



MINTO CREEK WATER QUALITY CHARACTERIZATION

REVISION 1

June 2014

Prepared for:

MINTO EXPLORATIONS LTD.

TABLE OF CONTENTS

1 INTRODUCTION	5
2 METHODS.....	7
2.1 WATER QUALITY DATA HANDLING AND SUMMARIZATION	7
2.1.1 MINTO CREEK.....	7
2.1.2 MINTO MINE FACILITIES	11
2.2 INTERPRETATION OF WATER QUALITY DATA	12
3 CHARACTERIZATION OF WATER QUALITY	14
3.1 MINTO CREEK WATER QUALITY VERSUS CWQG AND W2 LIMITS	14
3.1.1 2010 WILDFIRE.....	30
3.2 MINTO CREEK WATER QUALITY OVER TIME	33
3.3 BACKGROUND WATER QUALITY.....	50
3.3.1 2014 BACKGROUND WATER QUALITY UPDATE.....	53
3.4 MINTO MINE FACILITIES WATER QUALITY.....	56
3.5 MINTO MINE FACILITIES WATER QUALITY OVER TIME.....	63
4 LIMITATIONS OF REPORT	72
5 REFERENCES	73

LIST OF TABLES

Table 2-1: Minto Creek Monitoring Station Locations.....	7
Table 2-2: Minto Creek Sample Frequency by Quarter, 2005–2012.....	9
Table 2-3: Minto Mine Monitoring Station Locations.....	11
Table 3-1: Minto Creek Monitoring Station W3: Summary of Water Quality Data.....	15
Table 3-2: Minto Creek Monitoring Station W7: Summary of Water Quality Data.....	16
Table 3-3: Minto Creek Monitoring Station W6: Summary of Water Quality Data.....	17
Table 3-4: Minto Creek Monitoring Station C4: Summary of Water Quality Data.....	18
Table 3-5: Minto Creek Monitoring Station MC-1: Summary of Water Quality Data.....	19
Table 3-6: Minto Creek Monitoring Station C10: Summary of Water Quality Data.....	20
Table 3-7: Minto Creek Monitoring Station W2: Summary of Water Quality Data.....	21
Table 3-8: MC1 Non-Discharge Phase Water Quality—2010 versus 2011 and 2012 Results.....	26
Table 3-9: W2 Non-Discharge Phase Water Quality—Pre-2011 versus 2011 and 2012 Results.....	27
Table 3-10: W3 Non-Discharge Phase Water Quality—Pre-2011 versus 2011 and 2012 Results.....	28
Table 3-11: 2010 Background Dataset.....	51
Table 3-12: 2012 Background Dataset.....	52
Table 3-13: 2005 to 2013 Background Dataset with Results Associated with All TSS.....	54
Table 3-14: 2005 to 2013 Background Dataset with Results Associated with TSS ≤15mg/L.....	55
Table 3-15: Minto Mine Facility Monitoring Station W8: Summary of Water Quality Data.....	57
Table 3-16: Minto Mine Facility Monitoring Station W8A: Summary of Water Quality Data.....	58
Table 3-17: Minto Mine Facility Monitoring Station W12: Summary of Water Quality Data.....	59
Table 3-18: Minto Mine Facility Monitoring Station W15: Summary of Water Quality Data.....	60
Table 3-19: Minto Mine Facility Monitoring Station W16: Summary of Water Quality Data.....	61
Table 3-20: Minto Mine Facility Monitoring Station W35A: Summary of Water Quality Data.....	62

LIST OF FIGURES

Figure 1-1: Project Location.....	6
Figure 2-1: Minto Creek Monitoring Station Locations.....	8
Figure 3-1: Minto Creek Burn June 2010.	32
Figure 3-2: Concentrations of Total Aluminum in Minto Creek Catchment during Non-Discharge Periods.....	34
Figure 3-3: Concentrations of Total Aluminum in Minto Creek Catchment during Mine Discharge Periods.....	35
Figure 3-4: Concentrations of Total Cadmium in Minto Creek Catchment during Non-Discharge Periods.	36
Figure 3-5: Concentrations of Total Cadmium in Minto Creek Catchment during Mine Discharge Periods.....	37
Figure 3-6: Concentrations of Total Chromium in Minto Creek Catchment during Non-Discharge Periods.....	38
Figure 3-7: Concentrations of Total Chromium in Minto Creek Catchment during Mine Discharge Periods.	39
Figure 3-8: Concentrations of Total Copper in Minto Creek Catchment during Non-Discharge Periods.....	40
Figure 3-9: Concentrations of Total Copper in Minto Creek Catchment during Mine Discharge Periods.....	41
Figure 3-10: Concentrations of Total Iron in Minto Creek Catchment during Non-Discharge Periods.....	42
Figure 3-11: Concentrations of Total Iron in Minto Creek Catchment during Mine Discharge Periods.....	43
Figure 3-12: Concentrations of Total Selenium in Minto Creek Catchment during Non-Discharge Periods.....	44
Figure 3-13: Concentrations of Total Selenium in Minto Creek Catchment during Mine Discharge Periods.	45
Figure 3-14: Concentrations of Nitrate (N) in Minto Creek Catchment during Non-Discharge Periods.	46
Figure 3-15: Concentrations of Nitrate (N) in Minto Creek Catchment during Mine Discharge Periods.	47
Figure 3-16: Concentrations of Total Suspended Solids in Minto Creek Catchment during Non-Discharge Periods.....	48
Figure 3-17: Concentrations of Total Suspended Solids in Minto Creek Catchment during Mine Discharge Periods.	49
Figure 3-18: Concentrations of Total Aluminum at Minto Mine Facility Monitoring Locations.....	64
Figure 3-19: Concentrations of Total Cadmium at Minto Mine Facility Monitoring Locations.....	65
Figure 3-20: Concentrations of Total Chromium at Minto Mine Facility Monitoring Locations.	66
Figure 3-21: Concentrations of Total Copper at Minto Mine Facility Monitoring Locations.....	67
Figure 3-22: Concentrations of Total Iron at Minto Mine Facility Monitoring Locations.....	68
Figure 3-23: Concentrations of Total Selenium at Minto Mine Facility Monitoring Locations.	69
Figure 3-24: Concentrations of Nitrate (N) at Minto Mine Facility Monitoring Locations.	70
Figure 3-25: Concentrations of Total Suspended Solids at Minto Mine Facility Monitoring Locations.	71

LIST OF ABBREVIATIONS

ACG	Access Consulting Group
BCP	Background Concentrations Procedure
CCME	Canadian Council of Ministers of the Environment
CWQG	Canadian Water Quality Guideline
Minnow	Minnow Environmental Inc.
MMER	Metal Mining Effluent Regulations
RDL	Reportable Detection Limit
SSWQO	Site Specific Water Quality Objective
TDS	Total Dissolved Solids
TSS	Total Suspended Solids

LIST OF APPENDICES

APPENDIX A OUTLIER IDENTIFICATION – MINTO CREEK SURFACE WATER QUALITY

APPENDIX B MINTO CREEK AND MINTO MINE WATER QUALITY DATA (JANUARY 2005–DECEMBER 2012)

APPENDIX C BACKGROUND DATASET AND OUTLIER ASSESSMENT

1 INTRODUCTION

Minto Explorations Ltd. (a wholly owned subsidiary of Capstone Mining Corp.) owns and operates Minto Mine, a high-grade copper mine located approximately 240 km northwest of Whitehorse, Yukon (Figure 1-1).

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

This updated characterization of Minto Creek water quality includes January 2005 to December 2012 monitoring data. Minto Creek water quality data have been reviewed for the pre-mine operation phase and for operations, during both periods of mine effluent discharge to Minto Creek and without mine effluent discharge. Water quality at key mine site monitoring locations/collection points that have the potential to discharge to Minto Creek have also been reviewed. Methods used in the evaluation of water quality data are summarized in Section 2.0; results which form the basis of the characterization of water quality for Minto Creek are provided in Section 3.0; and a summary of findings is in Section 4.0.



MINTO MINE



MINTO CREEK WATER QUALITY CHARACTERIZATION

FIGURE 1-1 PROJECT LOCATION



2 METHODS

2.1 WATER QUALITY DATA HANDLING AND SUMMARIZATION

2.1.1 Minto Creek

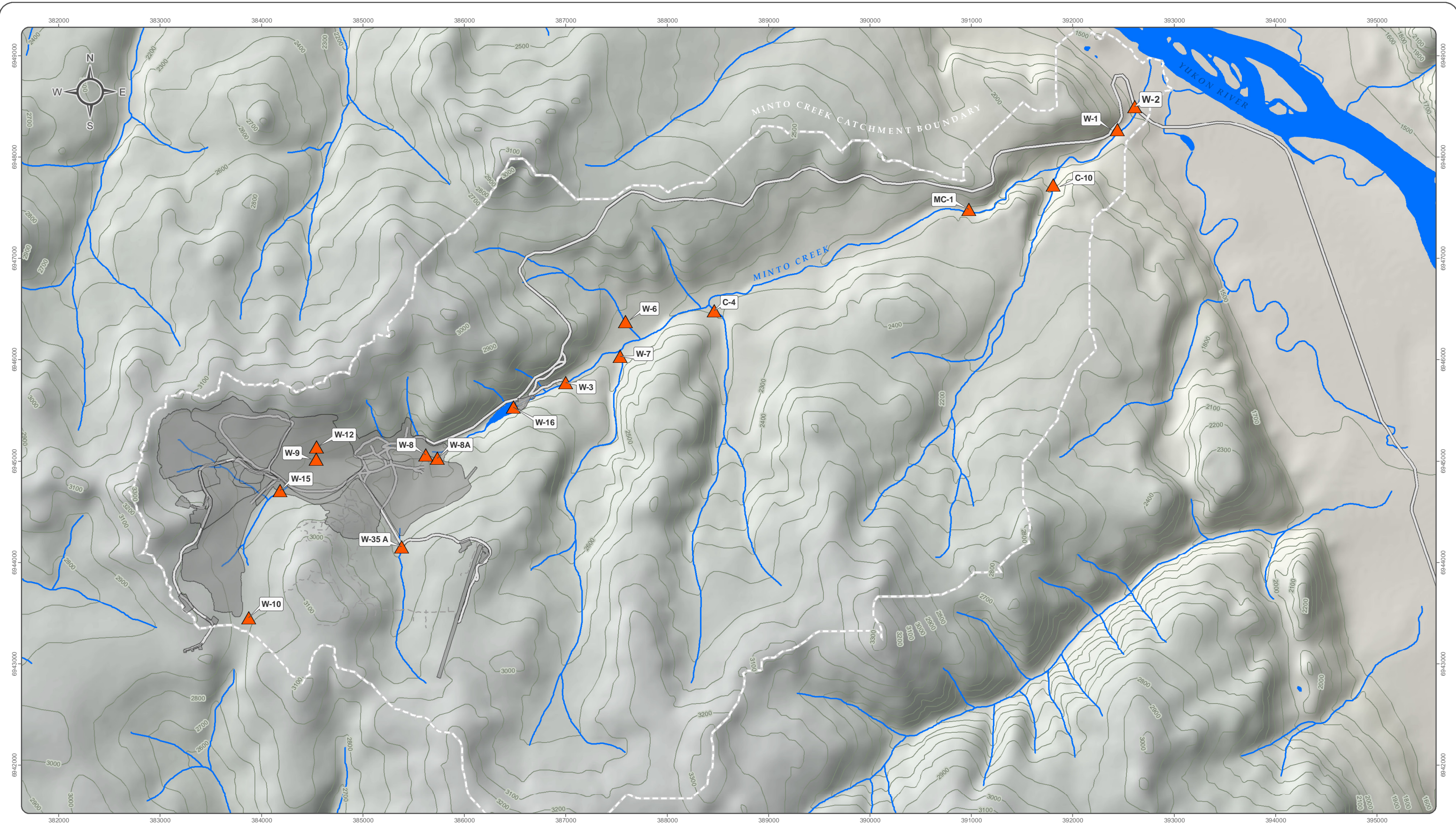
Water quality data were obtained from Minto Mine with the understanding that results have been subject to appropriate quality assurance and quality control procedures so that they may be used in the characterization of Minto Creek. An assessment of outliers has been carried out and identified in Appendix A. Outliers are considered to be results >3 or <3 times the standard deviation of the entire set of results for each station. Outliers that were actually less than the reportable detection limit (RDL) values were removed from the dataset (not used in statistical analysis or graphs) are shown in the summary tables provided in Appendix B and shaded for ease of reference.

Minto Creek has a number of water quality stations that have been monitored over the years. Seven Minto Creek monitoring stations are the focus of this report: W3, W7, W6, C4, MC1, C10, and W2, which are described in Table 2-1 and shown in Figure 2-1.

Table 2-1: Minto Creek Monitoring Station Locations.

Station	Description / Location
W3	Downstream of Water Storage Pond dam, MMER Final Discharge Point (Flume) – Effluent
W7	North-flowing Tributary to Minto Creek – Reference
W6	South-flowing Tributary to Minto Creek - Reference
C4	North-flowing Tributary to Minto Creek – Reference
MC1	Minto Canyon – Receiving Environment
C10	Northeast-flowing Tributary to Minto Creek – Reference
W2	Lower Minto-Creek at Road Crossing – Receiving Environment





As noted in Table 2-1, station W3—located downstream of the Water Storage Pond dam—is the mine effluent monitoring and compliance point per the Metal Mining Effluent Regulations (MMER). Station W2 is the lowermost Minto Creek receiving environment monitoring location before the confluence with the Yukon River, and is currently subject to Water Licence limits (QZ96-006, Amendment 7, March 2011) during non-freshet periods. Both W2 and W3 have been monitored regularly since 2005. Station MC1 in Minto Canyon serves as a comparison monitoring point between W3 and W2 and began regular monitoring in 2010. The remaining four stations are each situated on a tributary to Minto Creek, serving as reference stations.



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



Datum: NAD 83; Map Projection: UTM Zone 8N

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-  Surface Water Quality Station
-  Current Mine Footprint (August 2012)
-  Minto Creek Catchment
-  Contours (100 ft)

1:35,000 (when printed on 11 x17 inch paper)

0 0.5 1 2 Kilometres

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

MINTO CREEK WATER QUALITY CHARACTERIZATION

FIGURE 2-1
MINTO CREEK MONITORING STATION LOCATIONS

JUNE 2013

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(Last edited by: jindeman; 21/06/2013/10:32 AM)

Station W7 is located on the most upstream and north-flowing tributary and has been monitored most consistently out of the tributary stations since 2005. Station W6 is located on a south-flowing Minto Creek tributary and has also been monitored 2005; however, monitoring results from W6 in 2009 to 2011 are not included in this report. The W6 station location was not consistently communicated to field staff during the 2009 to 2011 period and an undetermined amount of mainstem Minto Creek monitoring results were included with the W6 dataset, rendering results for those years unusable for characterizing water quality. Monitoring of stations C4 and C10 is limited to 2012, when sediment-laden water was observed to be entering Minto Creek via these north- and northeast-flowing tributaries.

For the most part, sampling occurs during the open water season between April and October. Table 2-2 outlines general sample frequency of Minto Creek stations by quarter for 2005 to 2012, although it does not necessarily reflect the number of times a site was visited if conditions were not conducive to sample collection. Table 2-2 provides general sample frequency only since a sample may include several parameters, only one or a few parameters, or results may be split into two samples on the same date.

Table 2-2: Minto Creek Sample Frequency by Quarter, 2005–2012.

	W2	W3	MC1	W7	W6	C4	C10	Samples per Quarter	% of Total Samples
Quarter 1	0	105	0	3	0	0	0	108	7%
Quarter 2	188	223	68	53	5	1	1	539	35%
Quarter 3	245	271	35	41	12	3	4	611	40%
Quarter 4	97	156	7	13	3	0	0	276	18%
Total Samples	530	755	110	110	20	4	5	1534	100%

Minto Creek catchment water quality is divided into three phases:

- Pre-mine operation:
 - January 2005 to March 31, 2006;
- Operational phase with no mine discharge to Minto Creek:
 - April 1, 2006 to August 25, 2008;
 - October 1, 2008 to June 25, 2009;
 - August 7 to August 12, 2009;
 - October 31, 2009 to July 13, 2010;
 - October 28, 2010 to April 15, 2012;
 - May 12 to December 31, 2012.

- Operational phase with mine discharge to Minto Creek:
 - August 26 to September 30, 2008;
 - June 26 to August 6, 2009;
 - August 13 to October 30, 2009;
 - July 14 to October 27, 2010;
 - April 16 to May 11, 2012.

This report focuses mainly on parameters within the Canadian Water Quality Guidelines (CWQG) for the protection of freshwater aquatic life (CCME 1999), as well as those which have associated W2 limits for non-freshet periods within Water License QZ96-006 (Amendment 7, March 31, 2011). Parameters examined include aluminum, arsenic, cadmium, chromium, copper, iron, lead, mercury, molybdenum, nickel, selenium, silver, thallium, zinc, pH, nitrate, nitrite, ammonia, fluoride, and phosphorus (phosphorus analysis as part of metals analysis). Total suspended solids (TSS) and total dissolved solids (TDS) concentrations have also been considered.

The following calculations were conducted for the parameters of interest for the three discrete time intervals (undetected concentrations in water samples were substituted with $\frac{1}{2}$ the RDL (reportable detection limit)):

- Average,
- Minimum,
- Maximum,
- standard deviation,
- Count (number of results for a particular parameter),
- Number of results below detection limit,
- Number of results and % above CWQG, and
- Number of results and % above monitoring station W2's limits

2.1.2 Minto Mine Facilities

Water quality for six monitoring stations around the Minto Mine facilities are also summarized in this report including W8, W8A, W12, W15, W16, and W35A. These stations are described in Table 2-3 and shown in Figure 2-1. Water quality is monitored at many more locations on the Minto site, but these 6 stations are the most critical with respect to decisions regarding the conveyance, storage and treatment of site water.

Stations W8 and W8A are the monitoring locations for the seepage from the Drystack Tailings Storage Facility. These DSTSF seepages have consistently returned the poorest drainage water quality on the Minto Site, and their location on the site downgradient of the critical storage location of the Main Pit makes them of critical concern to site water management.

Station W12 is the monitoring station in the Main Pit. The Main Pit has been used as the reservoir for any site water that could not be directly discharged. Given the water management constraints at the site (effluent and water quality standards) the Main Pit has received a significant influx of site water each year and has carried an inventory of runoff and impacted water each year since 2007. The W12 monitoring results determined ongoing site water treatment requirements and are of constant importance to water managers at the site.

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

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

W35A is a monitoring station at the inlet to the South Diversion Ditch. It receives runoff from the Ridgetop exploration areas, the exploration camp and the airstrip, but the majority of the W35A catchment is undisturbed. The quality of this water determines its potential for direct site discharge, and as such monitoring at this location is of importance to site water managers.

Table 2-3: Minto Mine Monitoring Station Locations.

Station	Description / Location
W8	Drystack Tailings Facility drainage, west
W8A	Drystack Tailings Facility drainage, east
W12	Main Pit
W15	Minto Creek, d/s of Southwest Waste Rock Dump
W16	Water Storage Pond
W35A	Top of South Diversion Ditch

The following calculations were conducted for parameters of interest (undetected concentrations in water samples were substituted with $\frac{1}{2}$ the RDL):

- Average concentration,
- Count (number of results for a particular parameter),
- Minimum concentration,
- Maximum concentration,
- Geometric mean,
- Number of results below detection limit,
- Standard deviation,
- 1st quartile,
- Median, and
- 3rd quartile

2.2 INTERPRETATION OF WATER QUALITY DATA

Minto Creek

The approach to interpreting Minto Creek water quality data involves the following steps to summarize and review monitoring results.

1. Average water quality was compared to the respective CWQG for freshwater aquatic life as well as the W2 (non-freshet) limits to help identify parameters with naturally high concentrations during three discrete time intervals.
2. The number and percentage of individual samples with parameter concentrations exceeding the CWQG and W2 limits were also determined for the three discrete time intervals.
3. Concentrations during mine discharge periods and non-discharge periods were plotted separately over time and examined for trends.
4. Background dataset updated to provide 95th percentile site-specific water quality objectives.

Minto Mine Facilities

Water quality results from monitoring at key site water management locations at the Minto Mine facilities are also summarized in the following ways:

1. Summary statistics provided for parameters of interest.
2. Parameter concentrations plotted over time.

3 CHARACTERIZATION OF WATER QUALITY

3.1 MINTO CREEK WATER QUALITY VERSUS CWQG AND W2 LIMITS

Parameters with CWQGs as well as those which have associated W2 limits (for non-freshet periods) within Water License QZ96-096 (Amendment 7, March 31, 2011) were examined for sample stations W3, W7, W6, C4, MC1, C10, and W2. Comparisons with the CWQG and W2 limits are provided for the three discrete time intervals in Tables 3-1 through 3-7; although not necessarily appropriate, the comparison provides perspective on Minto Creek water quality and guides the following discussion. Water quality at the W3 effluent discharge point or at MC1 further downstream would not be expected to meet W2 limits due to loading from the mine. The CWQG are for the protection of freshwater aquatic life and as noted in the *Aquatic Resources Baseline Report* (ACG & Minnow 2012), fisheries resources have only been observed in lower Minto Creek.

Certain CWQGs are dependent on hardness at the time of sampling including total cadmium, copper, lead, and nickel. The CWQG is determined for these parameters on a sample-by-sample basis and the number and percent exceedances listed in Tables 3-1 through 3-7 reflect these fluctuating CWQGs. Average CWQGs for these parameters have also been calculated for each of the time intervals based on an average hardness, allowing a comparison to be made with the average parameter concentration. For simplicity, only the equation used to determine the CWQG is provided in the following tables, along with minimum and maximum guidelines for copper, lead, and nickel.

Results below RDLs that are higher than the guideline or limit being compared against are also included as an exceedance. This type of exceedance mainly pertains to historic results prior to 2011 when poor (high) RDLs were in effect, mainly for mercury, cadmium, and phosphorus. Outliers that are <RDL have been removed from the results summaries. No outliers can be identified in the small C4 and C10 datasets. Results <RDL that have been removed from the station datasets that are not necessarily considered outliers include poor RDLs used for phosphorus and cadmium analysis. Phosphorus measurements in 2005 to mid-2006 have been removed due to a poor RDL which, even at half the RDL, is misleading to include with the dataset. Similarly, cadmium was measured in 2010 between May 21 and September 23 using a poor (high) RDL (<0.0001 mg/L), such that values are less than this elevated detection limit, and half the RDL is still in exceedance of the CWQG or W2 limit. This portion of misleading cadmium results has therefore been removed. Mercury results have been left as is, since most results are below detection and once the RDL improved and results were still below detection it is clear that mercury is not a parameter of concern.

Historically, a hardness result was not always provided, which has an impact on the CWQGs that are calculated based upon sample hardness including copper, lead, nickel, and cadmium. For copper, lead, and nickel in the absence of a hardness value, a lower limit to the guideline is applied by default; however, with no hardness available for the calculation of the cadmium guideline, an overall average hardness value is used to calculate the CWQG.

Please refer to Appendix B for the 2005–2012 water quality data, with data omitted from calculation of summary statistics shaded for easy reference.

Table 3-1: Minto Creek Monitoring Station W3: Summary of Water Quality Data.

Parameter	Units	CWQG	W2 Water License Non-Freshet Periods Water Quality Limits March 31, 2011 ^e	Averages ^f			Minimum			Maximum			Standard Deviation			Count			Count<DL			Count & %>CWQG			Count & %>WL		
				pre-operation ^a	operation no discharge ^b	operation with discharge ^c	pre-operation	operation no discharge	operation with discharge	pre-operation	operation no discharge	operation with discharge	pre-operation	operation no discharge	operation with discharge	pre-operation	operation no discharge	operation with discharge	pre-operation	operation no discharge	operation with discharge	pre-operation	operation no discharge	operation with discharge	pre-operation	operation no discharge	operation with discharge
Total Metals																											
Aluminum (total)	mg/L	0.1	0.62	0.216	0.172	0.452	0.006	0.0025	0.017	0.732	10.80	16.60	0.248	0.595	1.537	7	464	131	0	4	0	n = 4; 57%	n = 161; 35%	n = 117; 89%	n = 1; 14%	n = 20; 4%	n = 17; 13%
Aluminum (dissolved)	mg/L	-	-	0.017	0.014	0.065	0.003	0.002	0.003	0.027	0.297	0.121	0.009	0.025	0.027	7	406	119	0	123	1	-	-	-	-	-	-
Arsenic (total)	mg/L	0.005	0.005	0.0005	0.0004	0.0005	0.0002	0.00005	0.0001	0.0008	0.0090	0.0062	0.0002	0.0005	0.0006	7	464	131	1	73	28	n = 1; 0.2%	n = 1; 1%	n = 0	n = 1; 0.2%	n = 1; 1%	
Arsenic (dissolved)	mg/L	-	-	0.0003	0.0003	0.0004	0.0002	0.0001	0.0002	0.0004	0.0022	0.0011	0.0001	0.0002	0.0002	7	406	119	3	62	17	-	-	-	-	-	-
Cadmium (total)	mg/L	$10^{(0.86(\log(\text{hardness})-3.2))}$	0.00004	0.000020	0.001085	0.000061	0.000008	0.000003	0.000005	0.000025	0.372000	0.000830	0.000008	0.018394	0.000112	7	412	67	7	198	3	n = 34; 8%	n = 28; 42%	0	n = 46; 11%	n = 25; 37%	
Cadmium (dissolved)	mg/L	-	-	0.000020	0.001822	0.000025	0.000008	0.000005	0.000005	0.000025	0.565000	0.000210	0.000008	0.030118	0.000033	7	354	56	7	177	15	-	-	-	-	-	
Chromium (total)	mg/L	0.001	0.002	0.0006	0.0008	0.0013	0.00025	0.0001	0.0005	0.0020	0.0170	0.0247	0.0006	0.0011	0.0025	7	464	131	5	323	109	n = 1; 14%	n = 49; 11%	n = 19; 14%	0	n = 17; 4%	n = 14; 11%
Chromium (dissolved)	mg/L	-	-	0.0004	0.0007	0.0008	0.00025	0.00005	0.0002	0.0005	0.0098	0.0024	0.0001	0.0006	0.0003	7	406	119	7	289	112	-	-	-	-	-	
Copper (total)	mg/L	$e^{(0.8545(\ln(\text{hardness})-1.465))} \times 0.2$; min = 0.002; max = 0.004	0.013	0.0079	0.0096	0.0270	0.0017	0.0010	0.0020	0.0149	0.2110	0.2590	0.0043	0.0162	0.0451	7	464	131	0	1	0	n = 6; 86%	n = 296; 64%	n = 124; 95%	n = 1; 14%	n = 82; 18%	n = 38; 29%
Copper (dissolved)	mg/L	-	-	0.0047	0.0048	0.0080	0.0016	0.0005	0.0012	0.0066	0.0670	0.0622	0.0017	0.0056	0.0120	7	406	119	0	4	0	-	-	-	-	-	
Iron (total)	mg/L	0.3	1.1	0.532	0.276	0.579	0.015	0.010	0.01	1.32	13.500	26.8	0.454	0.784	2.465	7	460	131	1	16	12	n = 5; 71%	n = 74; 16%	n = 29; 22%	n = 1; 14%	n = 18; 4%	n = 14; 11%
Iron (dissolved)	mg/L	-	-	0.203	0.054	0.044	0.015	0.0025	0.0025	0.421	0.750	0.640	0.167	0.064	0.112	7	406	119	1	35	67	-	-	-	-	-	
Lead (total)	mg/L	$e^{(1.273(\ln(\text{hardness})-4.705))}$; min = 0.001; max = 0.007	0.004	0.00021	0.00026	0.00102	0.000025	0.0000025	0.00010	0.00036	0.03160	0.09350	0.00013	0.00150	0.00817	7	464	131	5	306	92	0	n = 7; 2%	n = 3; 2%	0	n = 1; 0.2%	n = 2; 2%
Lead (dissolved)	mg/L	-	-	0.00015	0.00026	0.00011	0.000025	0.00001	0.00005	0.00025	0.06030	0.00050	0.00012	0.00299	0.00005	7	406	119	6	338	113	-	-	-	-	-	
Mercury (total)	mg/L	0.000026	-	0.000010	0.000029	0.000057	0.000010	0.000005	0.000005	0.000010	0.000205	0.000400	0	0.000033	0.000053	3	394	131	3	368	107	0	n = 131; 33%	n = 72; 55%	-	-	-
Molybdenum (total)	mg/L	0.073	0.073	0.0014	0.0037	0.0142	0.0011	0.0004	0.0042	0.0019	0.0600	0.1020	0.0003	0.0037	0.0088	7	464	131	0	4	0	0	0	n = 1; 1%	0	0	n = 1; 1%
Molybdenum (dissolved)	mg/L	-	-	0.0012	0.0036	0.0146	0.0005	0.0003	0.0042	0.0016	0.0240	0.1030	0.0004	0.0020	0.0090	7	406	119	1	1	0	-	-	-	-	-	
Nickel (total)	mg/L	$e^{(0.76(\ln(\text{hardness})+1.06))}$; min = 0.025; max = 0.15	0.11	0.0015	0.0015	0.0033	0.00025	0.00025	0.0005	0.0026	0.0300	0.1390	0.0007	0.0024	0.0124	7	464	131	1	106	27	0	n = 1; 0.2%	0	0	0	n = 1; 1%
Nickel (dissolved)	mg/L	-	-	0.0011	0.0010	0.0009	0.00025	0.00025	0.0005	0.0014	0.0090	0.0060	0.0004	0.0009	0.0008	7	406	119	1	183	74	-	-	-	-	-	
Selenium (total)	mg/L	0.001	0.001	0.0005	0.0006	0.0031	0.0005	0.0001	0.0003	0.0005	0.0080	0.0324	0	0.0007	0.0030	7	464	131	7	180	12	0	n = 51; 11%	n = 112; 86%	0	n = 51; 11%	n = 112; 86%
Selenium (dissolved)	mg/L	-	-	0.0005	0.0006	0.0035	0.0005	0.0001	0.0003	0.0005	0.0069	0.0348	0	0.0006	0.0032	7	406	119	7	162	1	-	-	-	-	-	
Silver (total)	mg/L	0.0001	-	0.000014	0.000029	0.000035	0.000005	0.0000025	0.000005	0.000029	0.000380	0.000190	0.000010	0.000038	0.000031	7	461	131	5	404	124	0	n = 9; 2%	n = 4; 3%	-	-	-
Thallium (total)	mg/L	0.0008	-	0.000050	0.000025	0.000025	0.000050	0.000001	0.000005	0.000050	0.000090	0.000137	0	0.000012	0.000013	4	461	131	4	451	121	0	0	0	-	-	
Zinc (total)	mg/L	0.03	0.03	0.0021	0.0061	0.0106	0.0005	0.0004	0.0025	0.0035	0.1000	0.1680	0.0010	0.0087	0.0198	7	464	131	6	220	82	0	n = 11; 2%	n = 8; 6%	0	n = 11; 2%	n = 8; 6%
Zinc (dissolved)	mg/L	-	-	0.0045	0.0043	0.0070	0.0015	0.0005	0.0005	0.0116	0.0910	0.1430	0.0040	0.0068	0.0159	7	406	119	3	221	102	-	-	-	-	-	
Non-Metallic Parameters																											
Ammonia - N (total)	mg/L	0.239 ^d	0.35	0.025	0.033	0.151	0.010	0.001	0.0025	0.070	0.380	0.620	0.023	0.044	0.106	7	371	123	4	132	4	0	n = 6; 2%	n = 25; 20%	0	n = 1; 0.3%	n = 6; 5%
Fluoride	mg/L	0.12	-	-	0.43	0.39	-	0.06	0.18	-	4.71	0.52	-	0.32	0.07	-	247	107	-	0	0	-	n = 242; 98%	n = 107; 100%	-	-	-
Nitrite (as N)	mg/L	0.06	0.06	0.0005	0.0208	0.1044	0.0005	0.0005	0.0025	0.0005	4.04	0.347	0	0.2106	0.0588	7	371	130	7	272	7	0	n = 12; 3%	n = 105; 81%	0	n = 12; 3%	n = 105; 81%
Nitrate (as N)	mg/L	3 (long term exposure)	2.9	0.257	2.745	8.630	0.0025	0.0025	0.040	1.650	289.0	18.700	0.615	14.322	4.850	7	415	131	1	40	0	0	n = 101; 24%	n = 107; 82%	0	n = 106; 26%	n = 107; 82%
pH (field)	pH units	6.5-9.0	6.0-9.0	-	7.63	7.99	-	6.02	7.3	-	8.89	8.96	-	0.47	0.19	-	263	212	-	-	-	-	n = 4; 2%	0	-	0	0
pH (lab)	pH units	6.5-9.0	6.0-9.0	7.98	8.04	8.05	7.31	7.09	7.6	8.24	8.60	8.3	0.31	0.24	0.11	7	448	209	-	0	0	0	0	0	0	0	
Phosphorus (total)	mg/L	-	0.02	-	0.029	0.089	-	0.005	0.018	-	0.25	0.71	-	0.032	0.14	-	249	23	-	128	2	-	-	-	n = 136; 55%	n = 20; 87%	
Phosphorus (dissolved)	mg/L	-	-	-	0.011	0.011	-	0.005	0.005	-	0.16	0.02	-	0.016	0.006	-	186	12	-	131	4	-	-	-	-	-	
Total Suspended Solids	mg/L	-	-	7.7	6.6	10.1	1.5	0.5	0.5	25.7	460	985	8.6	24.6	67.9	7	447	214	3	217	114	-	-	-	-	-	
Total Dissolved Solids	mg/L	-	-	196	329	318	141	100	128	279	2900	510	44	170.8	62	7	439	210	0	0	0	-	-	-	-	-	

^a Pre-operation data from between January 1, 2005 and March 31, 2006.
^b Operation no discharge data from April 1, 2006 to August 25, 2008; October 1, 2008 to June 25, 2009; August 7, 2009 to August 12, 2009; October 31, 2009 to July 13, 2010; October 28, 2010 to April 15, 2012; May 12, 2012 to December 31, 2012.
^c Operation discharge data from August 26, 2008 to September 30, 2008; June 26, 2009 to August 6, 2009; August 13, 2009 to October 30, 2009; July 14, 2010 to October 27, 2010; April 16, 2012 to May 11, 2012.
^d Conservative ammonia guideline based on pH and temperature not exceeding 8.5 and 15°C respectively.
^e Results compared against W2 Water License QZ09-092 (Amendment 7) Non-Freshet Periods Water Quality Limits includes values from the freshet period (April and May).
^f Averages >CWQG in italics; averages >W2 limits highlighted in yellow.

Between 5 and 25% of individual samples (and / or detection limits) are > applicable guideline / limit.
 Between 25 and 50% of individual samples (and / or detection limits) are > applicable guideline / limit.
 >50% of individual samples (and / or detection limits) are > applicable guideline / limit.

Table 3-2: Minto Creek Monitoring Station W7: Summary of Water Quality Data.

Parameter	Units	CWQG	W2 Water License Non-Freshet Periods Water Quality Limits March 31, 2011 ^a	Averages ^f			Minimum			Maximum			Standard Deviation			Count			Count<DL			Count & %>CWQG			Count & %>WL		
				pre-operation ^a	operation no discharge ^b	operation with discharge ^c	pre-operation	operation no discharge	operation with discharge	pre-operation	operation no discharge	operation with discharge	pre-operation	operation no discharge	operation with discharge	pre-operation	operation no discharge	operation with discharge	pre-operation	operation no discharge	operation with discharge	pre-operation	operation no discharge	operation with discharge	pre-operation	operation no discharge	operation with discharge
Metals																											
Aluminum (total)	mg/L	0.1	0.62	0.486	1.146	0.248	0.044	0.010	0.052	1.650	11.400	0.766	0.605	2.197	0.234	6	85	9	0	1	0	n = 4; 67%	n = 61; 72%	n = 6; 67%	n = 1; 17%	n = 24; 28%	n = 1; 11%
Aluminum (dissolved)	mg/L	-	-	0.015	0.026	0.027	0.009	0.0025	0.007	0.024	0.407	0.070	0.006	0.047	0.024	6	82	8	0	7	0	-	-	-	-	-	-
Arsenic (total)	mg/L	0.005	0.005	0.0007	0.0009	0.0005	0.0005	0.0001	0.0002	0.0015	0.0060	0.0007	0.0004	0.00098	0.00016	6	85	9	0	4	0	0	n = 1; 1%	0	0	n = 1; 1%	0
Arsenic (dissolved)	mg/L	-	-	0.0004	0.0004	0.0004	0.00025	0.0001	0.0003	0.0005	0.0010	0.0005	0.0001	0.0002	0.00007	6	82	8	1	17	0	-	-	-	-	-	-
Cadmium (total)	mg/L	$10^{(0.8545 \ln(\text{hardness}) - 3.2)}$	0.00004	0.000028	0.000038	0.000146	0.000008	0.000005	0.000005	0.000061	0.000250	0.0000910	0.000017	0.000051	0.000337	6	67	7	5	25	1	n = 1; 17%	n = 19; 28%	n = 2; 29%	n = 1; 17%	n = 16; 24%	n = 1; 14%
Cadmium (dissolved)	mg/L	-	-	0.00010	0.00017	0.00016	0.00008	0.00005	0.00005	0.000025	0.000280	0.000040	0.00009	0.000037	0.000014	6	64	6	6	45	3	-	-	-	-	-	-
Chromium (total)	mg/L	0.001	0.002	0.0014	0.0028	0.0011	0.0005	0.0003	0.0005	0.0037	0.0250	0.0022	0.0012	0.0049	0.0006	6	85	9	1	38	5	n = 3; 50%	n = 30; 35%	n = 3; 33%	n = 1; 17%	n = 23; 27%	n = 1; 11%
Chromium (dissolved)	mg/L	-	-	0.0004	0.0007	0.0009	0.00025	0.0002	0.0005	0.0005	0.0016	0.0016	0.0001	0.0003	0.0004	6	82	8	6	60	6	-	-	-	-	-	-
Copper (total)	mg/L	$e^{(0.8545 \ln(\text{hardness}) - 1.465)}$, 0.2; min = 0.002; max = 0.004	0.013	0.0040	0.0058	0.0033	0.0015	0.0005	0.0010	0.0101	0.0285	0.0064	0.0035	0.0058	0.0018	6	85	9	0	6	0	n = 3; 50%	n = 53; 62%	n = 6; 67%	0	n = 7; 8%	0
Copper (dissolved)	mg/L	-	-	0.0019	0.0020	0.0027	0.0012	0.0005	0.0010	0.0040	0.0154	0.0052	0.0011	0.0020	0.0016	6	82	8	0	7	0	-	-	-	-	-	-
Iron (total)	mg/L	0.3	1.1	1.030	1.873	0.523	0.358	0.043	0.126	3.42	17.200	1.32	1.194	3.267	0.388	6	85	9	0	4	0	n = 6; 100%	n = 56; 66%	n = 6; 67%	n = 1; 17%	n = 30; 35%	n = 1; 11%
Iron (dissolved)	mg/L	-	-	0.196	0.206	0.219	0.07	0.010	0.046	0.32	1.060	0.475	0.105	0.253	0.164	6	82	8	0	1	0	-	-	-	-	-	-
Lead (total)	mg/L	$e^{(1.273 \ln(\text{hardness}) - 4.705)}$; min = 0.001; max = 0.007	0.004	0.00035	0.00065	0.00033	0.00006	0.00005	0.00010	0.00110	0.00547	0.00150	0.00038	0.00106	0.00045	6	85	9	2	30	5	0	n = 4; 5%	n = 1; 11%	0	n = 2; 2%	0
Lead (dissolved)	mg/L	-	-	0.00014	0.00097	0.00034	0.00003	0.00005	0.00010	0.00025	0.00050	0.00170	0.00012	0.00006	0.00056	6	82	8	6	75	6	-	-	-	-	-	-
Mercury (total)	mg/L	0.00026	-	0.000010	0.000034	0.000030	0.000010	0.000005	0.000005	0.000010	0.000100	0.000100	0	0.000039	0.000043	3	64	8	3	63	8	0	n = 2; 33%	n = 2; 25%	-	-	-
Molybdenum (total)	mg/L	0.073	-	0.0010	0.0011	0.0010	0.0005	0.0002	0.0005	0.0012	0.0020	0.0020	0.0003	0.0005	0.0005	6	85	9	1	19	3	0	0	0	0	0	0
Molybdenum (dissolved)	mg/L	-	-	0.0009	0.0011	0.0009	0.0005	0.0001	0.0005	0.0013	0.0020	0.0011	0.0003	0.0005	0.0002	6	82	8	2	20	2	-	-	-	-	-	-
Nickel (total)	mg/L	$e^{(0.76 \ln(\text{hardness}) - 1.06)}$; min = 0.025; max = 0.15	0.11	0.0027	0.0039	0.0018	0.0014	0.00025	0.0010	0.0068	0.0300	0.0030	0.0021	0.0054	0.0006	6	85	9	0	8	0	0	n = 1; 1%	0	0	0	0
Nickel (dissolved)	mg/L	-	-	0.0014	0.0012	0.0011	0.0009	0.0003	0.0005	0.0018	0.0040	0.0020	0.0004	0.0007	0.0004	6	82	8	0	22	1	-	-	-	-	-	-
Selenium (total)	mg/L	0.001	0.001	0.0005	0.0003	0.0003	0.0005	0.00005	0.00005	0.0005	0.0008	0.0008	0	0.00016	0.0002	6	85	9	6	43	6	0	0	0	0	0	0
Selenium (dissolved)	mg/L	-	-	0.0005	0.0002	0.0002	0.0005	0.00005	0.00005	0.0005	0.0022	0.0004	0	0.00026	0.00015	6	82	8	6	48	6	-	-	-	-	-	-
Silver (total)	mg/L	0.0001	-	0.000008	0.000039	0.000025	0.000005	0.000005	0.000005	0.000010	0.000300	0.000060	0.000003	0.000041	0.000022	6	85	9	6	77	7	0	n = 2; 2%	0	-	-	-
Thallium (total)	mg/L	0.0008	-	0.000080	0.000029	0.000018	0.000050	0.000005	0.000005	0.000100	0.000170	0.000025	0.000030	0.00020	0.000010	6	85	9	6	78	9	0	0	0	-	-	-
Zinc (total)	mg/L	0.03	0.03	0.0034	0.0077	0.0044	0.0010	0.0005	0.0025	0.0101	0.0490	0.0090	0.0033	0.0088	0.0025	6	85	9	4	36	6	0	n = 2; 2%	0	0	n = 2; 2%	0
Zinc (dissolved)	mg/L	-	-	0.0027	0.0032	0.0030	0.0005	0.0005	0.0010	0.0064	0.0100	0.0050	0.0020	0.0019	0.0014	6	82	8	4	58	6	-	-	-	-	-	-
Non-Metallic Parameters																											
Ammonia - N (total)	mg/L	0.239 ^d	0.35	0.013	0.0323	0.0261	0.010	0.0025	0.0025	0.021	0.340	0.069	0.005	0.046	0.025	6	77	6	4	15	2	0	n = 1; 1%	0	0	0	0
Fluoride	mg/L	0.12	-	-	0.24	0.21	-	0.08	0.10	-	0.43	0.36	-	0.096	0.10	-	48	5	-	0	0	-	n = 41; 85%	n = 3; 60%	-	-	-
Nitrite (as N)	mg/L	0.06	-	0.0009	0.0112	0.0042	0.0005	0.0015	0.0025	0.0018	0.14	0.0101	0.0006	0.0208	0.0031	6	63	6	4	44	5	0	n = 2; 3%	0	0	n = 2; 3%	0
Nitrate (as N)	mg/L	3 (long term exposure)	2.9	0.101	0.111	0.075	0.023	0.010	0.010	0.172	0.324	0.180	0.060	0.074	0.067	6	80	8	0	11	2	0	0	0	0	0	0
pH (field)	pH units	6.5-9.0	6.0-9.0	-	7.65	7.81	-	6.72	7.1	-	8.44	8.24	-	0.37	0.39	-	41	9	-	-	-	0	0	0	0	0	0
pH (lab)	pH units	6.5-9.0	6.0-9.0	7.66	7.95	7.78	6.75	6.84	5.74	8.19	8.4	8.35	0.57	0.27	0.74	6	84	10	-	-	-	0	0	n = 1; 10%	0	0	n = 1; 10%
Phosphorus (total)	mg/L	-	0.02	-	0.083	0.032	-	0.012	0.011	-	0.77	0.048	-	0.134	0.014	-	42	5	-	4	1	-	-	-	-	n = 38; 90%	n = 4; 80%
Phosphorus (dissolved)	mg/L	-	-	-	0.020	0.025	-	0.005	0.02	0.02	0.06	0.03	-	0.013	0.005	-	37	4	-	9	0	-	-	-	-	-	-
Total Suspended Solids	mg/L	-	-	72.6	52	8.3	3	0.5	2	361	705	28	141.6	111.5	7.9	6	82	10	0	17	1	-	-	-	-	-	-
Total Dissolved Solids	mg/L	-	-	150	145	158	116	40	88	197	264	210	26	44	41	6	75	10	0	0	0	-	-	-	-	-	-

^a Pre-operation data from between May 27, 2005 and October 15, 2005.
^b Operation no discharge data from April 8, 2006 to August 25, 2008; October 1, 2008 to June 25, 2009; August 7, 2009 to August 12, 2009; October 31, 2009 to July 13, 2010; October 28, 2010 to April 15, 2012; May 12, 2012 to December 31, 2012.
^c Operation discharge data from August 26, 2008 to September 30, 2008; June 26, 2009 to August 6, 2009; August 13, 2009 to October 30, 2009; July 14, 2010 to October 27, 2010; April 16, 2012 to May 11, 2012.
^d Conservative ammonia guideline based on pH and temperature not exceeding 8.5 and 15°C respectively.
^e Results compared against W2 Water License Q209-092 (Amendment 7) Non-Freshet Periods Water Quality Limits includes values from the freshet period (April and May).
^f Averages >CWQG in italics; averages >W2 limits highlighted in yellow.

Between 5 and 25% of individual samples (and / or detection limits) are > applicable guideline / limit.
 Between 25 and 50% of individual samples (and / or detection limits) are > applicable guideline / limit.
 >50% of individual samples (and / or detection limits) are > applicable guideline / limit.

Table 3-4: Minto Creek Monitoring Station C4: Summary of Water Quality Data.

Parameter	Units	CWQG	W2 Water License Non-Freshet Periods Water Quality Limits March 31, 2011 ^b	Averages ^c		Minimum		Maximum		Standard Deviation		Count		Count<DL		Count & %>CWQG		Count & %>WL	
				operation no discharge (August 2012)	operation with discharge (May 6, 2012)	operation no discharge (August 2012)	operation with discharge (May 6, 2012)	operation no discharge (August 2012)	operation with discharge (May 6, 2012)	operation no discharge (August 2012)	operation with discharge (May 6, 2012)	operation no discharge (August 2012)	operation with discharge (May 6, 2012)	operation no discharge (August 2012)	operation with discharge (May 6, 2012)	operation no discharge (August 2012)	operation with discharge (May 6, 2012)	operation no discharge (August 2012)	operation with discharge (May 6, 2012)
Metals																			
Aluminum (total)	mg/L	0.1	0.62	6.170	29.70	4.450	29.70	7.060	29.70	1.490	0	3	1	0	0	n = 3; 100%	n = 1; 100%	n = 3; 100%	n = 1; 100%
Aluminum (dissolved)	mg/L	-	-	0.047	0.062	0.040	0.062	0.059	0.062	0.010	0	3	1	0	0	-	-	-	-
Arsenic (total)	mg/L	0.005	0.005	0.0063	0.0125	0.0050	0.0125	0.0076	0.0125	0.0013	0	3	1	0	0	n = 2; 67%	n = 1; 100%	n = 2; 67%	n = 1; 100%
Arsenic (dissolved)	mg/L	-	-	0.0020	0.0010	0.0020	0.0010	0.0018	0.0010	0.0020	0	3	1	0	0	-	-	-	-
Cadmium (total)	mg/L	$10^{(0.86[\ln(\text{hardness})]-3.2)}$	0.00004	0.00014	0.00042	0.000107	0.000416	0.000202	0.000416	0.000053	0	3	1	0	0	n = 3; 100%	n = 1; 100%	n = 3; 100%	n = 1; 100%
Cadmium (dissolved)	mg/L	-	-	0.000005	0.00003	0.000005	0.000029	0.000005	0.000029	0	0	3	1	3	0	-	-	-	-
Chromium (total)	mg/L	0.001	0.002	0.0121	0.0600	0.0079	0.0600	0.0148	0.0600	0.0037	0	3	1	0	0	n = 3; 100%	n = 1; 100%	n = 3; 100%	n = 1; 100%
Chromium (dissolved)	mg/L	-	-	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0	0	3	1	3	1	-	-	-	-
Copper (total)	mg/L	$e^{(0.8545[\ln(\text{hardness})]-1.465)} \cdot 0.2$; min = 0.002; max = 0.004	0.013	0.0178	0.0585	0.0150	0.0585	0.0218	0.0585	0.0035	0	3	1	0	0	n = 3; 100%	n = 1; 100%	n = 3; 100%	n = 1; 100%
Copper (dissolved)	mg/L	-	-	0.0016	0.0031	0.0013	0.0031	0.0018	0.0031	0.00027	0	3	1	0	0	-	-	-	-
Iron (total)	mg/L	0.3	1.1	16.100	45.800	13.90	45.8	18.20	45.8	2.20	0	3	1	0	0	n = 3; 100%	n = 1; 100%	n = 3; 100%	n = 1; 100%
Iron (dissolved)	mg/L	-	-	1.590	1.110	1.50	1.110	1.680	1.110	0.090	0	3	1	0	0	-	-	-	-
Lead (total)	mg/L	$e^{(1.273[\ln(\text{hardness})]-4.705)}$; min = 0.001; max = 0.007	0.004	0.00371	0.01260	0.00303	0.01260	0.00439	0.01260	0.00068	0	3	1	0	0	0	n = 1; 100%	n = 1; 33%	n = 1; 100%
Lead (dissolved)	mg/L	-	-	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0	0	3	1	3	1	-	-	-	-
Mercury (total)	mg/L	0.000026	-	0.000005	0.000005	0.000005	0.000005	0.000005	0.000005	0	0	3	1	3	1	0	0	-	-
Molybdenum (total)	mg/L	0.073	0.073	0.0007	0.0015	0.0005	0.0015	0.0010	0.0015	0.0003	0	3	1	2	0	0	0	0	0
Molybdenum (dissolved)	mg/L	-	-	0.0011	0.0005	0.0011	0.0005	0.0012	0.0005	0.0001	0	3	1	0	1	-	-	-	-
Nickel (total)	mg/L	$e^{(0.76[\ln(\text{hardness})+1.06]}$; min = 0.025; max = 0.15	0.11	0.0156	0.0498	0.0139	0.0498	0.0179	0.0498	0.0021	0	3	1	0	0	0	0	0	0
Nickel (dissolved)	mg/L	-	-	0.0029	0.0023	0.0027	0.0023	0.0031	0.0023	0.0002	0	3	1	0	0	-	-	-	-
Selenium (total)	mg/L	0.001	0.001	0.00019	0.00069	0.00016	0.0007	0.00021	0.0007	0.00003	0	3	1	0	0	0	0	0	0
Selenium (dissolved)	mg/L	-	-	0.00009	0.00005	0.00005	0.0001	0.00011	0.0001	0.00003	0	3	1	1	1	-	-	-	-
Silver (total)	mg/L	0.0001	-	0.000042	0.000210	0.000020	0.000210	0.000056	0.000210	0.000020	0	3	1	0	0	0	n = 1; 100%	-	-
Thallium (total)	mg/L	0.0008	-	0.000051	0.000244	0.000025	0.000244	0.000066	0.000244	0.000023	0	3	1	1	0	0	0	0	0
Zinc (total)	mg/L	0.03	0.03	0.029	0.096	0.0272	0.0961	0.0325	0.0961	0.0029	0	3	1	0	0	n = 1; 33%	n = 1; 100%	n = 1; 33%	n = 1; 100%
Zinc (dissolved)	mg/L	-	-	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0	0	3	1	3	1	-	-	-	-
Non-Metallic Parameters																			
Ammonia - N (total)	mg/L	0.239 ^a	0.35	0.061	0.088	0.005	0.088	0.090	0.088	0.049	0	3	1	0	0	0	0	0	0
Fluoride	mg/L	0.12	-	0.21	0.14	0.20	0.14	0.22	0.14	0.01	0	3	1	0	0	n = 3; 100%	n = 1; 100%	-	-
Nitrite (as N)	mg/L	0.06	0.06	0.0107	0.0025	0.0025	0.0025	0.0177	0.0025	0.0077	0	3	1	1	1	0	0	0	0
Nitrate (as N)	mg/L	3 (long term exposure)	2.9	0.060	0.029	0.010	0.029	0.095	0.029	0.044	0	3	1	1	0	0	0	0	0
pH (field)	pH units	6.5-9.0	6.0-9.0	7.79	7.51	7.75	7.51	7.81	7.51	0.03	0	3	1	-	-	0	0	0	0
pH (lab)	pH units	6.5-9.0	6.0-9.0	8.04	7.59	7.94	7.59	8.14	7.59	0.10	0	3	1	-	-	0	0	0	0
Phosphorus (total)	mg/L	-	0.02	0.515	1.110	0.41	1.11	0.657	1.11	0.128	0	3	1	0	0	-	-	n = 3; 100%	n = 1; 100%
Phosphorus (dissolved)	mg/L	-	-	0.052	0.037	0.047	0.037	0.06	0.037	0.007	0	3	1	0	0	-	-	-	-
Total Suspended Solids	mg/L	-	-	451	1260	246	1260	855	1260	350	0	3	1	0	0	-	-	-	-
Total Dissolved Solids	mg/L	-	-	176	84	166	84	192	84	14	0	3	1	0	0	-	-	-	-

^a Conservative ammonia guideline based on pH and temperature not exceeding 8.5 and 15°C respectively.

^b Results compared against W2 Water License QZ09-092 (Amendment 7) Non-Freshet Periods Water Quality Limits includes values from the freshet period (April and May).

^c Averages >CWQG in italics; averages >W2 limits highlighted in yellow.

Between 25 and 50% of individual samples (and / or detection limits) are > applicable guideline / limit.

>50% of individual samples (and / or detection limits) are > applicable guideline / limit.

Table 3-5: Minto Creek Monitoring Station MC-1: Summary of Water Quality Data.

Parameter	Units	CWQG	W2 Water License Non-Freshet Periods Water Quality Limits March 31, 2011 ^d	Averages ^e		Minimum		Maximum		Standard Deviation		Count		Count<DL		Count & %>CWQG		Count & %>WL	
				operation no discharge ^a	operation with discharge ^b	operation no discharge	operation with discharge	operation no discharge	operation with discharge	operation no discharge	operation with discharge	operation no discharge	operation with discharge	operation no discharge	operation with discharge	operation no discharge	operation with discharge	operation no discharge	operation with discharge
Metals																			
Aluminum (total)	mg/L	0.1	0.62	1.424	0.439	0.010	0.023	14.90	2.040	2.917	0.559	80	15	0	0	n = 54; 68%	n = 13; 87%	n = 32; 40%	n = 2; 13%
Aluminum (dissolved)	mg/L	-	-	0.020	0.024	0.004	0.008	0.070	0.039	0.014	0.008	78	15	14	0	-	-	-	-
Arsenic (total)	mg/L	0.005	0.005	0.0013	0.0007	0.0002	0.0002	0.0073	0.0013	0.0013	0.0003	80	15	4	0	n = 2; 3%	0	n = 2; 3%	0
Arsenic (dissolved)	mg/L	-	-	0.0006	0.0005	0.0002	0.0004	0.0010	0.0007	0.0002	0.00008	78	15	4	0	-	-	-	-
Cadmium (total)	mg/L	$10^{(0.86[\log(\text{hardness}]-3.2)}$	0.00004	0.000061	0.000027	0.000005	0.000005	58.0	0.000043	0.000084	0.000015	58	6	7	1	n = 26; 45%	n = 3; 50%	n = 23; 40%	n = 2; 33%
Cadmium (dissolved)	mg/L	-	-	0.000013	0.000016	0.000005	0.000005	0.000060	0.000023	0.000012	0.000007	56	6	23	1	-	-	-	-
Chromium (total)	mg/L	0.001	0.002	0.0032	0.0012	0.0005	0.0005	0.0330	0.0037	0.0058	0.0009	80	15	41	13	n = 32; 40%	n = 2; 13%	n = 22; 28%	n = 2; 13%
Chromium (dissolved)	mg/L	-	-	0.0006	0.0008	0.0002	0.0005	0.0010	0.0010	0.0002	0.0003	78	15	78	15	-	-	-	-
Copper (total)	mg/L	$e^{(0.8545[\ln(\text{hardness}]-1.465)} + 0.2$, min = 0.002; max = 0.004	0.013	0.0072	0.0054	0.0015	0.0030	0.0417	0.0124	0.0077	0.0025	80	15	0	0	n = 54; 68%	n = 13; 87%	n = 9; 11%	0
Copper (dissolved)	mg/L	-	-	0.0024	0.0031	0.0010	0.0019	0.0056	0.0069	0.0010	0.0018	78	15	0	0	-	-	-	-
Iron (total)	mg/L	0.3	1.1	2.589	0.819	0.062	0.101	23.90	3.37	4.620	0.902	80	15	0	0	n = 57; 71%	n = 13; 87%	n = 37; 46%	n = 2; 13%
Iron (dissolved)	mg/L	-	-	0.335	0.145	0.024	0.056	1.110	0.389	0.275	0.106	78	15	0	0	-	-	-	-
Lead (total)	mg/L	$e^{(1.273[\ln(\text{hardness}]-4.705)}$, min = 0.001; max = 0.007	0.004	0.00071	0.00022	0.00010	0.00010	0.00650	0.00084	0.00124	0.00023	80	15	33	10	n = 4; 5%	0	n = 4; 5%	0
Lead (dissolved)	mg/L	-	-	0.00011	0.00010	0.00010	0.00010	0.00048	0.00010	0.00004	0	78	15	76	15	-	-	-	-
Mercury (total)	mg/L	0.000026	-	0.000032	0.000064	0.000005	0.000005	0.000100	0.000100	0.000039	0.000046	79	15	73	14	n = 22; 28%	n = 10; 67%	-	-
Molybdenum (total)	mg/L	0.073	0.073	0.0013	0.0050	0.0004	0.0005	0.0030	0.0090	0.0006	0.0030	80	15	16	1	0	0	0	0
Molybdenum (dissolved)	mg/L	-	-	0.0013	0.0051	0.0003	0.0005	0.0040	0.0080	0.0006	0.0031	78	15	16	2	-	-	-	-
Nickel (total)	mg/L	$e^{(0.76[\ln(\text{hardness}]-1.06)}$, min = 0.025; max = 0.15	0.11	0.0041	0.0025	0.0005	0.0005	0.0330	0.0060	0.0056	0.0015	80	15	8	1	0	0	0	0
Nickel (dissolved)	mg/L	-	-	0.0014	0.0010	0.0005	0.0005	0.0040	0.0014	0.0006	0.0002	78	15	15	2	-	-	-	-
Selenium (total)	mg/L	0.001	0.001	0.0003	0.0012	0.0001	0.0001	0.0007	0.0022	0.0001	0.0008	80	15	27	1	0	n = 8; 53%	0	n = 8; 53%
Selenium (dissolved)	mg/L	-	-	0.0002	0.0012	0.00005	0.0002	0.0007	0.0022	0.0001	0.0008	78	15	31	0	-	-	-	-
Silver (total)	mg/L	0.0001	-	0.000028	0.000035	0.000005	0.000010	0.000110	0.000050	0.000023	0.000019	80	15	66	14	n = 1; 1%	0	-	-
Thallium (total)	mg/L	0.0008	-	0.00003	0.000025	0.000005	0.000025	0.000130	0.000025	0.000020	0	80	15	73	15	0	0	-	-
Zinc (total)	mg/L	0.03	0.03	0.0078	0.0044	0.0020	0.0025	0.0560	0.0088	0.0101	0.0017	80	15	52	14	n = 5; 6%	0	n = 5; 6%	0
Zinc (dissolved)	mg/L	-	-	0.0035	0.0040	0.0005	0.0025	0.0120	0.0050	0.0017	0.0013	78	15	74	15	-	-	-	-
Non-Metallic Parameters																			
Ammonia - N (total)	mg/L	0.239 ^f	0.35	0.036	0.040	0.0025	0.0025	0.230	0.200	0.037	0.053	76	14	9	2	0	0	0	0
Fluoride	mg/L	0.12	-	0.29	0.30	0.11	0.15	0.50	0.39	0.08	0.08	65	13	0	0	n = 61; 94%	n = 13; 100%	-	-
Nitrite (as N)	mg/L	0.06	0.06	0.0051	0.0117	0.0025	0.0025	0.026	0.032	0.0056	0.0079	79	15	60	4	0	0	0	0
Nitrate (as N)	mg/L	3 (long term exposure)	2.9	0.181	3.607	0.010	0.010	2.250	7.300	0.274	2.618	79	15	13	1	0	n = 9; 60%	0	n = 9; 60%
pH (field)	pH units	6.5-9.0	6.0-9.0	7.83	7.82	7.28	7.31	8.6	8.27	0.26	0.27	59	29	-	-	0	0	0	0
pH (lab)	pH units	6.5-9.0	6.0-9.0	8.11	8.1	7.5	7.78	8.4	8.26	0.17	0.15	80	15	-	-	0	0	0	0
Phosphorus (total)	mg/L	-	0.02	0.122	0.068	0.019	0.05	0.769	0.099	0.164	0.023	51	4	0	0	-	-	n = 49; 96%	n = 4; 100%
Phosphorus (dissolved)	mg/L	-	-	0.022	0.034	0.005	0.024	0.04	0.053	0.007	0.013	49	4	2	0	-	-	-	-
Total Suspended Solids	mg/L	-	-	67.3	19.7	0.5	1.4	660	55.8	137.2	16.8	80	15	10	0	-	-	-	-
Total Dissolved Solids	mg/L	-	-	170	224	56	106	300	290	39	63	80	15	0	0	-	-	-	-

^a Operation no discharge data from April 8, 2006 to August 25, 2008; October 1, 2008 to June 25, 2009; August 7, 2009 to August 12, 2009; October 31, 2009 to July 13, 2010; October 28, 2010 to April 15, 2012; May 12, 2012 to December 31, 2012.

^b Operation discharge data from August 26, 2008 to September 30, 2008; June 26, 2009 to August 6, 2009; August 13, 2009 to October 30, 2009; July 14, 2010 to October 27, 2010; April 16, 2012 to May 11, 2012.

^c Conservative ammonia guideline based on pH and temperature not exceeding 8.5 and 15°C respectively.

^d Results compared against W2 Water License QZ09-092 (Amendment 7) Non-Freshet Periods Water Quality Limits includes values from the freshet period (April and May).

^e Averages >CWQG in italics; averages >W2 limits highlighted in yellow.

	Between 5 and 25% of individual samples (and / or detection limits) are > applicable guideline / limit.
	Between 25 and 50% of individual samples (and / or detection limits) are > applicable guideline / limit.
	>50% of individual samples (and / or detection limits) are > applicable guideline / limit.

Table 3-6: Minto Creek Monitoring Station C10: Summary of Water Quality Data.

Parameter	Units	CWQG	W2 Water License Non-Freshet Periods Water Quality Limits March 31, 2011 ^b	Averages ^c	Minimum	Maximum	Standard Deviation	Count	Count<DL	Count & %>CWQG	Count & %>WL
				operation no discharge (May 12 - August 27, 2012)							
Metals											
Aluminum (total)	mg/L	0.1	0.62	26.70	21.10	39.60	8.80	4	0	n = 4; 100%	n = 4; 100%
Aluminum (dissolved)	mg/L	-	-	0.048	0.026	0.058	0.015	4	0	-	-
Arsenic (total)	mg/L	0.005	0.005	0.0153	0.0123	0.0208	0.0040	4	0	n = 4; 100%	n = 4; 100%
Arsenic (dissolved)	mg/L	-	-	0.0014	0.0012	0.0015	0.0001	4	0	-	-
Cadmium (total)	mg/L	$10^{(0.86[\ln(\text{hardness}]-3.2)}$	0.00004	0.000590	0.000365	0.000982	0.000270	4	0	n = 4; 100%	n = 4; 100%
Cadmium (dissolved)	mg/L	-	-	0.000008	0.000005	0.000018	0.000007	4	3	-	-
Chromium (total)	mg/L	0.001	0.002	0.0499	0.0378	0.0779	0.019	4	0	n = 4; 100%	n = 4; 100%
Chromium (dissolved)	mg/L	-	-	0.0005	0.0005	0.0005	0	4	4	-	-
Copper (total)	mg/L	$e^{(0.8545[\ln(\text{hardness}]-1.465)*0.2}$; min = 0.002; max = 0.004	0.013	0.0687	0.0527	0.1	0.0213	4	0	n = 4; 100%	n = 4; 100%
Copper (dissolved)	mg/L	-	-	0.0019	0.0015	0.0021	0.00028	4	0	-	-
Iron (total)	mg/L	0.3	1.1	48.80	37.50	73.20	16.60	4	0	n = 4; 100%	n = 4; 100%
Iron (dissolved)	mg/L	-	-	1.146	0.883	1.550	0.291	4	0	-	-
Lead (total)	mg/L	$e^{(1.273[\ln(\text{hardness}]-4.705)}$; min = 0.001; max = 0.007	0.004	0.01421	0.00995	0.02140	0.00497	4	0	n = 4; 100%	n = 4; 100%
Lead (dissolved)	mg/L	-	-	0.00028	0.00010	0.00067	0.00027	4	2	-	-
Mercury (total)	mg/L	0.000026	-	0.000019	0.000005	0.000062	0.000029	4	3	n = 1; 25%	-
Molybdenum (total)	mg/L	0.073	0.073	0.0020	0.0017	0.0023	0.0003	4	0	0	0
Molybdenum (dissolved)	mg/L	-	-	0.0012	0.0005	0.0019	0.0006	4	1	-	-
Nickel (total)	mg/L	$e^{(0.76[\ln(\text{hardness}]+1.06)}$; min = 0.025; max = 0.15	0.11	0.0535	0.041	0.074	0.0144	4	0	0	0
Nickel (dissolved)	mg/L	-	-	0.0022	0.0019	0.0023	0.0002	4	0	-	-
Selenium (total)	mg/L	0.001	0.001	0.0008	0.0006	0.0012	0.00025	4	0	n = 1; 25%	n = 1; 25%
Selenium (dissolved)	mg/L	-	-	0.00011	0.00010	0.00014	0.00002	4	0	-	-
Silver (total)	mg/L	0.0001	-	0.000235	0.000187	0.000337	0.000069	4	0	n = 4; 100%	-
Thallium (total)	mg/L	0.0008	-	0.000254	0.000202	0.000369	0.000079	4	0	0	-
Zinc (total)	mg/L	0.03	0.03	0.1264	0.0956	0.186	0.0409	4	0	n = 4; 100%	n = 4; 100%
Zinc (dissolved)	mg/L	-	-	0.0025	0.0025	0.0025	0	4	4	-	-
Non-Metallic Parameters											
Ammonia - N (total)	mg/L	0.239 ^a	0.35	0.126	0.0025	0.20	0.089	4	1	0	0
Fluoride	mg/L	0.12	-	1.18	0.2	4	1.88	4	0	n = 4; 100%	-
Nitrite (as N)	mg/L	0.06	0.06	0.0135	0.0086	0.0229	0.0064	4	0	0	0
Nitrate (as N)	mg/L	3 (long term exposure)	2.9	0.128	0.047	0.184	0.068	4	0	0	0
pH (field)	pH units	6.5-9.0	6.0-9.0	8.27	7.89	8.71	0.34	4	-	0	0
pH (lab)	pH units	6.5-9.0	6.0-9.0	8.11	7.73	8.37	0.27	4	-	0	0
Phosphorus (total)	mg/L	-	0.02	1.397	0.967	2.08	0.487	4	0	-	n = 4; 100%
Phosphorus (dissolved)	mg/L	-	-	0.037	0.034	0.039	0.002	4	0	-	-
Total Suspended Solids	mg/L	-	-	1544	995	2210	518	4	0	-	-
Total Dissolved Solids	mg/L	-	-	178	132	216	35	4	0	-	-

^a Conservative ammonia guideline based on pH and temperature not exceeding 8.5 and 15°C respectively.

^b Results compared against W2 Water License QZ09-092 (Amendment 7) Non-Freshet Periods Water Quality Limits includes values from the freshet period (April and May).

^c Averages >CWQG in italics; averages >W2 limits highlighted in yellow.

Between 25 and 50% of individual samples (and / or detection limits) are > applicable guideline / limit.
 >50% of individual samples (and / or detection limits) are > applicable guideline / limit.

Table 3-7: Minto Creek Monitoring Station W2: Summary of Water Quality Data.

