-0.5	0.012	20.7	0.0203	-0.00002	0.000212	0.174	-0.00001	-0.000005	-0.05	-0.000005	7.26	-0.0001	0.000006	0.000477	0.0074	-0.000005	0.00051	0.636	0.00015	-0.01	0.000133	0.000051
3-May-13	111	500	435	7.27	46																											
10-May-13	112	500	425	7.37	48	#N/A	4.1	26.8	2	0.5	0.01	22.5	0.025	-0.00002	0.000331	0.174	-0.00001	-0.000005	-0.05	-0.000005	7.88	-0.0001	-0.000005	0.00053	0.0083	0.000025	0.00057	0.674	0.000153	-0.01	0.000159	0.000046
17-May-13	113	500	440	7.35	54																											
24-May-13	114	500	450	7.37	45	#N/A	4.7	26.8	2																							

May 13/11 Cl 4.8. Repeat=-0.5, data confirmed
June 10/11 Fe 0.038 and Cu 0.00224 . Repeat Cu= 0.0026, Fe= 0.042. data confirmed, keep original result.
Aug 5/11 Pb 0.000451. Repeat =.000515, data confirmed, suspect contamination
Nov 11/11 Cd=0.000032, repeat=0.000029. data confirmed, suspect contamination
Dec 9/11 Pb=0.000519, repeat=0.000497. data confirmed, suspect contamination
Oct 28/11 Zn=0.0035, repeat=0.0065. Data rejected, suspect contamination
March 30/12 Cu=0.00425, Ni=0.00041, Zn=0.02 repeat Cu=0.00438, Ni=0.000378, Zn=0.0205. Data confirmed, suspect contamination
Apr 27/12 Ni=0.000183, repeat=0.000138, Data accepted
Nov 23/12 As=0.00059,repeat= 0.00059. Data confirmed suspect contamination
Feb 1/13 Sb=0.000041, repeat confirms original result, suspect contamination
Dec 7/12 Ni=0.000773, repeat=0.000059. Data accepted

HC 12

Sample = 08SWC370 10-13

Date	Cycle No.	P	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
6-Jul-12	68	0.002	0.974	-0.00004	1.59	-0.000005	0.142	0.0308	-10	-0.000002	-0.0002	-0.0005	0.0000096	0.00193	0.0003	-0.0001
13-Jul-12	69															
20-Jul-12	70	-0.002	0.907	-0.00004	1.37	-0.000005	0.135	0.031	-10	-0.000002	-0.0002	-0.0005	0.0000113	0.00192	0.00138	-0.0001
27-Jul-12	71															
3-Aug-12	72	0.0031	1.16	-0.00004	1.58	0.000005	0.178	0.0369	-10	-0.000002	0.00026	-0.0005	0.000013	0.00191	0.00078	-0.0001
10-Aug-12	73															
17-Aug-12	74	-0.002	1.08	-0.00004	1.32	-0.000005	0.17	0.0353	-10	-0.000002	0.0005	-0.0005	0.000008	0.00159	0.00098	-0.0001
24-Aug-12	75															
31-Aug-12	76	-0.002	0.871	-0.00004	1.16	-0.000005	0.127	0.0301	-10	-0.000002	-0.0002	0.00079	0.000011	0.00128	0.00081	-0.0001
7-Sep-12	77															
14-Sep-12	78	-0.002	0.843	-0.00004	1.11	-0.000005	0.123	0.0295	-10	-0.000002	-0.0002	0.00089	0.000009	0.00133	0.00042	-0.0001
21-Sep-12	79															
28-Sep-12	80	-0.002	0.993	-0.00004	1.46	-0.000005	0.121	0.0335	-10	-0.000002	-0.0002	0.00081	0.000009	0.00148	0.00038	-0.0001
5-Oct-12	81															
12-Oct-12	82	0.0022	1.12	0.000043	1.62	-0.000005	0.137	0.0389	-10	-0.000002	-0.0002	-0.0005	0.000012	0.00121	0.00036	-0.0001
19-Oct-12	83															
26-Oct-12	84	0.0087	0.799	-0.00004	1.06	-0.000005	0.08	0.0277	-10	-0.000002	-0.0002	0.00052	0.000009	0.00136	0.00052	-0.0001
2-Nov-12	85															
9-Nov-12	86	-0.002	0.933	0.00004	1.2	-0.000005	0.104	0.0316	-3	-0.000002	0.00041	-0.0005	0.000008	0.00143	0.00224	-0.0001
16-Nov-12	87															
23-Nov-12	88	0.0036	0.838	-0.00004	1.24	-0.000005	0.091	0.0262	-3	-0.000002	0.0003	-0.0005	0.000008	0.00114	0.00044	-0.0001
30-Nov-12	89															
7-Dec-12	90	-0.002	0.958	-0.00004	1.39	-0.000005	0.117	0.0328	-3	0.000002	0.00037	-0.0005	0.000013	0.0016	0.00136	-0.0001
14-Dec-12	91															
21-Dec-12	92	-0.002	0.846	-0.00004	1.07	-0.000005	0.089	0.0268	-3	-0.000002	-0.0002	-0.0005	0.000007	0.00143	0.00039	-0.0001
28-Dec-12	93															
4-Jan-13	94	-0.002	1.06	-0.00004	1.25	-0.000005	0.158	0.0331	-3	-0.000002	-0.0002	0.00056	0.000008	0.00158	0.00109	-0.0001
11-Jan-13	95															
18-Jan-13	96	0.0028	0.903	-0.00004	1.18	-0.000005	0.101	0.0293	-3	-0.000002	-0.0002	-0.0005	0.000008	0.00132	0.00051	-0.0001
25-Jan-13	97															
1-Feb-13	98	0.0026	0.89	-0.00004	0.961	-0.000005	0.109	0.0256	-3	-0.000002	-0.0002	-0.0005	0.000008	0.00154	0.00043	-0.0001
8-Feb-13	99															
15-Feb-13	100	-0.002	0.911	-0.00004	1.04	-0.000005	0.129	0.0269	-3	-0.000002	-0.0002	-0.0005	0.000006	0.00128	0.00023	-0.0001
22-Feb-13	101															
1-Mar-13	102	-0.002	0.918	-0.00004	1.12	-0.000005	0.107	0.0274	-3	-0.000002	0.00078	0.00073	0.000006	0.00136	0.00044	-0.0001
8-Mar-13	103															
15-Mar-13	104	0.0031	0.934	0.000044	1.09	-0.000005	0.101	0.0265	-3	-0.000002	-0.0002	0.00094	0.000006	0.00144	0.00042	-0.0001
22-Mar-13	105															
29-Mar-13	106	-0.002	0.923	-0.00004	1.01	-0.000005	0.137	0.027	-3	-0.000002	-0.0002	-0.0005	0.000006	0.0014	0.00042	-0.0001
5-Apr-13	107															
12-Apr-13	108	-0.002	0.87	-0.00004	0.897	-0.000005	0.077	0.0257	-3	-0.000002	-0.0002	0.00139	0.000006	0.00166	0.00057	-0.0001
19-Apr-13	109															
26-Apr-13	110	-0.002	0.863	-0.00004	0.824	0.000005	0.096	0.0264	-3	-0.000002	-0.0002	0.00059	0.000007	0.00104	0.00024	-0.0001
3-May-13	111															
10-May-13	112	-0.002	0.895	-0.00004	1.01	-0.000005	0.108	0.0269	-3	-0.000002	-0.0002	-0.0005	0.000006	0.00142	0.00034	-0.0001
17-May-13	113															
24-May-13	114															

HC 13

CONFIDENTIAL *DRAFT*

Sample =
09SWC419 15-18

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L
18-Mar-11	0	500	360	7.69	201	#N/A	3.2	68.2	3	1.8	0.2	88.7	0.0356	-0.00002	0.00022	0.152	-0.00001	-0.000005	-0.05	0.00001	25.4	-0.0001	0.000035	0.00078	0.002	0.000014	0.0018	6.11	0.00947	-0.01
25-Mar-11	1	500	525	7.78	111																									
1-Apr-11	2	500	525	7.81	74	#N/A	4.8	45.2	4	0.8	0.28	31.7	0.0336	-0.00002	0.0003	0.0486	-0.00001	-0.000005	-0.05	-0.000005	9.39	0.0001	0.000015	0.0006	0.007	-0.000005	0.0008	2.01	0.00733	-0.01
8-Apr-11	3	500	43	7.75	60																									
15-Apr-11	4	500	440	7.74	61	#N/A	2.1	36.4	3	-0.5	0.23	26.5	0.0264	-0.00002	0.00018	0.0398	-0.00001	-0.000005	-0.05	-0.000005	7.76	-0.0001	0.000013	0.00064	0.011	-0.000005	0.0006	1.74	0.00654	-0.01
22-Apr-11	5	500	420	7.73	65																									
29-Apr-11	6	500	430	7.67	59	#N/A	3.0	38.1	5	-0.5	0.17	27.4	0.031	-0.00002	0.00026	0.0355	-0.00001	-0.000005	-0.05	-0.000005	8.04	-0.0001	0.000012	0.00018	0.011	0.000006	0.0006	1.79	0.00667	-0.01
6-May-11	7	500	430	7.59	58																									
13-May-11	8	500	430	7.52	74	#N/A	3.1	30.2	4	-0.5	0.13	25.1	0.0401	-0.00002	0.00023	0.0282	-0.00001	-0.000005	-0.05	-0.000005	7.44	-0.0001	0.000009	0.00038	0.012	0.000009	-0.0005	1.58	0.00621	-0.01
20-May-11	9	500	450	7.76	51																									
27-May-11	10	500	450	7.76	54	#N/A	4.8	31.7	-2	-0.5	0.12	24.6	0.025	-0.00002	0.00023	0.0322	-0.00001	-0.000005	-0.05	-0.000005	7.19	-0.0001	0.000007	0.0003	0.006	-0.000005	-0.0005	1.62	0.00681	-0.01
3-Jun-11	11	500	465	7.53	55																									
10-Jun-11	12	500	465	7.71	59	#N/A	2.0	36.6	3	0.6	0.1	26.1	0.0275	-0.00002	0.00035	0.0351	-0.00001	-0.000005	-0.05	0.000009	7.82	0.0001	0.000007	0.00037	0.006	-0.000005	-0.0005	1.6	0.00622	-0.01
17-Jun-11	13	500	475	7.49	56																									
24-Jun-11	14	500	455	7.88	56	#N/A	1.8	35.4	-2	-0.5	0.09	27.9	0.0314	-0.00002	0.00017	0.0334	-0.00001	-0.000005	-0.05	0.000005	8.03	-0.0001	-0.000005	0.0004	0.009	-0.000005	-0.0005	1.9	0.00527	-0.01
1-Jul-11	15	500	455	7.90	59																									
8-Jul-11	16	500	460	7.61	57	#N/A	2.6	34.1	-2	0.6	0.07	25	0.0252	-0.00002	0.0002	0.032	-0.00001	-0.000005	-0.05	-0.000005	7.24	-0.0001	0.000009	0.00018	0.005	0.000006	0.0005	1.67	0.0054	-0.01
15-Jul-11	17	500	445	7.67	55																									
22-Jul-11	18	500	475	7.74	53	#N/A	3.3	31.1	-2	0.7	0.07	24.5	0.0329	-0.00002	0.00014	0.0343	-0.00001	-0.000005	-0.05	-0.000005	6.93	0.0005	0.000009	0.00075	0.009	0.000017	-0.0005	1.75	0.00475	-0.01
29-Jul-11	19	500	455	7.76	53																									
5-Aug-11	20	500	460	7.67	64	#N/A	3.5	37.8	-2	-0.5	0.07	30.4	0.029	-0.00002	0.00019	0.0347	-0.00001	-0.000005	-0.05	-0.000005	8.81	0.0001	0.00001	0.00023	0.009	-0.000005	-0.0005	2.04	0.00598	-0.01
12-Aug-11	21	500	450	7.85	59																									
19-Aug-11	22	500	465	7.65	61	#N/A	3.6	38.3	2	0.6	0.06	27.8	0.0308	-0.00002	0.00017	0.0346	-0.00001	-0.000005	-0.05	-0.000005	8.15	0.0001	0.000007	0.00039	0.01	0.000028	-0.0005	1.82	0.00619	-0.01
26-Aug-11	23	500	460	7.64	59																									
2-Sep-11	24	500	450	7.80	60	#N/A	4.0	38.8	-2	0.6	0.06	27	0.0295	-0.00002	0.00017	0.035	-0.00001	-0.000005	-0.05	-0.000005	7.9	0.0001	0.00001	0.00027	0.008	0.000005	-0.0005	1.78	0.00589	-0.01
9-Sep-11	25	500	465	7.76	59																									
16-Sep-11	26	500	445	7.59	61	#N/A	4.1	37.3	-2	0.9	0.05	29	0.0303	0.00002	#N/A	0.034	-0.00001	-0.000005	-0.05	0.000008	8.6	-0.0001	0.000007	0.00012	0.007	0.000036	-0.0005	1.84	0.00563	-0.01
23-Sep-11	27	500	450	7.60	53																									
30-Sep-11	28	500	455	7.66	58	#N/A	3.0	36.9	-2	-0.5	0.05	27.8	0.0241	-0.00002	0.00014	0.0347	-0.00001	-0.000005	-0.05	-0.000005	8.26	-0.0001	0.00001	0.00019	0.005	0.00001	-0.0005	1.74	0.00702	-0.01
7-Oct-11	29	500	455	7.65	57																									
14-Oct-11	30	500	450	7.54	51	#N/A	3.3	32.0	-2	-0.5	0.04	25.2	0.028	-0.00002	0.0001	0.0297	-0.00001	-0.000005	-0.05	-0.000005	7.36	-0.0001	-0.000005	0.00013	0.004	-0.000005	-0.0005	1.65	0.00734	-0.01
21-Oct-11	31	500	460	7.73	58																									
28-Oct-11	32	500	455	7.67	59	#N/A	3.3	36.9	-2	-0.5	0.03	31.1	0.0312	-0.00002	0.00011	0.0349	-0.00001	-0.000005	-0.05	-0.000005	9.36	-0.0001	0.000008	0.00016	0.005	0.000022	-0.0005	1.88	0.009	-0.01
4-Nov-11	33	500	455	7.69	56																									
11-Nov-11	34	500	465	7.84	56	#N/A	4.9	36.4	2	-0.5	0.033	27.9	0.0197	-0.00002	0.00011	0.0326	-0.00001	-0.000005	-0.05	0.000007	8.19	-0.0001	0.000008	0.00047	0.003	0.000019	-0.0005	1.81	0.00639	-0.01
18-Nov-11	35	500	465	7.67	56																									
25-Nov-11	36	500	480	7.76	56	#N/A	3.3	36.6	-2	-0.5	0.029	28.2	0.024	-0.00002	0.00009	0.0317	-0.00001	-0.000005	-0.05	-0.000005	8.45	-0.0001	0.000011	0.00037	0.005	0.000005	-0.0005	1.74	0.00556	-0.01
2-Dec-11	37	500	465	7.68	59																									
9-Dec-11	38	500	440	7.63	55	#N/A	3.9	34.4	-2	-0.5	0.027	26.6	0.0292	-0.00002	0.00008	0.0304	-0.00001	-0.000005	-0.05	-0.000005	7.8	-0.0001	-0.000005	0.00076	0.007	0.000011	-0.0005	1.73	0.00636	-0.01
16-Dec-11	39	500	465	7.77	58																									
23-Dec-11	40	500	450	7.73	54	#N/A	4.2	36.7	2	-0.5	0.03	26.6	0.0393	-0.00002	0.00006	0.033	-0.00001	-0.000005	-0.05	-0.000005	7.78	-0.0001	0.000011	0.00013	0.006	0.00002	-0.0005	1.74	0.00585	-0.01
30-Dec-11	41	500	460	7.78	56																									
6-Jan-12	42	500	480	7.53	58	#N/A	3.3	42.3	2	-0.5	0.033	28.8	0.0271	-0.00002	0.00008	0.0363	-0.00001	-0.000005	-0.05	-0.000005	8.33	-0.0001	-0.000005	0.00017	0.004	0.000006	-0.0005	1.94	0.00612	-0.01
13-Jan-12	43	500	465	7.64	52																									
20-Jan-12	44	500	465	7.71	58	#N/A	2.7	43.0	-2	-0.5	0.029	25.2	0.0192	-0.00002	0.00006	0.0324	-0.00001	-0.000005	-0.05	-0.000005	7.47	-0.0001	0.000005	0.00025	0.004	0.000011	-0.0005	1.59	0.00466	-0.01
27-Jan-12	45	500	465	7.55	50																									
3-Feb-12	46	500	465	7.65	53	#N/A	5.1	38.3	2	-0.5	0.029	26	0.0219	-0.00002	0.00008	0.0278	-0.00001	-0.000005	-0.05	-0.000005	7.63	-0.0001	-0.000005	0.0002	0.004	-0.000005	-0.0005	1.68	0.00476	-0.01
10-Feb-12	47	500	445	7.67	55																									
17-Feb-12	48	500	455	7.63	54	#N/A	2.7	34.3	2	-0.5	0.027	26.2	0.0206	-0.00002	0.00012	0.0296	-0.00001	-0.000005	-0.05	-0.000005	7.81	-0.0001	0.000006	0.00027	0.003	-0.000005	-0.0005	1.62	0.00509	-0.01
24-Feb-12	49	500	450	7.57	56																									
2-Mar-12	50	500	455	7.62	55	#N/A	7.1	36.5	2	-0.5	0.024	26.4	0.0206	-0.00002	0.00012	0.0307	-0.00001	-0.000005	-0.05	0.000011	7.83	-0.0001	0.000009	0.00128	0.004	#N/A	-0.0005	1.65	0.00478	-0.01
9-Mar-12	51	500	470	7.67	55																									
16-Mar-12	52	500	465	7.66	58	#N/A	2.8	35.8	2	-0.5	0.026	26.5	0.0217	-0.00002	0.00004	0.0286	-0.00001	-0.000005	-0.05	-0.000005	7.97	#N/A	0.000007	0.00045	0.004	0.000015	-0.0005	1.6	0.00392	-0.01
23-Mar-12	53	500	460	7.61	59																									
30-Mar-12	54	500	490	7.49	59	#N/A	3.9	37.3	3	-0.5	0.028	28.1	0.0161	-0.00002	-0.00002	0.0317	-0.00001	-0.000005	-0.05	-0.000005	8.39	-0.0001	0.000007	0.00024	0.003	0.000027	-0.0005	1.74	0.00355	-0.01
6-Apr-12	55	500	450	7.69	59																									
13-Apr-12	56	500	460	7.72	56	#N/A	2.5	35.2	2	-0.5	0.022	27.2	0.0228	-0.00002	0.00005	0.0307	-0.00001	-0.000005	-0.05	-0.000005	8.24	-0.0001	0.000006	0.00022	0.004	-0.000005	-0.0005	1.62	0.00439	-0.01
20-Apr-12	57	500	445	7.70	54																									
27-Apr-12	58	500	460	7.71	55	#N/A	3.8	35.7	2	-0.5	0.024	23.8	0.0246	-0.00002	0.000093	0.0284	-0.00001	-0.000005	-0.05	0.000006	7.16	-0.0001	-0.000005	0.00046	0.0047	0.000011	-0.0005	1.44	0.00384	-0.01
4-May-12	59	500	450	7.75	52																									
11-May-12	60	500	470	7.68	54	#N/A	3.1	33.5	3	-0.5	0.031	27.6	0.0312	-0.00002	0.000197	0.029	-0.00001	-0.000005	-0.05	-0.000005	8.55	0.00012	0.000012	0.000241	0.0078	0.000011	-0.0005	1.51	0.00666	-0.01
18-May-12	61	500	455	7.61	53																									
25-May-12	62	500	470	7.55	53	#N/A	3.6	32.3	2	-0.5	0.022	24.5	0.0358	-0.00002	0.000081	0.0282	-0.00001	-0.000005	-0.05	-0.000005	7.38	0.00055	-0.000005	0.000287	0.0089	0.0000616	-0.0005	1.48	0.00438	-0.01
1-Jun-12	63	500	515	7.59	53																									
8-Jun-12	64	500	465	7.62	51	#N/A	3.2	31.8	2	0.69	0.018	23.5	0.0221	-0.00002	0.000036	0.0252	-0.00001	-0.000005	-0.05	-0.000005	7.13	0.00016	0.0000085	0.000979	0.0127	0.0000169	-0.0005	1.39	0.00456	-0.01
15-Jun-12	65	500	480	7.59	52																									

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Date	Cycle No.	Mo mg/L	Ni mg/L	P mg/L	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L
18-Mar-11	0	0.00088	0.0002	-0.002	6.25	0.0001	1.47	-0.000005	3.46	0.149	-10	0.000003	0.00004	-0.0005	0.000049	-0.0002	0.0018	-0.0001
25-Mar-11	1																	
1-Apr-11	2	0.00083	0.0001	-0.002	2.41	0.00007	1.89	-0.000005	1.61	0.0554	-10	-0.000002	0.00049	-0.0005	0.000054	0.001	0.0002	-0.0001
8-Apr-11	3																	
15-Apr-11	4	0.00108	0.0001	-0.002	2.14	0.00004	1.7	-0.000005	1.22	0.0519	-10	-0.000002	0.00033	-0.0005	0.000053	0.0011	0.0004	-0.0001
22-Apr-11	5																	
29-Apr-11	6	0.00084	0.00009	-0.002	2.12	-0.00004	1.72	-0.000005	0.88	0.0492	-10	-0.000002	0.00021	-0.0005	0.000055	0.001	0.0001	-0.0001
6-May-11	7																	
13-May-11	8	0.00057	0.0001	-0.002	1.64	-0.00004	1.39	-0.000005	0.58	0.0423	-10	-0.000002	0.00013	-0.0005	0.000046	0.0011	0.0001	-0.0001
20-May-11	9																	
27-May-11	10	0.00057	0.00002	-0.002	1.53	-0.00004	1.51	-0.000005	0.49	0.0456	-10	-0.000002	0.00012	-0.0005	0.000047	0.001	-0.0001	-0.0001
3-Jun-11	11																	
10-Jun-11	12	0.00066	0.00003	-0.002	1.47	-0.00004	1.47	-0.000005	0.37	0.0524	-10	-0.000002	0.00013	-0.0005	0.000051	0.001	0.0002	-0.0001
17-Jun-11	13																	
24-Jun-11	14	0.00048	-0.00002	-0.002	1.71	-0.00004	1.57	-0.000005	0.35	0.0483	-10	-0.000002	0.00005	0.0007	0.000046	0.0011	0.0001	-0.0001
1-Jul-11	15																	
8-Jul-11	16	0.00043	0.00007	-0.002	1.35	-0.00004	1.38	-0.000005	0.29	0.0466	-10	-0.000002	0.00004	-0.0005	0.00005	0.0009	0.0004	-0.0001
15-Jul-11	17																	
22-Jul-11	18	0.00038	#N/A	-0.002	1.38	-0.00004	1.28	-0.000005	0.33	0.0451	-10	-0.000002	0.00003	-0.0005	0.000036	0.0009	0.0009	-0.0001
29-Jul-11	19																	
5-Aug-11	20	0.00034	0.00012	-0.002	1.53	-0.00004	1.41	-0.000005	0.28	0.0533	-10	-0.000002	0.00004	-0.0005	0.000055	0.001	0.0003	-0.0001
12-Aug-11	21																	
19-Aug-11	22	0.00032	0.00015	-0.002	1.48	-0.00004	1.3	-0.000005	0.35	0.0515	-10	-0.000002	0.00001	-0.0005	0.000055	0.0012	0.0001	-0.0001
26-Aug-11	23																	
2-Sep-11	24	0.00031	0.00003	-0.002	1.43	-0.00004	1.28	-0.000005	0.22	0.052	-10	-0.000002	0.00004	-0.0005	0.000048	0.0009	0.0002	-0.0001
9-Sep-11	25																	
16-Sep-11	26	0.00029	0.00004	-0.002	1.43	0.00005	1.27	-0.000005	0.23	0.0522	-10	0.000006	0.00003	-0.0005	0.000065	0.0011	0.001	-0.0001
23-Sep-11	27																	
30-Sep-11	28	0.00019	-0.00002	-0.002	1.39	-0.00004	1.13	-0.000005	0.18	0.0508	-10	-0.000002	0.00008	-0.0005	0.00005	0.0006	-0.0001	-0.0001
7-Oct-11	29																	
14-Oct-11	30	0.00021	-0.00002	-0.002	1.31	-0.00004	1.01	-0.000005	0.17	0.0445	-10	-0.000002	0.00001	-0.0005	0.000049	0.0009	0.0003	-0.0001
21-Oct-11	31																	
28-Oct-11	32	0.00015	0.00002	-0.002	1.41	-0.00004	1.15	-0.000005	0.18	0.0544	-10	-0.000002	0.00028	-0.0005	0.000045	0.0008	0.0003	-0.0001
4-Nov-11	33																	
11-Nov-11	34	0.00017	0.00019	-0.002	1.33	-0.00004	1.08	-0.000005	0.21	0.05	-10	0.000003	0.00014	-0.0005	0.000039	0.0007	0.0005	-0.0001
18-Nov-11	35																	
25-Nov-11	36	0.00016	0.00014	-0.002	1.28	-0.00004	0.972	-0.000005	0.19	0.0474	-10	-0.000002	0.00013	-0.0005	0.00004	0.0008	0.0002	-0.0001
2-Dec-11	37																	
9-Dec-11	38	0.00015	0.00017	-0.002	1.26	-0.00004	0.849	-0.000005	0.16	0.0468	-10	-0.000002	0.00013	-0.0005	0.000043	0.0007	0.0003	-0.0001
16-Dec-11	39																	
23-Dec-11	40	0.0001	0.00005	-0.002	1.35	-0.00004	0.907	-0.000005	0.14	0.0459	-10	-0.000002	-0.00001	-0.0005	0.000041	0.0006	0.0003	-0.0001
30-Dec-11	41																	
6-Jan-12	42	0.00014	-0.00002	-0.002	1.42	-0.00004	0.966	-0.000005	0.15	0.0539	-10	-0.000002	0.00008	-0.0005	0.00004	0.0008	0.0002	-0.0001
13-Jan-12	43																	
20-Jan-12	44	0.00013	0.00017	-0.002	1.17	-0.00004	0.827	-0.000005	0.16	0.048	-10	-0.000002	-0.0002	-0.0005	0.000036	0.0006	0.0005	-0.0001
27-Jan-12	45																	
3-Feb-12	46	0.00026	0.00002	-0.002	1.18	-0.00004	0.875	-0.000005	0.13	0.0437	-10	-0.000002	-0.0002	-0.0005	0.000035	0.0006	-0.0001	-0.0001
10-Feb-12	47																	
17-Feb-12	48	0.00011	-0.00002	-0.002	1.25	-0.00004	0.861	-0.000005	0.14	0.045	-10	-0.000002	-0.0002	-0.0005	0.000052	0.001	0.0002	-0.0001
24-Feb-12	49																	
2-Mar-12	50	0.00009	0.00013	-0.002	1.19	-0.00004	0.825	-0.000005	0.15	0.0447	-10	-0.000002	0.0002	-0.0005	0.000038	0.0006	0.0005	-0.0001
9-Mar-12	51																	
16-Mar-12	52	0.00011	0.00011	-0.002	1.18	-0.00004	0.865	-0.000005	0.23	0.0449	-10	-0.000002	0.0002	-0.0005	0.00004	0.0006	0.0011	-0.0001
23-Mar-12	53																	
30-Mar-12	54	0.00009	0.00015	-0.002	1.2	-0.00004	0.886	-0.000005	0.15	0.0477	-10	-0.000002	-0.0002	-0.0005	0.000038	0.0005	0.0029	-0.0001
6-Apr-12	55																	
13-Apr-12	56	0.00011	-0.00002	-0.002	1.2	-0.00004	0.857	-0.000005	0.1	0.0452	-10	-0.000002	0.0005	-0.0005	0.000036	0.0005	0.0013	-0.0001
20-Apr-12	57																	
27-Apr-12	58	0.000081	0.000114	-0.002	1.14	-0.00004	0.745	-0.000005	0.139	0.0429	-10	0.000002	0.00055	-0.0005	0.000035	0.00111	0.00301	-0.0001
4-May-12	59																	
11-May-12	60	0.000101	0.000118	-0.002	1.19	-0.00004	0.866	-0.000005	0.131	0.0466	-10	-0.000002	0.00049	-0.0005	0.000031	0.00067	0.00097	-0.0001
18-May-12	61																	
25-May-12	62	0.000066	0.000065	-0.002	1.12	-0.00004	0.837	-0.000005	0.177	0.043	-10	0.0000021	-0.0002	0.00057	0.000033	0.00065	0.00041	-0.0001
1-Jun-12	63																	
8-Jun-12	64	0.000073	0.000151	0.0034	0.962	-0.00004	0.687	-0.000005	0.144	0.0397	-10	-0.000002	0.00028	-0.0005	0.0000296	0.00054	0.00049	-0.0001
15-Jun-12	65																	

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Sample =
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Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L
22-Jun-12	66	500	465	7.54	48	#N/A	4.3	32.1	3	-0.5	0.02	23.6	0.0334	-0.00002	0.00012	0.0275	-0.00001	-0.000005	-0.05	-0.000005	7.18	-0.0001	0.0000087	0.000194	0.007	-0.000005	-0.0005	1.38	0.00382	-0.01
29-Jun-12	67	500	465	7.56	47																									
6-Jul-12	68	500	465	7.61	50	#N/A	4.2	33.0	2	-0.5	0.023	23.5	0.0201	-0.00002	0.000071	0.0261	-0.00001	-0.000005	-0.05	-0.000005	7.25	-0.0001	0.0000076	0.000293	0.0038	0.0000411	-0.0005	1.32	0.00398	-0.01
13-Jul-12	69	500	450	7.60	44																									
20-Jul-12	70	500	475	7.57	50	#N/A	3.7	31.6	2	0.6	0.02	24.9	#N/A	-0.00002	0.000105	0.026	-0.00001	-0.000005	-0.05	-0.000005	7.64	-0.0001	-0.000005	0.000215	0.0041	-0.000005	-0.0005	1.42	0.004	-0.01
27-Jul-12	71	500	465	7.74	47																									
3-Aug-12	72	500	465	7.67	49	#N/A	3.1	31.6	2	-0.5	0.02	24.2	0.0166	-0.00002	0.000133	0.0266	-0.00001	-0.000005	-0.05	-0.000005	7.38	-0.0001	0.000009	0.000406	0.0032	0.000158	-0.0005	1.41	0.00346	-0.01
10-Aug-12	73	500	470	7.66	44																									
17-Aug-12	74	500	460	7.57	52	#N/A	3.8	32.2	2	-0.5	0.02	25.7	0.025	-0.00002	0.000065	0.028	-0.00001	-0.000005	-0.05	-0.000005	7.79	-0.0001	0.000006	0.000367	0.0069	0.000099	-0.0005	1.51	0.00398	-0.01
24-Aug-12	75	500	465	7.66	53																									
31-Aug-12	76	500	485	7.63	53	#N/A	3.7	34.3	2	-0.5	0.019	26	0.0295	-0.00002	0.000053	0.0279	-0.00001	-0.000005	-0.05	-0.000005	7.89	-0.0001	0.00001	0.000517	0.0067	0.000013	-0.0005	1.53	0.00369	-0.01
7-Sep-12	77	500	480	7.57	50																									
14-Sep-12	78	500	490	7.46	52	#N/A	3.4	32.6	2	-0.5	0.019	26.1	0.0179	-0.00002	0.000265	0.0277	-0.00001	-0.000005	-0.05	-0.000005	7.87	0.00013	0.000006	0.000269	0.0055	0.000032	-0.0005	1.56	0.00293	-0.01
21-Sep-12	79	500	510	7.59	58																									
28-Sep-12	80	500	470	7.53	50	#N/A	2.9	34.4	2	-0.5	0.02	24	0.0181	-0.00002	0.000053	0.0277	-0.00001	-0.000005	-0.05	-0.000005	7.28	0.00023	0.000007	0.00318	0.0039	0.00004	-0.0005	1.4	0.00279	-0.01
5-Oct-12	81	500	460	7.77	50																									
12-Oct-12	82	500	470	7.56	53	#N/A	5.3	35.0	2	-0.5	0.023	27	0.021	-0.00002	0.000064	0.0288	-0.00001	-0.000005	-0.05	-0.000005	8.24	-0.0001	-0.000005	0.00046	0.0046	0.000005	-0.0005	1.55	0.0032	-0.01
19-Oct-12	83	500	480	7.65	51																									
26-Oct-12	84	500	475	7.57	50	#N/A	3.0	33.2	2	-0.5	0.02	24.1	0.0165	-0.00002	0.000042	0.0258	-0.00001	-0.000005	-0.05	-0.000005	7.41	-0.0001	0.000005	0.000295	0.0038	0.000023	-0.0005	1.36	0.00249	-0.01
2-Nov-12	85	500	480	7.61	51																									
9-Nov-12	86	500	490	7.58	50	#N/A	4.9	36.5	3	-0.5	0.021	25.8	0.0124	-0.00002	0.000079	0.0279	-0.00001	-0.000005	-0.05	-0.000005	7.83	-0.0001	0.000008	0.000347	0.0022	0.000014	-0.0005	1.53	0.00301	-0.01
16-Nov-12	87	500	500	7.64	52																									
23-Nov-12	88	500	485	7.66	52	#N/A	3.7	32.9	3	-0.5	0.019	26.6	0.0184	-0.00002	0.000134	0.0253	-0.00001	-0.000005	-0.05	-0.000005	8.09	-0.0001	-0.000005	0.000341	0.005	0.000011	-0.0005	1.56	0.00265	-0.01
30-Nov-12	89	500	505	7.60	53																									
7-Dec-12	90	500	465	7.78	51	#N/A	6.0	36.6	2	-0.5	0.022	26.2	0.0334	-0.00002	0.000169	0.0274	-0.00001	-0.000005	-0.05	-0.000005	8.05	-0.0001	-0.000005	0.00041	0.0052	0.000005	-0.0005	1.49	0.00312	-0.01
14-Dec-12	91	500	485	7.83	46																									
21-Dec-12	92	500	470	7.64	58	#N/A	3.7	37.9	-2	-0.5	0.022	27	0.0248	-0.00002	0.000096	0.0284	-0.00001	-0.000005	-0.05	0.000008	8.45	-0.0001	0.000008	0.000105	0.0067	0.000381	-0.0005	1.43	0.00362	-0.01
28-Dec-12	93	500	465	7.61	60																									
4-Jan-13	94	500	485	7.76	51	#N/A	4.8	36.3	-2	0.69	0.023	26.1	0.0353	-0.00002	0.000108	0.0294	-0.00001	-0.000005	-0.05	-0.000005	8	#N/A	0.000009	0.000244	0.0042	0.000044	-0.0005	1.49	0.00318	-0.01
11-Jan-13	95	500	485	7.62	49																									
18-Jan-13	96	500	455	7.65	52	#N/A	2.7	35.6	-2	-0.5	0.018	25.5	0.0233	-0.00002	0.000063	0.0267	-0.00001	-0.000005	-0.05	-0.000005	7.67	-0.0001	0.000007	0.000137	0.0071	0.000016	-0.0005	1.54	0.00338	-0.01
25-Jan-13	97	500	470	7.52	55																									
1-Feb-13	98	500	435	7.80	50	#N/A	3.3	32.3	2	0.52	0.026	23.8	0.0226	-0.00002	0.000172	0.0238	-0.00001	-0.000005	-0.05	0.000005	7.18	-0.0001	-0.000005	0.000154	0.0046	0.000013	-0.0005	1.41	0.00258	-0.01
8-Feb-13	99	500	455	7.86	49																									
15-Feb-13	100	500	455	7.60	51	#N/A	3.0	30.3	2	-0.5	0.02	23.5	0.0206	-0.00002	0.000096	0.0243	-0.00001	-0.000005	-0.05	-0.000005	7.05	-0.0001	0.000006	0.000076	0.0036	-0.000005	-0.0005	1.43	0.00315	-0.01
22-Feb-13	101	500	440	7.88	50																									
1-Mar-13	102	500	450	7.73	49	#N/A	5.4	33.4	3	0.59	0.016	23	0.0258	-0.00002	0.000057	0.0239	-0.00001	-0.000005	-0.05	-0.000005	6.92	-0.0001	-0.000005	-0.00005	0.0054	-0.000005	-0.0005	1.38	0.00294	-0.01
8-Mar-13	103	500	450	7.58	39																									
15-Mar-13	104	500	445	7.64	48	#N/A	5.4	30.0	2	-0.5	0.015	23.1	0.021	-0.00002	0.000097	0.0246	-0.00001	-0.000005	-0.05	0.000009	7.01	-0.0001	0.000005	0.000202	0.0034	0.00002	-0.0005	1.37	0.00319	-0.01
22-Mar-13	105	500	455	7.78	45																									
29-Mar-13	106	500	450	7.66	49	#N/A	3.5	28.9	2	0.69	0.017	24.9	0.0191	-0.00002	0.000053	0.0256	-0.00001	-0.000005	-0.05	-0.000005	7.69	0.00011	0.000005	0.00138	0.0047	0.000076	-0.0005	1.37	0.00355	-0.01
5-Apr-13	107	500	440	7.73	47																									
12-Apr-13	108	500	450	7.75	50	#N/A	6.0	31.2	2	-0.5	0.017	21.8	0.0221	-0.00002	0.000073	0.0242	-0.00001	-0.000005	-0.05	-0.000005	6.57	-0.0001	0.000005	0.00141	0.005	0.000018	-0.0005	1.3	0.00297	-0.01
19-Apr-13	109	500	450	7.80	51																									
26-Apr-13	110	500	445	7.62	49	#N/A	3.5	28.0	2	-0.5	0.018	22.6	0.0293	-0.00002	0.000073	0.0262	-0.00001	-0.000005	-0.05	-0.000005	6.88	-0.0001	-0.000005	0.000111	0.0074	-0.000005	-0.0005	1.31	0.00375	-0.01
3-May-13	111	500	435	7.68	50																									
10-May-13	112	500	420	7.36	54	#N/A	4.3	30.5	2	-0.5	0.017	23.8	0.0231	-0.00002	0.000258	0.0225	-0.00001	-0.000005	-0.05	-0.000005	7.26	-0.0001	-0.000005	0.000106	0.0043	-0.000005	-0.0005	1.36	0.00395	-0.01
17-May-13	113	500	450	7.89	54																									
24-May-13	114	500	430	7.66	50	#N/A	4.4	30.5	2																					

Sept 16/11 As=0.00146, repeat=0.00166. Data confirmed, suspect contamination
Jul 22/11 Ni=0.00028, repeat=0.00028. data confirmed, suspect contamination
Mar 16/12 Cr=0.0009, repeat=0.0009. Data confirmed, suspect contamination
Mar 2/12 Pb=0.000266, repeat=0.00026. Data confirmed, suspect contamination
Apr 27/12 Ni=0.000144, repeat=0.000114. Data accepted
Jul 20/12 Al=0.0577, Zn=0.00254. Repeat Al=0.0606, Zn=0.00221. Data confirmed, suspect contamination or analytical error
Jan 4/13 Cr=0.00139, repeat=0.00139. Data confirmed, suspect contamination
Sept 28/12 Ni=0.000571, repeat confirms original result, suspect contamination
Dec 7/12 Zn=0.00462, repeat=0.00089, Data accepted

HC 13

Sample = 09SWC419 15-18

Date	Cycle No.	Mo mg/L	Ni mg/L	P mg/L	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L
22-Jun-12	66	0.000095	0.000035	-0.002	1	-0.00004	0.764	-0.000005	0.095	0.0409	-10	-0.000002	-0.0002	-0.0005	0.0000281	0.00063	0.00029	-0.0001
29-Jun-12	67																	
6-Jul-12	68	0.000071	-0.00002	-0.002	0.99	-0.00004	0.752	-0.000005	0.118	0.0383	-10	-0.000002	0.00027	-0.0005	0.0000265	0.00071	0.00115	-0.0001
13-Jul-12	69																	
20-Jul-12	70	0.000065	0.000074	-0.002	0.975	-0.00004	0.801	-0.000005	0.105	0.0422	-10	-0.000002	-0.0002	-0.0005	0.0000305	0.00077	#N/A	-0.0001
27-Jul-12	71																	
3-Aug-12	72	-0.00005	0.000099	-0.002	1.09	-0.00004	0.699	-0.000005	0.125	0.0412	-10	0.000002	-0.0002	-0.0005	0.000027	0.00054	0.00042	-0.0001
10-Aug-12	73																	
17-Aug-12	74	0.000078	0.000072	-0.002	1.16	-0.00004	0.673	-0.000005	0.129	0.0435	-10	0.000002	0.00074	-0.0005	0.000027	0.00058	0.001	-0.0001
24-Aug-12	75																	
31-Aug-12	76	0.000061	0.000079	-0.002	1.14	-0.00004	0.711	-0.000005	0.135	0.0446	-10	-0.000002	-0.0002	-0.0005	0.000031	0.00046	0.00027	-0.0001
7-Sep-12	77																	
14-Sep-12	78	0.000076	0.000084	-0.002	1.06	-0.00004	0.747	-0.000005	0.112	0.0425	-10	0.000002	-0.0002	-0.0005	0.000031	0.00049	0.00061	-0.0001
21-Sep-12	79																	
28-Sep-12	80	0.000056	#N/A	0.0026	0.992	-0.00004	0.671	-0.000005	0.126	0.0395	-10	0.000002	0.00047	-0.0005	0.000027	0.00051	0.00043	-0.0001
5-Oct-12	81																	
12-Oct-12	82	0.000058	-0.00002	-0.002	1.17	-0.00004	0.75	-0.000005	0.099	0.0441	-10	-0.000002	-0.0002	-0.0005	0.000029	0.00021	0.00018	-0.0001
19-Oct-12	83																	
26-Oct-12	84	-0.00005	0.000048	0.0056	1.02	-0.00004	0.663	-0.000005	0.077	0.0423	-10	-0.000002	-0.0002	-0.0005	0.000026	0.00045	0.00025	-0.0001
2-Nov-12	85																	
9-Nov-12	86	0.000085	0.00012	-0.002	1.1	-0.00004	0.703	-0.000005	0.151	0.042	-3	0.000002	0.00039	-0.0005	0.000028	0.00054	0.00051	-0.0001
16-Nov-12	87																	
23-Nov-12	88	0.000054	0.000109	-0.002	1.07	-0.00004	0.755	-0.000005	0.094	0.0401	-3	-0.000002	0.0004	-0.0005	0.000026	0.00045	0.00066	-0.0001
30-Nov-12	89																	
7-Dec-12	90	0.000077	0.000128	-0.002	1.07	-0.00004	0.662	-0.000005	0.097	0.0417	-3	-0.000002	-0.0002	-0.0005	0.000029	0.00073	0.00089	-0.0001
14-Dec-12	91																	
21-Dec-12	92	0.000058	0.000056	-0.002	1.06	-0.00004	0.676	-0.000005	0.086	0.0455	-3	0.000003	-0.0002	-0.0005	0.000029	0.00057	0.00089	-0.0001
28-Dec-12	93																	
4-Jan-13	94	0.00005	0.000107	-0.002	1.08	-0.00004	0.646	-0.000005	0.189	0.0432	-3	-0.000002	-0.0002	-0.0005	0.000022	0.00049	0.00073	-0.0001
11-Jan-13	95																	
18-Jan-13	96	0.000056	0.000082	-0.002	1.09	-0.00004	0.714	-0.000005	0.085	0.0407	-3	-0.000002	-0.0002	-0.0005	0.000033	0.00045	0.00018	-0.0001
25-Jan-13	97																	
1-Feb-13	98	0.000062	0.000027	-0.002	1.06	-0.00004	0.672	-0.000005	0.098	0.0389	-3	-0.000002	-0.0002	-0.0005	0.000026	0.00065	0.00055	-0.0001
8-Feb-13	99																	
15-Feb-13	100	0.000061	-0.00002	0.0021	1.12	-0.00004	0.607	-0.000005	0.096	0.0381	-3	-0.000002	-0.0002	-0.0005	0.000025	0.00055	0.00015	-0.0001
22-Feb-13	101																	
1-Mar-13	102	-0.00005	-0.00002	-0.002	1.07	-0.00004	0.657	-0.000005	0.083	0.0376	-3	-0.000002	-0.0002	-0.0005	0.000022	0.00055	0.00012	-0.0001
8-Mar-13	103																	
15-Mar-13	104	-0.00005	0.000022	-0.002	1.07	-0.00004	0.596	-0.000005	0.081	0.0375	-3	-0.000002	0.00022	-0.0005	0.000023	0.0004	0.00025	-0.0001
22-Mar-13	105																	
29-Mar-13	106	-0.00005	0.000024	-0.002	1.15	-0.00004	0.658	-0.000005	0.102	0.0398	-3	-0.000002	0.00096	-0.0005	0.000022	0.00049	0.00078	-0.0001
5-Apr-13	107																	
12-Apr-13	108	-0.00005	-0.00002	-0.002	1.04	-0.00004	0.544	-0.000005	0.075	0.0377	-3	-0.000002	-0.0002	0.00091	0.000023	0.00084	0.00095	-0.0001
19-Apr-13	109																	
26-Apr-13	110	-0.00005	-0.00002	-0.002	1.06	-0.00004	0.519	0.000008	0.093	0.0374	-3	-0.000002	-0.0002	-0.0005	0.000022	0.00033	0.0001	-0.0001
3-May-13	111																	
10-May-13	112	-0.00005	-0.00002	-0.002	1.07	-0.00004	0.552	-0.000005	0.104	0.0373	-3	0.000005	-0.0002	-0.0005	0.000021	0.00058	0.00015	-0.0001
17-May-13	113																	
24-May-13	114																	

HC 14

CONFIDENTIAL *DRAFT*

Sample = Blank

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L
18-Mar-11	0	500	480	7.23	-1	#N/A	2.0	1.9	3	-0.5	-0.01	-0.5	0.0014	-0.00002	-0.00002	0.00041	-0.00001	-0.000005	-0.05	-0.000005	0.1	-0.0001	-0.000005	0.00027	-0.001	0.000019	-0.0005	-0.05	0.00024	-0.01
25-Mar-11	1	500	525	7.95	2																									
1-Apr-11	2	500	475	7.92	-1	#N/A	3.1	2.6	-2	-0.5	0.02	-0.5	0.0015	-0.00002	-0.00002	0.00011	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.00071	-0.001	0.000036	-0.0005	-0.05	0.00013	-0.01
8-Apr-11	3	500	480	7.83	-1																									
15-Apr-11	4	500	475	6.49	-1	#N/A	1.9	1.7	-2	-0.5	0.01	-0.5	0.0019	-0.00002	-0.00002	0.00046	-0.00001	-0.000005	-0.05	-0.000005	0.06	-0.0001	0.000006	0.00206	-0.001	0.000011	-0.0005	-0.05	0.00025	-0.01
22-Apr-11	5	500	485	7.65	1																									
29-Apr-11	6	500	490	6.96	-1	#N/A	3.3	1.4	-2	-0.5	-0.01	-0.5	0.001	-0.00002	-0.00002	0.00015	-0.00001	-0.000005	-0.05	-0.000005	0.05	-0.0001	-0.000005	0.00108	-0.001	0.000013	-0.0005	-0.05	0.00017	-0.01
6-May-11	7	500	475	6.81	-1																									
13-May-11	8	500	465	6.61	-1	#N/A	2.4	1.6	-2	-0.5	0.01	-0.5	0.0012	-0.00002	0.00002	0.00006	-0.00001	-0.000005	-0.05	-0.000005	0.06	-0.0001	-0.000005	0.00031	-0.001	0.000006	-0.0005	-0.05	0.00009	-0.01
20-May-11	9	500	500	7.01	-1																									
27-May-11	10	500	505	7.64	-1	#N/A	3.8	2.4	-2	-0.5	-0.01	-0.5	0.0012	-0.00002	-0.00002	0.0042	-0.00001	-0.000005	-0.05	-0.000005	0.06	-0.0001	0.000009	0.00134	0.002	0.000027	-0.0005	-0.05	0.00019	-0.01
3-Jun-11	11	500	490	6.16	-1																									
10-Jun-11	12	500	510	6.00	1	#N/A	1.8	1.0	-2	0.6	-0.01	-0.5	0.0034	-0.00002	-0.00002	0.0003	-0.00001	-0.000005	-0.05	0.000009	-0.05	-0.0001	0.000021	0.00222	0.001	0.000028	-0.0005	-0.05	0.00023	-0.01
17-Jun-11	13	500	495	6.19	2																									
24-Jun-11	14	500	475	6.50	-1	#N/A	2.2	1.3	-2	-0.5	-0.01	-0.5	0.0007	-0.00002	-0.00002	0.00005	-0.00001	-0.000005	-0.05	-0.000005	0.05	-0.0001	-0.000005	0.00049	#N/A	-0.000005	-0.0005	-0.05	0.00015	-0.01
1-Jul-11	15	500	500	7.39	-1																									
8-Jul-11	16	500	480	6.47	-1	#N/A	2.1	1.0	-2	-0.5	0.02	-0.5	0.0014	-0.00002	-0.00002	0.00008	-0.00001	-0.000005	-0.05	-0.000005	0.05	-0.0001	-0.000005	0.00022	-0.001	-0.000005	-0.0005	-0.05	-0.00005	-0.02
15-Jul-11	17	500	525	7.59	-1																									
22-Jul-11	18	500	525	7.06	-1	#N/A	2.6	1.0	-2	-0.5	-0.01	-0.5	0.0019	-0.00002	-0.00002	0.00036	-0.00001	-0.000005	-0.05	-0.000005	0.05	-0.0001	0.000012	0.0011	-0.001	0.000011	-0.0005	-0.05	0.0002	-0.01
29-Jul-11	19	500	525	7.04	-1																									
5-Aug-11	20	500	525	6.66	-1	#N/A	2.5	1.2	-2	-0.5	-0.01	-0.5	0.0012	-0.00002	-0.00002	0.00046	-0.00001	-0.000005	-0.05	-0.000005	0.07	0.0002	0.00002	0.00234	-0.001	0.000006	-0.0005	-0.05	0.00024	-0.01
12-Aug-11	21	500	495	7.87	-1																									
19-Aug-11	22	500	525	7.03	-1	#N/A	2.7	1.5	-2	0.8	-0.01	-0.5	0.0011	-0.00002	-0.00002	0.00018	-0.00001	-0.000005	-0.05	0.000005	-0.05	-0.0001	0.000011	0.00114	-0.001	-0.000005	-0.0005	-0.05	0.00007	-0.01
26-Aug-11	23	500	520	7.36	-1																									
2-Sep-11	24	500	490	7.54	-1	#N/A	2.6	2.9	-2	-0.5	-0.01	-0.5	0.0006	-0.00002	-0.00002	0.0001	-0.00001	-0.000005	-0.05	0.000008	-0.05	-0.0001	-0.000005	0.0005	-0.001	-0.000005	-0.0005	-0.05	0.00007	-0.01
9-Sep-11	25	500	525	7.40	-1																									
16-Sep-11	26	500	505	6.76	-1	#N/A	2.9	2.0	-2	0.8	-0.01	-0.5	0.0009	-0.00002	-0.00002	0.00007	-0.00001	-0.000005	-0.05	#N/A	-0.05	-0.0001	0.000007	0.0002	-0.001	-0.000005	-0.0005	-0.05	0.00009	-0.01
23-Sep-11	27	500	515	6.60	-1																									
30-Sep-11	28	500	505	6.27	-1	#N/A	2.3	1.5	-2	-0.5	-0.01	-0.5	0.0015	-0.00002	-0.00002	0.00003	-0.00001	-0.000005	-0.05	0.000014	-0.05	-0.0001	-0.000005	0.00019	-0.001	-0.000005	-0.0005	-0.05	-0.00005	-0.01
7-Oct-11	29	500	505	7.16	-1																									
14-Oct-11	30	500	515	6.27	-1	#N/A	2.3	1.5	-2	-0.5	-0.01	-0.5	0.0006	-0.00002	-0.00002	0.00011	-0.00001	-0.000005	-0.05	0.000013	-0.05	-0.0001	-0.000005	0.00042	-0.001	-0.000005	-0.0005	-0.05	-0.00005	-0.01
21-Oct-11	31	500	515	7.51	-1																									
28-Oct-11	32	500	480	6.58	-1	#N/A	3.0	1.7	-2	-0.5	-0.01	-0.5	0.0031	-0.00002	-0.00002	0.0001	-0.00001	-0.000005	-0.05	0.000006	-0.05	0.0002	-0.000005	0.00049	0.008	0.000013	-0.0005	-0.05	0.00007	-0.01
4-Nov-11	33	500	505	6.69	-1																									
11-Nov-11	34	500	520	7.90	-1	#N/A	3.2	3.1	-2	-0.5	0.01	-0.5	0.001	-0.00002	-0.00002	0.00011	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.00056	-0.001	0.000012	-0.0005	-0.05	0.00006	-0.01
18-Nov-11	35	500	510	6.88	-1																									
25-Nov-11	36	500	495	7.20	-1	#N/A	2.6	2.4	-2	-0.5	-0.01	-0.5	0.0019	-0.00002	-0.00002	0.00007	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.00035	0.004	0.000015	-0.0005	-0.05	0.00013	-0.01
2-Dec-11	37	500	505	7.13	-1																									
9-Dec-11	38	500	490	6.76	-1	#N/A	2.9	1.8	-2	-0.5	-0.01	-0.5	0.0014	-0.00002	-0.00002	0.0001	-0.00001	-0.000005	-0.05	-0.000005	-0.05	0.0005	-0.000005	0.00061	0.001	0.000026	-0.0005	-0.05	0.00008	-0.01
16-Dec-11	39	500	500	7.66	-1																									
23-Dec-11	40	500	495	7.10	-1	#N/A	3.3	2.3	-2	-0.5	-0.01	-0.5	0.0187	-0.00002	-0.00002	0.00118	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.0001	0.002	0.000024	-0.0005	-0.05	0.00007	-0.01
30-Dec-11	41	500	485	7.63	-1																									
6-Jan-12	42	500	495	6.10	-1	#N/A	2.8	1.3	-2	-0.5	-0.01	-0.5	0.0004	-0.00002	-0.00002	0.00007	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.00037	-0.001	0.000006	-0.0005	-0.05	-0.00005	-0.01
13-Jan-12	43	500	490	7.33	-1																									
20-Jan-12	44	500	505	6.64	1	#N/A	2.5	2.0	-2	-0.5	-0.01	-0.5	0.0009	-0.00002	-0.00002	0.0002	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.00029	0.001	0.000013	-0.0005	-0.05	-0.00005	-0.01
27-Jan-12	45	500	500	6.81	-1																									
3-Feb-12	46	500	510	7.48	-1	#N/A	3.9	2.4	-2	-0.5	-0.01	-0.5	0.0013	-0.00002	-0.00002	0.00004	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.00021	-0.001	0.000007	-0.0005	-0.05	-0.00005	-0.01
10-Feb-12	47	500	500	7.63	-1																									
17-Feb-12	48	500	495	6.54	-1	#N/A	2.2	1.6	-2	-0.5	-0.01	-0.5	0.0015	-0.00002	0.00003	0.00007	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.00042	0.001	0.000006	-0.0005	-0.05	0.00008	-0.01
24-Feb-12	49	500	480	6.68	-1																									
2-Mar-12	50	500	495	7.40	-1	#N/A	5.1	2.6	-2	-0.5	-0.01	-0.5	0.0023	-0.00002	-0.00002	0.00011	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.00024	-0.001	0.000005	-0.0005	-0.05	0.00006	-0.01
9-Mar-12	51	500	500	7.24	-1																									
16-Mar-12	52	500	500	6.51	-1	#N/A	2.7	1.4	-2	-0.5	-0.01	-0.5	0.001	-0.00002	-0.00002	0.00009	-0.00001	-0.000005	-0.05	-0.000005	-0.05	0.0004	-0.000005	0.0008	0.001	0.000011	-0.0005	-0.05	0.0004	-0.01
23-Mar-12	53	500	495	7.39	-1																									
30-Mar-12	54	500	500	6.03	-1	#N/A	2.8	1.4	-2	-0.5	-0.01	-0.5	0.001	-0.00002	-0.00002	0.00006	-0.00001	-0.000005	-0.05	-0.000005	-0.05	0.0001	-0.000005	0.00019	0.001	0.000006	-0.0005	-0.05	0.00007	-0.01
6-Apr-12	55	500	490	6.73	-1																									
13-Apr-12	56	500	500	6.52	-1	#N/A	2.3	1.7	-2	-0.5	-0.01	-0.5	0.0006	-0.00002	-0.00002	0.00008	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.0001	-0.001	-0.000005	-0.0005	-0.05	-0.00005	-0.01
20-Apr-12	57	500	495	6.88	-1																									
27-Apr-12	58	500	500	5.89	-1	#N/A	3.2	2.4	-2	-0.5	-0.01	-0.5	0.00112	-0.00002	0.000024	0.000076	-0.00001	-0.000005	-0.05	-0.000005	-0.05	0.00014	0.000006	0.000609	-0.001	0.000021	-0.0005	-0.05	0.000075	-0.01
4-May-12	59	500	495	7.67	-1																									
11-May-12	60	500	500	6.81	-1	#N/A	3.0	1.9	-2	-0.5	-0.01	-0.5	0.00047	-0.00002	-0.00002	0.000056	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.000133	-0.001	0.000014	-0.0005	-0.05	0.000111	-0.01
18-May-12	61	500	490	6.78	-1																									
25-May-12	62	500	510	6.38	-1	#N/A	2.5	1.6	-2	-0.5	-0.01	-0.5	0.00066	-0.00002	-0.00002	0.000068	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.000435	0.0011	-0.000005	-0.0005	-0.05	0.000054	-0.01
1-Jun-12	63	500	525	6.84	-1																									
8-Jun-12	64	500	495	6.65	-1	#N/A	3.0	2.0	-2	-0.5	-0.01	-0.5	-0.0002	-0.00002	0.000024	0.00004	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	-0.00005	-0.001	-0.000005	-0.0005	-0.05	-0.00005	-0.01
15-Jun-12	65	500	500	6.86	-1																									
22-Jun-12	66	500	485	6.61	-1	#N/A	3.5	2.1	-2	-0.5	-0.01	-0.5	0.00062	-0.00002	-0.00002	0.000085	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.000146	-0.001	0.0000059	-0.0005	-0.05	0.000059	-0.01

HC 14

Sample = Blank

Date	Cycle No.	Mo	Ni	P	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
18-Mar-11	0	0.00011	0.00014	-0.002	-0.05	-0.00004	-0.1	-0.000005	0.06	0.00021	-10	-0.000002	0.00003	-0.0005	-0.000002	-0.0002	0.0018	-0.0001
25-Mar-11	1																	
1-Apr-11	2	-0.00005	0.0001	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-10	-0.000002	0.00009	-0.0005	-0.000002	-0.0002	0.0005	-0.0001
8-Apr-11	3																	
15-Apr-11	4	-0.00005	0.00011	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	0.00011	-10	-0.000002	0.00012	-0.0005	-0.000002	-0.0002	0.001	-0.0001
22-Apr-11	5																	
29-Apr-11	6	-0.00005	0.00008	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	0.0001	-10	-0.000002	0.00007	-0.0005	-0.000002	-0.0002	0.0006	-0.0001
6-May-11	7																	
13-May-11	8	-0.00005	0.00009	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	0.00009	-10	-0.000002	0.00005	-0.0005	-0.000002	-0.0002	0.0003	-0.0001
20-May-11	9																	
27-May-11	10	-0.00005	0.00021	-0.002	0.07	-0.00004	-0.1	-0.000005	0.08	0.00013	-10	-0.000002	0.00008	-0.0005	-0.000002	-0.0002	0.0012	-0.0001
3-Jun-11	11																	
10-Jun-11	12	0.0001	0.00006	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	0.00013	-10	-0.000002	0.00003	-0.0005	-0.000002	-0.0002	0.0013	-0.0001
17-Jun-11	13																	
24-Jun-11	14	-0.00005	0.00013	-0.002	-0.05	-0.00004	-0.1	-0.000005	0.08	0.0001	-10	-0.000002	0.00001	-0.0005	-0.000002	-0.0002	-0.0001	-0.0001
1-Jul-11	15																	
8-Jul-11	16	-0.00005	0.00005	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	0.00006	-10	-0.000002	-0.00001	-0.0005	-0.000002	-0.0002	0.0002	-0.0001
15-Jul-11	17																	
22-Jul-11	18	-0.00005	0.00016	-0.002	-0.05	-0.00004	-0.1	0.000007	0.07	0.00015	-10	-0.000002	0.00002	-0.0005	-0.000002	-0.0002	0.0013	-0.0001
29-Jul-11	19																	
5-Aug-11	20	-0.00005	0.00015	-0.002	-0.05	-0.00004	-0.1	0.000008	0.06	0.00026	-10	-0.000002	0.00004	-0.0005	-0.000002	-0.0002	#N/A	-0.0001
12-Aug-11	21																	
19-Aug-11	22	-0.00005	0.00004	-0.002	-0.05	-0.00004	-0.1	0.000007	-0.05	0.0001	-10	-0.000002	-0.00001	-0.0005	-0.000002	0.0004	0.0009	-0.0001
26-Aug-11	23																	
2-Sep-11	24	-0.00005	0.00003	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-10	-0.000002	0.00002	-0.0005	-0.000002	-0.0002	0.0004	-0.0001
9-Sep-11	25																	
16-Sep-11	26	-0.00005	-0.00002	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-10	-0.000002	0.00001	-0.0005	-0.000002	-0.0002	0.0004	-0.0001
23-Sep-11	27																	
30-Sep-11	28	-0.00005	-0.00002	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-10	-0.000002	#N/A	-0.0005	-0.000002	-0.0002	0.0002	-0.0001
7-Oct-11	29																	
14-Oct-11	30	-0.00005	-0.00002	-0.002	-0.05	-0.00004	-0.1	0.000006	0.05	-0.00005	-10	-0.000002	0.00001	-0.0005	-0.000002	-0.0002	0.0008	-0.0001
21-Oct-11	31																	
28-Oct-11	32	-0.00005	0.00005	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-10	-0.000002	0.00031	-0.0005	-0.000002	-0.0002	0.0003	-0.0001
4-Nov-11	33																	
11-Nov-11	34	-0.00005	0.0001	-0.002	-0.05	-0.00004	-0.1	-0.000005	0.06	0.00008	-10	-0.000002	0.00012	-0.0005	-0.000002	-0.0002	0.0003	-0.0001
18-Nov-11	35																	
25-Nov-11	36	-0.00005	0.00012	-0.002	-0.05	-0.00004	-0.1	-0.000005	0.06	0.00008	-10	-0.000002	0.00015	-0.0005	-0.000002	-0.0002	0.0004	-0.0001
2-Dec-11	37																	
9-Dec-11	38	-0.00005	0.00011	-0.002	-0.05	-0.00004	-0.1	-0.000005	0.06	0.00009	-10	-0.000002	0.00012	-0.0005	-0.000002	-0.0002	0.0002	-0.0001
16-Dec-11	39																	
23-Dec-11	40	-0.00005	0.00005	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	0.00047	-10	-0.000002	-0.00001	-0.0005	-0.000002	-0.0002	0.0004	-0.0001
30-Dec-11	41																	
6-Jan-12	42	-0.00005	-0.00002	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-10	-0.000002	0.00014	-0.0005	-0.000002	-0.0002	0.0003	-0.0001
13-Jan-12	43																	
20-Jan-12	44	-0.00005	0.00016	-0.002	-0.05	-0.00004	-0.1	-0.000005	0.08	0.00007	-10	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.0006	-0.0001
27-Jan-12	45																	
3-Feb-12	46	-0.00005	0.00002	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-10	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.0002	-0.0001
10-Feb-12	47																	
17-Feb-12	48	-0.00005	0.00007	-0.002	-0.05	-0.00004	-0.1	-0.000005	0.05	-0.00005	-10	-0.000002	-0.0002	-0.0005	-0.000002	0.0003	0.0001	-0.0001
24-Feb-12	49																	
2-Mar-12	50	-0.00005	0.00002	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-10	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.0001	-0.0001
9-Mar-12	51																	
16-Mar-12	52	-0.00005	0.00017	-0.002	-0.05	-0.00004	-0.1	-0.000005	0.14	0.00024	-10	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.0006	-0.0001
23-Mar-12	53																	
30-Mar-12	54	-0.00005	0.00017	-0.002	-0.05	-0.00004	-0.1	-0.000005	0.09	0.00007	-10	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.0006	-0.0001
6-Apr-12	55																	
13-Apr-12	56	-0.00005	-0.00002	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-10	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.0001	-0.0001
20-Apr-12	57																	
27-Apr-12	58	-0.00005	#N/A	-0.002	-0.05	-0.00004	-0.1	-0.000005	0.065	0.000069	-10	-0.000002	0.0003	-0.0005	-0.000002	0.00062	0.00094	-0.0001
4-May-12	59																	
11-May-12	60	-0.00005	0.00011	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	0.000087	-10	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.0003	-0.0001
18-May-12	61																	
25-May-12	62	-0.00005	0.000122	-0.002	-0.05	-0.00004	-0.1	-0.000005	0.072	0.000052	-10	-0.000002	0.00025	-0.0005	-0.000002	-0.0002	0.00043	-0.0001
1-Jun-12	63																	
8-Jun-12	64	-0.00005	-0.00002	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-10	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.00012	-0.0001
15-Jun-12	65																	
22-Jun-12	66	-0.00005	0.000029	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-10	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.00057	-0.0001

HC 14

CONFIDENTIAL DRAFT

Sample = Blank

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L
29-Jun-12	67	500	495	7.12	-1																									
6-Jul-12	68	500	490	6.71	-1	#N/A	3.8	2.2	-2	-0.5	-0.01	-0.5	0.00058	-0.00002	-0.00002	0.000046	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.000289	-0.001	-0.000005	-0.0005	-0.05	-0.00005	-0.01
13-Jul-12	69	500	500	6.98	-1																									
20-Jul-12	70	500	495	6.76	-1	#N/A	3.3	1.5	-2	-0.5	-0.01	-0.5	#N/A	-0.00002	-0.00002	0.000046	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.000163	0.0011	-0.000005	-0.0005	-0.05	-0.00005	-0.01
27-Jul-12	71	500	490	7.79	-1																									
3-Aug-12	72	500	490	7.00	-1	#N/A	2.9	1.7	-2	-0.5	-0.01	-0.5	0.00096	-0.00002	-0.00002	0.00011	-0.00001	0.000007	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.000832	0.0022	0.000059	-0.0005	-0.05	0.000133	-0.01
10-Aug-12	73	500	500	7.00	-1																									
17-Aug-12	74	500	500	6.54	-1	#N/A	3.5	2.3	-2	-0.5	-0.01	-0.5	0.0019	-0.00002	-0.00002	0.000139	-0.00001	-0.000005	-0.05	0.000006	-0.05	-0.0001	-0.000005	0.00197	0.0081	0.0034	-0.0005	-0.05	0.000118	-0.01
24-Aug-12	75	500	485	7.31	-1																									
31-Aug-12	76	500	500	6.95	-1	#N/A	3.3	2.4	-2	-0.5	-0.01	-0.5	0.00061	-0.00002	-0.00002	0.000047	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.000575	0.0022	0.000006	-0.0005	-0.05	-0.00005	-0.01
7-Sep-12	77	500	470	6.67	-1																									
14-Sep-12	78	500	495	6.01	-1	#N/A	2.5	1.4	-2	-0.5	-0.01	-0.5	0.00044	-0.00002	-0.00002	0.000116	-0.00001	-0.000005	-0.05	-0.000005	-0.05	0.00069	-0.000005	0.000553	-0.001	0.000008	-0.0005	-0.05	-0.00005	-0.01
21-Sep-12	79	500	500	6.99	-1																									
28-Sep-12	80	500	490	6.13	-1	#N/A	1.8	1.7	-2	-0.5	-0.01	-0.5	0.00074	-0.00002	-0.00002	0.000529	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.000442	0.0013	0.000008	-0.0005	-0.05	0.000053	-0.01
5-Oct-12	81	500	490	7.81	-1																									
12-Oct-12	82	500	515	6.82	-1	#N/A	3.5	1.7	-2	-0.5	-0.01	-0.5	0.00039	-0.00002	-0.00002	0.000078	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.000542	-0.001	0.000005	-0.0005	-0.05	-0.00005	-0.01
19-Oct-12	83	500	505	7.23	-1																									
26-Oct-12	84	500	500	6.40	-1	#N/A	2.8	1.8	-2	-0.5	-0.01	-0.5	0.00044	-0.00002	-0.00002	0.000057	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.000138	-0.001	0.000007	-0.0005	-0.05	-0.00005	-0.01
2-Nov-12	85	500	505	6.99	-1																									
9-Nov-12	86	500	510	7.17	-1	#N/A	3.9	2.4	-2	-0.5	-0.01	-0.5	0.00022	-0.00002	-0.00002	0.000088	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.000063	-0.001	0.000006	-0.0005	-0.05	-0.00005	-0.01
16-Nov-12	87	500	495	6.72	-1																									
23-Nov-12	88	500	495	7.05	-1	#N/A	3.1	2.5	-2	-0.5	0.01	-0.5	0.00024	-0.00002	-0.00002	0.00107	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.000346	-0.001	0.000012	-0.0005	-0.05	0.000097	-0.01
30-Nov-12	89	500	510	6.61	-1																									
7-Dec-12	90	500	490	7.77	-1	#N/A	3.9	3.2	-2	-0.5	-0.01	-0.5	-0.0002	-0.00002	-0.00002	0.000214	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.000593	0.0024	0.000009	-0.0005	-0.05	0.000068	-0.01
14-Dec-12	91	500	500	8.06	-1																									
21-Dec-12	92	500	490	7.07	-1	#N/A	3.2	1.7	-2	-0.5	-0.01	-0.5	0.00249	-0.00002	-0.00002	0.000086	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	0.000011	0.000138	0.0022	0.000013	-0.0005	-0.05	0.000055	-0.01
28-Dec-12	93	500	485	7.12	-1																									
4-Jan-13	94	500	505	7.65	-1	#N/A	3.2	3.0	-2	0.6	0.019	-0.5	0.00038	-0.00002	-0.00002	0.000081	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.000116	-0.001	-0.000005	-0.0005	-0.05	-0.00005	-0.01
11-Jan-13	95	500	510	7.22	-1																									
18-Jan-13	96	500	485	7.04	-1	#N/A	2.0	1.7	-2	-0.5	-0.01	-0.5	0.00045	-0.00002	-0.00002	0.000039	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.000091	-0.001	0.000007	-0.0005	-0.05	-0.00005	-0.01
25-Jan-13	97	500	490	7.13	-1																									
1-Feb-13	98	500	490	7.59	-1	#N/A	3.0	1.9	-2	-0.5	0.011	-0.5	0.0005	-0.00002	0.000024	0.000068	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.000168	-0.001	0.000036	-0.0005	-0.05	-0.00005	-0.01
8-Feb-13	99	500	515	8.08	-1																									
15-Feb-13	100	500	505	6.52	-1	#N/A	2.7	2.0	-2	-0.5	-0.01	-0.5	0.00039	-0.00002	-0.00002	0.000032	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	-0.00005	-0.001	-0.000005	-0.0005	-0.05	-0.00005	-0.01
22-Feb-13	101	500	485	7.98	-1																									
1-Mar-13	102	500	495	7.53	-1	#N/A	3.8	3.0	-2	-0.5	-0.01	-0.5	-0.0002	-0.00002	-0.00002	0.00003	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	-0.00005	-0.001	0.000006	-0.0005	-0.05	-0.00005	-0.01
8-Mar-13	103	500	490	7.13	-1																									
15-Mar-13	104	500	490	7.04	-1	#N/A	3.6	2.5	-2	-0.5	-0.01	-0.5	-0.0002	-0.00002	-0.00002	0.000048	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	-0.00005	-0.001	-0.000005	-0.0005	-0.05	-0.00005	-0.01
22-Mar-13	105	500	495	7.64	-1																									
29-Mar-13	106	500	495	6.46	-1	#N/A	2.3	1.9	-2	-0.5	-0.01	-0.5	-0.0002	-0.00002	-0.00002	0.000028	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	-0.00005	-0.001	-0.000005	-0.0005	-0.05	-0.00005	-0.01
5-Apr-13	107	500	490	7.53	-1																									
12-Apr-13	108	500	485	7.71	-1	#N/A	3.5	3.1	-2	-0.5	-0.01	-0.5	0.00023	-0.00002	0.000021	0.000025	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.000162	-0.001	-0.000005	-0.0005	-0.05	-0.00005	-0.01
19-Apr-13	109	500	495	7.75	-1																									
26-Apr-13	110	500	485	6.61	-1	#N/A	3.7	1.6	-2	-0.5	-0.01	-0.5	0.00077	-0.00002	-0.00002	0.000144	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	0.000095	-0.001	-0.000005	-0.0005	-0.05	-0.00005	-0.01
3-May-13	111	500	500	7.56	-1																									
10-May-13	112	500	485	6.61	-1	#N/A	3.4	1.9	-2	-0.5	-0.01	-0.5	-0.0002	-0.00002	-0.00002	0.000031	-0.00001	-0.000005	-0.05	-0.000005	-0.05	-0.0001	-0.000005	-0.00005	-0.001	-0.000005	-0.0005	-0.05	-0.00005	-0.01
17-May-13	113	500	490	8.02	-1																									
24-May-13	114	500	495	6.76	-1	#N/A	3.6	1.6	-2																					

June 24/11 Fe 0.014, repeat =0.009, data confirmed suspect contamination
June 10/11 Cu 0.00222. Repeat =0.00224 data confirmed, keep result.
Sept 30/11 Sn=0.0006, repeat=0.0003. data confirmed, suspect contamination
Aug 5/11 Zn=0.0015, repeat=0.0015. Data confirmed, suspect contamination
Sept 16/11 Cd=0.000021, repeat=0.00002. data confirmed, suspect contamination
Sept 2/11 Hardness=-10, repeat= -0.5. data accepted
Apr 27/12 As=0.000047, Ni=0.000543 repeat Ni=0.000573. Data confirmed, suspect contamination. Repeat As=0.000024. data accepted
Aug 3/12 Cl=25, repeat=<0.5
Jul 20/12 Al=0.0227, repeat=0.0264. Data confirmed, suspect contamination or analytical error
Aug 17/12 Cu=0.00197, Pb=0.0034, Sn=0.00119. repeat Cu=0.00208, Pb=0.00337, Sn=0.00215. Data confirmed suspect contamination
Dec 7/12 Ni=0.00145, repeat= 0.000051, data accepted

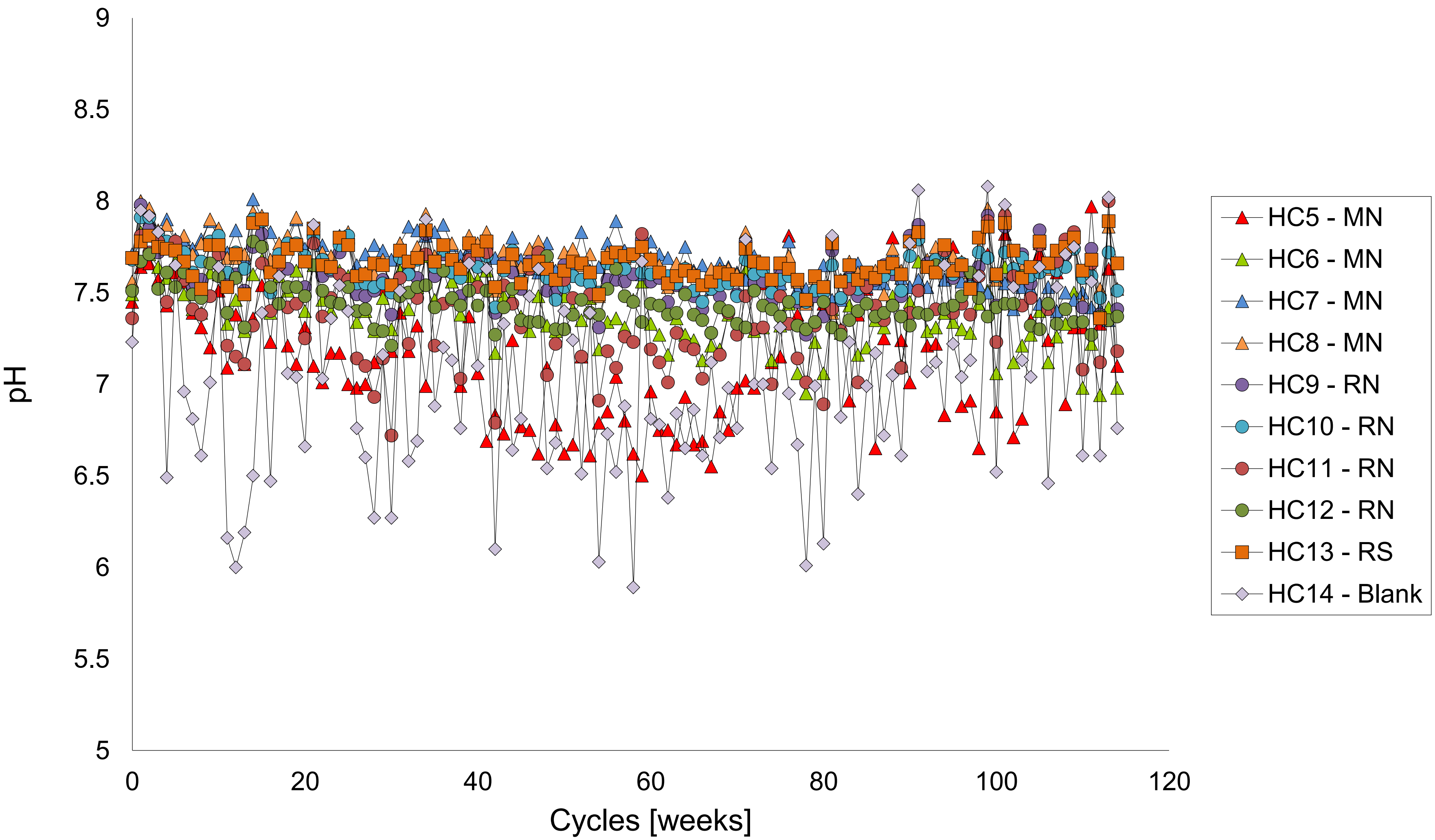
HC 14

Sample = Blank

Date	Cycle No.	Mo mg/L	Ni mg/L	P mg/L	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L
29-Jun-12	67																	
6-Jul-12	68	-0.00005	0.000021	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-10	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	-0.0001	-0.0001
13-Jul-12	69																	
20-Jul-12	70	-0.00005	0.000133	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-10	-0.000002	-0.0002	-0.0005	-0.000002	0.00025	0.0011	-0.0001
27-Jul-12	71																	
3-Aug-12	72	-0.00005	0.000066	-0.002	-0.05	-0.00004	-0.1	-0.000005	0.084	0.00013	-10	-0.000002	0.00022	-0.0005	-0.000002	-0.0002	0.0009	-0.0001
10-Aug-12	73																	
17-Aug-12	74	0.000065	0.000062	-0.002	-0.05	-0.00004	-0.1	-0.000005	0.052	-0.00005	-10	-0.000002	0.00119	-0.0005	-0.000002	-0.0002	0.00142	-0.0001
24-Aug-12	75																	
31-Aug-12	76	-0.00005	0.000053	-0.002	-0.05	-0.00004	-0.1	-0.000005	0.051	-0.00005	-10	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.00024	-0.0001
7-Sep-12	77																	
14-Sep-12	78	-0.00005	0.000063	0.0021	-0.05	-0.00004	-0.1	0.000005	0.069	0.000062	-10	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.00025	-0.0001
21-Sep-12	79																	
28-Sep-12	80	-0.00005	0.00006	-0.002	-0.05	-0.00004	-0.1	-0.000005	0.055	0.000587	-10	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.00016	-0.0001
5-Oct-12	81																	
12-Oct-12	82	-0.00005	-0.00002	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-10	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.00012	-0.0001
19-Oct-12	83																	
26-Oct-12	84	-0.00005	-0.00002	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-10	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.00041	-0.0001
2-Nov-12	85																	
9-Nov-12	86	-0.00005	0.00003	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-3	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.00047	-0.0001
16-Nov-12	87																	
23-Nov-12	88	-0.00005	0.000325	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	0.00006	-3	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.00162	-0.0001
30-Nov-12	89																	
7-Dec-12	90	-0.00005	0.000051	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-3	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.00119	-0.0001
14-Dec-12	91																	
21-Dec-12	92	-0.00005	0.000031	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-3	-0.000002	0.00033	-0.0005	-0.000002	-0.0002	0.00087	-0.0001
28-Dec-12	93																	
4-Jan-13	94	-0.00005	0.000063	-0.002	-0.05	-0.00004	-0.1	-0.000005	0.062	0.000096	-3	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.00021	-0.0001
11-Jan-13	95																	
18-Jan-13	96	-0.00005	0.000076	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-3	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.00052	-0.0001
25-Jan-13	97																	
1-Feb-13	98	-0.00005	0.000047	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-3	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.00034	-0.0001
8-Feb-13	99																	
15-Feb-13	100	-0.00005	0.000063	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-3	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.00033	-0.0001
22-Feb-13	101																	
1-Mar-13	102	-0.00005	-0.00002	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-3	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.00022	-0.0001
8-Mar-13	103																	
15-Mar-13	104	-0.00005	0.000024	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-3	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.00049	-0.0001
22-Mar-13	105																	
29-Mar-13	106	-0.00005	-0.00002	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-3	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.00019	-0.0001
5-Apr-13	107																	
12-Apr-13	108	-0.00005	-0.00002	-0.002	-0.05	-0.00004	-0.1	0.000006	-0.05	-0.00005	-3	-0.000002	-0.0002	0.00064	-0.000002	0.00086	0.00013	-0.0001
19-Apr-13	109																	
26-Apr-13	110	-0.00005	0.000035	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-3	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.00039	-0.0001
3-May-13	111																	
10-May-13	112	-0.00005	0.000031	-0.002	-0.05	-0.00004	-0.1	-0.000005	-0.05	-0.00005	-3	-0.000002	-0.0002	-0.0005	-0.000002	-0.0002	0.0002	-0.0001
17-May-13	113																	
24-May-13	114																	

Appendix D5

Phase V/VI HCT Results: Charts- Release Rates



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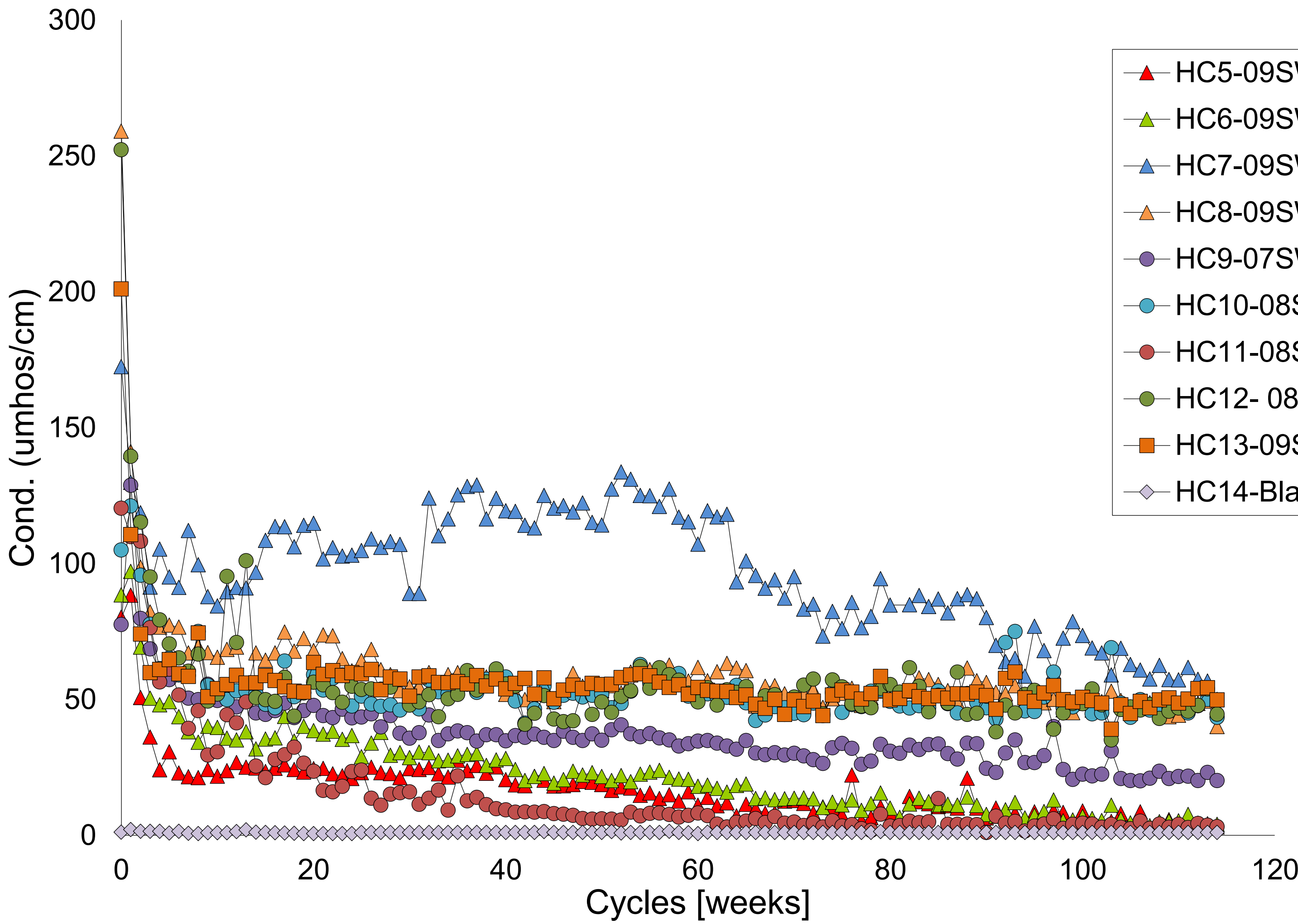

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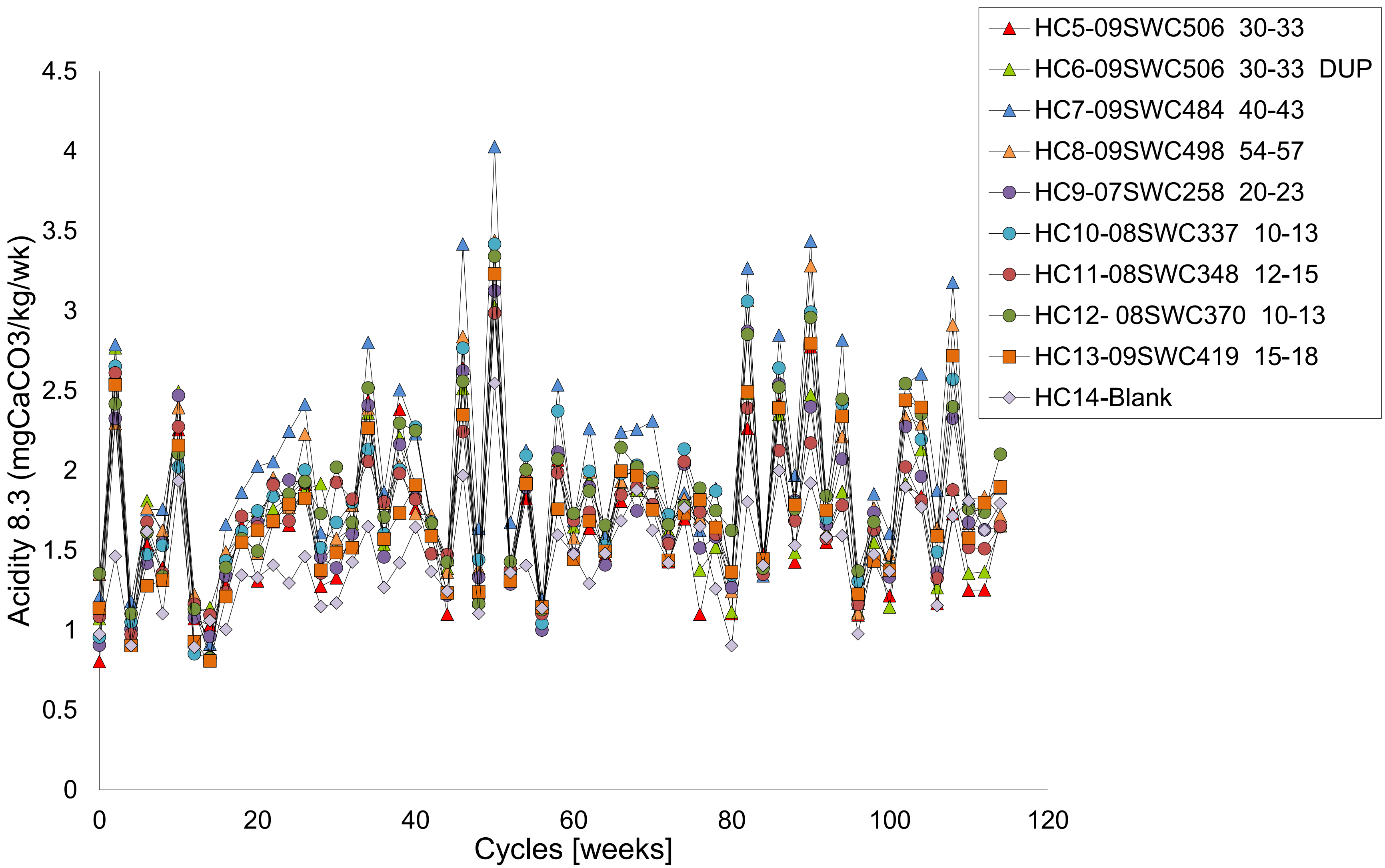

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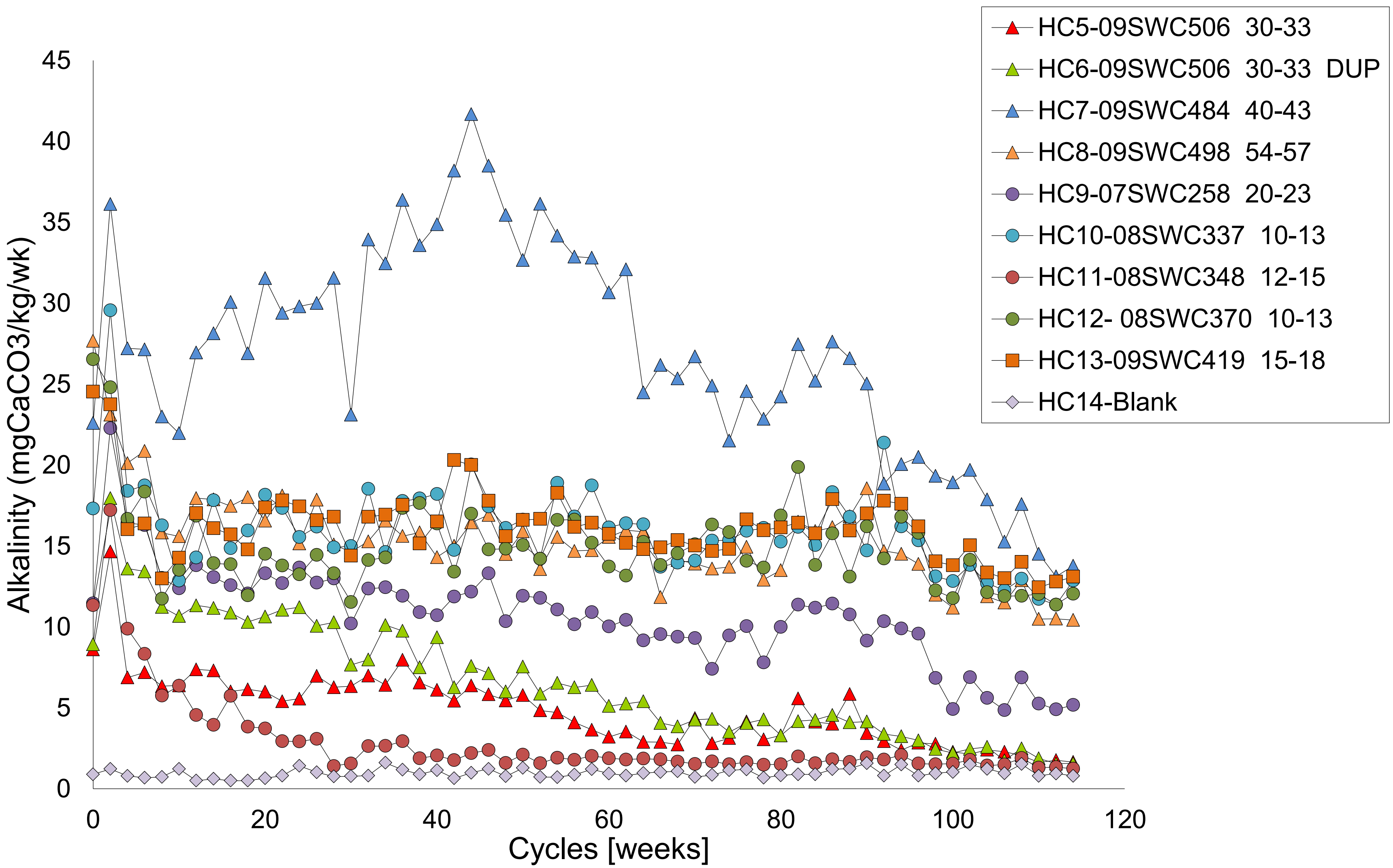

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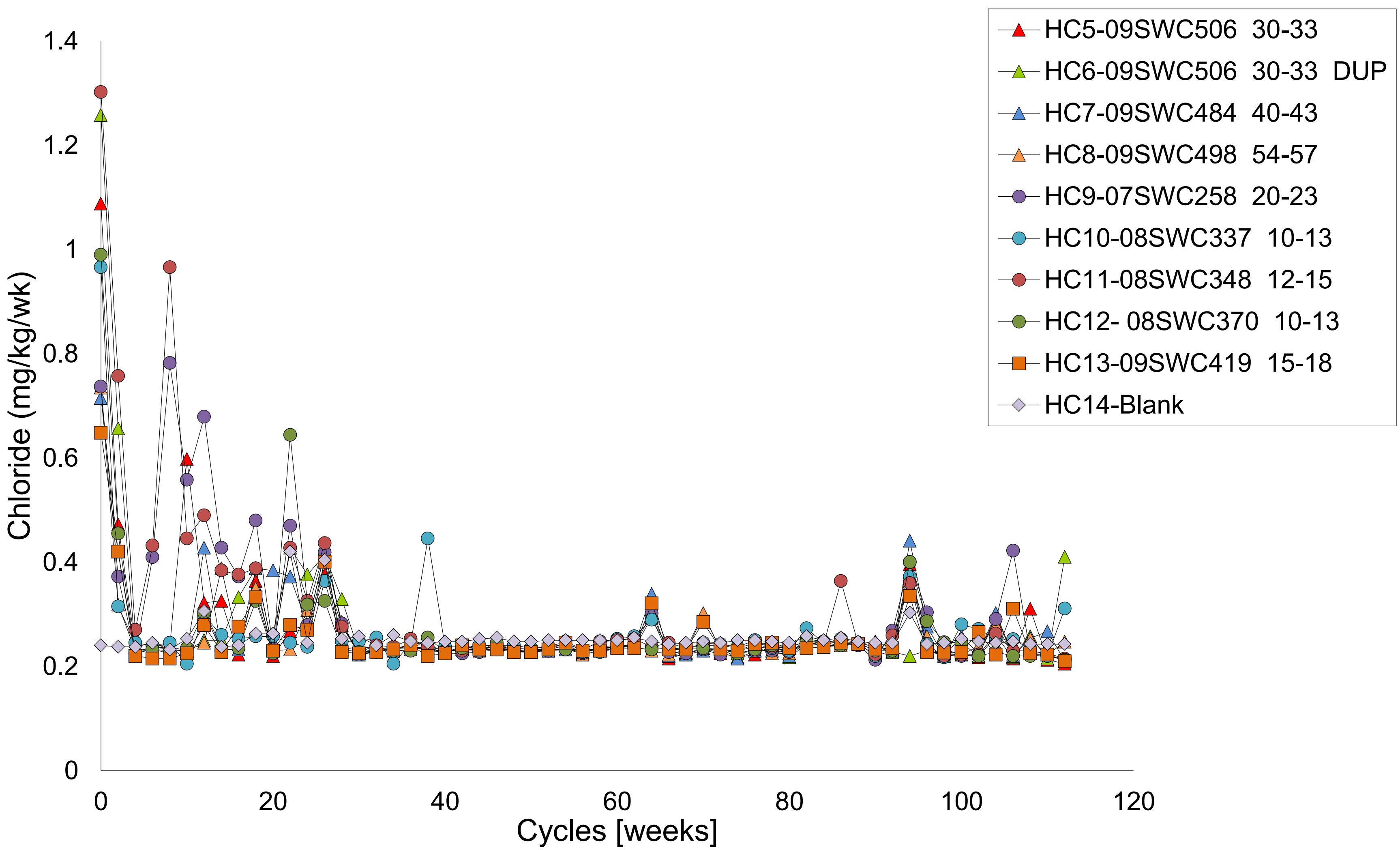

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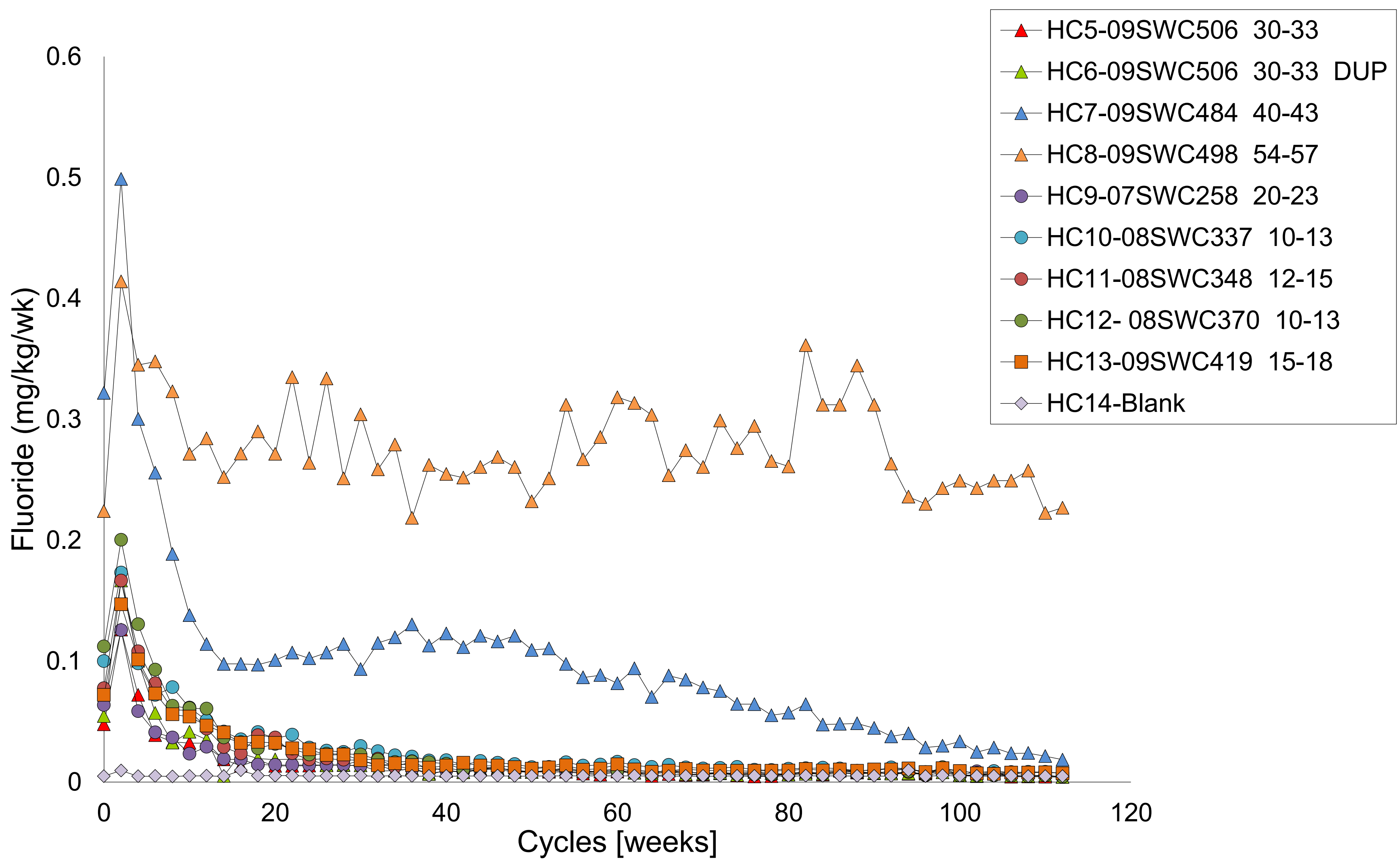

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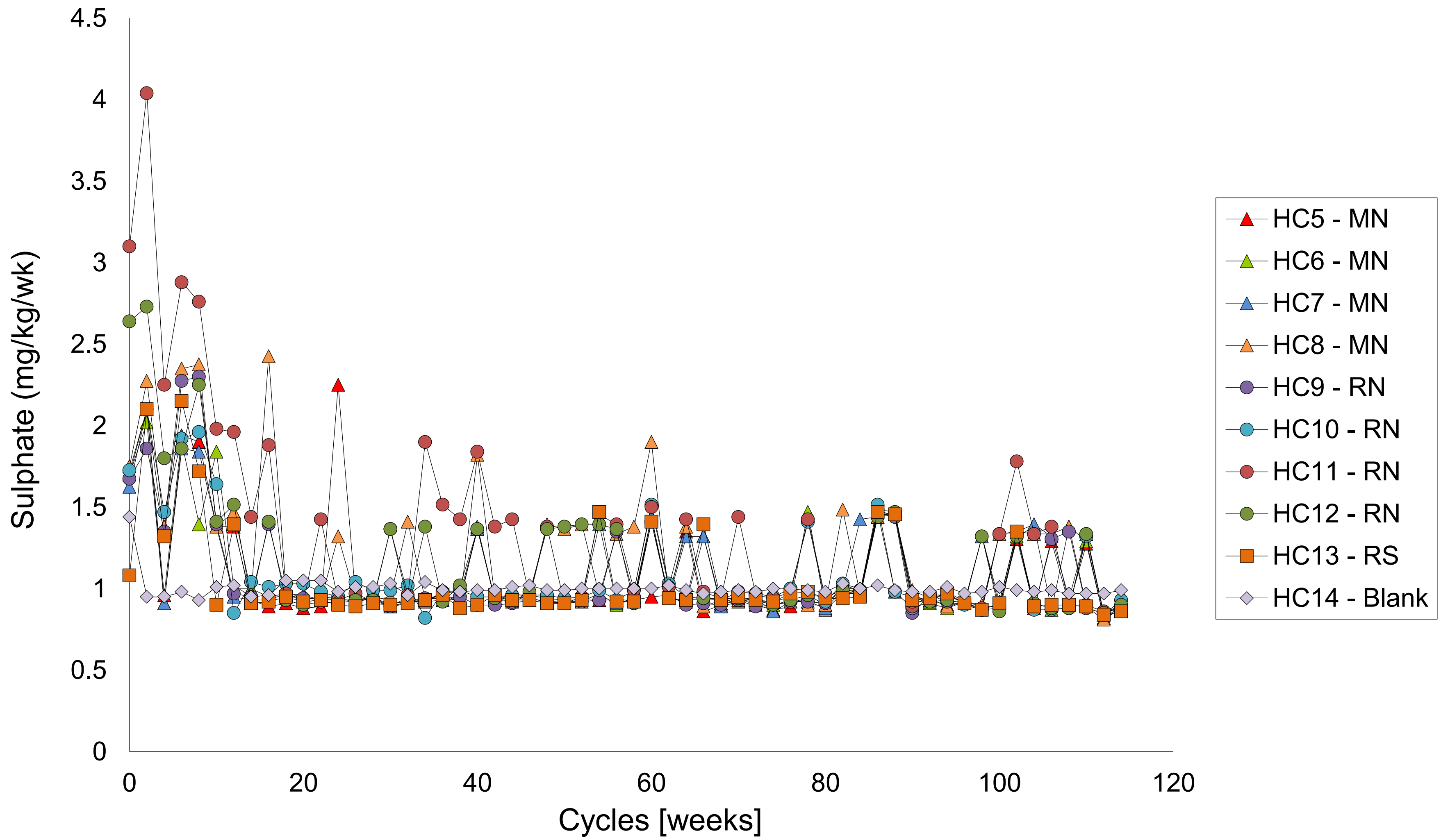

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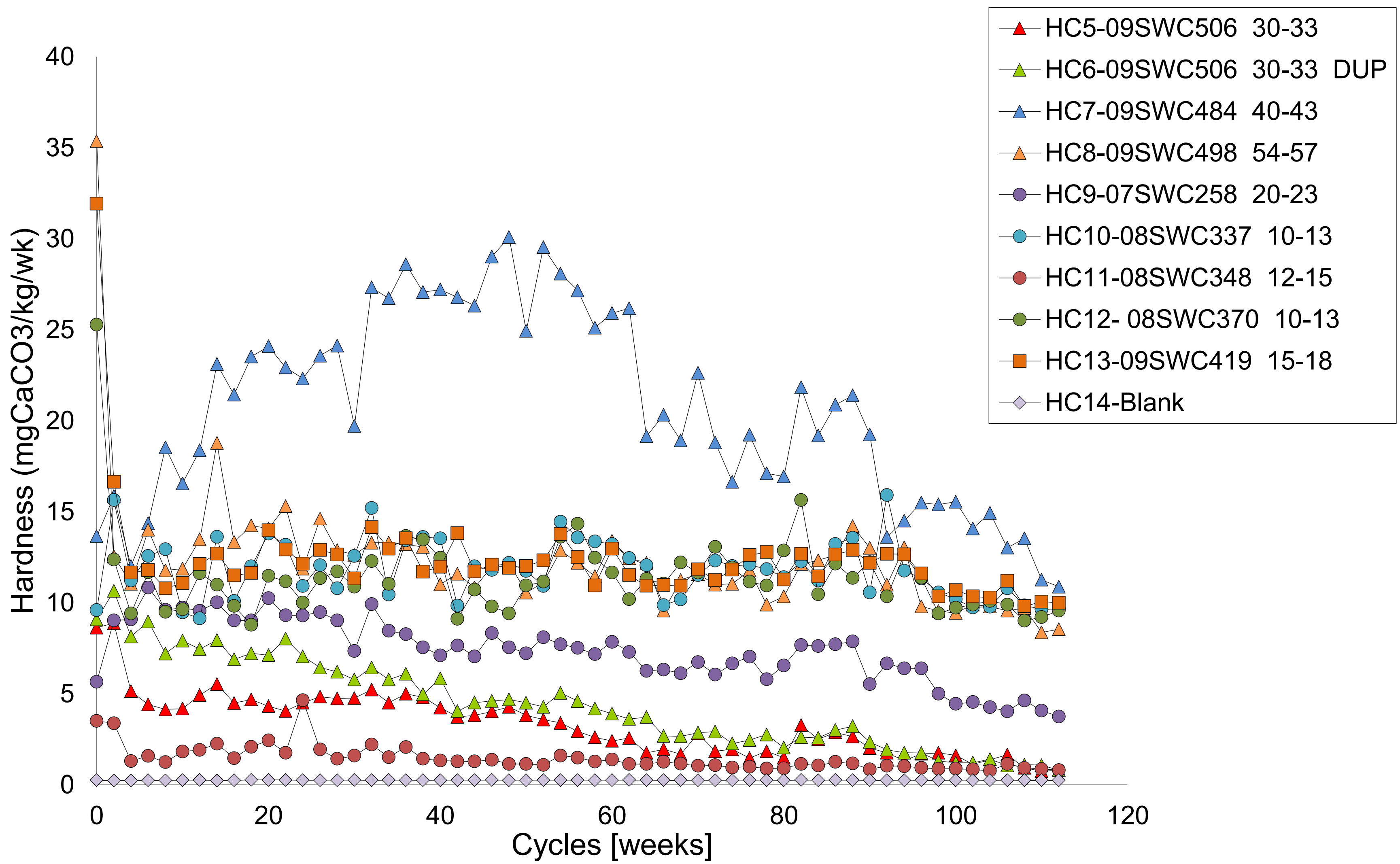

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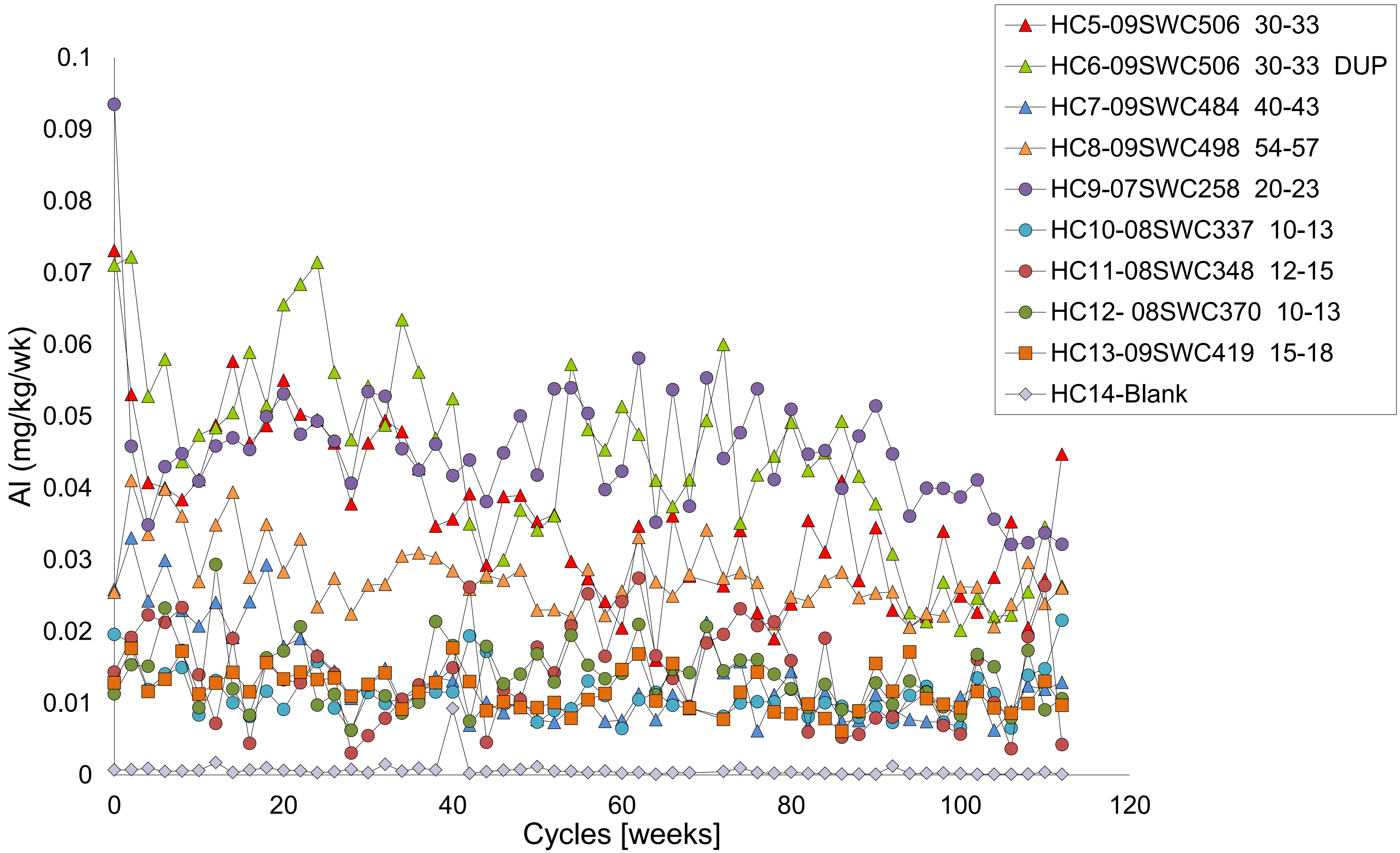

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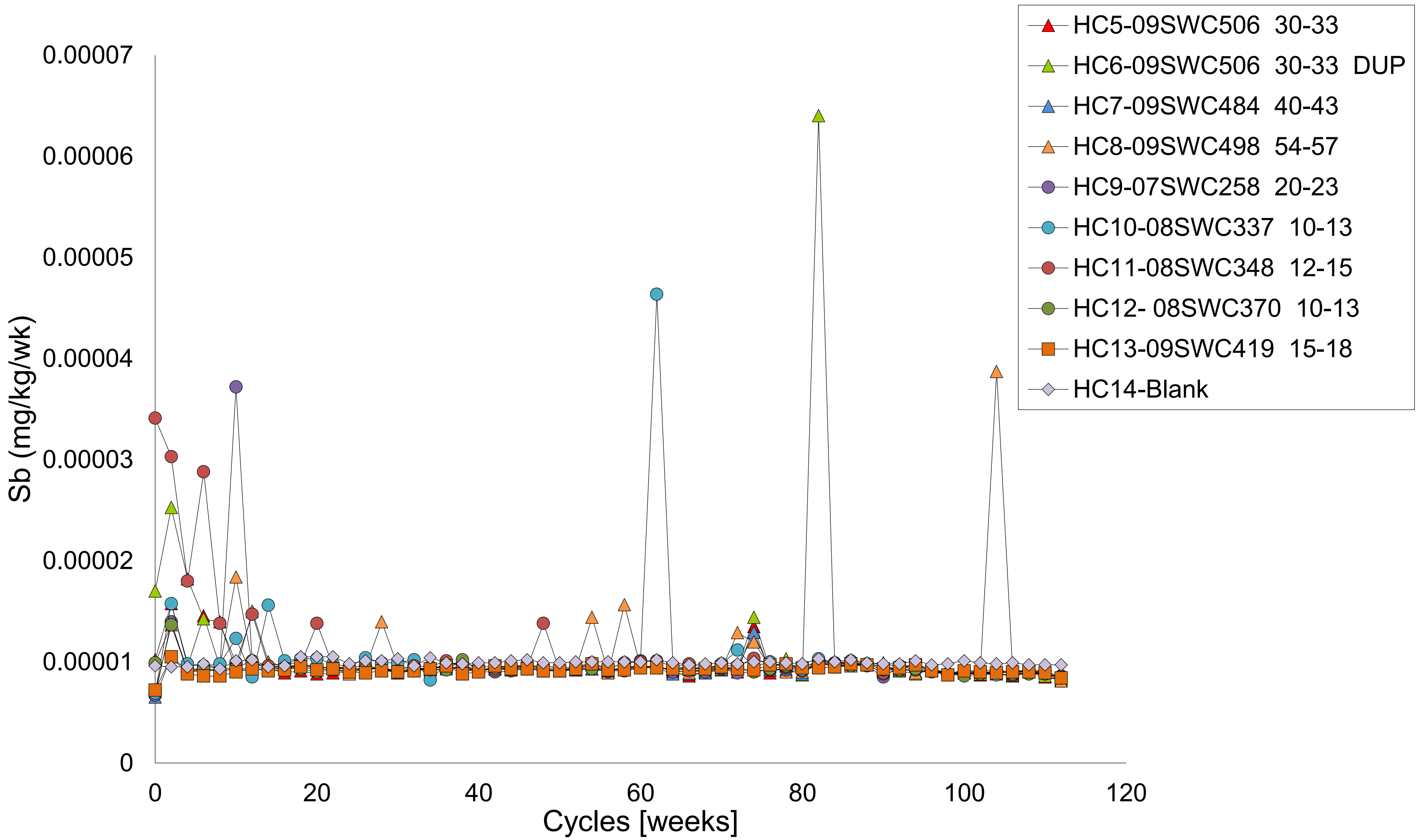

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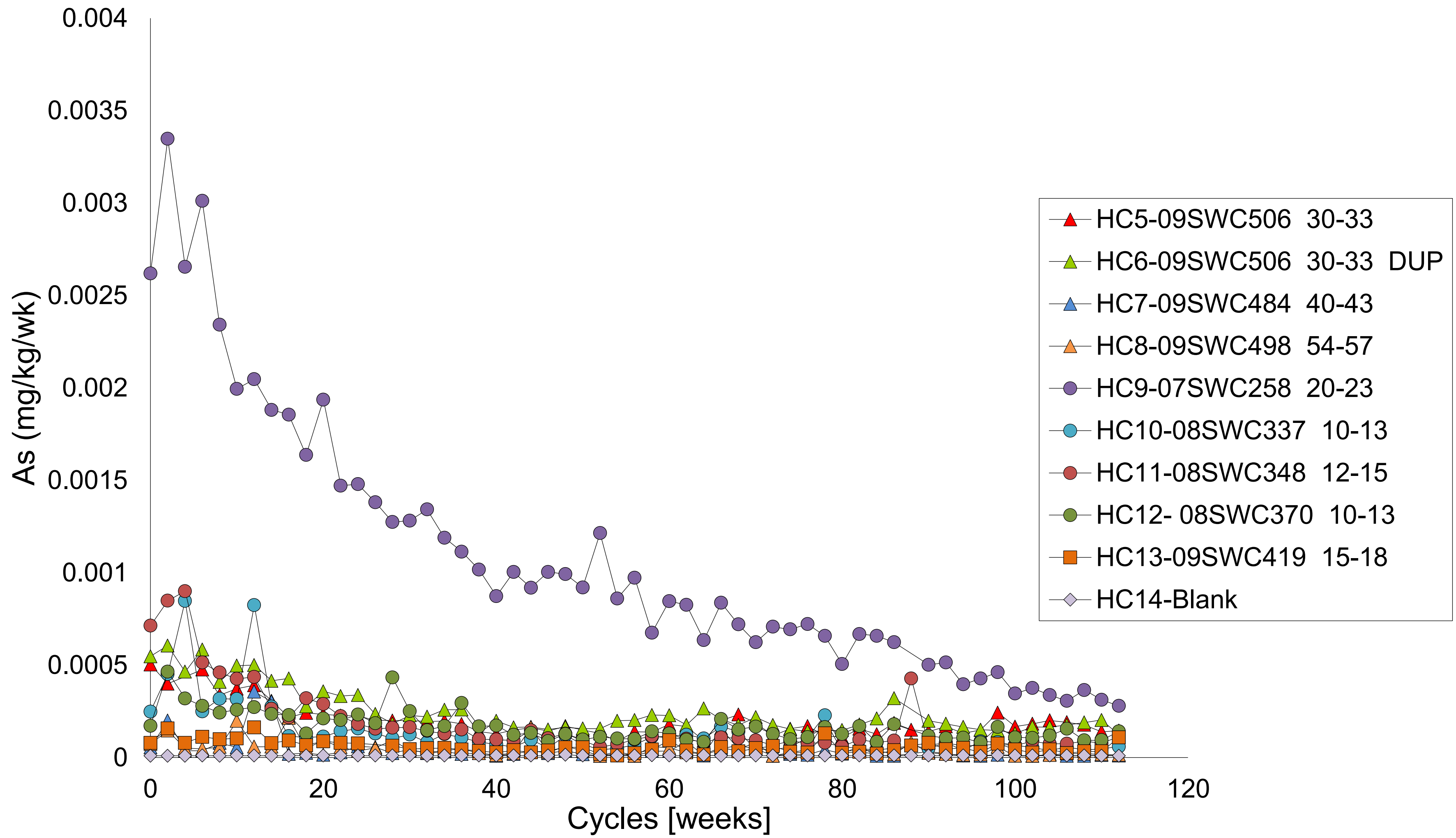

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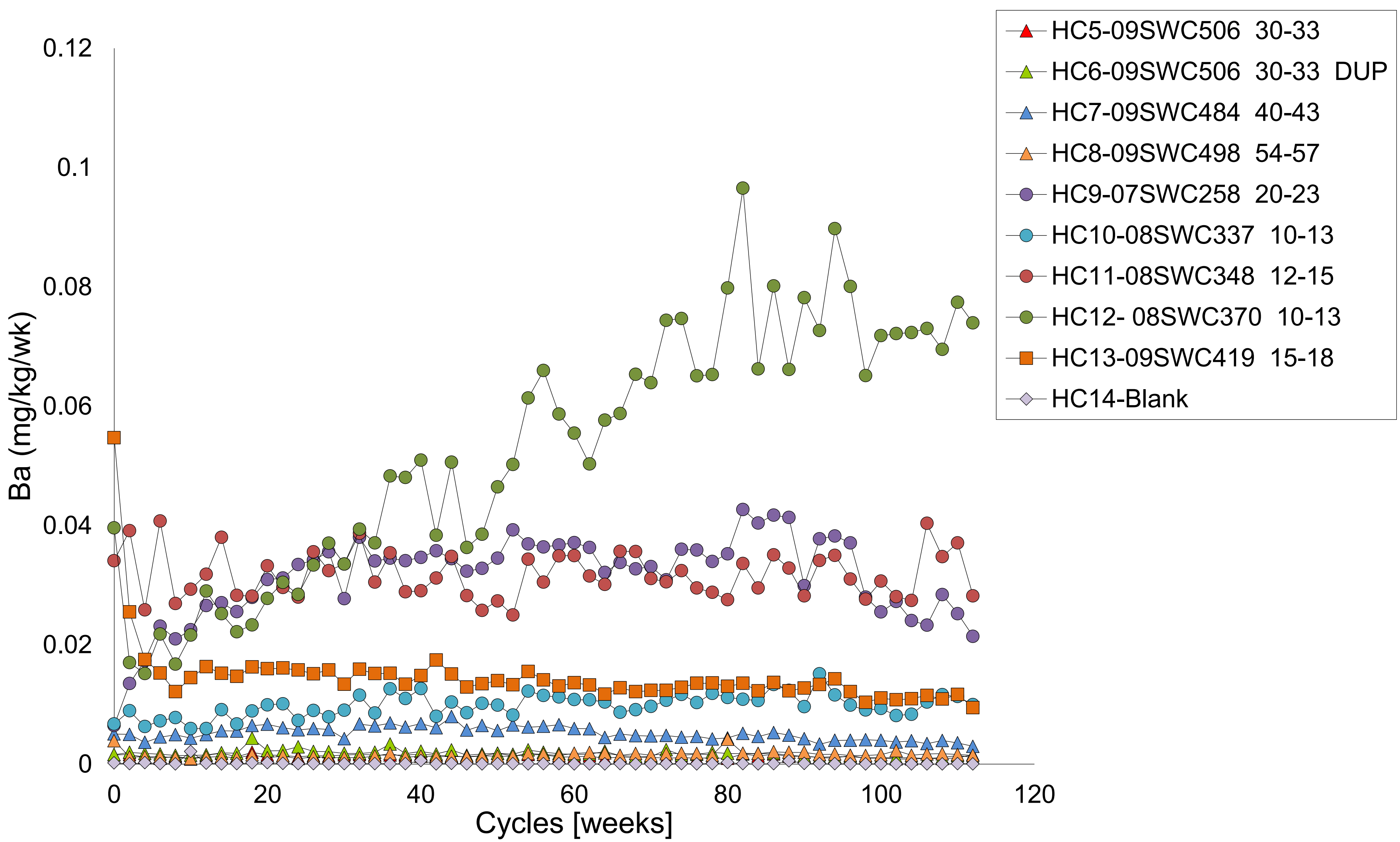

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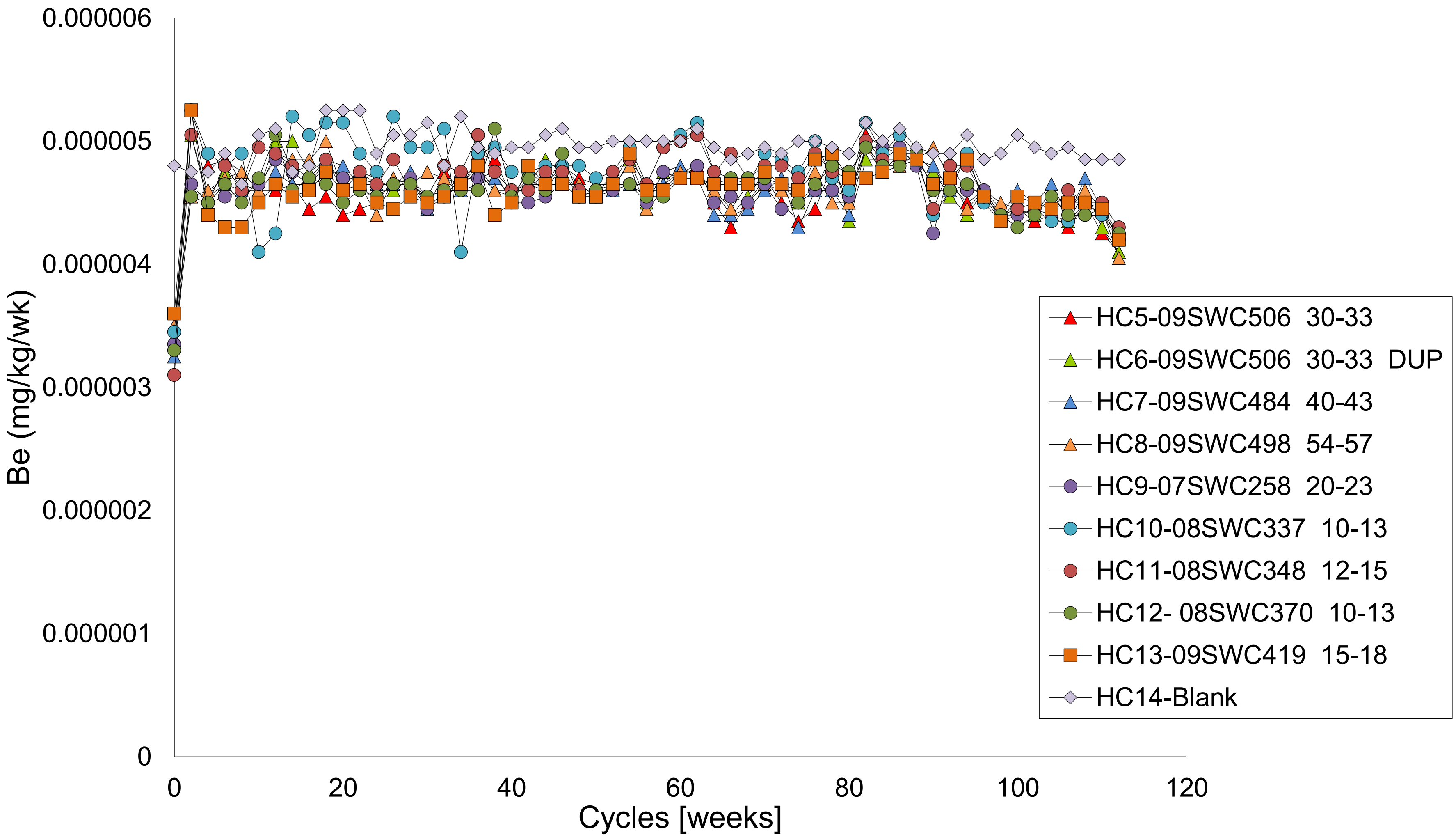

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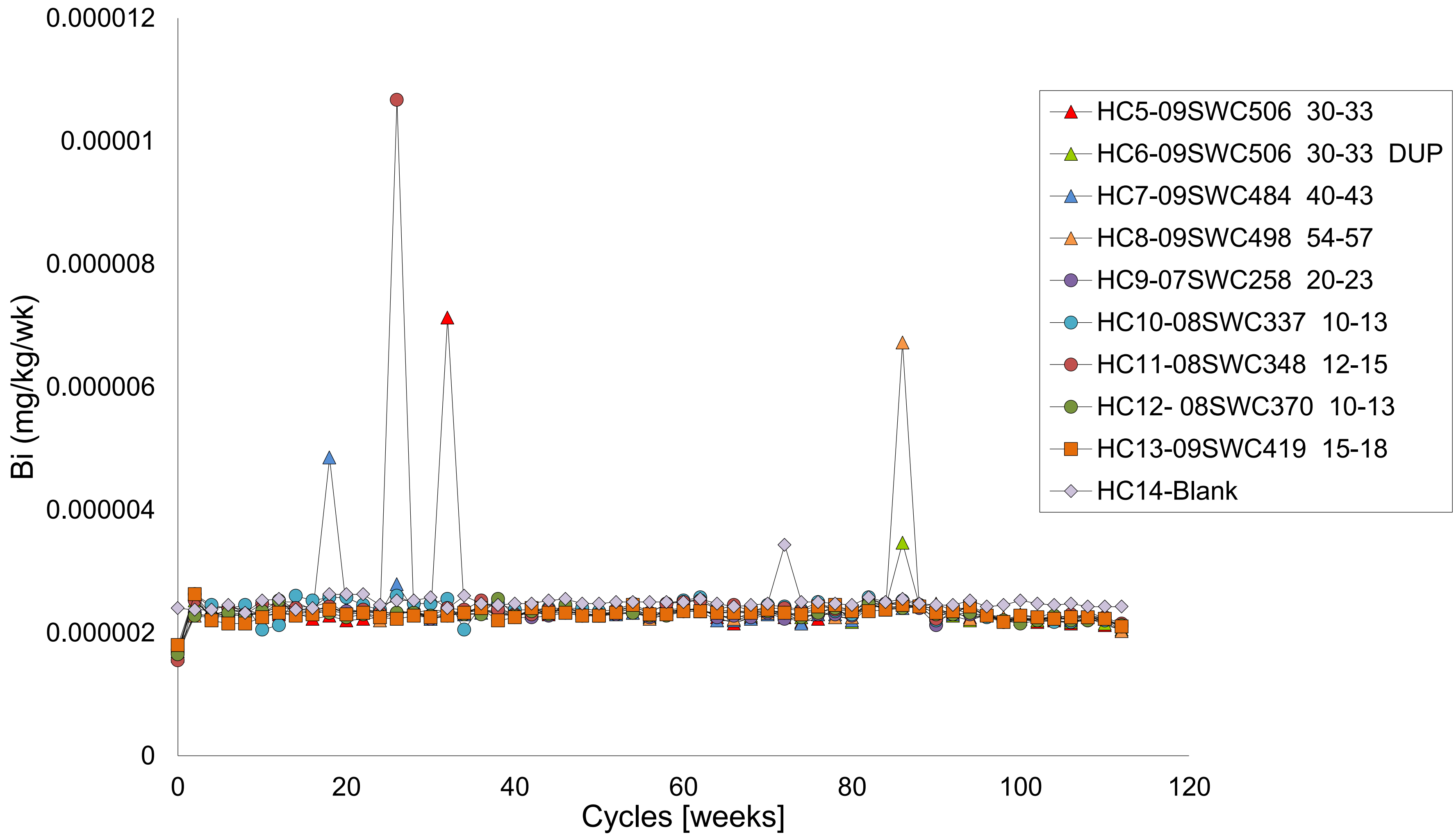

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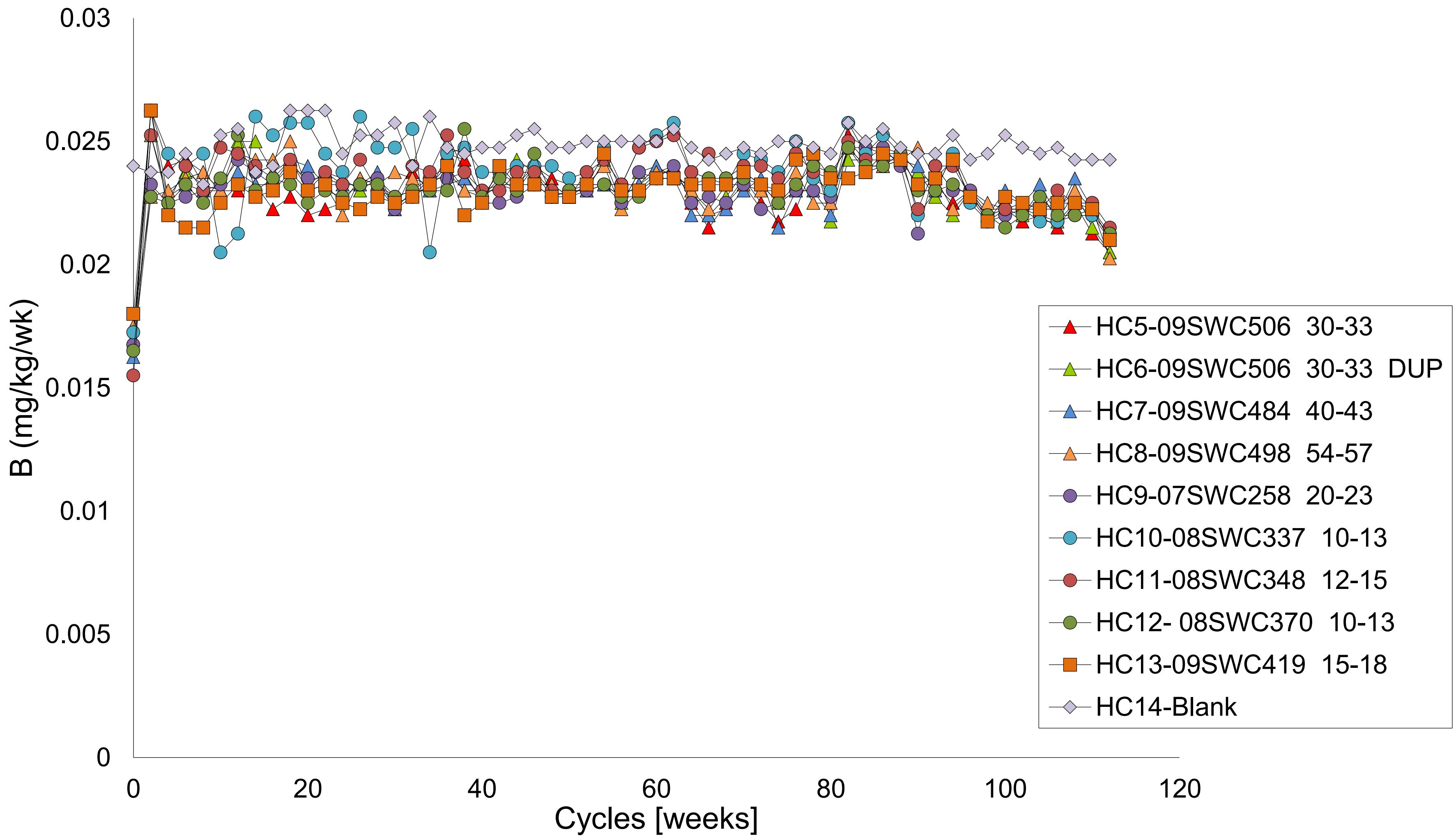

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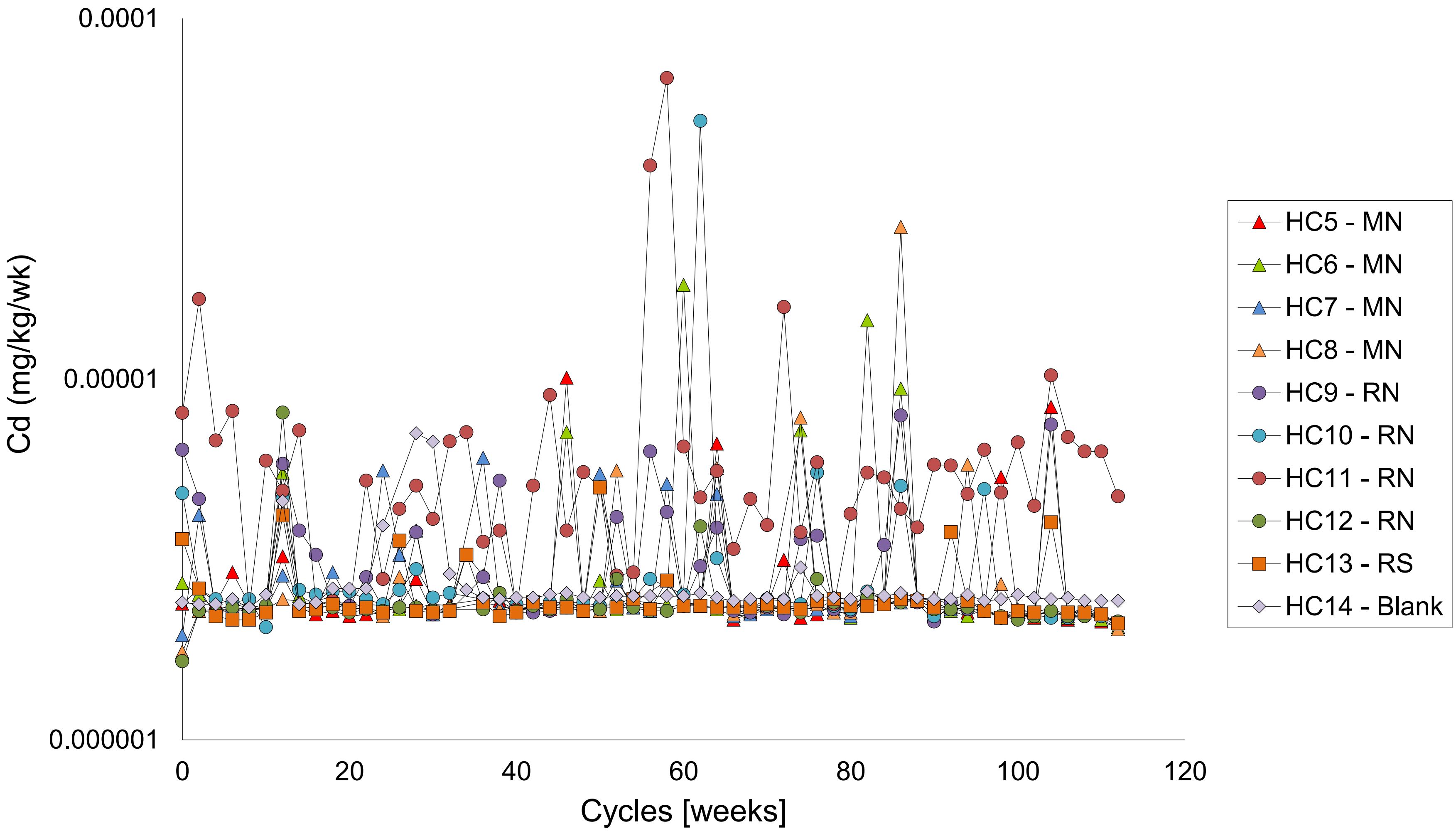

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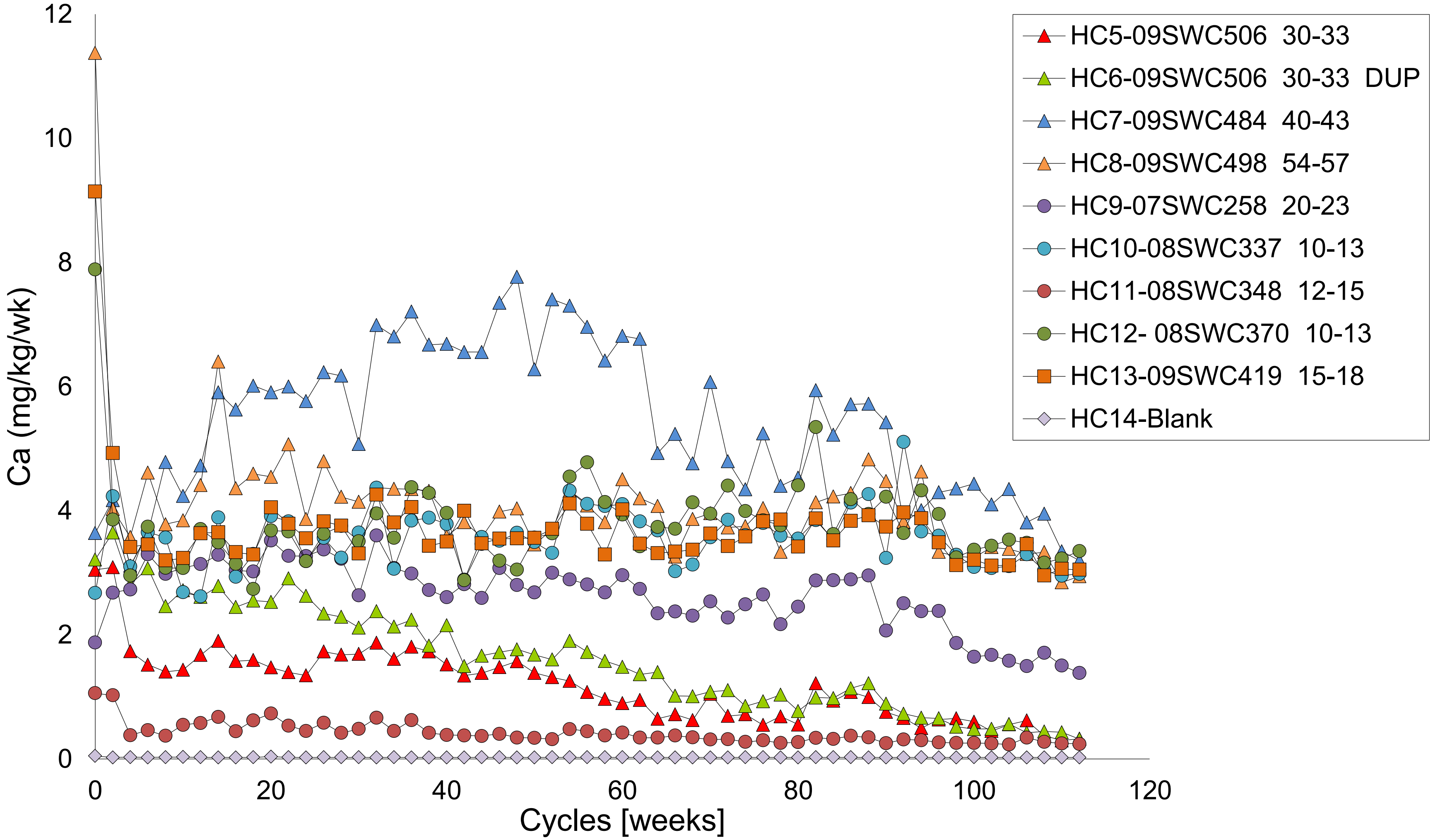