Parameter	Units	CWQG	W2 Water License Non-Freshet Periods Water Quality Limits March 31, 2011 ^e	Averages ^f			Minimum			Maximum			Standard Deviation			Count			Count<DL			Count & %>CWQG			Count & %>WL		
				pre-operation ^a	operation no discharge ^b	operation with discharge ^c	pre-operation	operation no discharge	operation with discharge	pre-operation	operation no discharge	operation with discharge	pre-operation	operation no discharge	operation with discharge	pre-operation	operation no discharge	operation with discharge	pre-operation	operation no discharge	operation with discharge	pre-operation	operation no discharge	operation with discharge	pre-operation	operation no discharge	operation with discharge
Metals																											
Aluminum (total)	mg/L	0.1	0.62	0.258	1.505	0.574	0.011	0.005	0.021	1.140	30.700	11.00	0.407	3.956	1.639	7	252	138	0	3	0	n = 3; 43%	n = 139; 55%	n = 85; 62%	n = 1; 14%	n = 76; 30%	n = 19; 14%
Aluminum (dissolved)	mg/L	-	-	0.012	0.021	0.022	0.007	0.0025	0.005	0.016	0.103	0.072	0.003	0.020	0.010	7	215	134	0	53	1	-	-	-	-	-	-
Arsenic (total)	mg/L	0.005	0.005	0.0007	0.0012	0.0007	0.0005	0.0001	0.0002	0.0010	0.0151	0.0054	0.0002	0.0019	0.0008	7	252	138	0	39	15	n = 10; 4%	n = 3; 2%	n = 10; 4%	n = 10; 4%	n = 3; 2%	
Arsenic (dissolved)	mg/L	-	-	0.0005	0.0005	0.0005	0.0003	0.0001	0.0002	0.0006	0.0018	0.0009	0.0001	0.0002	0.0001	6	215	134	1	42	5	-	-	-	-	-	-
Cadmium (total)	mg/L	$10^{(0.86(\log(\text{hardness})-3.2))}$	0.00004	0.00002	0.000069	0.000043	0.000008	0.000005	0.000005	0.000025	0.000940	0.000260	0.000008	0.000131	0.000060	7	201	67	7	85	18	n = 71; 35%	n = 13; 19%	0	n = 64; 32%	n = 14; 21%	
Cadmium (dissolved)	mg/L	-	-	0.00002	0.000028	0.000013	0.000008	0.000005	0.000005	0.000025	0.001040	0.000040	0.000009	0.000094	0.000008	6	164	63	6	88	20	-	-	-	-	-	
Chromium (total)	mg/L	0.001	0.002	0.0009	0.0032	0.0015	0.0003	0.0002	0.0005	0.0027	0.0582	0.0205	0.0009	0.0073	0.0029	7	252	138	4	137	116	n = 2; 29%	n = 83; 33%	n = 19; 14%	n = 1; 14%	n = 57; 23%	n = 15; 11%
Chromium (dissolved)	mg/L	-	-	0.0004	0.0007	0.0008	0.0003	0.0002	0.0005	0.0005	0.0069	0.0021	0.0001	0.0005	0.0003	6	215	134	6	184	132	-	-	-	-	-	-
Copper (total)	mg/L	$e^{(0.8545(\log(\text{hardness})-1.465))} + 0.2$; min = 0.002; max = 0.004	0.013	0.0034	0.0085	0.0087	0.0021	0.0012	0.0020	0.0049	0.1250	0.0656	0.0010	0.0129	0.0117	7	252	138	0	1	0	n = 5; 71%	n = 161; 64%	n = 72; 52%	0	n = 34; 14%	n = 21; 15%
Copper (dissolved)	mg/L	-	-	0.0025	0.0030	0.0034	0.0021	0.0005	0.0010	0.0033	0.0135	0.0227	0.0005	0.0019	0.0041	6	215	134	0	2	0	-	-	-	-	-	-
Iron (total)	mg/L	0.3	1.1	0.555	2.596	1.025	0.052	0.025	0.021	1.49	51.500	18.5	0.494	6.507	2.708	7	252	138	0	16	0	n = 5; 71%	n = 133; 53%	n = 63; 46%	n = 1; 14%	n = 80; 32%	n = 21; 15%
Iron (dissolved)	mg/L	-	-	0.200	0.200	0.096	0.039	0.010	0.022	0.338	0.905	0.761	0.118	0.219	0.108	6	215	134	0	16	0	-	-	-	-	-	-
Lead (total)	mg/L	$e^{(1.273(\log(\text{hardness})-4.705))}$; min = 0.001; max = 0.007	0.004	0.00022	0.00083	0.00059	0.00003	0.00003	0.00010	0.00066	0.01550	0.02900	0.00022	0.00191	0.00257	7	252	138	5	123	92	0	n = 18; 7%	n = 4; 3%	0	n = 11; 4%	n = 4; 3%
Lead (dissolved)	mg/L	-	-	0.00014	0.00010	0.00010	0.000025	0.00003	0.00010	0.00025	0.00090	0.00030	0.00012	0.00007	0.00002	6	215	134	6	194	131	-	-	-	-	-	-
Mercury (total)	mg/L	0.000026	-	0.000010	0.000035	0.000058	0.000010	0.000005	0.000005	0.000010	0.000100	0.000160	0	0.000038	0.000045	3	194	138	3	170	123	0	n = 69; 36%	n = 80; 58%	-	-	-
Molybdenum (total)	mg/L	0.073	0.073	0.0009	0.0014	0.0066	0.0005	0.0002	0.0005	0.0013	0.0100	0.0170	0.0003	0.0011	0.0027	6	252	138	2	36	3	0	0	0	0	0	0
Molybdenum (dissolved)	mg/L	-	-	0.0009	0.0014	0.0065	0.0005	0.0002	0.0005	0.0013	0.0090	0.0150	0.0003	0.0012	0.0024	6	215	134	2	37	6	-	-	-	-	-	-
Nickel (total)	mg/L	$e^{(0.76(\log(\text{hardness})-1.06))}$; min = 0.025; max = 0.15	0.11	0.0019	0.0040	0.0025	0.0011	0.00025	0.0005	0.0033	0.0629	0.0190	0.0008	0.0075	0.0030	7	252	138	0	32	7	0	0	0	0	0	0
Nickel (dissolved)	mg/L	-	-	0.0014	0.0012	0.0009	0.0010	0.00025	0.0005	0.0017	0.0040	0.0020	0.0003	0.0006	0.0004	6	215	134	0	55	39	-	-	-	-	-	-
Selenium (total)	mg/L	0.001	0.001	0.0005	0.0004	0.0015	0.0005	0.0001	0.0001	0.0005	0.0025	0.0044	0	0.0003	0.0007	6	252	138	6	140	15	n = 6; 2%	n = 101; 73%	0	n = 6; 2%	n = 101; 73%	
Selenium (dissolved)	mg/L	-	-	0.0005	0.0003	0.0015	0.0005	0.0005	0.0001	0.0005	0.0024	0.0026	0	0.00035	0.0007	6	215	134	6	123	11	-	-	-	-	-	-
Silver (total)	mg/L	0.0001	-	0.000008	0.000038	0.000034	0.000005	0.000005	0.000005	0.000010	0.000680	0.000160	0.000003	0.000056	0.000024	6	251	138	6	191	130	0	n = 13; 5%	n = 2; 1%	-	-	-
Thallium (total)	mg/L	0.0008	-	0.000080	0.000036	0.000027	0.000050	0.000005	0.000005	0.000100	0.000247	0.000129	0.000030	0.000033	0.000016	6	252	138	6	224	133	0	0	0	-	-	-
Zinc (total)	mg/L	0.03	0.03	0.0022	0.0099	0.0061	0.0005	0.0005	0.0025	0.0060	0.1360	0.0436	0.0019	0.0168	0.0063	7	252	138	5	108	110	0	n = 14; 6%	n = 3; 2%	0	n = 14; 6%	n = 3; 2%
Zinc (dissolved)	mg/L	-	-	0.0018	0.0035	0.0039	0.0005	0.0005	0.0025	0.0025	0.0200	0.0100	0.0009	0.0025	0.0014	6	215	134	4	163	131	-	-	-	-	-	-
Non-Metallic Parameters																											
Ammonia - N (total)	mg/L	0.239 ^d	0.35	0.015	0.044	0.038	0.010	0	-	0.029	0.550	-	0.009	0.068	-	7	214	138	5	50	32	0	n = 7; 3%	n = 2; 1%	0	n = 2; 1%	n = 2; 1%
Fluoride	mg/L	0.12	-	-	0.30	0.32	-	0.10	-	-	0.80	-	-	0.13	-	-	177	127	-	0	0	-	n = 167; 94%	n = 125; 98%	-	-	-
Nitrite (as N)	mg/L	0.06	0.06	0.0007	0.0065	0.0143	0.0005	0	-	0.0015	0.0439	-	0.0004	0.0085	-	7	219	142	5	155	31	0	0	n = 1; 1%	0	n = 1; 1%	
Nitrate (as N)	mg/L	3 (long term exposure)	2.9	0.051	0.402	4.637	0.012	0	-	0.133	8.900	-	0.041	1.263	-	7	239	142	0	46	1	0	n = 7; 3%	n = 106; 75%	0	n = 7; 3%	n = 106; 75%
pH (field)	pH units	6.5-9.0	6.0-9.0	-	7.91	8.08	-	6.3	-	-	8.7	-	-	0.39	-	-	175	235	-	-	-	-	n = 1; 1%	0	-	0	0
pH (lab)	pH units	6.5-9.0	6.0-9.0	8.08	8.04	8.12	7.9	7.03	-	8.26	8.46	-	0.12	0.25	-	7	250	220	-	-	-	0	0	0	0	0	0
Phosphorus (total)	mg/L	-	-	-	0.163	0.164	-	0.005	-	-	1.65	-	-	0.265	-	-	117	12	-	10	0	-	-	-	n = 99; 85%	n = 12; 100%	
Phosphorus (dissolved)	mg/L	-	-	-	0.024	0.030	-	0.005	-	-	0.11	-	-	0.019	-	-	107	9	-	16	0	-	-	-	-	-	
Total Suspended Solids	mg/L	-	-	17.2	86.2	22.5	1.5	0.5	-	79	2600	-	28	274.2	-	7	249	224	2	84	26	-	-	-	-	-	
Total Dissolved Solids	mg/L	-	-	163	183	250	80	52	-	194	394	-	42	63	-	7	242	221	0	0	0	-	-	-	-	-	

^a Pre-operation data from between January 1, 2005 and March 31, 2006.
^b Operation no discharge data from April 8, 2006 to August 25, 2008; October 1, 2008 to June 25, 2009; August 7, 2009 to August 12, 2009; October 31, 2009 to July 13, 2010; October 28, 2010 to April 15, 2012; May 12, 2012 to December 31, 2012.
^c Operation discharge data from August 26, 2008 to September 30, 2008; June 26, 2009 to August 6, 2009; August 13, 2009 to October 30, 2009; July 14, 2010 to October 27, 2010; April 16, 2012 to May 11, 2012.
^d Conservative ammonia guideline based on pH and temperature not exceeding 8.5 and 15°C respectively.
^e Results compared against W2 Water License Q209-092 (Amendment 7) Non-Freshet Periods Water Quality Limits includes values from the freshet period (April and May).
^f Averages >CWQG in italics; averages >W2 limits highlighted in yellow.

Between 5 and 25% of individual samples (and / or detection limits) are > applicable guideline / limit.
 Between 25 and 50% of individual samples (and / or detection limits) are > applicable guideline / limit.
 >50% of individual samples (and / or detection limits) are > applicable guideline / limit.

Table 3-1 shows results for station W3, the MMR compliance point downstream of the water storage pond dam. TSS results considered to be outliers ($>\text{mean} + 3$ standard deviations) were 460 mg/L on March 19, 2011 and 985 mg/L on April 16, 2012. Other parameters also appear elevated as outliers on these dates, in addition to several other occurrences for this large dataset of upwards of six hundred samples. Some parameters appear elevated during spring freshet, winter sampling events and others during mine discharge (see Appendix A). For the seven sample events during the pre-mine operation phase, average parameter concentrations found to exceed the CWQG include total aluminum, copper, and iron, which exceeded the guideline 57%, 86%, and 71% of the time, respectively. Where no hardness is available for calculating a CWQG for cadmium for a particular sample, an average hardness from all site data of 239 mg/L is used to obtain an average guideline of 0.000070 mg/L. Average concentrations during the operations phase with no mine discharge were found to exceed the CWQG for total aluminum, cadmium, copper, mercury and fluoride, which exceeded the guideline 35%, 8%, 64%, 33%, and 98% of the time respectively. Mercury results were $<\text{RDL}$ 92% of the time. A comparison of W3 average parameter concentrations to the W2 limits during the operations phase with no mine discharge shows that total cadmium and phosphorus are in exceedance, 11% and 55% of the time, respectively. Both average total cadmium and phosphorus are influenced by roughly half the results $<\text{RDL}$. During the operations phase with mine discharge, average parameter concentrations were found to exceed the CWQG for aluminum (89%), copper (95%), iron (22%), mercury (55%), selenium (86%), fluoride (100%), nitrite (81%), and nitrate (82%). Exceedances at W3 for average concentrations of parameters compared to W2 limits, during operations with mine discharge, include cadmium (37%), copper (29%), selenium (86%), nitrite (81%), nitrate (82%), and phosphorus (87%).

Water quality results for station W7, located on the north-flowing tributary to Minto Creek, are summarized in Table 3-2. TSS results considered to be outliers ($>\text{mean} + 3$ standard deviations) were 705 mg/L on June 2, 2006 and 400 mg/L on August 2, 2011. While not quite considered an outlier, TSS on May 27, 2010 was elevated at 350 mg/L. Other parameters also appear elevated as outliers on these dates. During the pre-mine operations phase (six sample events), average parameter concentrations exceeding the CWQG include aluminum, copper, and iron, exceeding at a rate of 67%, 50%, and 100% of the time, respectively. During mine operations with no discharge, average parameter concentrations, and % exceedance at W7 of the CWQG includes aluminum (72%), cadmium (28%), chromium (35%), copper (62%), iron (66%), mercury (33%), and fluoride (85%). The comparison with W2 limits during mine operations with no discharge to Minto Creek shows that average parameter concentrations at W7 in exceedance includes (with % exceedance) aluminum (28%), chromium (27%), iron (35%), and phosphorus (90%). During the operations phase with mine discharge, average parameter concentrations were found to exceed the CWQG for: aluminum (67%), cadmium (29%), copper (67%), iron (67%), mercury (25%), and fluoride (60%). Exceedances at W7 for average concentrations of parameters compared to W2 limits during operations with mine discharge include cadmium (one sample, or 14%) and phosphorus (80%).

Water quality results for station W6, located on a south-flowing tributary to Minto Creek about 200 m downstream of the W7 tributary, are summarized in Table 3-3. Due to a small sample size for W6, no TSS results are considered outliers; however, in July and August two sample events had TSS results of 1130 mg/L and 1160 mg/L, respectively. Other outliers at W6 mainly correspond with the July 2012 sample event. During the pre-mine operations phase, six samples were collected at W6 with average parameter concentrations greater than the CWQG for aluminum (50% exceedance), copper (33% exceedance), and iron (33% exceedance). During mine operations with no discharge, average parameter concentrations, and % exceedance at W6 of the CWQG includes aluminum (62%), cadmium (38%), chromium (46%), copper (54%), iron (62%), and fluoride (100%). The

comparison with W2 limits during mine operations with no discharge to Minto Creek shows that average parameter concentrations at W6 in exceedance includes (with % exceedance) aluminum (39%), cadmium (31%), chromium (39%), iron (39%) and phosphorus (90%). During the operations phase with mine discharge, the results are limited to one sample collected September 18, 2008, which had no exceedances of either the CWQG or W2 limits.

Station C4, located on a north-flowing tributary to Minto Creek approximately 1 km downstream of the W6 tributary, has been monitored four times in 2012 after visual observation showed turbid waters entering Minto Creek from this tributary. The first sample event at C4 was on May 6, 2012 during a mine discharge phase, while the other three sample events took place in August 2012 during a non-discharge phase. Water quality results for station C4 are summarized in Table 3-4. During mine operations with no discharge, average parameter concentrations from three August 2012 samples at C4 that exceed the CWQG 100% of the time includes aluminum, cadmium, chromium, copper, iron, and fluoride. Average arsenic for the three samples is also above the CWQG with exceedances for two out of three samples. Average zinc is at the CWQG level, with exceedances for one out of three samples. Similarly, the W2 limits are exceeded by average C4 results during August 2012 for aluminum, arsenic, cadmium, chromium, copper, iron, and phosphorus. The C4 sample collected on May 6, 2012 (during mine operations with Minto Creek discharge) had high TSS of 1260 mg/L and elevated levels of other parameters as well. The CWQG was exceeded at C4 on May 6, 2012 for aluminum, arsenic, cadmium, chromium, copper, iron, lead, silver, zinc, and fluoride. The May 6, 2012 sample from C4 was taken during freshet, however, the comparison to the W2 non-freshet periods limits was still made and shows exceedances for aluminum, arsenic, cadmium, chromium, copper, iron, lead, zinc, and phosphorus.

Station MC1, located on mainstem Minto Creek in the Minto Canyon, began being monitored regularly in 2010 serving as a comparison monitoring point between stations W3 and W2. Results for MC1 from the mine operations phase with and without discharge are summarized in Table 3-5. TSS results considered to be outliers (>mean + 3 standard deviations) ranged between 465 mg/L and 660 mg/L during four sample events in 2011 and 2012. Other parameters appear to correspond with elevated TSS, particularly certain total metals; as have results considered to be outliers from these sample events (see Appendix A for outlier details). Molybdenum, selenium, and nitrate outlier results show up in certain sample events during the mine discharge phase in 2010. During mine operations with no discharge, average parameter concentrations at MC1 that exceed the CWQG (and % exceedance) includes aluminum (68%), cadmium (45%), chromium (40%), copper (68%), iron (71%), mercury (28%) and fluoride (94%). The comparison of MC1 results with W2 limits during mine operations with no discharge to Minto Creek shows that average parameter concentrations in exceedance (and % exceedance) includes total aluminum (40%), cadmium (40%), chromium (28%), iron (46%), and phosphorus (96%). During the operations phase with mine discharge, average parameter concentrations at MC1 were found to exceed the CWQG (with % exceedance) for aluminum (87%), copper (87%), iron (87%), mercury (67%), fluoride (100%), and nitrate (60%). Exceedances at MC1 for average concentrations of parameters compared to W2 limits during operations with mine discharge includes (with % exceedance) nitrate (60%) and phosphorus (100%). Average total selenium at MC1 during mine discharge is just above the CWQG/W2 limit with 53% exceedance.

Station C10 is located on a northeast-flowing tributary to Minto Creek approximately halfway between stations MC1 and W2. Water quality results from four sample events at C10 in 2012 during the non-discharge phase (after visual observation showed turbid waters entering Minto Creek from this tributary) are summarized in Table 3-6. All four sample events had high TSS levels and elevated results for other parameters as well. Parameter concentrations at C10 that exceed the CWQG 100% of the time includes aluminum, arsenic, cadmium, chromium,

copper, iron, lead, silver, zinc and fluoride. Similarly, the W2 limits which were exceeded 100% of the time at C10 in 2012 includes: aluminum, arsenic, cadmium, chromium, copper, iron, lead, zinc, and phosphorus.

Table 3-7 shows results for W2, the lowermost Minto Creek receiving environment monitoring location before the confluence with the Yukon River. TSS results considered to be outliers ($>\text{mean} + 3$ standard deviations) ranged between 710 mg/L and 2600 mg/L during eight sample events in 2011 (one event) and 2012. A number of total metals follow this trend with outlier values mainly in 2012. During the pre-mine operations phase, average parameter concentrations exceeding the CWQG include total aluminum, copper, and iron, which exceeded the guideline 43%, 71%, and 71% of the time, respectively. Where no hardness is available for calculating a CWQG for cadmium for a particular sample, an average hardness from all site data of 154 mg/L is used to obtain an average guideline of 0.000048 mg/L. During mine operations with no discharge, average parameter concentrations at W2 that exceed the CWQG include total aluminum (55%), cadmium (35%), chromium (33%), copper (64%), iron (53%), mercury (36%), and fluoride (94%). The comparison with W2 limits during mine operations with no discharge to Minto Creek shows that average parameter concentrations in exceedance includes total aluminum (30%), cadmium (32%), chromium (23%), iron (32%), and phosphorus (85%). During the operations phase with mine discharge, average parameter concentrations were found to exceed the CWQG for aluminum (62%), chromium (14%), copper (52%), iron (46%), mercury (58%), selenium (73%), fluoride (98%), and nitrate (75%). Exceedances at W2 for average concentrations of parameters compared to W2 limits during operations with mine discharge include cadmium, selenium, nitrate, and phosphorus, 21%, 73%, 75%, and 100% of the time, respectively.

Generally speaking, during the pre-mine operation phase, aluminum, cadmium, chromium, copper and iron experienced exceedances of the CWQGs. Chromium has separate CWQGs for the two main valence states, however laboratory speciation is not readily available so the lower value of 0.001 mg/L (for hexavalent chromium) is used. This is a conservative approach since reported water quality data correspond to total chromium, and the hexavalent form would comprise only a fraction of the total.

A much more robust dataset exists for the operations with no discharge phase which also showed exceedances of the CWQGs for the same parameters as during pre-operations: aluminum, cadmium, chromium, copper, and iron.

The following is also noted:

- A significant portion of the cadmium results are in exceedance of the CWQG or W2 limits, and are attributed to high RDLs particularly prior to about October 2010, where half the RDL is above the guideline/limit. These results are not considered outliers and remain in the datasets.
- Mercury appears to exceed the CWQG although values are typically close to or below the lab RDL, including low level RDLs. Mercury is therefore not a parameter of concern and is not considered further.
- During operations with no discharge at station W2, lead exceeds the CWQG 7% of the time while ranging between 2% and 15% exceedance for the upstream stations, not including C4 and C10.
- During the operations with the non-discharge phase, selenium exceeded the guideline at station W3 11% of the time. Selenium exceedances at the other stations are limited to one occurrence at C10 during a high TSS event, and six measurements at W2 the six days following a mine discharge event in 2010.

- The CWQGs for arsenic, silver, zinc, ammonia, and nitrite are exceeded very infrequently while no molybdenum or thallium exceedances have occurred.
- Fluoride was first analyzed for in 2006 and was exceeded at all stations during operations with no discharge between 85% and 100% of the time.
- During operations with no discharge, nitrate exceedances are mainly limited to station W3, which exceeded the CWQG about a quarter of the time. More than half the exceedances occurred between October 29, 2010 and April 2011, subsequent to the 2010 discharge period ending on October 27, 2010. Between October 28, 2010 and November 2, 2010 elevated levels above the CWQG were also reported for station W2.

In 2011, TSS levels in Minto Creek were observed to increase though the mine did not discharge effluent that year. The source of the increased TSS has since been attributed at least in part to slope failure in the Minto Creek watershed, up gradient of the C4 and C10 tributaries. The effect that this high TSS water had on Minto Creek water quality can be observed in the following Tables 3-8 and 3-9, which provide water quality at MC1 and W2 respectively; with monitoring results summarized up to 2010 as well as for the 2011-2012 time periods. For comparison, the same monitoring periods are summarized for W3 (Table 3-10), located upstream of the affected area.

Table 3-8: MC1 Non-Discharge Phase Water Quality—2010 versus 2011 and 2012 Results.

Parameter	Units	CWQG	W2 Water License Non-Freshet Periods Water Quality Limits March 31, 2011 ^b	Averages ^c		Minimum		Maximum		Standard Deviation		Count		Count<DL		Count & %>CWQG		Count & %>WL	
				2010	2011-2012	2010	2011-2012	2010	2011-2012	2010	2011-2012	2010	2011-2012	2010	2011-2012	2010	2011-2012	2010	2011-2012
Metals																			
Aluminum (total)	mg/L	0.1	0.62	0.164	2.454	0.024	0.010	0.704	14.90	0.182	3.631	36	44	0	0	n = 18; 50%	n = 36; 82%	n = 3; 8%	n = 29; 66%
Aluminum (dissolved)	mg/L	-	-	0.016	0.024	0.005	0.004	0.070	0.053	0.018	0.009	36	42	14	0	-	-	-	-
Arsenic (total)	mg/L	0.005	0.005	0.0005	0.0018	0.0002	0.0005	0.0009	0.0073	0.0001	0.0016	36	44	4	0	0	n = 2; 5%	0	n = 2; 5%
Arsenic (dissolved)	mg/L	-	-	0.0004	0.0008	0.0002	0.0004	0.0005	0.0010	0.0001	0.00015	36	42	4	0	-	-	-	-
Cadmium (total)	mg/L	$10^{(0.86[\ln(\text{hardness}]-3.2)}$	0.00004	0.000028	0.000071	0.000005	0.000005	0.000090	0.000450	0.000027	0.000093	14	44	3	4	n = 6; 43%	n = 20; 46%	n = 3; 21%	n = 20; 46%
Cadmium (dissolved)	mg/L	-	-	0.000016	0.000012	0.000005	0.000005	0.000060	0.000040	0.000017	0.000009	36	42	28	17	-	-	-	-
Chromium (total)	mg/L	0.001	0.002	0.0009	0.0051	0.0005	0.0005	0.0020	0.0330	0.0003	0.0073	36	44	30	11	n = 2; 6%	n = 30; 68%	0	n = 22; 50%
Chromium (dissolved)	mg/L	-	-	0.0008	0.0005	0.0002	0.0005	0.0010	0.0005	0.0003	0	36	42	36	42	-	-	-	-
Copper (total)	mg/L	$e^{(0.8545[\ln(\text{hardness}]-1.465)} * 0.2$; min = 0.002; max = 0.004	0.013	0.0047	0.0093	0.0020	0.0015	0.0170	0.0417	0.0031	0.0095	36	44	0	0	n = 21; 58%	n = 33; 75%	n = 1; 3%	n = 8; 18%
Copper (dissolved)	mg/L	-	-	0.0024	0.0024	0.0010	0.0013	0.0056	0.0050	0.0011	0.0009	36	42	0	0	-	-	-	-
Iron (total)	mg/L	0.3	1.1	0.373	4.4021	0.091	0.062	1.19	23.9	0.289	5.6277	36	44	0	0	n = 17; 47%	n = 40; 91%	n = 2; 6%	n = 35; 80%
Iron (dissolved)	mg/L	-	-	0.104	0.532	0.024	0.032	0.309	1.110	0.086	0.222	36	42	0	0	-	-	-	-
Lead (total)	mg/L	$e^{(1.273[\ln(\text{hardness}]-4.705)}$; min = 0.001; max = 0.007	0.004	0.00020	0.00113	0.00010	0.00010	0.00120	0.00650	0.00020	0.00155	36	44	21	12	0	n = 4; 9%	0	n = 4; 9%
Lead (dissolved)	mg/L	-	-	0.0001	0.0001	0.0001	0.0001	0.0002	0.00048	0	0.00006	36	42	35	41	-	-	-	-
Mercury (total)	mg/L	0.000026	-	0.000060	0.000008	0.000010	0.000005	0.000100	0.000025	0.000040	0.000004	35	44	30	43	n = 22; 63%	0	-	-
Molybdenum (total)	mg/L	0.073	0.073	0.0014	0.0012	0.0004	0.0005	0.0030	0.0020	0.0007	0.0004	36	44	9	7	0	0	0	0
Molybdenum (dissolved)	mg/L	-	-	0.0015	0.0011	0.0003	0.0005	0.0040	0.0020	0.0008	0.0004	36	42	8	8	-	-	-	-
Nickel (total)	mg/L	$e^{(0.76[\ln(\text{hardness}]-1.06)}$; min = 0.025; max = 0.15	0.11	0.0020	0.0061	0.0010	0.0005	0.0070	0.0330	0.0010	0.0069	36	44	4	4	0	0	0	0
Nickel (dissolved)	mg/L	-	-	0.0010	0.0017	0.0010	0.0005	0.0040	0.0025	0.0010	0.0005	36	42	11	4	-	-	-	-
Selenium (total)	mg/L	0.001	0.001	0.0003	0.0002	0.0001	0.0001	0.0007	0.0005	0.0002	0.0001	36	44	27	0	0	0	0	0
Selenium (dissolved)	mg/L	-	-	0.0003	0.0001	0.0001	0.0005	0.0007	0.0002	0.0002	0.00004	36	42	29	2	-	-	-	-
Silver (total)	mg/L	0.0001	-	0.000030	0.000023	0.000010	0.000010	0.000050	0.000110	0.000020	0.000024	36	44	36	30	0	n = 1; 2%	-	-
Thallium (total)	mg/L	0.0008	-	0.000020	0.000035	0.000010	0.000025	0.000030	0.000130	0	0.000026	36	44	36	37	0	0	-	-
Zinc (total)	mg/L	0.03	0.03	0.005	0.0103	0.002	0.0025	0.01	0.056	0.002	0.0131	36	44	31	21	0	n = 5; 11%	0	n = 5; 11%
Zinc (dissolved)	mg/L	-	-	0.004	0.003	0.001	0.0025	0.005	0.012	0.001	0.0019	36	42	36	38	-	-	-	-
Non-Metallic Parameters																			
Ammonia - N (total)	mg/L	0.239 ^a	0.35	0.032	0.039	0.0025	0.0025	0.100	0.230	0.026	0.044	33	43	8	1	0	0	0	0
Fluoride	mg/L	0.12	-	0.29	0.30	0.11	0.19	0.39	0.50	0.09	0.07	35	30	0	0	n = 31; 89%	n = 30; 100%	-	-
Nitrite (as N)	mg/L	0.06	0.06	0.004	0.006	0.003	0.0025	0.025	0.026	0.004	0.006	35	44	35	25	0	0	0	0
Nitrate (as N)	mg/L	3 (long term exposure)	2.9	0.240	0.130	0.010	0.010	2.250	0.220	0.40	0.050	35	44	9	4	0	0	0	0
pH (field)	pH units	6.5-9.0	6.0-9.0	7.76	7.89	7.28	7.35	8.25	8.6	0.28	0.226	28	31	-	-	0	0	0	0
pH (lab)	pH units	6.5-9.0	6.0-9.0	8.11	8.11	7.5	7.75	8.4	8.39	0.21	0.13	36	44	-	-	0	0	0	0
Phosphorus (total)	mg/L	-	0.02	0.036	0.138	0.019	0.022	0.090	0.769	0.024	0.174	8	43	0	0	-	-	n = 6; 75%	n = 43; 100%
Phosphorus (dissolved)	mg/L	-	-	0.016	0.023	0.005	0.018	0.04	0.040	0.012	0.005	8	41	2	0	-	-	-	-
Total Suspended Solids	mg/L	-	-	6	117.8	0	0.5	32	660	6	169.5	36	44	8	2	-	-	-	-
Total Dissolved Solids	mg/L	-	-	157	181	56	98	250	300	42	33	36	44	0	0	-	-	-	-

^a Conservative ammonia guideline based on pH and temperature not exceeding 8.5 and 15°C respectively.

^b Results compared against W2 Water License Q209-092 (Amendment 7) Non-Freshet Periods Water Quality Limits includes values from the freshet period (April and May).

^c Averages >CWQG in italics; averages >W2 limits highlighted in yellow.

Between 5 and 25% of individual samples (and / or detection limits) are > applicable guideline / limit.
Between 25 and 50% of individual samples (and / or detection limits) are > applicable guideline / limit.
>50% of individual samples (and / or detection limits) are > applicable guideline / limit.

Table 3-9: W2 Non-Discharge Phase Water Quality—Pre-2011 versus 2011 and 2012 Results.

Parameter	Units	CWQG	W2 Water License Non-Freshet Periods Water Quality Limits March 31, 2011 ^e	Averages ^c		Minimum		Maximum		Standard Deviation		Count		Count<DL		Count & %>CWQG		Count & %>WL	
				April 2006 to 2010	2011-2012	April 2006 to 2010	2011-2012	April 2006 to 2010	2011-2012	April 2006 to 2010	2011-2012	April 2006 to 2010	2011-2012	April 2006 to 2010	2011-2012	April 2006 to 2010	2011-2012	April 2006 to 2010	2011-2012
Metals																			
Aluminum (total)	mg/L	0.1	0.62	0.378	4.269	0.005	0.011	5.130	30.70	0.806	6.485	179	73	3	0	n = 73; 41%	n = 66; 90%	n = 30; 17%	n = 46; 63%
Aluminum (dissolved)	mg/L	-	-	0.018	0.027	0.0025	0.006	0.103	0.078	0.022	0.015	145	70	53	0	-	-	-	-
Arsenic (total)	mg/L	0.005	0.005	0.0006	0.0027	0.0001	0.0003	0.0030	0.0151	0.0004	0.0031	179	73	39	0	0	n = 10; 14%	0	n = 10; 14%
Arsenic (dissolved)	mg/L	-	-	0.0004	0.0007	0.0001	0.0003	0.0018	0.0010	0.00019	0.0002	145	70	42	0	-	-	-	-
Cadmium (total)	mg/L	10 ^{(0.86[ln(hardness)]-3.2)}	0.00004	0.000043	0.000116	0.000005	0.000005	0.000940	0.000717	0.000102	0.000161	128	73	76	9	n = 31; 24%	n = 41; 56%	n = 24; 19%	n = 40; 55%
Cadmium (dissolved)	mg/L	-	-	0.000037	0.000015	0.000005	0.000005	0.001040	0.000130	0.000122	0.000019	94	70	61	27	-	-	-	-
Chromium (total)	mg/L	0.001	0.002	0.0012	0.0082	0.0002	0.0005	0.0104	0.0582	0.0014	0.0122	179	73	112	25	n = 36; 20%	n = 47; 64%	n = 20; 11%	n = 37; 51%
Chromium (dissolved)	mg/L	-	-	0.0008	0.0005	0.0002	0.0005	0.0069	0.0005	0.0006	0	145	70	114	70	-	-	-	-
Copper (total)	mg/L	e ^{(0.8545 ln(hardness)-1.465)} ; 0.2; min = 0.002; max = 0.004	0.013	0.0058	0.0152	0.0012	0.0014	0.0763	0.1250	0.0072	0.0198	179	73	1	0	n = 101; 56%	n = 60; 82%	n = 13; 7%	n = 21; 29%
Copper (dissolved)	mg/L	-	-	0.0029	0.0030	0.0005	0.0014	0.0135	0.0124	0.0019	0.0019	145	70	2	0	-	-	-	-
Iron (total)	mg/L	0.3	1.1	0.654	7.356	0.025	0.0422	8.09	51.5	1.252	10.554	179	73	16	0	n = 64; 36%	n = 69; 97%	n = 30; 17%	n = 50; 69%
Iron (dissolved)	mg/L	-	-	0.093	0.421	0.01	0.023	0.505	0.905	0.109	0.225	145	70	16	0	-	-	-	-
Lead (total)	mg/L	e ^{(1.273 ln(hardness)-4.705)} ; min = 0.001; max = 0.007	0.004	0.00029	0.00215	0.000025	0.00010	0.00320	0.01550	0.00045	0.00312	179	73	103	20	n = 7; 4%	n = 11; 15%	0	n = 11; 15%
Lead (dissolved)	mg/L	-	-	0.00010	0.00010	0.000025	0.00010	0.0009	0.00040	0.00009	0.00004	145	70	127	67	-	-	-	-
Mercury (total)	mg/L	0.000026	-	0.000050	0.000008	0.000010	0.000005	0.000100	0.000026	0.000040	0.000004	122	72	100	70	n = 69; 57%	0	-	-
Molybdenum (total)	mg/L	0.073	0.073	0.0014	0.0012	0.0002	0.0005	0.0100	0.0027	0.0013	0.0005	179	73	23	13	0	0	0	0
Molybdenum (dissolved)	mg/L	-	-	0.0015	0.0011	0.0002	0.0005	0.0090	0.0020	0.0014	0.0005	145	70	20	17	-	-	-	-
Nickel (total)	mg/L	e ^{(0.76 ln(hardness)+1.06)} ; min = 0.025; max = 0.15	0.11	0.0018	0.0093	0.00025	0.0005	0.0115	0.0629	0.0017	0.0122	179	73	29	3	0	0	0	0
Nickel (dissolved)	mg/L	-	-	0.0010	0.0016	0.00025	0.0005	0.0040	0.0020	0.0006	0.0004	145	70	50	5	-	-	-	-
Selenium (total)	mg/L	0.001	0.001	0.0004	0.0002	0.0001	0.00005	0.0025	0.00094	0.0004	0.00017	179	73	135	5	n = 6; 3%	0	n = 6; 3%	0
Selenium (dissolved)	mg/L	-	-	0.0004	0.0001	0.0001	0.00005	0.0024	0.0004	0.0004	0.00006	145	70	117	6	-	-	-	-
Silver (total)	mg/L	0.0001	-	0.000037	0.000040	0.000005	0.000010	0.000680	0.000290	0.000057	0.000054	178	73	147	44	n = 3; 2%	n = 10; 14%	-	-
Thallium (total)	mg/L	0.0008	-	0.000030	0.000053	0.000010	0.000025	0.000100	0.000247	0.000010	0.000054	179	73	174	50	0	0	-	-
Zinc (total)	mg/L	0.03	0.03	0.006	0.0196	0.0005	0.0025	0.07	0.136	0.0066	0.0273	179	73	79	29	n = 1; 0.6%	n = 13; 18%	n = 1; 0.6%	n = 13; 18%
Zinc (dissolved)	mg/L	-	-	0.0039	0.0027	0.0005	0.0025	0.02	0.008	0.003	0.001	145	70	97	66	-	-	-	-
Non-Metallic Parameters																			
Ammonia - N (total)	mg/L	0.239 ^a	0.35	0.042	0.049	0	0.0025	0.550	0.269	0.072	0.060	144	70	47	3	n = 6; 4%	n = 1; 1%	n = 2; 1%	0
Fluoride	mg/L	0.12	-	0.30	0.29	0.10	0.1	0.80	0.5	0.14	0.08	127	50	0	0	n = 118; 93%	n = 49; 98%	-	-
Nitrite (as N)	mg/L	0.06	0.06	0.0055	0.0084	0	0.0025	0.031	0.0439	0.0077	0.0095	146	73	116	39	0	0	0	0
Nitrate (as N)	mg/L	3 (long term exposure)	2.9	0.506	0.166	0	0.010	8.90	0.807	1.504	0.116	166	73	39	7	n = 7; 4%	0	0	0
pH (field)	pH units	6.5-9.0	6.0-9.0	7.9	7.93	6.63	6.3	8.6	8.7	0.41	0.33	125	50	-	-	0	n = 1; 2%	0	0
pH (lab)	pH units	6.5-9.0	6.0-9.0	8.02	8.09	7.03	7.32	8.46	8.39	0.27	0.18	177	73	-	-	0	0	0	0
Phosphorus (total)	mg/L	-	0.02	0.063	0.225	0.005	0.005	0.20	1.650	0.061	0.320	45	72	8	2	-	-	n = 32; 71%	n = 67; 93%
Phosphorus (dissolved)	mg/L	-	-	0.026	0.023	0.005	0.005	0.110	0.053	0.029	0.008	38	69	14	2	-	-	-	-
Total Suspended Solids	mg/L	-	-	16.7	253.9	0.5	0.5	257	2600	35.8	464.2	176	73	80	4	-	-	-	-
Total Dissolved Solids	mg/L	-	-	183	182	52	78	394	310	71	40	170	72	0	0	-	-	-	-

^a Conservative ammonia guideline based on pH and temperature not exceeding 8.5 and 15°C respectively.

^b Results compared against W2 Water License QZ09-092 (Amendment 7) Non-Freshet Periods Water Quality Limits includes values from the freshet period (April and May).

^c Averages >CWQG in italics; averages >W2 limits highlighted in yellow.

	Between 5 and 25% of individual samples (and / or detection limits) are > applicable guideline / limit.
	Between 25 and 50% of individual samples (and / or detection limits) are > applicable guideline / limit.
	>50% of individual samples (and / or detection limits) are > applicable guideline / limit.

Table 3-10: W3 Non-Discharge Phase Water Quality—Pre-2011 versus 2011 and 2012 Results.

Parameter	Units	CWQG	W2 Water License Non-Freshet Periods Water Quality Limits March 31, 2011 ^e	Averages ^c		Minimum		Maximum		Standard Deviation		Count		Count<DL		Count & %>CWQG		Count & %>WL	
				April 2006 to 2010	2011-2012	April 2006 to 2010	2011-2012	April 2006 to 2010	2011-2012	April 2006 to 2010	2011-2012	April 2006 to 2010	2011-2012	April 2006 to 2010	2011-2012	April 2006 to 2010	2011-2012	April 2006 to 2010	2011-2012
Metals																			
Aluminum (total)	mg/L	0.1	0.62	0.173	0.170	0.0025	0.004	4.690	10.80	0.359	0.958	332	133	4	0	n = 137; 41%	n = 24; 18%	n = 15; 5%	n = 5; 4%
Aluminum (dissolved)	mg/L	-	-	0.015	0.012	0.0025	0.0015	0.297	0.151	0.027	0.019	285	122	115	9	-	-	-	-
Arsenic (total)	mg/L	0.005	0.005	0.0005	0.0004	0.0001	0.00005	0.0090	0.0044	0.0006	0.0005	332	133	65	8	n = 1; 0.3%	0	n = 1; 0.3%	0
Arsenic (dissolved)	mg/L	-	-	0.0004	0.0003	0.0001	0.00019	0.0014	0.0022	0.00018	0.0002	285	122	62	0	-	-	-	-
Cadmium (total)	mg/L	$10^{0.86[\ln(\text{hardness})]-3.2}$	0.00004	0.001585	0.000025	0.000005	0.0000025	0.372000	0.000300	0.022308	0.000041	280	133	135	64	n = 24; 9%	n = 10; 8%	n = 29; 10%	n = 17; 13%
Cadmium (dissolved)	mg/L	-	-	0.002757	0.000022	0.000005	0.000005	0.565000	0.000380	0.037116	0.000042	233	122	114	64	-	-	-	-
Chromium (total)	mg/L	0.001	0.002	0.00075	0.0008	0.00020	0.0001	0.00840	0.0170	0.00070	0.0017	332	133	202	121	n = 44; 13%	n = 5; 4%	n = 12; 4%	n = 5; 4%
Chromium (dissolved)	mg/L	-	-	0.00079	0.0005	0.00020	0.00005	0.00980	0.0005	0.00076	0.00004	285	122	167	122	-	-	-	-
Copper (total)	mg/L	$e^{0.8545[\ln(\text{hardness})-1.465]} \times 0.2$; min = 0.002; max = 0.004	0.013	0.0095	0.0096	0.0010	0.0016	0.1010	0.2110	0.0112	0.0245	332	133	1	0	n = 244; 74%	n = 52; 39%	n = 66; 20%	n = 16; 12%
Copper (dissolved)	mg/L	-	-	0.0053	0.0036	0.0005	0.0014	0.0670	0.0502	0.0058	0.0051	285	122	4	0	-	-	-	-
Iron (total)	mg/L	0.3	1.1	0.286	0.254	0.015	0.010	6.61	13.50	0.517	1.214	328	133	16	0	n = 64; 20%	n = 11; 8%	n = 14; 4%	n = 4; 3%
Iron (dissolved)	mg/L	-	-	0.065	0.029	0.005	0.0025	0.75	0.362	0.069	0.040	285	122	32	3	-	-	-	-
Lead (total)	mg/L	$e^{1.273[\ln(\text{hardness})-4.705]}$; min = 0.001; max = 0.007	0.004	0.00029	0.00017	0.000025	0.0000025	0.03160	0.00290	0.00176	0.00035	332	133	186	121	n = 6; 2%	n = 1; 1%	n = 1; 0.3%	0
Lead (dissolved)	mg/L	-	-	0.00033	0.00010	0.000025	0.000009	0.06030	0.00050	0.00357	0.000037	285	122	219	120	-	-	-	-
Mercury (total)	mg/L	0.000026	-	0.000110	0.000010	0.000010	0.000005	0.005000	0.000205	0.000600	0.000017	267	132	244	129	n = 133; 50%	n = 2; 2%	-	-
Molybdenum (total)	mg/L	0.073	0.073	0.0033	0.0047	0.0004	0.0020	0.0600	0.0420	0.0036	0.0037	332	133	4	0	0	0	0	0
Molybdenum (dissolved)	mg/L	-	-	0.0032	0.0044	0.0003	0.0010	0.0150	0.0240	0.0018	0.0023	285	122	1	0	-	-	-	-
Nickel (total)	mg/L	$e^{0.76[\ln(\text{hardness})+1.06]}$; min = 0.025; max = 0.15	0.11	0.0016	0.0015	0.00025	0.0005	0.0300	0.0270	0.0022	0.0029	332	133	59	47	n = 1; 0.3%	0	0	0
Nickel (dissolved)	mg/L	-	-	0.0011	0.0009	0.00025	0.0005	0.0060	0.0090	0.0008	0.00096	285	122	107	76	-	-	-	-
Selenium (total)	mg/L	0.001	0.001	0.0006	0.0007	0.0001	0.00028	0.0080	0.0066	0.0007	0.00066	332	133	180	0	n = 44; 13%	n = 7; 5%	n = 44; 13%	n = 7; 5%
Selenium (dissolved)	mg/L	-	-	0.0005	0.0007	0.0001	0.0003	0.0040	0.0069	0.0006	0.0007	285	122	163	0	-	-	-	-
Silver (total)	mg/L	0.0001	-	0.000039	0.000015	0.000005	0.0000025	0.001000	0.000310	0.000072	0.000028	332	133	285	123	n = 11; 3%	n = 1; 1%	-	-
Thallium (total)	mg/L	0.0008	-	0.000030	0.000025	0.000010	0.000001	0.000500	0.000090	0.000030	0.000006	332	133	322	132	0	0	-	-
Zinc (total)	mg/L	0.03	0.03	0.0062	0.0058	0.0005	0.00037	0.062	0.1	0.0069	0.01208	332	133	112	108	n = 6; 2%	n = 5; 4%	n = 6; 2%	n = 5; 4%
Zinc (dissolved)	mg/L	-	-	0.0042	0.00457	0.0005	0.00067	0.091	0.083	0.0058	0.00876	285	122	116	105	-	-	-	-
Non-Metallic Parameters																			
Ammonia - N (total)	mg/L	0.239 ^a	0.35	0.034	0.030	0.001	0.0025	0.250	0.380	0.039	0.053	249	122	122	10	n = 4; 2%	n = 2; 2%	0	n = 1; 1%
Fluoride	mg/L	0.12	-	0.36	0.56	0.06	0.23	0.87	4.71	0.12	0.46	151	96	0	0	n = 146; 97%	n = 96; 100%	-	-
Nitrite (as N)	mg/L	0.06	0.06	0.0269	0.0084	0.0005	0.0025	4.04	0.268	0.2562	0.0283	249	123	176	97	n = 8; 3%	n = 4; 3%	n = 8; 3%	n = 4; 3%
Nitrate (as N)	mg/L	3 (long term exposure)	2.9	2.049	4.382	0.0025	0.010	13.70	289.0	2.693	25.980	293	123	39	1	n = 69; 24%	n = 32; 26%	n = 71; 24%	n = 35; 29%
pH (field)	pH units	6.5-9.0	6.0-9.0	7.7	7.49	6.55	6.02	8.6	8.89	0.48	0.44	183	80	-	-	0	n = 4; 5%	0	0
pH (lab)	pH units	6.5-9.0	6.0-9.0	8.01	8.12	7.1	7.09	8.6	8.47	0.25	0.19	326	123	-	-	0	0	0	0
Phosphorus (total)	mg/L	-	0.02	0.038	0.016	0.005	0.005	0.250	0.164	0.033	0.025	155	95	77	51	-	-	n = 123; 79%	n = 14; 15%
Phosphorus (dissolved)	mg/L	-	-	0.015	0.007	0.005	0.005	0.160	0.038	0.022	0.006	92	94	58	73	-	-	-	-
Total Suspended Solids	mg/L	-	-	5.5	9.3	0.5	0.5	82.9	460	9.8	44.2	325	123	152	66	-	-	-	-
Total Dissolved Solids	mg/L	-	-	318	356	100	170	1110	2900	93	285	317	123	0	0	-	-	-	-

^a Conservative ammonia guideline based on pH and temperature not exceeding 8.5 and 15°C respectively.

^b Results compared against W2 Water License QZ09-092 (Amendment 7) Non-Freshet Periods Water Quality Limits includes values from the freshet period (April and May).

^c Averages >CWQG in italics; averages >W2 limits highlighted in yellow.

Between 5 and 25% of individual samples (and / or detection limits) are > applicable guideline / limit.
Between 25 and 50% of individual samples (and / or detection limits) are > applicable guideline / limit.
>50% of individual samples (and / or detection limits) are > applicable guideline / limit.

As monitoring at MC1 was initiated in 2010, only data from that year can be compared against the 2011–2012 dataset (Table 3-8). In 2010, the only average parameter concentrations exceeding the W2 limit included total phosphorus. For the 2011 and 2012 period when high TSS values were observed, average parameter concentrations exceeding the W2 limit includes total aluminum, cadmium, chromium, iron, and phosphorus. Average TSS in 2010 was 6 mg/L while during 2011–2012 the average concentration was 117.8 mg/L. For 2011–2012, exceedances of the CWQG and W2 limits increased significantly from 2010 for total aluminum, chromium, copper, iron, and phosphorus. Fluoride and total phosphorus exceedances of the CWQG and W2 limit respectively were high in 2010, and in 2011–2012 exceedances were 100% of the time. For total arsenic, lead, and zinc there were no exceedances in 2010, while periodic exceedances were reported in 2011–2012. For total cadmium, percent exceedance of the CWQG did not experience much change between 2010 and the 2011–2012 period; however, there were increased exceedances of the W2 limit. For total mercury, it appears that there was 63% exceedance of the CWQG in 2010. However, if the <RDL results that appear as exceedances are removed, the exceedances are limited to three samples, which all appear to be less than three times the detection limit. A result less than three times the RDL means that the constituent being analyzed is not present in sufficient amount to be reliably quantified. In 2011 and 2012, with improved mercury detection limits, no exceedances of the CWQG were observed.

For station W2 (Table 3-9), the pre-2011 non-discharge monitoring includes results from April 2006 to 2010. Prior to 2011, average concentrations exceeding the W2 limit includes total cadmium and phosphorus. For the 2011 and 2012 period when high TSS values were observed, average parameter concentrations exceeding the W2 limit includes total aluminum, cadmium, chromium, copper, iron, and phosphorus. Average TSS prior to 2011 was 16.7 mg/L while during 2011–2012, the average concentration was 253.9 mg/L. For 2011–2012, exceedances of the CWQG and W2 limits increased significantly from 2010 for total aluminum, cadmium, chromium, copper, iron, and phosphorus. Fluoride and total phosphorus exceedances of the CWQG and W2 limit respectively were high in 2010, and in 2011–2012 exceedances were 98% and 93% of the time, respectively. For total arsenic there were no exceedances up to 2011, while periodic exceedances were reported in 2011 and 2012, mainly in June and July 2012. Total lead is similar to total arsenic, where periodic exceedances of the CWQG occurred prior to 2011 (4% of the time) while no exceedances of the W2 limit were recorded. During 2011 and 2012, frequency of exceedance of the total lead CWQG and W2 limit increased to 15%. Similarly, for total zinc one exceedance occurred prior to 2011, and during the 2011 and 2012 period frequency of exceedance was 18%, primarily occurring during May, June, and July 2012. Total silver also only exceeded the CWQG three times prior to 2011 and then was in exceedance ten times between 2011 and 2012, primarily occurring during May, June and July 2012. Total mercury began to be monitored with regularity in 2007, however the dataset to 2010 inclusive is interspersed with poor RDLs, for which half the RDL is considered an exceedance of the CWQG. However, if the <RDL results that appear as exceedances are removed, the exceedances are limited to eleven samples, which all appear to be less than three times the detection limit. In 2011 and 2012, with improved mercury detection limits, no exceedances of the CWQG were observed.

Table 3-10 shows that station W3 did not experience the same types of trends as stations MC1 and W2. Average parameter concentrations for the pre-2011 and 2011–2012 time periods were very similar, and in some cases even decreased for 2011–2012. The exception is for nitrate which had an average concentration above the CWQG (long-term exposure) and the W2 limit; however, no nitrate exceedances have been recorded since June 2011. Especially high nitrate results along with other parameters were observed in March 2011, particularly the March 19, 2011 sample event. Average concentration of total suspended solids for the pre-2011 period is 5.5 mg/L and 9.3 mg/L for 2011–2012.

The dataset for W7 during periods of mine discharge to Minto Creek is limited to eight to ten samples. Tributary station W7 showed a similar frequency of exceedances of the CWQG as during operations with no discharge. The other tributary stations W6 and C4 are limited to one sample during the mine discharge phase while no samples are available from C10.

At station W3, certain parameters show an increase in frequency of exceedance of the CWQGs during mine discharge phases as compared to non-discharge phases, including aluminum, copper, and iron, with substantially elevated frequency of exceedance of selenium, nitrite, and nitrate. At station MC1, with the exception of selenium and nitrate, the same parameters are in exceedance between the discharge and non-discharge phases with increases in the frequency of exceedance for aluminum, copper, and iron. Selenium and nitrate showed no exceedances during the non-discharge phase at MC1, while during discharge exceedance of the CWQG/W2 limit was 53% and 60%, respectively. At station W2 in lower Minto Creek, the frequency of exceedance of the CWQG for the mine discharge phase as compared to the non-discharge phases shows a less drastic increase in exceedance of aluminum, and similarly substantial increases in selenium and nitrate exceedances compared to W3 and MC1.

All stations have been compared against the W2 non-freshet limits, with results from the freshet period included. At stations W2 the following observations are made of the water quality between the discharge and non-discharge phases as compared to the W2 non-freshet limits:

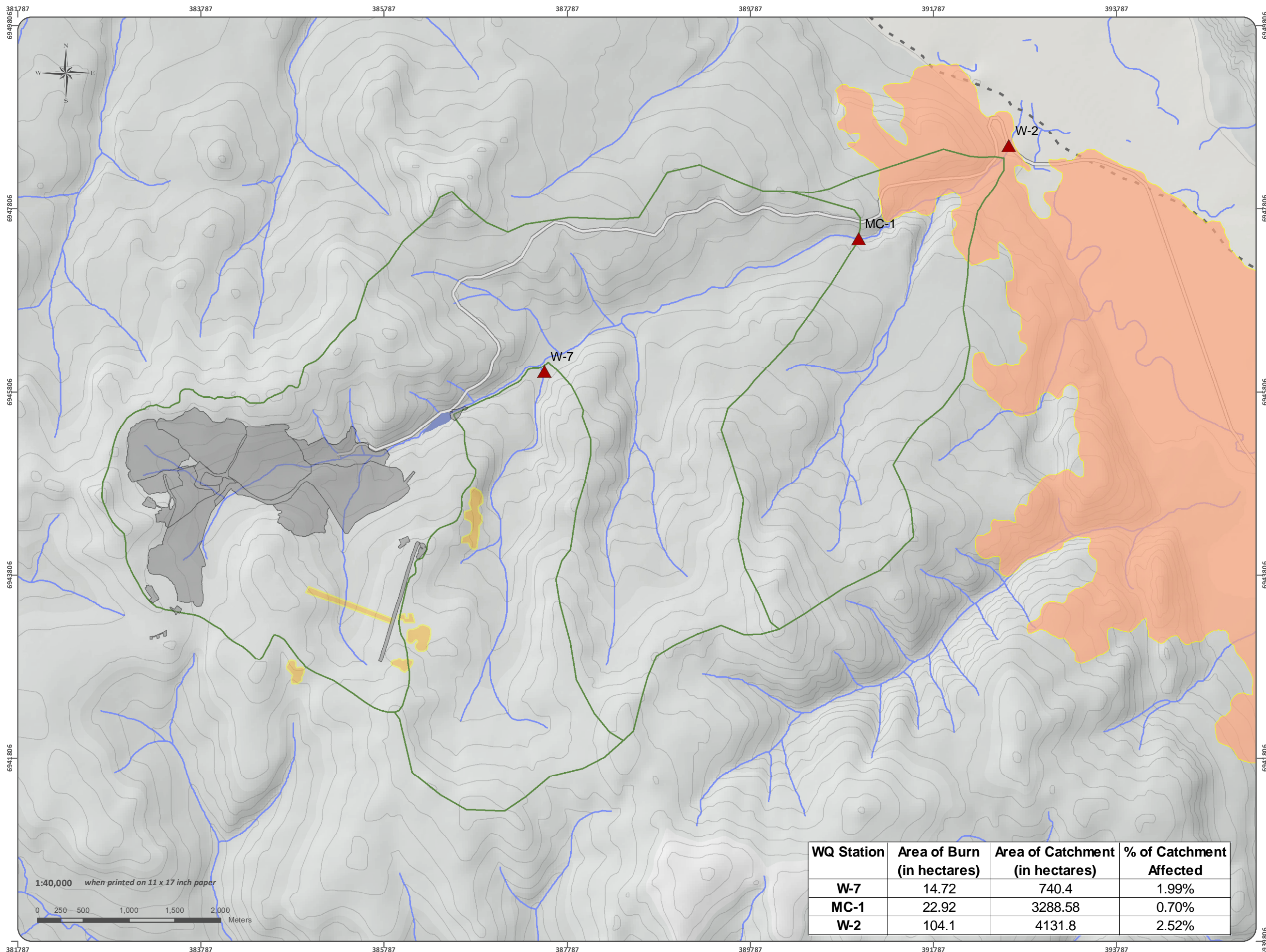
- Exceedances of the aluminum limit are highest during the operations with no discharge phase, in particular, the limit was exceeded more often than not during 2011 and 2012.
- Cadmium exceedances at W2 compared to the non-freshet limit are higher during mine discharge periods.
- Copper exceedances at W2 compared to the non-freshet limit appear to remain the same between the discharge and non-discharge periods.
- Frequency of iron exceedances are highest during the non-discharge periods.
- Selenium and nitrate frequency of exceedance is substantially higher during periods of mine discharge.
- The total phosphorus limit is exceeded for most of the samples.

3.1.1 2010 Wildfire

In June 2010, during a non-discharge period, wildfire ignited near Minto Landing on the mine (south) side of the Yukon River. The fire quickly spread and burned in a northwesterly direction along the Yukon River floodplain. The fire was actioned by Yukon Government intensively but still burned a small portion of the Minto Creek catchment area. Figure 3-1 below shows the final fire footprint and calculates the burned percentage of the Minto Creek sub-catchment areas reporting to key water quality monitoring stations.

W7 data were included from after the fire period (June 2010) in the updated background water quality data set. A limited, controlled back-burn effort was conducted (yellow in previous figure) in areas around the mine, with some of the controlled burn areas within the W7 catchment.

The percentage of the W7 and W2 catchment areas which were burned were similar and very small relative to the entire catchments (2-3%), so significant impacts to water quality at those stations would not be expected as a result of the fire burn area only (although the area at the W2 station was burned, it was spotty and did not burn as hot, nor as completely as other areas.) A more likely primary contributor to TSS and metal concentrations in the natural conditions observed in 2011 is higher relative precipitation in June, July, and August and slope failure in the Minto Creek watershed, up gradient of the C4 and C10 tributaries.



MINTO CREEK WATER QUALITY CHARACTERIZATION

**FIGURE 3-1
JUNE 2010 BURN AREA**

JUNE 2013



- ▲ Water Quality Stations
- Mine Footprint (August 2012)
- 2010 Burn Area
- June 2010 Controlled Burn
- Catchment Area



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: jindeman; 21/06/2013/10:50 AM)

WQ Station	Area of Burn (in hectares)	Area of Catchment (in hectares)	% of Catchment Affected
W-7	14.72	740.4	1.99%
MC-1	22.92	3288.58	0.70%
W-2	104.1	4131.8	2.52%

3.2 MINTO CREEK WATER QUALITY OVER TIME

For parameters that frequently exceed their respective water quality guideline or limit, data were plotted versus time for each station. Seven parameters meet this criteria including aluminum, cadmium, chromium, copper, iron, selenium, and nitrate; total suspended solids is also graphed. Two graphs are provided for each parameter, dividing the data into periods of time with no mine discharge and periods of time with mine discharge; pre-mine operation data is provided on both graphs (Figures 3-2 to 3-17). For results below laboratory detection levels, $\frac{1}{2}$ the RDL has been plotted. The CWQGs and W2 limits are depicted on the graphs. The CWQG for hardness-dependent parameters (cadmium and copper) shown on the figures are an average of the average CWQGs from each station.

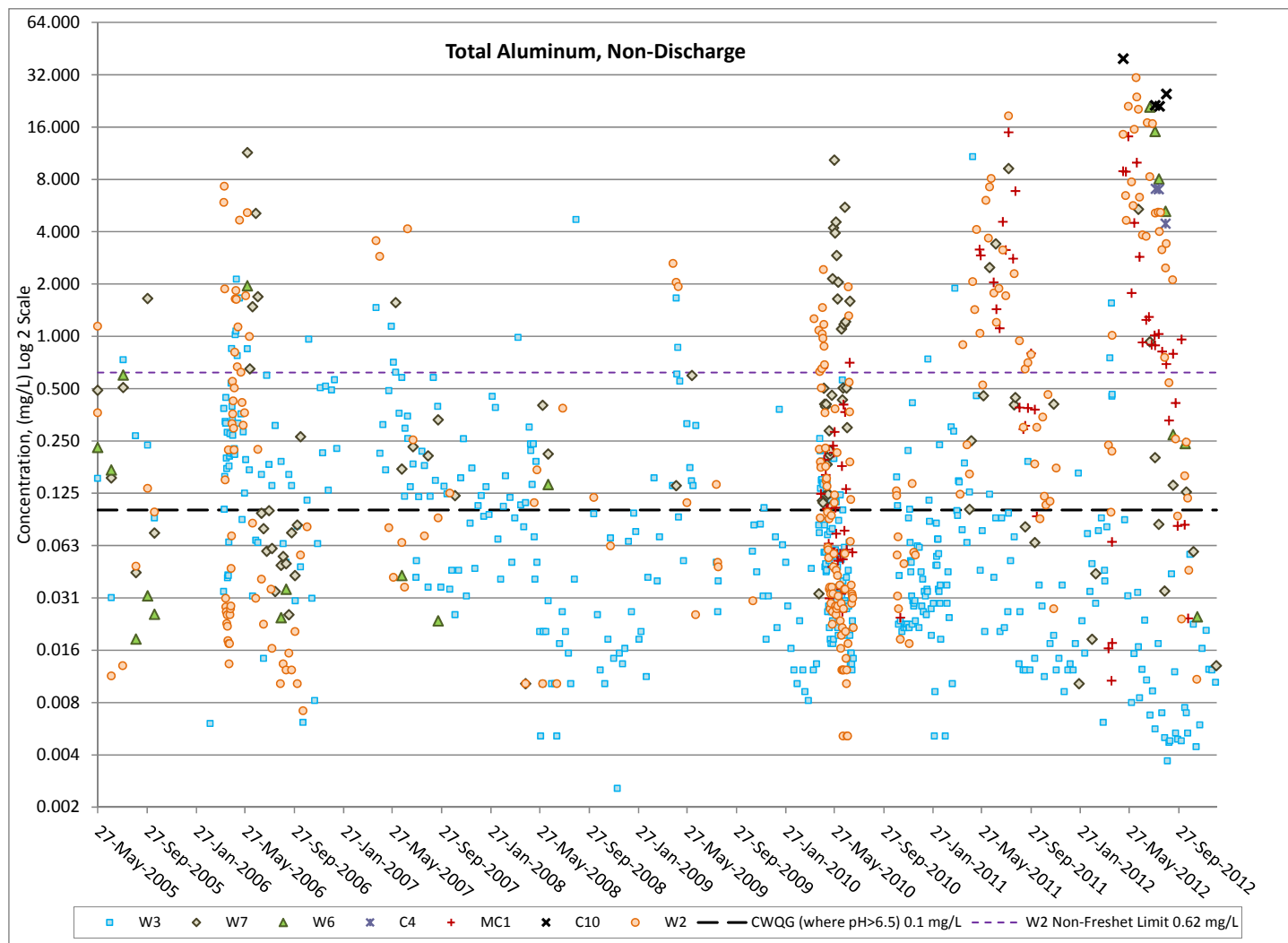


Figure 3-2: Concentrations of Total Aluminum in Minto Creek Catchment during Non-Discharge Periods.

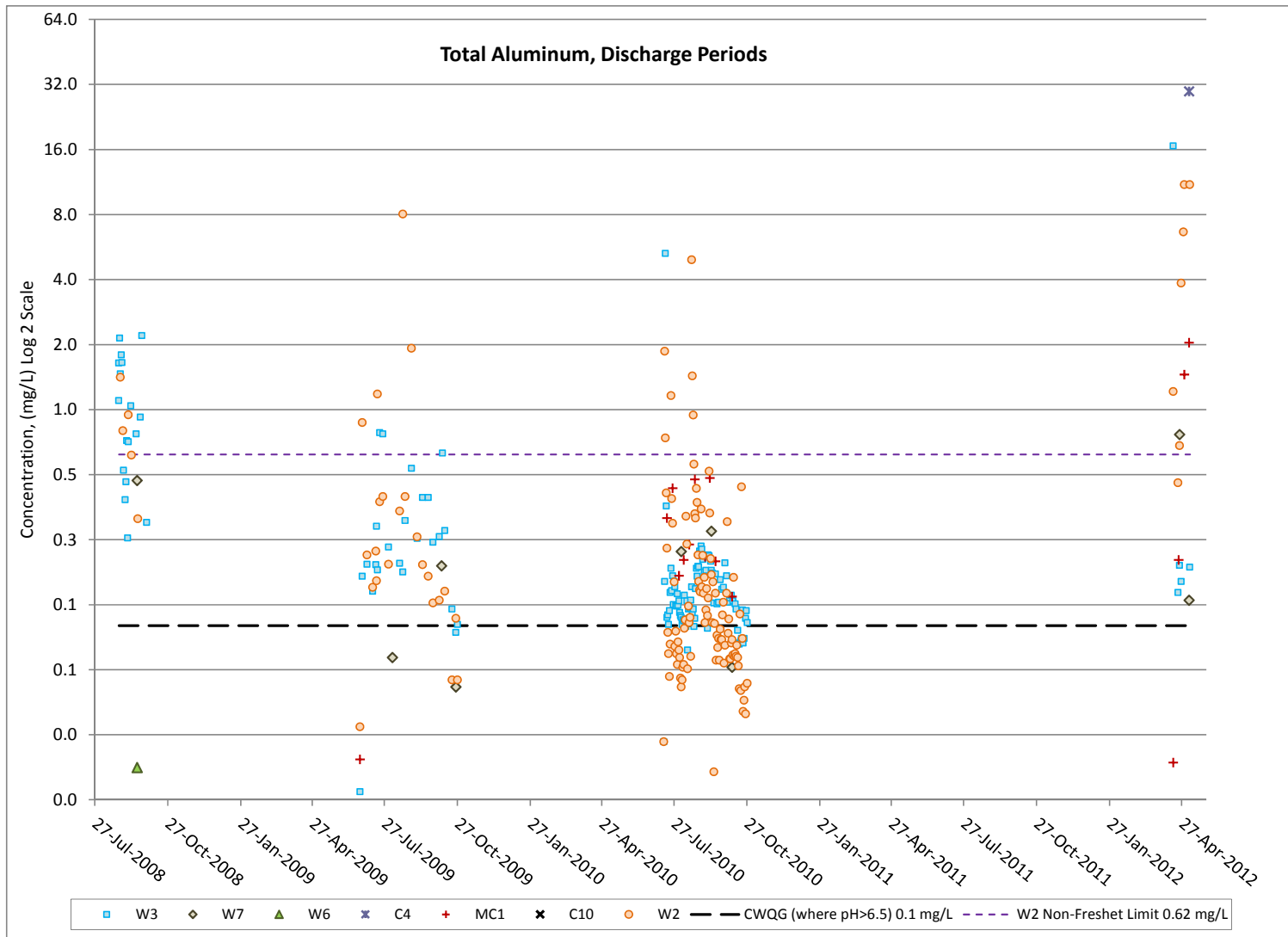


Figure 3-3: Concentrations of Total Aluminum in Minto Creek Catchment during Mine Discharge Periods.

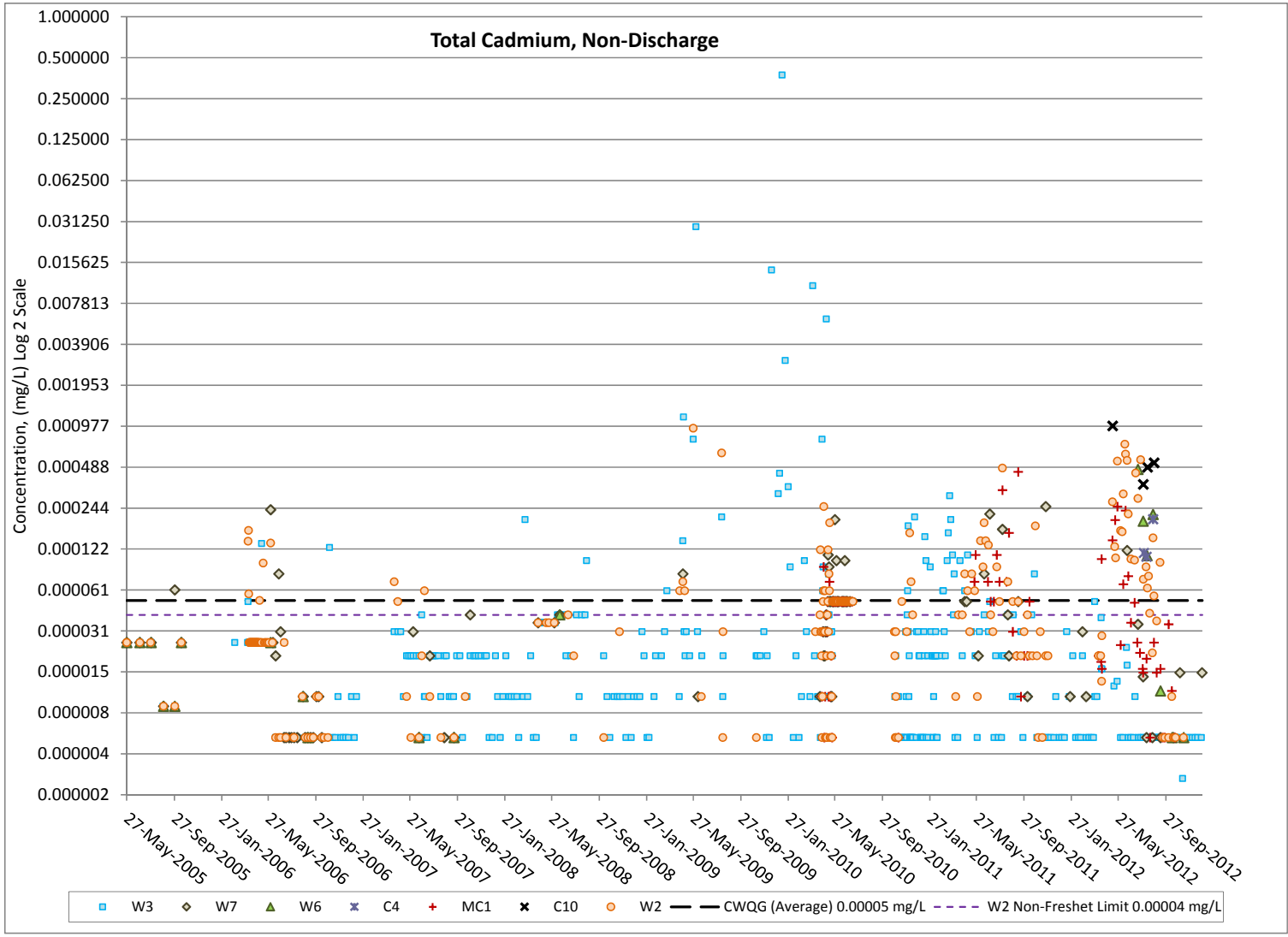


Figure 3-4: Concentrations of Total Cadmium in Minto Creek Catchment during Non-Discharge Periods.

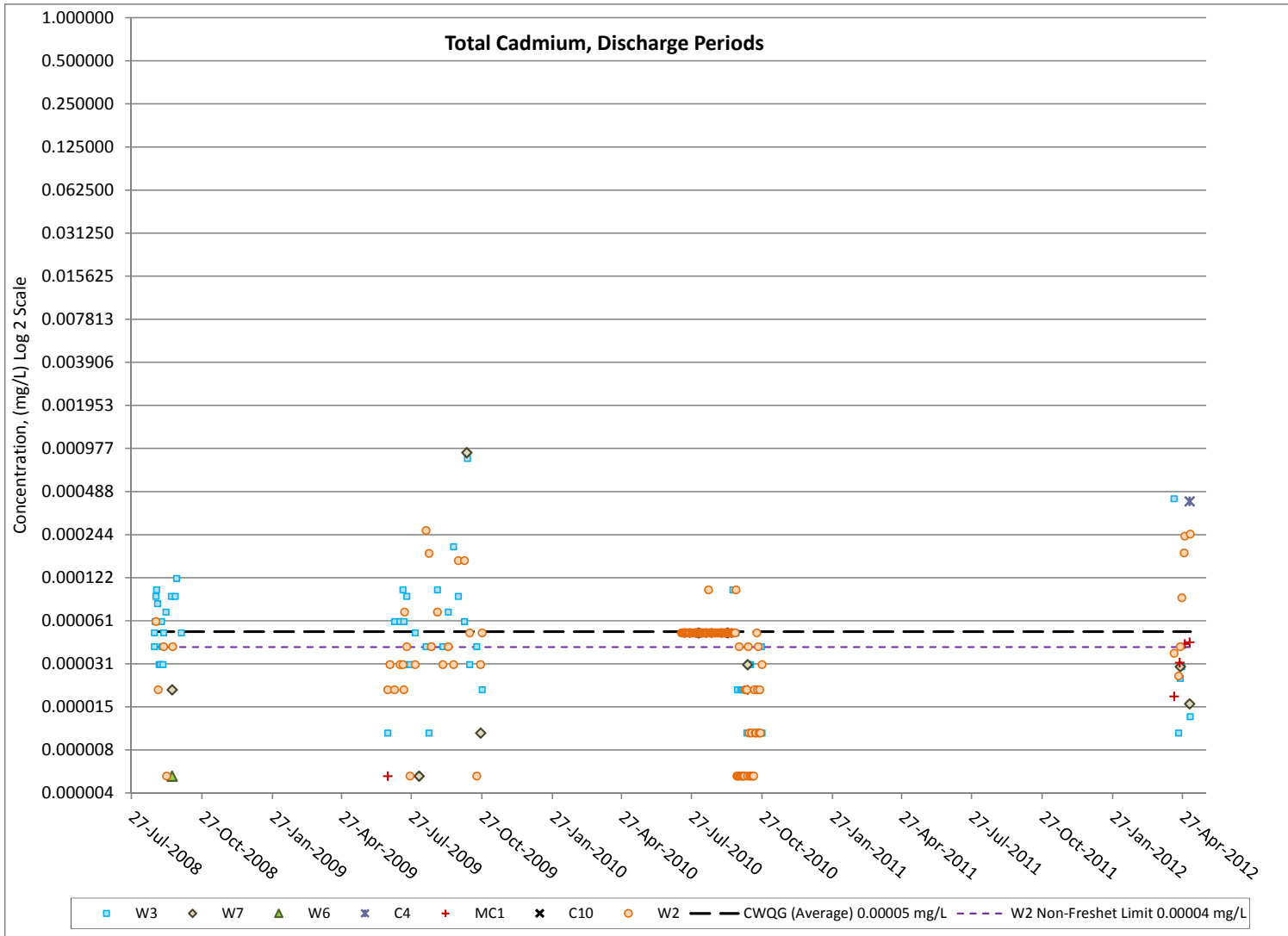


Figure 3-5: Concentrations of Total Cadmium in Minto Creek Catchment during Mine Discharge Periods.

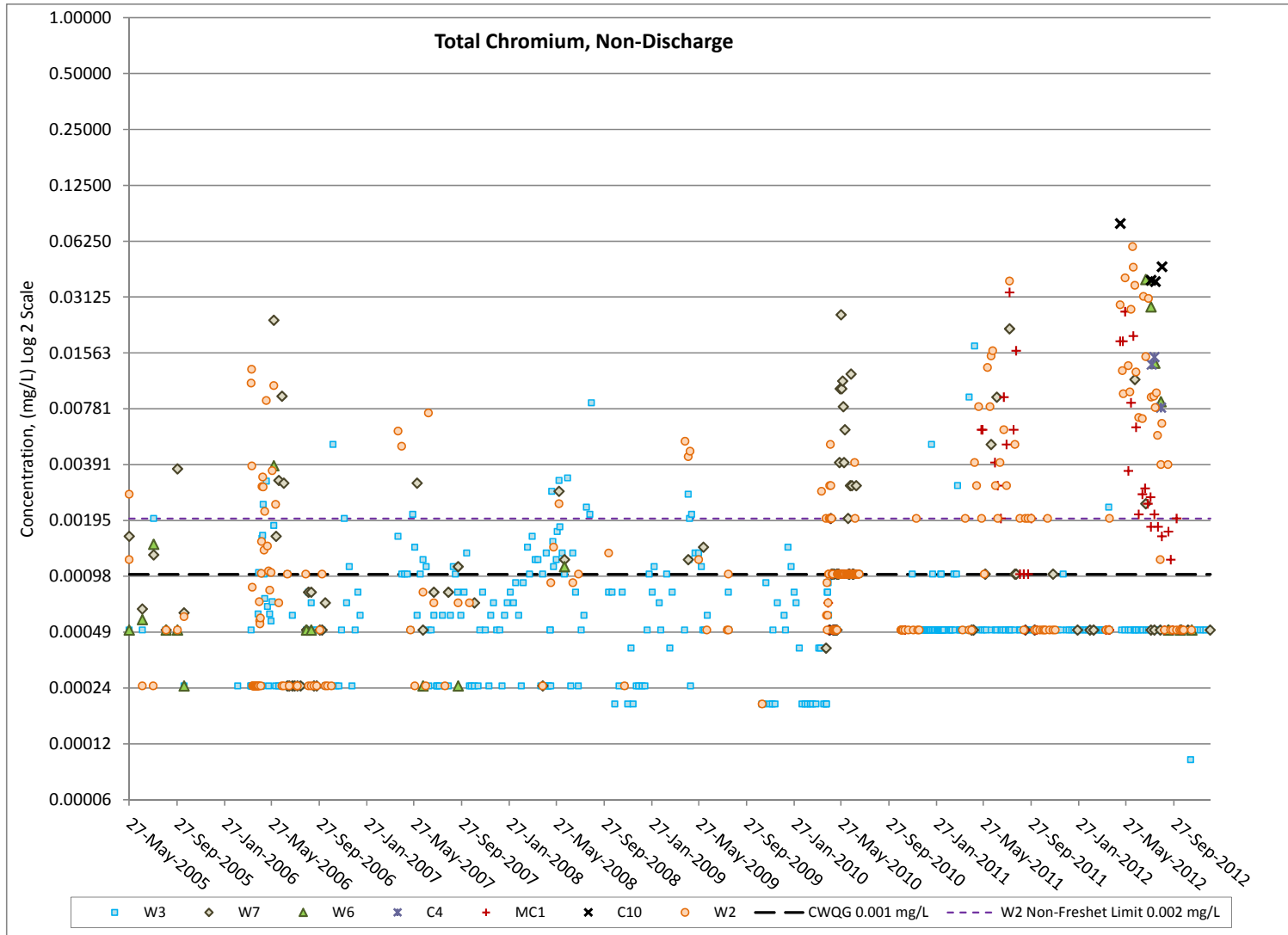


Figure 3-6: Concentrations of Total Chromium in Minto Creek Catchment during Non-Discharge Periods.

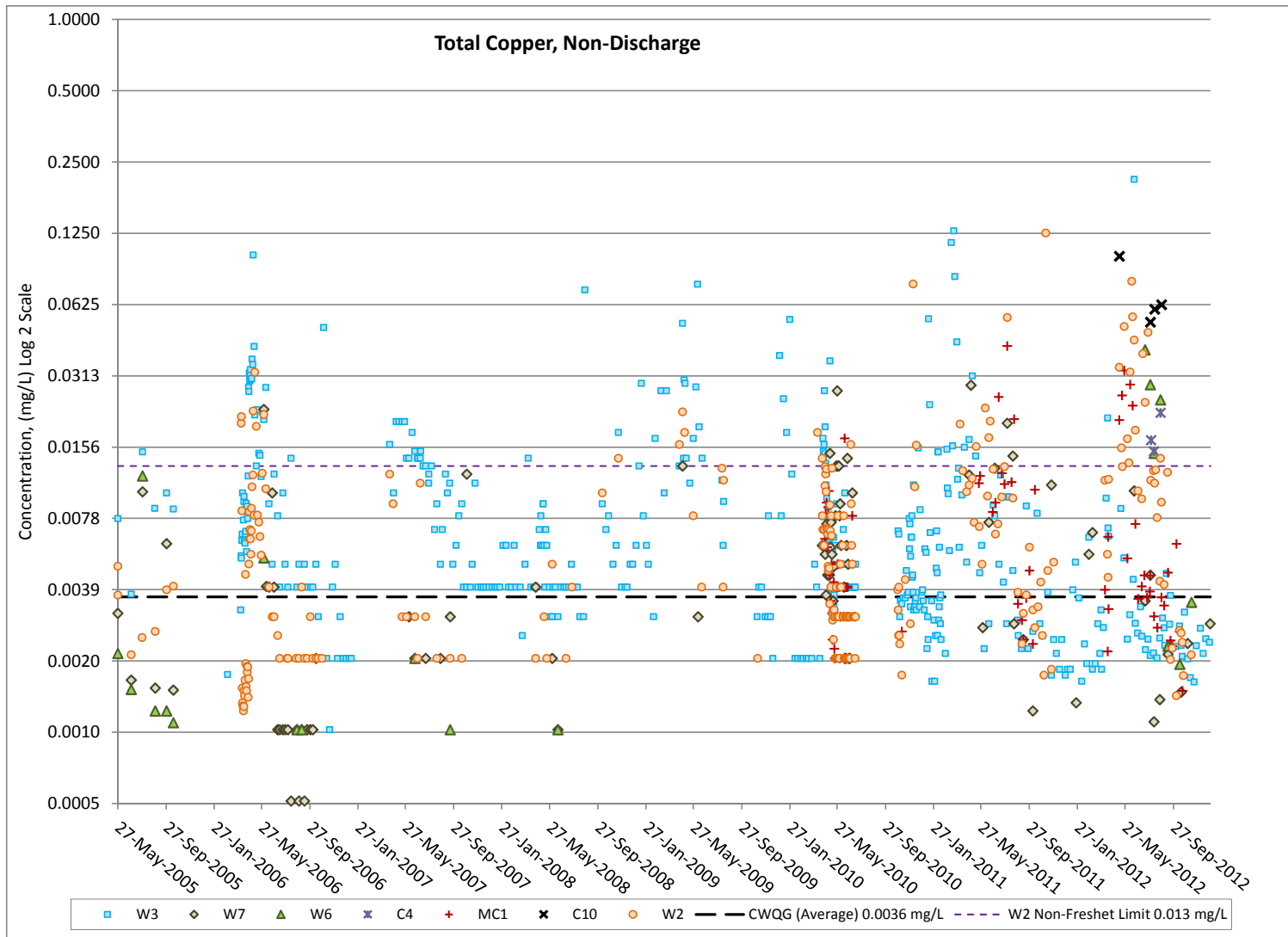


Figure 3-8: Concentrations of Total Copper in Minto Creek Catchment during Non-Discharge Periods.

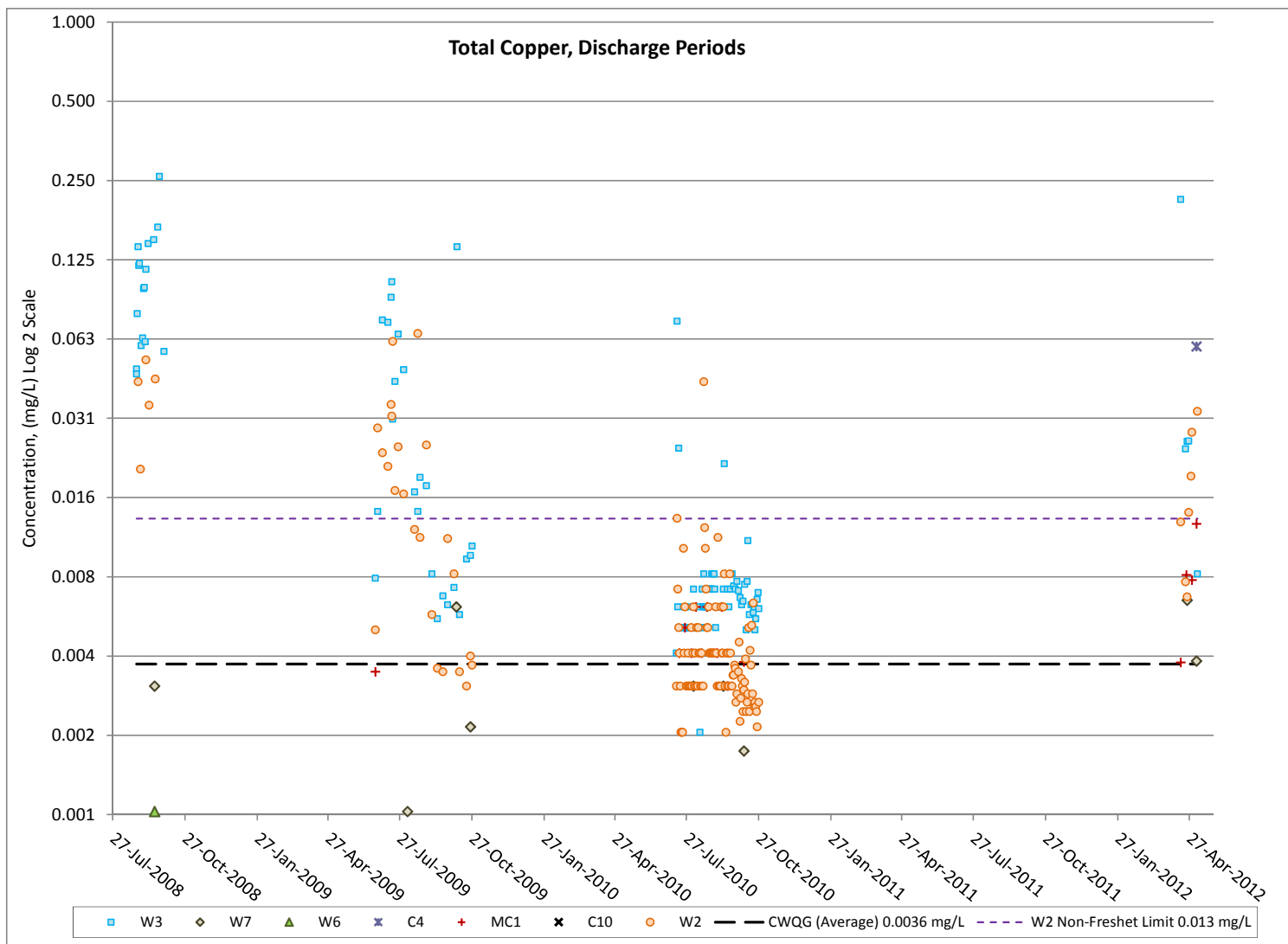


Figure 3-9: Concentrations of Total Copper in Minto Creek Catchment during Mine Discharge Periods.

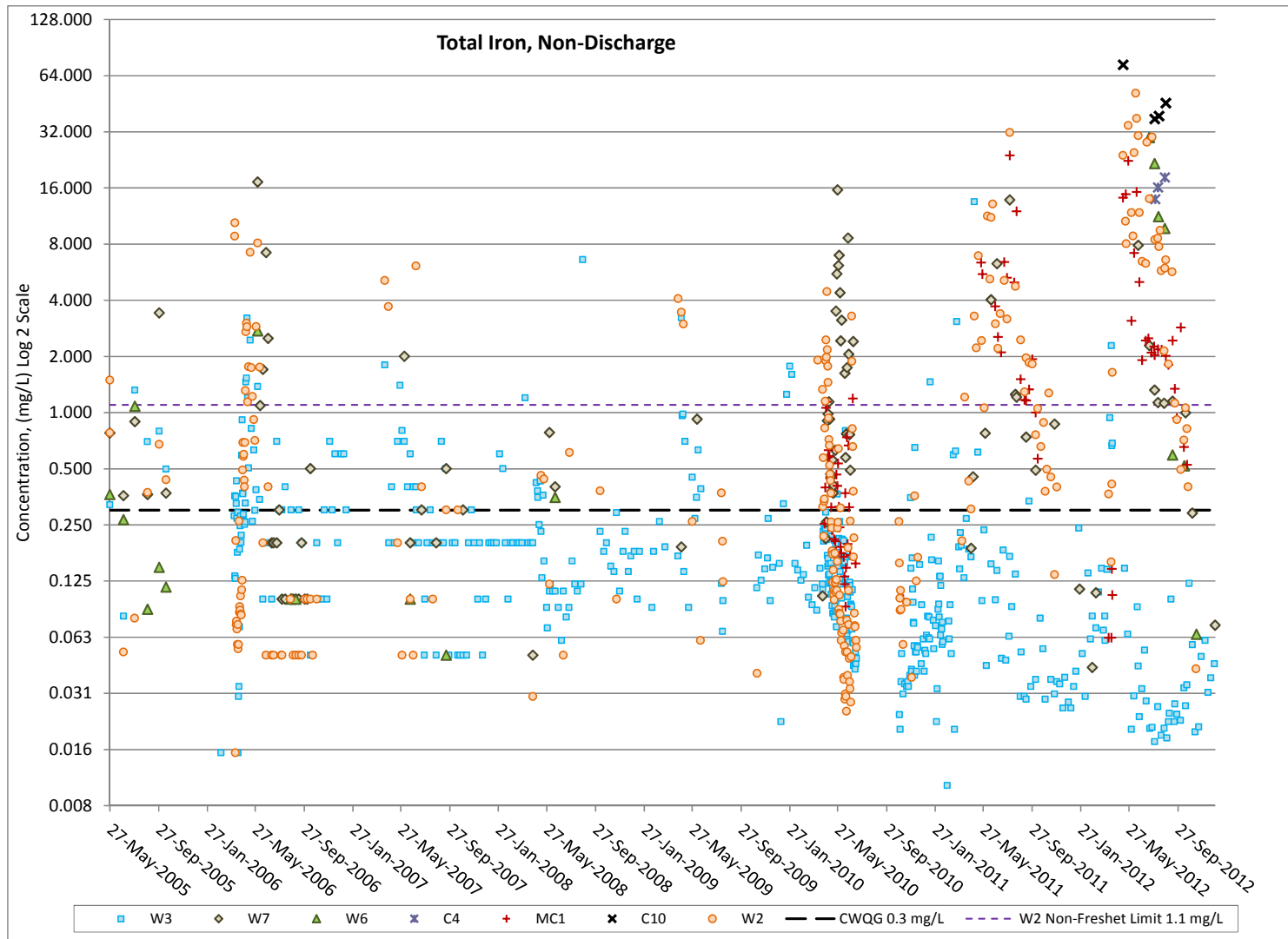


Figure 3-10: Concentrations of Total Iron in Minto Creek Catchment during Non-Discharge Periods.

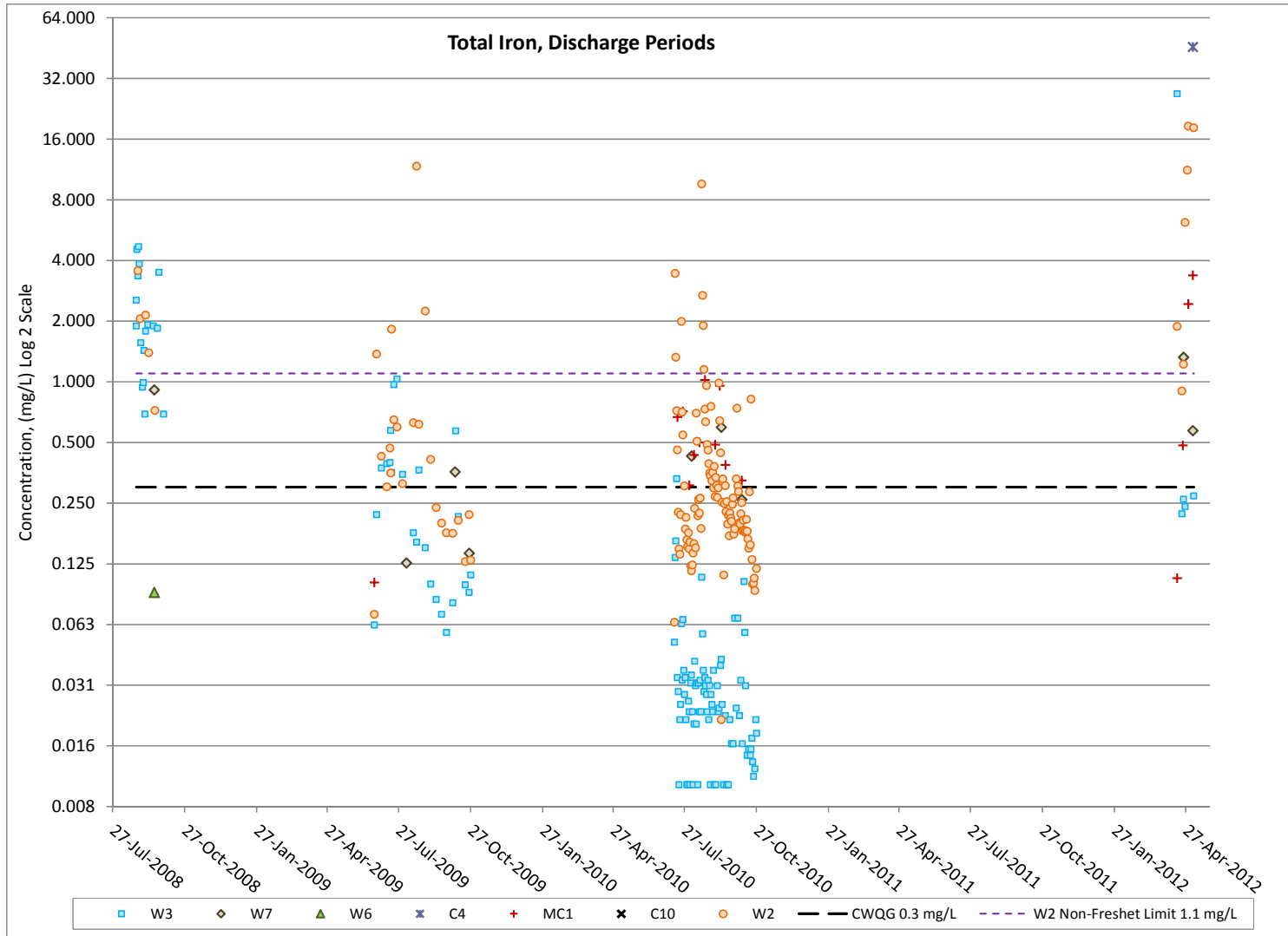


Figure 3-11: Concentrations of Total Iron in Minto Creek Catchment during Mine Discharge Periods.

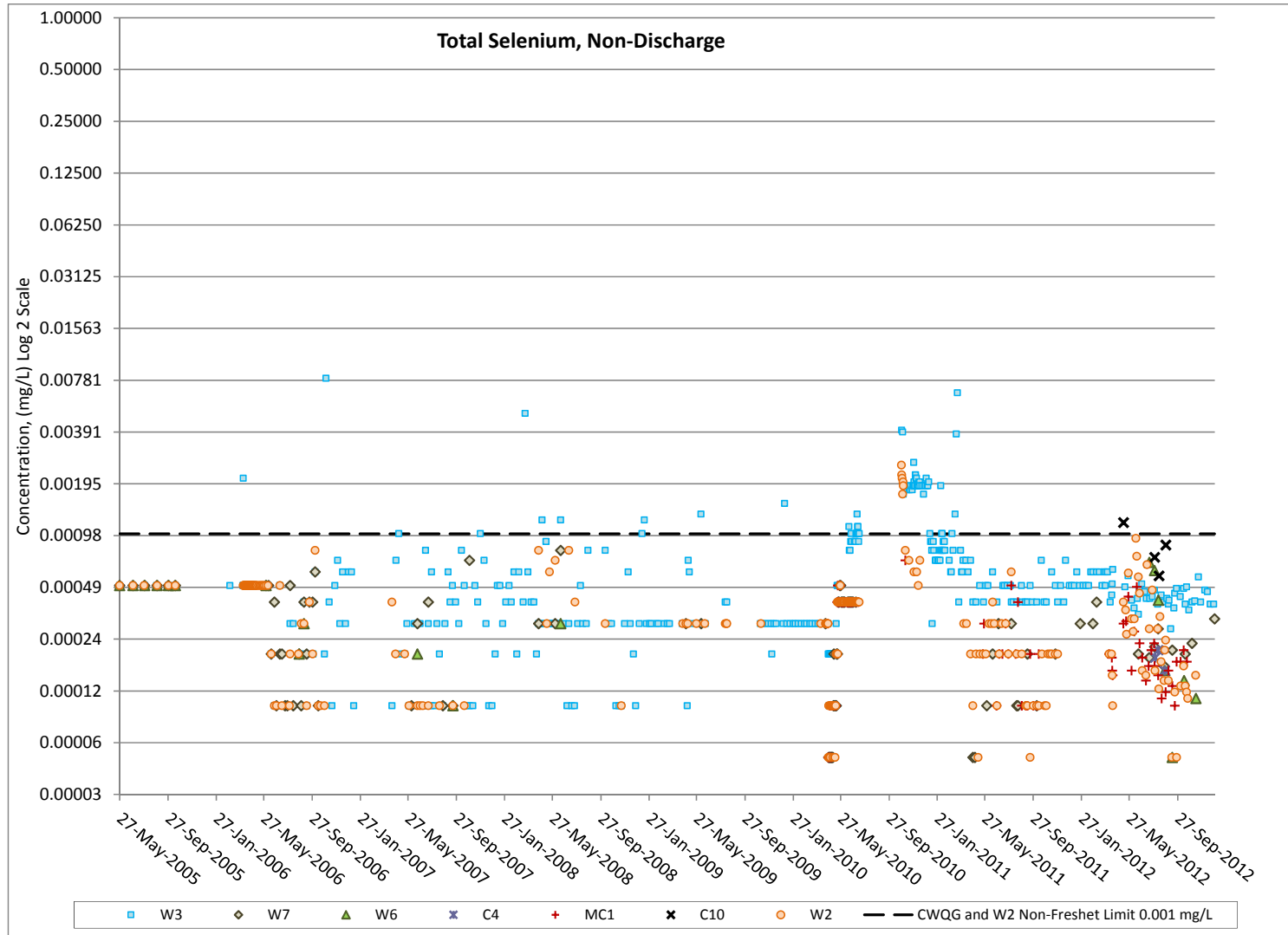


Figure 3-12: Concentrations of Total Selenium in Minto Creek Catchment during Non-Discharge Periods.

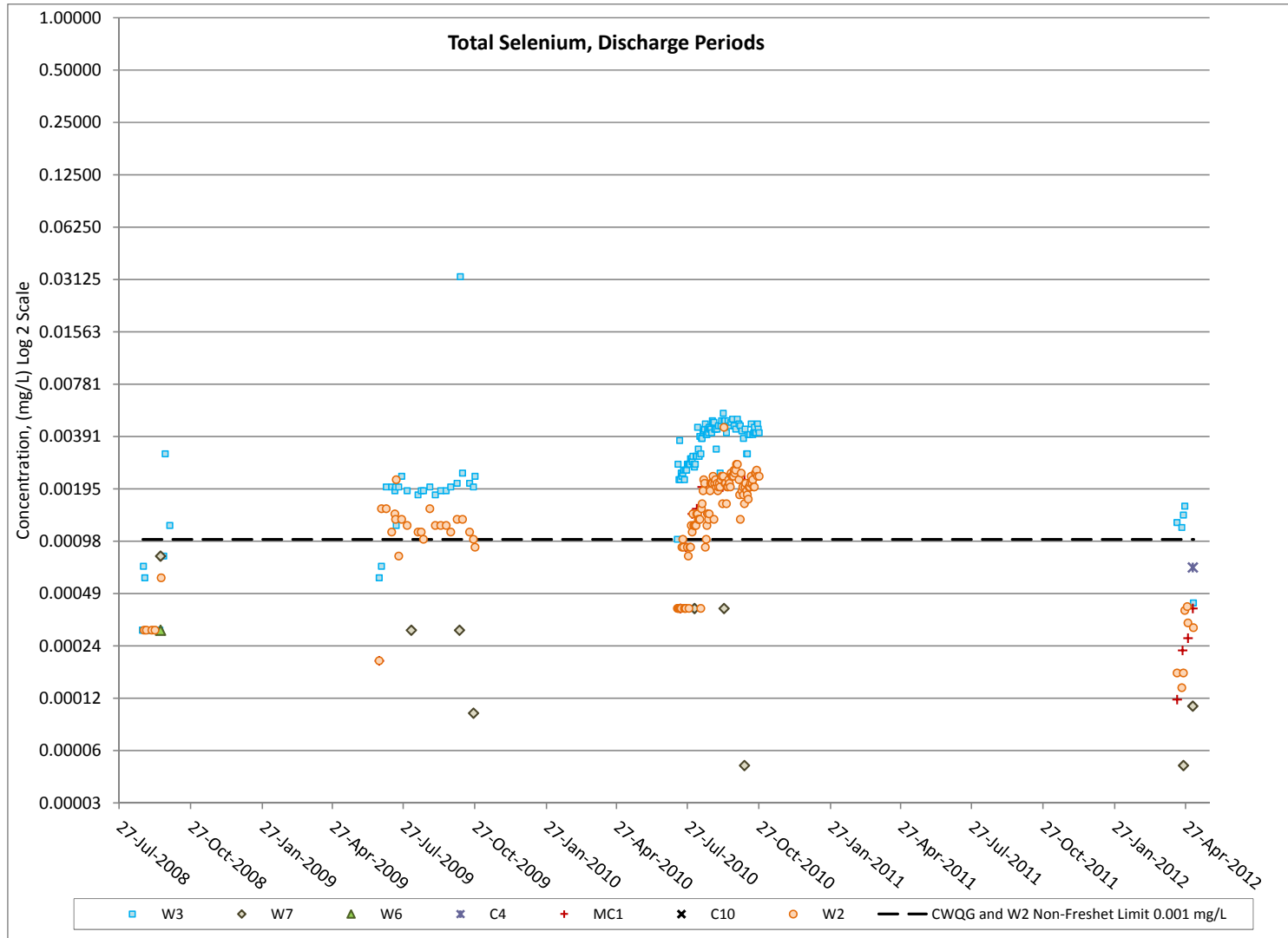


Figure 3-13: Concentrations of Total Selenium in Minto Creek Catchment during Mine Discharge Periods.

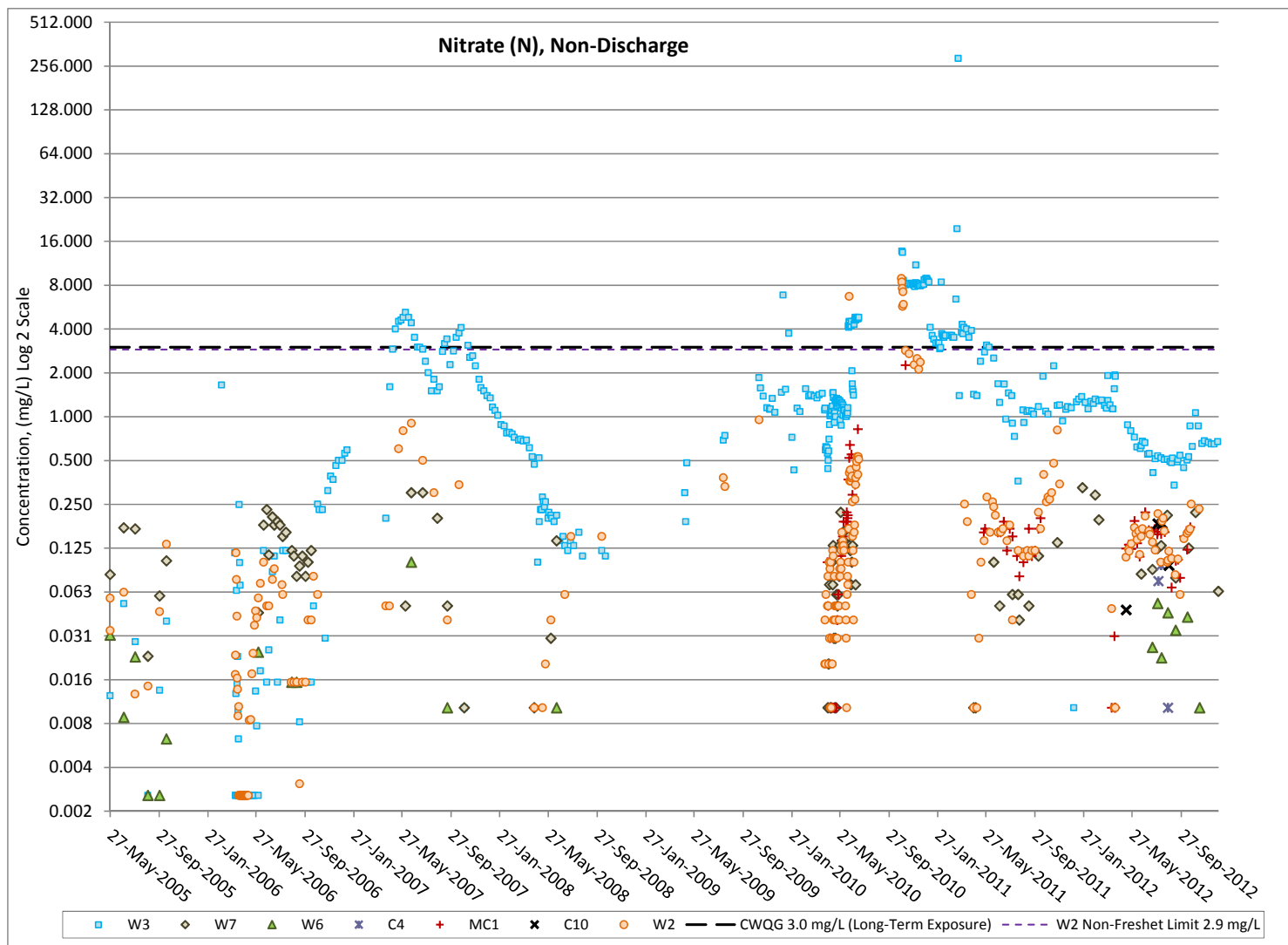


Figure 3-14: Concentrations of Nitrate (N) in Minto Creek Catchment during Non-Discharge Periods.

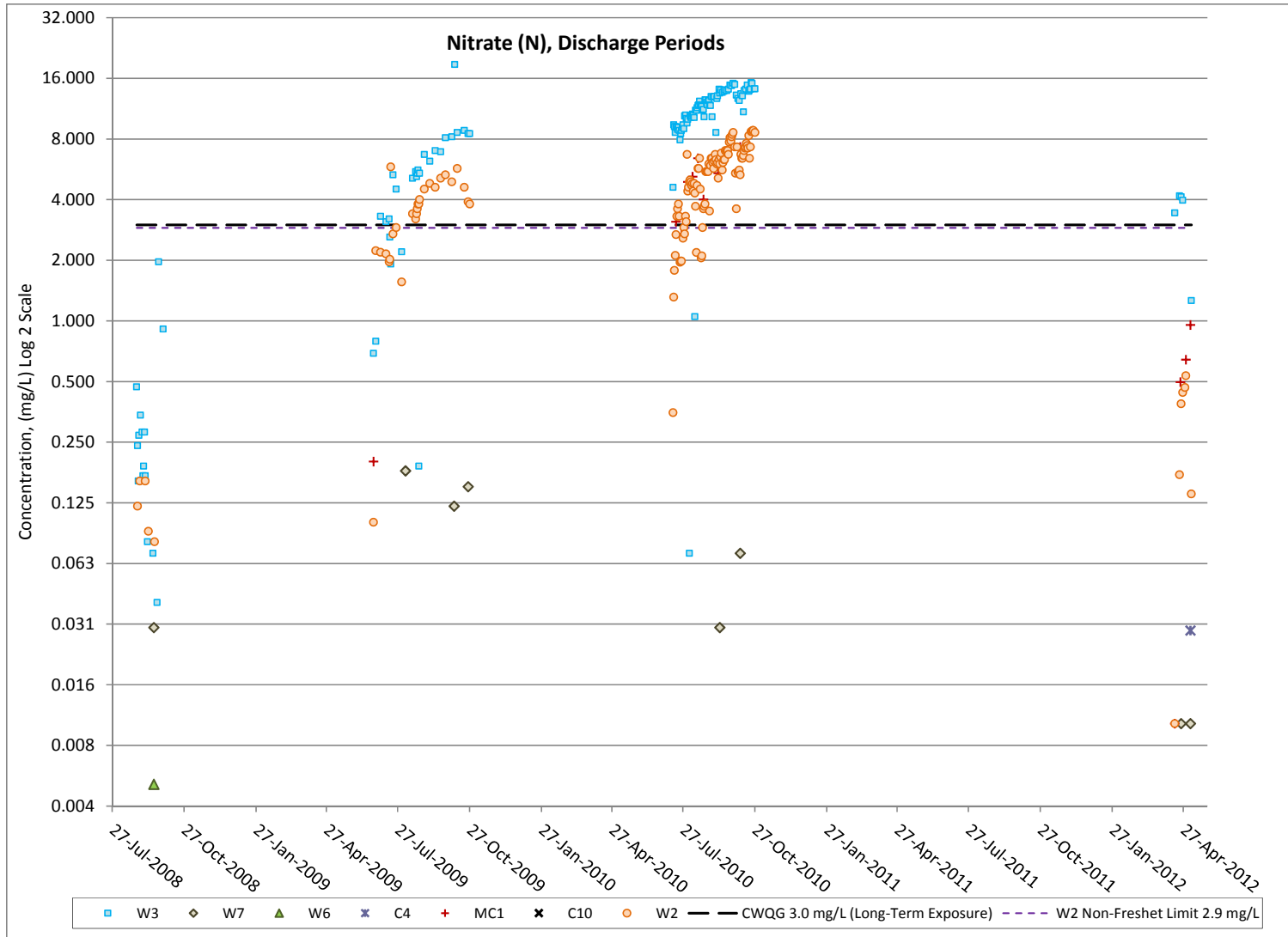


Figure 3-15: Concentrations of Nitrate (N) in Minto Creek Catchment during Mine Discharge Periods.

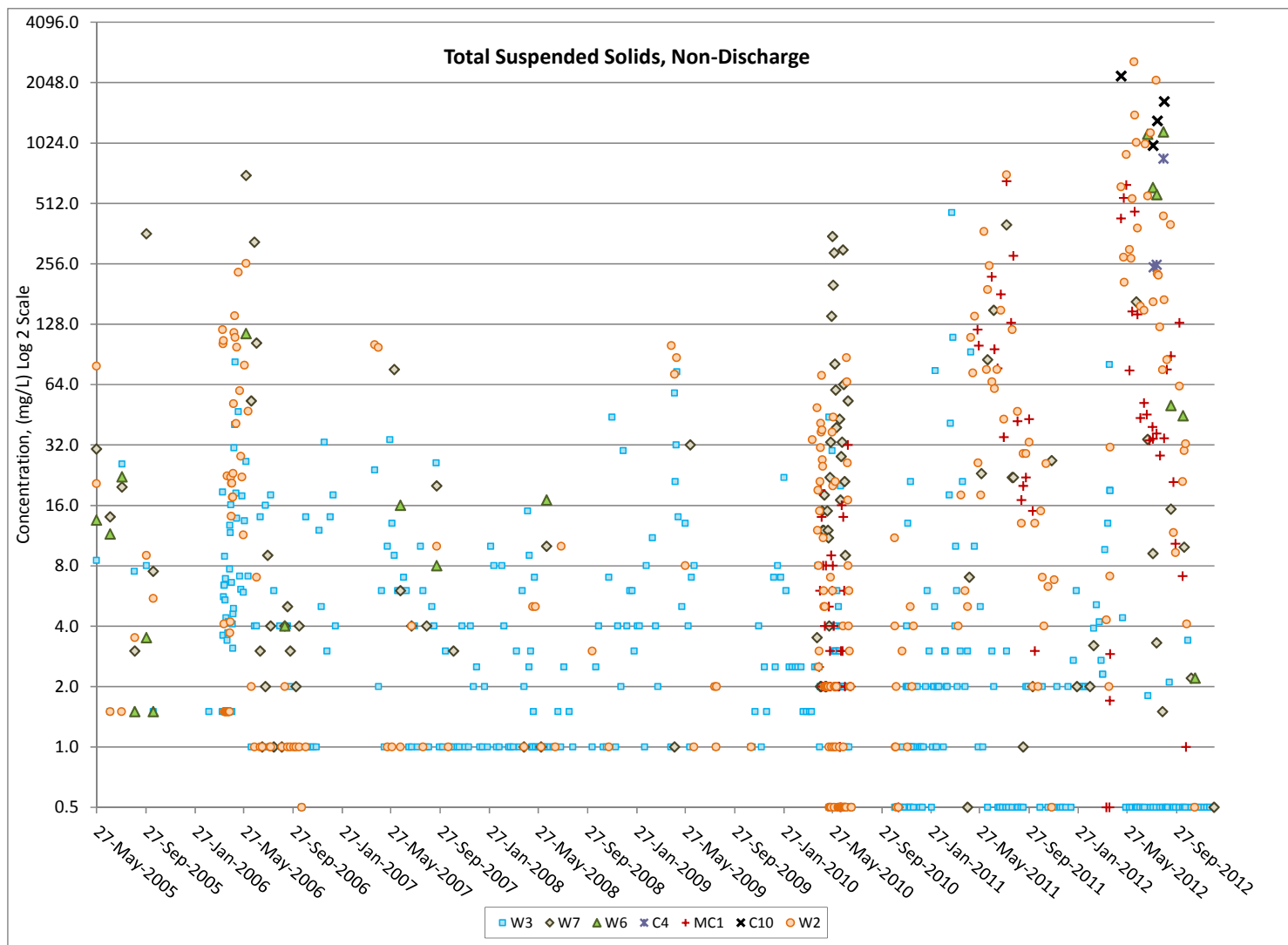


Figure 3-16: Concentrations of Total Suspended Solids in Minto Creek Catchment during Non-Discharge Periods.

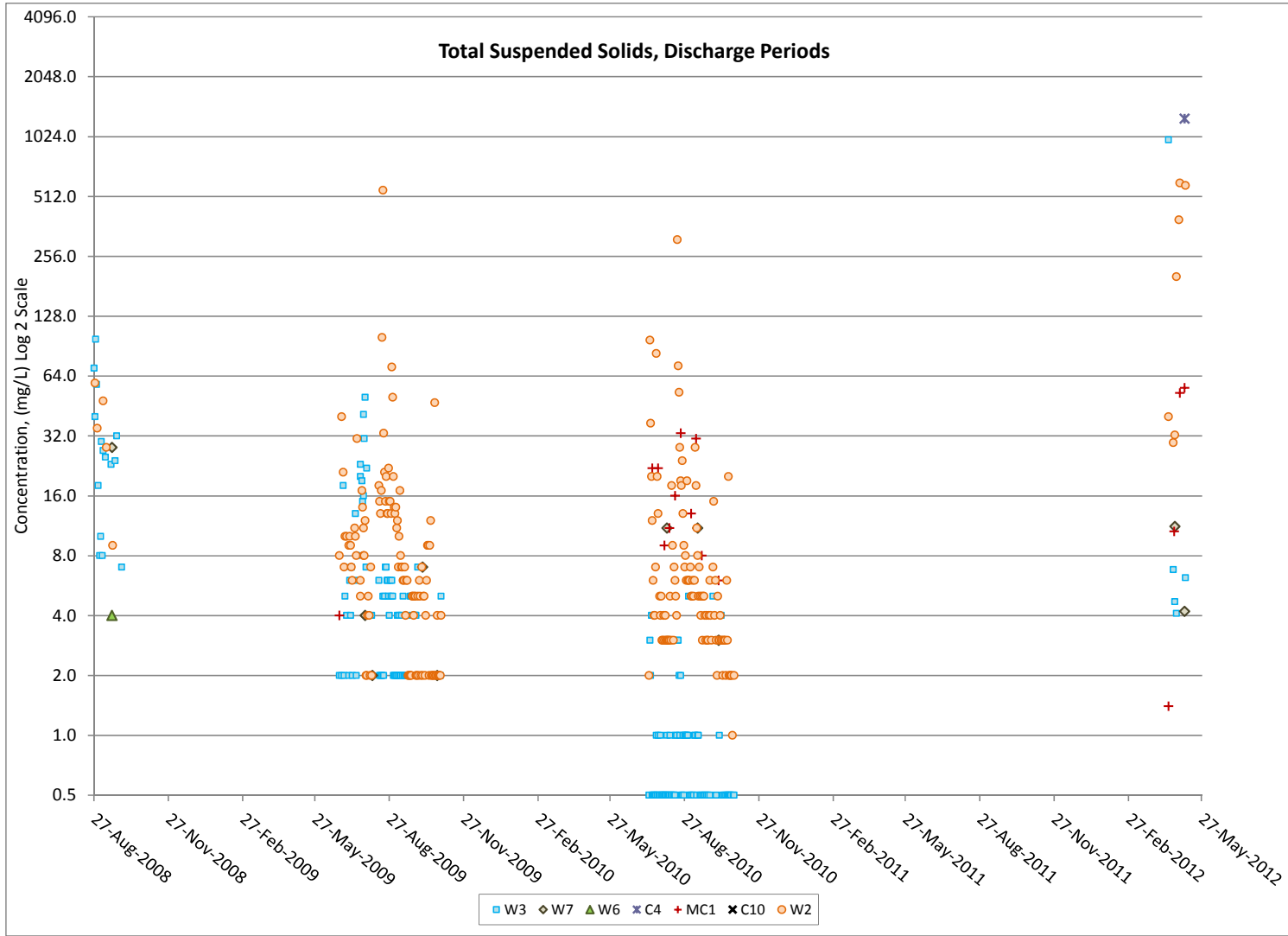


Figure 3-17: Concentrations of Total Suspended Solids in Minto Creek Catchment during Mine Discharge Periods.

3.3 BACKGROUND WATER QUALITY

Background water quality in Minto Creek was characterized by Minnow in 2009 from monitoring conducted between 2005 and 2008. Results from eight sample stations were pooled to create a background dataset, including three stations on mainstem Minto Creek (W1, W2 and W3), three stations on tributaries to Minto Creek (W6, W7 and W8) and two stations in the Minto Creek headwaters (Stations W9 and W10). At the time, data available to represent the background water quality of Minto Creek included all results collected in 2005 following a period of site inactivity but before commencement of operations in 2006, as well as results from reference stations (W6 and W7) from 2006 to 2008. Samples associated with TSS levels higher than 50 mg/L were removed from the Minnow 2009 dataset due to the leveraging effect observed upon metal concentrations.

The background dataset prepared by Minnow in 2009 was updated in 2013 with Minto Creek reference station results including: W6 results from 2012 (seven samples); W7 results from 2009 to 2012 (69 samples); C4 results from 2012 (four samples); and C10 results from 2012 (four samples). The results were collapsed using a two-step process so that average values were calculated where more than one sample was collected in a particular month and year. In the second step an average value was calculated for each month from all years sampled. Calculating average monthly values in this manner attempts to prevent inadvertently weighting the background data. A second background dataset was also looked at with results up to and including 2010, prior to the high TSS events observed in 2011 and 2012. The 2010 and 2012 background datasets are summarized in Tables 3-11 and 3-12 with average values provided for the entire year as well as on a monthly basis. Typically, the toxic fraction of metal concentrations in water is the free ion, and dissolved metal concentrations better represent free ions than do total metals (e.g., Morel 1983; Pagenkopf 1983; Di Toro et al. 2001; Paquin et al. 2002; Niyogi and Wood 2004; USEPA 2007). Therefore, dissolved metal concentrations have also been presented in the summary tables.

Table 3-11: 2010 Background Dataset.

Parameter	Units	Annual (all data)			April		May		June		July		August		September		October	
		n	mean	95th	n	mean	n	mean	n	mean	n	mean	n	mean	n	mean	n	mean
pH (field)	pH units	7	7.83	8.04	1	7.64	1	7.64	1	7.62	1	8.02	1	7.84	1	8.02	1	8.04
pH (lab)	pH units	49	7.84	8.23	1	7.63	8	7.85	8	7.87	8	7.77	8	8.08	8	7.83	8	7.68
Hardness (from dissolved)	mg/L	9	108	122	1	81	1	83	1	104	1	119	2	121	2	113	1	122
Hardness (from total)	mg/L	43	105	157	1	50	8	75	2	96	8	131	8	110	8	108	8	112
Total Dissolved Solids	mg/L	49	152	196	1	135	8	121	8	157	8	166	8	160	8	156	8	152
Total Suspended Solids	mg/L	49	12	45	1	2	8	15	8	16	8	13	8	6	8	17	8	5
Alkalinity, total	mg/L	33	101	147	1	82	6	92	8	102	1	119	8	111	8	94	1	121
Sulphate, dissolved	mg/L	33	17	39.38	1	11	6	40	8	16	1	10	8	11	8	11	1	10
Chloride	mg/L	49	0.5	1.2	1	0.8	8	0.3	8	1.3	8	0.4	8	0.3	8	0.4	8	0.5
Fluoride	mg/L	8	0.22	0.32	1	0.09	1	0.21	2	0.20	1	0.22	1	0.36	1	0.22	1	0.23
Nitrite (N)	mg/L	49	0.004	0.021	1	0.037	8	0.001	8	0.005	8	0.002	8	0.002	8	0.002	8	0.005
Nitrate (N)	mg/L	49	0.036	0.135	1	0.013	8	0.033	8	0.045	8	0.039	8	0.024	8	0.022	8	0.055
Ammonia	mg/L	49	0.019	0.040	1	0.020	8	0.019	8	0.022	8	0.011	8	0.028	8	0.015	8	0.018
Aluminum, total	mg/L	49	0.264	0.943	1	0.078	8	0.339	8	0.270	8	0.579	8	0.167	8	0.159	8	0.092
Arsenic, total	mg/L	49	0.0005	0.0009	1	0.0003	8	0.0005	8	0.0006	8	0.0006	8	0.0005	8	0.0005	8	0.0005
Cadmium, total	mg/L	49	0.000024	0.000042	1	0.000045	8	0.000026	8	0.000026	8	0.000033	8	0.000012	8	0.000010	8	0.000034
Calcium, total	mg/L	49	26.9	38.9	1	19.6	8	19.0	8	27.5	8	32.6	8	28.1	8	27.5	8	27.4
Chromium, total	mg/L	49	0.0009	0.0025	1	0.0006	8	0.0011	8	0.0009	8	0.0014	8	0.0006	8	0.0007	8	0.0004
Copper, total	mg/L	49	0.0056	0.0141	1	0.0074	8	0.0080	8	0.0040	8	0.0079	8	0.0042	8	0.0046	8	0.0049
Iron, total	mg/L	49	0.626	1.558	1	0.144	8	0.606	8	0.660	8	0.960	8	0.542	8	0.619	8	0.429
Lead, total	mg/L	49	0.000247	0.000599	1	0.000117	8	0.000301	8	0.000213	8	0.000387	8	0.000235	8	0.000247	8	0.000118
Magnesium, total	mg/L	49	9.1	14.5	1	8.5	8	6.4	8	9.5	8	11.4	8	9.4	8	9.1	8	9.2
Manganese, total	mg/L	49	0.0479	0.1224	1	0.0179	8	0.0297	8	0.0350	8	0.0577	8	0.0443	8	0.0555	8	0.0691
Mercury, total	mg/L	29	0.000019	0.000052	1	0.000011	8	0.000013	2	0.000045	1	0.000075	8	0.000015	8	0.000015	1	0.000018
Molybdenum, total	mg/L	49	0.0008	0.0016	1	0.0008	8	0.0007	8	0.0008	8	0.0011	8	0.0009	8	0.0006	8	0.0009
Nickel, total	mg/L	49	0.0018	0.0036	1	0.0007	8	0.0024	8	0.0018	8	0.0020	8	0.0016	8	0.0016	8	0.0014
Phosphorus, total	mg/L	8	0.072	0.202	1	0.070	1	0.037	2	0.189	0		1	0.018	2	0.028	1	0.021
Potassium, total	mg/L	49	0.99	1.03	1	1.80	8	1.01	8	0.97	8	0.98	8	0.96	8	0.92	8	1.00
Selenium, total	mg/L	49	0.00047	0.00050	1	0.00024	8	0.00048	8	0.00047	8	0.00048	8	0.00045	8	0.00047	8	0.00048
Silver, total	mg/L	49	0.000015	0.000044	1	0.000021	8	0.000014	8	0.000011	8	0.000013	8	0.000022	8	0.000022	8	0.000008
Sodium, total	mg/L	49	5.48	8.70	1	5.36	8	3.45	8	6.56	8	6.80	8	5.69	8	5.24	8	5.18
Thallium, total	mg/L	49	0.000067	0.000100	1	0.000009	8	0.000096	8	0.000045	8	0.000048	8	0.000089	8	0.000085	8	0.000047
Zinc, total	mg/L	49	0.0037	0.0086	1	0.0054	8	0.0038	8	0.0058	8	0.0040	8	0.0036	8	0.0032	8	0.0015
Aluminum, dissolved	mg/L	49	0.0290	0.0749	1	0.0387	8	0.0438	8	0.0294	8	0.0203	8	0.0217	8	0.0257	8	0.0316
Arsenic, dissolved	mg/L	49	0.00039	0.000586	1	0.000167	8	0.00029	8	0.000448	8	0.00042	8	0.000397	8	0.000373	8	0.00044
Cadmium, dissolved	mg/L	49	0.000020	0.000025	1	0.000043	8	0.000024	8	0.000024	8	0.000023	8	0.000010	8	0.000010	8	0.000024
Calcium, dissolved	mg/L	49	27.4	39.2	1	19.8	8	19.2	8	27.2	8	33.5	8	28.5	8	28.0	8	28.8
Chromium, dissolved	mg/L	49	0.0005	0.0008	1	0.0008	8	0.0005	8	0.0004	8	0.0003	8	0.0005	8	0.0006	8	0.0003
Copper, dissolved	mg/L	49	0.00393	0.00910	1	0.00333	8	0.00661	8	0.00329	8	0.00376	8	0.00334	8	0.00344	8	0.00320
Iron, dissolved	mg/L	49	0.233	0.629	1	0.073	8	0.155	8	0.180	8	0.185	8	0.285	8	0.323	8	0.289
Lead, dissolved	mg/L	49	0.00015	0.00025	1	0.00011	8	0.00024	8	0.00007	8	0.00007	8	0.00024	8	0.00026	8	0.00003
Magnesium, dissolved	mg/L	49	9.2	13.6	1	8.8	8	6.4	8	9.3	8	11.3	8	9.5	8	9.3	8	9.6
Manganese, dissolved	mg/L	49	0.0281	0.0875	1	0.0143	8	0.0060	8	0.0168	8	0.0217	8	0.0296	8	0.0386	8	0.0576
Mercury, dissolved	mg/L	28	0.000017	0.000041	1	0.000008	8	0.000015	1	0.000040	1	0.000075	8	0.000014	8	0.000014	1	0.000008
Molybdenum, dissolved	mg/L	49	0.0008	0.0015	1	0.0008	8	0.0005	8	0.0008	8	0.0010	8	0.0008	8	0.0006	8	0.0008
Nickel, dissolved	mg/L	49	0.0012	0.0017	1	0.0006	8	0.0015	8	0.0012	8	0.0011	8	0.0014	8	0.0013	8	0.0011
Phosphorus, dissolved	mg/L	7	0.018	0.028	1	0.028	1	0.012	1	0.010	0		1	0.028	2	0.020	1	0.005
Potassium, dissolved	mg/L	49	0.992	1.000	1	1.842	8	0.984	8	0.979	8	0.979	8	0.986	8	0.930	8	0.989
Selenium, dissolved	mg/L	49	0.00048	0.00050	1	0.00024	8	0.00048	8	0.00050	8	0.00047	8	0.00047	8	0.00049	8	0.00047
Silver, dissolved	mg/L	49	0.000010	0.000032	1	0.000007	8	0.000011	8	0.000008	8	0.000009	8	0.000013	8	0.000013	8	0.000010
Sodium, dissolved	mg/L	49	5.57	9.04	1	5.58	8	3.53	8	6.46	8	6.85	8	5.76	8	5.38	8	5.44
Thallium, dissolved	mg/L	49	0.000066	0.000100	1	0.000009	8	0.000091	8	0.000047	8	0.000048	8	0.000090	8	0.000083	8	0.000047
Zinc, dissolved	mg/L	49	0.0033	0.0104	1	0.0044	8	0.0033	8	0.0066	8	0.0030	8	0.0029	8	0.0025	8	0.0013



Table 3-12: 2012 Background Dataset.

Parameter	Units	Annual (all data)		January		February		March		April		May		June		July		August		September		October		November		December		
		n	mean	95th	n	mean	n	mean	n	mean	n	mean	n	mean	n	mean	n	mean	n	mean	n	mean	n	mean	n	mean	n	mean
pH (field)	pH units	20	7.74	8.31	0		1	7.16	1	6.72	1	7.57	3	7.59	1	7.61	3	7.99	4	8.04	2	7.98	2	8.15	1	6.69	1	7.97
pH (lab)	pH units	60	7.86	8.24	1	8.13	1	7.99	1	8.17	1	7.58	10	7.73	8	7.87	9	7.83	10	8.09	8	7.84	8	7.70	2	7.94	1	8.13
Hardness (from dissolved)	mg/L	21	121	169	1	169	1	165	1	161	1	65	3	55	1	101	3	116	4	124	2	108	1	121	2	153	1	223
Hardness (from total)	mg/L	54	120	206	1	158	1	160	1	159	1	43	10	91	2	95	9	137	10	130	8	109	8	114	2	152	1	206
Total Dissolved Solids	mg/L	60	155	216	1	226	1	216	1	176	1	115	10	116	8	156	9	163	10	165	8	154	8	153	2	174	1	262
Total Suspended Solids	mg/L	60	132	1008	1	2	1	2	1	3	1	3	10	357	8	17	9	171	10	243	8	15	8	8	2	8	1	1
Alkalinity, total	mg/L	46	107	163	1	165	1	155	1	154	1	64	8	79	8	102	3	116	10	115	8	94	2	111	2	140	1	207
Sulphate, dissolved	mg/L	46	15	34	1	18	1	18	1	19	1	7	8	30	8	16	3	3	10	9	8	11	2	6	2	10	1	29
Chloride	mg/L	60	0.7	1.6	1	0.8	1	0.9	1	0.5	1	1.1	10	0.4	8	1.3	9	0.5	10	0.6	8	0.5	8	0.5	2	1.0	1	1.9
Fluoride	mg/L	23	0.34	0.43	1	0.43	1	0.42	1	0.42	1	0.10	3	0.16	2	0.20	3	0.27	4	0.72	2	0.21	2	0.22	2	0.26	1	0.43
Nitrite (N)	mg/L	60	0.004	0.022	1	0.003	1	0.003	1	0.003	1	0.022	10	0.002	8	0.005	9	0.004	10	0.004	8	0.001	8	0.004	2	0.003	1	0.003
Nitrate (N)	mg/L	60	0.054	0.185	1	0.324	1	0.289	1	0.195	1	0.011	10	0.031	8	0.043	9	0.052	10	0.039	8	0.023	8	0.058	2	0.094	1	0.063
Ammonia	mg/L	60	0.028	0.063	1	0.005	1	0.006	1	0.007	1	0.013	10	0.042	8	0.025	9	0.039	10	0.036	8	0.014	8	0.018	2	0.024	1	0.025
Aluminum, total	mg/L	60	2.416	21.383	1	0.010	1	0.018	1	0.043	1	0.220	10	7.157	8	0.338	9	3.897	10	3.303	8	0.150	8	0.105	2	0.128	1	0.013
Arsenic, total	mg/L	60	0.001664	0.01231	1	0.0004	1	0.0003	1	0.0004	1	0.000401	10	0.003713	8	0.000603	9	0.002365	10	0.002578	8	0.000496	8	0.00049	2	0.000505	1	0.00042
Cadmium, total	mg/L	60	0.000067	0.000368	1	0.000010	1	0.000030	1	0.000010	1	0.000043	10	0.000161	8	0.000028	9	0.000092	10	0.000081	8	0.000010	8	0.000030	2	0.000069	1	0.000015
Calcium, total	mg/L	60	30.0	49.7	1	39.5	1	41	1	39.7	1	15.9	10	22.20003	8	27.5	9	34.9	10	33.7	8	27.6	8	33.7	8	27.6	1	49.6
Chromium, total	mg/L	60	0.0049	0.0387	1	0.0005	1	0.0005	1	0.0005	1	0.0008	10	0.0145	8	0.0010	9	0.0075	10	0.0063	8	0.0006	8	0.0005	2	0.0006	1	0.0005
Copper, total	mg/L	60	0.0103	0.0530	1	0.0013	1	0.0055	1	0.0068	1	0.0081	10	0.0228	8	0.0041	9	0.0142	10	0.0120	8	0.0046	8	0.0049	2	0.0050	1	0.0028
Iron, total	mg/L	60	4.413	37.738	1	0.113	1	0.043	1	0.108	1	0.388	10	12.325	8	0.762	9	6.502	10	6.683	8	0.625	8	0.467	2	0.321	1	0.072
Lead, total	mg/L	60	0.00131	0.01008	1	0.00010	1	0.00010	1	0.00010	1	0.00015	10	0.00361	8	0.00023	9	0.00190	10	0.00198	8	0.00024	8	0.00012	2	0.00028	1	0.00010
Magnesium, total	mg/L	60	10.3	17.7	1	14.5	1	13.9	1	14.6	1	6.5	10	8.4	8	9.5	9	11.8	10	10.8	8	9.1	8	9.3	2	12.5	1	19.9
Manganese, total	mg/L	60	0.1606	0.9528	1	0.0600	1	0.0040	1	0.0050	1	0.0284	10	0.3242	8	0.0362	9	0.1919	10	0.3095	8	0.0570	8	0.0734	2	0.0501	1	0.0405
Mercury, total	mg/L	42	0.000014	0.000041	1	0.000005	1	0.000005	1	0.000005	1	0.000010	10	0.000011	2	0.000040	3	0.000041	10	0.000012	8	0.000013	2	0.000010	2	0.000006	1	0.000005
Molybdenum, total	mg/L	60	0.0009	0.0019	1	0.0010	1	0.0010	1	0.0010	1	0.0007	10	0.0009	8	0.0008	9	0.0012	10	0.0009	8	0.0006	8	0.0009	2	0.0008	1	0.0012
Nickel, total	mg/L	60	0.0057	0.0414	1	0.0005	1	0.0005	1	0.0005	1	0.0009	10	0.0141	8	0.0019	9	0.0080	10	0.0083	8	0.0017	8	0.0014	2	0.0015	1	0.0016
Phosphorus, total	mg/L	23	0.357	1.254	1	0.014	1	0.012	1	0.016	1	0.065	3	1.075	2	0.180	3	0.649	4	0.589	2	0.031	2	0.038	2	0.033	1	0.022
Potassium, total	mg/L	60	1.21	3.03	1	1.57	1	1.51	1	1.46	1	1.70	10	1.58	8	0.97	9	1.29	10	1.23	8	0.91	8	0.97	2	0.82	1	2.29
Selenium, total	mg/L	60	0.00046	0.00069	1	0.00030	1	0.00030	1	0.00040	1	0.00017	10	0.00056	8	0.00046	9	0.00051	10	0.00045	8	0.00045	8	0.00045	2	0.00016	1	0.00032
Silver, total	mg/L	60	0.000030	0.000200	1	0.000010	1	0.000010	1	0.000010	1	0.000017	10	0.000066	8	0.000011	9	0.000040	10	0.000041	8	0.000019	8	0.000007	2	0.000010	1	0.000010
Sodium, total	mg/L	60	5.67	8.74	1	8.39	1	8.08	1	8.36	1	4.02	10	3.41	8	6.53	9	6.52	10	5.72	8	5.24	8	5.25	2	6.70	1	11.70
Thallium, total	mg/L	60	0.000075	0.000203	1	0.000025	1	0.000025	1	0.000025	1	0.000016	10	0.000136	8	0.000045	9	0.000069	10	0.000097	8	0.000084	8	0.000045	2	0.000025	1	0.000025
Zinc, total	mg/L	60	0.0127	0.0956	1	0.0025	1	0.0025	1	0.0025	1	0.0043	10	0.0315	8	0.0059	9	0.0176	10	0.0181	8	0.0031	8	0.0015	2	0.0051	1	0.0025
Aluminum, dissolved	mg/L	60	0.0296	0.0721	1	0.0053	1	0.0211	1	0.0031	1	0.0446	10	0.0488	8	0.0291	9	0.0255	10	0.0269	8	0.0259	8	0.0317	2	0.0074	1	0.0061
Arsenic, dissolved	mg/L	60	0.000494	0.001211	1	0.00041	1	0.00033	1	0.00039	1	0.000256	10	0.000457	8	0.000453	9	0.000564	10	0.000694	8	0.000386	8	0.000446	2	0.000428	1	0.00051
Cadmium, dissolved	mg/L	60	0.000019	0.000029	1	0.000035	1	0.000064	1	0.000005	1	0.000037	10	0.000024	8	0.000024	9	0.000020	10	0.000009	8	0.000009	8	0.000024	2	0.000012	1	0.000005
Calcium, dissolved	mg/L	60	28.8	41.2	1	43	1	41.2	1	41.2	1	16.1	10	18.0	8	27.1	9	32.9	10	30.2	8	28.1	8	28.8	2	40.2	1	56.1
Chromium, dissolved	mg/L	60	0.0005	0.0007	1	0.0005	1	0.0005	1	0.0005	1	0.0007	10	0.0005	8	0.0004	9	0.0004	10	0.0005	8	0.0006	8	0.0003	2	0.0005	1	0.0005
Copper, dissolved	mg/L	60	0.00380	0.00965	1	0.00114	1	0.01540	1	0.00122	1	0.00459	10	0.00596	8	0.00329	9	0.00347	10	0.00300	8	0.00345	8	0.00320	2	0.00158	1	0.00232
Iron, dissolved	mg/L	60	0.317	1.112	1	0.094	1	0.049	1	0.102	1	0.169	10	0.397	8	0.189	9	0.316	10	0.502	8	0.340	8	0.302	2	0.099	1	0.030
Lead, dissolved	mg/L	60	0.00015	0.00025	1	0.00010	1	0.00024	1	0.00010	1	0.00010	10	0.00022	8	0.00007	9	0.00014	10	0.00020	8	0.00024	8	0.00003	2	0.00013	1	0.00010
Magnesium, dissolved	mg/L	60	9.5	15.2	1	14.9	1	15.1	1	14.2	1	6.6	10	5.7	8	9.3	9	10.5	10	9.4	8	9.3	8	9.6	2	12.8	1	20.2
Manganese, dissolved	mg/L	60	0.0563	0.2439	1	0.0614	1	0.0070	1	0.0015	1	0.0237	10	0.0598	8	0.0167	9	0.0446	10	0.1226	8	0.0413	8	0.0590	2	0.0416	1	0.0374
Mercury, dissolved	mg/L	41	0.000011	0.000030	1	0.000005	1	0.000005	1	0.000005	1	0.000008	10	0.000012	1	0.000029	3	0.000020	10	0.000011	8	0.000012	2	0.000007	2	0.000006	1	0.000005
Molybdenum, dissolved	mg/L	60	0.0008	0.0015	1	0.0015	1	0.0014	1	0.0011	1	0.0007	10	0.0005	8	0.0008	9	0.0010	10	0.0009	8	0.0006	8	0.0008	2	0.0009	1	0.0012
Nickel, dissolved	mg/L	60	0.0013	0.0023	1	0.0005	1	0.0005	1	0.0005	1	0.0008	10	0.0016	8	0.0012	9	0.0013	10	0.0016	8	0.0014	8	0.0011	2	0.0013	1	0.0011
Phosphorus, dissolved	mg/L	21	0.022	0.039	1	0.012	1	0.031	1	0.005	1	0.032	3	0.030	1	0.014	3	0.023	4	0.032	2	0.017	1	0.014	2	0.014	1	0.005
Potassium, dissolved	mg/L	60	1.023	1.602	1	1.600	1	1.630	1	1.500	1	1.691	10	0.999	8	0.974	9	0.938	1									

3.3.1 2014 Background Water Quality Update

The background dataset has been updated in this version of the report to include the 2013 monitoring results from Minto Creek reference stations: W6 (eight samples), W7 (nine samples), C4 (six samples) and C10 (five samples). An updated outlier assessment of W6 and W7 showed two 2013 outliers each (<> three standard deviations from the mean):

- W6: dissolved copper and dissolved potassium on May 14, 2013 set new maximum values for the dataset.
- W7: dissolved manganese and field pH on December 7, 2013 set new maximum and minimum values respectively for the dataset.

No W6 or W7 2013 outliers were removed from the dataset. Examination of the W7 outlier assessment has resulted in the removal of an apparently erroneous dissolved copper value from February 25, 2012, which is an order of magnitude above both the total copper result as well as what is typically observed at this site.

While an outlier assessment of the C4 and C10 results was conducted, due to the small sample size (ten and nine respectively), no outliers were identified. The entire background water quality dataset was also subjected to an outlier assessment which showed a high frequency of outliers for the C4 June 22, 2013 and November 17, 2013 sample events. The C4 June and November 2013 sample events were noted as being collected during low flow periods. The C4 November 17, 2013 dissolved and total iron results have been removed from analysis of the background dataset as they are not considered representative results for this station. Both the updated background water quality dataset (2005 to 2013) and outlier assessment are provided in Appendix C.

The updated background dataset was collapsed using a two-step process to prevent inadvertently weighting the background data. Average values were calculated where more than one sample was collected in a particular month and year, and subsequently an average value was calculated for each month and station from all years sampled. The average monthly concentrations at each station were then combined for an overall average monthly background concentration for June through October. Due to limited sampling during the winter period, the November through March station averages have been combined to create an overall average concentration for this period. Sampling in April is limited to an average concentration from W7, which has been combined with May to provide an overall April to May average concentration.

A second background dataset was also looked at with results included only if associated with TSS ≤ 15 mg/L, to provide an idea of background water quality with the leveraging effect of TSS upon metal concentrations removed. Both the complete dataset and the dataset associated with TSS ≤ 15 mg/L are summarized in Tables 3-13 and 3-14 with average values provided for the entire year as well as on a monthly basis.

Table 3-13: 2005 to 2013 Background Dataset with Results Associated with All TSS.

Parameter	Units	Annual (all data)			Nov - Mar		Apr - May		June		July		August		September		October	
		n ¹	mean	95th	n	mean	n	mean	n	mean	n	mean	n	mean	n	mean	n	mean
pH (field)	pH units	32	7.72	8.26	7	7.24	5	7.67	4	7.86	4	8.02	4	7.99	4	7.89	4	7.70
pH (lab)	pH units	69	7.90	8.25	8	8.07	11	7.72	10	7.93	10	7.86	10	8.09	10	7.88	10	7.82
Hardness (from dissolved)	mg/L	33	124	180	8	175	5	55	4	118	4	117	4	126	4	124	4	124
Hardness (from total)	mg/L	63	128	210	8	177	11	88	4	144	10	139	10	128	10	121	10	121
Total Dissolved Solids	mg/L	69	162	222	8	206	11	116	10	165	10	164	10	166	10	162	10	167
Total Suspended Solids	mg/L	69	122	712	8	8	11	325	10	108	10	148	10	175	10	31	10	16
Alkalinity, total	mg/L	55	114	168	8	168	9	79	10	108	4	118	10	115	10	103	4	121
Dissolved Organic Carbon	mg/L	32	12.77	19.78	8	10.28	5	15.65	4	12.76	3	13.61	4	12.66	4	14.60	4	11.78
Sulphate, dissolved	mg/L	55	13	36	8	13	9	27	10	14	4	4	10	9	10	9	4	13
Chloride	mg/L	69	0.8	2.1	8	1.2	11	0.5	10	1.3	10	0.6	10	0.7	10	0.7	10	0.8
Fluoride	mg/L	33	0.27	0.42	8	0.35	5	0.15	4	0.23	4	0.25	4	0.47	4	0.21	4	0.21
Nitrite (N)	mg/L	69	0.004	0.021	8	0.005	11	0.004	10	0.006	10	0.004	10	0.003	10	0.002	10	0.003
Nitrate (N)	mg/L	69	0.066	0.200	8	0.158	11	0.030	10	0.087	10	0.051	10	0.040	10	0.046	10	0.071
Ammonia	mg/L	69	0.047	0.186	8	0.047	11	0.046	10	0.075	10	0.056	10	0.043	10	0.029	10	0.034
Aluminum, total	mg/L	69	2.470	13.332	8	0.070	11	6.555	10	2.505	10	3.729	10	2.525	10	0.712	10	0.302
Arsenic, total	mg/L	69	0.0019	0.0084	8	0.0011	11	0.0034	10	0.0019	10	0.0024	10	0.0021	10	0.0011	10	0.0007
Cadmium, total	mg/L	69	0.000063	0.000246	8	0.000025	11	0.000149	10	0.000056	10	0.000082	10	0.000063	10	0.000024	10	0.000026
Calcium, total	mg/L	69	32.4	52.9	8	45.5	11	21.6	10	32.2	10	35.9	10	33.2	10	31.4	10	30.6
Chromium, total	mg/L	69	0.0052	0.0268	8	0.0006	11	0.0133	10	0.0054	10	0.0076	10	0.0050	10	0.0017	10	0.0009
Copper, total	mg/L	69	0.0099	0.0323	8	0.0041	11	0.0215	10	0.0087	10	0.0132	10	0.0098	10	0.0049	10	0.0047
Iron, total	mg/L	68	4.66	24.06	7	0.19	11	11.29	10	4.64	10	6.45	10	5.14	10	1.87	10	1.01
Lead, total	mg/L	69	0.0013	0.0065	8	0.0001	11	0.0033	10	0.0012	10	0.0018	10	0.0015	10	0.0004	10	0.0002
Magnesium, total	mg/L	69	10.7	18.3	8	15.3	11	8.3	10	10.6	10	11.7	10	10.6	10	9.8	10	9.6
Manganese, total	mg/L	69	0.230	1.068	8	0.436	11	0.302	10	0.165	10	0.226	10	0.245	10	0.136	10	0.136
Mercury, total	mg/L	51	0.000012	0.000030	8	0.000005	11	0.000010	4	0.000019	4	0.000024	10	0.000012	10	0.000011	4	0.000007
Molybdenum, total	mg/L	69	0.0009	0.0018	8	0.0010	11	0.0009	10	0.0010	10	0.0012	10	0.0009	10	0.0007	10	0.0008
Nickel, total	mg/L	69	0.0062	0.0295	8	0.0018	11	0.0129	10	0.0069	10	0.0083	10	0.0069	10	0.0029	10	0.0019
Phosphorus, total	mg/L	33	0.292	1.178	8	0.039	5	0.679	4	0.427	4	0.434	4	0.438	4	0.117	4	0.068
Potassium, total	mg/L	69	1.22	2.41	8	1.23	11	1.63	10	1.21	10	1.27	10	1.15	10	1.00	10	0.96
Selenium, total	mg/L	69	0.00042	0.00055	8	0.00025	11	0.00050	10	0.00043	10	0.00049	10	0.00043	10	0.00039	10	0.00038
Silver, total	mg/L	69	0.000030	0.000109	8	0.000017	11	0.000061	10	0.000017	10	0.000034	10	0.000031	10	0.000018	10	0.000026
Sodium, total	mg/L	69	5.81	8.70	8	8.14	11	3.46	10	6.57	10	6.46	10	5.81	10	5.54	10	5.42
Thallium, total	mg/L	69	0.000067	0.000123	8	0.000025	11	0.000121	10	0.000042	10	0.000065	10	0.000089	10	0.000074	10	0.000041
Zinc, total	mg/L	69	0.0123	0.0575	8	0.0029	11	0.0291	10	0.0142	10	0.0161	10	0.0138	10	0.0044	10	0.0022
Aluminum, dissolved	mg/L	69	0.029	0.070	8	0.011	11	0.050	10	0.034	10	0.024	10	0.026	10	0.027	10	0.026
Arsenic, dissolved	mg/L	69	0.0007	0.0019	8	0.0011	11	0.0004	10	0.0007	10	0.0007	10	0.0007	10	0.0007	10	0.0006
Cadmium, dissolved	mg/L	69	0.000017	0.000027	8	0.000020	11	0.000024	10	0.000021	10	0.000018	10	0.000009	10	0.000009	10	0.000019
Calcium, dissolved	mg/L	69	30.6	44.7	8	46.0	11	17.8	10	29.9	10	32.8	10	30.5	10	30.5	10	30.8
Chromium, dissolved	mg/L	69	0.0005	0.0007	8	0.0006	11	0.0005	10	0.0004	10	0.0004	10	0.0005	10	0.0007	10	0.0003
Copper, dissolved	mg/L	68	0.0033	0.0084	7	0.0013	11	0.0059	10	0.0031	10	0.0032	10	0.0030	10	0.0030	10	0.0028
Iron, dissolved	mg/L	68	0.41	1.43	7	0.07	11	0.38	10	0.35	10	0.41	10	0.50	10	0.58	10	0.44
Lead, dissolved	mg/L	69	0.0001	0.0003	8	0.0001	11	0.0002	10	0.0001	10	0.0001	10	0.0002	10	0.0002	10	0.0000
Magnesium, dissolved	mg/L	69	9.6	16.4	8	14.5	11	5.8	10	9.3	10	10.2	10	9.5	10	9.3	10	9.6
Manganese, dissolved	mg/L	69	0.122	0.407	8	0.419	11	0.060	10	0.061	10	0.076	10	0.100	10	0.097	10	0.109
Mercury, dissolved	mg/L	51	0.000010	0.000026	8	0.000005	11	0.000011	4	0.000010	4	0.000014	10	0.000010	10	0.000010	4	0.000006
Molybdenum, dissolved	mg/L	69	0.0008	0.0016	8	0.0011	11	0.0005	10	0.0009	10	0.0011	10	0.0009	10	0.0006	10	0.0008
Nickel, dissolved	mg/L	69	0.0015	0.0026	8	0.0015	11	0.0015	10	0.0015	10	0.0014	10	0.0016	10	0.0016	10	0.0013
Phosphorus, dissolved	mg/L	33	0.028	0.050	8	0.027	5	0.033	4	0.029	4	0.025	4	0.029	4	0.032	4	0.023
Potassium, dissolved	mg/L	69	1.00	1.56	8	1.24	11	1.10	10	1.02	10	0.92	10	0.93	10	0.91	10	0.92
Selenium, dissolved	mg/L	69	0.00035	0.00050	8	0.00025	11	0.00035	10	0.00040	10	0.00036	10	0.00036	10	0.00037	10	0.00036
Silver, dissolved	mg/L	69	0.000010	0.000023	8	0.000010	11	0.000010	10	0.000008	10	0.000008	10	0.000012	10	0.000011	10	0.000010
Sodium, dissolved	mg/L	69	5.67	9.06	8	7.92	11	3.30	10	6.30	10	6.35	10	5.67	10	5.40	10	5.45
Thallium, dissolved	mg/L	69	0.000053	0.000100	8	0.000025	11	0.000069	10	0.000042	10	0.000041	10	0.000072	10	0.000071	10	0.000041
Zinc, dissolved	mg/L	69	0.0032	0.0087	8	0.0032	11	0.0033	10	0.0063	10	0.0029	10	0.0028	10	0.0025	10	0.0016

¹ n = number of station-month (mean in some cases) concentrations

Table 3-14: 2005 to 2013 Background Dataset with Results Associated with TSS ≤15mg/L.