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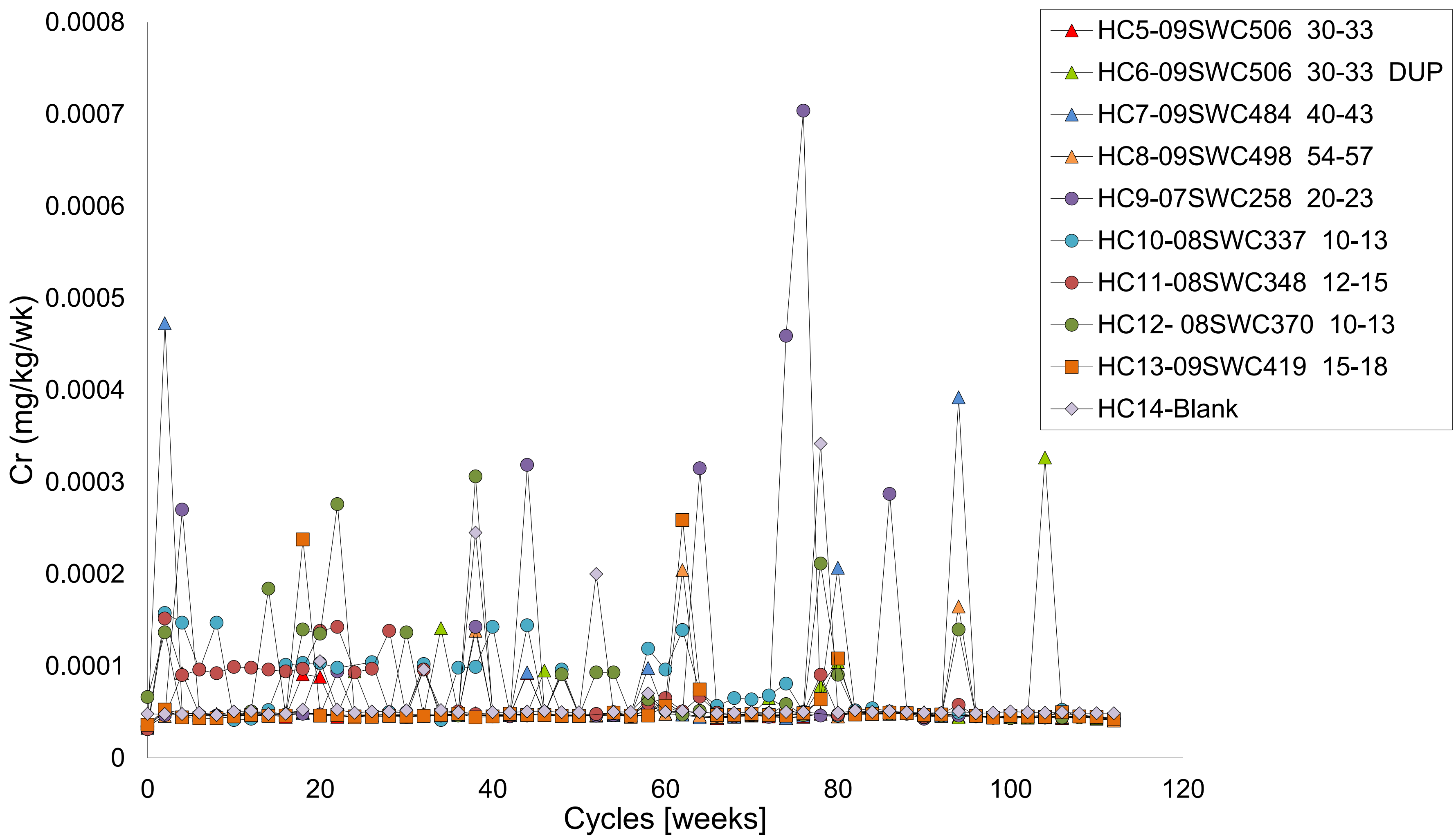

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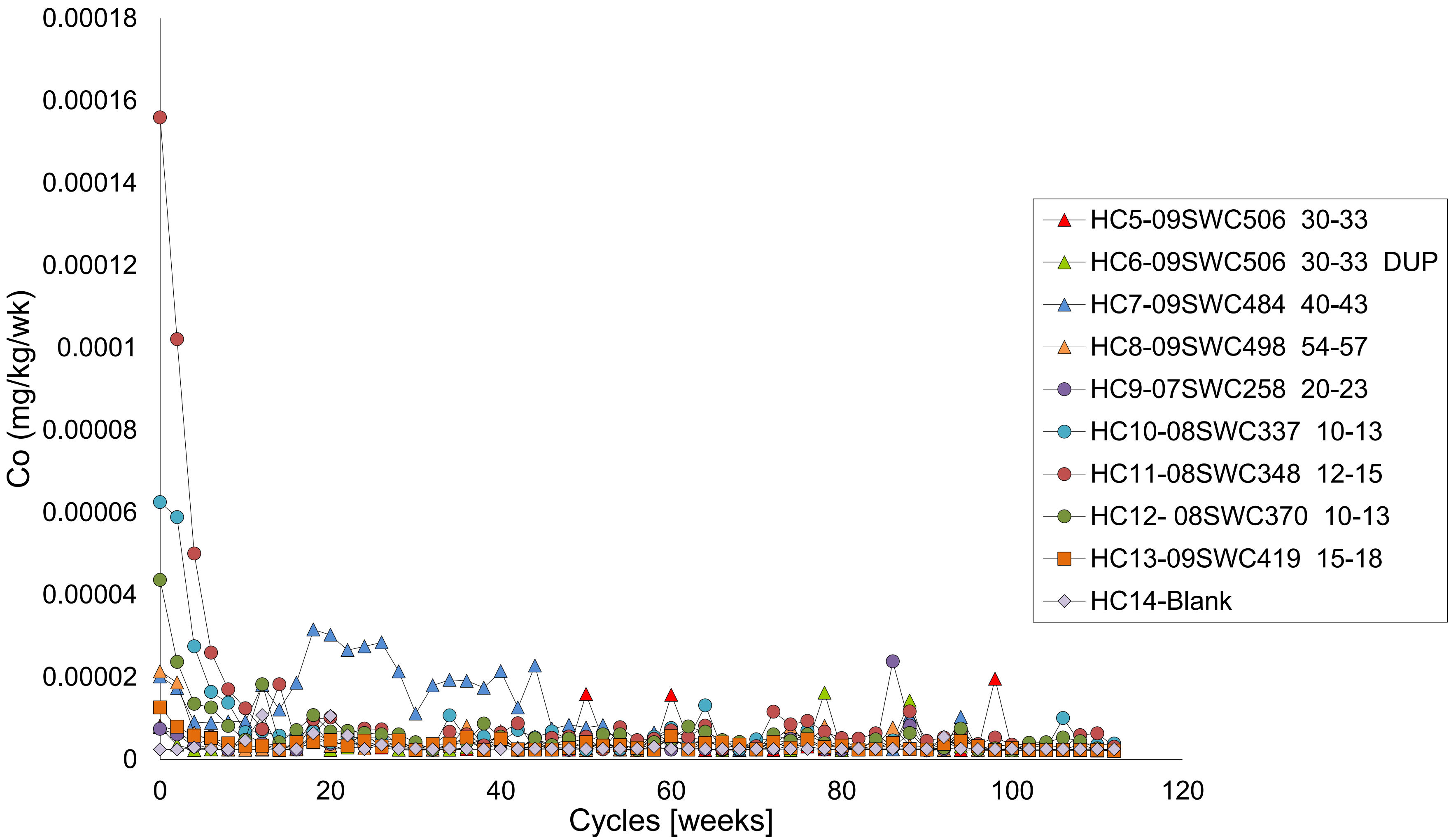

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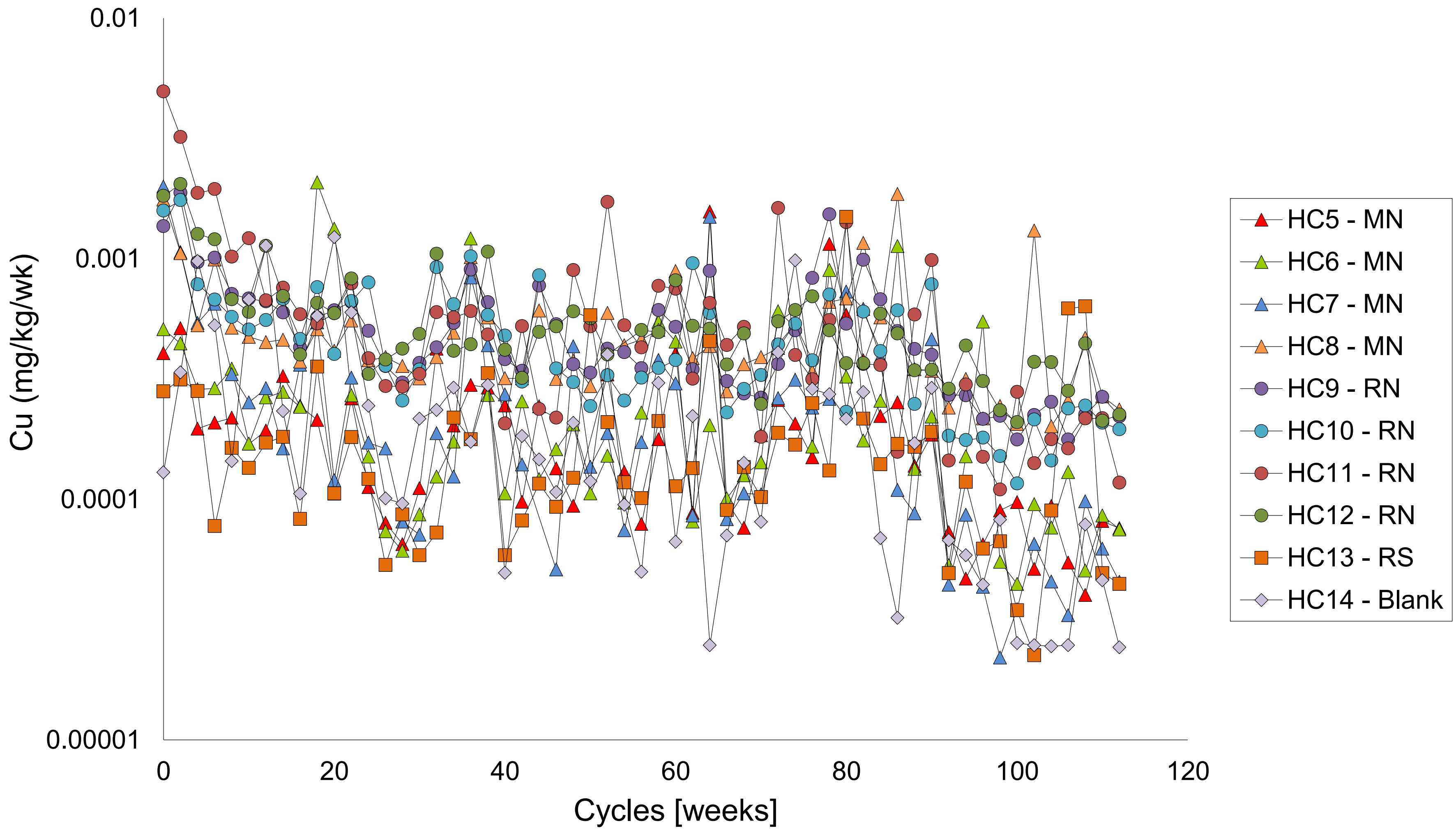

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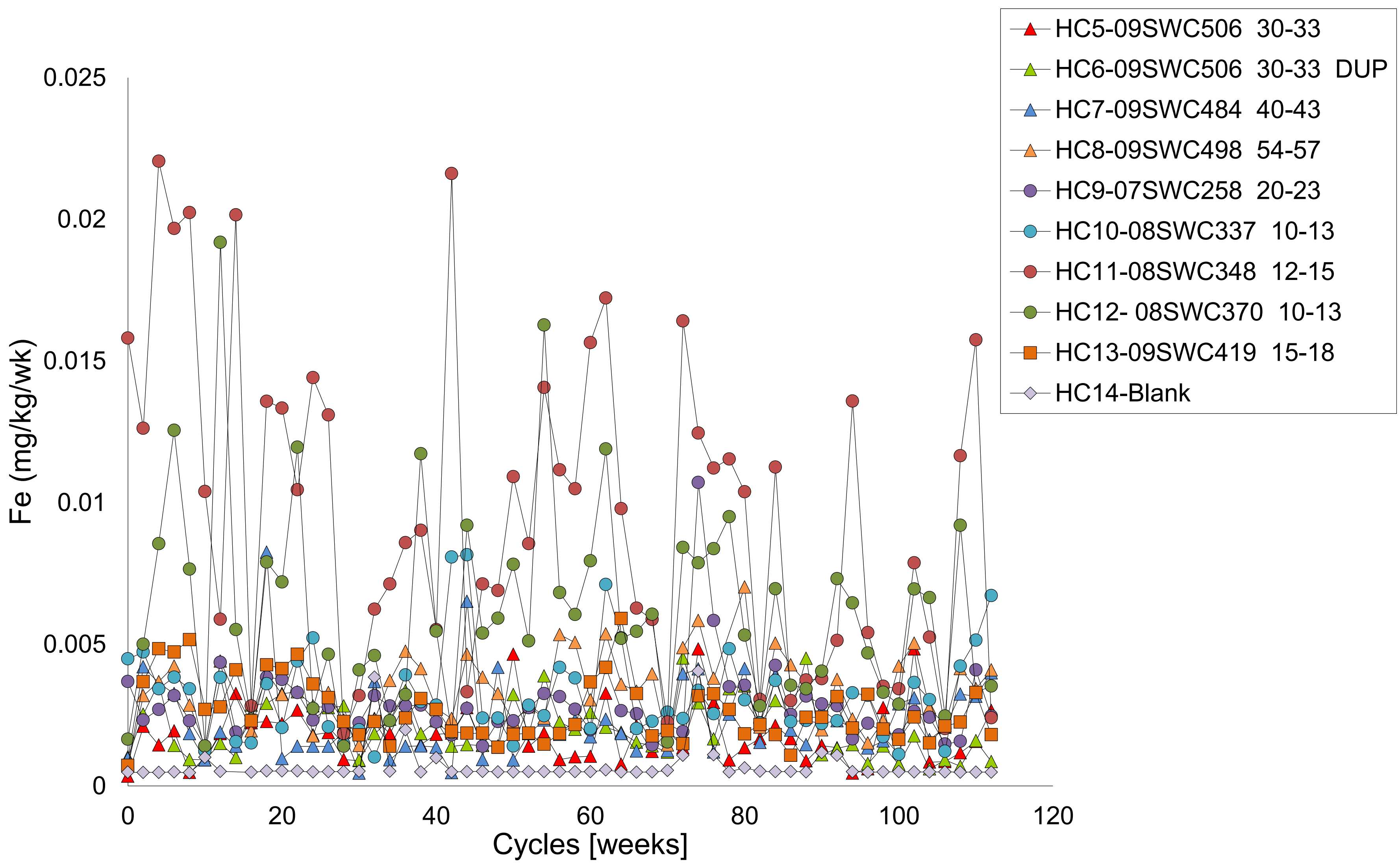

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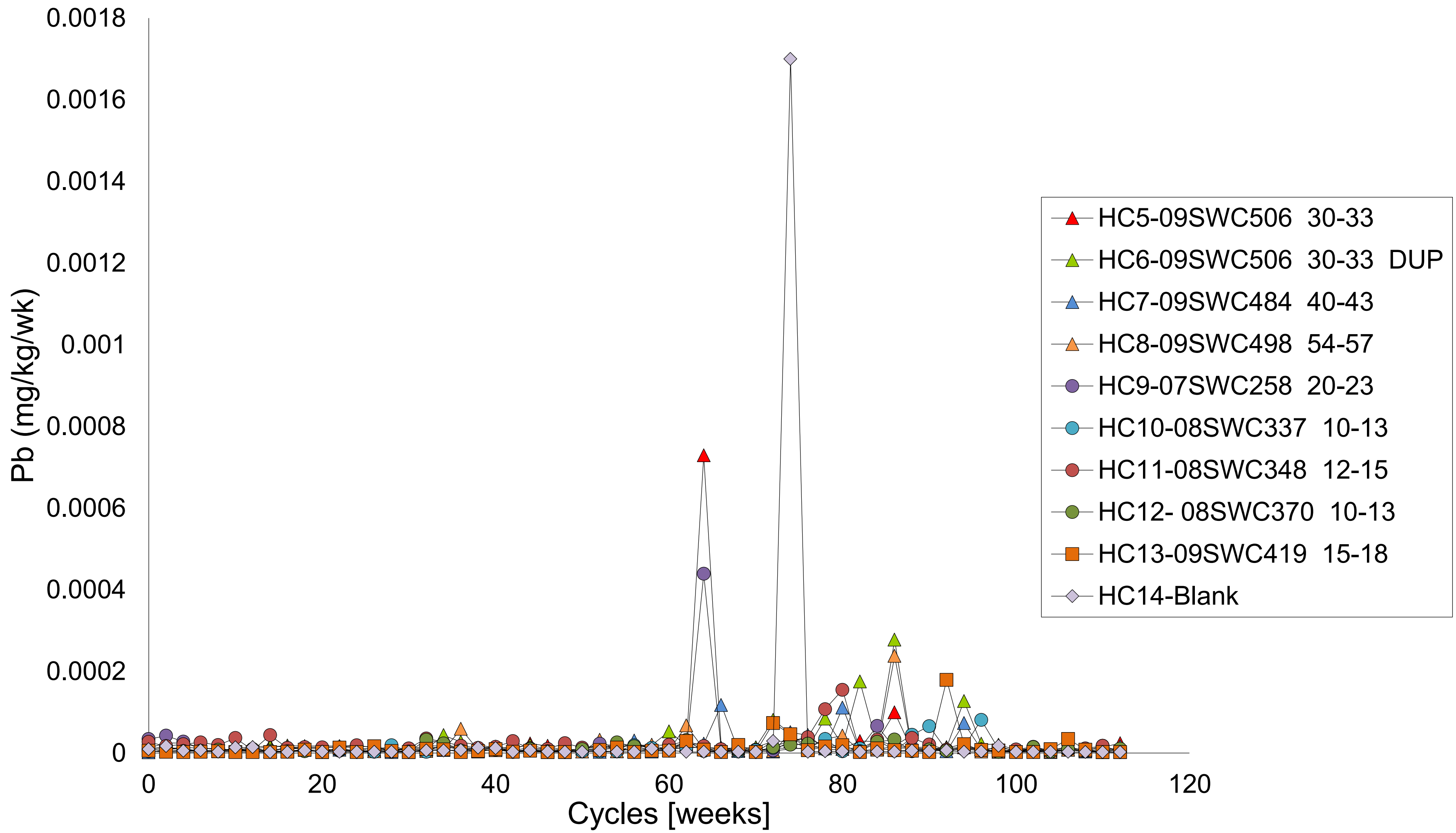

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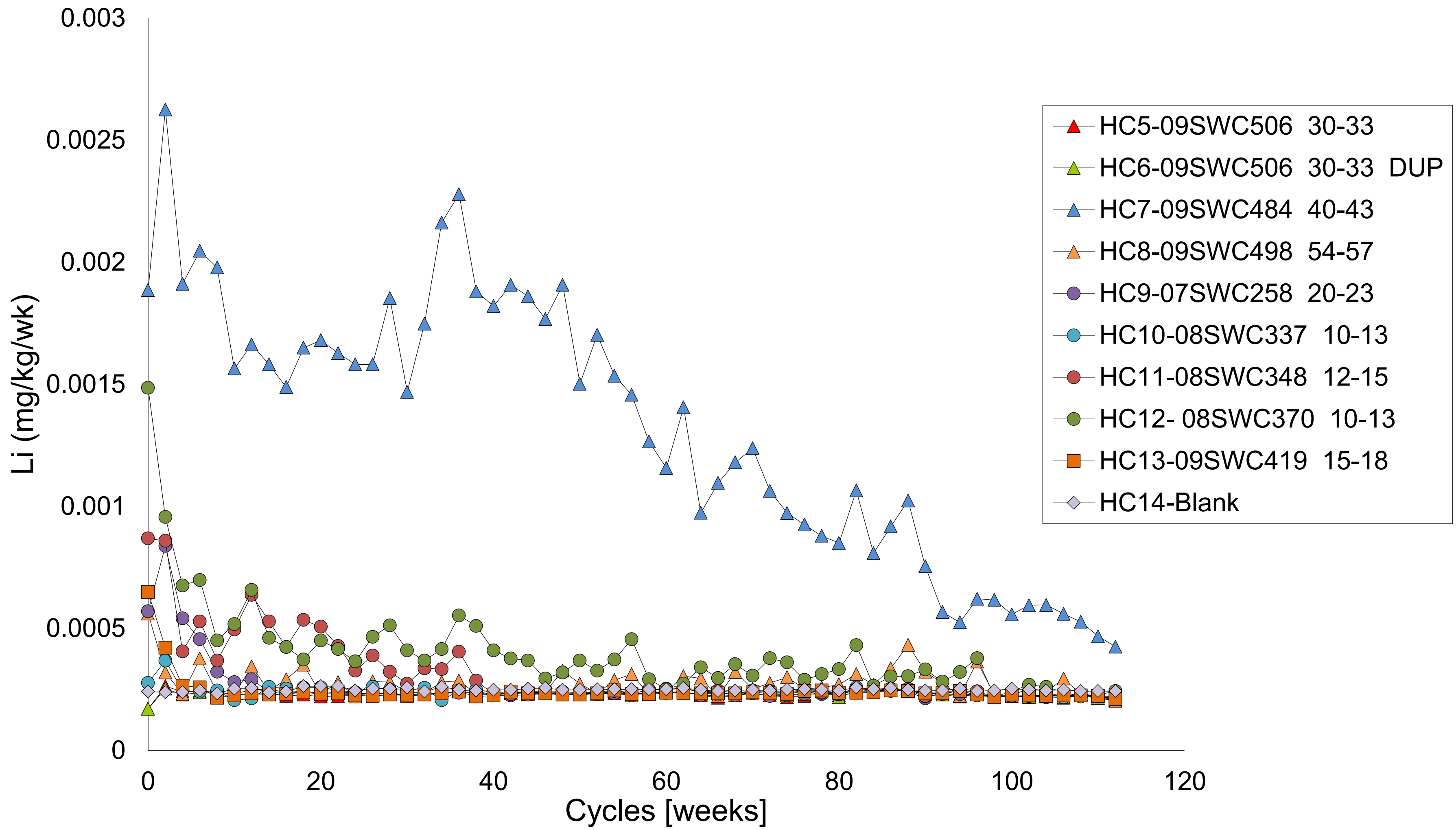

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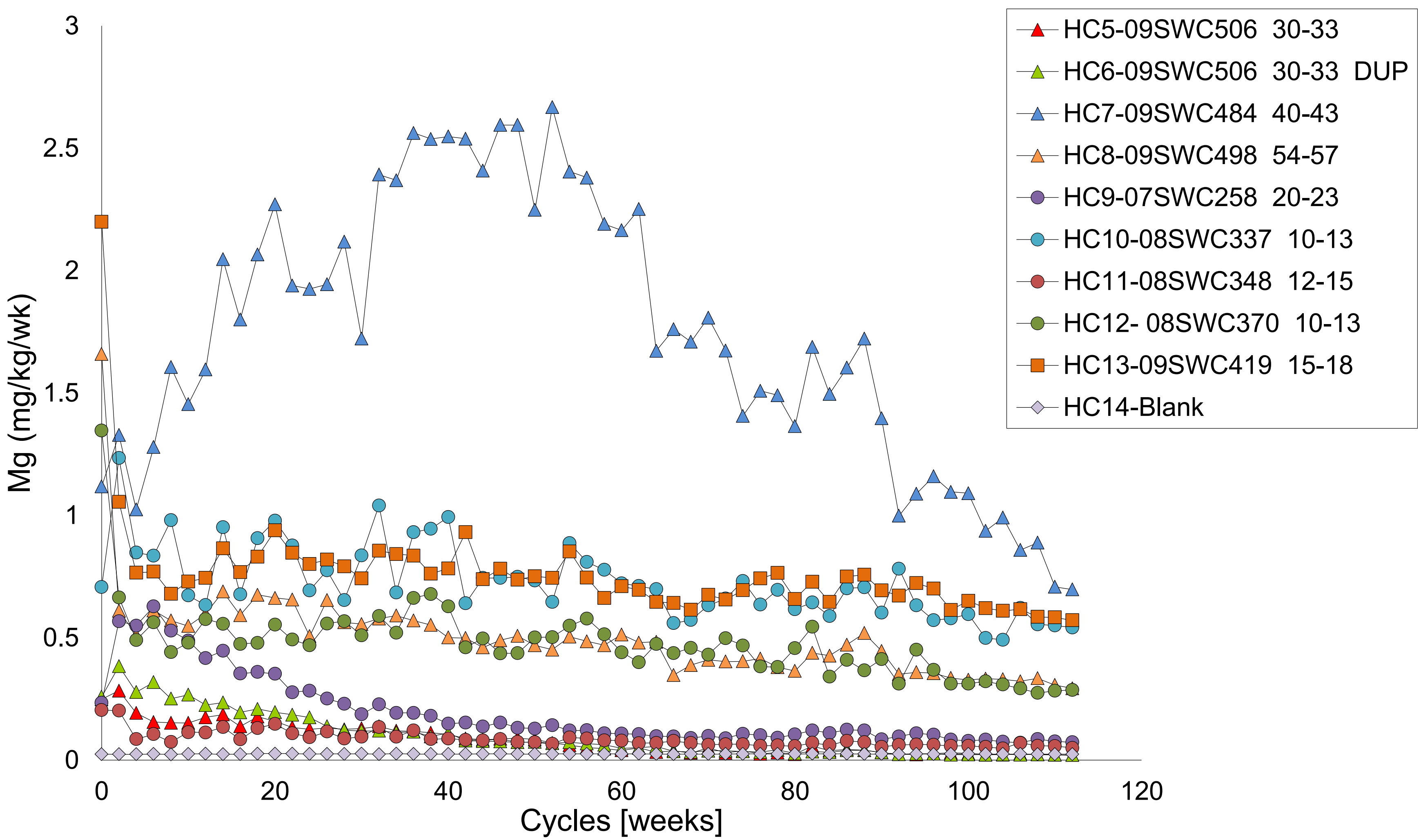

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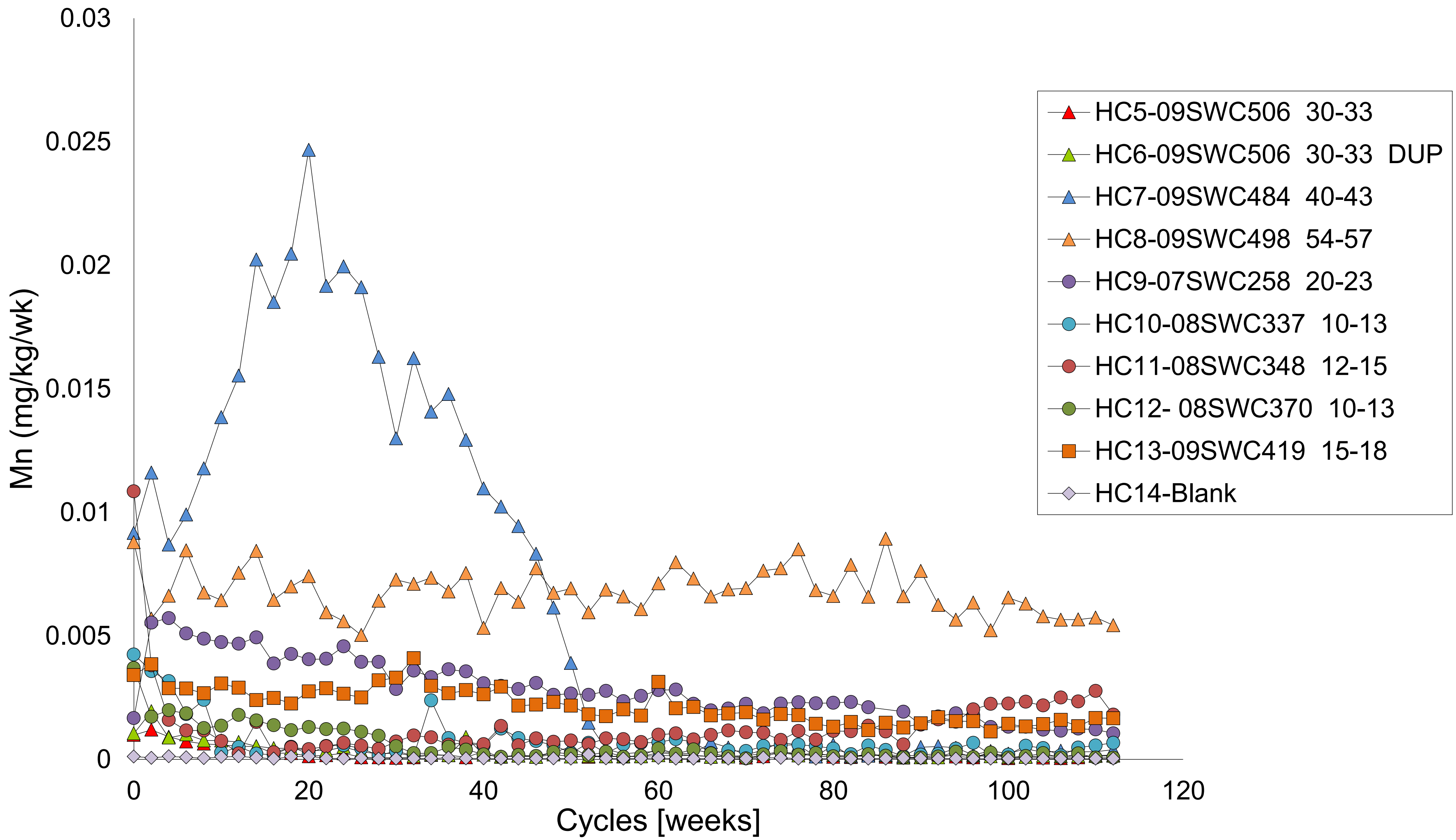

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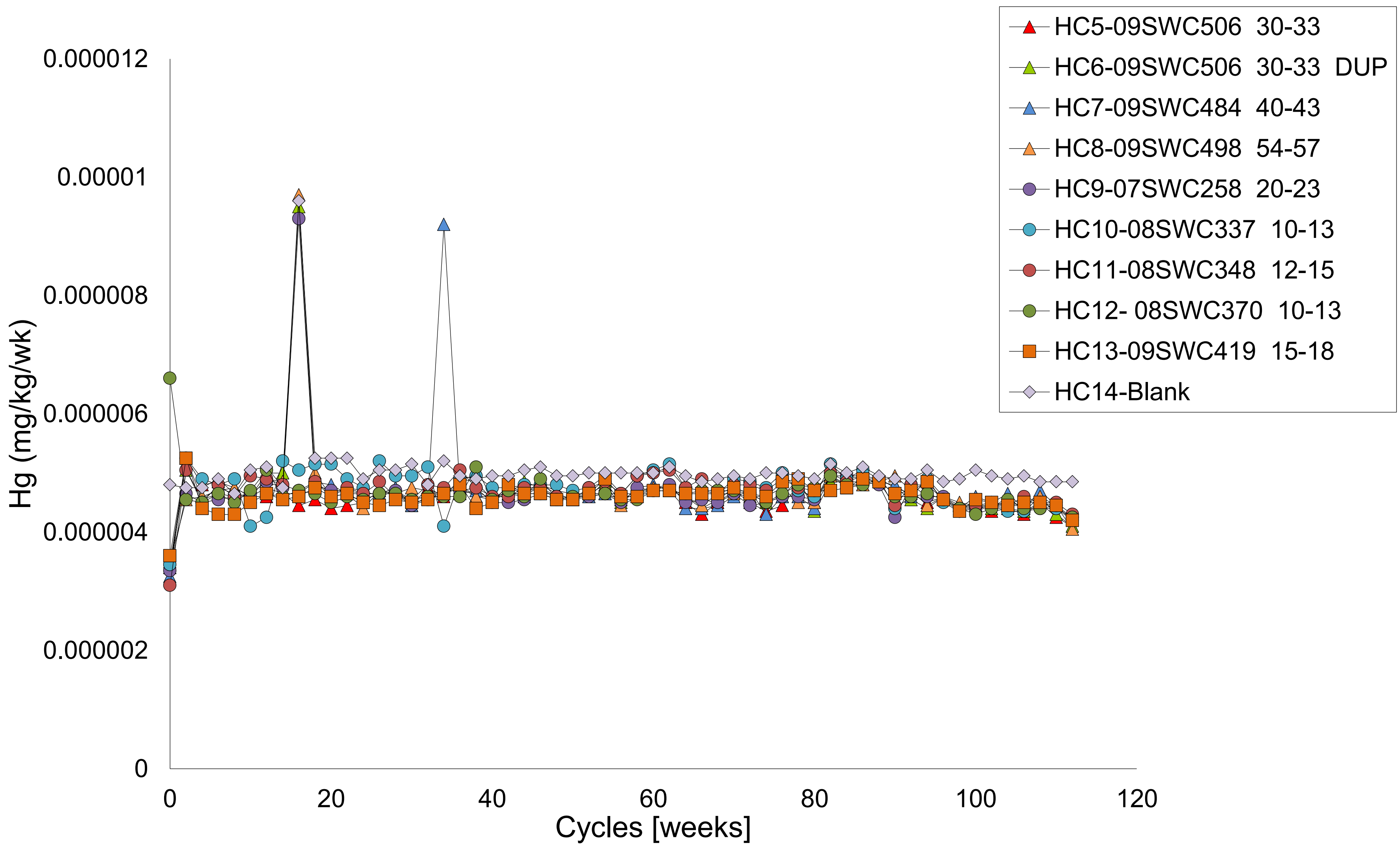

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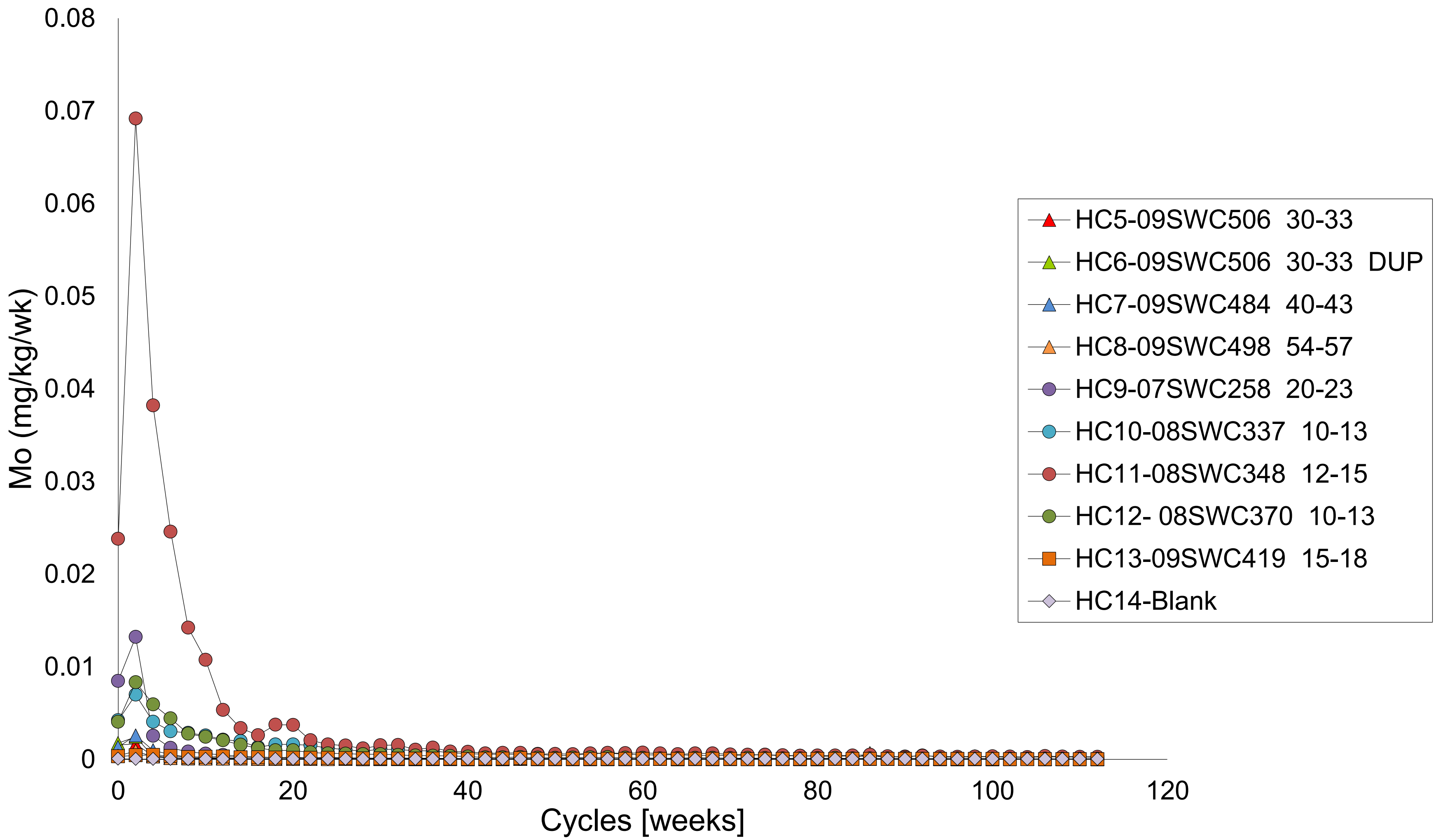

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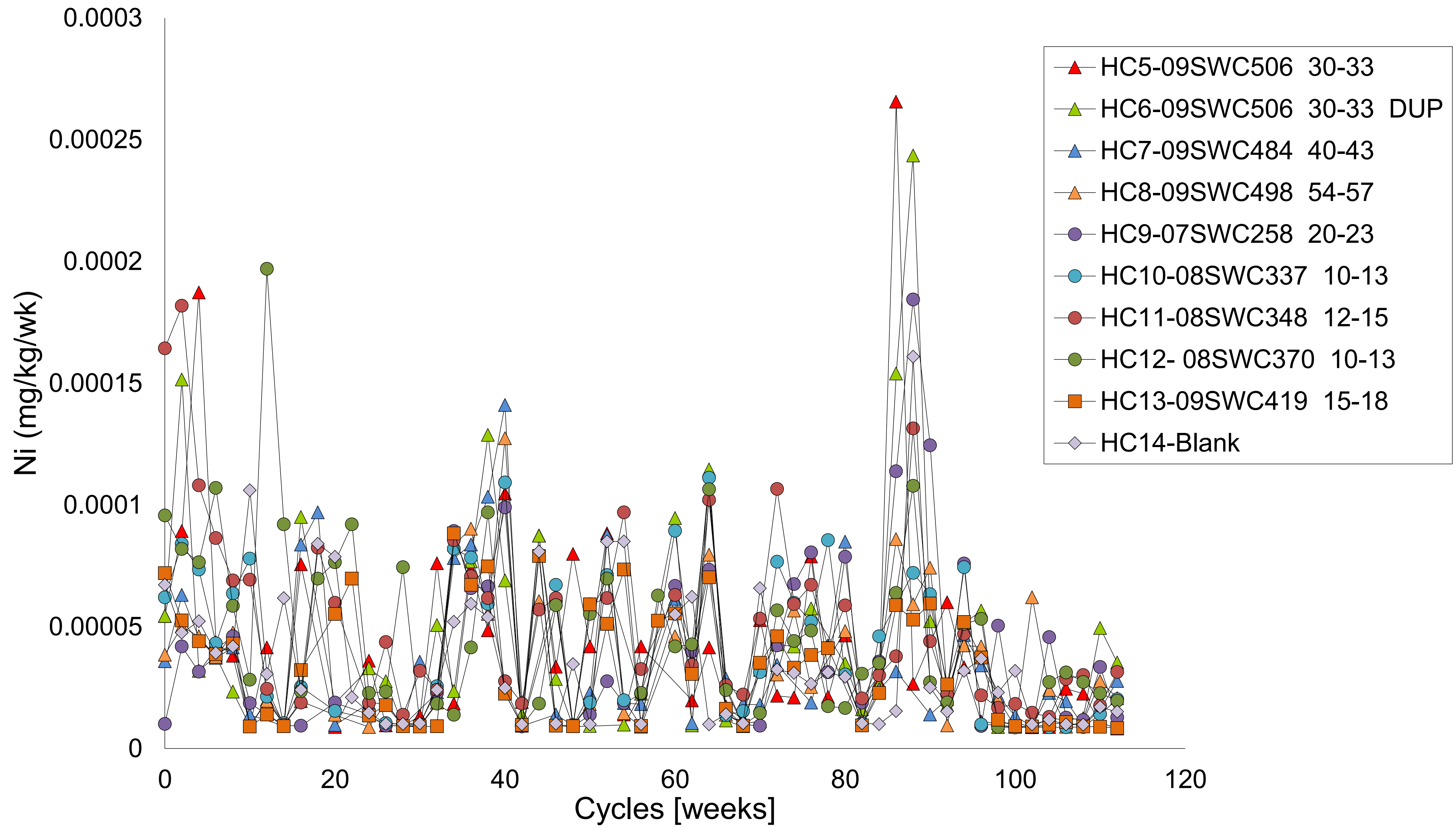

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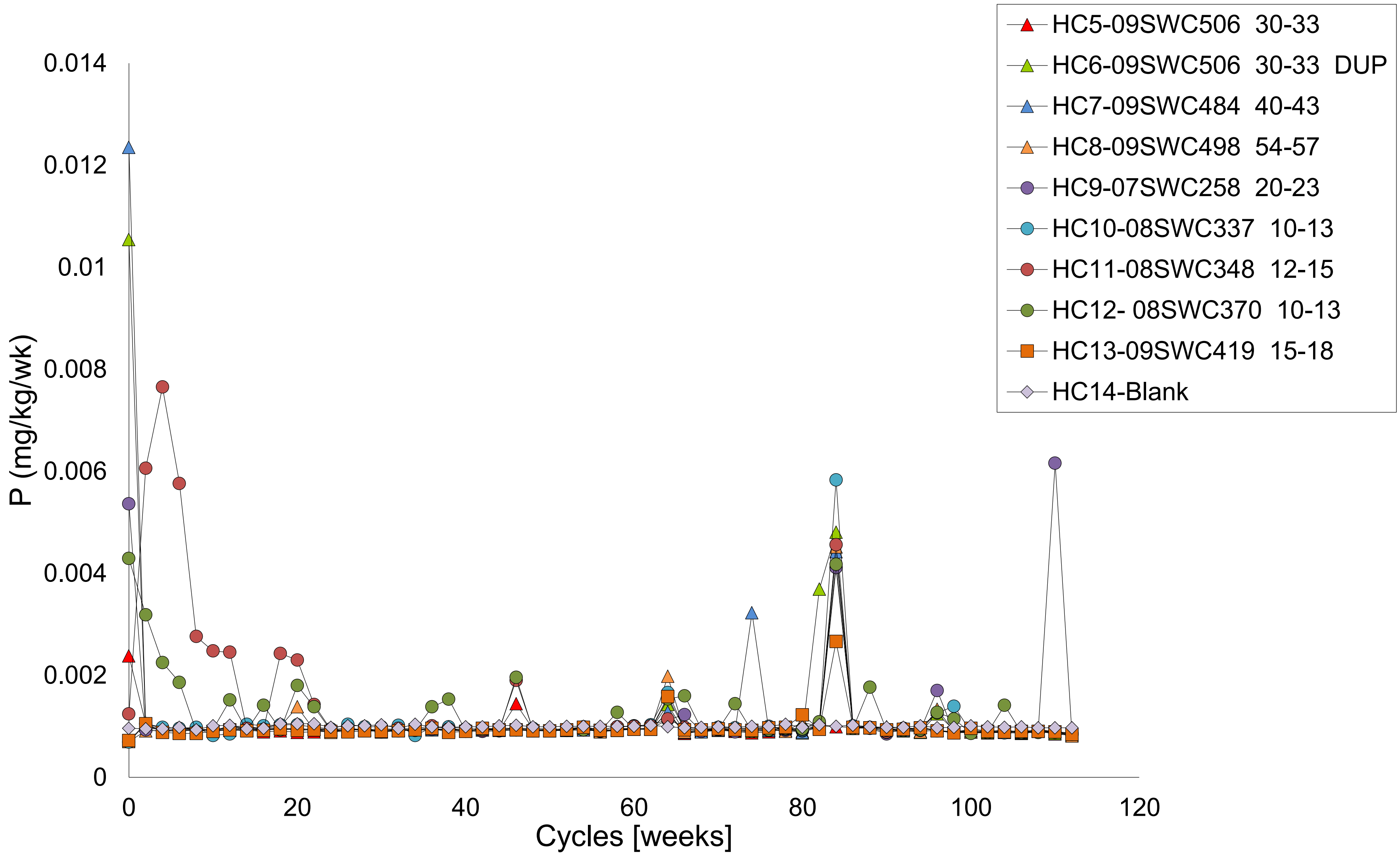

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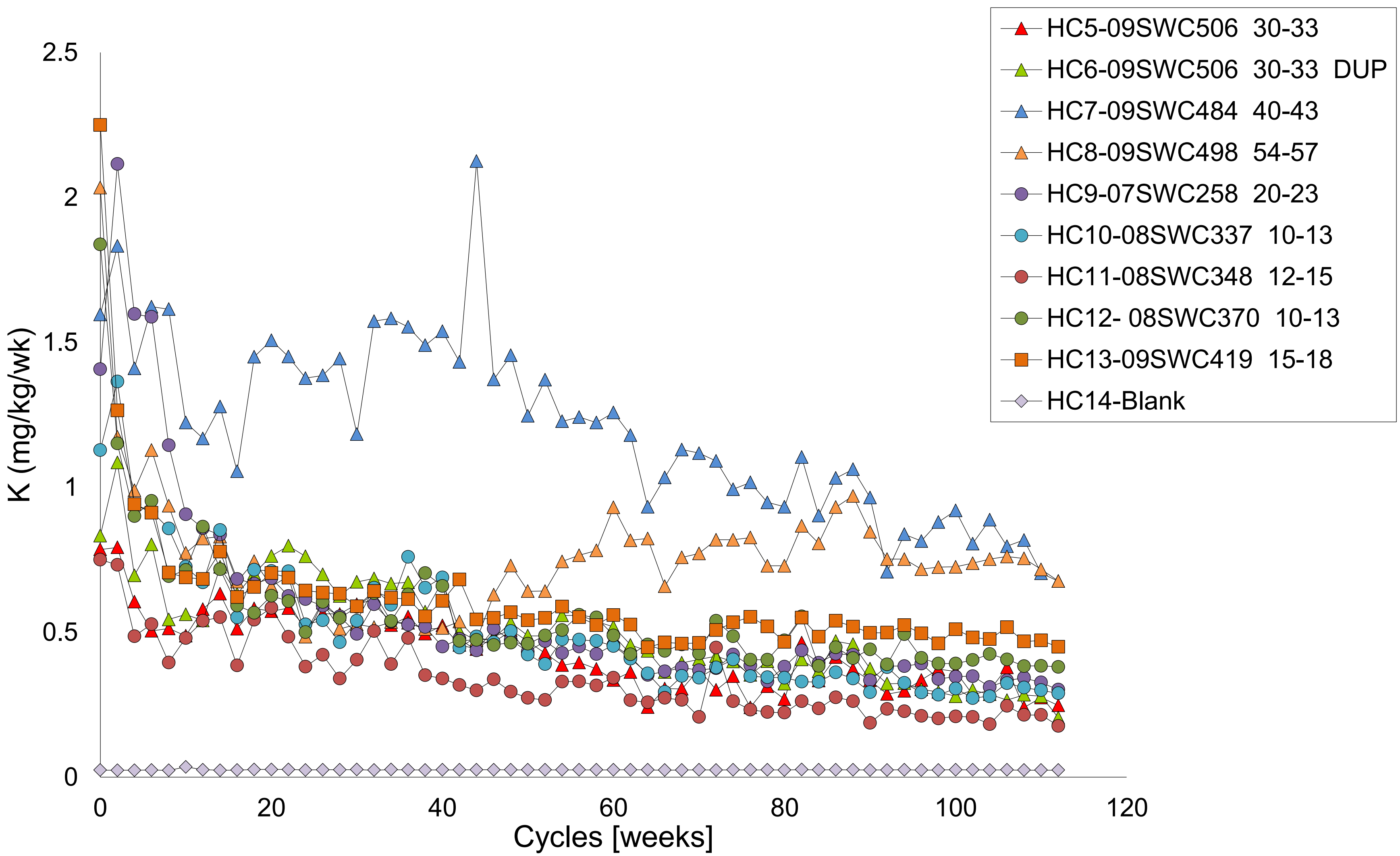

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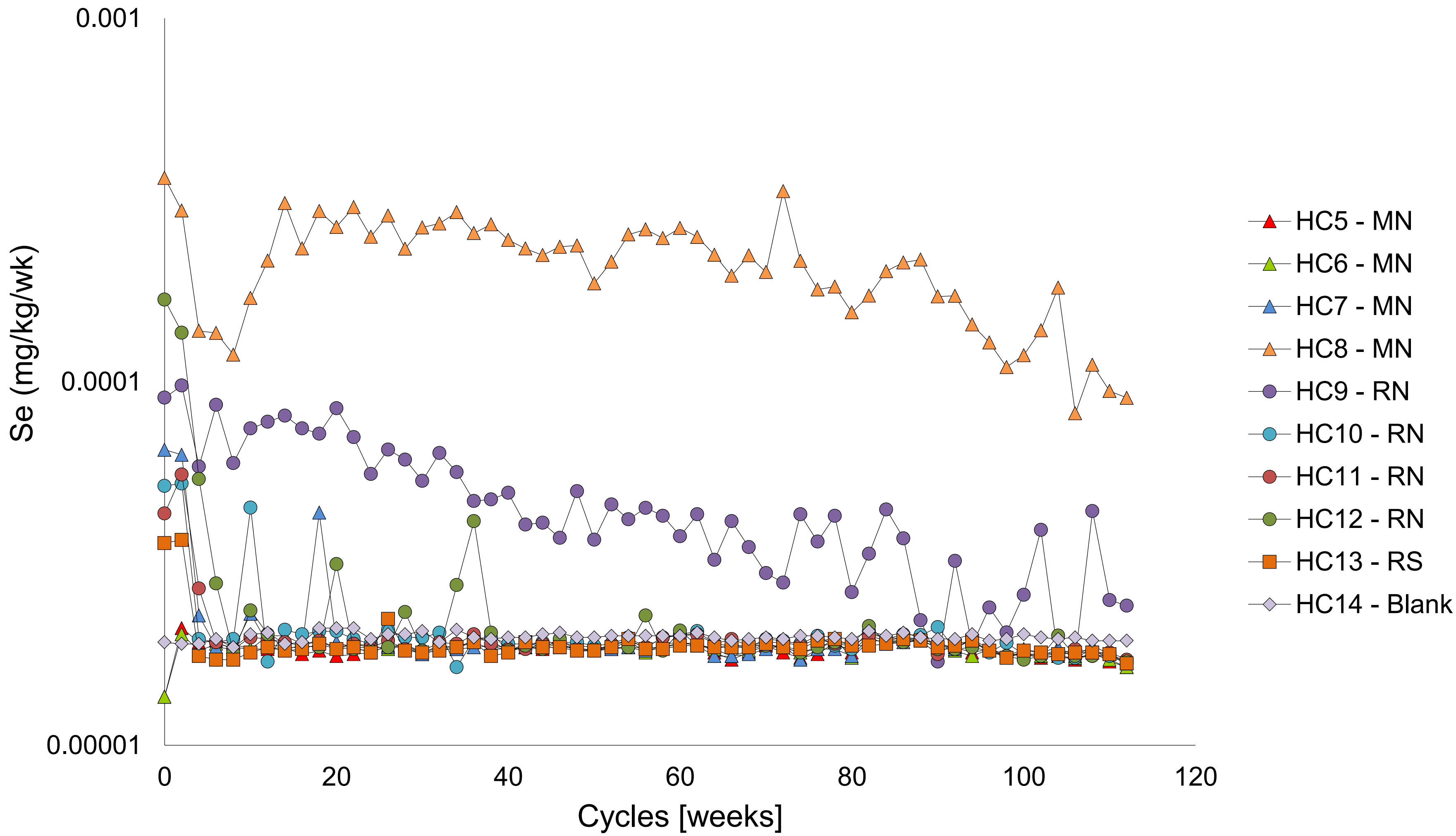

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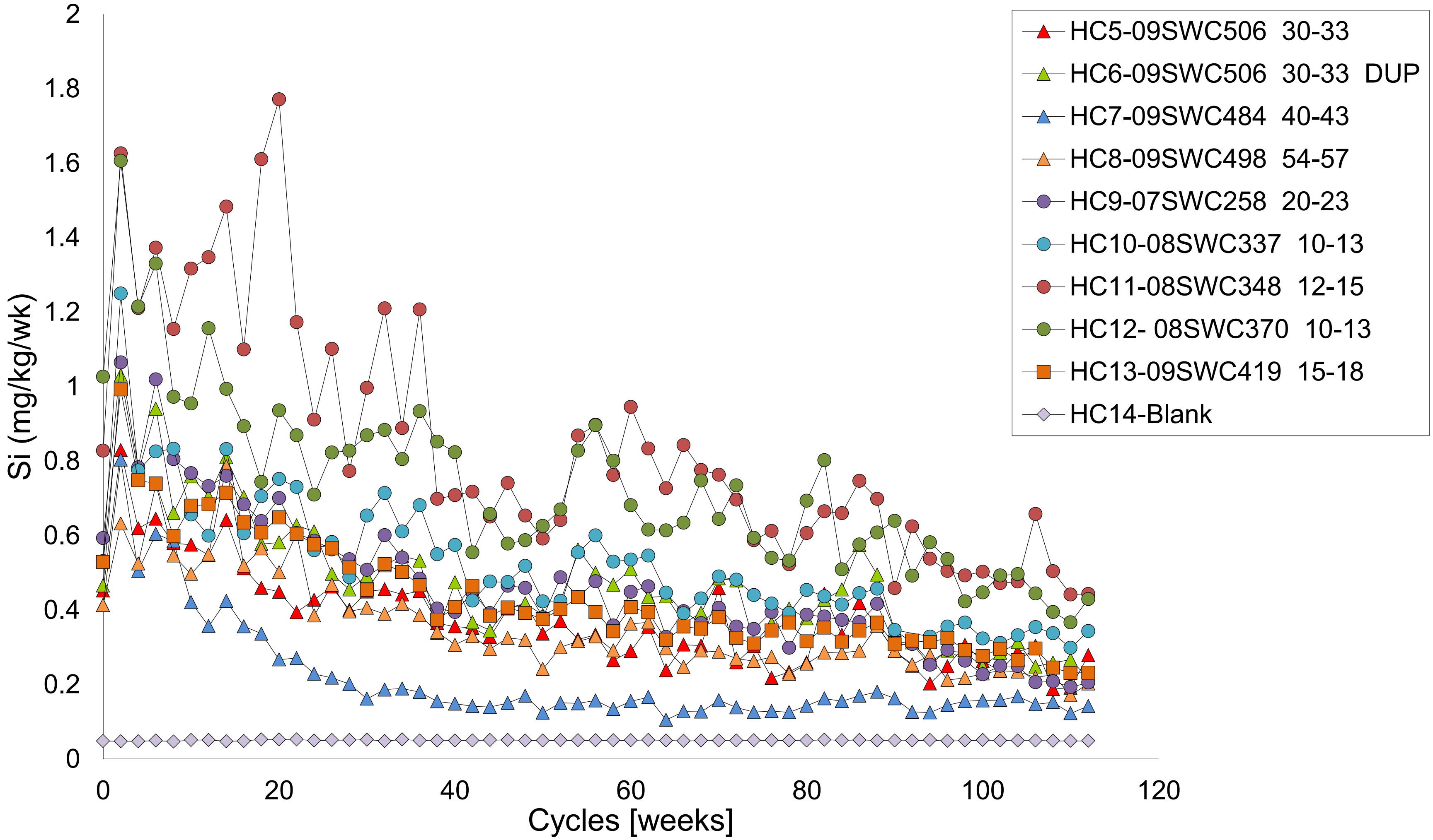

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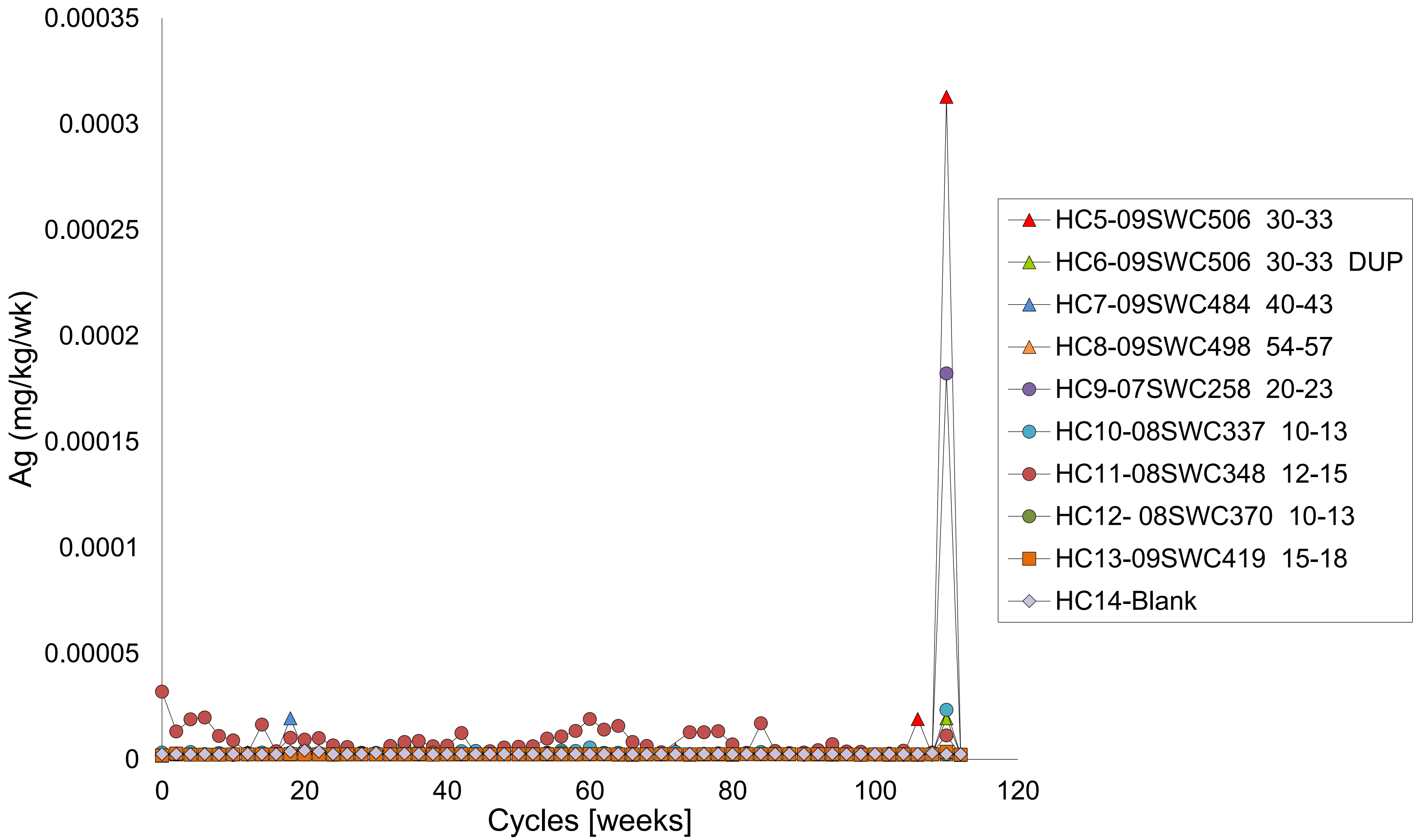

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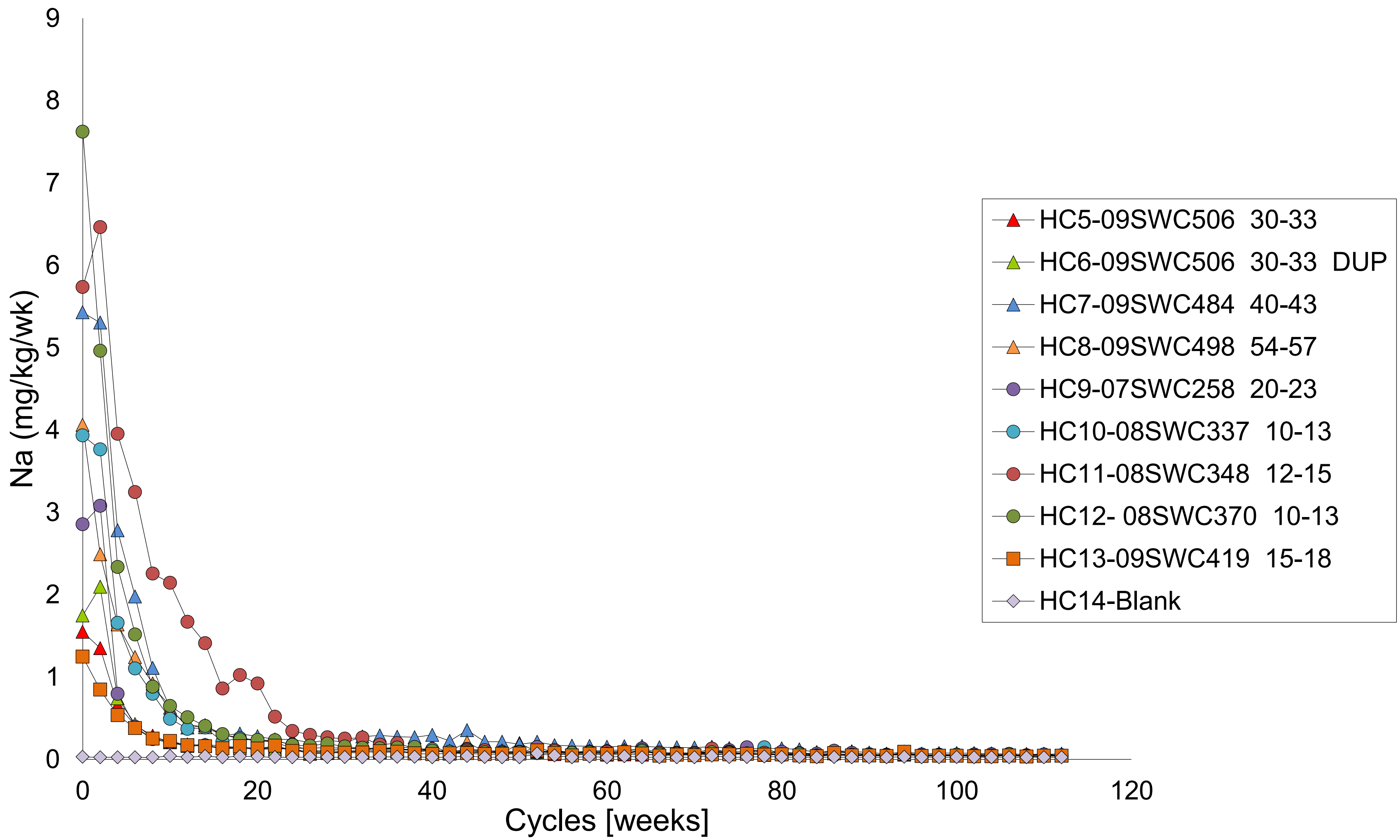

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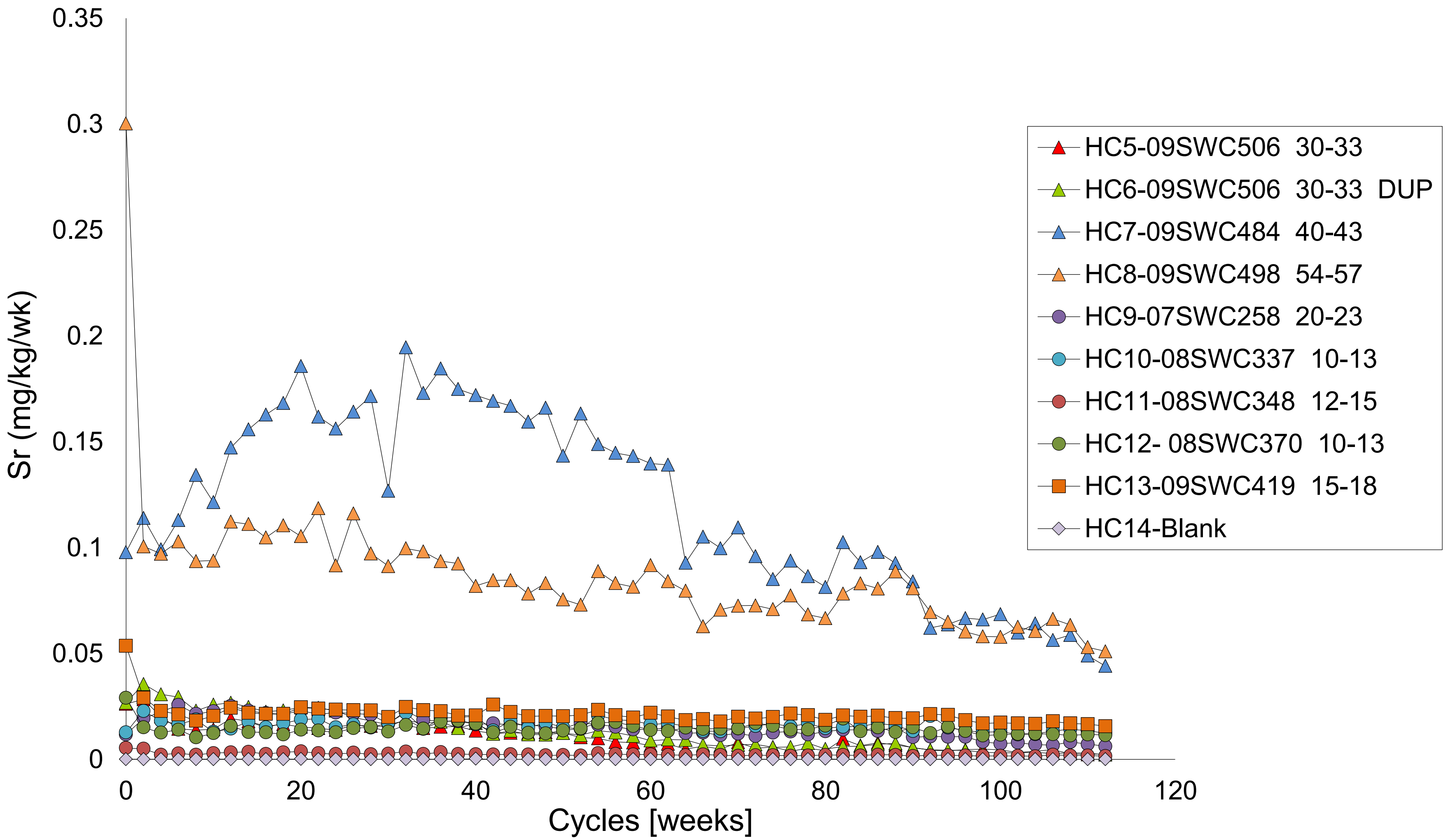

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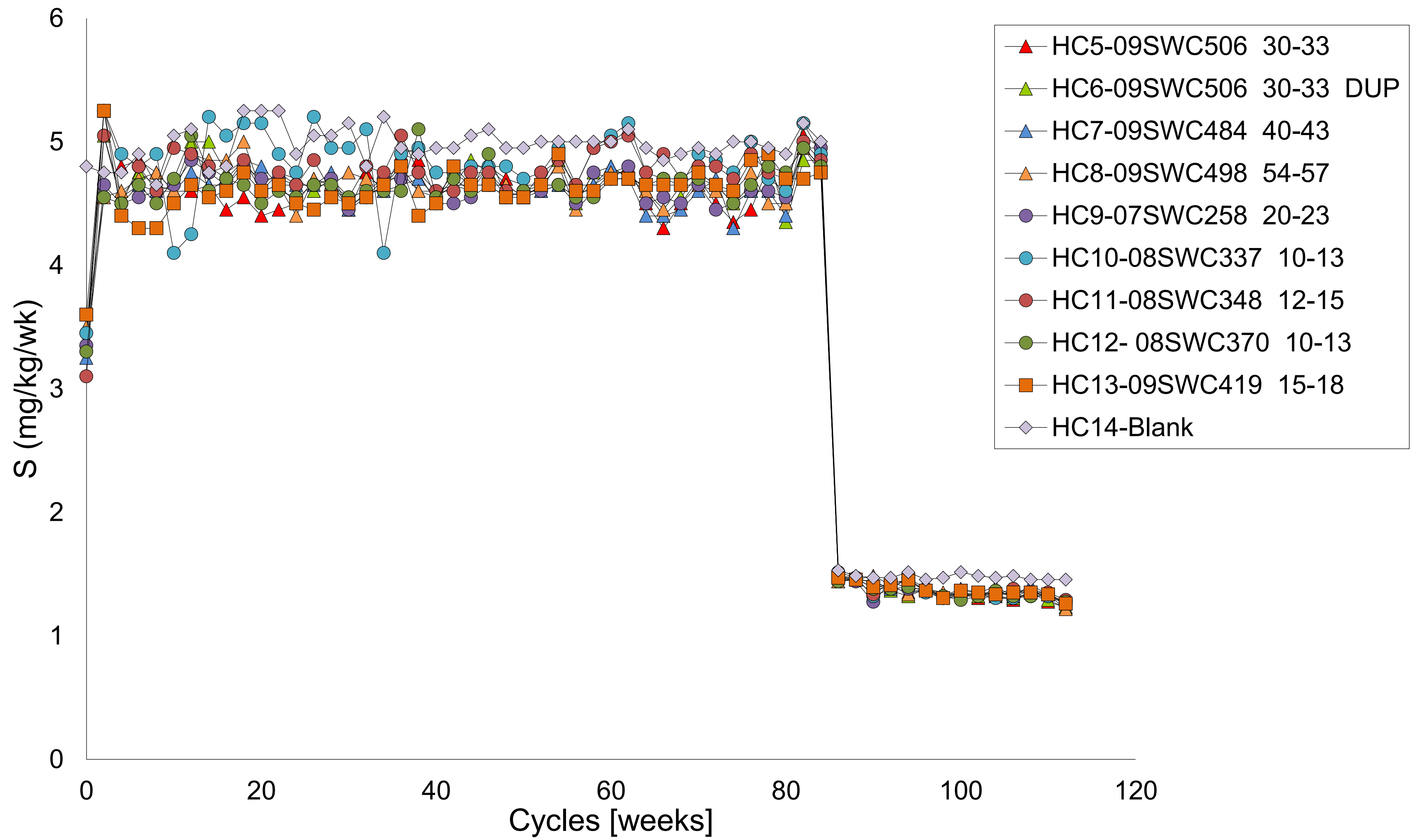

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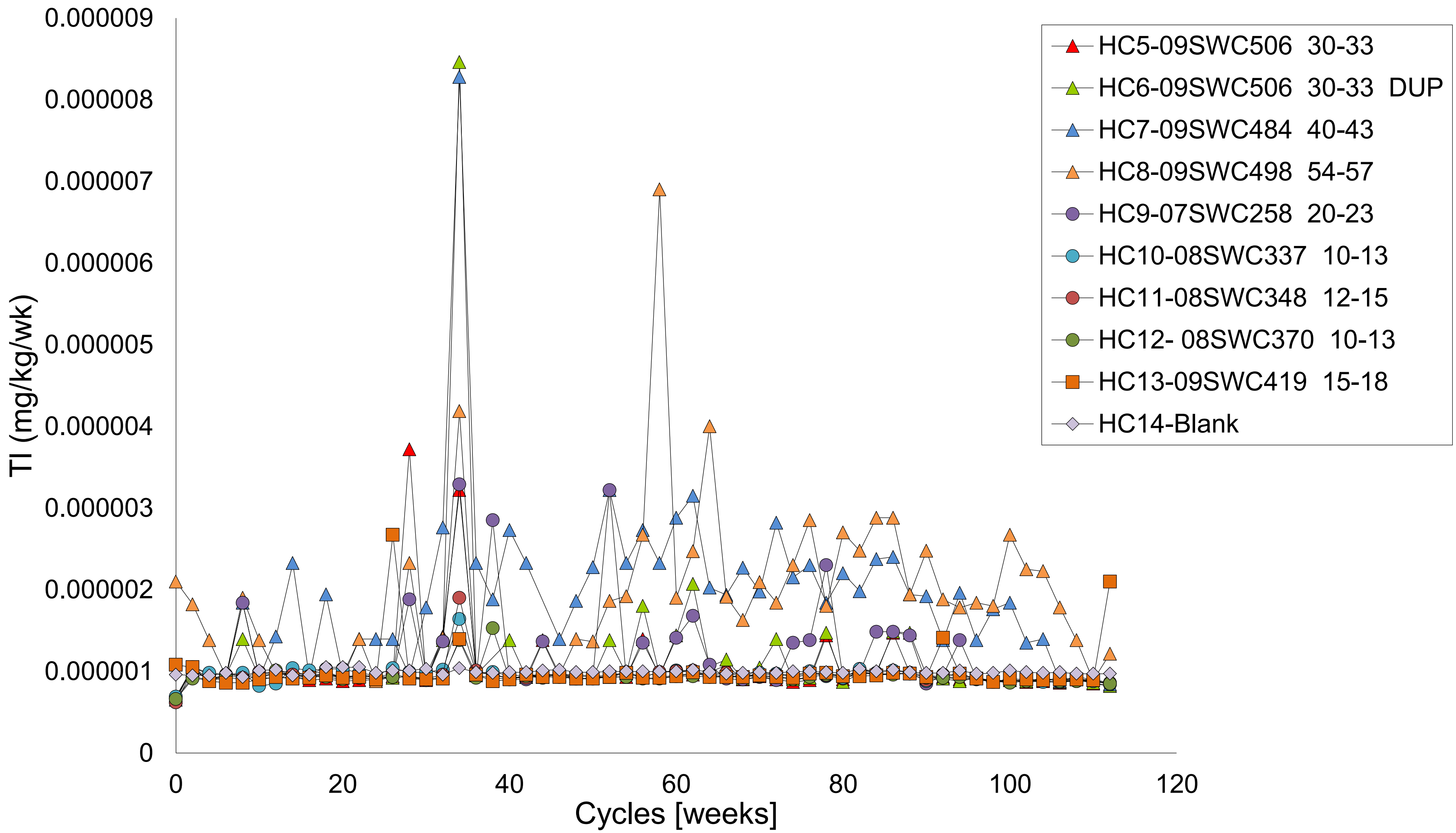

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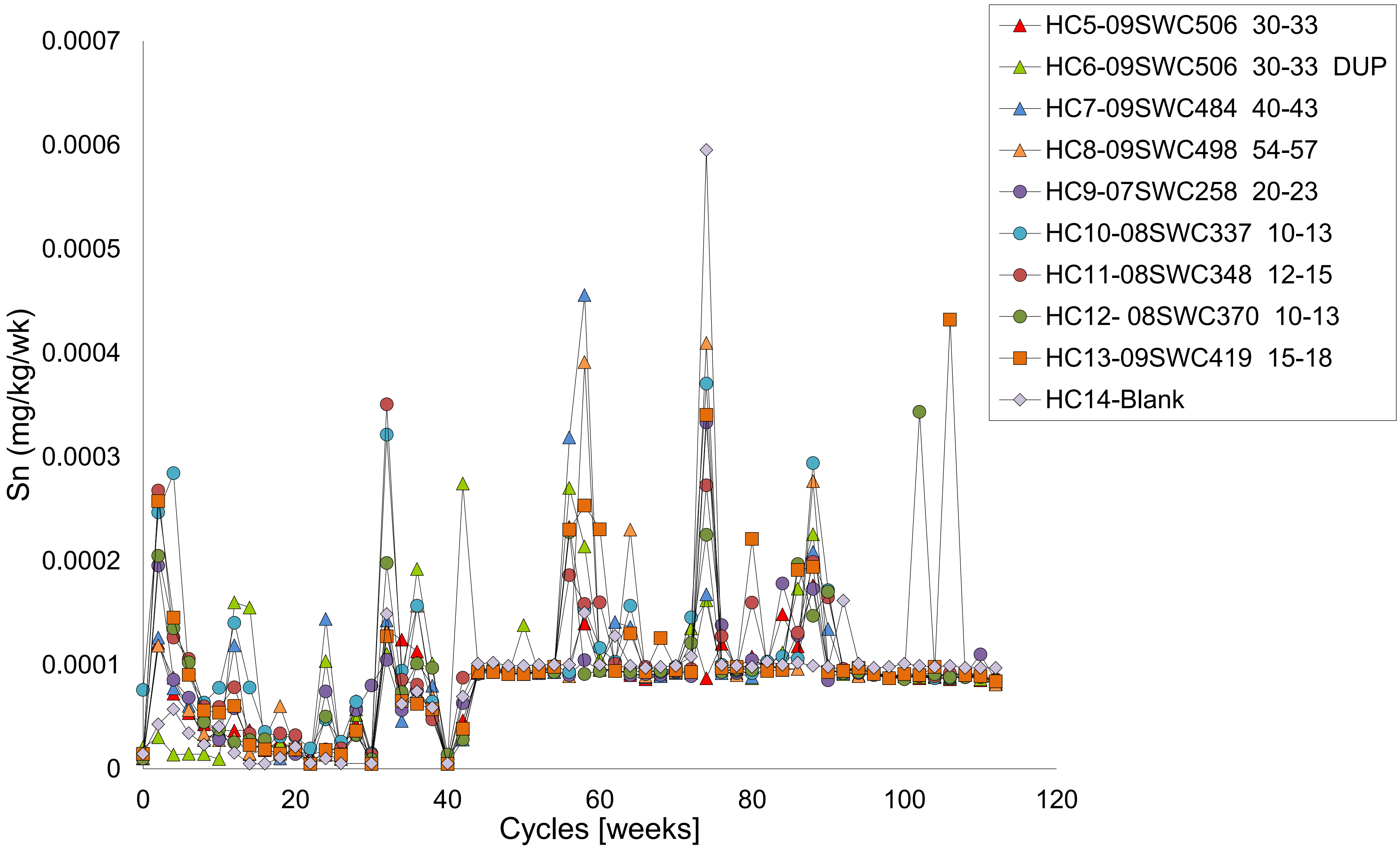

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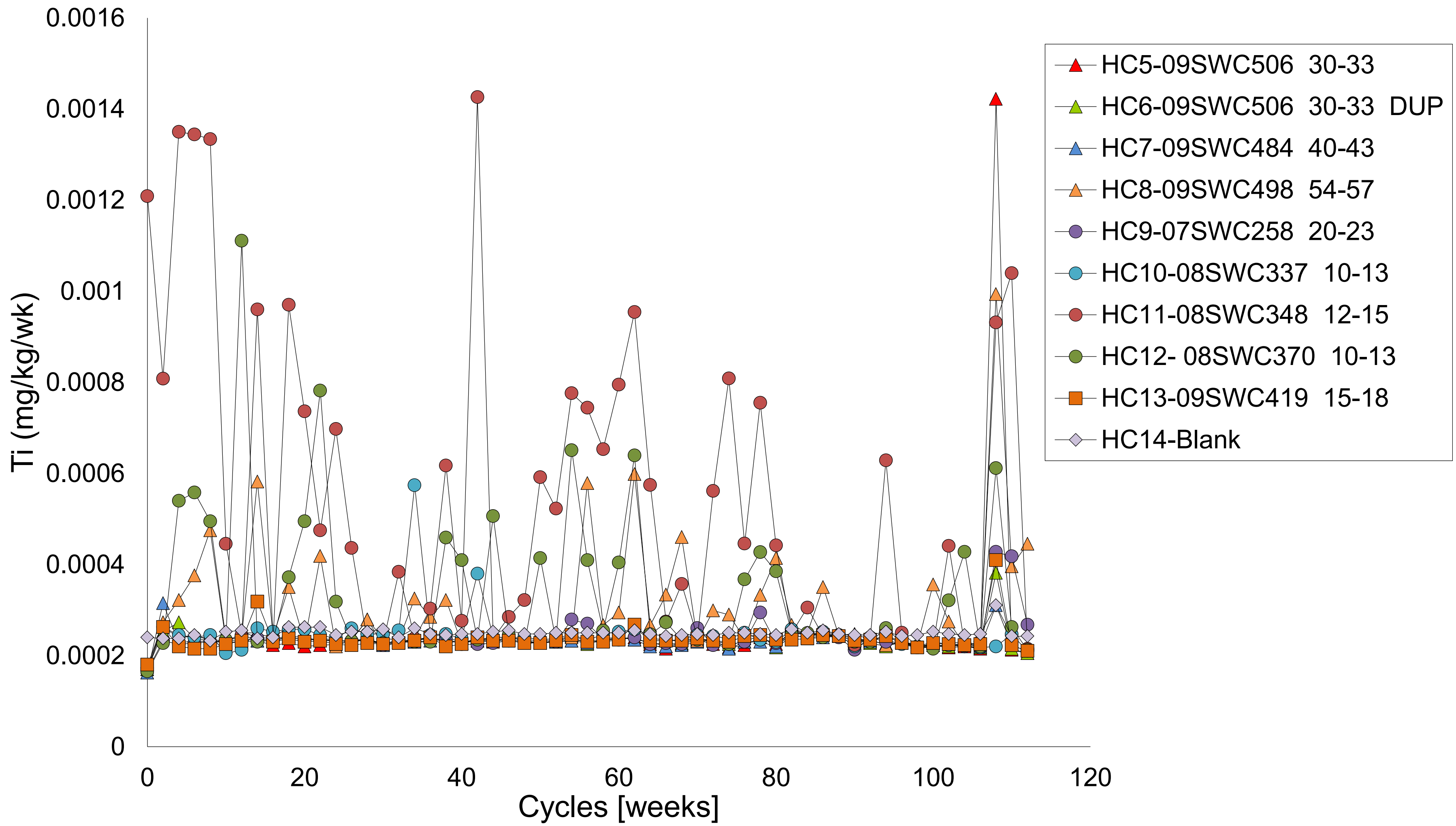

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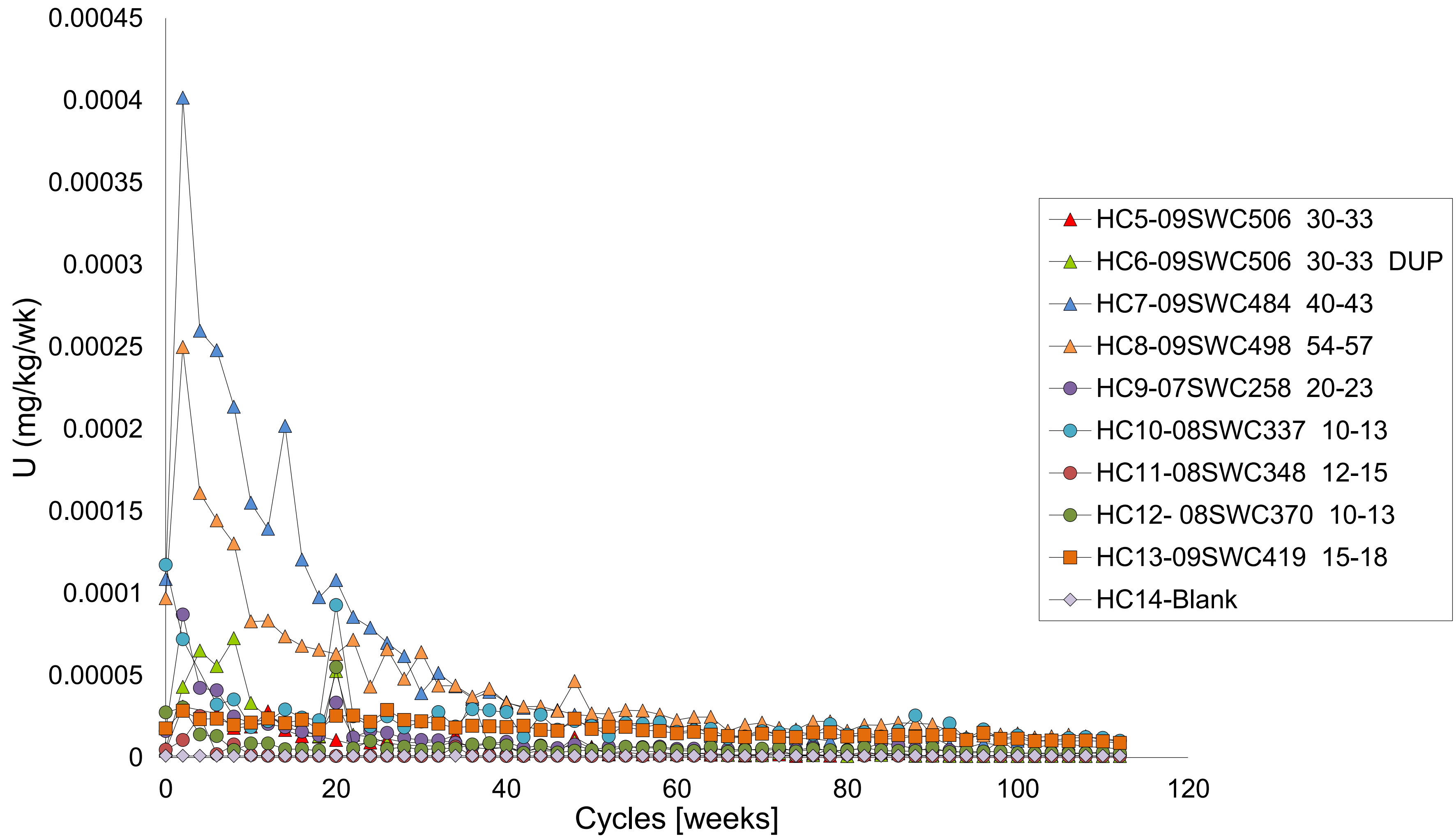

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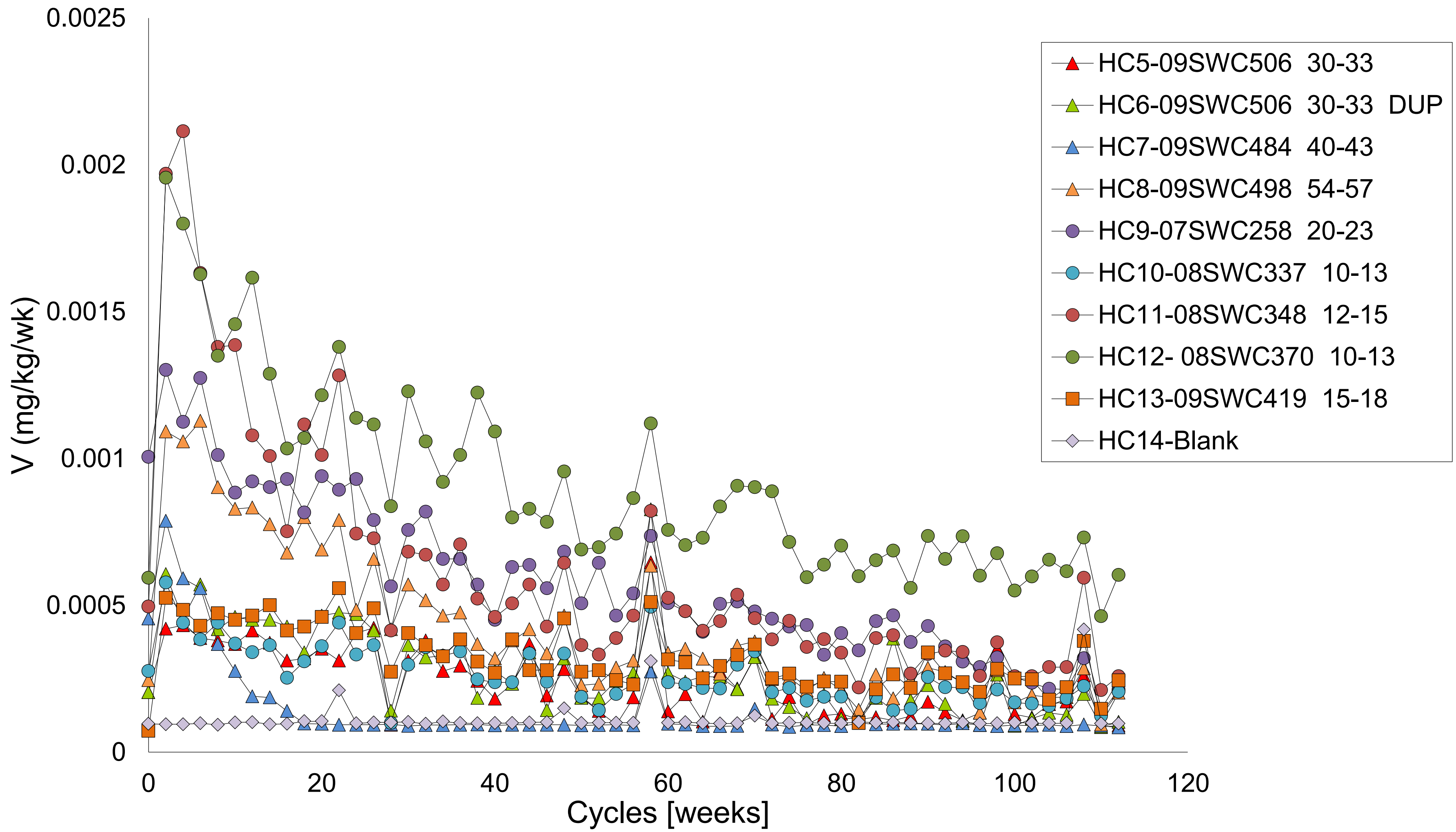

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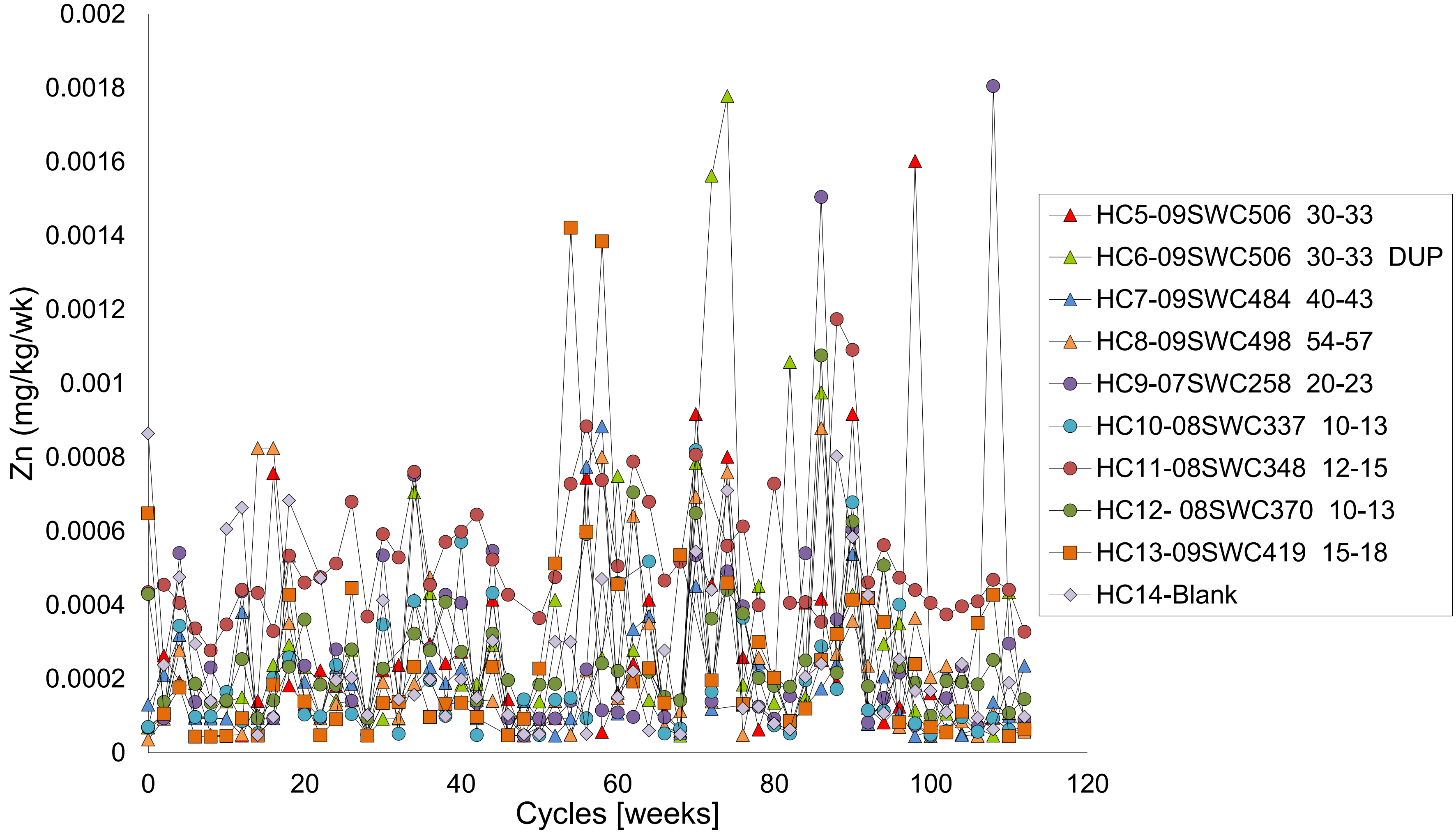

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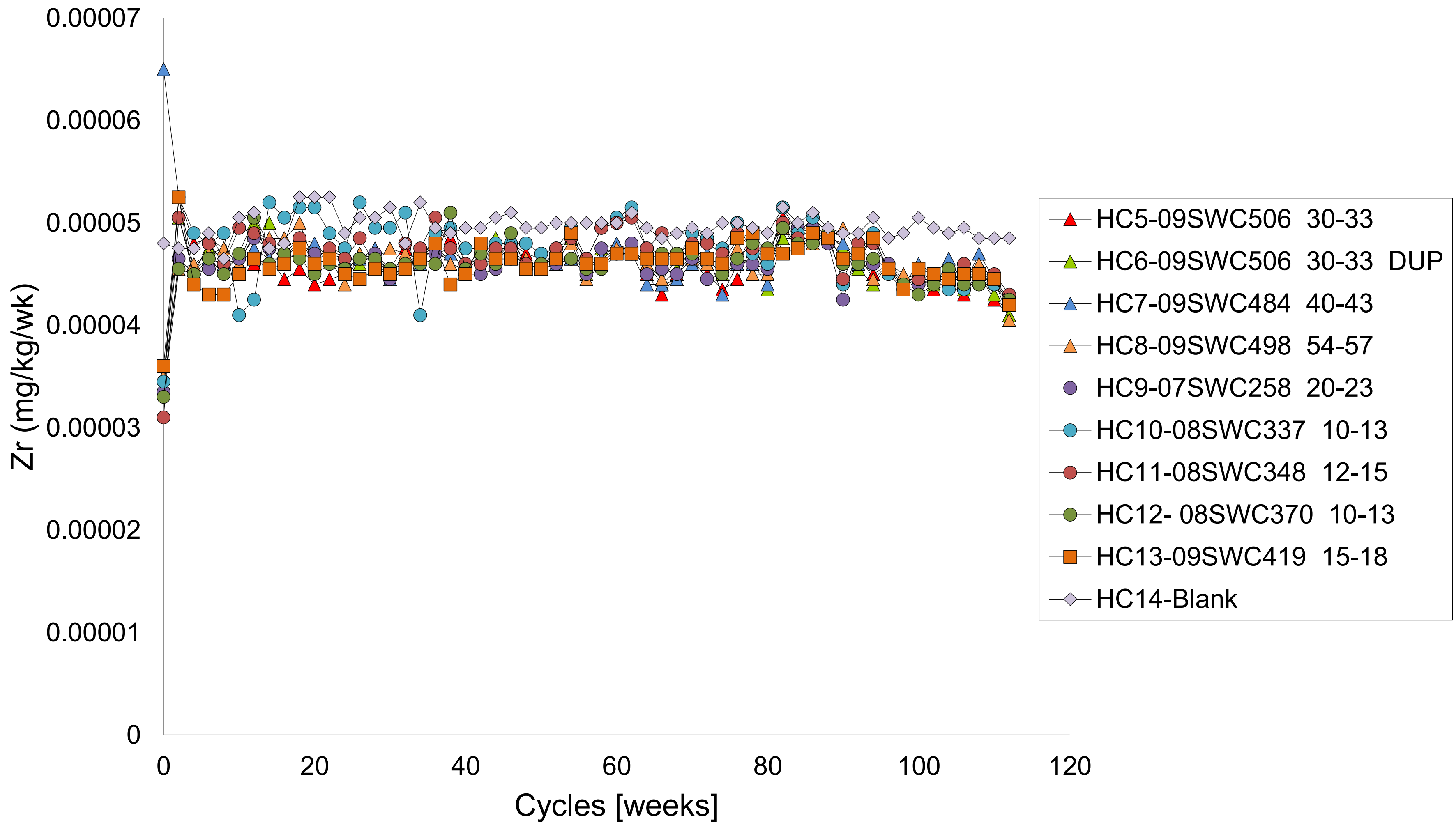

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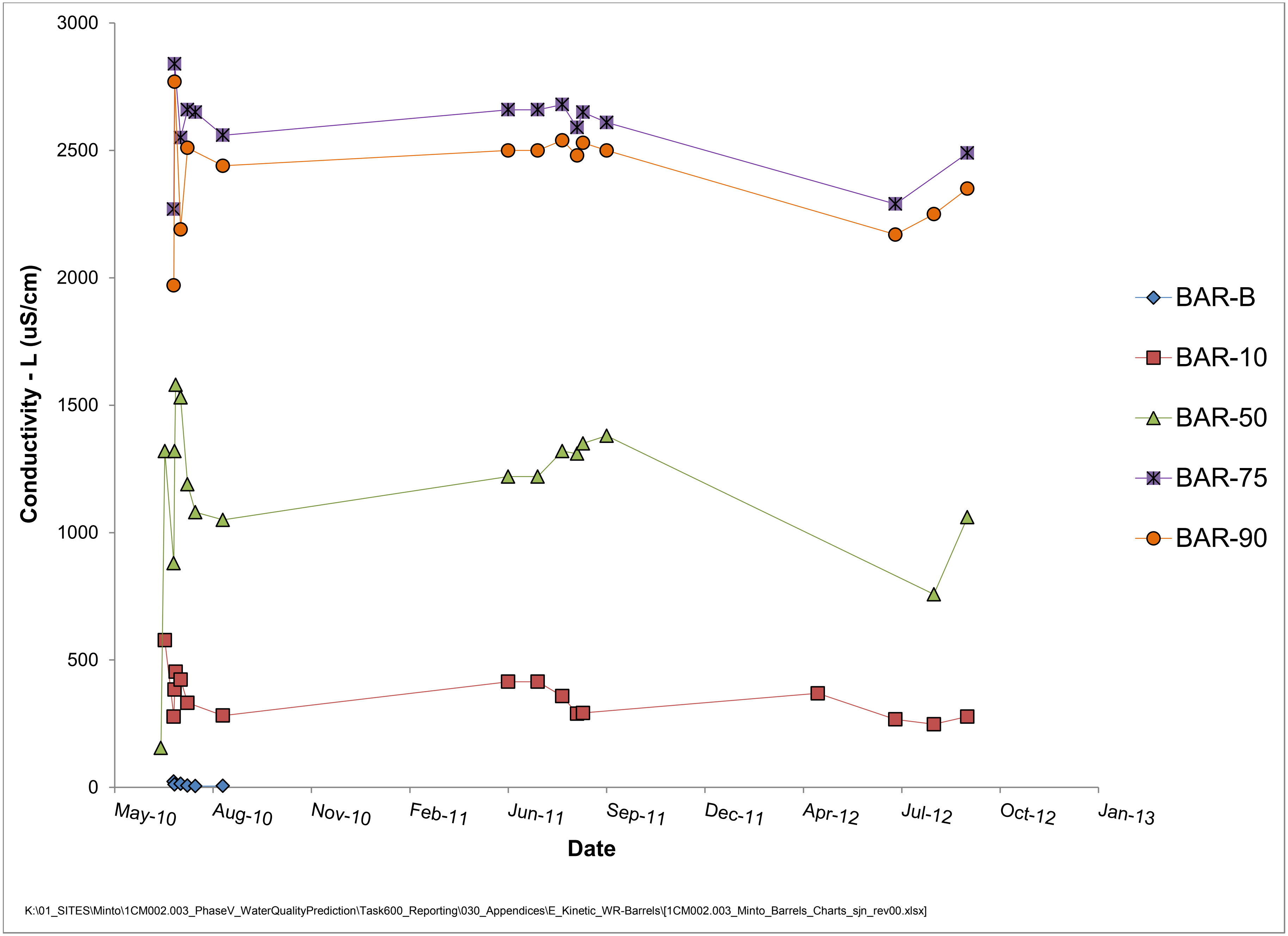
Appendix E
On-Site Waste Rock Barrel Test Results


3000
2500
2000
1500
1000
500
0
Conductivity - L (uS/cm)
May-10
Aug-10
Nov-10
Feb-11
Jun-11
Sep-11
Dec-11
Apr-12
Jul-12
Oct-12
Jan-13
Date
BAR-B
BAR-10
BAR-50
BAR-75
BAR-90
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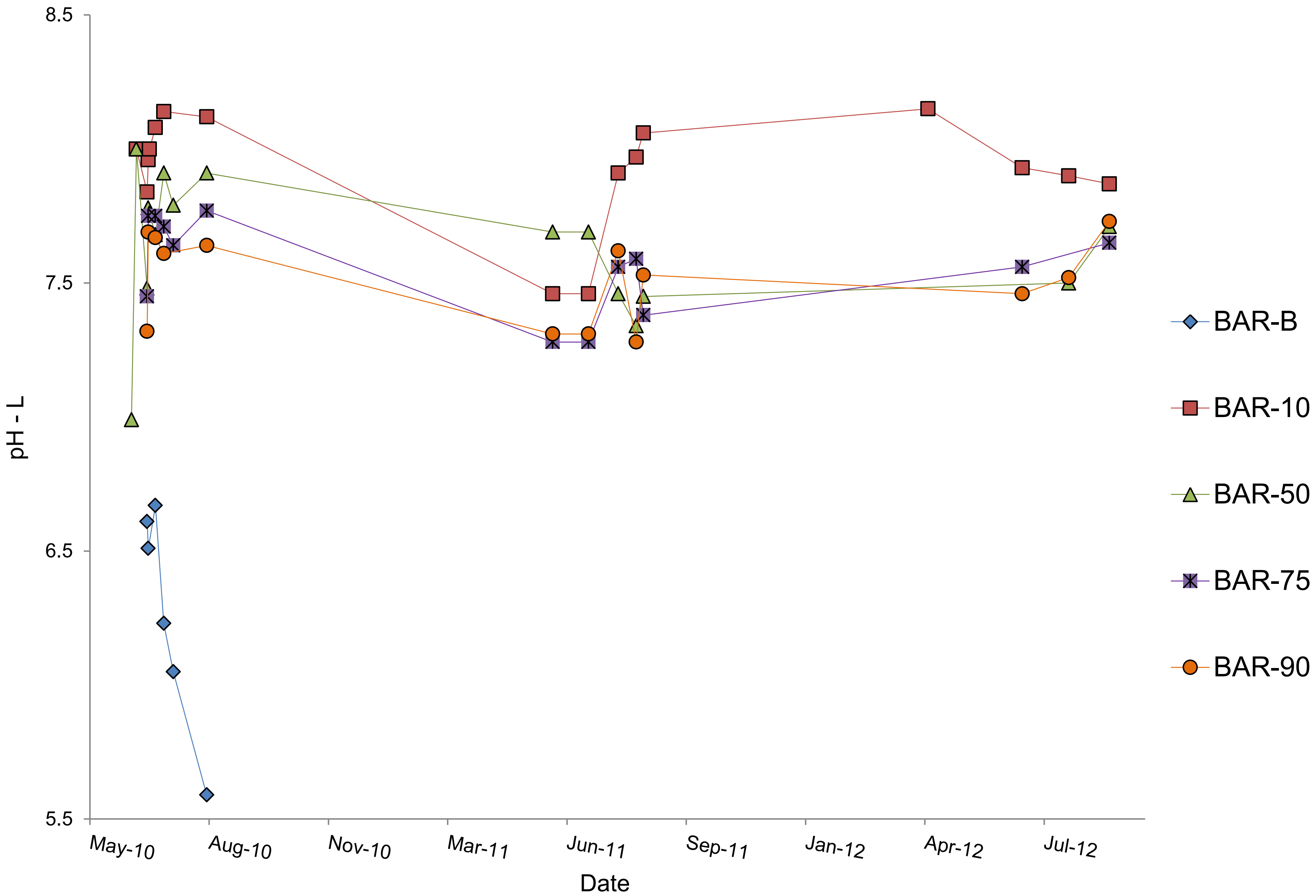

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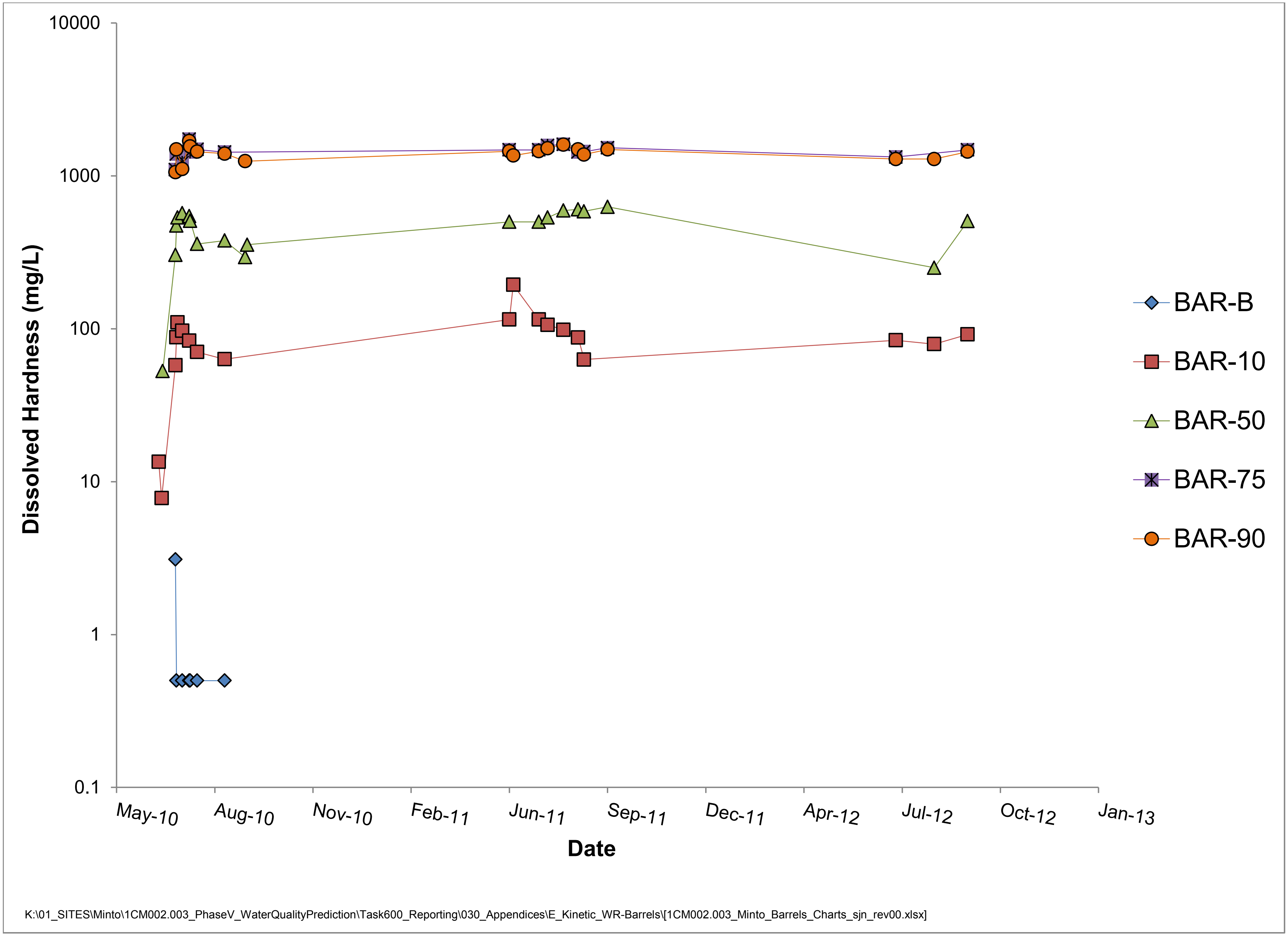
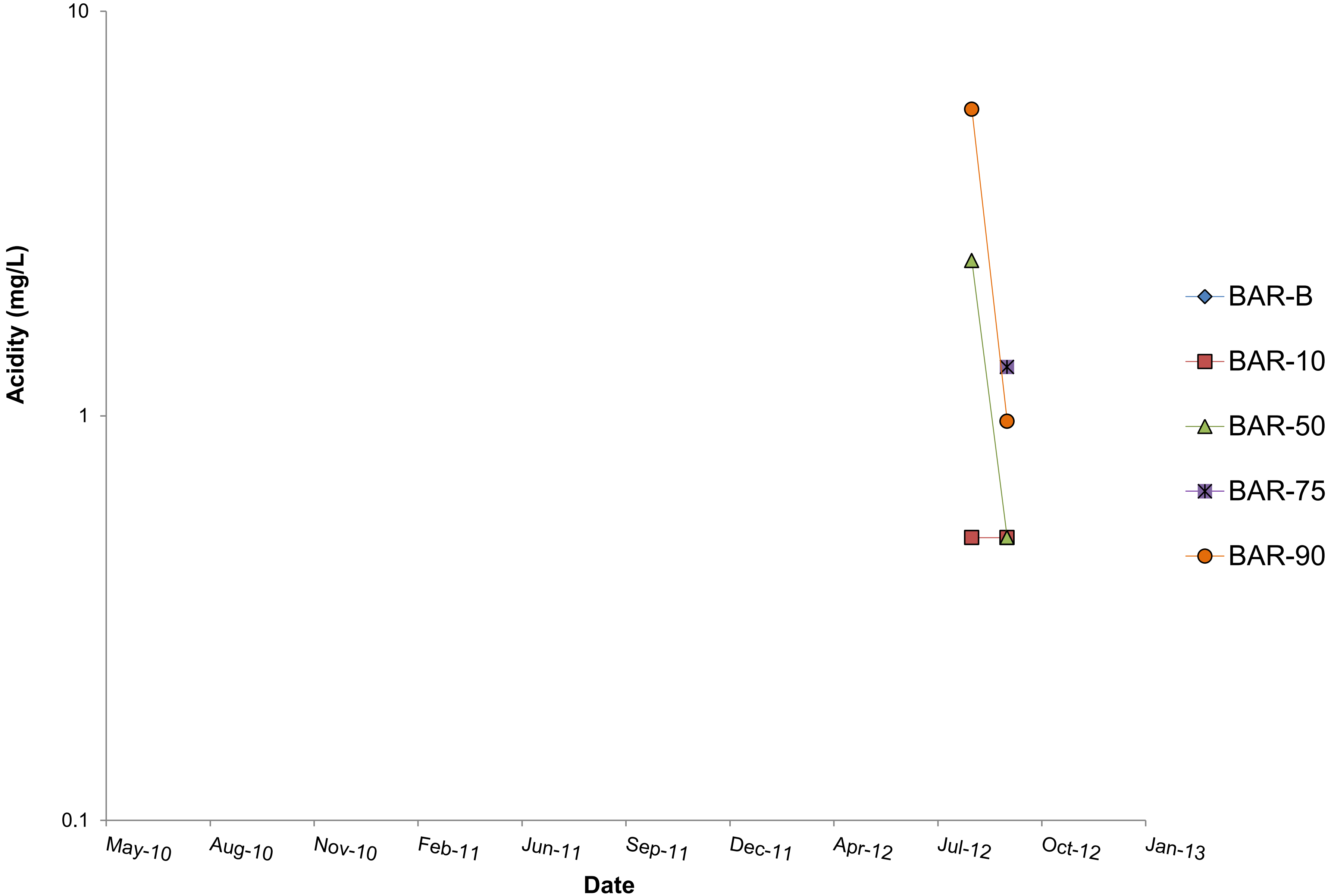

10000
1000
100
10
1
0.1
Dissolved Hardness (mg/L)
May-10
Aug-10
Nov-10
Feb-11
Jun-11
Sep-11
Dec-11
Apr-12
Jul-12
Oct-12
Jan-13
Date
BAR-B
BAR-10
BAR-50
BAR-75
BAR-90
K:\01_SITES\Minto\1CM002.003_PhaseV_WaterQualityPrediction\Task600_Reporting\030_Appendices\E_Kinetic_WR-Barrels\[1CM002.003_Minto_Barrels_Charts_sjn_rev00.xlsx]



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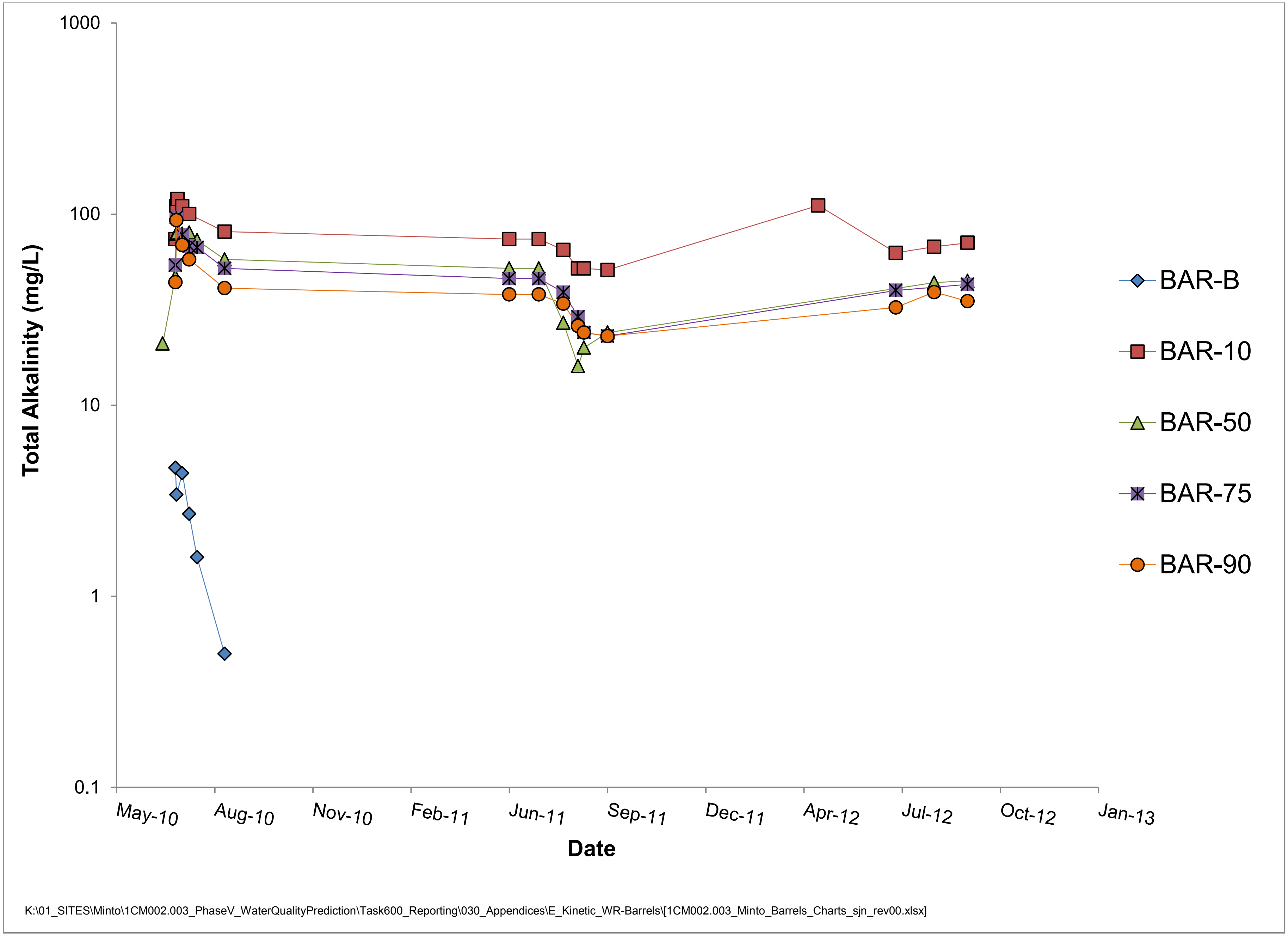
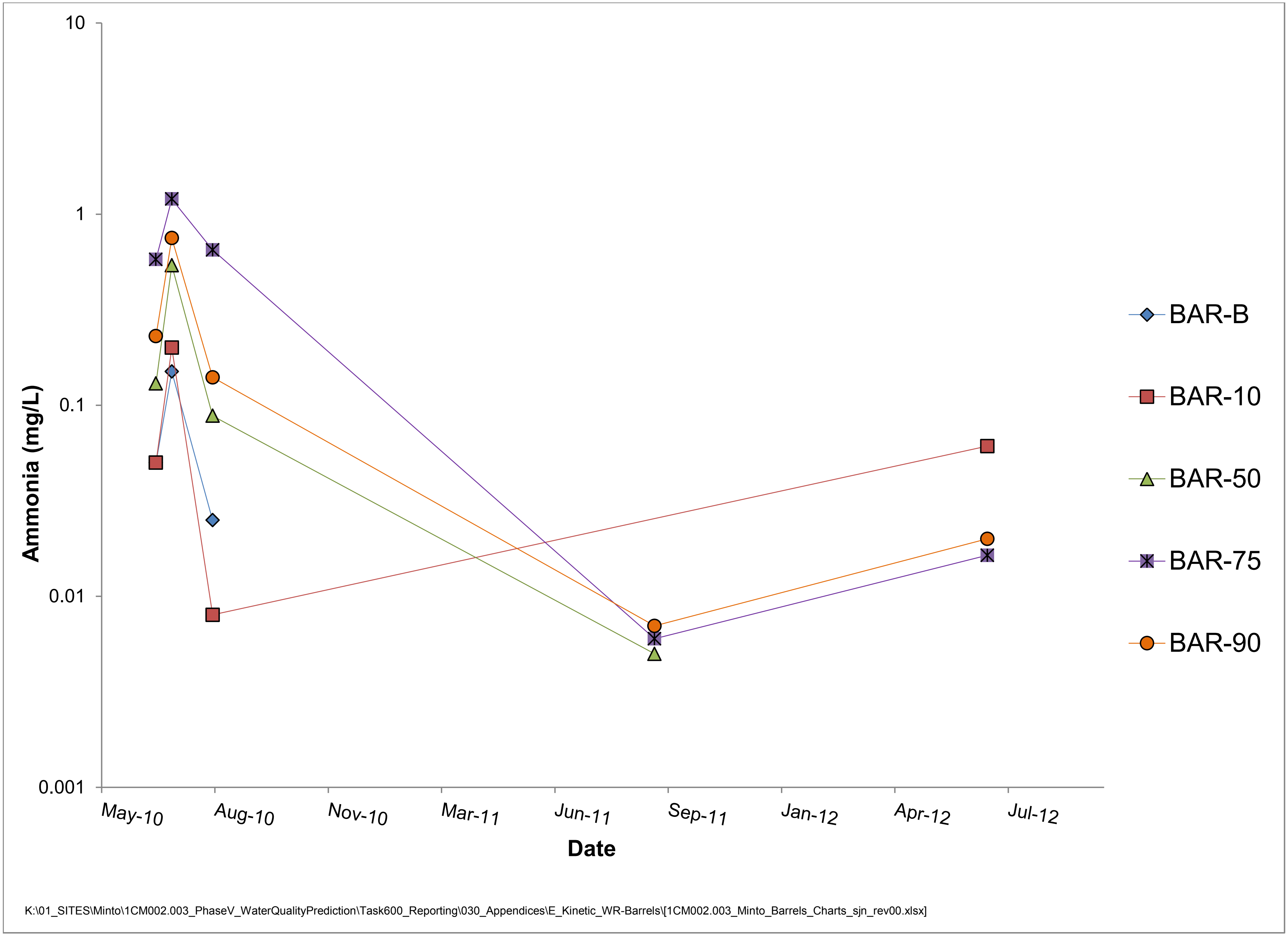
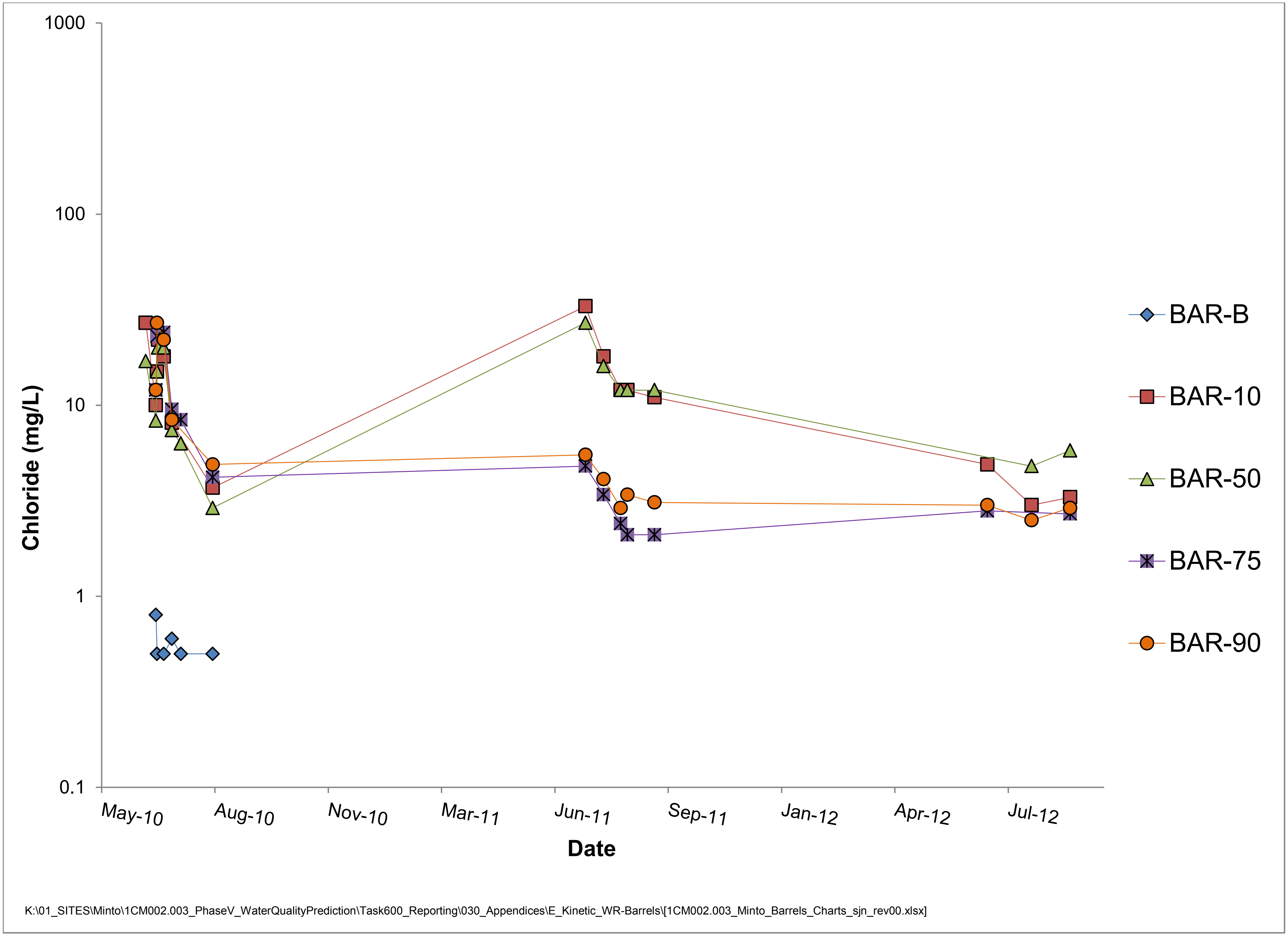
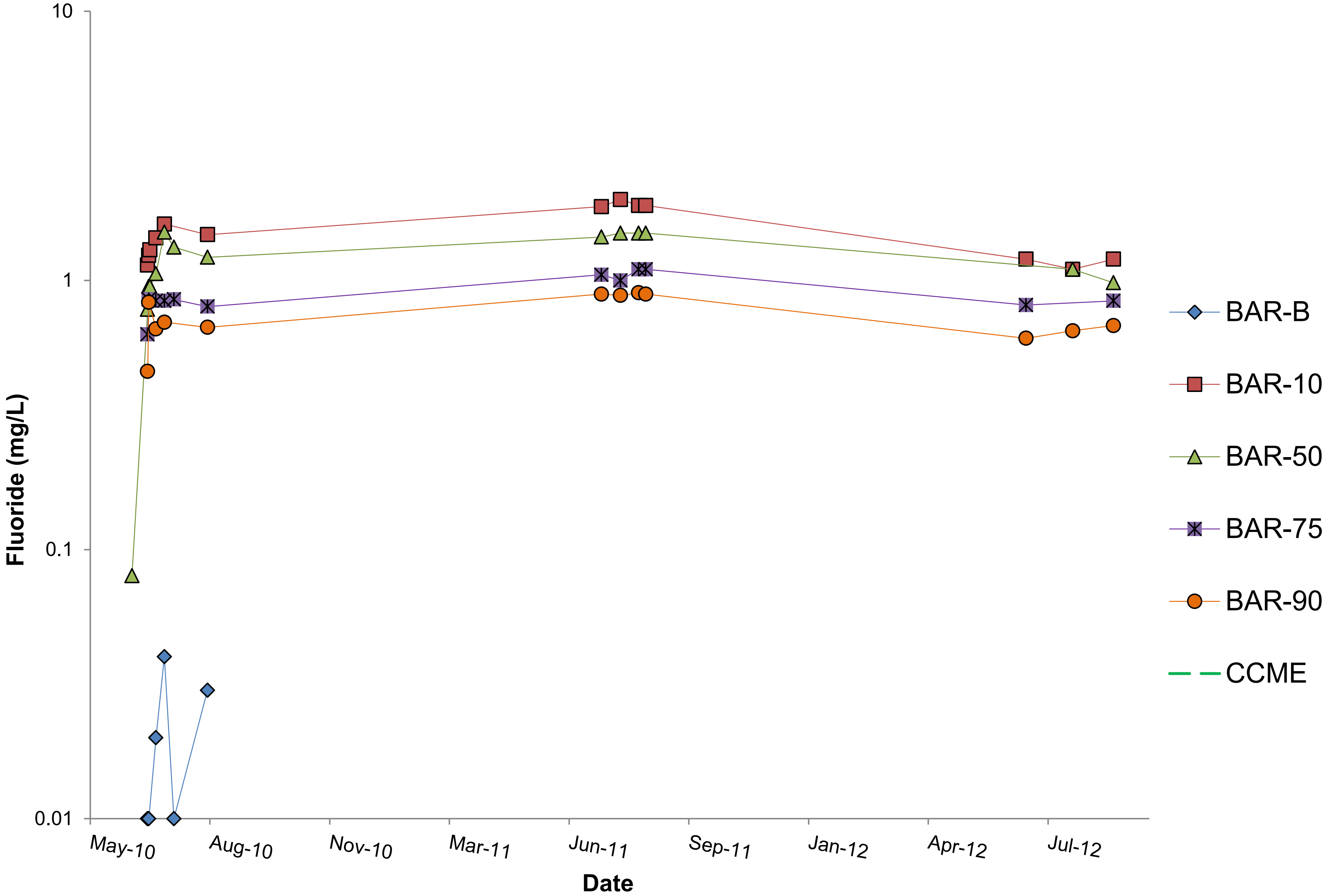

Total Alkalinity (mg/L)
1000
100
10
1
0.1
May-10
Aug-10
Nov-10
Feb-11
Jun-11
Sep-11
Dec-11
Apr-12
Jul-12
Oct-12
Jan-13
Date
BAR-B
BAR-10
BAR-50
BAR-75
BAR-90
K:\01_SITES\Minto\1CM002.003_PhaseV_WaterQualityPrediction\Task600_Reporting\030_Appendices\E_Kinetic_WR-Barrels\[1CM002.003_Minto_Barrels_Charts_sjn_rev00.xlsx]


10
1
0.1
0.01
0.001
Ammonia (mg/L)
May-10
Aug-10
Nov-10
Mar-11
Jun-11
Sep-11
Jan-12
Apr-12
Jul-12
Date
BAR-B
BAR-10
BAR-50
BAR-75
BAR-90
K:\01_SITES\Minto\1CM002.003_PhaseV_WaterQualityPrediction\Task600_Reporting\030_Appendices\E_Kinetic_WR-Barrels\[1CM002.003_Minto_Barrels_Charts_sjn_rev00.xlsx]


1000
100
10
1
0.1
Chloride (mg/L)
May-10
Aug-10
Nov-10
Mar-11
Jun-11
Sep-11
Jan-12
Apr-12
Jul-12
Date
BAR-B
BAR-10
BAR-50
BAR-75
BAR-90
K:\01_SITES\Minto\1CM002.003_PhaseV_WaterQualityPrediction\Task600_Reporting\030_Appendices\E_Kinetic_WR-Barrels\[1CM002.003_Minto_Barrels_Charts_sjn_rev00.xlsx]



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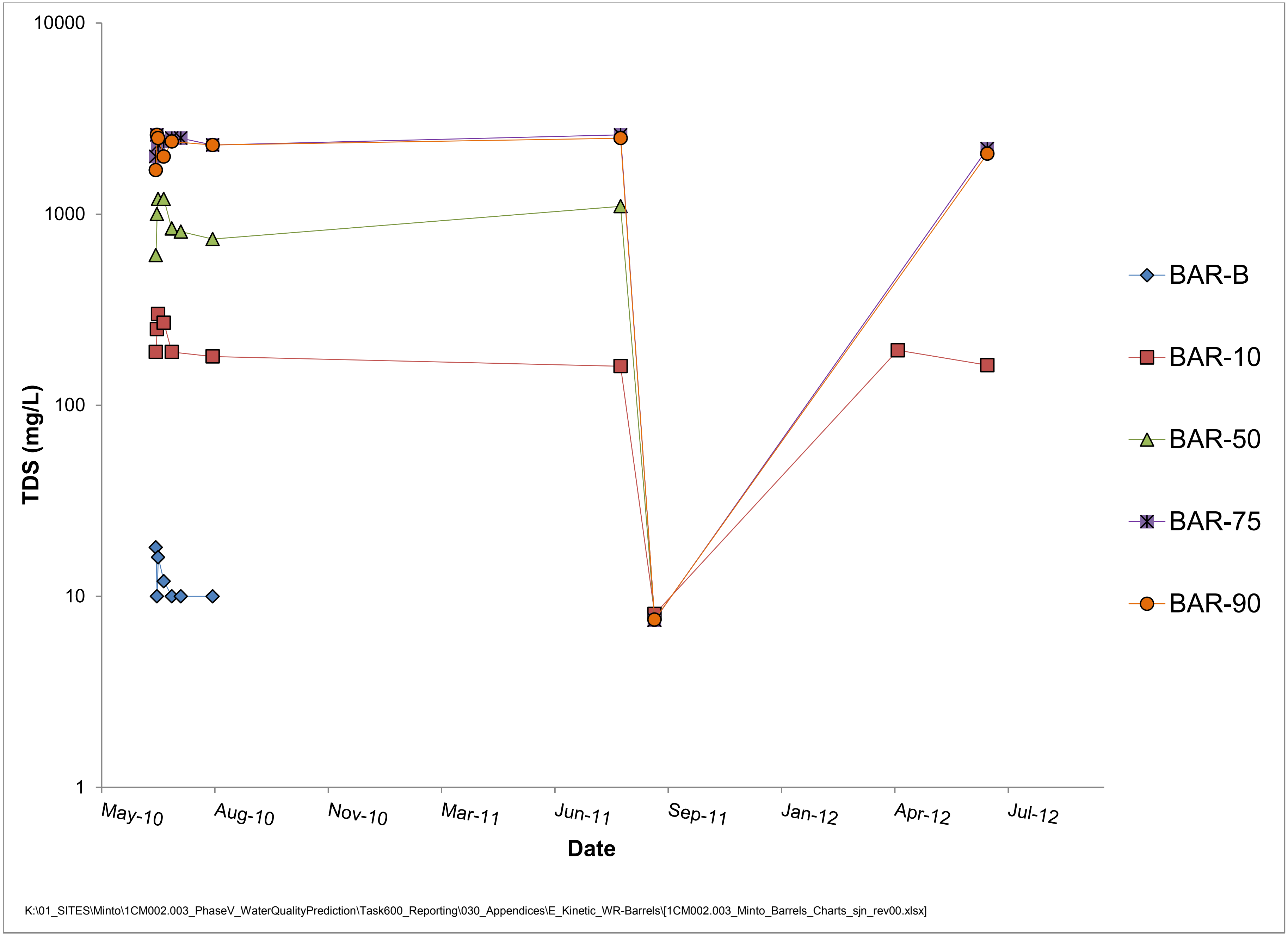
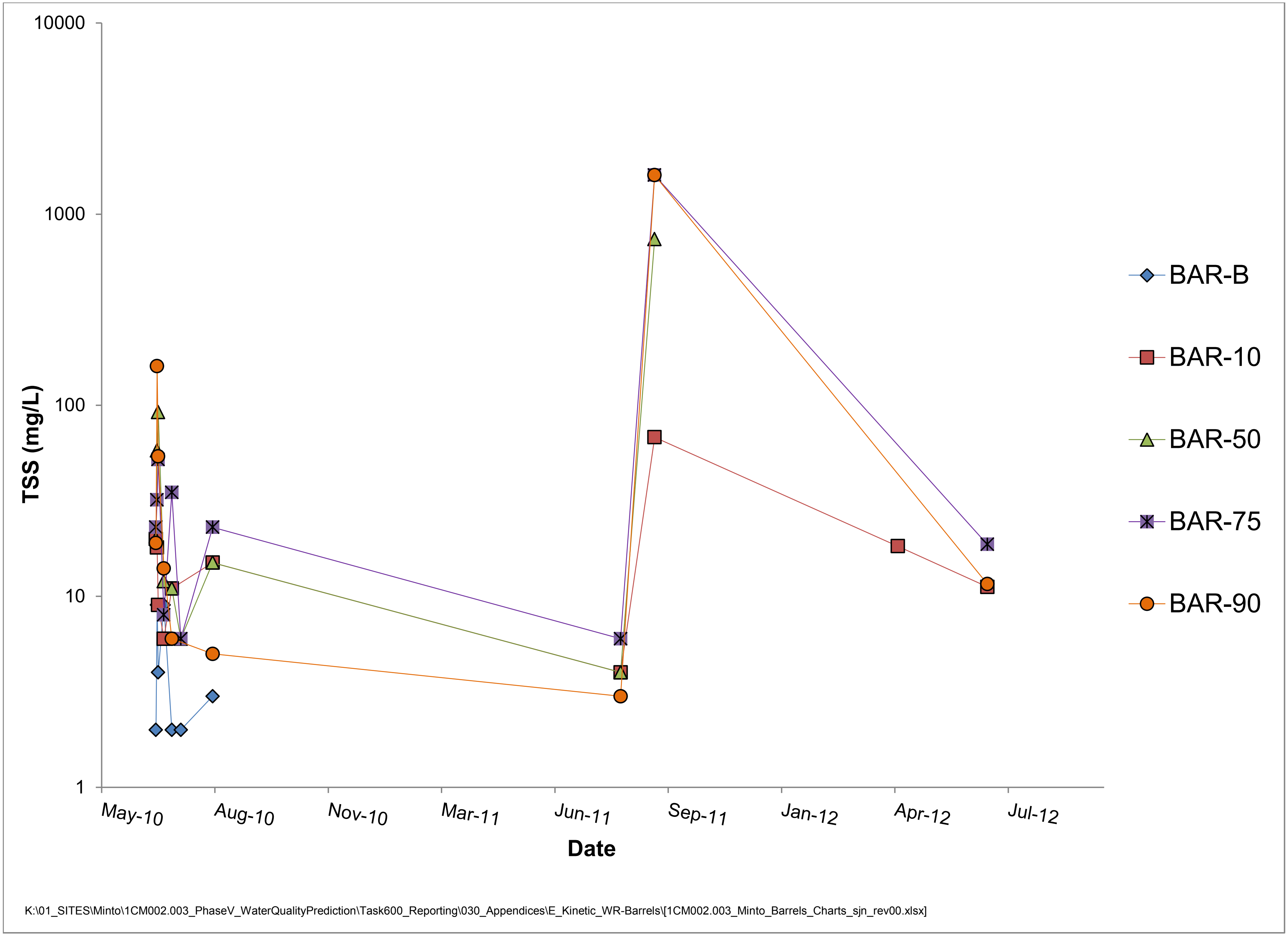
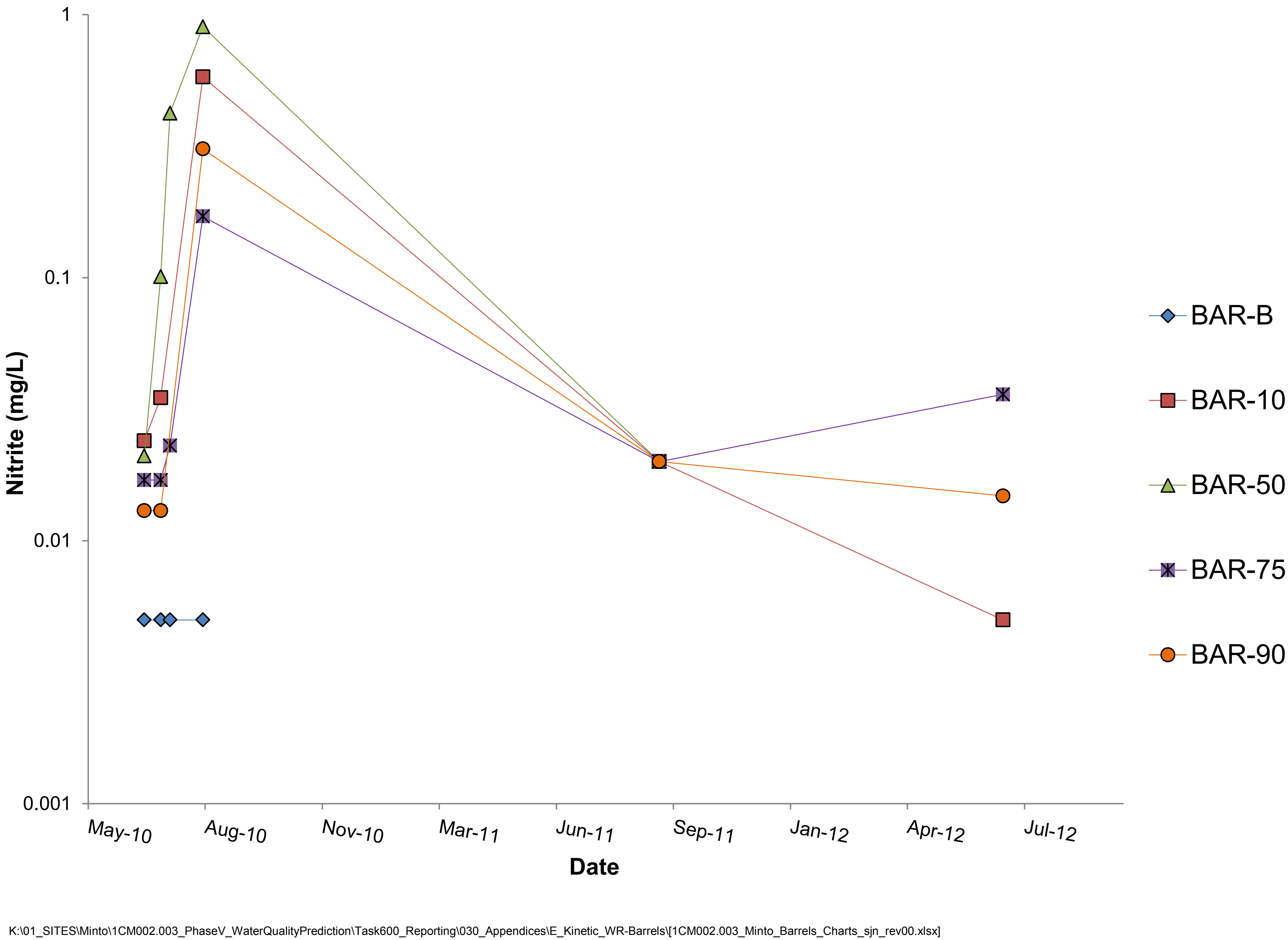
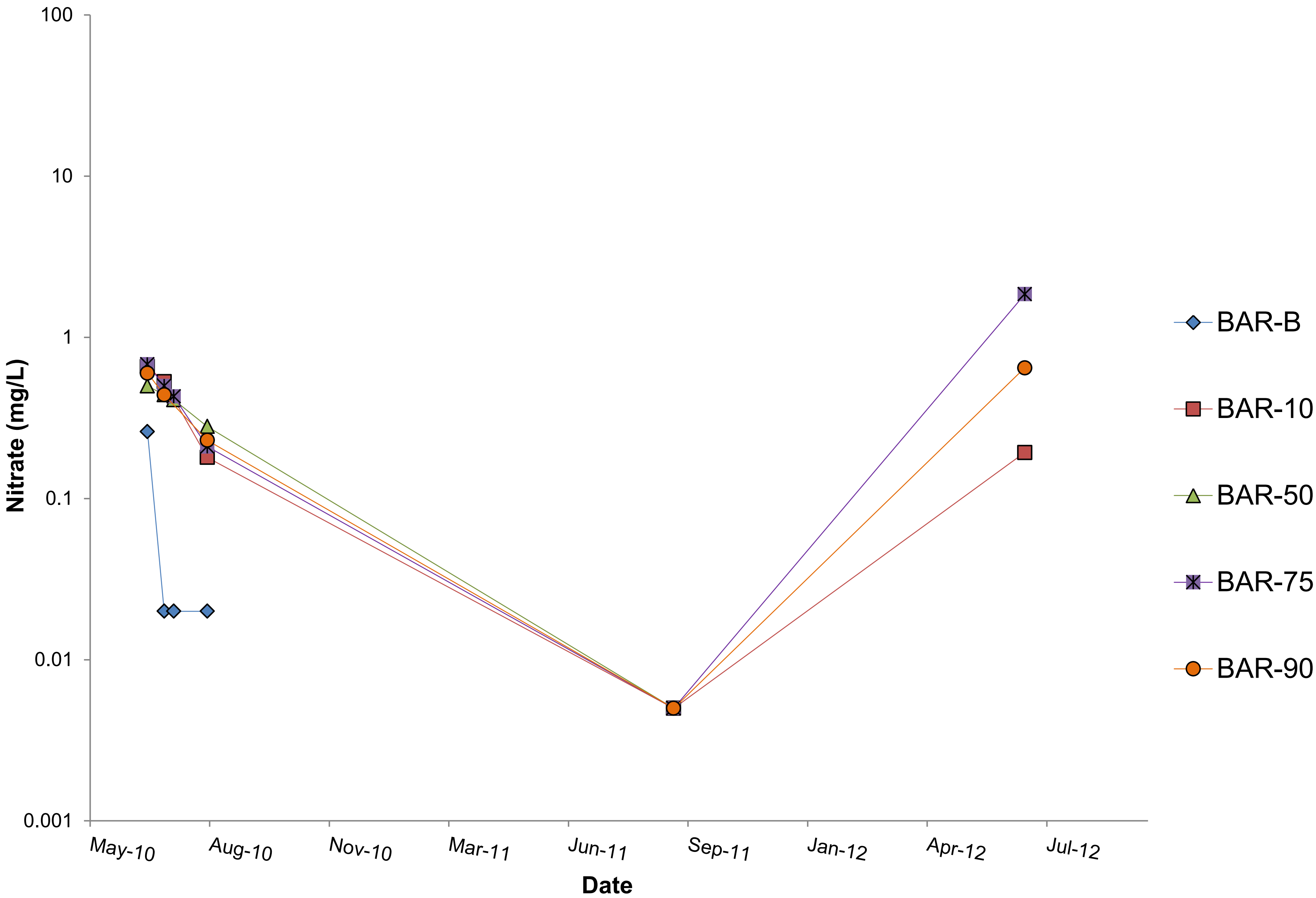