Parameter	Units	Annual (all data)			Nov - Mar		Apr - May		June		July		August		September		October	
		n ¹	mean	95th	n	mean	n	mean	n	mean	n	mean	n	mean	n	mean	n	mean
pH (field)	pH units	15	7.53	8.00	6	7.15	3	7.56	1	8.25	1	7.80	1	7.90	2	7.74	1	7.89
pH (lab)	pH units	51	7.85	8.23	7	8.09	7	7.59	8	7.84	5	7.78	8	8.09	8	7.83	8	7.70
Hardness (from dissolved)	mg/L	17	127	174	7	165	3	56	1	108	1	130	2	124	2	114	1	125
Hardness (from total)	mg/L	44	113	160	7	167	7	62	1	106	5	118	8	111	8	111	8	112
Total Dissolved Solids	mg/L	51	157	220	7	201	7	112	8	158	5	158	8	161	8	159	8	152
Total Suspended Solids	mg/L	51	5	13	7	2	7	5	8	4	5	3	8	5	8	7	8	5
Alkalinity, total	mg/L	39	112	166	7	159	6	89	8	104	1	128	8	111	8	96	1	124
Dissolved Organic Carbon	mg/L	16	10.94	18.39	7	7.24	3	18.43	1	9.13	1	12.29	1	10.67	2	12.83	1	11.28
Sulphate, dissolved	mg/L	39	16	36	7	15	6	37	8	16	1	10	8	11	8	11	1	10
Chloride	mg/L	51	0.7	1.5	7	1.0	7	0.6	8	1.3	5	0.5	8	0.4	8	0.5	8	0.5
Fluoride	mg/L	16	0.28	0.42	7	0.35	3	0.14	1	0.27	1	0.27	1	0.30	2	0.25	1	0.22
Nitrite (N)	mg/L	51	0.002	0.013	7	0.003	7	0.004	8	0.002	5	0.002	8	0.002	8	0.001	8	0.003
Nitrate (N)	mg/L	51	0.055	0.217	7	0.172	7	0.018	8	0.045	5	0.054	8	0.025	8	0.025	8	0.057
Ammonia	mg/L	51	0.020	0.042	7	0.015	7	0.022	8	0.020	5	0.018	8	0.029	8	0.014	8	0.018
Aluminum, total	mg/L	51	0.157	0.369	7	0.033	7	0.181	8	0.099	5	0.566	8	0.152	8	0.118	8	0.091
Arsenic, total	mg/L	51	0.0005	0.0007	7	0.0005	7	0.0003	8	0.0005	5	0.0006	8	0.0005	8	0.0005	8	0.0005
Cadmium, total	mg/L	51	0.000021	0.000038	7	0.000014	7	0.000029	8	0.000024	5	0.000037	8	0.000012	8	0.000010	8	0.000030
Calcium, total	mg/L	51	28.5	42.2	7	42.8	7	15.8	8	27.7	5	30.2	8	28.3	8	28.2	8	27.4
Chromium, total	mg/L	51	0.0006	0.0010	7	0.0005	7	0.0006	8	0.0005	5	0.0013	8	0.0006	8	0.0005	8	0.0004
Copper, total	mg/L	51	0.0051	0.0133	7	0.0039	7	0.0100	8	0.0037	5	0.0048	8	0.0042	8	0.0044	8	0.0048
Iron, total	mg/L	51	0.47	0.95	7	0.13	7	0.36	8	0.42	5	0.90	8	0.55	8	0.58	8	0.45
Lead, total	mg/L	51	0.0002	0.0003	7	0.0001	7	0.0002	8	0.0001	5	0.0004	8	0.0002	8	0.0002	8	0.0001
Magnesium, total	mg/L	51	9.6	14.8	7	14.6	7	5.4	8	9.4	5	9.9	8	9.4	8	9.3	8	9.2
Manganese, total	mg/L	51	0.045	0.122	7	0.039	7	0.020	8	0.027	5	0.062	8	0.044	8	0.052	8	0.071
Mercury, total	mg/L	33	0.000012	0.000036	7	0.000005	7	0.000012	1	0.000040	1	0.000020	8	0.000013	8	0.000014	1	0.000013
Molybdenum, total	mg/L	51	0.0008	0.0015	7	0.0010	7	0.0006	8	0.0008	5	0.0011	8	0.0009	8	0.0006	8	0.0009
Nickel, total	mg/L	51	0.0014	0.0021	7	0.0009	7	0.0016	8	0.0014	5	0.0019	8	0.0015	8	0.0015	8	0.0014
Phosphorus, total	mg/L	16	0.031	0.063	7	0.019	3	0.059	1	0.036	1	0.036	1	0.025	2	0.029	1	0.027
Potassium, total	mg/L	51	1.03	1.54	7	1.25	7	1.18	8	0.99	5	1.00	8	0.95	8	0.92	8	0.99
Selenium, total	mg/L	51	0.00042	0.00050	7	0.00025	7	0.00037	8	0.00049	5	0.00045	8	0.00045	8	0.00044	8	0.00047
Silver, total	mg/L	51	0.000014	0.000038	7	0.000018	7	0.000011	8	0.000007	5	0.000013	8	0.000021	8	0.000019	8	0.000007
Sodium, total	mg/L	51	5.75	8.70	7	8.28	7	2.92	8	6.57	5	6.55	8	5.72	8	5.33	8	5.17
Thallium, total	mg/L	51	0.000059	0.000100	7	0.000025	7	0.000072	8	0.000048	5	0.000045	8	0.000089	8	0.000083	8	0.000047
Zinc, total	mg/L	51	0.0033	0.0077	7	0.0028	7	0.0038	8	0.0050	5	0.0049	8	0.0034	8	0.0027	8	0.0013
Aluminum, dissolved	mg/L	51	0.028	0.074	7	0.007	7	0.057	8	0.026	5	0.025	8	0.022	8	0.025	8	0.032
Arsenic, dissolved	mg/L	51	0.0004	0.0006	7	0.0005	7	0.0003	8	0.0004	5	0.0005	8	0.0004	8	0.0004	8	0.0004
Cadmium, dissolved	mg/L	51	0.000019	0.000030	7	0.000020	7	0.000024	8	0.000024	5	0.000021	8	0.000010	8	0.000011	8	0.000024
Calcium, dissolved	mg/L	51	29.0	42.3	7	43.0	7	16.0	8	27.9	5	30.7	8	28.6	8	28.6	8	28.9
Chromium, dissolved	mg/L	51	0.0004	0.0007	7	0.0005	7	0.0005	8	0.0004	5	0.0003	8	0.0005	8	0.0006	8	0.0003
Copper, dissolved	mg/L	50	0.0036	0.0088	6	0.0014	7	0.0076	8	0.0032	5	0.0027	8	0.0033	8	0.0034	8	0.0032
Iron, dissolved	mg/L	51	0.24	0.62	7	0.06	7	0.18	8	0.18	5	0.25	8	0.31	8	0.35	8	0.31
Lead, dissolved	mg/L	51	0.0001	0.0003	7	0.0001	7	0.0002	8	0.0001	5	0.0001	8	0.0002	8	0.0002	8	0.0000
Magnesium, dissolved	mg/L	51	9.7	15.0	7	14.1	7	5.5	8	9.5	5	10.0	8	9.6	8	9.4	8	9.7
Manganese, dissolved	mg/L	51	0.032	0.096	7	0.036	7	0.012	8	0.017	5	0.024	8	0.031	8	0.042	8	0.060
Mercury, dissolved	mg/L	33	0.000012	0.000038	7	0.000005	7	0.000014	1	0.000040	1	0.000020	8	0.000012	8	0.000013	1	0.000008
Molybdenum, dissolved	mg/L	51	0.0008	0.0015	7	0.0011	7	0.0005	8	0.0008	5	0.0010	8	0.0008	8	0.0006	8	0.0008
Nickel, dissolved	mg/L	51	0.0012	0.0017	7	0.0008	7	0.0013	8	0.0011	5	0.0012	8	0.0014	8	0.0013	8	0.0011
Phosphorus, dissolved	mg/L	16	0.019	0.034	7	0.014	3	0.029	1	0.019	1	0.024	1	0.026	2	0.021	1	0.017
Potassium, dissolved	mg/L	51	1.04	1.62	7	1.29	7	1.16	8	0.98	5	0.98	8	0.99	8	0.92	8	0.98
Selenium, dissolved	mg/L	51	0.00042	0.00050	7	0.00026	7	0.00036	8	0.00050	5	0.00043	8	0.00047	8	0.00046	8	0.00046
Silver, dissolved	mg/L	51	0.000010	0.000027	7	0.000010	7	0.000010	8	0.000007	5	0.000010	8	0.000012	8	0.000012	8	0.000009
Sodium, dissolved	mg/L	51	5.82	9.03	7	8.06	7	2.97	8	6.60	5	6.71	8	5.77	8	5.41	8	5.45
Thallium, dissolved	mg/L	51	0.000060	0.000100	7	0.000025	7	0.000072	8	0.000047	5	0.000045	8	0.000090	8	0.000083	8	0.000047
Zinc, dissolved	mg/L	51	0.0036	0.0101	7	0.0033	7	0.0039	8	0.0078	5	0.0036	8	0.0029	8	0.0025	8	0.0014

¹ n = number of station-month (mean in some cases) concentrations

3.4 MINTO MINE FACILITIES WATER QUALITY

Water quality for six monitoring locations on the Minto Mine property are summarized in Tables 3-15 to 3-20. Please refer to Appendix B for 2005–2012 water quality data.

Table 3-15: Minto Mine Facility Monitoring Station W8: Summary of Water Quality Data.

	pH (field)	pH (lab)	Total Suspended Solids	Fluoride	Ammonia (N)	Nitrite (N)	Nitrate (N)	Total Phosphorous (colorimetric)	Aluminum (Al), total	Aluminum (Al), dissolved	Arsenic (As), total	Arsenic (As), dissolved	Cadmium (Cd), total	Cadmium (Cd), dissolved	Chromium (Cr), total	Chromium (Cr), dissolved	Copper (Cu), total	Copper (Cu), dissolved
	pH units	pH 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
Average	7.61	7.92	35.1	0.498	0.353	0.5611	35.3258	0.049	4.416	0.0246	0.00465	0.00056	0.001725	0.000125	0.00569	0.0007	1.56661	0.10475
Count	54	124	125	58	90	88	111	24	128	123	128	123	128	123	128	123	128	123
Minimum	6.62	7.06	1	0.049	0.003	0.0005	0.001	0.012	0.008	0.0025	0.0001	0.0002	0.000005	0.000005	0.0002	0.0002	0.006	0.0005
Maximum	8.2	8.4	660	1.85	4.2	2.93	116	0.09	413	0.99	0.5	0.0085	0.2	0.00211	0.5	0.0053	170	0.352
Geometric Mean	7.61	7.91	11.7	0.352	0.127	0.0988	4.1539	0.045	0.2697	0.0104	0.00059	0.00047	0.000091	0.00007	0.00077	0.00059	0.11277	0.06118
Count <DL	0	0	23	0	4	14	22	0	0	26	7	10	28	23	74	93	0	1
Standard Deviation	0.34	0.22	86.2	0.464	0.569	0.8163	31.8588	0.019	36.8729	0.0909	0.04417	0.00077	0.017666	0.000198	0.04509	0.00053	15.0154	0.09154
1st Quartile	7.41	7.79	5	0.27	0.042	0.0673	2.58	0.037	0.0818	0.005	0.0004	0.000048	0.00003	0.0005	0.0005	0.0367	0.0228	
Median	7.61	7.95	12	0.32	0.122	0.1375	26.3	0.05	0.233	0.009	0.0005	0.0005	0.00013	0.0001	0.0006	0.0005	0.1555	0.096
3rd Quartile	7.89	8.09	33	0.378	0.48	0.6325	64.5	0.06	0.5753	0.0185	0.0007	0.0006	0.0002	0.00017	0.001	0.001	0.2755	0.1355

	Iron (Fe), total	Iron (Fe), dissolved	Lead (Pb), total	Lead (Pb), dissolved	Mercury (Hg), total	Molybdenum (Mo), total	Molybdenum (Mo), dissolved	Nickel (Ni), total	Nickel (Ni), dissolved	Phosphorus (P), total	Phosphorus (P), dissolved	Selenium (Se), total	Selenium (Se), dissolved	Silver (Ag), total	Thallium (Tl), total	Zinc (Zn), total	Zinc (Zn), dissolved
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Average	10.966	0.13	0.002899	0.000135	0.000032	0.057679	0.011039	0.01938	0.002	0.657	0.03	0.1023	0.0058	0.00051	0.00023	0.1112	0.004
Count	128	123	128	123	103	128	123	128	123	83	76	128	123	128	128	128	123
Minimum	0.054	0.005	0.000025	0.000025	0.000005	0.000212	0.000179	0.0005	0.00025	0.017	0.005	0.0001	0.0001	0.000005	0.00001	0.0005	0.0005
Maximum	1010	0.711	0.3	0.0023	0.0003	6	0.064	2	0.009	47	0.15	12.4	0.0193	0.05	0.025	12	0.032
Geometric Mean	0.888	0.079	0.000209	0.000096	0.000017	0.006143	0.006105	0.00219	0.00156	0.071	0.02	0.0027	0.0026	0.000037	0.00002	0.0068	0.003
Count <DL	0	7	51	106	84	11	11	4	16	17	17	31	29	61	118	38	78
Standard Deviation	90.493	0.137	0.02659	0.000224	0.000044	0.529505	0.012503	0.1768	0.00165	5.15	0.037	1.0955	0.0052	0.004425	0.00221	1.0616	0.004
1st Quartile	0.399	0.038	0.0001	0.000075	0.00001	0.00556	0.005	0.0015	0.001	0.034	0.014	0.0005	0.001	0.00001	0.00003	0.0025	0.0025
Median	0.708	0.084	0.0002	0.0001	0.00001	0.008	0.007	0.002	0.0016	0.056	0.02	0.0039	0.004	0.000045	0.00003	0.007	0.0025
3rd Quartile	1.343	0.171	0.0004	0.0001	0.00003	0.013	0.0127	0.003	0.002	0.126	0.03	0.0111	0.0117	0.00007	0.00003	0.013	0.005

Table 3-16: Minto Mine Facility Monitoring Station W8A: Summary of Water Quality Data.

	<i>pH (field)</i>	<i>pH (lab)</i>	<i>Total Suspended Solids</i>	<i>Fluoride</i>	<i>Ammonia (N)</i>	<i>Nitrite (N)</i>	<i>Nitrate (N)</i>	<i>Total Phosphorous (colorimetric)</i>	<i>Aluminum (Al), total</i>	<i>Aluminum (Al), dissolved</i>	<i>Arsenic (As), total</i>	<i>Arsenic (As), dissolved</i>	<i>Cadmium (Cd), total</i>	<i>Cadmium (Cd), dissolved</i>	<i>Chromium (Cr), total</i>	<i>Chromium (Cr), dissolved</i>	<i>Copper (Cu), total</i>	<i>Copper (Cu), dissolved</i>	
	pH units	pH 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
Average	7.77	8.11	88.1	0.45	0.1022	0.0867	13.4	0.069	3.48	0.01644	0.004124	0.000601	0.001391	0.000107	0.00624	0.0007	1.473	0.1039	
Count	69	122	122	62	88	93	108	29	124	122	124	122	124	122	124	122	124	122	
Minimum	6.87	7.45	1	0.28	0.007	0.0025	0.65	0.003	0.029	0.0025	0.0001	0.0001	0.00003	0.00002	0.0002	0.0001	0.0208	0.0125	
Maximum	8.54	8.6	6540	1.6	0.8	0.61	72	0.46	151	0.157	0.4	0.0066	0.14	0.0013	0.5	0.002	124	0.272	
Geometric Mean	7.76	8.11	14.8	0.41	0.0581	0.0363	10.85	0.052	0.384	0.01082	0.000739	0.000531	0.000121	0.000082	0.00104	0.0006	0.1628	0.093	
Count <DL	0	0	4	0	0	6	0	0	18	3	4	9	10	65	100	0	0		
Standard Deviation	0.36	0.2	592.4	0.24	0.133	0.1334	9.64	0.078	17.98	0.02166	0.035866	0.000579	0.012597	0.000143	0.04542	0.0004	11.4237	0.0425	
1st Quartile	7.52	7.97	6	0.36	0.0297	0.015	7.67	0.04	0.121	0.00613	0.0005	0.0004	0.00008	0.00005	0.0005	0.0005	0.1037	0.071	
Median	7.82	8.1	14	0.39	0.044	0.033	11.95	0.05	0.298	0.01	0.0007	0.00055	0.00011	0.00009	0.001	0.0005	0.144	0.1035	
3rd Quartile	8.04	8.22	34.5	0.42	0.1275	0.098	15.03	0.07	0.916	0.016	0.0009	0.0006	0.000151	0.00012	0.0013	0.001	0.2005	0.1318	

	<i>Iron (Fe), total</i>	<i>Iron (Fe), dissolved</i>	<i>Lead (Pb), total</i>	<i>Lead (Pb), dissolved</i>	<i>Mercury (Hg), total</i>	<i>Molybdenum (Mo), total</i>	<i>Molybdenum (Mo), dissolved</i>	<i>Nickel (Ni), total</i>	<i>Nickel (Ni), dissolved</i>	<i>Phosphorus (P), total</i>	<i>Phosphorus (P), dissolved</i>	<i>Selenium (Se), total</i>	<i>Selenium (Se), dissolved</i>	<i>Silver (Ag), total</i>	<i>Thallium (Tl), total</i>	<i>Zinc (Zn), total</i>	<i>Zinc (Zn), dissolved</i>
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Average	7.129	0.0927	0.0041	0.000125	0.000029	0.04952	0.00933	0.02143	0.001563	0.443	0.022	0.02965	0.00412	0.000272	0.00024	0.213	0.1213
Count	124	122	124	122	120	124	122	124	122	92	89	124	122	124	124	124	122
Minimum	0.073	0.017	0.00005	0.000013	0.000005	0.00034	0.00033	0.0005	0.0005	0.005	0.005	0.0003	0.0003	0.000005	0.000005	0.003	0.0005
Maximum	365	0.55	0.4	0.0005	0.00021	5	0.049	2	0.006	28	0.058	3.2	0.014	0.0121	0.025	9	3.76
Geometric Mean	0.824	0.0714	0.0003	0.000104	0.000015	0.00826	0.00798	0.002128	0.001248	0.071	0.02	0.0032	0.00324	0.000036	0.000023	0.012	0.0049
Count <DL	0	0	46	104	99	0	0	14	29	5	6	9	3	51	110	43	79
Standard Deviation	40.563	0.0886	0.03606	0.000102	0.000038	0.44823	0.00662	0.181423	0.001119	2.93	0.01	0.28703	0.00266	0.001459	0.002245	0.902	0.4865
1st Quartile	0.335	0.0467	0.0001	0.0001	0.00001	0.006	0.006	0.001	0.001	0.035	0.017	0.0023	0.0024	0.00001	0.000025	0.005	0.0025
Median	0.764	0.065	0.0003	0.0001	0.00001	0.008	0.00764	0.002	0.001	0.053	0.021	0.0034	0.00355	0.00004	0.000025	0.007	0.0025
3rd Quartile	1.61	0.0935	0.00059	0.0001	0.000021	0.01	0.01	0.003	0.002	0.106	0.026	0.00521	0.00549	0.00005	0.000025	0.016	0.005

Table 3-17: Minto Mine Facility Monitoring Station W12: Summary of Water Quality Data.

	pH (field)	pH (lab)	Total Suspended Solids	Fluoride	Ammonia (N)	Nitrite (N)	Nitrate (N)	Total Phosphorous (colorimetric)	Aluminum (Al), total	Aluminum (Al), dissolved	Arsenic (As), total	Arsenic (As), dissolved	Cadmium (Cd), total	Cadmium (Cd), dissolved	Chromium (Cr), total	Chromium (Cr), dissolved	Copper (Cu), total	Copper (Cu), dissolved
Average	15.67	8.01	24.2	0.53	2.69	0.6833	24.22	0.0615	1.224	0.031	0.00146	0.00091	0.000203	0.000078	0.0014	0.0006	0.4306	0.10825
Count	38	60	58	23	46	49	55	33	67	45	67	45	67	45	67	45	67	45
Minimum	6.88	7.27	0.5	0.14	0.0025	0.007	0.01	0.016	0.0016	0.0001	0.0003	0.00002	0.000005	0.0002	0.0002	0.0002	0.01	0.001
Maximum	308	10.6	251	1.2	24	8.78	141	0.44	13.8	0.124	0.0196	0.003	0.00135	0.00049	0.0076	0.0025	6.21	0.476
Geometric Mean	8.55	8	9.7	0.48	0.5061	0.1792	13.76	0.0449	0.4602	0.0179	0.00103	0.00081	0.000109	0.000054	0.0008	0.0005	0.1665	0.07389
Count <DL	0	0	11	0	3	0	1	7	0	4	2	1	2	3	37	38	0	0
Standard Deviation	48.71	0.42	39.6	0.21	4.6953	1.634	28.8	0.0738	2.0203	0.0295	0.0024	0.0005	0.000273	0.000086	0.0016	0.0004	0.9485	0.09887
1st Quartile	7.47	7.9	2.2	0.45	0.0993	0.074	9.34	0.025	0.1565	0.0084	0.0007	0.00062	0.000044	0.000031	0.0005	0.0005	0.076	0.0586
Median	7.87	8.02	15	0.53	0.9985	0.14	15	0.04	0.505	0.021	0.0009	0.0008	0.00008	0.00005	0.0005	0.0005	0.159	0.0755
3rd Quartile	8.1	8.11	27	0.64	2.2	0.353	19.6	0.07	1.48	0.04	0.0015	0.001	0.00026	0.000089	0.002	0.0005	0.3825	0.122

	Iron (Fe), total	Iron (Fe), dissolved	Lead (Pb), total	Lead (Pb), dissolved	Mercury (Hg), total	Molybdenum (Mo), total	Molybdenum (Mo), dissolved	Nickel (Ni), total	Nickel (Ni), dissolved	Phosphorus (P), total	Phosphorus (P), dissolved	Selenium (Se), total	Selenium (Se), dissolved	Silver (Ag), total	Thallium (Tl), total	Zinc (Zn), total	Zinc (Zn), dissolved
Average	2.0113	0.0694	0.00099	0.00015	0.000052	0.02458	0.01888	0.0035	0.0008	0.079	0.017	0.00569	0.00497	0.000161	0.00003	0.0168	0.005
Count	66	45	67	45	67	67	45	67	45	52	36	67	45	67	67	67	45
Minimum	0.024	0.0025	0.00005	0.00005	0.000005	0.003	0.003	0.0003	0.0003	0.005	0.005	0.0009	0.0003	0.000005	0.000005	0.0025	0.001
Maximum	23.3	0.386	0.0056	0.0005	0.0005	0.0598	0.0407	0.051	0.003	0.44	0.082	0.0185	0.0098	0.00251	0.00025	0.17	0.031
Geometric Mean	0.6687	0.0384	0.00044	0.00013	0.000019	0.02131	0.01697	0.0013	0.0007	0.051	0.011	0.00471	0.00415	0.000046	0.000023	0.0099	0.0037
Count <DL	2	4	15	32	51	0	0	24	29	8	16	0	1	31	55	15	26
Standard Deviation	3.4685	0.0747	0.0013	0.0001	0.000104	0.01215	0.00749	0.0088	0.0006	0.084	0.02	0.00371	0.00239	0.000398	0.000034	0.0242	0.0057
1st Quartile	0.1913	0.0133	0.0001	0.0001	0.000005	0.017	0.016	0.0005	0.0005	0.025	0.005	0.0036	0.0033	0.00001	0.000025	0.005	0.0025
Median	0.7015	0.0456	0.00034	0.0001	0.00001	0.0213	0.0188	0.001	0.0005	0.055	0.01	0.005	0.0055	0.00005	0.000025	0.011	0.0025
3rd Quartile	2.3525	0.1	0.0011	0.0002	0.00005	0.0315	0.0217	0.002	0.001	0.1	0.018	0.00655	0.00665	0.0001	0.000025	0.016	0.005

Table 3-18: Minto Mine Facility Monitoring Station W15: Summary of Water Quality Data.

	pH (field)	pH (lab)	Total Suspended Solids	Fluoride	Ammonia (N)	Nitrite (N)	Nitrate (N)	Total Phosphorous (colorimetric)	Aluminum (Al), total	Aluminum (Al), dissolved	Arsenic (As), total	Arsenic (As), dissolved	Cadmium (Cd), total	Cadmium (Cd), dissolved	Chromium (Cr), total	Chromium (Cr), dissolved	Copper (Cu), total	Copper (Cu), dissolved
	pH units	pH 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
Average	7.57	7.81	17.1	0.133	0.0918	0.0954	7.48	0.0497	0.4918	0.0798	0.000721	0.000576	0.00005	0.000061	0.00092	0.00063	0.04733	0.02546
Count	98	144	144	94	123	125	133	58	145	124	145	124	145	124	145	124	145	124
Minimum	6.16	6.39	0.5	0.07	0.0025	0.0025	0.01	0.02	0.006	0.004	0.0002	0.0001	0.000005	0.000005	0.00025	0.0002	0.002	0.0057
Maximum	9.95	8.4	370	0.43	0.701	0.402	56.1	0.27	9.42	2.65	0.0025	0.002	0.00038	0.00234	0.0123	0.003	0.469	0.415
Geometric Mean	7.56	7.8	7.2	0.127	0.0572	0.0452	3.77	0.0422	0.2258	0.0408	0.000633	0.000524	0.00003	0.000026	0.00072	0.00058	0.02943	0.01909
Count <DL	0	0	16	0	21	11	2	4	0	0	2	3	43	34	99	109	0	0
Standard Deviation	0.46	0.35	37.8	0.046	0.1018	0.1046	8.59	0.0383	0.9851	0.2399	0.00043	0.000299	0.000059	0.000217	0.00118	0.00033	0.0651	0.03781
1st Quartile	7.28	7.64	3.1	0.11	0.025	0.0127	2.28	0.03	0.1	0.02	0.00047	0.0004	0.000014	0.000013	0.0005	0.0005	0.016	0.01205
Median	7.58	7.86	7	0.13	0.063	0.0487	4.3	0.0401	0.234	0.0381	0.0006	0.0005	0.000032	0.00003	0.0005	0.0005	0.0294	0.0195
3rd Quartile	7.83	8.04	16.2	0.15	0.114	0.15	9.2	0.05	0.495	0.0815	0.00088	0.0006	0.00006	0.00005	0.001	0.0005	0.0502	0.02793

	Iron (Fe), total	Iron (Fe), dissolved	Lead (Pb), total	Lead (Pb), dissolved	Mercury (Hg), total	Molybdenum (Mo), total	Molybdenum (Mo), dissolved	Nickel (Ni), total	Nickel (Ni), dissolved	Phosphorus (P), total	Phosphorus (P), dissolved	Selenium (Se), total	Selenium (Se), dissolved	Silver (Ag), total	Thallium (Tl), total	Zinc (Zn), total	Zinc (Zn), dissolved
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Average	1.358	0.5867	0.000321	0.000137	0.00006	0.00213	0.00237	0.00195	0.001331	0.076	0.022	0.00133	0.00148	0.0000313	0.000022	0.00719	0.00403
Count	145	124	145	124	143	145	124	145	124	109	92	145	124	145	145	145	124
Minimum	0.1	0.007	0.00005	0.000031	0.000005	0.00016	0.0001	0.00025	0.0005	0.005	0.005	0.0001	0.0001	0.0000025	0.000002	0.002	0.0005
Maximum	10.7	6.48	0.0045	0.0027	0.005	0.008	0.019	0.009	0.008	2.5	0.121	0.0113	0.0124	0.00051	0.00005	0.05	0.041
Geometric Mean	0.929	0.401	0.000187	0.000106	0.000013	0.00173	0.00194	0.00157	0.001083	0.044	0.019	0.00084	0.00092	0.0000185	0.000019	0.00526	0.00338
Count <DL	0	0	75	112	123	12	6	19	35	9	8	28	20	113	143	71	95
Standard Deviation	1.505	0.7154	0.000522	0.000252	0.000417	0.00141	0.00197	0.00147	0.001062	0.238	0.014	0.00148	0.00167	0.0000494	0.000008	0.00764	0.00396
1st Quartile	0.546	0.27	0.0001	0.0001	0.000005	0.0012	0.0015	0.001	0.0005	0.025	0.013	0.0004	0.0004	0.00001	0.000025	0.0025	0.0025
Median	0.964	0.4335	0.0001	0.0001	0.00001	0.002	0.002	0.0019	0.001	0.042	0.021	0.00086	0.001	0.00001	0.000025	0.005	0.0025
3rd Quartile	1.45	0.675	0.0004	0.0001	0.000025	0.0024	0.00282	0.002	0.001725	0.07	0.028	0.0017	0.00194	0.00005	0.000025	0.009	0.005

Table 3-19: Minto Mine Facility Monitoring Station W16: Summary of Water Quality Data.

	<i>pH (field)</i>	<i>pH (lab)</i>	<i>Total Suspended Solids</i>	<i>Fluoride</i>	<i>Ammonia (N)</i>	<i>Nitrite (N)</i>	<i>Nitrate (N)</i>	<i>Total Phosphorous (colorimetric)</i>	<i>Aluminum (Al), total</i>	<i>Aluminum (Al), dissolved</i>	<i>Arsenic (As), total</i>	<i>Arsenic (As), dissolved</i>	<i>Cadmium (Cd), total</i>	<i>Cadmium (Cd), dissolved</i>	<i>Chromium (Cr), total</i>	<i>Chromium (Cr), dissolved</i>	<i>Copper (Cu), total</i>	<i>Copper (Cu), dissolved</i>		
	pH units	pH 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	
Average	7.79	7.88	8.2	0.311	0.2193	0.1806	4.807	0.0389	0.3207	0.02664	0.000567	0.00041	0.000056	0.000067	0.00078	0.0008	0.0518	0.03349		
Count	111	214	214	111	197	204	210	127	225	167	225	167	225	167	225	167	225	167	167	
Minimum	6.64	6.74	0.5	0.005	0.0025	0.0025	0.01	0.0025	0.005	0.0015	0.0001	0.00005	0.000005	0.000005	0.00013	0.00013	0.003	0.002		
Maximum	9.03	8.76	181	0.81	2	8.62	35	0.211	6.06	0.234	0.005	0.0015	0.0026	0.00557	0.0066	0.0172	0.468	0.123		
Geometric Mean	7.78	7.87	3.9	0.252	0.0816	0.0484	2.425	0.0324	0.1399	0.01619	0.000474	0.00032	0.000032	0.000026	0.00063	0.00063	0.04	0.02793		
Count <DL	0	0	48	1	10	24	4	17	2	16	11	26	62	62	153	135	0	0		
Standard Deviation	0.41	0.32	16.8	0.191	0.2842	0.6626	4.556	0.0258	0.6523	0.03121	0.000441	0.00025	0.000178	0.000429	0.00074	0.00135	0.0468	0.02118		
1st Quartile	7.67	7.67	2	0.16	0.025	0.013	0.986	0.0217	0.06	0.00815	0.00038	0.0003	0.00002	0.000014	0.0005	0.0005	0.028	0.01845		
Median	7.79	7.94	3.7	0.23	0.082	0.039	3.895	0.03	0.123	0.017	0.0005	0.0004	0.000035	0.00003	0.0005	0.0005	0.037	0.0289		
3rd Quartile	8.01	8.13	8	0.5	0.37	0.1872	7.675	0.05	0.324	0.0307	0.0007	0.0005	0.00005	0.00005	0.001	0.001	0.066	0.0394		

	<i>Iron (Fe), total</i>	<i>Iron (Fe), dissolved</i>	<i>Lead (Pb), total</i>	<i>Lead (Pb), dissolved</i>	<i>Mercury (Hg), total</i>	<i>Molybdenum (Mo), total</i>	<i>Molybdenum (Mo), dissolved</i>	<i>Nickel (Ni), total</i>	<i>Nickel (Ni), dissolved</i>	<i>Phosphorus (P), total</i>	<i>Phosphorus (P), dissolved</i>	<i>Selenium (Se), total</i>	<i>Selenium (Se), dissolved</i>	<i>Silver (Ag), total</i>	<i>Thallium (Tl), total</i>	<i>Zinc (Zn), total</i>	<i>Zinc (Zn), dissolved</i>
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Average	0.643	0.2056	0.000254	0.00011	0.000096	0.00816	0.00694	0.002377	0.001437	0.04	0.013	0.001554	0.001609	0.0000434	0.000022	0.0103	0.00693
Count	224	167	225	167	223	225	167	225	167	173	120	225	167	225	225	225	167
Minimum	0.022	0.01	0.000046	0.00002	0.000005	0.0005	0.0005	0.00025	0.00025	0.005	0.005	0.0001	0.00005	0.0000025	0.000002	0.0025	0.001
Maximum	8.2	1.36	0.0025	0.0008	0.005	0.033	0.0271	0.025	0.009	0.28	0.08	0.0067	0.0064	0.001	0.000065	0.104	0.0828
Geometric Mean	0.3329	0.0848	0.000168	0.0001	0.000016	0.00543	0.00452	0.001476	0.000962	0.031	0.01	0.000957	0.000984	0.0000243	0.00002	0.007	0.00457
Count <DL	6	1	114	137	204	18	16	49	73	39	57	24	19	182	218	93	111
Standard Deviation	0.9716	0.3379	0.000329	0.00008	0.000575	0.00667	0.0059	0.003548	0.00181	0.035	0.012	0.001482	0.001493	0.0000826	0.000009	0.0104	0.00944
1st Quartile	0.1385	0.0324	0.0001	0.0001	0.000005	0.0032	0.00285	0.001	0.0005	0.02	0.005	0.0004	0.00053	0.00001	0.000025	0.0025	0.0025
Median	0.272	0.0687	0.0001	0.0001	0.00001	0.006	0.005	0.0015	0.001	0.025	0.01	0.0011	0.0013	0.00003	0.000025	0.006	0.0025
3rd Quartile	0.7012	0.1505	0.0003	0.0001	0.00005	0.0121	0.00886	0.002	0.00115	0.048	0.018	0.0021	0.0021	0.00005	0.000025	0.015	0.008

Table 3-20: Minto Mine Facility Monitoring Station W35A: Summary of Water Quality Data.

	pH (field)	pH (lab)	Total Suspended Solids	Fluoride	Ammonia (N)	Nitrite (N)	Nitrate (N)	Total Phosphorous (colorimetric)	Aluminum (Al), total	Aluminum (Al), dissolved	Arsenic (As), total	Arsenic (As), dissolved	Cadmium (Cd), total	Cadmium (Cd), dissolved	Chromium (Cr), total	Chromium (Cr), dissolved	Copper (Cu), total	Copper (Cu), dissolved	
	pH units	pH 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
Average	7.48	7.64	24.6	0.112	0.0906	0.0636	0.795	0.0871	1.2246	0.0548	0.00062	0.00035	0.000124	0.00004	0.0012	0.0006	0.13443	0.02698	
Count	66	71	73	56	60	60	63	26	74	73	74	73	74	73	74	73	74	73	
Minimum	6.21	5.72	0.5	0.07	0.0025	0.0025	0.005	0.0097	0.022	0.005	0.0002	0.0002	0.000005	0.000005	0.0004	0.0002	0.005	0.00309	
Maximum	8.72	8.28	1460	0.66	1.3	3.09	16.9	1.38	70.6	0.271	0.0157	0.0024	0.00028	0.00061	0.03	0.0014	6.69	0.11	
Geometric Mean	7.46	7.63	2.1	0.102	0.0297	0.0046	0.026	0.0364	0.1252	0.0421	0.00038	0.00032	0.000034	0.000023	0.0007	0.0006	0.02646	0.01809	
Count <DL	0	0	41	0	6	50	48	0	0	1	14	15	28	29	53	64	0	0	
Standard Deviation	0.52	0.38	170.6	0.081	0.206	0.3988	3.116	0.2643	8.2046	0.049	0.00181	0.00026	0.000376	0.000072	0.0034	0.0003	0.77498	0.02537	
1st Quartile	7.14	7.48	0.5	0.08	0.01	0.0025	0.01	0.0254	0.0504	0.0264	0.0002	0.00026	0.000014	0.00001	0.0005	0.0005	0.00925	0.0086	
Median	7.53	7.7	2	0.1	0.03	0.0025	0.01	0.031	0.0881	0.0421	0.0004	0.0003	0.000041	0.000022	0.0005	0.0005	0.0204	0.0153	
3rd Quartile	7.86	7.9	3.7	0.11	0.061	0.0025	0.055	0.05	0.2132	0.061	0.0005	0.0004	0.000054	0.00005	0.001	0.001	0.05428	0.037	

	Iron (Fe), total	Iron (Fe), dissolved	Lead (Pb), total	Lead (Pb), dissolved	Mercury (Hg), total	Molybdenum (Mo), total	Molybdenum (Mo), dissolved	Nickel (Ni), total	Nickel (Ni), dissolved	Phosphorus (P), total	Phosphorus (P), dissolved	Selenium (Se), total	Selenium (Se), dissolved	Silver (Ag), total	Thallium (Tl), total	Zinc (Zn), total	Zinc (Zn), dissolved
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Average	2.252	0.1754	0.00059	0.00013	0.00003	0.00107	0.00096	0.0019	0.0014	0.075	0.022	0.00051	0.00047	0.000085	0.000029	0.0133	0.0036
Count	74	73	74	73	73	74	73	74	48	46	74	73	74	74	74	74	73
Minimum	0.08	0.022	0.00005	0.00005	0.000005	0.0004	0.0003	0.0005	0.0005	0.005	0.00005	0.00005	0.000005	0.000005	0.000005	0.0025	0.0005
Maximum	130	1.38	0.0276	0.0009	0.0001	0.012	0.012	0.021	0.005	1.36	0.12	0.0106	0.0111	0.0027	0.00054	0.512	0.019
Geometric Mean	0.34	0.1469	0.00017	0.00011	0.000016	0.00068	0.00064	0.0016	0.0013	0.034	0.016	0.0002	0.00019	0.000017	0.000021	0.0051	0.0031
Count <DL	0	0	48	65	59	52	54	3	8	4	12	43	42	63	73	45	59
Standard Deviation	15.078	0.1637	0.00319	0.00012	0.000037	0.002	0.00185	0.0024	0.0006	0.196	0.02	0.00141	0.00145	0.000393	0.000061	0.0592	0.0026
1st Quartile	0.185	0.11	0.0001	0.0001	0.000005	0.0005	0.0005	0.001	0.001	0.016	0.006	0.0001	0.0001	0.00001	0.000025	0.0025	0.0025
Median	0.255	0.132	0.0001	0.0001	0.00001	0.0005	0.0005	0.0015	0.0013	0.031	0.019	0.0002	0.0002	0.00001	0.000025	0.005	0.0025
3rd Quartile	0.45	0.188	0.0003	0.0001	0.00002	0.00078	0.0005	0.002	0.002	0.059	0.027	0.0004	0.0004	0.000038	0.000025	0.0072	0.005

3.5 MINTO MINE FACILITIES WATER QUALITY OVER TIME

The same parameters of interest in Minto Creek were plotted versus time for each of the six Minto Mine facility monitoring stations. The seven parameters graphed in Figures 3-18 through 3-25 include aluminum, cadmium, chromium, copper, iron, selenium, nitrate, and total suspended solids. For results below laboratory detection levels, ½ the RDL has been plotted.

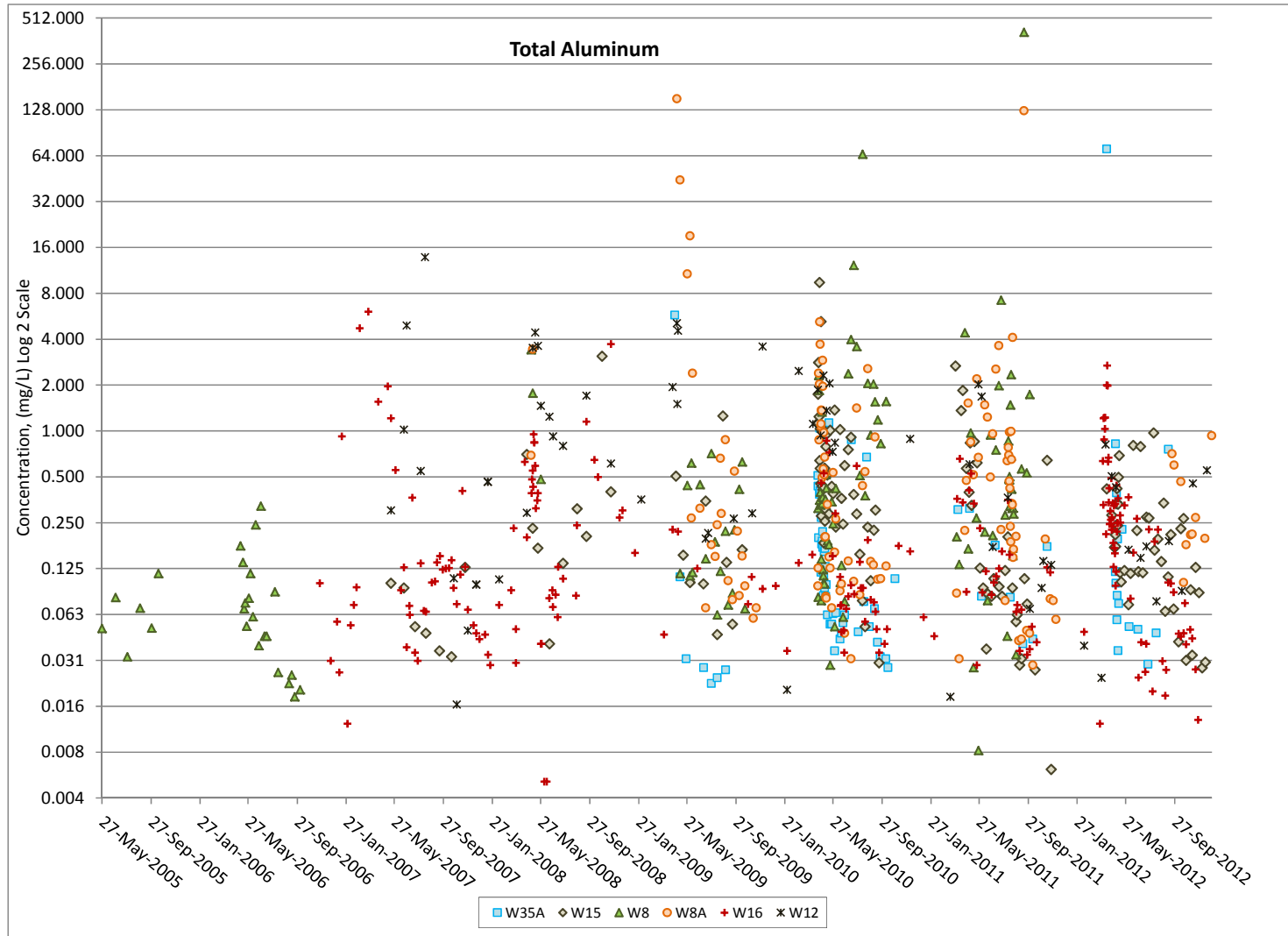


Figure 3-18: Concentrations of Total Aluminum at Minto Mine Facility Monitoring Locations.

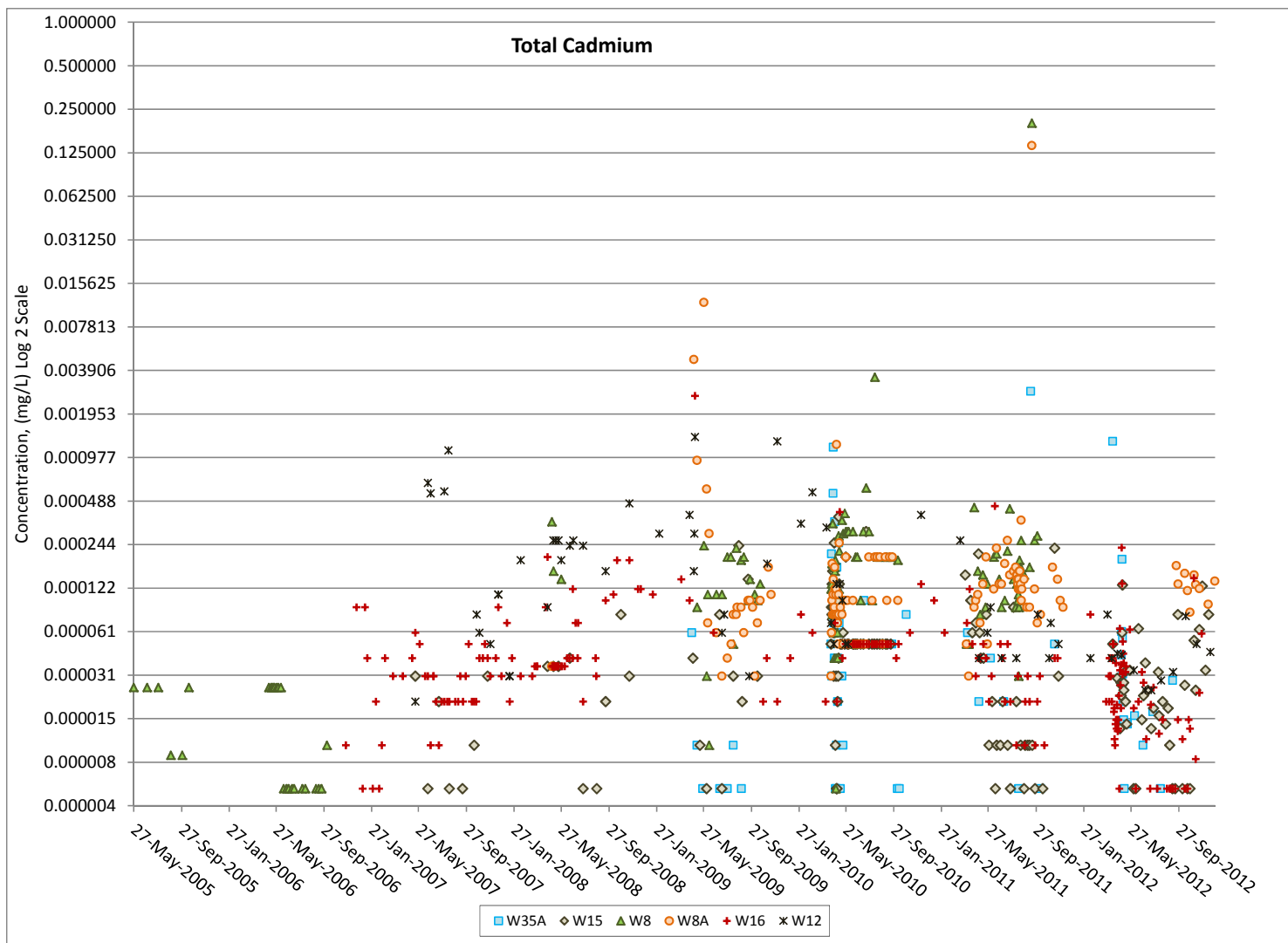


Figure 3-19: Concentrations of Total Cadmium at Minto Mine Facility Monitoring Locations.

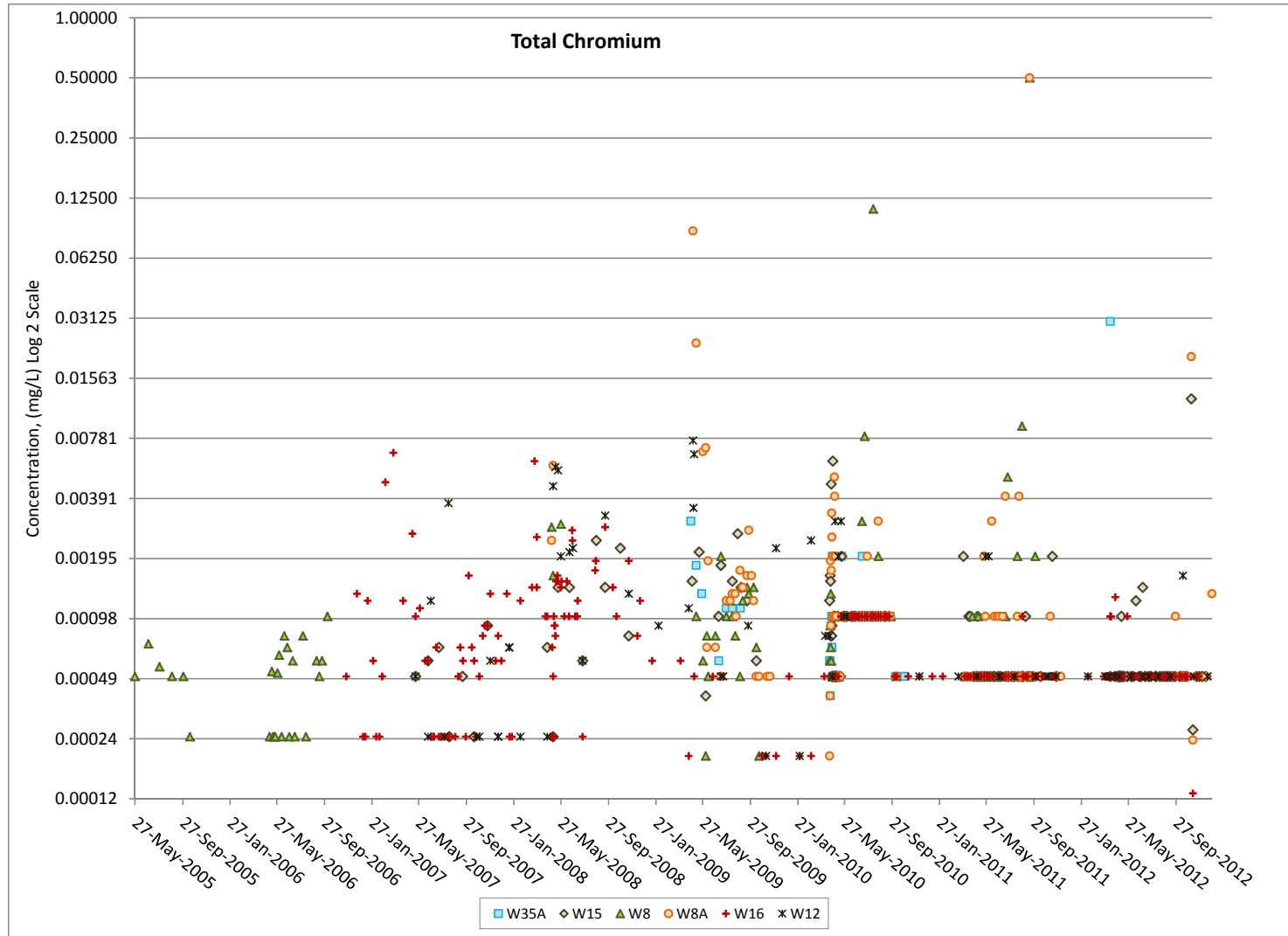


Figure 3-20: Concentrations of Total Chromium at Minto Mine Facility Monitoring Locations.

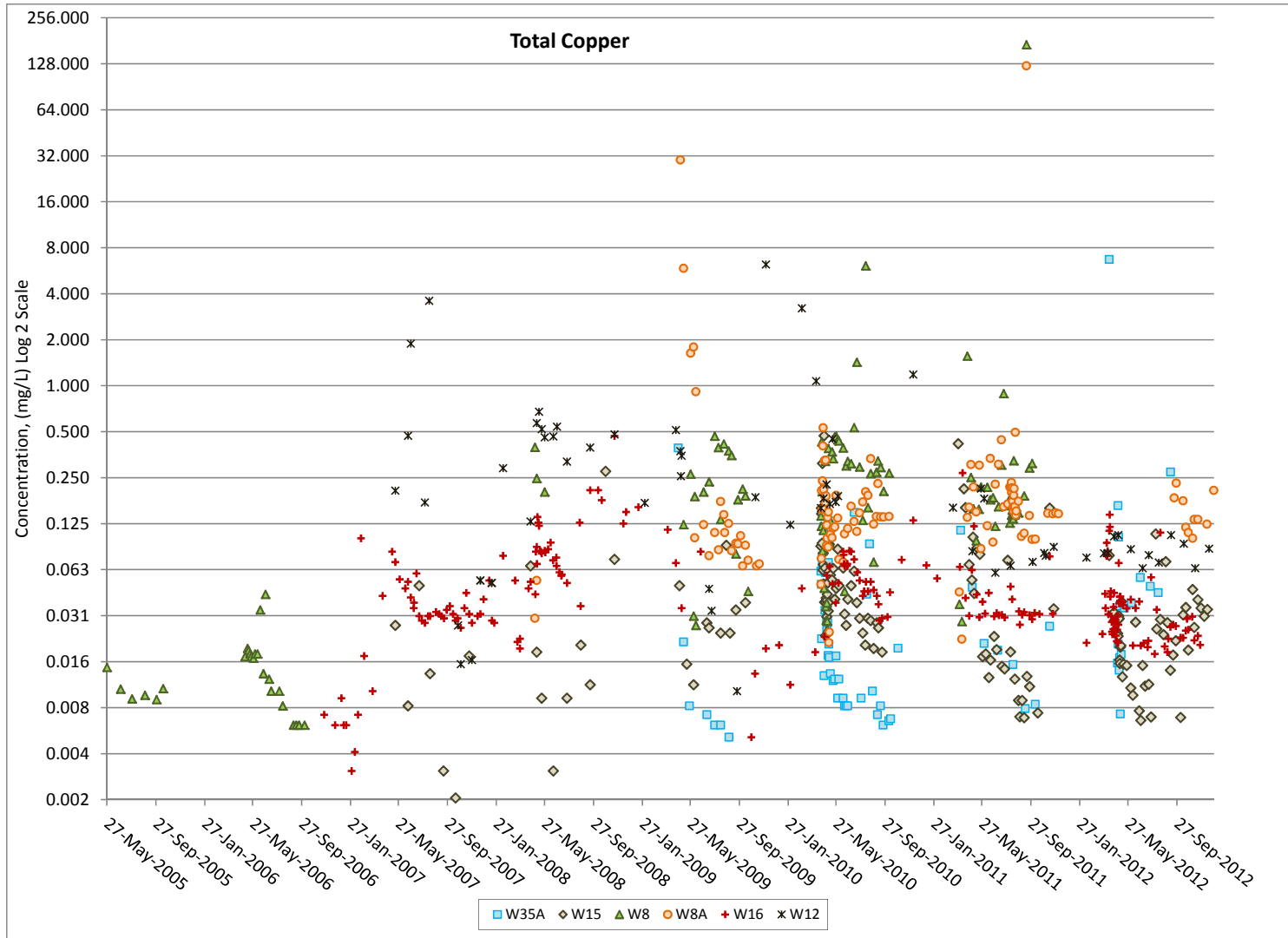


Figure 3-21: Concentrations of Total Copper at Minto Mine Facility Monitoring Locations.

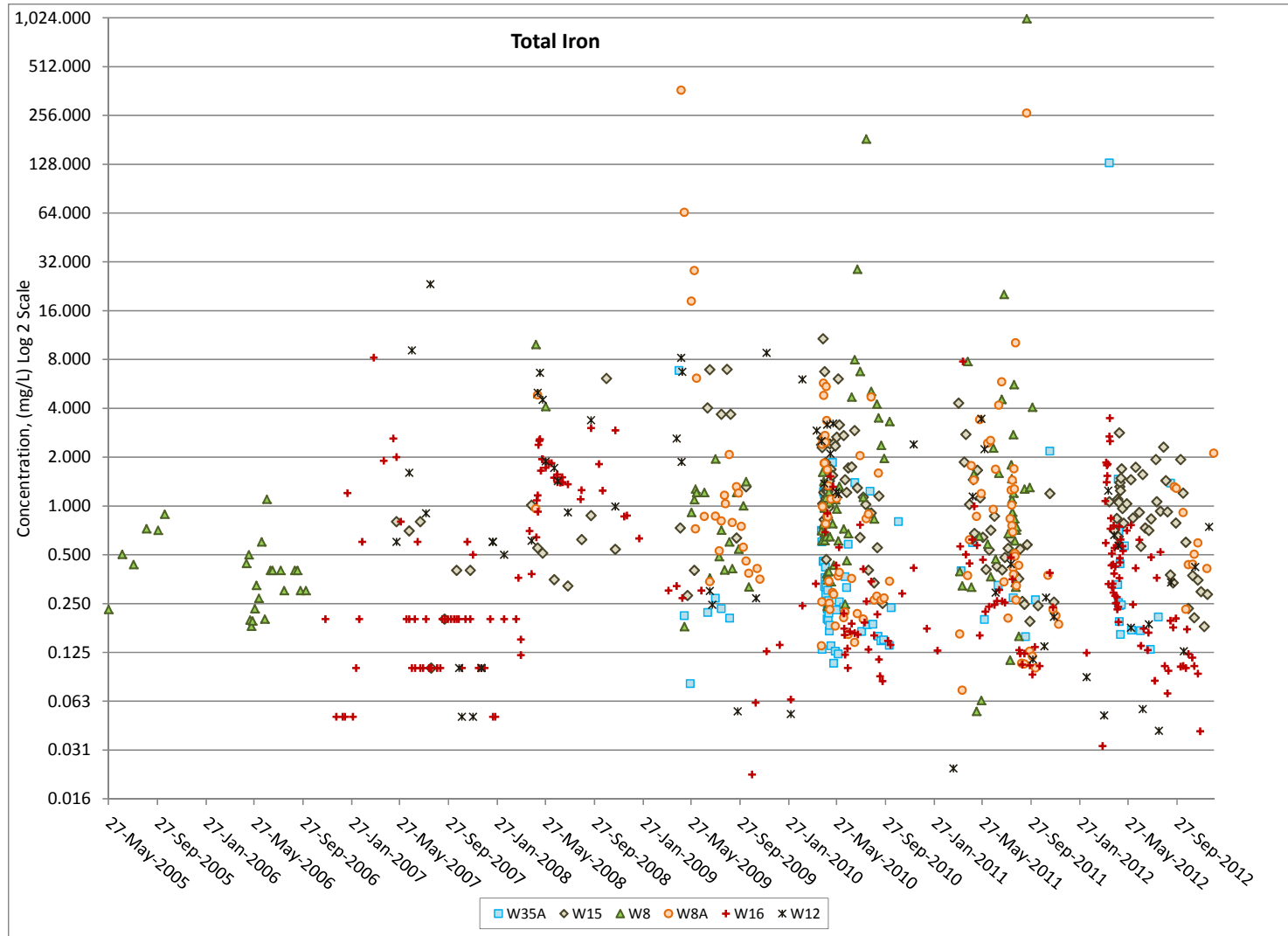


Figure 3-22: Concentrations of Total Iron at Minto Mine Facility Monitoring Locations.

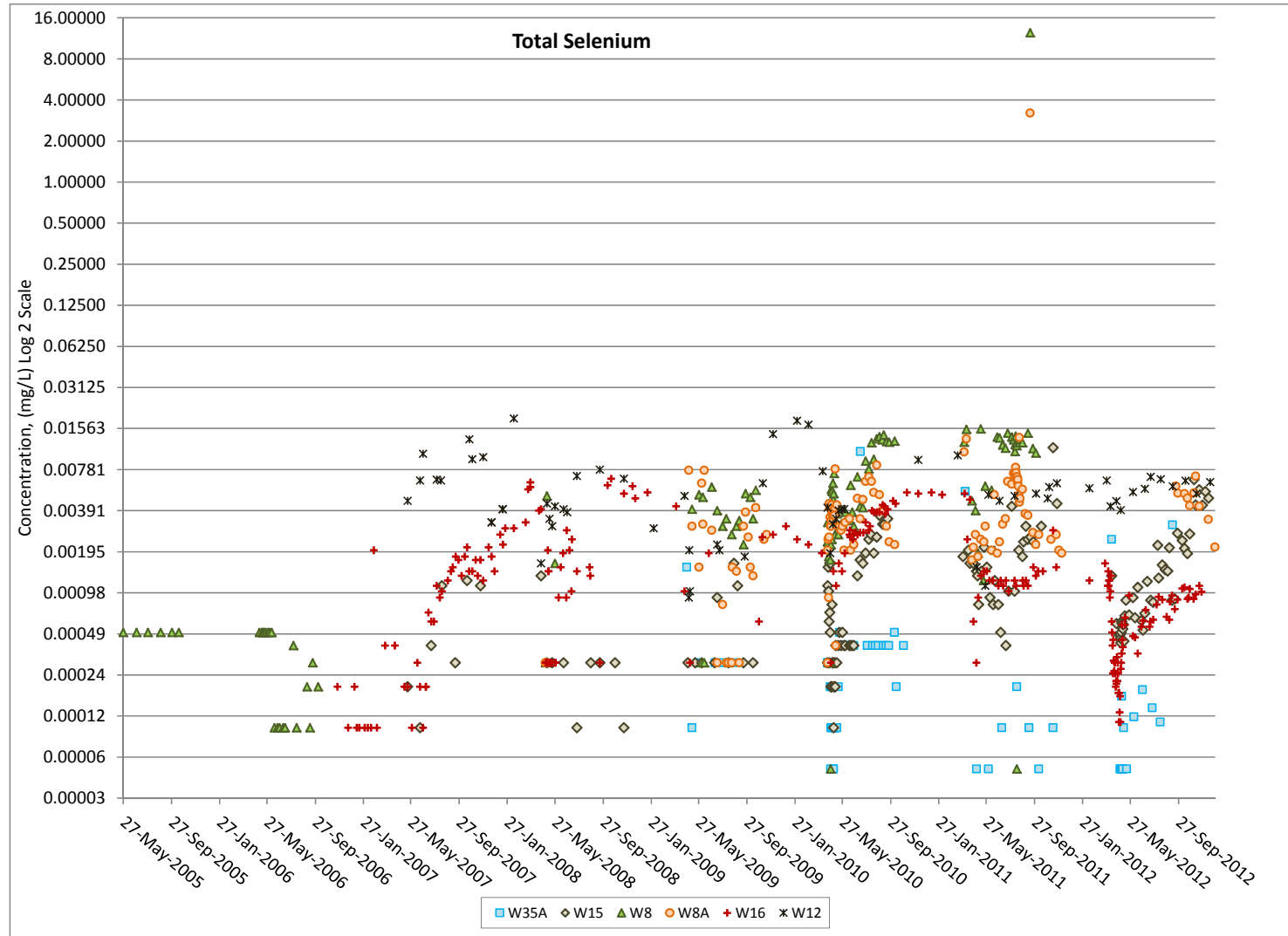


Figure 3-23: Concentrations of Total Selenium at Minto Mine Facility Monitoring Locations.

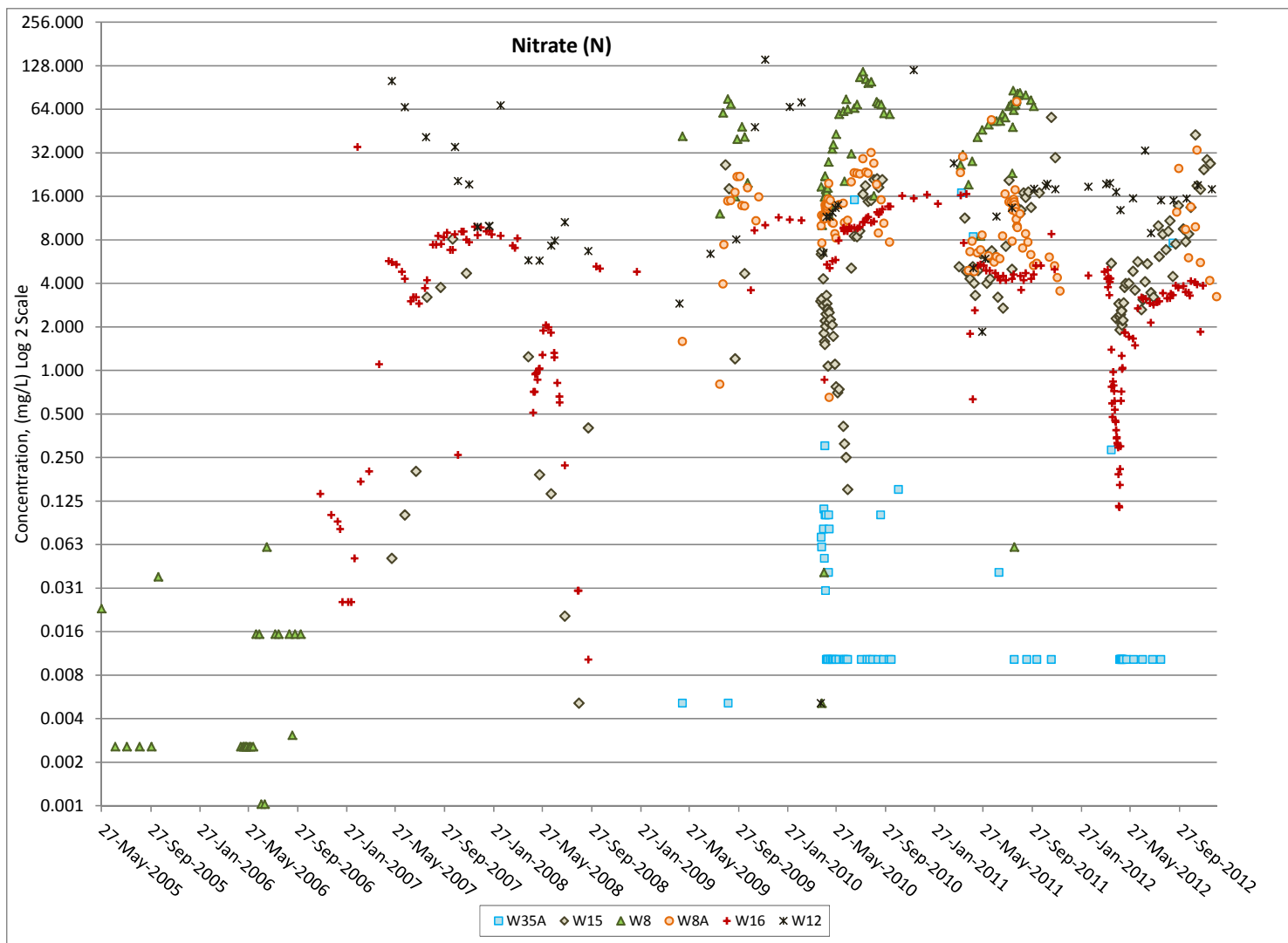


Figure 3-24: Concentrations of Nitrate (N) at Minto Mine Facility Monitoring Locations.

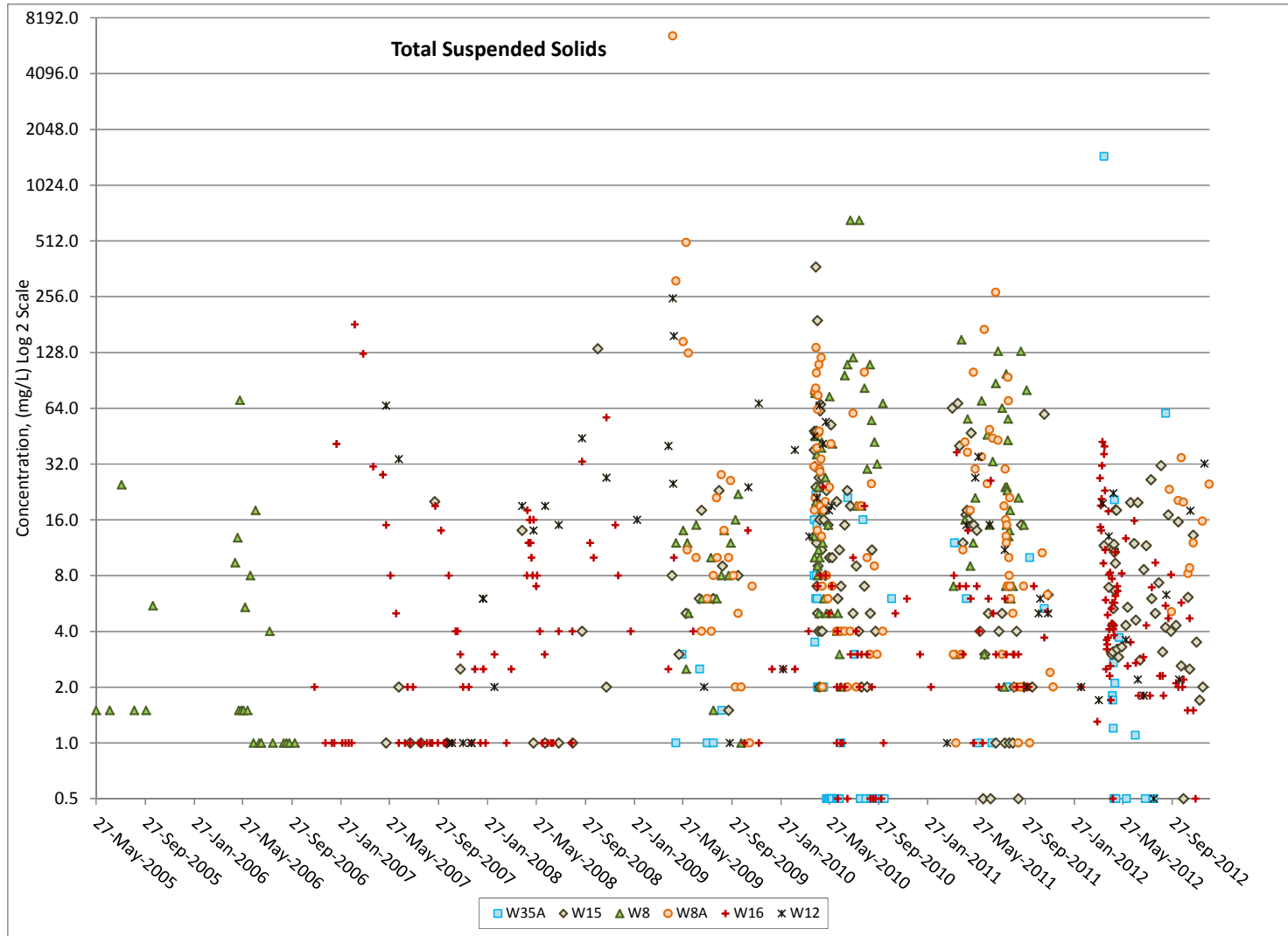


Figure 3-25: Concentrations of Total Suspended Solids at Minto Mine Facility Monitoring Locations.

4 LIMITATIONS OF REPORT

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

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

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

5 REFERENCES

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APPENDIX A

OUTLIER IDENTIFICATION – MINTO CREEK SURFACE WATER QUALITY

Station Name	W7						
Parameter	# of Samples	# of Outliers	# Outliers Associated with High TSS	# Outliers Associated with High RDL	Other Reason for Outlier	Date (day/month/year)	Comment
Total Suspended Solids	98	2				2/6/2006; 2/8/2011	2/6/2006 TSS = 705 mg/L; 2/8/2011 TSS = 400 mg/L; 2/7/5/2010 TSS just within outlier criteria = 350 mg/L
Aluminum (Al), total	100	3	3			2/6/2006; 2/7/5/2010; 2/8/2011	2/6/2006 TSS = 705 mg/L; 2/7/5/2010 TSS = 350 mg/L; 2/8/2011 TSS = 400 mg/L
Arsenic (As), total	100	3	3			2/6/2006; 2/7/5/2010; 2/8/2011	2/6/2006 TSS = 705 mg/L; 2/7/5/2010 TSS = 350 mg/L; 2/8/2011 TSS = 400 mg/L
Cadmium (Cd), total	100	1			1	10/7/2009	
Calcium (Ca), total	100	0					
Chromium (Cr), total	100	3	3			2/6/2006; 2/7/5/2010; 2/8/2011	2/6/2006 TSS = 705 mg/L; 2/7/5/2010 TSS = 350 mg/L; 2/8/2011 TSS = 400 mg/L
Copper (Cu), total	100	3	2		1	2/6/2006; 2/7/5/2010; 2/5/2011	2/5/2011 - other reason for outlier; 2/6/2006 TSS = 705 mg/L; 2/7/5/2010 TSS = 350 mg/L
Iron (Fe), total	100	3	3			2/6/2006; 2/7/5/2010; 2/8/2011	2/6/2006 TSS = 705 mg/L; 2/7/5/2010 TSS = 350 mg/L; 2/8/2011 TSS = 400 mg/L
Lead (Pb), total	100	2	2			2/6/2006; 2/7/5/2010	2/6/2006 TSS = 705 mg/L; 2/7/5/2010 TSS = 350 mg/L
Magnesium (Mg), total	100	1			1	29/12/2012	overflow sampled
Manganese (Mn), total	100	2	2			2/6/2006; 2/7/5/2010	2/6/2006 TSS = 705 mg/L; 2/7/5/2010 TSS = 350 mg/L
Mercury (Hg), total	76	1		1		17/6/2008	poor RDL of <0.01 mg/L
Molybdenum (Mo), total	100	0					
Nickel (Ni), total	100	3	3			2/6/2006; 2/7/5/2010; 2/8/2011	2/6/2006 TSS = 705 mg/L; 2/7/5/2010 TSS = 350 mg/L; 2/8/2011 TSS = 400 mg/L
Phosphorus (P), total	51	1	1			2/6/2006	TSS = 705 mg/L (result also only 2.5 times the RDL)
Potassium (K), total	100	2	1		1	22/4/2008; 2/7/5/2010	22/4/2008 TSS = 1; 2/7/5/2010 TSS = 350 mg/L
Selenium (Se), total	100	0					
Silver (Ag), total	100	2	1		1	23/6/2006; 2/8/2006	23/6/2006 TSS = 328 mg/L; 2/8/2006 TSS = 4 mg/L
Sodium (Na), total	100	1			1	22/4/2008	
Thallium (Tl), total	100	1	1			27/5/2010	27/5/2010 TSS = 350 mg/L
Zinc (Zn), total	100	2	2			2/6/2006; 2/7/5/2010	2/6/2006 TSS = 705 mg/L; 2/7/5/2010 TSS = 350 mg/L
Aluminum (Al), dissolved	96	1			1	28/6/2006	TSS = 103 mg/L
Arsenic (As), dissolved	96	1			1	8/8/2012	
Cadmium (Cd), dissolved	96	1			1	20/9/2006	
Calcium (Ca), dissolved	95	1			1	29/12/2012	overflow sampled
Chromium (Cr), dissolved	96	0					
Copper (Cu), dissolved	96	1			1	25/2/2012	
Iron (Fe), dissolved	96	4			4	17/7/2012; 30/7/2012; 8/8/2012; 23/8/2012	consecutive sample dates
Lead (Pb), dissolved	96	1			1	18/9/2008	
Magnesium (Mg), dissolved	95	2			2	22/4/2008; 29/12/2012	29/12/2012 overflow sampled
Manganese (Mn), dissolved	96	1			1	2/11/2012	
Mercury (Hg), dissolved	74	1		1		17/6/2008	poor RDL of <0.01 mg/L
Molybdenum (Mo), dissolved	96	0					
Nickel (Ni), dissolved	96	3			3	28/6/2006; 26/6/2010; 13/9/2012	
Phosphorus (P), dissolved	45	4		4		30/6/2005; 29/7/2005; 15/10/2005; 2/6/2006	poor RDLs of <0.30 mg/L in 2005 & 2006
Potassium (K), dissolved	95	2			2	22/4/2008; 29/12/2012	29/12/2012 overflow sampled
Selenium (Se), dissolved	96	1			1	17/6/2008	
Silver (Ag), dissolved	96	1		1		22/4/2008	poor RDL <0.0010 mg/L
Sodium (Na), dissolved	95	2			2	22/4/2008; 29/12/2012	29/12/2012 overflow sampled
Thallium (Tl), dissolved	96	3		3		27/5/2005; 30/8/2005; 28/9/2005	poor RDL of <0.00020 mg/L
Zinc (Zn), dissolved	96	2			2	30/4/2009; 2/5/2011	
pH (field)	50	0					
pH (lab)	100	2			2	15/10/2005; 6/5/2012	15/10/2005 pH = 6.75; 6/5/2012 pH = 5.74
Ammonia (N)	92	3		2	1	4/6/2010; 18/6/2010; 20/6/2010	18/6/2010 & 20/6/2010 due to poor RDL of <0.50 mg/L; 5/8/2010 result not showing as outlier but considered erroneous; 4/6/2010 forest fire in area
Fluoride	53	0					
Alkalinity, total	98	1			1	16/5/2010	
Chloride	78	1			1	5/8/2010	5/8/2010 result considered erroneous - anion results match W3 - appears to have been mislabelled bottle
Sulphate, dissolved	90	1				5/8/2010	5/8/2010 result considered erroneous - anion results match W3 - appears to have been mislabelled bottle
Hardness (from total)	71	1				2/6/2010	confirmed erroneous lab result
Hardness (from dissolved)	89	1			1	29/12/2012	overflow sampled
Total Dissolved Solids (lab)	91	0					

Station Name	W6						
Parameter	# of Samples	# of Outliers	# Outliers Associated with Elevated TSS	# Outliers Associated with High RDL	Other Reason for Outlier	Date (day/month/year)	Comment
Total Suspended Solids	19	0					small sample size means high TSS events not considered outliers: 17/7/2012 & 25/8/2012 particularly high, 1130 & 1160 mg/L respectively.
Aluminum (Al), total	20	1	1			17/7/2012	TSS = 1130 mg/L
Arsenic (As), total	20	1	1			17/7/2012	TSS = 1130 mg/L
Cadmium (Cd), total	20	1	1			17/7/2012	TSS = 1130 mg/L
Calcium (Ca), total	20	0					
Chromium (Cr), total	20	1	1			17/7/2012	TSS = 1130 mg/L
Copper (Cu), total	20	0					
Iron (Fe), total	20	1	1			17/7/2012	TSS = 1130 mg/L
Lead (Pb), total	20	1	1			17/7/2012	TSS = 1130 mg/L
Magnesium (Mg), total	20	0					
Manganese (Mn), total	20	0					
Mercury (Hg), total	20	1		1		17/6/2008	poor RDL of <0.01 mg/L
Molybdenum (Mo), total	20	0					
Nickel (Ni), total	20	1	1			17/7/2012	TSS = 1130 mg/L
Phosphorus (P), total	15	0					poor RDLs of <0.30 mg/L in 2005/2006
Potassium (K), total	20	0					
Selenium (Se), total	20	0					
Silver (Ag), total	20	0					
Sodium (Na), total	20	1			1	29/7/2005	
Thallium (Tl), total	20	0					
Zinc (Zn), total	20	1	1			17/7/2012	TSS = 1130 mg/L
Aluminum (Al), dissolved	15	1			1	10/15/2005	
Arsenic (As), dissolved	15	0					
Cadmium (Cd), dissolved	15	0					
Calcium (Ca), dissolved	16	0					
Chromium (Cr), dissolved	15	1			1	9/18/2008	
Copper (Cu), dissolved	15	0					
Iron (Fe), dissolved	15	0					
Lead (Pb), dissolved	15	0					
Magnesium (Mg), dissolved	16	0					
Manganese (Mn), dissolved	15	0					
Mercury (Hg), dissolved	11	0					
Molybdenum (Mo), dissolved	15	0					
Nickel (Ni), dissolved	15	0					
Phosphorus (P), dissolved	11	0					poor RDLs of <0.30 mg/L in 2005/2006
Potassium (K), dissolved	15	0					
Selenium (Se), dissolved	15	0					
Silver (Ag), dissolved	15	1		1		6/9/2006	poor RDL of <0.0001 mg/L
Sodium (Na), dissolved	15	0					
Thallium (Tl), dissolved	15	0					
Zinc (Zn), dissolved	15	1			1	30/6/2005	
pH (field)	7	0					
pH (lab)	20	0					
Ammonia (N)	18	1	1			17/7/2012	TSS = 1130 mg/L
Fluoride	8	0					
Alkalinity, total	18	0					
Chloride	18	0					
Sulphate, dissolved	18	1			1	5/27/2005	
Hardness (from total)	15	0					
Hardness (from dissolved)	8	0					
Total Dissolved Solids (lab)	19	0					

Station Name	W2						
Parameter	# of Samples	# of Outliers	# Outliers Associated with Elevated TSS	# Outliers Associated with High RDL	Other Reason for Outlier	Date (day/month/year)	Comment
Total Suspended Solids	480	8				2/8/2011; 25/5/2012; 13/6/2012; 15/6/2012; 19/6/2012; 11/7/2012; 24/7/2012; 7/8/2012	2/8/2011 TSS = 710 mg/L; 25/5/2012 TSS = 897 mg/L; 13/6/2012 TSS = 2600 mg/L; 15/6/2012 TSS = 1410
Aluminum (Al), total	397	9	9			2/8/2011; 12/5/2012; 25/5/2012; 9/6/2012; 13/6/2012; 15/6/2012; 19/6/2012; 11/7/2012; 24/7/2012	
Arsenic (As), total	397	9	9			2/8/2011; 12/5/2012; 25/5/2012; 9/6/2012; 13/6/2012; 15/6/2012; 19/6/2012; 11/7/2012; 24/7/2012	
Cadmium (Cd), total	397	9	7		2	27/5/2009; 8/8/2009; 2/8/2011; 25/5/2012; 13/6/2012; 15/6/2012; 19/6/2012; 11/7/2012; 24/7/2012	other reason: 27/5/2009 and 8/8/2009
Calcium (Ca), total	397	0					
Chromium (Cr), total	397	9	9			2/8/2011; 12/5/2012; 25/5/2012; 9/6/2012; 13/6/2012; 15/6/2012; 19/6/2012; 11/7/2012; 24/7/2012	
Copper (Cu), total	397	10	6		4	7/9/2008; 18/7/2009; 19/8/2009; 6/13/2010; 2/8/2011; 8/11/2011; 25/5/2012; 13/6/2012; 15/6/2012; 19/6/2012; 11/7/2012; 24/7/2012	other reason: 7/9/2008 (TSS = 48 mg/L); 18/7/2009 (TSS = 31 mg/L); 6/12/2010 (TSS = 5 mg/L); 8/11/2011 (TSS = 25.8 mg/L)
Iron (Fe), total	397	10	10			2/8/2011; 30/4/2012; 12/5/2012; 25/5/2012; 9/6/2012; 13/6/2012; 15/6/2012; 19/6/2012; 11/7/2012; 24/7/2012	
Lead (Pb), total	397	8	7		1	13/9/2010; 2/8/2011; 25/5/2012; 13/6/2012; 15/6/2012; 19/6/2012; 11/7/2012; 24/7/2012	other reason 13/9/2010
Magnesium (Mg), total	397	7			7	8/4/2006; 9/4/2006; 10/4/2006; 11/4/2006; 17/4/2006; 18/4/2006; 7/4/2010	7/4/2010 water flowing between ice layers.
Manganese (Mn), total	397	10	10			18/8/2010; 2/8/2011; 12/5/2012; 25/5/2012; 9/6/2012; 13/6/2012; 15/6/2012; 19/6/2012; 11/7/2012; 24/7/2012	
Mercury (Hg), total	335	0					
Molybdenum (Mo), total	396	2			2	18/7/2009; 12/9/2010	
Nickel (Ni), total	397	9	9			2/8/2011; 12/5/2012; 25/5/2012; 9/6/2012; 13/6/2012; 15/6/2012; 19/6/2012; 11/7/2012; 24/7/2012	
Phosphorus (P), total	170	6	6			2/8/2011; 25/5/2012; 13/6/2012; 15/6/2012; 19/6/2012; 24/7/2012	
Potassium (K), total	396	1			1	17/4/2007	TSS = 101 mg/L though seems unrelated
Selenium (Se), total	396	1			1	12/9/2010	
Silver (Ag), total	396	6	2	1	3	23/6/2006; 7/7/2006; 2/8/2006; 17/6/2009; 13/6/2012; 15/6/2012	7/7/2006: poor RDL <0.0005 mg/L; other reason: 23/6/2006; 2/8/2006; 17/6/2009
Sodium (Na), total	395	1			1	12/9/2010	
Thallium (Tl), total	396	11	11			2/8/2011; 30/4/2012; 7/5/2012; 12/5/2012; 25/5/2012; 9/6/2012; 13/6/2012; 15/6/2012; 19/6/2012; 11/7/2012; 24/7/2012	
Zinc (Zn), total	397	11	10		1	30/4/2009; 2/8/2011; 12/5/2012; 18/5/2012; 25/5/2012; 9/6/2012; 13/6/2012; 15/6/2012; 19/6/2012; 11/7/2012; 24/7/2012	other reason 30/4/2009
Aluminum (Al), dissolved	356	8	1		7	30/4/2009; 5/5/2009; 30/8/2009; 27/4/2010; 28/4/2010; 29/4/2010; 30/4/2010; 2/8/2011	TSS only really elevated 2/8/2011; other reason for remaining outliers
Arsenic (As), dissolved	355	2			2	13/5/2008; 20/5/2008	
Cadmium (Cd), dissolved	355	4			4	30/4/2009; 27/5/2009; 20/4/2010; 6/12/2010	
Calcium (Ca), dissolved	356	0					
Chromium (Cr), dissolved	355	2			2	28/10/2006; 19/9/2008	
Copper (Cu), dissolved	355	11			11	28/8/2008; 19/9/2008; 29/6/2009; 5/7/2009; 12/7/2009; 16/7/2009; 17/7/2009; 18/7/2009; 25/7/2009; 6/12/2010; 8/11/2011	
Iron (Fe), dissolved	355	6	4		2	15/5/2011; 8/9/2011; 27/9/2011; 7/5/2012; 12/5/2012; 18/5/2012	15/5/2011: TSS = 140 mg/L; other reason: 8/9/2011, 27/9/2011
Lead (Pb), dissolved	355	8			8	26/4/2007; 22/4/2009; 30/4/2009; 27/5/2009; 18/7/2009; 11/8/2009; 21/4/2010; 16/8/2011	some TSS around 100 mg/L but does not seem related
Magnesium (Mg), dissolved	356	3			3	17/4/2006; 7/4/2010; 14/12/2010	7/4/2010 water flowing between ice layers.
Manganese (Mn), dissolved	356	8	4		4	8/9/2011; 12/9/2011; 19/9/2011; 8/11/2011; 30/4/2012; 7/5/2012; 12/5/2012; 25/5/2012	Elevated TSS associated with 30/4/2012, 7/5/2012, 12/5/2012, 25/5/2012; 19/9/2011 creek appears turbid
Mercury (Hg), dissolved	327	0					
Molybdenum (Mo), dissolved	355	1			1	18/7/2009	
Nickel (Ni), dissolved	355	2			2	7/5/2010; 6/12/2010	
Phosphorus (P), dissolved	125	9			9	all 2005 & 2006 results	poor RDL used in 2005 - 2006 values <3.0 mg/L
Potassium (K), dissolved	355	1	1			17/4/2007	TSS = 101 mg/L
Selenium (Se), dissolved	355	0					
Silver (Ag), dissolved	355	4			3	22/4/2008; 13/5/2008; 20/5/2008; 7/8/2008	poor RDL <0.0010 mg/L used in April & May 2008
Sodium (Na), dissolved	355	0					
Thallium (Tl), dissolved	355	3			3	27/5/2005; 30/8/2005; 28/9/2005	poor RDL of <0.0020 mg/L
Zinc (Zn), dissolved	355	4			4	30/4/2009; 6/12/2010; 10/12/2010; 14/12/2010	10/12/2010 standing water below ice.
pH (field)	410	4			4	21/4/2010; 22/4/2010; 14/6/2010; 12/9/2012	low pH (~6.9) potentially due to freshest conditions in April 2010
pH (lab)	477	9			9	2/6/2006; 26/4/2007; 30/4/2009; 5/5/2009; 21/4/2010; 22/4/2010; 23/4/2010; 5/5/2011	5/5/2011 rained over night
Ammonia (N)	359	6			6	18/7/2009; 28/4/2010; 5/6/2010; 23/6/2010; 6/8/2010; 23/5/2011	5/6/2010 fire in area
Fluoride	304	5			5	8/4/2006; 9/4/2006; 10/4/2006; 17/4/2006; 18/4/2006	
Alkalinity, total	385	6			6	8/4/2006; 9/4/2006; 10/4/2006; 17/4/2006; 18/4/2006; 7/4/2010	7/4/2010 water flowing between ice layers.
Chloride	363	2			2	6/9/2009; 13/9/2010	
Sulphate, dissolved	363	0					
Hardness (from total)	313	2			2	1/6/2010; 2/6/2010	confirmed erroneous lab results
Hardness (from dissolved)	330	2			2	2/8/2006; 14/12/2010	2/8/2006 low hardness; 14/12/2010 winter sample with elevated hardness
Total Dissolved Solids (lab)	470	0					

Station Name	W3						
Parameter	# of Samples	# of Outliers	# Outliers Associated with Elevated TSS	# Outliers Associated with High RDL	Other reason for Outlier	Date (day/month/year)	Comment
Total Suspended Solids	668	2				19/3/2011; 16/4/2012	19/3/2011 TSS = 460 mg/L - very little water; 16/4/2012 TSS = 985 mg/L
Aluminum (Al), total	602	4	2		2	25/8/2008; 16/7/2010; 5/5/2011; 16/4/2012	25/8/2008 no TSS; 5/5/2011 TSS considered elevated at 93 mg/L; 16/4/2012 TSS at 985 mg/L
Arsenic (As), total	602	7	3		4	1/11/2006; 1/5/2008; 25/8/2008; 14/1/2011; 19/3/2011; 5/5/2011; 16/4/2012	25/8/2008 & 14/1/2011 no TSS; 19/3/2011 & 16/4/2012 TSS; TSS on 5/5/2011 considered elevated at 93 mg/L
Cadmium (Cd), total	602	1			1	11/1/2010	Winter sampling event through augered hole in ice.
Calcium (Ca), total	598	3	1		2	19/1/2010; 16/3/2011; 19/3/2011	19/1/2010 winter sampling event through augered hole in ice; 16/3/2011 winter sampling event through augered hole in ice; 19/3/2011 TSS = 460 mg/L - very little water.
Chromium (Cr), total	602	5	2		3	25/8/2008; 16/7/2010; 21/4/2011; 5/5/2011; 16/4/2012	25/8/2008 no TSS; other reason: 16/7/2010, 21/4/2011; TSS on 5/5/2011 considered elevated at 93 mg/L
Copper (Cu), total	602	17	4		13	6/5/2006; 28/8/2008; 29/8/2008; 30/8/2008; 4/9/2008; 5/9/2008; 7/9/2008; 10/9/2008; 17/9/2008; 22/9/2008; 24/9/2008; 12/7/2009; 8/10/2009; 13/3/2011; 19/3/2011; 25/8/2008; 27/8/2008; 29/8/2008; 5/5/2011; 16/4/2012	TSS on 6/5/2006 considered elevated at 83 mg/L; elevated copper in August & September 2008 during mine discharge; other reason: 13/3/2011 - 19/3/2011 TSS = 460 mg/L - very little water; 16/4/2012 TSS = 985 mg/L
Iron (Fe), total	598	5	4		1	25/8/2008; 27/8/2008; 29/8/2008; 5/5/2011; 16/4/2012	25/8/2008 no TSS; 27/8/2008 TSS = 70 mg/L; 29/8/2008 TSS = 98 mg/L; 5/5/2011 TSS = 93 mg/L; 16/4/2012 TSS = 985 mg/L
Lead (Pb), total	602	2			2	11/1/2010; 13/9/2010	11/1/2010 winter sampling event through augered hole in ice.
Magnesium (Mg), total	598	4	1		3	5/4/2006; 19/1/2010; 16/3/2011; 19/3/2011	19/1/2010 winter sampling event through augered hole in ice; 16/3/2011 winter sampling event through augered hole in ice; 19/3/2011 TSS = 460 mg/L - very little water.
Manganese (Mn), total	600	8	3		5	11/16/2006; 19/1/2010; 27/1/2010; 1/2/2010; 16/3/2011; 19/3/2011; 22/3/2011; 16/4/2012	19/3/2011 TSS = 460 mg/L - very little water; 22/3/2011 TSS = 110 mg/L; 16/4/2012 TSS = 985 mg/L; 19/1/2010 winter sampling event through augered hole in ice; 27/1/2010 winter sampling event through augered hole in ice.
Mercury (Hg), total	532	4		4		19/3/2008; 5/6/2008; 11/6/2008; 17/6/2008	poor RDL of <0.01 mg/L
Molybdenum (Mo), total	602	3	1		2	1/11/2006; 8/10/2009; 19/3/2011	19/3/2011 TSS = 460 mg/L - very little water
Nickel (Ni), total	602	5	1		4	1/11/2006; 25/8/2008; 16/7/2010; 2/8/2011; 16/4/2012	25/8/2008 no TSS; 16/4/2012 TSS = 985 mg/L; 2/8/2011 turbid due to rainfall.
Phosphorus (P), total	318	2	1		1	25/8/2008; 16/4/2012	25/8/2008 no TSS; 16/4/2012 TSS = 985 mg/L
Potassium (K), total	598	3	1		2	8/10/2009; 16/3/2011; 19/3/2011	8/10/2009; high potassium and other parameters - during mine discharge; 19/3/2011 TSS = 460 mg/L - very little water; 16/3/2011 winter sampling event through augered hole in ice.
Selenium (Se), total	602	2			2	1/11/2006; 8/10/2009	8/10/2009; high selenium and other parameters - during mine discharge
Silver (Ag), total	602	8		3	5	7/7/2006; 1/11/2006; 3/3/2008; 19/3/2008; 12/8/2008; 2/1/2009; 18/6/2009; 14/1/2011	7/7/2006 poor RDL <0.0005 mg/L; 1/11/2006 poor RDL <0.002 mg/L; 19/3/2008 poor RDL <0.001 mg/L
Sodium (Na), total	597	4	1		3	5/4/2006; 8/10/2009; 16/3/2011; 19/3/2011	8/10/2009; high sodium and other parameters - during mine discharge; 19/3/2011 TSS = 460 mg/L - very little water.
Thallium (Tl), total	602	8	1	6	1	27/5/2005; 29/8/2005; 28/9/2005; 5/4/2006; 7/7/2006; 1/11/2006; 13/9/2010; 16/4/2012	27/5/2005, 29/8/2005, 28/9/2005, 5/4/2006, 7/7/2006 poor RDL <0.00020 mg/L; 1/11/2006 poor RDL <0.001; 16/4/2012 TSS = 985 mg/L
Zinc (Zn), total	602	14	1		13	1/11/2006; 30/11/2006; 20/1/2009; 11/1/2010; 20/7/2010; 10/8/2010; 13/9/2010; 11/8/2010; 12/8/2010; 13/9/2010; 17/10/2010; 14/1/2011; 13/3/2011; 31/3/2011; 16/4/2012	16/4/2012 TSS = 985 mg/L; 11/1/2010 winter sampling event through augered hole in ice; 13/3/2011 winter sampling event through augered hole in ice.
Aluminum (Al), dissolved	532	3	1		2	11/1/2010; 21/4/2010; 19/3/2011	19/3/2011 TSS = 460 mg/L - very little water; 11/1/2010 winter sampling event through augered hole in ice.
Arsenic (As), dissolved	532	10	1		10	17/4/2007; 11/5/2008; 13/5/2008; 12/11/2008; 8/10/2009; 19/1/2010; 27/1/2010; 1/2/2010; 16/3/2011; 19/3/2011	19/3/2011 TSS = 460 mg/L - very little water; 19/1/2010 winter sampling event through augered hole in ice; 27/1/2010 winter sampling event through augered hole in ice; 1/2/2010 winter sampling event through augered hole in ice.
Cadmium (Cd), dissolved	532	1			1	11/1/2010	11/1/2010 dissolved cadmium > total cadmium; winter sampling event through augered hole in ice.
Calcium (Ca), dissolved	528	3	1		2	19/1/2010; 16/3/2011; 19/3/2011	19/1/2010 winter sampling event through augered hole in ice; 16/3/2011 winter sampling event through augered hole in ice; 19/3/2011 TSS = 460 mg/L - very little water.
Chromium (Cr), dissolved	532	5			5	28/10/2006; 11/5/2008; 18/5/2008; 5/6/2008; 25/6/2008	
Copper (Cu), dissolved	532	9	1		8	28/8/2008; 22/9/2008; 3/6/2009; 11/6/2009; 5/7/2009; 12/7/2009; 16/7/2009; 17/7/2009; 19/3/2011	19/3/2011 TSS = 460 mg/L - very little water
Iron (Fe), dissolved	532	12	2		10	29/8/2005; 28/9/2005; 15/10/2005; 28/8/2008; 1/9/2008; 10/9/2008; 17/9/2008; 22/9/2008; 30/4/2009; 27/1/2010; 11/2/2010	30/4/2009 TSS = 58 mg/L; 19/3/2011 TSS = 460 mg/L; 27/1/2010 winter sampling event through augered hole in ice; 11/2/2010 winter sampling event through augered hole in ice.
Lead (Pb), dissolved	532	1			1	11/1/2010	11/1/2010 winter sampling event through augered hole in ice.
Magnesium (Mg), dissolved	528	3	1		2	19/1/2010; 16/3/2011; 19/3/2011	19/1/2010 winter sampling event through augered hole in ice; 16/3/2011 winter sampling event through augered hole in ice; 19/3/2011 TSS = 460 mg/L - very little water.
Manganese (Mn), dissolved	532	7	2		5	16/11/2006; 19/1/2010; 27/1/2010; 1/2/2010; 16/3/2011; 19/3/2011; 22/3/2011	19/3/2011 TSS = 460 mg/L - very little water; 22/3/2011 TSS = 110 mg/L; 19/1/2010 winter sampling event through augered hole in ice; 27/1/2010 winter sampling event through augered hole in ice; 1/2/2010 winter sampling event through augered hole in ice; 16/3/2011 winter sampling event through augered hole in ice.
Mercury (Hg), dissolved	496	4		4		19/3/2008; 5/6/2008; 11/6/2008; 17/6/2008	poor RDL of <0.01 mg/L
Molybdenum (Mo), dissolved	532	1			1	8/10/2009	
Nickel (Ni), dissolved	532	7	1		6	22/9/2008; 8/10/2008; 11/1/2010; 19/1/2010; 21/9/2010; 16/3/2011; 19/3/2011	19/3/2011 TSS = 460 mg/L - very little water; 11/1/2010 winter sampling event through augered hole in ice; 19/1/2010 winter sampling event through augered hole in ice; 16/3/2011 winter sampling event through augered hole in ice.
Phosphorus (P), dissolved	209	12		11	1	30/6/2005; 29/7/2005; 15/10/2005; 2/3/2006; 7/4/2006; 17/4/2006; 24/4/2006; 8/5/2006; 14/5/2006; 23/5/2006; 2/6/2006; 11/1/2010	poor RDL <0.30 mg/L used in 2005 - 2006; 11/1/2010 winter sampling event through augered hole in ice.
Potassium (K), dissolved	528	3	1		2	8/10/2009; 16/3/2011; 19/3/2011	19/3/2011 TSS = 460 mg/L - very little water; 16/3/2011 winter sampling event through augered hole in ice
Selenium (Se), dissolved	532	1			1	8/10/2009	
Silver (Ag), dissolved	532	12				19/3/2008; 22/4/2008; 1/5/2008; 4/5/2008; 8/5/2008; 11/5/2008; 13/5/2008; 15/5/2008; 18/5/2008; 20/5/2008; 27/5/2008; 29/5/2008	poor RDL <0.0010 mg/L used in March, April & May 2008
Sodium (Na), dissolved	528	3	1		2	8/10/2009; 16/3/2011; 19/3/2011	19/3/2011 TSS = 460 mg/L - very little water; 16/3/2011 winter sampling event through augered hole in ice.
Thallium (Tl), dissolved	532	4		3	1	27/5/2005; 29/8/2005; 28/9/2005; 5/4/2006; 7/7/2006	poor RDL of <0.00020 mg/L in 2005; other reason: 17/10/2008
Zinc (Zn), dissolved	532	7	1		6	11/1/2010; 10/8/2010; 11/8/2010; 12/8/2010; 13/3/2011; 19/3/2011; 29/3/2011	19/3/2011 TSS = 460 mg/L - very little water; 11/1/2010 winter sampling event through augered hole in ice; 13/3/2011 winter sampling event through augered hole in ice.
pH (field)	475	4			4	22/1/2012; 31/1/2012; 7/2/2012; 5/9/2012	
pH (lab)	664	5	1		4	2/3/2006; 1/11/2006; 16/11/2006; 21/4/2010; 19/3/2011	19/3/2011 TSS = 460 mg/L - very little water
Ammonia (N)	501	10	2		8	10/9/2008; 17/9/2008; 22/9/2008; 21/7/2009; 25/7/2009; 15/8/2009; 15/7/2010; 17/10/2010; 19/3/2011; 18/12/2011	21/7/2009 no TSS; 19/3/2011 TSS = 460 mg/L - very little water.
Fluoride	354	2	1		1	16/3/2011; 19/3/2011	19/3/2011 TSS = 460 mg/L - very little water; 16/3/2011 winter sampling event through augered hole in ice.
Alkalinity, total	570	3	1		2	19/1/2010; 16/3/2011; 19/3/2011	19/3/2011 TSS = 460 mg/L - very little water; 19/1/2010 winter sampling event through augered hole in ice; 16/3/2011 winter sampling event through augered hole in ice.
Chloride	547	2	1		1	16/3/2011; 19/3/2011	19/3/2011 TSS = 460 mg/L; 16/3/2011 winter sampling event through augered hole in ice.
Sulphate, dissolved	542	4	2		2	8/10/2009; 19/1/2010; 16/3/2011; 19/3/2011	19/3/2011 TSS = 460 mg/L - very little water; 19/1/2010 winter sampling event through augered hole in ice; 16/3/2011 winter sampling event through augered hole in ice.
Hardness (from total)	402	4	1		3	1/6/2010; 2/6/2010; 16/3/2011; 19/3/2011	1/6/2010 and 2/6/2010 confirmed erroneous lab results; 16/3/2011 winter sampling event through augered hole in ice; 19/3/2011 TSS = 460 mg/L - very little water
Hardness (from dissolved)	461	3	1		2	19/1/2010; 16/3/2011; 19/3/2011	19/3/2011 TSS = 460 mg/L - very little water; 19/1/2010 winter sampling event through augered hole in ice; 16/3/2011 winter sampling event through augered hole in ice.
Total Dissolved Solids (lab)	656	4	3		1	5/4/2006; 19/1/2010; 16/3/2011; 19/3/2011	19/1/2010 winter sampling event through augered hole in ice; 16/3/2011 winter sampling event through augered hole in ice; 19/3/2011 TSS = 460 mg/L - very little water.

Station Name	MC1						
Parameter	# of Samples	# of Outliers	# Outliers Associated with Elevated TSS	# Outliers Associated with High RDL	Other Reason for Outlier	Date (day/month/year)	Comment
Total Suspended Solids	95	4				02/08/2011; 19/5/2012; 25/5/2012; 15/6/2012	2/8/2011 TSS = 660 mg/L; 19/5/2012 TSS = 544 mg/L; 25/5/2012 TSS = 631 mg/L; 15/6/2012 TSS = 465 mg/L
Aluminum (Al), total	95	3	3			2/8/2011; 25/5/2012; 15/6/2012	2/8/2011 TSS = 660 mg/L; 25/5/2012 TSS = 631 mg/L; 15/6/2012 TSS = 465 mg/L
Arsenic (As), total	95	2	2			2/8/2011; 25/5/2012	2/8/2011 TSS = 660 mg/L; 25/5/2012 TSS = 631 mg/L
Cadmium (Cd), total	95	2	1		1	2/8/2011; 12/9/2011	2/8/2011 TSS = 660 mg/L
Calcium (Ca), total	95	0					
Chromium (Cr), total	95	3				2/8/2011; 25/5/2012; 15/6/2012	2/8/2011 TSS = 660 mg/L; 25/5/2012 TSS = 631 mg/L; 15/6/2012 TSS = 465 mg/L
Copper (Cu), total	95	3	3			2/8/2011; 25/5/2012; 9/6/2012	2/8/2011 TSS = 660 mg/L; 25/5/2012 TSS = 631 mg/L; 9/6/2012 = 148 mg/L
Iron (Fe), total	95	2	2			2/8/2011; 25/5/2012	2/8/2011 TSS = 660 mg/L; 25/5/2012 TSS = 631 mg/L
Lead (Pb), total	95	3	3			2/8/2011; 19/5/2012; 25/5/2012	2/8/2011 TSS = 660 mg/L; 19/5/2012 TSS = 544 mg/L; 25/5/2012 TSS = 631 mg/L
Magnesium (Mg), total	95	0					
Manganese (Mn), total	95	4	4			2/8/2011; 19/5/2012; 25/5/2012; 15/6/2012	2/8/2011 TSS = 660 mg/L; 19/5/2012 TSS = 544 mg/L; 25/5/2012 TSS = 631 mg/L; 15/6/2012 TSS = 465 mg/L
Mercury (Hg), total	94	0					
Molybdenum (Mo), total	95	4			4	15/8/2010; 4/9/2010; 17/9/2010; 8/10/2010	During mine discharge period.
Nickel (Ni), total	95	2	2			2/8/2011; 25/5/2012	2/8/2011 TSS = 660 mg/L; 25/5/2012 TSS = 631 mg/L
Phosphorus (P), total	55	2	2			2/8/2011; 25/5/2012	2/8/2011 TSS = 660 mg/L; 25/5/2012 TSS = 631 mg/L
Potassium (K), total	95	1			1	10/8/2010	
Selenium (Se), total	95	5			5	15/8/2010; 4/9/2010; 10/9/2010; 17/9/2010; 8/10/2010	During mine discharge period.
Silver (Ag), total	95	1				8/2/2011	2/8/2011 TSS = 660 mg/L
Sodium (Na), total	95	1			1	10/8/2010	
Thallium (Tl), total	95	3	3			02/08/2011; 25/5/2012; 15/6/2012	2/8/2011 TSS = 660 mg/L; 25/5/2012 TSS = 631 mg/L; 15/6/2012 TSS = 465 mg/L
Zinc (Zn), total	95	2				02/08/2011; 25/5/2012	2/8/2011 TSS = 660 mg/L; 25/5/2012 TSS = 631 mg/L
Aluminum (Al), dissolved	93	2			2	28/4/2010; 30/4/2010	
Arsenic (As), dissolved	93	0					
Cadmium (Cd), dissolved	93	1		1		8/15/2010	Result appears to be 2X RDL: 0.0002 mg/L vs <0.0001 mg/L and not present in a sufficient amount to be reliably quantified. Typically, as parameters approach their detection limit, high variability is more likely to occur.
Calcium (Ca), dissolved	93	0					
Chromium (Cr), dissolved	93	0					
Copper (Cu), dissolved	93	2			2	23/04/2012; 6/5/2012	
Iron (Fe), dissolved	93	1			1	5/22/2011	TSS = 120 mg/L
Lead (Pb), dissolved	93	1	1			5/19/2011	19/5/2012 TSS = 544 mg/L
Magnesium (Mg), dissolved	93	1			1	4/6/2012	
Manganese (Mn), dissolved	93	2	2			12/5/2012; 25/5/2012	12/5/2012 TSS = 430 mg/L; 25/5/2012 TSS = 631 mg/L
Mercury (Hg), dissolved	94	0					
Molybdenum (Mo), dissolved	93	5			5	15/8/2010; 4/9/2010; 10/9/2010; 17/9/2010; 8/10/2010	During mine discharge period.
Nickel (Ni), dissolved	93	1			1	5/6/2010	
Phosphorus (P), dissolved	53	1					
Potassium (K), dissolved	93	0					
Selenium (Se), dissolved	93	5			5	15/8/2010; 4/9/2010; 10/9/2010; 17/9/2010; 8/10/2010	During mine discharge period.
Silver (Ag), dissolved	93	0					
Sodium (Na), dissolved	93	1			1	8/2/2010	
Thallium (Tl), dissolved	93	0					
Zinc (Zn), dissolved	93	2	2			26/06/2011; 19/5/2012	26/6/2011 TSS = 220 mg/L; 19/5/2012 TSS = 544 mg/L
pH (field)	89	1			1	11/10/2011	pH = 12.41, not in line with lab pH
pH (lab)	95	1			1	4/24/2010	pH = 7.5, just on the low side since pH is consistently closer to 8.0.
Ammonia (N)	92	4		2	2	21/6/2010; 23/6/2010; 8/8/2010; 25/5/2011	June 2010 poor RDLs of <0.5 mg/L
Fluoride	78	0					
Alkalinity, total	94	1			1	4/6/2012	
Chloride	86	4			4	02/08/2010; 8/8/2010; 15/8/2010; 4/9/2010	During mine discharge period.
Sulphate, dissolved	88	1			1	10/8/2010	
Hardness (from total)	95	1			1	6/1/2010	confirmed erroneous lab result
Hardness (from dissolved)	92	0					
Total Dissolved Solids (lab)	95	0					

APPENDIX B

MINTO CREEK AND MINTO MINE WATER QUALITY DATA (JANUARY 2005–DECEMBER 2012)

Station Name		W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	
Sample Date		4/20/2006	4/21/2006	4/22/2006	4/23/2006	4/24/2006	4/25/2006	4/26/2006	4/27/2006	4/28/2006	4/29/2006	4/30/2006	5/1/2006	5/2/2006	5/3/2006	5/4/2006	5/5/2006	5/6/2006	5/8/2006	5/10/2006	5/14/2006	5/17/2006	5/20/2006	5/23/2006	5/26/2006
pH (field)	pH units	8.5	8.45	8.5	8.55	8.45	8.6	8.4	8	7.9	8.5	8.4	8.3	8.2	8.2	8.2									
pH (lab)	pH units	8.33	8.31	8.31	8.25	8.16	7.63	7.81	7.90	7.85	7.94	7.93	7.94	7.87	7.80		7.53	7.52	7.43	7.51	7.6	7.59	7.75	7.89	7.71
Hardness (from dissolved)	mg/L																								
Hardness (from total)	mg/L																								
Total Dissolved Solids	mg/L	285	266	266	210	182	165	174	168	174	177	159	170	137	126		100	102	122	118	116	131	126	133	139
Total Suspended Solids	mg/L	4.2	<3.0	7.7	12.7	11.7	16.1	6.6	6.6	<3.0	4.1	3.1	4.6	4.9	30.9		40.4	82.9	18.4	13.8	46.8	7.1	6.1	17.8	5.9
Alkalinity, total	mg/L	201	178	182	152	103	84.4	75.4	84.2	73.1	87.4	77.9	81.6							29.9	35.5	43.2	55.4	68.4	74
Sulphate, dissolved	mg/L	60.3	55	58.6	42.7	35.3	26.4	29.9	28.5	23.9	29.3	25.4	24.7							5.48	6.85	7.66	10.3	15.4	19
Chloride	mg/L	0.95	0.80	0.84	0.64	0.88	1.15	0.88	0.83	0.73	0.72	0.63	0.64	0.60	0.55		<0.50	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoride	mg/L	0.356	0.315	0.292	0.233	0.238	0.203	0.167	0.17	0.14	0.15	0.15	0.16	0.122	0.126		0.064	0.069	0.063	0.078	0.158	0.105	0.136	0.149	0.143
Nitrite (N)	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.001	<0.001	<0.001	0.0015
Nitrate (N)	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050		<0.0050	<0.0050	<0.0050	<0.005	<0.005	<0.005	<0.005	<0.005	0.013
Ammonia	mg/L	<0.005	<0.005	<0.005	<0.005	<0.020													<0.020		0.049			0.012	
Aluminum, total	mg/L	0.2750	0.2170	0.2120	0.5360	0.8480	0.3940	0.3300	0.2690	0.2100	0.2130	0.2090	0.2250	0.2090	1.0200		1.0700	2.1300	0.7740	0.316	1.66	0.357	0.0881	0.281	0.125
Arsenic, total	mg/L	0.00041	0.00037	0.00035	0.00040	0.00057	0.00048	0.00045	0.00042	0.00039	0.00040	0.00037	0.00037	0.00036	0.00076		0.00065	0.00101	0.00057	0.00045	0.00118	0.00056	0.00045	0.00056	0.00051
Cadmium, total	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050		<0.000050	<0.000050	<0.000050	0.000134	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Calcium, total	mg/L	41.2	38.9	37.7	29.2	24.0	20.1	20.0	21.0	19.4	22.4	23.0	17.5	16.4			10.5	11.4	11.1	12.2	14	14.9	17.1	19.5	21.7
Chromium, total	mg/L	<0.00050	<0.00050	<0.00050	0.00061	0.00102	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00156		0.00162	0.00238	0.001	0.00074	0.00318	0.00067	<0.0005	0.00061	0.00056
Copper, total	mg/L	0.00878	0.00818	0.00780	0.01180	0.02790	0.02680	0.03210	0.02970	0.03150	0.03320	0.03010	0.03040	0.03040	0.03670		0.03480	0.10100	0.04150	0.0213	0.013	0.0224	0.0147	0.0144	0.0117
Iron, total	mg/L	0.279	0.201	0.220	0.590	0.913	0.370	0.366	0.285	0.261	0.256	0.251	0.259	0.327	1.460		1.530	3.200	1.200	0.504	2.44	0.82	0.261	0.629	0.299
Lead, total	mg/L	0.000142	0.000198	0.000074	0.000195	0.000289	0.000078	0.000086	0.000068	0.000091	0.000060	0.000078	0.000062	0.000117	0.000461		0.000461	0.000760	0.000285	0.000183	0.00116	0.000183	<0.00005	0.000193	0.000084
Magnesium, total	mg/L	31.9	28.6	28.4	22.8	17.4	10.5	11.2	11.8	10.6	13.1	11.7	11.7	8.1	7.8		4.3	4.8	4.0	4.32	4.26	5.82	6.8	8.8	9.4
Manganese, total	mg/L	0.0296	0.0325	0.0342	0.0451	0.0465	0.0112	0.0506	0.04950	0.03960	0.03600	0.03570	0.03110	0.0302	0.0711		0.0925	0.1380	0.0599	0.0708	0.135	0.0965	0.0107	0.0543	0.0187
Mercury, total	mg/L																								
Molybdenum, total	mg/L	0.00268	0.00235	0.00239	0.00177	0.00187	0.00139	0.00109	0.00116	0.00089	0.00118	0.00113	0.00100	0.00080	0.00085		0.00047	0.00056	0.00041	0.000454	0.000581	0.000681	0.000956	0.000992	0.000868
Nickel, total	mg/L	<0.00050	<0.00050	0.00050	0.00067	0.00110	0.00087	0.00099	0.00096	0.00110	0.00117	0.00110	0.00106	0.00119	0.00212		0.00223	0.00304	0.00212	0.00183	0.0046	0.00221	0.00187	0.00211	0.00209
Phosphorus, total	mg/L	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30		<0.30	<0.30	<0.30	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Potassium, total	mg/L	4.1	3.8	3.4	2.8	3.4	6.6	3.4	3.1	3.1	3.2	3	2.9	2.6	2.8		2.1	2.4	2.1	2	<2	<2	<2	<2	<2
Selenium, total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver, total	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	0.000021	<0.000010	0.00001	0.000016	0.00001	0.000012	0.00001	<0.000010	0.000013	0.000022		0.00002	0.00003	0.000017	0.000028	0.000023	0.000012	<0.00001	<0.00001	0.000013
Sodium, total	mg/L	18.1	16.1	16.4	12.6	10.6	8.5	9.9	9.9	7.5	7.7	5.4	5.3	3.4	3.3		<2.0	<2.0	<2.0	<2	2.1	3.4	3.5	5.4	5.7
Thallium, total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010		<0.00010	<0.00010	<0.00010	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Zinc, total	mg/L	0.0035	0.0031	0.0094	0.0031	0.0047	0.0023	0.0027	0.0028	0.0236	0.0035	0.0138	0.0037	0.0050	0.0053		0.0192	0.0137	0.0079	0.0051	0.0085	0.0029	<0.001	0.0023	0.0018
Aluminum, dissolved	mg/L					0.0710													0.1240		0.0846			0.0383	
Arsenic, dissolved	mg/L					0.00033													0.00031		0.0004			0.00043	
Cadmium, dissolved	mg/L					<0.000050													<0.000050		<0.00005			<0.00005	
Calcium, dissolved	mg/L					24.3													11.1		13.8			19	
Chromium, dissolved	mg/L					<0.00050													<0.00050		<0.0005			<0.0005	
Copper, dissolved	mg/L					0.01350													0.01850		0.0146			0.0102	
Iron, dissolved	mg/L					0.134													0.220		0.285			0.167	
Lead, dissolved	mg/L					<0.000050													0.000052		0.00007			<0.00005	
Magnesium, dissolved	mg/L					17.7													3.8		4.32			8.52	
Manganese, dissolved	mg/L					0.03240													0.02550		0.0901			0.0292	
Mercury, dissolved	mg/L																								
Molybdenum, dissolved	mg/L					0.00204													0.00032		0.000572			0.00101	
Nickel, dissolved	mg/L					0.00056													0.00136		0.00159			0.00152	
Phosphorus, dissolved	mg/L					<0.30													<0.30		<0.3			<0.3	
Potassium, dissolved	mg/L					3.3																			

Station Name		W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3			
Sample Date		5/29/2006	6/2/2006	6/7/2006	6/15/2006	6/15/2006	6/23/2006	6/28/2006	7/7/2006	7/12/2006	7/20/2006	7/26/2006	7/26/2006	8/2/2006	8/10/2006	8/25/2006	8/25/2006	8/30/2006	9/6/2006	9/13/2006	9/20/2006	9/29/2006	10/4/2006	10/12/2006	10/18/2006		
pH (field)	pH units																										
pH (lab)	pH units	7.64	7.42	7.59			7.95	7.83	7.88	7.93	7.7	7.92		7.93	8	7.82		7.94	7.86	7.92	7.96	8.02	7.74	7.93	7.61	8.19	
Hardness (from dissolved)	mg/L						169	190	163	179	183	208		209	163	202		204	192	210	215	216	210	203	210	216	
Hardness (from total)	mg/L																										
Total Dissolved Solids	mg/L	120	129	134			196	266	212	249							282	294				160		280	247		
Total Suspended Solids	mg/L	13.4	26.4	7.1			<2	4	4	14	<2	16		<2	18	6		4	<2	<2	4	2	<2	<2	<2	<1	
Alkalinity, total	mg/L	55.2	68.7	69.7			134	164	138	158	164	174		171	182	183		175	178	186	183	190	191	180	184	152	
Sulphate, dissolved	mg/L	11.9	12.2	14.3			34	47		38	39	42		45	40	45		43	39	38	42.9	42	43	43	42		
Chloride	mg/L	<0.5	<0.5	<0.5																						0.9	
Fluoride	mg/L	0.122	0.127	0.126																							
Nitrite (N)	mg/L	<0.001	<0.001	0.0011																						<0.005	
Nitrate (N)	mg/L	0.0075	<0.005	0.0179			0.12	<0.03	0.025	0.086	0.11	<0.03		0.04	0.12	0.12		<0.03	<0.03	<0.03	0.008	<0.03	<0.03	<0.03	<0.03	0.05	
Ammonia	mg/L		0.022	0.043	0.013		0.007	<0.002		0.006	0.006	0.007		0.016	0.013	0.02		0.004	0.003	0.006	0.006	0.004	0.006	0.073	0.006	<0.05	
Aluminum, total	mg/L	0.195	0.847	0.17			0.032	0.067	0.065	0.16	0.014	0.594		0.183	0.138	0.306		0.19	0.064	0.05	0.16	0.138	0.03	0.081	0.047	0.006	
Arsenic, total	mg/L	0.00055	0.00079	0.00054			0.0004	0.0004	0.0004	<0.001	0.0003	0.0006		0.0004	0.0006	0.0005		0.0004	0.0003	0.0004	0.0004	0.0005	0.0004	<0.0004	0.0002	0.0003	
Cadmium, total	mg/L	<0.00005	<0.00005	<0.00005			<0.00001	<0.00001	<0.00001	<0.00005	<0.00001	<0.00001		<0.00001	<0.00001	<0.00001		<0.00002	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00002	<0.00001	<0.00001	
Calcium, total	mg/L	16.7	18.8	19.6			36.5	45.2	38.1	45.2	46.7	47.3		50.4	48.4	54.7		48.3	47.1	49.2	49.8	51.2	51.1	46.2	52	54.3	
Chromium, total	mg/L	0.00071	0.00183	<0.0005			<0.0005	<0.0005	<0.0005	<0.002	<0.0005	0.0006		<0.0005	<0.0005	<0.0005		<0.001	0.0008	0.0007	0.0005	0.0005	<0.001	<0.001	<0.0005	<0.0005	
Copper, total	mg/L	0.022	0.0204	0.0279			0.009	0.005	0.012	0.008	0.004	0.01		0.005	0.004	0.014		0.004	0.005	0.004	0.005	0.004	0.004	0.004	0.005	0.003	
Iron, total	mg/L	0.385	1.38	0.342			0.1	<0.1	0.2	0.1	<0.1	0.7		0.3	0.3	0.4		0.3	0.1	0.1	0.3	0.2	<0.2	<0.2	<0.1	<0.1	
Lead, total	mg/L	0.000131	0.000386	0.000087			<0.0001	<0.0001	<0.0001	<0.0005	<0.0001	0.0002		0.0001	<0.0001	0.0002		<0.0002	<0.0001	0.0001	0.0001	0.0001	<0.0002	<0.0002	<0.0001	<0.0001	
Magnesium, total	mg/L	6.42	7.65	7.53			14.8	17.3	15.1	17.1	16.8	20.7		20.1	18.8	20.4		19	17.8	18.5	18.8	21.3	20.4	18	20.8	20.8	
Manganese, total	mg/L	0.0172	0.0641	0.0201			0.011	0.008	0.01	0.012	0.008	0.043		0.021	0.057	0.104		0.046	0.032	0.036	0.038	0.029	0.03	0.047	0.047	0.073	
Mercury, total	mg/L																										
Molybdenum, total	mg/L	0.000815	0.000915	0.000802			0.002	0.002	0.002	<0.005	0.001	0.002		0.002	0.002	0.002		<0.002	0.002	0.002	0.002	0.002	<0.002	<0.002	0.002	0.002	
Nickel, total	mg/L	0.00238	0.00354	0.00212			0.0014	0.0011	0.0009	0.003	0.001	0.0019		0.0009	0.0011	0.0014		0.002	0.0014	0.0015	0.0014	0.0015	0.002	0.0025	0.0012	0.0013	
Phosphorus, total	mg/L	<0.3	<0.3	<0.3																						0.06	
Potassium, total	mg/L	<2	<2	<2			1.3	1.4	1.3	1.3	1.4	1.6		1.7	1.6	1.8		1.7	1.4	1.5	1.5	1.7	1.6	1.4	1.4	1.4	
Selenium, total	mg/L	<0.001	<0.001	<0.001			0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002		<0.0002	0.0003	0.0003		<0.0004	0.0002	0.0004	<0.0002	0.0004	<0.0004	0.0006	<0.0002	<0.0002	
Silver, total	mg/L	0.000017	0.000019	<0.00001			<0.0001	0.0002	<0.0001	<0.0005	<0.0001	<0.0001		<0.0001	0.0002	<0.0001		<0.0002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0001	<0.0001	
Sodium, total	mg/L	4.3	4.7	4.6			9.6	11	10.2	11.6	11.1	12.6		11.6	13.5	13.2		13	11.4	11.9	12.2	12.1	13	12	11.6	11.1	
Thallium, total	mg/L	<0.0001	<0.0001	<0.0001			<0.00005	<0.00005	<0.00005	<0.0002	<0.00005	<0.00005		<0.00005	<0.00005	<0.00005		<0.0001	<0.00005	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001	<0.00005	<0.00005	
Zinc, total	mg/L	<0.005	0.0052	0.0016			<0.001	0.001	0.002	<0.005	0.002	0.003		0.003	0.002	0.004		0.005	0.002	0.002	0.003	0.003	0.003	0.003	0.002	0.001	0.002
Aluminum, dissolved	mg/L		0.0507				0.009	0.006	0.015	<0.005	<0.005	0.007		<0.005	0.017	0.021		0.009	0.007	<0.005	0.006	0.006	0.009	<0.005	0.007	0.005	
Arsenic, dissolved	mg/L		0.00049				0.0004	0.0004	0.0004	0.0004	0.0004	0.0003		0.0002	0.0005	0.0006		0.0004	0.0004	0.0004	0.0003	0.0003	0.0004	0.0005	0.0004	0.0004	
Cadmium, dissolved	mg/L		<0.00005				<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001		<0.00001	<0.00001	0.00001		<0.00001	<0.00001	0.00001	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.00001	
Calcium, dissolved	mg/L		19.1				40.7	46.6	39	40.9	42.6	48.6		51.5	45.7	50.1		48.1	46.9	51.7	50.6	52.2	51.3	49.4	51.7	54.8	
Chromium, dissolved	mg/L		<0.0005				<0.0005	0.0006	0.0005	0.0014	0.0014	<0.0005		<0.0005	0.0007	0.0011		0.0007	0.0016	0.0008	0.002	0.0007	0.0006	0.0006	<0.0005	<0.0005	
Copper, dissolved	mg/L		0.0116				0.005	0.003	0.008	0.005	0.004	0.004		0.002	0.003	0.006		0.003	0.004	0.004	0.003	0.003	0.003	0.002	0.003	0.003	
Iron, dissolved	mg/L		0.198				0.04	0.03	0.03	0.03	0.02	0.04		0.03	0.08	0.04		0.04	0.05	0.05	0.05	0.06	0.03	0.06	0.05	0.03	
Lead, dissolved	mg/L		<0.00005				<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	
Magnesium, dissolved	mg/L		7.63				16.3	18	16.9	18.8	18.6	21.2		19.6	11.9	18.8		20.4	18.1	19.7	20.3	20.9	20	19.3	19.6	19.2	
Manganese, dissolved	mg/L		0.00826				<0.005	0.006	<0.005	<0.005	0.005	0.01		0.012	0.135	0.085		0.041	0.027	0.03	0.018	0.021	0.032	0.038	0.046	0.069	
Mercury, dissolved	mg/L																										
Molybdenum, dissolved	mg/L		0.000854				0.001	0.002	0.002	0.002	0.002	0.001		<0.001	0.001	0.002		0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	
Nickel, dissolved	mg/L		0.00204				0.0009	0.001	0.0012	0.0014	<0.0005	<0.0005		<0.0005	0.0008	0.0007		0.0009	0.0007	0.001	0.0008	<0.0005	<0.				

Station Name		W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	
Sample Date		10/28/2006	11/1/2006	11/9/2006	11/16/2006	11/23/2006	11/30/2006	12/6/2006	12/13/2006	12/20/2006	12/28/2006	1/4/2007	1/10/2007	4/17/2007	4/27/2007	5/4/2007	5/11/2007	5/19/2007	5/25/2007	5/30/2007	6/5/2007	6/13/2007	6/20/2007	6/27/2007
pH (field)	pH units																							
pH (lab)	pH units	7.44	7.1	7.49	7.22	8.29	7.45	8.15	8.28	7.46	7.5	7.63	8.36	7.91	7.92	7.97	7.91	7.8	7.91	7.89	7.88	7.91	7.75	
Hardness (from dissolved)	mg/L	224	226	234	267	244	230		229	223	236	233		246	167	142	167	173	167		174	178		
Hardness (from total)	mg/L							238					239							168	168			
Total Dissolved Solids	mg/L	130	290	304	324	320	296	240	320	308	308	298	288	332	274	252	280	250	236	260	238	232	244	
Total Suspended Solids	mg/L	14	<2	<2	<2	<2	12	5	33	3	14	18	4	24	2	6	<2	10	34	13	9	6	6	
Alkalinity, total	mg/L	205	210	214	248	202	215	204	208	210	206	193	204	203	130	106	118	128	127	126	128	144	147	
Sulphate, dissolved	mg/L	42	42	42	40	46	44	41	42	42	43	43	42	48	31	22.1	25.9	27.4	25	25	26	26	26	
Chloride	mg/L	1.12	1.06	1.21	1.46			1.13	1.28	1.5	1.9	2.18	2.39	4	2.5	1.7	1.9	2	1.8	1.7	1.9	1.9	1.7	
Fluoride	mg/L																							
Nitrite (N)	mg/L	<0.03	<0.03	<0.03	<0.03	<0.1	<0.005	<0.03	<0.1	<0.1	<0.1	<0.03	<0.03	<0.05	<0.05	0.16	0.19	0.06	<0.05	<0.05	0.08	<0.05	<0.05	
Nitrate (N)	mg/L	0.25	0.23	0.23	0.03	0.31	0.39	0.37	0.46	0.5	0.5	0.56	0.59	0.2	1.6	2.9	4	4.5	4.6	4.8	5.2	4.8	4.4	
Ammonia	mg/L	0.029	<0.05	0.071	0.1	0.032	<0.05	0.017	<0.002	0.002	<0.002	<0.05	<0.05		<0.05	0.07	<0.05	<0.05	<0.05	0.06	<0.05	<0.05	<0.05	
Aluminum, total	mg/L	0.114	0.96	0.031	0.008	0.064	0.505	0.213	0.516	0.13	0.49	0.562	0.226	1.46	0.212	0.31	0.17	0.485	1.14	0.708	0.62	0.36	0.579	0.12
Arsenic, total	mg/L	0.0004	0.009	0.0003	0.0002	<0.0004	0.0006	0.0004	0.0003	0.0006	0.0004	0.0004	<0.0002	0.0012	0.0005	0.0008	0.0009	0.0007	0.0005	0.0006	0.0007	0.0004	0.0006	0.0005
Cadmium, total	mg/L	<0.00001	<0.00025	<0.00001	<0.00001	<0.00002	<0.00001	<0.00001	<0.00001	<0.00001	0.00001	<0.00001	0.00001	0.00003	0.00003	0.00003	<0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.00004
Calcium, total	mg/L	50.4	49.8	53	64.4	52.1	51.5	50.9	50.2	47.9	51.6	52.9	50.5	60.6	45.1	38.9	43.9	48.4	44.8	45.7	46	45.6	49.1	47.5
Chromium, total	mg/L	<0.0005	<0.01	<0.0005	<0.0005	<0.001	0.002	0.0007	0.0011	<0.0005	0.0005	0.0008	0.0006	0.0016	0.001	0.001	0.001	<0.001	0.0021	0.0014	0.0006	0.001	0.0012	<0.0005
Copper, total	mg/L	0.002	0.05	0.002	0.001	0.004	0.005	0.002	0.003	0.002	0.002	0.002	0.002	0.016	0.01	0.02	0.02	0.02	0.02	0.014	0.014	0.018	0.015	0.014
Iron, total	mg/L	0.2	0.1	0.1	0.3	<0.2	0.7	0.3	0.6	0.2	0.6	0.6	0.3	1.8	0.2	0.4	0.2	0.7	1.4	0.8	0.7	0.4	0.6	0.2
Lead, total	mg/L	<0.0001	0.003	0.0001	<0.0001	0.0007	0.0031	0.0003	0.0003	<0.0001	0.0002	0.0002	0.0003	0.0004	<0.0002	<0.0002	<0.0002	0.0003	0.0004	0.0002	0.0003	0.0002	0.0002	<0.0001
Magnesium, total	mg/L	24.8	24	26.9	29.2	26.7	27.7	26.8	27.4	25.3	27.4	28	27.4	23.6	12	11	13	15	13	13.2	12.8	13.4	13.3	13.6
Manganese, total	mg/L	0.297	0.308	0.399	2.26	0.14	0.021	0.018	0.023	0.012	0.027	0.024	0.013	0.692	0.054	0.057	0.062	0.11	0.088	0.06	0.062	0.038	0.048	0.03
Mercury, total	mg/L	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum, total	mg/L	0.002	0.06	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.002	0.002	0.002	0.003	0.002	0.003	0.003
Nickel, total	mg/L	<0.0005	0.03	0.0011	0.0014	0.0023	0.0016	0.0015	0.0014	0.0007	<0.0005	0.0012	0.0007	0.0023	0.002	0.0022	<0.001	0.0023	0.001	0.0016	0.0016	0.0008	0.0022	0.0014
Phosphorus, total	mg/L		<0.05		0.06		<0.05	<0.02	0.03	<0.02	0.02	0.02	<0.05	0.09	0.14	0.09	0.06	0.07	0.06	<0.05	<0.05	<0.05	<0.05	
Potassium, total	mg/L	1.9	1.8	1.9	2	2	2.1	2.2	2	2	2.4	2.2	2	3	2.4	2.4	2.1	2	2.1	1.9	2	2	1.9	2
Selenium, total	mg/L	0.0002	0.008	0.0004	<0.0002	0.0005	0.0007	0.0003	0.0006	0.0003	0.0006	0.0006	<0.0002	<0.0002	0.0007	0.001	<0.0004	<0.0004	0.0003	<0.0002	<0.0002	0.0003	0.0003	0.0003
Silver, total	mg/L	<0.0001	<0.002	<0.0001	<0.0001	<0.0002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Sodium, total	mg/L	15.8	14.9	14.2	14	15	14.8	15.5	15.1	14.1	15.2	15.5	14.6	14.1	8.9	7.7	7.8	8.3	8.9	9.4	9.1	9.4	9	9.4
Thallium, total	mg/L	<0.00005	<0.001	<0.00005	<0.00005	<0.0001	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Zinc, total	mg/L	0.003	0.05	0.004	0.002	0.01	0.044	0.008	0.01	0.005	0.005	0.007	0.002	0.007	0.01	0.01	0.007	0.02	0.009	0.008	0.006	0.007	0.005	0.004
Aluminum, dissolved	mg/L	<0.005	0.006	<0.005	0.006	<0.005	<0.005	0.006	<0.005	<0.005	<0.005	<0.005	<0.005	0.026	0.041	0.045	0.026	0.009	0.017	0.009		0.014	0.013	
Arsenic, dissolved	mg/L	0.0004	0.0003	0.0002	0.0006	0.0003	0.0003	0.0004	0.0004	0.0003	0.0003	0.0003	<0.0002	0.0011	0.0005	0.0007	0.0005	0.0007	0.0004	0.0004		0.0004	0.0006	
Cadmium, dissolved	mg/L	0.00003	0.00001	<0.00001	0.00002	0.00003	0.00005	0.00004	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.00001	0.00002	0.00003	<0.00001	0.00001	<0.00001	<0.00001		0.00001	<0.00001	
Calcium, dissolved	mg/L	48.4	48.5	51.6	63.1	53.3	49.3	50.9	47.6	47	50.2	48.8	51	59.3	46.1	38.6	45.7	45.8	45.1	43.9		47	49.2	
Chromium, dissolved	mg/L	0.0098	0.0008	0.0014	0.0009	0.0014	0.0014	0.0018	0.0006	0.0012	0.0005	<0.0005	0.0008	0.0008	0.0005	0.0009	0.0008	0.0008	0.001	0.0012		0.0008	0.0008	
Copper, dissolved	mg/L	0.001	0.002	0.001	0.002	0.003	0.004	0.003	0.001	<0.001	<0.001	<0.001	<0.001	0.008	0.007	0.014	0.018	0.016	0.014	0.012		0.014	0.014	
Iron, dissolved	mg/L	0.06	0.05	<0.01	0.29	0.06	0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.27	0.09	0.08	0.07	0.11	0.05	0.06		0.04	0.04	
Lead, dissolved	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	0.0002	0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0002	<0.0001		<0.0001	<0.0001	
Magnesium, dissolved	mg/L	25	25.6	25.6	26.5	27	26	26.2	26.8	25.6	26.9	27	26.9	23.8	12.6	11.1	12.9	14.2	13.1	12.7		13.8	13.5	
Manganese, dissolved	mg/L	0.27	0.307	0.334	2.16	0.136	0.006	0.006	0.008	0.007	0.016	0.007	0.008	0.785	0.05	0.048	0.057	0.094	0.058	0.05		0.031	0.038	
Mercury, dissolved	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	
Molybdenum, dissolved	mg/L	0.002	0.002	0.002	0.003	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.001	0.002	0.002	0.003	0.002	0.002	0.002		0.002	0.003	
Nickel, dissolved	mg/L	<0.0005	0.0025	0.0009	0.0008	<0.0005	<0.0005	<0.0005	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	0.0014	0.0015	0.0011	0.0006	<0.0005	<0.0005	<0.0005		<0.0005	0.0009	
Phosphorus, dissolved	mg/L														0.1									
Potassium, dissolved	mg/L	1.7	1.8	1.9	1.7	2	2	2	1.9	1.9	1.5	2	2	2.8	2.6	2.2	2.2	2	1.9	1.9		1.9	2	
Selenium, dissolved	mg/L	0.0004	<0.0002	0.0006	<0.0002	0.0004	0.0004	0.0004	<0.0002	0.0004	0.0006	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002		<0.0002	<0.0002	
S																								

Station Name		W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	
Sample Date		6/28/2007	7/4/2007	7/5/2007	7/11/2007	7/18/2007	7/25/2007	7/26/2007	8/1/2007	8/9/2007	8/15/2007	8/24/2007	8/29/2007	9/6/2007	9/11/2007	9/17/2007	9/25/2007	10/3/2007	10/10/2007	10/17/2007	10/22/2007	10/30/2007	11/8/2007	11/13/2007
pH (field)	pH units																							
pH (lab)	pH units	7.86		7.86	7.9	7.8	7.78		8.08	7.85	8.03	8.03	8.08	8.08	8.05	8.07	8.05	8.13	8.06	8.06	8.09	7.93	7.76	8.19
Hardness (from dissolved)	mg/L	184		175	180	193	199		188	199	202		206		217	208	211	218	228	224	233	221	221	232
Hardness (from total)	mg/L		172									198		218										
Total Dissolved Solids	mg/L	256		258	248	284	270		304	262	318	288	304	300	310	318	302	276	290	300	290	288	304	320
Total Suspended Solids	mg/L	7		6	<2	<2	4		<2	10	6	<2	<2	5	4	26	<2	<2	3	<2	<2	<2	<2	<2
Alkalinity, total	mg/L	153		159	162	169	175		175	183	191	198	202	209	208	204	202	184	183	184	182	186	194	203
Sulphate, dissolved	mg/L	27		27	28	29	30		31	32	32	34	34	36	35.2	36.5	37.5	36	38		39.7	39.1	40.6	41.2
Chloride	mg/L	1.9		1.8	1.8	0.4	5		2	2	2.4	2.1	2.4	2.8	2.98	3.17	2.89	3.06	2.7	2.7	2.7	3.44	3.37	3.45
Fluoride	mg/L																							
Nitrite (N)	mg/L	0.08		<0.05	<0.05	<0.05	<0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	4.04	<0.02	<0.02
Nitrate (N)	mg/L	3.5		3	3	2.9	2.4		2	1.5	1.8	1.5	1.6	2.8	3.17	3.41	2.27	2.82	3.5	3.75	4.08	<0.02	3.08	2.55
Ammonia	mg/L	<0.05		<0.05	<0.05	<0.05	<0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.06
Aluminum, total	mg/L	0.295	0.346	0.258	0.136	0.184	0.041	0.051	0.119	0.218	0.18	0.036	0.12	0.578	0.148	0.395	0.036	0.137	0.124	0.035	0.045	0.025	0.045	0.153
Arsenic, total	mg/L	0.0007	0.0005	0.0005	0.0006	0.0005	0.0005	0.0004	0.0006	0.0005	0.0004	0.0005	0.0006	0.0006	0.0006	0.0006	0.0003	0.0004	0.0004	0.0003	0.0002	<0.0002	<0.0002	0.0004
Cadmium, total	mg/L	<0.00001	0.00001	0.00001	<0.00001	0.00002	0.00002	0.00002	0.00002	0.00002	0.00001	0.00002	0.00002	0.00001	0.00001	0.00001	0.00002	0.00002	0.00001	<0.00001	0.00001	0.00001	0.00002	0.00002
Calcium, total	mg/L	47.8	46.4	47.4	49.4	51.5	49.7	50.5	51.3	50.6	54.2	53.1	51.1	59.3	58.7	55.1	52.2	51.4	57.8	57.7	56.5	55.8	55.8	57.6
Chromium, total	mg/L	0.0011	0.0005	<0.0005	0.0005	0.0006	<0.0005	<0.0005	<0.0005	0.0006	<0.0005	<0.0005	0.0006	0.0011	0.001	0.0008	0.0006	0.0008	0.0013	<0.0005	<0.0005	<0.0005	<0.0005	0.0005
Copper, total	mg/L	0.014	0.014	0.015	0.013	0.013	0.011	0.012	0.013	0.007	0.009	0.005	0.007	0.012	0.01	0.011	0.005	0.006	0.008	0.009	0.004	0.004	0.004	0.005
Iron, total	mg/L	0.4	0.4	0.3	0.2	0.3	<0.1	0.1	0.2	0.3	0.2	<0.1	0.2	0.7	0.2	0.5	<0.1	0.2	0.2	<0.1	<0.1	<0.1	<0.1	0.2
Lead, total	mg/L	0.0001	0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	0.0007	0.0001	0.0001	0.0003	<0.0001	0.0002	<0.0001	0.0002	<0.0001	<0.0001	0.0002	<0.0001	<0.0001	<0.0001	<0.0001	0.0002
Magnesium, total	mg/L	13.5	13.7	13.9	14.3	15.4	14.8	14.8	16.1	15.5	15.9	16	16.2	17	16.7	16.8	16.6	16.7	17.6	18.2	17.8	17.7	19.3	19.8
Manganese, total	mg/L	0.045	0.042	0.04	0.036	0.037	0.047	0.047	0.067	0.05	0.053	0.066	0.071	0.143	0.097	0.108	0.073	0.125	0.057	0.064	0.064	0.062	0.074	0.088
Mercury, total	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum, total	mg/L	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.002	0.004	0.003	0.004	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002
Nickel, total	mg/L	0.0017	0.0018	0.0015	0.0011	0.0009	<0.0005	0.0009	0.0018	0.0013	0.0012	0.0006	0.0011	0.0021	0.0021	0.0015	0.0011	0.0011	0.0008	0.0011	<0.0005	0.0007	0.0013	0.0015
Phosphorus, total	mg/L	<0.05		<0.05	<0.05	<0.05	<0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.06	<0.05		0.12		<0.02	<0.05
Potassium, total	mg/L	2.1	2	2	2	2.3	2.2	2.2	1.9	1.9	2.1	1.8	2	2.4	2.5	1.9	1.9	2.3	2	1.9	1.8	2	2	2
Selenium, total	mg/L	<0.0002	<0.0002	<0.0002	0.0008	0.0003	<0.0002	0.0006	<0.0002	0.0003	0.0002	<0.0002	0.0003	0.0006	0.0004	0.0005	0.0004	0.0003	0.0008	0.0005	<0.0002	<0.0002	<0.0002	0.0005
Silver, total	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Sodium, total	mg/L	9.4	9.6	9.5	9.9	10.7	10.6	10.5	10.4	11	11.2	10.6	11.4	12.1	12.5	13	11.8	11.6	13.6	12.4	12.6	12.7	13.7	13.5
Thallium, total	mg/L	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Zinc, total	mg/L	0.004	0.003	0.004	0.003	0.006	0.006	0.006	0.008	0.008	0.012	0.009	0.008	0.01	0.003	0.009	0.006	0.008	0.011	0.007	0.006	0.007	0.005	0.012
Aluminum, dissolved	mg/L	0.006		0.011	0.01	0.01	0.009	0.009	0.009	<0.005	0.025		0.006	0.008	0.007	0.01	0.005	0.007	0.011	<0.005	0.006	0.005	0.008	0.005
Arsenic, dissolved	mg/L	0.0008		0.0005	0.0006	0.0004	0.0005	0.0005	0.0002	0.0004	0.0003		0.0005	0.0006	0.0004	0.0004	0.0003	0.0004	0.0004	0.0004	0.0003	0.0003	0.0004	0.0004
Cadmium, dissolved	mg/L	<0.00001		<0.00001	<0.00001	0.00001	<0.00001	0.00002	0.00001	0.00001	0.00001		0.00001	<0.00001	<0.00001	0.00001	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Calcium, dissolved	mg/L	49.8		47.7	48.8	51.7	54.3	53.6	50.6	53.9	54		54.9	57.4	58.2	55.5	55.1	56.5	60.5	58.8	60.8	58.7	55.8	59.6
Chromium, dissolved	mg/L	0.001		<0.0005	0.0005	<0.0005	<0.0005	0.0009	<0.0005	<0.0005	<0.0005		0.0005	0.001	0.0006	<0.0005	0.0006	<0.0005	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Copper, dissolved	mg/L	0.013		0.013	0.011	0.012	0.01	0.01	0.01	0.007	0.008		0.005	0.008	0.008	0.008	0.004	0.005	0.007	0.004	0.004	0.004	0.004	0.003
Iron, dissolved	mg/L	0.03		0.03	0.03	0.03	0.04	0.04	0.04	0.03	0.04		0.03	0.06	0.03	0.04	0.03	0.08	0.03	0.05	0.02	0.02	0.03	0.03
Lead, dissolved	mg/L	<0.0001		<0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Magnesium, dissolved	mg/L	14.4		13.5	14	15.6	15.4	15.1	14.8	15.7	16.3		16.8	17.4	17.4	16.9	17.8	18.8	18.7	18.8	19.7	18.2	19.9	20.3
Manganese, dissolved	mg/L	<0.005		0.033	0.031	0.032	0.044	0.043	0.058	0.044	0.047		0.07	0.113	0.08	0.071	0.076	0.127	0.054	0.063	0.061	0.065	0.073	0.078
Mercury, dissolved	mg/L	<0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum, dissolved	mg/L	0.																						