10000
1000
100
10
1
TDS (mg/L)
May-10
Aug-10
Nov-10
Mar-11
Jun-11
Sep-11
Jan-12
Apr-12
Jul-12
Date
BAR-B
BAR-10
BAR-50
BAR-75
BAR-90
K:\01_SITES\Minto\1CM002.003_PhaseV_WaterQualityPrediction\Task600_Reporting\030_Appendices\E_Kinetic_WR-Barrels\[1CM002.003_Minto_Barrels_Charts_sjn_rev00.xlsx]


10000
1000
100
10
1
TSS (mg/L)
May-10
Aug-10
Nov-10
Mar-11
Jun-11
Sep-11
Jan-12
Apr-12
Jul-12
Date
BAR-B
BAR-10
BAR-50
BAR-75
BAR-90
K:\01_SITES\Minto\1CM002.003_PhaseV_WaterQualityPrediction\Task600_Reporting\030_Appendices\E_Kinetic_WR-Barrels\[1CM002.003_Minto_Barrels_Charts_sjn_rev00.xlsx]


1
0.1
0.01
0.001
Nitrite (mg/L)
May-10
Aug-10
Nov-10
Mar-11
Jun-11
Sep-11
Jan-12
Apr-12
Jul-12
Date
BAR-B
BAR-10
BAR-50
BAR-75
BAR-90
K:\01_SITES\Minto\1CM002.003_PhaseV_WaterQualityPrediction\Task600_Reporting\030_Appendices\E_Kinetic_WR-Barrels\[1CM002.003_Minto_Barrels_Charts_sjn_rev00.xlsx]



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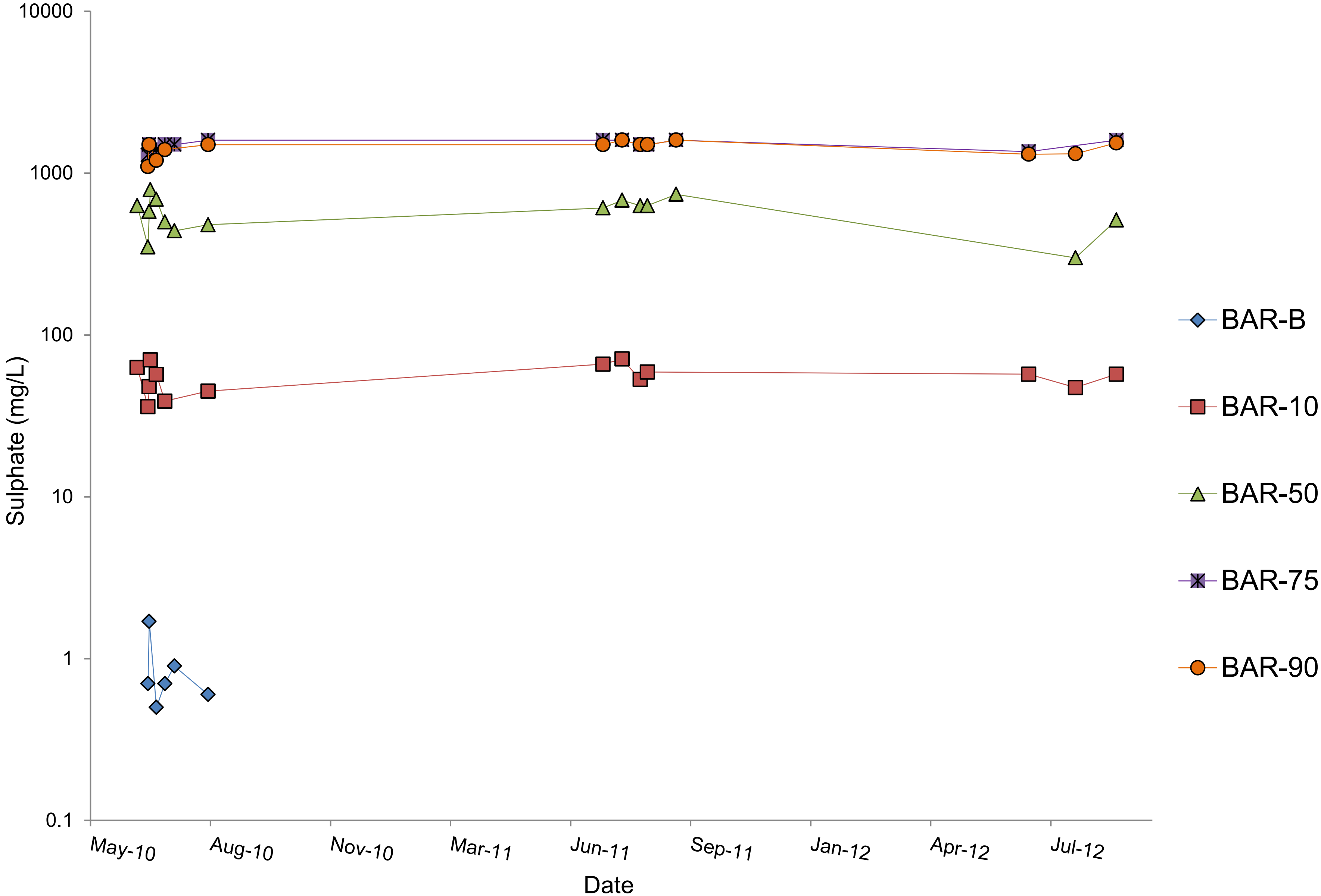

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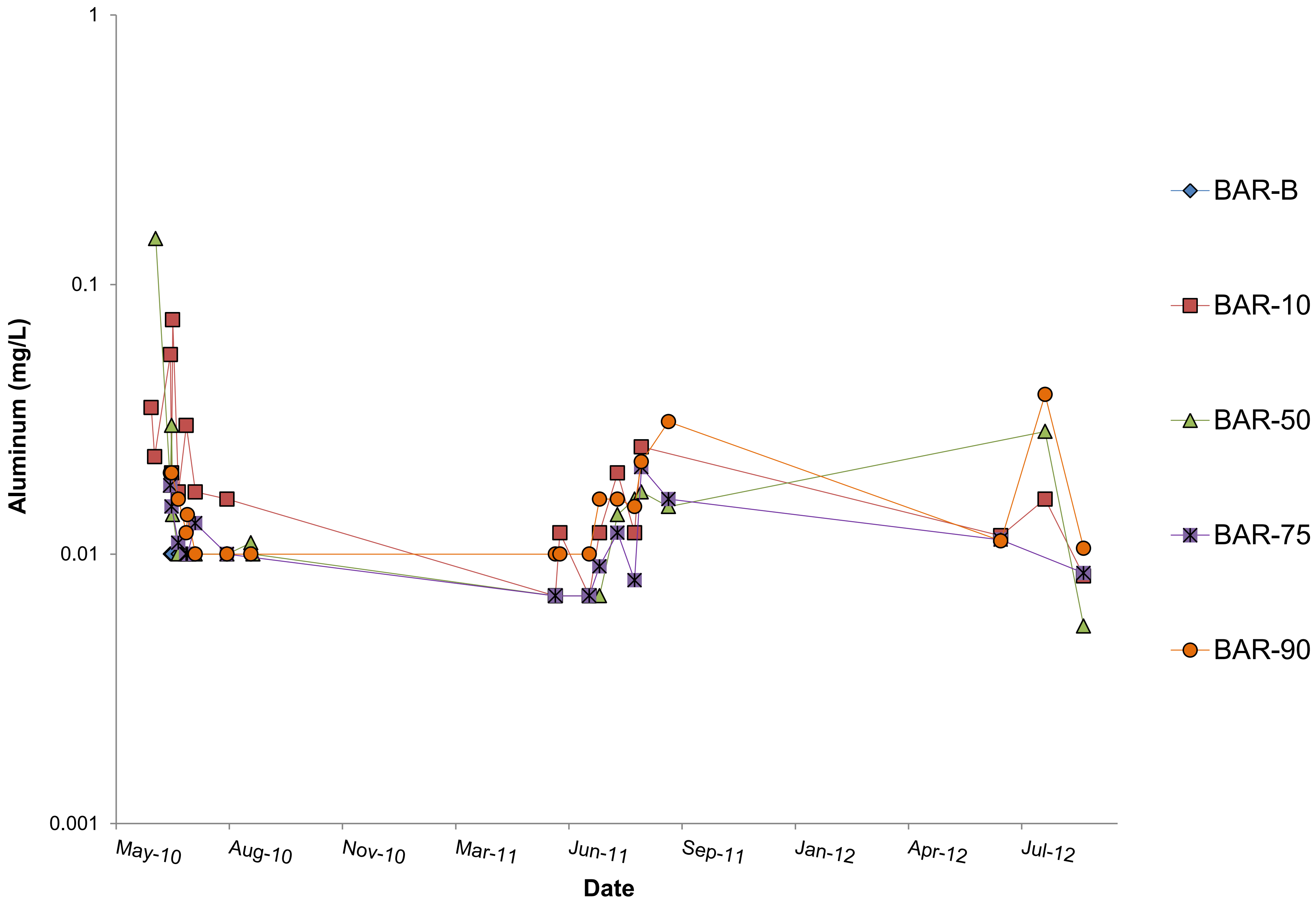

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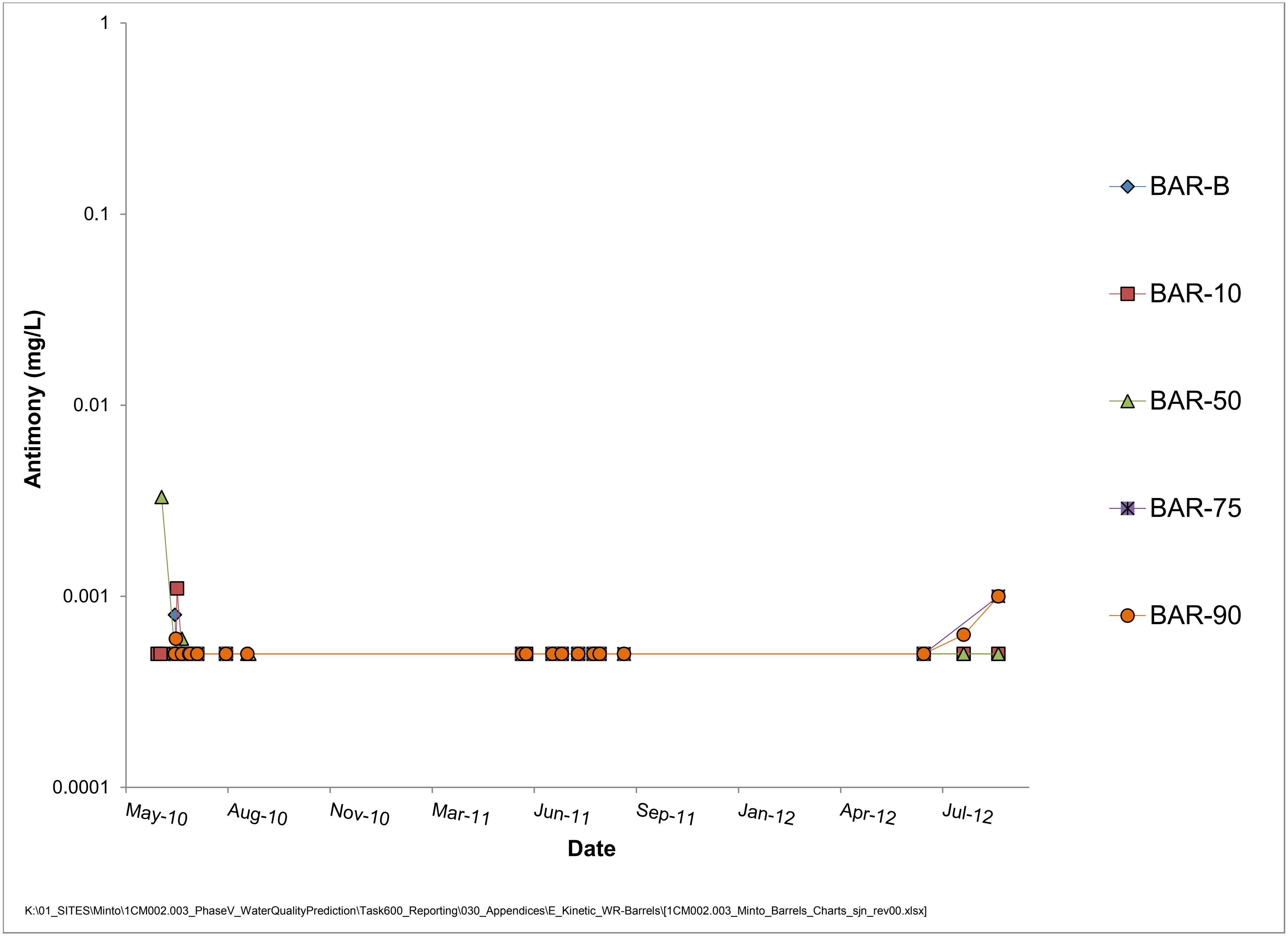
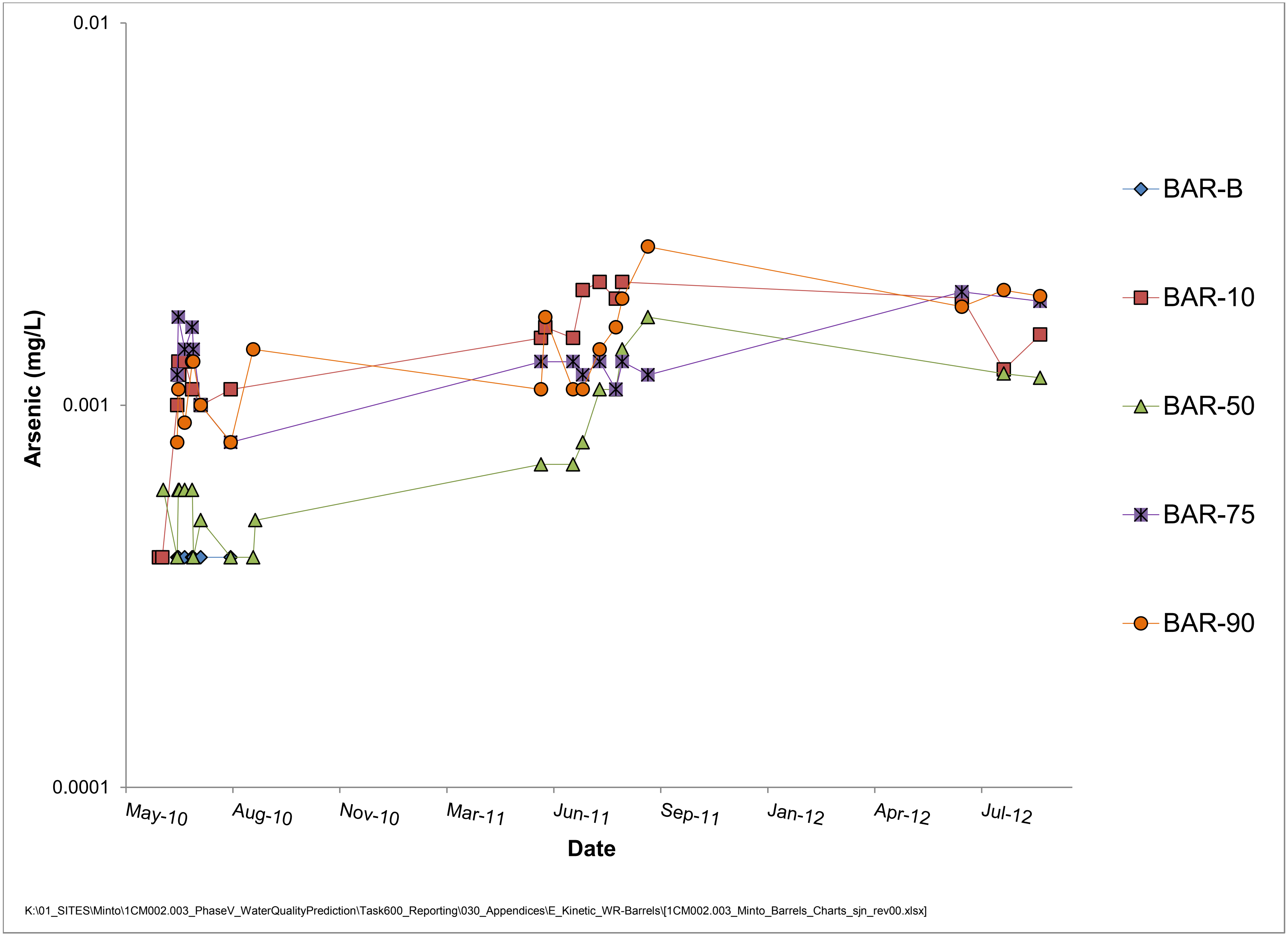
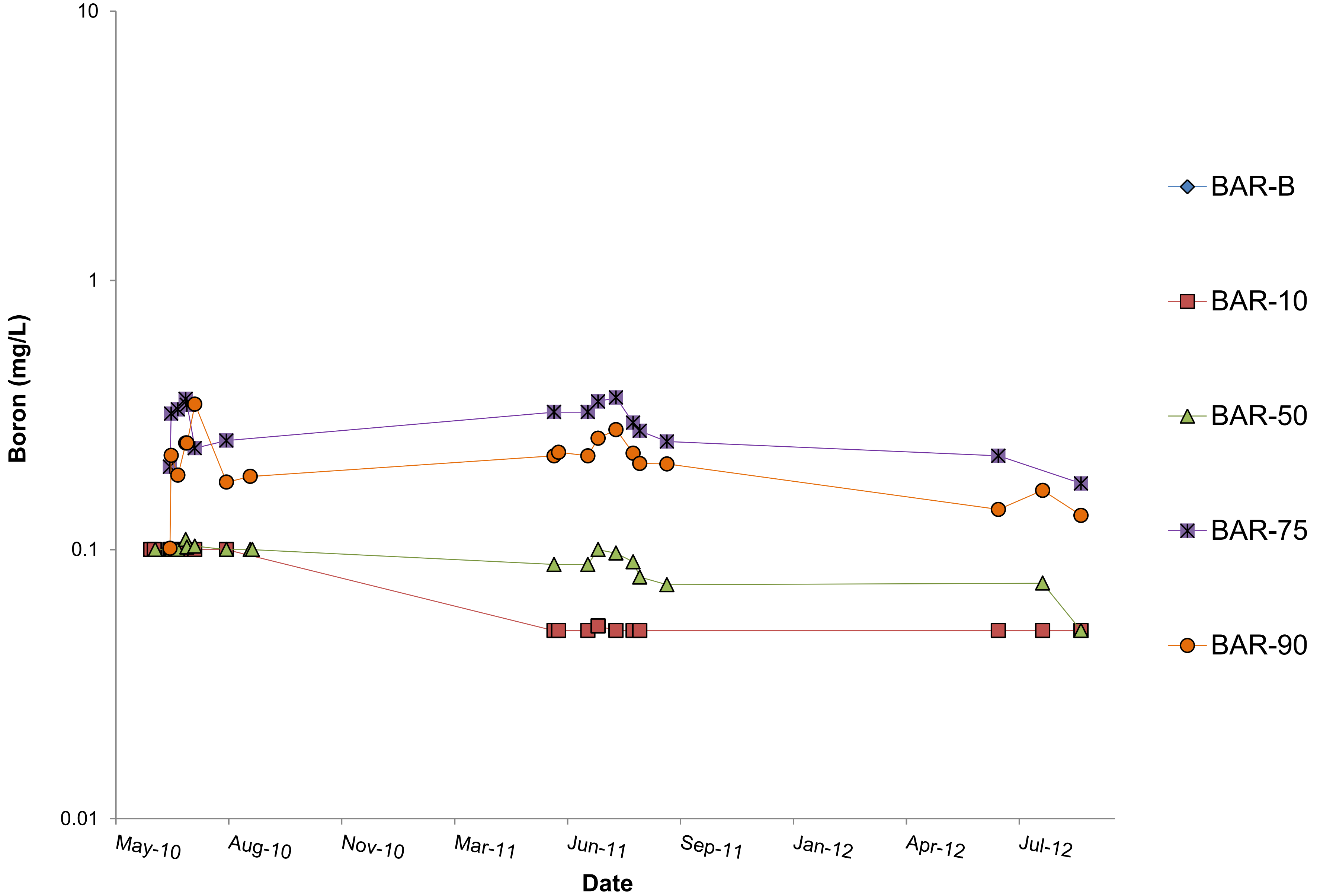

Antimony (mg/L)
1
0.1
0.01
0.001
0.0001
May-10
Aug-10
Nov-10
Mar-11
Jun-11
Sep-11
Jan-12
Apr-12
Jul-12
Date
BAR-B
BAR-10
BAR-50
BAR-75
BAR-90
K:\01_SITES\Minto\1CM002.003_PhaseV_WaterQualityPrediction\Task600_Reporting\030_Appendices\E_Kinetic_WR-Barrels\[1CM002.003_Minto_Barrels_Charts_sjn_rev00.xlsx]


0.01
0.001
0.0001
Arsenic (mg/L)
May-10
Aug-10
Nov-10
Mar-11
Jun-11
Sep-11
Jan-12
Apr-12
Jul-12
Date
BAR-B
BAR-10
BAR-50
BAR-75
BAR-90
K:\01_SITES\Minto\1CM002.003_PhaseV_WaterQualityPrediction\Task600_Reporting\030_Appendices\E_Kinetic_WR-Barrels\[1CM002.003_Minto_Barrels_Charts_sjn_rev00.xlsx]



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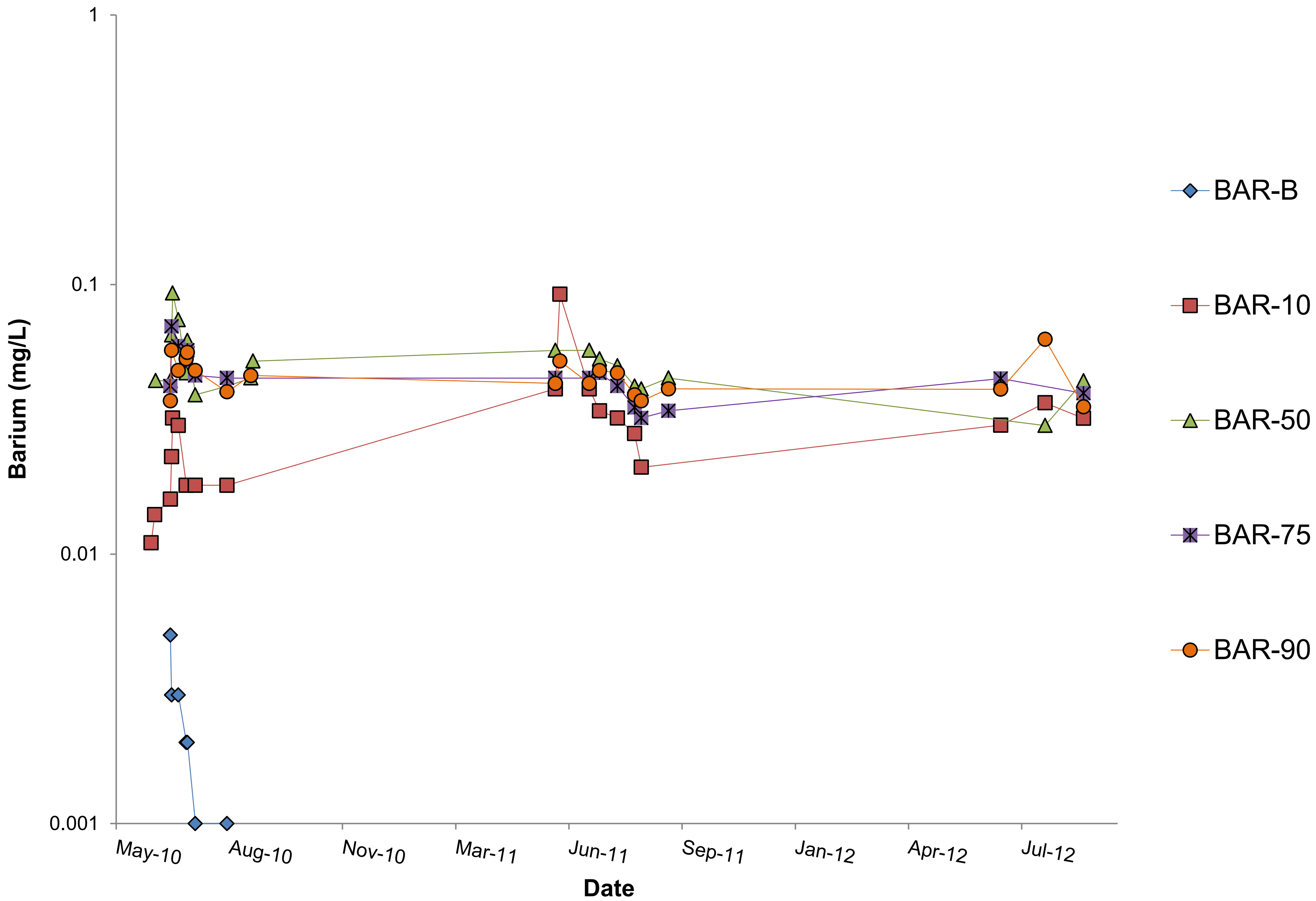

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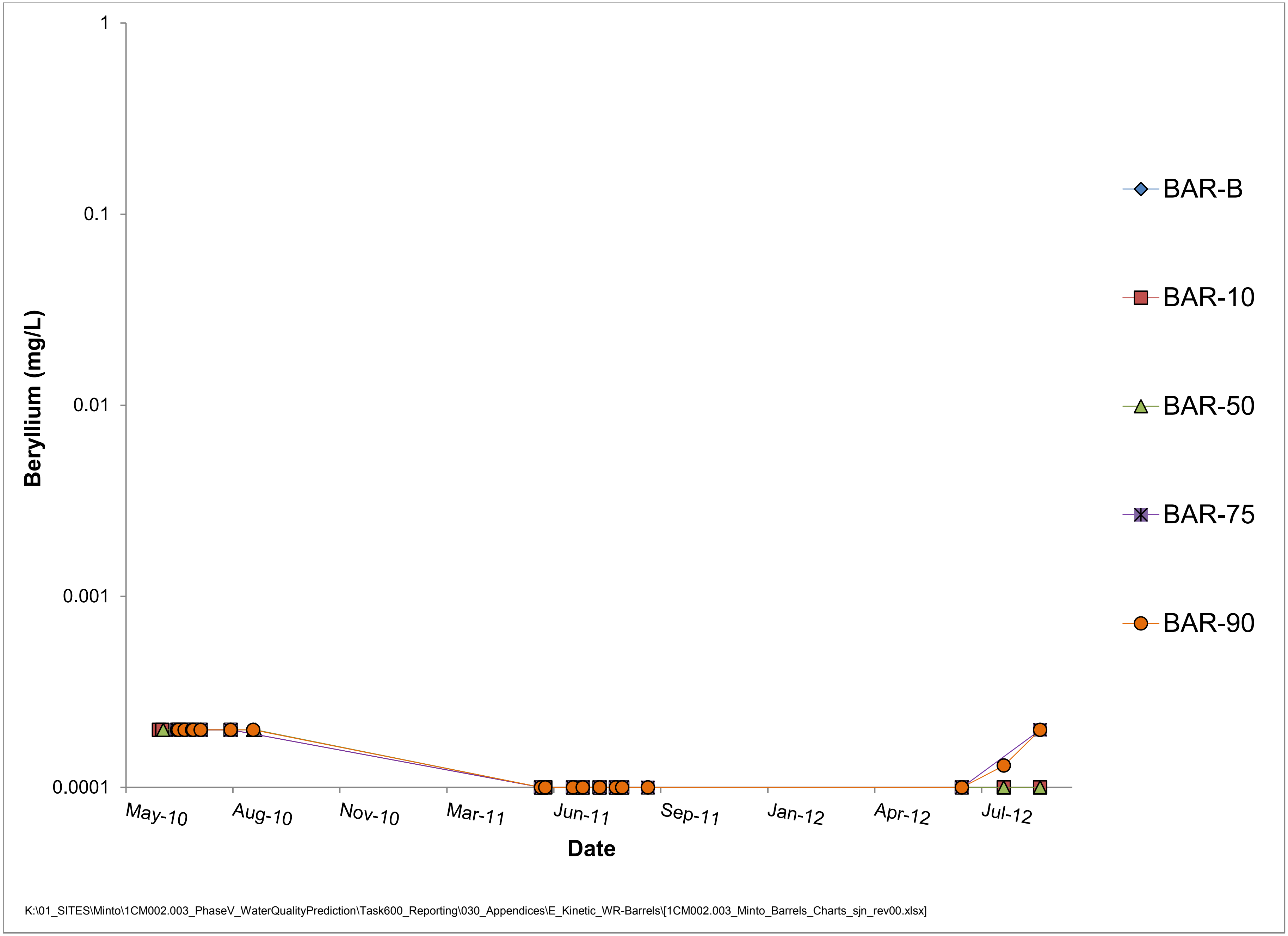
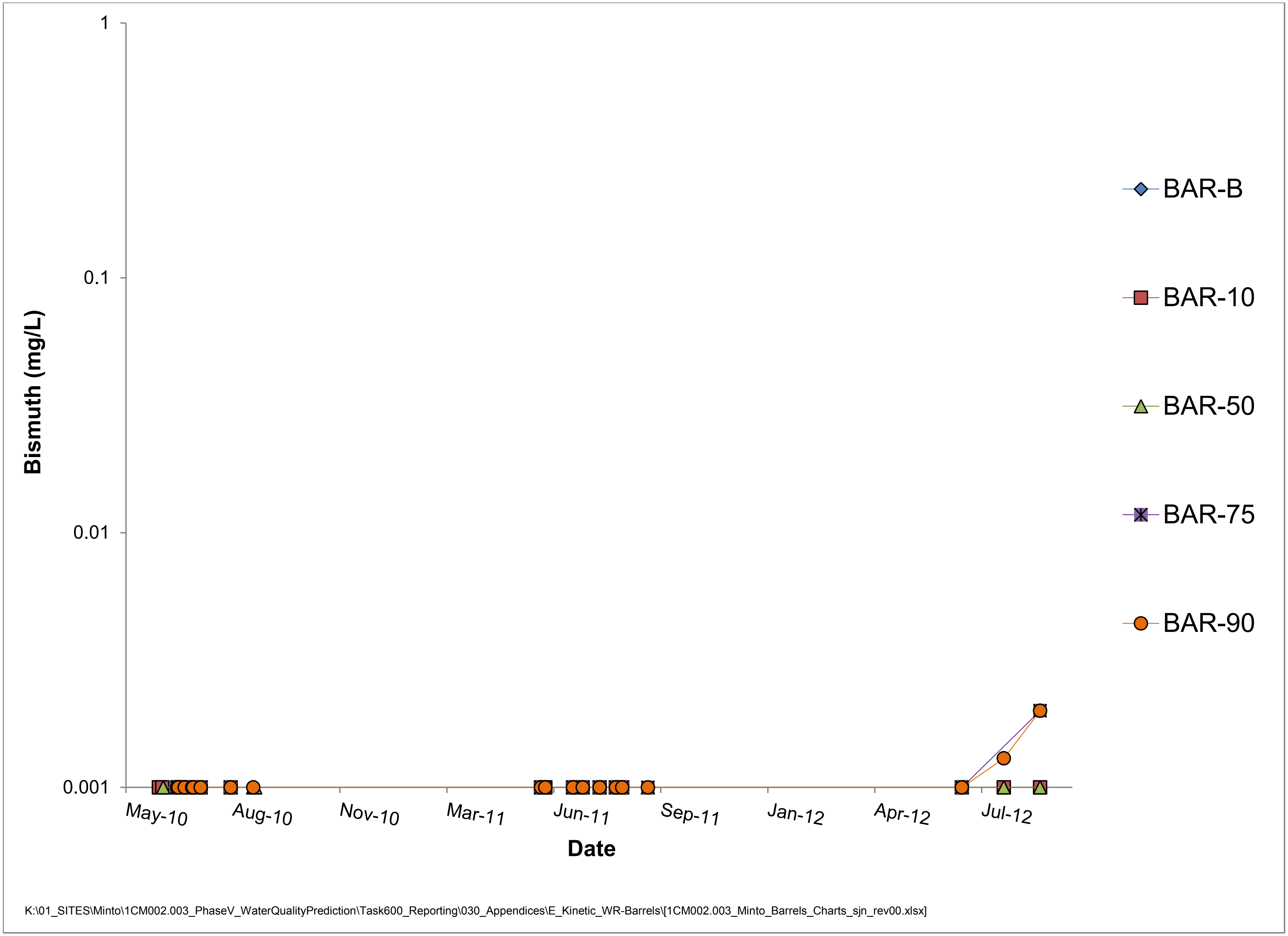
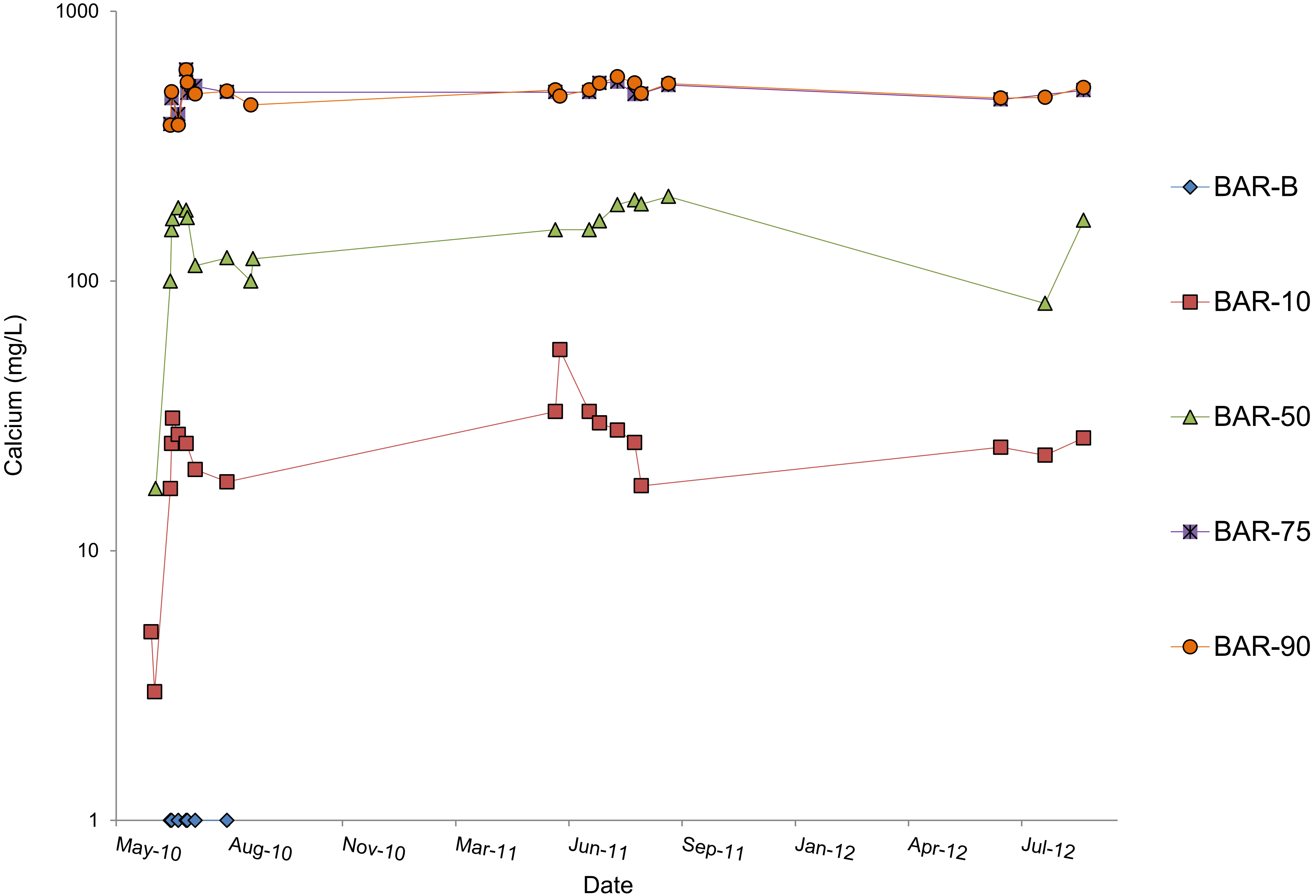

1
0.1
0.01
0.001
0.0001
Beryllium (mg/L)
May-10
Aug-10
Nov-10
Mar-11
Jun-11
Sep-11
Jan-12
Apr-12
Jul-12
Date
BAR-B
BAR-10
BAR-50
BAR-75
BAR-90
K:\01_SITES\Minto\1CM002.003_PhaseV_WaterQualityPrediction\Task600_Reporting\030_Appendices\E_Kinetic_WR-Barrels\[1CM002.003_Minto_Barrels_Charts_sjn_rev00.xlsx]


Bismuth (mg/L)
1
0.1
0.01
0.001
May-10
Aug-10
Nov-10
Mar-11
Jun-11
Sep-11
Jan-12
Apr-12
Jul-12
Date
BAR-B
BAR-10
BAR-50
BAR-75
BAR-90
K:\01_SITES\Minto\1CM002.003_PhaseV_WaterQualityPrediction\Task600_Reporting\030_Appendices\E_Kinetic_WR-Barrels\[1CM002.003_Minto_Barrels_Charts_sjn_rev00.xlsx]



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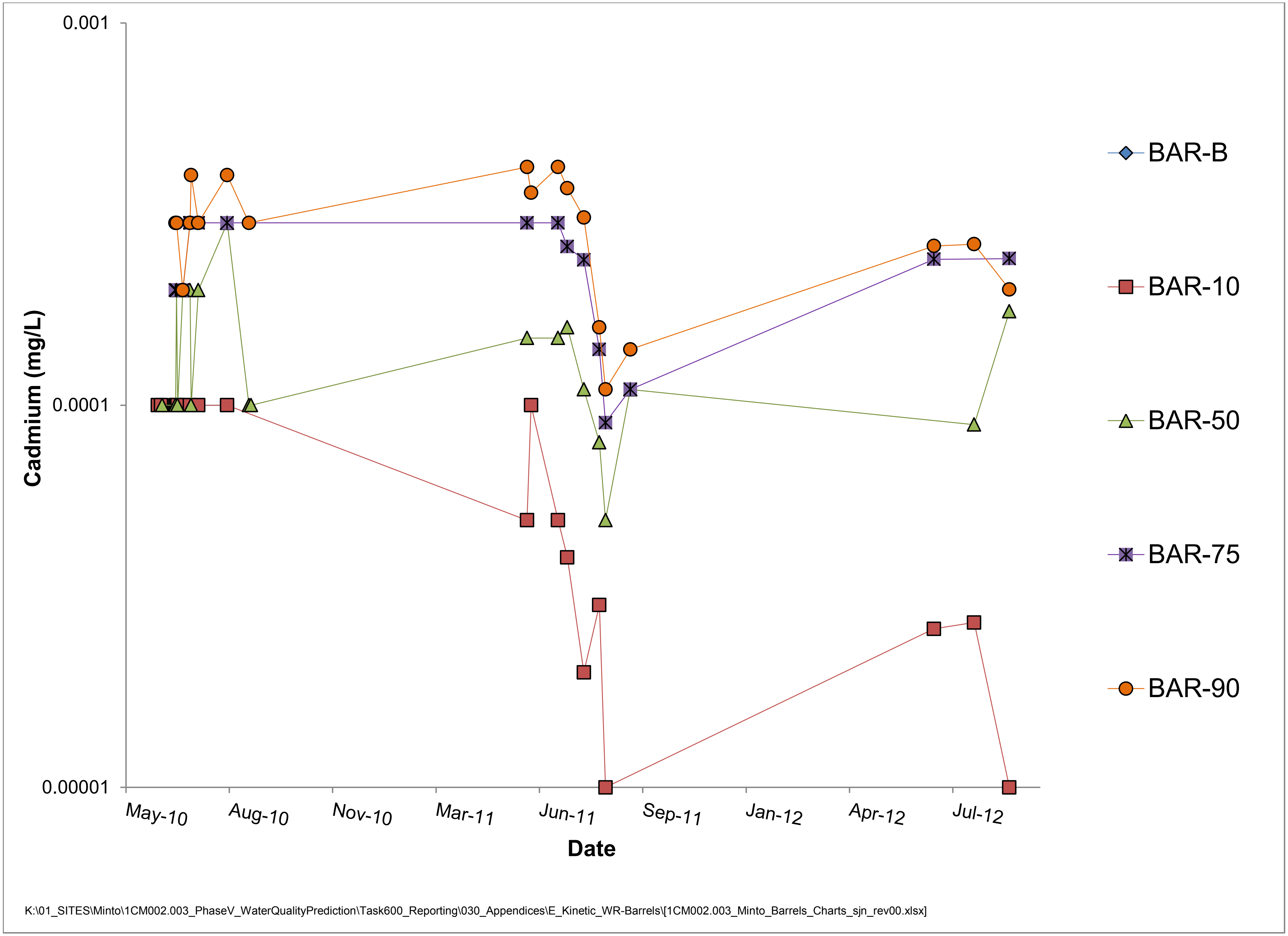
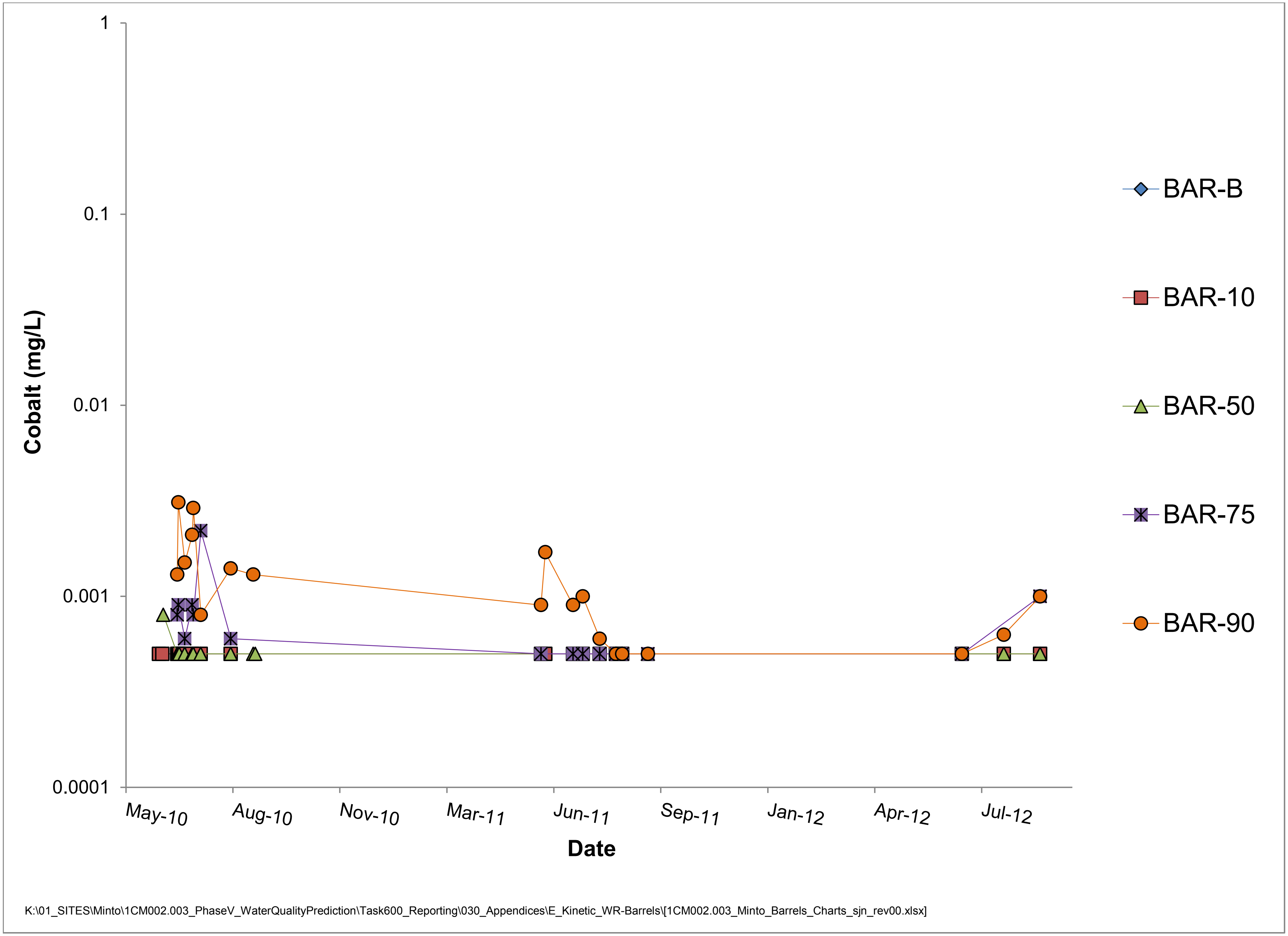
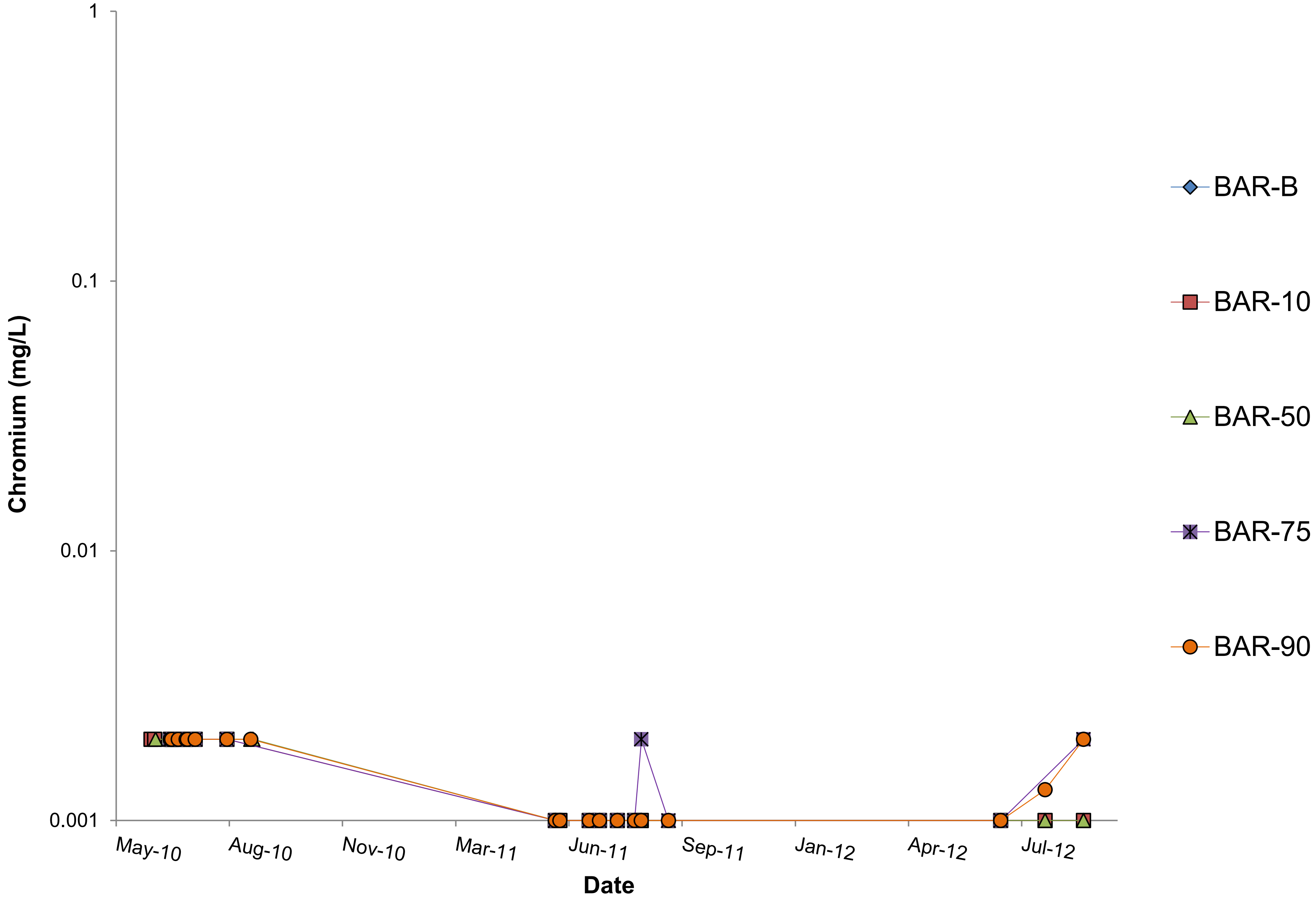

0.001
0.0001
0.00001
Cadmium (mg/L)
May-10
Aug-10
Nov-10
Mar-11
Jun-11
Sep-11
Jan-12
Apr-12
Jul-12
Date
BAR-B
BAR-10
BAR-50
BAR-75
BAR-90
K:\01_SITES\Minto\1CM002.003_PhaseV_WaterQualityPrediction\Task600_Reporting\030_Appendices\E_Kinetic_WR-Barrels\[1CM002.003_Minto_Barrels_Charts_sjn_rev00.xlsx]


1
0.1
0.01
0.001
0.0001
Cobalt (mg/L)
May-10
Aug-10
Nov-10
Mar-11
Jun-11
Sep-11
Jan-12
Apr-12
Jul-12
Date
BAR-B
BAR-10
BAR-50
BAR-75
BAR-90
K:\01_SITES\Minto\1CM002.003_PhaseV_WaterQualityPrediction\Task600_Reporting\030_Appendices\E_Kinetic_WR-Barrels\[1CM002.003_Minto_Barrels_Charts_sjn_rev00.xlsx]



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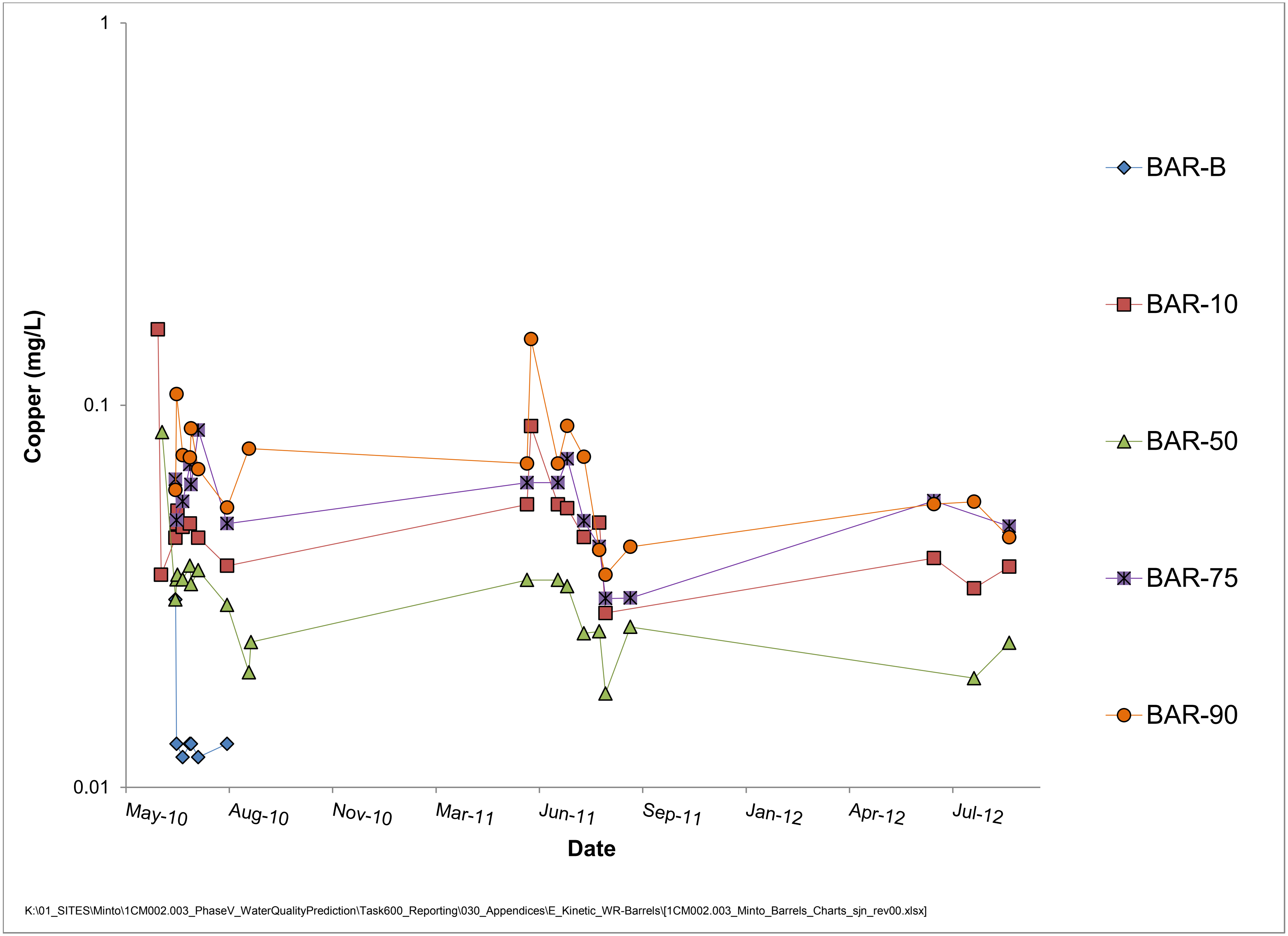
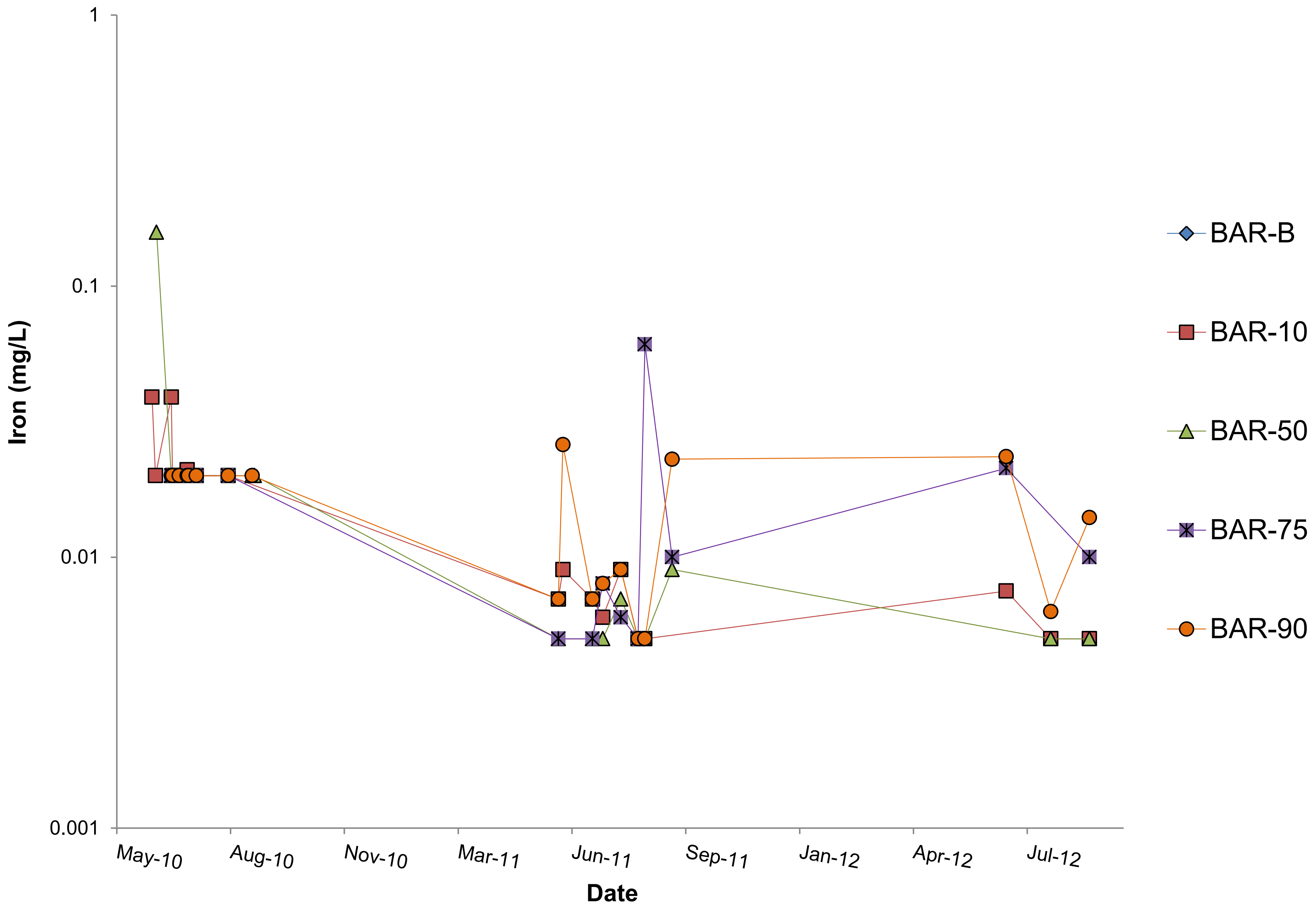

1
0.1
0.01
Copper (mg/L)
May-10
Aug-10
Nov-10
Mar-11
Jun-11
Sep-11
Jan-12
Apr-12
Jul-12
Date
BAR-B
BAR-10
BAR-50
BAR-75
BAR-90
K:\01_SITES\Minto\1CM002.003_PhaseV_WaterQualityPrediction\Task600_Reporting\030_Appendices\E_Kinetic_WR-Barrels\[1CM002.003_Minto_Barrels_Charts_sjn_rev00.xlsx]



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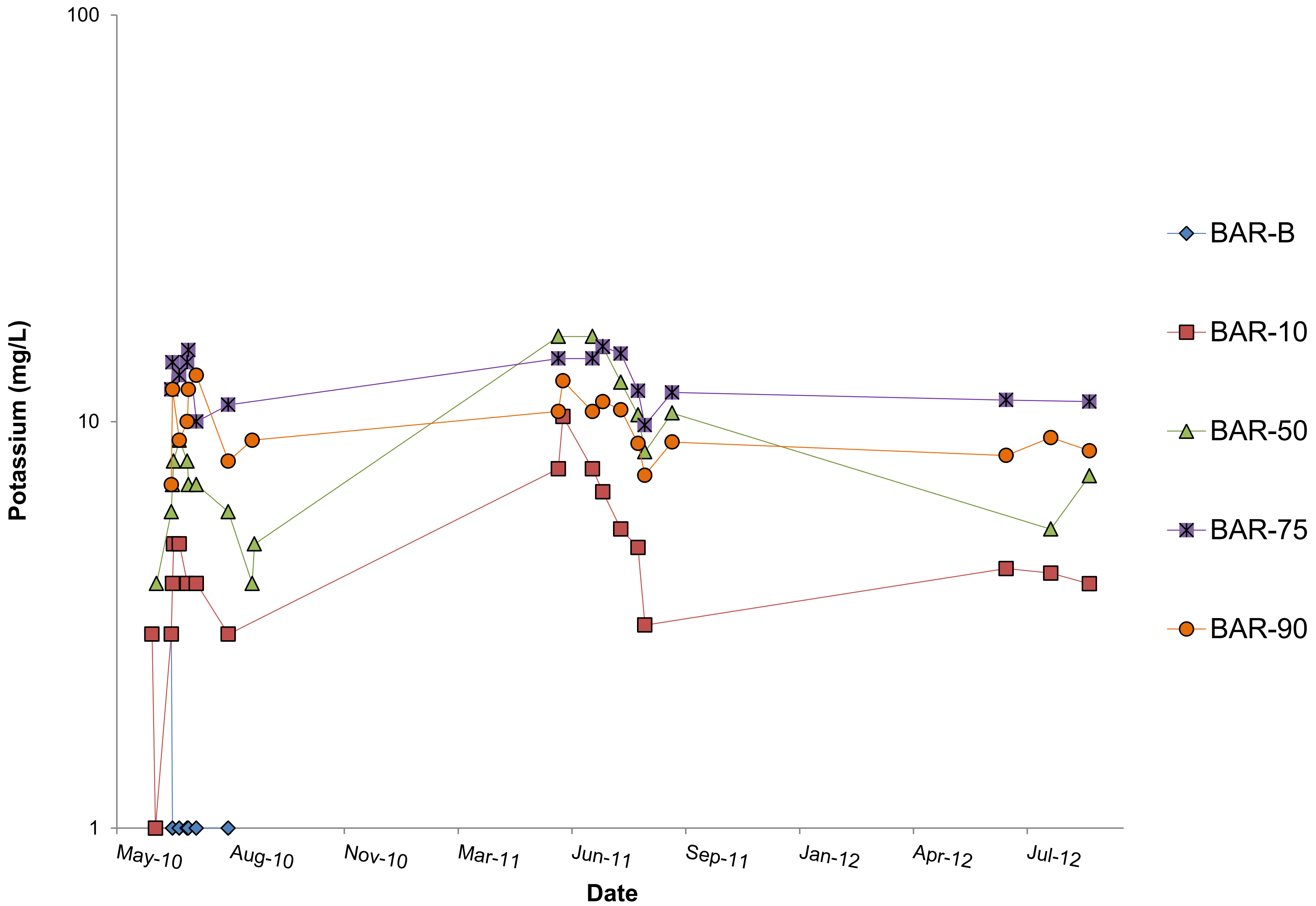

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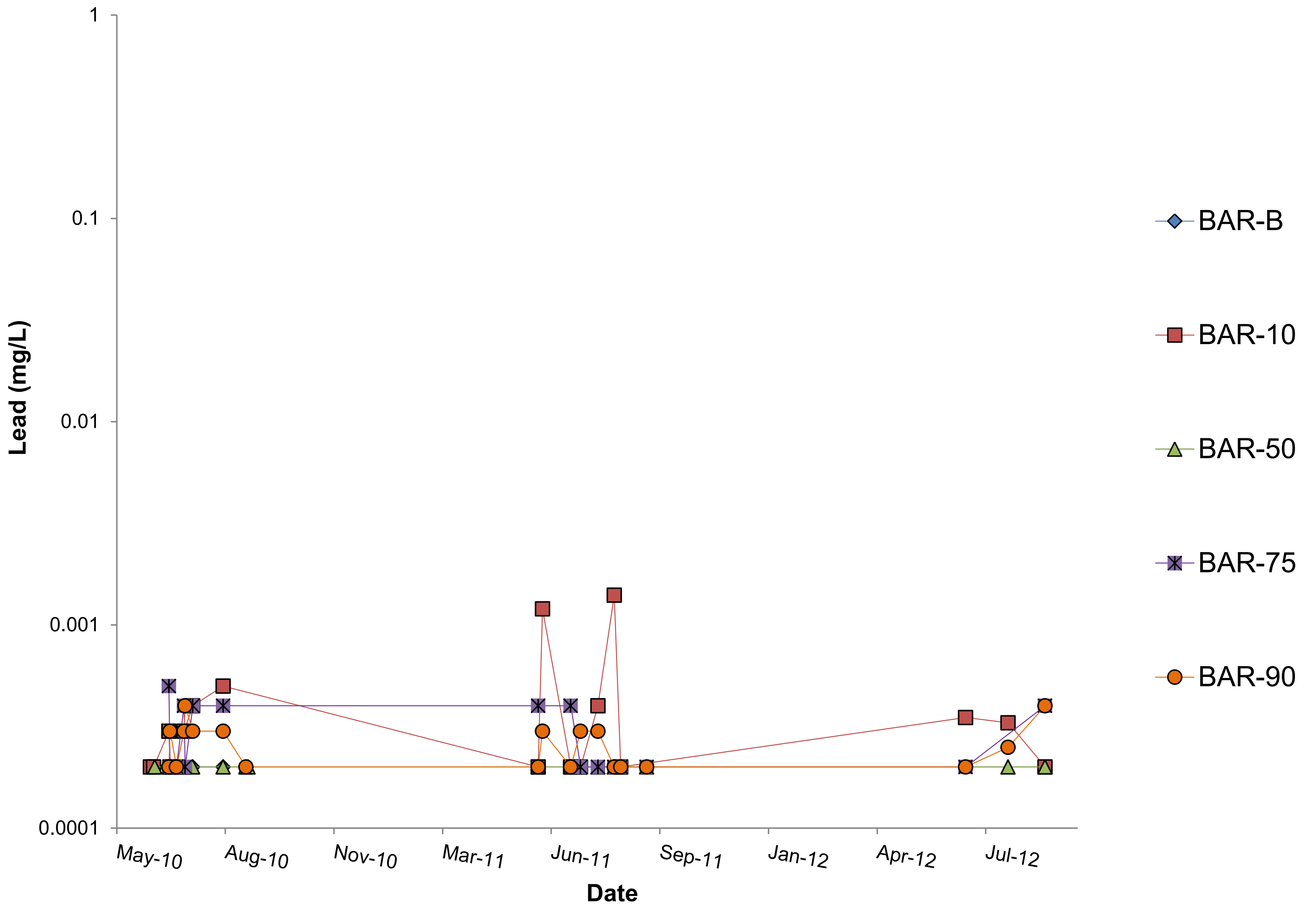

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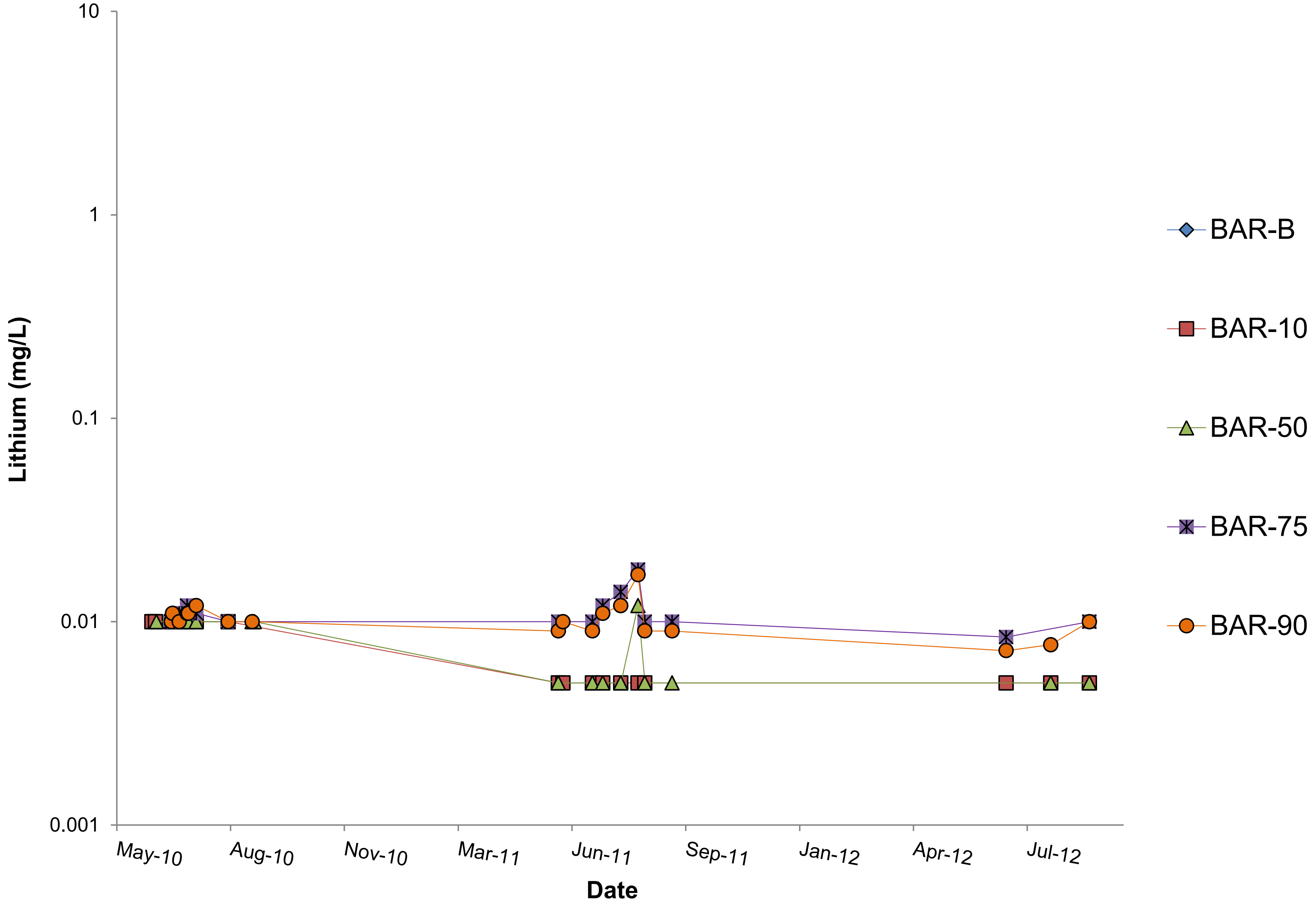

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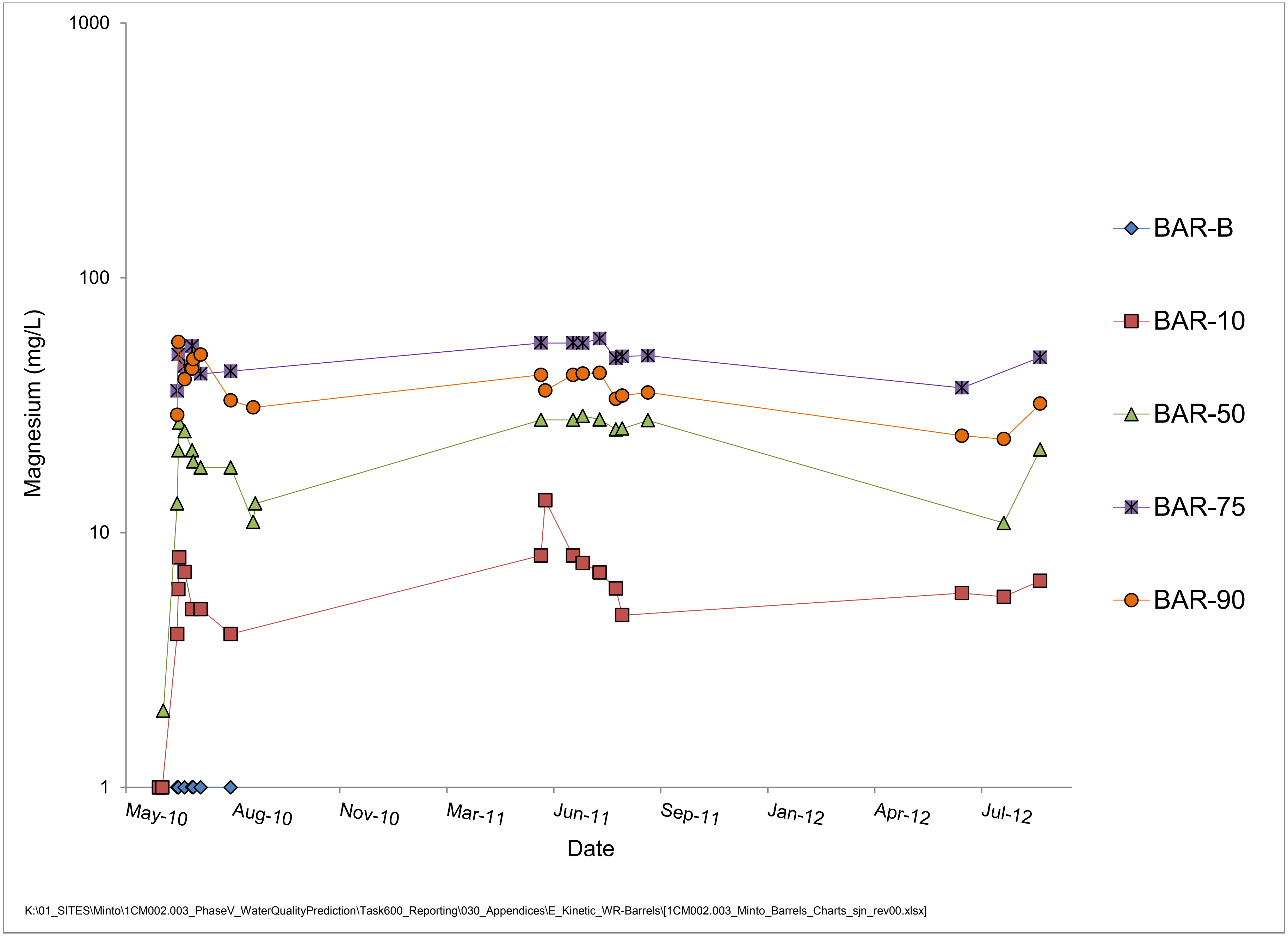
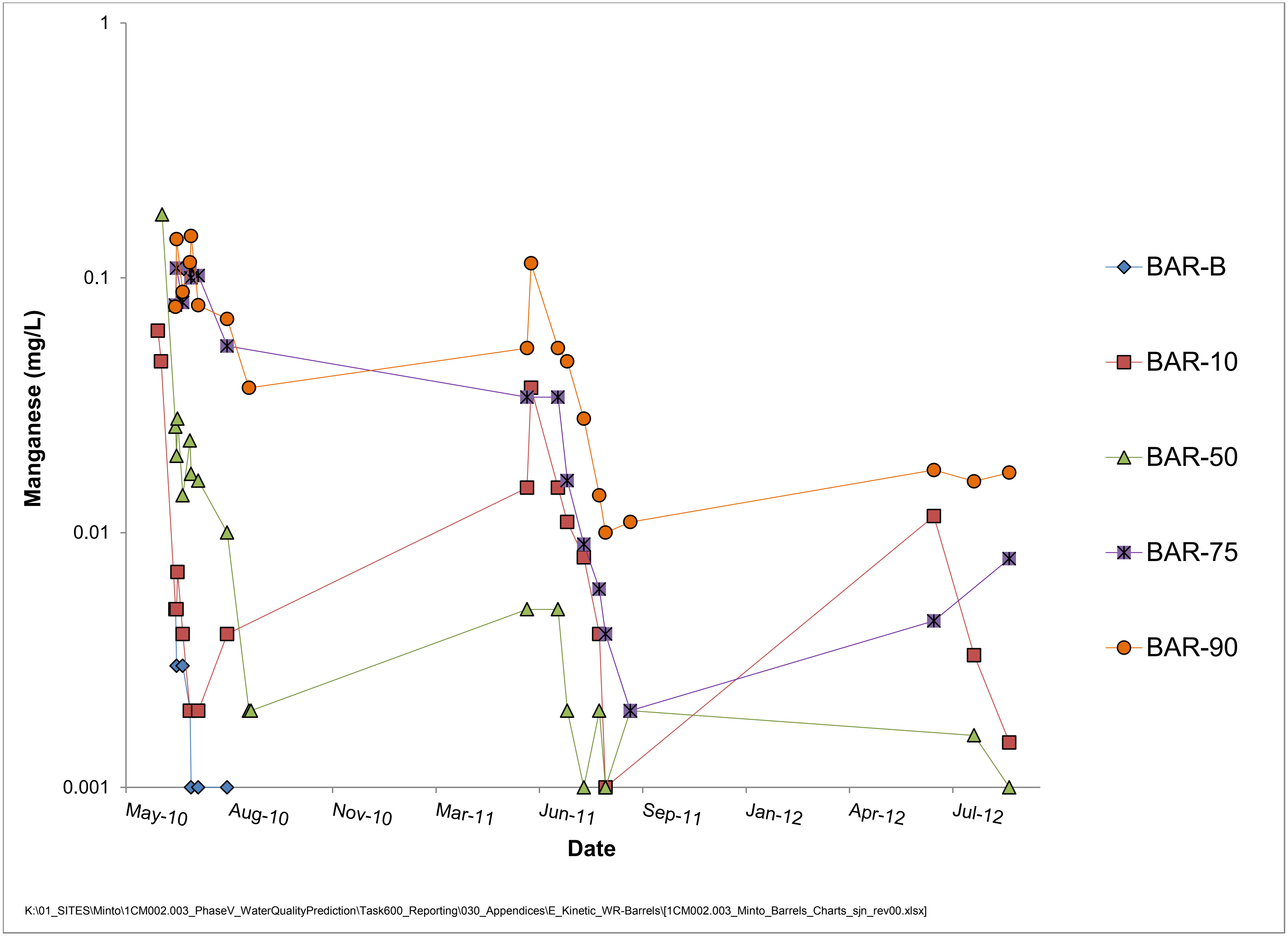
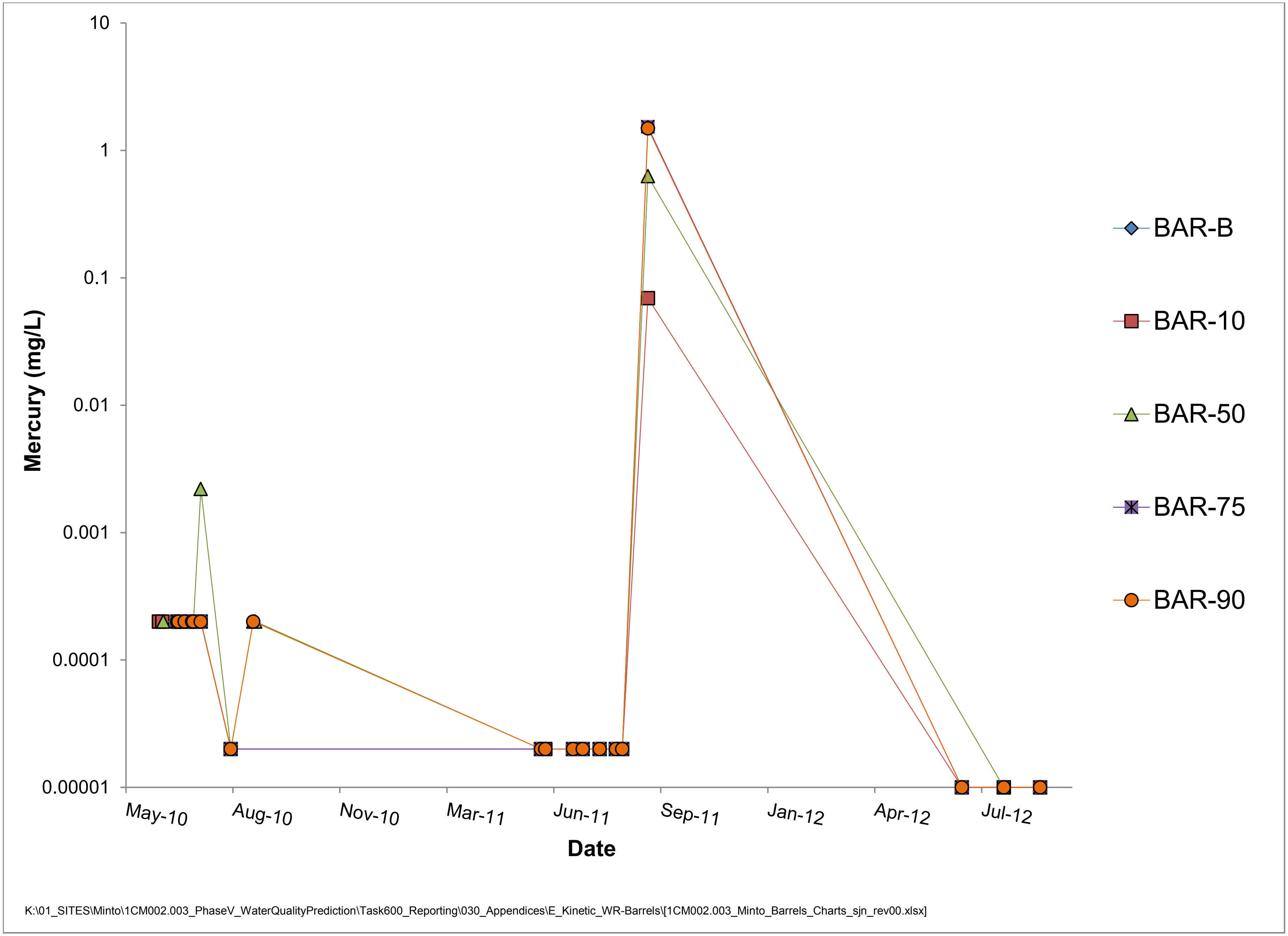
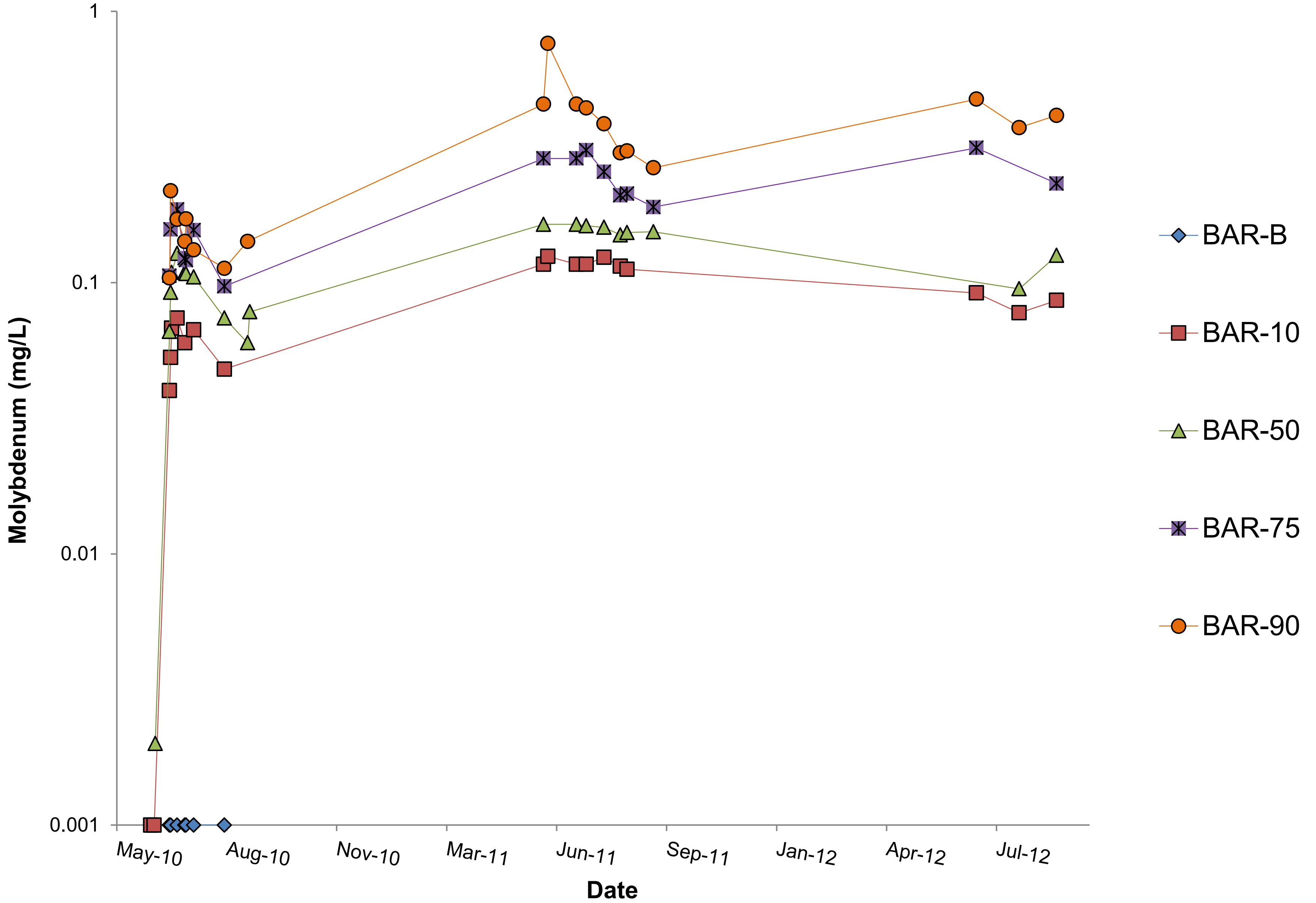

1000
100
10
1
Magnesium (mg/L)
May-10
Aug-10
Nov-10
Mar-11
Jun-11
Sep-11
Jan-12
Apr-12
Jul-12
Date
BAR-B
BAR-10
BAR-50
BAR-75
BAR-90
K:\01_SITES\Minto\1CM002.003_PhaseV_WaterQualityPrediction\Task600_Reporting\030_Appendices\E_Kinetic_WR-Barrels\[1CM002.003_Minto_Barrels_Charts_sjn_rev00.xlsx]


1
0.1
0.01
0.001
Manganese (mg/L)
May-10
Aug-10
Nov-10
Mar-11
Jun-11
Sep-11
Jan-12
Apr-12
Jul-12
Date
BAR-B
BAR-10
BAR-50
BAR-75
BAR-90
K:\01_SITES\Minto\1CM002.003_PhaseV_WaterQualityPrediction\Task600_Reporting\030_Appendices\E_Kinetic_WR-Barrels\[1CM002.003_Minto_Barrels_Charts_sjn_rev00.xlsx]


10
1
0.1
0.01
0.001
0.0001
0.00001
Mercury (mg/L)
May-10
Aug-10
Nov-10
Mar-11
Jun-11
Sep-11
Jan-12
Apr-12
Jul-12
Date
BAR-B
BAR-10
BAR-50
BAR-75
BAR-90
K:\01_SITES\Minto\1CM002.003_PhaseV_WaterQualityPrediction\Task600_Reporting\030_Appendices\E_Kinetic_WR-Barrels\[1CM002.003_Minto_Barrels_Charts_sjn_rev00.xlsx]



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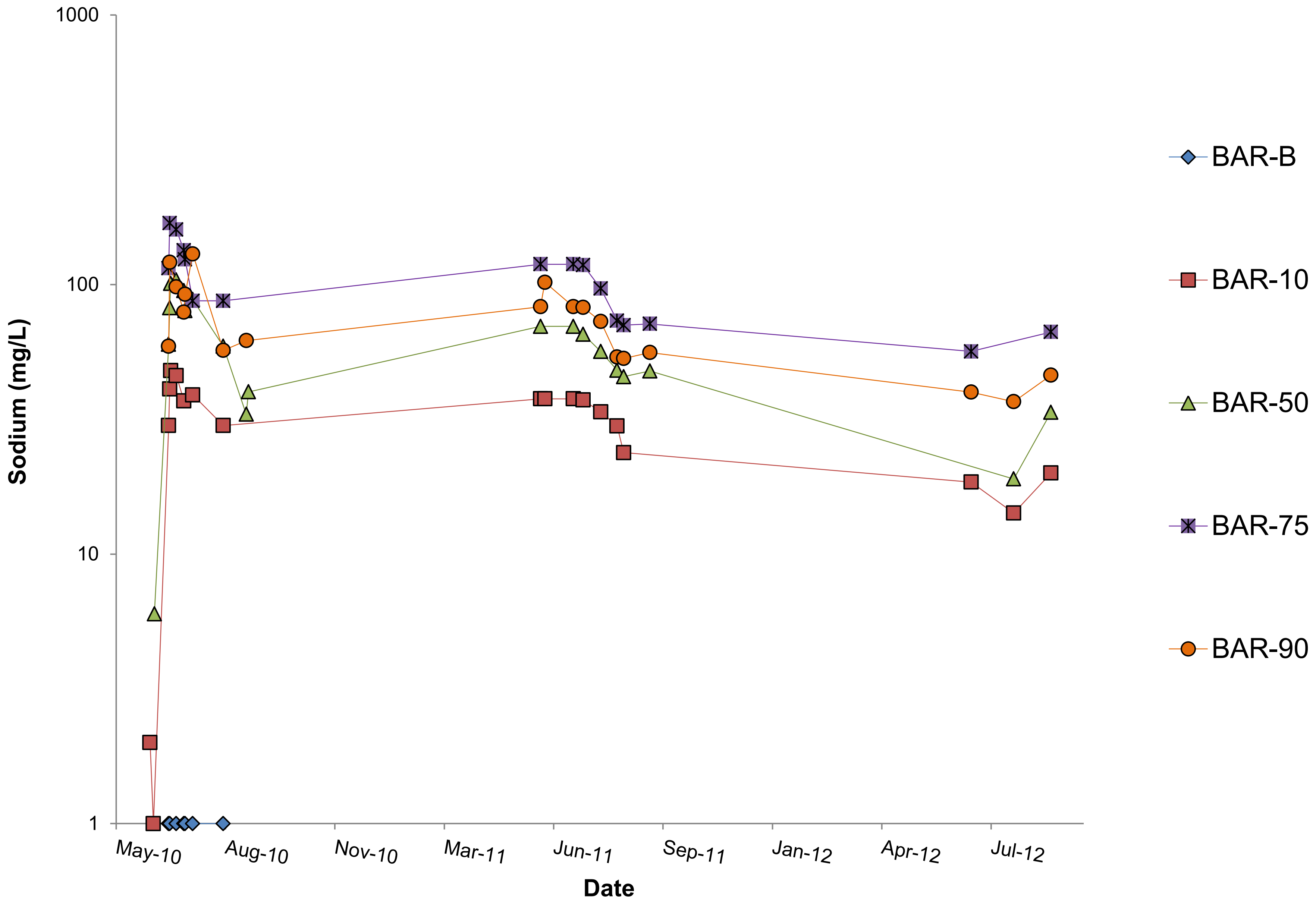

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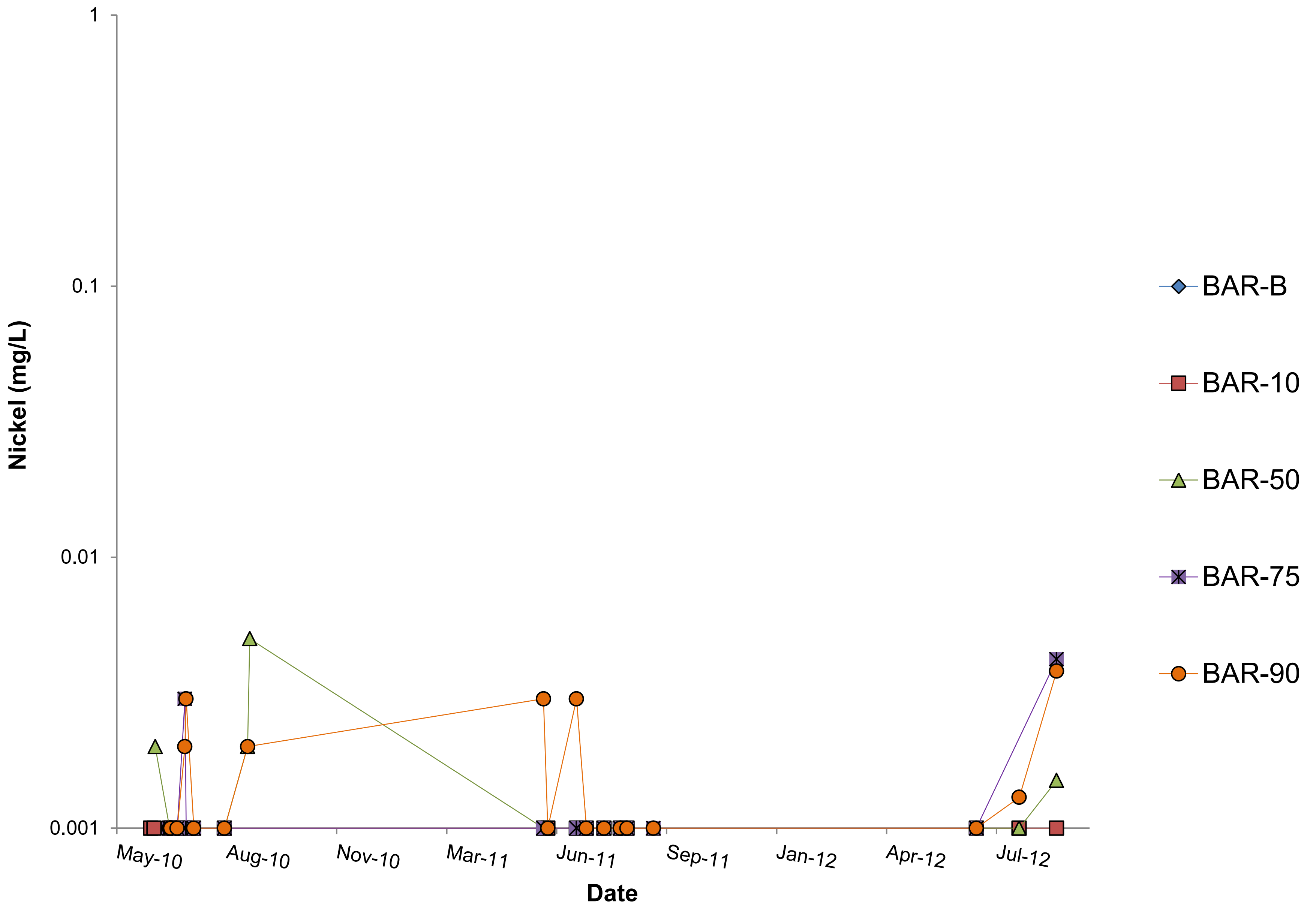

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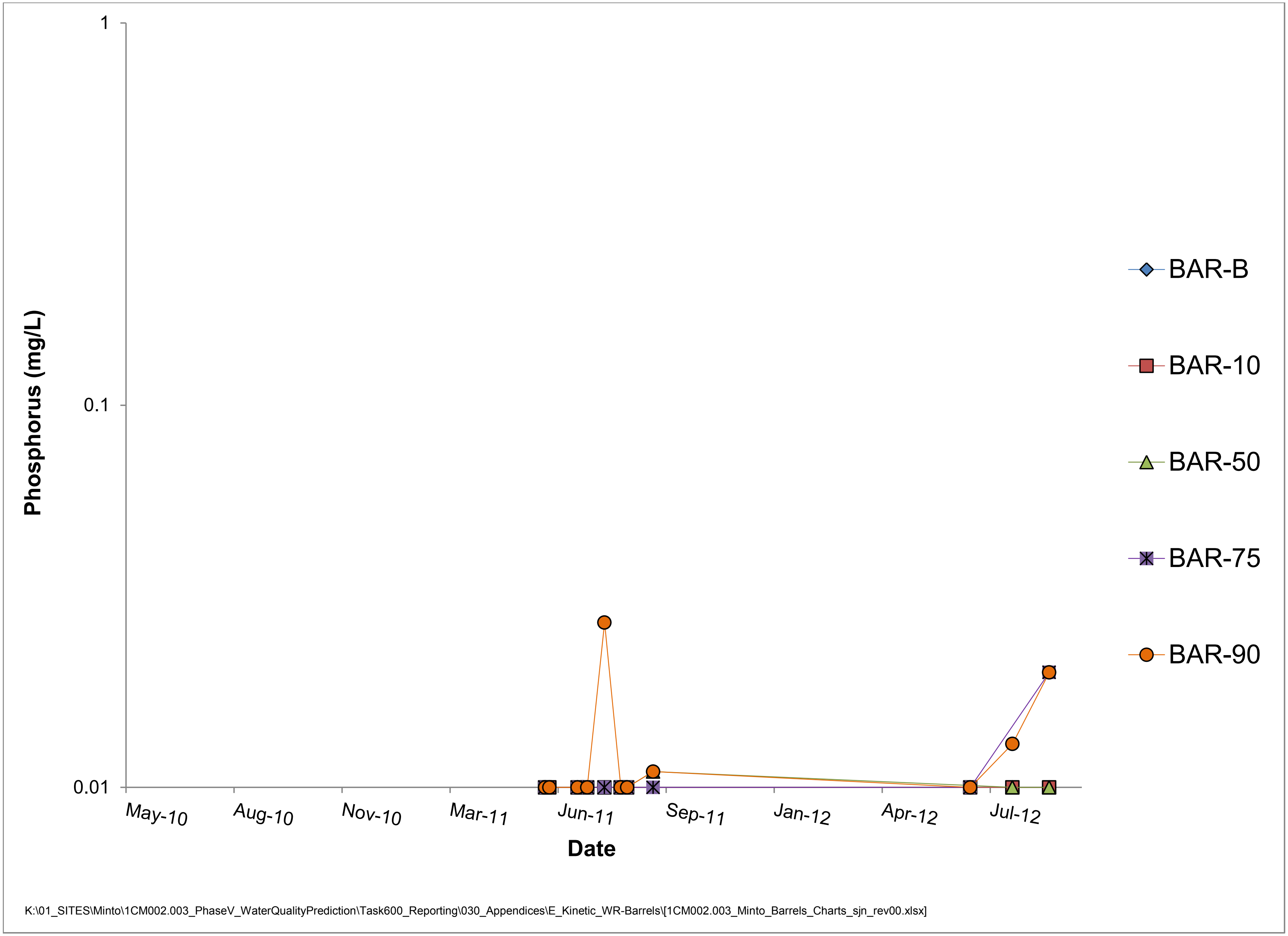
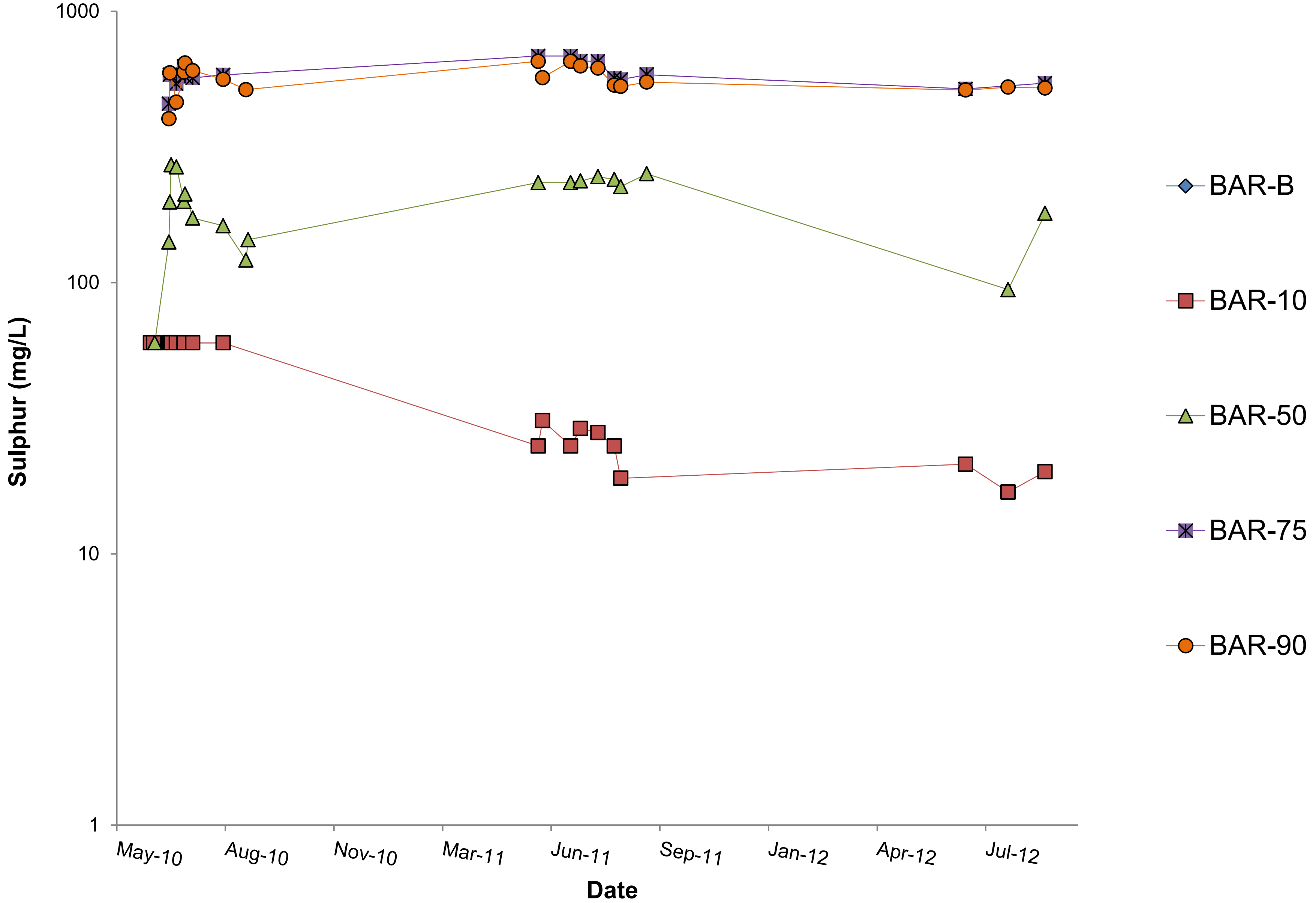

1
0.1
0.01
Phosphorus (mg/L)
May-10
Aug-10
Nov-10
Mar-11
Jun-11
Sep-11
Jan-12
Apr-12
Jul-12
Date
BAR-B
BAR-10
BAR-50
BAR-75
BAR-90
K:\01_SITES\Minto\1CM002.003_PhaseV_WaterQualityPrediction\Task600_Reporting\030_Appendices\E_Kinetic_WR-Barrels\[1CM002.003_Minto_Barrels_Charts_sjn_rev00.xlsx]



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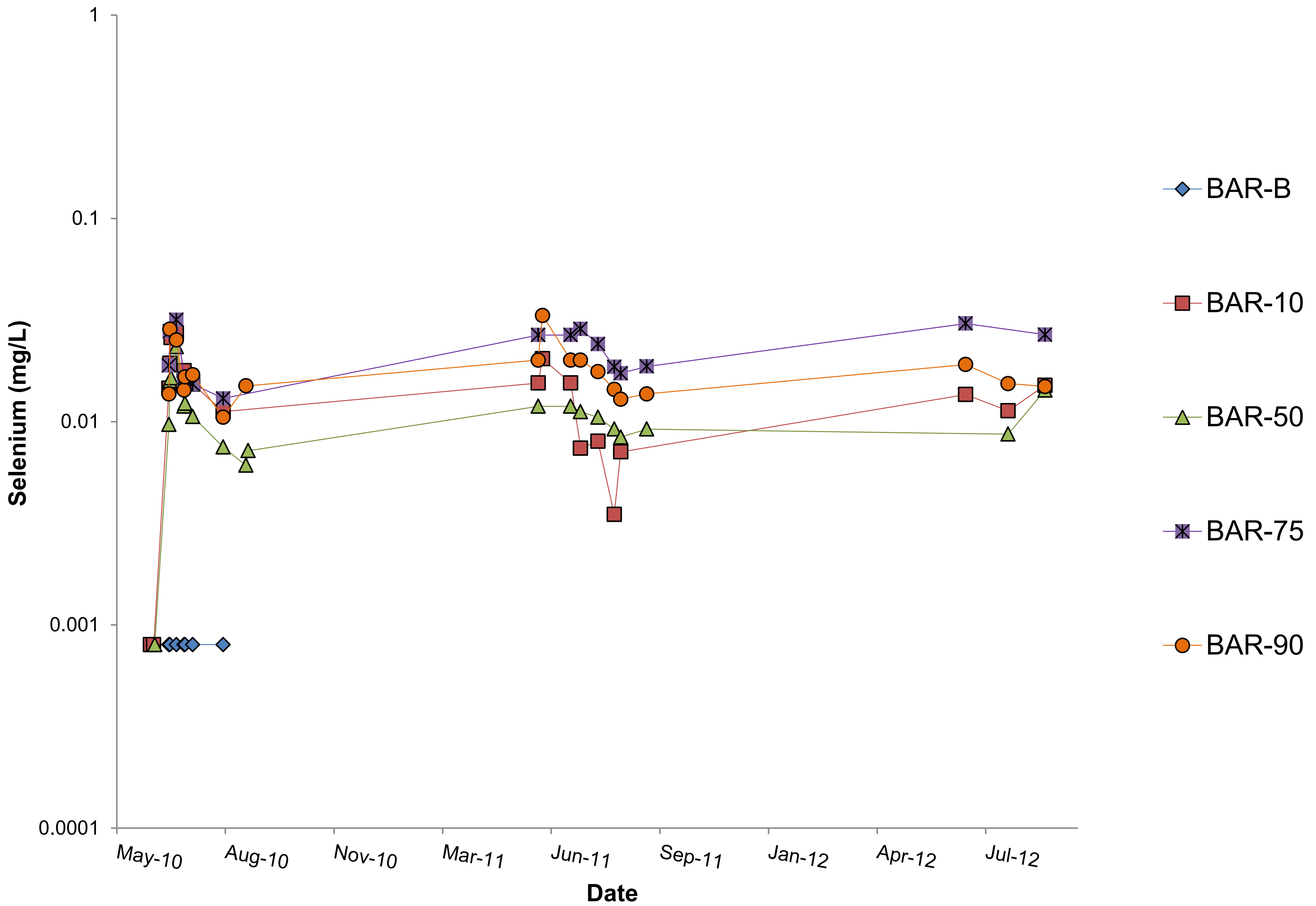

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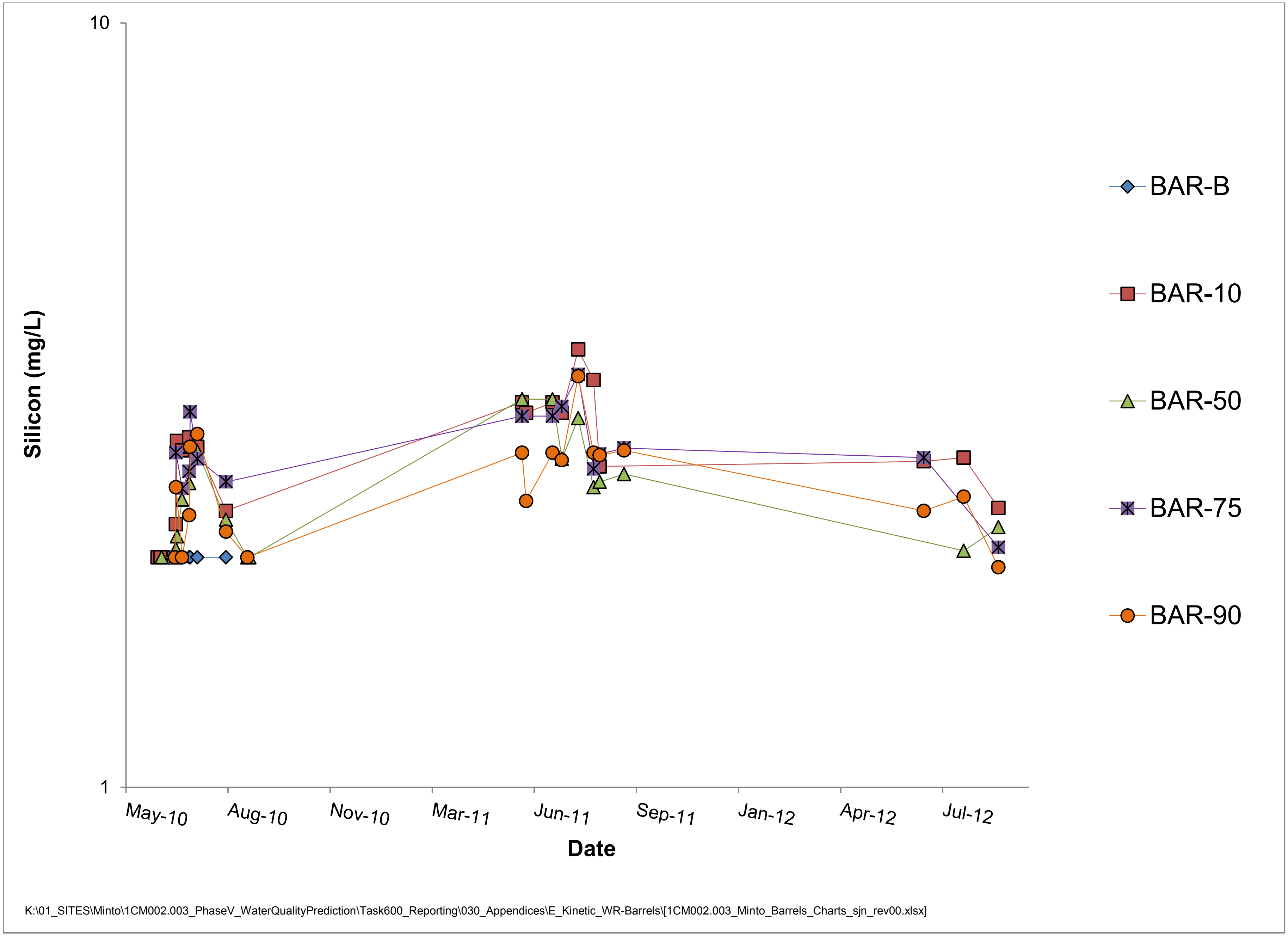
10
1
Silicon (mg/L)
May-10
Aug-10
Nov-10
Mar-11
Jun-11
Sep-11
Jan-12
Apr-12
Jul-12
Date
BAR-B
BAR-10
BAR-50
BAR-75
BAR-90
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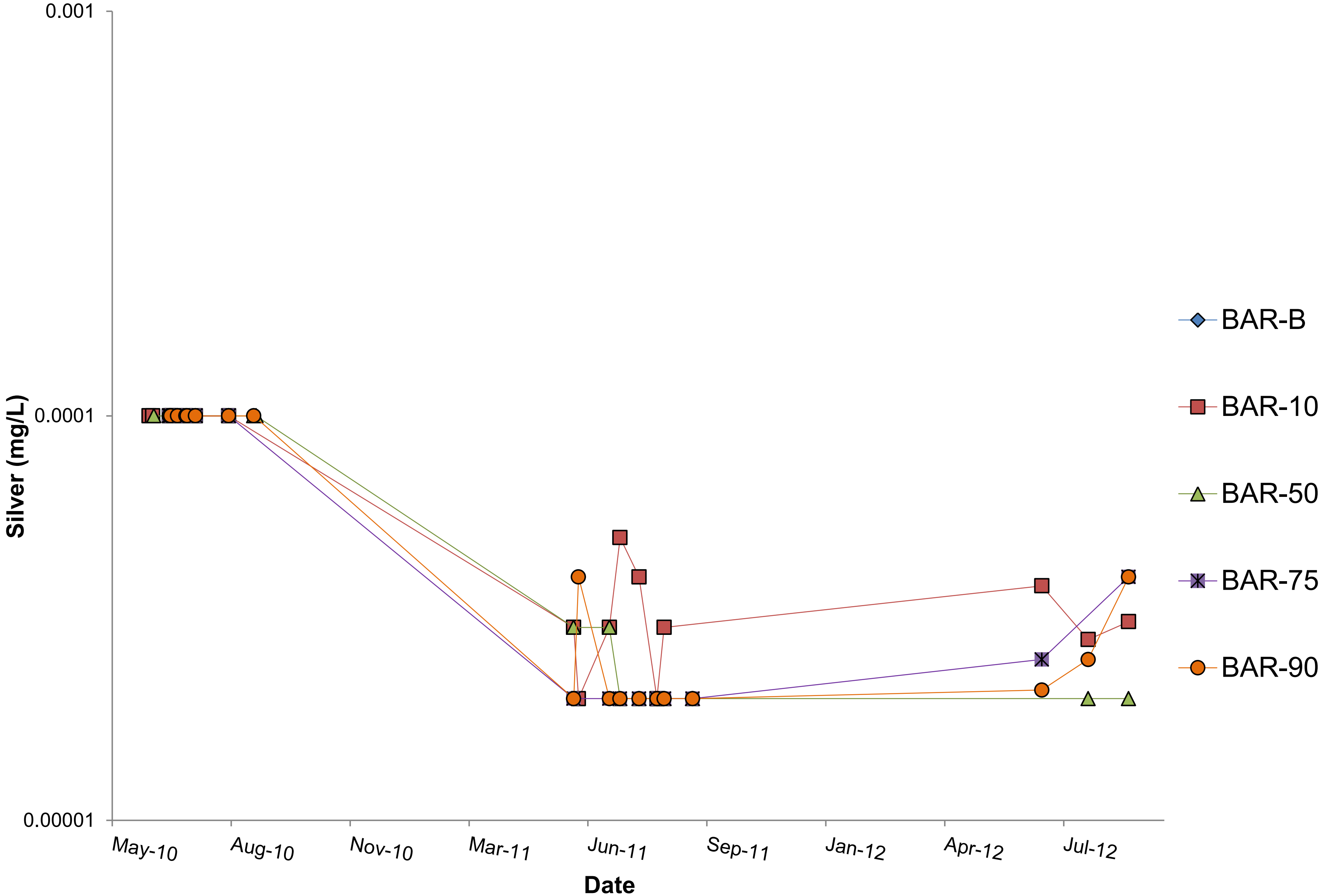

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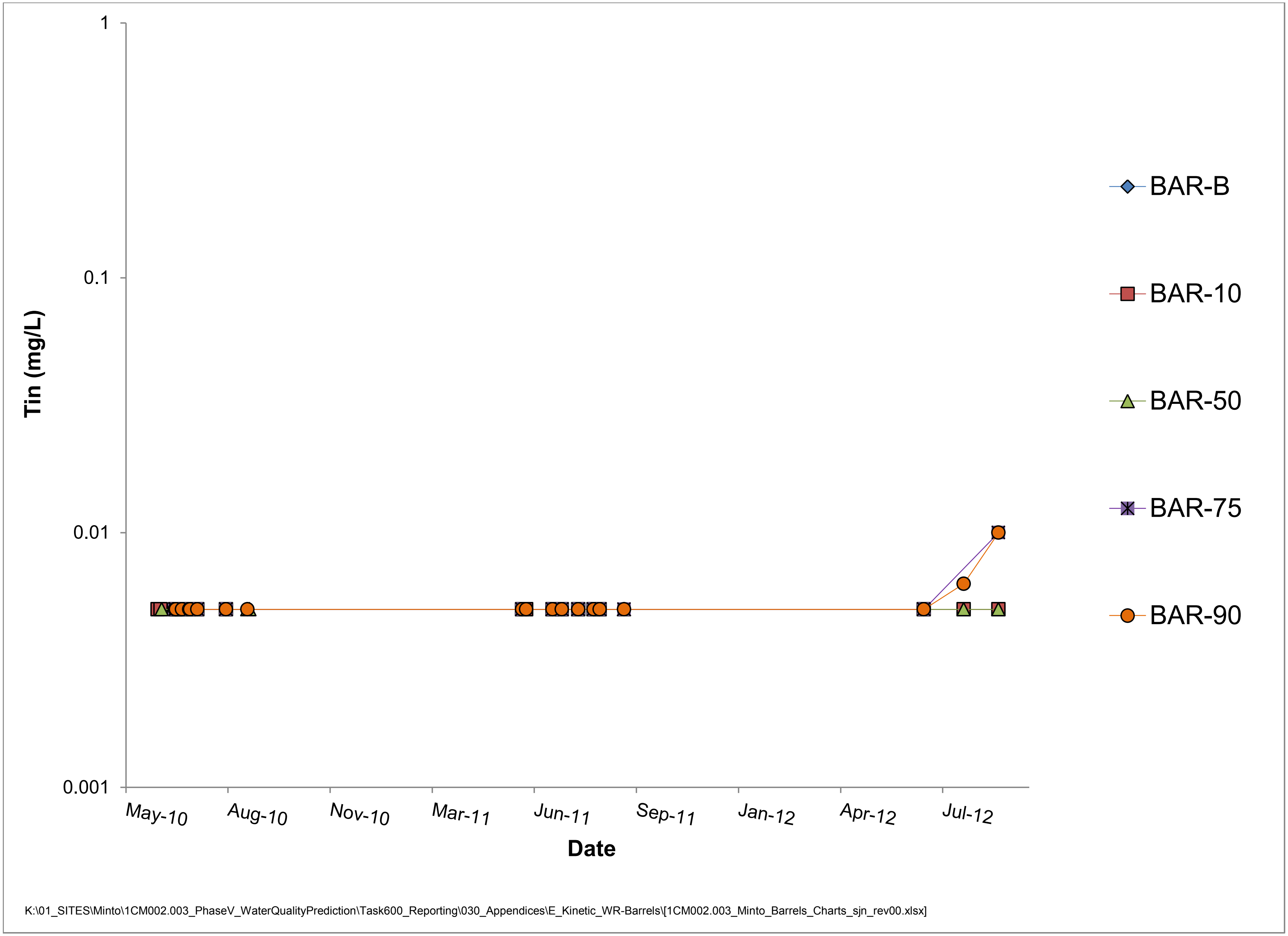
1
0.1
0.01
0.001
Tin (mg/L)
May-10
Aug-10
Nov-10
Mar-11
Jun-11
Sep-11
Jan-12
Apr-12
Jul-12
Date
BAR-B
BAR-10
BAR-50
BAR-75
BAR-90
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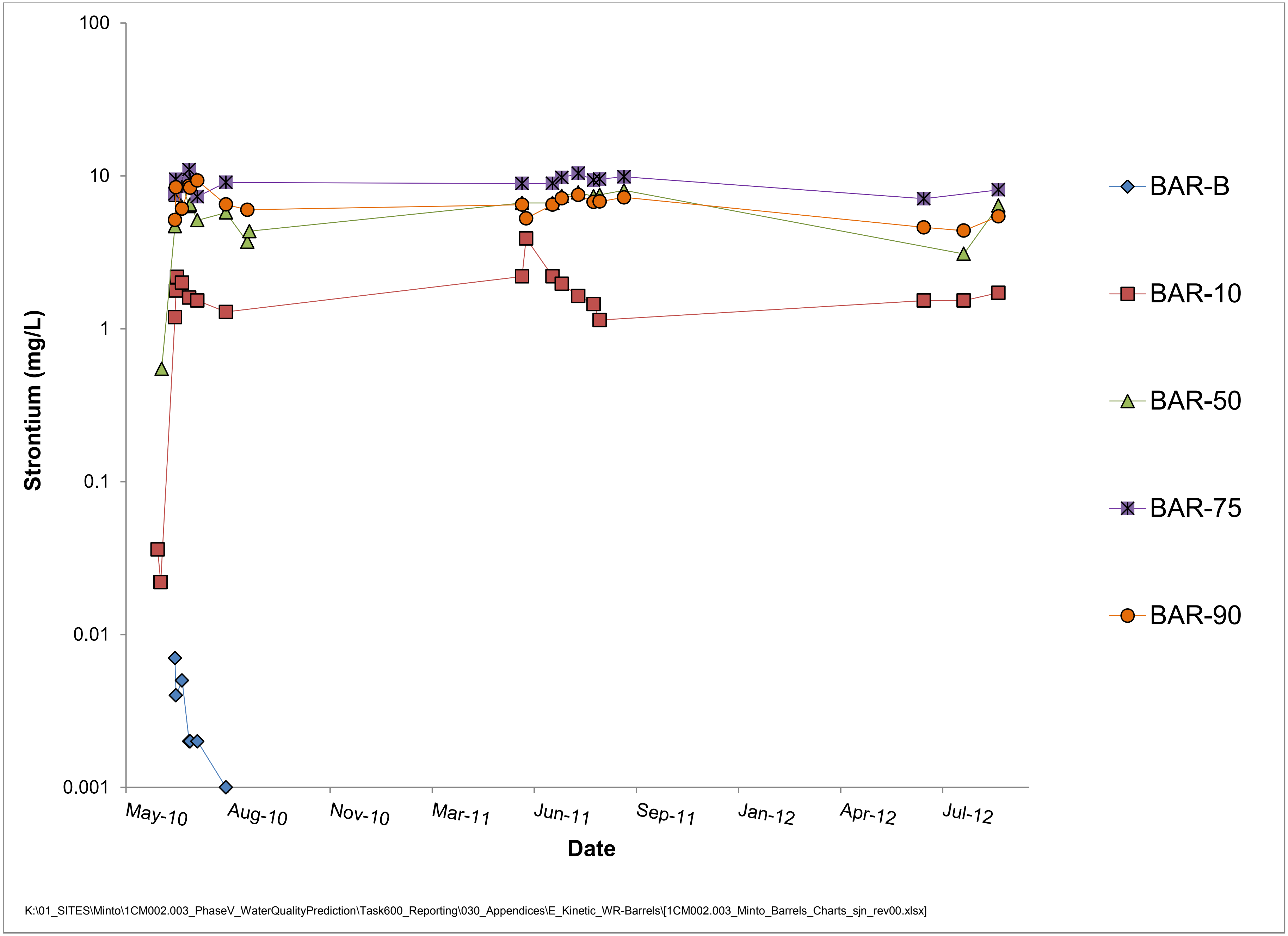
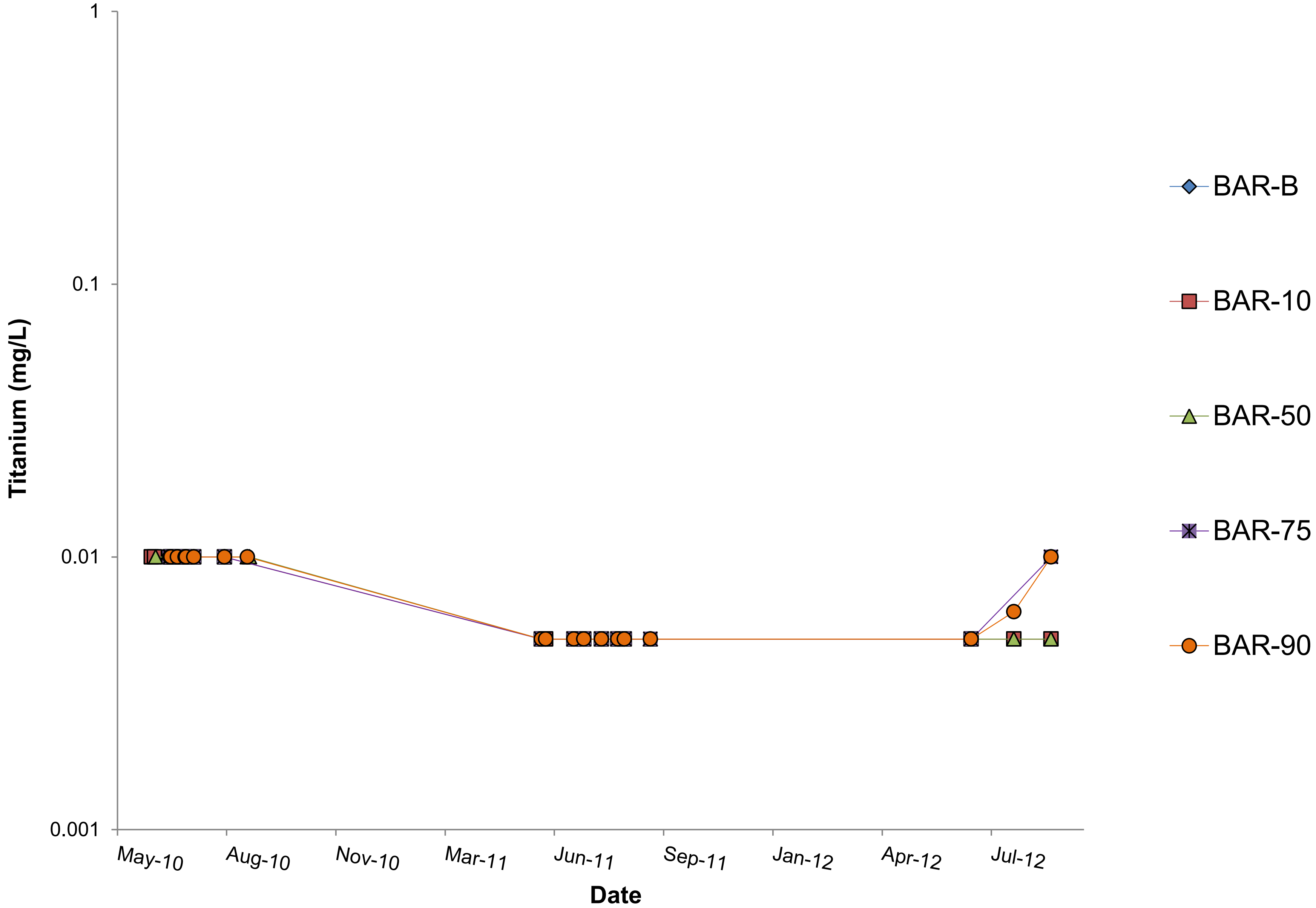

100
10
1
0.1
0.01
0.001
Strontium (mg/L)
May-10
Aug-10
Nov-10
Mar-11
Jun-11
Sep-11
Jan-12
Apr-12
Jul-12
Date
BAR-B
BAR-10
BAR-50
BAR-75
BAR-90
K:\01_SITES\Minto\1CM002.003_PhaseV_WaterQualityPrediction\Task600_Reporting\030_Appendices\E_Kinetic_WR-Barrels\[1CM002.003_Minto_Barrels_Charts_sjn_rev00.xlsx]



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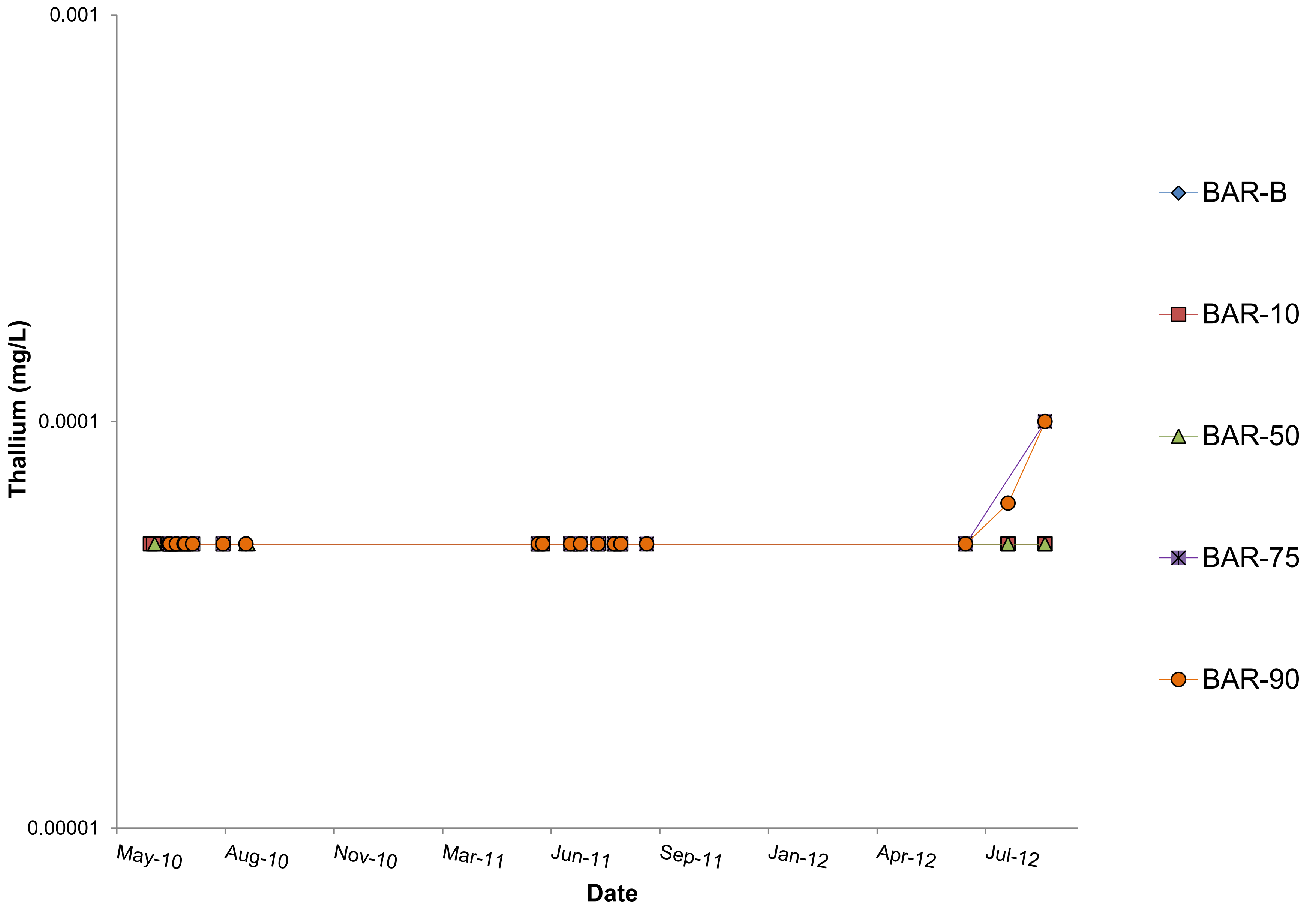

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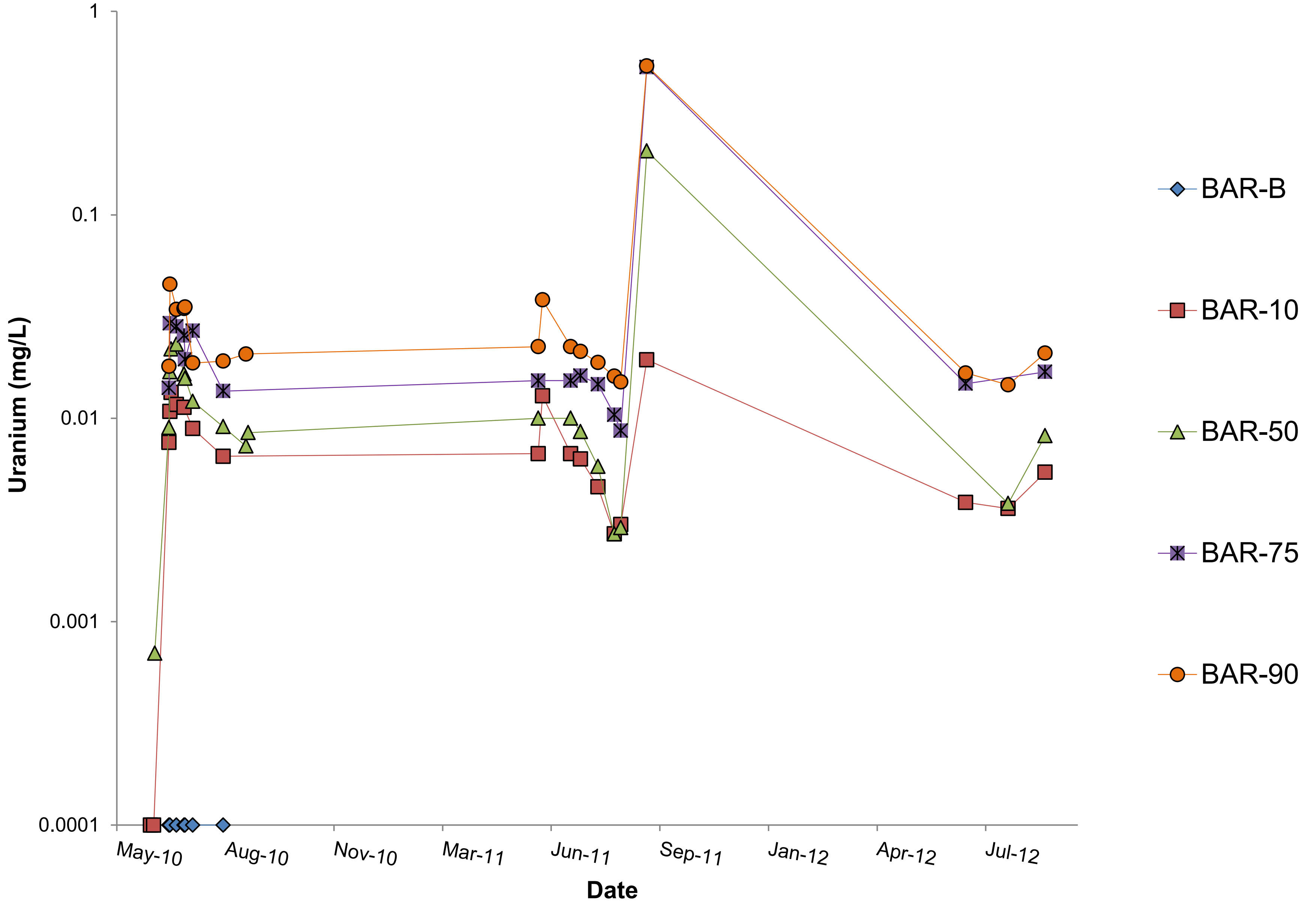

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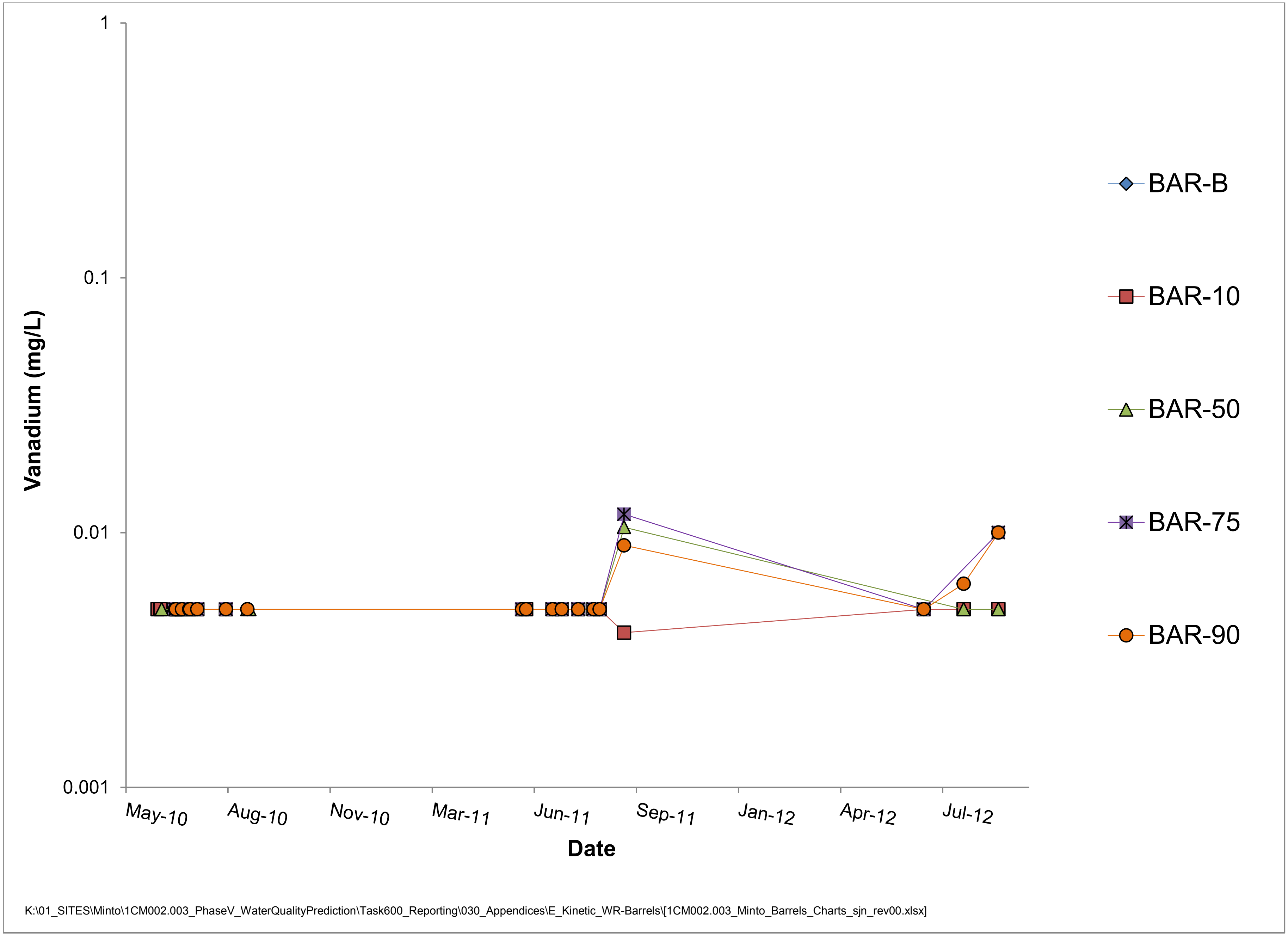
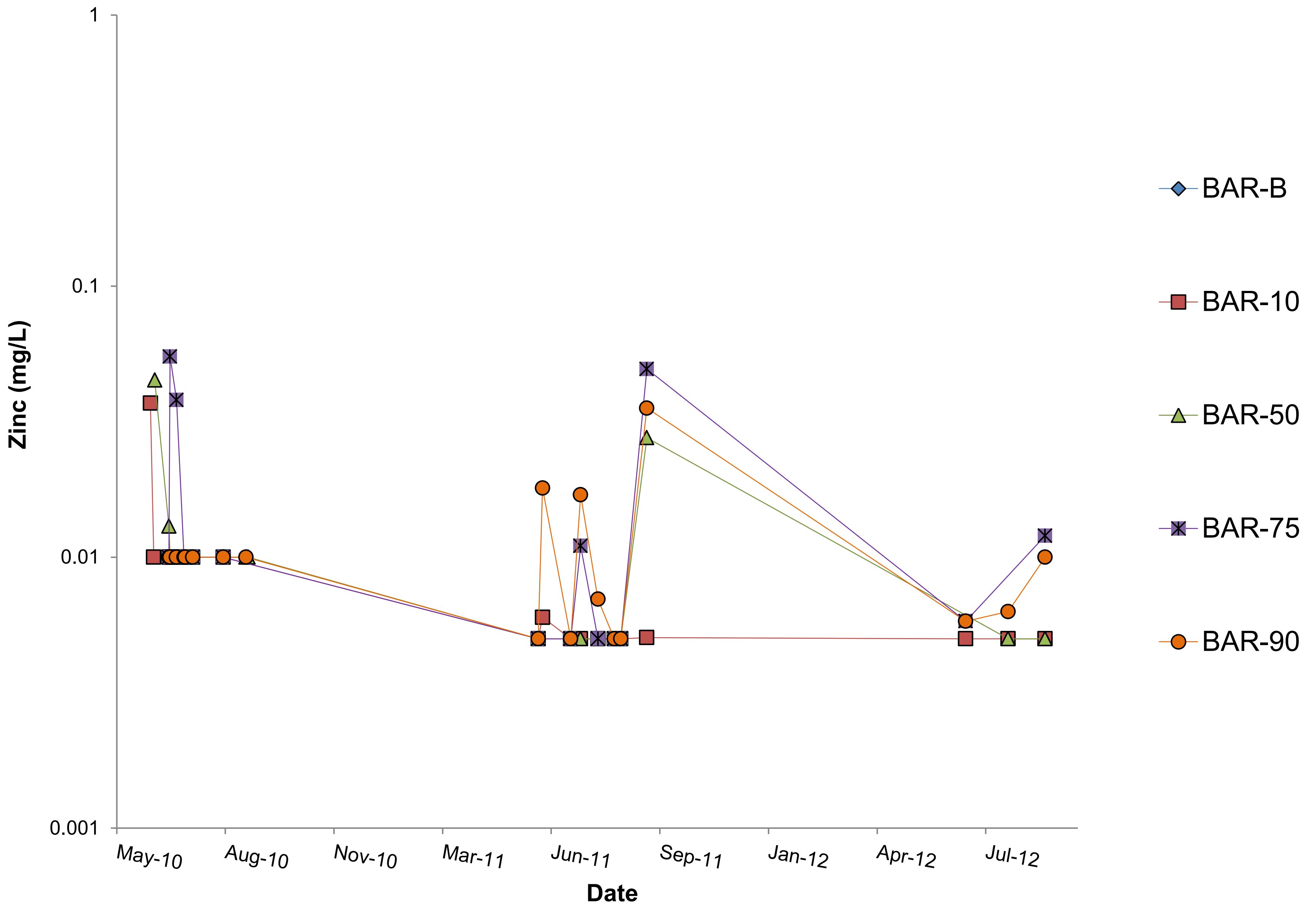

1
0.1
0.01
0.001
Vanadium (mg/L)
May-10
Aug-10
Nov-10
Mar-11
Jun-11
Sep-11
Jan-12
Apr-12
Jul-12
Date
BAR-B
BAR-10
BAR-50
BAR-75
BAR-90
K:\01_SITES\Minto\1CM002.003_PhaseV_WaterQualityPrediction\Task600_Reporting\030_Appendices\E_Kinetic_WR-Barrels\[1CM002.003_Minto_Barrels_Charts_sjn_rev00.xlsx]



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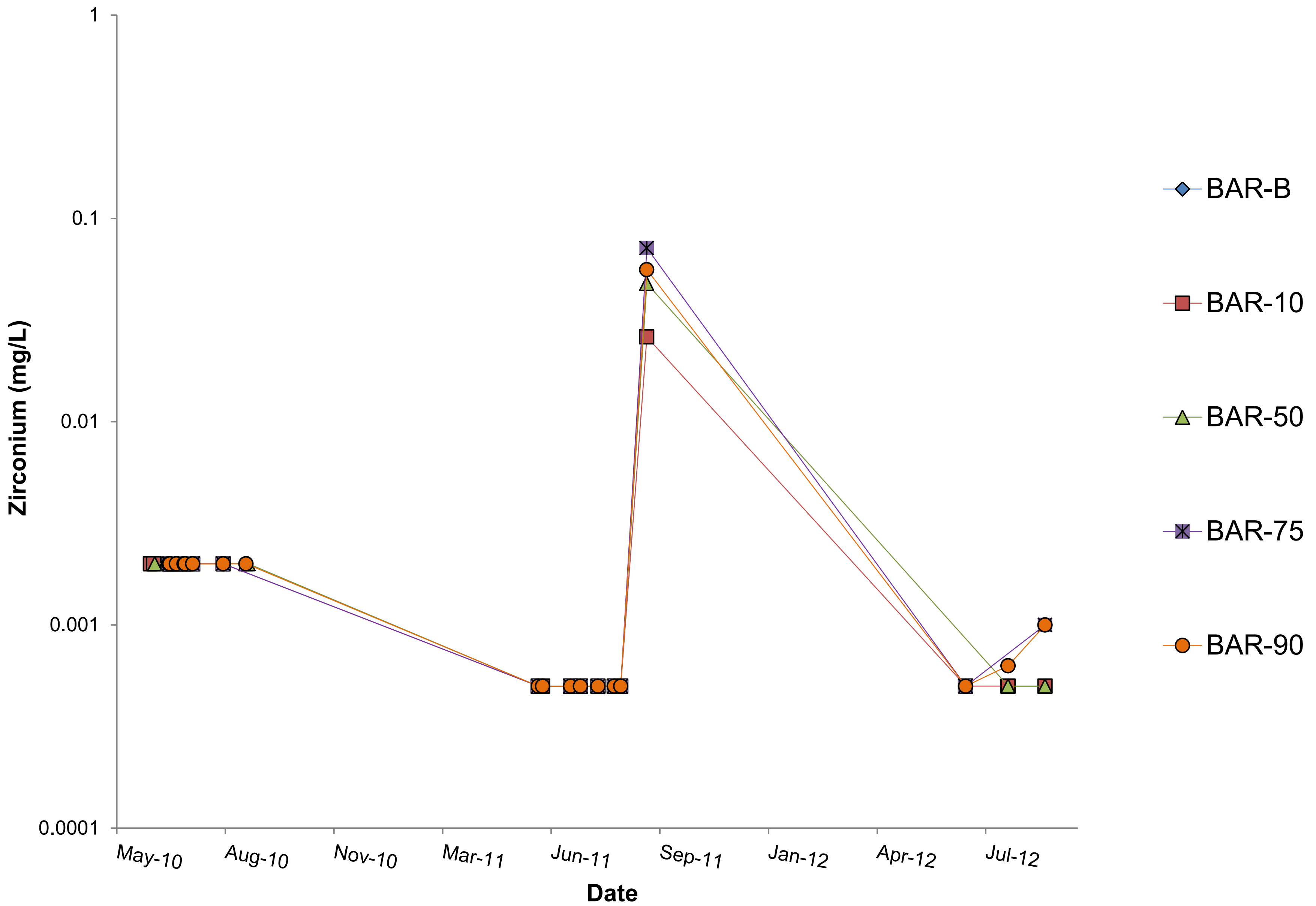

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Appendix F
Phase V/VI Tailings: Static Test Results

Mine Area	Sample ID	Paste pH Std. Units	CO2 % CO2	Equiv. CaCO3 kg CaCO3/t	Total S % S	Sulphate % S	Sulphur Diff. % S	AP kg CaCO3/t	NP kg CaCO3/t	Net NP kg CaCO3/t	NP/AP Ratio	Fizz Test Visual
	LOD	0.01	0.02	#N/A	0.02	0.01	#N/A	#N/A	0.2	#N/A	#N/A	#N/A
	Method Code	Sobek	HCl Leach	Calc.	Leco	HCl Leach	Calc.	Calc.	Sobek NP	Calc.	Calc.	Sobek
Minto North	2420-10 Cu (Rougher + Cleaner Tails) Composite	8.31	0.64	15	<0.02	<0.01	<0.02	0.6	19.2	19	32	Slight
Area 118- Lower	Composite 2351-33	8.39	1.69	38	0.04	0.01	0.03	0.9	30.1	29	32	Slight
Area 118- Upper	Composite 2351-34	8.62	1.98	45	0.08	<0.01	0.08	2.5	38.2	36	15	Slight
Ridgetop East- Lower	Composite 2351-35	8.58	2.55	58	0.04	<0.01	0.04	1.3	32.9	32	26	Slight
Ridgetop East- Upper	Composite 2351-36	9.01	1.87	43	<0.02	<0.01	<0.02	0.6	37.2	37	62	Slight
Ridgetop East- Upper	Composite 2351-37	9.26	1.9	43	0.04	<0.01	0.04	1.3	35.2	34	28	Slight
Area 2	KM 1966-13,22 MINTO K1	7.9	2	45	0.12	<0.01	0.12	3.8	57.0	53	15	Slight
Area 2	KM 1966-29,30 MINTO L+M ZONE	8.3	0.7	16	0.09	0.01	0.08	2.5	31.0	29	12	Slight
Area 2	KM 1966-28 MINTO N ZONE	8.2	0.2	5	0.08	0.02	0.06	1.9	22.0	20	12	Slight
Area 2	KM 1966-29 MINTO M ZONE	8.4	0.5	11	0.06	0.01	0.05	1.6	27.0	25	17	Slight
Area 2	KM 1966-30 MINTO L ZONE	8.2	0.6	14	0.1	<0.01	0.1	3.1	25.0	22	8.0	Slight
Area 2	KM 1966-40 MINTO O ZONE	8.1	1.4	32	0.1	<0.01	0.1	3.1	43.0	40	14	Slight
Area 2	KM 1966-41 MINTO P ZONE	7.8	<0.2	4.5	0.52	0.37	0.15	4.7	18.0	13	3.8	Slight
Area 2	KM 1966-42 MINTO Q ZONE	7.9	0.2	4.5	0.28	0.13	0.15	4.7	28.0	23	6.0	Slight
Minto East	KM2751-24 RoTL & Cu/CT 3, 4, 5,	7.69	0.82	18.6	0.64	0.57	0.07	2.2	24.9	23	11	slight
Copper Keel	KM2751-25 RoTL & Cu/CT 3, 4, 5,	8.03	1.41	32.0	0.08	0.03	0.05	1.6	23.75621891	22	15.2	slight
Wildfire	KM2751-26 RoTL & Cu/CT 3, 4, 5,	8.52	4.06	92.3	0.04	<0.01	0.04	1.3	21.64179104	20	17.3	slight

Mine Area	Sample ID	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm
	LOD	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.1	0.5	0.1	1	0.1	0.1	0.1
	Method Code	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX
Minto North	2420-10 Cu (Rougher + Cleaner Tails) Composite	0.7	453	4	117	0.5	8	7	542	4.6	1.3	0.2	115.2	3.1	28	0.2	<0.1	0.1
Area 118- Lower	Composite 2351-33	0.4	591	2	151	0.5	5	9	794	4.5	<0.5	0.1	88.9	2	34	0.8	<0.1	0.1
Area 118- Upper	Composite 2351-34	2.6	515	3	109	0.3	9	7	651	3.0	0.6	0.7	45	4.7	57	0.4	<0.1	<0.1
Ridgetop East- Lower	Composite 2351-35	0.7	384	3	129	0.3	5	7	582	4.5	1.1	0.2	66.9	2.8	25	0.6	<0.1	<0.1
Ridgetop East- Upper	Composite 2351-36	2.1	1333	3	69	0.2	3	5	396	2.5	1.1	0.3	35.9	3	28	0.2	<0.1	0.2
Ridgetop East- Upper	Composite 2351-37	2.5	1340	4	68	0.2	3	5	379	2.3	0.8	0.3	37.2	2.7	25	0.2	<0.1	0.2
Area 2	KM 1966-13,22 MINTO K1	7.0	249	14	70	0.2	5	7	677	3.3	1.3	1.4	<200	5.7	90	0.2	0.21	0.05
Area 2	KM 1966-29,30 MINTO L+M ZONE	1.1	1330	43	229	2.4	7	10	953	8.1	2.6	0.35	200	3	33	0.7	30.2	0.27
Area 2	KM 1966-28 MINTO N ZONE	1.4	672	25	145	1.1	5	12	591	3.8	4	1.04	200	4.7	75	0.5	0.8	0.08
Area 2	KM 1966-29 MINTO M ZONE	0.7	1005	9	150	0.9	5	10	869	7.1	1.3	0.35	200	2.9	30	0.4	0.13	0.24
Area 2	KM 1966-30 MINTO L ZONE	0.9	1580	42	253	1.3	6	13	1030	8.3	3.2	0.21	200	2.8	31	0.7	1.34	0.28
Area 2	KM 1966-40 MINTO O ZONE	1.1	1570	5	107	1.1	4	9	885	6.1	1.5	0.46	200	2.7	47	0.2	0.14	0.31
Area 2	KM 1966-41 MINTO P ZONE	0.9	1940	5	151	1.0	7	10	749	4.7	1.7	0.27	200	4.4	272	0.5	0.1	0.15
Area 2	KM 1966-42 MINTO Q ZONE	0.8	1990	4	138	1.1	5	10	771	5.9	1.8	0.35	200	3.5	196	0.4	0.16	0.53
Minto East	KM2751-24 RoTL & Cu/CT 3, 4, 5,	2.9	1762	4	157	0.9	11	8	773	4.3	0.6	<0.1	220.5	2.6	112	0.5	<0.1	0.1
Copper Keel	KM2751-25 RoTL & Cu/CT 3, 4, 5,	1.9	1250	6	115	1.3	10	7	668	3.9	<0.5	0.3	215.7	3.1	81	0.5	<0.1	0.3
Wildfire	KM2751-26 RoTL & Cu/CT 3, 4, 5,	2.6	1554	6	158	2.0	7	7	1220	4.9	<0.5	0.4	363.2	2	32	1.1	<0.1	1.4

Mine Area	Sample ID	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Hg ppm	Sc ppm	Tl ppm	S %	Ga ppm	Se ppm
	LOD	2	0.01	0.001	1	1	0.01	1	0.001	20	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5
	Method Code	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX
Minto North	2420-10 Cu (Rougher + Cleaner Tails) Composite	74	0.51	0.047	4	53	0.53	128	0.108	<20	0.92	0.024	0.5	<0.1	<0.01	2.2	0.2	<0.05	8	0.6
Area 118- Lower	Composite 2351-33	72	0.91	0.067	5	9	0.68	238	0.114	<20	0.92	0.01	0.68	<0.1	0.02	2.6	0.3	<0.05	8	0.6
Area 118- Upper	Composite 2351-34	77	1.12	0.114	12	17	0.91	322	0.161	<20	1.08	0.014	0.99	<0.1	<0.01	4.6	0.3	0.06	6	0.6
Ridgetop East- Lower	Composite 2351-35	67	0.87	0.089	8	10	0.82	246	0.143	<20	0.96	0.012	0.84	<0.1	<0.01	3.7	0.3	<0.05	7	0.7
Ridgetop East- Upper	Composite 2351-36	63	0.84	0.065	7	5	0.69	227	0.105	<20	0.75	0.016	0.62	0.2	<0.01	3.5	0.2	<0.05	5	1.2
Ridgetop East- Upper	Composite 2351-37	60	0.8	0.067	6	6	0.68	227	0.106	<20	0.73	0.014	0.62	0.2	<0.01	3.7	0.2	<0.05	5	0.9
Area 2	KM 1966-13,22 MINTO K1	72	2.13	0.101	30	6	0.82	260	0.112	<10	1.27	0.02	0.65	0.1	<0.01	5.9	0.31	0.13	7.07	0.9
Area 2	KM 1966-29,30 MINTO L+M ZONE	105	0.97	0.061	4.2	12	0.76	260	0.154	<10	1.24	0.02	0.71	0.08	0.84	3.5	0.3	0.1	12.4	1.7
Area 2	KM 1966-28 MINTO N ZONE	97	1.24	0.118	14.7	9	1.02	160	0.223	<10	1.62	0.04	0.33	0.08	0.01	3.9	0.1	0.08	9.27	1.2
Area 2	KM 1966-29 MINTO M ZONE	81	0.91	0.051	4.6	9	0.66	170	0.116	<10	1.02	0.02	0.53	0.06	0.01	3	0.22	0.07	11.85	1.3
Area 2	KM 1966-30 MINTO L ZONE	130	0.81	0.072	3.8	9	0.92	390	0.215	<10	1.52	0.02	1.02	0.07	0.02	5.1	0.41	0.11	14.75	2.2
Area 2	KM 1966-40 MINTO O ZONE	72	1.36	0.047	4.7	6	0.54	200	0.017	<10	0.71	0.01	0.12	0.05	0.06	1.9	0.06	0.11	9.45	1.7
Area 2	KM 1966-41 MINTO P ZONE	87	1.43	0.101	8.6	15	0.99	190	0.231	<10	1.45	0.04	0.47	0.08	0.02	3.3	0.13	0.63	8.98	1.7
Area 2	KM 1966-42 MINTO Q ZONE	87	0.99	0.06	7.1	9	0.7	130	0.142	<10	1.12	0.02	0.33	0.06	0.01	2.7	0.11	0.29	10.5	2.3
Minto East	KM2751-24 RoTL & Cu/CT 3, 4, 5,	64	1.34	0.046	5	47	0.66	99	0.096	<20	0.88	0.01	0.34	<0.1	0.07	2	0.1	0.69	8	1.6
Copper Keel	KM2751-25 RoTL & Cu/CT 3, 4, 5,	61	0.97	0.055	7	63	0.57	194	0.081	<20	0.91	0.024	0.46	<0.1	0.12	2.6	0.1	0.09	7	1.2
Wildfire	KM2751-26 RoTL & Cu/CT 3, 4, 5,	54	0.68	0.036	2	35	0.59	136	0.053	<20	0.42	0.014	0.31	<0.1	0.05	3	0.2	<0.05	5	2.4

Appendix G

Phase V/VI Tailings: Saturated Column Test Results

Appendix G1
Sample Origin

Deposit	Column ID	Origin of Tailings Sample	Reference
Area 118	Col 1	Composite 2351-33 and Composite 2351-34	G&T Metallurgical Services Ltd. 2009. Pre-Feasibility Metallurgical Testing On Samples From The Area 118 And Ridgetop East Zones At The Minto Mine, Yukon, Canada. Report KM2351, prepared for SRK Consulting, May 2009.
Ridgetop	Col 2	Composite 2351-35 and Composite 2351-36	

Source: K:\01_SITES\Minto\1CM002.003_PhaseV_WaterQualityPrediction\Task600_Reporting\030_Appendices\G_PhaseV-VI_Taliings_SatColumns\G1_Sample\[SampleOrigins_Tailings_1CM002-003_dbm_rev00.xlsx]

Appendix G2
Saturated Column Operating Parameters

Cell No.	Sample ID	Sample Type	Method Reference	Column Dimensions		Column Packing				Pore Volume	Total Volume of Initial Flushings	Flushing Rate/Weekly Input*	Temp	Sampling Frequency	Start-up Date	Sampling Day	Operation Procedure	Sample Prep for Flushings
				Inner Diameter (cm)	Length (cm)	Distance from Top of Column to Sample (cm)	Dry Wt. of Sample (kg)	Other Materials Used	Column Material	(mL)	(mL)	(mL)	(°C)		**2009**			
Col 1	2351-33&34 Composite	Tailings	MEND	5.10	60.00		2.50	Acrylic perforated disk & nylon mesh	Plexiglas		160	50	20-22 °C	Weekly	9-Sep	Wednesday	Overlying water circulation	None
Col 2	2351-35&36 Composite	Tailings	MEND	5.10	60.00		2.50	Acrylic perforated disk & nylon mesh	Plexiglas		160	50	20-22 °C	Weekly	9-Sep	Wednesday	Overlying water circulation	None

Appendix G3
Phase V/VI Tailings Saturated Column Test Results: Tables

Col 1 Surface
Sample = 2351-33&34 Composite

CONFIDENTIAL *DRAFT*

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	ORP mV	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	DO mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L
9-Sep-09	0	160	160	6.95	214	79	#N/A	3.1	24.3	20	7.40	0.8	0.26	34.3	0.0196	0.00021	0.00032	0.0682	-0.00001	-0.000005	-0.05	0.000041	11.1	0.0002	0.000077	0.00409	0.005	0.000015
16-Sep-09	1	50	50	6.78	320	49					7.50																	
23-Sep-09	2	160	160	6.99	281	61	#N/A	4.1	22.1	9	8.40	1.5	0.2	27.9	0.0083	0.00016	0.0003	0.0631	-0.00001	-0.000005	-0.05	0.000038	8.96	-0.0001	0.000076	0.00224	0.003	0.00393
30-Sep-09	3	50	50	6.74	399	51					8.50																	
7-Oct-09	4	160	160	6.78	453	56	#N/A	4.2	21.6	17	7.90	-0.5	0.14	25.2	0.0074	0.00007	0.00013	0.0486	-0.00001	-0.000005	-0.05	0.000015	7.96	-0.0001	0.000075	0.00632	0.002	0.00214
14-Oct-09	5	50	50	6.82	370	45					8.50																	
21-Oct-09	6	160	160	7.27	312	51	#N/A	3.1	22.0	9	8.70	0.8	0.27	24.5	0.0113	0.00021	0.00056	0.0449	-0.00001	-0.000005	-0.05	0.000055	7.56	0.0002	0.000046	0.00357	0.008	0.000146
28-Oct-09	7	50	50	6.85	370	45					8.80																	
4-Nov-09	8	160	160	7.40	352	46	#N/A	4.9	22.6	6	9.00	-0.5	0.13	23.5	0.0107	0.00014	0.00023	0.0419	-0.00001	-0.000005	-0.05	0.000024	7.29	0.0006	0.000022	0.00302	0.003	0.000053
11-Nov-09	9	50	50	7.32	294	39					7.90																	
18-Nov-09	10	160	160	6.89	328	58	#N/A	6.4	26.7	5	7.90	-0.5	0.09	22.4	0.0112	0.00011	0.00015	0.0435	0.00003	-0.000005	-0.05	0.000025	6.98	-0.0001	0.000026	0.00212	0.006	0.000084
25-Nov-09	11	50	50	7.02	315	54					7.20																	
2-Dec-09	12	160	160	6.65	364	57	#N/A	4.7	24.5	6	7.50	-0.5	0.08	23.1	0.0237	0.0001	0.00017	0.0422	-0.00001	-0.000005	-0.05	0.000018	7.23	0.0001	0.000029	0.00217	0.009	0.000182
9-Dec-09	13	50	50	6.70	399	54					8.00																	
16-Dec-09	14	160	160	7.31	376	58	#N/A	3.4	23.3	5	7.80	-0.5	0.06	22.2	0.0091	0.00009	0.00007	0.0394	-0.00001	-0.000005	-0.05	0.000014	7.05	0.0001	0.000008	0.0012	0.002	0.000014
23-Dec-09	15	50	50	7.26	430	46					7.50																	
30-Dec-09	16	160	160	6.91	264	52	#N/A	3.3	20.8	6	6.80	0.7	0.06	20.2	0.0074	0.00004	0.00007	0.0392	-0.00001	-0.000005	-0.05	0.00001	6.39	-0.0001	0.000016	0.00341	0.001	0.000007
6-Jan-10	17	50	50	6.35	178	48					7.60																	
13-Jan-10	18	160	160	6.01	329	49	#N/A	3.8	21.0	5	7.40	-0.5	0.04	20.5	0.011	0.0004	0.0007	0.0417	-0.0002	-0.0001	-1	-0.0001	6.5	-0.002	-0.0001	0.002	-0.02	0.0006
20-Jan-10	19	50	50	5.66	352	45					8.20																	
27-Jan-10	20	160	160	5.91	281	50	#N/A	3.0	21.0	6	7.10	-0.5	0.04	20	0.008	-0.0002	0.0004	0.0394	-0.0001	-0.00005	-0.5	-0.00005	6.31	-0.001	-0.00005	0.0029	-0.01	0.00019
3-Feb-10	21	50	50	6.02	293	44					7.50																	
10-Feb-10	22	160	160	7.19	282	50	#N/A	2.8	20.3	5	7.50	1.4	-0.05	23.1	0.011	-0.0001	0.0007	0.0476	-0.00005	-0.00003	-0.3	-0.00003	7.42	-0.0005	0.00003	0.0032	0.006	0.00008
17-Feb-10	23	50	50	6.82	383	47					8.80																	
24-Feb-10	24	160	160	6.82	338	48	#N/A	2.6	20.0	6	6.40	-0.5	0.03	18.7	0.009	-0.0004	-0.0004	0.0423	-0.0002	-0.0001	-1	-0.0001	6.1	-0.002	-0.0001	0.002	-0.02	-0.0001
3-Mar-10	25	50	50	6.29	363	48					6.30																	
10-Mar-10	26	160	160	6.78	404	47	#N/A	2.3	17.7	7	6.80	-0.5	0.04	19.5	0.007	0.0002	-0.0002	0.0409	-0.0001	-0.00005	-0.5	-0.00005	6.1	-0.001	-0.00005	0.0025	-0.01	0.00006
17-Mar-10	27	50	50	6.25	401	43					6.50																	
24-Mar-10	28	160	160	6.76	311	45	#N/A	2.5	15.5	7	6.70	-0.5	-0.05	17	0.007	0.0003	0.0003	0.0334	-0.00005	-0.00003	-0.3	-0.00003	5.5	-0.0005	0.00006	0.0012	-0.005	0.00004
31-Mar-10	29	50	50	6.54	312	41					9.50																	
7-Apr-10	30	160	160	6.37	419	43	#N/A	2.6	15.0	7	9.10	-0.5	0.03	16.2	0.0074	0.00006	0.00003	0.0426	-0.00001	-0.000005	-0.05	0.000019	5.18	-0.0001	0.00003	0.00237	0.004	0.000023
14-Apr-10	31	50	50	6.26	426	38					6.70																	
21-Apr-10	32	160	160	6.45	467	42	#N/A	2.6	15.3	3	9.80	2.1	-0.05	15.2	0.0091	0.00016	0.00031	0.035	-0.00001	-0.000005	-0.05	0.000064	4.85	0.0002	0.00137	0.0027	0.002	0.000158
28-Apr-10	33	50	50	6.74	420	33					9.60																	
5-May-10	34	160	160	5.96	452	38	#N/A	2.8	14.9	3	9.60	-0.5	0.05	16.6	0.005	0.0001	0.00035	0.0332	-0.00001	-0.000005	-0.05	0.000028	5.31	-0.0001	0.000053	0.00161	0.003	0.000018
12-May-10	35	50	50	6.01	418	20					9.80																	
19-May-10	36	160	160	6.00	373	28	#N/A	2.2	10.6	3	9.70	-0.5	0.01	11.6	0.005	0.00006	0.00062	0.0256	-0.00001	-0.000005	-0.05	0.000015	3.76	-0.0001	0.000047	0.00141	0.004	0.00002
26-May-10	37	50	50	5.76	470	29					9.80																	
2-Jun-10	38	160	160	6.04	495	33	#N/A	2.0	12.6	3	8.06	-0.5	0.01	12	0.0056	0.00006	0.00006	0.027	-0.00001	-0.000005	-0.05	0.000019	3.82	-0.0001	0.000067	#N/A	0.002	0.000054
9-Jun-10	39	50	50	5.52	362	29					8.47																	
16-Jun-10	40	160	160	5.88	481	36	#N/A	2.7	13.8	-2	8.55	-0.5	0.02	13.8	0.0062	0.00005	0.00039	0.0273	-0.00001	-0.000005	-0.05	0.000025	4.47	0.0001	0.000065	0.00184	0.006	0.000058
23-Jun-10	41	50	50	6.00	432	33					8.75																	
30-Jun-10	42	160	160	5.32	369	36	#N/A	2.4	15.1	3	8.70	-0.5	0.02	14.4	0.0095	0.00009	0.00017	0.0309	-0.00001	-0.000005	-0.05	0.000024	4.58	-0.0001	0.000074	0.00318	0.009	0.000126
7-Jul-10	43	50	50	5.99	346	32					8.71																	
14-Jul-10	44	160	160	5.59	380	38	#N/A	3.0	14.9	2	8.70	-0.5	0.02	13.6	0.0051	0.00005	0.00017	0.0306	-0.00001	-0.000005	-0.05	0.000026	4.38	-0.0001	0.000105	0.00291	-0.001	0.00002
21-Jul-10	45	50	50	5.65	408	32					8.77																	
28-Jul-10	46	160	160	5.39	475	37	#N/A	3.8	15.8	4	8.63	-0.5	0.02	14.6	0.0064	0.00003	0.0007	0.03	-0.00001	-0.000005	-0.05	0.000022	4.65	0.0004	0.000109	0.00133	0.006	0.000035
4-Aug-10	47	50	50	5.67	420	38					7.86																	
11-Aug-10	48	160	160	5.77	333	26	#N/A	4.2	12.0	-2	8.62	-0.5	0.01	9.9	0.0053	0.00003	0.00005	0.0246	-0.00001	-0.000005	-0.05	0.000016	3.16	0.0002	0.000078	0.00116	0.002	0.000013
18-Aug-10	49	50	50	5.53	405	26					8.52																	
25-Aug-10	50	160	160	5.30	486	28	#N/A	3.2	12.2	4	8.70	-0.5	0.01	10.2	0.0005	-0.00002	0.0008	0.0193	-0.00001	-0.000005	-0.05	-0.000005	3.23	0.0001	0.000041	0.00072	-0.001	-0.000005
1-Sep-10	51	50	50	6.34	454	26					8.56																	
8-Sep-10	52	160	160	6.06	489	29	#N/A	4.1	13.0	4	8.68	-0.5	0.14	12.8	0.0093	0.00003	0.00079	0.0259	-0.00001	-0.000005	-0.05	0.000024	4.12	-0.0001	0.000094	0.00088	0.002	0.000008
15-Sep-10	53	50	50	6.16	460	27					8.62																	
22-Sep-10	54	160	160	6.91	468	33	#N/A	2.8	13.6	4	7.97	-0.5	0.01	13	0.0135	0.00003	0.00025	0.0317	-0.00001	-0.000005	-0.05	0.000029	4.14	0.0003	0.000106	0.00155	0.003	0.000151
29-Sep-10	55	50	50	6.43	421	28					8.28																	
6-Oct-10	56	160	160	6.01	396	32	#N/A	2.8	14.0	4	8.32	-0.5	0.36	13.5	0.0071	0.00002	0.00007	0.0291	-0.00001	-0.000005	-0.05	0.000024	4.3	0.0003	0.000073	0.00195	0.006	0.000444
13-Oct-10	57	50	50	6.28	358	32					8.23																	
20-Oct-10	58	160	160	5.93	401	33	#N/A	2.9	14.8	5	8.46	-0.5	0.06	12.9	0.0039	0.00002	0.00007	0.0321	-0.00001	-0.000005	-0.05	0.000025	4.19	0.0001	0.000129	0.0016	0.001	0.000106
27-Oct-10	59	50	50	6.88	338	28					8.50																	
3-Nov-10	60	160	160	6.89	329	31	#N/A	2.1	15.4	2	8.40	-0.5	0.09	14.1	0.0042	-0.00002	0.00007	0.033	-0.00001	-0.000005	-0.05	0.000029	4.48	-0.0001	0.000058	0.00166	0.001	0.000358
10-Nov-10	61	50	50	7.09	300	30					8.26																	
17-Nov-10	62	160	160	6.70	313	33	#N/A	2.8	14.9	2	8.00	-0.5	0.06	13.1	0.0043	0.00006	0.00007	0.0274	-0.00001	-0.000005	-0.05	0.000024	4.16	-0.0001	0.000061	0.0046	-0.001	0.000016
24-Nov-10	63	50	50	6.85	442	28					8.62																	
1-Dec-10	64	160	160	7.30	459	32	#N/A	4.0	14.7	-2	8.10	-0.5	-0.05	12.8	0.0044	0.00002	0.00023	0.0285	-0.00001	-0.000005	-0.05	0.000024	4.09	-0.0001	0.000052	0.00168	0.001	0.000013
8-Dec-10	65	50	50	7.27	468	27					8.24																	
15-Dec-10	66	160	160	7.39	473	30	#N/A	3.1	13.9	4	8.86	-0.5	0.02	12.3	0.0046	0.00003	0.00007	0.0249	-0.00001	-0.000005	-0.05	0.000018	3.96	-0.0001	0.000039	0.00264	0.003	0.00002
22-Dec-10	67	50	50	7.40	389	28					8.66																	

Col 1 Surface
Sample = 2351-338

Date	Cycle No.	Li	Mg	Mn	Hg	Mo	Ni	P	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr	Maxxam ID	Maxxam File#	Major Anions	Major Cations	Diff	Diff (%)
		mg/L	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L						
9-Sep-09	0	0.0008	1.57	0.0362	-0.01	0.00295	0.00036	0.089	4.32	0.00141	0.701	-0.000005	2.92	0.152	8	0.000041	0.00166	-0.0005	0.000097	0.0006	0.0043	-0.0001			0.94	0.92	-0.02	-1.0%
16-Sep-09	1																											
23-Sep-09	2	0.001	1.35	0.0298	-0.01	0.00289	0.00037	0.141	4.18	0.00111	0.728	-0.000005	2.75	0.13	6	0.000019	0.00569	-0.0005	0.000018	0.0002	0.0044	-0.0001			0.68	0.78	0.10	7.0%
30-Sep-09	3																											
7-Oct-09	4	0.0006	1.29	0.0254	-0.01	0.00242	0.00045	0.036	3.4	0.0009	0.757	-0.000005	2.31	0.118	5	0.000005	0.0108	0.0006	0.00003	0.0004	0.0036	-0.0001			0.81	0.69	-0.12	-7.8%
14-Oct-09	5																											
21-Oct-09	6	0.0006	1.36	0.0239	-0.01	0.00168	0.00048	0.21	2.86	0.00078	0.83	0.000036	1.98	0.114	3	0.00004	0.0197	-0.0005	0.000034	0.0003	0.0074	-0.0001			0.66	0.65	-0.02	-1.2%
28-Oct-09	7																											
4-Nov-09	8	-0.0005	1.28	0.0171	-0.01	0.00111	0.00034	0.105	2.35	0.00061	0.683	-0.000005	1.37	0.098	-3	0.000011	0.0255	-0.0005	0.000031	-0.0002	0.0035	-0.0001			0.60	0.59	-0.01	-0.8%
11-Nov-09	9																											
18-Nov-09	10	-0.0005	1.21	0.0161	-0.01	0.0008	0.00035	0.046	1.81	0.00046	0.721	0.00001	0.9	0.0902	-3	0.000033	0.0287	0.0005	0.00005	-0.0002	0.0031	-0.0001			0.66	0.53	-0.12	-10.4%
25-Nov-09	11																											
2-Dec-09	12	0.0006	1.23	0.0136	-0.01	0.00065	0.00036	0.043	1.67	0.00046	0.856	0.000008	0.85	0.0873	-3	0.000018	0.033	0.0005	0.000039	0.0003	0.0067	-0.0001			0.63	0.54	-0.09	-7.8%
9-Dec-09	13																											
16-Dec-09	14	-0.0005	1.11	0.00843	-0.01	0.00047	0.00029	0.034	1.32	0.00046	0.932	-0.000005	0.57	0.0773	-3	0.000009	0.0357	0.0006	0.000037	-0.0002	0.0017	-0.0001			0.59	0.50	-0.09	-7.8%
23-Dec-09	15																											
30-Dec-09	16	-0.0005	1.03	0.00694	-0.01	0.00039	0.00025	0.03	1.19	0.00033	0.878	-0.000005	0.44	0.0723	-3	0.000005	0.0338	-0.0005	0.000042	-0.0002	0.0019	-0.0001			0.56	0.45	-0.11	-10.8%
6-Jan-10	17																											
13-Jan-10	18	-0.01	1	0.006	-0.2	-0.001	0.0026	-0.04	1.2	-0.0008	-2	0.0001	0.4	0.07	-10	0.0001	0.0356	-0.01	-0.00004	0.01	0.006	-0.002			0.54	0.45	-0.09	-8.7%
20-Jan-10	19																											
27-Jan-10	20	-0.005	1.02	0.0061	-0.1	-0.0005	0.0035	0.059	1.06	0.0005	-1	-0.00005	0.37	0.0655	-6	-0.00002	0.041	0.008	0.00004	0.003	0.005	-0.001			0.56	0.44	-0.12	-11.9%
3-Feb-10	21																											
10-Feb-10	22	-0.003	1.1	0.0087	-0.05	0.0004	0.0011	0.031	1.21	0.0003	1.14	-0.00003	0.48	0.0711	-3	-0.00001	0.0413	-0.003	0.00002	-0.001	0.003	-0.0005			0.55	0.51	-0.04	-3.7%
17-Feb-10	23																											
24-Feb-10	24	-0.01	0.9	0.011	-0.2	-0.001	0.0072	-0.04	0.8	-0.0008	-2	-0.0001	0.3	0.06	14	-0.00004	0.0395	-0.01	-0.00004	-0.004	#N/A	-0.002			0.54	0.41	-0.13	-13.5%
3-Mar-10	25																											
10-Mar-10	26	-0.005	1	0.0172	-0.1	-0.0005	0.0002	-0.02	0.9	-0.0004	1.21	-0.00005	-0.5	0.0584	#N/A	-0.00002	0.033	-0.005	0.00002	-0.002	0.003	-0.001			0.52	0.43	-0.08	-8.9%
17-Mar-10	27																											
24-Mar-10	28	-0.003	0.8	0.0165	-0.05	-0.0003	0.0001	0.02	0.7	0.0003	1.08	-0.00003	-0.3	0.0524	-10	0.00001	0.024	-0.003	0.00001	-0.001	0.0029	-0.0005			0.47	0.37	-0.10	-11.9%
31-Mar-10	29																											
7-Apr-10	30	-0.0005	0.78	0.0198	0.01	0.00015	0.00035	0.025	0.72	0.00025	1.14	-0.000005	0.31	0.0492	-2	0.000006	0.0189	-0.0005	0.000008	-0.0002	0.0027	-0.0001			0.46	0.35	-0.11	-13.2%
14-Apr-10	31																											
21-Apr-10	32	-0.0005	0.76	0.0239	-0.01	0.00013	0.00084	0.027	3.38	0.00027	1.34	0.000082	0.42	0.0439	-10	0.000013	0.0147	-0.0005	0.000021	-0.0002	0.0395	0.0004			0.43	0.41	-0.02	-2.6%
28-Apr-10	33																											
5-May-10	34	-0.0005	0.81	0.0276	-0.01	0.00015	0.00031	0.034	0.78	0.00027	1.54	-0.000005	0.27	0.0433	-10	0.000012	0.0192	-0.0005	0.000006	-0.0002	0.0025	-0.0001			0.38	0.36	-0.01	-1.9%
12-May-10	35																											
19-May-10	36	-0.0005	0.54	0.0228	0.02	0.00007	0.0003	0.021	0.65	0.00018	0.941	-0.000005	0.22	0.0296	-10	0.000004	0.0117	-0.0005	0.000021	-0.0002	0.0018	-0.0001			0.29	0.26	-0.03	-5.6%
26-May-10	37																											
2-Jun-10	38	-0.0005	0.59	0.0257	-0.01	0.00008	0.00031	0.025	0.61	0.00019	1.07	-0.000005	0.24	0.0297	-10	0.000005	0.0122	-0.0005	0.000009	-0.0002	0.0042	-0.0001			0.33	0.27	-0.06	-10.9%
9-Jun-10	39																											
16-Jun-10	40	-0.0005	0.64	0.0283	-0.01	0.00011	0.00022	0.027	0.84	0.00025	1.24	0.000022	0.19	0.0313	-10	0.000021	0.0138	-0.0005	0.000007	-0.0002	0.0015	-0.0001			0.33	0.31	-0.03	-4.3%
23-Jun-10	41																											
30-Jun-10	42	-0.0005	0.73	0.0313	-0.01	0.00011	0.00026	0.03	0.66	0.00022	1.41	-0.000005	0.3	0.0357	-10	0.000005	0.0129	0.0005	0.000009	-0.0002	0.0019	-0.0001			0.38	0.32	-0.06	-8.6%
7-Jul-10	43																											
14-Jul-10	44	-0.0005	0.66	0.0319	-0.01	0.00009	0.00032	0.03	0.72	0.00026	1.4	-0.000005	0.22	0.0357	-10	0.000005	0.0159	-0.0005	0.000016	-0.0002	0.0025	-0.0001			0.35	0.30	-0.05	-8.2%
21-Jul-10	45																											
28-Jul-10	46	-0.0005	0.73	0.0333	-0.01	0.00018	0.00041	0.029	0.63	0.00024	1.52	-0.000005	0.31	0.0346	-10	0.000006	0.0134	-0.0005	0.000014	0.0003	0.0048	-0.0001			0.42	0.32	-0.09	-12.7%
4-Aug-10	47																											
11-Aug-10	48	-0.0005	0.48	0.0232	-0.01	0.0001	0.00032	0.009	0.4	0.00015	0.886	-0.000005	0.25	0.0241	-10	0.000003	0.00817	0.0006	0.000006	-0.0002	0.0013	-0.0001			0.30	0.22	-0.08	-15.3%
18-Aug-10	49																											
25-Aug-10	50	-0.0005	0.51	0.0186	-0.01	0.00049	0.00011	0.029	0.49	0.00021	0.996	-0.000005	0.35	0.0232	-10	0.000002	0.00114	-0.0005	-0.000002	-0.0002	0.0002	-0.0001			0.34	0.23	-0.11	-19.2%
1-Sep-10	51																											
8-Sep-10	52	-0.0005	0.61	0.0276	-0.01	0.00011	0.00029	0.044	0.65	0.00019	1.16	-0.000005	0.22	0.0274	-10	0.000004	0.00965	-0.0005	0.000006	-0.0002	0.0012	-0.0001	W89678	B083997	0.36	0.28	-0.08	-12.8%
15-Sep-10	53																											
22-Sep-10	54	-0.0005	0.64	0.0297	-0.01	0.0001	0.00039	0.035	0.63	0.00021	1.16	-0.000005	0.31	0.0297	-10	0.000007	0.0108	-0.0005	0.000065	-0.0002	0.0037	-0.0001	X21181	B091571	0.37	0.29	-0.08	-12.3%
29-Sep-10	55																											
6-Oct-10	56	-0.0005	0.66	0.0291	-0.01	0.00012	0.00029	0.023	0.88	0.00019	1.26	0.000011	0.27	0.0289	-10	0.000011	0.0104	-0.0005	0.000011	-0.0002	0.0024	-0.0001	X52942	B096727	0.40	0.30	-0.09	-13.4%
13-Oct-10	57																											
20-Oct-10	58	-0.0005	0.6	0.0273	-0.01	0.0001	0.00038	0.017	0.56	0.00017	1.34	-0.000005	0.22	0.0292	-10	0.000009	0.00909	-0.0005	0.000017	-0.0002	0.0038	-0.0001	X99708	B0A4122	0.42	0.28	-0.13	-19.2%
27-Oct-10	59																											
3-Nov-10	60	-0.0005	0.69	0.029	-0.01	0.00022	0.00012	0.011	0.53	0.00018	1.42	-0.000005	0.19	0.0305	-10	0.000002	0.0115	-0.0005	#N/A	-0.0002	0.0038	-0.0001	Y24866	B0A8557	0.37	0.30	-0.07	-9.8%
10-Nov-10	61																											
17-Nov-10	62	-0.0005	0.66	0.0275	-0.01	0.00008	0.00028	0.028	0.71	0.0002	1.45	-0.000005	0.29	0.0281	-10	0.000008	0.00867	-0.0005	#N/A	-0.0002	0.0037	-0.0001	Y62099	B0B4325	0.36	0.29	-0.06	-9.8%
24-Nov-10	63																											
1-Dec-10	64	-0.0005	0.62	0.0278	0.01	0.00017	0.00029	0.069	0.66	0.00019	1.44	-0.000005	0.26	0.0274	-10	0.000005	0.0115	-0.0005	0.000019	-0.0002	0.0015	-0.0001	Y83921	B0B8076	0.35	0.28	-0.07	-10.9%
8-Dec-10	65																											
15-Dec-10	66	-0.0005	0.58	0.0255	-0.01	0.00015	0.00027	0.024	0.49	0.00019	1.32	-0.000005	0.2	0.0243	-10	0.000006	0.00944	-0.0005	0.000008	0.0003	0.0019	-0.0001	Z18060	B0C3703	0.38	0.27	-0.11	-17.1%
22-Dec-10	67																											

Col 1 Surface
Sample = 2351-33&34 Composite

CONFIDENTIAL DRAFT

Date	Cycle No.	Volume mL Input	Output	pH	ORP mV	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	DO mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L
29-Dec-10	68	160	160	7.36	456	31	#N/A	4.1	14.6	4	8.96	-0.5	0.01	10.8	0.004	-0.00002	0.00018	0.0262	-0.00001	-0.000005	-0.05	0.000029	3.34	-0.0001	0.000069	0.0013	-0.001	0.000013
5-Jan-11	69	50	50	7.30	426	25					9.30																	
12-Jan-11	70	160	160	7.36	443	28	#N/A	3.4	12.7	2	9.48	-0.5	0.02	11.8	0.0078	0.00005	0.00023	0.0257	-0.00001	-0.000005	-0.05	0.000038	3.79	-0.0001	0.000047	0.00158	0.002	0.000081
19-Jan-11	71	50	50	7.27	416	24					9.52																	
26-Jan-11	72	160	160	7.13	447	30	#N/A	3.4	13.1	2	9.46	1.4	0.02	12	0.0068	0.00009	0.00019	0.0256	-0.00001	-0.000005	-0.05	0.000033	3.82	0.0001	0.00005	0.00342	0.004	0.000066
2-Feb-11	73	50	50	7.05	460	26					8.30																	
9-Feb-11	74	50	50	6.75	420	27																						
16-Feb-11	75	50	50	6.88	423	30																						
23-Feb-11	76	50	50	6.66	386	31																						
2-Mar-11	77	50	50	6.80	402	34																						
9-Mar-11	78	50	50	6.47	430	34																						
16-Mar-11	79	50	50	6.65	382	34																						
23-Mar-11	80	50	50	5.95	440	37																						
30-Mar-11	81	50	50	#N/A	453	38																						
6-Apr-11	82	50	50	#N/A	407	38																						
13-Apr-11	83	50	50	6.92	392	41																						
20-Apr-11	84	160	160	7.11	400	43	#N/A	5.5	17.5	3	9.20	1.4	0.03	16.8	0.0049	#N/A	0.00017	0.034	-0.00001	-0.000005	-0.05	0.000024	5.29	0.0001	0.000019	0.00251	0.001	#N/A
27-Apr-11	85	50	50	7.18	389	37																						
4-May-11	86	50	50	7.03	361	38																						
11-May-11	87	50	50	7.23	367	40																						
18-May-11	88	50	50	7.52	453	44																						
25-May-11	89	50	50	7.11	459	45																						
1-Jun-11	90	50	50	6.64	384	56																						
8-Jun-11	91	50	50	7.51	210	55																						
15-Jun-11	92	50	50	7.56	321	51																						
22-Jun-11	93	50	50	7.36	359	53																						
29-Jun-11	94	50	50	6.69	353	55																						
6-Jul-11	95	50	50	6.53	350	53																						
13-Jul-11	96	160	160	6.63	337	57	#N/A	4.7	21.0	5	8.73	1.8	0.02	20.2	0.0054	0.00003	0.00025	0.0422	-0.00001	-0.000005	-0.05	0.000028	6.35	0.0003	0.000011	0.002	0.003	0.00005
20-Jul-11	97	50	50	7.37	330	21																						
27-Jul-11	98	50	50	6.60	412	30																						
3-Aug-11	99	50	50	6.91	405	29																						
10-Aug-11	100	160	160	7.02	399	31																						
17-Aug-11	101	50	50	7.30	368	32																						
24-Aug-11	102	160	160	7.04	332	33																						
31-Aug-11	103	50	50	7.23	384	39																						
7-Sep-11	104	160	160	7.61	406	39																						
14-Sep-11	105	50	50	7.05	456	40																						
21-Sep-11	106	160	160	7.15	445	41																						
28-Sep-11	107	50	50	6.59	490	42																						
5-Oct-11	108	160	160	7.20	427	40	#N/A	3.5	16.0	4	9.63	0.9	0.02	17.2	0.005	#N/A	0.00034	0.0347	-0.00001	-0.000005	-0.05	0.000022	5.45	-0.0001	0.000017	0.0021	-0.001	#N/A
12-Oct-11	109	50	50	7.13	443	33																						
19-Oct-11	110	50	50	6.60	446	35																						
26-Oct-11	111	50	50	7.10	452	36																						
2-Nov-11	112	50	50	6.80	451	38																						
9-Nov-11	113	50	50	7.00	470	40																						
16-Nov-11	114	50	50	7.02	467	36																						
23-Nov-11	115	50	50	6.92	265	38																						
30-Nov-11	116	50	50	7.20	439	37																						
7-Dec-11	117	50	50	7.22	439	38																						
14-Dec-11	118	50	50	7.29	462	38																						
21-Dec-11	119	50	50	7.45	492	39																						
28-Dec-11	120	160	160	7.41	513	41	#N/A	3.1	20.8	2	9.51	#N/A	0.022	16.3	0.0086	0.00003	0.00017	0.0322	-0.00001	0.000015	-0.05	#N/A	5.13	0.0002	0.000046	0.0021	#N/A	#N/A
4-Jan-12	121	50	50	7.56	639	34																						
11-Jan-12	122	50	50	7.77	672	33																						
18-Jan-12	123	50	50	7.90	724	34																						
25-Jan-12	124	50	50	6.80	686	32																						
1-Feb-12	125	50	50	7.70	625	35																						
8-Feb-12	126	50	50	7.73	565	21																						
15-Feb-12	127	50	50	7.67	566	22																						
22-Feb-12	128	50	50	7.91	675	24																						
29-Feb-12	129	50	50	7.98	584	24																						
7-Mar-12	130	50	50	7.60	671	24																						
14-Mar-12	131	50	50	7.31	458	26																						
21-Mar-12	132	160	160	6.88	502	30	#N/A	3.4	14.2	4	8.88	0.7	0.019	12.5	0.0045	0.00002	0.00018	0.0264	-0.00001	-0.000005	-0.05	0.000016	3.97	-0.0001	0.00001	0.00164	0.002	0.000126
28-Mar-12	133	50	50	7.17	698	26																						
4-Apr-12	134	50	50	6.87	560	26																						
11-Apr-12	135	50	50	6.68	640	28																						
18-Apr-12	136	50	50	6.92	579	29																						
25-Apr-12	137	50	50	6.91	708	30																						
2-May-12	138	50	50	7.13	683	30																						
9-May-12	139	50	50	6.91	678	24																						
16-May-12	140	50	50	6.94	632	32																						

Col 1 Surface
Sample = 2351-338

Date	Cycle No.	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L	P mg/L	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L	Maxxam ID	Maxxam File#	Major Anions	Major Cations	Diff	Diff (%)
29-Dec-10	68	-0.0005	0.59	0.025	-0.01	0.00018	0.0003	0.062	0.57	0.00017	1.02	-0.000005	0.25	0.0251	-10	0.000008	0.00681	-0.0005	0.000027	-0.0002	0.0018	-0.0001	Z27191	B0C5481	0.39	0.24	-0.15	-23.5%
5-Jan-11	69																											
12-Jan-11	70	-0.0005	0.57	0.0269	-0.01	0.00007	0.00031	0.043	0.52	0.00016	1.21	0.000009	0.23	0.0241	-10	0.000019	0.00879	-0.0005	0.000018	0.0006	0.0064	-0.0001	Z43444	B103513	0.31	0.26	-0.05	-8.9%
19-Jan-11	71																											
26-Jan-11	72	-0.0005	0.6	0.0264	-0.01	0.00018	0.00038	0.018	0.47	0.00023	1.15	0.000009	0.24	0.0234	-10	0.000009	0.00736	-0.0005	0.000024	0.0002	0.0037	-0.0001	Z63196	B107211	0.34	0.26	-0.08	-13.4%
2-Feb-11	73																											
9-Feb-11	74																											
16-Feb-11	75																											
23-Feb-11	76																											
2-Mar-11	77																											
9-Mar-11	78																											
16-Mar-11	79																											
23-Mar-11	80																											
30-Mar-11	81																											
6-Apr-11	82																											
13-Apr-11	83																											
20-Apr-11	84	-0.0005	0.87	0.0271	-0.01	0.00012	0.00027	0.026	0.7	0.00022	1.33	0.00001	0.24	0.035	-10	0.000009	0.00603	-0.0005	0.000015	-0.0002	0.0043	-0.0001	AJ6920	B132133	0.45	0.36	-0.09	-10.9%
27-Apr-11	85																											
4-May-11	86																											
11-May-11	87																											
18-May-11	88																											
25-May-11	89																											
1-Jun-11	90																											
8-Jun-11	91																											
15-Jun-11	92																											
22-Jun-11	93																											
29-Jun-11	94																											
6-Jul-11	95																											
13-Jul-11	96	-0.0005	1.05	0.0301	-0.01	0.00022	0.0002	0.016	1.69	0.00023	1.6	0.000033	0.3	0.0359	-10	0.00002	0.00438	-0.0005	0.000004	-0.0002	0.0026	-0.0001	AZ8087	B163259	0.58	0.46	-0.12	-11.3%
20-Jul-11	97																											
27-Jul-11	98																											
3-Aug-11	99																											
10-Aug-11	100																											
17-Aug-11	101																											
24-Aug-11	102																											
31-Aug-11	103																											
7-Sep-11	104																											
14-Sep-11	105																											
21-Sep-11	106																											
28-Sep-11	107																											
5-Oct-11	108	-0.0005	0.88	0.0178	-0.01	0.0001	0.00031	0.026	1.17	0.00042	1.14	0.000026	0.2	0.0296	-10	0.000008	0.0042	-0.0005	0.000008	0.0003	0.0077	-0.0001	BU0789	B196969	0.43	0.38	-0.05	-5.8%
12-Oct-11	109																											
19-Oct-11	110																											
26-Oct-11	111																											
2-Nov-11	112																											
9-Nov-11	113																											
16-Nov-11	114																											
23-Nov-11	115																											
30-Nov-11	116																											
7-Dec-11	117																											
14-Dec-11	118																											
21-Dec-11	119																											
28-Dec-11	120	-0.0005	0.85	0.0118	-0.01	0.00012	0.0005	#N/A	#N/A	0.00018	1.18	#N/A	0.33	0.0276	-10	0.000017	0.0046	0.0007	0.000014	0.0002	#N/A	-0.0001	CL2523	B1C4800	#N/A	#N/A	#N/A	#N/A
4-Jan-12	121																											
11-Jan-12	122																											
18-Jan-12	123																											
25-Jan-12	124																											
1-Feb-12	125																											
8-Feb-12	126																											
15-Feb-12	127																											
22-Feb-12	128																											
29-Feb-12	129																											
7-Mar-12	130																											
14-Mar-12	131																											
21-Mar-12	132	-0.0005	0.63	0.0232	-0.01	0.00006	0.0002	#N/A	1.29	0.00011	0.843	#N/A	0.21	0.021	-10	0.000009	0.0029	-0.0005	0.00002	0.0003	0.0017	-0.0001	DA2101	B224526	0.39	0.29	-0.09	-13.8%
28-Mar-12	133																											
4-Apr-12	134																											
11-Apr-12	135																											
18-Apr-12	136																											
25-Apr-12	137																											
2-May-12	138																											
9-May-12	139																											
16-May-12	140																											

Col 1 Surface
Sample = 2351-33&34 Composite

CONFIDENTIAL DRAFT

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	ORP mV	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	DO mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L	Fe mg/L	Pb mg/L
23-May-12	141	50	50	6.73	628	24																						
30-May-12	142	50	50	7.18	632	24																						
6-Jun-12	143	50	50	7.15	550	38																						
13-Jun-12	144	160	160	6.94	578	34	#N/A	5.2	23.1	4	9.86	-0.5	0.02	14.8	0.00257	0.000027	0.000261	0.0301	-0.00001	-0.000005	-0.05	0.0000162	4.65	0.00054	0.0000078	0.00108	0.001	0.000154
20-Jun-12	145	50	50	6.76	584	26																						
27-Jun-12	146	50	50	6.62	558	22																						
4-Jul-12	147	50	50	7.14	557	22																						
11-Jul-12	148	50	50	7.25	566	22																						
18-Jul-12	149	50	50	7.13	608	34																						
25-Jul-12	150	50	50	6.75	580	33																						
1-Aug-12	151	50	50	6.82	592	32																						
8-Aug-12	152	50	50	7.05	582	36																						
15-Aug-12	153	50	50	6.64	555	34																						
22-Aug-12	154	50	50	7.19	594	33																						
29-Aug-12	155	50	50	7.48	690	27																						
5-Sep-12	156	160	160	7.59	622	27	#N/A	3.8	20.9	6	9.38	-0.5	0.019	14.5	0.00581	0.000035	0.000177	0.0292	-0.00001	-0.000005	-0.05	0.000013	4.49	0.0004	0.000027	0.00451	0.0072	0.000151
12-Sep-12	157	50	50	8.03	711	21																						
19-Sep-12	158	50	50	7.32	620	30																						
26-Sep-12	159	50	50	6.82	610	33																						
3-Oct-12	160	50	50	7.33	626	32																						
10-Oct-12	161	50	50	7.31	688	32																						
17-Oct-12	162	50	50	7.51	514	27																						
24-Oct-12	163	50	50	6.88	469	30																						
31-Oct-12	164	50	50	7.47	500	32																						
7-Nov-12	165	50	50	6.95	557	34																						
14-Nov-12	166	50	50	7.40	657	34																						
21-Nov-12	167	50	50	7.17	645	34																						
28-Nov-12	168	160	160	7.08	538	35	#N/A	6.9	21.2	8	9.62	-0.5	0.019	14.4	0.00416	0.000062	0.000129	0.0308	-0.00001	-0.000005	-0.05	#N/A	4.38	0.00028	0.000011	0.00145	0.0045	0.000126
5-Dec-12	169	50	50	7.48	567	28																						
12-Dec-12	170	50	50	7.88	502	30																						
19-Dec-12	171	50	50	7.77	633	28																						
26-Dec-12	172	50	50	7.87	634	27																						
2-Jan-13	173	50	50	7.88	688	24																						
9-Jan-13	174	50	50	7.65	628	25																						
16-Jan-13	175	50	50	7.23	619	22																						
23-Jan-13	176	50	50	6.52	593	25																						
30-Jan-13	177	50	50	7.06	690	28																						
6-Feb-13	178	50	50	6.50	518	31																						
13-Feb-13	179	50	50	6.97	580	31																						
20-Feb-13	180	160	160	7.00	522	30	#N/A	4.5	16.0	6	8.60	0.56	0.017	13.2	0.00413	0.000079	0.000243	0.0262	-0.00001	-0.000005	-0.05	0.000021	4.14	-0.0001	0.000014	0.00129	0.0011	0.000049
27-Feb-13	181	50	50	7.05	547	32																						
6-Mar-13	182	50	50	7.36	666	24																						
13-Mar-13	183	50	50	6.93	568	27																						
20-Mar-13	184	50	50	7.35	614	29																						
27-Mar-13	185	50	50	6.82	548	28																						
3-Apr-13	186	50	50	6.98	487	29																						
10-Apr-13	187	50	50	7.15	633	29																						
17-Apr-13	188	50	50	7.18	596	30																						
24-Apr-13	189	50	50	6.67	468	29																						
1-May-13	190	50	50	6.30	454	30																						
8-May-13	191	50	50	6.08	548	31																						
15-May-13	192	160	160	6.29	536	32	#N/A	5.9	18.1	3	8.78	-0.5	0.015	13.7	0.00491	0.000024	0.000064	0.0272	-0.00001	-0.000005	-0.05	0.000017	4.27	-0.0001	0.000011	0.00154	0.0019	0.000027
22-May-13	193	50	50	7.22	653	26																						
29-May-13	194	50	50	7.52	578	27																						

Col 1 Surface
Sample = 2351-338

Date	Cycle No.	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L	P mg/L	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L	Maxxam ID	Maxxam File#	Major Anions	Major Cations	Diff	Diff (%)
23-May-12	141																											
30-May-12	142																											
6-Jun-12	143																											
13-Jun-12	144	-0.0005	0.768	0.0162	-0.01	0.00021	0.00012	0.0263	0.555	0.00019	1.01	0.0000295	0.235	0.0245	-10	0.0000116	0.00193	-0.0005	0.0000044	-0.0002	0.00177	-0.0001	DR7382	B251074	0.56	0.32	-0.24	-27.1%
20-Jun-12	145																											
27-Jun-12	146																											
4-Jul-12	147																											
11-Jul-12	148																											
18-Jul-12	149																											
25-Jul-12	150																											
1-Aug-12	151																											
8-Aug-12	152																											
15-Aug-12	153																											
22-Aug-12	154																											
29-Aug-12	155																											
5-Sep-12	156	-0.0005	0.788	0.00547	-0.01	0.00021	0.00035	#N/A	0.741	0.0001	0.948	#N/A	0.252	0.0234	-10	0.000008	0.00235	-0.0005	#N/A	0.00094	0.00179	-0.0001	EK3364	B280253	0.56	0.32	-0.24	-27.2%
12-Sep-12	157																											
19-Sep-12	158																											
26-Sep-12	159																											
3-Oct-12	160																											
10-Oct-12	161																											
17-Oct-12	162																											
24-Oct-12	163																											
31-Oct-12	164																											
7-Nov-12	165																											
14-Nov-12	166																											
21-Nov-12	167																											
28-Nov-12	168	-0.0005	0.842	0.0135	-0.01	0.00026	0.00017	0.0527	0.593	0.00023	0.911	0.000009	0.204	0.0244	-3	0.000016	0.00267	-0.0005	0.000016	-0.0002	#N/A	-0.0001	FD8560	B2A9774	0.60	0.31	-0.29	-31.8%
5-Dec-12	169																											
12-Dec-12	170																											
19-Dec-12	171																											
26-Dec-12	172																											
2-Jan-13	173																											
9-Jan-13	174																											
16-Jan-13	175																											
23-Jan-13	176																											
30-Jan-13	177																											
6-Feb-13	178																											
13-Feb-13	179																											
20-Feb-13	180	-0.0005	0.697	0.016	-0.01	8.8E-05	0.00015	0.048	0.674	0.0001	0.78	0.000227	0.187	0.0206	-3	0.000011	0.00208	-0.0005	0.000008	0.00027	0.00238	-0.0001	FS0799	B314368	0.46	0.29	-0.17	-22.7%
27-Feb-13	181																											
6-Mar-13	182																											
13-Mar-13	183																											
20-Mar-13	184																											
27-Mar-13	185																											
3-Apr-13	186																											
10-Apr-13	187																											
17-Apr-13	188																											
24-Apr-13	189																											
1-May-13	190																											
8-May-13	191																											
15-May-13	192	-0.0005	0.749	0.00862	-0.01	0.00008	0.00021	0.0145	0.479	0.0001	0.833	0.000015	0.172	0.0206	-3	0.000009	0.00123	-0.0005	0.000002	-0.0002	0.00244	-0.0001	GK4528	B339617	0.44	0.30	-0.14	-19.7%
22-May-13	193																											
29-May-13	194																											

Dec 18/09 checked neoprene pump tubing for possible source of Sn contamination. Found that recirculating nanopure water at ~1 mL/min over 18 days increased Sn from <0.00001 ppm to 0.00046 ppm. All neoprene tubing being replaced with Tygon or Silicon.
Feb 24/10 Bi 0.0004, Cu 0.48, Pb 0.0234 and Zn 0.317. Repeat = -0.0001, 0.002, -0.001, and 0.317.
June 2/10 Cu 0.00778. Repeat = 0.00767. Data confirmed.
Nov 3/10 U 0.000746. Cannot repeat. Sample discarded.
Nov 17/10 Cl 1.4. Repeat = -0.5.
Nov 17/10 U 0.000045. Cannot repeat; sample discarded.
Feb 4/11 Change in analytical schedule.
Mar 30/11 pH 5.80. Suspect probe malfunction.
April 6/11 pH 5.60. Suspect probe malfunction.
Jul 13/11 Leak in pump tubing. 550 mL added to maintain correct volume.
April 20/11 Sb 0.00027 and Pb 0.000141. Repeat Sb= 0.00024, Pb=0.000141. Data confirmed, suspect contamination
Oct 5/11 Pb= 0.000629, Mo=0.00054, Repeat= Pb 0.00062. Data confirmed, suspect contamination. Mo= 0.0001, data accepted
Dec 28/11 Cl=5.1, Cd=0.000145, K=5.82, Ag=0.000144, Fe=0.027, Pb=0.000543, P=.073. cannot repeat, suspect contamination or analytical error
Oct 5/11 Sb=0.00026, repeat=0.00022. Data confirmed, suspect contamination
Mar 21/12 P=0.055, Ag=0.000147 repeat P=0.0566, Ag=0.000146. Data confirmed, suspect contamination
Sept 5/12 P=0.0783, Ag=0.000137. repeat P=0.0653, Ag=0.000147. Data confirmed suspect contamination
Nov 28/12 Cd=0.00004, Zn=0.0061, repeat Cd=0.00004, Zn=0.0061. data confirmed, suspect contamination
Sept 5/12 Cu=0.00451, U=0.000135, Cannot repeat suspect contamination or analytical error

Col 1 Bottom

CONFIDENTIAL DRAFT

Sample = 2351-33&34 Composite

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	ORP mV	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	DO mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L
9-Sep-09	0	160	160	7.39	219	147	#N/A	4.2	73.5	27	4.30	0.8	0.93	79.8	0.0488	0.00025	0.00019	0.297	-0.00001	-0.000005	-0.05	0.000076	26.2	-0.0001	0.000164
16-Sep-09	1	50	50	7.53	319	175					5.20														
23-Sep-09	2	160	160	7.35	217	219	#N/A	2.8	130.7	38	6.00	0.6	1.12	135	0.022	0.00032	0.00021	0.37	-0.00001	-0.000005	-0.05	0.000039	42.2	-0.0001	0.000143
30-Sep-09	3	50	50	7.97	340	262					5.50														
7-Oct-09	4	160	160	7.52	340	298	#N/A	8.2	165.5	49	5.40	1	1.17	160	0.0141	0.00022	0.00014	0.261	0.00002	-0.000005	0.057	0.00003	47.6	-0.0001	0.000072
14-Oct-09	5	50	50	7.96	254	148					6.00														
21-Oct-09	6	160	160	7.93	252	415	#N/A	#N/A	#N/A	67	5.60	2.5	1.21	171	0.0128	0.00033	0.00029	0.15	-0.00001	-0.000005	0.071	0.000052	48.7	0.0004	0.000045
28-Oct-09	7	50	50	7.83	221	401					4.50														
4-Nov-09	8	160	160	6.77	310	357	#N/A	6.9	182.4	48	5.60	2.2	1.31	170	0.0085	0.00028	0.00023	0.113	-0.00001	-0.000005	0.068	0.000017	48.6	-0.0001	0.000022
11-Nov-09	9	50	50	7.61	289	360					3.90														
18-Nov-09	10	160	160	7.66	173	334	#N/A	8.8	155.9	37	5.20	1.4	1.62	138	0.0095	0.00029	0.00023	0.0956	0.00001	-0.000005	0.051	0.000017	39.5	-0.0001	0.000035
25-Nov-09	11	50	50	7.26	105	330					4.80														
2-Dec-09	12	160	160	7.46	70	294	#N/A	6.4	133.3	26	4.60	0.8	1.96	110	0.0278	0.00025	0.0003	0.083	-0.00001	-0.000005	-0.05	0.00001	31.4	0.0002	0.000212
9-Dec-09	13	50	50	7.60	381	105					3.50														
16-Dec-09	14	160	160	7.60	25	210	#N/A	4.1	117.6	8	4.50	0.6	2.25	85.8	0.008	0.00025	0.00018	0.0977	-0.00001	-0.000005	-0.05	0.000028	24.3	0.0002	0.000049
23-Dec-09	15	50	50	7.94	113	192					3.50														
30-Dec-09	16	160	160	7.75	121	204	#N/A	4.6	102.8	4	4.50	1	2.03	76.8	0.0085	0.00016	0.00027	0.46	-0.00001	-0.000005	-0.05	0.000022	22.5	-0.0001	0.000029
6-Jan-10	17	50	50	7.31	161	199					5.10														
13-Jan-10	18	160	160	7.00	184	193	#N/A	6.5	101.3	-2	5.40	-0.5	1.97	68.5	0.034	0.0005	0.0005	0.73	-0.0002	-0.0001	-1	-0.0001	19.3	-0.002	-0.0001
20-Jan-10	19	50	50	7.33	291	187					5.40														
27-Jan-10	20	160	160	6.72	187	187	#N/A	3.3	96.1	-2	4.30	-0.5	2.12	60.1	0.01	0.0002	0.0004	0.844	-0.00005	-0.00003	-0.3	-0.00003	17.2	-0.0005	-0.00003
3-Feb-10	21	50	50	6.93	265	180					4.30														
10-Feb-10	22	160	160	7.82	229	183	#N/A	3.3	94.6	-2	3.80	-0.5	1.86	67	0.011	0.0002	0.0007	1.3	-0.00005	-0.00003	-0.3	-0.00003	19.9	-0.0005	-0.00003
17-Feb-10	23	50	50	7.12	219	191					5.30														
24-Feb-10	24	160	160	7.79	316	181	#N/A	3.1	90.9	-2	4.40	-0.5	1.72	54.7	0.01	-0.0004	-0.0004	1.47	-0.0002	-0.0001	-1	-0.0001	16.6	-0.002	-0.0001
3-Mar-10	25	50	50	7.63	317	179					4.40														
10-Mar-10	26	160	160	7.53	307	180	#N/A	3.1	89.6	-2	5.00	-0.5	1.74	58.1	0.0108	0.00014	0.0003	1.62	-0.00001	-0.000005	-0.05	0.000015	17.2	-0.0001	0.000011
17-Mar-10	27	50	50	7.20	310	176					3.40														
24-Mar-10	28	160	160	7.54	260	179	#N/A	3.1	89.1	5	4.16	-0.5	1.66	53.6	0.012	0.0003	0.0004	1.71	-0.00005	-0.00003	-0.3	-0.00003	15.6	-0.0005	0.00004
31-Mar-10	29	50	50	7.41	265	176					3.80														
7-Apr-10	30	160	160	7.59	398	185	#N/A	3.4	88.3	2	4.70	-0.5	1.66	56.8	0.012	0.0002	0.0002	1.82	-0.00005	-0.00003	-0.3	-0.00003	16.5	-0.0005	-0.00003
14-Apr-10	31	50	50	7.75	217	176					4.00														
21-Apr-10	32	160	160	7.50	370	184	#N/A	3.2	89.4	-2	4.20	-0.5	1.55	54.5	0.0116	0.00011	0.00031	1.87	-0.00001	-0.000005	-0.05	0.000015	16	0.0002	0.000012
28-Apr-10	33	50	50	7.62	330	161					4.60														
5-May-10	34	160	160	6.96	400	170	#N/A	3.6	88.9	-2	5.10	-0.5	1.57	62.2	0.0093	0.00011	0.00051	1.96	-0.00001	-0.000005	-0.05	0.000015	19	-0.0001	0.000007
12-May-10	35	50	50	7.35	316	176					3.70														
19-May-10	36	160	160	6.94	260	185	#N/A	2.8	93.6	-2	4.60	-0.5	1.58	66.9	0.0099	0.00011	0.00029	2.29	-0.00001	-0.000005	-0.05	0.000014	20.5	-0.0001	0.000006
26-May-10	37	50	50	7.06	360	187					4.00														
2-Jun-10	38	160	160	6.76	353	190	#N/A	2.4	91.7	2	3.60	-0.5	1.56	58.2	0.0099	0.00009	0.00019	2.1	-0.00001	-0.000005	-0.05	0.000014	17.3	-0.0001	0.000007
9-Jun-10	39	50	50	7.12	316	174					3.20														
16-Jun-10	40	160	160	7.32	418	175	#N/A	2.7	93.6	-2	3.00	-0.5	1.5	53.4	0.0094	0.00009	0.00058	2.31	-0.00001	-0.000005	-0.05	0.000011	15.5	-0.0001	0.000008
23-Jun-10	41	50	50	6.97	337	170					3.60														
30-Jun-10	42	160	160	7.10	288	171	#N/A	3.0	93.4	-2	2.95	-0.5	1.59	52.8	0.0106	0.0001	0.00048	2.3	-0.00001	-0.000005	-0.05	0.000075	15	-0.0001	0.000037
7-Jul-10	43	50	50	6.87	346	168					2.82														
14-Jul-10	44	160	160	6.52	393	177	#N/A	4.2	88.8	-2	0.85	-0.5	1.42	49.1	0.0069	0.00008	0.00026	2.33	-0.00001	-0.000005	-0.05	0.000019	14.3	-0.0001	0.000013
21-Jul-10	45	50	50	6.58	361	163					3.10														
28-Jul-10	46	160	160	6.33	439	169	#N/A	4.9	87.7	-2	3.20	-0.5	1.37	53	0.0111	0.00006	0.00029	2.39	-0.00001	-0.000005	-0.05	0.000019	15.6	0.0002	0.000016
4-Aug-10	47	50	50	6.65	331	165					3.10														
11-Aug-10	48	160	160	6.56	251	179	#N/A	5.9	88.8	-2	0.70	-0.5	1.34	54.2	0.0166	0.0001	0.00021	2.32	-0.00001	-0.000005	-0.05	0.000013	16	0.0002	0.000008
18-Aug-10	49	50	50	6.60	362	177					1.85														
25-Aug-10	50	160	160	6.29	440	165	#N/A	4.5	89.9	3	0.65	-0.5	1.35	55.7	0.0013	0.00006	0.0002	2.36	-0.00001	-0.000005	-0.05	0.000006	16.3	0.0001	0.000011
1-Sep-10	51	50	50	7.50	406	160					0.70														
8-Sep-10	52	160	160	7.03	431	167	#N/A	6.2	90.9	-2	1.25	-0.5	1.24	55.3	0.0108	0.00007	0.00022	2.51	-0.00001	-0.000005	-0.05	0.000018	16.3	0.0002	0.000016
15-Sep-10	53	50	50	7.00	410	158					1.00														
22-Sep-10	54	160	160	7.26	432	169	#N/A	3.7	90.0	2	0.55	-0.5	1.26	56	0.0181	0.00007	#N/A	2.54	-0.00001	-0.000005	-0.05	0.000017	16.5	0.0002	0.000023
29-Sep-10	55	50	50	7.92	343	159					0.95														
6-Oct-10	56	160	160	7.40	343	167	#N/A	4.0	95.8	2	0.90	2.2	1.27	59.2	0.013	0.00006	0.00019	2.67	-0.00001	-0.000005	-0.05	0.000021	17.8	#N/A	0.00002
13-Oct-10	57	50	50	7.13	315	176					0.98														
20-Oct-10	58	160	160	6.69	291	194	#N/A	4.0	95.0	2	0.85	-0.5	1.23	56.2	0.0072	#N/A	0.00018	2.61	-0.00001	-0.000005	-0.05	0.000017	16.8	-0.0001	0.000021
27-Oct-10	59	50	50	6.85	315	157					0.65														
3-Nov-10	60	160	160	6.89	299	163	#N/A	2.4	99.4	2	0.71	-0.5	1.11	61.8	0.0057	0.00003	0.00014	3.22	-0.00001	-0.000005	-0.05	0.000017	18.5	0.0002	0.000007
10-Nov-10	61	50	50	6.88	370	130					0.88														
17-Nov-10	62	160	160	6.84	315	171	#N/A	3.1	98.2	-2	0.50	-0.5	1.15	65.2	0.0099	0.00008	0.0003	2.74	-0.00001	-0.000005	-0.05	0.000023	19.9	-0.0001	0.000015
24-Nov-10	63	50	50	7.12	398	167					0.85														
1-Dec-10	64	160	160	6.90	425	169	#N/A	5.7	97.2	-2	1.80	-0.5	1.01	59	0.0053	0.00006	0.00018	2.71	-0.00001	-0.000005	-0.05	0.000008	17.8	-0.0001	0.00002
8-Dec-10	65	50	50	7.03	410	172					0.90														
15-Dec-10	66	160	160	6.91	420	170	#N/A	5.5	91.9	-2	0.75	-0.5	1.08	60.3	0.0066	0.00007	0.00019	2.7	-0.00001	-0.000005	-0.05	0.000034	18.6	-0.0001	0.000013
22-Dec-10	67	50	50	7.07	400	169					0.68														
29-Dec-10	68	160	160	7.25	406	171	#N/A	7.0	92.2	-2	0.85	-0.5	0.74	57.9	0.0065	0.00005	0.00016	3.05	-0.00001	-0.000005	-0.05	0.000013	17.5	-0.0001	0.000028
5-Jan-11	69	50	50	7.35	385	172					0.90														
12-Jan-11	70	160	160	7.38	408	157	#N/A	5.4	89.8	-2	0.85	-0.5	0.88	59	0.0114	0.00007	0.00025	2.73	-0.00001	-0.000005	-0.05	0.000017	18	0.0001	0.000007
19-Jan-11	71	50	50	7.41	385	156					0.85														

Col 1 Bottom

Sample = 2351-33&34 Composite

Date	Cycle No.	Cu	Fe	Pb	Li	Mg	Mn	Hg	Mo	Ni	P	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
9-Sep-09	0	0.0102	0.003	0.00156	0.0022	3.48	0.0324	0.01	0.00861	0.00038	0.011	6.49	0.00129	2.16	0.000011	1.81	0.401	9	0.000032	0.0284	0.001	0.00101	0.0009	0.0042	-0.0001
16-Sep-09	1																								
23-Sep-09	2	0.00765	0.003	0.00172	0.0034	7.29	0.0471	-0.01	0.0156	0.00029	0.1	11	0.00198	3.09	-0.000005	4.91	0.742	13	0.00004	0.0231	-0.0005	0.00269	0.0003	0.0033	-0.0001
30-Sep-09	3																								
7-Oct-09	4	0.0102	0.013	0.000104	0.0036	9.95	0.0587	-0.01	0.0242	0.00065	0.007	14.6	0.0027	3.82	-0.000005	11.5	0.893	17	0.000006	0.0226	0.0005	0.00196	-0.0002	0.0027	-0.0001
14-Oct-09	5																								
21-Oct-09	6	0.00365	0.017	0.000098	0.0033	11.9	0.0644	-0.01	0.0287	0.00043	0.013	16.7	0.0022	3.55	-0.000005	16.1	0.985	22	0.000033	0.0167	0.0009	0.000751	0.0003	0.002	-0.0001
28-Oct-09	7																								
4-Nov-09	8	0.00416	0.006	0.00003	0.0026	11.9	0.0638	-0.01	0.0179	0.0002	0.006	17.4	0.00123	3.43	-0.000005	14.8	0.934	19	0.000019	0.0203	-0.0005	0.000257	-0.0002	0.0009	-0.0001
11-Nov-09	9																								
18-Nov-09	10	0.00189	0.012	0.000054	0.0022	9.69	0.0495	-0.01	0.00627	0.00023	0.008	16.9	0.00019	3.1	0.000008	10.8	0.741	13	0.000049	0.023	-0.0005	0.000197	-0.0002	0.0011	-0.0001
25-Nov-09	11																								
2-Dec-09	12	0.00212	0.034	0.00041	0.002	7.75	0.0482	-0.01	0.00415	0.00052	0.007	15.2	0.00008	3.53	0.000007	8.34	0.634	11	0.000028	0.0312	0.0011	0.000185	-0.0002	0.0046	-0.0001
9-Dec-09	13																								
16-Dec-09	14	0.0023	0.011	0.000045	0.0013	6.1	0.0255	-0.01	0.00288	0.00039	0.007	14.2	0.00006	2.87	-0.000005	6.83	0.52	4	0.000026	0.0249	-0.0005	0.000077	-0.0002	0.0013	-0.0001
23-Dec-09	15																								
30-Dec-09	16	0.00264	0.015	0.000016	0.0013	5.02	0.0209	-0.01	0.00617	0.00034	0.006	14.4	-0.00004	3.31	-0.000005	5.97	0.551	-3	0.000002	0.0252	-0.0005	0.000067	-0.0002	0.0014	-0.0001
6-Jan-10	17																								
13-Jan-10	18	0.002	-0.02	0.002	-0.01	4.9	0.016	-0.2	0.006	0.0053	-0.04	14.4	-0.0008	3.54	-0.0001	5.8	0.556	-10	0.00007	0.0204	0.00007	0.00007	0.007	0.004	-0.002
20-Jan-10	19																								
27-Jan-10	20	0.0034	0.02	0.00031	-0.003	4.19	0.0141	-0.05	0.009	0.0018	0.013	13.1	-0.0002	2.8	-0.00003	5.48	0.499	-3	0.00003	0.0197	0.004	0.00005	-0.001	0.0018	-0.0005
3-Feb-10	21																								
10-Feb-10	22	0.0052	0.034	0.00015	-0.003	4.18	0.0143	-0.05	0.0121	0.0006	0.013	15.8	-0.0002	3.19	-0.00003	6.16	0.545	-3	-0.00001	0.0218	-0.003	0.00003	-0.001	0.0037	-0.0005
17-Feb-10	23																								
24-Feb-10	24	0.003	-0.02	0.0001	-0.01	3.2	0.013	-0.2	0.012	0.0055	-0.04	11.7	-0.0008	2.65	-0.0001	4.9	0.541	-10	-0.00004	0.0226	-0.01	-0.00004	-0.004	0.003	-0.002
3-Mar-10	25																								
10-Mar-10	26	0.00346	0.096	0.00029	0.0016	3.68	0.0136	-0.01	0.0115	0.00018	0.02	12.5	0.00004	3.14	0.000007	5.91	0.574	-10	0.000016	0.0198	-0.0005	0.000044	-0.0002	0.0155	-0.0001
17-Mar-10	27																								
24-Mar-10	28	0.0021	0.015	0.00064	-0.003	3.5	0.0106	-0.05	0.0094	0.0002	-0.01	11.7	-0.0002	3.29	-0.00003	5.7	0.553	-10	0.00007	0.0159	-0.003	0.00005	-0.001	0.0041	-0.0005
31-Mar-10	29																								
7-Apr-10	30	0.004	0.02	0.00024	-0.003	3.78	0.009	-0.05	0.0092	0.0004	0.018	12.2	-0.0002	3.1	-0.00003	6.02	0.601	-10	0.00007	0.0154	-0.003	0.00005	-0.001	0.0081	-0.0005
14-Apr-10	31																								
21-Apr-10	32	0.0025	0.023	0.000389	0.0019	3.54	0.00649	-0.01	0.00958	0.00035	0.019	11.5	0.00005	3.44	0.000031	5.79	0.601	-10	0.000029	0.0165	0.0006	0.000045	-0.0002	0.004	-0.0001
28-Apr-10	33																								
5-May-10	34	0.00212	0.008	0.000021	0.0019	3.6	0.0064	-0.01	0.01	0.00017	0.029	11.5	-0.00004	3.54	-0.000005	5.78	0.626	-10	0.000015	0.0148	-0.0005	0.00004	-0.0002	0.0027	-0.0001
12-May-10	35																								
19-May-10	36	0.00279	0.013	0.000236	0.0022	3.8	0.00395	0.02	0.0109	0.00014	0.025	11.7	-0.00004	4.08	-0.000005	5.86	0.697	-10	0.000072	0.0149	-0.0005	0.000047	-0.0002	0.003	-0.0001
26-May-10	37																								
2-Jun-10	38	#N/A	0.006	0.000105	0.0019	3.63	0.00652	-0.01	0.0102	0.00012	0.023	10.5	-0.00004	3.54	-0.000005	5.44	0.631	-10	0.000008	0.0128	-0.0005	0.000042	-0.0002	0.0029	-0.0001
9-Jun-10	39																								
16-Jun-10	40	0.0023	0.01	0.000054	0.0022	3.6	0.0035	-0.01	0.0114	0.00016	0.03	10.6	-0.00004	3.73	0.000008	5.52	0.655	-10	0.000015	0.0134	-0.0005	0.000043	-0.0002	0.0019	-0.0001
23-Jun-10	41																								
30-Jun-10	42	0.00279	0.013	0.00084	0.0023	3.74	0.018	-0.01	0.0113	0.00023	0.271	10.6	-0.00004	3.67	-0.000005	5.68	0.668	-10	0.000012	0.0123	0.0005	0.000088	-0.0002	0.0036	-0.0001
7-Jul-10	43																								
14-Jul-10	44	0.00272	0.006	0.000029	0.0022	3.24	0.00896	-0.01	0.0113	0.00011	0.041	9.17	-0.00004	3.26	-0.000005	4.46	0.683	-10	0.000004	0.0124	-0.0005	0.000078	-0.0002	0.0032	-0.0001
21-Jul-10	45																								
28-Jul-10	46	0.00249	0.012	0.000047	0.0022	3.45	0.00989	-0.01	0.0113	0.00031	0.021	8.63	-0.00004	3.43	-0.000005	4.61	0.67	-10	0.000009	0.0106	-0.0005	0.000046	-0.0002	0.003	-0.0001
4-Aug-10	47																								
11-Aug-10	48	0.00273	0.015	0.000041	0.0023	3.45	0.00778	-0.01	0.0112	0.00041	0.029	8.69	-0.00004	3.51	-0.000005	4.56	0.681	-10	0.000008	0.00905	0.0013	0.000039	-0.0002	0.0028	-0.0001
18-Aug-10	49																								
25-Aug-10	50	0.00112	0.011	0.00004	0.0024	3.67	0.00533	-0.01	0.0128	0.00014	0.016	8.88	-0.00004	3.87	-0.000005	4.57	0.673	-10	0.000005	0.00188	-0.0005	0.000009	-0.0002	0.0019	-0.0001
1-Sep-10	51																								
8-Sep-10	52	0.00262	0.014	0.000211	0.0023	3.55	0.00865	-0.01	0.0116	0.00126	0.012	8.42	-0.00004	3.7	-0.000005	4.19	0.691	-10	0.000003	0.00766	-0.0005	0.000048	-0.0002	0.0038	-0.0001
15-Sep-10	53																								
22-Sep-10	54	0.00297	0.011	0.00032	0.0025	3.56	0.0102	-0.01	0.0121	0.00041	0.031	8.31	-0.00004	3.78	-0.000005	3.91	0.706	-10	0.000005	0.00754	-0.0005	0.000067	-0.0002	0.0054	-0.0001
29-Sep-10	55																								
6-Oct-10	56	0.00268	0.007	0.000589	0.0026	3.61	0.0121	-0.01	0.0122	0.00039	0.021	8.46	-0.00004	3.91	-0.000005	3.75	0.734	-10	0.00001	0.00766	-0.0005	0.000073	-0.0002	0.0032	-0.0001
13-Oct-10	57																								
20-Oct-10	58	0.00335	0.012	0.000323	0.0027	3.49	0.0246	-0.01	0.0122	0.00038	0.012	7.53	-0.00004	3.37	-0.000005	3.5	0.707	-10	0.000078	0.00828	-0.0005	0.000129	-0.0002	0.0048	-0.0001
27-Oct-10	59																								
3-Nov-10	60	0.00252	0.01	0.000253	0.0029	3.78	0.0122	-0.01	0.0122	0.00012	0.011	8.12	-0.00004	3.85	-0.000005	3.75	0.786	-10	-0.000002	0.0072	-0.0005	#N/A	-0.0002	0.0024	-0.0001
10-Nov-10	61																								
17-Nov-10	62	0.0041	0.009	0.000052	0.0025	3.77	0.0115	-0.01	0.0103	0.00034	0.014	7.57	-0.00004	4.29	-0.000005	3.56	0.748	-10	0.000008	0.00475	-0.0005	#N/A	-0.0002	0.0068	-0.0001
24-Nov-10	63																								
1-Dec-10	64	0.00474	0.007	0.000146	0.0025	3.57	0.0108	-0.01	0.0111	0.00034	0.019	7.16	-0.00004	3.88	-0.000005	3.09	0.732	-10	0.000047	0.00565	-0.0005	0.000071	-0.0002	0.0041	-0.0001
8-Dec-10	65																								
15-Dec-10	66	0.00324	0.01	0.000063	0.0025	3.36	0.01	-0.01	0.011	0.00044	0.01	6.45	-0.00004	3.9	-0.000005	2.7	0.728	-10	0.000045	0.0052	0.0006	0.000067	-0.0002	0.0039	-0.0001
22-Dec-10	67																								
29-Dec-10	68	0.00394	0.008	0.000058	0.0024	3.47	0.0079	-0.01	0.00823	0.00036	0.019	6.67	-0.00004	3.81	-0.000005	2.68	0.722	-10	0.00004	0.00463	-0.0005	0.000138	-0.0002	0.0033	-0.0001
5-Jan-11	69																								
12-Jan-11	70	0.00296	0.018	0.000168	0.0023	3.39	0.00199	-0.01	0.011	0.00036	0.012	5.99	-0.00004	3.92	0.000013	2.49	0.715	-10	0.000036	0.0044	-0.0005	#N/A	-0.0002	0.0035	#N/A
19-Jan-11	71																								

Col 1 Bottom

CONFIDENTIAL *DRAFT*

Sample = 2351-33&34 Composite

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	ORP mV	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	DO mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L
26-Jan-11	72	160	160	7.16	413	165	#N/A	5.3	88.9	-2	0.80	-0.5	0.79	57.7	0.0136	0.0001	0.00033	2.63	-0.00001	-0.000005	-0.05	0.000028	17.3	-0.0001	0.000009
2-Feb-11	73	50	50	7.13	420	153					0.60														
9-Feb-11	74	50	50	7.68	382	155																			
16-Feb-11	75	50	50	7.46	396	156																			
23-Feb-11	76	50	50	7.73	362	164																			
2-Mar-11	77	50	50	7.43	409	160																			
9-Mar-11	78	50	50	7.08	388	172																			
16-Mar-11	79	50	50	7.63	366	156																			
23-Mar-11	80	50	50	6.83	386	157																			
30-Mar-11	81	50	50	7.02	336	160																			
6-Apr-11	82	50	50	#N/A	355	160																			
13-Apr-11	83	50	50	7.89	391	163																			
20-Apr-11	84	160	160	8.06	357	168	#N/A	7.1	95.6	3	0.90	-0.5	0.95	61	0.012	0.0001	0.0001	2.74	-0.00005	-0.00003	-0.3	0.00003	18.3	-0.0005	0.00004
27-Apr-11	85	50	50	7.92	373	169																			
4-May-11	86	50	50	7.67	372	169																			
11-May-11	87	50	50	7.87	372	172																			
18-May-11	88	50	50	7.83	371	189																			
25-May-11	89	50	50	7.86	378	165																			
1-Jun-11	90	50	50	7.84	371	173																			
8-Jun-11	91	50	50	7.35	303	170																			
15-Jun-11	92	50	50	7.37	290	160																			
22-Jun-11	93	50	50	8.04	345	165																			
29-Jun-11	94	50	50	7.60	342	173																			
6-Jul-11	95	50	50	7.20	364	177																			
13-Jul-11	96	160	160	7.15	347	183	#N/A	7.9	89.2	2	0.95	-0.5	0.77	66.8	0.005	-0.0001	0.0004	2.88	-0.00005	-0.00003	-0.3	-0.00003	20.3	-0.0005	0.00005
20-Jul-11	97	50	50	7.20	346	182																			
27-Jul-11	98	50	50	7.00	345	186																			
3-Aug-11	99	50	50	7.29	358	160																			
10-Aug-11	100	50	50	7.45	355	165																			
17-Aug-11	101	50	50	7.53	351	171																			
24-Aug-11	102	160	160	7.60	328	177																			
31-Aug-11	103	50	50	7.60	348	193																			
7-Sep-11	104	160	160	7.83	380	181																			
14-Sep-11	105	50	50	7.77	413	187																			
21-Sep-11	106	160	160	7.81	435	191																			
28-Sep-11	107	50	50	7.31	456	188																			
5-Oct-11	108	160	160	7.91	385	171	#N/A	4.5	89.3	2	1.08	#N/A	0.68	67.2	0.01	0.0002	0.0003	2.99	-0.00005	-0.00003	-0.3	-0.00003	20.9	-0.0005	-0.00003
12-Oct-11	109	50	50	7.92	406	170																			
19-Oct-11	110	50	50	7.55	394	171																			
26-Oct-11	111	50	50	7.70	410	170																			
2-Nov-11	112	50	50	7.69	387	175																			
9-Nov-11	113	50	50	7.77	391	179																			
16-Nov-11	114	50	50	7.55	407	162																			
23-Nov-11	115	50	50	7.02	202	166																			
30-Nov-11	116	50	50	6.85	417	166																			
7-Dec-11	117	50	50	7.46	446	168																			
14-Dec-11	118	50	50	7.23	464	165																			
21-Dec-11	119	50	50	7.52	469	199																			
28-Dec-11	120	160	160	7.92	558	174	#N/A	4.7	102.2	2	0.96	-0.5	0.62	67.5	0.008	-0.0001	0.0004	2.87	-0.00005	-0.00003	-0.3	-0.00003	20.7	0.001	0.00005
4-Jan-12	121	50	50	7.45	585	175																			
11-Jan-12	122	50	50	7.45	630	168																			
18-Jan-12	123	50	50	7.41	657	165																			
25-Jan-12	124	50	50	7.53	639	189																			
1-Feb-12	125	50	50	7.35	586	176																			
8-Feb-12	126	50	50	7.37	535	165																			
15-Feb-12	127	50	50	7.25	543	168																			
22-Feb-12	128	50	50	7.34	636	174																			
29-Feb-12	129	50	50	7.80	553	163																			
7-Mar-12	130	50	50	7.33	622	172																			
14-Mar-12	131	50	50	7.71	434	191																			
21-Mar-12	132	160	160	7.35	489	163	#N/A	5.0	91.2	5	1.10	0.9	0.52	61.8	0.009	0.0001	0.0003	2.64	-0.00005	-0.00003	-0.3	-0.00003	18.6	-0.0005	0.00017
28-Mar-12	133	50	50	7.73	643	169																			
4-Apr-12	134	50	50	7.41	543	167																			
11-Apr-12	135	50	50	7.26	603	162																			
18-Apr-12	136	50	50	7.59	580	166																			
25-Apr-12	137	50	50	7.73	641	165																			
2-May-12	138	50	50	7.67	640	157																			
9-May-12	139	50	50	7.31	641	130																			
16-May-12	140	50	50	7.47	615	160																			
23-May-12	141	50	50	7.41	598	125																			
30-May-12	142	50	50	7.53	599	125																			
6-Jun-12	143	50	50	7.64	542	174																			

Col 1 Bottom

Sample = 2351-33&34 Composite

Date	Cycle No.	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L	P mg/L	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L
26-Jan-11	72	0.00216	0.012	0.000054	0.0022	3.54	0.00911	-0.01	0.0108	0.00014	0.014	6.04	0.00009	3.66	0.000007	2.44	0.701	-10	0.000045	0.004	-0.0005	0.000079	0.0003	0.0052	0.0001
2-Feb-11	73																								
9-Feb-11	74																								
16-Feb-11	75																								
23-Feb-11	76																								
2-Mar-11	77																								
9-Mar-11	78																								
16-Mar-11	79																								
23-Mar-11	80																								
30-Mar-11	81																								
6-Apr-11	82																								
13-Apr-11	83																								
20-Apr-11	84	0.0029	0.014	#N/A	-0.003	3.7	0.0245	-0.05	0.0115	0.0003	-0.01	5.8	-0.0002	3.49	#N/A	2.6	0.767	-50	-0.00001	0.00461	-0.003	0.00017	-0.001	0.0054	-0.0005
27-Apr-11	85																								
4-May-11	86																								
11-May-11	87																								
18-May-11	88																								
25-May-11	89																								
1-Jun-11	90																								
8-Jun-11	91																								
15-Jun-11	92																								
22-Jun-11	93																								
29-Jun-11	94																								
6-Jul-11	95																								
13-Jul-11	96	0.003	0.011	0.00017	-0.003	3.9	0.0129	-0.05	0.0143	0.0003	0.02	5.3	-0.0002	4.15	-0.00003	2.5	0.757	-50	0.00003	0.00226	-0.003	0.00018	-0.001	0.0048	-0.0005
20-Jul-11	97																								
27-Jul-11	98																								
3-Aug-11	99																								
10-Aug-11	100																								
17-Aug-11	101																								
24-Aug-11	102																								
31-Aug-11	103																								
7-Sep-11	104																								
14-Sep-11	105																								
21-Sep-11	106																								
28-Sep-11	107																								
5-Oct-11	108	0.002	0.015	#N/A	-0.003	3.7	0.0172	-0.05	0.0087	0.0003	-0.01	5.2	-0.0002	4.1	-0.00003	2.1	0.755	-50	-0.00001	0.00183	-0.003	0.00033	-0.001	0.0043	-0.0005
12-Oct-11	109																								
19-Oct-11	110																								
26-Oct-11	111																								
2-Nov-11	112																								
9-Nov-11	113																								
16-Nov-11	114																								
23-Nov-11	115																								
30-Nov-11	116																								
7-Dec-11	117																								
14-Dec-11	118																								
21-Dec-11	119																								
28-Dec-11	120	0.003	0.022	0.00035	-0.003	3.8	0.0317	-0.05	0.01	0.0003	0.029	5.2	-0.0002	3.78	0.00003	2.1	0.787	-50	-0.00001	0.00308	-0.003	0.00035	-0.001	0.007	-0.0005
4-Jan-12	121																								
11-Jan-12	122																								
18-Jan-12	123																								
25-Jan-12	124																								
1-Feb-12	125																								
8-Feb-12	126																								
15-Feb-12	127																								
22-Feb-12	128																								
29-Feb-12	129																								
7-Mar-12	130																								
14-Mar-12	131																								
21-Mar-12	132	0.0021	0.015	#N/A	-0.003	3.7	0.0185	-0.05	0.0078	0.0005	-0.01	4.9	-0.0002	3.39	-0.00003	1.8	0.701	-50	0.00001	0.001	-0.003	0.00048	-0.001	0.0078	-0.0005
28-Mar-12	133																								
4-Apr-12	134																								
11-Apr-12	135																								
18-Apr-12	136																								
25-Apr-12	137																								
2-May-12	138																								
9-May-12	139																								
16-May-12	140																								
23-May-12	141																								
30-May-12	142																								
6-Jun-12	143																								

Col 1 Bottom

CONFIDENTIAL DRAFT

Sample = 2351-33&34 Composite

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	ORP mV	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	DO mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L
13-Jun-12	144	160	160	7.51	560	157	#N/A	7.2	91.8	4	1.18	0.65	0.49	64.7	0.0124	-0.0001	0.00043	2.64	-0.00005	-0.000025	-0.25	-0.000025	20.1	-0.0005	0.000063
20-Jun-12	145	50	50	7.21	571	140																			
27-Jun-12	146	50	50	7.13	530	126																			
4-Jul-12	147	50	50	7.72	560	123																			
11-Jul-12	148	50	50	7.78	555	115																			
18-Jul-12	149	50	50	7.70	588	162																			
25-Jul-12	150	50	50	7.28	518	156																			
1-Aug-12	151	50	50	7.28	568	156																			
8-Aug-12	152	50	50	7.62	553	166																			
15-Aug-12	153	50	50	7.13	550	155																			
22-Aug-12	154	50	50	7.09	656	156																			
29-Aug-12	155	50	50	7.38	661	133																			
5-Sep-12	156	160	160	7.27	596	131	#N/A	5.5	90.9	5	1.37	0.59	0.39	65.3	0.0097	-0.0001	0.00051	2.46	-0.00005	-0.000025	-0.25	-0.000025	20	-0.0005	0.000146
12-Sep-12	157	50	50	7.83	697	132																			
19-Sep-12	158	50	50	7.20	587	166																			
26-Sep-12	159	50	50	7.13	598	169																			
3-Oct-12	160	50	50	7.88	638	164																			
10-Oct-12	161	50	50	7.60	648	160																			
17-Oct-12	162	50	50	7.87	512	151																			
24-Oct-12	163	50	50	7.42	448	165																			
31-Oct-12	164	50	50	7.42	458	170																			
7-Nov-12	165	50	50	6.91	561	172																			
14-Nov-12	166	50	50	7.20	603	175																			
21-Nov-12	167	50	50	7.22	574	167																			
28-Nov-12	168	160	160	7.24	510	170	#N/A	11.6	97.8	9	2.38	-0.5	0.29	73.1	0.0102	-0.0001	0.00039	2.58	-0.00005	-0.000025	-0.25	#N/A	22.6	0.00055	0.000089
5-Dec-12	169	50	50	7.25	552	167																			
12-Dec-12	170	50	50	7.52	467	174																			
19-Dec-12	171	50	50	7.22	618	170																			
26-Dec-12	172	50	50	7.52	637	171																			
2-Jan-13	173	50	50	7.50	638	166																			
9-Jan-13	174	50	50	7.02	618	168																			
16-Jan-13	175	50	50	7.71	576	171																			
23-Jan-13	176	50	50	7.08	576	170																			
30-Jan-13	177	50	50	7.33	585	167																			
6-Feb-13	178	50	50	7.11	527	167																			
13-Feb-13	179	50	50	7.26	561	172																			
20-Feb-13	180	160	160	7.67	549	167	#N/A	6.9	98.2	8	1.62	0.96	0.29	71.4	0.0077	0.00026	0.00035	2.35	-0.00005	-0.000025	-0.25	-0.000025	21.9	-0.0005	0.000187
27-Feb-13	181	50	50	7.01	594	108																			
6-Mar-13	182	50	50	7.96	630	164																			
13-Mar-13	183	50	50	7.39	594	171																			
20-Mar-13	184	50	50	8.01	582	175																			
27-Mar-13	185	50	50	6.97	566	166																			
3-Apr-13	186	50	50	6.98	420	170																			
10-Apr-13	187	50	50	7.18	602	166																			
17-Apr-13	188	50	50	7.42	593	170																			
24-Apr-13	189	50	50	7.67	488	165																			
1-May-13	190	50	50	7.31	445	165																			
8-May-13	191	50	50	6.67	552	166																			
15-May-13	192	160	160	6.40	518	169	#N/A	10.5	84.1	6	1.08	-0.5	0.27	69.9	0.0104	0.00012	0.00034	2.29	-0.00005	-0.000025	-0.25	-0.000025	21.5	-0.0005	0.000193
22-May-13	193	50	50	7.03	575	172																			
29-May-13	194	50	50	7.22	588	169																			

Col 1 Bottom

Sample = 2351-33&34 Composite

Date	Cycle No.	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L	P mg/L	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L
13-Jun-12	144	0.00169	0.0126	0.000648	-0.0025	3.55	0.0176	-0.05	0.00718	0.00033	0.013	4.11	-0.0002	3.84	0.000063	1.61	0.727	-50	0.000014	0.0021	-0.0025	0.000514	-0.001	0.00299	-0.0005
20-Jun-12	145																								
27-Jun-12	146																								
4-Jul-12	147																								
11-Jul-12	148																								
18-Jul-12	149																								
25-Jul-12	150																								
1-Aug-12	151																								
8-Aug-12	152																								
15-Aug-12	153																								
22-Aug-12	154																								
29-Aug-12	155																								
5-Sep-12	156	0.00189	0.0098	#N/A	-0.0025	3.72	0.0107	-0.05	0.00589	0.00074	0.011	4.18	-0.0002	3.13	#N/A	1.71	0.682	-50	-0.00001	-0.001	-0.0025	0.000504	0.003	0.00687	-0.0005
12-Sep-12	157																								
19-Sep-12	158																								
26-Sep-12	159																								
3-Oct-12	160																								
10-Oct-12	161																								
17-Oct-12	162																								
24-Oct-12	163																								
31-Oct-12	164																								
7-Nov-12	165																								
14-Nov-12	166																								
21-Nov-12	167																								
28-Nov-12	168	0.00148	0.0121	0.000538	-0.0025	4.06	0.022	-0.01	0.0064	0.00037	-0.01	3.98	-0.0002	3.67	-0.000025	1.77	0.742	-15	0.000043	0.0011	-0.0025	0.000626	-0.001	0.0137	-0.0005
5-Dec-12	169																								
12-Dec-12	170																								
19-Dec-12	171																								
26-Dec-12	172																								
2-Jan-13	173																								
9-Jan-13	174																								
16-Jan-13	175																								
23-Jan-13	176																								
30-Jan-13	177																								
6-Feb-13	178																								
13-Feb-13	179																								
20-Feb-13	180	0.00123	0.0066	0.000319	-0.0025	4.05	0.0218	-0.05	0.00546	0.00035	0.066	4.63	-0.0002	3.96	0.000107	1.79	0.706	-15	0.000043	-0.001	-0.0025	0.000573	0.0011	0.00395	-0.0005
27-Feb-13	181																								
6-Mar-13	182																								
13-Mar-13	183																								
20-Mar-13	184																								
27-Mar-13	185																								
3-Apr-13	186																								
10-Apr-13	187																								
17-Apr-13	188																								
24-Apr-13	189																								
1-May-13	190																								
8-May-13	191																								
15-May-13	192	0.00142	0.0771	0.000217	-0.0025	3.97	0.022	-0.05	0.00745	0.00063	0.012	3.74	-0.0002	3.51	-0.000025	1.48	0.688	-15	0.000018	-0.001	-0.0025	0.000556	-0.001	0.00286	-0.0005
22-May-13	193																								
29-May-13	194																								

Oct 21/09 Acidity 16.1 and alkalinity 279.9. Suspect instrument error. Not repeated.
Mar 10/10 Fe 0.101 and Zn 0.0188. Repeat Fe 0.096 and Zn 0.0155, confirmed.
Feb 4/11 Change in analytical schedule.
April 6 pH 6.36. Suspect probe malfunction.
April 20/11 Ag 0.00006. Cannot repeat. Suspect analytical error or contamination
Jan 12/11 U 0.000762 and Zr 0.0018. Cannot repeat.
April 20/11 Pb 0.00046. Repeat =0.00037, data confirmed, suspect contamination
Oct 5/11 Pb=0.00087, repeat=0.00087.Data confirmed, suspect contamination
Oct 5/11 Cl=1.9, cannot repeat, suspect contamination or analytical error.
Dec 29/11 Cu=0.0082, Pb=0.00076, Ni=0.001, repeat Cu= 0.003, Pb= 0.00035, Ni= 0.0003 data accepted
Mar 21/12 Pb=0.00309, repeat=0.00317. Data confirmed, suspect contamination
Sept 5/12 Sb=0.00446, Ag=0.000227. repeat Sb=-0.0001. Data accepted. Ag=0.000229, data confirmed suspect contamination
Nov 28/12 Sb=0.00284, Cd=0.000065. repeat Sb=-0.0001. Data accepted. Cd=0.000065, data confirmed suspect contamination
Sept 5/12 Pb=0.00146, Cannot repeat suspect contamination or analytical error

Col 2 Surface

CONFIDENTIAL *DRAFT*

Sample = 2351-35&36 Composite

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	ORP mV	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	DO mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L
9-Sep-09	0	160	160	6.98	232	47	#N/A	2.7	23.9	8	7.00	0.5	0.19	18.3	0.0159	0.00012	0.00017	0.0483	-0.00001	-0.000005	-0.05	0.00002	5.85	-0.0001	0.000124	0.0073
16-Sep-09	1	50	50	6.98	381	30					7.60															
23-Sep-09	2	160	160	7.03	285	36	#N/A	4.5	22.3	6	9.00	0.7	0.14	15.4	0.0082	0.00018	0.00024	0.046	-0.00001	-0.000005	-0.05	0.000039	4.93	-0.0001	0.000142	0.00305
30-Sep-09	3	50	50	6.72	394	33					8.20															
7-Oct-09	4	160	160	6.98	445	39	#N/A	4.6	23.3	7	8.40	-0.5	0.14	17.2	0.0066	0.00008	0.00034	0.0426	-0.00001	-0.000005	-0.05	0.000021	5.35	-0.0001	0.000123	0.00439
14-Oct-09	5	50	50	7.35	304	27					8.60															
21-Oct-09	6	160	160	7.13	316	36	#N/A	3.5	21.1	2	8.50	0.6	0.16	17.6	0.019	0.00017	0.00033	0.0395	-0.00001	-0.000005	-0.05	0.00002	5.38	0.0003	0.000084	0.0032
28-Oct-09	7	50	50	6.70	371	32					8.20															
4-Nov-09	8	160	160	6.20	327	32	#N/A	4.2	21.3	2	9.80	-0.5	0.1	16.8	0.0077	0.00019	0.00018	0.0348	-0.00001	-0.000005	-0.05	0.000022	5.04	0.0003	0.000059	0.00224
11-Nov-09	9	50	50	6.91	299	34					7.30															
18-Nov-09	10	160	160	6.85	335	44	#N/A	6.6	26.1	-2	8.10	-0.5	0.07	17.1	0.0079	0.00009	0.00009	0.0333	-0.00001	-0.000005	-0.05	0.000015	5.15	-0.0001	0.000078	0.00154
25-Nov-09	11	50	50	6.91	339	38					7.30															
2-Dec-09	12	160	160	6.63	376	42	#N/A	4.2	21.0	3	8.10	-0.5	0.06	16.2	0.0225	0.00009	0.00026	0.0291	-0.00001	-0.000005	-0.05	0.000012	4.85	-0.0001	0.000061	0.00859
9-Dec-09	13	50	50	6.62	358	43					8.20															
16-Dec-09	14	160	160	7.10	364	47	#N/A	3.4	23.9	-2	7.50	-0.5	0.05	19.2	0.0114	0.00008	0.00013	0.0338	-0.00001	-0.000005	-0.05	0.000008	5.85	0.0002	0.000041	0.00233
23-Dec-09	15	50	50	6.99	157	42					7.60															
30-Dec-09	16	160	160	7.00	220	48	#N/A	3.1	23.9	3	7.00	0.6	0.06	19.5	0.0103	0.00005	0.0003	0.0374	-0.00001	-0.000005	-0.05	0.000009	5.82	-0.0001	0.000042	0.00256
6-Jan-10	17	50	50	6.73	204	44					7.80															
13-Jan-10	18	160	160	6.43	256	45	#N/A	4.5	23.3	-2	6.70	-0.5	0.14	19.1	0.011	-0.0004	0.0011	0.0361	-0.0002	-0.0001	-1	-0.0001	5.7	-0.002	-0.0001	0.002
20-Jan-10	19	50	50	5.80	321	40					7.50															
27-Jan-10	20	160	160	5.64	287	44	#N/A	2.9	22.8	-2	7.50	-0.5	0.03	17.6	0.008	-0.0002	0.0004	0.0302	-0.0001	-0.00005	-0.5	-0.00005	5.15	-0.001	-0.00005	0.003
3-Feb-10	21	50	50	6.06	290	39					7.80															
10-Feb-10	22	160	160	7.02	258	43	#N/A	2.8	22.5	-2	7.50	-0.5	0.05	20	0.009	0.0001	0.0006	0.0401	-0.00005	-0.00003	-0.3	-0.00003	5.88	-0.0005	0.00003	0.0019
17-Feb-10	23	50	50	7.02	321	40					7.80															
24-Feb-10	24	160	160	6.96	339	41	#N/A	2.5	22.0	3	6.56	-0.5	0.03	14.7	0.008	-0.0004	-0.0004	0.0341	-0.0002	-0.0001	-1	-0.0001	4.3	-0.002	-0.0001	0.003
3-Mar-10	25	50	50	7.13	319	38					5.80															
10-Mar-10	26	160	160	6.92	402	40	#N/A	2.4	20.9	5	5.80	-0.5	0.04	17.7	0.009	-0.0002	-0.0002	0.0352	-0.0001	-0.00005	-0.5	-0.00005	5.2	-0.001	0.00006	0.0017
17-Mar-10	27	50	50	6.78	334	35					6.10															
24-Mar-10	28	160	160	6.79	298	38	#N/A	2.4	17.6	5	6.60	-0.5	0.04	14.5	0.008	0.0001	0.0002	0.0337	-0.00005	-0.00003	-0.3	-0.00003	4.2	-0.0005	0.00005	0.0015
31-Mar-10	29	50	50	6.83	291	33					9.20															
7-Apr-10	30	160	160	6.38	411	36	#N/A	2.6	16.3	3	9.18	-0.5	0.03	15.1	0.007	-0.0001	0.0001	0.036	-0.00005	-0.00003	-0.3	-0.00003	4.43	-0.0005	0.00011	0.0014
14-Apr-10	31	50	50	6.55	331	32					6.90															
21-Apr-10	32	160	160	6.46	450	35	#N/A	2.6	17.0	-2	9.80	-0.5	0.1	14.2	0.0081	0.00009	0.00014	0.0267	-0.00001	-0.000005	-0.05	0.000017	4.15	0.0001	0.00008	0.00148
28-Apr-10	33	50	50	6.47	365	30					9.60															
5-May-10	34	160	160	6.05	451	33	#N/A	2.6	17.0	-2	9.60	-0.5	0.05	14.7	0.0062	0.00008	0.0001	0.0267	-0.00001	-0.000005	-0.05	0.000013	4.26	0.0001	0.000086	0.00112
12-May-10	35	50	50	6.36	393	30					9.80															
19-May-10	36	160	160	6.37	326	38	#N/A	2.2	17.3	2	9.80	-0.5	0.03	16.7	0.0071	0.00006	0.00071	0.0377	-0.00001	0.000007	-0.05	0.000011	4.83	0.0002	0.000081	0.00138
26-May-10	37	50	50	6.21	468	36					9.80															
2-Jun-10	38	160	160	6.29	474	39	#N/A	2.2	17.3	7	8.03	-0.5	0.05	14.8	0.0083	0.00006	0.00045	0.0274	-0.00001	-0.000005	-0.05	0.000015	4.22	-0.0001	0.000087	0.00164
9-Jun-10	39	50	50	6.23	353	27					8.49															
16-Jun-10	40	160	160	6.27	450	31	#N/A	2.4	15.8	-2	8.60	-0.5	0.01	12.7	0.0066	0.00004	0.00008	0.0244	-0.00001	-0.000005	-0.05	0.000014	3.61	0.0002	0.000078	0.00142
23-Jun-10	41	50	50	6.14	421	31					8.75															
30-Jun-10	42	160	160	5.56	364	33	#N/A	2.5	17.4	2	8.62	-0.5	0.03	14.7	0.0077	0.00011	0.00019	0.0259	-0.00001	0.000034	-0.05	0.000017	4.23	-0.0001	0.00008	0.00245
7-Jul-10	43	50	50	5.95	365	29					8.63															
14-Jul-10	44	160	160	5.74	365	34	#N/A	3.0	16.9	-2	8.73	-0.5	0.05	13.6	0.0094	0.00003	0.00027	0.0255	-0.00001	-0.000005	-0.05	0.000036	3.87	-0.0001	0.000279	0.00203
21-Jul-10	45	50	50	5.66	405	30					8.73															
28-Jul-10	46	160	160	5.64	452	34	#N/A	3.5	17.8	-2	8.73	-0.5	0.05	13.7	0.0065	0.00003	0.00051	0.0246	-0.00001	-0.000005	-0.05	0.000015	3.82	-0.0001	0.000093	0.00136
4-Aug-10	47	50	50	5.82	388	31					8.46															
11-Aug-10	48	160	160	5.80	321	34	#N/A	4.7	20.7	-2	8.65	-0.5	0.05	14.1	0.0081	0.00002	0.00033	0.0289	-0.00001	-0.000005	-0.05	0.000009	3.92	0.0003	0.000065	0.00151
18-Aug-10	49	50	50	5.74	402	31					8.47															
25-Aug-10	50	160	160	5.55	473	33	#N/A	3.3	17.5	4	8.68	-0.5	0.02	13.2	0.0005	-0.00002	0.00033	0.0212	-0.00001	-0.000005	-0.05	-0.000005	3.68	-0.0001	0.000027	0.00069
1-Sep-10	51	50	50	6.48	450	29					8.63															
8-Sep-10	52	160	160	6.34	475	33	#N/A	3.8	16.8	3	8.57	-0.5	0.12	13.2	0.0069	-0.00002	0.00004	0.0258	-0.00001	-0.000005	-0.05	0.000017	3.62	0.0001	0.000085	0.00097
15-Sep-10	53	50	50	6.06	450	28					8.56															
22-Sep-10	54	160	160	6.78	458	34	#N/A	2.6	17.0	4	8.02	-0.5	-0.05	14.5	0.0123	0.00002	0.00004	0.0272	-0.00001	-0.000005	-0.05	0.000012	4.11	0.0003	0.00008	0.00176
29-Sep-10	55	50	50	6.64	417	28					8.18															
6-Oct-10	56	160	160	6.30	386	32	#N/A	2.9	17.2	3	8.28	-0.5	0.08	14.4	0.0087	-0.00002	0.00008	0.0259	-0.00001	-0.000005	-0.05	0.000013	4.01	0.0003	0.000073	0.00174
13-Oct-10	57	50	50	6.38	360	31					8.18															
20-Oct-10	58	160	160	6.62	396	35	#N/A	3.0	20.3	4	8.25	-0.5	0.07	14.3	0.0061	-0.00002	0.00002	0.027	-0.00001	-0.000005	-0.05	0.000008	4.04	0.0001	0.000146	0.00148
27-Oct-10	59	50	50	6.71	344	29					8.46															
3-Nov-10	60	160	160	6.81	391	31	#N/A	2.3	21.4	2	8.41	-0.5	0.04	14.2	0.0059	-0.00002	0.00003	0.0291	-0.00001	-0.000005	-0.05	0.000018	3.9	-0.0001	0.000058	0.00155
10-Nov-10	61	50	50	7.03	320	29					8.12															
17-Nov-10	62	160	160	7.06	312	32	#N/A	3.0	17.3	-2	8.06	-0.5	0.05	13.7	0.0057	0.00003	0.00018	0.0345	-0.00001	-0.000005	-0.05	0.000019	3.85	-0.0001	0.000056	0.00416
24-Nov-10	63	50	50	6.82	445	29					8.67															
1-Dec-10	64	160	160	6.91	437	33	#N/A	3.7	17.6	-2	8.08	-0.5	0.55	13.6	0.0068	0.00007	0.00037	0.0289	-0.00001	-0.000005	-0.05	0.000015	3.81	-0.0001	0.000051	0.00186
8-Dec-10	65	50	50	7.02	463	30					8.20															
15-Dec-10	66	160	160	7.20	461	31	#N/A	3.5	16.4	-2	9.00	-0.5	0.03	12.2	0.0044	-0.00002	0.00005	0.0229	-0.00001	-0.000005	-0.05	0.000012	3.42	-0.0001	0.000038	0.00208
22-Dec-10	67	50	50	7.38	398	29					8.45															
29-Dec-10	68	160	160	7.26	442	32	#N/A	4.3	17.2	2	8.37	-0.5	0.02	12.5	0.0077	0.00004	0.00031	0.023	-0.00001	-0.000005	-0.05	0.00002	3.42	-0.0001	0.000041	0.00159
5-Jan-11	69	50	50	7.28	430	25					9.18															
12-Jan-11	70	160	160	7.35	443	26	#N/A	3.2	13.2	-2	9.38	-0.5	0.05	11.1	0.0056	0.00003	0.00008	0.0208	-0.00001	-0.000005	-0.05	0.000012	3.07	-0.0001	0.000041	0.00124

Col 2 Surface

Sample = 2351-35&36 Composite

Date	Cycle No.	Fe	Pb	Li	Mg	Mn	Hg	Mo	Ni	P	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
9-Sep-09	0	0.005	0.000034	0.0007	0.89	0.0244	-0.01	0.00178	0.00044	0.02	3.12	0.00106	0.905	-0.000005	2.13	0.0386	-3	0.000022	0.00158	-0.0005	0.000011	0.0004	0.0028	-0.0001
16-Sep-09	1																							
23-Sep-09	2	0.005	0.000021	0.0008	0.76	0.0244	-0.01	0.0015	0.00045	0.212	3.16	0.00076	0.865	-0.000005	1.97	0.0307	-3	0.000015	0.00193	-0.0005	0.000006	-0.0002	0.0037	-0.0001
30-Sep-09	3																							
7-Oct-09	4	0.001	0.000027	0.0008	0.92	0.0237	-0.01	0.00126	0.00047	0.031	2.89	0.00069	1.04	-0.000005	1.75	0.0343	-3	0.000007	0.00493	0.0007	0.000003	0.0005	0.0029	-0.0001
14-Oct-09	5																							
21-Oct-09	6	0.013	0.000115	0.0006	1.02	0.0221	0.01	0.00101	0.00071	0.037	2.17	0.00051	1.03	0.000005	1.48	0.0367	-3	0.000013	0.011	-0.0005	0.000006	-0.0002	0.0037	-0.0001
28-Oct-09	7																							
4-Nov-09	8	0.007	0.000036	-0.0005	1.01	0.0182	-0.01	0.0007	0.00032	0.034	1.82	0.00046	0.986	-0.000005	1.01	0.0345	-3	0.000008	0.0153	-0.0005	0.000004	-0.0002	0.0027	-0.0001
11-Nov-09	9																							
18-Nov-09	10	0.002	0.000019	-0.0005	1.02	0.0194	-0.01	0.00052	0.00037	0.036	1.55	0.00031	0.843	-0.000005	0.77	0.0307	-3	0.000012	0.0172	-0.0005	0.000005	-0.0002	0.0021	-0.0001
25-Nov-09	11																							
2-Dec-09	12	0.01	0.000342	-0.0005	0.99	0.0182	0.02	0.00043	0.00049	0.033	1.26	0.00027	0.861	0.000011	0.64	0.0294	-3	0.000008	0.0174	-0.0005	0.000006	-0.0002	0.0078	-0.0001
9-Dec-09	13																							
16-Dec-09	14	0.005	0.000014	-0.0005	1.11	0.0213	-0.01	0.00035	0.00028	0.035	1.17	0.00027	0.973	-0.000005	0.55	0.0311	-3	0.000008	0.0318	-0.0005	0.000011	-0.0002	0.0025	-0.0001
23-Dec-09	15																							
30-Dec-09	16	0.003	0.000018	-0.0005	1.2	0.0199	-0.01	0.0003	0.00037	0.031	1.11	0.00026	1.13	-0.000005	0.51	0.0313	-3	0.000004	0.0317	-0.0005	0.000008	-0.0002	0.0014	-0.0001
6-Jan-10	17																							
13-Jan-10	18	-0.02	0.0002	-0.01	1.2	0.019	-0.2	-0.001	0.0061	-0.04	0.9	-0.0008	-2	0.0001	0.5	0.03	-10	-0.00004	0.0278	0.013	-0.00004	-0.004	0.004	-0.002
20-Jan-10	19																							
27-Jan-10	20	-0.01	0.00019	-0.005	1.14	0.0171	-0.1	0.0006	0.0035	0.027	0.9	-0.0004	1.01	-0.00005	0.46	0.0258	-6	-0.00002	0.0294	0.006	0.00002	0.002	0.003	-0.001
3-Feb-10	21																							
10-Feb-10	22	-0.005	-0.00003	-0.003	1.29	0.0204	-0.05	-0.0003	0.0003	0.03	1.16	-0.0002	1.23	-0.00003	0.45	0.0291	-3	-0.00001	0.0326	0.003	-0.00001	-0.001	0.0018	-0.0005
17-Feb-10	23																							
24-Feb-10	24	-0.02	-0.0001	-0.01	1	0.018	-0.2	-0.001	0.0048	-0.04	0.8	-0.0008	-2	-0.0001	0.3	0.026	-10	-0.00004	0.0335	-0.01	-0.00004	-0.004	0.003	-0.002
3-Mar-10	25																							
10-Mar-10	26	-0.01	-0.00005	-0.005	1.2	0.0229	-0.1	-0.0005	0.0004	-0.02	0.9	-0.0004	1.31	-0.00005	-0.5	0.0254	#N/A	-0.00002	0.0307	-0.005	-0.00002	-0.002	0.003	-0.001
17-Mar-10	27																							
24-Mar-10	28	-0.005	-0.00003	-0.003	1	0.021	-0.05	-0.0003	0.0003	0.017	0.7	-0.0002	1.24	-0.00003	0.3	0.0241	-10	0.00002	0.0245	-0.003	-0.00001	-0.001	0.0024	-0.0005
31-Mar-10	29																							
7-Apr-10	30	0.019	-0.00003	-0.003	0.99	0.0223	-0.05	-0.0003	0.0004	0.021	0.81	-0.0002	1.43	-0.00003	0.33	0.0235	-10	-0.00001	0.0181	-0.003	-0.00001	-0.001	0.0036	-0.0005
14-Apr-10	31																							
21-Apr-10	32	0.002	0.000018	-0.0005	0.93	0.0223	-0.01	0.00037	0.00028	0.021	0.71	0.0002	1.5	0.00001	0.29	0.021	-10	0.000011	0.0194	-0.0005	0.000007	-0.0002	0.0034	-0.0001
28-Apr-10	33																							
5-May-10	34	0.003	0.000017	-0.0005	0.98	0.024	-0.01	0.00013	0.00042	0.018	0.77	0.00011	1.77	-0.000005	0.31	0.0205	-10	0.00001	0.0177	-0.0005	-0.000002	-0.0002	0.002	-0.0001
12-May-10	35																							
19-May-10	36	0.002	0.000017	-0.0005	1.13	0.0251	0.01	0.00048	0.00035	0.025	0.81	0.00012	1.97	-0.000005	0.39	0.0244	-10	0.000005	0.0193	-0.0005	0.000006	-0.0002	0.0016	-0.0001
26-May-10	37																							
2-Jun-10	38	0.001	0.000014	-0.0005	1.04	0.0234	-0.01	0.00021	0.0004	0.014	0.69	0.00012	2	-0.000005	0.37	0.0204	-10	0.000004	0.0181	-0.0005	0.000004	-0.0002	0.0018	-0.0001
9-Jun-10	39																							
16-Jun-10	40	0.006	0.000034	-0.0005	0.9	0.0217	-0.01	0.00016	0.00034	0.012	0.52	0.00012	1.57	0.000012	0.39	0.0183	-10	0.00001	0.0138	-0.0005	0.000005	-0.0002	0.0017	-0.0001
23-Jun-10	41																							
30-Jun-10	42	0.007	0.000158	-0.0005	1	0.0234	-0.01	0.00033	0.0003	0.018	0.64	0.00016	1.83	-0.000005	0.37	0.0185	-10	0.000015	0.0131	-0.0005	0.000005	-0.0002	0.0023	-0.0001
7-Jul-10	43																							
14-Jul-10	44	0.007	0.000028	-0.0005	0.96	0.0255	-0.01	0.00009	0.00039	0.011	0.62	0.00012	1.62	-0.000005	0.29	0.0196	-10	0.000007	0.0138	-0.0005	0.000011	-0.0002	0.005	-0.0001
21-Jul-10	45																							
28-Jul-10	46	-0.001	0.000069	-0.0005	1.02	0.0236	-0.01	0.00018	0.00031	0.038	0.68	0.00012	1.61	-0.000005	0.32	0.0189	-10	0.000005	0.0127	-0.0005	0.000004	0.0003	0.0025	-0.0001
4-Aug-10	47																							
11-Aug-10	48	0.004	0.00001	-0.0005	1.04	0.0238	-0.01	0.00011	0.00022	0.012	0.62	0.00012	1.66	-0.000005	0.33	0.0199	-10	0.000006	0.014	-0.0005	-0.000002	-0.0002	0.001	-0.0001
18-Aug-10	49																							
25-Aug-10	50	-0.001	0.000018	-0.0005	0.98	0.0178	-0.01	0.00032	0.00008	0.007	0.65	0.00013	1.78	-0.000005	0.32	0.0168	-10	0.000009	0.00173	-0.0005	-0.000002	-0.0002	0.0003	-0.0001
1-Sep-10	51																							
8-Sep-10	52	0.002	0.000036	-0.0005	1.02	0.0236	-0.01	0.00019	0.00027	0.006	0.62	0.00008	1.56	-0.000005	0.29	0.0181	-10	0.000007	0.0116	-0.0005	0.000002	-0.0002	0.0011	-0.0001
15-Sep-10	53																							
22-Sep-10	54	0.004	0.000022	-0.0005	1.03	0.0244	-0.01	0.0002	0.00034	0.012	0.57	0.00013	1.64	-0.000005	0.33	0.0186	-10	0.000005	0.0116	-0.0005	0.000017	-0.0002	0.0023	-0.0001
29-Sep-10	55																							
6-Oct-10	56	0.004	0.000029	-0.0005	1.07	0.0241	-0.01	0.00027	0.00038	0.011	0.67	0.00011	1.59	-0.000005	0.4	0.018	-10	0.000063	0.0104	-0.0005	0.000008	-0.0002	0.0012	-0.0001
13-Oct-10	57																							
20-Oct-10	58	0.001	0.000095	-0.0005	1.03	0.025	-0.01	0.00015	0.0004	0.006	0.58	0.00009	1.63	-0.000005	0.26	0.0181	-10	0.000011	0.0115	-0.0005	0.000006	-0.0002	0.0032	-0.0001
27-Oct-10	59																							
3-Nov-10	60	-0.001	0.000015	-0.0005	1.08	0.0245	-0.01	0.00026	0.00009	0.009	0.6	0.00008	1.58	-0.000005	0.25	0.0189	-10	0.000004	0.0125	-0.0005	#N/A	-0.0002	0.0013	-0.0001
10-Nov-10	61																							
17-Nov-10	62	-0.001	0.000019	-0.0005	0.99	0.022	-0.01	0.00024	0.00022	0.008	0.63	0.0001	1.69	-0.000005	0.27	0.0189	-10	0.000007	0.00969	-0.0005	#N/A	-0.0002	0.0022	-0.0001
24-Nov-10	63																							
1-Dec-10	64	-0.001	0.000029	-0.0005	1	0.0213	-0.01	0.00017	0.00024	0.018	0.6	0.00011	1.64	-0.000005	0.33	0.0201	-10	0.000006	0.0112	-0.0005	0.00002	-0.0002	0.0022	-0.0001
8-Dec-10	65																							
15-Dec-10	66	-0.001	0.000011	-0.0005	0.9	0.0209	-0.01	0.00008	0.00025	0.005	0.53	0.0001	1.48	0.000006	0.26	0.0161	-10	0.000005	0.0102	0.0005	-0.000002	-0.0002	0.0011	-0.0001
22-Dec-10	67																							
29-Dec-10	68	0.005	0.000041	-0.0005	0.95	0.0211	-0.01	0.00007	0.00032	0.011	0.47	0.00009	1.52	-0.000005	0.42	0.0184	-10	0.000007	0.00584	-0.0005	0.000229	-0.0002	0.003	-0.0001
5-Jan-11	69																							
12-Jan-11	70	-0.001	0.000021	-0.0005	0.83	0.0186	-0.01	0.00013	0.0003	0.004	0.44	0.00007	1.31	-0.000005	0.25	0.0144	-10	0.000009	0.00785	-0.0005	0.00001	-0.0002	0.0015	-0.0001

Col 2 Surface

CONFIDENTIAL *DRAFT*

Sample = 2351-35&36 Composite

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	ORP mV	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	DO mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L
19-Jan-11	71	50	50	7.23	420	23					9.45															
26-Jan-11	72	160	160	7.30	445	28	#N/A	3.5	13.9	-2	9.52	-0.5	0.62	11.7	0.0059	0.00007	0.00016	0.024	-0.00001	-0.000005	-0.05	0.000013	3.21	-0.0001	0.000036	0.00091
2-Feb-11	73	50	50	7.15	451	24					8.20															
9-Feb-11	74	50	50	6.78	415	26																				
16-Feb-11	75	50	50	6.72	427	28																				
23-Feb-11	76	50	50	6.74	393	28																				
2-Mar-11	77	50	50	6.17	436	31																				
9-Mar-11	78	50	50	6.59	427	31																				
16-Mar-11	79	50	50	6.74	397	33																				
23-Mar-11	80	50	50	6.06	435	34																				
30-Mar-11	81	50	50	#N/A	443	35																				
6-Apr-11	82	50	50	#N/A	406	36																				
13-Apr-11	83	50	50	7.00	412	37																				
20-Apr-11	84	160	160	7.32	400	34	#N/A	4.6	16.6	4	9.08	1.2	0.03	16	0.0055	0.00008	0.00013	0.0254	-0.00001	-0.000005	-0.05	0.000018	4.31	0.0001	0.000007	0.0013
27-Apr-11	85	50	50	7.18	392	34																				
4-May-11	86	50	50	7.11	402	36																				
11-May-11	87	50	50	7.22	376	34																				
18-May-11	88	50	50	7.19	446	36																				
25-May-11	89	50	50	7.37	449	40																				
1-Jun-11	90	50	50	6.87	383	40																				
8-Jun-11	91	50	50	7.63	289	41																				
15-Jun-11	92	50	50	7.38	324	38																				
22-Jun-11	93	50	50	7.30	363	22																				
29-Jun-11	94	50	50	6.89	370	23																				
6-Jul-11	95	50	50	6.79	353	26																				
13-Jul-11	96	160	160	6.77	341	28	#N/A	4.8	14.3	3	8.67	-0.5	0.02	11.4	0.0054	-0.00002	0.00004	0.0189	-0.00001	-0.000005	-0.05	0.000021	3.12	0.0005	-0.000005	0.00202
20-Jul-11	97	50	50	7.20	354	26																				
27-Jul-11	98	50	50	6.72	397	28																				
3-Aug-11	99	50	50	7.01	398	38																				
10-Aug-11	100	50	50	7.12	408	39																				
17-Aug-11	101	50	50	7.41	377	40																				
24-Aug-11	102	50	50	7.21	347	41																				
31-Aug-11	103	50	50	7.31	373	45																				
7-Sep-11	104	160	160	7.68	401	41																				
14-Sep-11	105	50	50	7.20	449	44																				
21-Sep-11	106	160	160	7.32	443	45																				
28-Sep-11	107	50	50	6.82	480	46																				
5-Oct-11	108	160	160	7.63	392	41	#N/A	3.2	25.0	3	9.65	0.5	0.04	18	0.0075	0.00008	0.00022	0.0355	-0.00001	-0.000005	-0.05	0.000014	4.86	-0.0001	-0.000005	0.00151
12-Oct-11	109	50	50	7.28	438	36																				
19-Oct-11	110	50	50	7.03	435	37																				
26-Oct-11	111	50	50	7.16	444	38																				
2-Nov-11	112	50	50	6.94	449	39																				
9-Nov-11	113	50	50	7.08	456	42																				
16-Nov-11	114	50	50	7.07	469	20																				
23-Nov-11	115	50	50	6.86	261	22																				
30-Nov-11	116	50	50	7.21	438	23																				
7-Dec-11	117	50	50	7.44	483	25																				
14-Dec-11	118	50	50	7.28	518	26																				
21-Dec-11	119	50	50	7.30	515	28																				
28-Dec-11	120	160	160	7.32	576	30	#N/A	3.1	20.8	2	9.66	0.8	0.021	12.8	0.011	-0.00002	#N/A	0.0211	-0.00001	0.000016	-0.05	0.00001	3.6	0.0001	0.000031	0.00152
4-Jan-12	121	50	50	7.67	650	26																				
11-Jan-12	122	50	50	7.77	679	26																				
18-Jan-12	123	50	50	7.72	709	27																				
25-Jan-12	124	50	50	7.13	691	27																				
1-Feb-12	125	50	50	7.75	625	30																				
8-Feb-12	126	50	50	7.67	565	30																				
15-Feb-12	127	50	50	7.51	568	31																				
22-Feb-12	128	50	50	7.74	672	32																				
29-Feb-12	129	50	50	7.89	591	31																				
7-Mar-12	130	50	50	7.88	673	31																				
14-Mar-12	131	50	50	7.40	460	31																				
21-Mar-12	132	160	160	7.07	516	41	#N/A	3.6	23.2	3	8.98	-0.5	0.022	15.5	0.006	-0.00002	0.0001	0.0249	-0.00001	-0.000005	-0.05	0.000007	4.2	-0.0001	-0.000005	#N/A
28-Mar-12	133	50	50	7.40	696	31																				
4-Apr-12	134	50	50	6.99	583	31																				
11-Apr-12	135	50	50	6.90	650	31																				
18-Apr-12	136	50	50	7.15	601	33																				
25-Apr-12	137	50	50	7.21	701	34																				
2-May-12	138	50	50	7.24	688	35																				
9-May-12	139	50	50	6.89	658	27																				
16-May-12	140	50	50	7.16	647	35																				
23-May-12	141	50	50	6.91	635	26																				

Col 2 Surface

Sample = 2351-35&36 Composite

Date	Cycle No.	Fe	Pb	Li	Mg	Mn	Hg	Mo	Ni	P	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
19-Jan-11	71																							
26-Jan-11	72	0.003	0.000119	-0.0005	0.88	0.0188	-0.01	0.00009	0.00027	0.009	0.48	0.00012	1.24	-0.000005	0.28	0.0148	-10	0.000008	0.00743	0.0006	0.000004	0.0002	0.003	-0.0001
2-Feb-11	73																							
9-Feb-11	74																							
16-Feb-11	75																							
23-Feb-11	76																							
2-Mar-11	77																							
9-Mar-11	78																							
16-Mar-11	79																							
23-Mar-11	80																							
30-Mar-11	81																							
6-Apr-11	82																							
13-Apr-11	83																							
20-Apr-11	84	0.001	#N/A	-0.0005	1.26	0.0174	-0.01	0.00007	0.00017	0.006	1.44	0.00013	1.42	#N/A	0.29	0.0205	-10	0.000012	0.00574	-0.0005	0.000009	-0.0002	0.0036	-0.0001
27-Apr-11	85																							
4-May-11	86																							
11-May-11	87																							
18-May-11	88																							
25-May-11	89																							
1-Jun-11	90																							
8-Jun-11	91																							
15-Jun-11	92																							
22-Jun-11	93																							
29-Jun-11	94																							
6-Jul-11	95																							
13-Jul-11	96	0.002	0.000029	-0.0005	0.86	0.0082	-0.01	0.00013	0.0002	0.005	0.42	0.00009	1.04	0.00001	0.24	0.0136	-10	0.000004	0.00427	0.0012	-0.000002	-0.0002	0.0018	-0.0001
20-Jul-11	97																							
27-Jul-11	98																							
3-Aug-11	99																							
10-Aug-11	100																							
17-Aug-11	101																							
24-Aug-11	102																							
31-Aug-11	103																							
7-Sep-11	104																							
14-Sep-11	105																							
21-Sep-11	106																							
28-Sep-11	107																							
5-Oct-11	108	0.001	0.000016	-0.0005	1.43	0.00467	0.02	#N/A	0.0001	-0.002	0.98	0.00037	1.4	0.000007	0.31	0.0275	-10	0.000013	0.00485	-0.0005	0.000009	0.0002	0.0024	-0.0001
12-Oct-11	109																							
19-Oct-11	110																							
26-Oct-11	111																							
2-Nov-11	112																							
9-Nov-11	113																							
16-Nov-11	114																							
23-Nov-11	115																							
30-Nov-11	116																							
7-Dec-11	117																							
14-Dec-11	118																							
21-Dec-11	119																							
28-Dec-11	120	#N/A	#N/A	-0.0005	0.93	0.00681	-0.01	0.00017	#N/A	#N/A	1.55	0.00009	1.02	#N/A	0.27	0.0152	-10	0.000009	0.00343	-0.0005	0.000009	0.0003	0.0019	-0.0001
4-Jan-12	121																							
11-Jan-12	122																							
18-Jan-12	123																							
25-Jan-12	124																							
1-Feb-12	125																							
8-Feb-12	126																							
15-Feb-12	127																							
22-Feb-12	128																							
29-Feb-12	129																							
7-Mar-12	130																							
14-Mar-12	131																							
21-Mar-12	132	0.004	0.000056	-0.0005	1.21	0.0021	-0.01	0.00016	0.00019	#N/A	0.93	0.00008	1.09	#N/A	0.26	0.0178	-10	0.000008	0.0041	-0.0005	0.000016	0.0004	0.0017	-0.0001
28-Mar-12	133																							
4-Apr-12	134																							
11-Apr-12	135																							
18-Apr-12	136																							
25-Apr-12	137																							
2-May-12	138																							
9-May-12	139																							
16-May-12	140																							
23-May-12	141																							

Col 2 Surface

CONFIDENTIAL *DRAFT*

Sample = 2351-35&36 Composite

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	ORP mV	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	DO mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L
30-May-12	142	50	50	7.13	634	27																				
6-Jun-12	143	50	50	7.38	553	40																				
13-Jun-12	144	160	160	7.05	584	37	#N/A	5.9	26.9	5	9.86	-0.5	0.021	16.6	0.00434	-0.00002	0.000225	0.0263	-0.00001	-0.000005	-0.05	-0.000005	4.47	0.00016	-0.000005	0.00125
20-Jun-12	145	50	50	6.96	588	28																				
27-Jun-12	146	50	50	6.72	559	24																				
4-Jul-12	147	50	50	7.27	574	25																				
11-Jul-12	148	50	50	7.55	578	24																				
18-Jul-12	149	50	50	7.36	611	37																				
25-Jul-12	150	50	50	6.86	580	34																				
1-Aug-12	151	50	50	6.82	592	36																				
8-Aug-12	152	50	50	7.29	590	38																				
15-Aug-12	153	50	50	6.88	558	37																				
22-Aug-12	154	50	50	7.21	575	36																				
29-Aug-12	155	50	50	7.55	691	28																				
5-Sep-12	156	160	160	7.48	627	28	#N/A	3.9	22.9	4	9.36	0.53	0.02	16	0.00508	0.00002	0.000244	0.0232	-0.00001	-0.000005	-0.05	0.000006	4.25	0.00023	0.000014	0.00206
12-Sep-12	157	50	50	7.96	676	23																				
19-Sep-12	158	50	50	7.43	567	30																				
26-Sep-12	159	50	50	6.92	608	34																				
3-Oct-12	160	50	50	7.50	632	33																				
10-Oct-12	161	50	50	7.40	680	33																				
17-Oct-12	162	50	50	7.68	522	30																				
24-Oct-12	163	50	50	7.09	473	35																				
31-Oct-12	164	50	50	7.62	491	35																				

Col 2 Surface

Sample = 2351-35&36 Composite

Date	Cycle No.	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L	P mg/L	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L
30-May-12	142																							
6-Jun-12	143																							
13-Jun-12	144	0.0015	0.0000568	-0.0005	1.31	0.00076	-0.01	0.00049	0.00013	0.0053	0.554	0.000106	1.15	0.0000113	0.224	0.0188	-10	0.0000094	0.0019	-0.0005	0.0000028	-0.0002	0.00172	-0.0001
20-Jun-12	145																							
27-Jun-12	146																							
4-Jul-12	147																							
11-Jul-12	148																							
18-Jul-12	149																							
25-Jul-12	150																							
1-Aug-12	151																							
8-Aug-12	152																							
15-Aug-12	153																							
22-Aug-12	154																							
29-Aug-12	155																							
5-Sep-12	156	0.0041	0.000032	-0.0005	1.29	0.00067	-0.01	0.00016	0.00024	0.0174	0.641	0.000066	1.03	#N/A	0.242	0.0165	-10	0.000007	0.00171	-0.0005	0.000014	0.00098	0.00084	-0.0001
12-Sep-12	157																							
19-Sep-12	158																							
26-Sep-12	159																							
3-Oct-12	160																							
10-Oct-12	161																							
17-Oct-12	162																							
24-Oct-12	163																							
31-Oct-12	164																							

Col 2 Surface

CONFIDENTIAL *DRAFT*

Sample = 2351-35&36 Composite

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	ORP mV	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	DO mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L	Cu mg/L
7-Nov-12	165	50	50	7.08	566	36																				
14-Nov-12	166	50	50	7.37	657	37																				
21-Nov-12	167	50	50	7.08	622	36																				
28-Nov-12	168	160	160	7.09	530	38	#N/A	6.8	27.3	6	9.50	-0.5	0.019	16.3	0.00593	0.00004	0.000059	0.0258	-0.00001	-0.000005	-0.05	0.000011	4.41	-0.0001	0.00001	0.00331
5-Dec-12	169	50	50	7.52	565	31																				
12-Dec-12	170	50	50	7.85	482	31																				
19-Dec-12	171	50	50	7.62	642	20																				
26-Dec-12	172	50	50	7.90	636	20																				
2-Jan-13	173	50	50	7.98	684	19																				
9-Jan-13	174	50	50	7.60	628	19																				
16-Jan-13	175	50	50	7.18	604	19																				
23-Jan-13	176	50	50	6.54	594	20																				
30-Jan-13	177	50	50	7.05	598	23																				
6-Feb-13	178	50	50	6.52	522	26																				
13-Feb-13	179	50	50	6.92	583	28																				
20-Feb-13	180	160	160	7.04	525	28	#N/A	4.2	20.5	4	8.55	-0.5	0.015	12.3	0.00533	0.000028	0.000025	0.0195	-0.00001	-0.000005	-0.05	0.000008	3.33	0.00019	0.000007	0.00196
27-Feb-13	181	50	50	7.15	550	26																				
6-Mar-13	182	50	50	7.31	665	23																				
13-Mar-13	183	50	50	7.03	580	26																				
20-Mar-13	184	50	50	7.43	614	28																				
27-Mar-13	185	50	50	6.72	583	27																				
3-Apr-13	186	50	50	6.97	484	28																				
10-Apr-13	187	50	50	6.98	641	28																				
17-Apr-13	188	50	50	7.13	603	29																				
24-Apr-13	189	50	50	6.88	483	29																				
1-May-13	190	50	50	6.46	464	29																				
8-May-13	191	50	50	6.08	560	30																				
15-May-13	192	160	160	6.21	534	31	#N/A	6.6	21.1	3	8.78	-0.5	0.02	14.4	0.00405	0.000022	0.000044	0.0221	-0.00001	-0.000005	-0.05	-0.000005	3.89	-0.0001	0.000006	0.00071
22-May-13	193	50	50	7.01	643	27																				
29-May-13	194	50	50	7.34	582	27																				

Col 2 Surface

Sample = 2351-35&36 Composite

Date	Cycle No.	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L	P mg/L	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L
7-Nov-12	165																							
14-Nov-12	166																							
21-Nov-12	167																							
28-Nov-12	168	0.0097	#N/A	-0.0005	1.29	0.00077	-0.01	0.0002	0.00022	0.0193	0.568	0.000098	1.28	0.00001	0.206	0.0174	-3	0.000009	0.00223	-0.0005	0.000014	0.00038	#N/A	-0.0001
5-Dec-12	169																							
12-Dec-12	170																							
19-Dec-12	171																							
26-Dec-12	172																							
2-Jan-13	173																							
9-Jan-13	174																							
16-Jan-13	175																							
23-Jan-13	176																							
30-Jan-13	177																							
6-Feb-13	178																							
13-Feb-13	179																							
20-Feb-13	180	0.0075	0.000323	-0.0005	0.973	0.0014	-0.01	8.7E-05	0.00013	0.0125	0.628	-0.00004	0.975	0.000029	0.197	0.0123	-3	0.000005	0.00107	-0.0005	0.000002	0.00031	0.00112	-0.0001
27-Feb-13	181																							
6-Mar-13	182																							
13-Mar-13	183																							
20-Mar-13	184																							
27-Mar-13	185																							
3-Apr-13	186																							
10-Apr-13	187																							
17-Apr-13	188																							
24-Apr-13	189																							
1-May-13	190																							
8-May-13	191																							
15-May-13	192	0.0021	0.000012	-0.0005	1.15	0.00129	-0.01	0.00014	0.00014	0.004	0.49	0.000071	1.01	0.000008	0.197	0.0146	-3	0.000006	0.00105	-0.0005	-0.000002	-0.0002	0.00073	-0.0001
22-May-13	193																							
29-May-13	194																							