Station Name		W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3
Sample Date		11/20/2007	11/27/2007	12/6/2007	12/11/2007	12/18/2007	12/18/2007	12/26/2007	1/3/2008	1/9/2008	1/15/2008	1/22/2008	1/30/2008	2/7/2008	2/13/2008	2/20/2008	2/27/2008	3/3/2008	3/14/2008	3/19/2008	3/26/2008	4/3/2008	4/10/2008	4/10/2008
pH (field)	pH units																							
pH (lab)	pH units	7.94	8.02	7.91	7.86		8.06	7.82	7.97	7.87	7.78	7.83	7.89	7.84	7.96	7.85	7.87	7.84	8.03	8.1	8.02	8.08		8.07
Hardness (from dissolved)	mg/L	239	235	251			241		255	257	258	266	266		288							271		270
Hardness (from total)	mg/L				232			230							256					272	276			
Total Dissolved Solids	mg/L	328	316	316	322		352	330	322	338	336	348	346	364	360	350	358	360	356	352	350	362		370
Total Suspended Solids	mg/L	4	<2	<2	4		2	<5	<2	<2	2	<2	10	8	<2	<2	8	4	<2	<2	<2	3		<2
Alkalinity, total	mg/L	208	215	216	211		214	233	228	228	243	232	238	250	259	252	248	254	253	254	254	253		254
Sulphate, dissolved	mg/L		40.9	41.1	39.9		39.3	38.4	40.2	40.2	40.1	39.8	39.8	42.6	42.3	42.4	43.4	42	42.6	44.2	44.8	49.3		50.6
Chloride	mg/L	4.13	3.62	3.92	3.74		3.77	3.77	3.93	6.97	4.25	4.22	0.14	4.41	4.66	4.59	4.6	4.85	4.56	4.65	4.61	3.38		3.45
Fluoride	mg/L																							
Nitrite (N)	mg/L	<0.02	<0.02	<0.02	<0.02		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02		<0.02
Nitrate (N)	mg/L	2.61	2.23	1.8	1.58		1.5	1.39	1.34	1.16	1.1	1.02	0.88	0.86	0.77	0.78	0.76	0.72	0.69	0.7	0.68	0.69		0.61
Ammonia	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Aluminum, total	mg/L	0.257	0.032	0.084	0.174		0.046	0.106	0.121	0.092	0.136	0.094	0.451	0.389	0.068	0.04	0.105	0.157	0.118	<0.1	0.09	0.985		0.107
Arsenic, total	mg/L	0.0005	0.0006	<0.0002	<0.0002		0.0005	0.0002	0.0006	0.0002	0.0002	0.0005	0.0005	0.0007	0.0003	0.0005	0.0003	0.0005	0.0002	0.001	0.0004	0.0003		0.0004
Cadmium, total	mg/L	0.00002	0.00002	0.00002	0.00002		<0.00001	<0.00001	0.00002	0.00001	<0.00001	0.00001	0.00002	0.00001	0.00001	0.00001	0.00001	<0.00001	0.00001	<0.0004	0.00001	0.00002		<0.00001
Calcium, total	mg/L	61.4	57.4	61.1	58		57.7	58.3	62.1	64.7	62.5	66	65	63.3	70.2	64.2	66.6	67.8	66.4	69	70.6	68.3		66.9
Chromium, total	mg/L	0.0008	0.0005	<0.0005	0.0006		0.0007	0.0005	0.0005	<0.0005	0.0006	0.0007	0.0008	0.0007	0.0009	0.0006	<0.0005	0.0009	0.0014	<0.002	0.0016	0.0012		0.0012
Copper, total	mg/L	0.011	0.004	0.004	0.004		0.004	0.004	0.004	0.004	0.004	0.004	0.006	0.006	0.004	0.004	0.006	0.004	0.004	<0.005	0.005	0.014		0.004
Iron, total	mg/L	0.3	0.2	0.1	0.2		<0.1	0.1	0.2	0.2	0.2	0.2	0.6	0.5	0.2	0.1	0.2	0.2	0.2	0.2	0.2	1.2		0.2
Lead, total	mg/L	0.0003	0.0001	<0.0001	0.0006		<0.0001	0.0002	0.0003	<0.0001	0.0002	<0.0001	0.0002	0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0005	<0.0001	0.0002		<0.0001
Magnesium, total	mg/L	19.6	19.9	21.9	21.1		21.4	20.5	21.9	22.9	22.5	23	22.5	24.8	24.9	23.3	23.8	24	23.2	24.1	24.2	24.4		23.9
Manganese, total	mg/L	0.079	0.079	0.079	0.079		0.055	0.07	0.11	0.123	0.136	0.151	0.213	0.185	0.117	0.104	0.122	0.123	0.108	0.111	0.108	0.157		0.122
Mercury, total	mg/L	<0.0001	<0.0002	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.01	<0.0001	<0.0001		<0.0001
Molybdenum, total	mg/L	0.005	0.002	0.002	0.002		0.002	0.002	0.002	0.003	0.002	0.002	0.003	0.003	0.002	0.002	0.003	0.002	0.002	0.0017	0.003	0.002		0.003
Nickel, total	mg/L	<0.0005	0.001	0.0008	0.0009		<0.0005	0.0011	0.0009	0.0013	0.0012	0.0012	0.0017	0.0016	0.0014	0.0012	0.0014	0.0026	0.0023	<0.005	0.0012	0.0018		0.0006
Phosphorus, total	mg/L		<0.05	<0.05	0.07		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		<0.05
Potassium, total	mg/L	2.6	1.9	2	2.2		2	1.9	2	2	2.1	2	2.1	2.4	2.3	2.1	2.2	2.1	2.2	2.2	1.9	2.3		2.1
Selenium, total	mg/L	0.0004	0.001	0.0007	0.0003		<0.0002	<0.0002	0.0002	0.0005	0.0005	0.0003	0.0004	0.0005	0.0004	0.0006	0.0002	0.0006	0.0004	0.005	0.0006	0.0004		0.0004
Silver, total	mg/L	<0.0001	<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00001	<0.00001	<0.00001	0.00027	<0.00001	<0.001	<0.00001	0.00008		<0.00001
Sodium, total	mg/L	14.8	13.6	14.6	14.9		14.5	14.2	14.7	15.3	15.6	15.5	15.2	16.7	16.3	16	17.2	16.3	16.1	16.6	16.4	15.8		16.4
Thallium, total	mg/L	<0.00005	<0.00005	<0.00005	<0.00005		<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005		<0.00005
Zinc, total	mg/L	0.01	0.006	0.005	0.007		0.005	0.006	0.005	0.005	0.006	0.007	0.007	0.007	0.007	0.006	0.008	0.007	0.007	0.01	0.007	0.005		0.004
Aluminum, dissolved	mg/L	0.008	<0.005	<0.005	<0.005		<0.005	<0.005	<0.005	<0.005	0.007	<0.005	0.006	0.008	<0.005	0.006	<0.005	0.008	<0.005	<0.02	0.005	0.012		0.009
Arsenic, dissolved	mg/L	0.0005	0.0003	0.0003	0.0005		0.0005	0.0005	0.0004	0.0003	0.0004	0.0005	<0.0002	0.0006	0.0003	0.0005	0.0003	0.0004	0.0004	0.0002	0.0004	0.0003		0.0003
Cadmium, dissolved	mg/L	<0.00001	<0.00001	<0.00001	0.00001		<0.00001	<0.00001	<0.00001	<0.00001	0.00001	0.00001	0.00002	0.00001	<0.00001	0.00002	<0.00001	0.00001	0.00001	<0.00007	<0.00001	0.00002		0.00001
Calcium, dissolved	mg/L	62.6	60.2	63.1	63		60.9	64.4	64.4	64.9	65.3	67.3	67.6	69.3	72.1	69.6	70.9	70.5	71.2		74.3	65.9		66.5
Chromium, dissolved	mg/L	0.0007	<0.0005	<0.0005	0.0005		<0.0005	0.0024	0.0005	<0.0005	0.0005	0.0008	0.0006	0.0005	0.0013	0.0011	<0.0005	<0.0005	0.0013	0.0016	0.0015	0.0012		0.001
Copper, dissolved	mg/L	0.007	0.004	0.003	0.004		0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.004	0.004	0.005	0.003	0.003	0.003	0.002	0.004	0.003		0.005
Iron, dissolved	mg/L	0.02	0.03	0.01	0.02		0.01	<0.01	0.05	0.05	0.06	0.07	0.1	0.1	0.06	0.06	0.06	0.06	0.06	0.06	0.07	0.05		0.04
Lead, dissolved	mg/L	<0.0001	<0.0001	<0.0001	<0.0001		0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	0.0001	<0.0001	0.0002	<0.0001	<0.0001		0.0004
Magnesium, dissolved	mg/L	20	20.6	22.8	22		21.7	23.2	23	23.1	22.9	23.7	23.7	26.2	26.2	25.6	25	25	25.2		25.9	24.9		25.2
Manganese, dissolved	mg/L	0.067	0.079	0.067	0.067		0.054	<0.005	0.105	0.117	0.131	0.145	0.164	0.179	0.117	0.113	0.123	0.12	0.104	0.103	0.112	0.124		0.117
Mercury, dissolved	mg/L	<0.0001	<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.01	<0.0001	<0.0001		<0.0001
Molybdenum, dissolved	mg/L	0.004	0.002	0.002	0.002		0.002	0.007	0.002	0.002	0.003	0.002	0.002	0.003	0.002	0.002	0.003	0.003	0.002	0.00221	0.002	0.00		

Station Name		W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3		
Sample Date		4/17/2008	4/22/2008	5/1/2008	5/4/2008	5/5/2008	5/8/2008	5/11/2008	5/13/2008	5/15/2008	5/18/2008	5/20/2008	5/27/2008	5/29/2008	6/3/2008	6/5/2008	6/11/2008	6/17/2008	6/25/2008	7/3/2008	7/8/2008	7/15/2008	7/22/2008	7/30/2008	8/6/2008	
pH (field)	pH units																									
pH (lab)	pH units	8.02	8.05	7.67	7.75	7.86	7.86	7.92	8.07	8.02	8.04	7.84	8.01	8.22	8	8.2	8.03	7.98	8.14	8.08	8.15	8.01	7.96	7.89		
Hardness (from dissolved)	mg/L	280	261				191	236	232	257	238	246	247	260						273			259		269	
Hardness (from total)	mg/L						184								272	288										
Total Dissolved Solids	mg/L	372	378	264	304	302	304	338	338	340	324	364	336	352	328	368	338	332	422	282	368	340	310	330		
Total Suspended Solids	mg/L	6	2	15	<5	9	3	<2	<2	<3	7	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<3	<2	<5		
Alkalinity, total	mg/L	258	252	83	178	170	190	210	241	247	233	246	244	257	261	261	261	258	258	264	266	233	250	273		
Sulphate, dissolved	mg/L	50.7	49.8	11.7	34.5	27.9	31.7	35	40.3	41	37.8	41.3	36.3	39.2	40.8	40.4	41.2	37.9	38.2	37.7	36.9	35.9	32.8	3.29		
Chloride	mg/L	4.73	4.74	1.43	2.12	2.81	3.18	3.53	4.42	0.19	0.13	4.39	4.37	4.72	4.29	4.23	4.35	4.04	3.86	3.86	3.93	3.77	3.79	3.66		
Fluoride	mg/L																									
Nitrite (N)	mg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		
Nitrate (N)	mg/L	0.53	0.47	0.1	0.52	0.19	0.23	0.23	0.28	0.26	0.24	0.26	0.2	0.22	0.21	0.2	0.19	0.21	0.14	0.15	0.13	0.12	0.14	0.13		
Ammonia	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		<0.05	0.006	0.009	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
Aluminum, total	mg/L	0.08	0.11	0.3	0.24	0.22	0.14	0.24	0.07	0.04	0.19	0.05	0.02	<0.01	0.01	0.02	0.02	0.03	0.01	0.01	<0.01	0.017	0.026	0.02	0.015	
Arsenic, total	mg/L	0.0004	0.0004	0.0024	0.0003	0.0004	<0.0002	0.0009	0.0007	<0.0002	0.0008	<0.0002	<0.0002	<0.0002	0.0006	<0.0002	<0.0002	0.0009	<0.0002	0.0011	0.0009	0.0003	0.0004	0.0004	0.0004	
Cadmium, total	mg/L	<0.00001	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00008	<0.00008	<0.00008	0.00002	<0.00008	0.00002	<0.00001	<0.00008	0.00001	
Calcium, total	mg/L	70.9	63.4	17.9	40.8	41.4	47.3	59.6	64.7	62.5	58.5	66.8	55.6	61.2	68.8	73.1	79.8	67.1	70	68.1	73.2	64.5	63.8	70.5	67.4	
Chromium, total	mg/L	<0.0005	0.001	0.0013	<0.0005	<0.0005	<0.0005	0.0005	<0.0005	0.0028	0.0015	0.0011	0.0012	0.0017	0.0032	0.0018	0.0013	0.001	0.0033	<0.0005	0.0013	0.0008	<0.0005	0.0005	0.0006	
Copper, total	mg/L	0.004	0.004	0.007	0.006	0.008	0.006	0.009	0.006	0.004	0.007	0.006	0.004	0.003	0.003	0.004	0.004	0.003	0.004	0.004	0.004	0.004	0.004	0.005	0.004	0.004
Iron, total	mg/L	0.2	0.2	0.42	0.38	0.35	0.25	0.43	0.23	0.13	0.36	0.16	0.09	0.07	0.11	0.12	0.11	0.11	0.09	0.06	0.11	0.08	0.09	0.16	0.12	
Lead, total	mg/L	<0.0001	<0.0001	0.0001	0.0002	0.0003	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0004	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	
Magnesium, total	mg/L	25	22.1	6.41	18.1	14.2	16	20.8	23.2	20.9	19.9	23.1	19.9	21.4	24.5	25.8	27.8	23.7	24.8	24.7	26	23.4	22.8	24.9	24.5	
Manganese, total	mg/L	0.12	0.11	0.0308	0.0569	0.0818	0.0897	0.132	0.131	0.106	0.0977	0.0982	0.0845	0.0882	0.112	0.11	0.117	0.0911	0.0883	0.078	0.0932	0.082	0.09	0.115	0.11	
Mercury, total	mg/L	<0.0001	<0.00001	0.00002	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.0001	<0.00001	<0.00001	<0.00001	<0.00001	
Molybdenum, total	mg/L	0.002	0.00216	0.00057	0.00165	0.00132	0.00157	0.00198	0.00202	0.00209	0.00209	0.00223	0.00202	0.0022	0.00225	0.00243	0.00248	0.0023	0.00235	0.003	0.00239	0.003	0.002	0.0026	0.002	
Nickel, total	mg/L	<0.0005	0.003	0.005	0.004	0.004	0.004	0.005	0.003	0.002	0.004	0.002	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.001	<0.0005	0.001	0.0028	0.0008	0.002	0.0014	
Phosphorus, total	mg/L		0.02	0.07	0.04	0.04	0.03	0.04	0.03	0.01	0.03	0.03	0.01	0.01	0.02	<0.05	<0.05	<0.05	0.03		0.01			0.01		
Potassium, total	mg/L	2.1	1.98	1.42	1.69	1.63	1.64	1.98	2.06	1.92	1.82	2.15	1.72	1.85	2.1	2.2	2.4	2.08	2.08	2	2.13	1.9	1.8	2.1	1.9	
Selenium, total	mg/L	0.0002	<0.0006	0.0012	<0.0006	<0.0006	<0.0006	0.0009	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	0.0012	<0.0006	<0.0002	<0.0006	<0.0002	<0.0002	<0.0006	0.0005	
Silver, total	mg/L	<0.00001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00001	<0.00001	<0.00001	0.00004	<0.00001	0.00001	<0.00001	<0.00001	<0.00001	
Sodium, total	mg/L	16.6	14.7	4.2	11.5	9.7	11.1	14.7	16.1	15	15	16.1	14.2	15.2	17.3	18.6	19.2	16.9	17.6	16.6	16.5	16.5	16.3	17.9	16.6	
Thallium, total	mg/L	<0.00005	0.00006	<0.00001	<0.00001	<0.00001	0.00001	0.00001	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.00002	<0.00001	<0.00001	<0.00005	<0.00001	<0.00005	<0.00001	<0.00005	<0.00005	
Zinc, total	mg/L	0.009	0.005	0.005	0.007	0.005	0.008	0.009	0.004	0.006	0.005	0.004	0.003	0.003	0.002	0.002	0.005	0.006	0.004	0.006	0.005	0.006	0.003	0.006	0.005	
Aluminum, dissolved	mg/L	0.005	<0.02	0.08	0.03		0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	0.009	0.01	0.005	0.007	<0.01	<0.005	
Arsenic, dissolved	mg/L	0.0003	0.0004	0.0005	<0.0002		0.0003	0.001	0.0012	<0.0002	0.0003	0.0008	0.0007	0.0005		<0.0002	0.0003	0.0005	<0.0002	0.0004	0.0006	0.0004	0.0004	0.0004	0.0004	
Cadmium, dissolved	mg/L	<0.00001	<0.00008	<0.00008	<0.00008		<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008		<0.00008	<0.00008	<0.00008	<0.00008	0.00001	<0.00008	0.00002	<0.00001	<0.00008	<0.00001	
Calcium, dissolved	mg/L	70.7	65.9	21.7	43.9		49.9	59.8	58.8	66.7	61.4	63.8	63.1	66.4					68	68.9	72	67.1	65.7	67.8	67.6	
Chromium, dissolved	mg/L	<0.0005	<0.0006	0.0007	0.0018		0.002	0.0029	<0.0006	0.0013	0.0026	0.0015	0.0011	0.0008		0.0039	0.001	0.002	0.0039	<0.0005	0.0018	0.0005	<0.0005	0.0008	0.0006	
Copper, dissolved	mg/L	0.004	0.002	0.007	0.006		0.006	0.006	0.004	0.004	0.005	0.005	0.004	0.003		0.003	0.003	0.003	0.004	0.003	0.004	0.004	0.005	0.004	0.003	
Iron, dissolved	mg/L	0.05	0.04	0.12	0.1		0.1	0.11	0.07	0.09	0.06	0.07	0.04	0.04		0.05	0.05	0.04	0.04	0.05	0.07	0.08	0.05	0.09	0.1	
Lead, dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001		<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.0002	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0004	0.0002	<0.0001	0.0001	<0.0001	
Magnesium, dissolved	mg/L	25.2	23.5	7.07	18.8		16.2	21	20.8	21.9	20.6	21	21.8	22.8					23.7	24.6	25	24.2	23.1	23.9	24.2	
Manganese, dissolved	mg/L	0.113	0.11	0.0248	0.0508		0.0892	0.123	0.0979	0.106	0.0926	0.0998	0.0885	0.0886		0.103	0.104	0.0844	0.083	0.084	0.0893	0.082	0.067	0.111	0.106	
Mercury, dissolved	mg/L	<0.0001	<0.00001	0.00002	<0.00001		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001		<0.01	<0.01	<0.01	<0.00001	<0.0001	<0.00001	<0.0001	<0.0001	<0.00001	<0.0001	
Molybdenum, dissolved	mg/L	0.002	0.00218	0.00066	0.00154		0.0015	0.00183	0.00205	0.00223	0.00217	0.00241	0.00208	0.00207		0.00227	0.00238	0.00237	0.00233	0.003	0.00229	0.002	0.002	0.00245	0.002	
Nickel, dissolved	mg/L	<0.0005	0.001	0.003																						

Station Name		W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	
Sample Date		8/12/2008	8/21/2008	8/25/2008	8/26/2008	8/26/2008	8/27/2008	8/28/2008	8/29/2008	8/30/2008	9/1/2008	9/3/2008	9/4/2008	9/5/2008	9/6/2008	9/7/2008	9/10/2008	9/17/2008	9/22/2008	9/24/2008	9/30/2008	10/8/2008	10/17/2008	10/24/2008	10/28/2008
pH (field)	pH units																								
pH (lab)	pH units	8.09	8.15				8.09	7.99	8.03	7.95	8.04	8.07	7.97	8	8.02	7.95	7.89	7.94	7.99	7.96	7.78	7.98	7.86	7.94	
Hardness (from dissolved)	mg/L																								
Hardness (from total)	mg/L																			194					304
Total Dissolved Solids	mg/L	330	384				292	290	288	284	270	300	128	306	304	300	330	376	338	376	362	296	334	356	
Total Suspended Solids	mg/L	<3	<2				70	40	98	58	18	8	10	30	8	27	25	23	24	32	7	<2	<5	4	
Alkalinity, total	mg/L	249	270				154	161	131	156	156	171	170	164	170	162	177	189	191	174	203	222	232	246	
Sulphate, dissolved	mg/L	30.5	29.3				36.6	34.8	33.8	33.1	34.7	34.6	34.4	35	34.2	35.9	32	31.8	29.7	49.6	42.3	35.8	36.5	39	
Chloride	mg/L	4.17	3.86				3.42	3.51	3.47	3.26	3.14	3.18	3.24	3.14	3.15	3.23	3.27	3.75	3.82	3.33	3.26	3.01	3.22	0.54	
Fluoride	mg/L																								
Nitrite (N)	mg/L	<0.01	<0.01				0.07	0.05	0.04	0.06	0.07	0.06	0.06	0.07	0.07	0.07	<0.01	<0.01	<0.01	0.12	0.08	<0.01	<0.01		
Nitrate (N)	mg/L	0.16	0.11				0.47	0.24	0.16	0.27	0.34	0.28	0.17	0.19	0.28	0.17	0.08	0.07	0.04	1.96	0.91	0.12	0.11		
Ammonia	mg/L	<0.05	<0.05				0.17	0.3			0.23	0.22					0.38	0.36	0.37		0.3	0.13	<0.05	<0.05	
Aluminum, total	mg/L	0.01	0.04	4.69	1.1	1.64	2.14	1.46	1.79	1.65	0.523	0.382	0.462	0.717	0.254	0.709	1.04	0.771	0.921	2.2	0.3	0.095	0.025	0.012	
Arsenic, total	mg/L	0.0005	0.0004	0.0026	0.0013	0.0016	0.0014	0.001	0.0012	0.001	0.0006	0.0006	0.0009	0.0006	0.0008	0.0009	0.0012	0.0007	0.001	0.0013	0.0006	0.0005	0.0004	0.0004	
Cadmium, total	mg/L	<0.00008	<0.00008	0.0001	0.00004	0.00005	0.00006	0.00009	0.0001	0.00008	0.00003	0.00003	0.00006	0.00004	0.00003	0.00005	0.00007	0.00009	0.00009	0.00012	0.00005	0.00002	0.00001	<0.00001	
Calcium, total	mg/L	72.2	71.2	53.5	49.8	48.8	60.8	53.3	50.9	50.7	51.2	53.2	47	45.7	45.6	45.1	48.9	48.9	50.3	53	57.8	61.9	59.1	75.5	
Chromium, total	mg/L	0.0023	0.0021	0.0084	0.0027	0.0038	0.0032	0.0021	0.0043	0.0029	0.0019	0.0018	0.0016	0.0024	0.0016	0.0021	0.0024	0.0024	0.0022	0.0022	0.0008	0.0008	0.0008	<0.0004	
Copper, total	mg/L	0.003	0.003	0.072	0.046	0.048	0.078	0.14	0.119	0.121	0.059	0.063	0.097	0.098	0.061	0.115	0.144	0.149	0.166	0.259	0.056	0.009	0.007	0.008	
Iron, total	mg/L	0.11	0.12	6.61	1.89	2.54	4.53	3.35	4.67	3.84	1.56	0.94	0.99	1.43	0.69	1.78	1.92	1.89	1.84	3.49	0.69	0.23	0.18	0.2	
Lead, total	mg/L	<0.0001	<0.0001	0.0022	0.0006	0.001	0.0008	0.0006	0.0009	0.0008	0.0003	0.0003	0.0003	0.0008	0.0003	0.0006	0.0006	0.0006	0.0005	0.0009	0.0002	0.0004	0.001	<0.0001	
Magnesium, total	mg/L	26	25.8	15.2	13.8	13.4	16.5	13.4	13.7	14	13.9	14.4	13.2	12.7	12.8	13.1	13.3	14	15.1	15.1	18.7	22.9	21.7	27.1	
Manganese, total	mg/L	0.102	0.0966	0.618	0.42	0.391	0.525	0.461	0.518	0.541	0.528	0.442	0.454	0.406	0.374	0.553	0.616	0.629	0.844	0.79	0.503	0.306	0.237	0.21	
Mercury, total	mg/L	<0.00001	<0.00001	0.00002	<0.00001	0.00001	0.00001	0.00001	<0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.00001	
Molybdenum, total	mg/L	0.00252	0.00262	0.00585	0.00658	0.00645	0.00682	0.00667	0.00595	0.00618	0.00694	0.00699	0.00621	0.00578	0.00588	0.00555	0.00591	0.00536	0.00627	0.013	0.006	0.00289	0.00259	0.00292	
Nickel, total	mg/L	0.001	0.002	0.024	0.008	0.011	0.012	0.008	0.012	0.01	0.005	<0.001	<0.001	0.001	<0.001	0.001	0.004	0.004	0.003	0.0056	0.0027	0.002	0.002	0.002	
Phosphorus, total	mg/L	0.04	0.04	0.25	0.08	0.15	0.12	0.09	0.12	0.11	0.06	0.05	0.04	0.05	0.02	0.06	0.07	0.05	0.07	<0.05	<0.01	0.015	<0.01	<0.01	
Potassium, total	mg/L	2.13	2.14	5.26	6.58	6.28	7.01	8.04	9.61	8.57	7.18	6.9	7	7.07	6.19	7.82	8.4	8.34	7.47	7.9	4.1	2.4	2	2.7	
Selenium, total	mg/L	<0.0006	<0.0006	0.0008	<0.0006	<0.0006	0.0007	<0.0006	0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	0.0008	0.0031	0.0012	0.0008	<0.0006	<0.0006	<0.0006	
Silver, total	mg/L	0.00022	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.00014	0.00019	0.00008	0.00016	0.00003	0.00008	<0.00001	<0.00001	
Sodium, total	mg/L	18.1	18.1	15.8	16.2	16.2	18.1	17.9	17.4	17.6	16.5	15.8	16.1	15.2	14.6	16.6	17.5	17.3	16	18.3	16.8		15	20	
Thallium, total	mg/L	<0.00001	<0.00001	0.00006	0.00002	0.00002	0.00002	0.00004	0.00003	0.00002	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.00001	<0.00001	0.00002	<0.00005	<0.00005	0.00003	<0.00001	<0.00001	
Zinc, total	mg/L	0.004	0.003	0.025	0.009	0.013	0.016	0.014	0.022	0.016	0.012	0.008	0.012	0.012	0.011	0.01	0.011	0.012	0.014	0.031	0.014	0.016	0.007	0.007	
Aluminum, dissolved	mg/L	<0.01	<0.01				0.01	0.045			0.025						0.04	0.058	0.049		0.017	0.007	0.011	<0.005	<0.005
Arsenic, dissolved	mg/L	0.0004	0.0003				0.0006	0.0007			0.0009						0.0009	0.0008	0.0008		0.0006	0.0005	0.0006	0.0004	0.0003
Cadmium, dissolved	mg/L	<0.00008	<0.00008				0.00002	0.00003			<0.00001						0.00002	0.00002	0.00008		0.00003	0.00003	0.00003	<0.00001	<0.00001
Calcium, dissolved	mg/L	69.8	65.6				56.1	53.1			46.9						46.5	47.6	49.8		57	53.9	61.9	69.5	74
Chromium, dissolved	mg/L	0.002	0.0011				0.0024	0.0013			0.0009						0.0006	0.0022	0.0007		0.0008	0.0022	0.0006	0.0008	0.0007
Copper, dissolved	mg/L	0.003	0.004				0.028	0.029			0.014						0.022	0.023	0.029		0.022	0.008	0.006	0.006	0.004
Iron, dissolved	mg/L	0.08	0.08				0.19	0.44			0.62						0.58	0.44	0.64		0.17	0.142	0.171	0.085	0.167
Lead, dissolved	mg/L	0.0001	<0.0001				<0.0001	0.0002			0.0001						0.0002	0.0001	0.0004		<0.0001	0.0002	0.001	<0.0001	<0.0001
Magnesium, dissolved	mg/L	25	22.9				15.1	13.4			13						13	13.4	14.7		18.7	20.3	22.6	24.8	28.9
Manganese, dissolved	mg/L	0.103	0.0899				0.21	0.406			0.538						0.63	0.668	0.77		0.489	0.24	0.243	0.209	0.201
Mercury, dissolved	mg/L	<0.00001	<0.00001				0.00001	<0.00001			<0.00001						<0.00001	<0.00001	<0.00001		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Molybdenum, dissolved	mg/L	0.00258	0.00231				0.00727	0.00625			0.00647						0.00477	0.00422	0.00531		0.006	0.00268	0.00236	0.00302	0.00232
Nickel, dissolved	mg/L	0.001	0.001				0.003	0.003			<0.001						0.003	0.002	0.006		0.0018	0.004	0.002	0.002	0.002
Phosphorus, dissolved	mg/L	0.01	<0.01				0.02	0.01			0.01														

Station Name		W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	
Sample Date		11/4/2008	11/12/2008	11/18/2008	11/24/2008	11/26/2008	12/5/2008	12/10/2008	12/18/2008	12/24/2008	1/2/2009	1/9/2009	1/15/2009	1/20/2009	1/28/2009	2/2/2009	2/12/2009	2/15/2009	2/18/2009	2/19/2009	3/6/2009	3/14/2009	3/20/2009	4/6/2009
pH (field)	pH units	8.5	8.2	7.96	8.32	8.32	8.15	7.24		7.17	6.98	7.17	7.6	7.3	7.12	6.95	6.9		6.59		7.63	7.13		7.8
pH (lab)	pH units	7.7	8.01	7.82		8.12	7.71	7.66	7.7	7.88	7.71	7.81	7.85	7.99	7.9	7.96		7.64		7.8	7.88	7.75	7.77	
Hardness (from dissolved)	mg/L	255	260						288	162	277	278	264	330	330	307		261			252	276		
Hardness (from total)	mg/L																			299	252			
Total Dissolved Solids	mg/L	384	388	414		238	392	386	362	422	390	448	420	398	392	330		396		414	380	398	388	
Total Suspended Solids	mg/L	<2	<2	7		44	<2	4	2	30	4	6	6	3	4	4		<2		8	11	4	2	
Alkalinity, total	mg/L	239	255	261		129	254	243	261	256	254	251	226	253	258	229		251		275	212	220	224	
Sulphate, dissolved	mg/L	40	43.1	46.2		27.5	51.8	49.7	59.2	61.3	57.6	71.8	77.5	75.8	74.8	67.8		68.5		76.8	84.2	82.9	83.6	
Chloride	mg/L	0.82	1.6	3.3		1.97	4.14	3.27	3.25	5.9	4.6	3.1	3.5	3.68	3.64	3.28		3.2		2.7	3.9	3.9	4.89	
Fluoride	mg/L																							
Nitrite (N)	mg/L																							
Nitrate (N)	mg/L																							
Ammonia	mg/L	<0.05	<0.05	<0.05		<0.05	<0.05	<0.05	<0.05															
Aluminum, total	mg/L	0.01	0.018	0.069		0.014	<0.005	0.015	0.013	0.016	0.066	0.026	0.096	0.075	0.018	0.02		0.011		0.041	0.153	0.039	0.07	
Arsenic, total	mg/L	0.0005	0.0004	0.0005		0.0003	0.0004	0.0004	0.0003	0.0004	0.0003	0.0004	0.0005	0.0003	0.0002	<0.0002		<0.0002		0.0003	0.0004	0.0003	0.0007	
Cadmium, total	mg/L	0.00001	0.00001	0.00001		0.00001	<0.00001	0.00001	<0.00001	0.00001	0.00001	0.00001	0.00003	0.00002	<0.00001	<0.00001		0.00001		0.00002	0.00002	0.00003	0.00006	
Calcium, total	mg/L	64	67.4	69		24.7	69.7	69.7	69.6	66.4	63.8	68.3	71.1					69.3		73.2	65.5	80.4		
Chromium, total	mg/L	<0.0005	0.0008	<0.0005		<0.0004	0.0004	<0.0004	<0.0005	<0.0005	<0.0005	0.0005	0.001	0.0008	0.0011		0.0007		0.0005	0.001	0.0004	0.0008		
Copper, total	mg/L	0.005	0.006	0.018		0.004	0.004	0.004	0.005	0.005	0.006	0.013	0.029	0.008	0.006	0.005		0.003		0.017	0.027	0.01	0.027	
Iron, total	mg/L	0.15	0.14	0.29		0.11	0.18	0.23	0.14	0.17	0.18	0.1	0.18				0.09		0.18	0.26		0.19		
Lead, total	mg/L	<0.0001	<0.0001	<0.0001		0.0003	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0004	0.0001	0.0002	<0.0001	<0.0001		<0.0001		0.0002	0.0003	0.0002	0.0004	
Magnesium, total	mg/L	23.1	24.3	25.6		9.68	27.5	26.6	27.5	25.3	27.9	27.8	23.8				28.6		31.7	23.7		27.8		
Manganese, total	mg/L	0.19	0.185	0.234		0.0745	0.227	0.24	0.165	0.221	0.132	0.114	0.154	0.129	0.112	0.102		0.0965		0.128	0.0601	0.0354	0.0498	
Mercury, total	mg/L	<0.0001	<0.0001	<0.0001		<0.00001	<0.00001	<0.00001	<0.00001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00001	<0.00001	<0.00001		<0.00001		<0.00001	<0.00001	<0.00001	<0.00001	
Molybdenum, total	mg/L	0.003	0.003	0.003		0.00092	0.00232	0.00242	0.003	0.002	0.002	0.003	0.005	0.00241	0.00232	0.002		0.00195		0.00218	0.00412	0.00465	0.00488	
Nickel, total	mg/L	0.0015	0.0014	0.0017		<0.001	0.001	0.002	0.0008	0.0011	0.0011	0.0019	0.0026	0.001	0.001	0.001		<0.001		0.001	0.002	0.002	0.002	
Phosphorus, total	mg/L					0.01	0.019	<0.01		<0.05	<0.05	<0.05	<0.05	0.07	0.08	0.06		<0.05		<0.05	<0.05	<0.05	0.05	
Potassium, total	mg/L	2.1	2.1	2.2		0.7	2.2	2.1	2.2	2.1	2.3	3.1	3.8					2.5		2.5	3.4		3.9	
Selenium, total	mg/L	<0.0002	<0.0002	<0.0002		<0.0006	0.0006	<0.0006	0.0002	<0.0002	0.0003	0.001	0.0012	<0.0006	<0.0006	<0.0006		<0.0006		<0.0006	<0.0006	<0.0006	<0.0006	
Silver, total	mg/L	0.00002	0.00002	0.00005		<0.00001	<0.00001	<0.00001	<0.00001	0.00007	0.00025	0.00008	0.00012	<0.00001	<0.00001	<0.00001		<0.00001		<0.00001	<0.00001	<0.00001	<0.00001	
Sodium, total	mg/L	16.9	16.4	17.4		6.04	16.6	16.8	18.4	16.7	18.2	19.9	19.3				18.6		20.9	20.4		22		
Thallium, total	mg/L	<0.00005	<0.00005	<0.00005		<0.00001	<0.00001	<0.00001	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00001	<0.00001	<0.00001		<0.00001		<0.00001	<0.00001	<0.00001	<0.00001	
Zinc, total	mg/L	0.008	0.006	0.006		0.002	0.003	<0.001	0.008	0.006	0.007	0.005	0.01	0.055	0.011	0.007		0.006		0.024	0.022	0.016	0.031	
Aluminum, dissolved	mg/L	0.007	0.016	0.01		<0.005	<0.005	<0.005	0.009	0.006	0.006	0.008	0.01	<0.005	<0.005	<0.005		<0.005		<0.005	<0.005	0.006	0.006	
Arsenic, dissolved	mg/L	0.0004	0.0014	0.0004		0.0004	0.0003	0.0003	0.0002	<0.0002	0.0003	0.0004	0.0004	0.0002	0.0002	0.0002		0.0003		0.0004	0.0004	0.0003	0.0004	
Cadmium, dissolved	mg/L	0.00001	0.00002	<0.00001		<0.00001	<0.00001	<0.00001	0.00001	<0.00001	<0.00001	0.00001	0.00002	<0.00001	0.00002	<0.00001		<0.00001		<0.00001	0.00002	0.00001	0.00004	
Calcium, dissolved	mg/L	64	63.4	65.4		64.7	69.7	69.1	67.9	36.2	63.8	66.2	67.1	77.6	77.7	72.3		70.7		69.2	62.9	63.5	69	
Chromium, dissolved	mg/L	<0.0005	<0.0005	<0.0005		0.0011	0.0016	0.0007	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0008	0.0009	0.0006		0.0005		0.0006	0.0007	0.0005	0.0006	
Copper, dissolved	mg/L	0.005	0.009	0.007		0.003	0.003	0.003	0.005	0.004	0.004	0.006	0.01	0.004	0.008	0.003		0.003		0.003	0.008	0.008	0.01	
Iron, dissolved	mg/L	0.13	0.13	0.15		0.146	0.175	0.192	0.12	0.02	0.11	0.08	0.05	0.08	0.09	0.1		0.08		0.08	0.04	0.04	0.03	
Lead, dissolved	mg/L	0.0001	0.0004	<0.0001		<0.0001	<0.0001	<0.0001	0.0014	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	0.0002	0.0002		<0.0001		0.0002	0.0002	0.0002	0.0003	
Magnesium, dissolved	mg/L	23.2	24.7	26.1		24.3	27.1	26.2	28.8	17.4	28.6	27.3	23.5	33.2	33.2	30.7		20.5		30.7	22.9	22.8	25.1	
Manganese, dissolved	mg/L	0.188	0.18	0.226		0.213	0.229	0.245	0.165	0.114	0.134	0.11	0.139	0.114	0.109	0.0997		0.1		0.127	0.0537	0.036	0.0482	
Mercury, dissolved	mg/L	<0.0001	<0.0001	<0.0001		<0.00001	<0.00001	<0.00001	<0.00001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00001	<0.00001	<0.00001		<0.00001		<0.00001	<0.00001	<0.00001	<0.00001	
Molybdenum, dissolved	mg/L	0.003	0.003	0.002		0.00234	0.00244	0.00236	0.003	0.001	0.002	0.003	0.005	0.00233	0.00229	0.00199		0.00198		0.0023	0.00402	0.00459	0.00489	
Nickel, dissolved	mg/L	0.0015	0.0009	0.0006		0.001	0.001	0.001	<0.0005	0.0007	0.0011	0.0014	0.0019	0.001	0.001	<0.001		<0.001		0.001	0.002	0.002	0.002	
Phosphorus, dissolved	mg/L					0.02	0.01	<0.01						0.02	<0.01	0.02		<0.01		0.01	0.01	0.02	0.02	
Potassium, dissolved	mg/L	3.2	3	2.2		1.9	2	1.9	2.3	1.5	2.2	3	3.6	2.9	4.5	2.6		3.8		2.4	3.4	3.1	3.6	
Selenium, dissolved	mg/L	<0.0002	<0.0002	<0.0002		0.001																		

Station Name		W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3		
Sample Date		7/9/2009	7/9/2009	7/10/2009	7/10/2009	7/11/2009	7/11/2009	7/12/2009	7/12/2009	7/13/2009	7/14/2009	7/15/2009	7/16/2009	7/17/2009	7/18/2009	7/19/2009	7/20/2009	7/21/2009	7/22/2009	7/22/2009	7/23/2009	7/24/2009	7/24/2009	7/25/2009	7/25/2009
pH (field)	pH units	8.48		8.22		8.17		8.39		8.03	8.26	8.26	8.49	8.26	8.29	8.38	8.29	8.5	8.96		8.58	8.4		8.47	
pH (lab)	pH units								8.3			8.2	8.2	8.2	8.2				8	8			8.1		8
Hardness (from dissolved)	mg/L								193				182	183	177				137						155
Hardness (from total)	mg/L								192				195	205	185				146						187
Total Dissolved Solids	mg/L								330			270	260	260	250					200	200			240	250
Total Suspended Solids	mg/L		6		4		7		<4			6	13	<4	8					20	23			19	15
Alkalinity, total	mg/L								160				150	160	160										120
Sulphate, dissolved	mg/L								52				53	53	47										50
Chloride	mg/L								3.4				3.6	3.6	3.1										8.1
Fluoride	mg/L								0.47				0.49	0.5	0.46										0.39
Nitrite (N)	mg/L								0.079				0.086	0.084	0.024					0.11					0.107
Nitrate (N)	mg/L								3.1				3.2	2.6	1.91					5.3					4.5
Ammonia	mg/L								0.101				0.12	0.112	<0.005					0.62					0.471
Aluminum, total	mg/L								0.144				0.191	0.288	0.181					0.78					0.771
Arsenic, total	mg/L								0.0005				0.0004	0.0005	0.0005					0.001					0.0009
Cadmium, total	mg/L								0.00006				0.0001	0.00006	0.00003					0.00009					0.00003
Calcium, total	mg/L								51.8				53.1	55.6	49.4					41.6					52.2
Chromium, total	mg/L								<0.001				<0.001	<0.001	<0.001					0.002					0.001
Copper, total	mg/L								0.0723				0.0899	0.103	0.031					0.0431					0.0652
Iron, total	mg/L								0.392				0.397	0.573	0.354					0.965					1.03
Lead, total	mg/L								0.0005				0.0004	0.0007	<0.0002					0.0017					0.0011
Magnesium, total	mg/L								15.2				15.2	16.2	15					10.3					13.7
Manganese, total	mg/L								0.285				0.362	0.42	0.028					0.12					0.311
Mercury, total	mg/L								<0.00002				<0.00002	0.00007	0.00007					<0.00002					<0.00002
Molybdenum, total	mg/L								0.011				0.012	0.012	0.008					0.015					0.015
Nickel, total	mg/L								0.002				0.002	0.002	0.002					0.002					0.002
Phosphorus, total	mg/L																								
Potassium, total	mg/L								5.42				6.09	6.38	4.23					3.37					5.15
Selenium, total	mg/L								0.002				0.0019	0.002	0.0012					0.002					0.0023
Silver, total	mg/L								<0.00002				<0.00002	<0.00002	<0.00002					<0.00002					<0.00002
Sodium, total	mg/L								15.7				16.3	17.2	14.2					10.5					15.1
Thallium, total	mg/L								<0.00005				<0.00005	<0.00005	<0.00005					<0.00005					<0.00005
Zinc, total	mg/L								0.006				0.006	0.007	<0.005					0.009					0.009
Aluminum, dissolved	mg/L								0.034				0.03	0.03	0.021					0.042					0.03
Arsenic, dissolved	mg/L								0.0005				0.0004	0.0005	0.0005					0.0008					0.0007
Cadmium, dissolved	mg/L								0.00006				0.00006	0.00005	<0.00001					0.00002					0.00004
Calcium, dissolved	mg/L								52.6				50	49.9	47.9					38.7					43.2
Chromium, dissolved	mg/L								<0.001				<0.001	<0.001	<0.001					<0.001					<0.001
Copper, dissolved	mg/L								0.0586				0.0613	0.0615	0.0222					0.0205					0.0237
Iron, dissolved	mg/L								0.142				0.116	0.118	0.076					0.101					0.069
Lead, dissolved	mg/L								<0.0002				<0.0002	<0.0002	<0.0002					0.0005					<0.0002
Magnesium, dissolved	mg/L								14.9				14	14.1	14.1					9.93					11.3
Manganese, dissolved	mg/L								0.254				0.264	0.327	0.004					0.08					0.252
Mercury, dissolved	mg/L								<0.00002				<0.00002	<0.00002	<0.00002					0.00006					0.00002
Molybdenum, dissolved	mg/L								0.011				0.011	0.011	0.008					0.014					0.015
Nickel, dissolved	mg/L								0.001				0.002	0.002	0.001					0.001					0.001
Phosphorus, dissolved	mg/L																								
Potassium, dissolved	mg/L								5.38				5.63	5.6	4.06					3.03					4.37
Selenium, dissolved	mg/L								0.0018				0.0019	0.0019	0.0013					0.002					0.0021
Silver, dissolved	mg/L								<0.00002				<0.00002	<0.00002	<0.00002					<0.00002					<0.00002
Sodium, dissolved	mg/L								15.6				15.4	15.7	13.7					10.6					12.8
Thallium, dissolved	mg/L								<0.00005				<0.00005	<0.00005	<0.00005					<0.00005					<0.00005
Zinc, dissolved	mg/L								<0.005				<0.005	<0.005	<0.005					<0.005					<0.005

Data omitted from calculation of summary statistic

Station Name		W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3		
Sample Date		7/26/2009	7/26/2009	7/27/2009	7/28/2009	7/29/2009	7/30/2009	7/31/2009	8/1/2009	8/1/2009	8/2/2009	8/2/2009	8/3/2009	8/3/2009	8/4/2009	8/5/2009	8/8/2009	8/9/2009	8/10/2009	8/11/2009	8/12/2009	8/14/2009	8/15/2009	8/16/2009	8/17/2009
pH (field)	pH units		8.28	8.21	7.83	7.93	7.8			7.98		8.1		7.98	8.06	8.16		7.88	7.96			8	7.87	7.83	7.93
pH (lab)	pH units	8	8.1	7.8	7.85	8.2	7.9	8.1	8.2		8.1		8		8.2	8.2	8.2			8.02	8.1	8.1	8	8.1	8.1
Hardness (from dissolved)	mg/L				140				208											208	222			169	
Hardness (from total)	mg/L								191								241				236			160	
Total Dissolved Solids	mg/L	220	240	190	222	290	230	260	270		240		240		260	240	290			326	300	270	230	250	250
Total Suspended Solids	mg/L	41	16	31	50	7	22	<4	<4		<4		<4		<4	4	<4			<2	<4	6	<4	<4	<4
Alkalinity, total	mg/L				86				150											197	190			100	
Sulphate, dissolved	mg/L				45				47											49.8	45			48	
Chloride	mg/L				5.78				7											5.48	6.5			17	
Fluoride	mg/L								0.44												0.42			0.29	
Nitrite (N)	mg/L								0.103								0.006				0.005			0.154	
Nitrate (N)	mg/L								2.2								0.69				0.74			5.1	
Ammonia	mg/L								0.187								0.015				0.013			0.309	
Aluminum, total	mg/L								0.231								0.05				0.026	0.039		0.194	
Arsenic, total	mg/L								0.0004								0.0004				0.0006	0.0003		0.0005	
Cadmium, total	mg/L								0.00005								0.00021				0.00001	0.00002		0.00004	
Calcium, total	mg/L								51.5								62.9				59.6	61.7		45.2	
Chromium, total	mg/L								<0.001								<0.001				0.0008	<0.001		<0.001	
Copper, total	mg/L								0.0478								0.0113				0.006	0.0092		0.0164	
Iron, total	mg/L								0.347								0.121				0.067	0.098		0.178	
Lead, total	mg/L								0.0016								0.0005				0.0003	0.0008		0.0005	
Magnesium, total	mg/L								15.1								20.5				19.8	19.9		11.5	
Manganese, total	mg/L								0.434								0.192				0.16	0.153		0.226	
Mercury, total	mg/L								<0.00002								<0.00002				<0.00002			<0.00002	
Molybdenum, total	mg/L								0.013								0.006				0.0048	0.005		0.014	
Nickel, total	mg/L								0.002								0.002				0.002	0.002		0.001	
Phosphorus, total	mg/L																				0.016				
Potassium, total	mg/L								5.42								3.11				2.8	2.91		3.78	
Selenium, total	mg/L								0.0019								0.0004				<0.0006	0.0004		0.0018	
Silver, total	mg/L								<0.00002								<0.00002				<0.00001	<0.00002		<0.00002	
Sodium, total	mg/L								16.6								17.3				16.9	16.6		14.4	
Thallium, total	mg/L								<0.00005								<0.00005				<0.00001	<0.00005		<0.00005	
Zinc, total	mg/L								0.005								0.007				0.002	0.007		<0.005	
Aluminum, dissolved	mg/L								0.076												0.013	0.012		0.06	
Arsenic, dissolved	mg/L								0.0005												0.0004	0.0004		0.0005	
Cadmium, dissolved	mg/L								0.00004												0.00002	0.00001		0.00001	
Calcium, dissolved	mg/L								58.4												54	59		47	
Chromium, dissolved	mg/L								<0.001												0.0011	<0.001		<0.001	
Copper, dissolved	mg/L								0.0277												0.003	0.0051		0.0062	
Iron, dissolved	mg/L								0.086												0.05	0.037		0.014	
Lead, dissolved	mg/L								<0.0002												0.0004	<0.0002		<0.0002	
Magnesium, dissolved	mg/L								15.2												17.8	18.3		12.6	
Manganese, dissolved	mg/L								0.422												0.136	0.141		0.199	
Mercury, dissolved	mg/L								0.00003													<0.00002		<0.00002	
Molybdenum, dissolved	mg/L								0.013												0.0044	0.005		0.015	
Nickel, dissolved	mg/L								0.001												0.002	0.002		0.001	
Phosphorus, dissolved	mg/L																				<0.01				
Potassium, dissolved	mg/L								5.69												2.5	2.83		3.92	
Selenium, dissolved	mg/L								0.002												<0.0006	0.0003		0.0019	
Silver, dissolved	mg/L								<0.00002												<0.00001	<0.00002		<0.00002	
Sodium, dissolved	mg/L								17												15.4	15.8		15.5	
Thallium, dissolved	mg/L								<0.00005												<0.00001	<0.00005		<0.00005	
Zinc, dissolved	mg/L								<0.005												0.001	<0.005		<0.005	

Data omitted from calculation of summary statistic

Station Name		W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3		
Sample Date		8/18/2009	8/19/2009	8/20/2009	8/21/2009	8/22/2009	8/23/2009	8/24/2009	8/25/2009	8/26/2009	8/27/2009	8/28/2009	8/29/2009	8/30/2009	8/31/2009	9/1/2009	9/2/2009	9/3/2009	9/4/2009	9/5/2009	9/6/2009	9/7/2009	9/8/2009	9/9/2009	9/10/2009	
pH (field)	pH units	7.85	7.96	8.09	8.03	7.98	7.98	7.96	7.88	7.96	7.92	7.86	7.86	7.89	7.86	7.85	7.89	7.88	8.06	7.96	7.97	7.99	8.09	8.15	8.1	
pH (lab)	pH units	8.2	8	8.1	8.1	8	8.1	8.2	7.7	7.8	8	8	7.9	8	8	8	8	8	8	8	8	7.9	8	7.9	8	8
Hardness (from dissolved)	mg/L		170			169								177											168	
Hardness (from total)	mg/L		164			173								199											182	
Total Dissolved Solids	mg/L	260	260	260	260	250	250	240	280	270	270	280	290	280	280	280	280	280	270	280	290	280	290	270	280	
Total Suspended Solids	mg/L	<4	5	<4	5	7	7	6	6	5	4	6	5	6	5	<4	<4	<4	<4	<4	4	<4	4	<4	<4	
Alkalinity, total	mg/L		100	100	100	100	100	100						88											86	
Sulphate, dissolved	mg/L		42	43	44	45	45	45						51											53	
Chloride	mg/L		17	17	17	17	19	20						30											31	
Fluoride	mg/L		0.25	0.26	0.26	0.26	0.26	0.25						0.21											0.23	
Nitrite (N)	mg/L		0.194	0.176	0.185	0.191	<0.005	0.219						0.29											0.321	
Nitrate (N)	mg/L		5.5	5.2	5.4	5.6	0.19	5.4						6.7											6.2	
Ammonia	mg/L		0.235	0.27	0.246	0.264	0.273	0.257						0.266											0.265	
Aluminum, total	mg/L		0.177			0.306								0.534											0.253	
Arsenic, total	mg/L		0.0005			0.0005								0.0003											0.0004	
Cadmium, total	mg/L		0.00001			0.00004								0.0001											0.00004	
Calcium, total	mg/L		46			48.1								55.1											51.5	
Chromium, total	mg/L		<0.001			<0.001								<0.001											<0.001	
Copper, total	mg/L		0.0138			0.0186								0.0173											0.008	
Iron, total	mg/L		0.16			0.364								0.15											0.099	
Lead, total	mg/L		<0.0002			0.0006								0.0007											0.0005	
Magnesium, total	mg/L		12			12.9								14.9											13	
Manganese, total	mg/L		0.217			0.239								0.293											0.284	
Mercury, total	mg/L		<0.00002			0.00003								<0.00002											<0.00002	
Molybdenum, total	mg/L		0.015			0.015								0.015											0.014	
Nickel, total	mg/L		0.001			0.002								0.002											0.001	
Phosphorus, total	mg/L																									
Potassium, total	mg/L		3.6			3.71								3.87											3.54	
Selenium, total	mg/L		0.0019			0.0019								0.002											0.0018	
Silver, total	mg/L		<0.00002			<0.00002								<0.00002											<0.00002	
Sodium, total	mg/L		14.5			15.1								20.6											18.5	
Thallium, total	mg/L		<0.00005			<0.00005								<0.00005											<0.00005	
Zinc, total	mg/L		0.007			<0.005								0.011											<0.005	
Aluminum, dissolved	mg/L		0.078			0.062								0.109											0.074	
Arsenic, dissolved	mg/L		0.0005			0.0005								0.0003											0.0004	
Cadmium, dissolved	mg/L		0.00002			0.00002								<0.00001											0.00001	
Calcium, dissolved	mg/L		47.6			47.6								49.1											47.3	
Chromium, dissolved	mg/L		<0.001			<0.001								<0.001											<0.001	
Copper, dissolved	mg/L		0.0057			0.0057								0.0073											0.0019	
Iron, dissolved	mg/L		0.017			0.021								0.007											0.007	
Lead, dissolved	mg/L		<0.0002			<0.0002								<0.0002											<0.0002	
Magnesium, dissolved	mg/L		12.4			12.1								13.2											12.2	
Manganese, dissolved	mg/L		0.184			0.211								0.252											0.25	
Mercury, dissolved	mg/L		<0.00002			<0.00002								<0.00002											0.00002	
Molybdenum, dissolved	mg/L		0.015			0.015								0.013											0.014	
Nickel, dissolved	mg/L		0.001			<0.001								<0.001											<0.001	
Phosphorus, dissolved	mg/L																									
Potassium, dissolved	mg/L		3.78			3.66								3.46											3.23	
Selenium, dissolved	mg/L		0.0019			0.0019								0.0018											0.0018	
Silver, dissolved	mg/L		<0.00002			<0.00002								<0.00002											<0.00002	
Sodium, dissolved	mg/L		15.3			14.6								18.8											17.4	
Thallium, dissolved	mg/L		<0.00005			<0.00005								<0.00005											<0.00005	
Zinc, dissolved	mg/L		<0.005			<0.005								<0.005											<0.005	

Data omitted from calculation of summary statistics

Station Name		W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	
Sample Date		9/11/2009	9/12/2009	9/13/2009	9/14/2009	9/15/2009	9/16/2009	9/17/2009	9/18/2009	9/19/2009	9/20/2009	9/21/2009	9/22/2009	9/23/2009	9/24/2009	9/25/2009	9/26/2009	9/27/2009	9/28/2009	9/29/2009	9/30/2009	10/1/2009	10/2/2009	10/3/2009
pH (field)	pH units	8.14	8.33	8.16	8.2	8.03	8.24	8.05	8.27	8.16	8.28	8.25	8.46	8.18	8.07	8.09	8.17	8.02	8.06	8.18	8.04	7.96	7.88	7.78
pH (lab)	pH units	8	8	8	8	7.6	7.6	7.9	8	8	8	7.8	8	7.9	7.8	8	8	8	8.1	8.1	8.1	8.1	8	8
Hardness (from dissolved)	mg/L			187							184					186								
Hardness (from total)	mg/L			183							202					190								
Total Dissolved Solids	mg/L	270	280	300	290	250	290	270	300	260	260	280	270	250	270	270	290	320	270	280	300	330	320	270
Total Suspended Solids	mg/L	4	<4	5	<4	<4	<4	<4	<4	<4	<4	<4	5	5	4	<4	<4	4	4	4	5	7	<4	<4
Alkalinity, total	mg/L			87																				
Sulphate, dissolved	mg/L																							
Chloride	mg/L																							
Fluoride	mg/L																							
Nitrite (N)	mg/L			0.347							0.253					0.162								
Nitrate (N)	mg/L			7							6.9					8.1								
Ammonia	mg/L			0.216							0.118					0.105								
Aluminum, total	mg/L			0.391							0.391					0.243								
Arsenic, total	mg/L			0.0004							0.0004					0.0004								
Cadmium, total	mg/L			0.00007							0.0002					0.00009								
Calcium, total	mg/L			51.5							56.4					53.7								
Chromium, total	mg/L			<0.001							<0.001					<0.001								
Copper, total	mg/L			0.0054							0.0066					0.0061								
Iron, total	mg/L			0.083							0.07					0.057								
Lead, total	mg/L			0.0005							<0.0002					0.0005								
Magnesium, total	mg/L			13.2							14.8					13.6								
Manganese, total	mg/L			0.298							0.303					0.283								
Mercury, total	mg/L			<0.00002							0.00003					0.00002								
Molybdenum, total	mg/L			0.016							0.016					0.016								
Nickel, total	mg/L			0.001							0.001					0.003								
Phosphorus, total	mg/L																							
Potassium, total	mg/L			3.47							3.79					3.14								
Selenium, total	mg/L			0.0019							0.0019					0.002								
Silver, total	mg/L			<0.00002							<0.00002					<0.00002								
Sodium, total	mg/L			18.1							19.5					17.8								
Thallium, total	mg/L			<0.00005							<0.00005					<0.00005								
Zinc, total	mg/L			0.006							0.008					<0.005								
Aluminum, dissolved	mg/L			0.072							0.082					0.054								
Arsenic, dissolved	mg/L			0.0003							0.0004					0.0003								
Cadmium, dissolved	mg/L			<0.00001							0.00012					0.00002								
Calcium, dissolved	mg/L			53.3							52.3					52.3								
Chromium, dissolved	mg/L			<0.001							<0.001					<0.001								
Copper, dissolved	mg/L			0.0012							0.0035					0.0014								
Iron, dissolved	mg/L			0.007							0.011					0.006								
Lead, dissolved	mg/L			<0.0002							<0.0002					<0.0002								
Magnesium, dissolved	mg/L			13							13					13.3								
Manganese, dissolved	mg/L			0.275							0.292					0.284								
Mercury, dissolved	mg/L			0.00003							0.00004					0.00004								
Molybdenum, dissolved	mg/L			0.015							0.016					0.017								
Nickel, dissolved	mg/L			<0.001							0.001					0.001								
Phosphorus, dissolved	mg/L																							
Potassium, dissolved	mg/L			3.4							3.38					3.33								
Selenium, dissolved	mg/L			0.002							0.0022					0.002								
Silver, dissolved	mg/L			<0.00002							<0.00002					<0.00002								
Sodium, dissolved	mg/L			18.3							18.4					17.3								
Thallium, dissolved	mg/L			<0.00005							<0.00005					<0.00005								
Zinc, dissolved	mg/L			<0.005							0.006					<0.005								

Data omitted from calculation of summary statistic

Station Name		W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	
Sample Date		10/4/2009	10/5/2009	10/6/2009	10/7/2009	10/8/2009	10/9/2009	10/10/2009	10/11/2009	10/12/2009	10/13/2009	10/14/2009	10/15/2009	10/16/2009	10/17/2009	10/18/2009	10/19/2009	10/20/2009	10/21/2009	10/22/2009	10/23/2009	10/24/2009	10/25/2009
pH (field)	pH units	7.9	7.8	7.93	7.79	7.97	7.85	7.81	7.99	8.11	8.03	8.07	8.13	7.8	7.97	8.05	8.04	8.01	7.92	7.98	7.99	8.05	8.12
pH (lab)	pH units	8	8	8.1	8.1	8	8	8	7.7	8	8	8	8	8.1	8	8	8	8.1	8	8	8	8	8
Hardness (from dissolved)	mg/L	187				228			201									216					218
Hardness (from total)	mg/L	197							206									223					234
Total Dissolved Solids	mg/L	300	300	320	310	310	310	330	310	300	280	270	270	250	270	260	270	270	280	280	290	270	260
Total Suspended Solids	mg/L	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Alkalinity, total	mg/L					95												110					110
Sulphate, dissolved	mg/L					252																	
Chloride	mg/L					6.1																	
Fluoride	mg/L																	0.33					
Nitrite (N)	mg/L	0.1							0.099									0.092					0.08
Nitrate (N)	mg/L	8.2				18.7			8.6									8.8					8.5
Ammonia	mg/L	0.123							0.174									0.224					0.206
Aluminum, total	mg/L	0.258				0.628			0.275									0.119					0.093
Arsenic, total	mg/L	0.0004				0.0012			0.0004									0.0003					0.0004
Cadmium, total	mg/L	0.00006				0.00083			0.00003									0.00004					0.00003
Calcium, total	mg/L	56.3				70.8			58.6									63.8					65.5
Chromium, total	mg/L	<0.001				0.001			<0.001									<0.001					<0.001
Copper, total	mg/L	0.0071				0.14			0.0056									0.0091					0.0094
Iron, total	mg/L	0.08				0.57			0.214									0.098					0.09
Lead, total	mg/L	0.0005				0.0013			<0.0002									<0.0002					<0.0002
Magnesium, total	mg/L	13.7				18.8			14.5									15.4					17.2
Manganese, total	mg/L	0.295				0.146			0.325									0.314					0.336
Mercury, total	mg/L	0.00003				<0.00001			0.00004									<0.00002					<0.00002
Molybdenum, total	mg/L	0.018				0.102			0.018									0.018					0.018
Nickel, total	mg/L	0.001				0.002			0.001									<0.001					0.001
Phosphorus, total	mg/L					<0.05																	
Potassium, total	mg/L	3.42				58			3.58									3.71					3.85
Selenium, total	mg/L	0.0021				0.0324			0.0024									0.0021					0.002
Silver, total	mg/L	<0.00002				0.00004			<0.00002									<0.00002					<0.00002
Sodium, total	mg/L	17.1				103			17.7									17.8					20.1
Thallium, total	mg/L	<0.00005				<0.00001			<0.00005									<0.00005					<0.00005
Zinc, total	mg/L	<0.005				0.008			<0.005									<0.005					<0.005
Aluminum, dissolved	mg/L	0.063				0.02			0.062									0.032					0.029
Arsenic, dissolved	mg/L	0.0004				0.0011			0.0003									0.0003					0.0003
Cadmium, dissolved	mg/L	0.00003				0.00021			0.00002									0.00002					0.00004
Calcium, dissolved	mg/L	52.8				63.5			57									61.4					62.6
Chromium, dissolved	mg/L	<0.001				<0.0004			<0.001									<0.001					<0.001
Copper, dissolved	mg/L	0.0013				0.014			0.0014									0.0026					0.0023
Iron, dissolved	mg/L	0.006				<0.01			0.01									0.008					0.018
Lead, dissolved	mg/L	<0.0002				<0.0001			<0.0002									<0.0002					<0.0002
Magnesium, dissolved	mg/L	13.5				17			14.4									15.2					14.9
Manganese, dissolved	mg/L	0.276				0.13			0.301									0.296					0.309
Mercury, dissolved	mg/L	0.0001				<0.00001			<0.0002									0.00008					<0.00002
Molybdenum, dissolved	mg/L	0.018				0.103			0.018									0.017					0.017
Nickel, dissolved	mg/L	0.001				0.002			0.001									<0.001					<0.001
Phosphorus, dissolved	mg/L					0.02																	
Potassium, dissolved	mg/L	3.32				50			3.48									3.65					3.51
Selenium, dissolved	mg/L	0.0021				0.0348			0.0021									0.0023					0.0021
Silver, dissolved	mg/L	<0.00002				<0.00001			<0.00002									<0.00002					<0.00002
Sodium, dissolved	mg/L	17				94.4			18.3									18.6					18
Thallium, dissolved	mg/L	<0.00005				<0.00001			<0.00005									<0.00005					<0.00005
Zinc, dissolved	mg/L	<0.005				<0.001			<0.005									<0.005					<0.005

Data omitted from calculation of summary statistics

Station Name		W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	
Sample Date		10/25/2009	10/26/2009	10/27/2009	10/28/2009	10/29/2009	10/30/2009	11/5/2009	11/9/2009	11/16/2009	11/25/2009	11/25/2009	12/2/2009	12/4/2009	12/9/2009	12/15/2009	1/1/2010	1/5/2010	1/11/2010	1/19/2010	1/27/2010	2/1/2010	2/9/2010	2/16/2010
pH (field)	pH units	8.12	7.82	7.7	7.9	8.09	8.01	7.53	7.56	8.34	7.39		7.71		7.67	7.41	7.94	7.99	7.25	7.05	7.05	6.82	7.35	6.98
pH (lab)	pH units		8.1	8.1	8.1	8.1	8.1	7.67	7.79	7.68		7.79	7.83	7.9	8.27	7.7	7.69	7.96	7.89	7.7	7.59	7.56	7.66	7.66
Hardness (from dissolved)	mg/L			212				224	243	230		240	240	235	259	192	275	272	438	795				
Hardness (from total)	mg/L			231														272		795	332	337	253	246
Total Dissolved Solids	mg/L		290	310	300	310	290	340	132	358		340	336	291	356	298	346	404	396	1110	456	468	328	366
Total Suspended Solids	mg/L		<4	<4	<4	<4	5	<2	<2	<3		4	<2		<5	<3	7	<5	8	7	22	6	<5	<5
Alkalinity, total	mg/L			120				172	175	186		184	182	205	199	194	203	172	210	596	248	259	207	203
Sulphate, dissolved	mg/L							55.7	59.6	50.7		56	56.5	58.9	60.7	59	95.2	90.7	82.4	220	88.6	80.5	64.3	62
Chloride	mg/L							14.9	14.3	16.6		16.1	13	11	12.5	12.7	16.4	19.6	17.5	4.89	25.2	18.4	10.8	10
Fluoride	mg/L																							
Nitrite (N)	mg/L			0.08										0.005										
Nitrate (N)	mg/L			8.5				1.85	1.57	1.38	1.15		1.12	1.13	1.33	1.07	1.47	6.83	1.54	3.73	0.72	0.43	1.14	1.08
Ammonia	mg/L			0.211																				
Aluminum, total	mg/L			0.101				0.058	0.082	0.044		0.083	0.032	0.103	0.018	0.032	0.07	0.021	0.379	0.063	0.05	0.028	0.016	0.012
Arsenic, total	mg/L			0.0003				0.0004	0.0005	0.0006		0.0004	0.0004	0.0004	0.0003	<0.0002	0.0003	0.0004	0.0005	0.0018	0.0021	0.0018	0.0003	<0.0002
Cadmium, total	mg/L			0.00002				0.00002	0.00002	0.00002		0.00003	<0.00001	0.00002	<0.00001	0.0137	0.00031	0.00044	0.372	0.00296	0.00035	0.00009	<0.00001	0.00002
Calcium, total	mg/L			64.3				62.1	60.1	62.7		61.5	58.3	60.6	57.9	61.1	74.6	72.6	105	206	81.3	86.2	74.8	60.3
Chromium, total	mg/L			<0.001				<0.0004	<0.0004	0.0009		<0.0004	<0.0004	0.0005	<0.0004	0.0007	0.0006	0.0005	0.0014	0.0011	0.0008	0.0007	0.0004	<0.0004
Copper, total	mg/L			0.0102				0.003	0.004	0.004		0.003	0.003	0.008	0.003	0.002	0.038	0.008	0.025	0.018	0.054	0.012	0.002	0.002
Iron, total	mg/L			0.11				0.115	0.172	0.126		0.145	0.166	0.27	0.098	0.148	0.155	0.022	0.324	1.25	1.77	1.6	0.155	0.143
Lead, total	mg/L			<0.0002				0.0001	0.0001	<0.0001		0.0001	0.0001	0.0001	<0.0001	0.0007	0.0007	0.0006	0.0316	0.0004	0.0002	0.0002	<0.0001	<0.0001
Magnesium, total	mg/L			17.1				22.7	21.1	22.8		22.7	22.4	21.8	22.4	23.5	25.8	23.7	26.7	79.4	32.6	32.3	28	26.2
Manganese, total	mg/L			0.317				0.342	0.333	0.34		0.358	0.373	0.394	0.383	0.366	0.0322	0.462	0.0304	1.39	1.86	2.37	0.233	
Mercury, total	mg/L			0.00002				<0.00001	<0.00001	<0.00001		<0.00001	<0.00001		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Molybdenum, total	mg/L			0.017				0.0038	0.0034	0.0033		0.0032	0.0031	0.003	0.0032	0.0028	0.0029	0.0064	0.0024	0.0089	0.0032	0.0036	0.0022	0.0022
Nickel, total	mg/L			0.001				0.003	0.003	0.002		0.002	0.002	0.0013	0.002	0.002	0.002	0.003	0.004	0.006	0.003	0.003	0.002	0.001
Phosphorus, total	mg/L			<0.05				<0.05	<0.05	0.07		0.08	0.05		<0.05	0.06	<0.05	<0.05	<0.05	0.15	0.12	0.12	0.05	<0.05
Potassium, total	mg/L			3.76				2.4	2	2.2		2.1	2.1	2	2.2	2.3	3	4.2	2.8	7.3	3	2.6	2.3	2
Selenium, total	mg/L			0.0023				<0.0006	<0.0006	<0.0006		<0.0006	<0.0006	0.0002	<0.0006	<0.0006	<0.0006	0.0015	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006
Silver, total	mg/L			<0.00002				<0.00001	<0.00001	<0.00001		<0.00001	<0.00001	0.00001	<0.00001	<0.00001	0.00002	<0.00001	0.00003	<0.00001	0.00003	<0.00001	<0.00001	<0.00001
Sodium, total	mg/L			19.8				16.7	18.5	17.9		17.4	16.7	16.6	16.6	16	19.8	20.8	19.7	56	24.6	23.1	18.6	16.8
Thallium, total	mg/L			<0.00005				<0.00001	<0.00001	<0.00001		<0.00001	<0.00001	0.00005	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Zinc, total	mg/L			0.006				0.004	0.007	0.003		0.008	0.008	0.004	0.003	0.005	0.021	0.01	0.062	0.014	0.008	0.004	0.003	0.002
Aluminum, dissolved	mg/L			0.021				0.017	0.005	0.015		0.007	0.007	0.004	0.007	0.014	<0.005	0.014	0.297	<0.005	0.005	0.008	<0.005	<0.005
Arsenic, dissolved	mg/L			0.0003				0.0003	0.0003	0.0004		0.0004	0.0002	0.0005	0.0004	0.0003	0.0002	0.0004	0.0005	0.0012	0.0011	0.0011	<0.0002	0.0002
Cadmium, dissolved	mg/L			0.00003				0.00002	0.00001	0.00004		0.00011	<0.00001	0.00001	0.00001	0.0125	<0.00001	0.00373	0.565	0.0006	0.00021	0.00003	0.00002	<0.00001
Calcium, dissolved	mg/L			60.9				56.3	61.6	57.4		59.7	59.6	61.6	63.4	47.4	72	70.9	130	197	79.2	83.5	59.8	57.6
Chromium, dissolved	mg/L			<0.001				<0.0004	<0.0004	0.001		0.0005	<0.0004	0.0005	<0.0004	<0.0004	0.0006	<0.0004	0.001	0.0016	0.0008	0.0007	<0.0004	<0.0004
Copper, dissolved	mg/L			0.0027				0.002	0.002	0.004		0.003	0.003	0.002	0.003	0.004	0.004	0.005	0.02	0.01	0.007	0.003	0.002	0.003
Iron, dissolved	mg/L			0.02				0.07	0.09	0.09		0.09	0.13	0.14	0.12	0.13	0.03	0.02	0.16	0.13	0.31	0.75	0.11	0.126
Lead, dissolved	mg/L			<0.0002				0.0001	0.0001	0.0001		0.0004	<0.0001	0.0001	0.0003	0.0005	0.0003	0.0002	0.0603	0.0007	0.0003	0.0002	0.0002	0.0004
Magnesium, dissolved	mg/L			14.5				20.2	21.7	21		22	22.2	22.2	24.5	17.8	23.2	23.1	27.4	73.6	32.7	31.3	25.2	24.9
Manganese, dissolved	mg/L			0.298				0.328	0.323	0.33		0.33	0.363	0.391	0.355	0.386	0.0261	0.37	0.0294	1.29	1.7	1.97	0.213	0.216
Mercury, dissolved	mg/L			0.00009				<0.00001	<0.00001	<0.00001		<0.00001	<0.00001		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Molybdenum, dissolved	mg/L			0.016				0.0037	0.0034	0.0033		0.003	0.0029	0.003	0.003	0.0026	0.0026	0.0056	0.0024	0.0094	0.0032	0.0034	0.0022	0.0021
Nickel, dissolved	mg/L			0.001				0.002	0.003	0.002		0.002	0.001	0.0008	0.002	0.002	0.002	0.002	0.004	0.006	0.002	0.003	0.002	0.002
Phosphorus, dissolved	mg/L			<0.01				<0.01	<0.01	<0.01		<0.01	<0.01		<0.01	0.02	<0.01	<0.01	0.16	0.02	0.02	0.02	<0.01	<0.01
Potassium, dissolved	mg/L			3.53				2.1	2	2		2	2	2	2.2	2.2	4.3	4.2	2.8	7.6	2.9	2.4	2.2	2
Selenium, dissolved	mg/L			0.0021				<0.0006	<0.0006	<0.0006		<0.0006	<0.0006	0.0002	<0.0006	<0.0006	<0.0006	0.0011	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006
Silver, dissolved	mg/L			<0.00002				<0.00001	<0.00001	<0.00001														