Dec 18/09 checked neoprene pump tubing for possible source of Sn contamination. Found that recirculating nanopure water at ~1 mL/min over 18 days increased Sn from <0.00001 ppm to 0.00046 ppm. All neoprene tubing being replaced with Tygon or Silicon.
Mar 10/10 S <100. Repeat
Nov 3/10 U 0.000346. Cannot repeat. Sample discarded.
Nov 17/10 Cl 1.6. Repeat = -0.5.
Nov 17/10 U 0.000408. Cannot repeat. Samples discarded.
Feb 4/11 Change in analytical schedule.
Mar 30/11 pH 5.73. Suspect probe malfunction.
April 6/11 pH 5.59. Suspect probe malfunction.
April 20/11 Ag 0.00107 and Pb 000603. Repeat =0.000626. Data confirmed, suspect contamination. Cannot repeat Ag, suspect contamination or analytical error
Oct 5/11 Mo=0.00065, repeat= 0.00058. data confirmed, suspect contamination
Dec 28/11 Fe=0.026, Pb= 0.00017, Ni=0.00044, P=0.012, repeat, Fe= 0.025, Pb= 0.000183, Ni= 0.00045, P= 0.013. Data confirmed, suspect contamination
Dec 28/11 As=0.00077, Ag=0.000038. Repeat As=0.000763, Ag=0.000367. Data confirmed, suspect contamination
Mar 21/12 P=0.013, Ag=0.000034, repeat P=0.0147, Ag=0.0000424. Data confirmed suspect contamination
Mar 21/12 Cu=0.00489. Cannot repeat suspect contamination or analytical error
Sept 5/12 Ag=0.000867, repeat=0.00093. Data confirmed suspect contamination
Nov 28/12 Pb=0.000243, Zn=0.00334, repeat Pb=0.000243, Zn=0.00334. Data confirmed, suspect contamination

Col 2 Bottom

CONFIDENTIAL *DRAFT*

Sample = 2351-35&36 Composite

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	ORP mV	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	DO mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L
9-Sep-09	0	160	160	7.48	351	30	#N/A	1.2	78.5	22	4.10	-0.5	1.08	72.6	0.0556	0.00036	0.0002	0.271	-0.00001	-0.000005	-0.05	0.000115	23.3	-0.0001	0.000104
16-Sep-09	1	50	50	7.51	337	28					5.80														
23-Sep-09	2	160	160	7.76	309	217	#N/A	2.2	126.2	33	7.40	0.9	1.15	100	0.0238	0.00032	0.00026	0.294	-0.00001	-0.000005	-0.05	0.000051	30.3	0.0001	0.000062
30-Sep-09	3	50	50	8.02	276	252					5.90														
7-Oct-09	4	160	160	7.40	375	342	#N/A	8.8	159.9	71	6.10	4.3	1.22	145	0.0193	0.0004	0.00051	0.266	-0.00001	-0.000005	0.057	0.000134	42.3	-0.0001	0.000083
14-Oct-09	5	50	50	8.02	196	434					6.40														
21-Oct-09	6	160	160	8.02	158	494	#N/A	5.9	203.8	101	5.50	4.7	1.18	179	0.0138	0.00045	0.00032	0.129	-0.00001	-0.000005	0.069	0.000063	49.8	0.0003	0.000062
28-Oct-09	7	50	50	8.03	165	473					5.70														
4-Nov-09	8	160	160	7.30	215	420	#N/A	5.9	223.7	56	6.20	5.7	1.36	164	0.0095	0.0003	0.00029	0.0919	-0.00001	-0.000005	0.078	0.000024	44.6	-0.0001	0.000039
11-Nov-09	9	50	50	7.91	221	389					5.20														
18-Nov-09	10	160	160	7.82	25	394	#N/A	9.0	207.6	31	5.20	1.9	1.53	150	0.0096	0.00086	0.00027	0.0948	-0.00001	-0.000005	0.063	0.000013	40	-0.0001	0.000038
25-Nov-09	11	50	50	7.72	19	356					5.10														
2-Dec-09	12	160	160	7.57	23	368	#N/A	6.2	190.8	23	5.20	0.7	1.7	135	0.0198	0.00047	0.00028	0.0947	-0.00001	-0.000005	0.061	0.000026	35.4	-0.0001	0.000069
9-Dec-09	13	50	50	7.87	359	259					5.20														
16-Dec-09	14	160	160	7.71	-59	333	#N/A	3.8	187.6	16	4.90	-0.5	1.83	126	0.0085	0.00025	0.00016	0.102	-0.00001	-0.000005	0.05	0.000017	32.7	0.0002	0.000069
23-Dec-09	15	50	50	7.89	120	316					5.80														
30-Dec-09	16	160	160	6.78	149	339	#N/A	4.7	177.6	14	4.30	1.2	1.72	128	0.0074	0.0001	0.00058	0.129	-0.00001	-0.000005	-0.05	0.000012	33.3	-0.0001	0.000048
6-Jan-10	17	50	50	7.60	176	340					4.20														
13-Jan-10	18	160	160	7.83	88	341	#N/A	6.7	177.1	11	5.70	-0.5	1.84	126	0.009	-0.0004	0.0004	0.154	-0.0002	-0.0001	-1	-0.0001	31.1	-0.002	-0.0001
20-Jan-10	19	50	50	7.50	258	336					3.80														
27-Jan-10	20	160	160	8.18	85	332	#N/A	3.7	178.3	13	4.20	-0.5	1.82	119	0.007	0.0002	0.0004	0.153	-0.00005	-0.00003	-0.3	-0.00003	29.9	-0.0005	-0.00003
3-Feb-10	21	50	50	7.81	195	336					4.20														
10-Feb-10	22	160	160	8.06	100	336	#N/A	3.9	181.4	12	5.30	0.8	1.75	147	0.011	0.0002	0.0006	0.19	-0.00005	-0.00003	-0.3	-0.00003	37.9	-0.0005	0.00003
17-Feb-10	23	50	50	7.91	119	331					4.10														
24-Feb-10	24	160	160	7.91	136	338	#N/A	3.3	179.7	14	5.10	-0.5	1.74	123	0.007	-0.0002	-0.0002	0.209	-0.0001	-0.00005	-0.5	-0.00005	31.3	-0.001	-0.00005
3-Mar-10	25	50	50	7.68	290	362					5.40														
10-Mar-10	26	160	160	7.77	78	357	#N/A	3.9	177.2	14	4.50	-0.5	1.78	136	0.0065	0.00005	0.00024	0.226	-0.00001	-0.000005	-0.05	0.000013	34.8	-0.0001	0.00004
17-Mar-10	27	50	50	7.56	176	335					4.60														
24-Mar-10	28	160	160	7.73	123	353	#N/A	3.9	175.3	14	4.70	-0.5	-2	130	0.007	0.0001	0.0005	0.221	-0.00005	-0.00003	-0.3	-0.00003	32.2	-0.0005	-0.00003
31-Mar-10	29	50	50	7.70	261	318					6.53														
7-Apr-10	30	160	160	7.56	184	351	#N/A	3.7	169.4	14	7.20	-0.5	1.66	135	0.01	0.0001	0.0001	0.229	-0.00005	-0.00003	-0.3	-0.00003	34.2	-0.0005	-0.00003
14-Apr-10	31	50	50	7.92	175	340					4.60														
21-Apr-10	32	160	160	7.94	296	349	#N/A	3.6	168.8	9	4.60	-0.5	1.65	125	0.011	0.00007	0.00026	0.232	-0.00001	-0.000005	-0.05	0.000023	32.6	0.0002	0.000036
28-Apr-10	33	50	50	7.72	326	310					4.20														
5-May-10	34	160	160	7.18	220	311	#N/A	4.9	168.8	8	4.40	-0.5	1.64	131	0.0067	0.00007	0.00034	0.235	-0.00001	-0.000005	-0.05	0.000015	35.3	-0.0001	0.000037
12-May-10	35	50	50	7.61	312	313					4.30														
19-May-10	36	160	160	7.45	279	350	#N/A	3.0	173.5	6	4.30	-0.5	1.64	144	0.0064	0.00005	0.00033	0.271	-0.00001	-0.000005	-0.05	0.000011	39.3	-0.0001	0.000032
26-May-10	37	50	50	7.39	360	340					4.70														
2-Jun-10	38	160	160	6.91	353	358	#N/A	3.0	170.5	10	4.80	-0.5	1.69	140	0.0111	0.00005	#N/A	0.271	-0.00001	-0.000005	-0.05	0.000019	37.9	0.0002	0.000042
9-Jun-10	39	50	50	7.72	302	317					3.20														
16-Jun-10	40	160	160	7.31	382	317	#N/A	2.5	169.6	4	4.85	-0.5	1.6	124	0.0051	0.00005	0.00023	0.262	-0.00001	-0.000005	-0.05	0.000014	33	0.0001	0.000041
23-Jun-10	41	50	50	7.40	316	310					2.80														
30-Jun-10	42	160	160	7.30	278	309	#N/A	3.5	167.9	6	4.35	-0.5	1.61	128	0.006	0.00006	0.00059	0.275	-0.00001	-0.000005	-0.05	0.000011	34.2	-0.0001	0.000099
7-Jul-10	43	50	50	7.39	336	297					2.70														
14-Jul-10	44	160	160	6.78	371	327	#N/A	6.0	161.9	2	3.51	0.5	1.45	118	0.0071	0.00005	0.0011	0.274	-0.00001	-0.000005	-0.05	0.000026	32.6	-0.0001	0.000151
21-Jul-10	45	50	50	6.93	260	295					2.38														
28-Jul-10	46	160	160	6.68	410	306	#N/A	5.4	157.3	4	3.25	-0.5	1.33	122	0.0085	0.00004	0.00054	0.291	-0.00001	-0.000005	-0.05	0.000018	34.2	0.0003	0.000067
4-Aug-10	47	50	50	6.95	310	302					3.10														
11-Aug-10	48	160	160	6.71	283	312	#N/A	6.1	157.6	4	0.65	-0.5	1.33	124	0.0126	0.00004	0.00012	0.284	-0.00001	-0.000005	-0.05	0.000013	34.7	-0.0001	0.000045
18-Aug-10	49	50	50	7.08	346	311					1.80														
25-Aug-10	50	160	160	6.72	416	292	#N/A	5.8	158.0	7	0.75	-0.5	1.3	123	0.001	0.00005	0.00011	0.291	-0.00001	-0.000005	-0.05	0.000019	35.5	-0.0001	0.000029
1-Sep-10	51	50	50	7.43	380	276					1.10														
8-Sep-10	52	160	160	7.29	423	292	#N/A	7.9	158.4	6	0.98	-0.5	1.22	116	0.0082	0.00004	0.00012	0.306	-0.00001	-0.000005	-0.05	0.000032	32.9	0.0002	0.000058
15-Sep-10	53	50	50	7.35	389	282					1.75														

Col 2 Bottom

Sample = 2351-35&36 Composite

Date	Cycle No.	Cu	Fe	Pb	Li	Mg	Mn	Hg	Mo	Ni	P	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
9-Sep-09	0	0.00922	0.002	0.000018	0.0039	3.52	0.0246	-0.01	0.0128	0.0004	0.011	7.68	0.00211	2.82	-0.000005	2.84	0.174	8	0.000029	0.0425	-0.0005	0.000121	0.0012	0.0035	-0.0001
16-Sep-09	1																								
23-Sep-09	2	0.0131	0.004	0.00335	0.0072	5.93	0.0438	-0.01	0.0196	0.00035	0.013	11.7	0.00277	3.48	-0.000005	6.92	0.26	9	0.000041	0.034	-0.0005	0.000274	0.0005	0.0046	-0.0001
30-Sep-09	3																								
7-Oct-09	4	0.0383	0.012	0.00135	0.0097	9.69	0.0658	-0.01	0.0279	0.00105	0.009	18.5	0.00677	4.45	0.000007	18.9	0.375	25	0.000107	0.0223	0.0015	0.000643	0.001	0.0058	-0.0001
14-Oct-09	5																								
21-Oct-09	6	0.0123	0.019	0.000301	0.0114	13.2	0.0846	0.01	0.029	0.00047	0.01	22.4	0.00634	4.73	-0.000005	30.4	0.419	30	0.000053	0.0332	-0.0005	0.000375	0.0003	0.0031	-0.0001
28-Oct-09	7																								
4-Nov-09	8	0.00528	0.008	0.000034	0.0105	12.8	0.0832	-0.01	0.00473	0.00022	0.008	21.9	0.00108	4	-0.000005	26.3	0.385	19	0.000013	0.0351	-0.0005	0.000093	-0.0002	0.0007	-0.0001
11-Nov-09	9																								
18-Nov-09	10	0.00243	0.014	0.000037	0.0087	12.1	0.0762	-0.01	0.00164	0.00019	0.01	22.4	0.00008	3.58	-0.000005	17.9	0.352	12	0.000021	0.0295	-0.0005	0.000066	-0.0002	0.001	-0.0001
25-Nov-09	11																								
2-Dec-09	12	0.00378	0.025	0.000656	0.0082	11.3	0.0747	-0.01	0.00264	0.00067	0.017	21.6	0.00006	3.24	-0.000005	12.7	0.338	9	0.000094	0.0349	-0.0005	0.00015	-0.0002	0.005	-0.0001
9-Dec-09	13																								
16-Dec-09	14	0.0043	0.007	0.000025	0.0068	10.8	0.0753	-0.01	0.00185	0.00069	0.134	21.5	0.00007	3.09	-0.000005	9.89	0.324	6	0.000014	0.0286	-0.0005	0.000092	-0.0002	0.0008	-0.0001
23-Dec-09	15																								
30-Dec-09	16	0.00523	0.003	0.000019	0.0069	11	0.0683	-0.01	0.00179	0.00081	0.008	21.7	0.00004	3.46	-0.000005	8.17	0.366	6	0.000005	0.0302	-0.0005	0.000385	-0.0002	0.0007	-0.0001
6-Jan-10	17																								
13-Jan-10	18	0.012	-0.02	0.0013	-0.01	11.8	0.055	-0.2	0.002	0.0045	-0.04	21.6	-0.0008	3.76	0.0001	7.3	0.388	-10	-0.00004	0.0231	0.00008	0.00008	-0.004	0.003	-0.002
20-Jan-10	19																								
27-Jan-10	20	0.0086	0.016	0.00093	0.007	10.9	0.0496	-0.05	0.0023	0.0019	-0.01	20	-0.0002	3.47	-0.00003	6.52	0.373	-3	0.00005	0.0211	0.005	0.00007	-0.001	0.0022	-0.0005
3-Feb-10	21																								
10-Feb-10	22	0.0077	0.011	0.00011	0.007	12.6	0.0596	-0.05	0.0032	0.0007	0.016	24.6	-0.0002	3.88	-0.00003	7.46	0.427	-3	0.00004	0.0232	-0.003	0.00011	-0.001	0.0021	-0.0005
17-Feb-10	23																								
24-Feb-10	24	0.0046	0.014	0.00019	0.007	10.8	0.0605	-0.1	0.0043	0.0074	-0.02	18	-0.0004	3.77	-0.00005	5.76	0.416	8	-0.00002	0.019	-0.005	0.00004	-0.002	0.003	-0.001
3-Mar-10	25																								
10-Mar-10	26	0.00272	0.004	0.000029	0.0075	11.9	0.0561	-0.01	0.00544	0.00029	0.008	18.7	-0.00004	4.51	-0.000005	6.56	0.452	-10	0.000037	0.0163	-0.0005	0.000046	-0.0002	0.0012	-0.0001
17-Mar-10	27																								
24-Mar-10	28	0.0032	-0.005	0.0001	0.007	12	0.044	-0.05	0.0067	0.0003	-0.01	17	-0.0002	4.5	-0.00003	6.3	0.446	-10	0.00005	0.0134	-0.003	0.00005	-0.001	0.0013	-0.0005
31-Mar-10	29																								
7-Apr-10	30	0.0028	0.026	0.00004	0.007	12.1	0.0428	-0.05	0.0081	0.0005	-0.01	17	-0.0002	4.56	-0.00003	6.03	0.448	-10	0.00002	0.0109	-0.003	0.00005	-0.001	0.0019	-0.0005
14-Apr-10	31																								
21-Apr-10	32	0.00488	0.011	0.000192	0.0068	10.5	0.0422	-0.01	0.0108	0.0004	0.013	15.2	0.00008	4.82	0.000024	5.7	0.44	-10	0.000023	0.0106	0.001	0.00006	-0.0002	0.0036	-0.0001
28-Apr-10	33																								
5-May-10	34	0.00145	0.007	0.000009	0.0061	10.4	0.0416	-0.01	0.0124	0.00031	0.009	14.5	0.00004	5.11	-0.000005	5.46	0.441	-10	0.000033	0.0123	-0.0005	0.000065	-0.0002	0.0008	-0.0001
12-May-10	35																								
19-May-10	36	0.00183	0.007	0.000038	0.0069	11.1	0.0347	0.02	0.0166	0.00057	0.006	14.9	0.00004	5.93	-0.000005	5.69	0.489	-10	0.000037	0.0122	-0.0005	0.000073	-0.0002	0.0009	-0.0001
26-May-10	37																								
2-Jun-10	38	0.00189	0.003	0.000017	0.006	11.1	0.0386	0.01	0.0176	0.00045	0.006	14.1	0.00006	5.75	-0.000005	5.9	0.466	-10	0.000008	0.0113	-0.0005	0.000089	-0.0002	0.0007	-0.0001
9-Jun-10	39																								
16-Jun-10	40	0.00152	0.002	0.000019	0.006	9.99	0.0421	-0.01	0.0206	0.00046	0.006	12.6	0.00006	5.78	-0.000005	5.42	0.454	-10	0.000039	0.0101	-0.0005	0.000089	-0.0002	0.0005	-0.0001
23-Jun-10	41																								
30-Jun-10	42	0.002	0.002	0.000072	0.0057	10.3	0.0687	-0.01	0.0237	0.00056	0.016	12.2	0.00012	6.33	-0.000005	5.74	0.46	-10	0.000017	0.00983	-0.0005	0.000122	-0.0002	0.0018	-0.0001
7-Jul-10	43																								
14-Jul-10	44	0.00249	0.001	0.000101	0.0057	8.91	0.05	-0.01	0.0266	0.00055	0.008	10.6	0.00009	5.88	-0.000005	4.76	0.468	-10	0.000025	0.00935	-0.0005	0.000217	-0.0002	0.0015	-0.0001
21-Jul-10	45																								
28-Jul-10	46	0.00124	0.006	0.00007	0.0052	8.85	0.0468	-0.01	0.0285	0.00058	0.005	10.1	0.00007	5.75	-0.000005	4.59	0.459	-10	0.000008	0.00728	-0.0005	0.000128	-0.0002	0.0008	-0.0001
4-Aug-10	47																								
11-Aug-10	48	0.00122	0.005	0.000022	0.0054	8.96	0.049	-0.01	0.0308	0.00083	0.006	10.3	0.00007	5.82	-0.000005	4.69	0.461	-10	0.000005	0.00614	-0.0005	0.000115	-0.0002	0.0006	-0.0001
18-Aug-10	49																								
25-Aug-10	50	0.00081	0.009	0.000063	0.0054	8.48	0.0416	-0.01	0.0344	0.00033	0.003	9.77	0.00012	6.05	-0.000005	4.5	0.445	-10	0.000014	0.00126	-0.0005	0.000113	-0.0002	0.0007	-0.0001
1-Sep-10	51																								
8-Sep-10	52	0.00133	0.033	0.0001	0.0048	8.13	0.0423	-0.01	0.0328	0.00083	0.003	9.32	0.00008	5.87	-0.000005	4.34	0.434	-10	0.000008	0.00491	-0.0005	0.000135	-0.0002	0.001	-0.0001
15-Sep-10	53																								

Col 2 Bottom

CONFIDENTIAL *DRAFT*

Sample = 2351-35&36 Composite

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	ORP mV	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	DO mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L
22-Sep-10	54	160	160	7.12	418	293	#N/A	5.3	151.9	9	0.75	-0.5	1.27	124	0.016	0.00005	0.0003	0.324	-0.00001	-0.000005	-0.05	0.000018	36.4	0.0002	0.000062
29-Sep-10	55	50	50	8.07	318	270					1.02														
6-Oct-10	56	160	160	7.32	339	278	#N/A	5.4	158.7	8	0.50	-0.5	1.29	120	0.009	0.00004	0.00025	0.36	-0.00001	-0.000005	-0.05	0.000012	35.7	0.0003	0.000043
13-Oct-10	57	50	50	7.44	309	292					0.55														
20-Oct-10	58	160	160	7.26	345	288	#N/A	5.7	156.6	9	1.20	-0.5	1.2	117	0.004	0.00004	0.00016	0.333	-0.00001	-0.000005	-0.05	0.000014	35.1	-0.0001	0.000055
27-Oct-10	59	50	50	7.38	304	258					1.40														
3-Nov-10	60	160	160	7.31	301	261	#N/A	2.9	157.9	5	1.30	-0.5	1.05	117	0.0045	-0.00002	0.00014	0.401	-0.00001	-0.000005	-0.05	0.000016	35.3	-0.0001	0.000011
10-Nov-10	61	50	50	7.08	362	254					0.60														
17-Nov-10	62	160	160	7.06	327	270	#N/A	3.9	154.3	4	0.72	-0.5	1.12	118	0.0088	0.00006	0.00014	0.376	-0.00001	-0.000005	-0.05	0.000023	36	-0.0001	0.000013
24-Nov-10	63	50	50	7.10	385	258					0.60														
1-Dec-10	64	160	160	7.19	409	263	#N/A	6.9	149.5	4	0.60	-0.5	0.94	111	0.0044	0.00006	0.00015	0.365	-0.00001	-0.000005	-0.05	0.000015	34.4	-0.0001	0.000016
8-Dec-10	65	50	50	7.10	396	262					0.68														
15-Dec-10	66	160	160	7.16	400	263	#N/A	6.9	140.1	5	0.76	-0.5	1.02	104	0.0051	0.00006	0.0003	0.363	-0.00001	-0.000005	-0.05	0.000013	32.4	-0.0001	0.000013
22-Dec-10	67	50	50	7.30	373	230					0.85														
29-Dec-10	68	160	160	7.18	404	267	#N/A	7.5	143.7	5	0.80	-0.5	0.74	105	0.0078	0.00006	0.00017	0.466	-0.00001	-0.000005	-0.05	0.000009	32.3	-0.0001	0.000016
5-Jan-11	69	50	50	7.30	366	268					0.70														
12-Jan-11	70	160	160	7.31	399	239	#N/A	7.1	141.7	4	0.90	-0.5	0.94	112	0.0095	0.00005	0.00022	0.381	-0.00001	-0.000005	-0.05	0.000024	35	0.0001	0.000035
19-Jan-11	71	50	50	7.38	365	236					0.80														
26-Jan-11	72	160	160	7.33	410	252	#N/A	7.5	138.8	4	0.75	-0.5	0.84	111	0.0095	0.00014	0.0003	0.38	-0.00001	-0.000005	-0.05	0.000017	34.6	-0.0001	0.00001
2-Feb-11	73	50	50	7.36	382	233					0.85														
9-Feb-11	74	50	50	7.76	352	242																			
16-Feb-11	75	50	50	7.56	386	237																			
23-Feb-11	76	50	50	7.78	345	238																			
2-Mar-11	77	50	50	7.62	388	230																			
9-Mar-11	78	50	50	7.54	368	240																			
16-Mar-11	79	50	50	7.68	363	248																			
23-Mar-11	80	50	50	7.20	394	241																			
30-Mar-11	81	50	50	#N/A	349	241																			
6-Apr-11	82	50	50	#N/A	341	247																			
13-Apr-11	83	50	50	7.94	380	257																			
20-Apr-11	84	160	160	7.86	358	256	#N/A	8.5	144.7	5	0.70	0.8	0.83	108	0.0114	0.00016	0.00019	0.385	-0.00001	-0.000005	-0.05	-0.000005	34.9	0.0001	0.000071
27-Apr-11	85	50	50	8.04	380	255																			
4-May-11	86	50	50	7.86	360	257																			
11-May-11	87	50	50	7.95	358	260																			
18-May-11	88	50	50	7.91	363	278																			
25-May-11	89	50	50	7.95	365	263																			
1-Jun-11	90	50	50	7.64	358	267																			
8-Jun-11	91	50	50	7.44	298	266																			
15-Jun-11	92	50	50	7.40	296	240																			
22-Jun-11	93	50	50	8.19	335	254																			
29-Jun-11	94	50	50	7.77	330	265																			
6-Jul-11	95	50	50	7.48	353	271																			
13-Jul-11	96	160	160	7.49	345	272	#N/A	8.7	136.3	3	0.80	-0.5	0.71	108	0.0039	0.00005	0.0003	0.468	-0.00001	-0.000005	-0.05	-0.000005	33.9	0.0002	0.000019
20-Jul-11	97	50	50	7.35	340	266																			
27-Jul-11	98	50	50	7.16	330	268																			
3-Aug-11	99	50	50	7.63	342	238																			
10-Aug-11	100	50	50	7.52	347	239																			
17-Aug-11	101	50	50	7.63	338	240																			
24-Aug-11	102	50	50	7.67	321	245																			
31-Aug-11	103	50	50	7.63	336	270																			
7-Sep-11	104	160	160	7.91	362	255																			
14-Sep-11	105	50	50	7.89	394	265																			

Col 2 Bottom

Sample = 2351-35&36 Composite

Date	Cycle No.	Cu	Fe	Pb	Li	Mg	Mn	Hg	Mo	Ni	P	K	Se	Si	Ag	Na	Sr	S	Tl	Sn	Ti	U	V	Zn	Zr
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
22-Sep-10	54	0.0013	0.013	0.000096	0.0048	7.99	0.0395	-0.01	0.0352	0.00073	0.023	9.04	0.00009	6.66	-0.000005	4.18	0.443	-10	0.000009	0.00333	-0.0005	0.000306	-0.0002	0.0023	0.0002
29-Sep-10	55																								
6-Oct-10	56	0.001	0.015	0.000049	0.0048	7.64	0.0314	-0.01	0.0376	0.00073	0.008	9.01	0.0001	6.56	-0.000005	3.81	0.455	-10	#N/A	0.00427	-0.0005	0.000197	-0.0002	0.0009	-0.0001
13-Oct-10	57																								
20-Oct-10	58	0.00109	0.004	0.000087	0.0045	7.19	0.0363	-0.01	0.0357	0.00067	0.006	8.24	0.00007	6.29	-0.000005	3.61	0.436	-10	0.000013	0.00524	-0.0005	0.000148	-0.0002	0.0013	-0.0001
27-Oct-10	59																								
3-Nov-10	60	0.00122	0.004	0.000012	0.0044	7.05	0.00446	-0.01	0.0373	0.00042	0.007	8.11	0.00007	6.34	-0.000005	3.6	0.453	-10	0.000004	0.00447	-0.0005	#N/A	-0.0002	0.0005	-0.0001
10-Nov-10	61																								
17-Nov-10	62	0.00174	0.015	0.000151	0.0042	6.77	0.00401	-0.01	0.0298	0.00065	0.009	7.47	0.00008	6.43	-0.000005	3.4	0.437	-10	0.000009	0.00224	-0.0005	#N/A	-0.0002	0.0017	-0.0001
24-Nov-10	63																								
1-Dec-10	64	0.00224	0.015	0.000051	0.0037	6.12	0.00425	-0.01	0.0351	0.00059	0.015	7.04	0.00006	6.25	-0.000005	3.02	0.416	-10	0.000038	0.00274	-0.0005	0.000138	-0.0002	0.0011	-0.0001
8-Dec-10	65																								
15-Dec-10	66	0.00319	0.041	0.00005	0.0037	5.58	0.00235	-0.01	0.035	0.00048	0.009	6.54	0.0001	5.85	-0.000005	2.65	0.413	-10	0.000004	0.00287	-0.0005	0.000168	-0.0002	0.0013	-0.0001
22-Dec-10	67																								
29-Dec-10	68	0.00257	0.016	0.000052	0.0036	5.94	0.00171	-0.01	0.0327	0.00059	0.016	6.87	0.00006	5.79	-0.000005	2.78	0.435	-10	0.00004	0.00337	-0.0005	0.000255	-0.0002	0.0012	-0.0001
5-Jan-11	69																								
12-Jan-11	70	0.00212	0.042	0.00016	0.0033	5.91	0.0164	-0.01	0.0336	0.00051	0.011	6.22	0.00005	6.07	0.000011	2.76	0.388	-10	0.000036	0.00321	-0.0005	#N/A	-0.0002	0.0016	#N/A
19-Jan-11	71																								
26-Jan-11	72	0.00104	0.003	0.00005	0.0031	5.91	0.00547	-0.01	0.0317	0.00033	0.01	6.27	0.00007	5.78	-0.000005	2.8	0.393	-10	0.000034	0.00233	-0.0005	0.000122	-0.0002	0.0017	-0.0001
2-Feb-11	73																								
9-Feb-11	74																								
16-Feb-11	75																								
23-Feb-11	76																								
2-Mar-11	77																								
9-Mar-11	78																								
16-Mar-11	79																								
23-Mar-11	80																								
30-Mar-11	81																								
6-Apr-11	82																								
13-Apr-11	83																								
20-Apr-11	84	0.00134	0.059	#N/A	0.0027	5.16	#N/A	-0.01	0.0244	0.00057	0.02	5.69	0.00004	5.93	#N/A	2.36	0.388	-10	0.000019	0.00186	-0.0005	0.000155	-0.0002	0.0027	-0.0001
27-Apr-11	85																								
4-May-11	86																								
11-May-11	87																								
18-May-11	88																								
25-May-11	89																								
1-Jun-11	90																								
8-Jun-11	91																								
15-Jun-11	92																								
22-Jun-11	93																								
29-Jun-11	94																								
6-Jul-11	95																								
13-Jul-11	96	0.00231	0.03	0.000101	0.0031	5.79	0.00478	-0.01	0.0208	0.00044	0.013	5.61	-0.00004	5.78	0.000006	2.71	0.405	-10	0.000013	0.00113	-0.0005	0.000147	-0.0002	0.0013	-0.0001
20-Jul-11	97																								
27-Jul-11	98																								
3-Aug-11	99																								
10-Aug-11	100																								
17-Aug-11	101																								
24-Aug-11	102																								
31-Aug-11	103																								
7-Sep-11	104																								
14-Sep-11	105																								

Col 2 Bottom

CONFIDENTIAL *DRAFT*

Sample = 2351-35&36 Composite

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	ORP mV	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	DO mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L
21-Sep-11	106	160	160	7.90	416	269																			
28-Sep-11	107	50	50	7.53	442	265																			
5-Oct-11	108	160	160	7.62	378	243	#N/A	5.5	132.8	3	0.65	0.6	0.59	111	0.0087	#N/A	0.00027	0.484	-0.00001	-0.000005	-0.05	0.000013	37.1	0.0002	0.000023
12-Oct-11	109	50	50	7.89	390	240																			
19-Oct-11	110	50	50	7.82	378	238																			
26-Oct-11	111	50	50	7.88	393	241																			
2-Nov-11	112	50	50	7.56	395	249																			
9-Nov-11	113	50	50	7.54	392	262																			
16-Nov-11	114	50	50	7.80	390	238																			
23-Nov-11	115	50	50	7.45	200	238																			
30-Nov-11	116	50	50	7.30	407	241																			
7-Dec-11	117	50	50	7.31	429	237																			
14-Dec-11	118	50	50	7.33	470	235																			
21-Dec-11	119	50	50	7.23	492	240																			
28-Dec-11	120	160	160	7.73	560	241	#N/A	4.8	148.1	2	0.85	-0.5	0.52	107	0.0041	0.00006	0.00031	0.462	-0.00001	-0.000005	-0.05	-0.000005	34.4	-0.0001	0.00005
4-Jan-12	121	50	50	7.45	584	239																			
11-Jan-12	122	50	50	7.56	617	230																			
18-Jan-12	123	50	50	7.55	645	233																			
25-Jan-12	124	50	50	7.63	623	291																			
1-Feb-12	125	50	50	7.54	573	236																			
8-Feb-12	126	50	50	7.41	526	228																			
15-Feb-12	127	50	50	7.41	535	233																			
22-Feb-12	128	50	50	7.43	629	227																			
29-Feb-12	129	50	50	7.64	551	217																			
7-Mar-12	130	50	50	7.67	612	210																			
14-Mar-12	131	50	50	7.85	430	248																			
21-Mar-12	132	160	160	7.68	480	239	#N/A	5.5	133.5	5	0.80	-0.5	0.46	110	0.0063	0.00005	0.00024	0.484	-0.00001	-0.000005	-0.05	0.000012	36.1	0.0001	0.000086
28-Mar-12	133	50	50	7.95	633	230																			
4-Apr-12	134	50	50	7.62	542	227																			
11-Apr-12	135	50	50	7.52	586	224																			
18-Apr-12	136	50	50	7.78	566	230																			
25-Apr-12	137	50	50	7.85	628	231																			
2-May-12	138	50	50	7.72	630	221																			
9-May-12	139	50	50	7.51	629	188																			
16-May-12	140	50	50	7.51	601	225																			
23-May-12	141	50	50	7.64	584	183																			
30-May-12	142	50	50	7.78	585	180																			
6-Jun-12	143	50	50	7.74	531	243																			
13-Jun-12	144	160	160	7.53	570	218	#N/A	8.4	135.5	4	1.18	0.91	0.45	105	0.0047	0.000031	0.00026	0.504	-0.00001	-0.000005	-0.05	-0.000005	33.9	#N/A	0.0000344
20-Jun-12	145	50	50	7.50	557	200																			
27-Jun-12	146	50	50	7.28	520	180																			
4-Jul-12	147	50	50	7.82	545	176																			
11-Jul-12	148	50	50	7.99	541	162																			
18-Jul-12	149	50	50	7.84	578	222																			
25-Jul-12	150	50	50	7.64	499	215																			
1-Aug-12	151	50	50	7.58	556	216																			
8-Aug-12	152	50	50	7.78	545	223																			
15-Aug-12	153	50	50	7.41	540	215																			
22-Aug-12	154	50	50	7.17	643	209																			
29-Aug-12	155	50	50	7.47	648	180																			
5-Sep-12	156	160	160	7.20	596	176	#N/A	6.2	123.8	5	1.12	#N/A	0.38	97.3	0.00482	0.000046	0.00019	0.474	-0.00001	-0.000005	-0.05	-0.000005	31.6	-0.0001	0.000024
12-Sep-12	157	50	50	7.78	664	174																			
19-Sep-12	158	50	50	7.40	564	215																			

Col 2 Bottom

Sample = 2351-35&36 Composite

Date	Cycle No.	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L	P mg/L	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L
21-Sep-11	106																								
28-Sep-11	107																								
5-Oct-11	108	0.00105	0.046	#N/A	0.0031	4.57	0.0182	-0.01	0.0209	0.00042	0.008	4.98	0.00008	5.78	0.00001	1.94	0.382	-10	#N/A	0.00164	-0.0005	0.000184	-0.0002	0.0023	-0.0001
12-Oct-11	109																								
19-Oct-11	110																								
26-Oct-11	111																								
2-Nov-11	112																								
9-Nov-11	113																								
16-Nov-11	114																								
23-Nov-11	115																								
30-Nov-11	116																								
7-Dec-11	117																								
14-Dec-11	118																								
21-Dec-11	119																								
28-Dec-11	120	0.00197	0.038	0.000161	0.0026	5.07	0.0346	-0.01	0.0175	0.0005	0.02	5.5	0.00009	5.29	0.00002	2.19	0.363	-10	0.000014	0.00084	-0.0005	0.000144	-0.0002	0.002	-0.0001
4-Jan-12	121																								
11-Jan-12	122																								
18-Jan-12	123																								
25-Jan-12	124																								
1-Feb-12	125																								
8-Feb-12	126																								
15-Feb-12	127																								
22-Feb-12	128																								
29-Feb-12	129																								
7-Mar-12	130																								
14-Mar-12	131																								
21-Mar-12	132	0.00159	0.02	#N/A	0.0025	4.89	0.0241	-0.01	0.0163	#N/A	0.013	5.23	0.00004	5.35	0.000015	1.97	0.339	-10	0.00001	0.0008	-0.0005	0.000162	-0.0002	0.002	-0.0001
28-Mar-12	133																								
4-Apr-12	134																								
11-Apr-12	135																								
18-Apr-12	136																								
25-Apr-12	137																								
2-May-12	138																								
9-May-12	139																								
16-May-12	140																								
23-May-12	141																								
30-May-12	142																								
6-Jun-12	143																								
13-Jun-12	144	0.00072	0.0228	5.51E-05	0.00265	4.81	0.0284	-0.01	0.016	0.00036	0.008	4.6	0.000049	5.43	0.0000069	2.09	0.34	-10	1.17E-05	0.00089	-0.0005	0.000183	-0.0002	0.00248	-0.0001
20-Jun-12	145																								
27-Jun-12	146																								
4-Jul-12	147																								
11-Jul-12	148																								
18-Jul-12	149																								
25-Jul-12	150																								
1-Aug-12	151																								
8-Aug-12	152																								
15-Aug-12	153																								
22-Aug-12	154																								
29-Aug-12	155																								
5-Sep-12	156	0.00176	0.0108	0.000179	0.00211	4.49	0.0125	-0.01	0.0132	0.0004	0.0129	4.45	-0.00004	5.03	#N/A	2.37	0.3	-10	0.00001	0.0006	-0.0005	0.000244	-0.0002	0.00121	-0.0001
12-Sep-12	157																								
19-Sep-12	158																								

Col 2 Bottom

CONFIDENTIAL *DRAFT*

Sample = 2351-35&36 Composite

Date	Cycle No.	Volume mL Input	Volume mL Output	pH	ORP mV	Cond. umhos/cm	Acidity (pH 4.5) mgCaCO3/L	Acidity (pH 8.3) mgCaCO3/L	Alkalinity mgCaCO3/L	Sulphate mg/L	DO mg/L	Chloride mg/L	Fluoride mg/L	Hardness CaCO3 mg/L	Al mg/L	Sb mg/L	As mg/L	Ba mg/L	Be mg/L	Bi mg/L	B mg/L	Cd mg/L	Ca mg/L	Cr mg/L	Co mg/L
26-Sep-12	159	50	50	7.41	580	220																			
3-Oct-12	160	50	50	7.95	597	212																			
10-Oct-12	161	50	50	7.82	627	218																			
17-Oct-12	162	50	50	8.00	498	202																			
24-Oct-12	163	50	50	7.64	431	218																			
31-Oct-12	164	50	50	7.67	445	221																			
7-Nov-12	165	50	50	7.24	550	223																			
14-Nov-12	166	50	50	7.48	587	226																			
21-Nov-12	167	50	50	7.52	565	224																			
28-Nov-12	168	160	160	7.37	492	221	#N/A	11.7	134.7	9	2.11	0.82	0.29	98.6	0.011	#N/A	0.00029	0.486	-0.00001	-0.000005	-0.05	#N/A	32.2	0.00025	0.00004
5-Dec-12	169	50	50	7.47	530	216																			
12-Dec-12	170	50	50	7.53	448	222																			
19-Dec-12	171	50	50	7.26	604	216																			
26-Dec-12	172	50	50	7.58	613	213																			
2-Jan-13	173	50	50	7.51	621	207																			
9-Jan-13	174	50	50	6.92	597	208																			
16-Jan-13	175	50	50	7.87	545	198																			
23-Jan-13	176	50	50	7.31	560	222																			
30-Jan-13	177	50	50	7.22	585	215																			
6-Feb-13	178	50	50	7.32	476	215																			
13-Feb-13	179	50	50	7.40	551	226																			
20-Feb-13	180	160	160	7.69	531	221	#N/A	6.2	137.5	8	1.32	-0.5	0.29	101	0.00701	0.00012	0.0003	0.501	-0.00001	0.000039	-0.05	-0.000005	32.8	-0.0001	0.000046
27-Feb-13	181	50	50	7.21	602	190																			
6-Mar-13	182	50	50	8.00	618	208																			
13-Mar-13	183	50	50	7.69	577	215																			
20-Mar-13	184	50	50	8.07	570	228																			
27-Mar-13	185	50	50	7.29	550	212																			
3-Apr-13	186	50	50	7.39	401	220																			
10-Apr-13	187	50	50	7.49	581	217																			
17-Apr-13	188	50	50	7.50	582	222																			
24-Apr-13	189	50	50	7.76	469	219																			
1-May-13	190	50	50	7.43	420	216																			
8-May-13	191	50	50	7.17	528	219																			
15-May-13	192	160	160	6.96	490	223	#N/A	11.5	115.2	4	1.21	-0.5	0.29	99.9	0.00668	0.000052	0.00018	0.539	-0.00001	-0.000005	-0.05	0.000005	32.2	-0.0001	0.000039
22-May-13	193	50	50	7.18	552	219																			
29-May-13	194	50	50	7.18	565	220																			

Col 2 Bottom

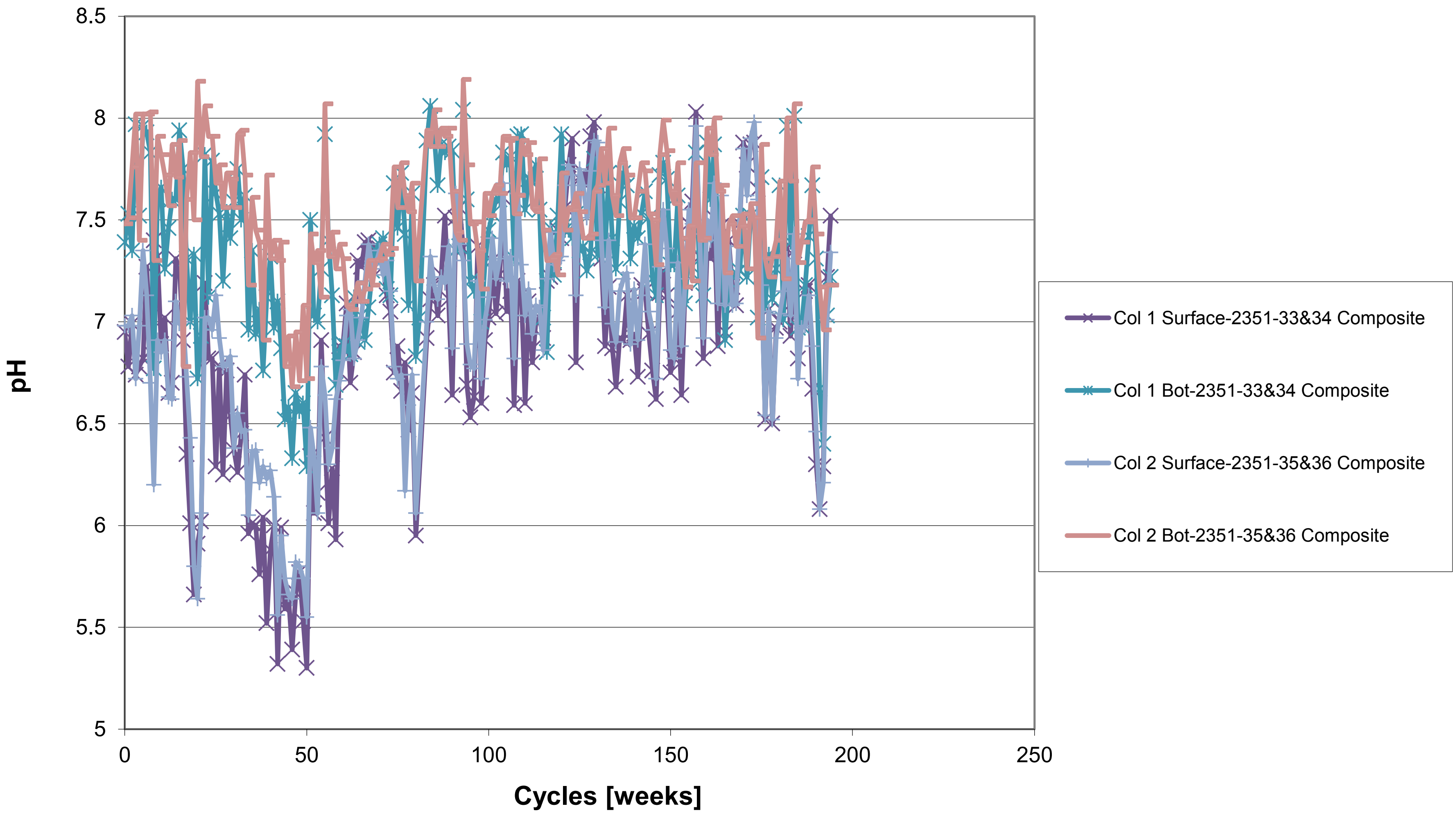
Sample = 2351-35&36 Composite

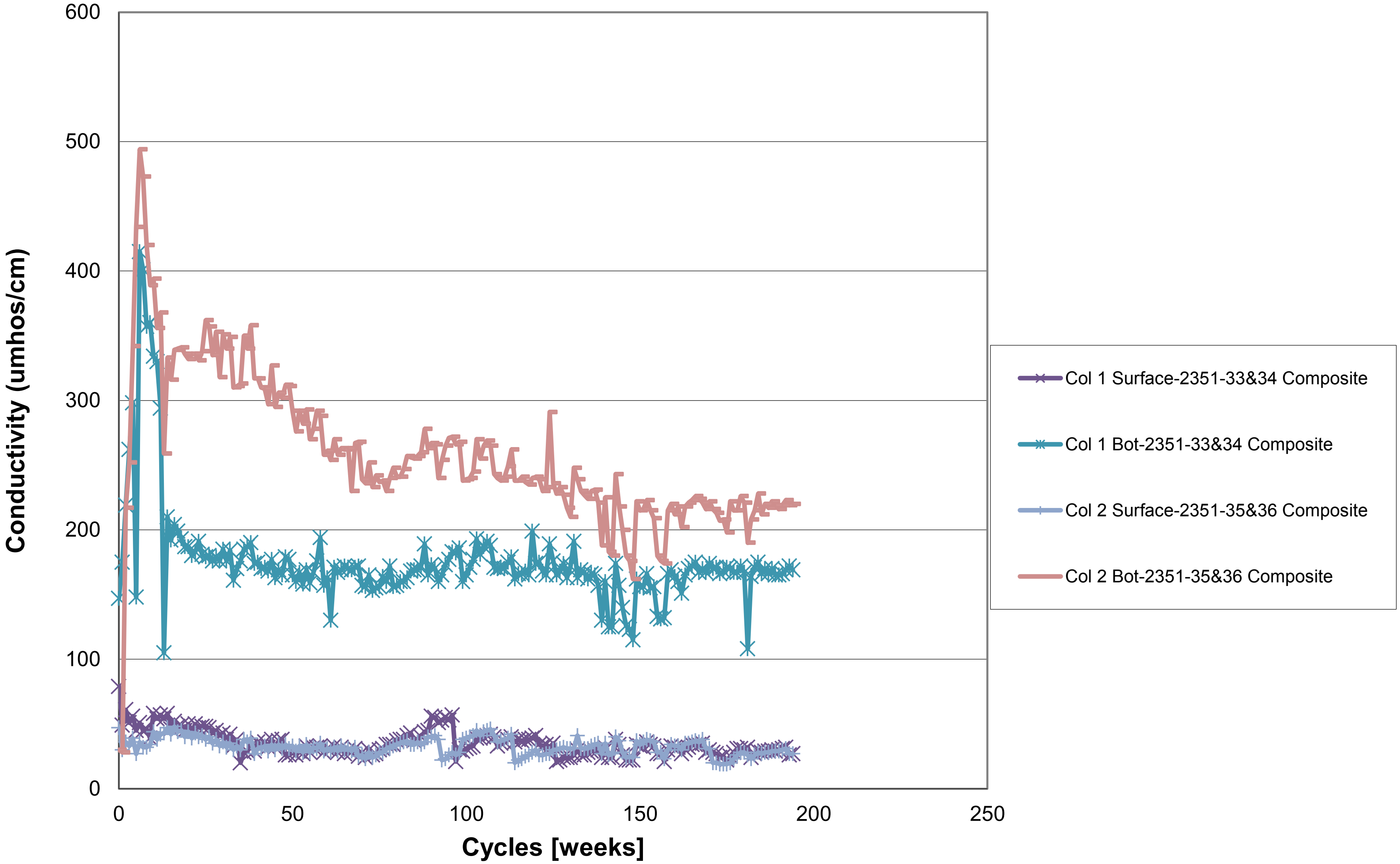
Date	Cycle No.	Cu mg/L	Fe mg/L	Pb mg/L	Li mg/L	Mg mg/L	Mn mg/L	Hg ug/L	Mo mg/L	Ni mg/L	P mg/L	K mg/L	Se mg/L	Si mg/L	Ag mg/L	Na mg/L	Sr mg/L	S mg/L	Tl mg/L	Sn mg/L	Ti mg/L	U mg/L	V mg/L	Zn mg/L	Zr mg/L
26-Sep-12	159																								
3-Oct-12	160																								
10-Oct-12	161																								
17-Oct-12	162																								
24-Oct-12	163																								
31-Oct-12	164																								
7-Nov-12	165																								
14-Nov-12	166																								
21-Nov-12	167																								
28-Nov-12	168	0.00137	0.0243	0.000168	0.00204	4.42	0.0407	-0.01	0.0119	0.00057	0.0163	4	0.000061	5.13	0.000005	1.73	0.294	-3	0.000013	0.00138	-0.0005	0.000166	0.00044	#N/A	-0.0001
5-Dec-12	169																								
12-Dec-12	170																								
19-Dec-12	171																								
26-Dec-12	172																								
2-Jan-13	173																								
9-Jan-13	174																								
16-Jan-13	175																								
23-Jan-13	176																								
30-Jan-13	177																								
6-Feb-13	178																								
13-Feb-13	179																								
20-Feb-13	180	0.00052	0.0119	0.000023	0.00195	4.59	0.0505	-0.01	0.0114	0.00042	0.015	4.23	-0.00004	5.2	0.000043	1.58	0.303	-3	0.000011	0.00063	-0.0005	0.000203	-0.0002	0.00203	-0.0001
27-Feb-13	181																								
6-Mar-13	182																								
13-Mar-13	183																								
20-Mar-13	184																								
27-Mar-13	185																								
3-Apr-13	186																								
10-Apr-13	187																								
17-Apr-13	188																								
24-Apr-13	189																								
1-May-13	190																								
8-May-13	191																								
15-May-13	192	0.00079	0.0154	0.000037	0.00199	4.72	0.0581	-0.01	0.0111	0.00056	0.012	4.13	-0.00004	4.73	0.000061	1.58	0.305	-3	0.000003	0.00046	-0.0005	0.000186	-0.0002	0.00157	-0.0001
22-May-13	193																								
29-May-13	194																								

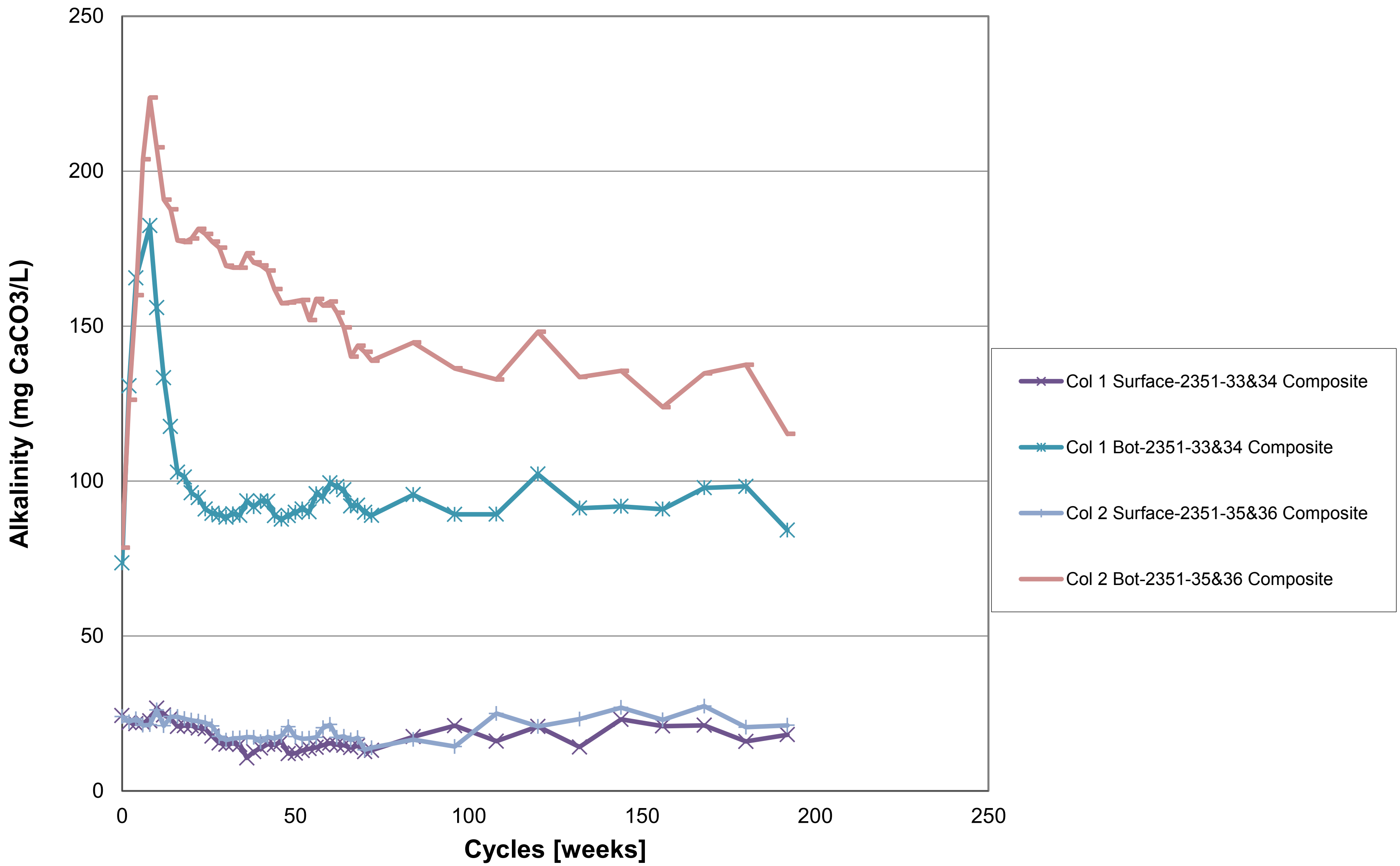
Jan 13/10 Ti 0.018. Repeat =0.00008.
May 5/10 F 0.51. Repeat = 1.64
June 2/10 As 0.00107. Repeat = 0.00106. Data confirmed.
Oct 6/10 Tl 0.000112. Repeat = sample discarded.
Nov 3/10 U 0.00268. Repeat = sample discarded.
Nov 17/10 Cl 1.4. Repeat = -0.5.
Nov 17/10 U 0.00156. Cannot repeat. Sample discarded.
Feb 4/11 Change in analytical schedule.
Mar 30/11 pH 6.71. Suspect probe malfunction.
April 6/11 pH 6.70. Suspect probe malfunction.
April 20/11 Ag 0.000065, Mn 0.043 and Pb 0.000392 . Repeat Pb= 0.000439, Mn= 0.051, data confirmed suspect contamination. Cannot repeat Ag, suspect contamination or analytical error
Jan 12/11 U 0.000644 and Zr 0.0013. Cannot repeat.
Oct 5/11 Pb=0.000295, repeat=0.000281. data confirmed, suspect contamination
Oct 5/11 Tl=0.000053, repeat=0.000056. Data confirmed suspect contamination
Oct 5/11 Sb=0.00013, repeat=0.00011. Data confirmed, suspect contamination
Mar 21/12 Pb=0.00201, repeat=0.00203. Data confirmed, suspect contamination
Mar 21/12 Ni=0.00135. Cannot repeat, suspect contamination or analytical error
Sept 5/12 Cl=1.7, Ag=0.000051. repeat Cl=1.3, Ag=0.000057. Data confirmed suspect contamination
Jun 13/12 Cr=0.00487, repeat=0.00525. Data confirmed, suspect contamination or analytical error
Nov 28/12 Sb=0.000498, Cd=0.000348, Zn=0.00458, Cannot repeat not enough sample. Suspect contamination or analytical error

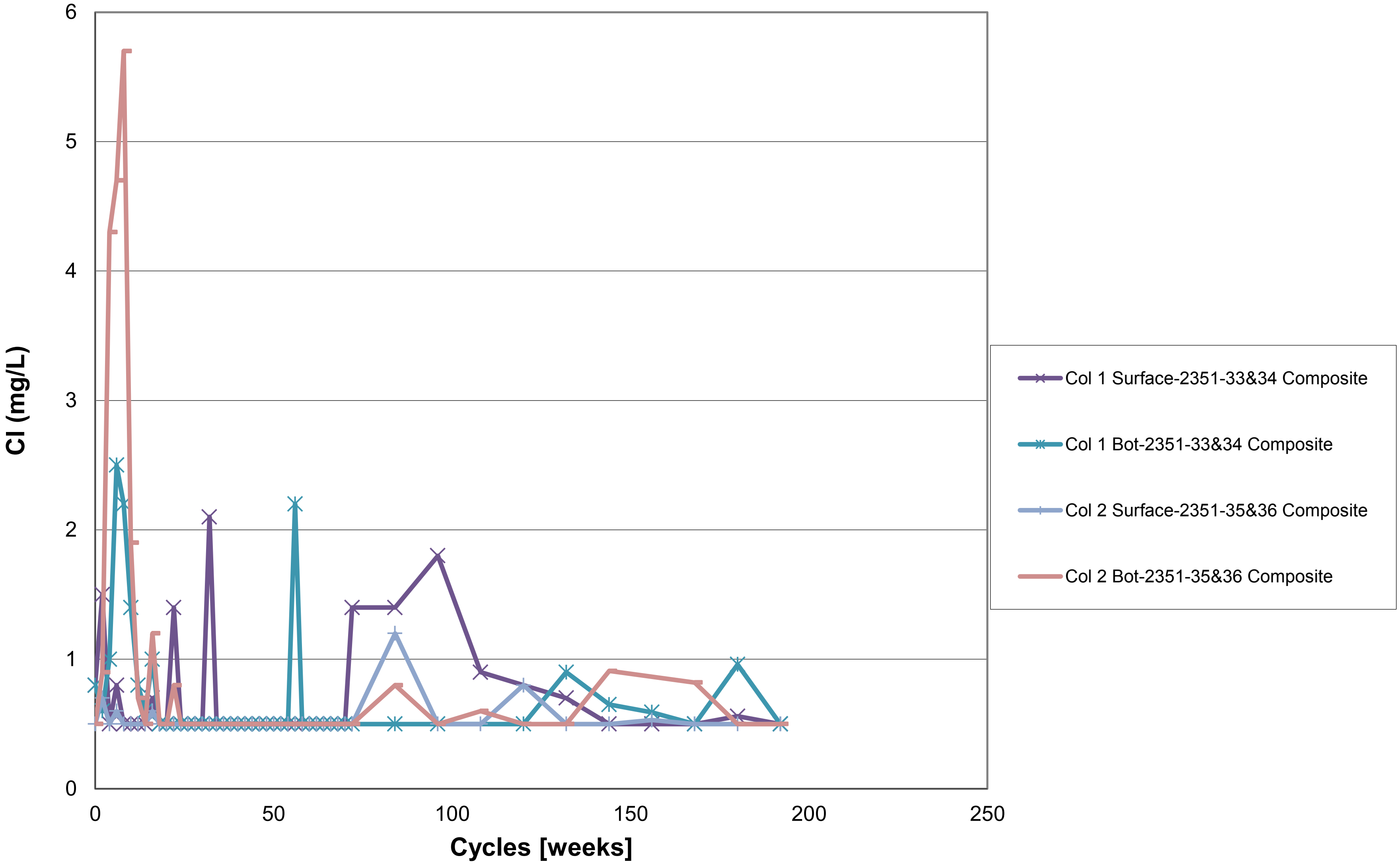
Appendix G4

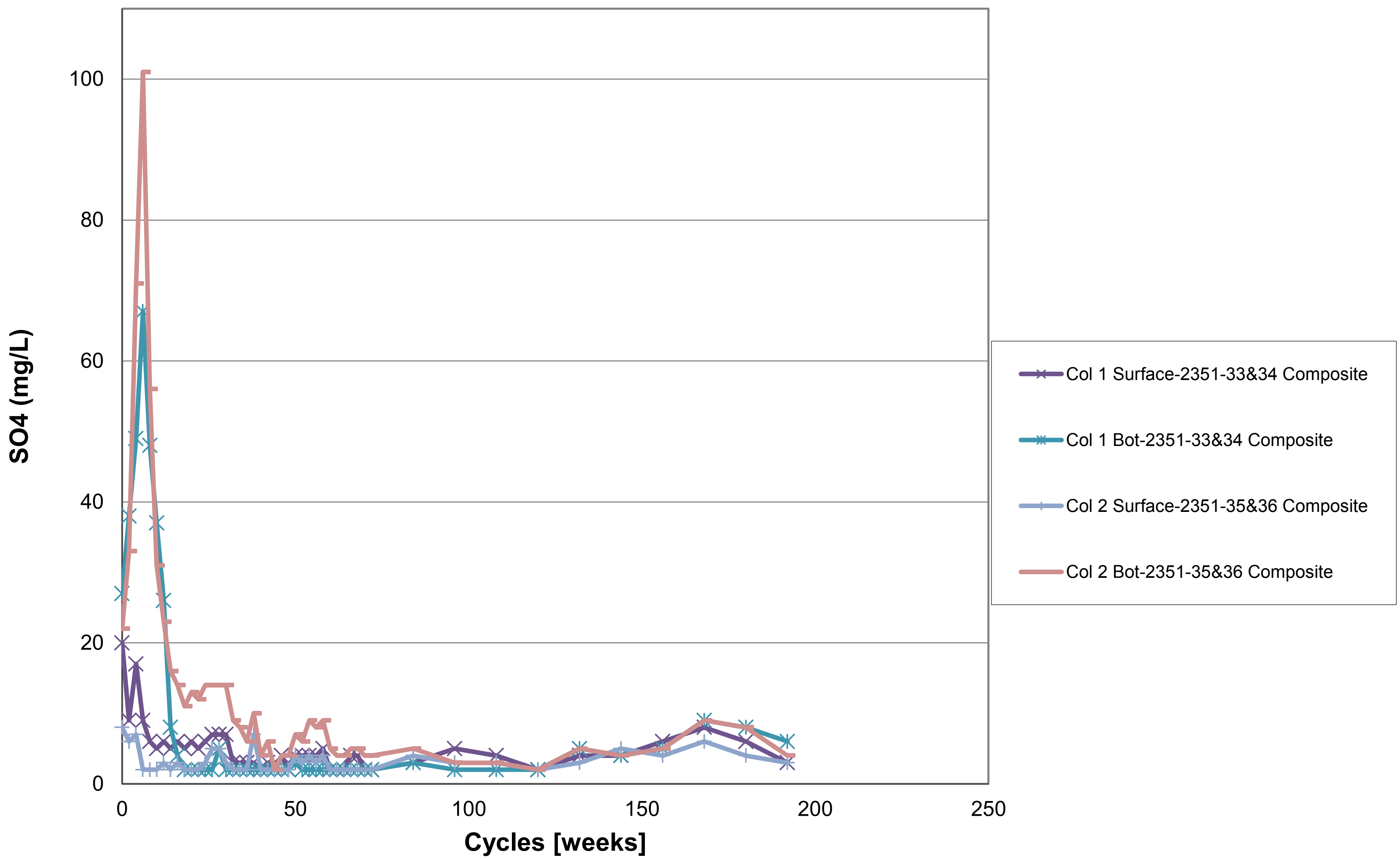
Phase V/VI Tailings Saturated Column Test Results: Charts

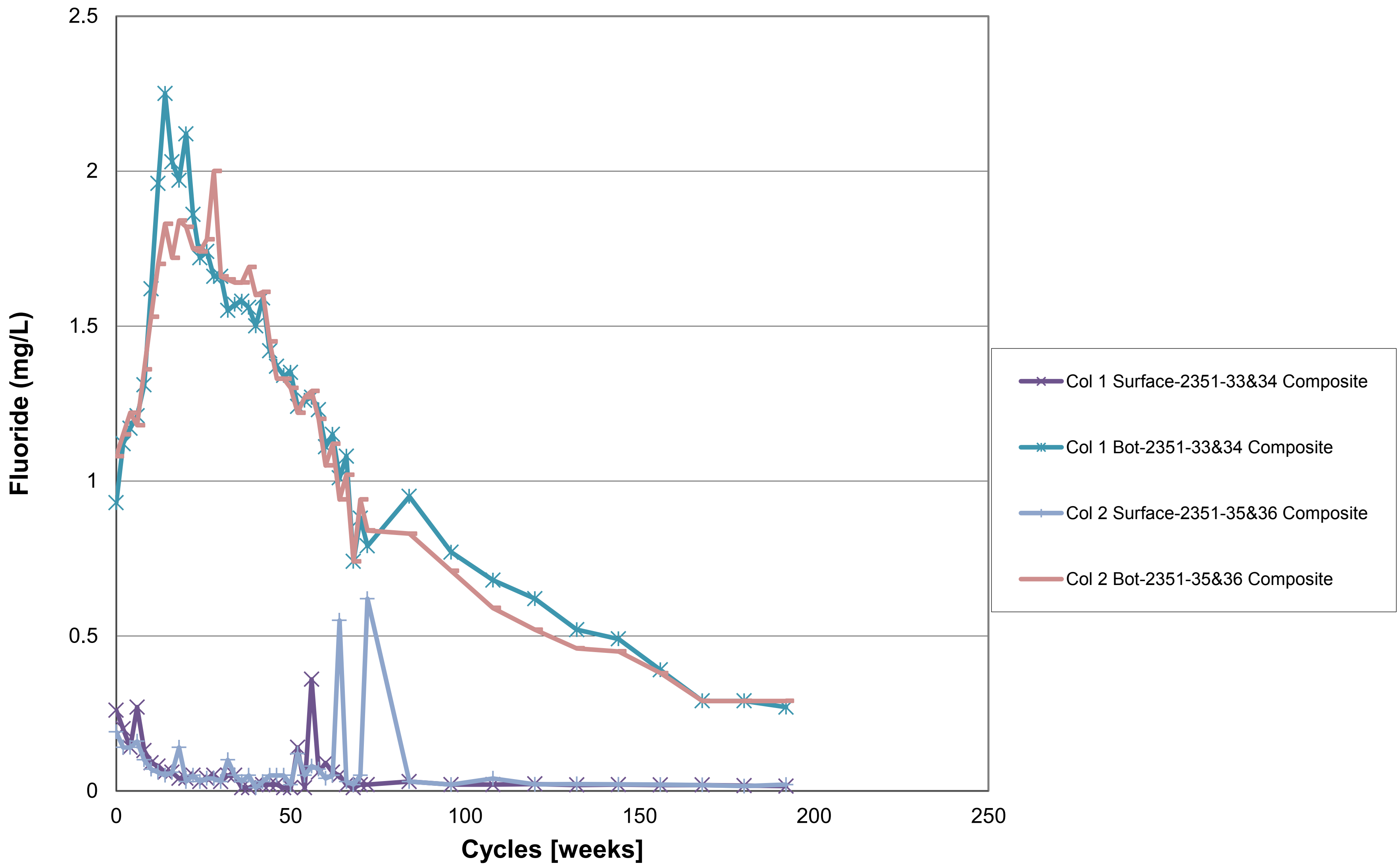

8.5
8
7.5
7
6.5
6
5.5
5
pH
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

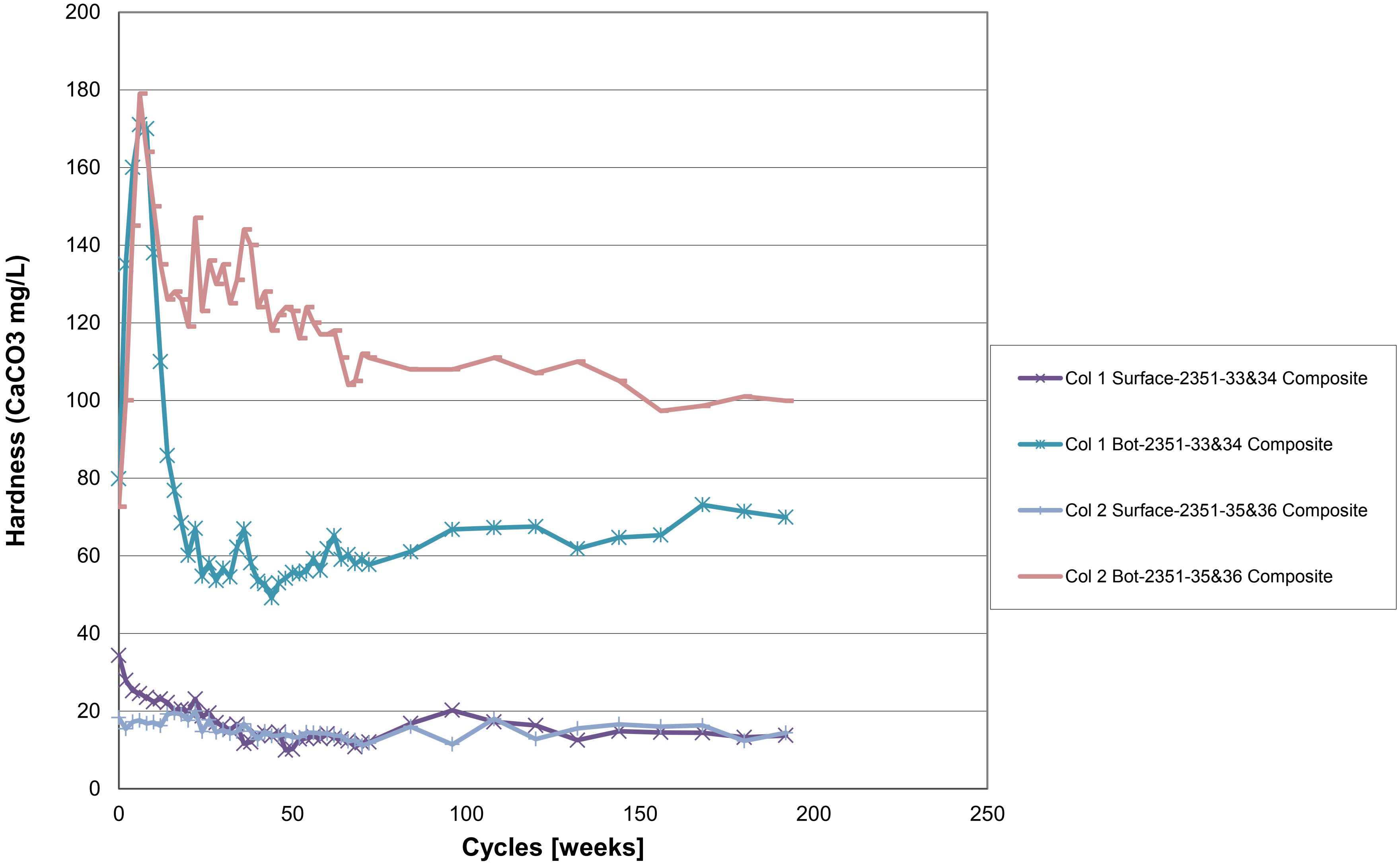

Conductivity (umhos/cm)
600
500
400
300
200
100
0
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

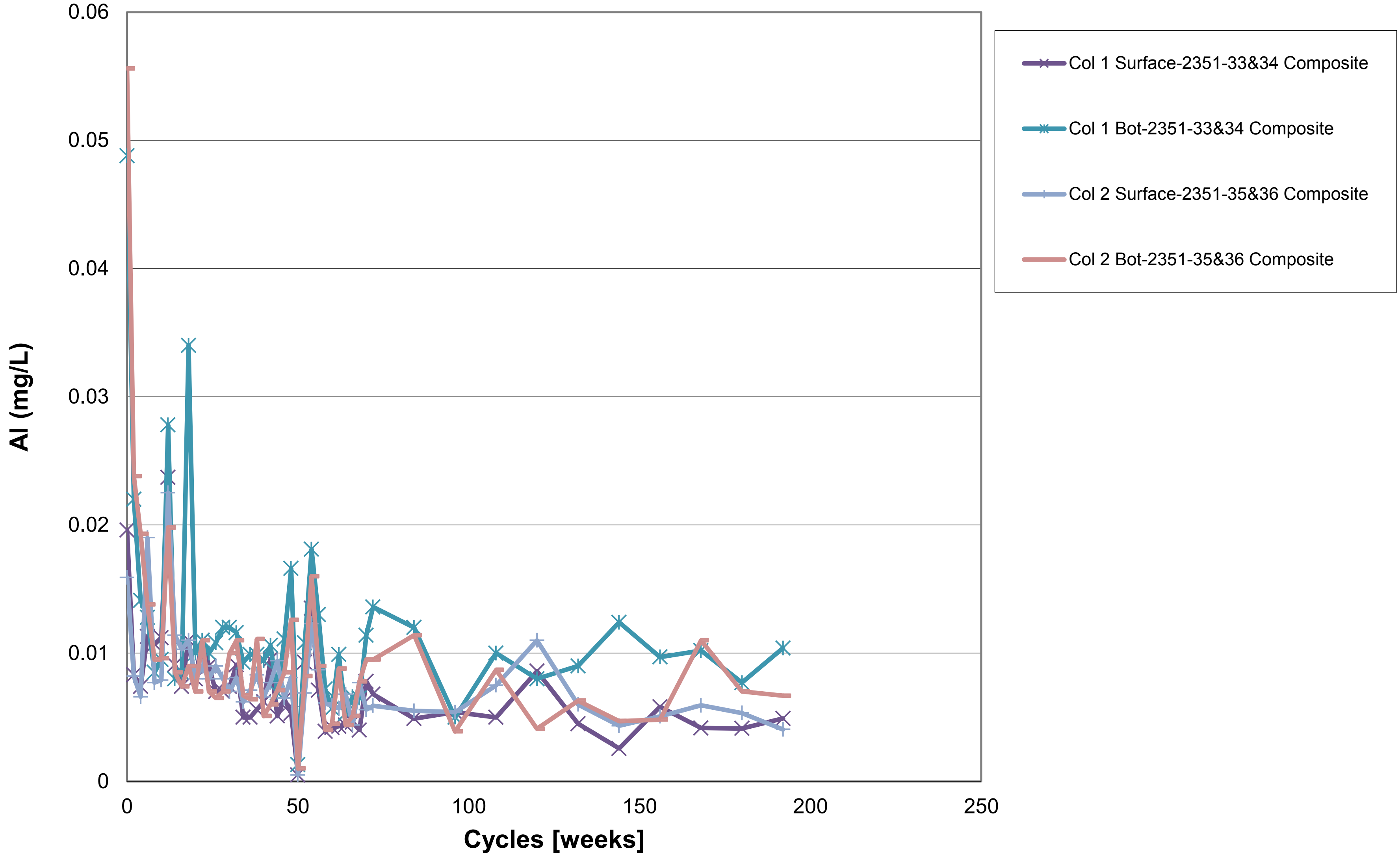

Alkalinity (mg CaCO3/L)
250
200
150
100
50
0
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

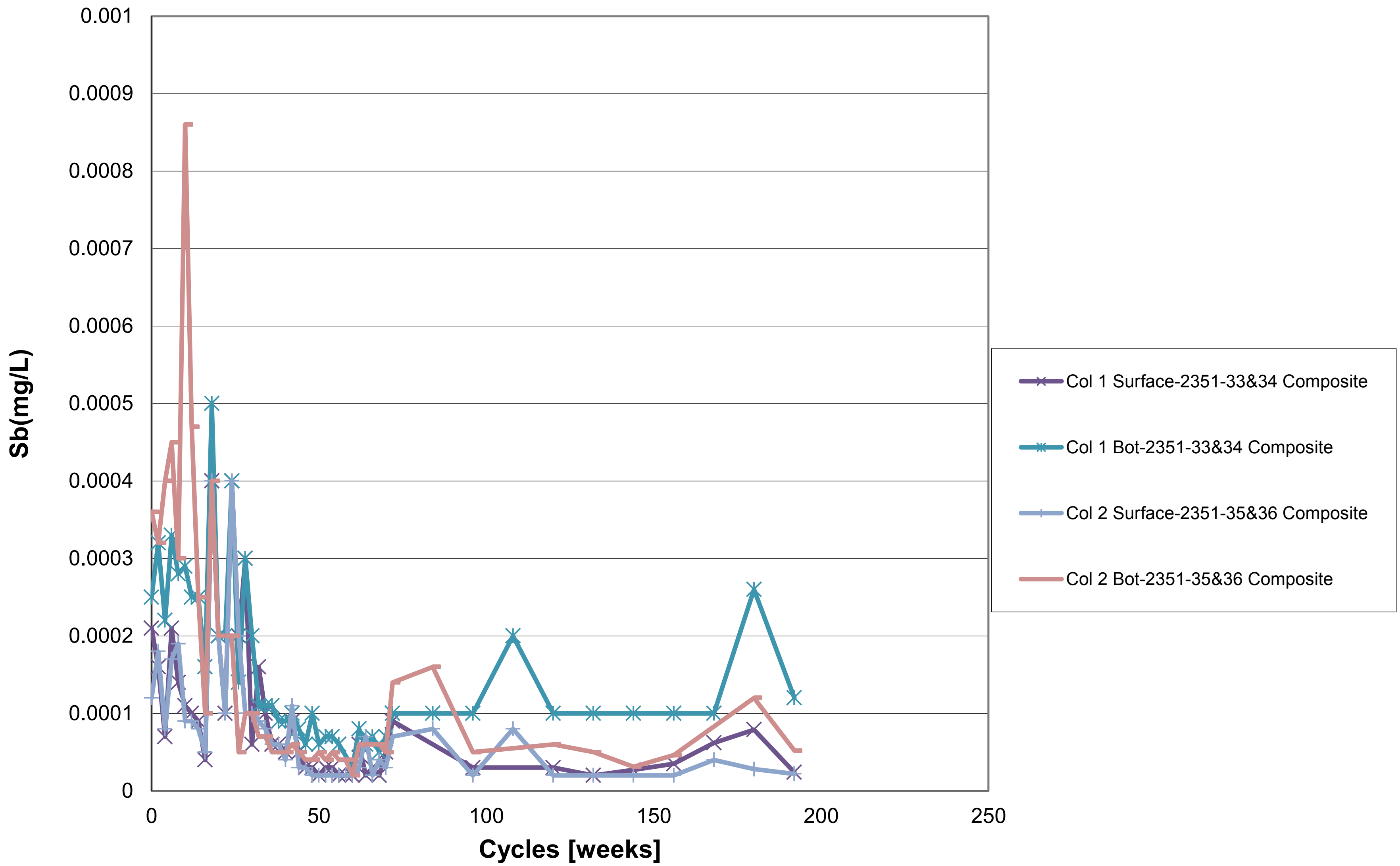

Cl (mg/L)
0
1
2
3
4
5
6
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

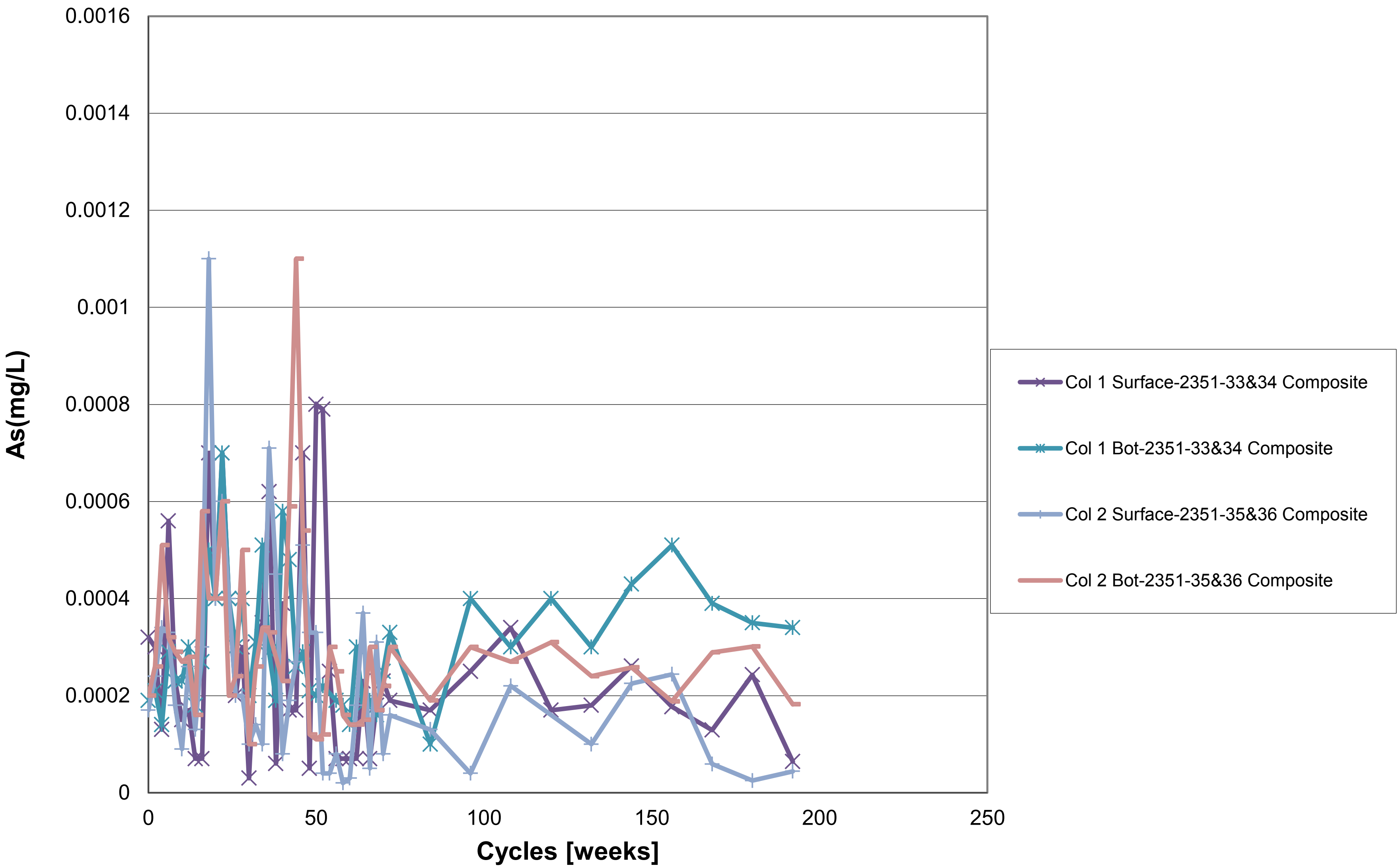

SO4 (mg/L)
0
20
40
60
80
100
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

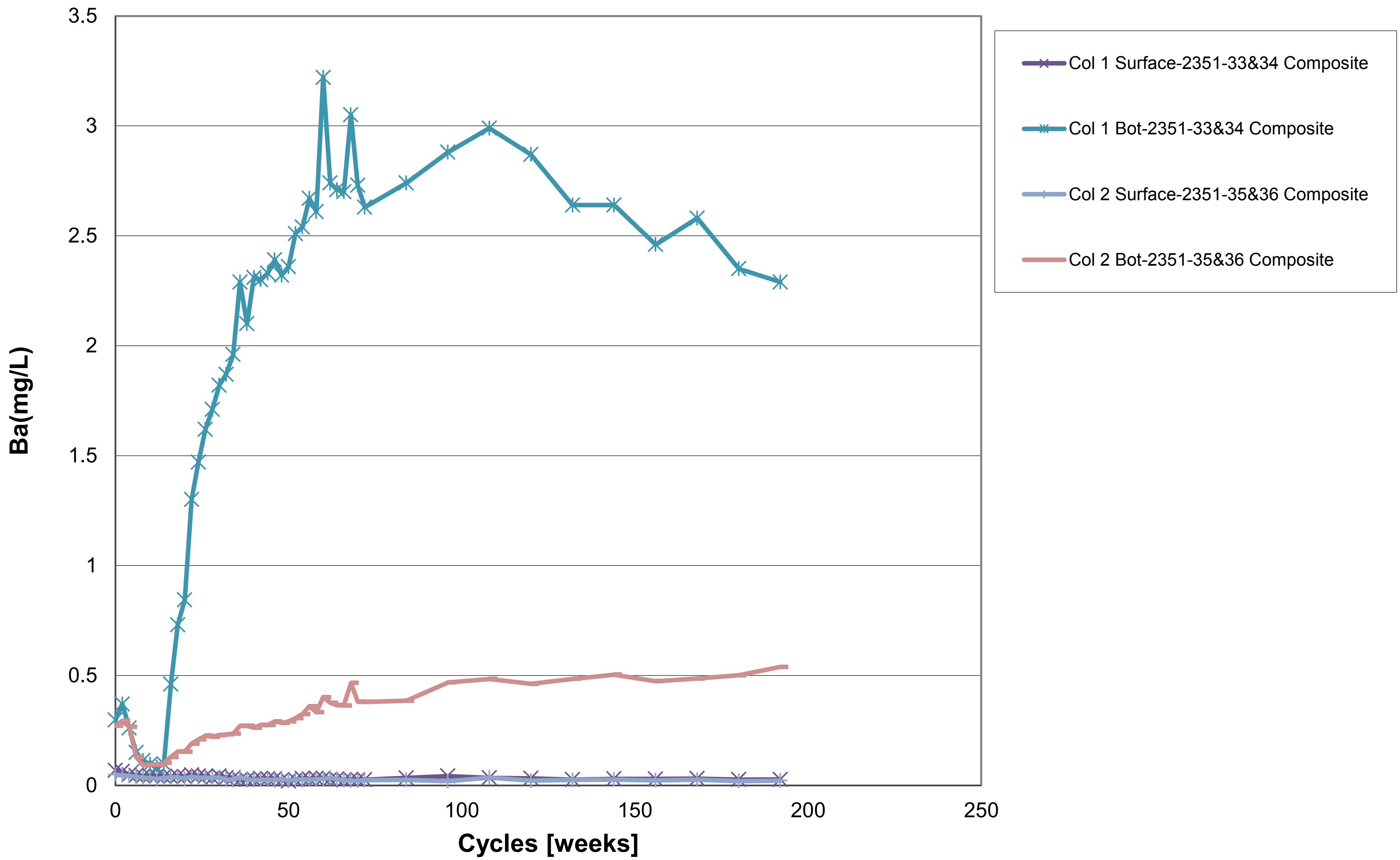

2.5
2
1.5
1
0.5
0
Fluoride (mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

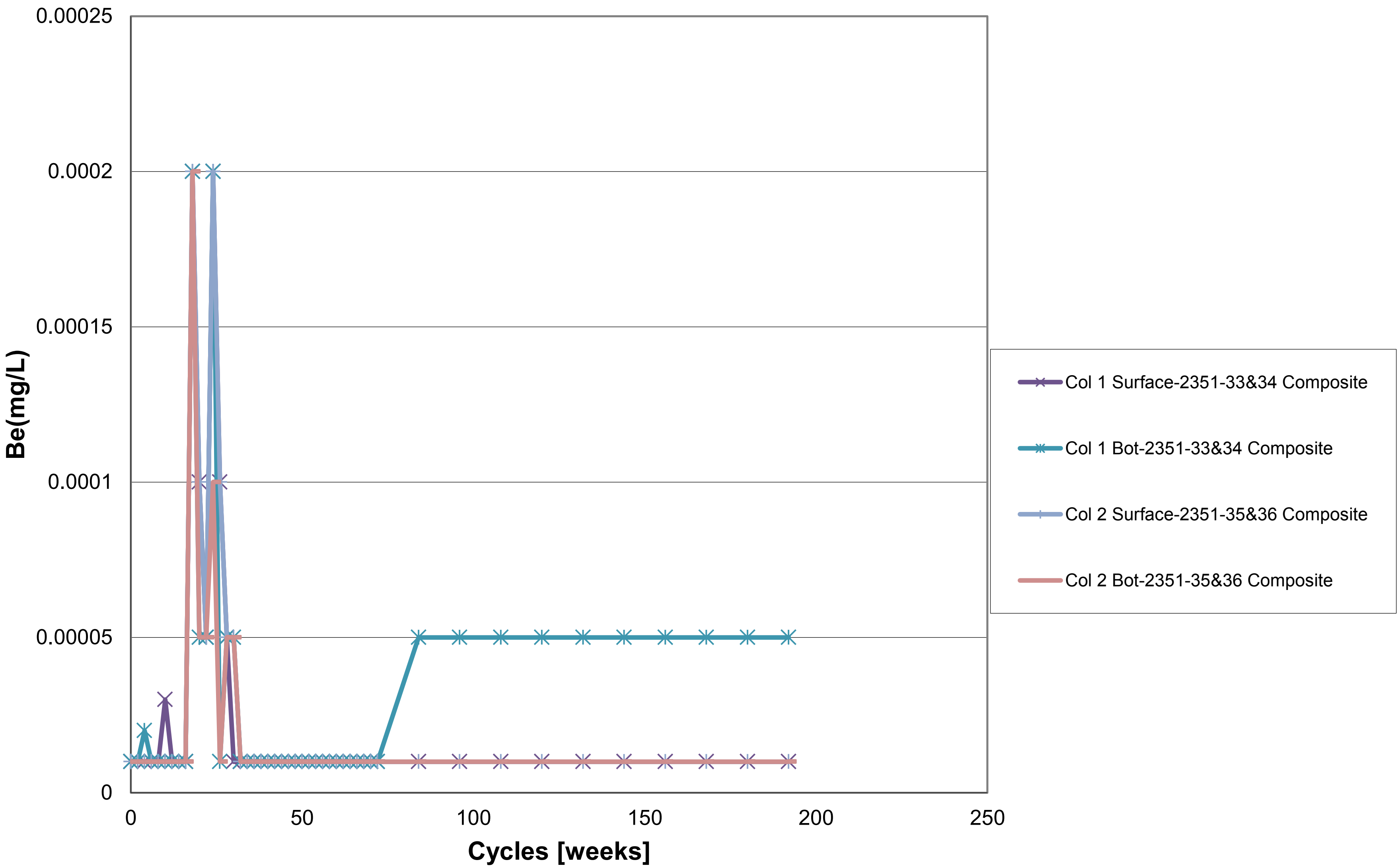

Hardness (CaCO3 mg/L)
200
180
160
140
120
100
80
60
40
20
0
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

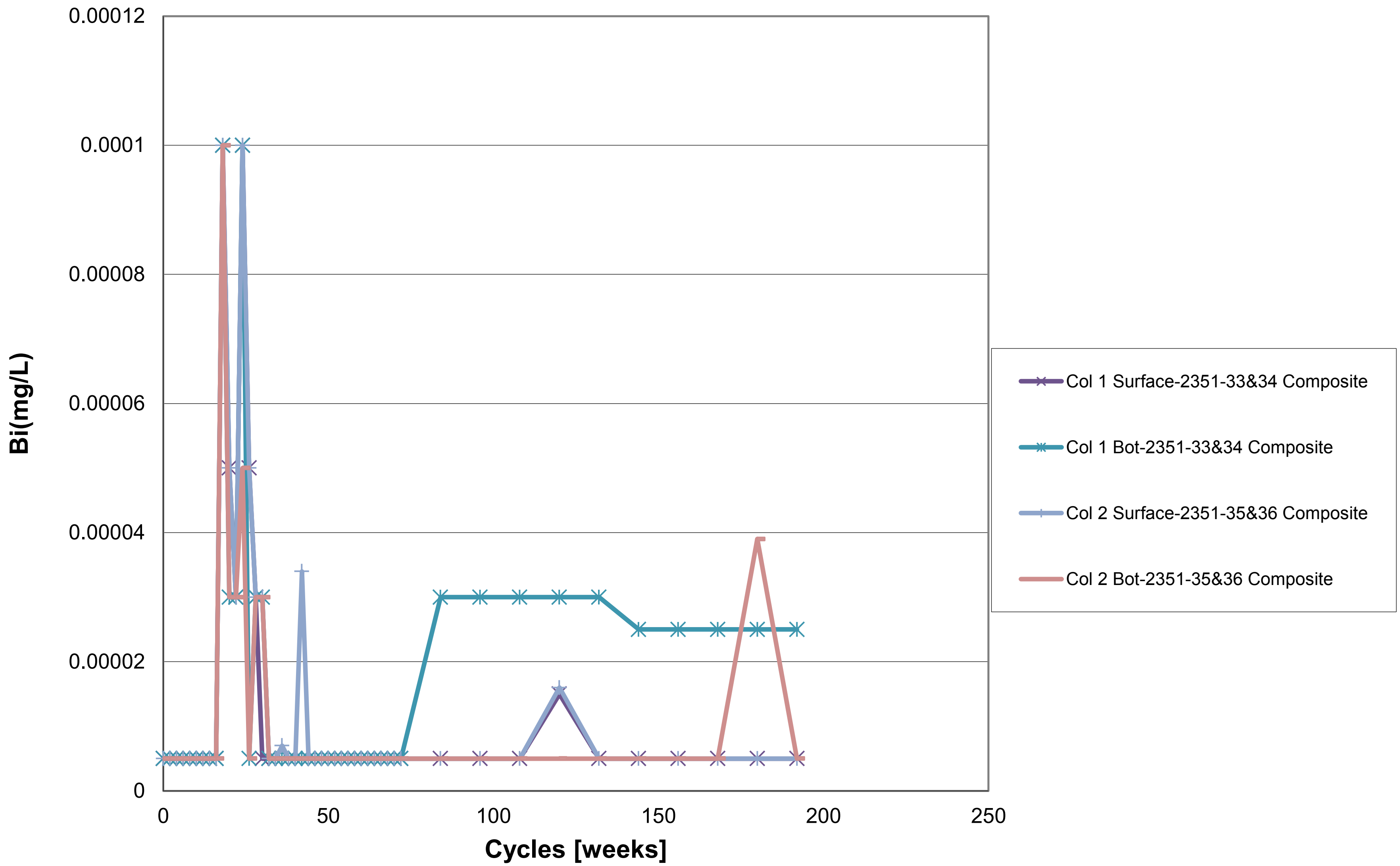

0.06
0.05
0.04
0.03
0.02
0.01
0
Al (mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

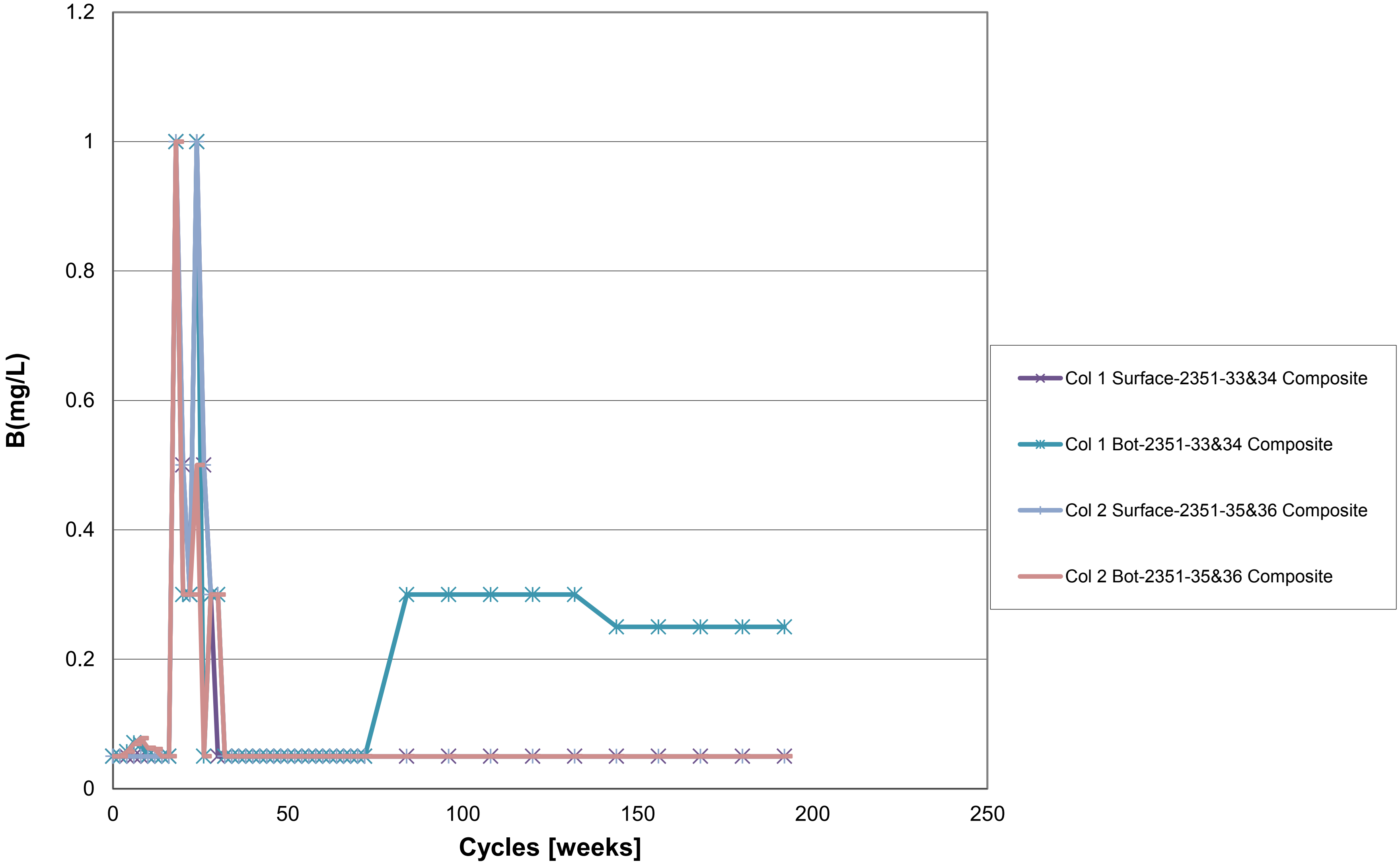

0.001
0.0009
0.0008
0.0007
0.0006
0.0005
0.0004
0.0003
0.0002
0.0001
0
Sb(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

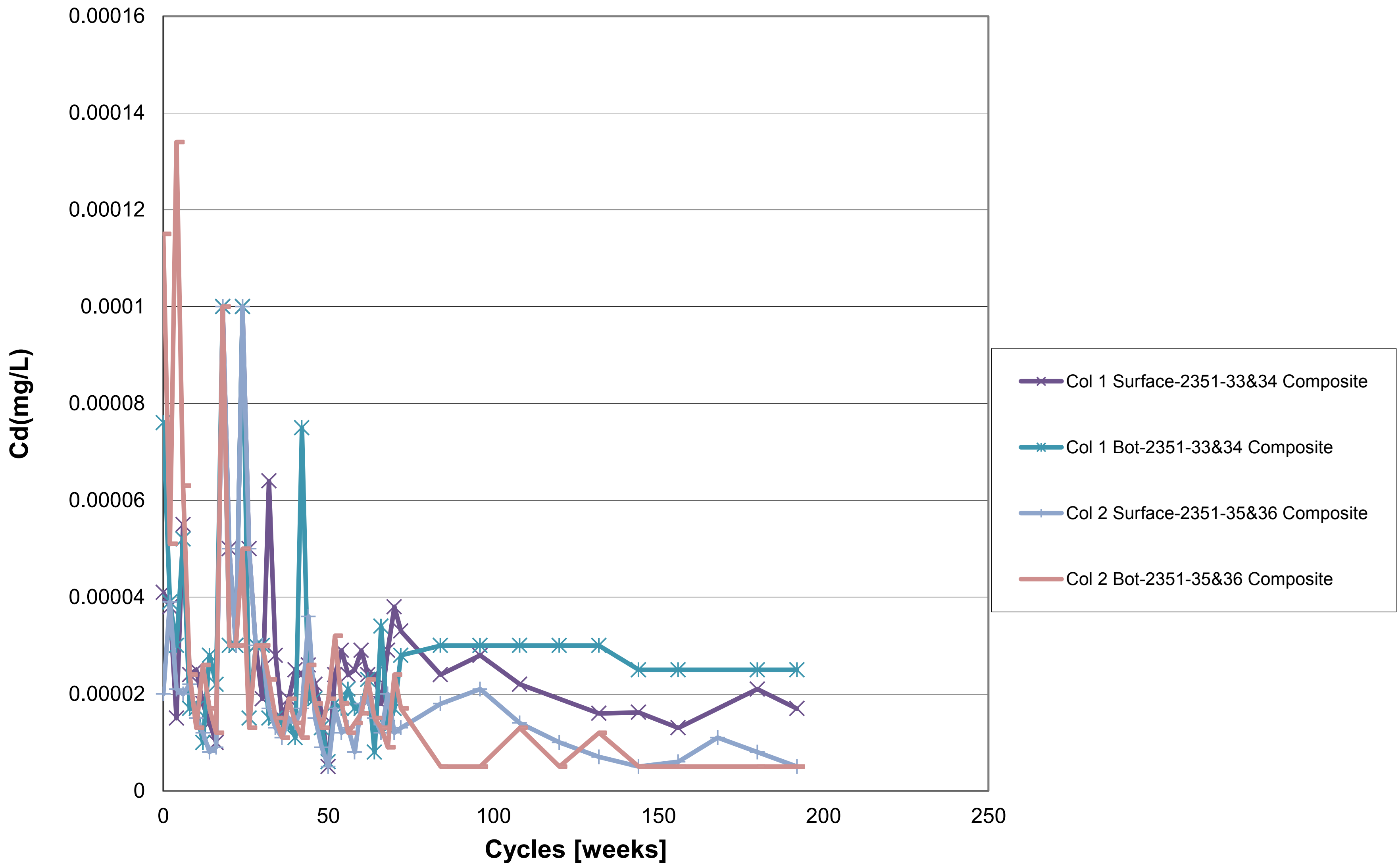

0.0016
0.0014
0.0012
0.001
0.0008
0.0006
0.0004
0.0002
0
As(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

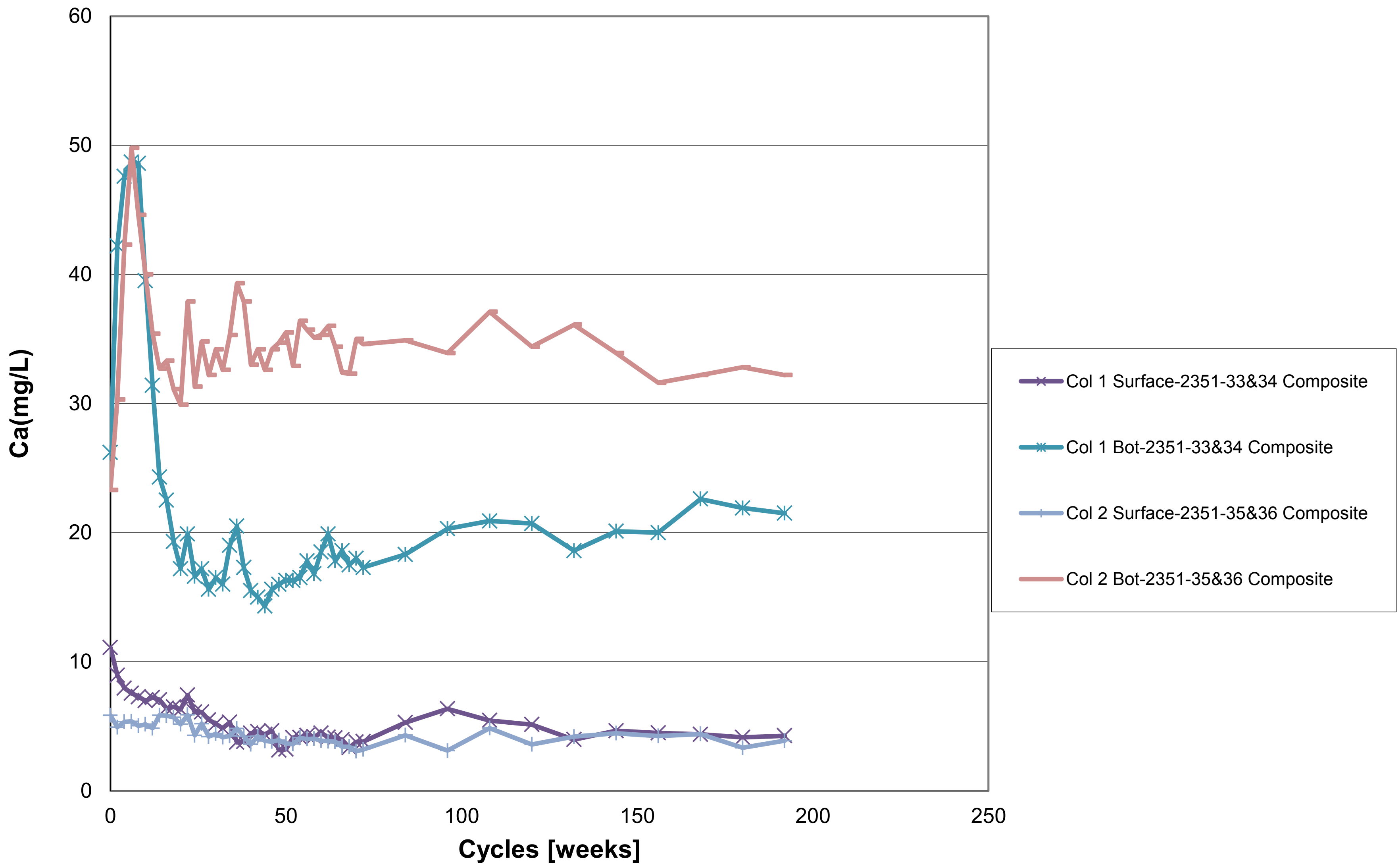

3.5
3
2.5
2
1.5
1
0.5
0
Ba(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

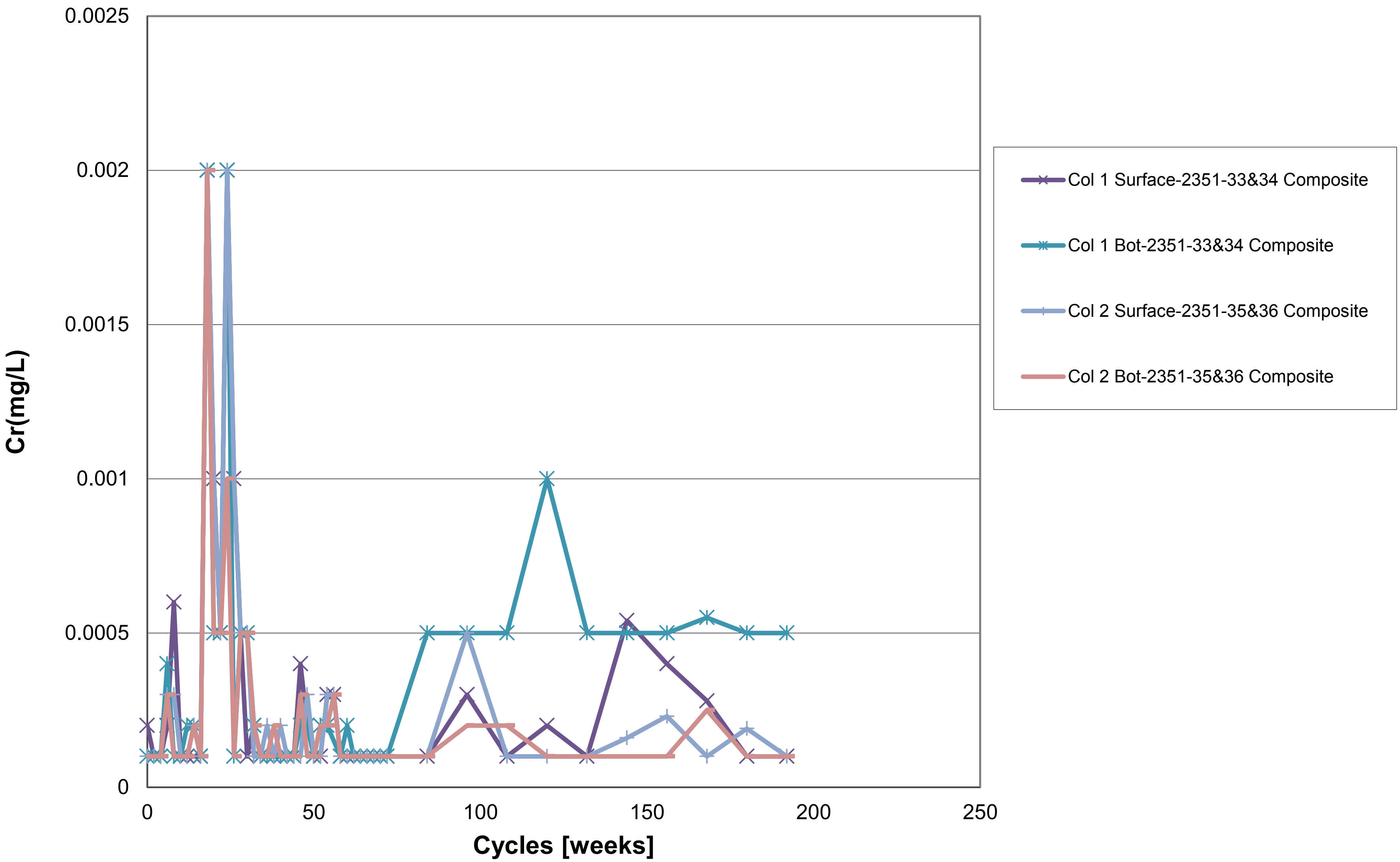

0.00025
0.0002
0.00015
0.0001
0.00005
0
Be(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

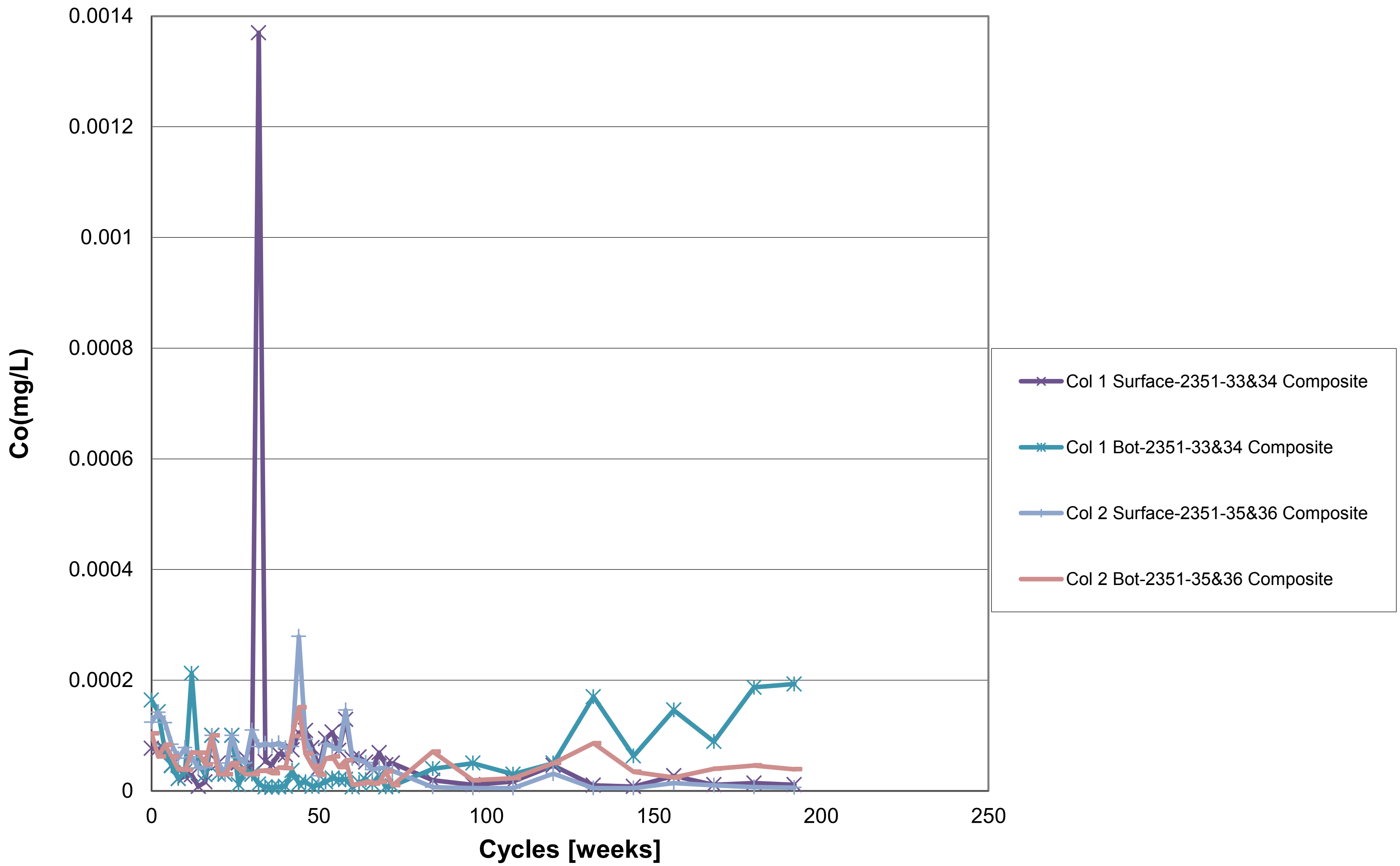

0.00012
0.0001
0.00008
0.00006
0.00004
0.00002
0
Bi(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

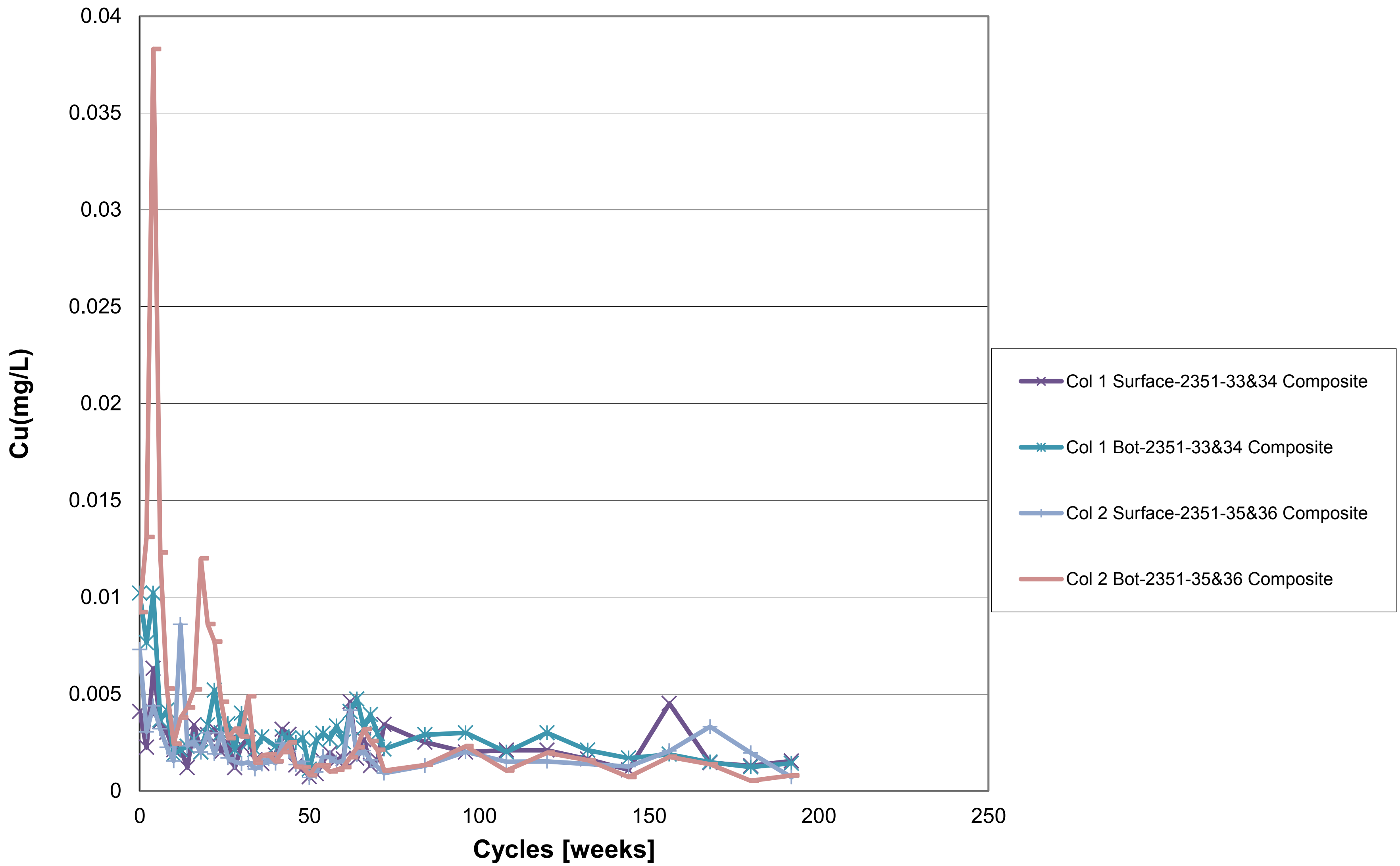

1.2
1
0.8
0.6
0.4
0.2
0
B(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

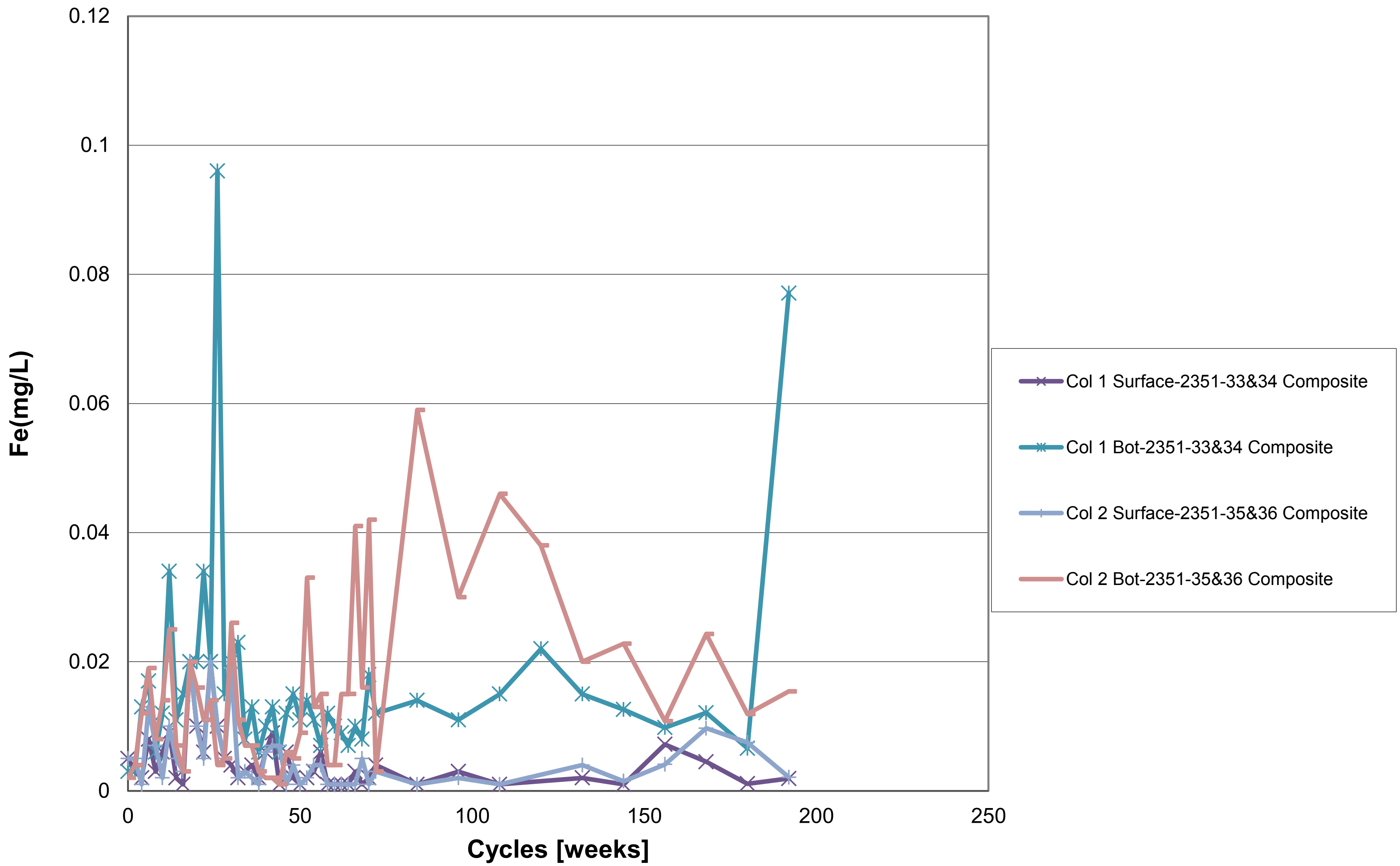

0.00016
0.00014
0.00012
0.0001
0.00008
0.00006
0.00004
0.00002
0
Cd(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

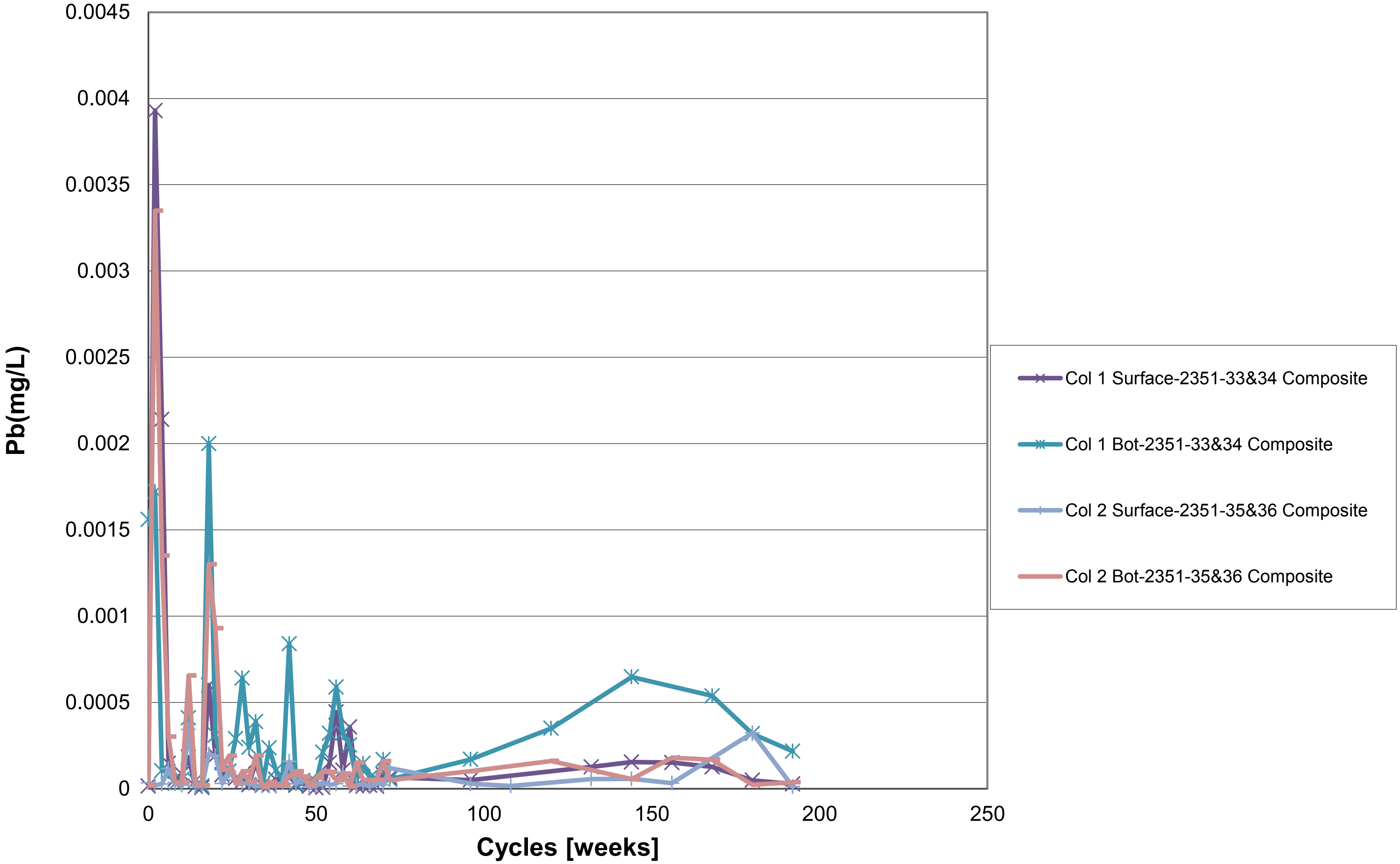

60
50
40
30
20
10
0
Ca(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

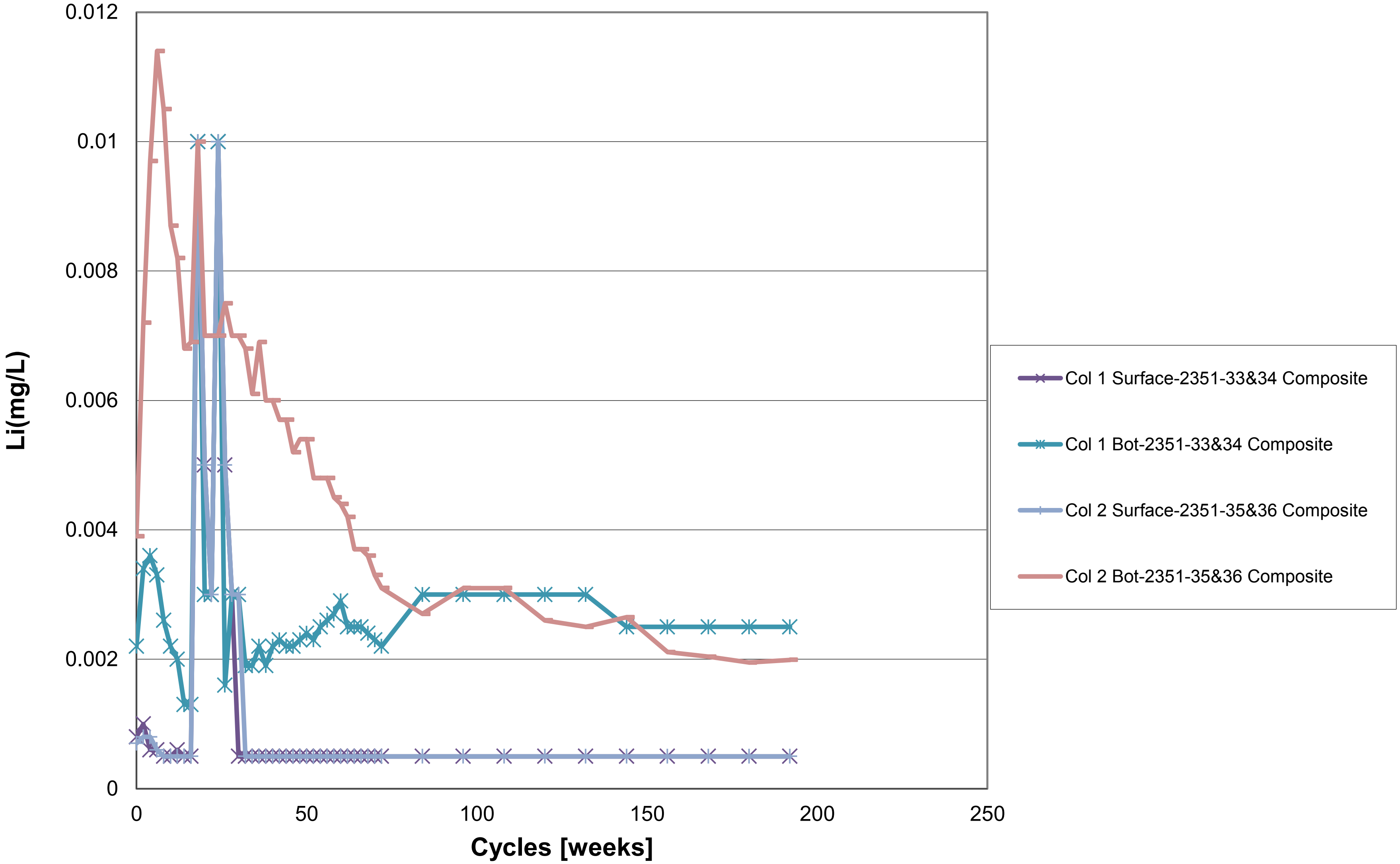

0.0025
0.002
0.0015
0.001
0.0005
0
Cr(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

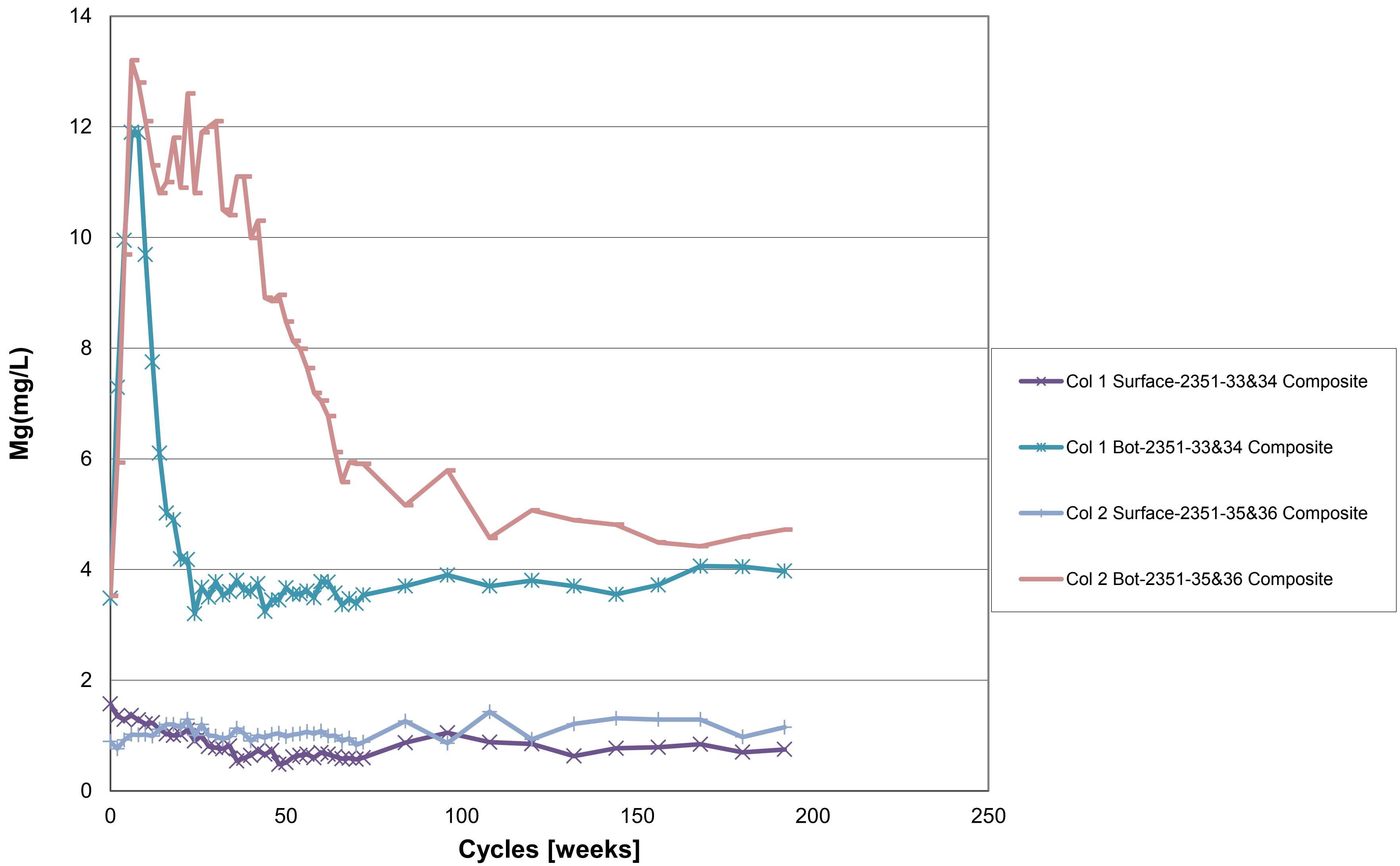

0.0014
0.0012
0.001
0.0008
0.0006
0.0004
0.0002
0
Co(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

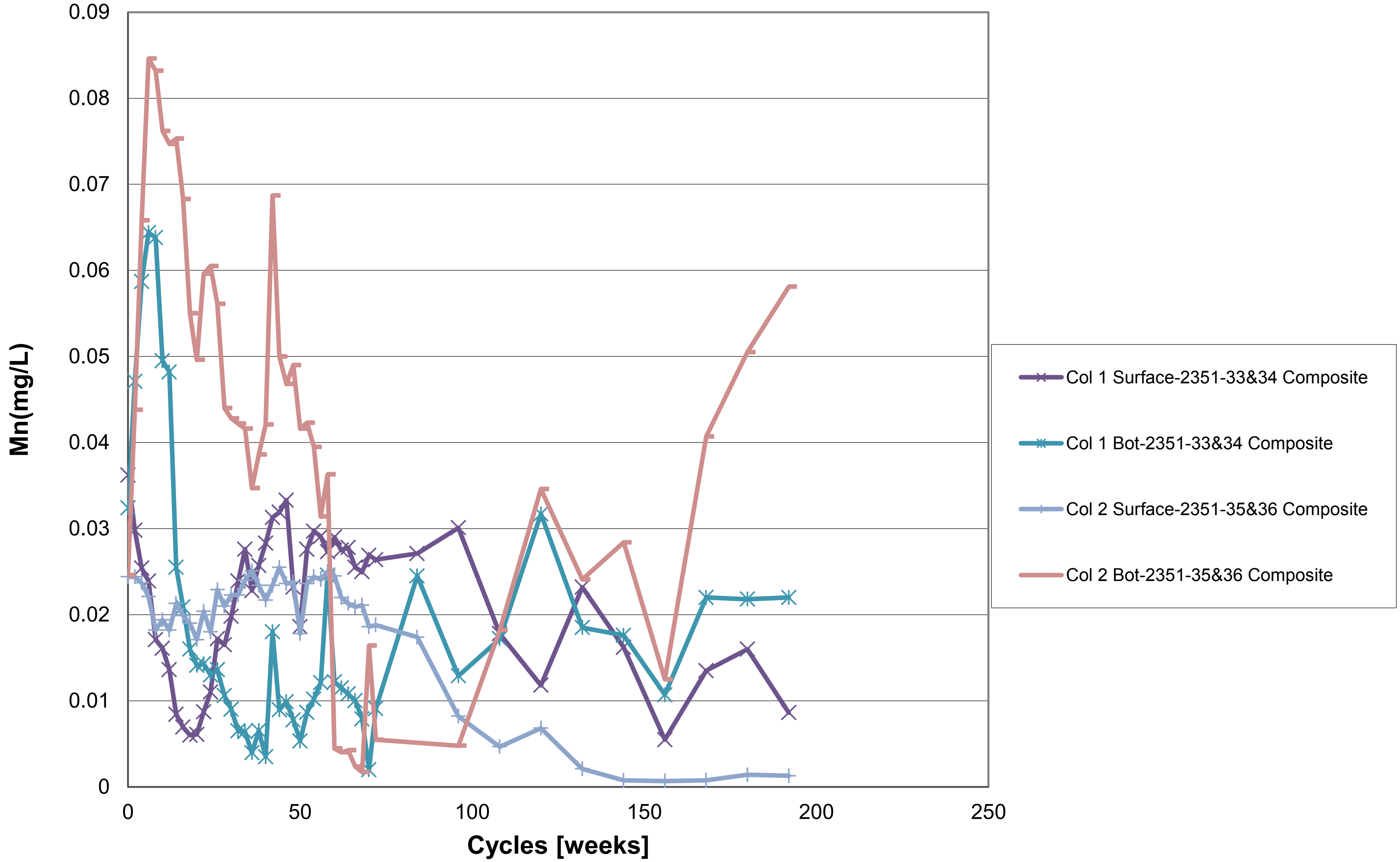

0.04
0.035
0.03
0.025
0.02
0.015
0.01
0.005
0
Cu(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

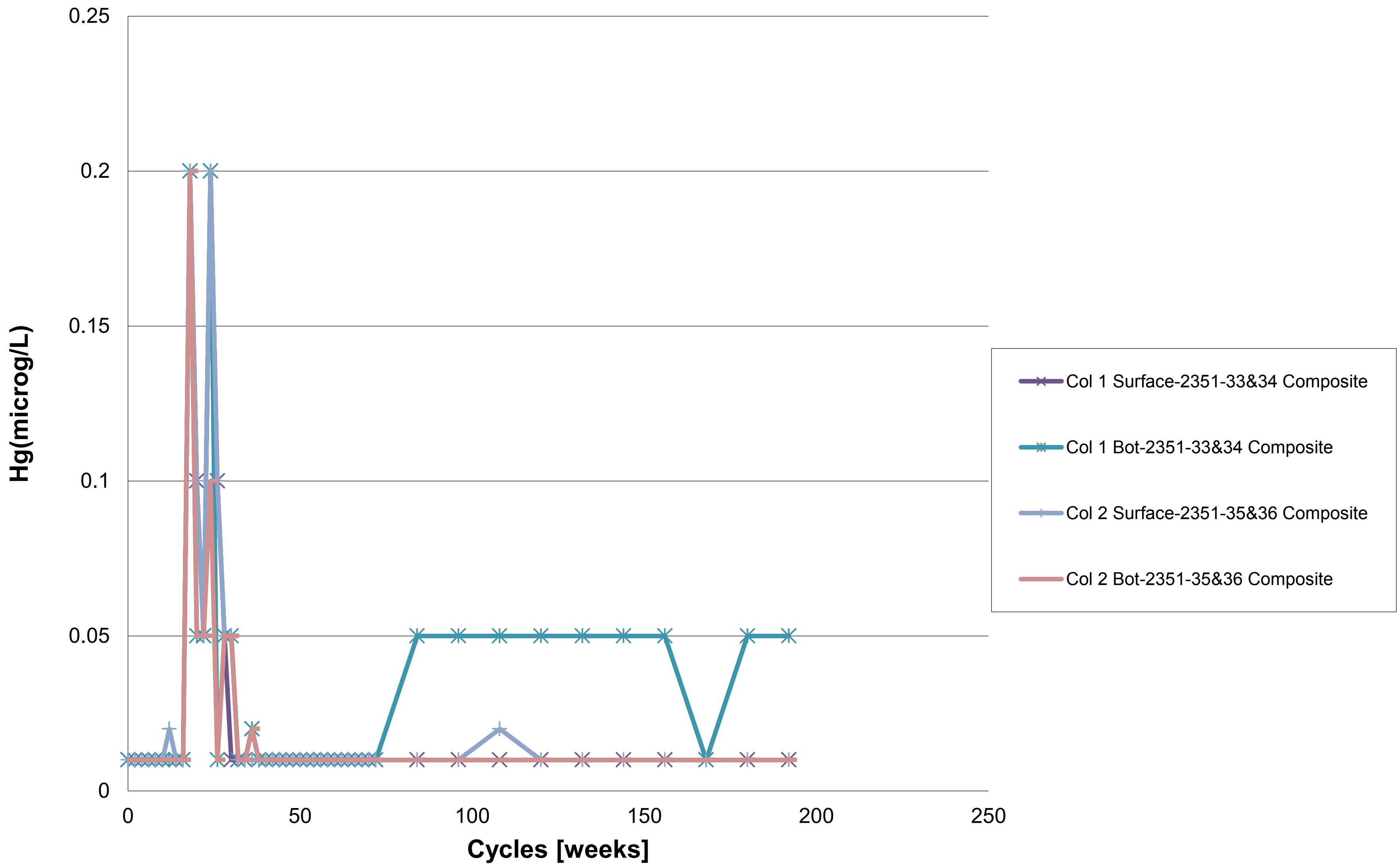

0.12
0.1
0.08
0.06
0.04
0.02
0
Fe(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

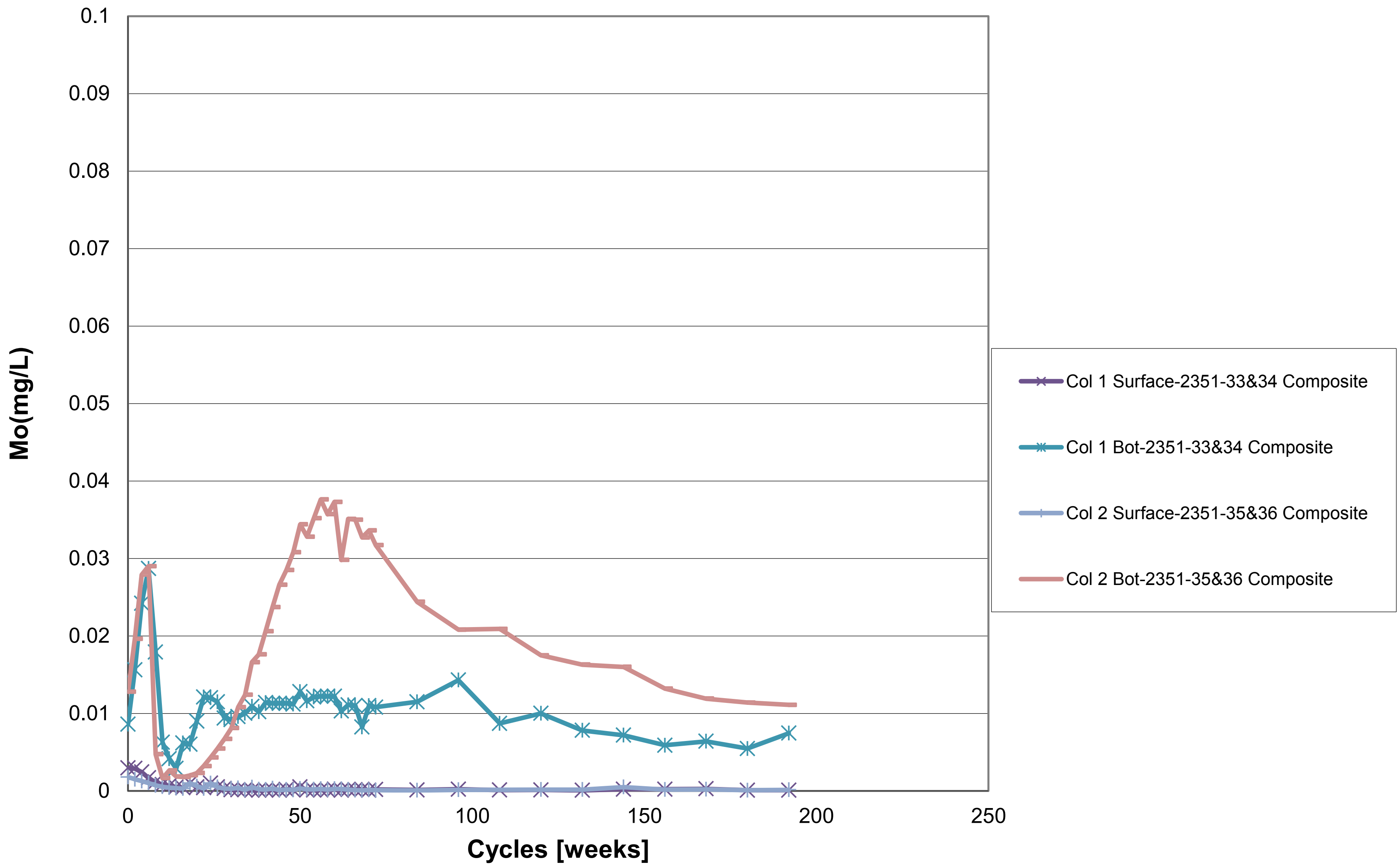

Pb(mg/L)
0.0045
0.004
0.0035
0.003
0.0025
0.002
0.0015
0.001
0.0005
0
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

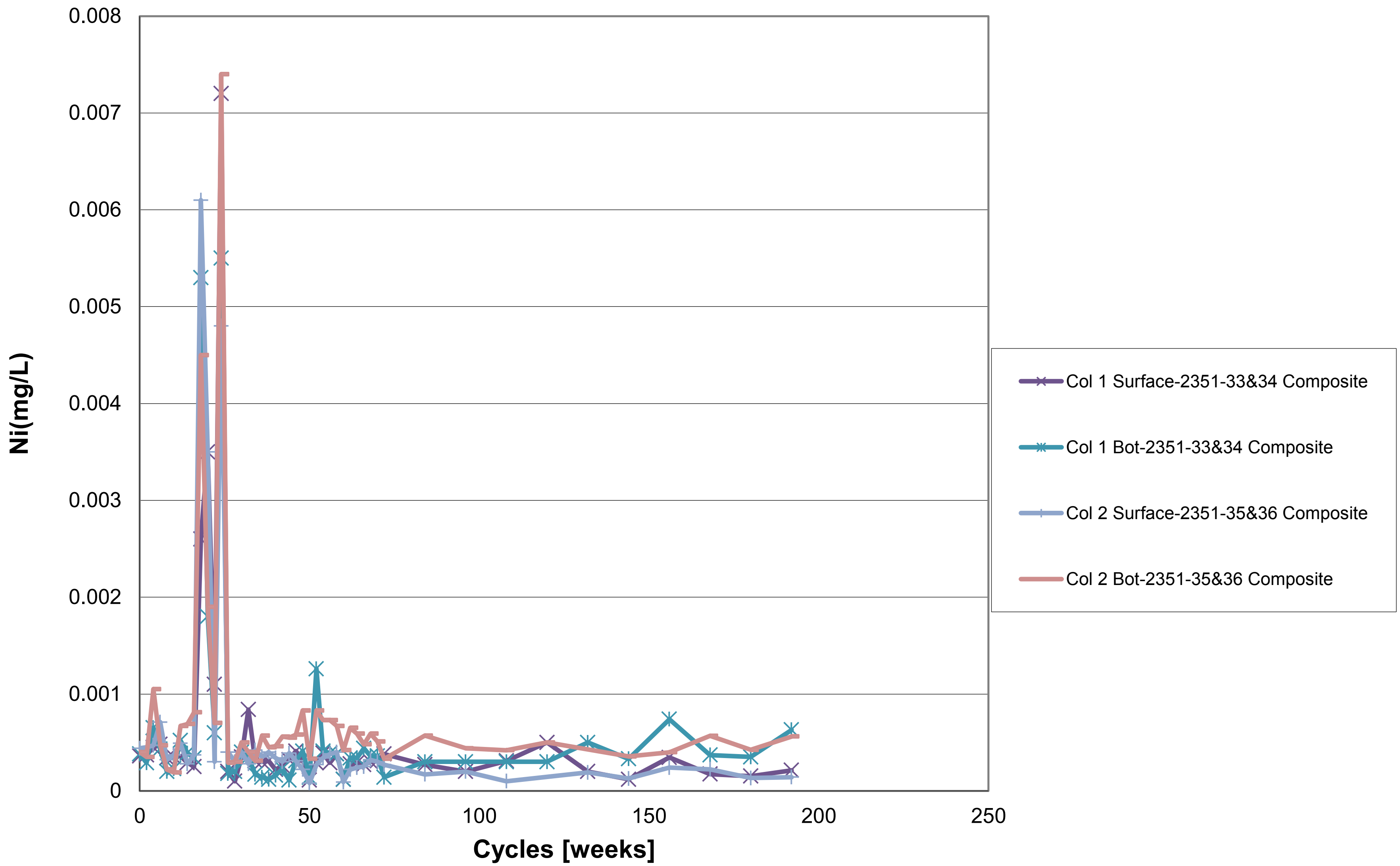

0.012
0.01
0.008
0.006
0.004
0.002
0
Li(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

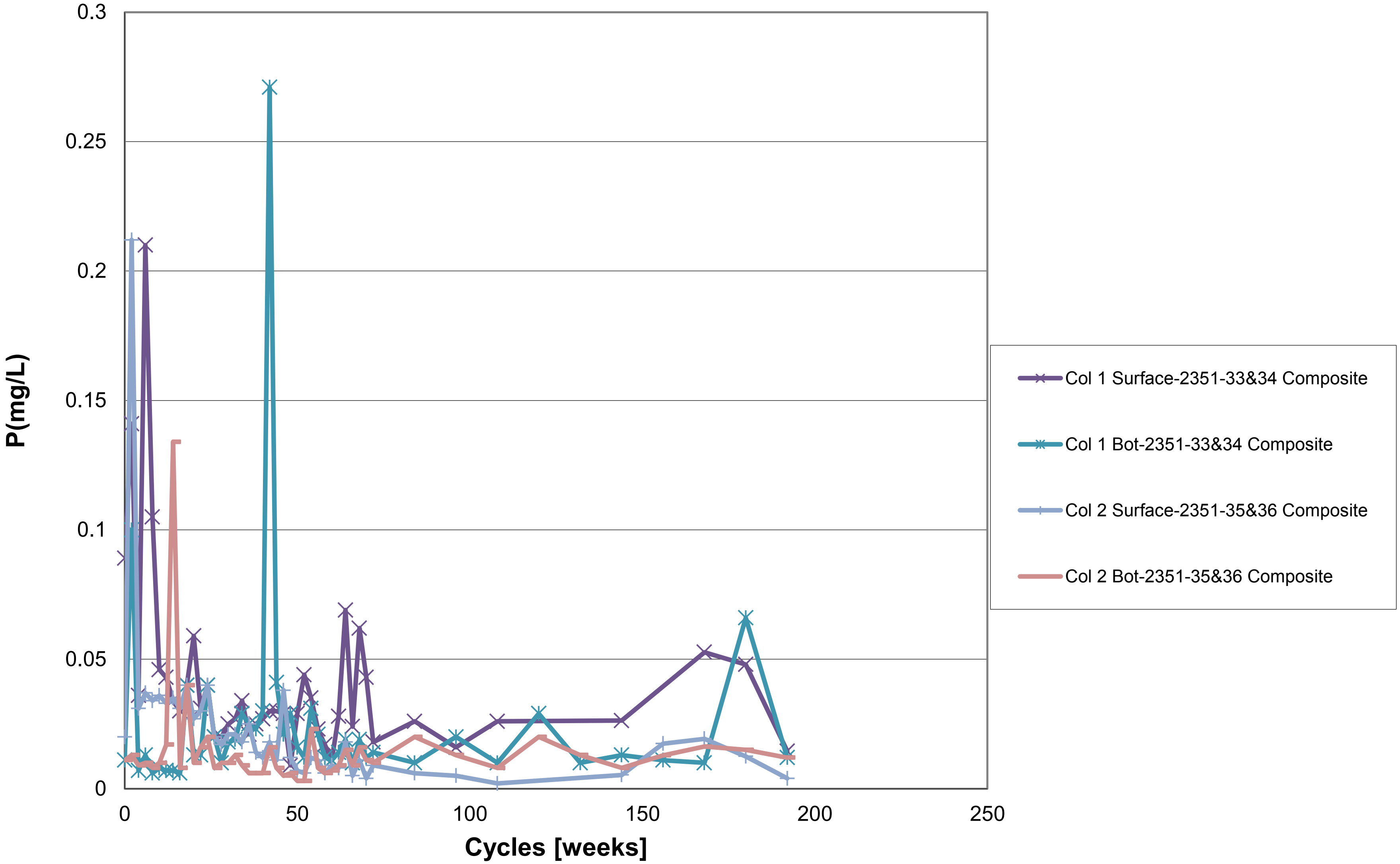

14
12
10
8
6
4
2
0
Mg(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

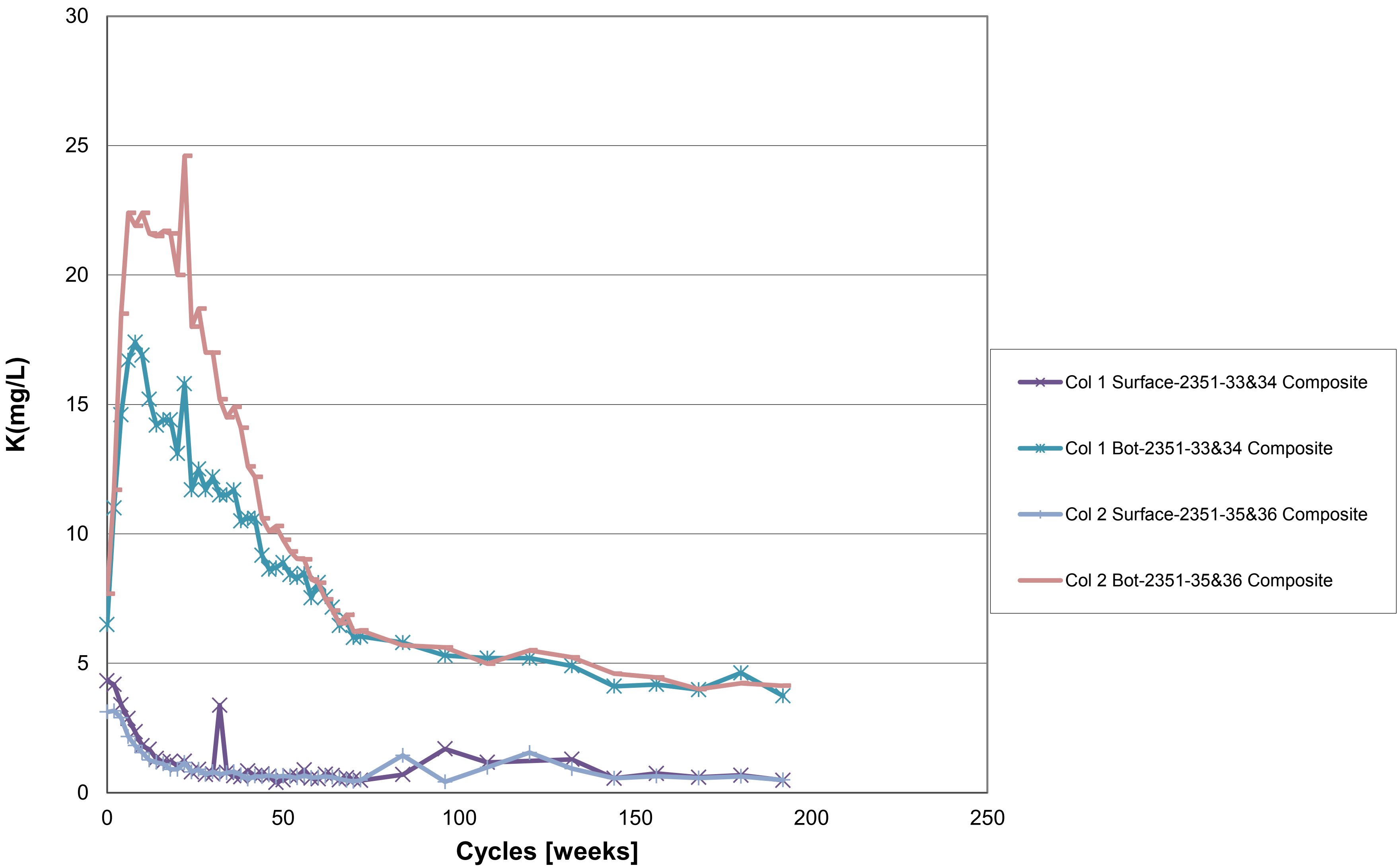

0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
Mn(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

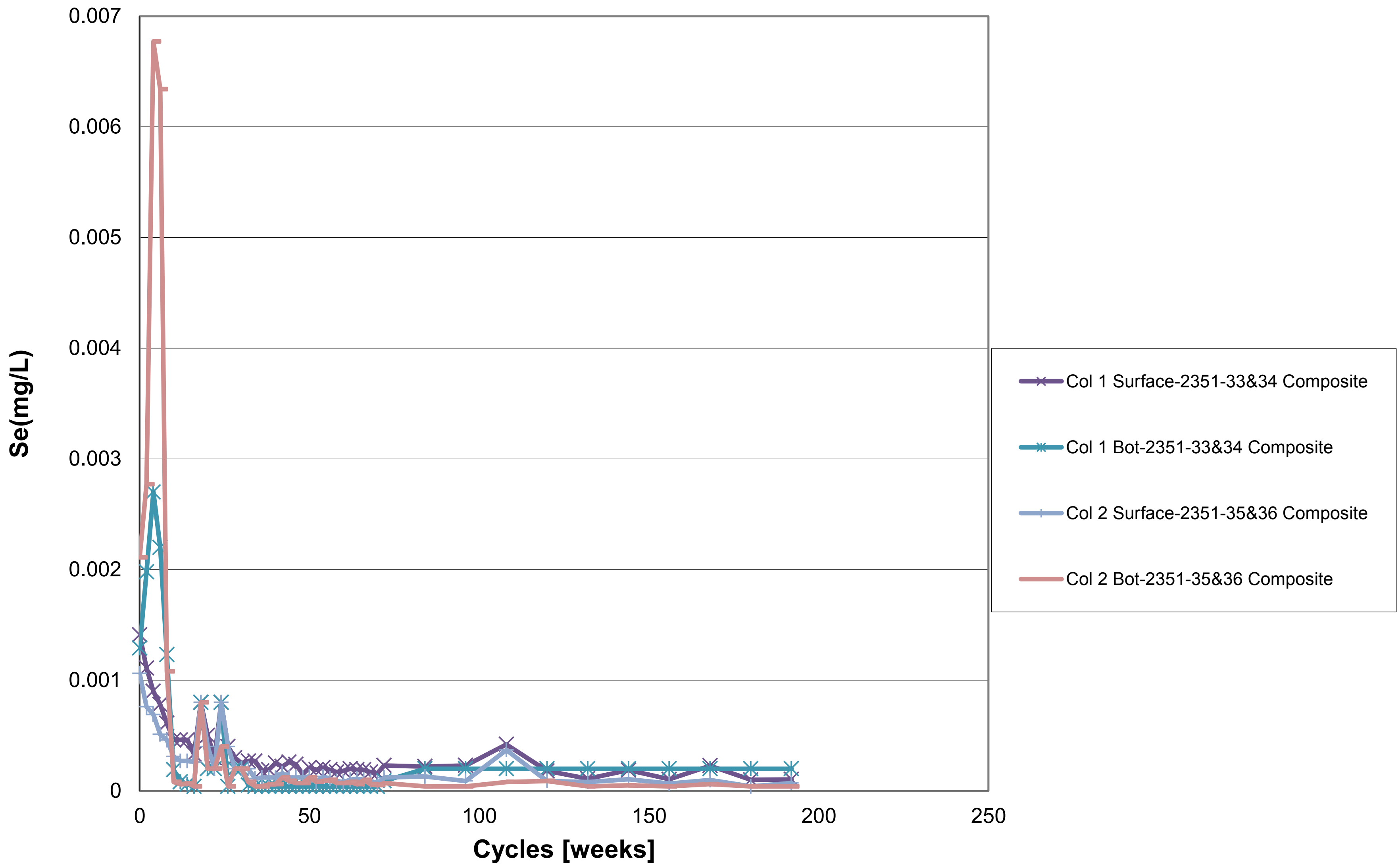

0.25
0.2
0.15
0.1
0.05
0
Hg(microg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

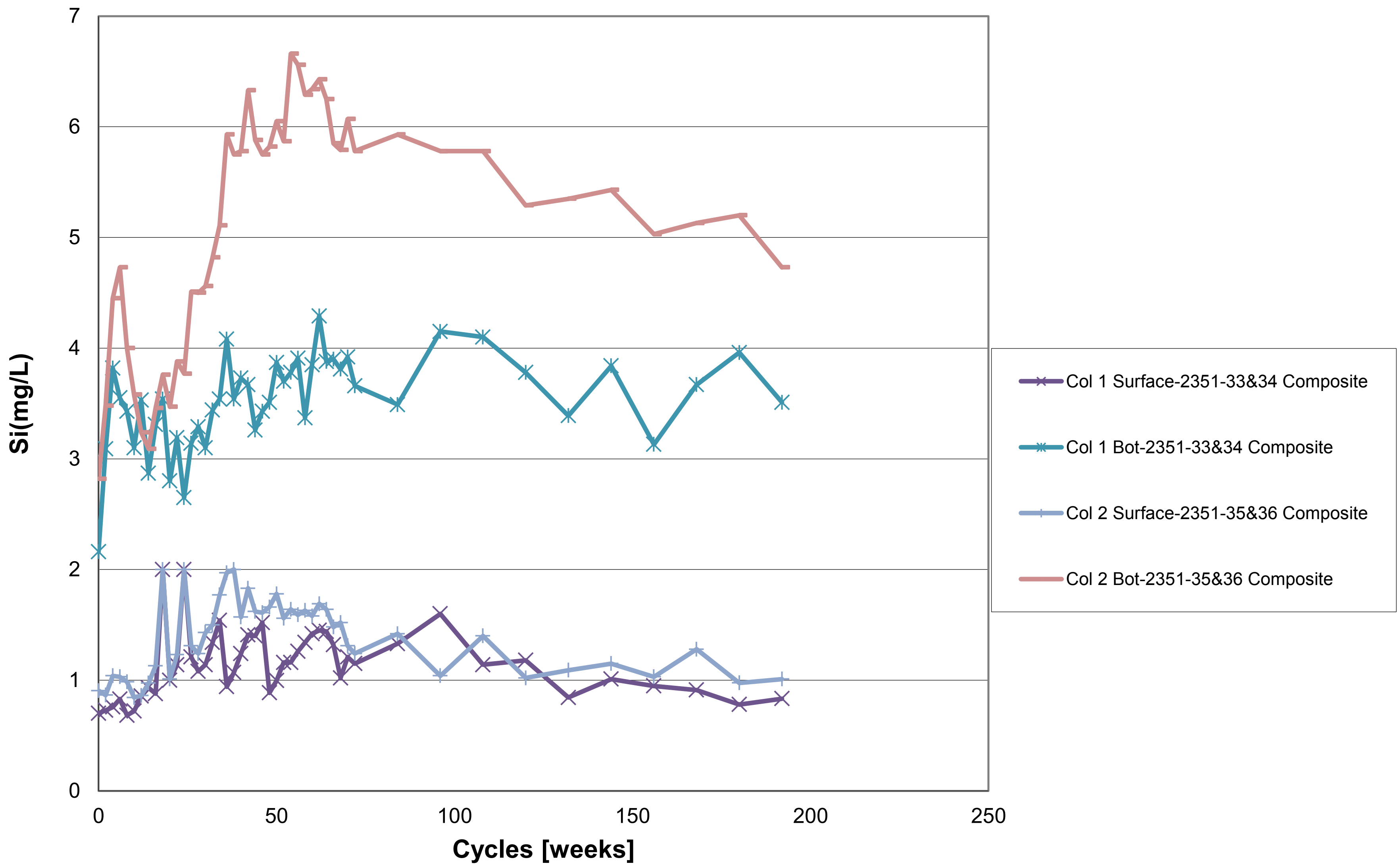

Mo(mg/L)
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

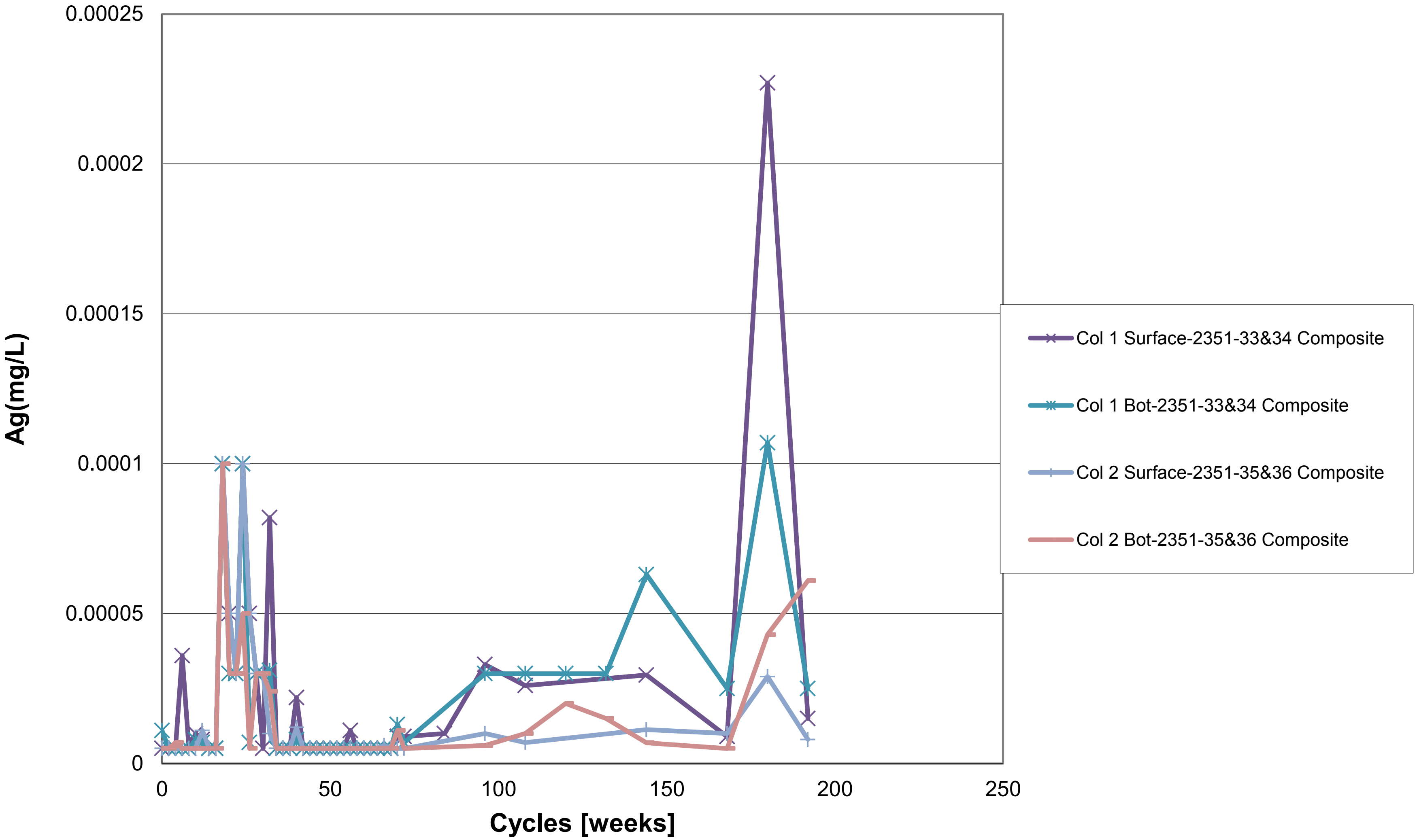

0.008
0.007
0.006
0.005
0.004
0.003
0.002
0.001
0
Ni(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite


0.3
0.25
0.2
0.15
0.1
0.05
0
P(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

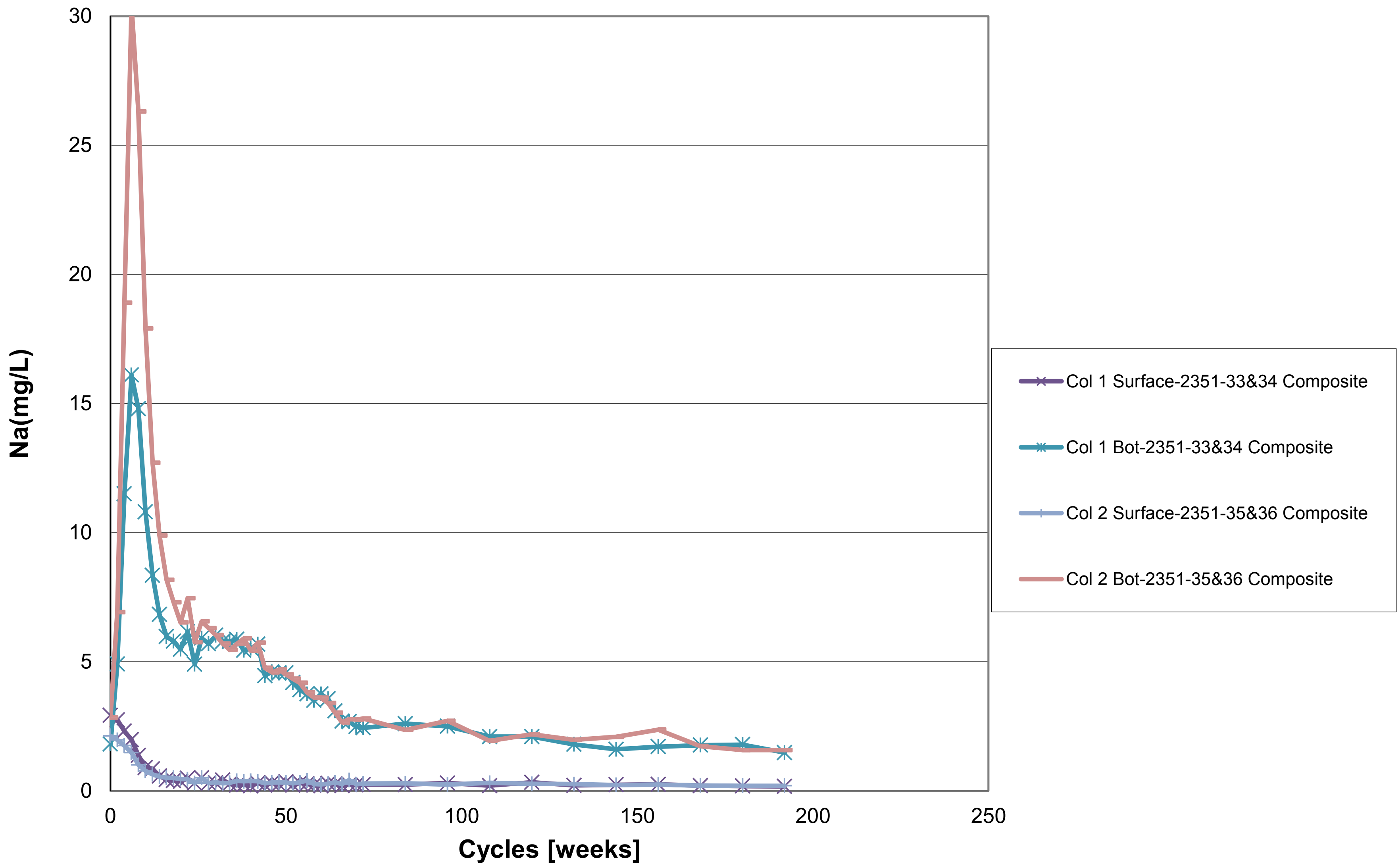

K(mg/L)
30
25
20
15
10
5
0
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

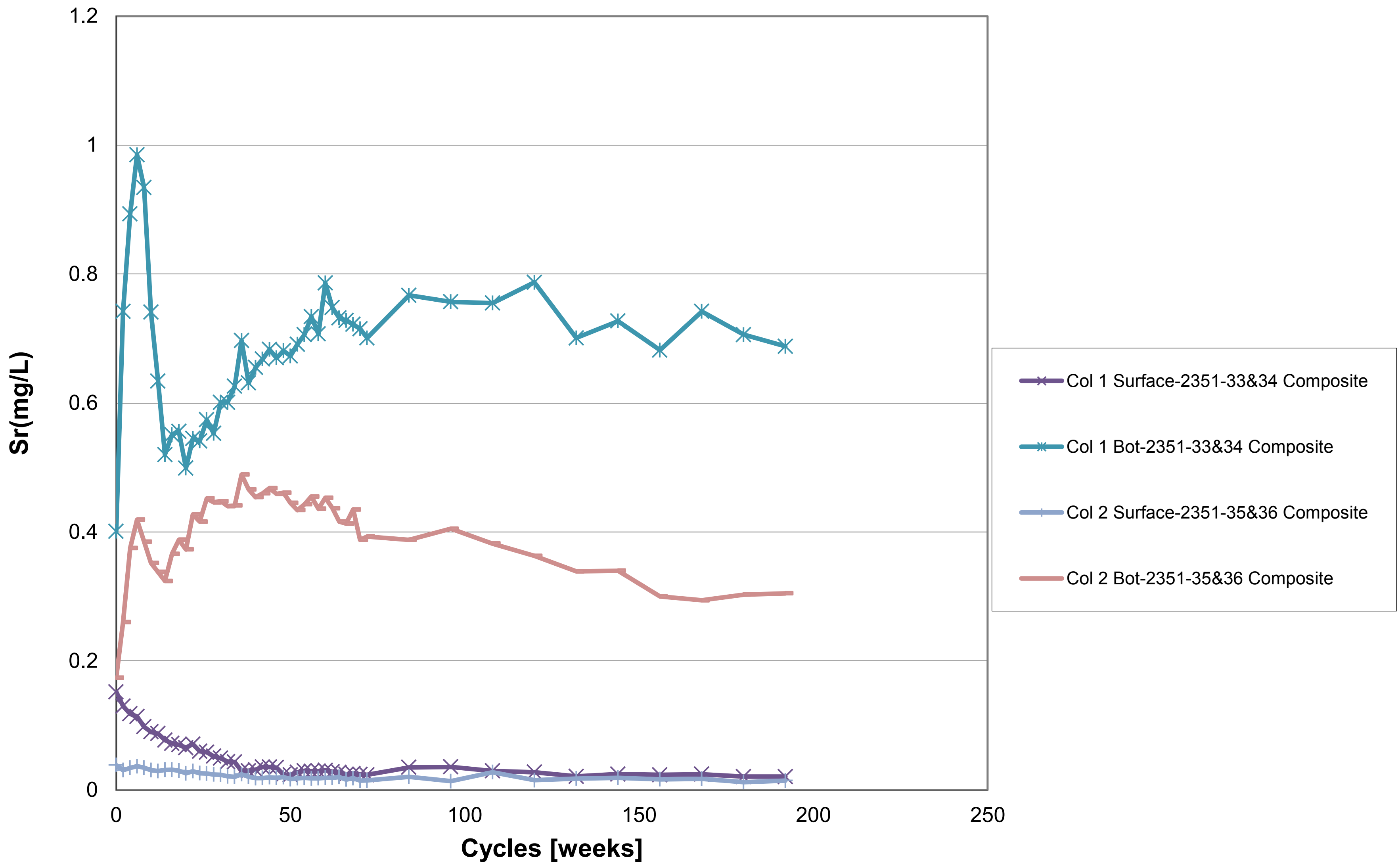

0.007
0.006
0.005
0.004
0.003
0.002
0.001
0
Se(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

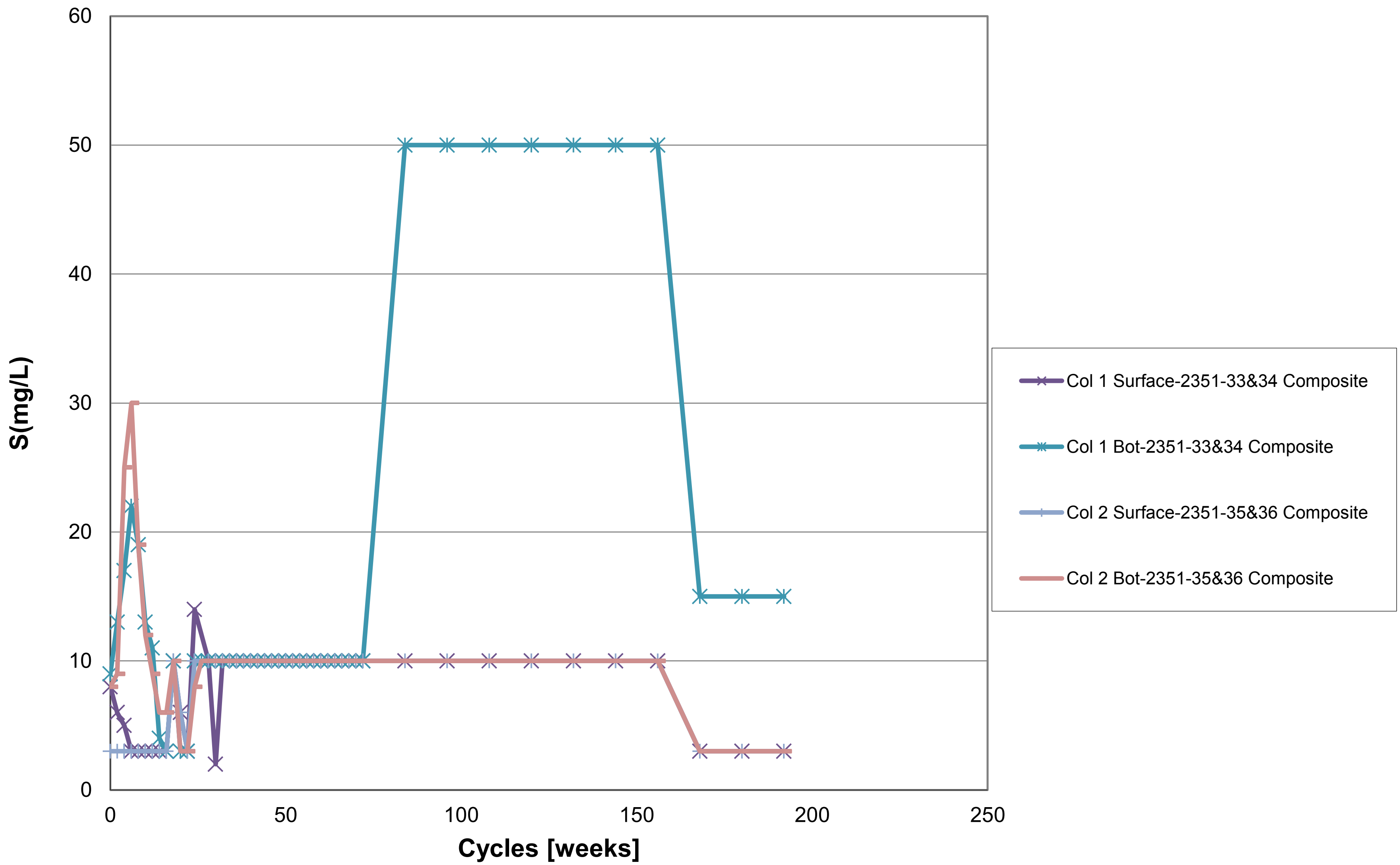

Si(mg/L)
Cycles [weeks]
0
1
2
3
4
5
6
7
0
50
100
150
200
250
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

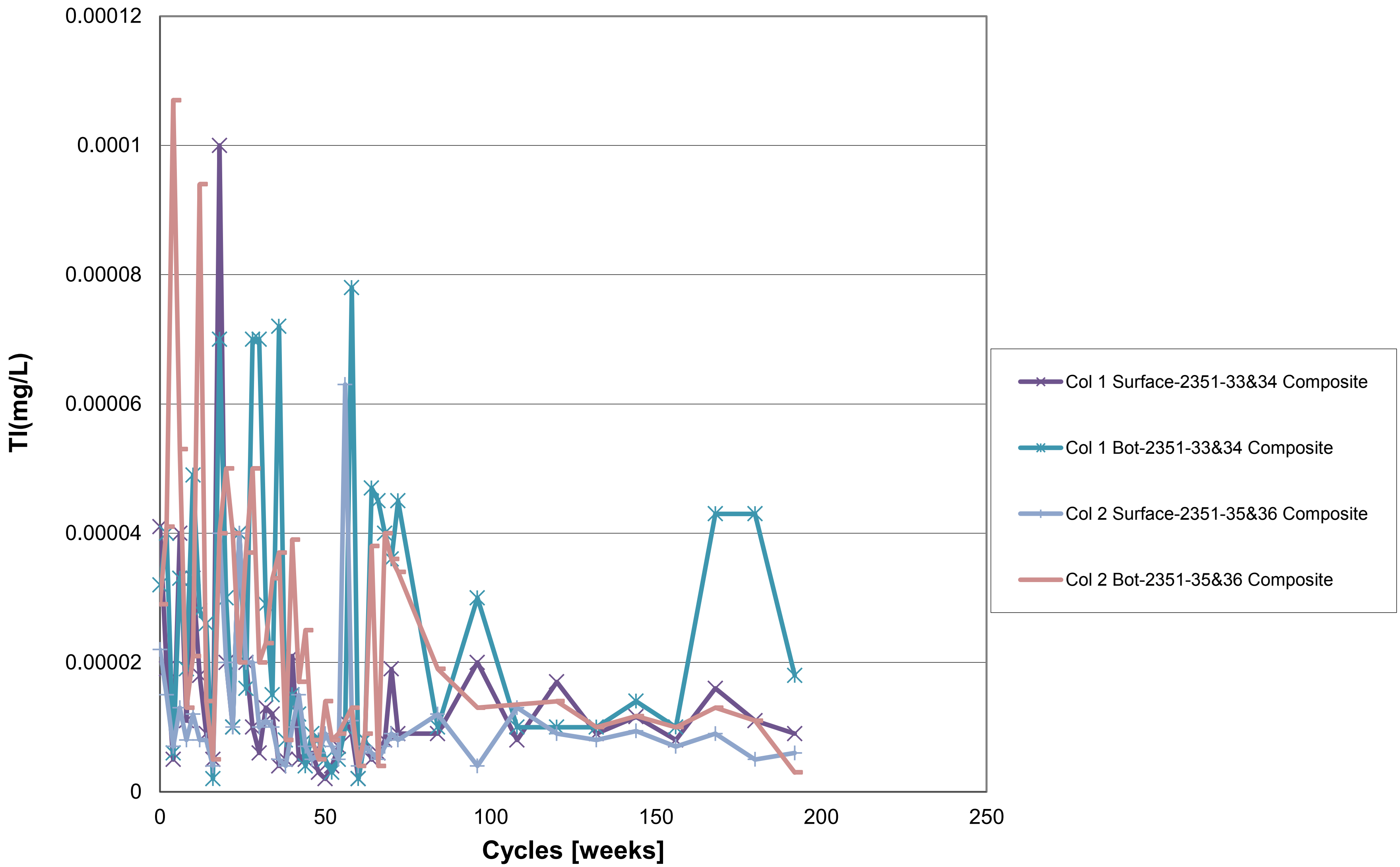


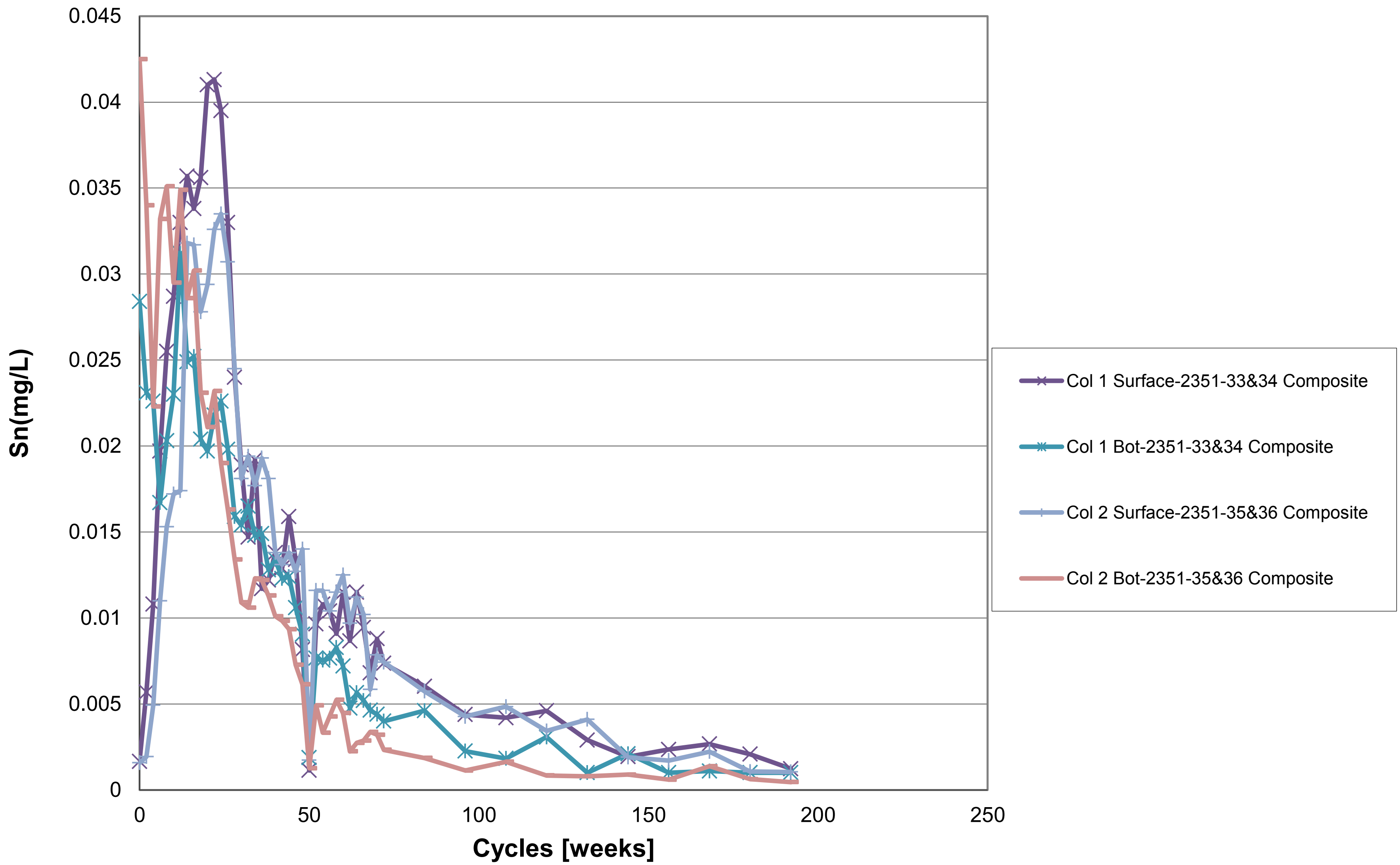
Ag(mg/L)
0.00025
0.0002
0.00015
0.0001
0.00005
0
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

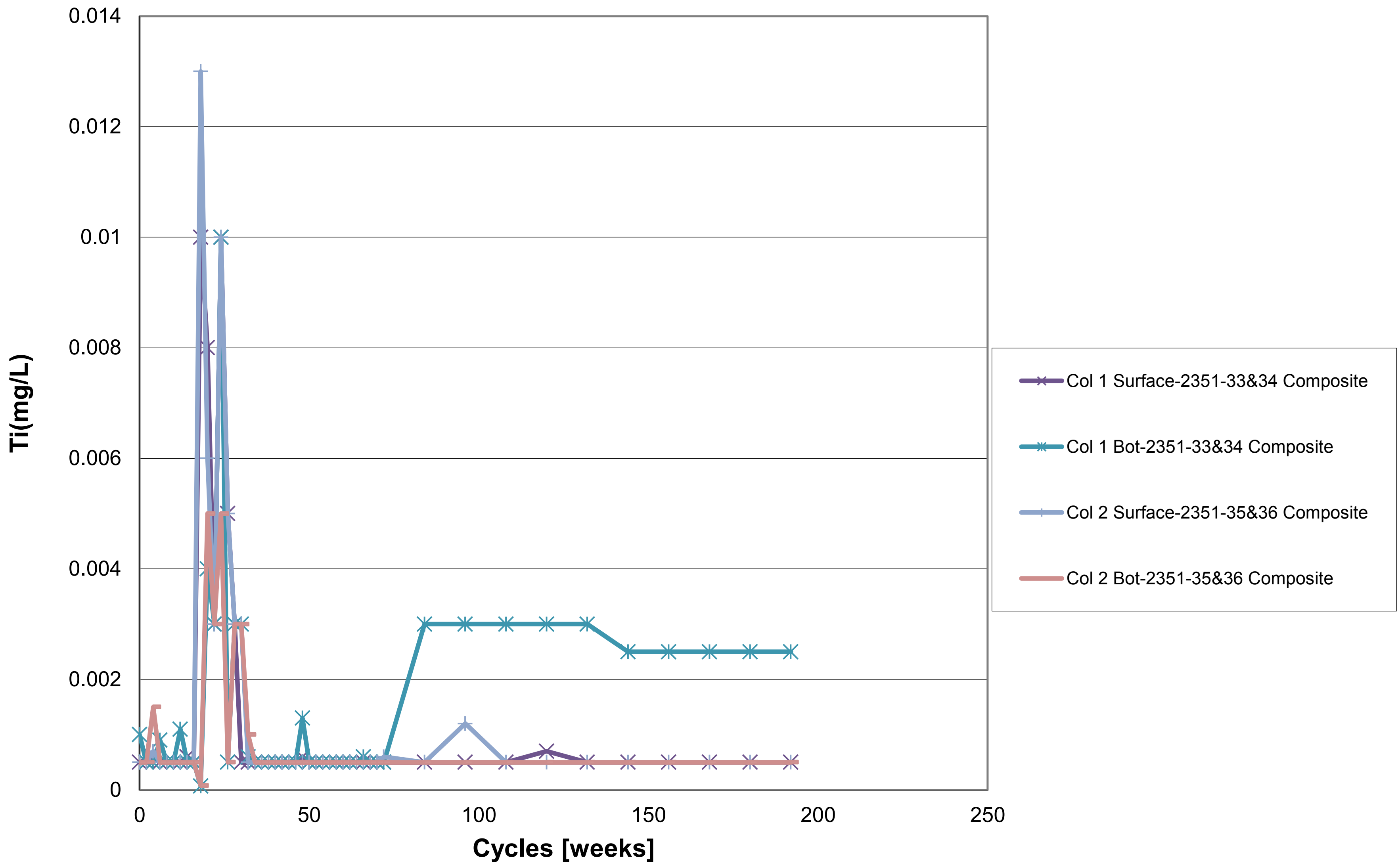

30
25
20
15
10
5
0
Na(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

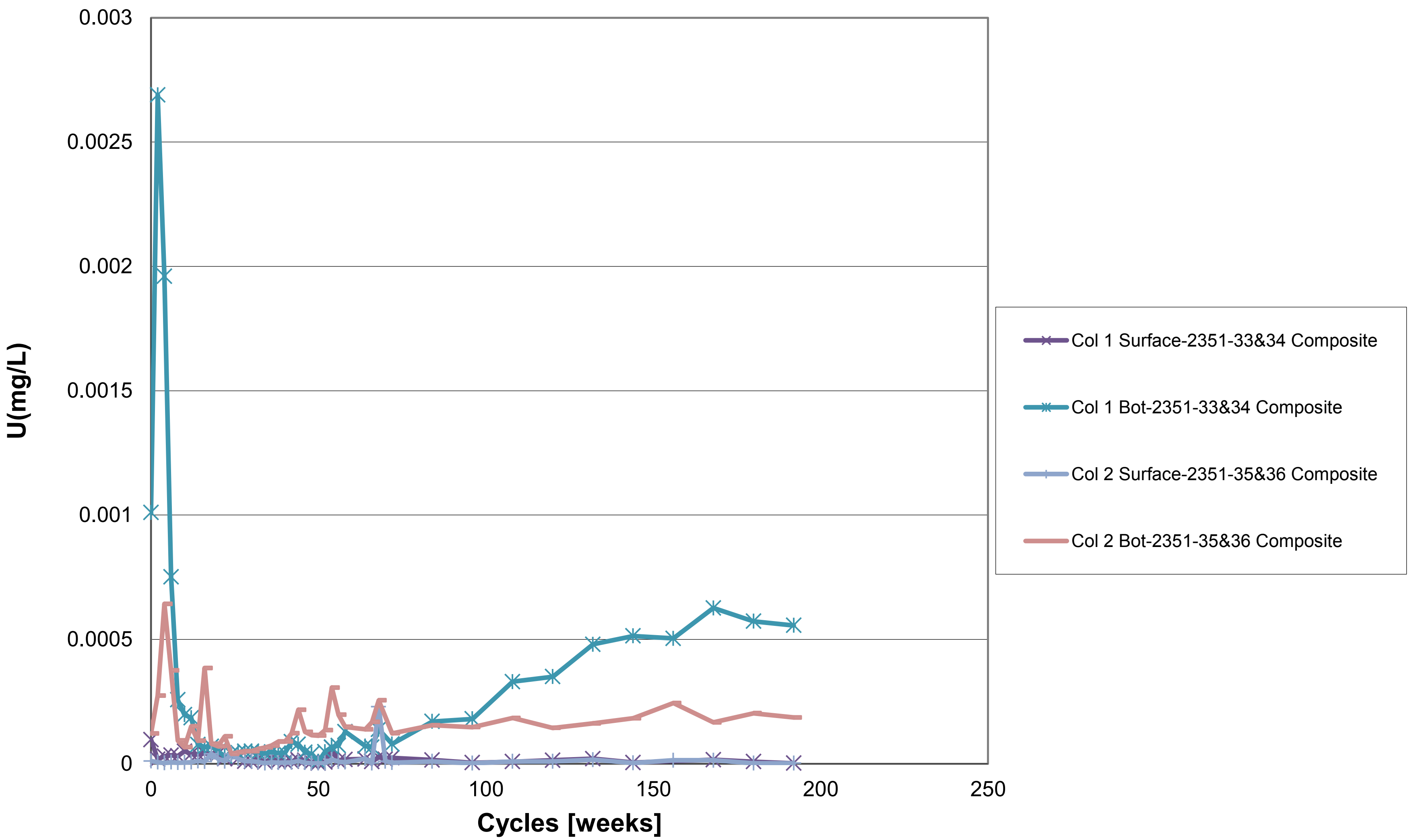

1.2
1
0.8
0.6
0.4
0.2
0
Sr(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

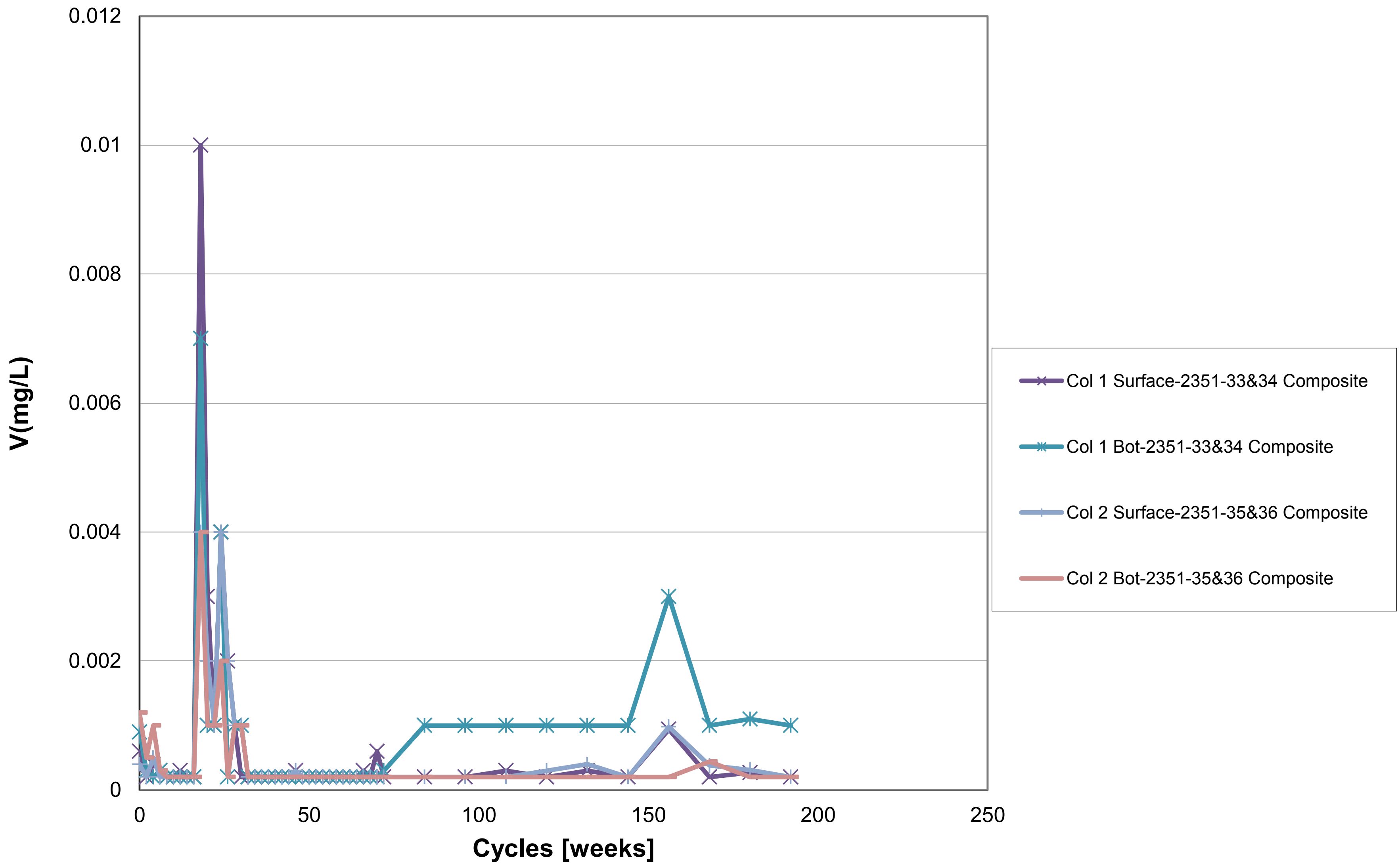

60
50
40
30
20
10
0
S(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

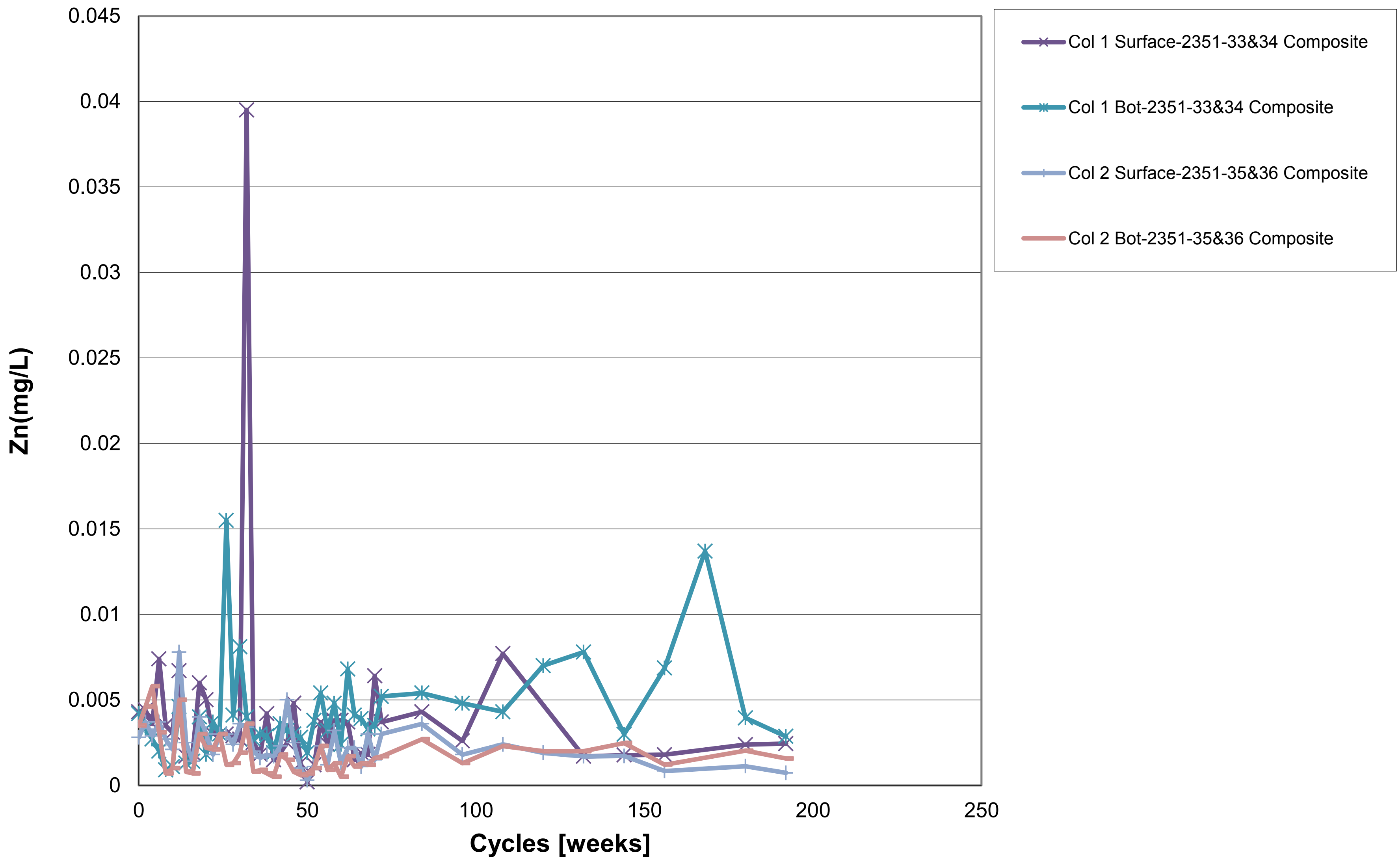

0.00012
0.0001
0.00008
0.00006
0.00004
0.00002
0
Tl(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

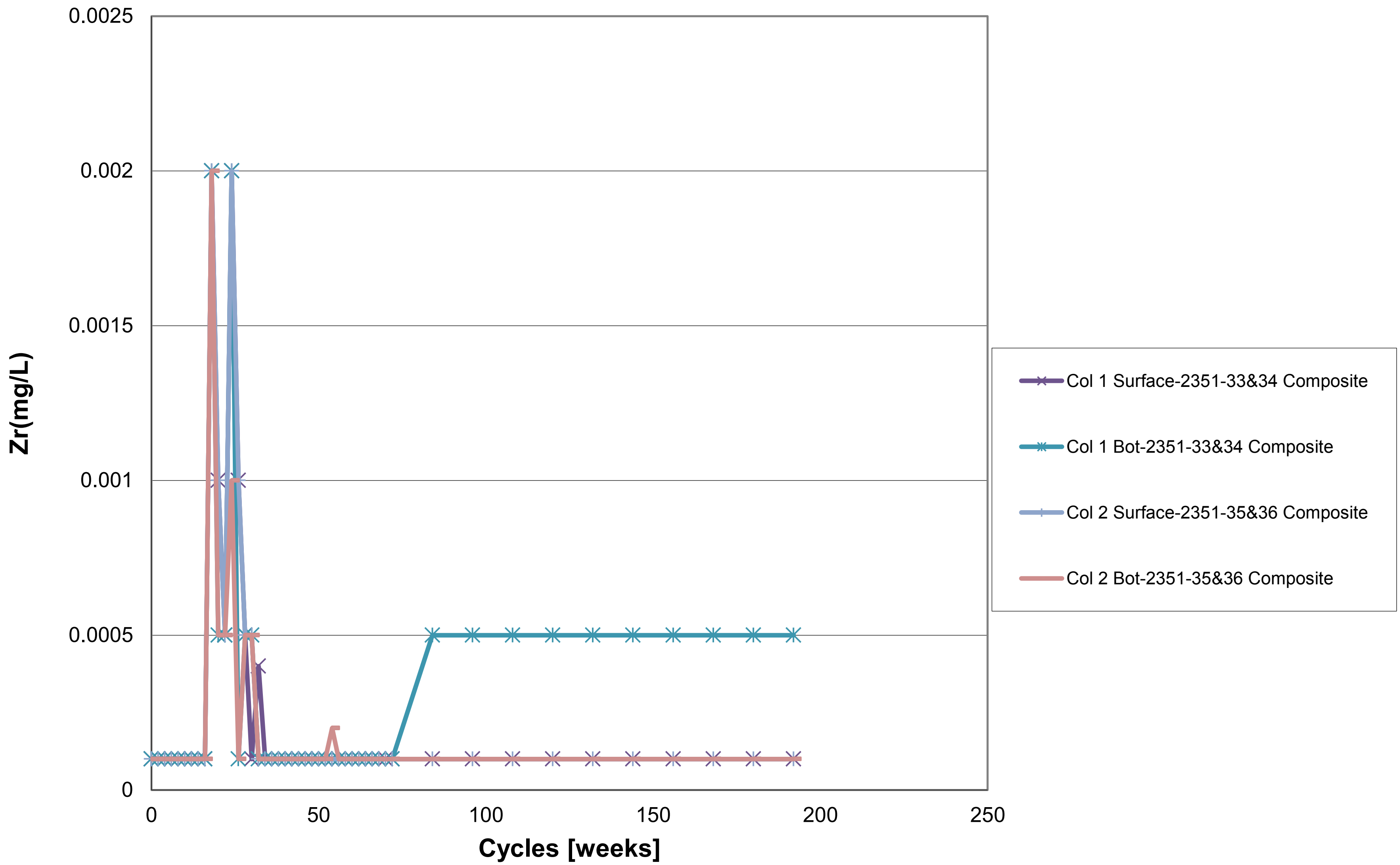

0.045
0.04
0.035
0.03
0.025
0.02
0.015
0.01
0.005
0
Sn(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite


0.014
0.012
0.01
0.008
0.006
0.004
0.002
0
Ti(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite


0.003
0.0025
0.002
0.0015
0.001
0.0005
0
U(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite


0.012
0.01
0.008
0.006
0.004
0.002
0
V(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite


Zn(mg/L)
0.045
0.04
0.035
0.03
0.025
0.02
0.015
0.01
0.005
0
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite


0.0025
0.002
0.0015
0.001
0.0005
0
Zr(mg/L)
0
50
100
150
200
250
Cycles [weeks]
Col 1 Surface-2351-33&34 Composite
Col 1 Bot-2351-33&34 Composite
Col 2 Surface-2351-35&36 Composite
Col 2 Bot-2351-35&36 Composite

Appendix H
Source Terms for Use as Inputs to Water Quality Predictions: Minto Creek

DSTSF Source Terms

	Expected Case	Reasonable Worst Case
	Station W8- 50th percentile	Station W8- 95th percentile
	mg/L	mg/L
Ag	0.000020	0.00010
Al	0.010	0.069
Alk-T	220	410
Ammonia	0.12	0.98
As	0.00050	0.00090
Ba	0.12	0.21
B	0.062	0.11
Be	0.00010	0.00085
Bi	0.0010	0.0010
Ca	132	235
Cd	0.00011	0.00024
Cl	6.9	31
Co	0.00060	0.0022
Cr	0.0010	0.0020
Cu	0.094	0.32
Fe	0.089	0.39
F	0.32	1.4
Hg	0.000020	0.00020
K	6.6	18
Li	0.0050	0.010
Mg	31	48
Mn	0.60	3.2
Mo	0.0070	0.038
Na	24	46
Ni	0.0018	0.0050
NO3	22	84
NO2	0.12	2.5
Pb	0.00020	0.00064
Sb	0.00050	0.0011
S	48	83
Se	0.0039	0.014
Si	6.6	8.0
Sn	0.0050	0.0050
SO4-D	120	200
Sr	1.5	2.1
Ti	0.0050	0.010
Tl	0.000050	0.00010
U	0.0020	0.0037
V	0.0050	0.022
Zn	0.0050	0.010
Zr	0.00050	0.0020

W14 Data from November 2012 to March 2013

Parameter (Units mg/L)	Expected Case	Reasonable Worst Case
Ag	0.000020	0.000020
Al	0.070	0.110
Alk-T	179	185
Ammonia	0.82	1.1
As	0.00044	0.00047
Ba	0.087	0.10
B	0.11	0.12
Be	0.00010	0.00010
Bi	0.0010	0.0010
Ca	46	52
Cd	0.000021	0.000031
Cl	13	13
Co	0.00050	0.00050
Cr	0.0010	0.0010
Cu	0.0047	0.0091
Fe	0.010	0.022
F	1.3	1.5
Hg	0.000010	0.000010
K	30	35
Li	0.020	0.023
Mg	18	22
Mn	0.038	0.053
Mo	0.059	0.067
Na	65	69
Ni	0.0013	0.0019
NO3	22	25
NO2	0.42	0.46
Pb	0.00020	0.00020
Sb	0.00058	0.00075
S	50	58
Se	0.012	0.021
Si	2.2	2.4
Sn	0.0050	0.0050
SO4-D	131	151
Sr	3.8	5.2
Ti	0.0050	0.0050
Tl	0.000050	0.000050
U	0.00045	0.00077
V	0.0050	0.0050
Zn	0.0052	0.0057
Zr	0.00050	0.00050

Main Pit TMF Source Terms

	Expected Case	Reasonable Worst Case
	mg/yr	mg/yr
Ag	0.0E+00	0.0E+00
Al	1.8E+05	6.1E+05
Alk-T	2.4E+09	2.7E+09
Ammonia	7.8E+05	1.4E+06
As	4.0E+03	4.6E+03
Ba	9.9E+05	1.1E+06
B	0.0E+00	0.0E+00
Be	0.0E+00	0.0E+00
Bi	0.0E+00	0.0E+00
Ca	7.3E+08	8.3E+08
Cd	5.3E+02	5.9E+02
Cl	7.0E+07	7.9E+07
Co	0.0E+00	0.0E+00
Cr	0.0E+00	0.0E+00
Cu	4.9E+05	6.3E+05
Fe	6.3E+05	1.5E+06
F	3.4E+06	4.0E+06
Hg	0.0E+00	0.0E+00
K	4.4E+07	5.0E+07
Li	0.0E+00	0.0E+00
Mg	2.5E+08	2.9E+08
Mn	3.7E+06	4.2E+06
Mo	7.8E+04	1.1E+05
Na	1.9E+08	2.2E+08
Ni	1.0E+04	1.3E+04
NO3	8.6E+07	1.2E+08
NO2	7.5E+05	1.8E+06
Pb	0.0E+00	0.0E+00
Sb	0.0E+00	0.0E+00
S	2.3E+08	2.5E+08
Se	4.4E+04	5.6E+04
Si	5.9E+07	6.5E+07
Sn	0.0E+00	0.0E+00
SO4-D	6.8E+08	7.5E+08
Sr	9.6E+06	1.1E+07
Ti	7.9E+04	7.9E+04
Tl	0.0E+00	0.0E+00
U	2.1E+04	2.6E+04
V	0.0E+00	0.0E+00
Zn	4.9E+04	5.3E+04
Zr	0.0E+00	0.0E+00

Ridgetop North Pit TMF Source Terms

	Expected Case	Reasonable Worst Case
	mg/yr	mg/yr
Ag	0.0E+00	0.0E+00
Al	1.8E+05	6.1E+05
Alk-T	2.4E+09	2.7E+09
Ammonia	7.8E+05	1.4E+06
As	4.0E+03	4.6E+03
Ba	9.9E+05	1.1E+06
B	0.0E+00	0.0E+00
Be	0.0E+00	0.0E+00
Bi	0.0E+00	0.0E+00
Ca	7.3E+08	8.3E+08
Cd	5.3E+02	5.9E+02
Cl	7.0E+07	7.9E+07
Co	0.0E+00	0.0E+00
Cr	0.0E+00	0.0E+00
Cu	4.9E+05	6.3E+05
Fe	6.3E+05	1.5E+06
F	3.4E+06	4.0E+06
Hg	0.0E+00	0.0E+00
K	4.4E+07	5.0E+07
Li	0.0E+00	0.0E+00
Mg	2.5E+08	2.9E+08
Mn	3.7E+06	4.2E+06
Mo	7.8E+04	1.1E+05
Na	1.9E+08	2.2E+08
Ni	1.0E+04	1.3E+04
NO3	8.6E+07	1.2E+08
NO2	7.5E+05	1.8E+06
Pb	0.0E+00	0.0E+00
Sb	0.0E+00	0.0E+00
S	2.3E+08	2.5E+08
Se	4.4E+04	5.6E+04
Si	5.9E+07	6.5E+07
Sn	0.0E+00	0.0E+00
SO4-D	6.8E+08	7.5E+08
Sr	9.6E+06	1.1E+07
Ti	7.9E+04	7.9E+04
Tl	0.0E+00	0.0E+00
U	2.1E+04	2.6E+04
V	0.0E+00	0.0E+00
Zn	4.9E+04	5.3E+04
Zr	0.0E+00	0.0E+00

Waste Rock: Volume-based source term

	Expected Case	Reasonable Worst Case
	mg m^3-1 yr-1	mg m^3-1 yr-1
Ag	0.00048	0.0024
Al	0.90	3.6
Alk-T	3103	5591
Ammonia	1.5	4.5
As	0.012	0.021
Ba	2.3	3.6
B	1.2	2.4
Be	0.0024	0.0048
Bi	0.024	0.024
Ca	1180	2092
Cd	0.00072	0.0024
Cl	62	147
Co	0.012	0.029
Cr	0.024	0.048
Cu	0.45	1.0
Fe	10	22
F	3.1	4.2
Hg	0.00048	0.0048
K	57	102
Li	0.12	0.24
Mg	337	602
Mn	8.4	20
Mo	0.048	0.085
Na	167	309
Ni	0.024	0.048
NO3	103	436
NO2	1.2	6.3
Pb	0.0048	0.0048
Sb	0.012	0.012
S	360	1432
Se	0.024	0.075
Si	125	171
Sn	0.12	0.12
SO4-D	728	1734
Sr	9.8	21
Ti	0.12	0.24
Tl	0.0012	0.0012
U	0.014	0.037
V	0.12	0.12
Zn	0.12	0.24
Zr	0.012	0.048

Lower Minto Creek Background Water Quality

Parameter	pH-L	Cond-L	Hard-D	Hard-T	TDS	TSS	ANIONS	SO4-D	Chloride	Fluoride	NUTRIENTS	N-NO2	N-NO3	Ammonia	TOTAL META	Ag-T	Al-T	As-T	Ba-T	B-T	Be-T
Units	pH units	µS/cm	mg/L	mg/L	mg/L	mg/L	0	mg/L	mg/L	mg/L	0	mg/L	mg/L	mg/L	0	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
January	8.1	349	169	158	226	2.0	0	18.0	0.80	0.43	0	0.0025	0.32	0.005	0	0.00001	0.01	0.0004	0.087	0.025	0.00005
February	8.0	339	165	160	216	2.0	0	17.8	0.90	0.42	0	0.0025	0.29	0.006	0	0.00001	0.02	0.0003	0.082	0.025	0.00005
March	8.2	343	161	159	176	3.2	0	19.0	0.50	0.42	0	0.0025	0.20	0.007	0	0.00001	0.04	0.0004	0.083	0.025	0.00005
April	7.6	131	65	43	115	3.2	0	7.4	1.11	0.10	0	0.0216	0.01	0.013	0	0.00002	0.22	0.0004	0.036	0.015	0.00004
May	7.7	134	55	91	116	357.1	0	29.8	0.41	0.16	0	0.0024	0.03	0.042	0	0.00007	7.16	0.0037	0.188	0.043	0.00063
June	7.9	211	101	100	156	17.2	0	15.5	1.32	0.20	0	0.0051	0.04	0.025	0	0.00001	0.34	0.0006	0.057	0.006	0.00022
July	7.8	243	116	137	163	171.1	0	2.8	0.51	0.27	0	0.0040	0.05	0.039	0	0.00004	3.90	0.0024	0.140	0.010	0.00031
August	8.1	224	124	130	165	243.3	0	8.9	0.64	0.72	0	0.0037	0.04	0.036	0	0.00004	3.30	0.0026	0.156	0.040	0.00049
September	7.8	200	108	109	154	15.1	0	10.6	0.48	0.21	0	0.0015	0.02	0.014	0	0.00002	0.15	0.0005	0.055	0.042	0.00041
October	7.7	208	121	114	153	7.8	0	5.7	0.52	0.22	0	0.0037	0.06	0.018	0	0.00001	0.11	0.0005	0.052	0.007	0.00022
November	7.9	287	153	152	174	8.3	0	10.1	0.96	0.26	0	0.0025	0.09	0.024	0	0.00001	0.13	0.0005	0.075	0.025	0.00005
December	8.1	444	223	206	262	0.5	0	29.1	1.90	0.43	0	0.0025	0.06	0.025	0	0.00001	0.01	0.0004	0.104	0.025	0.00005

Lower Minto Creek Background Water Quality

Parameter	Bi-T	Ca-T	Cd-T	Co-T	Cr-T	Cu-T	Fe-T	Hg-T	K-T	Li-T	Mg-T	Mn-T	Mo-T	Na-T	Ni-T	Pb-T	P-T	Sb-T	S-T	Se-T	Si-T
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
January	0.0005	39.5	0.00001	0.0003	0.0005	0.001	0.11	0.00001	1.57	0.003	14.5	0.060	0.0010	8.4	0.001	0.0001	0.01	0.00025	5.90	0.0003	6.4
February	0.0005	41.0	0.00003	0.0003	0.0005	0.006	0.04	0.00001	1.51	0.003	13.9	0.004	0.0010	8.1	0.001	0.0001	0.01	0.00025	6.00	0.0003	6.3
March	0.0005	39.7	0.00001	0.0003	0.0005	0.007	0.11	0.00001	1.46	0.003	14.6	0.005	0.0010	8.4	0.001	0.0001	0.02	0.00025	5.60	0.0004	6.4
April	0.0004	15.9	0.00004	0.0002	0.0008	0.008	0.39	0.00001	1.70	0.002	6.5	0.028	0.0007	4.0	0.001	0.0001	0.07	0.00018	1.36	0.0002	3.2
May	0.0005	22.2	0.00016	0.0052	0.0145	0.023	12.32	0.00001	1.58	0.007	8.4	0.324	0.0009	3.4	0.014	0.0036	1.08	0.00040	2.62	0.0006	43.0
June	0.0003	27.5	0.00003	0.0004	0.0010	0.004	0.76	0.00004	0.97	0.002	9.5	0.036	0.0008	6.5	0.002	0.0002	0.18	0.00007	4.08	0.0005	6.0
July	0.0003	34.9	0.00009	0.0028	0.0075	0.014	6.50	0.00004	1.29	0.004	11.8	0.192	0.0012	6.5	0.008	0.0019	0.65	0.00021	3.79	0.0005	12.3
August	0.0005	33.7	0.00008	0.0031	0.0063	0.012	6.68	0.00001	1.23	0.004	10.8	0.310	0.0009	5.7	0.008	0.0020	0.59	0.00032	2.75	0.0004	20.1
September	0.0003	27.6	0.00001	0.0002	0.0006	0.005	0.63	0.00001	0.91	0.002	9.1	0.057	0.0006	5.2	0.002	0.0002	0.03	0.00023	4.53	0.0005	6.9
October	0.0003	27.8	0.00003	0.0002	0.0005	0.005	0.47	0.00001	0.97	0.002	9.3	0.073	0.0009	5.3	0.001	0.0001	0.04	0.00008	2.90	0.0005	6.2
November	0.0005	40.1	0.00007	0.0003	0.0006	0.005	0.32	0.00001	0.82	0.003	12.5	0.050	0.0008	6.7	0.002	0.0003	0.03	0.00025	3.65	0.0002	8.2
December	0.0005	49.6	0.00002	0.0003	0.0005	0.003	0.07	0.00001	2.29	0.003	19.9	0.041	0.0012	11.7	0.002	0.0001	0.02	0.00025	7.90	0.0003	7.7

Lower Minto Creek Background Water Quality

Parameter	Sn-T	Sr-T	Ti-T	Tl-T	U-T	V-T	Zn-T	Zr-T
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
January	0.0025	0.45	0.0025	0.00003	0.0019	0.0025	0.003	0.0003
February	0.0025	0.47	0.0025	0.00003	0.0015	0.0025	0.003	0.0003
March	0.0025	0.49	0.0025	0.00003	0.0015	0.0025	0.003	0.0003
April	0.0017	0.16	0.0073	0.00002	0.0006	0.0015	0.004	0.0002
May	0.0009	0.20	0.2465	0.00014	0.0010	0.0348	0.032	0.0030
June	0.0002	0.19	0.0151	0.00005	0.0006	0.0016	0.006	0.0006
July	0.0006	0.25	0.1226	0.00007	0.0012	0.0124	0.018	0.0022
August	0.0009	0.29	0.1002	0.00010	0.0009	0.0219	0.018	0.0018
September	0.0004	0.19	0.0062	0.00008	0.0003	0.0122	0.003	0.0005
October	0.0004	0.20	0.0053	0.00005	0.0004	0.0009	0.001	0.0003
November	0.0025	0.28	0.0069	0.00003	0.0008	0.0025	0.005	0.0003
December	0.0025	0.49	0.0025	0.00003	0.0012	0.0025	0.003	0.0003

Upper Minto Creek Background Water Quality

Parameter	pH-L	Cond-L	Hard-D	Hard-T	TDS	TSS	ANIONS	SO4-D	Chloride	Fluoride	NUTRIENTS	N-NO2	N-NO3	Ammonia	TOTAL METALS	Ag-T	Al-T	As-T
Units	pH units	µS/cm	mg/L	mg/L	mg/L	mg/L	0	mg/L	mg/L	mg/L	0	mg/L	mg/L	mg/L	0	mg/L	mg/L	mg/L
January	8.1	349	169	158	226	2.0	0	18.0	0.80	0.43	0	0.0025	0.32	0.005	0	0.00001	0.01	0.0004
February	8.0	339	165	160	216	2.0	0	17.8	0.90	0.42	0	0.0025	0.29	0.006	0	0.00001	0.02	0.0003
March	8.2	343	161	159	176	3.2	0	19.0	0.50	0.42	0	0.0025	0.20	0.007	0	0.00001	0.04	0.0004
April	7.6	166	81	50	135	1.5	0	11.4	0.75	0.09	0	0.0369	0.01	0.020	0	0.00002	0.08	0.0003
May	7.9	145	83	75	121	15.3	0	39.8	0.28	0.21	0	0.0014	0.03	0.019	0	0.00001	0.34	0.0005
June	7.9	212	104	104	157	16.1	0	15.7	1.33	0.20	0	0.0054	0.05	0.022	0	0.00001	0.27	0.0006
July	7.8	250	119	131	166	12.5	0	9.6	0.38	0.22	0	0.0016	0.04	0.011	0	0.00001	0.58	0.0006
August	8.1	216	121	110	160	6.4	0	11.0	0.33	0.36	0	0.0019	0.02	0.028	0	0.00002	0.17	0.0005
September	7.8	200	113	108	156	16.7	0	10.8	0.43	0.22	0	0.0016	0.02	0.015	0	0.00002	0.16	0.0005
October	7.7	206	122	112	152	5.1	0	10.4	0.47	0.23	0	0.0050	0.05	0.018	0	0.00001	0.09	0.0005
November	7.9	287	153	152	174	8.3	0	10.1	0.96	0.26	0	0.0025	0.09	0.024	0	0.00001	0.13	0.0005
December	8.1	444	223	206	262	0.5	0	29.1	1.90	0.43	0	0.0025	0.06	0.025	0	0.00001	0.01	0.0004

Upper Minto Creek Background Water Quality

Parameter	Ba-T	B-T	Be-T	Bi-T	Ca-T	Cd-T	Co-T	Cr-T	Cu-T	Fe-T	Hg-T	K-T	Li-T	Mg-T	Mn-T	Mo-T	Na-T
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
January	0.087	0.025	0.00005	0.0005	39.5	0.00001	0.0003	0.0005	0.001	0.11	0.00001	1.57	0.003	14.5	0.060	0.0010	8.4
February	0.082	0.025	0.00005	0.0005	41.0	0.00003	0.0003	0.0005	0.006	0.04	0.00001	1.51	0.003	13.9	0.004	0.0010	8.1
March	0.083	0.025	0.00005	0.0005	39.7	0.00001	0.0003	0.0005	0.007	0.11	0.00001	1.46	0.003	14.6	0.005	0.0010	8.4
April	0.038	0.009	0.00003	0.0003	19.6	0.00005	0.0001	0.0006	0.007	0.14	0.00001	1.80	0.001	8.5	0.018	0.0008	5.4
May	0.050	0.049	0.00048	0.0005	19.0	0.00003	0.0003	0.0011	0.008	0.61	0.00001	1.01	0.003	6.4	0.030	0.0007	3.4
June	0.056	0.006	0.00022	0.0003	27.5	0.00003	0.0003	0.0009	0.004	0.66	0.00005	0.97	0.002	9.5	0.035	0.0008	6.6
July	0.066	0.007	0.00023	0.0003	32.6	0.00003	0.0006	0.0014	0.008	0.96	0.00008	0.98	0.002	11.4	0.058	0.0011	6.8
August	0.059	0.043	0.00043	0.0004	28.1	0.00001	0.0002	0.0006	0.004	0.54	0.00002	0.96	0.002	9.4	0.044	0.0009	5.7
September	0.055	0.042	0.00041	0.0002	27.5	0.00001	0.0002	0.0007	0.005	0.62	0.00002	0.92	0.002	9.1	0.056	0.0006	5.2
October	0.051	0.006	0.00023	0.0003	27.4	0.00003	0.0002	0.0004	0.005	0.43	0.00002	1.00	0.002	9.2	0.069	0.0009	5.2
November	0.075	0.025	0.00005	0.0005	40.1	0.00007	0.0003	0.0006	0.005	0.32	0.00001	0.82	0.003	12.5	0.050	0.0008	6.7
December	0.104	0.025	0.00005	0.0005	49.6	0.00002	0.0003	0.0005	0.003	0.07	0.00001	2.29	0.003	19.9	0.041	0.0012	11.7

Upper Minto Creek Background Water Quality

Parameter	Ni-T	Pb-T	P-T	Sb-T	S-T	Se-T	Si-T	Sn-T	Sr-T	Ti-T	Tl-T	U-T	V-T	Zn-T	Zr-T
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
January	0.001	0.0001	0.01	0.00025	5.90	0.0003	6.4	0.0025	0.45	0.0025	0.00003	0.0019	0.0025	0.003	0.0003
February	0.001	0.0001	0.01	0.00025	6.00	0.0003	6.3	0.0025	0.47	0.0025	0.00003	0.0015	0.0025	0.003	0.0003
March	0.001	0.0001	0.02	0.00025	5.60	0.0004	6.4	0.0025	0.49	0.0025	0.00003	0.0015	0.0025	0.003	0.0003
April	0.001	0.0001	0.07	0.00013	1.22	0.0002	3.0	0.0012	0.22	0.0025	0.00001	0.0008	0.0008	0.005	0.0002
May	0.002	0.0003	0.04	0.00025	11.56	0.0005	7.7	0.0004	0.21	0.0125	0.00010	0.0003	0.0144	0.004	0.0005
June	0.002	0.0002	0.19	0.00007	5.51	0.0005	5.8	0.0001	0.19	0.0127	0.00004	0.0006	0.0014	0.006	0.0006
July	0.002	0.0004	0.00	0.00008	12.63	0.0005	6.4	0.0002	0.24	0.0267	0.00005	0.0007	0.0021	0.004	0.0007
August	0.002	0.0002	0.02	0.00023	4.92	0.0005	6.7	0.0004	0.24	0.0068	0.00009	0.0005	0.0127	0.004	0.0008
September	0.002	0.0002	0.03	0.00023	6.58	0.0005	6.8	0.0003	0.19	0.0068	0.00008	0.0003	0.0123	0.003	0.0006
October	0.001	0.0001	0.02	0.00006	3.15	0.0005	6.0	0.0002	0.20	0.0050	0.00005	0.0004	0.0008	0.001	0.0004
November	0.002	0.0003	0.03	0.00025	3.65	0.0002	8.2	0.0025	0.28	0.0069	0.00003	0.0008	0.0025	0.005	0.0003
December	0.002	0.0001	0.02	0.00025	7.90	0.0003	7.7	0.0025	0.49	0.0025	0.00003	0.0012	0.0025	0.003	0.0003

Pit Wall Source Terms

	Expected Case	**Reasonable Worst Case**
	Average stable field release rates	Max stable field release rates
	mg/yr	mg/yr
Ag	7720	20089
Al	72692632	141800208
Alk-T	0	0
Ammonia	0	0
As	391898	1079195
Ba	41844240	59330344
B	0	0
Be	0	0
Bi	0	0
Ca	0	0
Cd	9934	48770
Cl	0	0
Co	0	0
Cr	163796	701594
Cu	2287835	5999847
Fe	8426326	24984539
F	176498613	296273802
Hg	12550	17944
K	0	0
Li	0	0
Mg	0	0
Mn	5597073	15592355
Mo	1360801	5826929
Na	0	0
Ni	118226	551124
NO3	0	0
NO2	0	0
Pb	46984	522343
Sb	54956	121824
S	0	0
Se	290983	551124
Si	0	0
Sn	0	0
SO4-D	3314665447	6632630784
Sr	91374017	146365307
Ti	0	0
Tl	3379	9815
U	0	0
V	0	0
Zn	738188	3469519
Zr	0	0

Ore Stockpile Source Terms- Operational Period

	Expected Case	Reasonable Worst Case
	Average seepage concentration	Max seepage concentration
	mg/L	mg/L
Ag	0.00006	0.000076
Al	0.11784	0.549
Alk-T	392.8	410
Ammonia	0.468	0.55
As	0.000598	0.00084
Ba	0.0907	0.115
B	0.054	0.056
Be	0.0001	0.0001
Bi	0.0001	0.0001
Ca	185	196
Cd	0.000364	0.000501
Cl	4.82	5.2
Co	0.0005	0.0005
Cr	0.001	0.001
Cu	0.2236	0.393
Fe	0.1676	0.656
F	0.45	0.47
Hg	0.00001	0.00001
K	6.416	7.21
Li	0.0051	0.0051
Mg	44.44	46.7
Mn	0.653	0.983
Mo	0.01686	0.0183
Na	22.26	22.6
Ni	0.0024	0.0024
NO3	46.3	48.5
NO2	0.3414	0.553
Pb	0.00115	0.00193
Sb	0.0005	0.0005
S	451.02	2070
Se	0.02358	0.0263
Si	7.84	8.68
Sn	0.005	0.005
SO4-D	132	136
Sr	3.26	3.86
Ti	0.005	0.005
Tl	0.00005	0.00005
U	0.00629	0.00944
V	0.005	0.005
Zn	0.006	0.0063
Zr	0.0005	0.0005

Ore Stockpile Source Terms- Post-closure Period

	Expected Case	**Reasonable Worst Case**
	Average stable field release rates	Max stable field release rates
	mg/yr	mg/yr
Ag	1678	4366
Al	15797582	30816058
Alk-T	0	0
Ammonia	0	0
As	85167	234531
Ba	9093601	12893686
B	0	0
Be	0	0
Bi	0	0
Ca	0	0
Cd	2159	10599
Cl	0	0
Co	0	0
Cr	35596	152471
Cu	497193	1303888
Fe	1831211	5429646
F	38356725	64386300
Hg	2727	3900
K	0	0
Li	0	0
Mg	0	0
Mn	1216357	3388535
Mo	295730	1266310
Na	0	0
Ni	25693	119771
NO3	0	0
NO2	0	0
Pb	10210	113516
Sb	11943	26475
S	0	0
Se	63237	119771
Si	0	0
Sn	0	0
SO4-D	720343961	1441405056
Sr	19857425	31808147
Ti	0	0
Tl	734	2133
U	0	0
V	0	0
Zn	160423	753997
Zr	0	0

Mill Area Source Terms

	Expected Case	Reasonable Worst Case
	Average stable field release rates	Max Stable Field Release Rates
	mg/yr	mg/yr
Ag	2018	5252
Al	19004610	37071950
Alk-T	0	0
Ammonia	0	0
As	102457	282143
Ba	10939671	15511201
B	0	0
Be	0	0
Bi	0	0
Ca	0	0
Cd	2597	12750
Cl	0	0
Co	0	0
Cr	42823	183423
Cu	598127	1568588
Fe	2202961	6531906
F	46143428	77457203
Hg	3281	4691
K	0	0
Li	0	0
Mg	0	0
Mn	1463287	4076433
Mo	355765	1523380
Na	0	0
Ni	30909	144085
NO3	0	0
NO2	0	0
Pb	12283	136560
Sb	14368	31849
S	0	0
Se	76074	144085
Si	0	0
Sn	0	0
SO4-D	866579202	1734021120
Sr	23888632	38265440
Ti	0	0
Tl	883	2566
U	0	0
V	0	0
Zn	192990	907064
Zr	0	0

Particulate Loading Source Term

For predictive purposes, mass added to each litre of water due to suspended solids:

Ag	Al	As	Ba	B	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Hg	K	Li	Mg	Mn	Mo
mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
7.6E-05	0.47	0.00022	0.015	0.0043	5.9E-06	0.00068	3.6	4.4E-05	0.00026	0.00050	0.0075	0.68	7.5E-06	0.25	0.0011	1.8	0.038	0.00054

Na	Ni	Pb	P	Sb	S	Se	Si	Sn	Sr	Te	Th	Ti	Tl	U	V	Zn	Zr
mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
1.1	0.0010	0.00022	0.072	0.00038	1.1	0.00038	1.1	0	0.055	0	0.00012	0.017	4.19643E-06	0.00040	0.0011	0.0064	0.00019

Appendix I
Source Terms for Use as Inputs to Water Quality Predictions: McGinty Creek

McGinty Creek Background Source Term

	Units	Ag	Al	As	Cd	Cr	Cu	Fe	Fluoride	Hg	Mn	Mo	Ni	Pb	Se	Sulphate	Tl	Zn
January	mg/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
February	mg/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
March	mg/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
April	mg/L	3.43333E-06	0.1150333	0.0004097	3.04333E-05	0.0003267	0.00321	0.21	0.1266667	0.000005	0.014187	0.00029	0.001283	0.0000516	0.000104	1	0.000001	0.003877
May	mg/L	0.0000062	0.2188286	0.0005343	2.95286E-05	0.0005514	0.00322857	0.541	0.1414286	3.57214E-06	0.040934	0.000462	0.001791	0.000195857	0.000119	1.692857	1.75714E-06	0.002919
June	mg/L	0.000013475	1.0323	0.00134	0.000082375	0.0018875	0.00781	2.46075	0.2425	0.00000375	0.194525	0.000688	0.004868	0.001193	0.000155	4.3125	0.000006975	0.009075
July	mg/L	0.00002425	3.3262	0.00205	0.000091125	0.0061625	0.0114575	5.3965	0.255	0.00001	0.1813	0.000826	0.00741	0.00202275	0.000225	2.8475	0.00002425	0.017448
August	mg/L	0.0000115	1.6579667	0.0014133	0.000066	0.0032667	0.00850333	3.03366667	0.2266667	0.000005	0.14141	0.00064	0.005307	0.001294333	0.00015	2.516667	1.26667E-05	0.008967
September	mg/L	0.0000025	0.03455	0.000375	0.0000245	0.0003	0.00222	0.127	0.265	0.0000025	0.006735	0.000775	0.002455	0.0001065	0.00017	5.45	0.000001	0.03275
October	mg/L	0.0000025	0.0361333	0.0003733	1.06667E-05	0.0002667	0.0016	0.14366667	0.3033333	0.000005	0.012287	0.000897	0.00098	0.000046	0.000177	7.633333	0.000001	0.000967
November	mg/L	0.0000025	0.0085	0.00024	0.000019	0.0002	0.00154	0.012	0.35	0.000005	0.0005	0.00103	0.00053	0.000066	0.00017	9.1	0.000001	0.0015
December	mg/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Minto North Pit Source Term

	Ag	Al	As	Cd	Cr	Cu	Fe	Fluoride	Hg	Mn	Mo	Ni	Pb	Se	Sulphate	Tl	Zn
	mg/month	mg/month	mg/month	mg/month	mg/month	mg/month	mg/month	mg/month	mg/month	mg/month	mg/month	mg/month	mg/month	mg/month	mg/month	mg/month	mg/month
January	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
February	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
March	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
April	4927.3	1.8E+07	215303	6705.19	120008	527221	3565944	1.3E+08	2463.65	6266309	654709	55555.3	70404.5	84937.5	6.16E+08	2148.71	451458
May	4927.3	1.8E+07	215303	6705.19	120008	527221	3565944	1.3E+08	2463.65	6266309	654709	55555.3	70404.5	84937.5	6.16E+08	2148.71	451458
June	1407.8	5240429	61515.1	1915.77	34287.9	150635	1018841	3.6E+07	703.9	1790374	187060	15873	20115.6	24267.9	1.76E+08	613.917	128988
July	1407.8	5240429	61515.1	1915.77	34287.9	150635	1018841	3.6E+07	703.9	1790374	187060	15873	20115.6	24267.9	1.76E+08	613.917	128988
August	1407.8	5240429	61515.1	1915.77	34287.9	150635	1018841	3.6E+07	703.9	1790374	187060	15873	20115.6	24267.9	1.76E+08	613.917	128988
September	1407.8	5240429	61515.1	1915.77	34287.9	150635	1018841	3.6E+07	703.9	1790374	187060	15873	20115.6	24267.9	1.76E+08	613.917	128988
October	1407.8	5240429	61515.1	1915.77	34287.9	150635	1018841	3.6E+07	703.9	1790374	187060	15873	20115.6	24267.9	1.76E+08	613.917	128988
November	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
December	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

CAPSTONE MINING CORP.
MINTO MINE
OPERATED BY MINTO EXPLORATIONS LTD.

Minto Mine Phase V/VI Expansion: Water and Load Balance Model Report

Prepared for

Minto Explorations Ltd.

Prepared by

srk consulting

SRK Consulting (Canada) Inc.
1CM002.003
July 2013

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July 2013

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Appendices

1 Introduction

This report describes the water and load balance model developed for the Minto Mine Phase V/VI expansion.

The water and load balance model builds on previous water balance modelling work prepared for the Phase IV Yukon Environmental and Socioeconomic Assessment Board (YESAB) application (SRK 2010) and for the Water License Amendment 8 application (SRK 2012). The model covers the end of Phase IV (current operation) and Phase V/VI though closure and post-closure. The water balance model uses a stochastic approach where annual precipitation rates are varied to evaluate potential effects of wet and dry climatic conditions. Water quality results are based on estimates of aqueous chemical loadings applied to modelled water flow. Model predictions of annual flow and quality of water within and downstream of the Minto Mine site are presented for ‗Expected Case' and ‗Reasonable Worst Case' scenarios. A map showing the general arrangement of the site configuration at the end of Phase V/VI is shown in Figure 1-1.

Section 2 describes inputs to and components of the water balance model. Section 3 summarizes the load balance model inputs. Model scenario implementation is described in Section 4 and modelling results are presented in Section 5 followed by a discussion in Section 6.

Source: Adapted from Figure 1-1 (prepared by Access Consulting Group) in Minto Explorations Ltd. 2013a. Minto Mine Phase V/VI Expansion, Project Proposal: Phase V/VI Expansion of Mining and Milling, Minto Mine, Yukon.

srk consulting	CAPSTONE MINING CORP. MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.	Minto Mine Phase V/VI Expansion: Water and Load Balance Model Report
		General Arrangement- End of Phase V/VI
Job No: 1CM002.003 Filename: Fig_1-1_PhaseV-VI_GeneralArrangement.pptx	Minto Mine	Date: June 2013 / Approved: DBM / Figure: **1-1**

2 Water Balance Model Description

2.1 Water Balance Overview

Source: X:\01_SITES\Minto\!020_Site_Wide_Data\Water_and_Load_Balance_Files\01_Project_Phases\07_Phase_5_6\Model Report\Figures\ Figure 2.1 and 2.2 Water_Balance_Schematic_Minto_REV00.pptx

Figure 2-1 shows a schematic of the conceptual water balance for the Minto Site. The water balance can be described as:

$$Water\ Input = Water\ Storage + Water\ Output \tag{1}$$

Precipitation is the only source of water to site and therefore the only input. The open pits, tailings pores and the Water Storage Pond (WSP) are the primary water storage reservoirs on site. Water outputs include water released to Minto Creek and water lost to evapotranspiration. It follows that the net input of water can also be expressed as:

$$Net\ Surface\ Runoff = Precipitation - Evapotranspiration \tag{2}$$

Net surface runoff can also be described in terms of a runoff coefficient. In general terms, this can be represented as:

$$Net\ Surface\ Runoff = Precipitation \cdot Runoff\ Coefficient \tag{3}$$

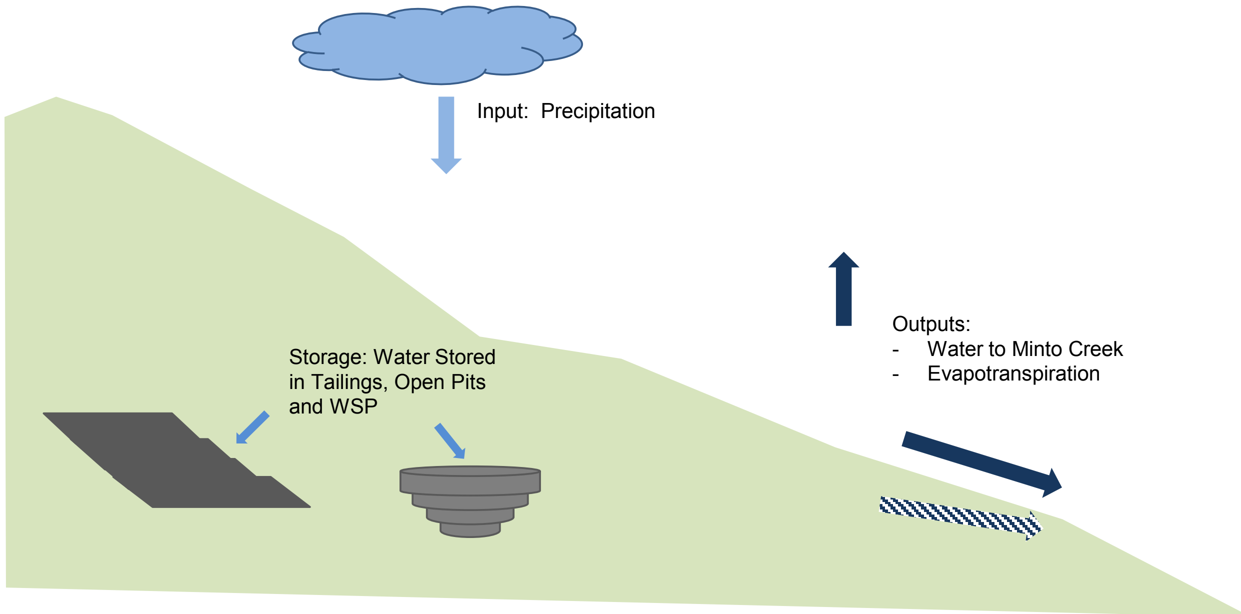
The runoff coefficient approach allows the water balance to be simplified to:

$$Net\ Surface\ Runoff - \text{Water}\ stored\ on\ Site = Water\ Released\ to\ Minto\ Creek \tag{4}$$

Source: X:\01_SITES\Minto\!020_Site_Wide_Data\Water_and_Load_Balance_Files\01_Project_Phases\07_Phase_5_6\Model Report\Figures\ Figure 2.1 and 2.2 Water_Balance_Schematic_Minto_REV00.pptx

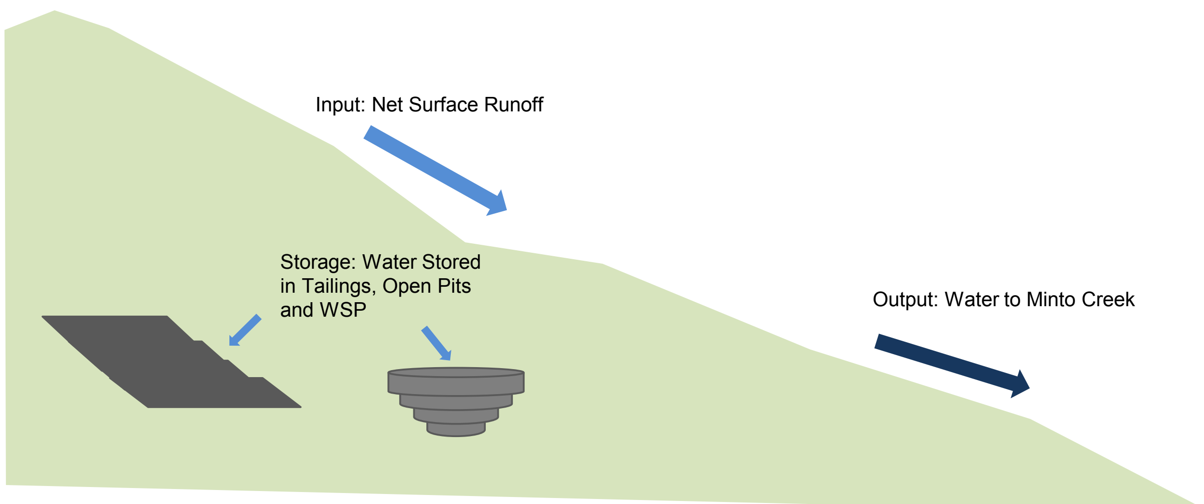
Figure 2-2 shows a schematic of the simplified water balance. In a year with average annual precipitation (329 mm/year) the net volume of surface runoff on the Minto Mine Site is approximately 1,000,000 m^3. Of that, approximately 550,000 m^3 will report to tailings pores during the period when the mill is running. This leaves (in an average year) approximately 450,000 m^3 of water that is available for release to Minto Creek, assuming no net change in the inventory of free water on site.

Infiltration could be included as an output term in equation (2) but for modelling purposes was assumed to be equivalent to discharge of groundwater to surface water. At Minto, the cross section of the Minto Creek Valley at the Water Storage Dam is narrow and bedrock is relatively shallow. As such, the majority of groundwater that flows toward Minto Creek is expected to report to the stream as surface water and only a small fraction is expected to flow from site via subsurface pathways (SRK, 2012). As such, it is considered acceptable to treat infiltration as equal to groundwater discharge, and to exclude both from the model.



Source: X:\01_SITES\Minto\!020_Site_Wide_Data\Water_and_Load_Balance_Files\01_Project_Phases\07_Phase_5_6\Model Report\Figures\ Figure 2.1 and 2.2 Water_Balance_Schematic_Minto_REV00.pptx

Figure 2-1 Water Balance Schematic



Source: X:\01_SITES\Minto\!020_Site_Wide_Data\Water_and_Load_Balance_Files\01_Project_Phases\07_Phase_5_6\Model Report\Figures\ Figure 2.1 and 2.2 Water_Balance_Schematic_Minto_REV00.pptx

Figure 2-2 Simplified Water Balance Schematic

2.2 Water Balance Inputs

Inputs required for the water balance model are summarized in Table 2-1 and are discussed in the following sections.

Table 2-1 Input Required for Water Balance Model

Water Balance Component	Input Required
Net surface runoff	Annual precipitation rates Open water evaporation rates Sub-catchment areas Site-wide (net) runoff coefficient Typical hydrograph
Water storage	Open pit volumes Tailings and waste rock deposition schedules
Water Released to Minto Creek	None (this is calculated by the water balance model)

2.2.1 Precipitation

Precipitation is the only input of water to the Minto Mine site water balance model. The water balance model calculates annual volumes of surface runoff based on annual precipitation and a site-wide runoff coefficient. Therefore, a reliable estimate of the frequency and intensity of total annual precipitation is important for the accuracy of model predictions.

Rainfall data collected on site was used in conjunction with long-term regional precipitation records to estimate the distribution of annual precipitation rates. The precipitation record for the Minto site is shown in Table 2-2. Rainfall data has been recorded at site beginning in September 2005. In October 2011, Minto installed an adapter for measuring snowfall as water equivalent. At the time of writing, on-site rainfall and total precipitation data were available for the period September 2005 through December 2012.

Table 2-2 Monthly Rainfall and Total Precipitation Measured at Minto

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2005	**	**	**	**	**	**	**	**	21.60	23.00	11.60	4.60	60.8
2006	0.00	0.40	2.80	**	22.84	35.80	28.63	29.20	12.20	12.20	0.00	0.00	144.1
2007	0.20	0.00	0.40	5.80	4.60	36.00	47.80	21.00	33.80	11.80	0.00	0.00	161.4
2008	1.20	2.00	0.80	1.80	9.60	26.20	**	100.60	21.80	6.40	0.00	0.00	170.4
2009	5.20	0.00	0.80	3.23	**	**	6.08	50.76	7.20	16.60	0.00	0.00	89.9
2010	0.00	0.00	0.00	0.00	7.60	48.8	75.6	46.4	18.0	16.3	3.05	0.00	215.8
2011	0.00	6.40	0.20	0.40	15.3	56.0	101.8	64.8	15.6	4.40(A)	0.15**	3.94**	269.0
2012	9.0**	9.9**	34.9	0.0	0.1**	32.1	44.8	20.6	26.1	16.5	17.1	18.4	229.5

Source: X:\01_SITES\Minto\!020_Site_Wide_Data\Water_and_Load_Balance_Files\02_Hydrology_and_Meteorology\Met_Data\Minto_MasterStationFile_20120222.xlsx[MintoMemoTable]
Notes: ** partial data only.
(A) Measurement transitioned from rainfall to total precipitation on Oct. 15/2011.
Green highlight: total precipitation measurements.

Regional precipitation data were available from a number of meteorological stations in the Yukon (Table 2-3). Rainfall data from each station were correlated with precipitation data collected from the Minto site to determine whether long-term regional precipitation data would be suitable for use as a basis for estimating annual precipitation at the Minto Site.

As expected, the rainfall data at the closest regional meteorological station at Pelly Ranch (Climate ID: 2100880), located 23 km from the Minto Mine, resulted in the best correlation with rainfall data from the site. The precipitation record at Pelly Ranch dates back to December 1951 and has continued to the present day. Measured monthly and annual average precipitation at the Pelly Ranch station (1951 to 2012) are shown in Table 2-4. Figure 2-3 shows a plot of monthly rainfall values at Minto and at the Pelly Ranch station. The correlation can be expressed as:

$$Minto\ Rainfall = 0.88 * Pelly\ Ranch\ Rainfall \tag{6}$$

Table 2-3 Regional Meteorological Stations

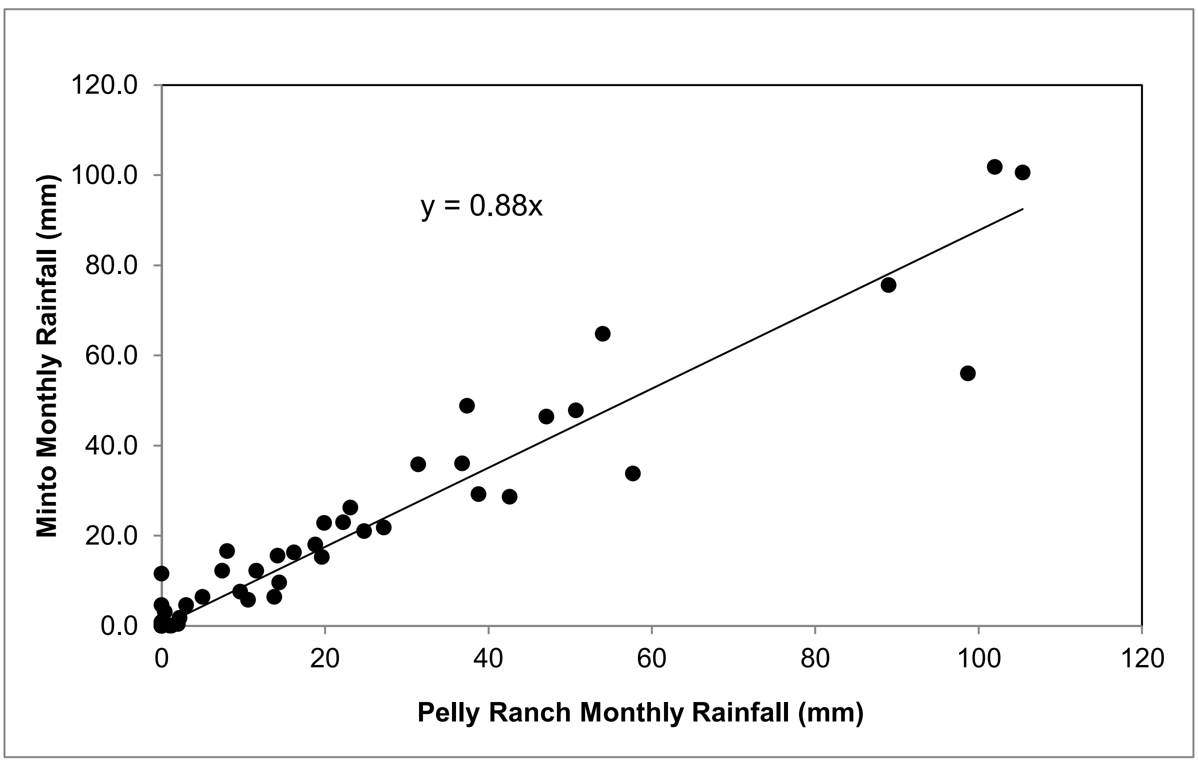
Station	Latitude	Longitude	Distance From Site (km)	Elevation (m)	Record Begins	Record Ends
Minto Site	62°36'59"	137°15'00"	0	887.0	Sep-05	Present
Burwash Airport	61°22'00"	139°03'00"	167.8	806.8	Oct-66	Present
Carmacks	62°06'00"	136°18'00"	109.2	524.9	Aug-63	Present
Dawson Airport	64°02'35"	139°07'40"	184.2	370.3	Jan-76	Present
Faro Airport	62°12'27"	133°22'33"	204.6	716.6	Dec-77	Present
Haines Junction	60°46'21"	137°34'49"	205.8	595.3	Oct-44	Present
Mayo Airport	63°37'00"	135°52'00"	131.2	503.8	Oct-11	Present
McQuesten	63°36'00"	137°31'00"	110.2	457.0	Oct-86	Present
Pelly Ranch	62°49'00"	137°22'00"	23.0	454.2	Dec-51	Present
Whitehorse Airport	60°42'34"	135°04'07"	241.3	706.2	Apr-42	Present

Source: SRK, :\01_SITES\Minto\!020_Site_Wide_Data\Water_and_Load_Balance_Files\02_Hydrology_and_Meteorology\Regional_Analysis\Regional Precipitation Data\Regional_Met_Station_Summary_1CM002.003_Rev01_TC.xlsx

Table 2-4 Recorded Average Monthly Precipitation at Pelly Ranch (1951 to 2012)

Month	Average Rainfall (mm/month)	Average Snowfall as Water Equivalent (mm/month)	Average Total Precipitation (mm/month)
Jan	0.09	20.1	20.2
Feb	0.09	14.2	14.3
Mar	0.16	11.1	11.3
Apr	3.53	6.5	10.0
May	21.84	0.4	22.3
Jun	36.92	0.0	36.9
Jul	54.56	0.0	54.6
Aug	39.88	0.0	39.9
Sep	26.12	2.2	28.3
Oct	7.66	15.5	23.1
Nov	0.34	26.2	26.5
Dec	0.09	21.3	21.4
Total (mm/year)	191.3	117.5	308.8

Source: Z:\01_SITES\Minto\!020_Site_Wide_Data\Water_and_Load_Balance_Files\2_Hydrology_and_Meteorology\Met_Data\Minto_MasterStationFile_20130607.xlsx



Source:Z:\01_SITES\Minto\!020_Site_Wide_Data\Water_and_Load_Balance_Files\02_Hydrology_and_Meteorology\Met_Data\Minto_MasterStationFile_20130607.xlsx

Figure 2-3 Comparing Minto Mine and Pelly Ranch Rainfall (Sept. 2005 to Sept. 2011)

A comparison of snow-water equivalent data from Minto and Pelly Ranch (not shown) resulted in the following correlation:

$$Minto\ Snowfall = 1.24 * Pelly\ Ranch\ Snowfall \tag{7}$$

Based on these correlations the annual precipitation at Minto correlates to the annual precipitation at Pelly Ranch as follows:

$$Minto\ Annual\ Total\ Precipitation = 1.09 * Pelly\ Ranch\ Annual\ Total\ Precipitation \tag{8}$$

Table 2-5 shows the estimated average total annual precipitation values for Minto based on the correlation with Pelly Ranch precipitation data.

A frequency (or probability) distribution of total annual precipitation was developed for the Minto site based on the long-term total precipitation record available for the Pelly Ranch station. Pelly Ranch precipitation values were only used if a calendar year contained valid information for more than 95% of the total number of days in that year. The use of this data quality criteria resulted in a total of 51 years of valid data to be included in the frequency distribution analysis.

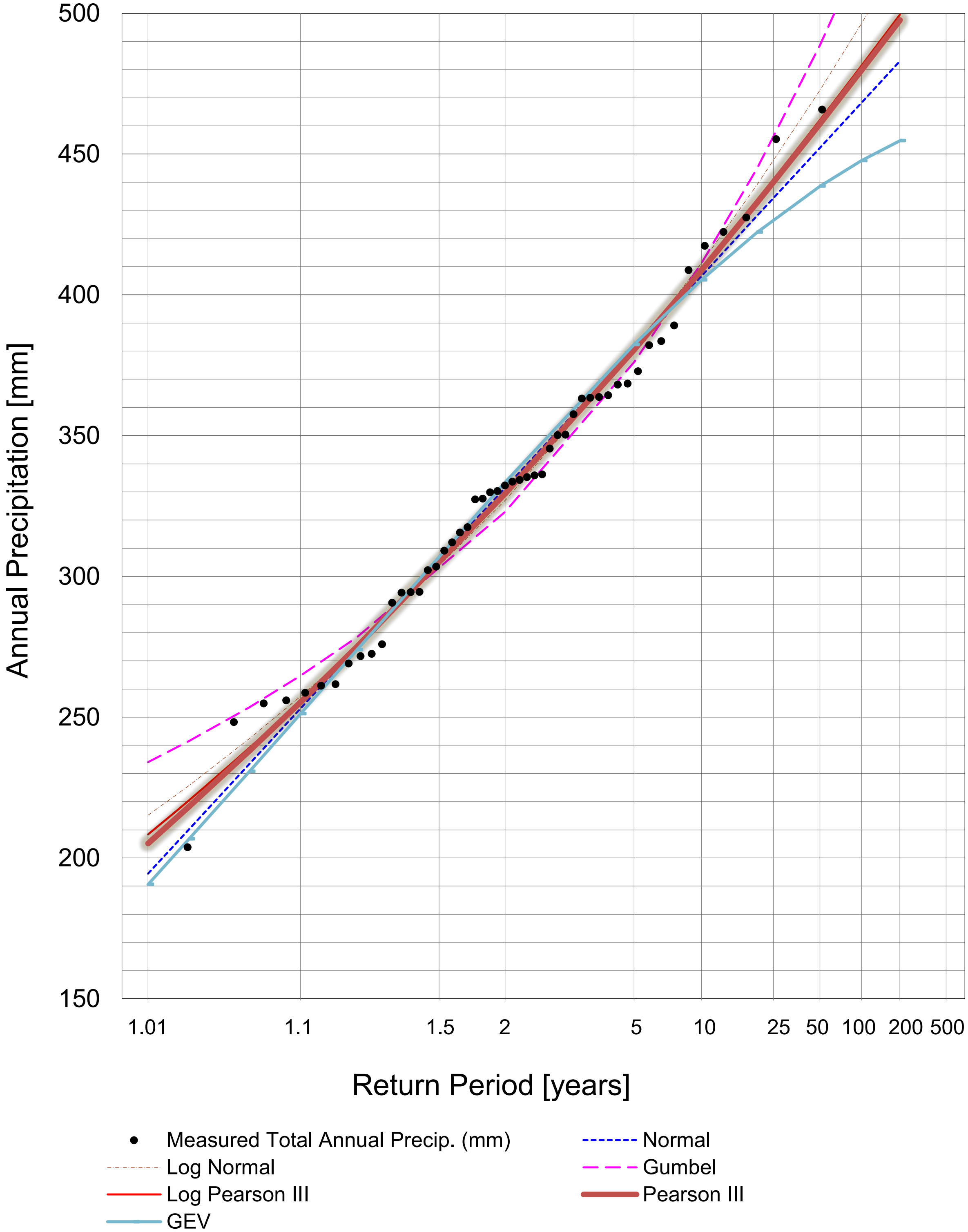
The 51 years of annual precipitation data were fitted against six different statistical distributions: Normal, Log-Normal, Gumbel, Log-Pearson, Pearson III, and GEV. The best fit was obtained with a Pearson III Distribution (r^2 = 0.99). This Intensity/frequency distribution was used as input for the water balance model. The final results are presented in Figure 2-4 and Table 2-6.

Table 2-5 Estimated Average Precipitation at Minto Based On Pelly Ranch Precipitation Data

Month	Average Rainfall (mm/month)	Average Snowfall (mm/month)	Average Total Precipitation (mm/month)
Jan	0.08	28.6	28.7
Feb	0.08	20.3	20.4
Mar	0.14	15.9	16.0
Apr	3.10	9.29	12.4
May	19.16	0.63	19.8
Jun	32.38	0.00	32.4
Jul	47.85	0.00	47.9
Aug	34.98	0.02	35.0
Sep	22.91	3.07	26.0
Oct	6.72	22.0	28.7
Nov	0.30	37.3	37.6
Dec	0.08	30.4	30.4
Total (mm/year)	167.8	167.5	335.3

Source:Z:\01_SITES\Minto\!020_Site_Wide_Data\Water_and_Load_Balance_Files\2_Hydrology_and_Meteorology\Met_Data\Minto_MasterStationFile_20130607.xlsx

The estimated average total precipitation for Minto was slightly lower for the frequency analysis (329 mm/year) than for the direct computation using the average total precipitation value from Pelly Ranch (335 mm/year). This difference is a result of the imperfect fit between the data and the distribution model that is used. In the interest of consistency with frequency distribution approach, the total precipitation value generated by the Pearson III distribution (329 mm) was used as input to the water balance model.



Source: Z:\01_SITES\Minto\!020_Site_Wide_Data\PMP & PMF\PMP Hershfield Estimation & Freq Distribution_VM_Rev4_SRJ.xlsx

Figure 2-4: Precipitation Frequency Analysis for the Minto Mine Site

Table 2-6 Precipitation Frequency Analysis Statistics

Cumulative Probability	Return Period	Season	Normal	Log Normal	Gumbel	Log Pearson III	Pearson III	GEV
0.005	200	Wet	483	519	554	499	498	455
0.01	100		468	496	521	481	480	448
0.02	50		452	473	489	462	461	439
0.05	20		428	439	445	434	433	422
0.1	10		407	411	411	409	409	405
0.2	5		381	380	376	380	380	382
0.5	2		331	327	323	329	329	333
0.8	5	Dry	275	275	278	275	275	274
0.9	10		253	257	265	256	255	251
0.95	20		233	242	254	239	238	231
0.98	50		210	226	242	220	218	207
0.99	100		194	215	234	208	205	191
	R^2		0.98	0.98	0.97	0.98	0.99	0.97

Source: Z:\01_SITES\Minto\!020_Site_Wide_Data\PMP Hershfield Estimation & Freq Distribution_VM_Rev4_SRJ.xlsx

2.2.2 Evaporation

Evaporation is not measured at the Minto site. Monthly lake evaporation (aka potential evaporation) has been recorded at the Pelly Ranch station from 1965 to 2005; the mean annual lake evaporation value is 452 mm. In historical revisions of Minto‘s water balance, open water evaporation and evapotranspiration were estimated based on the regional data and model estimates.

Estimated evaporation values for the site were adopted from work completed by Clearwater Consultants Ltd. as part of the previous year‘s water balance update completed for the mine site (CCL 2010). Table 2-7 shows the adopted monthly evaporation values, which for modelling purposes were assumed to be constant for each year included in the scenario runs.

Evaporation estimates are associated with considerable uncertainty. However, in the present model revision, evaporation losses were only discretely applied to open water bodies, including the pit lakes and the Water Storage Pond. A sensitivity analysis was completed to quantify the effect of uncertainties associated with the annual evaporation rate. The analysis showed that a difference of +/- 100 mm of annual evaporation would make a +/- 2.6% difference to the annual water balance (net inflow) estimate, which was considered to be relatively insignificant in the context of other uncertainties and year-to-year variability.

Table 2-7 Estimated Monthly Open Water Evaporation Values for Minto

Month	April	May	June	July	August	September	Total
Evaporation (mm)	12	83	119	112	83	30	438

Source:
Z:\01_SITES\Minto\!020_Site_Wide_Data\Water_and_Load_Balance_Files\01_Project_Phases\04_Amendment_8_Support\02_Source_Term_Archive\[Minto Mine Water Balance_2011 Update Modified Goldsim_SRJ_Rev01

2.2.3 Catchments

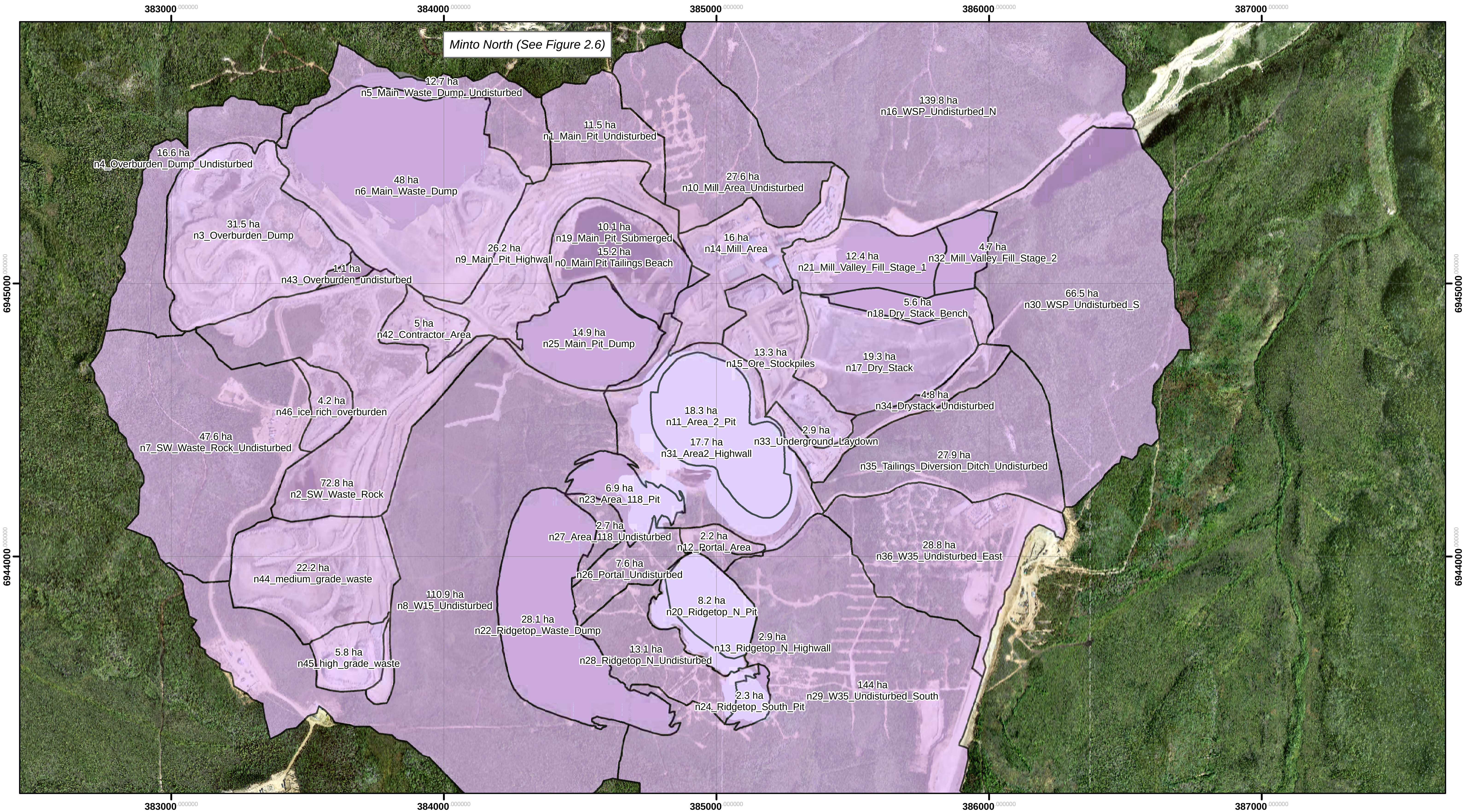
The Minto Mine site, excluding the proposed Minto North Pit, is located within the Upper Minto Creek watershed. For the purposes of this report, Upper Minto Creek will refer to the portion of the Minto Creek catchment upstream of the Water Storage Dam. The catchment downstream of the Water Storage Dam will be referred to as Lower Minto Creek. The Upper Minto Creek catchment covers an area of 1,065 ha, which has been divided into sub-catchments for modeling purposes. Table 2-8 and Figure 2-5 show Upper Minto Creek sub-catchments that were delineated for the Phase V/VI water balance model.

The Minto North Pit is located within the McGinty Creek catchment to the north of the Minto Mine. Table 2-9 and Figure 2-6 shows McGinty Creek sub-catchments delineated for the Phase V/VI water and load balance model.

Table 2-8 Upper Minto Creek Catchment Areas

Sub-Catchment	Area (ha)
n0_Main Pit Tailings Beach	15.2
n1_Main_Pit_Undisturbed	11.5
n2_SW_Waste_Rock	72.8
n3_Overburden_Dump	31.5
n4_Overburden_Dump_Undisturbed	16.6
n5_Main_Waste_Dump_Undisturbed	12.7
n6_Main_Waste_Dump	48.0
n7_SW_Waste_Rock_Undisturbed	47.6
n8_W15_Undisturbed	110.9
n9_Main_Pit_Highwall	26.2
n10_Mill_Area_Undisturbed	27.6
n11_Area_2_Pit	18.3
n12_Portal_Area	2.2
n13_Ridgetop_N_Highwall	2.9
n14_Mill_Area	16.0
n15_Ore_Stockpiles	13.3
n16_WSP_Undisturbed_N	139.8
n17_Dry_Stack	19.3
n18_Dry_Stack_Bench	5.6
n19_Main_Pit_Submerged	10.1
n20_Ridgetop_N_Pit	8.2
n21_Mill_Valley_Fill_Stage_1	12.4
n22_Ridgetop_Waste_Dump	28.1
n23_Area_118_Pit	6.9
n24_Ridgetop_South_Pit	2.3
n25_Main_Pit_Dump	14.9
n26_Portal_Undisturbed	7.6
n27_Area_118_Undisturbed	2.7
n28_Ridgetop_N_Undisturbed	13.1
n29_W35_Undisturbed_South	144.0
n30_WSP_Undisturbed_S	66.5
n31_Area2_Highwall	17.7
n32_Mill_Valley_Fill_Stage_2	4.7
n33_Underground_Laydown	2.9
n34_Drystack_Undisturbed	4.8
n35_Tailings_Diversion_Ditch_Undisturbed	27.9
n36_W35_Undisturbed_East	28.8
n42_Contractor_Area	5.0
n43_Overburden_undisturbed	1.1
n44_medium_grade_waste	22.2
n45_high_grade_waste	5.8
n46_ice_rich_overburden	4.2
Total Catchment Area	**1065.0**

Source:X:\01_SITES\Minto\!020_Site_Wide_Data\Water_and_Load_Balance_Files\04_Catchments\Phase_V_VI_Catchments\Minto_Phase_V_VI_Catchment_Table.xlsx



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Legend

Upper Minto Creek Sub-Catchments

srk consulting

Job No: 1CM002.003

Filename: PhV_VI_Minto_Sub_Catchments_REV02_SRJ

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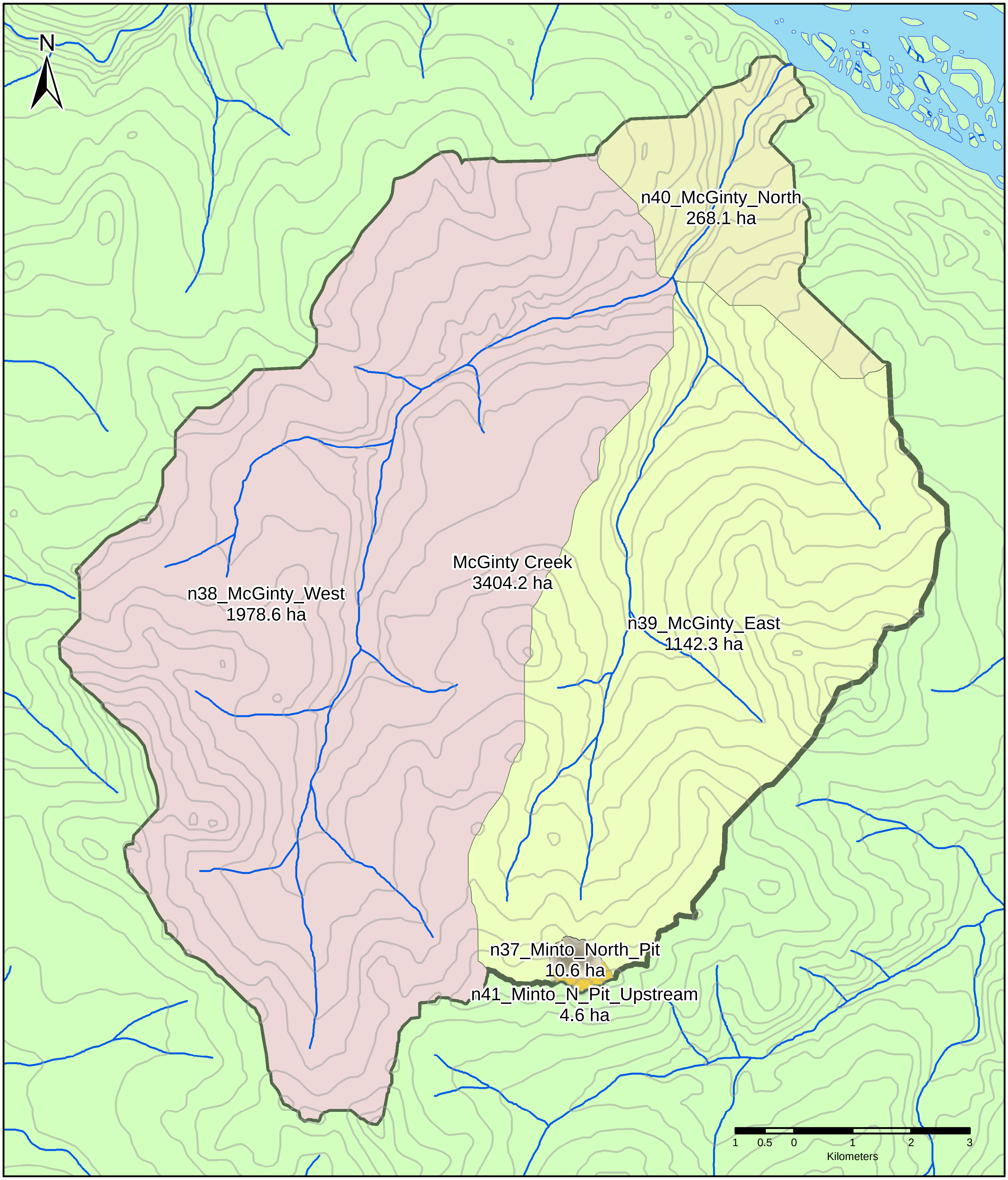
Minto Mine Phase V/VI Expansion
Water and Load Balance Report

Upper Minto Creek Sub-Catchments

Date:	Approved:	Figure:
11 April 2013	SRJ	2.5



srk consulting	CAPSTONE MINING CORP. MINTO MINE	Minto Mine Phase V/VI Expansion Water and Load Balance Report
		McGinty Creek Sub-Catchments
Job No: 1CM002.003 Filename: PhV_VI_Minto_North_REV04_SRJ	Minto Mine	Date: 11 June 2013 | Approved: SRJ | Figure: **2.6**

Table 2-9 McGinty Creek Sub-Catchments

Sub-Catchment	Area (ha)
n37_Minto_North_pit	10.6
n38_McGinty_West	1978.6
n39_McGinty_East	1142.3
n40_McGinty_North	268.1
n41_Minto_N_Pit_Upstream	4.6
Total Catchment Area	**3404.2**

Source:X:\01_SITES\Minto\!020_Site_Wide_Data\Water_and_Load_Balance_Files\04_Catchments\Phase_V_VI_Catchments\Minto_Phase_V_VI_Catchment_Table.xlsx

2.2.4 Runoff Coefficient

As described in Section 2.1 the annual runoff volume can be estimated by multiplying the total annual precipitation by a site-wide runoff coefficient (Equation 3).

For the Phase V/VI water and load balance, the use of a site-wide runoff coefficient for land areas was found to be more appropriate than assigning specific runoff coefficients to areas with different land use and surface cover characteristics. Firstly, flow measurements on site (hydrological monitoring stations and flow meters) measure runoff collected from different land use areas, *i.e.* a combination of undisturbed and developed mine areas. This makes it difficult to evaluate runoff coefficients for any one type of land use area based on actual site performance data. Therefore, uncertainties associated with area-specific runoff coefficients would magnify the uncertainty of the site-wide water balance and it would be necessary to arbitrarily adjust each of the runoff coefficients to match the site-wide water balance. Secondly, during the operations and closure (pit filling) phases the available water storage capacity on site is generally greater than the annual volume of surface runoff, and therefore reliable forecasts of total site-wide annual runoff volumes are more important for water management planning than forecasts of runoff from individual sub-catchments.

Monitoring data collected on site since 2007 was used to estimate the value of the site-wide runoff coefficient for Upper Minto Creek. The runoff coefficient estimate is updated once a year in conjunction with the annual water balance update for the site. The 2012 water balance update (Appendix A) generally agreed with the established runoff coefficient value of 0.30, which was derived based on previous years‘ water balance data.

The estimated total annual precipitation at the Minto Mine has generally been greater than 300 mm/year for the period 2007 to 2012. Consequently, the site-wide runoff coefficient of 0.30 was effectively derived for annual precipitation greater than 300 mm/year. Therefore, this runoff coefficient may be inappropriately high for estimating runoff in relatively dry years. In order to account for this the site-wide runoff coefficient for dry years was assigned lower values in the water balance model. The dry year coefficients were based on work completed by Clearwater Consultants Ltd. (CCL 2010) for the Minto Mine site as follows:

- A runoff coefficient of 0.15 was used for dry years with less than 190 mm total precipitation.
- A runoff coefficient of 0.30 was used for years with greater than 309 mm total precipitation.

- Runoff coefficients for years with total precipitation between 190 mm and 309 mm were interpolated values between 0.15 and 0.30.

Figure 2-7 shows runoff coefficient values used in the model as a function of total annual precipitation.

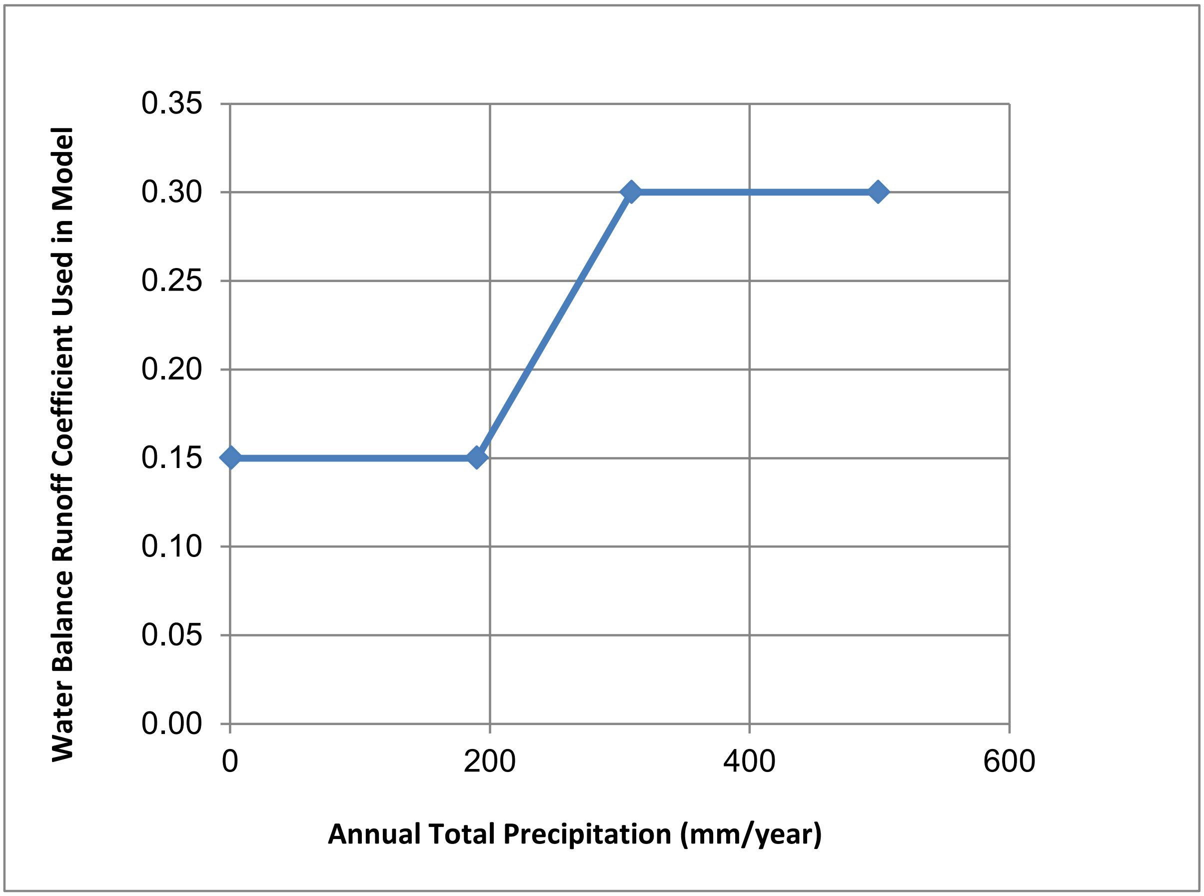


Figure 2-7 Water Balance Runoff Coefficient vs. Total Annual Precipitation

The one exception is that open water areas (flooded pits and the WSP) were treated differently than land areas. Open water were assigned a runoff coefficient of 1.0 along with an annual evaporation rate. This approach relies on the assumptions that any precipitation that falls on a water body becomes part of the water inventory and that the open water evaporation rate is relatively constant from year to year. As discussed in Section 2.2.2, the effect of uncertainty associated with the estimate of annual evaporation on the site-wide water balance is relatively insignificant.

2.2.5 Runoff Distribution

The natural hydrograph for the Minto Creek catchment can vary considerably from year to year. This variability is an important consideration when designing conveyance structures and storage reservoirs for shorter-term storm events. However, the specific daily or monthly runoff distribution does not significantly affect Minto's site-wide water balance during operations and closure. The Phase V/VI water management plan (Minto 2013a) has been developed to ensure that storage capacity is roughly equivalent to an average year's runoff from the Upper Minto Creek catchment is available at all times, and specifically available on October 31 of each year. Therefore, regardless of the timing and intensity of freshet runoff or storm events Minto's ability to store and manage the total annual runoff volume will not be compromised.

Because Minto's site-wide water balance is relatively unaffected by short-term runoff events, a fixed monthly runoff distribution was adopted for the water balance model. The fixed monthly runoff distribution used in the water balance model was based on observed monthly flows rates at the hydrometric stations at W3 and W1 in Minto Creek. Figure 2-8 shows the measured runoff distributions at W3 and W1 as well as the distribution that was used in the model.

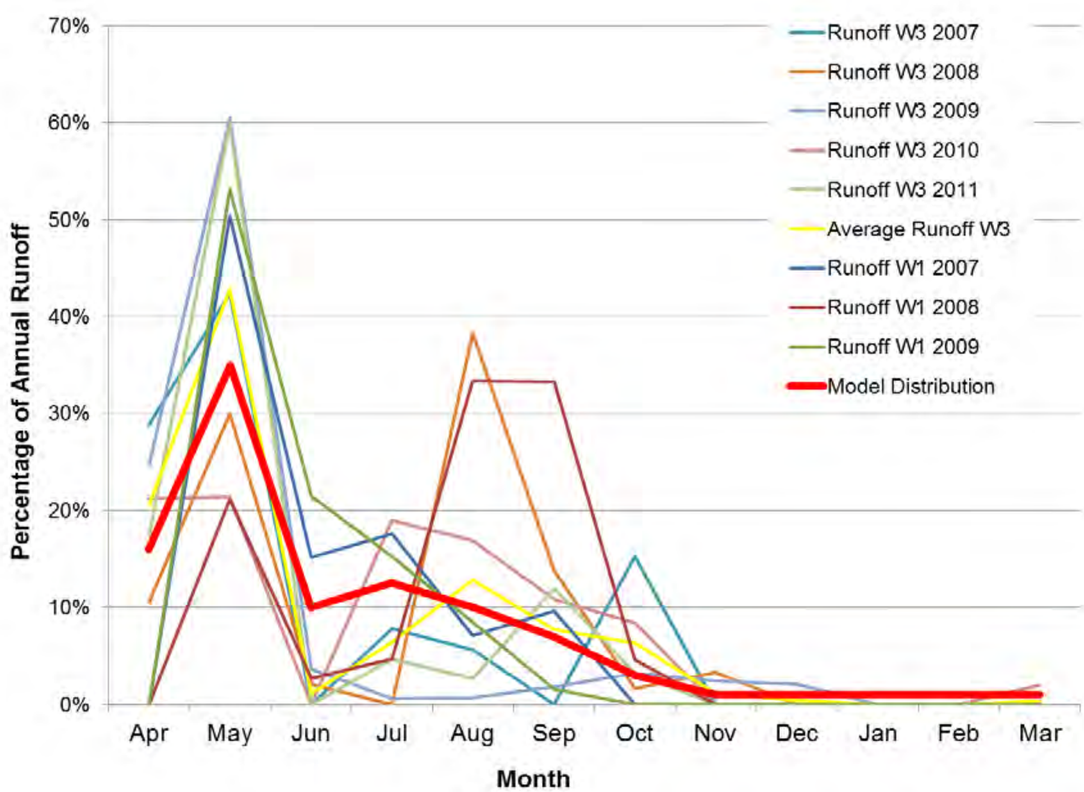


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Figure 2-8 Runoff Distribution Model

2.2.6 Reservoirs

Reservoirs on the Minto Mine site include the open pits, the tailings pores, and the Water Storage Pond. In terms of the water and load balance, the available storage capacity is the attribute of greatest interest. In the model, the available storage capacity is defined as the volume that can be filled with water, waste rock and tailings solids. Requirements for freeboard and contingency storage are not considered to be available storage and are therefore not included in values for available storage capacity.