Station Name		W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	
Sample Date		8/10/2010	8/11/2010	8/12/2010	8/13/2010	8/14/2010	8/15/2010	8/16/2010	8/17/2010	8/18/2010	8/19/2010	8/20/2010	8/21/2010	8/22/2010	8/23/2010	8/24/2010	8/25/2010	8/26/2010	8/27/2010	8/28/2010	8/29/2010	8/30/2010	8/31/2010	9/1/2010	9/2/2010
pH (field)	pH units	7.9	7.94	7.97	7.84	7.86	7.84	7.93	7.87	7.95	7.87	7.59	7.88	8.04	7.99	7.95	7.9	8.05	8.09	8.09	8	8	8	7.98	7.77
pH (lab)	pH units	8.15	8.04	8.11	7.81	7.98	8.16	8.2	8.2	8.15	8.15	8.25	8.22	8.28	8.17	8.13	8.03	8.08	8.15	8.12	7.94	8.11	7.99	8.06	8.11
Hardness (from dissolved)	mg/L	221	219	220	221	224	223	219	218	226	206	205	218	223	204	218	207	215	222	221	218	225	225	222	226
Hardness (from total)	mg/L	239	226	247	213	207	223	233	223	221	226	218	222	224	245	215	221	217	212	231	227	229	225	219	231
Total Dissolved Solids	mg/L	370	320	360	330	340	360	330	340	360	380	350	350	380	370	360	370	350	360	350	390	370	370	380	360
Total Suspended Solids	mg/L	<1	<1	3	<1	<1	<1	1	1	3	3	2	1	2	<1	<1	1	<1	1	1	1	1	1	5	<1
Alkalinity, total	mg/L	130	130	130	130	130	130	130	130	120	120	120	120	120	130	120	120	110	120	120	120	120	120	120	140
Sulphate, dissolved	mg/L	78	77	78	84	83	87	86	86	84	84	81	81	93	84	89	120	96	95	95	94	94	90	85	80
Chloride	mg/L	29	30	26	24	26	26	26	24	24	24	25	27	28	30	26	27	29	29	29	29	29	29	29	23
Fluoride	mg/L	0.37	0.37	0.39	0.4	0.39	0.4	0.38	0.42	0.42	0.44	0.39	0.4	0.4	0.39	0.39	0.34	0.31	0.32	0.32	0.33	0.37	0.36	0.42	0.44
Nitrite (N)	mg/L	0.018	0.019	0.026	0.089	0.116	0.134	0.163	0.171	0.111	0.118	0.118	0.123	0.113	0.063	0.158	0.133	0.122	0.12	0.137	0.129	0.119	0.116	0.129	0.07
Nitrate (N)	mg/L	10.2	1.05	11.1	11.1	11.4	11.7	11.8	12.3	11.8	11.7	11.6	11.1	11.2	10.3	12.5	12.5	12.1	11.8	12.4	12.4	11.8	11.7	13	10.3
Ammonia	mg/L	0.07	0.092	0.13	0.14	0.12	0.079	0.059	0.084	0.15	0.14	0.2	0.096	0.076	0.035	0.083	0.14	0.21	0.16	0.2	0.14	0.2	0.068	0.12	0.08
Aluminum, total	mg/L	0.107	0.099	0.13	0.077	0.119	0.108	0.12	0.131	0.151	0.114	0.119	0.099	0.108	0.148	0.184	0.169	0.188	0.187	0.221	0.216	0.233	0.226	0.202	0.142
Arsenic, total	mg/L	<0.0004	0.0005	<0.0004	0.0005	0.0005	0.0006	0.0006	0.0007	0.0005	<0.0004	0.0004	<0.0004	0.0005	0.0004	0.0005	0.0005	0.0005	0.0005	0.0006	0.0006	0.0006	0.0006	0.0006	0.0005
Cadmium, total	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium, total	mg/L	64	62	67	57	57	61	63	61	60	61	59	60	62	72	59	58	57	64	62	62	63	61	59	62
Chromium, total	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Copper, total	mg/L	0.005	0.004	0.006	0.002	0.005	0.005	0.007	0.006	0.008	0.006	0.006	0.006	0.006	0.006	0.007	0.007	0.007	0.007	0.008	0.007	0.008	0.008	0.007	0.005
Iron, total	mg/L	0.031	0.02	0.032	<0.02	0.032	0.023	0.033	0.023	0.107	0.056	0.037	0.029	0.034	0.031	0.028	0.023	0.033	0.021	0.031	<0.02	0.028	0.025	0.023	0.037
Lead, total	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Magnesium, total	mg/L	19	17	20	17	16	17	18	17	17	17	17	17	17	16	16	18	17	17	18	18	17	18	17	18
Manganese, total	mg/L	0.036	0.038	0.05	0.026	0.04	0.045	0.047	0.043	0.05	0.052	0.043	0.042	0.041	0.03	0.046	0.049	0.055	0.049	0.054	0.047	0.048	0.046	0.043	0.067
Mercury, total	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum, total	mg/L	0.015	0.014	0.015	0.014	0.016	0.016	0.017	0.017	0.017	0.017	0.016	0.016	0.016	0.014	0.017	0.016	0.017	0.016	0.017	0.017	0.018	0.017	0.017	0.012
Nickel, total	mg/L	0.001	0.001	0.001	<0.001	0.001	0.001	<0.001	<0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.003	0.001	<0.001	0.001	<0.001	0.001	0.001	0.002
Phosphorus, total	mg/L																								
Potassium, total	mg/L	6	6	6	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	6	6	5
Selenium, total	mg/L	0.0033	0.003	0.0039	0.0031	0.0038	0.0038	0.0041	0.0042	0.0043	0.0046	0.004	0.004	0.0043	0.0041	0.0044	0.0043	0.0043	0.0041	0.0048	0.0047	0.0047	0.0043	0.0043	0.0033
Silver, total	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Sodium, total	mg/L	30	29	30	26	24	29	30	29	26	28	26	27	26	25	26	31	26	26	27	28	26	27	27	24
Thallium, total	mg/L	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Zinc, total	mg/L	0.168	0.095	0.069	0.027	0.028	0.016	0.018	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.021	0.013	<0.01	<0.01	<0.01	0.011	<0.01	<0.01	
Aluminum, dissolved	mg/L	0.057	0.072	0.072	0.074	0.072	0.071	0.077	0.079	0.064	0.061	0.062	0.062	0.062	0.087	0.094	0.075	0.078	0.097	0.091	0.108	0.121	0.112	0.097	0.075
Arsenic, dissolved	mg/L	<0.0004	<0.0004	0.0005	0.0004	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0004	<0.0004	0.0005	0.0005	0.0005	0.0004	0.0005	0.0006	0.0005	0.0005	0.0005	0.0004
Cadmium, dissolved	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium, dissolved	mg/L	60	60	60	60	60	61	60	60	65	57	57	60	62	56	60	57	58	61	61	60	62	62	61	61
Chromium, dissolved	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Copper, dissolved	mg/L	0.003	0.003	0.004	0.002	0.004	0.004	0.004	0.002	0.005	0.004	0.004	0.004	0.004	0.004	0.005	0.004	0.004	0.004	0.004	0.003	0.003	0.003	0.004	0.003
Iron, dissolved	mg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Lead, dissolved	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Magnesium, dissolved	mg/L	17	17	17	17	18	17	17	17	16	16	15	17	17	16	17	15	17	17	17	16	17	17	17	18
Manganese, dissolved	mg/L	0.029	0.035	0.039	0.011	0.039	0.041	0.039	0.037	0.045	0.048	0.041	0.041	0.039	0.026	0.041	0.046	0.05	0.041	0.043	0.04	0.036	0.035	0.039	0.064
Mercury, dissolved	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00002	<0.00002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum, dissolved	mg/L	0.014	0.014	0.015	0.015	0.016	0.016	0.016	0.017	0.016	0.017	0.015	0.016	0.016	0.014	0.017	0.015	0.017	0.017	0.017	0.016	0.017	0.016	0.016	0.012
Nickel, dissolved	mg/L	0.001	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001
Phosphorus, dissolved	mg/L																								

Station Name		W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3		
Sample Date		9/3/2010	9/5/2010	9/7/2010	9/8/2010	9/9/2010	9/11/2010	9/12/2010	9/13/2010	9/15/2010	9/17/2010	9/19/2010	9/21/2010	9/23/2010	9/25/2010	9/27/2010	9/29/2010	10/1/2010	10/3/2010	10/5/2010	10/7/2010	10/9/2010	10/11/2010	10/12/2010	10/13/2010	
pH (field)	pH units	7.91	7.91	7.83	8.14	7.98	7.89	7.94	7.93	7.82	7.91	7.99	7.98	7.97	7.94	7.91	7.96			7.95	8.08	8.03	7.9	8.05	8.08	
pH (lab)	pH units	8.07	8.03	8.1		7.98	8.05	8	8.2	8.18	8.21	8.02	8.05	8.05	8.02	7.97	8.14	8.04	8.06	8.1	8.21	8.21	8.03	8.06	8.1	
Hardness (from dissolved)	mg/L	223	218	232	218	230	229	236	227	231	240	238	258	230	237	233	227	233	234	231	232	275	239	238	267	
Hardness (from total)	mg/L	226	228	217	222	223	232	217	223	206	255	222	227	235	227	219	237	233	240	234	233	253	224	271	250	
Total Dissolved Solids	mg/L	370	370	440	510	500	510	440	390	380	410	390	400	400	390	400	400	400	390	380	390	390	410	400	400	
Total Suspended Solids	mg/L	<1	<1	<1	1	1	<1	1	1	<1	<1	<1	<1	<1	<1	<1	3	5	3	<1	2	1	4	2	<1	
Alkalinity, total	mg/L	120	120	150	120	120	110	120	120	120	130	130	130	130	130	130	130	130	140	140	150	140	140	160	150	
Sulphate, dissolved	mg/L	89	88	73	88	86	88	91	95	86	83	86	92	87	100	100	87	90	86	89	83	86	82	83	99	
Chloride	mg/L	28	26	16	26	25	26	27	27	27	18	19	19	20	21	23	20	22	22	22	22	22	21	20	21	
Fluoride	mg/L	0.43	0.42	0.44	0.4	0.4	0.39	0.37	0.39	0.18	0.52	0.51	0.48	0.49	0.47	0.45	0.47	0.46	0.43	0.42	0.44	0.44	0.48	0.48	0.47	
Nitrite (N)	mg/L	0.128	0.13	0.025	0.123	0.116	0.136	0.129	0.142	0.137	0.117	0.115	0.119	0.124	0.134	0.117	0.12	0.11	0.1	0.076	0.074	0.088	0.079	0.056	0.087	
Nitrate (N)	mg/L	12.9	13	8.6	12.7	13.1	14.1	13.5	14	13.6	13.8	14	13.9	14.1	14.8	14.7	15.1	14.9	13.2	12.7	12.4	13.4	13.1	10.9	13.9	
Ammonia	mg/L	0.1	0.083	0.075	0.19	0.14	0.19	0.2	0.084	0.11	0.13	0.12	0.12	0.17	0.19	0.2	0.2	0.25	0.14	0.024	0.038	0.08	0.16	0.13	0.089	
Aluminum, total	mg/L	0.177	0.18	0.097	0.212	0.21	0.198	0.18	0.175	0.127	0.173	0.126	0.128	0.163	0.147	0.15	0.195	0.17	0.128	0.134	0.138	0.13	0.083	0.126	0.119	
Arsenic, total	mg/L	0.0005	0.0005	<0.0004	0.0005	0.0004	<0.0004	0.0005	<0.0004	<0.0004	0.0005	<0.0004	0.0005	0.0005	0.0002	0.0003	0.0002	0.0003	0.0004	0.0003	0.0004	0.0003	0.0001	0.0003	0.0004	
Cadmium, total	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	0.00002	<0.00001	0.00002	0.00002	0.00002	0.00002	0.00002	0.00001	0.00003	<0.00001	0.00003	<0.00001
Calcium, total	mg/L	61	62	58	60	61	63	60	61	56	69	61	61	64	62.2	58.7	65.2	63.8	65.2	63.7	63.2	68.7	60.4	72.1	68.5	
Chromium, total	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Copper, total	mg/L	0.006	0.006	0.003	0.006	0.006	0.006	0.007	0.021	0.004	0.007	0.006	0.007	0.008	0.0072	0.007	0.0075	0.0069	0.0065	0.0061	0.0063	0.0073	0.0049	0.0075	0.0107	
Iron, total	mg/L	<0.02	<0.02	0.031	0.023	0.024	0.039	0.042	0.025	<0.02	0.022	<0.02	<0.02	0.021	0.016	0.016	0.067	0.024	0.067	0.022	0.033	0.016	0.102	0.057	0.031	
Lead, total	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	0.0935	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Magnesium, total	mg/L	18	18	18	17	17	18	16	17	16	20	17	18	18	17.3	17.7	18	17.9	18.7	18.2	18.3	19.7	17.7	22	19.1	
Manganese, total	mg/L	0.047	0.049	0.07	0.06	0.061	0.081	0.07	0.076	0.066	0.082	0.07	0.081	0.087	0.084	0.084	0.091	0.091	0.106	0.08	0.081	0.09	0.226	0.111	0.091	
Mercury, total	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.00004	<0.00002	<0.00002	<0.00002	0.00003	
Molybdenum, total	mg/L	0.017	0.016	0.01	0.018	0.018	0.02	0.019	0.018	0.015	0.019	0.017	0.018	0.019	0.018	0.017	0.018	0.019	0.015	0.014	0.013	0.016	0.012	0.011	0.016	
Nickel, total	mg/L	0.001	<0.001	0.001	<0.001	0.001	0.001	0.001	0.01	<0.001	0.001	0.001	0.001	0.001	0.001	<0.001	<0.001	0.001	<0.001	0.001	0.001	0.001	<0.001	0.001	0.003	
Phosphorus, total	mg/L																									
Potassium, total	mg/L	5	6	4	5	5	5	5	5	5	6	5	5	5	5.37	5.15	5.32	5.43	5.08	6.13	6.02	6.13	4.77	5.53	5.9	
Selenium, total	mg/L	0.0043	0.0045	0.0024	0.0045	0.0048	0.0053	0.0048	0.0048	0.0041	0.0048	0.0045	0.0047	0.0049	0.0045	0.0043	0.0049	0.0046	0.0045	0.0042	0.0038	0.0043	0.0031	0.0031	0.004	
Silver, total	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	
Sodium, total	mg/L	27	27	22	27	26	27	27	26	24	29	24	26	26	24.4	25.1	30	29.4	28	23.7	23.5	28.4	24.6	25.7	29.1	
Thallium, total	mg/L	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00011	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	
Zinc, total	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.049	<0.01	<0.01	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	0.007	<0.005	0.005	<0.005	<0.005	<0.005	
Aluminum, dissolved	mg/L	0.088	0.073	0.094	0.093	0.086	0.071	0.072	0.079	0.067	0.083	0.074	0.073	0.078	0.073	0.069	0.071	0.061	0.042	0.074	0.063	0.059	0.049	0.036	0.068	
Arsenic, dissolved	mg/L	0.0005	0.0006	<0.0004	0.0006	0.0006	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	<0.0004	<0.0004	0.0004	0.0005	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	
Cadmium, dissolved	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.00001	0.00002	0.00001	0.00001	0.00001	0.00002	0.00002	0.00003	0.00002	0.00001	<0.00001	
Calcium, dissolved	mg/L	61	60	61	58	63	63	65	63	63	66	65	74	62	63.9	62.3	62.6	64.2	63.7	63.4	63.9	81.6	65.4	65.2	73.9	
Chromium, dissolved	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Copper, dissolved	mg/L	0.004	0.004	0.003	0.004	0.004	0.004	0.003	0.004	0.003	0.004	0.004	0.004	0.005	0.0051	0.0046	0.0046	0.0046	0.0034	0.0041	0.004	0.0043	0.0037	0.003	0.0047	
Iron, dissolved	mg/L	<0.02	<0.02	0.023	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.006	0.005	0.007	0.005	0.016	0.008	0.007	0.008	0.011	0.009	
Lead, dissolved	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Magnesium, dissolved	mg/L	17	16	19	18	18	18	18																		

Station Name		W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	
Sample Date		10/15/2010	10/17/2010	10/19/2010	10/20/2010	10/21/2010	10/22/2010	10/23/2010	10/25/2010	10/26/2010	10/27/2010	10/29/2010	10/31/2010	11/2/2010	11/4/2010	11/7/2010	11/11/2010	11/16/2010	11/19/2010	11/21/2010	11/24/2010	11/26/2010	
pH (field)	pH units	8.01				8.02					8.08	8.12	8.18	7.8		7.8	7.6	7.8				7.63	
pH (lab)	pH units	8.08	8.15	8.22	8.19	8.23	8.27	8.11	8.1	8.08	8.14	8.24	8.22	8.28	8.14	8.08	8.18	8.19		8.19	8.13	8.08	
Hardness (from dissolved)	mg/L	269	257	248		270	268	270	266	265	259	261	262	268	257	268	260	260			247	259	
Hardness (from total)	mg/L	242	249	260	294	312	261	284	273	286	280	260	260	218	289	285	262	273	259	273	265	271	
Total Dissolved Solids	mg/L	380	430	420	460	460	460	450	430	430	430	400	380	360	370	380	370	380		340	330	370	
Total Suspended Solids	mg/L	<1	<1	<1	<1	<1	<1	<1	<4	<1	<1	<1	<1	<1	<1	<1	<1	1		<1	<1	2	
Alkalinity, total	mg/L	140	140	140	150	150	150	140	150	150	150	160	160	180	180	180	190	190		190	190	190	
Sulphate, dissolved	mg/L	97	110	91	120	110	110	110	110	110	110	94	90	81	80	80	77	86		85	90	84	
Chloride	mg/L	24	26	25	24	24	24	24	23	22	22	20	17	9.3	8	7.5	8.7	7.8		8	7.3	7	
Fluoride	mg/L	0.44	0.49	0.45	0.44	0.44	0.42	0.43	0.38	0.46	0.45	0.38	0.42	0.42	0.41	0.45	0.38	0.42		0.44	0.45	0.44	
Nitrite (N)	mg/L	0.093	0.112	0.094	0.107	0.1	0.109	0.111		0.108	0.112	0.112	0.097	0.013	0.007	0.005	0.006	0.007		0.007	0.008	0.008	
Nitrate (N)	mg/L	14.1	14.8	13.8	14	14.1	15.2	15.1		14.2	14.2	13.7	13.4	8.6	8.1	8	8.2	8.2		8.1	8.2	8.1	
Ammonia	mg/L	0.2	0.37	0.2	0.22	0.24	0.27	0.27	0.27	0.25	0.25	0.16	0.15	0.087	0.024	0.017	0.074	0.069		0.077	0.034	0.079	
Aluminum, total	mg/L	0.095	0.082	0.085	0.087	0.118	0.083	0.087	0.108	0.117	0.103	0.155	0.106	0.022	0.042	0.023	0.02	0.021	0.022	0.021	0.022	0.22	
Arsenic, total	mg/L	0.0003	0.0004	0.0003	0.0004	0.0004	0.0003	0.0004	0.0004	0.0005	0.0003	0.0003	0.0003	0.0002	0.0004	0.0004	0.0002	0.0002	0.0003	0.0003	0.0003	0.0004	
Cadmium, total	mg/L	0.00001	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.00001	0.00004	0.00001	0.00001	0.00002	<0.00001	<0.00001	0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	
Calcium, total	mg/L	66	67.6	69.7	79.1	85.2	72.1	77.7	73500	77.2	76.4	69.9	71.4	54.3	73.3	72.7	68.6	70.3	<0.00001	66.1	69.5	68.4	70.4
Chromium, total	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	
Copper, total	mg/L	0.0056	0.0061	0.0061	0.0057	0.006	0.0049	0.0054	0.0064	0.0068	0.0059	0.0069	0.0067	0.003	0.0035	0.0034	0.0036	0.0036	0.0047	0.0037	0.0038	0.0078	
Iron, total	mg/L	0.014	0.015	0.014	0.015	0.017	0.013	0.011	0.012	0.021	0.018	0.024	0.02	0.036	0.051	0.031	0.035	0.034	0.036	0.034	0.039	0.349	
Lead, total	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Magnesium, total	mg/L	18.7	19.6	20.8	23.4	24.2	19.6	21.8	21700	22.7	21.7	20.7	19.9	20	25.8	25.1	22	23.6	22.8	24.2	22.9	23.2	
Manganese, total	mg/L	0.091	0.097	0.101	0.102	0.103	0.093	0.102	0.111	0.107	0.105	0.107	0.101	0.108	0.119	0.116	0.106	0.111	0.098	0.103	0.097	0.171	
Mercury, total	mg/L	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.00003	0.00003	<0.00002	<0.00002	<0.00002	<0.00002	
Molybdenum, total	mg/L	0.016	0.016	0.015	0.016	0.017	0.017	0.017	0.018	0.017	0.017	0.015	0.014	0.006	0.007	0.006	0.006	0.006	0.006	0.006	0.006	0.006	
Nickel, total	mg/L	<0.001	<0.001	0.001	<0.001	0.001	<0.001	<0.001	<0.001	0.001	0.001	<0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	<0.001	<0.001	0.001	
Phosphorus, total	mg/L																						
Potassium, total	mg/L	5.73	5.46	6.08	5.83	6.37	5.12	5.58	6.42	6.24	5.96	6.07	5.47	3.55	4.19	4.02	3.64	3.74	3.49	3.66	3.48	3.76	
Selenium, total	mg/L	0.004	0.0046	0.004	0.0041	0.0044	0.0041	0.0041	0.0046	0.0043	0.0041	0.004	0.0039	0.0017	0.0019	0.0019	0.0018	0.0018	0.0018	0.0019	0.0018	0.0019	
Silver, total	mg/L	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	
Sodium, total	mg/L	29.5	31.3	32.4	33.7	32.2	30.3	33	35.3	32.2	31.6	30.2	28.1	22	23.8	23.5	22.4	23.8	22.2	23.2	21.9	20.5	
Thallium, total	mg/L	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	
Zinc, total	mg/L	<0.005	0.046	0.006	0.005	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
Aluminum, dissolved	mg/L	0.057	0.05	0.048		0.064	0.059	0.057	0.069	0.081	0.08	0.066	0.063	0.02	0.014	0.01	0.01	0.01		0.006	0.009		
Arsenic, dissolved	mg/L	0.0004	0.0004	0.0003		0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003		0.0004	0.0003		
Cadmium, dissolved	mg/L	<0.00001	0.00001	<0.00001		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.00001	0.00002	0.00004	0.00002	0.00002	<0.00001	<0.00001	<0.00001		0.00002	0.00001		
Calcium, dissolved	mg/L	74.1	70.4	67.9		73.4	73.6	74.2	71900	71.9	70.1	69.6	70.6	70	66.9	68.3	67.6	67.8		64.4	67.6		
Chromium, dissolved	mg/L	<0.001	<0.001	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001		
Copper, dissolved	mg/L	0.0044	0.0047	0.0039		0.0028	0.0026	0.0026	0.0031	0.0027	0.0029	0.0041	0.0049	0.0025	0.0027	0.003	0.0028	0.0026		0.0026	0.0027		
Iron, dissolved	mg/L	0.01	0.011	0.008		<0.005	<0.005	<0.005	<0.005	0.007	0.005	0.011	0.014	0.027	0.023	0.022	0.017	0.012		0.008	0.009		
Lead, dissolved	mg/L	<0.0002	<0.0002	<0.0002		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002		<0.0002	<0.0002		
Magnesium, dissolved	mg/L	20.4	19.7	19.1		21.1	20.6	20.5	21000	20.8	20.4	21.1	20.8	22.7	21.8	23.8	22.2	22.1		20.9	21.9		
Manganese, dissolved	mg/L	0.095	0.092	0.089		0.095	0.093	0.094	0.091	0.088	0.093	0.101	0.099	0.116	0.107	0.114	0.106	0.101		0.088	0.076		
Mercury, dissolved	mg/L	0.00004	<0.00002	<0.00002		<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002		<0.00002	<0.00002		
Molybdenum, dissolved	mg/L	0.017	0.016	0.015		0.016	0.016	0.016	0.016	0.015	0.015	0.015	0.014	0.007	0.007	0.006	0.006	0.006		0.005	0.006		
Nickel, dissolved	mg/L	0.001	<0.001	<0.001		0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.002	0.001	0.001	<0.001		0.001	0.001		
Phosphorus, dissolved	mg/L																						
Potassium, dissolved	mg/L	5.92	5.69	5.7		5.53	5.31	5.34	5.49	5.39	5.39</												

Station Name		W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	
Sample Date		11/27/2010	11/28/2010	11/29/2010	11/30/2010	12/1/2010	12/2/2010	12/3/2010	12/4/2010	12/5/2010	12/6/2010	12/7/2010	12/8/2010	12/10/2010	12/11/2010	12/13/2010	12/14/2010	12/19/2010	12/23/2010	12/24/2010	12/28/2010	12/30/2010	1/1/2011
pH (field)	pH units	7.49	7.58	7.69	7.62	7.32	7.58	7.39	7.7	7.64	7.62	7.56	7.5	7.6						7.37	7.22	7.82	7.6
pH (lab)	pH units	8.15	8.14	8.13	8.09	8.27	8.27	8.22	8.23	8.19	8.21	8.2	8.19	8.18	8.17	8.2	8.18	8.03	8.15	8.11	8.08	8.1	8.11
Hardness (from dissolved)	mg/L	266	275	270	274	269	285	280	291	288	288	283	269	269	318	268	307		302	271	269	274	273
Hardness (from total)	mg/L	276	273	274	277	273	269	276	275	287	261	269	281	304	324	306	265	270	271	283	289	302	288
Total Dissolved Solids	mg/L	380	370	350	310	370	370	360	360	360	390	370	400	400	390	400	380	370	400	400	410	400	400
Total Suspended Solids	mg/L	4	2	1	13	2	1	1	<1	<1	<1	21	1	1	1	1	<1	2	1	2	1	<1	1
Alkalinity, total	mg/L	190	180	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	200	200
Sulphate, dissolved	mg/L	84	71	86	85	92	91	86	88	89	88	89	90	87	86	89	90	90	92	85	86	85	87
Chloride	mg/L	7.2	5.9	7.2	7.1	8.2	8	8	7.3	7.3	7.4	7.2	7.7	9	7.2	7.2	7.7	7.6	7.3	7.2	7.1	6.9	7
Fluoride	mg/L	0.46	0.5	0.46	0.47	0.43	0.46	0.47	0.45	0.46	0.45	0.47	0.42	0.45	0.43	0.45	0.43	0.43	0.45	0.46	0.48	0.48	0.49
Nitrite (N)	mg/L	0.009	0.009	0.009	0.008	0.007	0.006	0.006	0.005	<0.005	0.005	0.008	0.006	0.007	0.006	0.007	0.008	0.009	0.008	0.009	0.01	0.009	0.009
Nitrate (N)	mg/L	8	8	8.1	7.8	8.1	8.3	11	8.2	8.2	8.2	8.1	8	8	8	8.1	7.9	8	8.1	8.7	8.9	8.9	8.7
Ammonia	mg/L	0.069	0.061	0.076	0.081	0.058	0.062	0.072	0.085	0.081	0.049	0.066	0.016	0.025	0.051	<0.005	0.015	0.009	<0.05	<0.05	<0.005	<0.005	<0.005
Aluminum, total	mg/L	0.09	0.021	0.021	0.101	0.065	0.051	0.044	0.05	0.032	0.022	0.414	0.03	0.028	0.029	0.03	0.023	0.062	0.021	0.061	0.044	0.028	0.04
Arsenic, total	mg/L	0.0003	0.0003	0.0003	0.0003	0.0004	0.0004	0.0004	0.0004	0.0004	0.0002	0.0003	0.0004	0.0003	0.0003	0.0004	0.0002	0.0002	0.0002	0.0003	0.0003	0.0003	0.0004
Cadmium, total	mg/L	0.00001	<0.00001	0.00003	0.00004	0.00006	0.00018	0.00003	0.00001	0.00002	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.00021	<0.00001	0.00003	0.00003	0.00003	0.00002	0.00002
Calcium, total	mg/L	72.1	72.5	71.3	71.8	72.1	71.3	73.4	72.9	76.7	67.8	69	72.7	78.2	83.4	78.9	68.1	68.6	68.3	70.7	72.9	77	72.5
Chromium, total	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper, total	mg/L	0.0058	0.0074	0.0033	0.0054	0.0065	0.0065	0.008	0.0044	0.0045	0.0038	0.0108	0.0032	0.0033	0.0035	0.0036	0.0032	0.0155	0.0033	0.0085	0.0038	0.0039	0.0035
Iron, total	mg/L	0.146	0.042	0.041	0.166	0.113	0.096	0.075	0.074	0.056	0.039	0.648	0.052	0.052	0.041	0.056	0.055	0.153	0.045	0.093	0.061	0.041	0.053
Lead, total	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Magnesium, total	mg/L	23.3	22.4	23.3	23.8	22.6	22	22.4	22.6	23.3	22.3	23.4	24.2	26.5	28.1	26.5	23	23.9	24.4	25.8	25.9	26.7	25.9
Manganese, total	mg/L	0.134	0.376	0.107	0.158	0.131	0.115	0.114	0.115	0.112	0.096	0.176	0.108	0.12	0.075	0.117	0.099	0.115	0.1	0.114	0.106	0.109	0.108
Mercury, total	mg/L	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Molybdenum, total	mg/L	0.006	0.007	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.005	0.006	0.006	0.006	0.007	0.006	0.005	0.005	0.005	0.005	0.005	0.005	0.006
Nickel, total	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	<0.001	0.001	0.001	0.001	<0.001	0.001	0.001	0.001	0.001	0.001
Phosphorus, total	mg/L																						
Potassium, total	mg/L	3.75	4.52	3.69	3.78	3.62	3.53	3.51	3.61	3.71	3.35	3.5	3.6	3.85	4.09	3.81	3.31	3.42	3.44	3.73	3.64	3.76	3.76
Selenium, total	mg/L	0.0019	0.0026	0.002	0.0019	0.0019	0.0022	0.0022	0.0021	0.0021	0.0019	0.0019	0.0019	0.0019	0.002	0.002	0.0019	0.0019	0.0017	0.0019	0.0019	0.0021	0.0019
Silver, total	mg/L	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.00004	0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Sodium, total	mg/L	20.5	20.9	20.3	21	20.1	19.7	20	20.1	20.3	19.7	20.2	21.9	23.5	25.1	23.8	19.6	20.5	20.9	23.2	23.1	23.7	23.1
Thallium, total	mg/L	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Zinc, total	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Aluminum, dissolved	mg/L	0.007	0.006	0.006	0.007	0.006	0.018	0.023	0.016	0.016	0.021	0.038	0.011	0.011	0.009	0.009	0.015		0.006	0.013	0.02	0.019	0.009
Arsenic, dissolved	mg/L	0.0003	0.0003	0.0003	0.0003	0.0003	0.0004	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0004	0.0004	0.0003		0.0004	0.0003	0.0003	0.0003	0.0003
Cadmium, dissolved	mg/L	0.00001	<0.00001	<0.00001	0.00001	0.00002	0.00009	0.0001	0.0001	0.00029	0.0005	0.00003	<0.00001	<0.00001	0.00002	0.00001	0.00001		0.00001	0.00003	0.00001	0.00001	0.00001
Calcium, dissolved	mg/L	68.8	71	70.1	69.2	68.6	74.2	72.1	75.5	74.8	76.1	73.7	68.9	68.6	80.8	68	79.6		76.3	68.1	67.9	69.4	69
Chromium, dissolved	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001
Copper, dissolved	mg/L	0.0029	0.0029	0.0028	0.003	0.0029	0.0036	0.0042	0.0044	0.0058	0.0076	0.0042	0.0044	0.0029	0.0038	0.0033	0.0042		0.0033	0.0046	0.0042	0.0031	0.0033
Iron, dissolved	mg/L	0.012	0.01	0.011	0.011	0.012	0.041	0.046	0.037	0.042	0.036	0.077	0.015	0.021	0.02	0.021	0.032		0.01	0.03	0.034	0.019	0.016
Lead, dissolved	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Magnesium, dissolved	mg/L	22.9	23.7	23.1	24.6	23.7	24.3	24.4	24.8	24.5	23.9	24	23.7	23.6	28.3	23.9	26.4		27.2	24.6	24.1	24.6	24.5
Manganese, dissolved	mg/L	0.092	0.099	0.097	0.097	0.095	0.11	0.111	0.108	0.101	0.099	0.106	0.084	0.104	0.119	0.101	0.112		0.097	0.108	0.103	0.099	0.095
Mercury, dissolved	mg/L	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002		<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Molybdenum, dissolved	mg/L	0.006	0.006	0.006	0.006	0.005																	

Station Name		W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	
Sample Date		1/3/2011	1/5/2011	1/8/2011	1/10/2011	1/12/2011	1/13/2011	1/14/2011	1/17/2011	1/18/2011	1/22/2011	1/23/2011	1/28/2011	1/30/2011	2/1/2011	2/3/2011	2/4/2011	2/5/2011	2/6/2011	2/7/2011	2/8/2011	2/9/2011	2/10/2011	2/11/2011	2/12/2011
pH (field)	pH units	7.66	7.71	7.64	7.31			7.2	7.38	7.21		6.67	7.47	7.42	7.44	7.48	7.52	7.63	7.31	7.16	6.6				
pH (lab)	pH units	7.99	8	7.99			8.07		7.83		7.78		8.38	8.35	8.1	8.12		8.13	8.06		7.84	7.84		8.05	
Hardness (from dissolved)	mg/L	272	274	261			252		302		276		268	277	259	261		277	253		249	249		263	
Hardness (from total)	mg/L	262	268	263	282	326	309	91.1	330	263	280	260	256	256	303	255	306	322	303	291	291	303	307	295	322
Total Dissolved Solids	mg/L	390	390	350			360		350		350		330	330	310	350		400	370		370	370		320	
Total Suspended Solids	mg/L	1	<1	1			2		6		3		<1	1	2	2		5	75		1	1		2	
Alkalinity, total	mg/L	190	200	210			220		210		210		220	220	220	220		210	220		220	220		210	
Sulphate, dissolved	mg/L	88	89	77			78		76		78		72	72		79			85		82	82		74	
Chloride	mg/L	7.6	7.2	6.1			3.8		5.5		4.8		5.3	4.7	5.8	4.8		7.1	8.9		6.2	6.2		5.5	
Fluoride	mg/L	0.44	0.47	0.4			0.46		0.42		0.41		0.43	0.43	0.47	0.47		0.49	0.45		0.45	0.45		0.46	
Nitrite (N)	mg/L	<0.005	<0.005	<0.005			<0.005		0.006		<0.005		<0.005	<0.005	<0.005	<0.005		0.011	<0.005		<0.005	<0.005		<0.005	
Nitrate (N)	mg/L	8.5	8.4	4.1			3.6		3.4		3.2		3.2	3.2	2.92	2.97		8.4	3.7		3.6	3.6		3.5	
Ammonia	mg/L	<0.05	<0.05	0.009			<0.005		0.006		0.11		0.019	0.014	0.022	<0.005		0.015	0.017		0.019	0.019		0.034	
Aluminum, total	mg/L	0.026	0.034	0.032	0.025	0.035	0.034	0.739	0.114	0.086	0.027	0.019	0.029	0.005	0.009	0.048	0.084	0.054	0.048	0.068	0.068	0.035	0.056	0.034	0.237
Arsenic, total	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	0.0003	0.0002	0.0044	0.0003	<0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0002	0.0001	0.0002	0.0003	0.0001	0.0003	0.0003	0.0002	0.0001	0.0002	0.0001
Cadmium, total	mg/L	<0.00001	<0.00001	<0.00001	<0.00001	0.00003	0.00002	0.00015	0.0001	<0.00001	0.00002	<0.00001	0.00009	0.00003	0.00002	0.00002	<0.00001	<0.00001	0.00001	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002
Calcium, total	mg/L	67.9	69.8	65.3	69.8	79.6	75.2	23.7	81.6	63.1	66.7	64.3	63.1	62.5	74.1	61	73.4	82.6	70.8	68.7	68.7	71.5	73.9	70.6	76.9
Chromium, total	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.005	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.001	<0.001	<0.001	<0.001	<0.001
Copper, total	mg/L	0.0032	0.0058	0.0056	0.0022	0.003	0.0024	0.0543	0.0236	0.0068	0.0035	0.0016	0.0029	0.0016	0.0025	0.0048	0.0069	0.0046	0.0025	0.0149	0.0149	0.0029	0.0033	0.0059	0.0036
Iron, total	mg/L	0.051	0.064	0.081	0.062	0.08	0.061	1.46	0.214	0.162	0.077	0.054	0.072	0.022	0.033	0.088	0.16	0.094	0.08	0.132	0.132	0.064	0.118	0.07	0.069
Lead, total	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0029	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Magnesium, total	mg/L	22.4	22.8	24.2	26.1	31	29.5	7.75	30.6	25.7	27.4	24.3	24	24.3	28.8	25	29.7	28.2	30.7	29	29	30.2	29.7	28.8	31.5
Manganese, total	mg/L	0.101	0.093	0.142	0.164	0.184	0.166	0.122	0.195	0.184	0.157	0.127	0.134	0.139	0.159	0.127	0.151	0.118	0.135	0.141	0.141	0.138	0.158	0.149	0.152
Mercury, total	mg/L	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.00003	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Molybdenum, total	mg/L	0.006	0.006	0.004	0.005	0.005	0.004	0.002	0.004	0.004	0.004	0.004	0.004	0.003	0.004	0.004	0.004	0.006	0.004	0.004	0.004	0.004	0.004	0.004	0.004
Nickel, total	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.006	0.002	0.001	0.001	<0.001	0.001	<0.001	0.001	0.001	0.001	0.001	0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.001
Phosphorus, total	mg/L																								
Potassium, total	mg/L	3.41	3.48	2.62	2.69	2.86	2.71	10.6	2.76	2.33	2.4	2.15	2.02	2.03	2.75	2.16	2.9	4.36	2.49	2.39	2.39	2.44	2.55	2.38	2.71
Selenium, total	mg/L	0.0019	0.002	0.001	0.0009	0.0009	0.0008	0.0003	0.0009	0.0008	0.0007	0.0007	0.0007	0.0007	0.0008	0.0007	0.0008	0.0019	0.0008	0.001	0.001	0.0008	0.0008	0.0009	0.0009
Silver, total	mg/L	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.00003	0.00031	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.00003	<0.00002
Sodium, total	mg/L	19.8	20.2	19.6	20.6	24.2	22.8	54.6	23.8	21.4	22.4	20.1	18.4	18.2	21.2	19.2	22.3	24.4	26.1	24.4	24.4	25.4	23.1	22.6	25.2
Thallium, total	mg/L	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Zinc, total	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.064	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.019	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Aluminum, dissolved	mg/L	0.006	0.016	0.012			0.005		0.037		<0.003		0.005	0.011	0.004	0.006		0.058	0.017		0.007	0.007		0.006	
Arsenic, dissolved	mg/L	0.0003	0.0003	0.0003			0.0002		0.0002		0.0002		0.0002	0.0002	0.0002	0.0002		0.0003	0.0002		0.0002	0.0002		0.0002	
Cadmium, dissolved	mg/L	<0.00001	0.00003	0.00001			0.00002		0.00005		0.00002		0.00002	0.00002	0.00003	0.00001		0.00005	0.00002		0.00001	0.00001		0.00008	
Calcium, dissolved	mg/L	71.1	70.7	65.1			60.8		72.4		65.9		63.9	66.9	61.8	62.4		69.8	62.2		60.7	60.7		63.4	
Chromium, dissolved	mg/L	<0.001	<0.001	<0.001			<0.001		<0.001		<0.001		<0.001	<0.001	<0.001	<0.001		<0.001	<0.001		<0.001	<0.001		<0.001	
Copper, dissolved	mg/L	0.0028	0.0036	0.0021			0.0016		0.0031		0.0017		0.0014	0.0015	0.0018	0.0017		0.0049	0.0029		0.0019	0.0019		0.0026	
Iron, dissolved	mg/L	0.017	0.038	0.044			0.016		0.076		0.01		0.018	0.021	0.015	0.016		0.035	0.039		0.022	0.022		0.03	
Lead, dissolved	mg/L	<0.0002	<0.0002	<0.0002			<0.0002		<0.0002		<0.0002		<0.0002	<0.0002	<0.0002	<0.0002		<0.0002	<0.0002		<0.0002	<0.0002		<0.0002	
Magnesium, dissolved	mg/L	22.9	23.6	23.9			24.3		29.4		27		26.4	26.7	25.5	25.5		25	23.8		23.7	23.7		25.5	
Manganese, dissolved	mg/L	0.087	0.086	0.128			0.139		0.171		0.141		0.125	0.139	0.138	0.113		0.093	0.108		0.109	0.109		0.138	
Mercury, dissolved	mg/L	<0.00002	<0.00002	<0.00002			<0.00002		<0.00002		<0.00002		<0.00002	<0.00002	<0.00002	<0.00002		<0.00002	<0.00002		<0.00002	<0.00002		<0.00002	
Molybdenum, dissolved	mg/L	0.006	0.006	0.004			0.004																		

Station Name		W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	
Sample Date		2/13/2011	2/14/2011	2/15/2011	2/26/2011	3/2/2011	3/3/2011	3/5/2011	3/8/2011	3/13/2011	3/16/2011	3/19/2011	3/22/2011	3/27/2011	3/29/2011	3/31/2011	4/2/2011	4/9/2011	4/15/2011	4/21/2011	4/27/2011	5/5/2011	5/14/2011	5/24/2011	5/29/2011
pH (field)	pH units																								
pH (lab)	pH units	7.99		7.85	7.92	7.93	7.89	7.89	7.88	7.98	7.73	7.09	8.32	8.28	8.13	8.06	8.13	7.85	8.1	8.22	7.85	7.61	8.13	8.25	8.12
Hardness (from dissolved)	mg/L	264		266	284	284	288	303	305	479	1720	3050	298	288	258	260	269	264	257	272	143	115	192	229	248
Hardness (from total)	mg/L	310	313	295	273	278	281	318	331	529	1650	3040	320	309	272	267	274	280	268	285	156	142	186	236	232
Total Dissolved Solids	mg/L	330		350	370	370	370	390	380	640	2100	2900	350	370	330	350	350	360	350	310	240	270	290	320	340
Total Suspended Solids	mg/L	2		2	1	3	3	2	2	18	41	460	110	4	10	6	2	3	21	2	3	93	10	<2	5
Alkalinity, total	mg/L	210		220	220	230	230	230	230	400	1200	1600	250	230	210	210	220	210	210	220	110	95	150	190	200
Sulphate, dissolved	mg/L	75		77	85	82	79	83	81	150	510	940	81	83	75	79	78	79	77	84	39	38	62	77	73
Chloride	mg/L	6.6		5.7	5.2	5	5.7	8.2	6.1	11	35	74	7.5	5.9	6.1	5.6	5.7	5.8	4.4	5.9	4.6	3.1	4.2	4.7	4.9
Fluoride	mg/L	0.46		0.47	0.46	0.47	0.48	0.5	0.49	0.81	1.94	4.71	0.49	0.48	0.49	0.51	0.48	0.47	0.49	0.51	0.28	0.23	0.37	0.44	0.49
Nitrite (N)	mg/L	<0.005		<0.005	0.005	0.006	0.006	0.006	0.005	0.016	0.12	0.268	0.07	0.007	0.008	0.006	0.007	0.009	0.011	0.007	0.013	0.01	<0.005	<0.005	<0.005
Nitrate (N)	mg/L	3.6		3.6	3.6	3.6	3.6	3.5	3.5	6.4	19.5	289	1.39	3.8	4.3	3.7	4.1	4	3.5	3.9	1.42	1.39	2.4	2.78	3.1
Ammonia	mg/L	0.043		0.029	0.03	0.037	0.026	0.044	0.02	0.06	0.19	0.38	0.18	0.005	<0.005	0.007	0.009	<0.005	0.013	0.007	0.016	0.012	0.011	0.015	0.016
Aluminum, total	mg/L	0.029	0.037	0.018	0.005	0.037	0.029	0.044	0.024	0.301	0.01	0.284	1.89	0.099	0.093	0.147	0.145	0.077	0.186	0.065	0.127	10.8	0.454	0.045	0.076
Arsenic, total	mg/L	0.0001	0.0002	0.0003	0.0002	0.0002	0.0002	0.0004	0.0003	0.0005	0.0013	0.0025	0.0012	0.0003	0.0003	0.0002	0.0002	0.0003	0.0004	0.0003	0.0004	0.004	0.0004	0.0003	0.0003
Cadmium, total	mg/L	<0.00001	0.00002	<0.00001	0.00002	0.00006	0.00006	0.00003	0.00002	0.0001	0.00016	0.0003	0.0002	0.00011	0.00004	0.00008	<0.00001	<0.00001	0.0001	0.00002	0.00006	0.00011	0.00003	0.00002	<0.00001
Calcium, total	mg/L	73.8	74.3	70.1	66	67.3	67.4	78.5	80.9	124	371	657	73	74.2	65.1	64.5	65.9	66	62.9	67.5	37	31.5	44.6	55.3	55.5
Chromium, total	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	0.001	0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.009	<0.001	0.017	<0.001	<0.001	<0.001
Copper, total	mg/L	0.0028	0.0037	0.0024	0.0021	0.0153	0.0105	0.0099	0.0057	0.114	0.0158	0.128	0.0819	0.0434	0.0114	0.0127	0.0059	0.0098	0.0156	0.0051	0.0168	0.0312	0.0143	0.0046	0.006
Iron, total	mg/L	0.057	0.075	0.059	0.01	0.076	0.061	0.093	0.051	0.594	0.02	0.621	3.07	0.19	0.145	0.227	0.194	0.13	0.27	0.185	0.168	13.5	0.611	0.098	0.235
Lead, total	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	0.0002	0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0028	<0.0002	<0.0002	<0.0002
Magnesium, total	mg/L	30.4	30.9	29	26.2	26.7	27.3	29.5	31.3	53.2	177	340	33.4	30	26.6	25.7	26.5	27.9	27	28.3	15.6	15.4	18.2	23.7	22.6
Manganese, total	mg/L	0.148	0.155	0.151	0.123	0.13	0.129	0.14	0.127	0.196	1.55	3.38	2.19	0.082	0.08	0.075	0.08	0.082	0.117	0.13	0.081	0.204	0.147	0.077	0.097
Mercury, total	mg/L	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Molybdenum, total	mg/L	0.004	0.004	0.004	0.004	0.004	0.004	0.006	0.005	0.007	0.023	0.042	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.005	0.002	0.002	0.003	0.004	0.004
Nickel, total	mg/L	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	0.005	0.01	0.007	0.001	<0.001	0.001	<0.001	<0.001	0.001	0.006	0.002	0.016	0.002	0.002	0.002
Phosphorus, total	mg/L												0.164	0.02	0.021	0.053	0.016	0.018	0.032	0.018	0.082	0.146	0.042	0.011	0.017
Potassium, total	mg/L	2.54	2.58	2.47	2.31	2.51	2.51	2.62	2.78	5.19	17.4	34.2	2.8	2.57	2.63	2.65	2.4	2.5	2.61	2.43	3.47	3	1.98	2.1	2.14
Selenium, total	mg/L	0.0008	0.0009	0.0008	0.0007	0.0006	0.0006	0.001	0.0008	0.0013	0.0038	0.0066	0.0004	0.0008	0.0006	0.0006	0.0007	0.0007	0.0006	0.0007	0.0004	0.0004	0.0005	0.0004	0.0005
Silver, total	mg/L	<0.00002	<0.00002	<0.00002	<0.00002	0.00003	<0.00002	0.00004	<0.00002	0.00007	<0.00002	0.00007	0.00005	0.00003	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.00005	<0.00002	<0.00002	<0.00002
Sodium, total	mg/L	24	24.2	21.5	21	21.5	21.9	21.9	22.8	41.2	142	274	22.7	22.5	20.3	19.8	21.2	20.4	19.7	20.3	10.5	8.75	13	17.3	17
Thallium, total	mg/L	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00009	<0.00005	<0.00005	<0.00005
Zinc, total	mg/L	<0.005	<0.005	<0.005	<0.005	0.006	0.008	0.009	<0.005	0.1	0.016	0.036	0.02	0.005	0.014	0.06	<0.005	<0.005	0.027	<0.005	<0.005	0.034	<0.005	<0.005	<0.005
Aluminum, dissolved	mg/L	0.008		0.008	<0.003	<0.003	<0.003	0.024	0.004	0.071	0.006	0.151	0.009	0.016	0.018	0.009	0.005	0.005	0.005	0.004	0.066	0.085	0.043	0.013	0.011
Arsenic, dissolved	mg/L	0.0002		0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0003	0.0012	0.0022	0.0003	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0004	0.0004	0.0003	0.0003	0.0003
Cadmium, dissolved	mg/L	0.00002		0.00009	0.00002	0.00002	0.00003	0.00007	0.00002	0.00011	0.00018	0.00038	0.00008	0.0001	0.00003	0.00002	<0.00001	<0.00001	0.00008	0.00003	0.00002	0.00003	0.0001	0.00003	0.00002
Calcium, dissolved	mg/L	61.9		62.4	68.6	67.6	69.2	70.5	71	108	393	676	69.7	69.1	60.8	63.1	65.3	64	60.2	65.1	34.8	27.4	46.3	53.7	58.6
Chromium, dissolved	mg/L	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper, dissolved	mg/L	0.0025		0.0043	0.0017	0.0027	0.0027	0.0064	0.0029	0.0211	0.0143	0.0502	0.0037	0.0027	0.0043	0.003	0.0021	0.0024	0.0035	0.0021	0.0125	0.0127	0.0069	0.003	0.0026
Iron, dissolved	mg/L	0.036		0.026	<0.005	<0.005	<0.005	0.045	0.011	0.154	0.015	0.362	0.045	0.03	0.033	0.013	0.011	0.011	0.013	0.012	0.096	0.203	0.068	0.033	0.022
Lead, dissolved	mg/L	<0.0002		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Magnesium, dissolved	mg/L	26.5		26.8	27.3	27.9	27.9	30.9	31	50.7															

Station Name		W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	
Sample Date		6/4/2011	6/16/2011	6/27/2011	7/1/2011	7/12/2011	7/16/2011	7/23/2011	7/31/2011	8/2/2011	8/7/2011	8/16/2011	8/28/2011	8/30/2011	9/7/2011	9/12/2011	9/19/2011	9/24/2011	10/6/2011	10/17/2011	10/24/2011	10/30/2011	11/13/2011	11/22/2011
pH (field)	pH units														7.76	7.66	7.75	7.71	7.6	7.68	7.46	7.5	7.53	
pH (lab)	pH units	8.04	8.21	8.2	8.05	8.09	7.91	7.98	8.24	8.2	7.97	8.13	8.01	8.05	8.29	8.13	8.11	8.17	8.27	8	8.23	8.21	8.35	7.97
Hardness (from dissolved)	mg/L	266	285	260	189	267	183	256	266	209	194	244	268	258	252	306	247	253	265	226	249	242	207	258
Hardness (from total)	mg/L	239	271	244	162	261	188	259	241	208	183	234	256	225	230	252	243	225	251	218	204	219	223	242
Total Dissolved Solids	mg/L	330	360	320	170	350	250	340	310	300	230	370	310	330	340	350	340	330	280	270	300	320	294	316
Total Suspended Solids	mg/L	1	<1	3	2	<1	<1	<1	<1	3	<1	<1	<1	<1	<1	<1	<4	<4	<4	<4	<1	<4	<1.0	<1.0
Alkalinity, total	mg/L	210	220	210	160	210	150	210	220	190	150	210	220	220	220	220	220	220	220	200	220	220	201	227
Sulphate, dissolved	mg/L	74		70	53	61	41	66	62		34		54				57	54	59	52	55			
Chloride	mg/L						3.1				3.9				4.3	4.7	4.6	4.3	4.4	5	4.4	3.7	5	4.3
Fluoride	mg/L	0.48					0.33				0.41													
Nitrite (N)	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.109	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Nitrate (N)	mg/L	3	2.52	1.68	1.25	1.67	0.96	1.45	1.39	0.9	0.73	0.36	1.11	0.91	1.08	1.1	1.09	1.04	1.17	1.89	1.09	1.04	2.23	1.19
Ammonia	mg/L	0.016	0.007	0.019	0.007	0.008	0.005	0.014	0.014		0.019	0.016	0.009	0.007	0.008	0.017	0.009	0.015	0.015	0.01	0.019	0.009	0.0089	0.0106
Aluminum, total	mg/L	0.02	0.123	0.041	0.09	0.02	0.09	0.021	0.026	0.096	0.051	0.07	0.013	0.026	0.012	0.012	0.19	0.012	0.014	0.037	0.028	0.011	0.017	0.019
Arsenic, total	mg/L	0.0003	0.0003	0.0003	0.0004	0.0002	0.0004	<0.0001	0.0002	0.0003	0.0004	0.0004	0.0003	0.0003	0.0002	0.0002	0.0003	0.0002	0.0002	0.0003	0.0002	0.0002	0.0003	0.0002
Cadmium, total	mg/L	0.00003	0.00004	0.00003	0.00005	<0.00001	0.00002	<0.00001	<0.00001	0.00002	0.00002	0.00004	0.00001	0.00004	0.00001	0.00001	0.00003	<0.00001	0.00001	0.00004	0.00008	<0.00001	<0.00001	<0.00001
Calcium, total	mg/L	56.9	62.9	58.4	37.5	61.1	47	61.3	57	50.8	42.2	57.7	61.3	54.2	54.6	57.7	56.9	52.7	59.3	54.5	42.9	50	55.6	57
Chromium, total	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper, total	mg/L	0.0022	0.0028	0.0089	0.008	0.005	0.0119	0.0042	0.0028	0.0096	0.0096	0.0047	0.0029	0.0025	0.0022	0.0024	0.0088	0.0022	0.0026	0.0082	0.0028	0.0025	0.0038	0.0017
Iron, total	mg/L	0.044	0.154	0.099	0.142	0.048	0.183	0.047	0.063	0.169	0.091	0.136	0.03	0.052	0.03	0.029	0.335	0.034	0.037	0.079	0.054	0.029	0.037	0.031
Lead, total	mg/L	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Magnesium, total	mg/L	23.6	27.6	23.8	16.7	26.5	17.1	25.6	24.1	19.9	18.8	21.8	24.9	21.8	22.8	26.3	24.6	22.6	24.9	19.9	23.6	22.8	20.5	24.2
Manganese, total	mg/L	0.07	0.078	0.09	0.064	0.078	0.077	0.079	0.082	0.075	0.057	0.075	0.073	0.064	0.065	0.069	0.111	0.056	0.06	0.031	0.051	0.052	0.028	0.059
Mercury, total	mg/L	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Molybdenum, total	mg/L	0.004	0.005	0.004	0.003	0.004	0.003	0.004	0.004	0.003	0.003	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.006	0.004	0.004	0.006	0.004
Nickel, total	mg/L	<0.001	0.001	0.001	0.002	0.001	0.002	0.001	0.001	0.027	0.004	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	<0.001	<0.001	<0.001	<0.001
Phosphorus, total	mg/L	<0.01	0.017	0.016	0.022	<0.01	0.012	<0.01	<0.01	0.014	0.017	<0.01	<0.01	<0.01	<0.01	<0.01	0.025	<0.01	0.012	<0.01	<0.01	0.011	<0.01	0.011
Potassium, total	mg/L	2.04	2.43	2.12	1.48	2.19	1.64	2.19	2.18	1.81	1.67	2.05	2.07	2.05	2.07	2.26	2.21	2	2.15	3	2.12	2.09	2.77	2.37
Selenium, total	mg/L	0.0005	0.0006	0.0004	0.0003	0.0005	0.0005	0.0005	0.0005	0.0004	0.0004	0.0004	0.0005	0.0004	0.0004	0.0004	0.0005	0.0004	0.0004	0.0007	0.0004	0.0004	0.0006	0.0005
Silver, total	mg/L	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Sodium, total	mg/L	17.4	20.6	18.2	12.5	19.9	12.4	19.1	18	14.9	13.9	15.8	18.1	15.6	17.4	19.8	18.2	17.2	18.5	18.3	18.4	17.9	18.2	17.9
Thallium, total	mg/L	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Zinc, total	mg/L	<0.005	0.006	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.013	<0.005	0.013	<0.005	0.006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.01	<0.005	0.011	<0.005
Aluminum, dissolved	mg/L	0.008	0.008	0.019	0.03	0.017	0.032	0.02	0.012	0.029	0.054	0.012	0.007	0.01	0.009	0.007	0.013	0.012	0.009	0.007	0.006	0.004	0.0103	0.0068
Arsenic, dissolved	mg/L	0.0003	0.0002	0.0003	0.0004	0.0003	0.0004	0.0003	0.0003	0.0003	0.0004	0.0003	0.0002	0.0002	0.0003	0.0002	0.0002	0.0002	0.0003	0.0003	0.0002	0.0002	0.0003	0.00021
Cadmium, dissolved	mg/L	<0.00001	0.00001	0.00002	0.00002	0.00002	0.00001	0.00001	0.00002	0.00002	0.00002	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.00002	<0.00001	0.00004	0.00002	0.00001	<0.00001	<0.000010	<0.000010
Calcium, dissolved	mg/L	62.2	69.6	62.6	46.8	63.5	44.7	61.4	63.7	50.1	46.9	59.9	64	61.5	60.2	77.4	58.9	62	63	56.6	58.3	55.9	49.8	60.9
Chromium, dissolved	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010
Copper, dissolved	mg/L	0.0022	0.0022	0.0043	0.0051	0.0038	0.0057	0.0069	0.003	0.0064	0.0066	0.0027	0.0026	0.0023	0.0025	0.0023	0.0033	0.0022	0.0023	0.0045	0.0021	0.0019	0.00396	0.00189
Iron, dissolved	mg/L	0.024	0.017	0.038	0.063	0.038	0.069	0.045	0.027	0.054	0.092	0.026	0.027	0.025	0.031	0.03	0.039	0.019	0.032	0.015	0.015	0.013	0.0097	0.0208
Lead, dissolved	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0005	<0.0002	<0.0002	<0.0002	<0.00020	<0.00020
Magnesium, dissolved	mg/L	26.8	27.1	25.1	17.5	26.4	17.3	24.9	26.1	20.4	18.6	23	26.2	25.4	24.6	27.4	24.3	23.8	26.1	20.6	25	24.8	20.2	25.7
Manganese, dissolved	mg/L	0.072	0.074	0.084	0.055	0.079	0.051	0.086	0.079	0.065	0.052	0.07	0.07	0.068	0.069	0.071	0.066	0.06	0.069	0.026	0.048	0.055	0.0242	0.0569
Mercury, dissolved	mg/L	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.000020	<0.000020	<0.000020
Molybdenum, dissolved	mg/L	0.004	0.004	0.004	0.002	0.003	0.003	0.004	0.004	0.003	0.003	0.003	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.007	0.004	0.004	0.0053	0.0041
Nickel, dissolved	mg/L	<0.001	<0.001	<0.001	0.002	0.002	0.002	0.001	0.001	0.002	0.003	0.001	0.001	0.001										

Station Name		W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	
Sample Date		4/14/2012	4/15/2012	4/16/2012	4/17/2012	4/18/2012	4/20/2012	4/21/2012	4/22/2012	4/23/2012	4/24/2012	4/25/2012	4/26/2012	4/27/2012	4/28/2012	4/29/2012	4/30/2012	5/1/2012	5/2/2012	5/3/2012	5/7/2012	5/10/2012	5/16/2012	5/24/2012	6/2/2012
pH (field)	pH units	6.77	7.61	7.78	7.87	7.93	7.79	7.88	7.78	7.74	7.75	7.68	7.76	7.99	7.73	7.3	7.65	7.82	7.84	7.75	7.86	7.93	7.99	7.9	7.86
pH (lab)	pH units	8.04	8.16	8.08					8.11		8.23		8.11								8.1		8.35	8.25	8.17
Hardness (from dissolved)	mg/L	234	226	206					222		220		217								204		196	219	244
Hardness (from total)	mg/L	228	231	263					207		208		215								197		196	228	217
Total Dissolved Solids	mg/L	292	290	276					316		308		312								278		282	284	300
Total Suspended Solids	mg/L	19	18.9	985					6.8		4.7		4.1								6.2		4.4	<1.0	<1.0
Alkalinity, total	mg/L	207	204	177					176		182		174								185		180	202	219
Sulphate, dissolved	mg/L	50.5	48.9	46.1					52.2		47.1		48.2								45.5		45.1	47.8	50.7
Chloride	mg/L	4.5	4.2	4.9					5.1		5.3		4.8								4		3.2	3.3	3
Fluoride	mg/L	0.51	0.48	0.41					0.33		0.35		0.35								0.4		0.42	0.5	0.51
Nitrite (N)	mg/L	<0.0050	<0.0050	0.0075					0.0073		0.0067		0.0073								<0.0050		<0.0050	<0.0050	<0.0050
Nitrate (N)	mg/L	1.93	1.89	3.43					4.17		4.12		3.97								1.26		0.876	0.799	0.722
Ammonia	mg/L	0.015	0.0057	0.014					0.014		0.0093		0.013								0.0097		0.0068	0.021	0.079
Aluminum, total	mg/L	0.452	0.463	16.6					0.142		0.19		0.16								0.186		0.0877	0.0321	0.0078
Arsenic, total	mg/L	0.00056	0.00053	0.00616					0.00042		0.00042		0.00042								0.0004		0.00041	0.00021	0.00024
Cadmium, total	mg/L	0.000016	0.000016	0.000433					0.00001		0.000024		0.000029								0.000013		0.000012	0.000013	<0.000010
Calcium, total	mg/L	56	56.5	64.1					53		53.4		55.6								49.6		45.2	51.7	49.3
Chromium, total	mg/L	<0.0010	<0.0010	0.0247					<0.0010		<0.0010		<0.0010								<0.0010		<0.0010	<0.0010	<0.0010
Copper, total	mg/L	0.00711	0.00657	0.212					0.0239		0.0255		0.0256								0.00801		0.00859	0.00531	0.00241
Iron, total	mg/L	0.664	0.685	26.8					0.221		0.261		0.24								0.271		0.146	0.0648	0.02
Lead, total	mg/L	<0.00020	<0.00020	0.00746					<0.00020		0.00069		0.00022								<0.00020		<0.00020	<0.00020	<0.00020
Magnesium, total	mg/L	21.5	21.7	25.1					18		18		18.5								17.9		20.2	24.1	22.9
Manganese, total	mg/L	0.101	0.106	5.02					0.0523		0.056		0.0506								0.0592		0.0433	0.0463	0.0491
Mercury, total	mg/L	<0.000010	<0.000010	<0.000010					<0.000010		<0.000010		<0.000010								<0.000010		<0.000010	<0.000010	<0.000010
Molybdenum, total	mg/L	0.0053	0.0057	0.0095					0.0053		0.0051		0.0054								0.0042		0.004	0.0037	0.0041
Nickel, total	mg/L	0.0014	0.0014	0.0295					0.0012		0.0012		0.0012								0.0012		0.0016	0.0012	<0.0010
Phosphorus, total	mg/L	0.03	0.031	0.71					0.02		0.023		0.019								0.018		0.015	0.015	<0.01
Potassium, total	mg/L	3.04	2.9	5.88					3.3		3.27		3.44								2.44		2.1	2.13	2.08
Selenium, total	mg/L	0.00051	0.00062	0.00125					0.00117		0.00138		0.00155								0.00043		0.00049	0.00057	0.00041
Silver, total	mg/L	<0.000020	<0.000020	0.00018					<0.000020		<0.000020		<0.000020								<0.000020		<0.000020	<0.000020	<0.000020
Sodium, total	mg/L	17.4	17.4	15.2					16		15.7		16.5								14.6		15	17.4	16.7
Thallium, total	mg/L	<0.000050	<0.000050	0.000137					<0.000050		<0.000050		<0.000050								<0.000050		<0.000050	<0.000050	<0.000050
Zinc, total	mg/L	<0.0050	<0.0050	0.0859					<0.0050		<0.0050		<0.0050								<0.0050		<0.0050	<0.0050	<0.0050
Aluminum, dissolved	mg/L	0.0037	0.0056	0.0061					0.0129		0.0138		0.0243								0.0161		0.0228	0.0114	0.0071
Arsenic, dissolved	mg/L	0.00031	0.00033	0.00036					0.0004		0.00038		0.0004								0.00033		0.00031	0.00028	0.00028
Cadmium, dissolved	mg/L	<0.000010	<0.000010	<0.000010					0.000015		0.000021		0.000021								0.000015		0.000013	0.000017	<0.000010
Calcium, dissolved	mg/L	56.2	53.9	51.1					57.9		57.8		56								49.8		45.4	50.5	54.7
Chromium, dissolved	mg/L	<0.0010	<0.0010	<0.0010					<0.0010		<0.0010		<0.0010								<0.0010		<0.0010	<0.0010	<0.0010
Copper, dissolved	mg/L	0.00365	0.00397	0.0108					0.0209		0.021		0.0235								0.00756		0.00768	0.00418	0.00274
Iron, dissolved	mg/L	0.0163	0.028	0.0246					0.0478		0.0487		0.0593								0.0457		0.0625	0.0341	0.0199
Lead, dissolved	mg/L	<0.00020	<0.00020	<0.00020					<0.00020		<0.00020		<0.00020								<0.00020		<0.00020	<0.00020	<0.00020
Magnesium, dissolved	mg/L	22.7	22.2	19.1					18.8		18.4		18.7								19.3		20	22.6	26
Manganese, dissolved	mg/L	0.0494	0.0706	0.0054					0.0286		0.0279		0.0321								0.0481		0.0373	0.0463	0.0544
Mercury, dissolved	mg/L	<0.000010	<0.000010	<0.000010					<0.000010		<0.000010		<0.000010								<0.000010		<0.000010	<0.000010	<0.000010
Molybdenum, dissolved	mg/L	0.0053	0.0056	0.0053					0.0053		0.0051		0.0051								0.0045		0.0036	0.0042	0.0047
Nickel, dissolved	mg/L	<0.0010	<0.0010	<0.0010					0.0011		0.0011		0.0011								0.0011		0.0014	0.001	0.0011
Phosphorus, dissolved	mg/L	0.011	0.011	0.017					0.012		0.012		0.013								<0.01		<0.01	0.025	<0.01
Potassium, dissolved	mg/L	2.92	2.9	3.78					3.5		3.42		3.43								2.63		1.97	2.11	2.23
Selenium, dissolved	mg/L	0.00071	0.00075	0.00118					0.00166		0.00162		0.00159								0.00063		0.00055	0.00049	0.0004
Silver, dissolved	mg/L	<0.000020	<0.000020	<0.000020					<0.000020		<0.000020		<0.000020								<0.000020		<0.000020	<0.000020	<0.000020
Sodium, dissolved	mg/L	18.2	18	16.1					16.8		16.4		16.7								15.7		14.9	16.7	18.9
Thallium, dissolved	mg/L	<0.000050	<0.000050	<0.000050					<0.000050		<0.000050		<0.000050								<0.000050		<0.000050	<0.000050	<0.000050
Zinc, dissolved	mg/L	<0.0050	<0.0050	<0.0050					<0.0050		<0.0050		<0.0050								<0.0050		<0.0050	<0.0050	<0.0050

Data omitted from calculation of summary statistics

Station Name		W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3	W3
Sample Date		10/16/2012	10/19/2012	10/25/2012	11/2/2012	11/9/2012	11/18/2012	11/24/2012	12/4/2012	12/8/2012	12/11/2012	12/18/2012	12/27/2012
pH (field)	pH units	7.8	8.02	7.9		7.4	7.29	7.42	7.53	6.74	7.41	7.46	7.34
pH (lab)	pH units	8.23	8.09	8.04	7.98	8.1	8.15	8.16	8.3		8.26	8.04	8.18
Hardness (from dissolved)	mg/L	224	236	238	236	242	247	234	248		255	239	236
Hardness (from total)	mg/L	228	249	243	245	240	242	258	264		254	255	238
Total Dissolved Solids	mg/L	302	328	322	316	302	288	292	328		300	308	274
Total Suspended Solids	mg/L	<1.0	<1.0	3.4	<1.0	<1.0	<1.0	<1.0	<1.0		<1.0	<1.0	<1.0
Alkalinity, total	mg/L	214	219	228	221	221	227	227	238		231	225	226
Sulphate, dissolved	mg/L	45.6	46.2	47.5	47.4	48.5	50	48.7	55.8		49	52.4	50.9
Chloride	mg/L	3	3.1	3.2	3.1	3.1	3.7	3.2	3.4		2.9	3	3.1
Fluoride	mg/L	0.47	0.54	0.52	0.52	0.57	0.52	0.53	0.56		0.56	0.5	0.53
Nitrite (N)	mg/L	<0.0050	0.0153	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050		<0.0050	<0.0050	<0.0050
Nitrate (N)	mg/L	0.53	0.863	0.624	1.06	0.862	0.654	0.681	0.664		0.647	0.647	0.671
Ammonia	mg/L	0.012	0.015	0.0087	0.0091	0.022	0.0068	0.013	0.019		0.01	0.0085	0.016
Aluminum, total	mg/L	0.0068	0.0052	0.0555	0.022	0.00434	0.0058	0.016	0.0203		0.0121	0.012	0.0102
Arsenic, total	mg/L	0.00025	0.00022	0.00032	0.00043	0.000241	0.00028	0.00021	0.00025		0.00024	0.00028	0.00023
Cadmium, total	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.0000050	<0.000010	<0.000010	<0.000010		<0.000010	<0.000010	<0.000010
Calcium, total	mg/L	51.6	60.4	54.7	54.6	55.2	55.5	58.1	58.4		55.5	56.4	52.7
Chromium, total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	0.0001	<0.0010	<0.0010	<0.0010		<0.0010	<0.0010	<0.0010
Copper, total	mg/L	0.00227	0.00204	0.00313	0.00199	0.00166	0.00159	0.00226	0.00268		0.0021	0.00242	0.00234
Iron, total	mg/L	0.0268	0.0346	0.121	0.0568	0.0194	0.0206	0.0491	0.06		0.0316	0.0378	0.045
Lead, total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.0000050	<0.00020	<0.00020	0.00024		<0.00020	<0.00020	<0.00020
Magnesium, total	mg/L	24.2	23.8	25.8	26.4	24.7	25	27.4	28.6		28.1	27.8	25.8
Manganese, total	mg/L	0.0458	0.0574	0.0653	0.0638	0.0446	0.0387	0.0502	0.0828		0.074	0.0668	0.0823
Mercury, total	mg/L	<0.000010	<0.000010	<0.000010	<0.000010		<0.000010	<0.000010	<0.000010		<0.000010	<0.000010	<0.000010
Molybdenum, total	mg/L	0.0046	0.0045	0.0046	0.0045	0.00392	0.0044	0.0049	0.0048		0.0048	0.0046	0.0046
Nickel, total	mg/L	0.0012	0.001	0.0014	0.0013	0.000836	<0.0010	0.0012	0.0012		0.0011	<0.0010	<0.0010
Phosphorus, total	mg/L	<0.01	<0.01	0.019	0.011		<0.01	<0.01	<0.01		<0.01	0.013	0.014
Potassium, total	mg/L	2.06	2.05	2.26	2.19	2.21	2.37	2.29	2.39		2.17	2.26	2.16
Selenium, total	mg/L	0.00039	0.00049	0.00036	0.0004	0.000406	0.00056	0.0004	0.00047		0.00046	0.00039	0.00039
Silver, total	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.0000050	<0.000020	<0.000020	<0.000020		<0.000020	<0.000020	<0.000020
Sodium, total	mg/L	17.9	17.4	18.6	18.5	17.4	18	19.1	20.2		19.2	19.1	18.4
Thallium, total	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.0000020	<0.000050	<0.000050	<0.000050		<0.000050	<0.000050	<0.000050
Zinc, total	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	0.00037	<0.0050	<0.0050	0.0055		<0.0050	<0.0050	<0.0050
Aluminum, dissolved	mg/L	0.0041	0.0048	0.004	0.0034	0.0053	0.0032	0.0048	0.0063		<0.0030	0.0047	<0.0030
Arsenic, dissolved	mg/L	0.00024	0.00026	0.00022	0.00024	0.000276	0.00024	0.00023	0.00024		0.00021	0.00025	0.0002
Cadmium, dissolved	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	0.000005	<0.000010	<0.000010	<0.000010		<0.000010	<0.000010	<0.000010
Calcium, dissolved	mg/L	51.4	52.6	54.3	53.3	53.8	56.8	52.4	55.4		54.8	53.4	51.8
Chromium, dissolved	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.00010	<0.0010	<0.0010	<0.0010		<0.0010	<0.0010	<0.0010
Copper, dissolved	mg/L	0.00242	0.00205	0.00197	0.00189	0.00175	0.00172	0.00226	0.00253		0.00175	0.00215	0.00155
Iron, dissolved	mg/L	0.0211	0.0311	0.0233	0.0215	0.0167	0.0144	0.0193	0.0324		0.0129	0.0195	0.0242
Lead, dissolved	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	0.000009	<0.00020	<0.00020	<0.00020		<0.00020	<0.00020	<0.00020
Magnesium, dissolved	mg/L	23.2	25.4	24.9	25	26	25.4	25.1	26.6		28.7	25.7	26
Manganese, dissolved	mg/L	0.0426	0.0604	0.0514	0.0584	0.0454	0.04	0.0399	0.0763		0.0711	0.0639	0.0783
Mercury, dissolved	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010		<0.000010	<0.000010	<0.000010
Molybdenum, dissolved	mg/L	0.0045	0.0048	0.0046	0.0042	0.00417	0.0046	0.0046	0.0046		0.0046	0.0043	0.0044
Nickel, dissolved	mg/L	0.0011	0.0011	0.0011	0.0011	0.00082	<0.0010	<0.0010	<0.0010		<0.0010	<0.0010	<0.0010
Phosphorus, dissolved	mg/L	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01	<0.01		<0.01	<0.01	<0.01
Potassium, dissolved	mg/L	2.04	2.31	2.15	2.2	2.26	2.4	2.07	2.34		2.2	2.16	2.19
Selenium, dissolved	mg/L	0.00041	0.00044	0.00051	0.00047	0.000496	0.00039	0.00046	0.00042		0.00048	0.00044	0.00048
Silver, dissolved	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.0000050	<0.000020	<0.000020	<0.000020		<0.000020	<0.000020	<0.000020
Sodium, dissolved	mg/L	17.3	18.4	18	18.2	18.9	18.6	17.7	19.2		19.9	18.2	18.7
Thallium, dissolved	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.0000020	<0.000050	<0.000050	<0.000050		<0.000050	<0.000050	<0.000050
Zinc, dissolved	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	0.00067	<0.0050	<0.0050	<0.0050		<0.0050	<0.0050	<0.0050