Main Pit

The Main Pit was mined between 2007 and 2011. Since completion of mining, the pit has been used for storage of mine water and for deposition of Phase IV waste rock and tailings. The estimated total storage capacity of the Main Pit below an elevation of 786 m is 4,225,000 m^3. In February 2013 approximately 1,600,000 m^3 of free mine water was stored in the Main Pit along with approximately 600,000 m^3 of bulk saturated waste rock and tailings. Because of a requirement for 975,000 m^3 of contingency storage the available storage capacity was approximately 1,000,000 m^3 at that time. The Main Pit is intended to be further developed as a tailings management facility (TMF) for Phase V/VI. The proposed TMF includes the construction of a tailings-retaining dam on the east side of the Main Pit; the conceptual design for the proposed dam calls for a crest elevation of 806 m, and a full supply level of 804 m. This would increase the total storage capacity to approximately 7,000,000 m^3. Details concerning tailing deposition and water management are presented in the Minto Phase V/VI Tailings Management Plan (Minto 2013b).

Area 2 Pit

Development of the Area 2 Pit commenced in 2011 and mining is expected to be completed in 2016. The available storage capacity of the Area 2 Pit is expected to be 2,000,000 m^3 as of mid-2014 when mining of Stage 2 has been complete and approximately 7,900,000 m^3 following the completion of Stage 3 in 2016. During the Phase V/VI development the Area 2 Pit will be used for storage of mine water and as a TMF. As the Main Pit is receiving tailings, the Area 2 Pit will transition to become the primary mine water management reservoir and eventually the source of reclaim water for the mill. At the end of the mine life in 2022 it is anticipated that approximately 2,500,000 m^3 of bulk tailings and more than 1,000,000 m^3 of waste rock will be stored sub-aqueously in the Area 2 Pit.

Ridgetop North Pit

The Ridgetop North Pit is scheduled for development in 2016/2017 and mining is expected to be complete by the end of 2017. The available storage capacity of the Ridgetop North Pit is approximately 1,900,000 m^3. The pit will be developed as a TMF and is expected to be filled with tailings within two years of completion. The Ridgetop North Pit will not be used as a reservoir for storage of mine water. Any water that may accumulate in the pit will be transferred to the Area 2 Pit. The deposition of tailings and subsequent placement of a reclamation cover result in there being no basin for water storage in the Ridgetop North Pit over the long term.

Ridgetop South Pit and Area 118

The Ridgetop South and Area 118 Pit are relatively small with estimated storage capacities of approximately 300,000 m^3 and 200,000 m^3, respectively. Both pits are expected to be filled in with overburden shortly after mining is completed. Therefore, neither pit is considered to be a reservoir for storage of mine water or runoff. Water that reports to the two pits during active mining will be transferred to the Area 2 Pit.

Minto North

The Minto North Pit is expected to be developed and mined in 2014 and 2015. During that time, mine water collected in the pit will be pumped to Main Pit TMF. When mining is complete the pit will be allowed to fill and a pit lake is expected to form (based on baseline groundwater levels in the area). There are no plans to store tailings in the Minto North Pit.

Water Storage Pond

The WSP was constructed in 2007 and currently has a maximum water storage volume of 320,000 m^3. Historically, the WSP has been used as a source of process water for the mill. However, in Phase V/VI the WSP is intended as a storage reservoir for clean runoff destined for release to Minto Creek. During closure, the Water Storage Dam will be breached; the footprint of the existing WSP will most likely be reclaimed as a wetland, and the water storage capacity is expected to be on the order of magnitude of the WSP volume.

Tailings

Minto halted deposition of tailings to the Dry Stack Tailings Storage Facility in November 2012 and transitioned to sub-aqueous deposition of tailings in the Main Pit TMF. Through Phase V/VI tailings will primarily be deposited such that they will be saturated over the long term, with a minor volume forming unsaturated beaches in the Main Pit TMF and the Ridgetop North Pit TMF. Details concerning tailings deposition management are available in the Minto Phase V/VI Tailings Management Plan (Minto 2013b). The water and load balance model incorporates projected water volumes associated with tailings slurry, with mill reclaim water, and with pore-water in the settled tailings mass.

3 Load Balance Inputs

The load balance for Minto Mine Phase V/VI was developed to evaluate the potential effects of water quality parameter loadings from mine components on water quality in lower Minto Creek. Table 3-1 shows a summary of geochemical source terms developed for the Phase V/VI water and load balance. Figure 3-1 shows the allocation of source term by sub-catchments within Upper Minto Creek. Each source term represents an estimate of runoff water quality (mg/L) or parameter loadings (mg/year) contributed by a sub-catchment or mine component.

Source term estimates were generated for two scenarios described as “Expected Case” and “Reasonable Worst Case”. The Expected Case scenario is intended to typical geochemical loadings (including the scale of variability observed to date) while the Reasonable Worst Case represents an upper limit to water quality parameter concentrations that may be observed in the mine water on site and consequently in Lower Minto Creek.

Source terms defined as concentrations (mg/L) were incorporated in the load balance model by assigning the water quality to all flow from the corresponding sub-catchment. Alternately, source terms which were defined as loadings were added as a “dry” load to the appropriate flow or water reservoir.

Details concerning the development of source terms are described in the report “Minto Mine Phase V/VI Expansion: ML/ARD Assessment and Inputs to Water Quality Predictions” (SRK 2013).

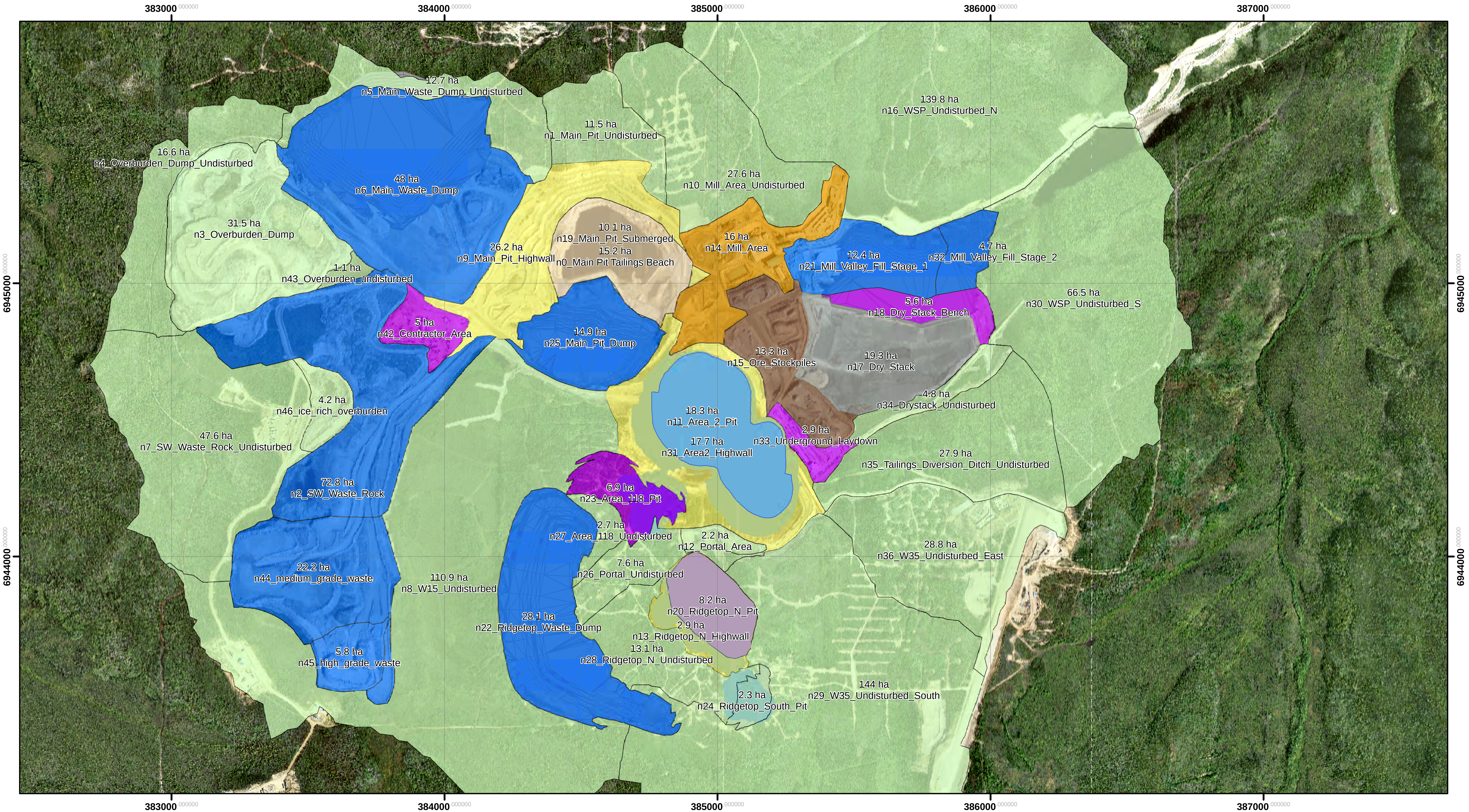
Estimates of background water quality were developed by Minnow Environmental and Access Consulting Group. In 2009, Minnow Environmental compiled Minto Creek water quality monitoring data into a pooled data set that reflected background conditions (i.e. conditions not affected by mine development activities). In 2012, data from background monitoring stations were added to the data set. A comparison of the summary statistics for the 2009 and 2012 datasets shows that there was a substantial change in the background water quality in Minto Creek in 2011 and 2012 and that this change was a result was caused by loadings from a tributary in Lower Minto Creek (a discussion of the change in background water quality can be found in Project Proposal Sections 6 and 7 (Minto 2013c)). In order to account for these loadings, the background data set developed in 2012 was applied to catchments in lower Minto Creek while the data set developed in 2009 was used to represent background conditions in Upper Minto Creek (Project Proposal Section 6 (Minto 2013c)).

Sources representing mine components were incorporated as dissolved loads. Background catchment runoff was also incorporated as dissolved load. To account for increases in parameter concentrations arising from suspended solids in mine discharge, a separate source term for suspended solids was introduced at the point of discharge in the model.

Table 3-1 Summary of Load Balance Source Terms

Source Term	Units	Applies to
Background Lower Minto Creek	mg/L	Undisturbed catchments downstream of the Minto Mine site
Background Upper Minto Creek	mg/L	Undisturbed catchments within the Minto Mine site
Dry Stack Talings Seepage	mg/L	Runoff from the Dry Stack Tailings Storage Facility
Main Pit TMF Unsaturated Tailings Load	mg/year	Main Pit TMF
Mill Area Loadings	mg/year	Mill Area
Minto North Background	mg/L	Undisturbed sub-catchments in McGinty Creek
Minto North Pit Loadings	mg/year	Minto North Pit
Nitrogen Contribution	mg/L	Added to all water released from the mine to account for loadings of nitrogen species
Ore Stockpile Concentrations	mg/L	Ore Stockpile Area, Operations
Ore Stockpile Loadings	mg/year	Ore Stockpile Area, Closure
Pit Wall Loadings	mg/year	All pit walls
Ridgetop TMF Unsaturated Tailings Load	mg/year	Ridgetop North TMF
Tailings Slurry	mg/L	Tailings slurry supernatant
TSS Contribution	mg/L	Added to all water released from the mine to account for composition of suspended solids
Waste Rock Loadings	$mg/m^3/year$	Large Waste Rock Dumps and Mill Valley Fill Expansion (Stage 1 and Stage 2)

Source: X:\01_SITES\Minto\!020_Site_Wide_Data\Water_and_Load_Balance_Files\01_Project_Phases\07_Phase_5_6\Model Report\Tables\Source_terms_Summary_1CM002.003_REV00_SRJ.xlsx



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0 75 150 300 450 600 Meters

Legend

Minto Phase V/VI Source Term Allocation

- Background Upper Minto Creek
- Drystack Seepage
- Main Pit TMF Unsaturated Tailings Load
- Mill Area Loadings
- None
- Ore Stockpile Loadings or Concentrations
- Pit Wall Loadings
- Ridgetop TMF Unsaturated Tailings Load
- Waste Rock Concentrations
- Waste Rock Loadings

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Job No: 1CM002.003

Filename: PhV_VI_Source_Terms_REV01_SRJ

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Minto Mine

Minto Mine Phase V/VI Expansion
Water and Load Balance Report

Source Term Allocation

Date:	Approved:	Figure:
11 June 2013	SRJ	3.1

4 Model Implementation

4.1 Model Version

The water and load balance model for Minto was developed using the GoldSim software package (version 10.5). The model scenarios described here were implemented in model Version #49.

4.2 General Modelling Approach

4.2.1 Stochastic Water Balance Model

Water balance results for the Phase V/VI water balance model were generated by running the model as a Monte Carlo simulation. Monte Carlo simulations are well suited for situations where the value of a key input cannot be predicted but where the distribution of the input is known or can be adequately estimated. Total annual precipitation for the Minto site is an example of such a variable. Although it is not possible to predict the rate of annual precipitation in any given year, it is possible to develop a probability distribution (see Section 2.2.1).

In the Phase V/VI water balance Monte Carlo run, the model randomly selected a value for total annual precipitation from the probability distribution developed for the site (see the Pearson III distribution shown in Table 2-6, Section 2.2.1). Annual runoff volumes were then calculated by multiplying total annual precipitation by a runoff coefficient and catchment area (see Sections 2.2.3 and 2.2.4). The calculated runoff would then be distributed over all months of the year according to the typical hydrograph used in the model (described in Section 2.2.5). The model was run in this manner from year 2013 through 2045, each year with a randomly selected precipitation value, and all results were recorded and stored by the model. A total of 1000 model runs were completed in this way.

At the end of 1000 model runs, all results were compiled and probability distributions of the results were generated. Figure 4-1 shows an example of model results for a single year from the Monte Carlo simulation. For illustration purposes, a year well into the post-closure period is shown to avoid having the example be affected by active water management at site or by transient conditions that correspond to filling of pits in the closure period. The results show the possible range of flow rates from Upper Minto Creek to W3 as represented by the model. The most likely flow distribution is the mean flow (black line).

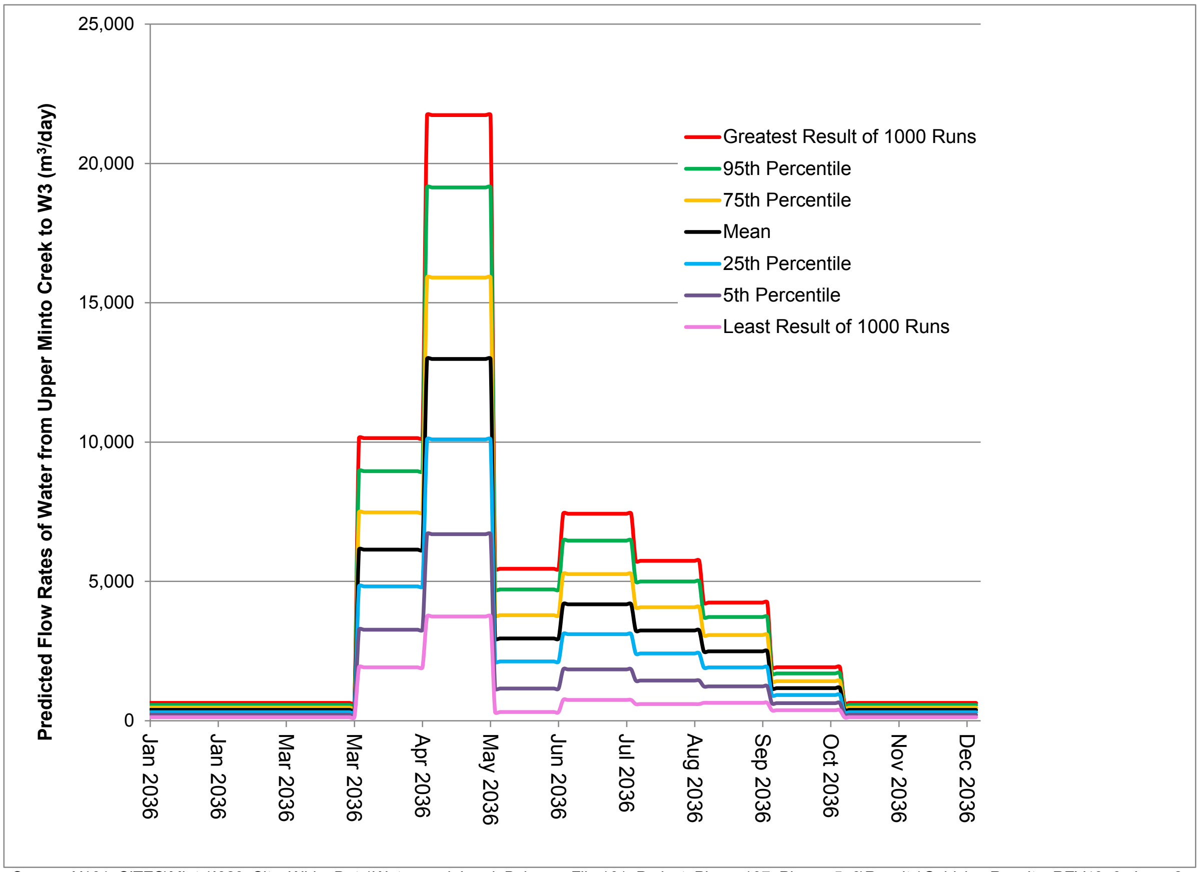

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Figure 4-1 Example of Result Generated by the Monte Carlo Simulation – Predicted Range of Average Flow from Upper Minto Creek to W3 in 2036

Routing of runoff in the model followed the plan detailed in the water management plan and closure plan for Phase V/VI as described in Section 4.3.1. The modelling period began on January 1, 2013 and ended on January 1, 2045. The operations period was modelled as ending at the end of August 2022, followed by a closure period of three to five years and then by the post-closure period.

4.2.2 Loading Balance Model

Loadings were incorporated in the model by associating loadings source terns with the corresponding water flows or mine components as follows:

- Concentration based source terms were applied as constant values to monthly runoff volumes from corresponding sub-catchments as described in Section 3.
- Loading based source terms were incorporated into the model as a –dry" load either to runoff or to water reservoirs. For example, loadings from tailings solids were applied to the water in the reservoir where tailings were deposited.

The development of loadings source terms is described in SRK (2013).

4.3 Water Management

The water management strategy developed for Phase V/VI (Minto 2013a) was incorporated in the water and load balance model. The focus of the water management strategy is to control the inventory of mine water stored on site. The water inventory will, to the extent possible, be managed by diverting clean (i.e. discharge compliant) surface runoff away from developed mine areas and towards the WSP and Minto Creek. Where necessary, treatment and subsequent discharge of mine-impacted water will be carried out as required to meet inventory targets. The modelling representation of water conveyance and water diversion options are described in the following sections.

4.3.1 Runoff and Mine Water Conveyance

Figure 4-2 to Figure 4-4 show examples of how water was routed in the water balance model at different stages of the Phase V/VI development.

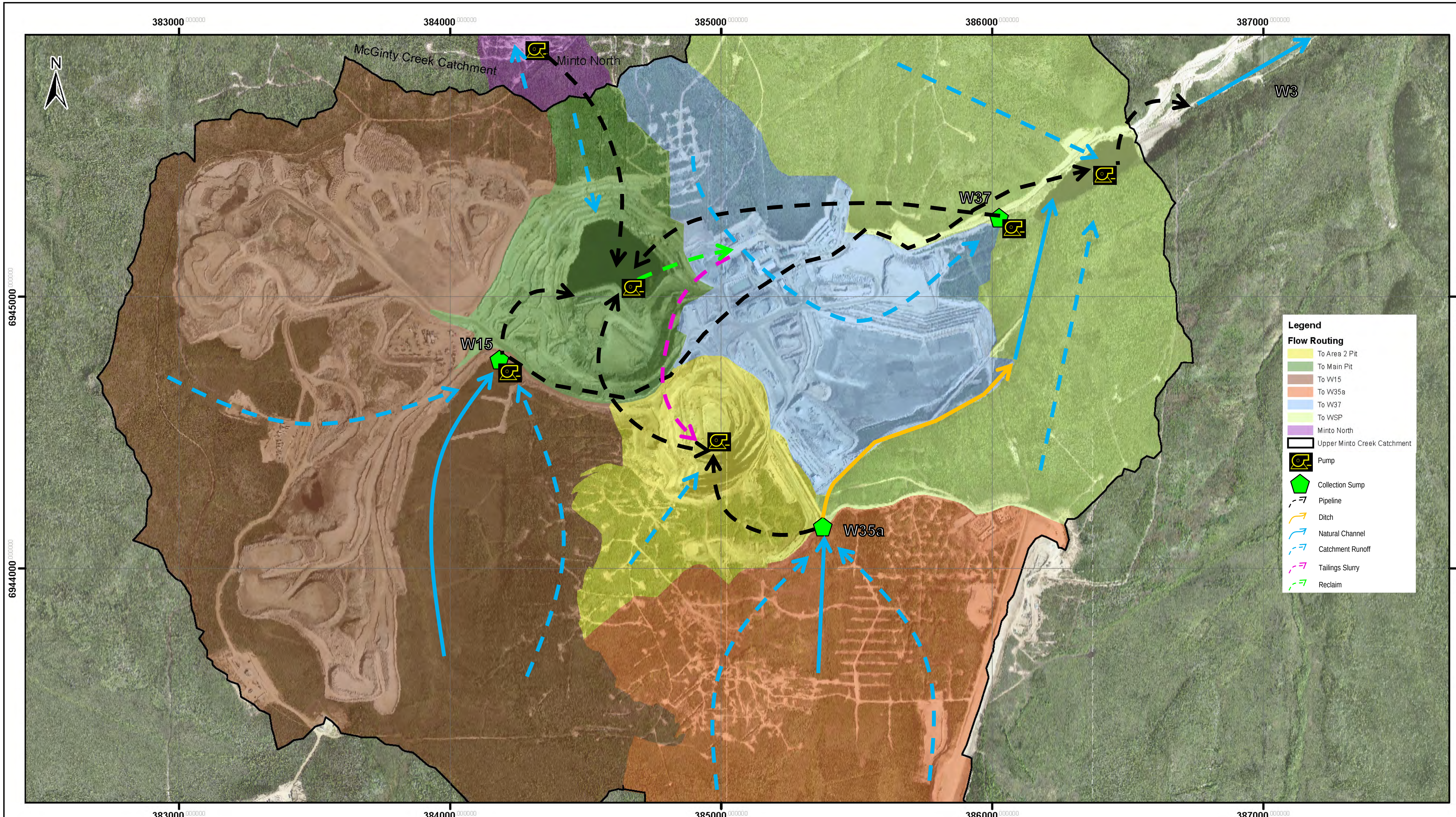
Early in the Phase V/VI development, routing of water was implemented in a manner similar to current (Phase IV) operational practices. In 2014 (Figure 4-2) water collected at W15 was directed to the Main Pit or to the WSP through the piping network on site. Runoff collected at W35a was partially directed to the WSP *via* the Tailings Diversion Ditch (60%) or to the Area 2 Pit (40%). Water reporting to the Area 2 Pit accumulated in the Stage 2 area and any excess water was transferred to the Main Pit. Mine water collected at W37 was pumped to the Main Pit, as was mine water from Minto North. In 2014, tailings were deposited in the Stage 2 area of the Area 2 Pit. However, reclaim water was sourced from the Main Pit.

In 2018 (Figure 4-3), the model assumed that the Area 2, Minto North and Ridgetop North pits had been completed and tailings were deposited in the Ridgetop North Pit. At that time, the Area 2 Pit was implemented as the main mine water management reservoir. All sources of mine water were conveyed to the Area 2 Pit, which was also the source of reclaim water.

At closure (Figure 4-4), water conveyance structures were assumed to be constructed to direct runoff as follows:

- Water collected at W15 reported to the Main Pit conveyance structure along with runoff from upstream catchment areas.
- The Main Pit conveyance structure reported to the Area 2 Pit, where a post-closure pit lake was assumed to form.
- Catchments upstream of the Area 2 Pit reported directly to the Area 2 pit lake.
- Water in the Area 2 Pit flowed via a spill-way through the former mill site and through a channel along the mine access road to the Minto Creek.
- Runoff from the former mill area and from slopes along the Mill Valley reported directly to Minto Creek.

Table 4-1 provides further details concerning the implementation of water routing in the water balance model.



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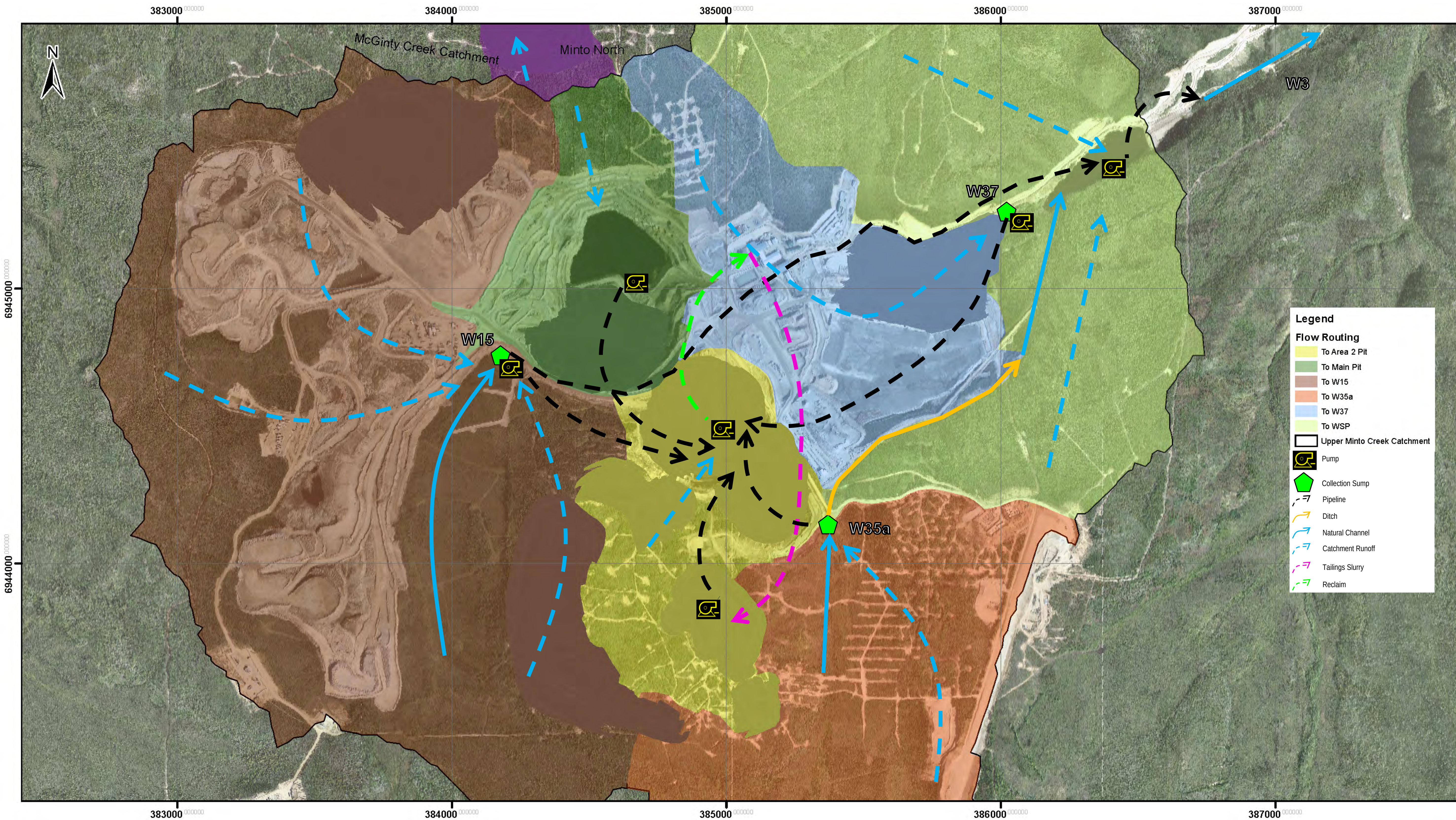
Minto Mine Phase V/VI Expansion: Water and Load Balance Model Report

Modelled Routing of Water: 2014

Job No:	1CM002.003	Minto Mine	Date: June 2013	Approved: SRJ	Figure: 4.2
Filename:	Fig_4-1_WaterFlow+Conveyance_2014.pptx				



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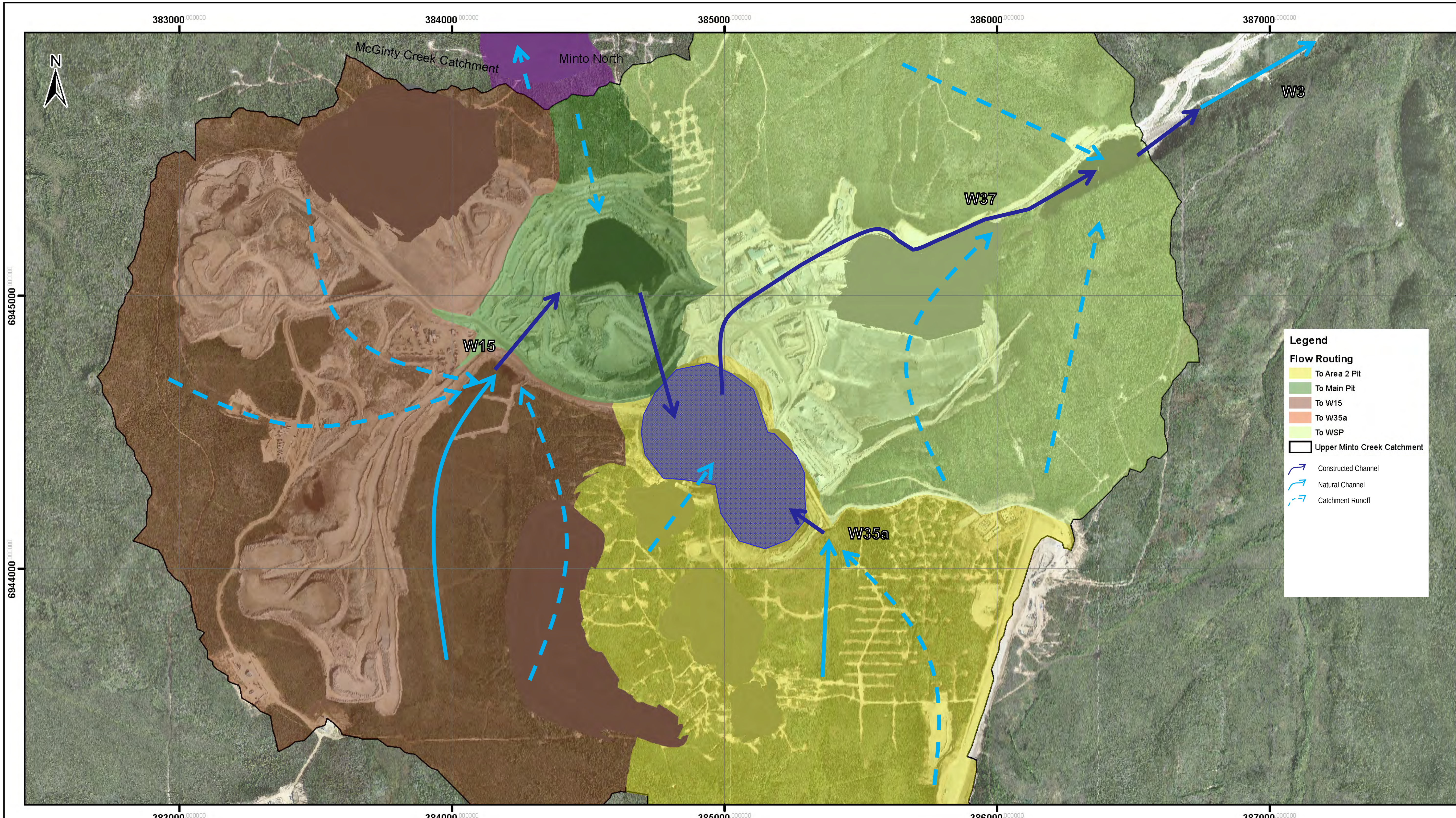
Minto Mine Phase V/VI Expansion: Water and Load Balance Model Report

Modelled Routing of Water: 2018

Job No:	1CM002.003	Minto Mine	Date: June 2013	Approved: SRJ	Figure: 4.3
Filename:	Fig_4-1_WaterFlow+Conveyance_2018.pptx				



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Modelled Routing of Water: Post-closure

Job No: 1CM002.003
Filename: Fig_4-1_WaterFlow+Conveyance_2018.pptx

Minto Mine

Date: June 2013 | Approved: SRJ | Figure: 4.4

Table 4-1 Modelled Routing of Runoff and Mine Water Conveyance

Input	Period	Reservoir	Output	Period
Surface Runoff	Always	WSP	Minto Creek	Always
W15	Until 2022			
W35a	Until 2022			
Area 2 Pit	2028 onwards			
W37	Until 2017	Main Pit	to Area 2	2018 onwards
Surface Runoff	Always			
Minto North Pit	2014 to 2015		to Water Treatment	Intermittently during operation
Area 2 Dewatering	2013-2014		Evaporation	Open water seasons
Tailings Slurry Water	Intermittently 2013 to 2021		Reclaim Water	2013 to 2018
W37	2017 to 2022	Area 2 Pit	Main Pit	2013-2014
Surface Runoff	Always			
W35a Sump	2022 onwards		to Water Treatment	Intermittently during operation
Ridgetop North Pit Water (Sump + Supernatant)	2015 to 2022		Evaporation	Open water seasons
Main Pit	2018 onwards		Reclaim Water	2018 to 2022
Tailings Slurry Water	Intermittently 2013 to 2021		to WSP	2028 onwards
Surface Runoff	Always	Ridgetop North Pit	to Area 2	2015 to 2022
Tailings Slurry Water	2018 to 2019		to W35a	2022 onwards
Surface Runoff	Always	Minto North Pit	to Main Pit	2014 to 2015
			to McGinty Creek	2018 onwards

4.3.2 Water Diversion Options

Table 4-2 shows a summary of major runoff collection points on the Minto Mine site, including W35a, W15 and the WSP. The runoff collection points offer opportunities for diverting clean runoff water away from developed mine areas.

The sub-catchments reporting to the WSP account for approximately 22% of the total catchment area of the Minto Creek catchment upstream of the Water Storage Dam. Runoff from the northwestern WSP catchment (n16_WSP_Undisturbed_N, see Figure 2-5) is collected in a ditch along the mine access road and flows through a culvert to the WSP. The western portion of the southern WSP catchment (n30_WSP_Undisturbed_S, see Figure 2-5) reports to the Tailings Diversion Ditch that follows the southern boundary of the Dry Stack Tailings Storage Facility. From the eastern terminus of the Tailings Diversion Ditch water will be piped to the WSP. Runoff from eastern-most portion of the southern catchment reports directly to the WSP.

Table 4-2 Minto Phase V/VI Runoff Collection Sumps and Water Diversion Options, Average Year

Sub-Catchment	Area (ha)	% of Minto Mine Site-Wide Catchment (%)	Diverted Clean Runoff, 60% Diversion Efficiency		Diverted Clean Runoff, 80% Diversion Efficiency	
			m^3/year	% of Site-Wide Runoff	m^3/year	% of Site-Wide Runoff
W35a	172	16%	120,000	14%	160,000	19%
WSP	235	22%	90,000	11%	120,000	14%
W15	374	36%	150,000	18%	200,000	24%
Diversion Options						
W35a + WSP	407	39%	210,000	25%	280,000	33%
W35a + WSP + W15	781	75%	360,000	42%	480,000	56%

If clean surface runoff does not meet the Phase V/VI water quality limits then water treatment may be required. Operational use of water treatment is discussed in Section 4.6.

The W35a catchments (n29_W35_Undisturbed_South and n36_W35_Undisturbed_East, see Figure 2-5) represent approximately 16% of the total catchment area of the Minto Mine site. During Phase V/VI, water collected at W35a will be conveyed to the Tailings Diversion Ditch and from there flow to the WSP.

Combined, the WSP and W35a catchments account for about 38% of the total Upper Minto Creek catchment area. The volume of runoff that can be diverted to the WSP depends on the collection and diversion efficiencies of the collection and conveyance system. Assuming that actual combined collection and diversion efficiencies range between 60% and 80%, the average annual runoff volume that would be diverted to the WSP would range between 210,000 m^3 and 280,000 m^3, or between 25% and 33% of the total runoff from Upper Minto Creek.

However, in order to reduce the current mine water inventory, or in the event that runoff volumes are greater than estimated, it may be advantageous or necessary to release additional water. If so, additional runoff may be diverted from W15 to the WSP (See Figure 4-2). W15 receives runoff from both undisturbed catchments and developed mine areas. However, the runoff that historically has reported to W15 has generally met water quality limits listed in Water Use License QZ96-006 for the months of May, June, July and August. The W15 catchment represents 36% of the total Upper Minto Creek catchment and could yield another 150,000 m^3 to 200,000 m^3 of relatively clean runoff. Therefore, with diversions in place for the WSP, W35a and W15 sub-catchments a total volume of 360,000 m^3 to 480,000 m^3 could potentially be available for release each year from the Minto Site.

In the water balance model it was assumed that 60% of all runoff that reports to W15 and W35a would be diverted to the WSP. If diversion of runoff is insufficient to control the water inventory then water collected in the Main or Area 2 pit was assumed to be treated and released to the WSP.

4.4 Tailings Slurry Deposition

Tailings slurry deposition was implemented in the water balance as follows:

- 2013 to Q1 2014: to Main Pit TMF
- Q1 2014 to Q2 2015: to Area 2 Pit TMF (Stage 2)
- Q2 2015 to Q1 2018: to Main Pit TMF
- Q1 2018 to Q4 2019: to Ridgetop North Pit TMF
- Q4 2019 to Q2 2021: to Main Pit TMF
- Q2 2021 to Q3 2022: Area 2 Pit TMF

The dry bulk tailings density was assumed to be 1.3 tonnes/m^3. Details concerning tailings slurry deposition for Phase V/VI are available in the Minto Mine Phase V/VI Tailings Management Plan (Minto 2013b).

4.5 Model Calibration

The approach used to calibrate the model was a site wide runoff coefficient that correlated the total annual precipitation to the total annual runoff. This approach avoids the large uncertainties inherent in quantifying appropriate input values for individual parameters (evaporation, evapotranspiration, sublimation, etc.) by determining a single site wide runoff coefficient based on measured values of both precipitation and catchment yield (stream flows) from historical records. The runoff coefficient approach integrates all catchment processes into a single empirical factor that describes the relationship between precipitation and catchment runoff.

In years for which the total annual precipitation was known, the actual (measured) total annual runoff was compared to the modelled total annual runoff. The modelled data was calibrated to the measured data by adjusting the runoff coefficient to achieve a best fit. After a suitable runoff coefficient was identified, it was used to model future site runoff estimates.

4.6 Water Treatment

The water treatment plant at Minto can be operated in a number of different configurations depending on the quality of feed water to be treated. Treatment options range from simple TSS removal to reverse osmosis (RO) treatment, which removes 95% to 99.5% of all constituents in the mine water.

In the load balance model, water treatment was assumed to be required if water from the Main Pit or Area 2 Pit had to be released from site during the operational period in order to manage water inventory. For periods when release of pit water was required, the model assumed that the RO process would be used for treatment during the operational period. The RO process was implemented in the model by removing 95% of loadings from the feed water and returning the removed loadings to the Main or Area 2 Pit, according to the origin of the feed water. In the model, water was not treated after operations ended.

5 Model Results

5.1 Water Balance Results

5.1.1 Minto Creek Water Balance Results

The primary water management challenge for the Minto Mine is to manage the inventory of mine water stored on site during the operational period, to ensure both that sufficient storage capacity is available to meet the anticipated life-of-mine storage requirements, and that sufficient stored water is available to meet the needs of the milling operation.

The volume of water that must be released from site each year in order to maintain an appropriate water inventory is an important factor for managing water on site in accordance with the life-of-mine water management plan. By quantifying the volume of water that can be added to the inventory in a given year, and consequently the volume of water that should be released, water management staff can implement diversions or plan water treatment campaigns, if required.

Figure 5-1 shows the model results for the volume of water that must be released from site each year to maintain the mine water inventory at manageable levels. The top extent of the blue and green bars correspond to the 5th and 95th percentile of the Monte Carlo results distribution. During active operations (2013 to 2022) approximately 200,000 to 600,000 m^3 of water must be released from site each year to maintain a manageable inventory of mine water.

Figure 5-2 shows projections of the volume of tailings and free mine water in the Area 2 Pit though the operations and post-closure periods assuming that 60% of runoff collected at W15 and W35a is diverted to the WSP and Minto Creek. As discussed above, these results indicate that in any given year, there is only a 5% chance that the Area 2 Pit volume will be less than or greater than the 5th and 95th percentile values indicated.

5.1.2 McGinty Creek Water Balance Results

The water balance for the Minto North Pit simply consists of inflows from a small upgradient catchment and from direct precipitation on the open pit. During development and mining of the pit the mine water will be pumped to the Main Pit in the Upper Minto Creek catchment. After mining is complete, the open pit will be allowed to fill. Although it appears that there is a slight net positive water balance for the pit (including the contributions from the upgradient catchment), it is expected that it will take several decades for the pit to fill and discharge as surface flow to lower McGinty Creek. Depending on the rate of leakage out of the pit, it is conceivable that the pit may never in fact discharge via surface overflow; at this stage of the project, it is not possible to definitively predict whether a lake will form

The catchment area influenced by the proposed pit is a small component of the overall McGinty Creek catchment (roughly 15 ha vs. 3400 ha) and therefore the Minto North development is expected to have minimal effect on flow volumes in McGinty Creek.

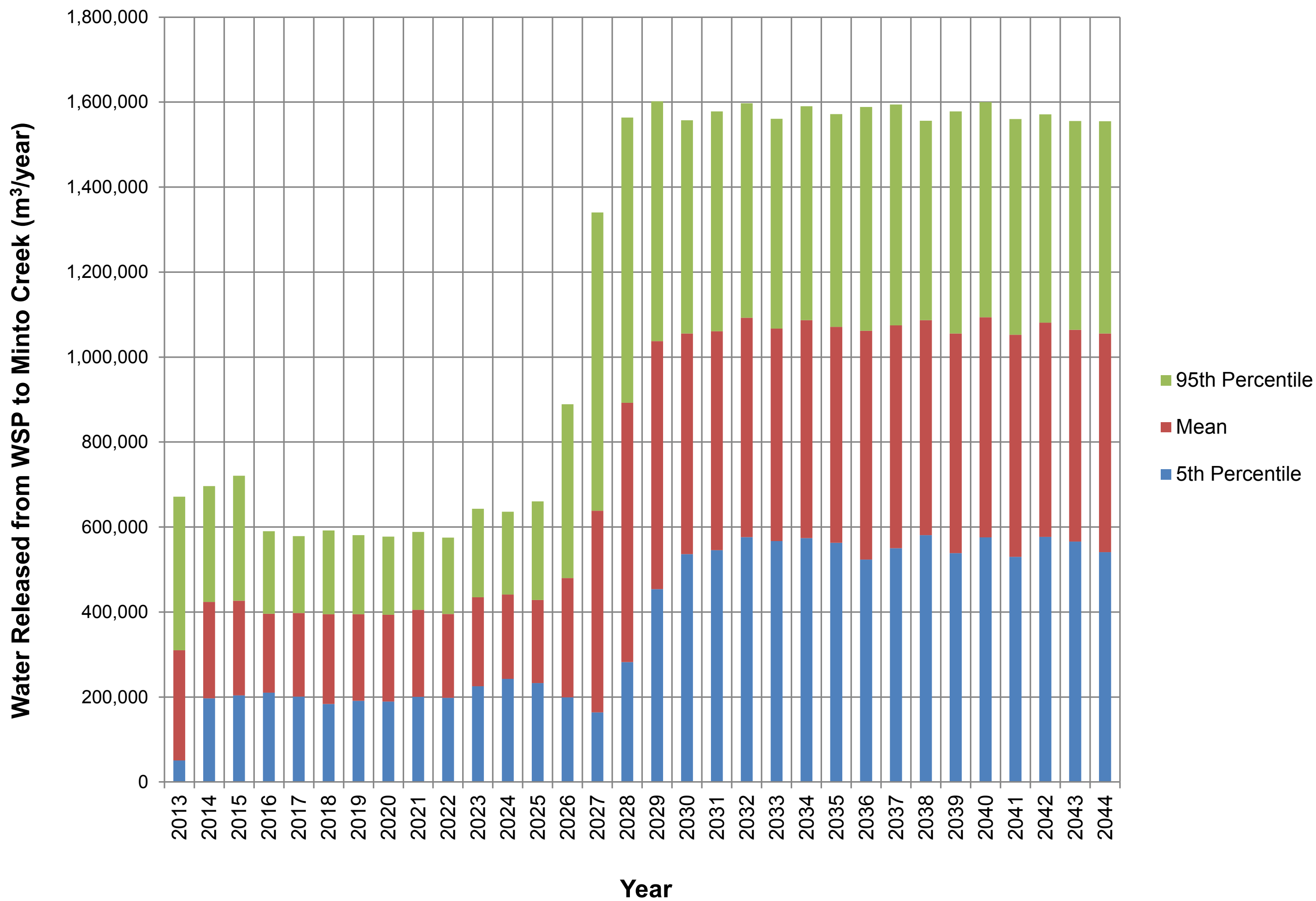

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Figure 5-1 Model Predictions of Discharge Volumes from Minto Mine

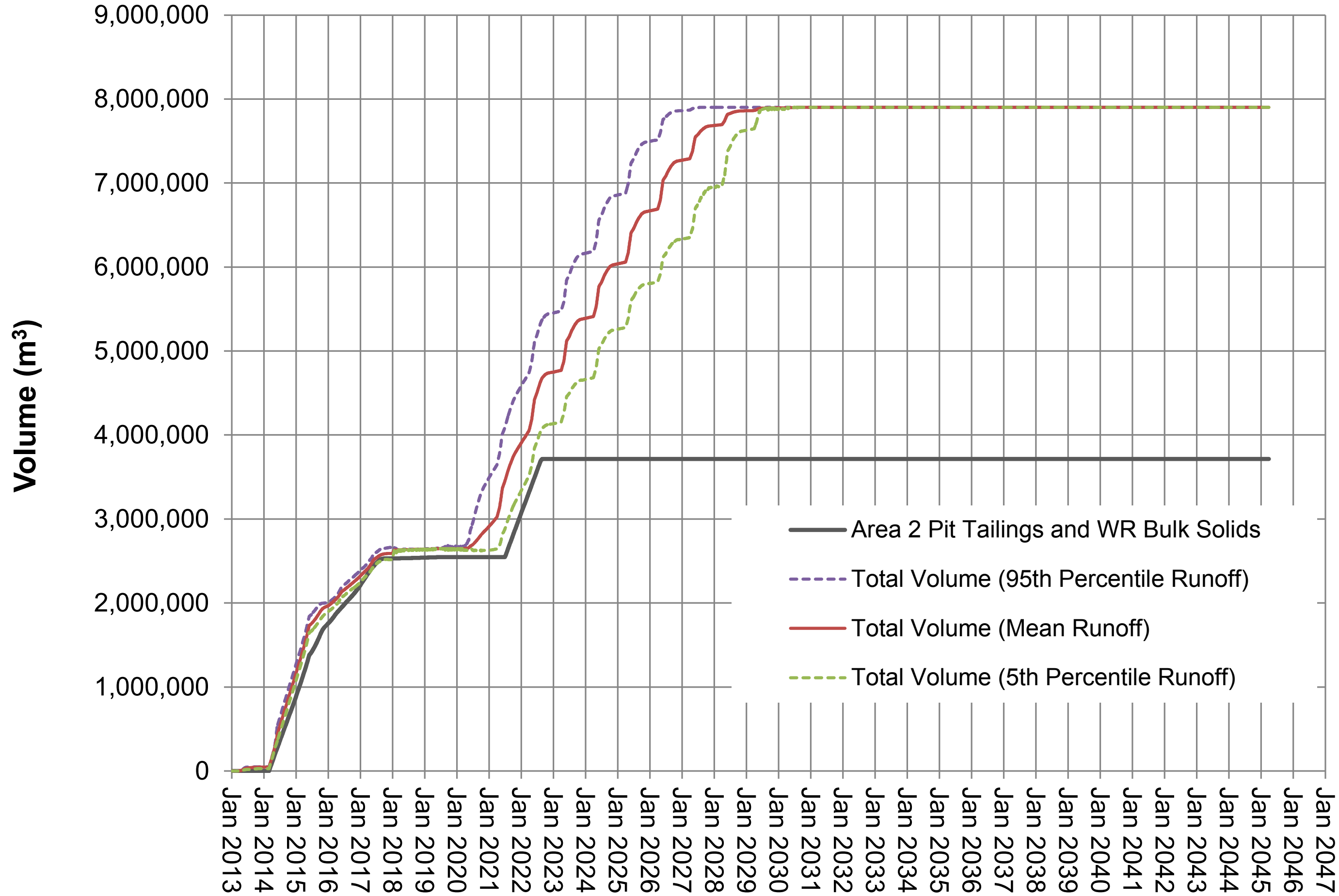

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Figure 5-2 Modelled Area 2 Pit Water and Tailings Volumes

5.2 Water Quality and Parameter Loadings Results

5.2.1 Minto Creek Water Quality Results

Water quality predictions for Minto Phase V/VI were produced for the following four scenarios:

- Scenario 1: *Expected Case* source terms + no closure mitigation.
- Scenario 2: *Reasonable Worst Case* source terms + no closure mitigation.
- Scenario 3: *Expected Case* source terms + waste rock and tailings covers as closure mitigation
- Scenario 4: *Reasonable Worst Case* source terms + waste rock and tailings covers as closure mitigation

The *Reasonable Worst Case* is considered to be a conservative case while the *Expected Case* can be considered to be the most likely outcome. The *no closure mitigation* and *waste rock and tailings covers as closure mitigation* scenarios are intended to illustrate the estimated effect of covers on water quality. The water quality results shown below are focuses on concentrations of copper, selenium, nitrate and ammonia, which are considered to be parameters of potential concern. These four parameters are generally indicative of the behaviour of other parameters.

Model results for water quality in the Area 2 Pit, water released to station W3 in upper Minto Creek and at W2 in Lower Minto Creek are shown in Table 5-1 to Table 5-3 water for water quality parameters currently regulated. Tables with monthly water quality results are included in Appendix B.

Figure 5-3 and Figure 5-4 show predicted dissolved copper and selenium concentrations for mine water in the Area 2 Pit over time. In both cases, concentrations are expected to increase during the operational stage of Phase V/VI when waste rock and tailings are placed in the Area 2 Pit. Selenium concentrations increase markedly during periods when tailings are deposited to the pit. After closure, both copper and selenium concentrations are expected to decline to steady-state levels that are representative of long-term post-mining geochemical loading rates.

Figure 5-5 and Figure 5-6 show model predictions for total copper and selenium concentrations for mine water in the WSP as released to station W3 in Minto Creek. Both profiles show relatively low concentrations during the operational period followed by a modest increase in concentrations at closure. This is due to the fact that residual mine water stored in the Area 2 TMF begins reporting to Minto Creek at that time.

Figure 5-7 to Figure 5-10 shows modelled values total copper, selenium, nitrate-N and ammonia-N concentrations in Lower Minto Creek (the W2 water quality station). Copper and selenium concentrations follow the trends noted for the W3 water quality predictions but the difference between concentrations during the operations stage and post-closure is less pronounced because of dilution from the Lower Minto Creek catchment. Concentrations of nitrate, nitrite (not shown) and ammonia are expected to decrease gradually following the end of active mining in 2019. Residual ammonium nitrate/fuel oil (ANFO) explosives in tailings and water rock contribute the vast majority of nitrogen species to the mine water. Once mining is complete and ANFO use ends, there will be no new sources of nitrate and ammonia loadings.

Table 5-1 Modelling Predictions of Area 2 Pit Water Quality

		Modelling Predictions* of Area 2 Pit Water Quality											
		Phase V/VI Operations				Post-Closure (After 2028), No Mitigation				Post-Closure (After 2028), Covers in Effect			
		Best Estimate		Reasonable Worst Case		Best Estimate		Reasonable Worst Case		Best Estimate		Reasonable Worst Case	
		Average	**Max**	**Average**	**Max**	**Average**	**Max**	**Average**	**Max**	**Average**	**Max**	**Average**	**Max**
Ammonia	mg/L	0.52	0.64	0.84	1.0	0.066	0.29	0.11	0.47	0.066	0.29	0.11	0.47
F-	mg/L	2.2	3.0	2.8	5.0	0.86	1.6	1.2	2.0	0.84	1.5	1.2	2.0
N-NO2	mg/L	0.090	0.11	0.47	0.64	0.011	0.050	0.066	0.29	0.011	0.050	0.066	0.29
N-NO3	mg/L	7.1	8.8	18	23	0.91	3.9	2.3	10	0.91	3.9	2.3	10
SO2-4	mg/L	170	260	220	300	73	140	120	190	66	130	110	190
Al	mg/L	0.58	1.3	0.96	2.5	0.38	0.43	0.65	0.74	0.39	0.44	0.63	0.73
As	mg/L	0.0025	0.0067	0.0056	0.018	0.0017	0.0020	0.0036	0.0042	0.0016	0.0020	0.0034	0.0041
Cd	mg/L	0.000093	0.00018	0.00030	0.00083	0.000075	0.000090	0.00023	0.00026	0.000069	0.000088	0.00020	0.00025
Cr	mg/L	0.0025	0.0031	0.0052	0.012	0.0021	0.0025	0.0042	0.0047	0.0019	0.0024	0.0037	0.0046
Cu	mg/L	0.038	0.046	0.074	0.10	0.031	0.036	0.064	0.076	0.026	0.034	0.053	0.072
Fe	mg/L	0.49	0.71	0.79	1.2	0.79	0.82	1.3	1.4	0.72	0.73	1.1	1.1
Pb	mg/L	0.00060	0.00088	0.0026	0.0088	0.00049	0.00058	0.0015	0.0018	0.00046	0.00057	0.0015	0.0018
Mn	mg/L	0.27	0.41	0.59	0.95	0.39	0.41	0.90	0.93	0.30	0.36	0.67	0.83
Hg	mg/L	0.000082	0.00022	0.00018	0.00031	0.000064	0.000071	0.00025	0.00026	0.000060	0.000070	0.00020	0.00022
Mo	mg/L	0.060	0.093	0.087	0.12	0.014	0.043	0.027	0.061	0.014	0.043	0.026	0.061
Ni	mg/L	0.0031	0.0038	0.0059	0.0099	0.0026	0.0031	0.0046	0.0055	0.0024	0.0031	0.0042	0.0054
Se	mg/L	0.012	0.016	0.022	0.030	0.0038	0.0097	0.0079	0.018	0.0035	0.0096	0.0070	0.018
Ag	mg/L	0.000068	0.00014	0.00016	0.00034	0.000049	0.000060	0.00015	0.00016	0.000045	0.000058	0.00013	0.00015
Tl	mg/L	0.00011	0.00015	0.00014	0.00019	0.00010	0.00012	0.00012	0.00014	0.000096	0.00012	0.00011	0.00014
Zn	mg/L	0.012	0.015	0.026	0.060	0.0100	0.012	0.021	0.024	0.0089	0.012	0.018	0.023

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*: all concentrations are dissolved

Table 5-2 Modelling Predictions of W3 Water Quality

		Modelling Predictions* of W3 Water Quality											
		Phase V/VI Operations				Post-Closure (After 2028), No Mitigation				Post-Closure (After 2028), Covers in Effect			
		Best Estimate		Reasonable Worst Case		Best Estimate		Reasonable Worst Case		Best Estimate		Reasonable Worst Case	
		Average	**Max**	**Average**	**Max**	**Average**	**Max**	**Average**	**Max**	**Average**	**Max**	**Average**	**Max**
Ammonia	mg/L	0.59	0.64	0.96	1.0	0.066	0.29	0.11	0.47	0.066	0.29	0.11	0.47
F-	mg/L	0.26	0.34	0.30	0.40	0.52	0.75	0.74	1.0	0.49	0.71	0.68	0.96
N-NO2	mg/L	0.10	0.11	0.59	0.64	0.011	0.050	0.066	0.29	0.011	0.050	0.066	0.29
N-NO3	mg/L	8.1	8.8	21	23	0.91	3.9	2.3	10	0.91	3.9	2.3	10
SO2-4	mg/L	39	54	71	110	47	65	81	110	41	59	66	90
Al	mg/L	0.68	0.74	0.76	0.87	0.75	0.79	0.92	1.00	0.75	0.79	0.90	0.96
As	mg/L	0.00096	0.0012	0.0012	0.0017	0.0014	0.0016	0.0025	0.0031	0.0013	0.0015	0.0023	0.0028
Cd	mg/L	0.000086	0.00010	0.00014	0.00019	0.00010	0.00011	0.00020	0.00024	0.000094	0.00010	0.00018	0.00021
Cr	mg/L	0.0019	0.0024	0.0027	0.0037	0.0019	0.0022	0.0033	0.0039	0.0018	0.0020	0.0029	0.0034
Cu	mg/L	0.027	0.036	0.044	0.066	0.032	0.036	0.060	0.068	0.027	0.031	0.048	0.056
Fe	mg/L	1.4	1.7	1.8	2.3	1.3	1.3	1.6	1.8	1.2	1.3	1.5	1.6
Pb	mg/L	0.00054	0.00066	0.00054	0.00066	0.00058	0.00063	0.0012	0.0015	0.00055	0.00060	0.0011	0.0014
Mn	mg/L	0.34	0.53	0.71	1.1	0.33	0.38	0.71	0.82	0.26	0.30	0.52	0.62
Hg	mg/L	0.000041	0.000053	0.00018	0.00028	0.000052	0.000060	0.00018	0.00021	0.000048	0.000055	0.00014	0.00016
Mo	mg/L	0.0027	0.0037	0.0039	0.0057	0.0074	0.014	0.015	0.025	0.0068	0.014	0.014	0.023
Ni	mg/L	0.0030	0.0036	0.0037	0.0048	0.0029	0.0032	0.0042	0.0048	0.0028	0.0030	0.0039	0.0044
Se	mg/L	0.0011	0.0016	0.0027	0.0043	0.0023	0.0038	0.0048	0.0075	0.0020	0.0035	0.0039	0.0067
Ag	mg/L	0.000099	0.00011	0.00016	0.00021	0.00011	0.00012	0.00018	0.00020	0.00011	0.00011	0.00016	0.00018
Tl	mg/L	0.000089	0.00012	0.000089	0.00012	0.000080	0.000091	0.000090	0.00010	0.000075	0.000084	0.000083	0.000095
Zn	mg/L	0.013	0.016	0.017	0.022	0.013	0.015	0.020	0.023	0.013	0.014	0.018	0.021

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*: all concentrations are total concentrations

Table 5-3 Modelling Predictions of W2 Water Quality

		Modelling Predictions* of W1 Water Quality											
		Phase V/VI Operations				Post-Closure (After 2028), No Mitigation				Post-Closure (After 2028), Covers in Effect			
		Best Estimate		Reasonable Worst Case		Best Estimate		Reasonable Worst Case		Best Estimate		Reasonable Worst Case	
		Average	**Max**	**Average**	**Max**	**Average**	**Max**	**Average**	**Max**	**Average**	**Max**	**Average**	**Max**
Ammonia	mg/L	0.091	0.18	0.13	0.26	0.027	0.072	0.037	0.097	0.027	0.072	0.037	0.097
F-	mg/L	0.31	0.67	0.31	0.67	0.38	0.71	0.43	0.77	0.37	0.70	0.42	0.76
N-NO2	mg/L	0.016	0.033	0.075	0.14	0.0049	0.025	0.017	0.056	0.0049	0.025	0.017	0.056
N-NO3	mg/L	1.1	2.0	2.6	5.1	0.25	0.80	0.56	1.6	0.25	0.80	0.56	1.6
SO2-4	mg/L	17	32	21	38	23	39	32	51	21	38	28	47
Al	mg/L	1.2	7.2	1.3	7.2	1.2	6.3	1.2	6.3	1.2	6.3	1.2	6.3
As	mg/L	0.0011	0.0037	0.0011	0.0037	0.0012	0.0033	0.0015	0.0035	0.0011	0.0033	0.0014	0.0034
Cd	mg/L	0.000054	0.00016	0.000060	0.00016	0.000062	0.00015	0.000089	0.00018	0.000061	0.00015	0.000083	0.00017
Cr	mg/L	0.0028	0.015	0.0029	0.015	0.0026	0.013	0.0030	0.013	0.0026	0.013	0.0029	0.013
Cu	mg/L	0.010	0.024	0.012	0.027	0.014	0.026	0.021	0.035	0.013	0.025	0.018	0.032
Fe	mg/L	2.3	12	2.4	12	2.1	11	2.2	11	2.1	11	2.2	11
Pb	mg/L	0.00074	0.0036	0.00074	0.0036	0.00072	0.0032	0.00089	0.0032	0.00071	0.0032	0.00087	0.0032
Mn	mg/L	0.13	0.34	0.18	0.41	0.16	0.34	0.26	0.46	0.14	0.31	0.21	0.40
Hg	mg/L	0.000017	0.000041	0.000034	0.000058	0.000024	0.000045	0.000057	0.000078	0.000023	0.000044	0.000046	0.000068
Mo	mg/L	0.0011	0.0015	0.0013	0.0016	0.0027	0.0048	0.0048	0.0077	0.0025	0.0047	0.0044	0.0072
Ni	mg/L	0.0034	0.014	0.0035	0.014	0.0034	0.013	0.0037	0.013	0.0033	0.013	0.0036	0.013
Se	mg/L	0.00047	0.00067	0.00067	0.00097	0.00090	0.0015	0.0015	0.0025	0.00081	0.0014	0.0013	0.0023
Ag	mg/L	0.000031	0.000072	0.000039	0.000083	0.000044	0.000080	0.000062	0.00010	0.000043	0.000079	0.000057	0.000096
Tl	mg/L	0.000057	0.00014	0.000057	0.00014	0.000060	0.00013	0.000063	0.00013	0.000058	0.00013	0.000061	0.00013
Zn	mg/L	0.0088	0.032	0.0093	0.032	0.0096	0.029	0.011	0.029	0.0094	0.029	0.011	0.029

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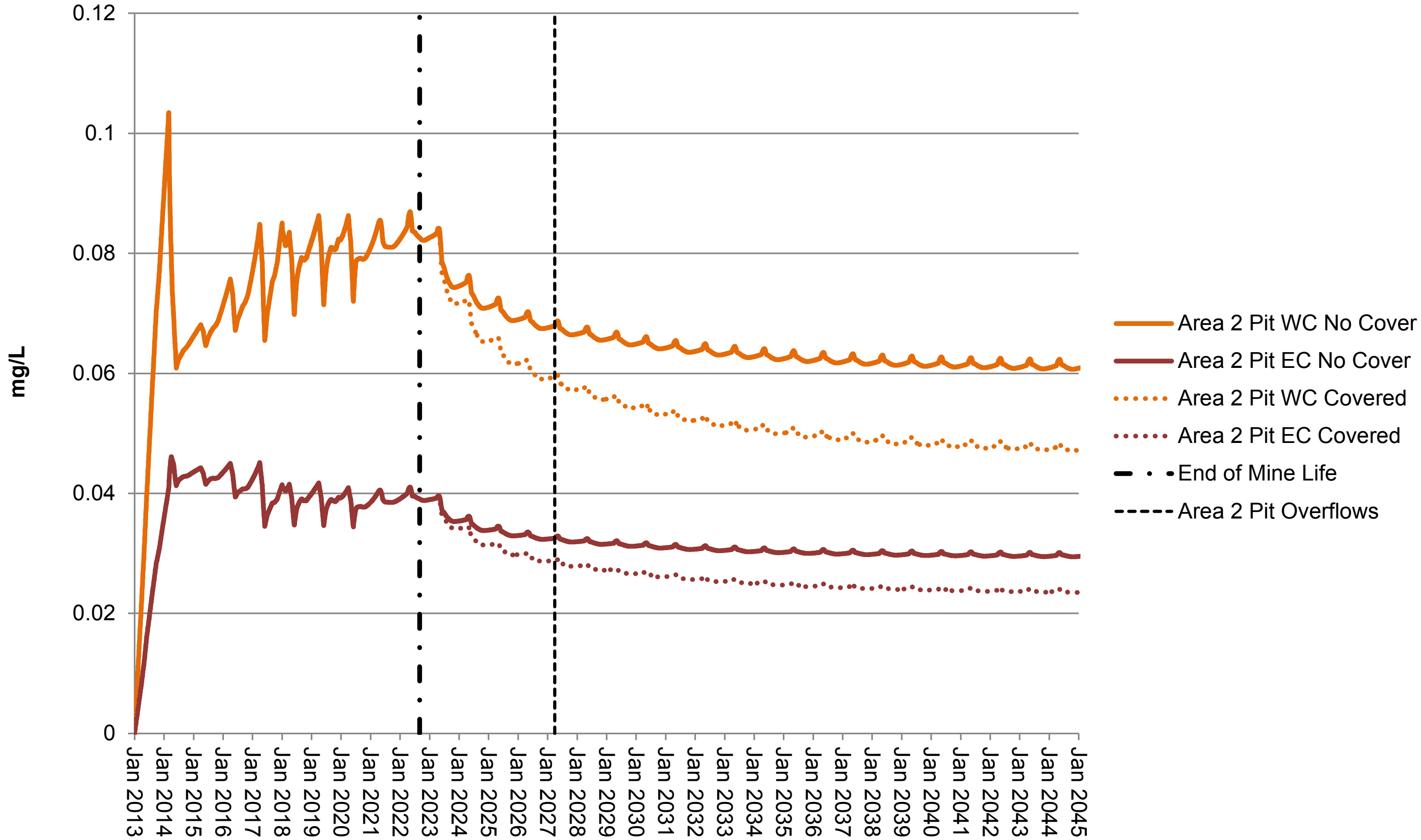
*: all concentrations are total concentrations



EC - Expected Case, WC - Reasonable Worst Case.

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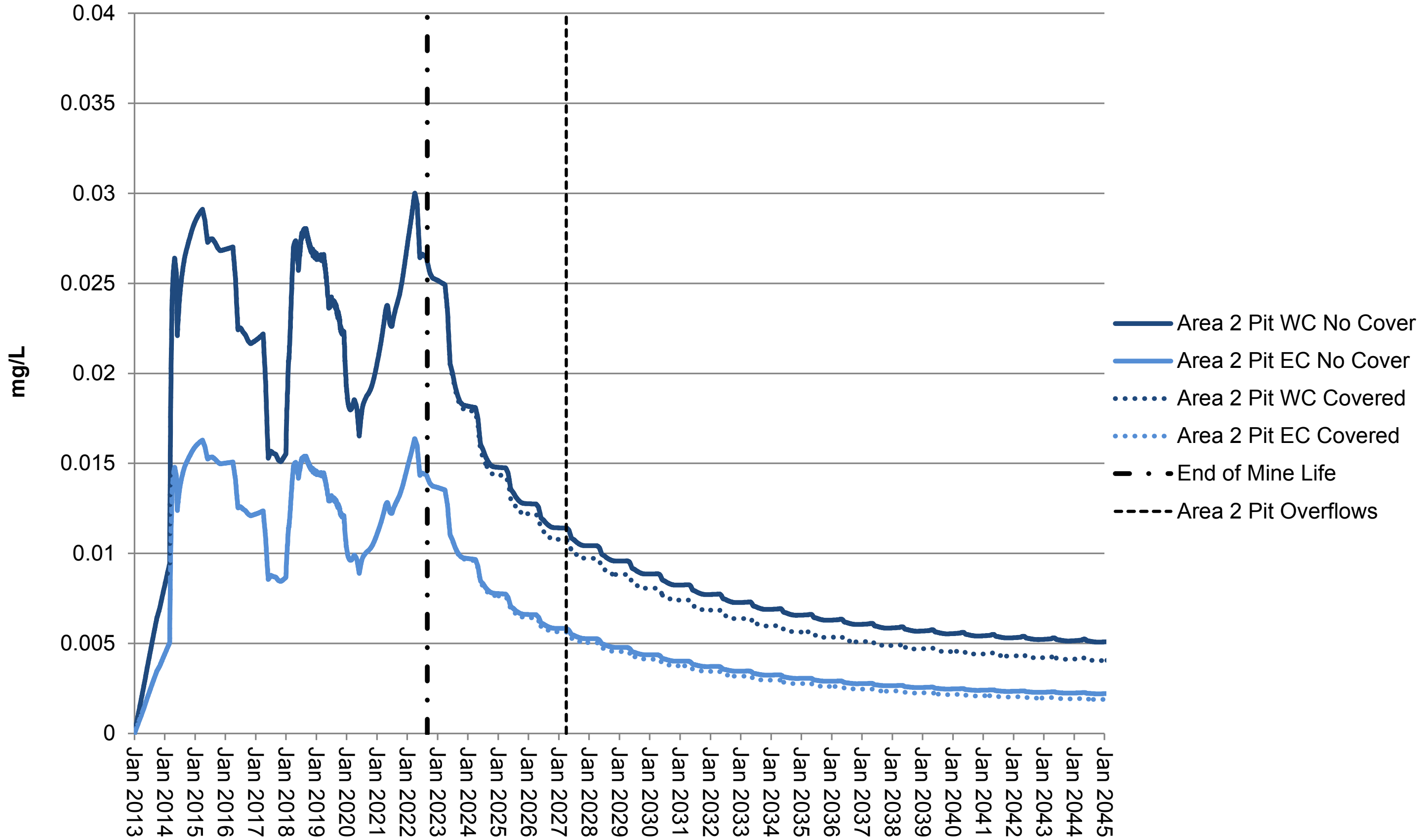
Figure 5-3 Model Predictions of Dissolved Copper Concentrations in Area 2 Pit Water



EC - Expected Case, WC - Reasonable Worst Case.

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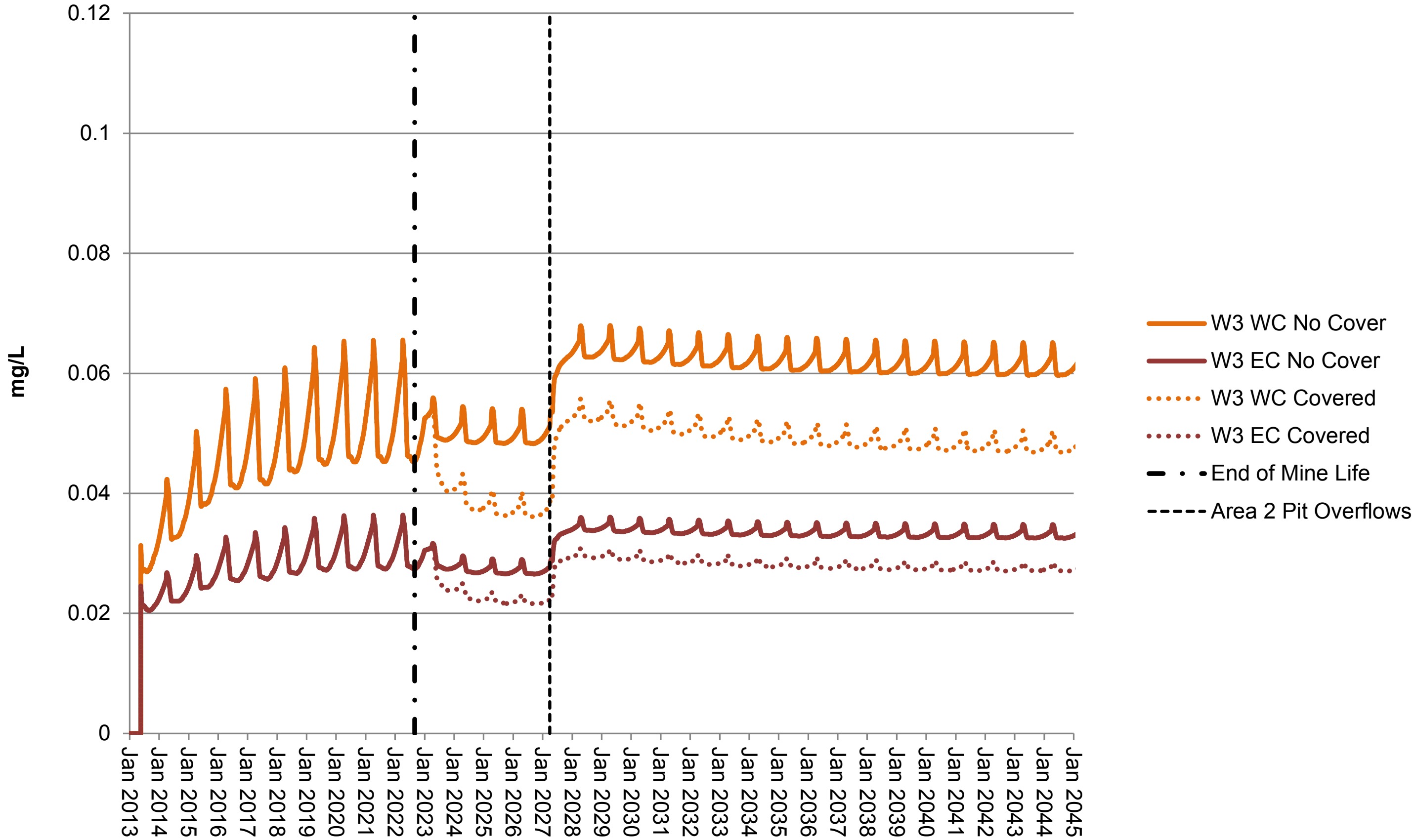
Figure 5-4 Model Predictions of Dissolved Selenium Concentrations in Area 2 Pit Water



EC - Expected Case, WC - Reasonable Worst Case.

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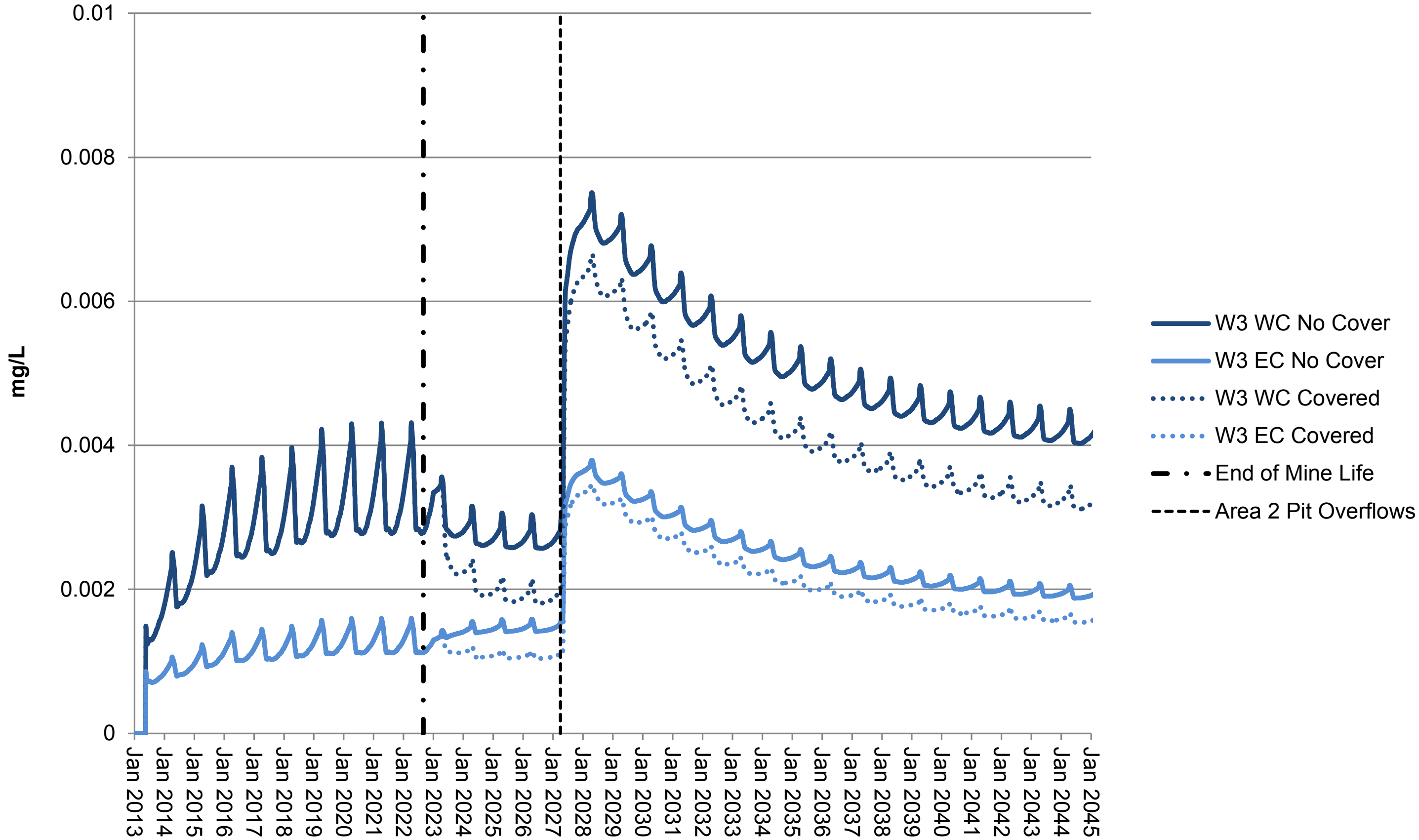
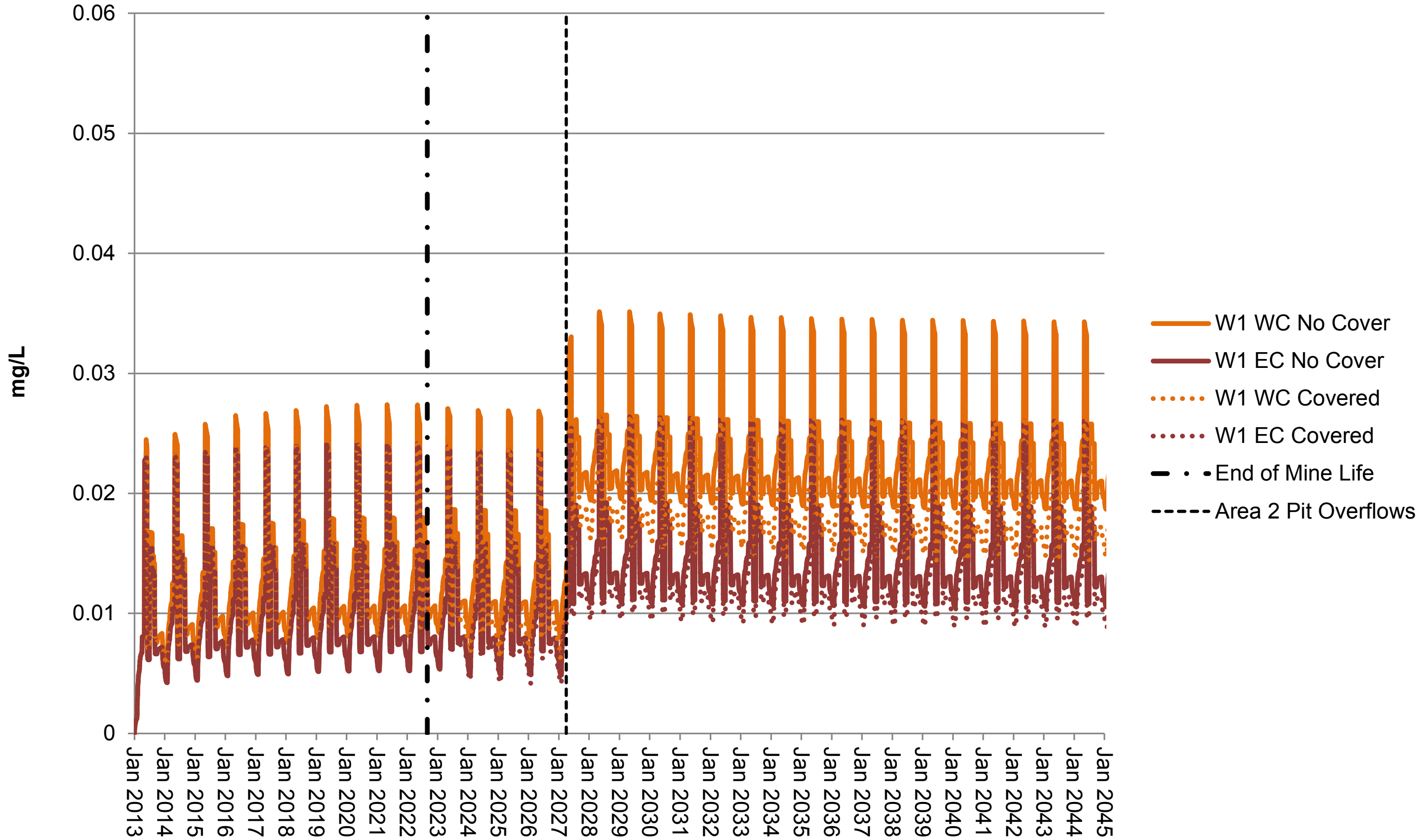
Figure 5-5 Model Predictions of Total Copper Concentrations at W3



EC - Expected Case, WC - Reasonable Worst Case.

T:\!020_Site_Wide_Data\Water_and_Load_Balance_Files\01_Project_Phases\07_Phase_5_6\Results\[Goldsim_Results_REV49_7_June_2013.xlsx]

Figure 5-6 Model Predictions of Total Selenium Concentrations at W3



EC - Expected Case, WC - Reasonable Worst Case.

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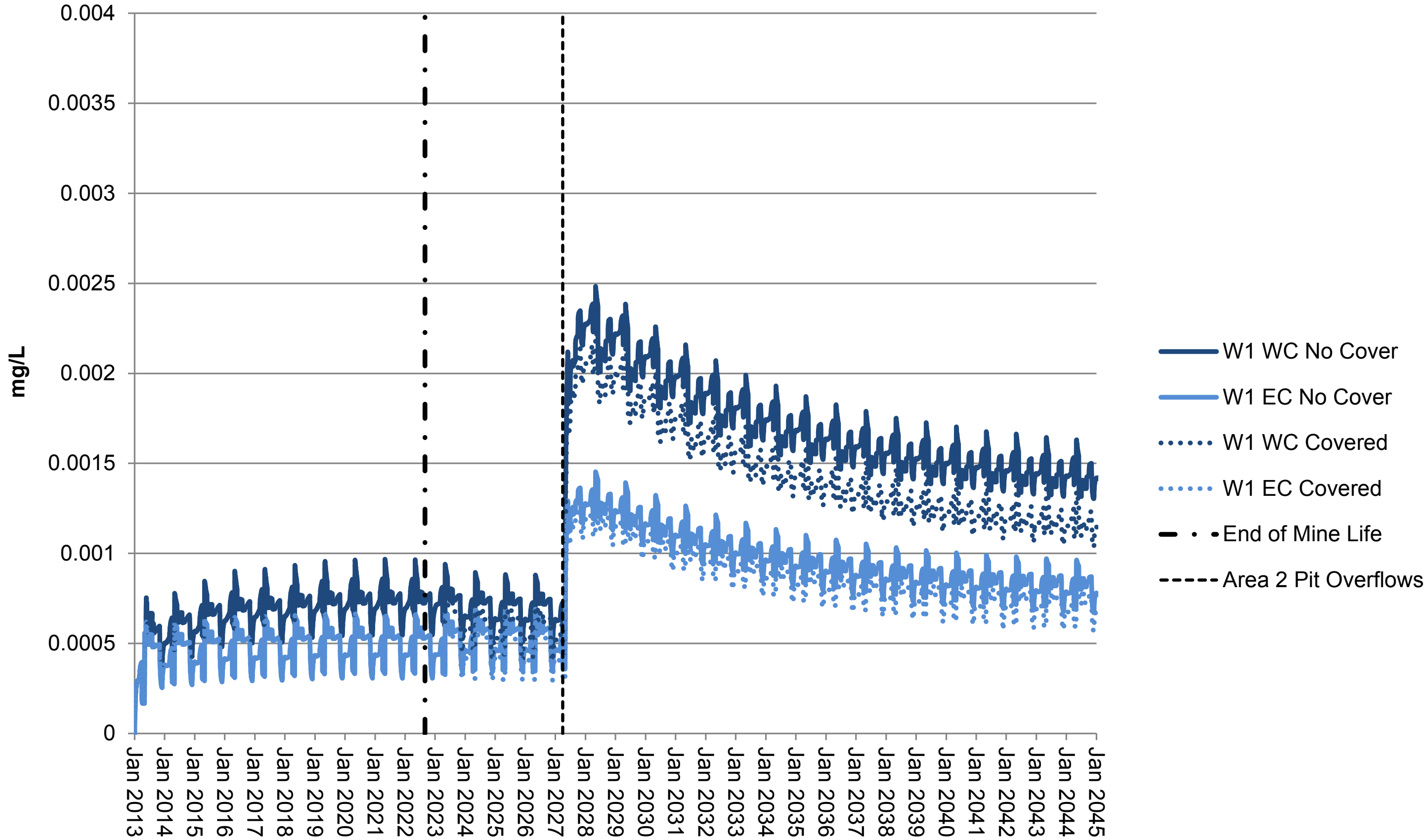
Figure 5-7 Model Predictions of Total Copper Concentrations in Lower Minto Creek



EC - Expected Case, WC - Reasonable Worst Case.

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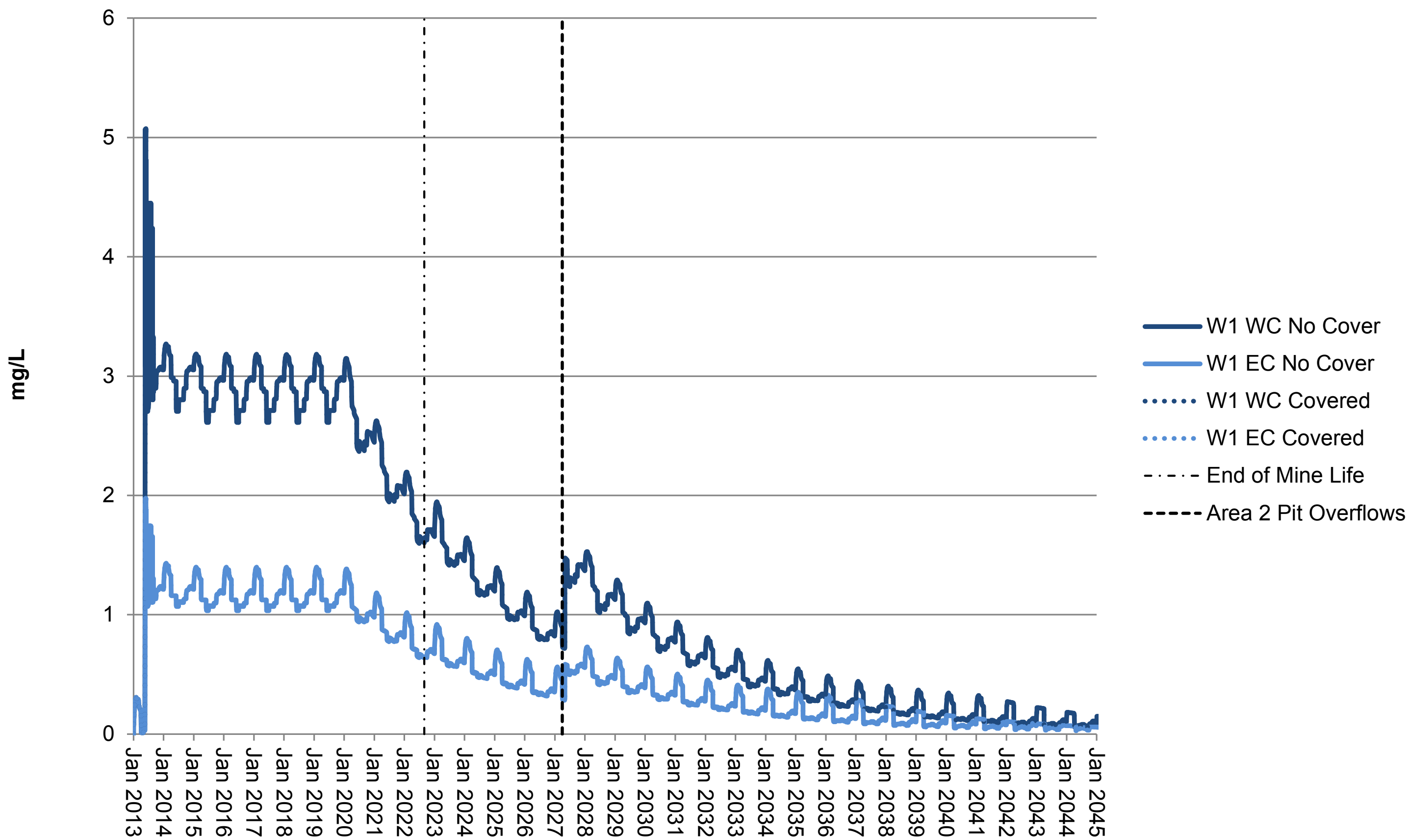
Figure 5-8 Model Predictions of Total Selenium Concentrations in Lower Minto Creek



EC - Expected Case, WC - Reasonable Worst Case.

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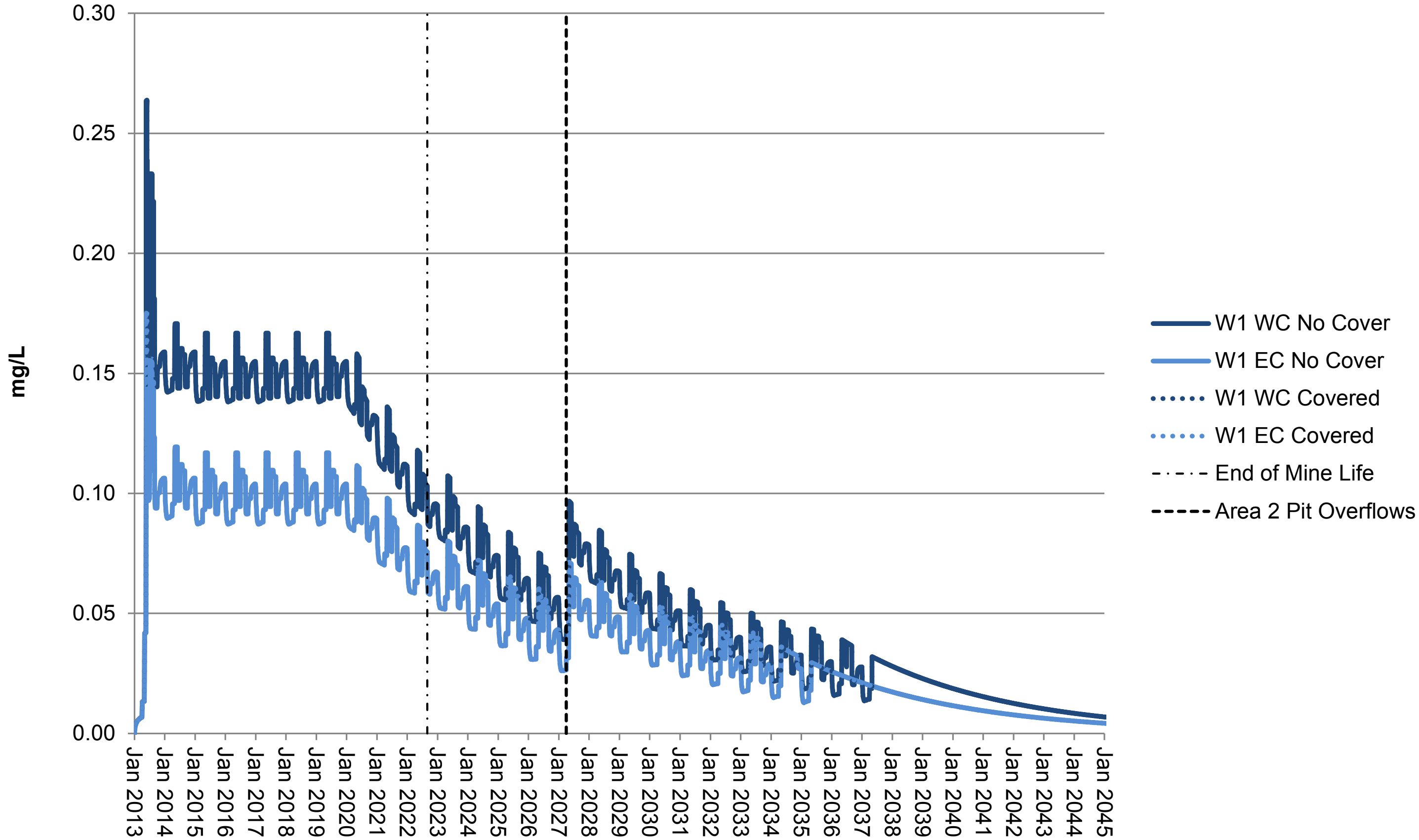
Figure 5-9 Model Predictions of Nitrate-N Concentrations in Lower Minto Creek



EC - Expected Case, WC - Reasonable Worst Case.

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Figure 5-10 Model Predictions of Ammonia-N Concentrations in Lower Minto Creek

5.2.2 McGinty Creek Water Quality Results

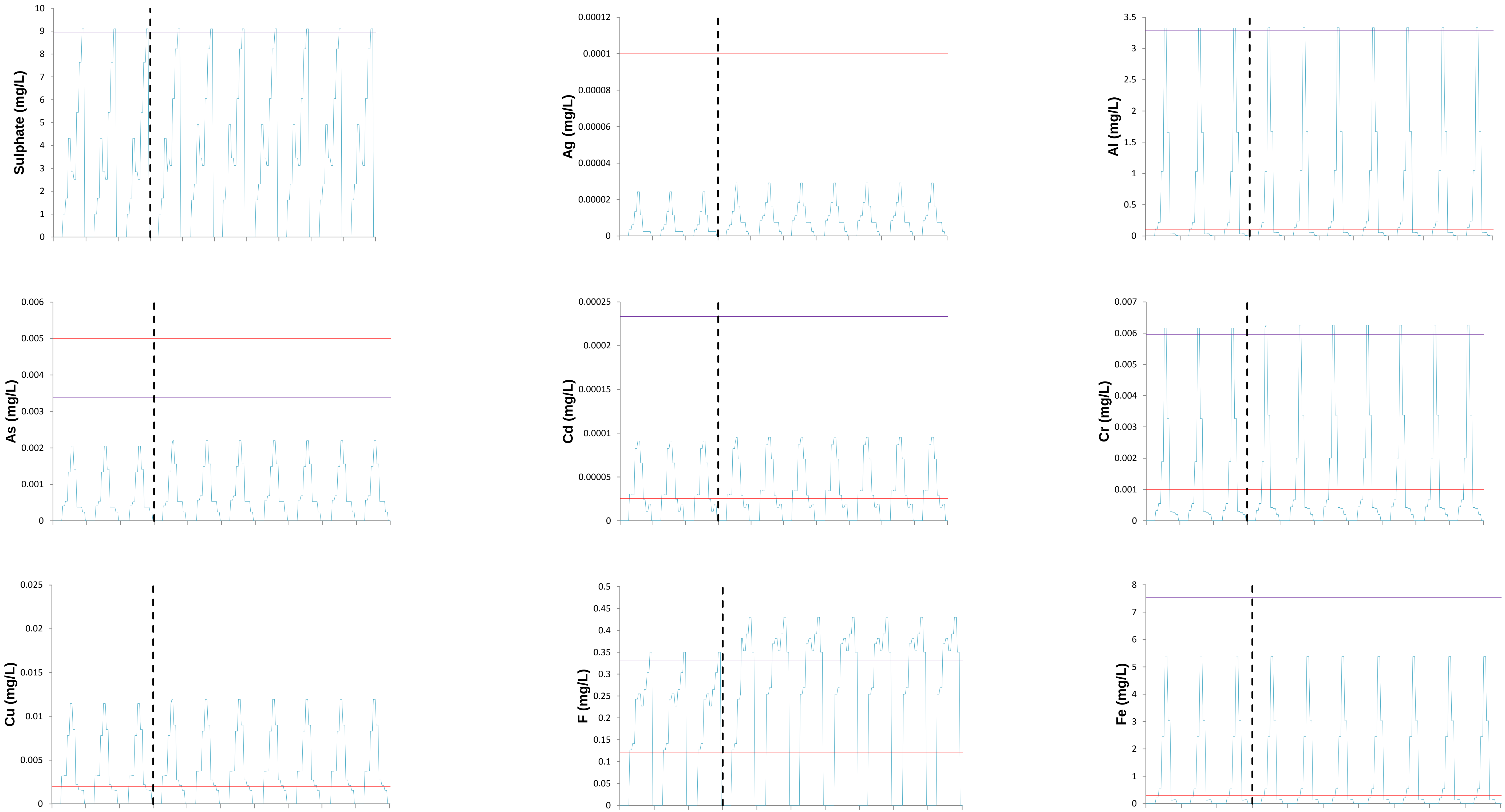
The McGinty Creek water quality modelling was carried out as a scoping exercise for a worst-case scenario that included the following assumptions:

- The magnitude of loadings was set to be equal to the loads determined for the full extent of the pit walls exposed at the end of mining (i.e. there was no gradual decrease in loadings estimates even if the pit was to fill).
- All geochemical loading generated by weathering of the pit walls is both flushed from the weathering sites and reports to water in the Minto North Pit.
- Accumulated loadings would report unattenuated to McGinty Creek by surface discharge and/ or via groundwater pathways.

Under this scenario, Minto North loadings are maximized. This highly conservative approach evaluates the upper limit of the magnitude of potential changes to McGinty Creek water quality from geochemical loadings from the Minto North Pit.

Average and maximum results of the scoping exercise for lower McGinty Creek are presented in Table 5-4, along with average and maximum values in the baseline water quality results. Results for selected parameters are shown in Figure 5-11a and Figure 5-11b, along with indicator values representing the 95th percentile concentrations in the baseline data. CCME Protection of Aquatic Life guidelines (for those parameters with guidelines) and an indicator marking the start of mining at Minto North are also shown. Although the assessment of aquatic effects is addressed elsewhere (Minto 2013c and references therein), inspection of the baseline and worst case post-mining results in Figure 5-11a and 5-11b reveals that the changes in water quality of McGinty Creek from mining Minto North will be minimal.

Table 5-4 indicates that no change from baseline range is expected in the post-mining period for concentrations of nitrogen species. These species are typically derived from soluble blasting residues in mined rock and in pit water. Since the mined rock will be stored in the Minto Creek watershed, and since pit sump water will also be directed to the Minto watershed during operations, it is expected that there will be minimal nitrogen loadings from Minto North to McGinty Creek.



Notes: X-axis tick marks represent a 1-year timeframe

Legend	
McGinty Creek at Mouth	
CCME PAL	
95th Percentile_MN4.5_baseline	
Minto North Overflows to McGinty Ck	

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Minto Mine Phase V/VI Expansion:
Water and Load Balance Model Report

McGinty Creek Water Quality Prediction: Worst Case Results

Job No: 1CM002.003
Filename: Fig_5-11_McGintyCk_WQ-Prediction_Charts

Minto Mine

Date: June 2013 | Approved: DBM | Figure: **5-11a**

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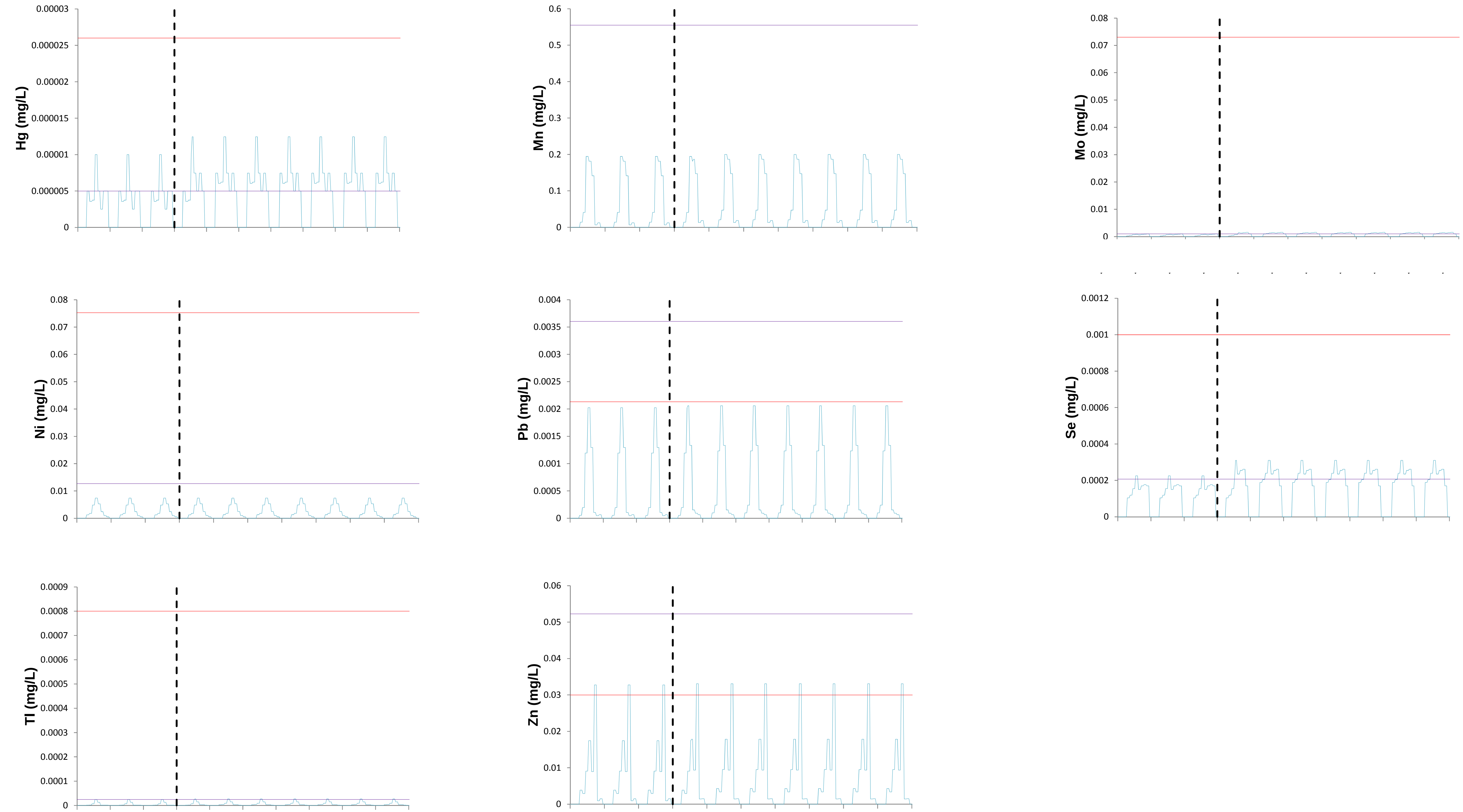

Notes: X-axis tick marks represent a 1-year timeframe

Legend
- McGinty Creek at Mouth
- CCME PAL
- 95th Percentile_MN4.5_baseline
- Minto North Overflows to McGinty Ck

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CAPSTONE MINING CORP. MINTO MINE OPERATED BY MINTO EXPLORATIONS LTD.

Minto Mine Phase V/VI Expansion: Water and Load Balance Model Report

McGinty Creek Water Quality Prediction: Worst Case Results

Job No: 1CM002.003	Minto Mine	Date: June 2013	Approved: DBM	Figure: 5-11b
Filename: Fig_5-11_McGintyCk_WQ-Prediction_Charts				

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Table 5-4 Water Quality Modelling Results for McGinty Creek at Mouth

Parameter*/ Unit		Baseline Conditions		After Mining at Minto North	
				Worst Case	
		Average	Max	Average	Max
Ammonia	mg/L	0.0355	0.27	not predicted- expect no change	
F	mg/L	0.20	0.43	0.23	0.43
$N\text{-}NO_2$	mg/L	0.0064	0.025	not predicted- expect no change	
$N\text{-}NO_3$	mg/L	0.073	0.3	not predicted- expect no change	
Sulphate	mg/L	3.1	9.1	3.2	9.1
Al	mg/L	0.55	3.3	0.55	3.3
As	mg/L	0.00062	0.0022	0.00065	0.0022
Cd	mg/L	0.000031	0.000095	0.000032	0.000095
Cr	mg/L	0.0011	0.0063	0.0012	0.0063
Cu	mg/L	0.0035	0.012	0.0036	0.012
Fe	mg/L	1.0	5.4	1.00	5.4
Pb	mg/L	0.00043	0.0021	0.00044	0.0021
Mn	mg/L	0.052	0.20	0.053	0.20
Hg	mg/L	0.0000042	0.000012	0.0000047	0.000012
Mo	mg/L	0.00069	0.0016	0.00085	0.0016
Ni	mg/L	0.0021	0.0074	0.0021	0.0074
Se	mg/L	0.00014	0.00031	0.00015	0.00031
Ag	mg/L	0.0000073	0.000029	0.0000084	0.000029
Tl	mg/L	0.0000049	0.000026	0.0000054	0.000026
Zn	mg/L	0.0067	0.033	0.0067	0.033

Source: Source: \\VAN-SVR0\Projects\01_SITES\Minto\!020_Site_Wide_Data\Water_and_Load_Balance_Files\01_Project_Phases\07_Phase_5_6\Results\Minto_North\[1CM002-003_MintoNorth_WQ_Prediction_2013-06-26.xlsx]
*: all concentrations are total concentrations

6 Discussion

6.1 Limitations of the Water and Load Balance Model

The model results presented in this report are based on best available input data and are thought to be reasonably representative of the mine developments planned for Phase V/VI. However, as with any model representation of a complex system there are inherent uncertainties associated with inputs and modelled processes. In most cases, uncertainties are accounted for by incorporating conservative assumptions that are intended to capture the most adverse conditions. One obvious exception to this approach is the water quality results from the ―Expected Case" scenarios.

Uncertainties that may affect the accuracy of the model outcome include:

- Geochemical factors that are not reflected in the model. Factors such as attenuation of constituents along surface and subsurface flowpaths, removal of chemical load in open pits, and exposure of mine waste materials with geochemical weathering properties that result in substantially higher loadings than previously-mined materials at Minto all may contribute to actual water quality performance being different than the predictions presented here indicate.
- Significant changes to the operations and closure plans used as a basis for the modelling scenarios.
- Change in local climatic conditions that cause the historical climatic record to inaccurately represent the duration, frequency and intensity of precipitation and runoff events.

6.2 Interpretation of Model Results

As discussed in Section 4.2.1, the stochastic water balance model results produced by the Monte Carlo simulation are probability distributions of water balance outcomes. The average values presented (for example the predicted average water volume in the Area 2 Pit, Figure 5-2) are the most likely outcomes. During the operational period when water storage is a key element, the average water volumes result from several years of average precipitation or from alternating dry and wet years. Only when several wet years occur in succession, which is relatively improbable, does the model produce results that show greater than average water volumes in the pit. In the results for the post-closure period (after the Area 2 Pit is full), the range of modelled discharge volumes reflects the range in precipitation as there is no longer any net change in water storage on site.

Evaluation of the effects of the predicted water quality on aquatic resources in Minto Creek and McGinty Creek has been addressed elsewhere (Minto 2013c) and is not considered here in detail. The predicted concentrations of water quality parameters include ‗Expected Case‘ values and ‗Reasonable Worst Case‘ values. In the context of actual project performance, the predicted ‗expected case‘ concentrations should be considered to be typical performance values (including the range of variability observed over operations at the Minto Mine). The predictions which represent the ‗Reasonable Worst Case‘ scenario are considered to be highly unlikely to occur, and should be considered to represent the extreme upper end of the range of potential water quality performance of the mine. In the unlikely event that water quality concentrations in the range of the ‗Reasonable Worst Case‘ values occur, it is expected that this condition would be transient and of short duration (as observed with the upper range of water quality concentrations in the site monitoring results to date).

6.3 Dry Bulk Density of Tailings

For Minto Phase V/VI, the estimates of the bulk density of tailings to be placed in the TMFs are somewhat uncertain. This uncertainty is important both for the design of the TMFs and for the water and load balance results. When designing a TMF, best practice requires that the capacity of the facility is sized such that it can contain the volume of tailings corresponding to the lower end of the conceivable range of bulk density. This is a conservative approach that ensures adequate storage capacity is available for operations.

However, using the lower end of the estimated density range is not a conservative assumption in developing a water and load balance model. Adopting a lower bulk tailings density value results in storage of more mine water in tailings pores and therefore greater removal of water quality parameter loadings. Furthermore, the volume of water stored in tailings pores is not available for release to the receiving environment. If the volume of tailings porewater is overestimated the volume of water to be released from site is underestimated, which would then lead to an underestimation of water quality parameter concentrations in the receiving environment. Therefore, selecting a dry bulk density value at the upper range of the expected range (i.e. 1.3 t/m^3) is an appropriately conservative assumption for a water and load balance model.

The water and load balance results presented here are the result of a modelled dry bulk tailings density of 1.3 $tonnes/m^3$, while the development of the Phase V/VI Tailings Management Plan relied on a density of 1.1 $tonnes/m^3$ in developing estimates of storage requirements.

This report, "*Minto Mine Phase V/VI Expansion: Water and Load Balance Model Report*", has been prepared by SRK Consulting (Canada) Inc.

Prepared by

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Senior Consultant

Dylan MacGregor, PGeo (BC)

Principal Consultant

Reviewed by

Tom Sharp, PEng (BC)

Principal Consultant

All data used as source material plus the text, tables, figures, and attachments of this document have been reviewed and prepared in accordance with generally accepted professional engineering and environmental practices.

7 References

Clearwater Consultants Ltd., 2010. Memorandum CCL-MC7: Minto Mine – Phase IV Closure Water Balance. Memorandum to Access Consulting Group, 6 August 2010.

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Appendix A: Minto Mine 2012 Water Balance Update

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Memo

To:	Ryan Herbert, James Spencer	**Date:**	28 March 2013
Company:	Minto Explorations Ltd.	**From:**	Soren Jensen
Copy to:		**Project #:**	1CM002.0011
Subject:	2012 Water Balance and Water Quality Model Summary for the Minto Mine Site		

1 Introduction and Background

This memorandum provides a summary of water balance and water quality model updates for Minto Mine site for the period January 2012 through January 2013. The water quality update was limited to a comparison of water quality data collected in site in 2012 to water quality model predictions developed in 2011 and 2012 for the life of mine (Phase IV) and post-closure. The 2012 water balance is the latest in a series of water balance updates completed for the site annually since 2006. This water balance update is intended for inclusion in the 2012 Annual Water License Report for Minto Mine.

Annual water balance reports for the Minto Mine were completed by Access Consulting Group (ACG) and Clearwater Consultants Ltd. (Clearwater) from 2006 through 2011. Clearwater developed a monthly spreadsheet water balance model (Versions 1.0 to 1.5) using Microsoft Excel, which combined measured and modelled hydrological and meteorological inputs to produce a site-wide water balance.

In 2011/2012, Minto's water balance model was converted from Excel to the Goldsim software platform (version 10.5) by SRK Consulting (SRK). The primary benefit of the Goldsim model is the ability to incorporate stochastic variability in forecasts of annual precipitation and runoff volumes. Stochastic representation of future annual precipitation results in improved forecasts of runoff volumes, which in turn are helpful for developing appropriate water management plans. The water balance information presented here was used as a basis for developing a water management strategy for 2013; as in 2011/2012, the Goldsim water balance model for the site was used to carry out this update.

2 Water Balance Update

2.1 Precipitation

Table 1 shows a summary of monthly precipitation measured at the Minto Mine site in 2011/2012 along with precipitation data from the regional meteorological station at Pelly Ranch (Climate ID: 2100880). Minto Explorations Ltd. (Minto) operates two meteorological stations on the Minto Mine site: a HOBO Weather Station and a Campbell Scientific meteorological station. The HOBO station measures total rainfall and the Campbell Scientific station measures total precipitation. From October through May, total precipitation is measured using a snowfall conversion adaptor fitted on a tipping bucket rain gauge

Precipitation measurements from the Pelly Ranch weather station, which is located approximately 25 km north of Minto, have historically been reasonable well correlated with precipitation measurements collected at Minto Mine. Therefore, the long-term precipitation record available for the Pelly Ranch station is used as a basis for estimating the distribution of annual mean precipitation at the Minto Site. A description of correlation analysis was provided in the 2012 water balance update for the Minto Mine (Minto 2012).

Rainfall measurements for the two meteorological stations at Minto were in good agreement for the months of June, July and October 2012. However, the HOBO station measured considerably higher rates of rainfall than the Campbell Scientific station in August and September. The cause of this variability is not clear.

Table 1 Precipitation Records for Minto Mine and Pelly Ranch (Nov. 2011 to Dec. 2012)

		Minto Met. Stations		Regional Station
		HOBO	**Campbell Scientific**	**Pelly Ranch (Climate ID 2100880)**
		Mm	**Mm**	**mm**
2011	Oct	-	4.4	-
2011	Nov	-	0.15	56.7
2011	Dec	-	3.94	37.3
2012	Jan	-	9.0	39.4
2012	Feb	0.6	9.9	29
2012	Mar	0.6	34.9	29.5
2012	Apr	0.2	0.0	7.8
2012	May	8.6	0.1	27
2012	Jun	33.4	32.1	26.7
2012	Jul	44.0	44.8	71.4
2012	Aug	36.6	20.6	32.1
2012	Sept	36.0	26.1	28.3*
2012	Oct	13.8	16.5	25.6
2012	Nov	-	17.1	n/a
2012	Dec	-	18.4	23.5*
SUM Hydrological Year, Nov. 2011 to Oct. 2012		**174.2**	**198.2**	**324.8**

Notes: * - based on incomplete data set. n/a – not available.
Source: Minto Site Data: 01_SITES\Minto\!020_Site_Wide_Data\Water_and_Load_Balance_Files\01_Project_Phases\07_Phase_5_6\GoldSim_Input_Tracking_PhaseV_VI_1CM002.003_REV00_SRJ.xlsx
Pelly Ranch Data: obtained from Meteorological Service of Canada, Environment Canada.

Correlation analyses complete in past years have indicated that total annual precipitation at the Minto Site generally is 10% greater than at Pelly Ranch due to difference in mean elevation and micro-climatic conditions. However, in 2012 the total annual precipitation measurements at the Pelly Ranch station was approximately 125 mm or about 60% greater than the total annual precipitation measure at the mine site. The precipitation data from Pelly Ranch for 2012 does not meet SRK's quality criteria of 95% data availability for inclusion in the frequency distribution and correlation analysis for Minto. Therefore, the frequency distribution and correlation developed based on historical data up to 2011 remain unchanged.

Examination of the precipitation record from Minto shows that total precipitation measurements in November and December 2011 as well as January, February and March 2012 were much lower than expected based on a comparison with data from Pelly Ranch. Reports by environmental staff at the Minto Mine suggest that the precipitation adapter, which converts snowfall to total precipitation measurements, may not have operated correctly in the winter of 2011/2012 (the first season this adapter was used). Unfamiliarity with the operation of the precipitation adapter may in part explain the apparent unreliable performance of the unit in the 2011/2012 winter season. Total precipitation data for the November/ December 2012 period fall within the expected range.

Because of potential inaccuracies in the total precipitation measurements from site in 2011/2012, the total annual precipitation measured at Pelly Ranch was used as a basis for estimating the annual precipitation for the Minto Site for 2012.

2.2 Snow Course Data

Snow course surveys were completed at three snow survey stations at the Minto site in 2012. Table 2 shows a summary of the snow survey data from 2009 to 2012. The depth of the snow pack provides an indication of the volume of surface runoff that can be expected during freshet. Between January and late May 2012 approximately 525,000 m^3 of surface runoff flowed from catchments at the Minto Mine site upstream of the Water Storage Pond (WSP). This volume corresponds to roughly 55 mm of runoff, or about 40% of the snow pack water equivalent measured in April 2012. The remaining 60% of the water in the snow pack was assumed to be lost to sublimation, evaporation and to a lesser extent, groundwater recharge.

Table 2 Summary of Snow Survey Data for the Minto Mine Site

Year	February 1st			March 1st			April 1st		
	Snow Depth (cm)	Snow Density (%)	Water Equivalent (mm)	Snow Depth (cm)	Snow Density (%)	Water Equivalent (mm)	Snow Depth (cm)	Snow Density (%)	Water Equivalent (mm)
2009	55.6	16.6	92.7	70.2	15.7	110.0	67.4	22.3	150.7
2010	60.5	17.8	107.7	58.1	20.7	120.7	40.4	[A]13.9	56.0
2011	57.2	18.7	106.0	70.3	20.1	141.7	52.3	22.8	111.7
2012	54.7	20.3	111.0	64.6	19.6	127.0	61.3	21.5	132.7

Note: Source: Minto (2012). [A]zero snow at #3, density is an average of snowpack at #1 and #2, average depth and water-equivalent is average of all three sites

2.3 Surface Runoff

Figure 1 shows a schematic of water management infrastructure and piping in use at Minto in 2012. Primary infrastructure include:

- Main Pit: repository for surface water and seepage affected by the mine development. Water stored in the Main Pit is intended to be used as process water and for subaqueous tailings deposition.
- W15 sump: collects surface runoff and seepage from the Southwest Waste Dump, from part of the Main Waste Dump and from adjacent undisturbed catchments. Water collected at W15 is pumped to the Main Pit or to the WSP.
- W35a sump: collects surface runoff from the minimally disturbed southern catchments. Water collected at W35a is piped to the Main Pit or to the WSP.
- W36 sump (formerly W37 sump): collects surface runoff and seepage from the mill valley, including contributions from the DSTSF. Water collected at W36 is pumped to the Main Pit.
- South Diversion Ditch: diverts water from minimally disturbed southern catchments to the WSP.
- WSP: repository for water that meets discharge criteria and is destined for discharge to Minto Creek.

Surface runoff was managed as follows in 2012:

- ~ 170,000 m^3 of water was pumped from the WSP to Minto Creek.
- ~ 150,000 m^3 of water was pumped from the WSP to the Mill Pond for use as process water.
- ~ 165,000 m^3 of water collected at W15 was pumped to the Main Pit.
- ~100,000 m^3 of water collected at W35a was conveyed to the WSP.
- ~ 155,000 m^3 of water collected at W35a was pumped to the Main Pit.
- ~ 110,000 m^3 of surface runoff from the mine site, (including the Dry Stack Tailings Storage Facility (DSTSF) and the Mill Valley Fill Expansion (MVFE)) was collected in the W37 sump and pumped to the Main Pit.

In 2012, Minto and ACG monitored surface runoff at several hydrometric stations in Minto Creek and McGinty Creek. Results from the surface hydrology monitoring program are reported elsewhere (Minto 2013).

2.4 Site Water Inventory

The primary water reservoirs at the Minto Mine include the Main Pit, the WSP and the DSTSF. Changes to the total water inventory at Minto in 2012 were estimated as follows:

- Main Pit:
  - The water level increased from 754.39 m to 765.06 m between January 1, 2012 and January 3, 2013.
  - This water level increase corresponded to a volume increase of ~ 800,000 m^3.
  - ~ 85,000 bank meter cubed (BCM) of tailings and ~100,000 BCM of waste rock was deposited in the Main Pit over the same period.
  - Therefore, the net water inventory increase in the Main Pit (including water in the pores of tailings and waste rock) in 2012 was ~ 615,000 m^3.
- WSP:
  - inventory in the WSP changed from 258,000 m^3 on January 1, 2012 to 239,000 m^3 on January 3, 2013 – a net reduction of 19,000 m^3 in 2012.
- DSTSF:
  - The net water inventory increase in the DSTSF was approximately 150,000 m^3 in 2012 (assuming an average water content of the compacted tailings of 16%). Placement of tailings in the DSTSF ceased at the beginning of November 2012, and therefore there will be no future changes in water inventory related to the DSTSF.

The water inventory in the mill and mill pond are negligible compared to the inventory in the Main Pit, the WSP and the DSTSF and are therefore not reported here.

2.5 Water Balance Summary

Table 3 shows a summary of the 2012 water balance for the Minto site. The total surface runoff collected on site was estimated to be approximately 920,000 m^3 based on the change in the water inventory and the known volume of water released to Minto Creek.

The total catchment upstream of the WSP measures approximately 1040 ha. Approximately 920,000 m^3 of runoff from 1040 ha gives a yield of approximately 88 mm/year. The current water and load balance (Goldsim) model that is used for forecasting surface runoff volumes, the annual average runoff coefficient is assumed to be 0.30. Based on this runoff coefficient, the total annual precipitation can be estimated as:

Annual Yield/Runoff Coefficient = Total Annual Precipitation, or

$$88 \text{ mm} / 0.30 = 294 \text{ mm}$$

As discussed above, the measured annual precipitation at Pelly Ranch for the hydrological year of 2012 was 324.8 mm. Based on the measured value at Pelly Ranch, it is reasonable to expect the total annual precipitation for the 2012 hydrological year at Minto was in the range of 300 mm to 350 mm. In other words, the estimates of total surface runoff and precipitation at the Minto Mine in 2012 indicate that an average runoff coefficient of approximately 0.30 is likely a reasonable estimate for forecasting purposes.

Table 3 Water Balance Summary of the Minto Mine Site (January 1, 2012 through January 3, 2013)

	Units		
Pit Volume Increase 2012 (754.4 m to 765.1 m Level)	m^3	800,000	
Tailings to Main Pit, total	BCM	85,000	
PAG, deposited sub-aqueously in Main Pit	BCM	100,000	
Main Pit Water Volume Increase 2012	m^3		615,000
WSP Net Water Volume Increase 2012	m^3		-19,000
Water stored in DSTSF tailings	m^3		150,000
Water Discharged to Minto Creek in 2012	m^3		170,000
Total Surface Runoff Above WSP in 2012	$\mathbf{m^3}$		**~920,000**

Source: X:\01_SITES\Minto\!020_Site_Wide_Data\Water_and_Load_Balance_Files\01_Project_Phases\07_Phase_5_6\Minto_Global_Mass_ Balance._1CM002_003_REV00_SRJ.xlsx

3 Water Quality Model Update

Table 4 shows model predictions of water quality for the Main Pit at Minto for the Phase IV operational phase (2012 to 2017) along with maximum concentrations measured in Main Pit in 2012. Main Pit represents the primary repository of both water and load, and a comparison of actual water quality from this location with concentrations predicted for pit water during pre-production environmental assessment provides a good measure of actual vs. expect geochemical performance of the site.

The majority sources of chemical loading at Minto are the DSTSF and the upland waste rock. Seepage chemistry was used as a basis for both tailings and waste rock source terms in the pre-production water quality prediction. For this update, the 2012 tailings and waste rock seepage chemistry data were reviewed, and concentrations were found to be similar to (or lower than) the concentrations previously adopted as source terms. As a result, the water quality model was not updated, as the mid-2012 prediction remains the most appropriate prediction of future reasonable worst case conditions.

As expected, all measured maximum concentrations are well below predicted maximum concentrations. The model predictions of maximum concentrations were developed as conservative estimates that are unlikely to be exceeded at any time during the Phase IV operation. Measured concentrations of arsenic, cadmium, copper, molybdenum, nickel, selenium and zinc are factors of 3 to 8 times less than predicted maximum concentrations. Measured dissolved aluminum and iron concentrations, which are sensitive to the pH of the mine water, are factors of 25 and 60 times less than predicted maximum concentrations.

Subaqueous deposition of tailings began in November 2012. The potential effect of tailings deposition on the chemistry of the pit lake will be evaluated through pit lake monitoring though 2013 and will be revisited during preparation of the 2013 annual report.

Table 4 Water Quality Model Predictions and Measured Concentrations in 2012

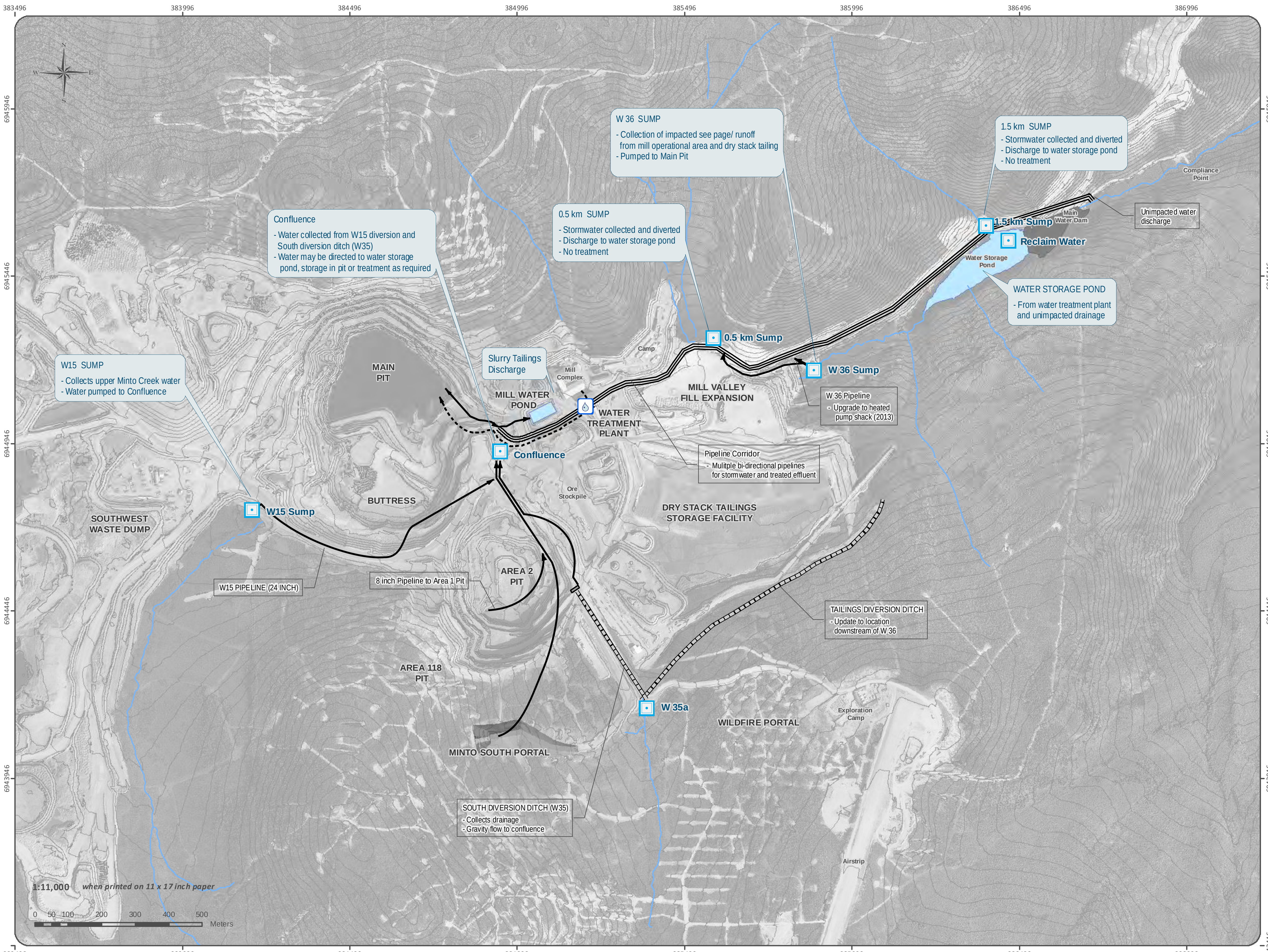
		Water Use Licence QZ96-006				Modelling Predictions of Main Pit Water Quality[B, C] Maximum Values (2012 to 2017)	Main Pit Concentrations Observed in 2012
Parameter		**From WTP to Minto Creek**	**Freshet[A] at W50 and W17**	**Non-Freshet at W50 and W17**	**Non-Freshet at W2**	**Max Concentration**	**Max Dissolved**
Ammonia	mg/L	0.89	0.89	0.89	0.35	-	0.32
N-NO2	mg/L	0.15	0.15	0.15	0.06	-	0.26
N-NO3	mg/L	7.65	7.65	7.65	2.9	>15	33.1
P		-	-	-	0.02	-	0.089
Al	mg/L	2.7	2.7	2.7	0.62	3.1	0.12
As	mg/L	-	-	-	0.005	0.0055	0.0010
Cd	mg/L	0.00015	0.00015	0.00015	0.00004	0.00065	0.00011
Cr	mg/L	0.008	0.008	0.008	0.002	0.0056	<DL
Cu	mg/L	0.05	0.08	0.05	0.013	0.40	0.081
Fe	mg/L	3.5	3.5	3.5	1.1	3.60	0.060
Pb	mg/L	0.02	0.02	0.02	0.004	0.0030	<DL
Mo	mg/L	0.4	0.4	0.4	0.073	0.13	0.029
Ni	mg/L	0.5	0.5	0.5	0.11	0.012	0.0030
Se	mg/L	0.003	0.003	0.003	0.001	0.057	0.007
Zn	mg/L	0.15	0.15	0.15	0.03	0.065	0.022

Notes: [A]April 1 to May 31
[B]Operational Predictions are for dissolved phases only. Effluent from the Minto Mine is assumed to be sourced from the Main Pit in the operational period from 2012 to 2017.
[C]Model Results from:
X:\01_SITES\Minto\!020_Site_Wide_Data\Water_and_Load_Balance_Files\01_Project_Phases\04_Amendment_8_Support\01_Goldsim_Model\MintoAmend8Support_1CM002.003_Rev34_TC_SRJ_500.gsm
Source: \\VAN-SVR0\Projects\01_SITES\Minto\1CM002.011_OperationalSupport_Environmental_2013\2013_Water_Balance_Update_For_Annual_Report\[All_Model_Results_for_WQ_Model_Comparison_for_2012_An_Report_1CM002_011_SRJ_Rev00.xlsx]WQ Summ Rev34

4 References

Minto Explorations Ltd. 2012. 2011 Annual Water Licence and Quartz Mining License Report.

Minto Explorations Ltd. 2013. 2012 Annual Water Licence and Quartz Mining License Report.



MINTO MINE

ANNUAL REPORT

FIGURE 1
OPERATIONAL WATER MANAGEMENT

MARCH 2013

Minto Explorations Ltd.
A SUBSIDIARY OF CAPSTONE MINING LTD.

- Collection Point
- Water Treatment Plant
- Pipe Alignment
- Piping Corridor
- Tailings Slury Discharge
- Diversion Ditch

ACCESS

Aerial imagery obtained from Challenger Geomatics. Imagery acquired August 14th 2012.
Site contours derived from 2012 aerial imagery obtained from Challenger Geomatics.

Hydrology data provided by Minto Explorations Ltd, May 2009.

Datum: NAD 83 Projection: UTM Zone 8N

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(Last edited by: mducharme;28/03/2013/09:50 AM)

Appendix B: Monthly Water Quality Modelling Predictions

Table 1 Area 2 Pit Monthly Summary - BE WQ Cover

	Ag	Al	Ammonia	As	Cd	Co	Cr	Cu	Fe	Fluoride	Hg	Mn	Mo	Na	Ni	Nitrate	Nitrite	Pb	Se	Sn	Sulphate	Sr	Tl	Zn
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Best Estimate Average Operations																								
Jan	0.000068	0.59	0.48	0.0026	0.000093	0.00078	0.0024	0.037	0.46	2.1	0.000084	0.25	0.055	59	0.0029	6.6	0.083	0.00059	0.011	0.0067	160	4.2	0.00011	0.012
Feb	0.000070	0.60	0.48	0.0027	0.000096	0.00080	0.0025	0.038	0.47	2.2	0.000087	0.26	0.057	61	0.0030	6.5	0.083	0.00060	0.011	0.0070	160	4.4	0.00011	0.012
Mar	0.000070	0.59	0.52	0.0026	0.000095	0.00087	0.0025	0.039	0.48	2.2	0.000084	0.27	0.062	67	0.0031	7.2	0.092	0.00061	0.012	0.0076	170	4.8	0.00011	0.012
Apr	0.000067	0.56	0.54	0.0024	0.000091	0.00090	0.0025	0.039	0.47	2.2	0.000078	0.28	0.065	71	0.0031	7.3	0.093	0.00060	0.013	0.0080	180	5.0	0.00011	0.012
May	0.000064	0.53	0.53	0.0023	0.000087	0.00086	0.0024	0.037	0.46	2.1	0.000073	0.26	0.061	68	0.0030	7.3	0.092	0.00057	0.012	0.0076	170	4.7	0.00011	0.012
Jun	0.000063	0.53	0.53	0.0023	0.000086	0.00084	0.0024	0.036	0.46	2.0	0.000073	0.26	0.059	65	0.0030	7.3	0.092	0.00056	0.012	0.0073	170	4.5	0.00011	0.012
Jul	0.000065	0.55	0.53	0.0024	0.000090	0.00086	0.0025	0.037	0.49	2.1	0.000076	0.27	0.060	66	0.0031	7.2	0.092	0.00059	0.012	0.0075	170	4.6	0.00011	0.012
Aug	0.000067	0.58	0.53	0.0025	0.000092	0.00087	0.0025	0.038	0.50	2.1	0.000080	0.27	0.061	67	0.0031	7.2	0.091	0.00060	0.012	0.0075	170	4.7	0.00011	0.012
Sep	0.000069	0.60	0.54	0.0026	0.000094	0.00085	0.0025	0.038	0.49	2.2	0.000084	0.26	0.060	65	0.0031	7.4	0.094	0.00061	0.012	0.0073	170	4.6	0.00011	0.012
Oct	0.000070	0.61	0.54	0.0027	0.000096	0.00084	0.0025	0.039	0.49	2.2	0.000086	0.26	0.060	65	0.0031	7.4	0.094	0.00062	0.012	0.0073	170	4.6	0.00011	0.012
Nov	0.000072	0.63	0.54	0.0028	0.000098	0.00084	0.0026	0.039	0.50	2.2	0.000089	0.26	0.060	65	0.0032	7.3	0.093	0.00063	0.012	0.0073	170	4.6	0.00011	0.013
Dec	0.000075	0.65	0.53	0.0029	0.00010	0.00085	0.0026	0.040	0.50	2.3	0.000093	0.27	0.060	65	0.0032	7.3	0.092	0.00064	0.012	0.0073	170	4.7	0.00012	0.013
Best Estimate Max Operations																								
Jan	0.00013	1.2	0.64	0.0063	0.00017	0.0011	0.0029	0.044	0.69	2.8	0.00021	0.38	0.093	110	0.0036	8.8	0.11	0.00083	0.016	0.010	250	7.5	0.00014	0.014
Feb	0.00013	1.3	0.64	0.0067	0.00018	0.0012	0.0031	0.044	0.70	3.0	0.00022	0.39	0.093	110	0.0037	8.8	0.11	0.00087	0.016	0.010	250	7.6	0.00014	0.014
Mar	0.00014	1.3	0.64	0.0067	0.00018	0.0012	0.0031	0.046	0.71	3.0	0.00022	0.40	0.093	110	0.0038	8.8	0.11	0.00088	0.016	0.010	260	7.6	0.00014	0.015
Apr	0.000090	0.87	0.64	0.0038	0.00012	0.0012	0.0030	0.046	0.71	2.9	0.00012	0.41	0.093	110	0.0038	8.8	0.11	0.00071	0.016	0.010	260	7.6	0.00015	0.015
May	0.000084	0.80	0.64	0.0035	0.00011	0.0012	0.0030	0.045	0.70	2.7	0.00011	0.41	0.091	100	0.0038	8.8	0.11	0.00069	0.016	0.010	250	7.4	0.00014	0.015
Jun	0.000076	0.75	0.64	0.0033	0.00010	0.0011	0.0028	0.042	0.68	2.5	0.00010	0.40	0.087	99	0.0036	8.8	0.11	0.00065	0.015	0.0098	240	7.1	0.00014	0.014
Jul	0.000080	0.80	0.64	0.0036	0.00011	0.0011	0.0028	0.043	0.68	2.5	0.00012	0.39	0.087	99	0.0036	8.8	0.11	0.00067	0.015	0.0098	240	7.1	0.00014	0.014
Aug	0.000084	0.84	0.64	0.0042	0.00011	0.0011	0.0029	0.043	0.68	2.5	0.00014	0.39	0.087	99	0.0036	8.8	0.11	0.00067	0.015	0.0098	240	7.2	0.00014	0.014
Sep	0.000094	0.93	0.64	0.0047	0.00012	0.0011	0.0028	0.043	0.68	2.5	0.00015	0.38	0.088	100	0.0036	8.8	0.11	0.00067	0.015	0.0099	240	7.3	0.00014	0.014
Oct	0.00010	0.99	0.64	0.0050	0.00013	0.0011	0.0028	0.043	0.68	2.5	0.00016	0.38	0.090	100	0.0036	8.8	0.11	0.00067	0.015	0.0100	250	7.4	0.00013	0.014
Nov	0.00011	1.1	0.64	0.0054	0.00014	0.0011	0.0028	0.043	0.68	2.6	0.00018	0.38	0.091	100	0.0035	8.8	0.11	0.00072	0.016	0.010	250	7.4	0.00014	0.014
Dec	0.00012	1.2	0.64	0.0059	0.00015	0.0011	0.0028	0.044	0.69	2.6	0.00019	0.38	0.092	100	0.0036	8.8	0.11	0.00077	0.016	0.010	250	7.5	0.00014	0.014
Best Estimate Average Postclosure																								
Jan	0.000046	0.40	0.084	0.0017	0.000070	0.00068	0.0019	0.027	0.72	0.90	0.000061	0.30	0.016	21	0.0025	1.2	0.015	0.00047	0.0040	0.0048	71	1.4	0.000098	0.0091
Feb	0.000046	0.40	0.083	0.0017	0.000070	0.00068	0.0019	0.027	0.72	0.90	0.000061	0.30	0.016	21	0.0025	1.1	0.014	0.00047	0.0041	0.0049	72	1.4	0.000098	0.0092
Mar	0.000046	0.40	0.082	0.0017	0.000071	0.00068	0.0019	0.027	0.72	0.90	0.000061	0.30	0.016	21	0.0025	1.1	0.014	0.00047	0.0041	0.0049	72	1.4	0.000098	0.0092
Apr	0.000047	0.40	0.085	0.0017	0.000071	0.00068	0.0019	0.027	0.72	0.91	0.000062	0.31	0.017	22	0.0025	1.2	0.015	0.00047	0.0041	0.0049	73	1.4	0.000098	0.0092
May	0.000047	0.39	0.083	0.0017	0.000071	0.00068	0.0019	0.027	0.72	0.89	0.000061	0.31	0.016	21	0.0025	1.1	0.014	0.00047	0.0040	0.0049	71	1.4	0.000098	0.0092
Jun	0.000046	0.39	0.082	0.0016	0.000070	0.00067	0.0019	0.026	0.71	0.87	0.000060	0.30	0.015	21	0.0025	1.1	0.014	0.00046	0.0039	0.0048	70	1.4	0.000097	0.0091
Jul	0.000046	0.39	0.081	0.0016	0.000070	0.00067	0.0019	0.026	0.71	0.87	0.000060	0.30	0.015	20	0.0025	1.1	0.014	0.00046	0.0038	0.0048	69	1.3	0.000097	0.0091
Aug	0.000045	0.39	0.079	0.0016	0.000069	0.00067	0.0019	0.026	0.72	0.86	0.000060	0.30	0.015	20	0.0025	1.1	0.014	0.00046	0.0038	0.0048	69	1.3	0.000097	0.0090
Sep	0.000045	0.39	0.078	0.0016	0.000069	0.00067	0.0019	0.026	0.72	0.86	0.000060	0.30	0.015	20	0.0025	1.1	0.013	0.00046	0.0038	0.0047	68	1.3	0.000097	0.0090
Oct	0.000045	0.39	0.077	0.0016	0.000069	0.00066	0.0019	0.026	0.72	0.86	0.000060	0.30	0.015	20	0.0025	1.0	0.013	0.00046	0.0037	0.0047	68	1.3	0.000097	0.0090
Nov	0.000045	0.39	0.075	0.0016	0.000069	0.00066	0.0019	0.026	0.72	0.86	0.000060	0.30	0.015	20	0.0025	1.0	0.013	0.00046	0.0037	0.0047	68	1.3	0.000097	0.0090
Dec	0.000045	0.39	0.074	0.0016	0.000069	0.00066	0.0019	0.026	0.72	0.86	0.000060	0.30	0.015	20	0.0025	1.0	0.013	0.00046	0.0037	0.0047	68	1.3	0.000097	0.0090
Best Estimate Max Postclosure																								
Jan	0.000048	0.40	0.13	0.0017	0.000073	0.00072	0.0020	0.028	0.73	1.0	0.000062	0.31	0.021	27	0.0026	1.8	0.022	0.00048	0.0050	0.0053	83	1.7	0.00010	0.0096
Feb	0.000048	0.40	0.13	0.0017	0.000074	0.00072	0.0020	0.028	0.73	1.0	0.000063	0.31	0.021	27	0.0026	1.7	0.022	0.00048	0.0050	0.0053	83	1.7	0.00010	0.0096
Mar	0.000049	0.40	0.12	0.0017	0.000074	0.00072	0.0020	0.028	0.73	1.0	0.000063	0.31	0.021	27	0.0026	1.7	0.022	0.00049	0.0050	0.0053	83	1.7	0.00010	0.0096
Apr	0.000049	0.40	0.12	0.0017	0.000074	0.00072	0.0020	0.028	0.73	1.0	0.000063	0.32	0.021	27	0.0026	1.7	0.021	0.00049	0.0050	0.0053	83	1.7	0.00010	0.0096
May	0.000049	0.40	0.12	0.0017	0.000074	0.00072	0.0020	0.028	0.73	1.0	0.000063	0.32	0.021	26	0.0026	1.6	0.021	0.00048	0.0050	0.0053	82	1.7	0.00010	0.0096
Jun	0.000048	0.39	0.12	0.0017	0.000073	0.00071	0.0020	0.028	0.72	0.97	0.000061	0.31	0.020	25	0.0026	1.6	0.020	0.00048	0.0047	0.0052	80	1.6	0.00010	0.0095
Jul	0.000047	0.40	0.12	0.0017	0.000072	0.00071	0.0020	0.028	0.73	0.97	0.000061	0.31	0.019	25	0.0026	1.6	0.020	0.00048	0.0047	0.0052	79	1.6	0.00010	0.0095
Aug	0.000047	0.40	0.11	0.0017	0.000072	0.00070	0.0020	0.027	0.73	0.96	0.000061	0.31	0.019	25	0.0026	1.6	0.020	0.00047	0.0046	0.0052	78	1.6	0.000100	0.0094
Sep	0.000047	0.40	0.11	0.0017	0.000072	0.00070	0.0019	0.027	0.73	0.95	0.000061	0.31	0.019	24	0.0025	1.5	0.019	0.00047	0.0046	0.0051	78	1.6	0.000100	0.0094
Oct	0.000047	0.40	0.11	0.0017	0.000072	0.00070	0.0019	0.027	0.73	0.95	0.000061	0.31	0.019	24	0.0025	1.5	0.019	0.00047	0.0046	0.0051	77	1.6	0.000100	0.0094
Nov	0.000047	0.40	0.11	0.0017	0.000072	0.00070	0.0019	0.027	0.73	0.95	0.000061	0.31	0.019	24	0.0025	1.5	0.019	0.00047	0.0045	0.0051	77	1.6	0.000100	0.0094
Dec	0.000047	0.40	0.11	0.0017	0.000072	0.00070	0.0019	0.027	0.73	0.95	0.000062	0.31	0.019	24	0.0025	1.5	0.018	0.00047	0.0045	0.0051	77	1.6	0.000100	0.0094

Table 2 Area 2 Pit Monthly Summary - WC WQ Cover

	Ag	Al	Ammonia	As	Cd	Co	Cr	Cu	Fe	Fluoride	Hg	Mn	Mo	Na	Ni	Nitrate	Nitrite	Pb	Se	Sn	Sulphate	Sr	Tl	Zn
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Reasonable Worst Case Average Operations																								
Jan	0.00016	0.99	0.78	0.0060	0.00031	0.0011	0.0053	0.072	0.74	2.8	0.00018	0.55	0.082	64	0.0058	17	0.44	0.0028	0.020	0.0067	200	5.7	0.00014	0.027
Feb	0.00016	1.0	0.78	0.0062	0.00032	0.0011	0.0055	0.075	0.77	2.9	0.00019	0.57	0.085	67	0.0060	17	0.45	0.0029	0.020	0.0070	210	5.9	0.00014	0.028
Mar	0.00016	0.99	0.84	0.0058	0.00031	0.0012	0.0054	0.076	0.78	2.9	0.00019	0.59	0.089	73	0.0060	18	0.48	0.0027	0.022	0.0076	220	6.4	0.00014	0.027
Apr	0.00015	0.92	0.87	0.0053	0.00029	0.0012	0.0051	0.074	0.77	2.8	0.00018	0.60	0.090	78	0.0058	19	0.50	0.0025	0.023	0.0080	230	6.7	0.00014	0.026
May	0.00014	0.87	0.86	0.0050	0.00027	0.0012	0.0048	0.070	0.74	2.7	0.00017	0.57	0.085	74	0.0055	19	0.47	0.0023	0.022	0.0076	220	6.3	0.00013	0.024
Jun	0.00014	0.87	0.86	0.0050	0.00027	0.0011	0.0047	0.069	0.74	2.6	0.00017	0.56	0.082	71	0.0055	19	0.46	0.0023	0.021	0.0073	210	6.1	0.00013	0.024
Jul	0.00015	0.90	0.86	0.0052	0.00028	0.0012	0.0049	0.072	0.78	2.7	0.00018	0.58	0.085	72	0.0057	19	0.48	0.0024	0.021	0.0075	220	6.2	0.00014	0.025
Aug	0.00015	0.94	0.85	0.0054	0.00029	0.0012	0.0051	0.074	0.80	2.8	0.00018	0.59	0.086	73	0.0058	19	0.48	0.0025	0.022	0.0075	220	6.2	0.00014	0.026
Sep	0.00016	0.99	0.88	0.0058	0.00030	0.0011	0.0053	0.074	0.78	2.9	0.00018	0.56	0.087	71	0.0059	19	0.49	0.0027	0.021	0.0073	220	6.2	0.00014	0.027
Oct	0.00016	1.0	0.88	0.0060	0.00031	0.0011	0.0054	0.075	0.78	2.9	0.00019	0.57	0.088	70	0.0060	19	0.48	0.0028	0.021	0.0073	220	6.2	0.00014	0.027
Nov	0.00017	1.0	0.87	0.0062	0.00033	0.0011	0.0056	0.077	0.79	3.0	0.00019	0.57	0.089	71	0.0062	19	0.48	0.0029	0.021	0.0073	220	6.2	0.00015	0.028
Dec	0.00017	1.1	0.86	0.0066	0.00034	0.0012	0.0058	0.079	0.80	3.1	0.00020	0.58	0.091	70	0.0063	19	0.48	0.0031	0.022	0.0073	220	6.3	0.00015	0.029
Reasonable Worst Case Max Operations																								
Jan	0.00032	2.3	1.0	0.017	0.00077	0.0017	0.011	0.097	1.1	4.7	0.00029	0.90	0.11	110	0.0093	23	0.64	0.0083	0.029	0.010	300	9.5	0.00018	0.056
Feb	0.00034	2.5	1.0	0.018	0.00082	0.0017	0.012	0.10	1.2	5.0	0.00031	0.91	0.11	110	0.0098	23	0.64	0.0088	0.029	0.010	300	9.6	0.00019	0.059
Mar	0.00034	2.5	1.0	0.018	0.00083	0.0018	0.012	0.10	1.2	5.0	0.00031	0.93	0.12	110	0.0099	23	0.64	0.0088	0.030	0.010	300	9.6	0.00019	0.060
Apr	0.00020	1.4	1.0	0.0091	0.00043	0.0018	0.0071	0.087	1.2	3.9	0.00025	0.95	0.12	110	0.0073	23	0.64	0.0043	0.030	0.010	300	9.6	0.00017	0.036
May	0.00019	1.3	1.0	0.0086	0.00041	0.0018	0.0066	0.087	1.2	3.5	0.00025	0.95	0.11	110	0.0067	23	0.64	0.0041	0.029	0.010	290	9.4	0.00016	0.034
Jun	0.00017	1.3	1.0	0.0083	0.00038	0.0017	0.0061	0.084	1.1	3.1	0.00024	0.92	0.11	110	0.0063	23	0.64	0.0040	0.027	0.0098	280	9.0	0.00016	0.031
Jul	0.00018	1.3	1.0	0.0097	0.00044	0.0017	0.0065	0.084	1.1	3.2	0.00023	0.91	0.11	110	0.0064	23	0.64	0.0047	0.028	0.0098	280	9.0	0.00016	0.033
Aug	0.00021	1.5	1.0	0.011	0.00051	0.0017	0.0075	0.083	1.1	3.4	0.00023	0.90	0.11	100	0.0067	23	0.64	0.0054	0.028	0.0098	280	9.0	0.00016	0.037
Sep	0.00024	1.7	1.0	0.013	0.00057	0.0016	0.0083	0.081	1.1	3.5	0.00023	0.88	0.11	110	0.0069	23	0.64	0.0061	0.028	0.0099	280	9.1	0.00016	0.041
Oct	0.00025	1.8	1.0	0.013	0.00061	0.0016	0.0089	0.081	1.1	3.7	0.00023	0.88	0.11	110	0.0074	23	0.64	0.0065	0.028	0.0100	290	9.2	0.00016	0.044
Nov	0.00027	2.0	1.0	0.015	0.00066	0.0017	0.0097	0.083	1.1	4.0	0.00025	0.88	0.11	110	0.0080	23	0.64	0.0071	0.028	0.010	290	9.4	0.00016	0.048
Dec	0.00030	2.2	1.0	0.016	0.00072	0.0017	0.011	0.090	1.1	4.4	0.00027	0.89	0.11	110	0.0087	23	0.64	0.0077	0.028	0.010	290	9.4	0.00017	0.052
Reasonable Worst Case Average Postclosure																								
Jan	0.00013	0.64	0.14	0.0035	0.00021	0.0012	0.0038	0.054	1.1	1.2	0.00020	0.68	0.029	26	0.0043	3.0	0.084	0.0015	0.0079	0.0048	110	2.1	0.00011	0.019
Feb	0.00013	0.64	0.13	0.0035	0.00021	0.0012	0.0038	0.054	1.1	1.2	0.00020	0.68	0.029	26	0.0043	2.9	0.083	0.0015	0.0079	0.0049	110	2.1	0.00011	0.019
Mar	0.00013	0.64	0.13	0.0035	0.00021	0.0012	0.0038	0.054	1.1	1.2	0.00020	0.68	0.029	26	0.0043	2.9	0.082	0.0015	0.0080	0.0049	110	2.1	0.00011	0.019
Apr	0.00013	0.64	0.14	0.0035	0.00021	0.0012	0.0038	0.055	1.1	1.3	0.00020	0.69	0.030	27	0.0043	3.0	0.084	0.0016	0.0081	0.0049	110	2.2	0.00011	0.019
May	0.00013	0.64	0.14	0.0035	0.00021	0.0012	0.0038	0.055	1.1	1.2	0.00020	0.70	0.029	26	0.0043	3.0	0.083	0.0015	0.0079	0.0049	110	2.1	0.00011	0.019
Jun	0.00013	0.63	0.13	0.0034	0.00021	0.0012	0.0038	0.054	1.1	1.2	0.00020	0.69	0.028	26	0.0042	2.9	0.082	0.0015	0.0077	0.0048	110	2.1	0.00011	0.019
Jul	0.00013	0.63	0.13	0.0034	0.00021	0.0012	0.0038	0.054	1.1	1.2	0.00020	0.68	0.028	25	0.0042	2.9	0.080	0.0015	0.0076	0.0048	110	2.0	0.00011	0.019
Aug	0.00013	0.63	0.13	0.0034	0.00020	0.0011	0.0037	0.053	1.1	1.2	0.00020	0.68	0.027	25	0.0042	2.8	0.079	0.0015	0.0075	0.0048	110	2.0	0.00011	0.019
Sep	0.00013	0.63	0.13	0.0034	0.00020	0.0011	0.0037	0.053	1.1	1.2	0.00020	0.68	0.027	25	0.0042	2.8	0.078	0.0015	0.0074	0.0047	110	2.0	0.00011	0.018
Oct	0.00013	0.63	0.12	0.0034	0.00020	0.0011	0.0037	0.053	1.1	1.2	0.00020	0.67	0.027	25	0.0042	2.7	0.076	0.0015	0.0074	0.0047	110	2.0	0.00011	0.018
Nov	0.00013	0.63	0.12	0.0034	0.00020	0.0011	0.0037	0.053	1.1	1.2	0.00020	0.67	0.027	25	0.0042	2.7	0.075	0.0015	0.0074	0.0047	110	2.0	0.00011	0.018
Dec	0.00013	0.63	0.12	0.0034	0.00021	0.0011	0.0037	0.053	1.1	1.2	0.00020	0.67	0.027	25	0.0042	2.6	0.074	0.0015	0.0074	0.0047	110	2.0	0.00011	0.019
Reasonable Worst Case Max Postclosure																								
Jan	0.00013	0.65	0.21	0.0036	0.00022	0.0012	0.0039	0.057	1.1	1.4	0.00020	0.71	0.035	32	0.0045	4.5	0.13	0.0016	0.0097	0.0053	130	2.6	0.00012	0.020
Feb	0.00013	0.65	0.20	0.0036	0.00022	0.0012	0.0039	0.057	1.1	1.4	0.00020	0.71	0.035	32	0.0045	4.5	0.13	0.0016	0.0097	0.0053	130	2.6	0.00012	0.020
Mar	0.00013	0.66	0.20	0.0036	0.00022	0.0012	0.0039	0.058	1.1	1.4	0.00020	0.71	0.035	32	0.0045	4.4	0.12	0.0016	0.0097	0.0053	130	2.6	0.00012	0.020
Apr	0.00014	0.66	0.20	0.0036	0.00022	0.0012	0.0040	0.058	1.1	1.4	0.00021	0.72	0.035	32	0.0045	4.3	0.12	0.0016	0.0097	0.0053	130	2.6	0.00012	0.020
May	0.00014	0.65	0.19	0.0036	0.00022	0.0012	0.0040	0.058	1.1	1.4	0.00021	0.72	0.034	32	0.0045	4.3	0.12	0.0016	0.0096	0.0053	130	2.5	0.00012	0.020
Jun	0.00013	0.64	0.19	0.0035	0.00021	0.0012	0.0039	0.057	1.1	1.3	0.00020	0.71	0.033	30	0.0044	4.2	0.12	0.0015	0.0092	0.0052	120	2.4	0.00012	0.019
Jul	0.00013	0.64	0.19	0.0035	0.00021	0.0012	0.0039	0.056	1.1	1.3	0.00020	0.70	0.033	30	0.0044	4.1	0.12	0.0015	0.0091	0.0052	120	2.4	0.00011	0.019
Aug	0.00013	0.64	0.19	0.0035	0.00021	0.0012	0.0038	0.056	1.1	1.3	0.00020	0.70	0.032	30	0.0044	4.0	0.11	0.0015	0.0090	0.0052	120	2.4	0.00011	0.019
Sep	0.00013	0.64	0.18	0.0035	0.00021	0.0012	0.0038	0.056	1.1	1.3	0.00020	0.70	0.032	30	0.0044	4.0	0.11	0.0015	0.0089	0.0051	120	2.4	0.00011	0.019
Oct	0.00013	0.64	0.18	0.0035	0.00021	0.0012	0.0038	0.056	1.1	1.3	0.00020	0.69	0.032	29	0.0044	3.9	0.11	0.0015	0.0089	0.0051	120	2.3	0.00011	0.019
Nov	0.00013	0.64	0.18	0.0035	0.00021	0.0012	0.0038	0.056	1.1	1.3	0.00020	0.69	0.032	29	0.0044	3.8	0.11	0.0015	0.0088	0.0051	120	2.3	0.00011	0.019
Dec	0.00013	0.64	0.17	0.0035	0.00021	0.0012	0.0038	0.056	1.1	1.3	0.00020	0.69	0.032	29	0.0044	3.8	0.11	0.0015	0.0088	0.0051	120	2.3	0.00011	0.019

Table 3 Area 2 Pit Monthly Summary - BE WQ NoCover

	Ag	Al	Ammonia	As	Cd	Co	Cr	Cu	Fe	Fluoride	Hg	Mn	Mo	Na	Ni	Nitrate	Nitrite	Pb	Se	Sn	Sulphate	Sr	Tl	Zn
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Best Estimate Average Operations																								
Jan	0.000068	0.59	0.48	0.0026	0.000093	0.00078	0.0024	0.037	0.46	2.1	0.000084	0.25	0.055	59	0.0029	6.6	0.083	0.00059	0.011	0.0067	160	4.2	0.00011	0.012
Feb	0.000070	0.60	0.48	0.0027	0.000096	0.00080	0.0025	0.038	0.47	2.2	0.000087	0.26	0.057	61	0.0030	6.5	0.083	0.00060	0.011	0.0070	160	4.4	0.00011	0.012
Mar	0.000070	0.59	0.52	0.0026	0.000095	0.00087	0.0025	0.039	0.48	2.2	0.000084	0.27	0.062	67	0.0031	7.2	0.092	0.00061	0.012	0.0076	170	4.8	0.00011	0.012
Apr	0.000067	0.56	0.54	0.0024	0.000091	0.00090	0.0025	0.039	0.47	2.2	0.000078	0.28	0.065	71	0.0031	7.3	0.093	0.00060	0.013	0.0080	180	5.0	0.00011	0.012
May	0.000064	0.53	0.53	0.0023	0.000087	0.00086	0.0024	0.037	0.46	2.1	0.000073	0.26	0.061	68	0.0030	7.3	0.092	0.00057	0.012	0.0076	170	4.7	0.00011	0.012
Jun	0.000063	0.53	0.53	0.0023	0.000086	0.00084	0.0024	0.036	0.46	2.0	0.000073	0.26	0.059	65	0.0030	7.3	0.092	0.00056	0.012	0.0073	170	4.5	0.00011	0.012
Jul	0.000065	0.55	0.53	0.0024	0.000090	0.00086	0.0025	0.037	0.49	2.1	0.000076	0.27	0.060	66	0.0031	7.2	0.092	0.00059	0.012	0.0075	170	4.6	0.00011	0.012
Aug	0.000067	0.58	0.53	0.0025	0.000092	0.00087	0.0025	0.038	0.50	2.1	0.000080	0.27	0.061	67	0.0031	7.2	0.091	0.00060	0.012	0.0075	170	4.7	0.00011	0.012
Sep	0.000069	0.60	0.54	0.0026	0.000094	0.00085	0.0025	0.038	0.49	2.2	0.000084	0.26	0.060	65	0.0031	7.4	0.094	0.00061	0.012	0.0073	170	4.6	0.00011	0.012
Oct	0.000070	0.61	0.54	0.0027	0.000096	0.00084	0.0025	0.039	0.49	2.2	0.000086	0.26	0.060	65	0.0031	7.4	0.094	0.00062	0.012	0.0073	170	4.6	0.00011	0.012
Nov	0.000072	0.63	0.54	0.0028	0.000098	0.00084	0.0026	0.039	0.50	2.2	0.000089	0.26	0.060	65	0.0032	7.3	0.093	0.00063	0.012	0.0073	170	4.6	0.00011	0.013
Dec	0.000075	0.65	0.53	0.0029	0.00010	0.00085	0.0026	0.040	0.50	2.3	0.000093	0.27	0.060	65	0.0032	7.3	0.092	0.00064	0.012	0.0073	170	4.7	0.00012	0.013
Best Estimate Max Operations																								
Jan	0.00013	1.2	0.64	0.0063	0.00017	0.0011	0.0029	0.044	0.69	2.8	0.00021	0.38	0.093	110	0.0036	8.8	0.11	0.00083	0.016	0.010	250	7.5	0.00014	0.014
Feb	0.00013	1.3	0.64	0.0067	0.00018	0.0012	0.0031	0.044	0.70	3.0	0.00022	0.39	0.093	110	0.0037	8.8	0.11	0.00087	0.016	0.010	250	7.6	0.00014	0.014
Mar	0.00014	1.3	0.64	0.0067	0.00018	0.0012	0.0031	0.046	0.71	3.0	0.00022	0.40	0.093	110	0.0038	8.8	0.11	0.00088	0.016	0.010	260	7.6	0.00014	0.015
Apr	0.000090	0.87	0.64	0.0038	0.00012	0.0012	0.0030	0.046	0.71	2.9	0.00012	0.41	0.093	110	0.0038	8.8	0.11	0.00071	0.016	0.010	260	7.6	0.00015	0.015
May	0.000084	0.80	0.64	0.0035	0.00011	0.0012	0.0030	0.045	0.70	2.7	0.00011	0.41	0.091	100	0.0038	8.8	0.11	0.00069	0.016	0.010	250	7.4	0.00014	0.015
Jun	0.000076	0.75	0.64	0.0033	0.00010	0.0011	0.0028	0.042	0.68	2.5	0.00010	0.40	0.087	99	0.0036	8.8	0.11	0.00065	0.015	0.0098	240	7.1	0.00014	0.014
Jul	0.000080	0.80	0.64	0.0036	0.00011	0.0011	0.0028	0.043	0.68	2.5	0.00012	0.39	0.087	99	0.0036	8.8	0.11	0.00067	0.015	0.0098	240	7.1	0.00014	0.014
Aug	0.000084	0.84	0.64	0.0042	0.00011	0.0011	0.0029	0.043	0.68	2.5	0.00014	0.39	0.087	99	0.0036	8.8	0.11	0.00067	0.015	0.0098	240	7.2	0.00014	0.014
Sep	0.000094	0.93	0.64	0.0047	0.00012	0.0011	0.0028	0.043	0.68	2.5	0.00015	0.38	0.088	100	0.0036	8.8	0.11	0.00067	0.015	0.0099	240	7.3	0.00014	0.014
Oct	0.00010	0.99	0.64	0.0050	0.00013	0.0011	0.0028	0.043	0.68	2.5	0.00016	0.38	0.090	100	0.0036	8.8	0.11	0.00067	0.015	0.0100	250	7.4	0.00013	0.014
Nov	0.00011	1.1	0.64	0.0054	0.00014	0.0011	0.0028	0.043	0.68	2.6	0.00018	0.38	0.091	100	0.0035	8.8	0.11	0.00072	0.016	0.010	250	7.4	0.00014	0.014
Dec	0.00012	1.2	0.64	0.0059	0.00015	0.0011	0.0028	0.044	0.69	2.6	0.00019	0.38	0.092	100	0.0036	8.8	0.11	0.00077	0.016	0.010	250	7.5	0.00014	0.014
Best Estimate Average Postclosure																								
Jan	0.000050	0.38	0.084	0.0018	0.000076	0.00079	0.0021	0.031	0.78	0.92	0.000064	0.39	0.017	23	0.0026	1.2	0.015	0.00050	0.0043	0.0061	78	1.5	0.00011	0.010
Feb	0.000050	0.39	0.083	0.0018	0.000076	0.00079	0.0021	0.031	0.78	0.92	0.000065	0.39	0.017	23	0.0026	1.1	0.014	0.00050	0.0043	0.0061	78	1.5	0.00011	0.010
Mar	0.000050	0.39	0.082	0.0018	0.000076	0.00079	0.0021	0.031	0.79	0.92	0.000065	0.39	0.017	23	0.0026	1.1	0.014	0.00050	0.0043	0.0061	78	1.5	0.00011	0.010
Apr	0.000051	0.39	0.085	0.0018	0.000077	0.00080	0.0021	0.032	0.79	0.93	0.000065	0.40	0.017	23	0.0026	1.2	0.015	0.00050	0.0044	0.0062	79	1.5	0.00011	0.010
May	0.000051	0.38	0.083	0.0018	0.000077	0.00080	0.0021	0.032	0.79	0.91	0.000065	0.40	0.017	23	0.0026	1.1	0.014	0.00050	0.0043	0.0062	78	1.5	0.00011	0.010
Jun	0.000050	0.38	0.082	0.0017	0.000076	0.00079	0.0021	0.031	0.79	0.89	0.000063	0.40	0.016	22	0.0026	1.1	0.014	0.00049	0.0041	0.0061	77	1.5	0.00011	0.010
Jul	0.000050	0.38	0.081	0.0017	0.000076	0.00078	0.0021	0.031	0.79	0.89	0.000063	0.39	0.016	22	0.0026	1.1	0.014	0.00049	0.0041	0.0061	76	1.4	0.00011	0.010
Aug	0.000049	0.38	0.079	0.0017	0.000075	0.00078	0.0021	0.031	0.79	0.88	0.000064	0.39	0.016	22	0.0026	1.1	0.014	0.00049	0.0041	0.0060	76	1.4	0.00010	0.010
Sep	0.000049	0.38	0.078	0.0017	0.000075	0.00078	0.0021	0.031	0.79	0.88	0.000064	0.39	0.015	22	0.0026	1.1	0.013	0.00049	0.0040	0.0060	75	1.4	0.00010	0.010
Oct	0.000049	0.38	0.077	0.0017	0.000075	0.00078	0.0021	0.031	0.79	0.87	0.000064	0.39	0.015	21	0.0026	1.0	0.013	0.00049	0.0040	0.0060	75	1.4	0.00010	0.010
Nov	0.000049	0.38	0.075	0.0017	0.000075	0.00078	0.0021	0.031	0.79	0.88	0.000064	0.39	0.015	21	0.0026	1.0	0.013	0.00049	0.0040	0.0060	75	1.4	0.00010	0.010
Dec	0.000050	0.38	0.074	0.0017	0.000075	0.00078	0.0021	0.031	0.79	0.88	0.000064	0.39	0.015	21	0.0026	1.0	0.013	0.00049	0.0040	0.0060	75	1.4	0.00010	0.010
Best Estimate Max Postclosure																								
Jan	0.000052	0.39	0.13	0.0018	0.000078	0.00081	0.0022	0.032	0.81	1.0	0.000065	0.40	0.021	28	0.0027	1.8	0.022	0.00051	0.0053	0.0064	88	1.8	0.00011	0.010
Feb	0.000052	0.39	0.13	0.0018	0.000079	0.00081	0.0022	0.032	0.81	1.0	0.000065	0.40	0.021	28	0.0027	1.7	0.022	0.00051	0.0053	0.0064	88	1.8	0.00011	0.010
Mar	0.000052	0.39	0.12	0.0018	0.000079	0.00081	0.0022	0.032	0.82	1.0	0.000066	0.40	0.021	28	0.0027	1.7	0.022	0.00051	0.0053	0.0064	88	1.8	0.00011	0.010
Apr	0.000052	0.39	0.12	0.0018	0.000079	0.00082	0.0022	0.032	0.82	1.0	0.000066	0.41	0.021	28	0.0027	1.7	0.021	0.00051	0.0053	0.0065	88	1.8	0.00011	0.011
May	0.000052	0.39	0.12	0.0018	0.000079	0.00082	0.0022	0.032	0.82	1.0	0.000066	0.41	0.021	28	0.0027	1.6	0.021	0.00051	0.0052	0.0065	88	1.8	0.00011	0.011
Jun	0.000051	0.38	0.12	0.0018	0.000078	0.00081	0.0021	0.032	0.81	0.99	0.000064	0.40	0.020	27	0.0027	1.6	0.020	0.00051	0.0050	0.0064	86	1.7	0.00011	0.010
Jul	0.000051	0.39	0.12	0.0018	0.000078	0.00081	0.0021	0.032	0.81	0.98	0.000064	0.40	0.020	26	0.0027	1.6	0.020	0.00051	0.0049	0.0064	85	1.7	0.00011	0.010
Aug	0.000051	0.39	0.11	0.0018	0.000077	0.00081	0.0021	0.032	0.82	0.98	0.000064	0.40	0.020	26	0.0027	1.6	0.020	0.00050	0.0049	0.0063	84	1.7	0.00011	0.010
Sep	0.000051	0.39	0.11	0.0018	0.000077	0.00080	0.0021	0.032	0.82	0.97	0.000064	0.40	0.019	26	0.0027	1.5	0.019	0.00050	0.0048	0.0063	84	1.7	0.00011	0.010
Oct	0.000051	0.39	0.11	0.0018	0.000077	0.00080	0.0021	0.032	0.81	0.97	0.000064	0.40	0.019	26	0.0027	1.5	0.019	0.00050	0.0048	0.0063	83	1.7	0.00011	0.010
Nov	0.000051	0.39	0.11	0.0018	0.000077	0.00080	0.0021	0.032	0.81	0.97	0.000064	0.40	0.019	25	0.0027	1.5	0.019	0.00050	0.0048	0.0062	83	1.7	0.00011	0.010
Dec	0.000051	0.39	0.11	0.0018	0.000077	0.00080	0.0021	0.032	0.81	0.97	0.000065	0.40	0.019	25	0.0027	1.5	0.018	0.00050	0.0048	0.0062	83	1.7	0.00011	0.010

Table 4 Area 2 Pit WC Monthly Summary - WQ NoCover

	Ag	Al	Ammonia	As	Cd	Co	Cr	Cu	Fe	Fluoride	Hg	Mn	Mo	Na	Ni	Nitrate	Nitrite	Pb	Se	Sn	Sulphate	Sr	Tl	Zn
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Reasonable Worst Case Average Operations																								
Jan	0.00016	0.99	0.78	0.0060	0.00031	0.0011	0.0053	0.072	0.74	2.8	0.00018	0.55	0.082	64	0.0058	17	0.44	0.0028	0.020	0.0067	200	5.7	0.00014	0.027
Feb	0.00016	1.0	0.78	0.0062	0.00032	0.0011	0.0055	0.075	0.77	2.9	0.00019	0.57	0.085	67	0.0060	17	0.45	0.0029	0.020	0.0070	210	5.9	0.00014	0.028
Mar	0.00016	0.99	0.84	0.0058	0.00031	0.0012	0.0054	0.076	0.78	2.9	0.00019	0.59	0.089	73	0.0060	18	0.48	0.0027	0.022	0.0076	220	6.4	0.00014	0.027
Apr	0.00015	0.92	0.87	0.0053	0.00029	0.0012	0.0051	0.074	0.77	2.8	0.00018	0.60	0.090	78	0.0058	19	0.50	0.0025	0.023	0.0080	230	6.7	0.00014	0.026
May	0.00014	0.87	0.86	0.0050	0.00027	0.0012	0.0048	0.070	0.74	2.7	0.00017	0.57	0.085	74	0.0055	19	0.47	0.0023	0.022	0.0076	220	6.3	0.00013	0.024
Jun	0.00014	0.87	0.86	0.0050	0.00027	0.0011	0.0047	0.069	0.74	2.6	0.00017	0.56	0.082	71	0.0055	19	0.46	0.0023	0.021	0.0073	210	6.1	0.00013	0.024
Jul	0.00015	0.90	0.86	0.0052	0.00028	0.0012	0.0049	0.072	0.78	2.7	0.00018	0.58	0.085	72	0.0057	19	0.48	0.0024	0.021	0.0075	220	6.2	0.00014	0.025
Aug	0.00015	0.94	0.85	0.0054	0.00029	0.0012	0.0051	0.074	0.80	2.8	0.00018	0.59	0.086	73	0.0058	19	0.48	0.0025	0.022	0.0075	220	6.2	0.00014	0.026
Sep	0.00016	0.99	0.88	0.0058	0.00030	0.0011	0.0053	0.074	0.78	2.9	0.00018	0.56	0.087	71	0.0059	19	0.49	0.0027	0.021	0.0073	220	6.2	0.00014	0.027
Oct	0.00016	1.0	0.88	0.0060	0.00031	0.0011	0.0054	0.075	0.78	2.9	0.00019	0.57	0.088	70	0.0060	19	0.48	0.0028	0.021	0.0073	220	6.2	0.00014	0.027
Nov	0.00017	1.0	0.87	0.0062	0.00033	0.0011	0.0056	0.077	0.79	3.0	0.00019	0.57	0.089	71	0.0062	19	0.48	0.0029	0.021	0.0073	220	6.2	0.00015	0.028
Dec	0.00017	1.1	0.86	0.0066	0.00034	0.0012	0.0058	0.079	0.80	3.1	0.00020	0.58	0.091	70	0.0063	19	0.48	0.0031	0.022	0.0073	220	6.3	0.00015	0.029
Reasonable Worst Case Max Operations																								
Jan	0.00032	2.3	1.0	0.017	0.00077	0.0017	0.011	0.097	1.1	4.7	0.00029	0.90	0.11	110	0.0093	23	0.64	0.0083	0.029	0.010	300	9.5	0.00018	0.056
Feb	0.00034	2.5	1.0	0.018	0.00082	0.0017	0.012	0.10	1.2	5.0	0.00031	0.91	0.11	110	0.0098	23	0.64	0.0088	0.029	0.010	300	9.6	0.00019	0.059
Mar	0.00034	2.5	1.0	0.018	0.00083	0.0018	0.012	0.10	1.2	5.0	0.00031	0.93	0.12	110	0.0099	23	0.64	0.0088	0.030	0.010	300	9.6	0.00019	0.060
Apr	0.00020	1.4	1.0	0.0091	0.00043	0.0018	0.0071	0.087	1.2	3.9	0.00025	0.95	0.12	110	0.0073	23	0.64	0.0043	0.030	0.010	300	9.6	0.00017	0.036
May	0.00019	1.3	1.0	0.0086	0.00041	0.0018	0.0066	0.087	1.2	3.5	0.00025	0.95	0.11	110	0.0067	23	0.64	0.0041	0.029	0.010	290	9.4	0.00016	0.034
Jun	0.00017	1.3	1.0	0.0083	0.00038	0.0017	0.0061	0.084	1.1	3.1	0.00024	0.92	0.11	110	0.0063	23	0.64	0.0040	0.027	0.0098	280	9.0	0.00016	0.031
Jul	0.00018	1.3	1.0	0.0097	0.00044	0.0017	0.0065	0.084	1.1	3.2	0.00023	0.91	0.11	110	0.0064	23	0.64	0.0047	0.028	0.0098	280	9.0	0.00016	0.033
Aug	0.00021	1.5	1.0	0.011	0.00051	0.0017	0.0075	0.083	1.1	3.4	0.00023	0.90	0.11	100	0.0067	23	0.64	0.0054	0.028	0.0098	280	9.0	0.00016	0.037
Sep	0.00024	1.7	1.0	0.013	0.00057	0.0016	0.0083	0.081	1.1	3.5	0.00023	0.88	0.11	110	0.0069	23	0.64	0.0061	0.028	0.0099	280	9.1	0.00016	0.041
Oct	0.00025	1.8	1.0	0.013	0.00061	0.0016	0.0089	0.081	1.1	3.7	0.00023	0.88	0.11	110	0.0074	23	0.64	0.0065	0.028	0.0100	290	9.2	0.00016	0.044
Nov	0.00027	2.0	1.0	0.015	0.00066	0.0017	0.0097	0.083	1.1	4.0	0.00025	0.88	0.11	110	0.0080	23	0.64	0.0071	0.028	0.010	290	9.4	0.00016	0.048
Dec	0.00030	2.2	1.0	0.016	0.00072	0.0017	0.011	0.090	1.1	4.4	0.00027	0.89	0.11	110	0.0087	23	0.64	0.0077	0.028	0.010	290	9.4	0.00017	0.052
Reasonable Worst Case Average Postclosure																								
Jan	0.00015	0.66	0.14	0.0036	0.00023	0.0014	0.0042	0.065	1.3	1.3	0.00025	0.89	0.030	29	0.0047	3.0	0.084	0.0016	0.0087	0.0061	130	2.3	0.00012	0.021
Feb	0.00015	0.66	0.13	0.0037	0.00023	0.0014	0.0042	0.065	1.3	1.3	0.00025	0.90	0.030	29	0.0047	2.9	0.083	0.0016	0.0088	0.0061	130	2.3	0.00012	0.021
Mar	0.00015	0.66	0.13	0.0037	0.00023	0.0014	0.0043	0.065	1.3	1.3	0.00025	0.90	0.030	29	0.0047	2.9	0.082	0.0016	0.0088	0.0061	130	2.3	0.00012	0.021
Apr	0.00016	0.66	0.14	0.0037	0.00024	0.0015	0.0043	0.066	1.3	1.3	0.00025	0.91	0.031	30	0.0047	3.0	0.084	0.0016	0.0089	0.0062	130	2.4	0.00012	0.021
May	0.00016	0.66	0.14	0.0037	0.00024	0.0015	0.0043	0.066	1.3	1.3	0.00025	0.92	0.030	29	0.0047	3.0	0.083	0.0016	0.0087	0.0062	130	2.3	0.00012	0.021
Jun	0.00015	0.65	0.13	0.0036	0.00023	0.0015	0.0042	0.065	1.3	1.2	0.00025	0.91	0.029	29	0.0046	2.9	0.082	0.0015	0.0085	0.0061	130	2.3	0.00012	0.021
Jul	0.00015	0.65	0.13	0.0036	0.00023	0.0014	0.0042	0.065	1.3	1.2	0.00025	0.90	0.029	28	0.0046	2.9	0.080	0.0015	0.0084	0.0061	130	2.3	0.00012	0.021
Aug	0.00015	0.65	0.13	0.0036	0.00023	0.0014	0.0042	0.064	1.3	1.2	0.00025	0.90	0.028	28	0.0046	2.8	0.079	0.0015	0.0083	0.0060	130	2.2	0.00012	0.021
Sep	0.00015	0.65	0.13	0.0036	0.00023	0.0014	0.0042	0.064	1.3	1.2	0.00025	0.90	0.028	28	0.0046	2.8	0.078	0.0015	0.0082	0.0060	130	2.2	0.00012	0.021
Oct	0.00015	0.65	0.12	0.0036	0.00023	0.0014	0.0042	0.064	1.3	1.2	0.00025	0.90	0.028	28	0.0046	2.7	0.076	0.0015	0.0082	0.0060	130	2.2	0.00012	0.021
Nov	0.00015	0.65	0.12	0.0036	0.00023	0.0014	0.0042	0.064	1.3	1.2	0.00025	0.90	0.028	28	0.0046	2.7	0.075	0.0015	0.0082	0.0060	130	2.2	0.00012	0.021
Dec	0.00015	0.65	0.12	0.0036	0.00023	0.0014	0.0042	0.064	1.3	1.2	0.00025	0.90	0.028	28	0.0046	2.6	0.074	0.0015	0.0082	0.0060	130	2.2	0.00012	0.021
Reasonable Worst Case Max Postclosure																								
Jan	0.00015	0.67	0.21	0.0037	0.00024	0.0015	0.0043	0.067	1.3	1.4	0.00025	0.91	0.036	35	0.0048	4.5	0.13	0.0016	0.010	0.0064	140	2.7	0.00012	0.021
Feb	0.00015	0.67	0.20	0.0037	0.00024	0.0015	0.0043	0.067	1.3	1.4	0.00025	0.91	0.036	35	0.0048	4.5	0.13	0.0016	0.010	0.0064	140	2.7	0.00012	0.022
Mar	0.00016	0.67	0.20	0.0038	0.00024	0.0015	0.0043	0.067	1.3	1.4	0.00026	0.91	0.036	35	0.0048	4.4	0.12	0.0016	0.010	0.0064	140	2.8	0.00012	0.022
Apr	0.00016	0.67	0.20	0.0038	0.00024	0.0015	0.0044	0.068	1.3	1.4	0.00026	0.93	0.036	35	0.0048	4.3	0.12	0.0016	0.010	0.0065	140	2.7	0.00012	0.022
May	0.00016	0.67	0.19	0.0038	0.00024	0.0015	0.0044	0.068	1.4	1.4	0.00026	0.93	0.035	34	0.0048	4.3	0.12	0.0016	0.010	0.0065	140	2.7	0.00012	0.022
Jun	0.00016	0.66	0.19	0.0037	0.00024	0.0015	0.0043	0.067	1.3	1.3	0.00026	0.92	0.034	33	0.0048	4.2	0.12	0.0016	0.0099	0.0064	140	2.6	0.00012	0.021
Jul	0.00015	0.66	0.19	0.0037	0.00023	0.0015	0.0043	0.066	1.3	1.3	0.00026	0.91	0.033	33	0.0048	4.1	0.12	0.0016	0.0099	0.0064	140	2.6	0.00012	0.021
Aug	0.00015	0.66	0.19	0.0036	0.00023	0.0015	0.0043	0.066	1.3	1.3	0.00025	0.91	0.033	33	0.0047	4.0	0.11	0.0016	0.0098	0.0063	140	2.6	0.00012	0.021
Sep	0.00015	0.66	0.18	0.0036	0.00023	0.0015	0.0043	0.066	1.3	1.3	0.00025	0.91	0.033	32	0.0047	4.0	0.11	0.0016	0.0097	0.0063	140	2.6	0.00012	0.021
Oct	0.00015	0.66	0.18	0.0036	0.00023	0.0015	0.0042	0.066	1.3	1.3	0.00025	0.90	0.033	32	0.0047	3.9	0.11	0.0016	0.0096	0.0063	140	2.5	0.00012	0.021
Nov	0.00015	0.66	0.18	0.0037	0.00023	0.0014	0.0043	0.066	1.3	1.3	0.00025	0.90	0.033	32	0.0047	3.8	0.11	0.0016	0.0096	0.0062	140	2.5	0.00012	0.021
Dec	0.00015	0.66	0.17	0.0037	0.00023	0.0014	0.0043	0.066	1.3	1.3	0.00025	0.90	0.033	32	0.0047	3.8	0.11	0.0016	0.0096	0.0062	140	2.5	0.00012	0.021

Table 5 WSP Monthly Summary - BE WQ Cover

	Ag	Al	Ammonia	As	Cd	Co	Cr	Cu	Fe	Fluoride	Hg	Mn	Mo	Na	Ni	Nitrate	Nitrite	Pb	Se	Sn	Sulphate	Sr	Tl	Zn
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Best Estimate Average Operations																								
Jan	0.000094	0.63	0.61	0.00092	0.000081	0.00084	0.0018	0.026	1.3	0.26	0.000040	0.34	0.0026	10	0.0028	8.3	0.11	0.00052	0.0011	0.0042	37	0.52	0.000086	0.012
Feb	0.000095	0.64	0.61	0.00096	0.000083	0.00088	0.0019	0.027	1.4	0.27	0.000041	0.36	0.0028	11	0.0029	8.3	0.10	0.00053	0.0011	0.0045	39	0.55	0.000089	0.013
Mar	0.000097	0.64	0.60	0.00099	0.000086	0.00092	0.0019	0.028	1.4	0.28	0.000042	0.39	0.0029	11	0.0030	8.2	0.10	0.00055	0.0012	0.0049	41	0.58	0.000092	0.013
Apr	0.000098	0.63	0.60	0.0010	0.000088	0.00094	0.0020	0.030	1.4	0.28	0.000042	0.41	0.0030	12	0.0029	8.2	0.10	0.00055	0.0013	0.0053	43	0.60	0.000092	0.013
May	0.000098	0.64	0.60	0.00093	0.000086	0.00085	0.0018	0.027	1.3	0.25	0.000037	0.34	0.0027	10	0.0029	8.2	0.10	0.00052	0.0011	0.0044	40	0.53	0.000085	0.013
Jun	0.00010	0.69	0.60	0.00091	0.000087	0.00083	0.0018	0.026	1.3	0.24	0.000035	0.31	0.0026	9.6	0.0030	8.1	0.10	0.00053	0.0010	0.0038	40	0.50	0.000087	0.013
Jul	0.00010	0.71	0.59	0.00093	0.000087	0.00085	0.0019	0.026	1.4	0.24	0.000039	0.31	0.0026	9.8	0.0030	8.1	0.10	0.00054	0.0010	0.0038	39	0.50	0.000085	0.013
Aug	0.00010	0.73	0.59	0.00094	0.000087	0.00086	0.0019	0.025	1.4	0.25	0.000043	0.31	0.0026	9.9	0.0030	8.1	0.10	0.00055	0.0010	0.0037	37	0.50	0.000085	0.013
Sep	0.00010	0.72	0.61	0.00094	0.000085	0.00085	0.0019	0.025	1.4	0.26	0.000042	0.31	0.0026	10.0	0.0030	8.4	0.11	0.00055	0.0010	0.0037	36	0.50	0.000087	0.013
Oct	0.00010	0.71	0.61	0.00095	0.000086	0.00086	0.0019	0.026	1.4	0.26	0.000042	0.32	0.0026	10	0.0030	8.3	0.11	0.00055	0.0010	0.0038	37	0.51	0.000089	0.013
Nov	0.00010	0.71	0.61	0.00097	0.000087	0.00088	0.0019	0.026	1.4	0.27	0.000042	0.34	0.0027	10	0.0030	8.3	0.11	0.00056	0.0011	0.0040	38	0.53	0.000091	0.013
Dec	0.00010	0.71	0.61	0.00099	0.000089	0.00091	0.0020	0.027	1.5	0.27	0.000043	0.35	0.0028	11	0.0031	8.3	0.10	0.00057	0.0011	0.0043	39	0.55	0.000093	0.013
Best Estimate Max Operations																								
Jan	0.00011	0.72	0.64	0.0011	0.000096	0.0010	0.0022	0.032	1.6	0.31	0.000049	0.44	0.0032	12	0.0034	8.8	0.11	0.00062	0.0014	0.0055	47	0.64	0.00011	0.015
Feb	0.00011	0.72	0.64	0.0012	0.000098	0.0011	0.0023	0.033	1.6	0.32	0.000050	0.47	0.0033	13	0.0035	8.8	0.11	0.00064	0.0014	0.0059	49	0.68	0.00011	0.015
Mar	0.00011	0.72	0.64	0.0012	0.00010	0.0011	0.0024	0.035	1.6	0.34	0.000051	0.50	0.0035	14	0.0035	8.8	0.11	0.00065	0.0015	0.0064	51	0.71	0.00011	0.015
Apr	0.00011	0.72	0.64	0.0012	0.00010	0.0012	0.0024	0.036	1.7	0.34	0.000053	0.53	0.0037	14	0.0036	8.8	0.11	0.00066	0.0016	0.0068	54	0.75	0.00012	0.016
May	0.00011	0.71	0.64	0.0012	0.00010	0.0011	0.0023	0.034	1.6	0.31	0.000048	0.48	0.0034	13	0.0033	8.8	0.11	0.00062	0.0015	0.0063	49	0.70	0.00010	0.015
Jun	0.00010	0.71	0.64	0.00100	0.000090	0.00091	0.0020	0.028	1.4	0.26	0.000040	0.36	0.0027	10	0.0032	8.8	0.11	0.00057	0.0011	0.0044	44	0.55	0.000097	0.014
Jul	0.00010	0.74	0.64	0.0010	0.000090	0.00093	0.0020	0.028	1.5	0.26	0.000046	0.36	0.0027	11	0.0032	8.8	0.11	0.00058	0.0011	0.0044	44	0.54	0.000096	0.014
Aug	0.00010	0.74	0.64	0.0010	0.000090	0.00093	0.0020	0.028	1.5	0.28	0.000046	0.35	0.0027	11	0.0032	8.8	0.11	0.00058	0.0011	0.0042	41	0.54	0.000094	0.014
Sep	0.00010	0.74	0.64	0.0010	0.000089	0.00093	0.0020	0.028	1.5	0.28	0.000045	0.36	0.0027	11	0.0032	8.8	0.11	0.00058	0.0011	0.0044	40	0.55	0.000097	0.014
Oct	0.00011	0.73	0.64	0.0010	0.000090	0.00095	0.0021	0.028	1.5	0.29	0.000046	0.38	0.0028	11	0.0032	8.8	0.11	0.00059	0.0012	0.0046	41	0.57	0.000099	0.014
Nov	0.00011	0.72	0.64	0.0011	0.000091	0.00097	0.0021	0.029	1.5	0.29	0.000046	0.39	0.0029	11	0.0033	8.8	0.11	0.00060	0.0012	0.0048	42	0.58	0.00010	0.014
Dec	0.00011	0.72	0.64	0.0011	0.000093	0.0010	0.0022	0.030	1.6	0.30	0.000047	0.42	0.0030	12	0.0033	8.8	0.11	0.00061	0.0013	0.0051	44	0.61	0.00010	0.014
Best Estimate Average Postclosure																								
Jan	0.00011	0.75	0.084	0.0012	0.000093	0.00072	0.0018	0.027	1.2	0.49	0.000048	0.25	0.0070	12	0.0028	1.2	0.015	0.00054	0.0020	0.0029	41	0.75	0.000074	0.012
Feb	0.00011	0.75	0.083	0.0013	0.000093	0.00072	0.0018	0.027	1.2	0.49	0.000048	0.26	0.0071	12	0.0028	1.1	0.014	0.00054	0.0021	0.0029	41	0.76	0.000074	0.012
Mar	0.00011	0.75	0.082	0.0013	0.000094	0.00073	0.0018	0.027	1.2	0.50	0.000048	0.26	0.0071	12	0.0028	1.1	0.014	0.00055	0.0021	0.0030	41	0.76	0.000075	0.012
Apr	0.00011	0.74	0.085	0.0013	0.000096	0.00073	0.0018	0.028	1.2	0.51	0.000049	0.27	0.0074	12	0.0028	1.2	0.015	0.00055	0.0021	0.0031	42	0.78	0.000074	0.013
May	0.00011	0.74	0.083	0.0013	0.000095	0.00072	0.0018	0.028	1.2	0.50	0.000046	0.26	0.0074	12	0.0028	1.1	0.014	0.00054	0.0021	0.0030	43	0.78	0.000073	0.013
Jun	0.00011	0.75	0.082	0.0012	0.000094	0.00071	0.0018	0.027	1.2	0.49	0.000045	0.25	0.0073	12	0.0028	1.1	0.014	0.00054	0.0021	0.0029	44	0.76	0.000075	0.012
Jul	0.00010	0.75	0.081	0.0012	0.000094	0.00072	0.0018	0.027	1.2	0.48	0.000047	0.25	0.0072	12	0.0028	1.1	0.014	0.00054	0.0021	0.0028	43	0.76	0.000073	0.012
Aug	0.00010	0.76	0.079	0.0012	0.000094	0.00073	0.0018	0.027	1.2	0.49	0.000049	0.25	0.0072	12	0.0028	1.1	0.014	0.00055	0.0021	0.0028	42	0.76	0.000073	0.012
Sep	0.00011	0.76	0.078	0.0012	0.000093	0.00072	0.0018	0.027	1.2	0.49	0.000049	0.25	0.0072	12	0.0028	1.1	0.013	0.00055	0.0021	0.0028	41	0.76	0.000074	0.012
Oct	0.00011	0.75	0.077	0.0013	0.000093	0.00072	0.0018	0.027	1.2	0.49	0.000048	0.25	0.0072	12	0.0028	1.0	0.013	0.00054	0.0021	0.0028	41	0.75	0.000074	0.012
Nov	0.00011	0.75	0.075	0.0013	0.000093	0.00072	0.0018	0.027	1.2	0.50	0.000048	0.25	0.0072	12	0.0028	1.0	0.013	0.00055	0.0021	0.0028	41	0.76	0.000074	0.012
Dec	0.00011	0.75	0.074	0.0013	0.000093	0.00072	0.0018	0.027	1.2	0.50	0.000048	0.25	0.0073	12	0.0028	1.0	0.013	0.00055	0.0021	0.0029	41	0.76	0.000075	0.012
Best Estimate Max Postclosure																								
Jan	0.00011	0.78	0.13	0.0014	0.00010	0.00080	0.0020	0.030	1.3	0.67	0.000054	0.28	0.013	19	0.0030	1.8	0.022	0.00059	0.0034	0.0036	56	1.2	0.000083	0.013
Feb	0.00011	0.78	0.13	0.0015	0.00010	0.00080	0.0020	0.030	1.3	0.68	0.000054	0.29	0.013	19	0.0030	1.7	0.022	0.00059	0.0034	0.0037	57	1.2	0.000083	0.013
Mar	0.00011	0.78	0.12	0.0015	0.00010	0.00081	0.0020	0.030	1.3	0.69	0.000054	0.29	0.013	19	0.0030	1.7	0.022	0.00059	0.0034	0.0037	57	1.2	0.000083	0.014
Apr	0.00011	0.78	0.12	0.0015	0.00010	0.00081	0.0020	0.031	1.3	0.71	0.000055	0.30	0.014	19	0.0030	1.7	0.021	0.00060	0.0035	0.0040	58	1.2	0.000084	0.014
May	0.00011	0.78	0.12	0.0015	0.00010	0.00080	0.0020	0.031	1.3	0.70	0.000054	0.29	0.014	19	0.0030	1.6	0.021	0.00059	0.0034	0.0040	59	1.2	0.000084	0.014
Jun	0.00011	0.78	0.12	0.0014	0.00010	0.00079	0.0020	0.030	1.3	0.67	0.000051	0.27	0.013	18	0.0030	1.6	0.020	0.00058	0.0033	0.0036	59	1.2	0.000084	0.013
Jul	0.00011	0.79	0.12	0.0014	0.00010	0.00080	0.0020	0.029	1.3	0.65	0.000054	0.27	0.013	18	0.0030	1.6	0.020	0.00059	0.0033	0.0036	58	1.1	0.000083	0.013
Aug	0.00011	0.79	0.11	0.0014	0.00010	0.00080	0.0020	0.029	1.3	0.65	0.000054	0.27	0.013	18	0.0030	1.6	0.020	0.00059	0.0032	0.0035	56	1.1	0.000081	0.013
Sep	0.00011	0.79	0.11	0.0014	0.000100	0.00080	0.0020	0.029	1.3	0.65	0.000054	0.27	0.013	18	0.0030	1.5	0.019	0.00059	0.0032	0.0035	55	1.1	0.000082	0.013
Oct	0.00011	0.78	0.11	0.0014	0.000099	0.00079	0.0019	0.029	1.3	0.66	0.000053	0.28	0.013	18	0.0030	1.5	0.019	0.00059	0.0032	0.0035	55	1.1	0.000083	0.013
Nov	0.00011	0.78	0.11	0.0014	0.000100	0.00079	0.0020	0.029	1.3	0.66	0.000053	0.28	0.013	18	0.0030	1.5	0.019	0.00059	0.0032	0.0036	55	1.1	0.000083	0.013
Dec	0.00011	0.78	0.11	0.0014	0.000100	0.00080	0.0020	0.029	1.3	0.66	0.000053	0.28	0.013	18	0.0030	1.5	0.018	0.00059	0.0032	0.0036	55	1.1	0.000083	0.013

Table 6 WSP Monthly Summary WC WQ Cover

	Ag	Al	Ammonia	As	Cd	Co	Cr	Cu	Fe	Fluoride	Hg	Mn	Mo	Na	Ni	Nitrate	Nitrite	Pb	Se	Sn	Sulphate	Sr	Tl	Zn
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Reasonable Worst Case Average Operations																								
Jan	0.00015	0.72	0.98	0.0012	0.00013	0.0014	0.0026	0.043	1.7	0.29	0.00018	0.70	0.0038	15	0.0036	21	0.61	0.00052	0.0027	0.0042	69	0.87	0.000086	0.016
Feb	0.00016	0.73	0.98	0.0013	0.00014	0.0014	0.0027	0.046	1.8	0.30	0.00019	0.76	0.0041	16	0.0037	21	0.60	0.00053	0.0029	0.0045	74	0.94	0.000089	0.017
Mar	0.00017	0.74	0.98	0.0013	0.00015	0.0015	0.0028	0.049	1.8	0.32	0.00020	0.82	0.0043	16	0.0039	21	0.60	0.00055	0.0031	0.0049	79	1.00	0.000092	0.018
Apr	0.00018	0.73	0.97	0.0014	0.00016	0.0016	0.0029	0.052	1.8	0.32	0.00022	0.87	0.0045	17	0.0039	21	0.60	0.00055	0.0033	0.0053	83	1.1	0.000092	0.018
May	0.00016	0.73	0.97	0.0012	0.00014	0.0014	0.0026	0.045	1.7	0.28	0.00018	0.72	0.0039	15	0.0036	21	0.60	0.00052	0.0027	0.0044	72	0.90	0.000085	0.017
Jun	0.00015	0.76	0.96	0.0012	0.00013	0.0013	0.0025	0.041	1.7	0.27	0.00015	0.62	0.0036	14	0.0036	21	0.59	0.00053	0.0024	0.0038	68	0.81	0.000087	0.016
Jul	0.00015	0.78	0.96	0.0012	0.00013	0.0013	0.0025	0.041	1.7	0.28	0.00016	0.63	0.0036	14	0.0037	21	0.59	0.00054	0.0024	0.0038	67	0.81	0.000085	0.016
Aug	0.00015	0.80	0.96	0.0012	0.00013	0.0013	0.0025	0.040	1.7	0.28	0.00016	0.62	0.0036	14	0.0037	21	0.59	0.00055	0.0024	0.0037	65	0.81	0.000085	0.016
Sep	0.00015	0.79	0.99	0.0012	0.00013	0.0013	0.0025	0.040	1.7	0.29	0.00016	0.63	0.0036	14	0.0036	22	0.61	0.00055	0.0024	0.0037	64	0.81	0.000087	0.016
Oct	0.00016	0.79	0.99	0.0012	0.00013	0.0013	0.0026	0.042	1.8	0.30	0.00017	0.65	0.0037	14	0.0037	22	0.61	0.00055	0.0025	0.0038	66	0.84	0.000089	0.016
Nov	0.00016	0.79	0.99	0.0012	0.00014	0.0014	0.0026	0.043	1.8	0.30	0.00017	0.69	0.0038	15	0.0038	22	0.61	0.00056	0.0026	0.0040	68	0.87	0.000091	0.017
Dec	0.00017	0.80	0.98	0.0013	0.00014	0.0014	0.0027	0.045	1.8	0.31	0.00018	0.73	0.0040	15	0.0039	21	0.60	0.00057	0.0028	0.0043	72	0.91	0.000093	0.017
Reasonable Worst Case Max Operations																								
Jan	0.00019	0.84	1.0	0.0015	0.00017	0.0017	0.0033	0.056	2.1	0.36	0.00023	0.94	0.0048	19	0.0044	23	0.64	0.00062	0.0036	0.0055	90	1.1	0.00011	0.020
Feb	0.00020	0.85	1.0	0.0016	0.00018	0.0018	0.0034	0.059	2.1	0.37	0.00025	1.0	0.0051	20	0.0046	23	0.64	0.00064	0.0038	0.0059	95	1.2	0.00011	0.021
Mar	0.00021	0.86	1.0	0.0017	0.00018	0.0019	0.0036	0.062	2.2	0.39	0.00027	1.1	0.0054	21	0.0047	23	0.64	0.00065	0.0041	0.0064	100	1.3	0.00011	0.021
Apr	0.00021	0.87	1.0	0.0017	0.00019	0.0020	0.0037	0.066	2.3	0.40	0.00028	1.1	0.0057	22	0.0048	23	0.64	0.00066	0.0043	0.0068	110	1.3	0.00012	0.022
May	0.00020	0.82	1.0	0.0016	0.00018	0.0019	0.0034	0.061	2.1	0.36	0.00026	1.0	0.0052	20	0.0045	23	0.64	0.00062	0.0039	0.0063	98	1.2	0.00010	0.021
Jun	0.00017	0.80	1.0	0.0013	0.00015	0.0015	0.0028	0.046	1.8	0.30	0.00018	0.74	0.0040	15	0.0040	23	0.64	0.00057	0.0028	0.0044	78	0.92	0.000097	0.018
Jul	0.00017	0.83	1.0	0.0013	0.00015	0.0015	0.0028	0.046	1.9	0.30	0.00019	0.74	0.0040	15	0.0040	23	0.64	0.00058	0.0028	0.0044	77	0.92	0.000096	0.018
Aug	0.00017	0.83	1.0	0.0013	0.00014	0.0015	0.0028	0.045	1.9	0.31	0.00019	0.73	0.0039	15	0.0040	23	0.64	0.00058	0.0028	0.0042	74	0.91	0.000094	0.017
Sep	0.00017	0.82	1.0	0.0013	0.00014	0.0015	0.0028	0.046	1.9	0.32	0.00019	0.75	0.0040	16	0.0040	23	0.64	0.00058	0.0029	0.0044	74	0.93	0.000097	0.018
Oct	0.00017	0.82	1.0	0.0014	0.00015	0.0015	0.0029	0.048	1.9	0.32	0.00020	0.79	0.0042	16	0.0041	23	0.64	0.00059	0.0030	0.0046	77	0.96	0.000099	0.018
Nov	0.00018	0.82	1.0	0.0014	0.00015	0.0016	0.0030	0.050	2.0	0.33	0.00021	0.82	0.0043	17	0.0041	23	0.64	0.00060	0.0031	0.0048	80	1.00	0.00010	0.018
Dec	0.00018	0.83	1.0	0.0014	0.00016	0.0016	0.0031	0.052	2.0	0.34	0.00022	0.88	0.0045	18	0.0043	23	0.64	0.00061	0.0033	0.0051	84	1.1	0.00010	0.019
Reasonable Worst Case Average Postclosure																								
Jan	0.00016	0.89	0.14	0.0022	0.00017	0.0010	0.0028	0.047	1.5	0.68	0.00013	0.52	0.014	15	0.0038	3.0	0.084	0.0011	0.0040	0.0029	65	1.1	0.000082	0.018
Feb	0.00016	0.89	0.13	0.0023	0.00017	0.0010	0.0029	0.048	1.5	0.68	0.00014	0.53	0.014	15	0.0038	2.9	0.083	0.0011	0.0040	0.0029	66	1.1	0.000083	0.018
Mar	0.00016	0.89	0.13	0.0023	0.00018	0.0011	0.0029	0.048	1.5	0.69	0.00014	0.53	0.014	15	0.0039	2.9	0.082	0.0011	0.0040	0.0030	66	1.1	0.000083	0.018
Apr	0.00016	0.89	0.14	0.0024	0.00018	0.0011	0.0030	0.050	1.5	0.71	0.00014	0.55	0.015	16	0.0039	3.0	0.084	0.0012	0.0042	0.0031	68	1.2	0.000083	0.019
May	0.00016	0.89	0.14	0.0023	0.00018	0.0010	0.0029	0.048	1.5	0.69	0.00014	0.53	0.015	15	0.0038	3.0	0.083	0.0011	0.0041	0.0030	68	1.2	0.000082	0.018
Jun	0.00015	0.88	0.13	0.0022	0.00017	0.0010	0.0028	0.047	1.4	0.67	0.00013	0.51	0.014	15	0.0038	2.9	0.082	0.0011	0.0040	0.0029	68	1.1	0.000083	0.018
Jul	0.00015	0.89	0.13	0.0022	0.00017	0.0010	0.0028	0.047	1.5	0.67	0.00013	0.51	0.014	15	0.0038	2.9	0.080	0.0011	0.0040	0.0028	66	1.1	0.000082	0.018
Aug	0.00015	0.90	0.13	0.0022	0.00017	0.0010	0.0028	0.047	1.5	0.67	0.00013	0.51	0.014	15	0.0038	2.8	0.079	0.0011	0.0040	0.0028	65	1.1	0.000081	0.018
Sep	0.00015	0.89	0.13	0.0022	0.00017	0.0010	0.0028	0.047	1.5	0.68	0.00013	0.51	0.014	15	0.0038	2.8	0.078	0.0011	0.0040	0.0028	65	1.1	0.000082	0.018
Oct	0.00015	0.89	0.12	0.0022	0.00017	0.0010	0.0028	0.047	1.5	0.68	0.00013	0.51	0.014	15	0.0038	2.7	0.076	0.0011	0.0040	0.0028	65	1.1	0.000083	0.018
Nov	0.00016	0.89	0.12	0.0022	0.00017	0.0010	0.0028	0.047	1.5	0.69	0.00013	0.52	0.014	15	0.0038	2.7	0.075	0.0011	0.0040	0.0028	65	1.1	0.000083	0.018
Dec	0.00016	0.89	0.12	0.0023	0.00017	0.0010	0.0029	0.047	1.5	0.69	0.00013	0.52	0.014	15	0.0038	2.6	0.074	0.0011	0.0041	0.0029	66	1.1	0.000083	0.018
Reasonable Worst Case Max Postclosure																								
Jan	0.00017	0.95	0.21	0.0027	0.00020	0.0012	0.0033	0.053	1.5	0.91	0.00015	0.59	0.022	22	0.0043	4.5	0.13	0.0013	0.0064	0.0036	86	1.7	0.000093	0.020
Feb	0.00017	0.95	0.20	0.0027	0.00020	0.0012	0.0033	0.053	1.5	0.92	0.00016	0.59	0.022	23	0.0043	4.5	0.13	0.0013	0.0064	0.0037	86	1.7	0.000094	0.020
Mar	0.00017	0.95	0.20	0.0027	0.00020	0.0012	0.0033	0.054	1.6	0.93	0.00016	0.60	0.023	23	0.0043	4.4	0.12	0.0013	0.0065	0.0037	87	1.7	0.000094	0.020
Apr	0.00018	0.96	0.20	0.0028	0.00021	0.0012	0.0034	0.056	1.6	0.96	0.00016	0.62	0.023	23	0.0044	4.3	0.12	0.0014	0.0067	0.0040	90	1.8	0.000095	0.021
May	0.00018	0.95	0.19	0.0028	0.00021	0.0012	0.0034	0.055	1.5	0.95	0.00016	0.62	0.023	23	0.0043	4.3	0.12	0.0014	0.0066	0.0040	90	1.8	0.000094	0.021
Jun	0.00017	0.94	0.19	0.0026	0.00020	0.0011	0.0032	0.053	1.5	0.90	0.00015	0.57	0.022	22	0.0043	4.2	0.12	0.0013	0.0063	0.0036	88	1.7	0.000094	0.020
Jul	0.00017	0.96	0.19	0.0026	0.00019	0.0011	0.0032	0.052	1.5	0.89	0.00015	0.57	0.022	22	0.0043	4.1	0.12	0.0013	0.0062	0.0036	87	1.7	0.000093	0.020
Aug	0.00017	0.96	0.19	0.0026	0.00019	0.0011	0.0032	0.052	1.5	0.88	0.00015	0.57	0.021	22	0.0042	4.0	0.11	0.0013	0.0061	0.0035	85	1.6	0.000091	0.020
Sep	0.00017	0.95	0.18	0.0026	0.00019	0.0011	0.0032	0.052	1.5	0.88	0.00015	0.57	0.021	21	0.0042	4.0	0.11	0.0013	0.0061	0.0035	84	1.6	0.000092	0.020
Oct	0.00017	0.95	0.18	0.0026	0.00019	0.0011	0.0032	0.052	1.5	0.89	0.00015	0.57	0.021	21	0.0042	3.9	0.11	0.0013	0.0061	0.0035	84	1.6	0.000093	0.020
Nov	0.00017	0.95	0.18	0.0026	0.00019	0.0011	0.0032	0.052	1.5	0.89	0.00015	0.58	0.021	22	0.0042	3.8	0.11	0.0013	0.0061	0.0036	84	1.6	0.000093	0.020
Dec	0.00017	0.95	0.17	0.0026	0.00020	0.0012	0.0032	0.053	1.5	0.90	0.00015	0.58	0.022	22	0.0043	3.8	0.11	0.0013	0.0061	0.0036	84	1.7	0.000093	0.020

Table 7 WSP Monthly Summary - BE WQ NoCover

	Ag	Al	Ammonia	As	Cd	Co	Cr	Cu	Fe	Fluoride	Hg	Mn	Mo	Na	Ni	Nitrate	Nitrite	Pb	Se	Sn	Sulphate	Sr	Tl	Zn
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Best Estimate Average Operations																								
Jan	0.000094	0.63	0.61	0.00092	0.000081	0.00084	0.0018	0.026	1.3	0.26	0.000040	0.34	0.0026	10	0.0028	8.3	0.11	0.00052	0.0011	0.0042	37	0.52	0.000086	0.012
Feb	0.000095	0.64	0.61	0.00096	0.000083	0.00088	0.0019	0.027	1.4	0.27	0.000041	0.36	0.0028	11	0.0029	8.3	0.10	0.00053	0.0011	0.0045	39	0.55	0.000089	0.013
Mar	0.000097	0.64	0.60	0.00099	0.000086	0.00092	0.0019	0.028	1.4	0.28	0.000042	0.39	0.0029	11	0.0030	8.2	0.10	0.00055	0.0012	0.0049	41	0.58	0.000092	0.013
Apr	0.000098	0.63	0.60	0.0010	0.000088	0.00094	0.0020	0.030	1.4	0.28	0.000042	0.41	0.0030	12	0.0029	8.2	0.10	0.00055	0.0013	0.0053	43	0.60	0.000092	0.013
May	0.000098	0.64	0.60	0.00093	0.000086	0.00085	0.0018	0.027	1.3	0.25	0.000037	0.34	0.0027	10	0.0029	8.2	0.10	0.00052	0.0011	0.0044	40	0.53	0.000085	0.013
Jun	0.00010	0.69	0.60	0.00091	0.000087	0.00083	0.0018	0.026	1.3	0.24	0.000035	0.31	0.0026	9.6	0.0030	8.1	0.10	0.00053	0.0010	0.0038	40	0.50	0.000087	0.013
Jul	0.00010	0.71	0.59	0.00093	0.000087	0.00085	0.0019	0.026	1.4	0.24	0.000039	0.31	0.0026	9.8	0.0030	8.1	0.10	0.00054	0.0010	0.0038	39	0.50	0.000085	0.013
Aug	0.00010	0.73	0.59	0.00094	0.000087	0.00086	0.0019	0.025	1.4	0.25	0.000043	0.31	0.0026	9.9	0.0030	8.1	0.10	0.00055	0.0010	0.0037	37	0.50	0.000085	0.013
Sep	0.00010	0.72	0.61	0.00094	0.000085	0.00085	0.0019	0.025	1.4	0.26	0.000042	0.31	0.0026	10.0	0.0030	8.4	0.11	0.00055	0.0010	0.0037	36	0.50	0.000087	0.013
Oct	0.00010	0.71	0.61	0.00095	0.000086	0.00086	0.0019	0.026	1.4	0.26	0.000042	0.32	0.0026	10	0.0030	8.3	0.11	0.00055	0.0010	0.0038	37	0.51	0.000089	0.013
Nov	0.00010	0.71	0.61	0.00097	0.000087	0.00088	0.0019	0.026	1.4	0.27	0.000042	0.34	0.0027	10	0.0030	8.3	0.11	0.00056	0.0011	0.0040	38	0.53	0.000091	0.013
Dec	0.00010	0.71	0.61	0.00099	0.000089	0.00091	0.0020	0.027	1.5	0.27	0.000043	0.35	0.0028	11	0.0031	8.3	0.10	0.00057	0.0011	0.0043	39	0.55	0.000093	0.013
Best Estimate Max Operations																								
Jan	0.00011	0.72	0.64	0.0011	0.000096	0.0010	0.0022	0.032	1.6	0.31	0.000049	0.44	0.0032	12	0.0034	8.8	0.11	0.00062	0.0014	0.0055	47	0.64	0.00011	0.015
Feb	0.00011	0.72	0.64	0.0012	0.000098	0.0011	0.0023	0.033	1.6	0.32	0.000050	0.47	0.0033	13	0.0035	8.8	0.11	0.00064	0.0014	0.0059	49	0.68	0.00011	0.015
Mar	0.00011	0.72	0.64	0.0012	0.00010	0.0011	0.0024	0.035	1.6	0.34	0.000051	0.50	0.0035	14	0.0035	8.8	0.11	0.00065	0.0015	0.0064	51	0.71	0.00011	0.015
Apr	0.00011	0.72	0.64	0.0012	0.00010	0.0012	0.0024	0.036	1.7	0.34	0.000053	0.53	0.0037	14	0.0036	8.8	0.11	0.00066	0.0016	0.0068	54	0.75	0.00012	0.016
May	0.00011	0.71	0.64	0.0012	0.00010	0.0011	0.0023	0.034	1.6	0.31	0.000048	0.48	0.0034	13	0.0033	8.8	0.11	0.00062	0.0015	0.0063	49	0.70	0.00010	0.015
Jun	0.00010	0.71	0.64	0.00100	0.000090	0.00091	0.0020	0.028	1.4	0.26	0.000040	0.36	0.0027	10	0.0032	8.8	0.11	0.00057	0.0011	0.0044	44	0.55	0.000097	0.014
Jul	0.00010	0.74	0.64	0.0010	0.000090	0.00093	0.0020	0.028	1.5	0.26	0.000046	0.36	0.0027	11	0.0032	8.8	0.11	0.00058	0.0011	0.0044	44	0.54	0.000096	0.014
Aug	0.00010	0.74	0.64	0.0010	0.000090	0.00093	0.0020	0.028	1.5	0.28	0.000046	0.35	0.0027	11	0.0032	8.8	0.11	0.00058	0.0011	0.0042	41	0.54	0.000094	0.014
Sep	0.00010	0.74	0.64	0.0010	0.000089	0.00093	0.0020	0.028	1.5	0.28	0.000045	0.36	0.0027	11	0.0032	8.8	0.11	0.00058	0.0011	0.0044	40	0.55	0.000097	0.014
Oct	0.00011	0.73	0.64	0.0010	0.000090	0.00095	0.0021	0.028	1.5	0.29	0.000046	0.38	0.0028	11	0.0032	8.8	0.11	0.00059	0.0012	0.0046	41	0.57	0.000099	0.014
Nov	0.00011	0.72	0.64	0.0011	0.000091	0.00097	0.0021	0.029	1.5	0.29	0.000046	0.39	0.0029	11	0.0033	8.8	0.11	0.00060	0.0012	0.0048	42	0.58	0.00010	0.014
Dec	0.00011	0.72	0.64	0.0011	0.000093	0.0010	0.0022	0.030	1.6	0.30	0.000047	0.42	0.0030	12	0.0033	8.8	0.11	0.00061	0.0013	0.0051	44	0.61	0.00010	0.014
Best Estimate Average Postclosure																								
Jan	0.00011	0.74	0.084	0.0014	0.00010	0.00080	0.0019	0.032	1.3	0.52	0.000051	0.32	0.0076	13	0.0029	1.2	0.015	0.00057	0.0024	0.0038	47	0.84	0.000080	0.013
Feb	0.00011	0.74	0.083	0.0014	0.00010	0.00081	0.0019	0.032	1.3	0.53	0.000052	0.33	0.0077	13	0.0029	1.1	0.014	0.00058	0.0024	0.0039	47	0.86	0.000080	0.013
Mar	0.00011	0.75	0.082	0.0014	0.00010	0.00081	0.0019	0.033	1.3	0.53	0.000052	0.33	0.0078	13	0.0029	1.1	0.014	0.00058	0.0024	0.0039	48	0.86	0.000081	0.013
Apr	0.00011	0.75	0.085	0.0014	0.00010	0.00082	0.0020	0.034	1.3	0.56	0.000053	0.34	0.0081	14	0.0029	1.2	0.015	0.00059	0.0025	0.0041	49	0.89	0.000080	0.014
May	0.00011	0.74	0.083	0.0014	0.00010	0.00080	0.0019	0.033	1.3	0.53	0.000050	0.33	0.0080	13	0.0029	1.1	0.014	0.00057	0.0025	0.0040	49	0.88	0.000079	0.013
Jun	0.00011	0.74	0.082	0.0013	0.00010	0.00079	0.0019	0.032	1.3	0.51	0.000048	0.31	0.0079	13	0.0029	1.1	0.014	0.00057	0.0024	0.0038	49	0.85	0.000080	0.013
Jul	0.00011	0.75	0.081	0.0013	0.00010	0.00080	0.0019	0.032	1.3	0.51	0.000050	0.31	0.0078	13	0.0029	1.1	0.014	0.00057	0.0024	0.0037	48	0.85	0.000078	0.013
Aug	0.00011	0.76	0.079	0.0013	0.00010	0.00080	0.0019	0.032	1.3	0.51	0.000052	0.32	0.0078	13	0.0029	1.1	0.014	0.00057	0.0024	0.0037	47	0.85	0.000078	0.013
Sep	0.00011	0.75	0.078	0.0013	0.000100	0.00080	0.0019	0.032	1.3	0.52	0.000051	0.32	0.0078	13	0.0029	1.1	0.013	0.00057	0.0024	0.0037	47	0.85	0.000079	0.013
Oct	0.00011	0.75	0.077	0.0013	0.000100	0.00080	0.0019	0.032	1.3	0.52	0.000051	0.32	0.0078	13	0.0029	1.0	0.013	0.00057	0.0024	0.0037	47	0.85	0.000080	0.013
Nov	0.00011	0.75	0.075	0.0014	0.00010	0.00080	0.0019	0.032	1.3	0.52	0.000051	0.32	0.0078	13	0.0029	1.0	0.013	0.00057	0.0024	0.0038	47	0.85	0.000080	0.013
Dec	0.00011	0.75	0.074	0.0014	0.00010	0.00080	0.0019	0.032	1.3	0.53	0.000052	0.32	0.0079	13	0.0029	1.0	0.013	0.00058	0.0024	0.0038	47	0.86	0.000080	0.013
Best Estimate Max Postclosure																								
Jan	0.00011	0.77	0.13	0.0015	0.00011	0.00088	0.0021	0.034	1.3	0.70	0.000057	0.36	0.014	20	0.0031	1.8	0.022	0.00062	0.0037	0.0046	62	1.3	0.000089	0.014
Feb	0.00011	0.78	0.13	0.0016	0.00011	0.00088	0.0021	0.035	1.3	0.71	0.000057	0.36	0.014	20	0.0031	1.7	0.022	0.00062	0.0037	0.0046	62	1.3	0.000089	0.014
Mar	0.00012	0.78	0.12	0.0016	0.00011	0.00089	0.0021	0.035	1.3	0.72	0.000058	0.37	0.014	20	0.0031	1.7	0.022	0.00062	0.0037	0.0047	63	1.3	0.000090	0.014
Apr	0.00012	0.78	0.12	0.0016	0.00011	0.00091	0.0022	0.036	1.3	0.75	0.000060	0.38	0.014	20	0.0032	1.7	0.021	0.00063	0.0038	0.0049	65	1.3	0.000091	0.015
May	0.00012	0.77	0.12	0.0016	0.00011	0.00089	0.0022	0.036	1.3	0.74	0.000058	0.37	0.014	20	0.0031	1.6	0.021	0.00062	0.0038	0.0049	64	1.3	0.000089	0.015
Jun	0.00011	0.77	0.12	0.0015	0.00011	0.00086	0.0021	0.034	1.3	0.69	0.000054	0.34	0.014	19	0.0031	1.6	0.020	0.00061	0.0036	0.0045	64	1.2	0.000089	0.014
Jul	0.00011	0.78	0.12	0.0015	0.00011	0.00087	0.0021	0.034	1.3	0.68	0.000057	0.34	0.013	19	0.0031	1.6	0.020	0.00061	0.0035	0.0044	63	1.2	0.000087	0.014
Aug	0.00011	0.79	0.11	0.0015	0.00011	0.00087	0.0021	0.034	1.3	0.67	0.000057	0.34	0.013	19	0.0031	1.6	0.020	0.00061	0.0035	0.0044	61	1.2	0.000086	0.014
Sep	0.00011	0.78	0.11	0.0015	0.00011	0.00087	0.0021	0.034	1.3	0.68	0.000056	0.34	0.013	19	0.0031	1.5	0.019	0.00061	0.0035	0.0044	60	1.2	0.000087	0.014
Oct	0.00011	0.77	0.11	0.0015	0.00011	0.00087	0.0021	0.034	1.3	0.68	0.000056	0.35	0.013	19	0.0031	1.5	0.019	0.00061	0.0035	0.0044	60	1.2	0.000088	0.014
Nov	0.00011	0.77	0.11	0.0015	0.00011	0.00087	0.0021	0.034	1.3	0.68	0.000056	0.35	0.013	19	0.0031	1.5	0.019	0.00061	0.0035	0.0045	60	1.2	0.000088	0.014
Dec	0.00011	0.77	0.11	0.0015	0.00011	0.00087	0.0021	0.034	1.3	0.69	0.000056	0.35	0.013	19	0.0031	1.5	0.018	0.00062	0.0035	0.0045	61	1.2	0.000088	0.014

Table 8 WSP Monthly Summary WC WQ NoCover

	Ag	Al	Ammonia	As	Cd	Co	Cr	Cu	Fe	Fluoride	Hg	Mn	Mo	Na	Ni	Nitrate	Nitrite	Pb	Se	Sn	Sulphate	Sr	Tl	Zn
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Reasonable Worst Case Average Operations																								
Jan	0.00015	0.72	0.98	0.0012	0.00013	0.0014	0.0026	0.043	1.7	0.29	0.00018	0.70	0.0038	15	0.0036	21	0.61	0.00052	0.0027	0.0042	69	0.87	0.000086	0.016
Feb	0.00016	0.73	0.98	0.0013	0.00014	0.0014	0.0027	0.046	1.8	0.30	0.00019	0.76	0.0041	16	0.0037	21	0.60	0.00053	0.0029	0.0045	74	0.94	0.000089	0.017
Mar	0.00017	0.74	0.98	0.0013	0.00015	0.0015	0.0028	0.049	1.8	0.32	0.00020	0.82	0.0043	16	0.0039	21	0.60	0.00055	0.0031	0.0049	79	1.00	0.000092	0.018
Apr	0.00018	0.73	0.97	0.0014	0.00016	0.0016	0.0029	0.052	1.8	0.32	0.00022	0.87	0.0045	17	0.0039	21	0.60	0.00055	0.0033	0.0053	83	1.1	0.000092	0.018
May	0.00016	0.73	0.97	0.0012	0.00014	0.0014	0.0026	0.045	1.7	0.28	0.00018	0.72	0.0039	15	0.0036	21	0.60	0.00052	0.0027	0.0044	72	0.90	0.000085	0.017
Jun	0.00015	0.76	0.96	0.0012	0.00013	0.0013	0.0025	0.041	1.7	0.27	0.00015	0.62	0.0036	14	0.0036	21	0.59	0.00053	0.0024	0.0038	68	0.81	0.000087	0.016
Jul	0.00015	0.78	0.96	0.0012	0.00013	0.0013	0.0025	0.041	1.7	0.28	0.00016	0.63	0.0036	14	0.0037	21	0.59	0.00054	0.0024	0.0038	67	0.81	0.000085	0.016
Aug	0.00015	0.80	0.96	0.0012	0.00013	0.0013	0.0025	0.040	1.7	0.28	0.00016	0.62	0.0036	14	0.0037	21	0.59	0.00055	0.0024	0.0037	65	0.81	0.000085	0.016
Sep	0.00015	0.79	0.99	0.0012	0.00013	0.0013	0.0025	0.040	1.7	0.29	0.00016	0.63	0.0036	14	0.0036	22	0.61	0.00055	0.0024	0.0037	64	0.81	0.000087	0.016
Oct	0.00016	0.79	0.99	0.0012	0.00013	0.0013	0.0026	0.042	1.8	0.30	0.00017	0.65	0.0037	14	0.0037	22	0.61	0.00055	0.0025	0.0038	66	0.84	0.000089	0.016
Nov	0.00016	0.79	0.99	0.0012	0.00014	0.0014	0.0026	0.043	1.8	0.30	0.00017	0.69	0.0038	15	0.0038	22	0.61	0.00056	0.0026	0.0040	68	0.87	0.000091	0.017
Dec	0.00017	0.80	0.98	0.0013	0.00014	0.0014	0.0027	0.045	1.8	0.31	0.00018	0.73	0.0040	15	0.0039	21	0.60	0.00057	0.0028	0.0043	72	0.91	0.000093	0.017
Reasonable Worst Case Max Operations																								
Jan	0.00019	0.84	1.0	0.0015	0.00017	0.0017	0.0033	0.056	2.1	0.36	0.00023	0.94	0.0048	19	0.0044	23	0.64	0.00062	0.0036	0.0055	90	1.1	0.00011	0.020
Feb	0.00020	0.85	1.0	0.0016	0.00018	0.0018	0.0034	0.059	2.1	0.37	0.00025	1.0	0.0051	20	0.0046	23	0.64	0.00064	0.0038	0.0059	95	1.2	0.00011	0.021
Mar	0.00021	0.86	1.0	0.0017	0.00018	0.0019	0.0036	0.062	2.2	0.39	0.00027	1.1	0.0054	21	0.0047	23	0.64	0.00065	0.0041	0.0064	100	1.3	0.00011	0.021
Apr	0.00021	0.87	1.0	0.0017	0.00019	0.0020	0.0037	0.066	2.3	0.40	0.00028	1.1	0.0057	22	0.0048	23	0.64	0.00066	0.0043	0.0068	110	1.3	0.00012	0.022
May	0.00020	0.82	1.0	0.0016	0.00018	0.0019	0.0034	0.061	2.1	0.36	0.00026	1.0	0.0052	20	0.0045	23	0.64	0.00062	0.0039	0.0063	98	1.2	0.00010	0.021
Jun	0.00017	0.80	1.0	0.0013	0.00015	0.0015	0.0028	0.046	1.8	0.30	0.00018	0.74	0.0040	15	0.0040	23	0.64	0.00057	0.0028	0.0044	78	0.92	0.000097	0.018
Jul	0.00017	0.83	1.0	0.0013	0.00015	0.0015	0.0028	0.046	1.9	0.30	0.00019	0.74	0.0040	15	0.0040	23	0.64	0.00058	0.0028	0.0044	77	0.92	0.000096	0.018
Aug	0.00017	0.83	1.0	0.0013	0.00014	0.0015	0.0028	0.045	1.9	0.31	0.00019	0.73	0.0039	15	0.0040	23	0.64	0.00058	0.0028	0.0042	74	0.91	0.000094	0.017
Sep	0.00017	0.82	1.0	0.0013	0.00014	0.0015	0.0028	0.046	1.9	0.32	0.00019	0.75	0.0040	16	0.0040	23	0.64	0.00058	0.0029	0.0044	74	0.93	0.000097	0.018
Oct	0.00017	0.82	1.0	0.0014	0.00015	0.0015	0.0029	0.048	1.9	0.32	0.00020	0.79	0.0042	16	0.0041	23	0.64	0.00059	0.0030	0.0046	77	0.96	0.000099	0.018
Nov	0.00018	0.82	1.0	0.0014	0.00015	0.0016	0.0030	0.050	2.0	0.33	0.00021	0.82	0.0043	17	0.0041	23	0.64	0.00060	0.0031	0.0048	80	1.00	0.00010	0.018
Dec	0.00018	0.83	1.0	0.0014	0.00016	0.0016	0.0031	0.052	2.0	0.34	0.00022	0.88	0.0045	18	0.0043	23	0.64	0.00061	0.0033	0.0051	84	1.1	0.00010	0.019
Reasonable Worst Case Average Postclosure																								
Jan	0.00018	0.91	0.14	0.0025	0.00020	0.0013	0.0032	0.060	1.6	0.73	0.00017	0.70	0.015	17	0.0042	3.0	0.084	0.0012	0.0048	0.0038	80	1.3	0.000089	0.020
Feb	0.00018	0.92	0.13	0.0025	0.00020	0.0013	0.0033	0.060	1.6	0.75	0.00017	0.71	0.016	18	0.0042	2.9	0.083	0.0012	0.0049	0.0039	81	1.3	0.000090	0.020
Mar	0.00018	0.92	0.13	0.0026	0.00020	0.0013	0.0033	0.061	1.6	0.76	0.00018	0.72	0.016	18	0.0042	2.9	0.082	0.0012	0.0049	0.0039	82	1.3	0.000090	0.020
Apr	0.00018	0.93	0.14	0.0027	0.00021	0.0013	0.0034	0.063	1.6	0.79	0.00019	0.75	0.017	18	0.0043	3.0	0.084	0.0013	0.0051	0.0041	85	1.4	0.000091	0.021
May	0.00018	0.92	0.14	0.0026	0.00021	0.0013	0.0033	0.061	1.6	0.76	0.00018	0.72	0.016	18	0.0042	3.0	0.083	0.0012	0.0050	0.0040	83	1.4	0.000089	0.020
Jun	0.00017	0.91	0.13	0.0024	0.00020	0.0012	0.0032	0.059	1.6	0.72	0.00017	0.68	0.016	17	0.0041	2.9	0.082	0.0012	0.0048	0.0038	82	1.3	0.000089	0.020
Jul	0.00017	0.91	0.13	0.0024	0.00020	0.0012	0.0032	0.059	1.6	0.72	0.00017	0.68	0.015	17	0.0041	2.9	0.080	0.0012	0.0048	0.0037	80	1.3	0.000088	0.020
Aug	0.00017	0.92	0.13	0.0024	0.00020	0.0012	0.0032	0.059	1.6	0.72	0.00017	0.68	0.016	17	0.0041	2.8	0.079	0.0012	0.0048	0.0037	79	1.3	0.000087	0.020
Sep	0.00017	0.92	0.13	0.0024	0.00020	0.0012	0.0032	0.059	1.6	0.73	0.00017	0.68	0.015	17	0.0041	2.8	0.078	0.0012	0.0048	0.0037	79	1.3	0.000088	0.020
Oct	0.00017	0.91	0.12	0.0024	0.00020	0.0012	0.0032	0.059	1.6	0.73	0.00017	0.69	0.016	17	0.0041	2.7	0.076	0.0012	0.0048	0.0037	79	1.3	0.000089	0.020
Nov	0.00018	0.91	0.12	0.0025	0.00020	0.0012	0.0032	0.059	1.6	0.74	0.00017	0.69	0.016	17	0.0042	2.7	0.075	0.0012	0.0049	0.0038	80	1.3	0.000089	0.020
Dec	0.00018	0.92	0.12	0.0025	0.00020	0.0013	0.0032	0.060	1.6	0.75	0.00017	0.70	0.016	18	0.0042	2.6	0.074	0.0012	0.0049	0.0038	80	1.3	0.000090	0.020
Reasonable Worst Case Max Postclosure																								
Jan	0.00019	0.97	0.21	0.0029	0.00022	0.0014	0.0036	0.064	1.7	0.96	0.00020	0.77	0.024	25	0.0046	4.5	0.13	0.0014	0.0071	0.0046	99	1.9	0.000100	0.022
Feb	0.00019	0.98	0.20	0.0029	0.00022	0.0014	0.0037	0.065	1.7	0.97	0.00020	0.78	0.024	25	0.0047	4.5	0.13	0.0014	0.0072	0.0046	100	1.9	0.00010	0.022
Mar	0.00019	0.98	0.20	0.0030	0.00023	0.0014	0.0037	0.066	1.7	0.99	0.00020	0.79	0.024	25	0.0047	4.4	0.12	0.0014	0.0073	0.0047	100	1.9	0.00010	0.023
Apr	0.00020	1.00	0.20	0.0031	0.00024	0.0014	0.0039	0.068	1.8	1.0	0.00021	0.82	0.025	26	0.0048	4.3	0.12	0.0015	0.0075	0.0049	110	2.0	0.00010	0.023
May	0.00020	0.99	0.19	0.0031	0.00024	0.0014	0.0038	0.067	1.7	1.0	0.00021	0.81	0.025	26	0.0047	4.3	0.12	0.0015	0.0075	0.0049	110	2.0	0.000100	0.023
Jun	0.00019	0.96	0.19	0.0028	0.00022	0.0013	0.0036	0.063	1.7	0.94	0.00019	0.74	0.023	24	0.0046	4.2	0.12	0.0013	0.0070	0.0045	100	1.9	0.000100	0.022
Jul	0.00018	0.97	0.19	0.0028	0.00021	0.0013	0.0035	0.063	1.7	0.93	0.00019	0.74	0.023	24	0.0045	4.1	0.12	0.0013	0.0069	0.0044	100	1.8	0.000098	0.022
Aug	0.00018	0.97	0.19	0.0027	0.00021	0.0013	0.0035	0.063	1.7	0.92	0.00019	0.74	0.023	24	0.0045	4.0	0.11	0.0013	0.0069	0.0044	98	1.8	0.000097	0.021
Sep	0.00019	0.97	0.18	0.0028	0.00021	0.0013	0.0035	0.063	1.7	0.93	0.00019	0.74	0.022	24	0.0045	4.0	0.11	0.0013	0.0068	0.0044	97	1.8	0.000098	0.021
Oct	0.00019	0.96	0.18	0.0028	0.00022	0.0013	0.0036	0.063	1.7	0.94	0.00019	0.75	0.023	24	0.0045	3.9	0.11	0.0013	0.0068	0.0044	97	1.8	0.000098	0.022
Nov	0.00019	0.97	0.18	0.0028	0.00022	0.0014	0.0036	0.063	1.7	0.94	0.00019	0.75	0.023	24	0.0046	3.8	0.11	0.0014	0.0069	0.0045	98	1.8	0.000099	0.022
Dec	0.00019	0.97	0.17	0.0028	0.00022	0.0014	0.0036	0.064	1.7	0.95	0.00019	0.76	0.023	24	0.0046	3.8	0.11	0.0014	0.0069	0.0045	98	1.8	0.000099	0.022

Table 9 W1 Monthly Summary BE WQ Cover

	Ag	Al	Ammonia	As	Cd	Co	Cr	Cu	Fe	Fluoride	Hg	Mn	Mo	Na	Ni	Nitrate	Nitrite	Pb	Se	Sn	Sulphate	Sr	Tl	Zn
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Best Estimate Average Operations																								
Jan	0.000021	0.091	0.079	0.00046	0.000020	0.00032	0.00066	0.0047	0.26	0.40	0.0000093	0.089	0.0012	9.1	0.0010	1.2	0.014	0.00015	0.00039	0.0026	22	0.45	0.000032	0.0037
Feb	0.000021	0.096	0.075	0.00041	0.000032	0.00033	0.00068	0.0071	0.23	0.41	0.0000096	0.065	0.0012	8.6	0.00082	1.2	0.014	0.00016	0.00041	0.0028	21	0.48	0.000033	0.0038
Mar	0.000021	0.11	0.075	0.00045	0.000025	0.00034	0.00069	0.0092	0.26	0.41	0.0000098	0.053	0.0013	8.7	0.00082	1.1	0.014	0.00016	0.00048	0.0028	22	0.50	0.000034	0.0039
Apr	0.000027	0.27	0.080	0.00048	0.000048	0.00033	0.00094	0.011	0.51	0.13	0.000014	0.076	0.0010	5.2	0.0011	0.95	0.030	0.00020	0.00032	0.0022	12	0.23	0.000026	0.0054
May	0.000069	6.2	0.11	0.0033	0.00015	0.0045	0.013	0.023	11	0.17	0.000014	0.32	0.0011	4.3	0.012	1.0	0.015	0.0031	0.00062	0.0013	31	0.24	0.00013	0.029
Jun	0.000024	0.69	0.092	0.00078	0.000041	0.00064	0.0017	0.0075	1.4	0.20	0.000038	0.080	0.0010	6.7	0.0026	0.99	0.016	0.00042	0.00053	0.00064	19	0.23	0.000054	0.0079
Jul	0.000046	3.4	0.11	0.0021	0.000088	0.0025	0.0065	0.015	5.7	0.26	0.000041	0.20	0.0014	6.9	0.0072	1.0	0.016	0.0017	0.00057	0.00100	7.7	0.27	0.000070	0.017
Aug	0.000048	3.0	0.10	0.0024	0.000082	0.0028	0.0058	0.014	6.0	0.64	0.000017	0.30	0.0011	6.3	0.0077	1.0	0.016	0.0018	0.00052	0.0012	12	0.31	0.000094	0.017
Sep	0.000031	0.39	0.089	0.00066	0.000024	0.00046	0.0011	0.0075	1.1	0.24	0.000017	0.10	0.00087	5.8	0.0022	1.1	0.014	0.00037	0.00052	0.00087	14	0.23	0.000085	0.0051
Oct	0.000021	0.19	0.094	0.00055	0.000035	0.00030	0.00065	0.0075	0.61	0.22	0.000014	0.10	0.0011	5.9	0.0017	1.1	0.017	0.00018	0.00053	0.00081	10	0.24	0.000055	0.0031
Nov	0.000021	0.20	0.098	0.00056	0.000061	0.00032	0.00074	0.0077	0.50	0.25	0.000012	0.093	0.0011	6.8	0.0017	1.1	0.016	0.00027	0.00036	0.0021	12	0.29	0.000039	0.0052
Dec	0.000022	0.13	0.100	0.00051	0.000038	0.00033	0.00072	0.0065	0.31	0.37	0.000010	0.083	0.0013	10	0.0018	1.1	0.016	0.00020	0.00038	0.0027	25	0.44	0.000034	0.0045
Best Estimate Max Operations																								
Jan	0.000023	0.11	0.11	0.00051	0.000026	0.00035	0.00072	0.0064	0.30	0.41	0.000011	0.11	0.0014	12	0.0018	1.4	0.017	0.00017	0.00044	0.0029	30	0.50	0.000035	0.0041
Feb	0.000023	0.11	0.090	0.00049	0.000038	0.00035	0.00073	0.0088	0.30	0.42	0.000011	0.11	0.0013	9.0	0.00090	1.4	0.017	0.00017	0.00044	0.0029	22	0.49	0.000036	0.0041
Mar	0.000023	0.13	0.091	0.00050	0.000038	0.00036	0.00074	0.010	0.30	0.42	0.000011	0.067	0.0013	9.0	0.00089	1.4	0.017	0.00017	0.00054	0.0030	23	0.51	0.000036	0.0041
Apr	0.000029	0.28	0.096	0.00051	0.000050	0.00036	0.00099	0.012	0.55	0.42	0.000015	0.091	0.0013	9.0	0.0012	1.3	0.033	0.00021	0.00054	0.0030	23	0.51	0.000036	0.0057
May	0.000072	7.2	0.18	0.0037	0.00016	0.0052	0.015	0.024	12	0.18	0.000015	0.34	0.0014	5.2	0.014	2.0	0.033	0.0036	0.00067	0.0023	32	0.26	0.00014	0.032
Jun	0.000070	6.3	0.15	0.0034	0.00015	0.0046	0.013	0.023	11	0.20	0.000040	0.33	0.0012	7.0	0.013	1.9	0.027	0.0032	0.00063	0.0013	32	0.24	0.00013	0.029
Jul	0.000050	3.5	0.16	0.0022	0.000091	0.0026	0.0068	0.016	5.9	0.27	0.000041	0.21	0.0015	7.0	0.0075	1.7	0.025	0.0017	0.00059	0.0011	19	0.28	0.000072	0.017
Aug	0.000050	3.5	0.16	0.0024	0.000091	0.0029	0.0068	0.016	6.1	0.67	0.000041	0.31	0.0015	7.0	0.0077	1.7	0.025	0.0018	0.00059	0.0013	13	0.32	0.000097	0.018
Sep	0.000048	3.0	0.11	0.0024	0.000082	0.0029	0.0058	0.014	6.1	0.67	0.000017	0.31	0.0011	6.3	0.0077	1.1	0.017	0.0018	0.00054	0.0013	14	0.32	0.000097	0.018
Oct	0.000030	0.22	0.10	0.00056	0.000037	0.00031	0.00079	0.0079	0.73	0.23	0.000017	0.11	0.0011	6.0	0.0019	1.2	0.018	0.00028	0.00055	0.00092	14	0.25	0.000085	0.0044
Nov	0.000022	0.20	0.11	0.00057	0.000070	0.00034	0.00081	0.0081	0.60	0.26	0.000014	0.11	0.0011	7.2	0.0017	1.2	0.018	0.00031	0.00055	0.0027	14	0.32	0.000052	0.0061
Dec	0.000022	0.20	0.11	0.00057	0.000070	0.00034	0.00081	0.0081	0.48	0.41	0.000011	0.094	0.0014	12	0.0018	1.2	0.017	0.00031	0.00044	0.0028	30	0.50	0.000035	0.0061
Best Estimate Average Postclosure																								
Jan	0.000035	0.20	0.027	0.00064	0.000033	0.00037	0.00084	0.0084	0.40	0.45	0.000016	0.11	0.0027	10	0.0013	0.41	0.0050	0.00022	0.00078	0.0026	27	0.54	0.000038	0.0051
Feb	0.000035	0.21	0.024	0.00059	0.000042	0.00038	0.00084	0.010	0.37	0.45	0.000017	0.084	0.0027	9.3	0.0011	0.43	0.0050	0.00022	0.00078	0.0026	24	0.55	0.000038	0.0051
Mar	0.000035	0.22	0.024	0.00062	0.000036	0.00038	0.00084	0.012	0.39	0.45	0.000017	0.072	0.0027	9.4	0.0011	0.39	0.0049	0.00022	0.00084	0.0027	25	0.56	0.000038	0.0051
Apr	0.000039	0.34	0.027	0.00064	0.000055	0.00037	0.0010	0.013	0.59	0.23	0.000020	0.089	0.0025	6.5	0.0014	0.25	0.011	0.00025	0.00071	0.0022	17	0.35	0.000031	0.0064
May	0.000074	5.2	0.042	0.0029	0.00014	0.0038	0.011	0.023	8.9	0.25	0.000020	0.29	0.0027	5.8	0.011	0.26	0.0065	0.0027	0.00096	0.0015	32	0.36	0.00011	0.025
Jun	0.000035	0.86	0.034	0.00095	0.000051	0.00075	0.0020	0.010	1.6	0.26	0.000039	0.10	0.0024	7.6	0.0029	0.24	0.0062	0.00051	0.00085	0.00085	23	0.33	0.000058	0.0090
Jul	0.000054	3.0	0.039	0.0020	0.000089	0.0022	0.0058	0.017	5.0	0.32	0.000043	0.20	0.0027	7.9	0.0065	0.25	0.0057	0.0015	0.00089	0.0011	13	0.37	0.000069	0.016
Aug	0.000056	2.8	0.038	0.0023	0.000085	0.0026	0.0053	0.016	5.4	0.64	0.000022	0.29	0.0025	7.3	0.0070	0.24	0.0055	0.0016	0.00085	0.0014	17	0.40	0.000090	0.017
Sep	0.000042	0.53	0.029	0.00084	0.000036	0.00055	0.0013	0.011	1.2	0.32	0.000022	0.12	0.0024	7.0	0.0025	0.24	0.0046	0.00044	0.00088	0.0011	18	0.35	0.000083	0.0065
Oct	0.000034	0.28	0.030	0.00070	0.000045	0.00035	0.00082	0.011	0.69	0.30	0.000021	0.12	0.0026	7.1	0.0018	0.27	0.0054	0.00024	0.00090	0.0010	16	0.36	0.000057	0.0046
Nov	0.000035	0.29	0.032	0.00071	0.000067	0.00037	0.00090	0.011	0.60	0.32	0.000019	0.11	0.0027	7.9	0.0018	0.29	0.0051	0.00031	0.00076	0.0022	18	0.40	0.000043	0.0063
Dec	0.000036	0.23	0.033	0.00067	0.000047	0.00038	0.00087	0.0098	0.44	0.42	0.000017	0.10	0.0029	11	0.0019	0.28	0.0049	0.00026	0.00078	0.0026	29	0.53	0.000039	0.0057
Best Estimate Max Postclosure																								
Jan	0.000039	0.24	0.052	0.00071	0.000040	0.00041	0.00092	0.011	0.45	0.50	0.000019	0.12	0.0046	13	0.0020	0.73	0.0082	0.00024	0.0012	0.0028	36	0.68	0.000042	0.0057
Feb	0.000039	0.24	0.041	0.00070	0.000050	0.00041	0.00093	0.012	0.45	0.50	0.000019	0.12	0.0046	11	0.0012	0.73	0.0081	0.00024	0.0012	0.0028	29	0.67	0.000042	0.0057
Mar	0.000039	0.26	0.041	0.00071	0.000050	0.00041	0.00093	0.013	0.45	0.50	0.000019	0.087	0.0046	11	0.0012	0.70	0.0080	0.00024	0.0013	0.0029	30	0.69	0.000042	0.0057
Apr	0.000044	0.38	0.044	0.00072	0.000060	0.00041	0.0011	0.015	0.64	0.49	0.000023	0.11	0.0044	11	0.0015	0.54	0.021	0.00028	0.0012	0.0029	30	0.68	0.000042	0.0070
May	0.000079	5.4	0.064	0.0031	0.00014	0.0039	0.011	0.025	9.2	0.31	0.000023	0.31	0.0045	8.0	0.011	0.48	0.017	0.0028	0.0014	0.0024	38	0.49	0.00012	0.027
Jun	0.000078	5.4	0.063	0.0031	0.00014	0.0039	0.011	0.025	9.2	0.31	0.000042	0.31	0.0044	9.3	0.011	0.48	0.0088	0.0028	0.0013	0.0016	38	0.47	0.00012	0.026
Jul	0.000058	3.1	0.058	0.0021	0.000094	0.0023	0.0061	0.018	5.2	0.37	0.000044	0.21	0.0042	9.4	0.0068	0.44	0.0087	0.0016	0.0012	0.0014	26	0.47	0.000072	0.017
Aug	0.000058	3.1	0.056	0.0023	0.000093	0.0025	0.0061	0.018	5.3	0.70	0.000044	0.30	0.0040	9.1	0.0070	0.43	0.0079	0.0016	0.0012	0.0016	21	0.50	0.000093	0.017
Sep	0.000058	2.7	0.055	0.0023	0.000086	0.0025	0.0052	0.016	5.3	0.70	0.000024	0.30	0.0039	8.8	0.0070	0.43	0.0077	0.0016	0.0012	0.0016	23	0.50	0.000093	0.017
Oct	0.000044	0.32	0.045	0.00076	0.000050	0.00038	0.00098	0.012	0.80	0.35	0.000024	0.13	0.0043	8.9	0.0021	0.48	0.0081	0.00033	0.0012	0.0013	23	0.47	0.000083	0.0059
Nov	0.000039	0.32	0.048	0.00077	0.000077	0.00041	0.0010	0.012	0.70	0.37	0.000022	0.13	0.0043	9.9	0.0019	0.49	0.0080	0.00036	0.0012	0.0028	23	0.53	0.000056	0.0074
Dec	0.000039	0.32	0.049	0.00077	0.000077	0.00041	0.0010	0.012	0.60	0.50	0.000020	0.12	0.0045	13	0.0020	0.49	0.0072	0.00036	0.0012	0.0028	36	0.67	0.000042	0.0074

Table 10 W1 Monthly Summary - WC WQ Cover

	Ag	Al	Ammonia	As	Cd	Co	Cr	Cu	Fe	Fluoride	Hg	Mn	Mo	Na	Ni	Nitrate	Nitrite	Pb	Se	Sn	Sulphate	Sr	Tl	Zn
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Reasonable Worst Case Average Operations																								
Jan	0.000028	0.10	0.12	0.00050	0.000027	0.00038	0.00075	0.0069	0.30	0.40	0.000026	0.14	0.0014	9.7	0.0011	2.7	0.072	0.00015	0.00060	0.0026	26	0.50	0.000032	0.0042
Feb	0.000029	0.11	0.12	0.00045	0.000039	0.00040	0.00078	0.0095	0.28	0.41	0.000028	0.11	0.0014	9.2	0.00092	2.7	0.072	0.00016	0.00063	0.0028	25	0.53	0.000033	0.0043
Mar	0.000030	0.13	0.12	0.00050	0.000033	0.00041	0.00080	0.012	0.31	0.41	0.000030	0.11	0.0014	9.4	0.00093	2.7	0.072	0.00016	0.00072	0.0028	26	0.55	0.000034	0.0044
Apr	0.000037	0.28	0.12	0.00053	0.000056	0.00041	0.0011	0.014	0.57	0.14	0.000036	0.14	0.0012	5.9	0.0013	2.4	0.087	0.00020	0.00058	0.0022	18	0.29	0.000026	0.0060
May	0.000077	6.2	0.15	0.0033	0.00016	0.0046	0.013	0.025	11	0.17	0.000032	0.37	0.0013	4.9	0.012	2.6	0.074	0.0031	0.00083	0.0013	35	0.29	0.00013	0.029
Jun	0.000030	0.70	0.14	0.00081	0.000046	0.00069	0.0018	0.0092	1.4	0.20	0.000051	0.12	0.0011	7.2	0.0026	2.5	0.074	0.00042	0.00069	0.00064	22	0.27	0.000054	0.0083
Jul	0.000053	3.4	0.15	0.0021	0.000094	0.0026	0.0066	0.017	5.7	0.27	0.000055	0.24	0.0015	7.4	0.0073	2.6	0.075	0.0017	0.00074	0.00100	11	0.31	0.000070	0.017
Aug	0.000054	3.0	0.15	0.0024	0.000088	0.0029	0.0059	0.015	6.1	0.65	0.000031	0.34	0.0013	6.7	0.0078	2.6	0.074	0.0018	0.00068	0.0012	15	0.35	0.000094	0.018
Sep	0.000037	0.40	0.14	0.00069	0.000029	0.00051	0.0012	0.0094	1.1	0.25	0.000031	0.14	0.00100	6.3	0.0023	2.7	0.077	0.00037	0.00069	0.00087	17	0.27	0.000085	0.0055
Oct	0.000028	0.20	0.14	0.00058	0.000041	0.00036	0.00074	0.0096	0.65	0.23	0.000030	0.15	0.0012	6.4	0.0017	2.8	0.081	0.00018	0.00072	0.00081	14	0.28	0.000055	0.0036
Nov	0.000029	0.21	0.15	0.00060	0.000067	0.00038	0.00084	0.0099	0.55	0.25	0.000029	0.14	0.0012	7.3	0.0018	2.8	0.081	0.00027	0.00055	0.0021	16	0.34	0.000039	0.0056
Dec	0.000030	0.14	0.15	0.00055	0.000045	0.00040	0.00081	0.0087	0.36	0.37	0.000028	0.13	0.0015	11	0.0019	2.8	0.080	0.00020	0.00059	0.0027	30	0.49	0.000034	0.0050
Reasonable Worst Case Max Operations																								
Jan	0.000033	0.12	0.16	0.00055	0.000035	0.00044	0.00085	0.0091	0.36	0.42	0.000034	0.17	0.0016	12	0.0019	3.3	0.087	0.00017	0.00071	0.0029	36	0.55	0.000035	0.0047
Feb	0.000034	0.12	0.14	0.00054	0.000047	0.00045	0.00087	0.012	0.36	0.42	0.000036	0.17	0.0015	9.7	0.0010	3.3	0.087	0.00017	0.00074	0.0029	28	0.56	0.000036	0.0048
Mar	0.000035	0.15	0.14	0.00055	0.000048	0.00046	0.00089	0.014	0.37	0.42	0.000038	0.14	0.0016	9.9	0.0010	3.2	0.087	0.00017	0.00086	0.0030	29	0.58	0.000036	0.0049
Apr	0.000042	0.30	0.15	0.00057	0.000062	0.00046	0.0012	0.015	0.63	0.42	0.000044	0.17	0.0016	9.9	0.0014	3.1	0.10	0.00021	0.00086	0.0030	29	0.58	0.000036	0.0065
May	0.000083	7.2	0.26	0.0037	0.00016	0.0052	0.015	0.027	12	0.18	0.000041	0.41	0.0015	6.1	0.014	5.1	0.14	0.0036	0.00097	0.0023	38	0.33	0.00014	0.032
Jun	0.000079	6.4	0.24	0.0034	0.00016	0.0047	0.013	0.026	11	0.21	0.000056	0.38	0.0013	7.5	0.013	4.8	0.14	0.0032	0.00084	0.0013	36	0.29	0.00013	0.030
Jul	0.000055	3.5	0.23	0.0022	0.000098	0.0027	0.0069	0.018	6.0	0.27	0.000058	0.26	0.0016	7.5	0.0076	4.4	0.13	0.0017	0.00079	0.0011	23	0.32	0.000072	0.018
Aug	0.000055	3.5	0.23	0.0024	0.000098	0.0029	0.0069	0.018	6.1	0.67	0.000058	0.36	0.0016	7.5	0.0078	4.4	0.13	0.0018	0.00078	0.0013	17	0.36	0.000097	0.018
Sep	0.000055	3.0	0.16	0.0024	0.000088	0.0029	0.0059	0.016	6.1	0.67	0.000035	0.36	0.0013	6.8	0.0078	2.9	0.082	0.0018	0.00075	0.0013	18	0.36	0.000097	0.018
Oct	0.000038	0.23	0.15	0.00060	0.000045	0.00038	0.00088	0.010	0.78	0.23	0.000035	0.16	0.0013	6.6	0.0020	3.0	0.088	0.00028	0.00078	0.00092	18	0.30	0.000085	0.0049
Nov	0.000031	0.22	0.16	0.00062	0.000078	0.00042	0.00092	0.011	0.65	0.27	0.000034	0.16	0.0013	7.9	0.0018	3.1	0.088	0.00031	0.00078	0.0027	19	0.37	0.000052	0.0066
Dec	0.000032	0.22	0.16	0.00062	0.000078	0.00043	0.00092	0.011	0.53	0.41	0.000032	0.15	0.0016	12	0.0019	3.1	0.087	0.00031	0.00069	0.0028	35	0.55	0.000035	0.0066
Reasonable Worst Case Average Postclosure																								
Jan	0.000048	0.24	0.037	0.00091	0.000055	0.00046	0.0011	0.014	0.46	0.50	0.000040	0.18	0.0046	11	0.0016	0.79	0.019	0.00038	0.0013	0.0026	33	0.64	0.000040	0.0066
Feb	0.000049	0.24	0.034	0.00086	0.000064	0.00046	0.0011	0.016	0.43	0.50	0.000040	0.16	0.0046	10	0.0014	0.82	0.019	0.00038	0.0013	0.0026	31	0.65	0.000041	0.0066
Mar	0.000049	0.26	0.034	0.00090	0.000059	0.00046	0.0011	0.017	0.45	0.50	0.000041	0.15	0.0047	10	0.0014	0.76	0.019	0.00038	0.0014	0.0027	32	0.66	0.000041	0.0067
Apr	0.000054	0.39	0.038	0.00094	0.000078	0.00046	0.0014	0.019	0.66	0.28	0.000045	0.16	0.0046	7.4	0.0017	0.62	0.031	0.00042	0.0013	0.0022	24	0.45	0.000034	0.0080
May	0.000088	5.2	0.055	0.0032	0.00016	0.0039	0.011	0.029	9.0	0.30	0.000044	0.37	0.0046	6.6	0.011	0.64	0.021	0.0028	0.0015	0.0015	39	0.46	0.00012	0.027
Jun	0.000047	0.89	0.045	0.0012	0.000070	0.00082	0.0023	0.015	1.6	0.31	0.000059	0.16	0.0040	8.3	0.0031	0.57	0.019	0.00065	0.0013	0.00085	29	0.41	0.000060	0.010
Jul	0.000066	3.0	0.052	0.0023	0.00011	0.0023	0.0060	0.021	5.0	0.36	0.000063	0.26	0.0044	8.6	0.0067	0.59	0.019	0.0016	0.0014	0.0011	19	0.46	0.000071	0.017
Aug	0.000068	2.8	0.050	0.0025	0.00010	0.0026	0.0056	0.020	5.5	0.69	0.000043	0.35	0.0042	8.1	0.0073	0.58	0.018	0.0018	0.0013	0.0014	22	0.49	0.000092	0.018
Sep	0.000055	0.56	0.039	0.0011	0.000057	0.00063	0.0016	0.016	1.3	0.37	0.000044	0.19	0.0042	7.8	0.0027	0.58	0.017	0.00059	0.0014	0.0011	25	0.44	0.000085	0.0079
Oct	0.000048	0.32	0.041	0.00098	0.000067	0.00043	0.0011	0.016	0.75	0.35	0.000044	0.19	0.0046	8.0	0.0021	0.63	0.019	0.00040	0.0014	0.0010	22	0.46	0.000060	0.0061
Nov	0.000049	0.33	0.043	0.00099	0.000089	0.00046	0.0012	0.016	0.66	0.37	0.000042	0.18	0.0046	8.7	0.0021	0.64	0.019	0.00048	0.0013	0.0022	24	0.50	0.000045	0.0078
Dec	0.000050	0.27	0.044	0.00096	0.000070	0.00046	0.0012	0.015	0.50	0.47	0.000041	0.17	0.0048	12	0.0022	0.63	0.018	0.00042	0.0013	0.0026	35	0.63	0.000041	0.0073
Reasonable Worst Case Max Postclosure																								
Jan	0.000056	0.28	0.075	0.0011	0.000068	0.00051	0.0013	0.017	0.53	0.57	0.000048	0.21	0.0072	15	0.0024	1.5	0.039	0.00045	0.0021	0.0028	45	0.83	0.000045	0.0076
Feb	0.000057	0.29	0.063	0.0010	0.000079	0.00052	0.0013	0.019	0.53	0.57	0.000048	0.21	0.0072	12	0.0016	1.5	0.038	0.00045	0.0021	0.0028	38	0.83	0.000045	0.0076
Mar	0.000057	0.31	0.063	0.0011	0.000078	0.00052	0.0013	0.020	0.53	0.57	0.000049	0.18	0.0072	13	0.0016	1.5	0.038	0.00046	0.0022	0.0029	39	0.85	0.000045	0.0077
Apr	0.000063	0.43	0.066	0.0011	0.000090	0.00052	0.0015	0.022	0.73	0.57	0.000054	0.20	0.0072	12	0.0019	1.3	0.050	0.00050	0.0021	0.0029	39	0.83	0.000045	0.0091
May	0.000096	5.4	0.085	0.0034	0.00017	0.0040	0.011	0.032	9.3	0.38	0.000053	0.40	0.0072	9.2	0.011	1.2	0.044	0.0030	0.0023	0.0024	47	0.64	0.00012	0.029
Jun	0.000094	5.4	0.084	0.0034	0.00017	0.0040	0.011	0.031	9.3	0.37	0.000065	0.39	0.0069	10	0.011	1.2	0.035	0.0030	0.0022	0.0016	46	0.62	0.00012	0.028
Jul	0.000072	3.2	0.077	0.0024	0.00012	0.0024	0.0064	0.024	5.2	0.42	0.000068	0.29	0.0064	10	0.0071	1.1	0.032	0.0017	0.0020	0.0014	33	0.61	0.000075	0.018
Aug	0.000073	3.2	0.074	0.0026	0.00012	0.0026	0.0064	0.024	5.4	0.76	0.000068	0.37	0.0062	10.0	0.0073	1.1	0.032	0.0018	0.0019	0.0016	28	0.63	0.000096	0.019
Sep	0.000073	2.7	0.073	0.0026	0.00011	0.0026	0.0055	0.022	5.4	0.76	0.000050	0.37	0.0062	9.7	0.0073	1.1	0.032	0.0018	0.0020	0.0016	30	0.63	0.000096	0.018
Oct	0.000060	0.37	0.064	0.0011	0.000077	0.00048	0.0013	0.019	0.87	0.41	0.000050	0.22	0.0068	10.0	0.0024	1.2	0.034	0.00052	0.0021	0.0013	30	0.62	0.000086	0.0076
Nov	0.000056	0.36	0.068	0.0011	0.00010	0.00051	0.0014	0.019	0.78	0.44	0.000050	0.22	0.0068	11	0.0023	1.2	0.034	0.00057	0.0021	0.0028	31	0.68	0.000059	0.0093
Dec	0.000056	0.36	0.068	0.0011	0.00010	0.00051	0.0014	0.019	0.67	0.56	0.000048	0.20	0.0071	15	0.0024	1.2	0.033	0.00056	0.0020	0.0028	45	0.82	0.000045	0.0093

Table 11 W1 Monthly Summary BE WQ NoCover

	Ag	Al	Ammonia	As	Cd	Co	Cr	Cu	Fe	Fluoride	Hg	Mn	Mo	Na	Ni	Nitrate	Nitrite	Pb	Se	Sn	Sulphate	Sr	Tl	Zn
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Best Estimate Average Operations																								
Jan	0.000021	0.091	0.079	0.00046	0.000020	0.00032	0.00066	0.0047	0.26	0.40	0.0000093	0.089	0.0012	9.1	0.0010	1.2	0.014	0.00015	0.00039	0.0026	22	0.45	0.000032	0.0037
Feb	0.000021	0.096	0.075	0.00041	0.000032	0.00033	0.00068	0.0071	0.23	0.41	0.0000096	0.065	0.0012	8.6	0.00082	1.2	0.014	0.00016	0.00041	0.0028	21	0.48	0.000033	0.0038
Mar	0.000021	0.11	0.075	0.00045	0.000025	0.00034	0.00069	0.0092	0.26	0.41	0.0000098	0.053	0.0013	8.7	0.00082	1.1	0.014	0.00016	0.00048	0.0028	22	0.50	0.000034	0.0039
Apr	0.000027	0.27	0.080	0.00048	0.000048	0.00033	0.00094	0.011	0.51	0.13	0.000014	0.076	0.0010	5.2	0.0011	0.95	0.030	0.00020	0.00032	0.0022	12	0.23	0.000026	0.0054
May	0.000069	6.2	0.11	0.0033	0.00015	0.0045	0.013	0.023	11	0.17	0.000014	0.32	0.0011	4.3	0.012	1.0	0.015	0.0031	0.00062	0.0013	31	0.24	0.00013	0.029
Jun	0.000024	0.69	0.092	0.00078	0.000041	0.00064	0.0017	0.0075	1.4	0.20	0.000038	0.080	0.0010	6.7	0.0026	0.99	0.016	0.00042	0.00053	0.00064	19	0.23	0.000054	0.0079
Jul	0.000046	3.4	0.11	0.0021	0.000088	0.0025	0.0065	0.015	5.7	0.26	0.000041	0.20	0.0014	6.9	0.0072	1.0	0.016	0.0017	0.00057	0.00100	7.7	0.27	0.000070	0.017
Aug	0.000048	3.0	0.10	0.0024	0.000082	0.0028	0.0058	0.014	6.0	0.64	0.000017	0.30	0.0011	6.3	0.0077	1.0	0.016	0.0018	0.00052	0.0012	12	0.31	0.000094	0.017
Sep	0.000031	0.39	0.089	0.00066	0.000024	0.00046	0.0011	0.0075	1.1	0.24	0.000017	0.10	0.00087	5.8	0.0022	1.1	0.014	0.00037	0.00052	0.00087	14	0.23	0.000085	0.0051
Oct	0.000021	0.19	0.094	0.00055	0.000035	0.00030	0.00065	0.0075	0.61	0.22	0.000014	0.10	0.0011	5.9	0.0017	1.1	0.017	0.00018	0.00053	0.00081	10	0.24	0.000055	0.0031
Nov	0.000021	0.20	0.098	0.00056	0.000061	0.00032	0.00074	0.0077	0.50	0.25	0.000012	0.093	0.0011	6.8	0.0017	1.1	0.016	0.00027	0.00036	0.0021	12	0.29	0.000039	0.0052
Dec	0.000022	0.13	0.100	0.00051	0.000038	0.00033	0.00072	0.0065	0.31	0.37	0.000010	0.083	0.0013	10	0.0018	1.1	0.016	0.00020	0.00038	0.0027	25	0.44	0.000034	0.0045
Best Estimate Max Operations																								
Jan	0.000023	0.11	0.11	0.00051	0.000026	0.00035	0.00072	0.0064	0.30	0.41	0.000011	0.11	0.0014	12	0.0018	1.4	0.017	0.00017	0.00044	0.0029	30	0.50	0.000035	0.0041
Feb	0.000023	0.11	0.090	0.00049	0.000038	0.00035	0.00073	0.0088	0.30	0.42	0.000011	0.11	0.0013	9.0	0.00090	1.4	0.017	0.00017	0.00044	0.0029	22	0.49	0.000036	0.0041
Mar	0.000023	0.13	0.091	0.00050	0.000038	0.00036	0.00074	0.010	0.30	0.42	0.000011	0.067	0.0013	9.0	0.00089	1.4	0.017	0.00017	0.00054	0.0030	23	0.51	0.000036	0.0041
Apr	0.000029	0.28	0.096	0.00051	0.000050	0.00036	0.00099	0.012	0.55	0.42	0.000015	0.091	0.0013	9.0	0.0012	1.3	0.033	0.00021	0.00054	0.0030	23	0.51	0.000036	0.0057
May	0.000072	7.2	0.18	0.0037	0.00016	0.0052	0.015	0.024	12	0.18	0.000015	0.34	0.0014	5.2	0.014	2.0	0.033	0.0036	0.00067	0.0023	32	0.26	0.00014	0.032
Jun	0.000070	6.3	0.15	0.0034	0.00015	0.0046	0.013	0.023	11	0.20	0.000040	0.33	0.0012	7.0	0.013	1.9	0.027	0.0032	0.00063	0.0013	32	0.24	0.00013	0.029
Jul	0.000050	3.5	0.16	0.0022	0.000091	0.0026	0.0068	0.016	5.9	0.27	0.000041	0.21	0.0015	7.0	0.0075	1.7	0.025	0.0017	0.00059	0.0011	19	0.28	0.000072	0.017
Aug	0.000050	3.5	0.16	0.0024	0.000091	0.0029	0.0068	0.016	6.1	0.67	0.000041	0.31	0.0015	7.0	0.0077	1.7	0.025	0.0018	0.00059	0.0013	13	0.32	0.000097	0.018
Sep	0.000048	3.0	0.11	0.0024	0.000082	0.0029	0.0058	0.014	6.1	0.67	0.000017	0.31	0.0011	6.3	0.0077	1.1	0.017	0.0018	0.00054	0.0013	14	0.32	0.000097	0.018
Oct	0.000030	0.22	0.10	0.00056	0.000037	0.00031	0.00079	0.0079	0.73	0.23	0.000017	0.11	0.0011	6.0	0.0019	1.2	0.018	0.00028	0.00055	0.00092	14	0.25	0.000085	0.0044
Nov	0.000022	0.20	0.11	0.00057	0.000070	0.00034	0.00081	0.0081	0.60	0.26	0.000014	0.11	0.0011	7.2	0.0017	1.2	0.018	0.00031	0.00055	0.0027	14	0.32	0.000052	0.0061
Dec	0.000022	0.20	0.11	0.00057	0.000070	0.00034	0.00081	0.0081	0.48	0.41	0.000011	0.094	0.0014	12	0.0018	1.2	0.017	0.00031	0.00044	0.0028	30	0.50	0.000035	0.0061
Best Estimate Average Postclosure																								
Jan	0.000036	0.20	0.027	0.00066	0.000035	0.00040	0.00088	0.0097	0.41	0.46	0.000017	0.13	0.0029	10	0.0014	0.41	0.0050	0.00023	0.00087	0.0029	28	0.57	0.000040	0.0053
Feb	0.000036	0.20	0.024	0.00061	0.000044	0.00040	0.00088	0.012	0.38	0.46	0.000017	0.10	0.0029	9.6	0.0011	0.43	0.0050	0.00023	0.00087	0.0029	26	0.57	0.000040	0.0053
Mar	0.000036	0.22	0.024	0.00065	0.000038	0.00040	0.00088	0.013	0.40	0.46	0.000018	0.092	0.0029	9.7	0.0011	0.39	0.0049	0.00023	0.00093	0.0029	27	0.59	0.000040	0.0053
Apr	0.000041	0.35	0.027	0.00068	0.000057	0.00039	0.0011	0.015	0.60	0.24	0.000021	0.11	0.0027	6.9	0.0014	0.25	0.011	0.00026	0.00080	0.0025	19	0.38	0.000033	0.0066
May	0.000075	5.2	0.042	0.0030	0.00014	0.0038	0.011	0.025	8.9	0.26	0.000021	0.31	0.0028	6.1	0.011	0.26	0.0065	0.0027	0.0010	0.0017	34	0.38	0.00012	0.026
Jun	0.000036	0.86	0.034	0.00097	0.000052	0.00077	0.0021	0.012	1.6	0.27	0.000040	0.12	0.0025	7.9	0.0029	0.24	0.0062	0.00052	0.00092	0.0011	24	0.35	0.000059	0.0092
Jul	0.000055	3.0	0.039	0.0020	0.000090	0.0022	0.0058	0.018	5.0	0.32	0.000043	0.21	0.0028	8.1	0.0065	0.25	0.0057	0.0015	0.00097	0.0014	14	0.39	0.000070	0.016
Aug	0.000057	2.7	0.038	0.0023	0.000087	0.0026	0.0054	0.017	5.4	0.65	0.000023	0.31	0.0027	7.6	0.0071	0.24	0.0055	0.0017	0.00093	0.0016	18	0.42	0.000092	0.017
Sep	0.000043	0.53	0.029	0.00086	0.000038	0.00057	0.0014	0.012	1.2	0.33	0.000023	0.14	0.0025	7.3	0.0025	0.24	0.0046	0.00045	0.00095	0.0013	20	0.37	0.000084	0.0067
Oct	0.000035	0.28	0.030	0.00073	0.000046	0.00037	0.00086	0.012	0.70	0.30	0.000021	0.14	0.0028	7.5	0.0018	0.27	0.0054	0.00025	0.00099	0.0013	17	0.38	0.000059	0.0048
Nov	0.000036	0.29	0.032	0.00074	0.000069	0.00039	0.00094	0.012	0.61	0.33	0.000019	0.13	0.0028	8.2	0.0019	0.29	0.0051	0.00032	0.00084	0.0024	19	0.43	0.000045	0.0065
Dec	0.000037	0.23	0.033	0.00070	0.000049	0.00040	0.00091	0.011	0.45	0.43	0.000018	0.12	0.0030	11	0.0019	0.28	0.0049	0.00026	0.00087	0.0029	30	0.55	0.000040	0.0059
Best Estimate Max Postclosure																								
Jan	0.000040	0.23	0.052	0.00074	0.000042	0.00043	0.00097	0.012	0.47	0.51	0.000020	0.15	0.0048	14	0.0020	0.73	0.0082	0.00025	0.0013	0.0031	38	0.70	0.000043	0.0059
Feb	0.000040	0.24	0.041	0.00073	0.000052	0.00043	0.00097	0.014	0.47	0.51	0.000020	0.15	0.0047	12	0.0013	0.73	0.0081	0.00025	0.0013	0.0031	31	0.70	0.000044	0.0059
Mar	0.000041	0.26	0.041	0.00074	0.000052	0.00044	0.00097	0.015	0.46	0.51	0.000020	0.11	0.0048	12	0.0013	0.70	0.0080	0.00025	0.0014	0.0031	32	0.72	0.000044	0.0059
Apr	0.000046	0.38	0.044	0.00076	0.000062	0.00044	0.0012	0.016	0.66	0.50	0.000024	0.13	0.0046	12	0.0015	0.54	0.021	0.00029	0.0013	0.0031	31	0.70	0.000044	0.0073
May	0.000080	5.4	0.064	0.0031	0.00015	0.0040	0.011	0.026	9.2	0.32	0.000024	0.34	0.0047	8.4	0.011	0.48	0.017	0.0028	0.0015	0.0027	39	0.51	0.00012	0.027
Jun	0.000079	5.4	0.063	0.0031	0.00015	0.0040	0.011	0.026	9.2	0.31	0.000043	0.33	0.0045	9.6	0.011	0.48	0.0088	0.0028	0.0014	0.0019	39	0.49	0.00012	0.027
Jul	0.000059	3.1	0.058	0.0021	0.000095	0.0023	0.0061	0.019	5.2	0.37	0.000045	0.23	0.0043	9.7	0.0068	0.44	0.0087	0.0016	0.0013	0.0016	27	0.49	0.000073	0.017
Aug	0.000059	3.1	0.056	0.0023	0.000095	0.0026	0.0061	0.019	5.3	0.71	0.000045	0.32	0.0041	9.4	0.0070	0.43	0.0079	0.0016	0.0012	0.0018	22	0.52	0.000095	0.017
Sep	0.000059	2.7	0.055	0.0023	0.000087	0.0026	0.0052	0.018	5.3	0.71	0.000025	0.32	0.0040	9.1	0.0070	0.43	0.0077	0.0016	0.0013	0.0018	24	0.52	0.000095	0.017
Oct	0.000045	0.32	0.045	0.00078	0.000052	0.00040	0.0010	0.013	0.82	0.35	0.000025	0.15	0.0044	9.2	0.0021	0.48	0.0081	0.00034	0.0013	0.0015	24	0.49	0.000085	0.0061
Nov	0.000040	0.31	0.048	0.00080	0.000079	0.00043	0.0010	0.013	0.72	0.38	0.000023	0.15	0.0044	10	0.0020	0.49	0.0080	0.00037	0.0013	0.0030	25	0.55	0.000057	0.0076
Dec	0.000040	0.31	0.049	0.00079	0.000079	0.00043	0.0010	0.013	0.62	0.50	0.000021	0.14	0.0046	14	0.0020	0.49	0.0072	0.00037	0.0012	0.0031	38	0.70	0.000043	0.0076

Table 12   W1 Monthly Summary - WC WQ NoCover

	Ag	Al	Ammonia	As	Cd	Co	Cr	Cu	Fe	Fluoride	Hg	Mn	Mo	Na	Ni	Nitrate	Nitrite	Pb	Se	Sn	Sulphate	Sr	Tl	Zn
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Reasonable Worst Case Average Operations																								
Jan	0.000028	0.10	0.12	0.00050	0.000027	0.00038	0.00075	0.0069	0.30	0.40	0.000026	0.14	0.0014	9.7	0.0011	2.7	0.072	0.00015	0.00060	0.0026	26	0.50	0.000032	0.0042
Feb	0.000029	0.11	0.12	0.00045	0.000039	0.00040	0.00078	0.0095	0.28	0.41	0.000028	0.11	0.0014	9.2	0.00092	2.7	0.072	0.00016	0.00063	0.0028	25	0.53	0.000033	0.0043
Mar	0.000030	0.13	0.12	0.00050	0.000033	0.00041	0.00080	0.012	0.31	0.41	0.000030	0.11	0.0014	9.4	0.00093	2.7	0.072	0.00016	0.00072	0.0028	26	0.55	0.000034	0.0044
Apr	0.000037	0.28	0.12	0.00053	0.000056	0.00041	0.0011	0.014	0.57	0.14	0.000036	0.14	0.0012	5.9	0.0013	2.4	0.087	0.00020	0.00058	0.0022	18	0.29	0.000026	0.0060
May	0.000077	6.2	0.15	0.0033	0.00016	0.0046	0.013	0.025	11	0.17	0.000032	0.37	0.0013	4.9	0.012	2.6	0.074	0.0031	0.00083	0.0013	35	0.29	0.00013	0.029
Jun	0.000030	0.70	0.14	0.00081	0.000046	0.00069	0.0018	0.0092	1.4	0.20	0.000051	0.12	0.0011	7.2	0.0026	2.5	0.074	0.00042	0.00069	0.00064	22	0.27	0.000054	0.0083
Jul	0.000053	3.4	0.15	0.0021	0.000094	0.0026	0.0066	0.017	5.7	0.27	0.000055	0.24	0.0015	7.4	0.0073	2.6	0.075	0.0017	0.00074	0.00100	11	0.31	0.000070	0.017
Aug	0.000054	3.0	0.15	0.0024	0.000088	0.0029	0.0059	0.015	6.1	0.65	0.000031	0.34	0.0013	6.7	0.0078	2.6	0.074	0.0018	0.00068	0.0012	15	0.35	0.000094	0.018
Sep	0.000037	0.40	0.14	0.00069	0.000029	0.00051	0.0012	0.0094	1.1	0.25	0.000031	0.14	0.00100	6.3	0.0023	2.7	0.077	0.00037	0.00069	0.00087	17	0.27	0.000085	0.0055
Oct	0.000028	0.20	0.14	0.00058	0.000041	0.00036	0.00074	0.0096	0.65	0.23	0.000030	0.15	0.0012	6.4	0.0017	2.8	0.081	0.00018	0.00072	0.00081	14	0.28	0.000055	0.0036
Nov	0.000029	0.21	0.15	0.00060	0.000067	0.00038	0.00084	0.0099	0.55	0.25	0.000029	0.14	0.0012	7.3	0.0018	2.8	0.081	0.00027	0.00055	0.0021	16	0.34	0.000039	0.0056
Dec	0.000030	0.14	0.15	0.00055	0.000045	0.00040	0.00081	0.0087	0.36	0.37	0.000028	0.13	0.0015	11	0.0019	2.8	0.080	0.00020	0.00059	0.0027	30	0.49	0.000034	0.0050
Reasonable Worst Case Max Operations																								
Jan	0.000033	0.12	0.16	0.00055	0.000035	0.00044	0.00085	0.0091	0.36	0.42	0.000034	0.17	0.0016	12	0.0019	3.3	0.087	0.00017	0.00071	0.0029	36	0.55	0.000035	0.0047
Feb	0.000034	0.12	0.14	0.00054	0.000047	0.00045	0.00087	0.012	0.36	0.42	0.000036	0.17	0.0015	9.7	0.0010	3.3	0.087	0.00017	0.00074	0.0029	28	0.56	0.000036	0.0048
Mar	0.000035	0.15	0.14	0.00055	0.000048	0.00046	0.00089	0.014	0.37	0.42	0.000038	0.14	0.0016	9.9	0.0010	3.2	0.087	0.00017	0.00086	0.0030	29	0.58	0.000036	0.0049
Apr	0.000042	0.30	0.15	0.00057	0.000062	0.00046	0.0012	0.015	0.63	0.42	0.000044	0.17	0.0016	9.9	0.0014	3.1	0.10	0.00021	0.00086	0.0030	29	0.58	0.000036	0.0065
May	0.000083	7.2	0.26	0.0037	0.00016	0.0052	0.015	0.027	12	0.18	0.000041	0.41	0.0015	6.1	0.014	5.1	0.14	0.0036	0.00097	0.0023	38	0.33	0.00014	0.032
Jun	0.000079	6.4	0.24	0.0034	0.00016	0.0047	0.013	0.026	11	0.21	0.000056	0.38	0.0013	7.5	0.013	4.8	0.14	0.0032	0.00084	0.0013	36	0.29	0.00013	0.030
Jul	0.000055	3.5	0.23	0.0022	0.000098	0.0027	0.0069	0.018	6.0	0.27	0.000058	0.26	0.0016	7.5	0.0076	4.4	0.13	0.0017	0.00079	0.0011	23	0.32	0.000072	0.018
Aug	0.000055	3.5	0.23	0.0024	0.000098	0.0029	0.0069	0.018	6.1	0.67	0.000058	0.36	0.0016	7.5	0.0078	4.4	0.13	0.0018	0.00078	0.0013	17	0.36	0.000097	0.018
Sep	0.000055	3.0	0.16	0.0024	0.000088	0.0029	0.0059	0.016	6.1	0.67	0.000035	0.36	0.0013	6.8	0.0078	2.9	0.082	0.0018	0.00075	0.0013	18	0.36	0.000097	0.018
Oct	0.000038	0.23	0.15	0.00060	0.000045	0.00038	0.00088	0.010	0.78	0.23	0.000035	0.16	0.0013	6.6	0.0020	3.0	0.088	0.00028	0.00078	0.00092	18	0.30	0.000085	0.0049
Nov	0.000031	0.22	0.16	0.00062	0.000078	0.00042	0.00092	0.011	0.65	0.27	0.000034	0.16	0.0013	7.9	0.0018	3.1	0.088	0.00031	0.00078	0.0027	19	0.37	0.000052	0.0066
Dec	0.000032	0.22	0.16	0.00062	0.000078	0.00043	0.00092	0.011	0.53	0.41	0.000032	0.15	0.0016	12	0.0019	3.1	0.087	0.00031	0.00069	0.0028	35	0.55	0.000035	0.0066
Reasonable Worst Case Average Postclosure																								
Jan	0.000054	0.25	0.037	0.00097	0.000061	0.00052	0.0012	0.017	0.50	0.52	0.000050	0.23	0.0050	12	0.0017	0.79	0.019	0.00040	0.0015	0.0029	37	0.69	0.000042	0.0071
Feb	0.000054	0.25	0.034	0.00092	0.000071	0.00052	0.0012	0.019	0.47	0.52	0.000051	0.20	0.0051	11	0.0015	0.82	0.019	0.00040	0.0015	0.0029	35	0.70	0.000042	0.0072
Mar	0.000055	0.27	0.034	0.00097	0.000066	0.00052	0.0013	0.021	0.49	0.52	0.000051	0.19	0.0051	11	0.0015	0.76	0.019	0.00041	0.0016	0.0029	36	0.72	0.000043	0.0072
Apr	0.000060	0.39	0.038	0.0010	0.000086	0.00052	0.0015	0.022	0.70	0.30	0.000056	0.22	0.0050	8.1	0.0018	0.62	0.031	0.00045	0.0015	0.0025	29	0.51	0.000036	0.0086
May	0.000093	5.2	0.055	0.0033	0.00017	0.0039	0.011	0.032	9.0	0.32	0.000054	0.41	0.0050	7.3	0.011	0.64	0.021	0.0029	0.0017	0.0017	43	0.51	0.00012	0.028
Jun	0.000051	0.89	0.045	0.0012	0.000075	0.00087	0.0024	0.018	1.7	0.32	0.000067	0.20	0.0043	8.9	0.0032	0.57	0.019	0.00066	0.0015	0.0011	32	0.45	0.000061	0.011
Jul	0.000070	3.0	0.052	0.0023	0.00011	0.0023	0.0061	0.024	5.0	0.38	0.000071	0.30	0.0047	9.2	0.0068	0.59	0.019	0.0016	0.0016	0.0014	22	0.50	0.000072	0.018
Aug	0.000072	2.8	0.050	0.0026	0.00011	0.0027	0.0057	0.023	5.5	0.70	0.000052	0.39	0.0045	8.6	0.0074	0.58	0.018	0.0018	0.0015	0.0016	26	0.54	0.000094	0.019
Sep	0.000060	0.57	0.039	0.0011	0.000063	0.00069	0.0017	0.019	1.3	0.38	0.000053	0.23	0.0045	8.4	0.0028	0.58	0.017	0.00061	0.0016	0.0013	28	0.49	0.000087	0.0084
Oct	0.000053	0.32	0.041	0.0010	0.000073	0.00049	0.0012	0.019	0.79	0.36	0.000054	0.24	0.0049	8.6	0.0022	0.63	0.019	0.00042	0.0017	0.0013	26	0.51	0.000061	0.0066
Nov	0.000054	0.33	0.043	0.0011	0.000096	0.00051	0.0013	0.020	0.70	0.39	0.000052	0.23	0.0050	9.4	0.0022	0.64	0.019	0.00050	0.0015	0.0024	28	0.56	0.000047	0.0083
Dec	0.000055	0.28	0.044	0.0010	0.000076	0.00052	0.0013	0.018	0.54	0.49	0.000051	0.22	0.0052	12	0.0023	0.63	0.018	0.00044	0.0016	0.0029	40	0.68	0.000043	0.0078
Reasonable Worst Case Max Postclosure																								
Jan	0.000062	0.29	0.075	0.0011	0.000075	0.00057	0.0014	0.020	0.58	0.58	0.000060	0.26	0.0076	15	0.0025	1.5	0.039	0.00047	0.0023	0.0031	49	0.88	0.000047	0.0081
Feb	0.000062	0.30	0.063	0.0011	0.000086	0.00058	0.0014	0.023	0.58	0.58	0.000061	0.26	0.0076	13	0.0017	1.5	0.038	0.00048	0.0023	0.0031	42	0.88	0.000047	0.0082
Mar	0.000063	0.31	0.063	0.0011	0.000085	0.00058	0.0014	0.024	0.58	0.58	0.000062	0.23	0.0077	13	0.0017	1.5	0.038	0.00048	0.0024	0.0031	43	0.90	0.000047	0.0083
Apr	0.000069	0.44	0.066	0.0012	0.000099	0.00058	0.0017	0.025	0.78	0.58	0.000067	0.26	0.0077	13	0.0020	1.3	0.050	0.00053	0.0023	0.0031	43	0.89	0.000047	0.0097
May	0.00010	5.4	0.085	0.0035	0.00018	0.0041	0.012	0.035	9.4	0.40	0.000066	0.46	0.0077	9.9	0.011	1.2	0.044	0.0030	0.0025	0.0027	51	0.70	0.00013	0.029
Jun	0.000099	5.4	0.084	0.0035	0.00018	0.0041	0.011	0.034	9.3	0.38	0.000075	0.44	0.0072	11	0.011	1.2	0.035	0.0030	0.0024	0.0019	50	0.67	0.00013	0.029
Jul	0.000077	3.2	0.077	0.0025	0.00012	0.0025	0.0065	0.027	5.3	0.43	0.000078	0.33	0.0067	11	0.0072	1.1	0.032	0.0018	0.0021	0.0016	36	0.65	0.000076	0.019
Aug	0.000077	3.2	0.074	0.0026	0.00012	0.0027	0.0065	0.026	5.4	0.77	0.000078	0.42	0.0065	11	0.0074	1.1	0.032	0.0018	0.0021	0.0018	31	0.68	0.000097	0.019
Sep	0.000077	2.7	0.073	0.0026	0.00011	0.0027	0.0056	0.025	5.4	0.77	0.000061	0.42	0.0066	10	0.0074	1.1	0.032	0.0018	0.0022	0.0018	34	0.68	0.000097	0.019
Oct	0.000065	0.37	0.064	0.0012	0.000084	0.00054	0.0014	0.022	0.92	0.43	0.000062	0.27	0.0072	11	0.0025	1.2	0.034	0.00054	0.0023	0.0015	34	0.67	0.000088	0.0081
Nov	0.000061	0.37	0.068	0.0012	0.00011	0.00057	0.0015	0.022	0.82	0.46	0.000062	0.27	0.0072	12	0.0024	1.2	0.034	0.00058	0.0023	0.0030	35	0.73	0.000061	0.0098
Dec	0.000062	0.37	0.068	0.0012	0.00011	0.00057	0.0015	0.022	0.72	0.58	0.000060	0.25	0.0075	15	0.0025	1.2	0.033	0.00058	0.0022	0.0031	49	0.88	0.000047	0.0098