Data omitted from calculation of summary statistics

Station Name		W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7		
Sample Date		5/27/2005	6/30/2005	7/29/2005	8/30/2005	9/28/2005	10/15/2005	6/2/2006	6/8/2006	6/15/2006	6/15/2006	6/23/2006	6/28/2006	7/7/2006	7/12/2006	7/20/2006	7/26/2006	7/26/2006	8/2/2006	8/10/2006	8/25/2006	8/25/2006	8/30/2006	9/6/2006	9/13/2006	
pH (field)	pH units																									
pH (lab)	pH units	7.95	7.87	7.18	8.19	8.02	6.75	7.61				7.86	7.78	7.9	7.91	7.77	7.88		7.87	7.79	7.8		7.92	7.79	7.88	7.84
Hardness (from dissolved)	mg/L											100	122	107	110	110	130		128	128	126		129	132	130	130
Hardness (from total)	mg/L	76.6		167	109	107	106																			
Total Dissolved Solids	mg/L	116	153	197	148	142	145	104				114	176	120	184								180	200		
Total Suspended Solids	mg/L	30.5	14	19.7	3	361	7.5	705				53	328	103	3	<2	2		9	4	<2		<2	4	5	
Alkalinity, total	mg/L	36.7	117		113	95.9		49.4				95	130	106	120	120	122		121	125	125		131	129	129	128
Sulphate, dissolved	mg/L	<0.5	10.2		6.02	5.62		2.98				10.5	15.1		10.8	10.4	10.5		11.6	10	10		11	10.5	10.3	10
Chloride	mg/L	<0.50	0.92	<0.50	<0.50	<0.50	<0.50	<0.5																		
Fluoride	mg/L							0.155																		
Nitrite (N)	mg/L	0.0018	0.0017	<0.0010	<0.0010	<0.0010	<0.0010	0.0015																		
Nitrate (N)	mg/L	0.0824	0.172	0.169	0.0226	0.0586	0.102	0.0449				0.18	0.23	0.112	0.205	0.18	0.19		0.18	0.15	0.16		0.12	0.11	0.08	0.094
Ammonia	mg/L	<0.020	<0.020	<0.020	0.02	<0.020	0.021	0.062		0.027		0.028	0.01		0.014	0.012	0.016		0.099	0.015	0.014	0.027	0.048	0.012	0.011	0.011
Aluminum, total	mg/L	0.489	0.153	0.506	0.0436	1.65	0.0738	11.4	0.648			1.48	5.09	1.69	0.096	0.078	0.058		0.099	0.06	0.034		0.054	0.049	0.025	
Arsenic, total	mg/L	0.00063	0.00049	0.00055	0.00053	0.00149	0.00052	0.00496	0.00078			0.0008	0.0022	0.001	0.0004	0.0004	0.0005		0.0005	0.0006	0.0005		0.0004	0.0005	0.0004	<0.0002
Cadmium, total	mg/L	<0.000050	<0.000050	<0.000050	<0.000017	0.000061	<0.000050	0.000237	<0.00005			0.00002	0.00008	0.00003	<0.00001	<0.00001	<0.00001		<0.00001	<0.00001	<0.00001		<0.00002	<0.00001	<0.00001	<0.00001
Calcium, total	mg/L	19.3	29.7	42.4	27.8	27.8	25.5	23.9	20.4			25.4	34.5	27.4	31.2	31	31.8		33.9	32.9	34.6		31.8	30.8	31.1	32.2
Chromium, total	mg/L	0.0016	0.00065	0.00127	<0.0010	0.0037	0.00062	0.0234	0.0016			0.0032	0.0091	0.0031	<0.0005	<0.0005	<0.0005		<0.0005	<0.0005	<0.0005		<0.001	0.0008	0.0008	<0.0005
Copper, total	mg/L	0.0031	0.00162	0.0101	0.0015	0.0061	0.00147	0.0225	0.00403			0.004	0.01	0.004	0.001	0.001	0.001		0.001	0.001	<0.001		<0.002	<0.001	0.001	<0.001
Iron, total	mg/L	0.776	0.358	0.894	0.363	3.42	0.37	17.2	1.09			1.7	7.2	2.5	0.2	0.2	0.2		0.3	0.1	0.1		<0.2	0.1	0.1	<0.2
Lead, total	mg/L	<0.00050	0.000134	0.000332	<0.00050	0.0011	0.000061	0.00547	0.00045			0.0006	0.002	0.0007	<0.0001	<0.0001	<0.0001		0.0001	<0.0001	<0.0001		<0.0002	<0.0001	0.0002	<0.0001
Magnesium, total	mg/L	6.82	10.1	14.2	9.67	9.57	8.77	10.7	7.12			8.8	12.5	9.3	10.1	9.5	11.2		11.7	10.8	11.3		10	10.3	10.3	11
Manganese, total	mg/L	0.0519	0.0514	0.0468	0.0368	0.314	0.0473	0.589	0.0645			0.079	0.226	0.086	0.035	0.035	0.042		0.051	0.033	0.04		0.039	0.035	0.035	0.033
Mercury, total	mg/L	<0.000020			<0.000020	<0.000020																				
Molybdenum, total	mg/L	0.001	0.00119	0.00121	0.0011	<0.0010	0.000959	0.000988	0.000843			0.001	0.001	0.001	0.001	0.001	0.001		0.001	0.001	0.001		<0.002	0.001	0.001	<0.001
Nickel, total	mg/L	0.003	0.00141	0.00174	0.0016	0.0068	0.00176	0.0275	0.00402			0.0052	0.0117	0.0042	0.0019	0.0014	0.0011		0.0009	0.001	0.0009		0.001	0.0013	0.0013	0.0007
Phosphorus, total	mg/L		<0.30	<0.30			<0.30	0.77	<0.3																	
Potassium, total	mg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2			1.1	1.6	1.1	1	1	0.9		1.1	1	1.1		1.2	1	1	0.9
Selenium, total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001			0.0002	0.0004	<0.0002	0.0002	0.0002	<0.0002		<0.0002	0.0005	<0.0002		<0.0004	<0.0002	0.0004	0.0002
Silver, total	mg/L	<0.000020	<0.000010	<0.000020	<0.000020	<0.000020	<0.000010	0.000069	<0.00001			<0.0001	0.0003	<0.0001	<0.0001	<0.0001	<0.0001		<0.0001	0.0002	<0.0001		<0.0002	<0.0001	<0.0001	<0.0001
Sodium, total	mg/L	3.9	6.8	7.7	5.9	4.9	5.1	4.5	4.4			5.8	7	6	7.4	6.5	6.4		6.5	6.9	7.2		6.7	6.7	6.8	7.1
Thallium, total	mg/L	<0.00020	<0.00010	<0.00010	<0.00020	<0.00020	<0.00010	<0.0001	<0.0001			<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005		<0.00005	<0.00005	<0.00005		<0.0001	<0.00005	<0.00005	<0.00005
Zinc, total	mg/L	<0.0050	<0.0020	<0.0050	<0.0050	0.0101	0.0017	0.0484	0.0048			0.006	0.022	0.006	<0.001	0.015	0.002		0.002	0.001	0.002		0.004	0.003	0.001	<0.001
Aluminum, dissolved	mg/L	0.0236	0.0086	0.0096	0.0156	0.0186	0.0155	0.0714				0.013	0.011	0.407	<0.005	0.006	0.006		0.008	0.008	0.009		0.012	0.013	0.005	0.008
Arsenic, dissolved	mg/L	<0.00050	0.00042	0.00035	0.00051	0.00054	0.00048	0.00062				0.0004	0.0005	0.0008	0.0006	0.0005	0.0004		0.0004	<0.0002	0.0005		0.0004	0.0004	0.0005	0.0003
Cadmium, dissolved	mg/L	<0.000050	<0.000050	<0.000050	<0.000017	<0.000017	<0.000050	<0.00005				<0.00001	<0.00001	0.00003	<0.00001	<0.00001	<0.00001		<0.00001	<0.00001	<0.00001		<0.00001	<0.00001	<0.00001	<0.00001
Calcium, dissolved	mg/L	19.5	30	41.3	27.8	27.4	27.1	14.4				26.9	31.8	22.8	26.5	26.9	33		33.4	33.3	32.9		32.4	33.6	33.5	32.3
Chromium, dissolved	mg/L	<0.0010	<0.00050	<0.00050	<0.0010	<0.0010	<0.00050	0.00055				<0.0005	0.0007	0.0015	0.0011	0.001	0.0007		<0.0005	<0.0005	0.0007		0.0006	0.0008	0.0008	0.0009
Copper, dissolved	mg/L	0.0018	0.00119	0.00404	0.0014	0.0016	0.00127	0.00212				0.001	<0.001	0.003	0.001	0.001	<0.001		0.002	0.001	0.001		0.001	0.002	0.002	0.001
Iron, dissolved	mg/L	0.136	0.07	0.105	0.292	0.32	0.253	0.546				0.09	0.09	0.06	0.06	0.06	0.11		0.1	0.07	0.08		0.08	0.1	0.1	0.11
Lead, dissolved	mg/L	<0.00050	<0.000050	<0.000050	<0.00050	<0.00050	<0.000050	0.000054				<0.0001	<0.0001	0.0005	<0.0001	<0.0001	0.0002		<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001	<0.0001
Magnesium, dissolved	mg/L	6.77	10.2	15.6	9.7	9.32	9.35	4.85				8.9	10.4	9.2	10.7	10.5	11.7		10.9	11	10.8		11.7	11.7	11.2	11.4
Manganese, dissolved	mg/L	0.0193	0.0415	0.0244	0.0315	0.0414	0.0383	0.0882				0.044	0.043	0.011	0.023	0.022	0.042		0.044	0.033	0.039		0.037	0.038	0.036	0.03
Mercury, dissolved	mg/L	<0.000020			<0.000020	<0.000020																				
Molybdenum, dissolved	mg/L	<0.0010	0.00124	0.00127	0.001	<0.0010	0.000925	0.000697				0.001	0.001	<0.001	0.002	0.001	0.001		<0.001	<0.001	0.001		0.001	0.001	0.001	0.001
Nickel, dissolved	mg/L	0.0016	0.00093	0.00095	0.0015	0.0018	0.00146	0.0022				0.001	0.0013	0.0036	0.0015	0.0007	0.0006		0.0021	0.0006	0.0006		0.0009	0.0012	0.001	0.0009
Phosphorus, dissolved	mg/L		<0.30	<0.30			<0.30	<0.3																		
Potassium, dissolved	mg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2				<0.4	1.1	0.8	0.8	0.9	1		1	1.1	1		0.9	1.2	0.8	0.9
Selenium, dissolved	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.001				0.0002	0.0003	<0.0002	<0.0002	0.0002	<0.0002		<0.0002	<0.0002	<0.0002		<0.0002	<0.0002	<0.0002	<0.0002
Silver, dissolved	mg/L	<0.000020	<0.000010	<0.000010	<0.000020	<0.000020	<0.000010	<0.00001				<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001	<0.0001
Sodium, dissolved	mg/L	3.9	6.9	8.8	5.9	5.3	5.5																			

Station Name		W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	
Sample Date		9/20/2006	9/28/2006	10/4/2006	10/12/2006	6/5/2007	6/20/2007	7/18/2007	8/24/2007	8/24/2007	9/18/2007	10/30/2007	4/22/2008	6/3/2008	6/17/2008	8/6/2008	9/18/2008	10/28/2008	4/30/2009	6/8/2009	7/28/2009	8/6/2009	8/24/2009	8/25/2009	8/31/2009
pH (field)	pH units																			7.6	7.74		7.5		8.04
pH (lab)	pH units	7.85	7.26	7.94	7.39	7.98	7.84	7.72		8.04	8	7.74	8.4	8.01	7.95		7.89			6.84	7.9	8.07	8.35		
Hardness (from dissolved)	mg/L	132	129	126	132		110	128			110		186			123			123	20	93	137	121		110
Hardness (from total)	mg/L					108		126			122	130		97											
Total Dissolved Solids	mg/L		182		164	162	164	170		198	182	176	264	134	156		170			52	156	184	202		
Total Suspended Solids	mg/L	3		2	4	76	6	4		4	20	3	<2	<2	10		28			<2	32	4	2		
Alkalinity, total	mg/L	127	128	122	130	118	116	128		139	124	128	187	94	115		82			12	95	128	159		
Sulphate, dissolved	mg/L	11	11	10.9	11.3	11	12.2	11.9		10.3	8.21	13	27.6	10.4	12.9		5.44			0.65	8.6	13	13		
Chloride	mg/L					0.7	0.6	0.6		0.3	0.46	0.96	0.8	0.38	0.42		0.57			0.38	4.1	0.82	0.39		
Fluoride	mg/L																								
Nitrite (N)	mg/L					<0.05	<0.05	<0.05		<0.05	<0.02	0.14	0.07	0.04	0.05		<0.01								
Nitrate (N)	mg/L	0.11	0.08	0.1	0.12	<0.1	0.3	0.3		0.2	0.05	<0.02	<0.02	0.03	0.14		0.03						0.18		
Ammonia	mg/L	0.008	0.011	0.079	0.024	<0.05	<0.05	<0.05	<0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05								
Aluminum, total	mg/L	0.074	0.042	0.082	0.264	1.56	0.172	0.231		0.205	0.33	0.121	<0.02	0.4	0.21		0.469			0.138	0.595		0.071		
Arsenic, total	mg/L	0.0005	<0.0004	0.0004	0.0004	0.0008	0.0004	0.0005		0.0003	0.0005	0.0004	0.0005	0.0007	0.0006		0.0005			<0.0002	0.0005		0.0007		
Cadmium, total	mg/L	<0.00001	<0.00002	<0.00002	<0.00001	0.00003	<0.00001	0.00002		<0.00001	<0.00001	0.00004	<0.00007	<0.00007	<0.00008		0.00002			0.00008	0.00001		<0.00001		
Calcium, total	mg/L	32.4	32.5	31.6	33.5	26.4	30.2	32.2		31.2	27	33.5	40.2	24.4	29.2		23			5.54	27		35.1		
Chromium, total	mg/L	<0.0005	<0.001	<0.001	0.0007	0.0031	0.0005	0.0008		0.0008	0.0011	0.0007	<0.0005	0.0028	0.0012		0.0022			0.0012	0.0014		0.0009		
Copper, total	mg/L	0.001	<0.002	<0.002	0.002	0.003	0.002	0.002		0.002	0.003	0.012	0.004	0.002	0.001		0.003			0.013	0.003		0.001		
Iron, total	mg/L	0.2	<0.2	<0.2	0.5	2	0.2	0.3		0.2	0.5	0.3	0.05	0.78	0.4		0.91			0.19	0.92		0.126		
Lead, total	mg/L	0.0001	<0.0002	<0.0002	0.0002	0.0006	0.0001	0.0004		0.0001	0.0002	0.0023	<0.0001	0.0002	0.0001		0.0003			0.0002	0.0003		0.0004		
Magnesium, total	mg/L	11.7	11	11	11.8	10.2	9.8	11		10.7	9.5	11.2	19	8.68	10.1		7.62			1.97	9.53		12.2		
Manganese, total	mg/L	0.042	0.037	0.038	0.063	0.126	0.044	0.03		0.033	0.034	0.054	0.0257	0.0693	0.0833		0.0347			0.0153	0.0449		0.0278		
Mercury, total	mg/L					<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001	<0.00001	<0.00001	<0.01		<0.00001			0.00002	<0.00001				
Molybdenum, total	mg/L	0.001	<0.002	<0.002	0.001	0.001	0.002	0.001		0.001	0.001	0.002	0.00165	0.00131	0.00148		0.00082			0.00016	0.00141		0.0015		
Nickel, total	mg/L	0.0014	0.002	0.002	0.0015	0.0033	0.0016	<0.0005		0.0014	0.0015	0.0008	<0.001	0.002	0.001		0.002			<0.001	0.002		0.001		
Phosphorus, total	mg/L					0.14	<0.05			<0.05	<0.05		0.02	0.05	0.06		0.04			0.09	<0.05		0.011		
Potassium, total	mg/L	0.9	1.1	0.9	1	1.1	1	1		1	0.9	1.6	2.56	0.94	1.01		0.68			1.5	0.9		1.1		
Selenium, total	mg/L	0.0004	0.0004	0.0006	<0.0002	<0.0002	0.0003	0.0004		<0.0002	<0.0002	0.0007	<0.0006	<0.0006	0.0008		0.0008			<0.0006	<0.0006		<0.0006		
Silver, total	mg/L	<0.0001	<0.0002	<0.0002	<0.0001	<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00001		0.00006			<0.00001	0.00002		0.00002		
Sodium, total	mg/L	6.6	6.9	7	6.6	5.8	7.2	7.7		7.9	7.3	8.1	11.8	6.6	7.5		5.1			1.29	6.08		7.17		
Thallium, total	mg/L	<0.00005	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00005		<0.00005	<0.00005	<0.00005	<0.00001	<0.00001	<0.00001		<0.00001			<0.00001	<0.00001		<0.00001		
Zinc, total	mg/L	0.005	0.008	<0.002	0.006	0.009	0.004	0.005		0.01	0.008	0.013	0.004	0.004	0.007		0.009			0.008	0.002		0.003		0.01
Aluminum, dissolved	mg/L	0.007	0.011	<0.005	0.007		0.014	0.011			0.007		<0.02		0.02	0.014	0.07	0.009		0.053	0.013				0.01
Arsenic, dissolved	mg/L	0.0005	0.0004	0.0003	0.0004		0.0004	0.0005		0.0004			<0.0002		<0.0002	0.0004	0.0003	0.0005		<0.0002	0.0003				0.0004
Cadmium, dissolved	mg/L	0.00028	<0.00001	<0.00001	<0.00001		<0.00001	<0.00001		<0.00001			<0.00008		<0.00008	<0.00001	<0.00001	<0.00001		0.00008	<0.00001				<0.00001
Calcium, dissolved	mg/L	33.5	33.3	32.6	34		29.6	32		26.9		40.9			31.8	20	30.5			5.23	23.8				29.1
Chromium, dissolved	mg/L	0.0007	0.0008	<0.0005	<0.0005		0.0006	0.001		0.0016		0.0012		0.0013	0.0006	0.0016	0.0005			0.0006	<0.0004				0.0012
Copper, dissolved	mg/L	0.001	0.001	<0.001	0.001		0.002	0.002		0.001		<0.001		0.001	0.002	0.004	0.001	0.005			0.002				0.004
Iron, dissolved	mg/L	0.09	0.08	0.11	0.09		0.05	0.04		0.08		<0.02		0.07	0.07	0.2	0.078	0.07		0.05					0.1
Lead, dissolved	mg/L	<0.0001	<0.0001	<0.0001	<0.0001		<0.0001	<0.0001		<0.0001		<0.0001		<0.0001	<0.0001	0.0017	<0.0001	0.0001		<0.0001					0.0004
Magnesium, dissolved	mg/L	11.6	11.1	10.9	11.4		9.8	11.6		9.8		20.4			10.6	6.63	11.4	1.68		8.18					9.9
Manganese, dissolved	mg/L	0.04	0.035	0.035	0.043		0.031	0.019		0.018		0.025		0.0682	0.02	0.0198	0.0338	0.0114		0.0129					0.0128
Mercury, dissolved	mg/L						<0.0001	<0.0001		<0.0001		<0.00001		<0.01	<0.0001	<0.00001	<0.00001	0.00001		<0.00001					<0.00001
Molybdenum, dissolved	mg/L	0.001	0.001	0.001	0.001		0.001	0.001		0.002		0.00161		0.00149	0.001	0.00072	0.00108	0.00013		0.00127					0.0011
Nickel, dissolved	mg/L	<0.0005	0.0008	0.0007	0.0006		<0.0005	0.0007		0.0008		<0.001		0.001	0.001	0.001	0.001	<0.001		<0.001	0.001				0.001
Phosphorus, dissolved	mg/L												<0.01		<0.05	0.02	<0.01	0.06		0.01					0.03
Potassium, dissolved	mg/L	1	1.1	1.1	1.1		1	0.9		0.9		2.68			1	0.53	0.8	1.5		0.7					0.9
Selenium, dissolved	mg/L	0.0002	<0.0002	<0.0002	0.0003		<0.0002	<0.0002		<0.0002		<0.0006		0.0022	<0.0002	<0.0006	<0.0006	<0.0006		<0.0006	<0.0006				<0.0006
Silver, dissolved	mg/L	<0.0001	<0.0001	<0.0001	<0.0001		<0.0001	<0.0001		<0.0001		<0.0010		<0.00001	0.00006	<									

Station Name		W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7		
Sample Date		10/7/2009	10/25/2009	4/19/2010	4/27/2010	4/29/2010	5/1/2010	5/3/2010	5/5/2010	5/7/2010	5/9/2010	5/10/2010	5/12/2010	5/14/2010	5/16/2010	5/17/2010	5/19/2010	5/21/2010	5/23/2010	5/25/2010	5/27/2010	5/29/2010	5/31/2010	6/2/2010	6/4/2010	
pH (field)	pH units	8.24	8.23	7.31	7.65	7.72	7.15	7.74		7.95	8.03	8.06		7.26	7.32	7.52	7.62	8.02	7.61	7.24	7.53	7.73	7.83	7.26	7.48	
pH (lab)	pH units	7.87	8.1	7.81	7.6	7.5	7.7	7.7	7.8	7.8	8	8.1	8	8.1	8.3	8.2	8.2	8.1	8.1	7.9	8	8.2	8.2	8.2	8.2	
Hardness (from dissolved)	mg/L	123	126		36.3	36.2	40.8	44.9	49.1	56.9	79.9	80.9	81.6	72.6	85.6	80.4	98.6	91.5	98.1	125	113	111	109	113	111	
Hardness (from total)	mg/L		141	80	35	36.2	43.6	46.2	55.1	56	71	90.3	84.6	71.4	76.3	75.6	103	95.6	103	124	148	129	130	676	125	
Total Dissolved Solids	mg/L	180	130	142	62	62	74	80	76	62	130	130	100	130	120	130	120	120	150	140	140	160	160	140	140	
Total Suspended Solids	mg/L	7	<4	<7	<4	<4	15	12	12	18	<4	<4	<4	15	12	11	4	22	33	140	350	200	290	81	60	
Alkalinity, total	mg/L	116	130	82	32	31	40	42	53	58	86	83	83	73	260	80	98	96	100	100	110	110	120	120	120	
Sulphate, dissolved	mg/L	9.9		8.2	7	<5	<5	<0.5	<0.5	<0.5	9.1	3.9	5.4	5.2	7.6	5.6	9.7	9.3	9.9	11	12	12	12	12	13	
Chloride	mg/L	0.61		0.91	1.4	0.9	1.2	0.8	0.9	0.8	1.2	0.6	<0.5	<0.5	0.6	<0.5	<0.5	0.8	1	0.8	<0.5	0.7	0.7	<0.5	0.8	
Fluoride	mg/L				0.08	0.09	0.11	0.11	0.13	0.13	0.22	0.2	0.11	0.18	0.2	0.19	0.25	0.26	0.28	0.28	0.3	0.32	0.32	0.31	0.31	
Nitrite (N)	mg/L		<0.005		<0.005	<0.01	0.008	<0.005	<0.005	0.007	<0.005	0.006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.006	0.025	<0.005	0.011	0.023	0.023	0.014	
Nitrate (N)	mg/L	0.12	0.15		<0.02	<0.04	0.07	<0.02	<0.02	0.1	0.07	0.13	0.03	<0.02	0.03	<0.02	0.06	0.05	0.06	0.08	0.13	0.22	0.12	0.14	0.16	
Ammonia	mg/L		0.01		0.015	0.016	0.031	0.016	<0.01	0.051	<0.005	0.015	<0.05	0.034	0.068	0.037	0.02	0.017	0.013	0.07	0.052	0.1	<0.05	<0.01	0.34	
Aluminum, total	mg/L	0.189	0.052	0.033	0.113	0.11	0.502	0.406	0.394	0.407	0.183	0.125	0.123	0.286	0.207	0.219	0.105	0.457	2.14	4.2	10.3	3.93	4.54	2.91	1.64	
Arsenic, total	mg/L	0.0004	0.0004	0.0004	0.0003	0.0004	0.0006	0.0007	0.0007	0.0005	0.0004	0.0005	0.0004	0.0004	0.0004	0.0005	<0.001	0.0005	0.0014	0.002	0.006	0.0025	0.0027	0.0016	0.0012	
Cadmium, total	mg/L	0.00091	0.00001	0.00001	0.00003	0.00002	0.00002	0.00003	0.00004	0.00003	0.00005	0.00011	0.00009	0.00005	0.00005	0.00001	0.00001	<0.0001	<0.0001	<0.0001	0.0002	<0.0001	0.0001	<0.0001	<0.0001	
Calcium, total	mg/L	34.2	35.7	20.5	9.35	9.54	11.5	12.3	14.3	14.7	18.2	23.3	22.1	18.2	19.8	19.6	25.6	24	25	28	31	31	31	33	31	
Chromium, total	mg/L	0.0014	<0.001	0.0004	<0.001	<0.001	0.002	0.001	0.001	<0.001	0.001	<0.001	<0.001	<0.001	0.001	<0.001	0.001	<0.002	0.004	0.01	0.025	0.01	0.011	0.008	0.004	
Copper, total	mg/L	0.006	0.0021	0.006	0.0055	0.0037	0.0074	0.0045	0.0058	0.0045	0.0147	0.0059	0.0075	0.0055	0.0031	0.0035	0.0049	0.003	0.008	0.013	0.027	0.013	0.013	0.008	0.009	
Iron, total	mg/L	0.357	0.141	0.104	0.211	0.259	0.902	0.983	1.14	0.92	0.468	0.452	0.378	0.556	0.369	0.405	0.248	0.628	3.49	5.54	15.6	6.13	6.96	4.39	2.42	
Lead, total	mg/L	0.0015	<0.0002	0.0001	<0.0002	<0.0002	0.0003	0.0003	0.002	0.0003	0.0003	0.0003	0.0002	0.0002	<0.0002	0.0002	<0.0002	0.0002	0.0013	0.0018	0.0052	0.0025	0.0028	0.0014	0.001	
Magnesium, total	mg/L	11.9	12.6	7.53	2.83	3.01	3.62	3.78	4.7	4.7	6.2	7.83	7.14	6.29	6.52	6.47	9.58	8	10	13	17	13	13	13	11	
Manganese, total	mg/L	0.0346	0.029	0.0207	0.007	0.01	0.03	0.033	0.03	0.039	0.016	0.018	0.021	0.042	0.037	0.045	0.019	0.035	0.13	0.158	0.391	0.248	0.226	0.148	0.081	
Mercury, total	mg/L	<0.00001	<0.00002	<0.00001	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	
Molybdenum, total	mg/L	0.0013	0.002	0.0008	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.001	0.001	<0.001	<0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	
Nickel, total	mg/L	0.002	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.002	0.002	0.002	0.001	0.003	0.001	0.001	<0.003	0.002	0.007	0.008	0.03	0.013	0.015	0.009	0.006	
Phosphorus, total	mg/L	<0.05		0.1			0.052		0.058	0.049	0.027	0.03	0.022		0.041	0.031	0.024									
Potassium, total	mg/L	0.7	1.02	2.1	1.01	0.9	0.81	0.72	0.72	0.68	0.74	0.91	0.98	0.71	0.72	0.77	0.96	<1	1	2	3	2	2	2	1	
Selenium, total	mg/L	<0.0006	0.0001	<0.0006	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.0002	0.0001	0.0001	0.0001	0.0002	0.0002	<0.0008	<0.0008	<0.001	<0.001	<0.0008	<0.0008	<0.0008	<0.0008	
Silver, total	mg/L	<0.00001	<0.00002	<0.00001	<0.00002	<0.00002	<0.00002	0.00003	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	
Sodium, total	mg/L	7.38	7.41	5.17	1.89	1.91	2.25	2.55	3.03	3.01	3.97	5.1	4.83	4.05	4.02	3.92	6.7	5	5	8	8	6	7	8	7	
Thallium, total	mg/L	<0.00001	<0.00005	<0.00001	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00005	0.00017	0.00006	0.00007	<0.00005	<0.00005	
Zinc, total	mg/L	0.008	<0.005	0.008	<0.005	<0.005	<0.005	<0.005	0.007	<0.005	<0.005	0.005	0.007	<0.005	<0.005	<0.005	<0.005	<0.01	0.012	0.017	0.049	0.021	0.023	0.011	<0.01	
Aluminum, dissolved	mg/L		0.007	0.019	0.075	0.065	0.053	0.047	0.038	0.028	0.023	0.021	0.017	0.096	0.012	0.018	0.016	0.013	0.017	0.024	0.028	0.017	0.02	0.012	0.013	
Arsenic, dissolved	mg/L		0.0003	0.0003	0.0003	0.0003	0.0004	0.0004	0.0005	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0003	0.0004	0.0003	<0.0004	<0.0004	<0.001	<0.001	0.0005	<0.0004	0.0004	0.0004
Cadmium, dissolved	mg/L		0.00004	0.00002	<0.00001	<0.00001	0.00002	<0.00001	<0.00001	0.00001	<0.00001	0.00002	<0.00001	0.00001	<0.00001	<0.00001	<0.00001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	
Calcium, dissolved	mg/L		32.6	19.9	9.79	9.79	11	12	12.9	14.7	20.5	20.7	21.1	18.7	22.3	20.9	24.4	24	25	30	27	29	27	29	29	
Chromium, dissolved	mg/L		<0.001	0.0004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
Copper, dissolved	mg/L		0.0012	0.006	0.0041	0.0034	0.0032	0.0027	0.0025	0.0026	0.0018	0.0022	0.0016	0.0031	0.0013	0.0012	0.0017	0.001	0.001	0.003	0.003	0.002	0.002	0.001	0.001	
Iron, dissolved	mg/L		0.046	0.09	0.15	0.18	0.26	0.378	0.574	0.359	0.297	0.276	0.173	0.339	0.08	0.068	0.069	0.057	0.069	0.062	0.069	0.051	0.05	0.03	0.03	
Lead, dissolved	mg/L		<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Magnesium, dissolved	mg/L		10.8	7.3	2.87	2.86	3.26	3.67	4.09	4.9	6.97	7.08	7.06	6.27	7.28	6.82	9.16	8	9	12	11	10	10	10	10	
Manganese, dissolved	mg/L		0.024	0.0188	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.039	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.014	0.015	0.012	<0.001	0.001	
Mercury, dissolved	mg/L		<0.00002	<0.00001	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.00002	<0.00002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	
Molybdenum, dissolved	mg/L		0.001	0.0008	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	
Nickel, dissolved	mg/L		<0.001	<0.001	0.001	0.001</																				

Station Name		W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7		
Sample Date		6/6/2010	6/14/2010	6/16/2010	6/18/2010	6/20/2010	6/22/2010	6/24/2010	6/26/2010	6/28/2010	7/5/2010	8/5/2010	9/12/2010	10/8/2010	4/27/2011	5/2/2011	6/1/2011	6/16/2011	7/1/2011	8/2/2011	8/16/2011	8/19/2011	9/12/2011	10/6/2011	11/22/2011	
pH (field)	pH units			6.78	7.03	7.1	7.92	7.95	8.03	7.89	8.02	7.91	8.02	7.85									7.92	7.65		
pH (lab)	pH units	8.2	8.29	8.3	8.17	8.2	8.03	8.03	8.26	8.03	8.06	8.09	7.98	8.1	7.41	7.11	8.09	8	7.76	7.67	7.9	8.12	8.03	8.07	7.96	
Hardness (from dissolved)	mg/L	128	122	120	122	112	97.6	99.7	106	114	92.5	118	107	111	42.6	31.8	92.3	97.4	77.1	58.9	97.6	93	118	110	148	
Hardness (from total)	mg/L	133	128	128	123	118	115	116	106	107	106	116	102	126	42.6	33.1	94	108	87.5	85.8	96.8	93.4	119	113	144	
Total Dissolved Solids	mg/L	170	150	150	140	140	140	130	120	150	150	170	210	150	72	40	120	130	120	110	150	140	170	150	156	
Total Suspended Solids	mg/L	39	43	17	28	33	300	64	21	9	53	11	11	3	<1	7	23	85	150	400	22	22	1	<4	26.7	
Alkalinity, total	mg/L	130	130	130	130	120	110	110	120	120	100	120	100	120	34	27	96	92	73	54	94	92	110	120	134	
Sulphate, dissolved	mg/L	12	13	14	12	10	8.2	6.4	7.8	9.7	2.5	73	6.4	8.8	<5	<5	6.1		<0.5					8.9		
Chloride	mg/L	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	25	0.7	<0.5	1.9	1.7	0.5			1.8			1.3	1	0.8	
Fluoride	mg/L	0.32	0.35	0.35	0.34	0.31	0.25	0.28	0.3	0.29	0.22	0.36	0.22	0.23	0.1	0.08	0.24			0.14						
Nitrite (N)	mg/L	0.013	<0.005	<0.005	<0.005	0.008	<0.005	0.007	<0.005	<0.005	<0.005	0.103	<0.005	<0.005	<0.005	<0.005		<0.005	0.007	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
Nitrate (N)	mg/L	0.16	0.16	0.17	0.15	0.13	0.12	0.07	0.1	0.13	0.07	10.5	0.03	0.07	<0.02	<0.02		0.1	0.05	0.06	0.06	0.04	0.05	0.11	0.136	
Ammonia	mg/L	0.1	0.016	0.016	<0.5	<0.5	0.014	0.012	0.009	0.022	0.027	0.14	0.039	0.069	0.01		0.012	0.013	0.016		0.015	0.006	0.025	0.019	0.0214	
Aluminum, total	mg/L	2.05	1.1	0.43	0.504	1.17	5.52	1.21	0.503	0.298	1.59	0.22	0.273	0.064	0.101	0.25	0.454	2.48	3.4	9.23	0.403	0.444	0.08	0.065	0.407	
Arsenic, total	mg/L	0.0013	0.0009	0.0005	0.0006	0.0009	0.0029	0.0013	0.0005	0.0005	0.0011	0.0005	0.0005	0.0002	0.0003	0.0003	0.0005	0.0014	0.0025	0.0037	0.001	0.0009	0.0008	0.0005	0.0006	
Cadmium, total	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.00003	0.00005	0.00005	0.00002	0.00008	0.00022	0.00017	0.00004	0.00002	0.00005	0.00001	0.00025	
Calcium, total	mg/L	33	31	31	30	29	28	27	26	28	27	29	27	32.2	10.9	8.66	22.9	26.4	22.2	20.7	25.4	24.1	30.1	28.4	36.4	
Chromium, total	mg/L	0.006	0.002	<0.002	<0.002	0.003	0.012	0.003	<0.002	<0.002	0.003	<0.002	<0.002	<0.001	<0.001	<0.001	0.001	0.005	0.009	0.021	0.001	0.001	<0.001	<0.001	0.001	
Copper, total	mg/L	0.006	0.004	0.002	0.002	0.006	0.014	0.005	0.002	0.002	0.01	0.003	0.003	0.0017	0.0119	0.0285	0.0027	0.0075	0.0127	0.0197	0.0143	0.0028	0.0024	0.0012	0.0108	
Iron, total	mg/L	3.12	1.62	0.573	0.768	1.74	8.61	2.05	0.761	0.491	2.4	0.428	0.594	0.26	0.187	0.452	0.775	4.02	6.28	13.8	1.25	1.21	0.738	0.49	0.865	
Lead, total	mg/L	0.0012	0.0006	<0.0002	0.0003	0.0007	0.0031	0.0006	0.0003	0.0003	0.0008	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	0.0012	0.0021	0.0035	0.0004	0.0002	<0.0002	<0.0002	0.0008	
Magnesium, total	mg/L	12	12	12	11	11	11	12	10	9	9	10	9	11.1	3.72	2.78	8.93	10.2	7.82	8.29	8.1	8.05	10.6	10.2	12.8	
Manganese, total	mg/L	0.091	0.073	0.036	0.042	0.059	0.26	0.067	0.032	0.021	0.078	0.029	0.026	0.036	0.03	0.039	0.035	0.097	0.162	0.304	0.081	0.078	0.083	0.073	0.093	
Mercury, total	mg/L		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.000020	
Molybdenum, total	mg/L	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	<0.001	0.001	<0.001	<0.001	0.001	0.001	0.001	<0.001	<0.001	<0.001	0.001	0.001	0.001	
Nickel, total	mg/L	0.006	0.004	0.002	0.002	0.004	0.016	0.006	0.002	0.002	0.005	0.003	0.002	0.002	0.002	0.002	0.001	0.008	0.012	0.019	0.003	0.003	0.002	0.001	0.002	
Phosphorus, total	mg/L														0.067		0.043	0.226	0.267	0.412	0.058	0.043	0.033	0.023	0.077	
Potassium, total	mg/L	2	1	1	1	1	2	1	<1	<1	<1	<1	<1	<1	0.77	1.88	1.46	0.86	1.04	0.76	1.11	0.53	0.47	0.6	0.62	1.09
Selenium, total	mg/L	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0001	<0.0001	<0.0001	0.0001	0.0002	0.0003	0.0003	0.0001	0.0001	0.0002	0.0001	0.0002	
Silver, total	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.00004	0.00008	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	
Sodium, total	mg/L	7	7	7	7	7	6	8	6	6	6	6	5	6.52	2.16	1.51	5.45	5.94	5.16	4.04	4.64	4.62	6.09	5.59	6.69	
Thallium, total	mg/L	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00007	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00008	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	
Zinc, total	mg/L	0.011	<0.01	<0.01	<0.01	<0.01	0.027	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.005	<0.005	0.019	<0.005	0.013	0.016	0.029	0.017	<0.005	<0.005	<0.005	0.009	
Aluminum, dissolved	mg/L	<0.01	0.011	<0.01	<0.01	0.014	0.033	0.018	0.012	<0.01	0.019	0.011	0.016	0.011	0.057	0.076	0.013	0.022	0.034	0.051	0.036	0.033	0.024	0.013	0.0076	
Arsenic, dissolved	mg/L	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	0.0005	<0.0004	0.0004	<0.0004	<0.0004	0.0004	0.0005	0.0004	0.0003	0.0002	0.0003	0.0004	0.0007	0.0007	0.0007	0.0008	0.0007	0.0006	0.0004	
Cadmium, dissolved	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00001	0.00003	0.00004	<0.00001	<0.00001	0.00001	0.00002	<0.00001	0.00001	0.00001	0.00003	<0.000010	
Calcium, dissolved	mg/L	33	31	30	30	28	25	25	26	29	23	30	28	29.2	11.2	8.48	23.5	24.9	20.6	15.6	26	24.2	30.8	27.9	38.3	
Chromium, dissolved	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	
Copper, dissolved	mg/L	0.001	<0.001	<0.001	<0.001	0.001	0.002	0.001	0.001	0.001	0.002	0.002	0.001	0.0012	0.0077	0.007	0.0016	0.0019	0.0031	0.0041	0.0019	0.002	0.0016	0.0012	0.00109	
Iron, dissolved	mg/L	0.024	0.025	0.026	0.023	0.028	0.082	0.056	0.038	0.028	0.104	0.112	0.231	0.127	0.148	0.169	0.099	0.207	0.441	0.614	0.593	0.556	0.616	0.346	0.167	
Lead, dissolved	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00020	
Magnesium, dissolved	mg/L	11	11	11	11	10	9	9	10	10	8	10	9	9.34	3.57	2.57	8.19	8.56	6.25	4.85	7.96	7.89	10.1	9.89	12.8	
Manganese, dissolved	mg/L	0.004	0.002	0.004	<0.001	0.003	0.001	0.001	0.003	0.002	0.003	0.023	0.017	0.027	0.027	0.021	0.011	0.011	0.037	0.064	0.054	0.06	0.079	0.07	0.0626	
Mercury, dissolved	mg/L		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00002	<0.00002	<0.00002	<0.00002	0.00005	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.000020	
Molybdenum, dissolved	mg/L	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	<0.001	<0.001	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.0013	
Nickel, dissolved	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.001	0.004	<0.001	0.001															

Station Name		W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7
Sample Date		1/24/2012	2/25/2012	3/5/2012	4/24/2012	5/6/2012	6/19/2012	7/17/2012	7/30/2012	8/8/2012	8/23/2012	9/13/2012	10/16/2012	11/2/2012	12/29/2012
pH (field)	pH units		7.16	6.72	7.43	7.1	7.59	7.76	7.86	8.44	7.79	7.98	7.89		7.97
pH (lab)	pH units	8.13	7.99	8.17	7.63	5.74	8.12	8.15	8.2	8.26	8.25	8.13	8.17	7.93	8.13
Hardness (from dissolved)	mg/L	169	165	161	38.7	46.4	91.8	128	135	141	142	116	129	158	223
Hardness (from total)	mg/L	158	160	159	37	44.7	105	124	128	141	151	121	143	153	206
Total Dissolved Solids	mg/L	226	216	176	100	88	128	164	180	192	200	154	166	214	262
Total Suspended Solids	mg/L	<4.0	<4.0	3.2	11.2	4.2	165	34.1	9.2	3.3	1.5	15.3	9.9	2.2	<1.0
Alkalinity, total	mg/L	165	155	154	36.2	8.45	87.4	128	138	143	147	115	132	150	207
Sulphate, dissolved	mg/L	18	17.8	19	<0.50	<0.50	<0.50	4.63	5.31	5.43	5.23	3.85	7.47	14.4	29.1
Chloride	mg/L	0.8	0.9	0.5	1.4	<0.50	1.1	0.96	0.58	1.2	1.2	1.2	1.2	0.82	1.9
Fluoride	mg/L	0.43	0.42	0.42	0.1	0.12	0.17	0.23	0.28	0.29	0.27	0.18	0.19	0.29	0.43
Nitrite (N)	mg/L	<0.005	<0.005	<0.005	0.0101	<0.0050	0.0148	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Nitrate (N)	mg/L	0.324	0.289	0.195	<0.020	<0.020	0.083	0.089	0.124	0.13	0.21	0.078	0.125	0.219	0.063
Ammonia	mg/L	0.005	0.006	0.0067	<0.0050	0.011	0.18	0.065	0.13	0.014	0.049	0.0087	0.028	0.026	0.025
Aluminum, total	mg/L	0.01	0.018	0.043	0.766	0.131	5.38	0.93	0.2	0.0828	0.0342	0.139	0.127	0.0576	0.0127
Arsenic, total	mg/L	0.0004	0.0003	0.0004	0.00074	0.00049	0.00232	0.00118	0.00095	0.00085	0.00093	0.0007	0.00065	0.00058	0.00042
Cadmium, total	mg/L	0.00001	0.00003	0.00001	0.000029	0.000016	0.000119	0.000034	0.000014	<0.000010	<0.000010	<0.000010	<0.000010	0.000015	0.000015
Calcium, total	mg/L	39.5	41	39.7	9.61	11.1	26.4	31.7	32.1	35.7	39.1	31.2	36	37.3	49.6
Chromium, total	mg/L	<0.001	<0.001	<0.001	0.0015	<0.0010	0.0112	0.0024	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Copper, total	mg/L	0.0013	0.0055	0.0068	0.00635	0.00373	0.0102	0.0035	0.0045	0.00108	0.00134	0.00208	0.00144	0.00231	0.0028
Iron, total	mg/L	0.113	0.043	0.108	1.32	0.572	7.88	2.28	1.32	1.13	1.12	1.15	0.995	0.289	0.0724
Lead, total	mg/L	<0.0002	<0.0002	<0.0002	0.00029	<0.00020	0.00178	0.00026	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Magnesium, total	mg/L	14.5	13.9	14.6	3.17	4.12	9.46	11	11.6	12.7	13	10.5	13	14.4	19.9
Manganese, total	mg/L	0.06	0.004	0.005	0.0582	0.0145	0.199	0.0937	0.0683	0.0626	0.0627	0.126	0.101	0.103	0.0405
Mercury, total	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Molybdenum, total	mg/L	0.001	0.001	0.001	<0.0010	<0.0010	0.0012	0.0015	0.0014	0.0014	0.0016	<0.0010	0.0012	0.0013	0.0012
Nickel, total	mg/L	<0.001	<0.001	<0.001	0.0019	0.0014	0.0107	0.0032	0.0025	0.0016	0.0016	0.0022	0.0023	0.0014	0.0016
Phosphorus, total	mg/L	0.014	0.012	0.016	0.048	0.034	0.222	0.074	0.044	0.036	0.035	0.034	0.046	0.023	0.022
Potassium, total	mg/L	1.57	1.51	1.46	1.2	0.912	1.09	0.824	1.14	0.894	0.929	0.589	0.748	1.16	2.29
Selenium, total	mg/L	0.0003	0.0003	0.0004	<0.00010	0.00011	0.0002	0.00019	0.00022	0.00028	0.00017	0.00021	0.0002	0.00023	0.00032
Silver, total	mg/L	<0.00002	<0.00002	<0.00002	<0.000020	<0.000020	0.00003	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Sodium, total	mg/L	8.39	8.08	8.36	1.84	2.53	5.45	6.4	6.83	7.25	7.39	6	7.25	7.87	11.7
Thallium, total	mg/L	<0.00005	<0.00005	<0.00005	<0.000050	<0.000050	0.00005	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Zinc, total	mg/L	<0.005	<0.005	<0.005	<0.0050	<0.0050	0.015	<0.0050	0.0063	<0.0050	<0.0050	0.0055	<0.0050	0.0062	<0.0050
Aluminum, dissolved	mg/L	0.0053	0.0211	0.0031	0.0499	0.0442	0.0265	0.0197	0.0171	0.0184	0.0178	0.0239	0.0114	0.0095	0.0061
Arsenic, dissolved	mg/L	0.00041	0.00033	0.00039	0.00048	0.00044	0.0007	0.00086	0.00095	0.001	0.00088	0.00074	0.0006	0.00053	0.00051
Cadmium, dissolved	mg/L	0.000035	0.000064	<0.000010	0.000023	0.000016	<0.000010	0.000012	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	0.000031	<0.000010
Calcium, dissolved	mg/L	43	41.2	41.2	10.2	11.9	23.5	33	33.9	35.9	35.7	30.1	33.2	39.3	56.1
Chromium, dissolved	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Copper, dissolved	mg/L	0.00114	0.0154	0.00122	0.00523	0.00273	0.00163	0.00127	0.00123	0.00112	0.0017	0.00244	0.00094	0.00236	0.00232
Iron, dissolved	mg/L	0.0944	0.0488	0.0124	0.475	0.462	0.56	0.965	0.964	1.06	0.978	0.734	0.603	0.183	0.0301
Lead, dissolved	mg/L	<0.00020	0.00024	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00021	<0.00020
Magnesium, dissolved	mg/L	14.9	15.1	14.2	3.2	4.04	8.07	11	12.1	12.6	13	9.91	11.2	14.6	20.2
Manganese, dissolved	mg/L	0.0614	0.007	0.0015	0.0486	0.0113	0.0433	0.0366	0.0534	0.0554	0.057	0.0956	0.073	0.101	0.0374
Mercury, dissolved	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Molybdenum, dissolved	mg/L	0.0015	0.0014	0.0011	<0.0010	<0.0010	0.0013	0.0015	0.0015	0.0016	0.0016	<0.0010	0.0011	0.0013	0.0012
Nickel, dissolved	mg/L	<0.0010	<0.0010	<0.0010	0.0012	0.0012	0.002	0.0016	0.0015	0.0017	0.0016	0.0036	0.0015	0.0012	0.0011
Phosphorus, dissolved	mg/L	0.012	0.031	<0.01	0.027	0.021	0.02	0.035	0.032	0.033	0.031	0.023	0.021	0.031	<0.01
Potassium, dissolved	mg/L	1.6	1.63	1.5	1.18	0.948	0.583	0.791	0.833	0.882	0.942	0.567	0.675	1.34	2.54
Selenium, dissolved	mg/L	0.00043	0.00034	0.00031	<0.00010	<0.00010	0.00015	0.00013	0.00016	0.00014	0.00015	0.00014	0.00014	0.00018	0.00045
Silver, dissolved	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Sodium, dissolved	mg/L	8.72	8.86	8.03	1.9	2.44	5.29	6.55	6.98	7.09	7.35	5.77	6.34	8.07	12.2
Thallium, dissolved	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Zinc, dissolved	mg/L	<0.0050	0.0083	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050

Data omitted from calculation of summary statistics

Station Name		W6	W6	W6	W6	W6	W6	W6	W6	W6	W6	W6	W6	W6	W6	W6	W6	W6	W6	W6	W6
Sample Date		5/27/2005	6/30/2005	7/29/2005	8/30/2005	9/28/2005	10/15/2005	6/2/2006	8/25/2006	9/6/2006	6/20/2007	9/18/2007	6/17/2008	9/18/2008	7/17/2012	7/30/2012	8/9/2012	8/25/2012	9/13/2012	10/13/2012	11/12/2012
pH (field)	pH units														7.92	7.89	8.09	7.76	7.95	8.3	6.69
pH (lab)	pH units	7.91	7.41	8.01	8.17	7.95	7.92	7.64	8.01	7.86	7.77	7.95	7.82	7.8	7.98	8.09	8.17	8	8.04	7.92	7.93
Hardness (from dissolved)	mg/L								120	110					104	101	112	103	87.7	153	
Hardness (from total)	mg/L	65.4		171	106	106	98.3				81	93	86		163	145	136	161	93.1	117	155
Total Dissolved Solids	mg/L	103	123	198	147	133	128	96	160		130	172	120	150	122	124	144	138	118	150	162
Total Suspended Solids	mg/L	13.5	11.5	22.2	<3.0	3.5	<3.0	115		4	16	8	17	4	1130	614	566	1160	50.3	44.7	2.2
Alkalinity, total	mg/L	32	99.1		109	93		76.6	120	112	83	112	93	87	103	103	116	109	87.1	99.1	138
Sulphate, dissolved	mg/L	11.8	<1		2.62	4.04		1.88	2.4	2.3	2.1	2.51	1.64	3.29	1.82	<0.50	0.64	<0.50	0.62	1.52	5.81
Chloride	mg/L	<0.50	0.73	<0.50	<0.50	0.5	0.52	<0.5			0.4	0.59	0.29	0.41	1	0.58	1.1	0.92	1.1	0.87	1.1
Fluoride	mg/L							0.176							0.25	0.3	0.28	0.28	0.22	0.23	0.23
Nitrite (N)	mg/L	0.0016	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.001			<0.05	<0.02	0.07	<0.01	<0.0050	0.0072	0.0066	<0.0050	<0.0050	<0.0050	<0.0050
Nitrate (N)	mg/L	0.0316	0.0086	0.0223	<0.0050	<0.0050	0.0061	0.0241	<0.03	<0.03	0.1	<0.02	0.01	<0.01	0.026	0.052	0.022	0.045	0.034	0.042	<0.020
Ammonia	mg/L	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.021			<0.05	<0.05	<0.05	<0.05	0.14	0.07	0.025	0.023	0.011	0.016	0.025
Aluminum, total	mg/L	0.229	0.17	0.598	0.0181	0.0321	0.0251	1.95	0.024	0.035	0.042	0.023	0.14	0.022	20.8	15.1	8.03	5.23	0.271	0.241	0.0243
Arsenic, total	mg/L	0.00052	0.00045	0.00063	<0.00050	<0.00050	0.00043	0.00131	0.0006	0.0005	0.0004	0.0004	0.0004	<0.0002	0.00898	0.0066	0.00362	0.00395	0.00051	0.00066	0.00042
Cadmium, total	mg/L	<0.000050	<0.000050	<0.000050	<0.000017	<0.000017	<0.000050	<0.00005	<0.00002	<0.00001	<0.00001	<0.00001	<0.00008	<0.00001	0.000468	0.000195	0.000109	0.000219	0.000011	<0.000010	<0.000010
Calcium, total	mg/L	17.4	24.7	41.1	28.6	28.2	25.1	18.9	31.5	29	23.2	25.8	23.8	24.6	41.2	38.1	36.7	45	25.9	30.8	43.3
Chromium, total	mg/L	<0.0010	0.00057	0.00145	<0.0010	<0.0010	<0.00050	0.00384	<0.001	0.0005	<0.0005	<0.0005	0.0011	0.001	0.0388	0.0276	0.0137	0.0085	<0.0010	<0.0010	<0.0010
Copper, total	mg/L	0.0021	0.00148	0.0118	0.0012	0.0012	0.00107	0.00531	<0.002	0.001	0.002	0.001	0.001	0.001	0.0402	0.0286	0.0147	0.0247	0.00225	0.00189	0.00345
Iron, total	mg/L	0.363	0.266	1.08	0.088	0.148	0.116	2.74	<0.2	0.1	0.1	<0.1	0.35	0.09	29.8	21.6	11.2	9.68	0.591	0.517	0.0646
Lead, total	mg/L	<0.00050	0.000134	0.00035	<0.00050	<0.00050	<0.000050	0.000851	<0.0002	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.00971	0.00627	0.00343	0.00505	0.00025	0.00023	<0.00020
Magnesium, total	mg/L	4.88	6.65	15.4	7.97	8.02	7.18	5.63	7.8	7.3	5.6	6.9	6.44	6.61	14.6	12.1	10.7	11.7	6.92	9.61	11.3
Manganese, total	mg/L	0.0169	0.0113	0.0536	0.0224	0.0267	0.0188	0.0835	0.04	0.042	0.011	0.023	0.0215	0.0098	0.771	0.513	0.376	0.619	0.0619	0.0661	0.0021
Mercury, total	mg/L	<0.000020			<0.000020	<0.000020					<0.0001	<0.0001	<0.01	<0.00001	<0.000010	0.000033	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Molybdenum, total	mg/L	<0.0010	0.000448	0.00133	<0.0010	<0.0010	0.000392	0.000411	<0.002	<0.001	<0.001	<0.001	0.00045	0.00031	0.0012	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Nickel, total	mg/L	0.0021	0.00135	0.00204	0.0011	0.0013	0.00131	0.00535	0.001	0.0015	0.0017	0.0012	0.001	0.001	0.0348	0.0236	0.0126	0.0192	0.005	0.0016	0.0013
Phosphorus, total	mg/L		<0.30	<0.30			<0.30	<0.3			0.18	<0.05	0.11	0.02	0.99	0.642	0.373	0.647	0.04	0.048	0.015
Potassium, total	mg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<0.8	0.5	0.4	0.4	0.46	0.4	2.03	1.62	1.2	0.849	0.42	0.594	0.507
Selenium, total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.0004	0.0003	0.0002	<0.0002	<0.0006	<0.0006	0.00068	0.00061	0.00041	0.00016	<0.00010	0.00014	0.00011
Silver, total	mg/L	<0.000020	<0.000010	<0.000020	<0.000020	<0.000020	<0.000010	0.000021	<0.0002	<0.0001	<0.0001	<0.0001	<0.00001	0.00008	0.000172	0.000122	0.000054	0.000021	<0.000020	<0.000020	<0.000020
Sodium, total	mg/L	2.7	4.6	8.4	4.5	4.2	4	3.4	4.8	4.6	4.3	5	4.8	4.1	4.89	4.72	4.85	4.59	4.05	5.31	6.12
Thallium, total	mg/L	<0.00020	<0.00010	<0.00010	<0.00020	<0.00020	<0.00010	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00001	<0.00001	0.000147	0.000108	0.000068	<0.000050	<0.000050	<0.000050	<0.000050
Zinc, total	mg/L	<0.0050	<0.0030	<0.0060	<0.0050	<0.0050	<0.0010	0.0085	0.005	<0.001	0.004	0.008	0.007	0.004	0.073	0.0504	0.027	0.0392	<0.0050	<0.0050	<0.0050
Aluminum, dissolved	mg/L	0.0144	0.0056	0.007	0.0067	0.0067	0.0769	0.0252		0.008				0.012	0.0161	0.0186	0.0173	0.0138	0.0169		0.0062
Arsenic, dissolved	mg/L	<0.00050	0.00039	0.00026	<0.00050	<0.00050	0.00042	0.00044		0.0005				0.0004	0.00053	0.00059	0.00081	0.00081	0.00047		0.00039
Cadmium, dissolved	mg/L	<0.000050	<0.000050	<0.000050	<0.000017	<0.000017	<0.000050	<0.00005		<0.00001				<0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010		<0.000010
Calcium, dissolved	mg/L	17.9	25.2	46.9	29	28.8	26.7	17.8	31.7	30				23.7	29.7	28.9	31.9	28.9	24.1		41.6
Chromium, dissolved	mg/L	<0.0010	<0.00050	<0.00050	<0.0010	<0.0010	<0.00050	<0.0005		0.0006				0.0013	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		<0.0010
Copper, dissolved	mg/L	0.0016	0.00101	0.00247	0.001	0.0011	0.00108	0.00175		0.001				0.002	0.00105	0.00089	0.00083	0.00103	0.00145		0.00143
Iron, dissolved	mg/L	0.072	<0.030	0.062	0.064	0.1	0.088	0.096		0.11				0.09	0.0679	0.0814	0.0845	0.0799	0.108		0.0235
Lead, dissolved	mg/L	<0.00050	<0.000050	0.000083	<0.00050	<0.00050	<0.000050	<0.00005		<0.0001				<0.0001	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020		<0.00020
Magnesium, dissolved	mg/L	5.01	6.72	13.2	8.1	8.25	7.66	4.95	8.7	7.7				6.33	7.16	7.02	7.95	7.34	6.66		11.8
Manganese, dissolved	mg/L	0.00543	0.00324	0.0145	0.0211	0.0245	0.0162	0.00673		0.046				0.0099	0.0542	0.102	0.134	0.134	0.0408		0.0013
Mercury, dissolved	mg/L	<0.000020			<0.000020	<0.000020								<0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Molybdenum, dissolved	mg/L	<0.0010	0.000448	0.000818	<0.0010	<0.0010	0.000395	0.000305		<0.001				0.00027	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		<0.0010
Nickel, dissolved	mg/L	0.0015	0.00099	0.0006	0.0011	0.0012	0.00118	0.00182		0.0006				0.002	0.001	<0.0010	0.001	0.001	0.0014		0.0014
Phosphorus, dissolved	mg/L		<0.30	<0.30			<0.30	<0.3						0.02	<0.01	<0.01	0.011	0.012	<0.01		<0.01
Potassium, dissolved	mg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2		0.6				0.4	0.52	0.542	0.578	0.648	0.411		0.562
Selenium, dissolved	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.001		<0.0002				0.0012	0.00012	<0.00010	0.0001	<0.00010	<0.00010		0.0001
Silver, dissolved	mg/L	<0.000020	<0.000010	<0.000010	<0.000020	<0.000020	<0.000010	<0.00001		<0.0001				<0.00001	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020		<0.000020
Sodium, dissolved	mg/L	2.8	4.8	7.3	4.6	4.4	4.5	3.3		4.8				4.27	4.31	4.2	4.56	4.21	3.89		6.34
Thallium, dissolved	mg/L	<0.00020	<0.00010	<0.00010	<0.00020	<0.00020	<0.00010	<0.0001		<0.00005				<0.00001	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050		<0.000050
Zinc, dissolved	mg/L	<0.0050	0.021	0.0025	<0.0050	<0.0050	0.0015	0.003		0.002				0.003	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050		<0.0050

Data omitted from calculation of summary statistics.

Station Name		C4	C4	C4	C4
Sample Date		5/6/2012	8/1/2012	8/8/2012	8/25/2012
pH (field)	pH units	7.51	7.75	7.81	7.81
pH (lab)	pH units	7.59	8.04	8.14	7.94
Hardness (from dissolved)	mg/L	43.9	117	125	130
Hardness (from total)	mg/L	119	133	142	173
Total Dissolved Solids	mg/L	84	166	170	192
Total Suspended Solids	mg/L	1260	246	253	855
Alkalinity, total	mg/L	40.1	115	126	128
Sulphate, dissolved	mg/L	<0.50	3.37	<5.0	2.19
Chloride	mg/L	0.54	0.89	<5.0	1.4
Fluoride	mg/L	0.14	0.2	0.22	0.22
Nitrite (N)	mg/L	<0.0050	0.0177	0.012	<0.0050
Nitrate (N)	mg/L	0.029	0.074	0.095	<0.020
Ammonia	mg/L	0.088	0.089	0.09	0.005
Aluminum, total	mg/L	29.7	7.06	7.01	4.45
Arsenic, total	mg/L	0.0125	0.00497	0.00635	0.00759
Cadmium, total	mg/L	0.000416	0.000114	0.000107	0.000202
Calcium, total	mg/L	23.9	34.3	36.5	45.6
Chromium, total	mg/L	0.06	0.0135	0.0148	0.0079
Copper, total	mg/L	0.0585	0.0167	0.015	0.0218
Iron, total	mg/L	45.8	13.9	16.1	18.2
Lead, total	mg/L	0.0126	0.00303	0.00371	0.00439
Magnesium, total	mg/L	14.4	11.5	12.3	14.3
Manganese, total	mg/L	0.936	0.868	1	1.32
Mercury, total	mg/L	<0.000010	<0.000010	<0.000010	<0.000010
Molybdenum, total	mg/L	0.0015	<0.0010	0.001	<0.0010
Nickel, total	mg/L	0.0498	0.0139	0.0151	0.0179
Phosphorus, total	mg/L	1.11	0.41	0.478	0.657
Potassium, total	mg/L	3.02	1.34	1.45	1.19
Selenium, total	mg/L	0.00069	0.00019	0.00021	0.00016
Silver, total	mg/L	0.00021	0.000056	0.000051	0.00002
Sodium, total	mg/L	3.45	5.22	5.55	5.64
Thallium, total	mg/L	0.000244	0.000063	0.000066	<0.000050
Zinc, total	mg/L	0.0961	0.0272	0.0279	0.0325
Aluminum, dissolved	mg/L	0.0622	0.059	0.0425	0.04
Arsenic, dissolved	mg/L	0.00104	0.00184	0.00203	0.00197
Cadmium, dissolved	mg/L	0.000029	<0.000010	<0.000010	<0.000010
Calcium, dissolved	mg/L	12	31.9	33.7	35
Chromium, dissolved	mg/L	<0.0010	<0.0010	<0.0010	<0.0010
Copper, dissolved	mg/L	0.00314	0.00181	0.00132	0.00176
Iron, dissolved	mg/L	1.11	1.5	1.6	1.68
Lead, dissolved	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Magnesium, dissolved	mg/L	3.4	9.12	9.81	10.3
Manganese, dissolved	mg/L	0.243	0.622	0.683	0.682
Mercury, dissolved	mg/L	<0.000010	<0.000010	<0.000010	<0.000010
Molybdenum, dissolved	mg/L	<0.0010	0.0011	0.0011	0.0012
Nickel, dissolved	mg/L	0.0023	0.0031	0.0027	0.0029
Phosphorus, dissolved	mg/L	0.037	0.049	0.047	0.06
Potassium, dissolved	mg/L	0.895	0.754	0.759	0.989
Selenium, dissolved	mg/L	<0.00010	0.00011	0.00011	<0.00010
Silver, dissolved	mg/L	<0.000020	<0.000020	<0.000020	<0.000020
Sodium, dissolved	mg/L	2.4	4.95	5.16	5.21
Thallium, dissolved	mg/L	<0.000050	<0.000050	<0.000050	<0.000050
Zinc, dissolved	mg/L	<0.0050	<0.0050	<0.0050	<0.0050

Station Name		MC1	MC1	MC1	MC1	MC1	MC1	MC1	MC1	MC1	MC1	MC1	MC1	MC1	MC1	MC1	MC1	MC1	MC1	MC1	MC1	MC1	MC1	MC1	
Sample Date		5/25/2011	6/26/2011	7/3/2011	7/11/2011	7/19/2011	7/26/2011	8/2/2011	8/13/2011	8/19/2011	8/29/2011	9/8/2011	9/12/2011	9/19/2011	9/27/2011	10/6/2011	10/11/2011	4/6/2012	4/13/2012	4/14/2012	4/15/2012	4/16/2012	4/17/2012	4/18/2012	4/19/2012
pH (field)	pH units											7.98	7.98	7.35	7.93	7.85	12.41	7.78		7.98	8.03	8.04	8.15	8.03	7.89
pH (lab)	pH units	7.98	8.01	8.12	7.96	7.93	8.12	7.75	8.03	8.08	8.02	8.2	8.17	8.13	8.17	8.07	8.26	8.19	8.27	8.2	8.13	8.05			
Hardness (from dissolved)	mg/L	96.7	122	118	136	114	131	73.1	112	109	117	131	126	130	140	145	143	221	176	160	134	115			
Hardness (from total)	mg/L	113	114	120	137	132	147	127	117	134	112	124	125	138	122	129	131	220	163	157	133	113			
Total Dissolved Solids	mg/L	130	160	160	160	180	190	130	190	210	180	180	170	180	190	170	300	218	190	170	154				
Total Suspended Solids	mg/L	100	220	96	77	180	35	660	130	280	42	17	20	22	43	15	3	<1.0	<1.0	1.7	2.9	1.4			
Alkalinity, total	mg/L	88	110	110	120	110	130	70	110	100	120	120	120	120	120	130	140	217	165	154	127	109			
Sulphate, dissolved	mg/L	16	12	11	13	9.9	9.9					9.6	10	10		13	24.8	25.9	24.2	18.2	13.1				
Chloride	mg/L	1.9						2.1				1.6	1.9	2	1.9	1.4	1.7	2.7	1.8	1.9	1.8	1.8			
Fluoride	mg/L	0.25						0.19										0.5	0.42	0.4	0.36	0.31			
Nitrite (N)	mg/L	0.009	0.008	<0.005	0.009	0.007	0.007	0.007	0.007	0.026	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.005	<0.0050	<0.0050	<0.0050	<0.0050			
Nitrate (N)	mg/L	0.17	0.16	0.16	0.19	0.12	0.17	0.15	0.11	0.08	0.1	0.11	0.17	0.11	0.12	0.17	<0.4	<0.020	0.031	<0.020	<0.020	<0.020			
Ammonia	mg/L	0.23	0.033	0.013	<0.005	0.024	0.052		0.012	0.009	0.006	0.008	0.015	0.006	0.033	0.022	0.008	0.0094	0.076	0.0089	0.013	0.0058			
Aluminum, total	mg/L	2.91	2.04	1.43	1.11	4.55	3.13	14.9	2.79	6.85	0.388	0.292	0.305	0.386	0.797	0.378	0.092	0.016	0.0104	0.0655	0.0172	0.0232			
Arsenic, total	mg/L	0.0021	0.0016	0.0013	0.0012	0.0027	0.002	0.0073	0.002	0.0043	0.001	0.001	0.0009	0.001	0.0011	0.0009	0.0008	0.0005	0.00045	0.00051	0.00047	0.00046			
Cadmium, total	mg/L	0.00011	0.00007	0.00005	0.00005	0.00011	0.00007	0.00033	0.00007	0.00016	0.00003	0.00002	0.00045	0.00001	0.00002	0.00002	0.00005	0.00002	0.00018	0.000103	0.00016	0.00018			
Calcium, total	mg/L	28.6	30.1	31.4	35.6	34.4	38.8	30	30.9	34.8	29.8	32.2	33	36.3	31.7	34.5	33.1	54	40.4	38.9	33.1	28.2			
Chromium, total	mg/L	0.006	0.004	0.003	0.002	0.009	0.005	0.033	0.006	0.016	0.001	0.001	<0.001	0.001	0.002	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010			
Copper, total	mg/L	0.0118	0.0083	0.0091	0.0254	0.0121	0.0109	0.0417	0.0111	0.0205	0.0034	0.0029	0.0024	0.0036	0.0047	0.0023	0.0103	0.0039	0.00214	0.00652	0.00323	0.00369			
Iron, total	mg/L	5.52	3.71	2.54	2.1	6.4	5.27	23.9	4.97	12	1.51	1.17	1.16	1.33	1.93	1	0.565	0.062	0.0621	0.145	0.105	0.106			
Lead, total	mg/L	0.0013	0.0012	0.0009	0.0009	0.0021	0.0013	0.0065	0.0012	0.0033	0.0003	<0.0002	<0.0002	<0.0002	0.0005	0.0002	<0.0002	<0.0002	<0.00020	<0.00020	<0.00020	<0.00020			
Magnesium, total	mg/L	9.97	9.57	10.1	11.7	11.2	12.1	12.5	9.63	11.5	9.1	10.5	10.4	11.5	10.4	10.3	11.7	20.6	15.2	14.5	12.2	10.3			
Manganese, total	mg/L	0.192	0.111	0.085	0.067	0.19	0.131	0.624	0.166	0.308	0.111	0.122	0.128	0.132	0.139	0.091	0.114	0.004	0.0148	0.0191	0.0212	0.0266			
Mercury, total	mg/L	<0.00002	<0.00002	<0.00002	<0.00002	<0.00005	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010			
Molybdenum, total	mg/L	0.002	0.001	0.001	0.001	0.002	0.002	0.001	0.001	0.001	<0.001	0.001	0.001	0.001	<0.001	0.001	0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010			
Nickel, total	mg/L	0.007	0.006	0.005	0.004	0.01	0.007	0.033	0.008	0.016	0.003	0.003	0.002	0.002	0.003	0.002	0.002	<0.001	<0.0010	<0.0010	<0.0010	<0.0010			
Phosphorus, total	mg/L	0.149	0.129	0.101	0.069	0.139	0.769	0.157	0.263	0.047	0.039	0.039	0.044	0.064	0.031	0.03	0.022	0.024	0.039	0.043	0.05				
Potassium, total	mg/L	1.46	0.97	0.9	1.04	1.32	1.18	1.93	0.91	1.23	0.67	0.8	0.82	0.97	0.78	0.81	0.97	2.99	2.27	2.5	2.53	2.55			
Selenium, total	mg/L	0.0003	0.0001	0.0002	0.0002	0.0003	0.0002	0.0005	0.0002	0.0004	0.0001	0.0001	0.0001	0.0002	0.0001	0.0001	0.0002	0.0002	0.00019	0.00016	0.00015	0.00012			
Silver, total	mg/L	0.00002	<0.00002	<0.00002	<0.00002	0.00004	0.00003	0.00011	0.00003	0.00005	<0.00002	<0.00002	<0.00002	0.00003	<0.00002	<0.00002	<0.00002	<0.00002	<0.000020	<0.000020	<0.000020	<0.000020			
Sodium, total	mg/L	5.84	6.07	6.2	7.51	6.1	7.29	5.23	5.23	5.43	5.36	6.01	5.91	6.76	5.77	5.69	6.88	14	10.1	9.51	7.85	6.65			
Thallium, total	mg/L	<0.00005	<0.00005	<0.00005	<0.00005	0.00005	<0.00005	0.00013	<0.00005	0.00006	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.000050	<0.000050	<0.000050	<0.000050			
Zinc, total	mg/L	0.011	0.01	0.009	0.012	0.015	0.011	0.056	0.015	0.031	<0.005	<0.005	0.008	<0.005	<0.005	<0.005	0.005	<0.005	<0.0050	<0.0050	<0.0050	<0.0050			
Aluminum, dissolved	mg/L	0.025	0.031	0.026	0.028	0.029	0.024	0.053	0.034	0.028	0.028	0.03	0.028	0.021	0.033	0.018	0.023	0.0043	0.0057	0.007	0.0041	0.0141			
Arsenic, dissolved	mg/L	0.0007	0.0007	0.0007	0.0007	0.0008	0.0009	0.0008	0.0008	0.0009	0.0009	0.0009	0.0008	0.0007	0.0008	0.0006	0.0007	0.0004	0.00042	0.0004	0.00038	0.0004			
Cadmium, dissolved	mg/L	0.00002	0.00004	<0.00001	0.00002	<0.00001	<0.00001	0.00002	0.00001	<0.00001	0.00001	0.00001	0.00002	0.00002	0.00001	<0.00001	0.00004	0.00002	0.000023	0.000023	0.000016	0.000023			
Calcium, dissolved	mg/L	25.4	31.8	30.3	36.5	30.7	34.6	19.7	29.9	29.6	31.5	34.8	32.8	34.6	37.9	37.8	37.6	53.8	42.9	38.7	33.1	28.7			
Chromium, dissolved	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			
Copper, dissolved	mg/L	0.0023	0.0044	0.0031	0.003	0.0034	0.0035	0.005	0.0021	0.0023	0.0021	0.0022	0.0018	0.0018	0.0023	0.0017	0.0024	0.00197	0.00248	0.00292	0.00281	0.00416			
Iron, dissolved	mg/L	0.753	0.31	0.291	0.33	0.469	0.455	0.621	0.518	0.485	0.678	0.7	0.574	0.564	0.693	0.437	0.505	0.0318	0.0588	0.0541	0.0622	0.0892			
Lead, dissolved	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020			
Magnesium, dissolved	mg/L	8.09	10.2	10.2	10.9	9.1	10.8	5.81	9.06	8.56	9.31	10.7	10.8	10.7	11	12.3	11.8	21.1	16.8	15.2	12.4	10.6			
Manganese, dissolved	mg/L	0.059	0.022	0.017	0.024	0.033	0.043	0.058	0.065	0.087	0.08	0.106	0.112	0.117	0.091	0.076	0.105	0.0031	0.0162	0.0167	0.0199	0.0265			
Mercury, dissolved	mg/L	<0.00002	<0.00002	<0.00002	&																				

Station Name		MC1	MC1	MC1	MC1	MC1	MC1	MC1	MC1	MC1	MC1	MC1	MC1	MC1	MC1	MC1	MC1	MC1	MC1	MC1	MC1	MC1	MC1		
Sample Date		4/20/2012	4/21/2012	4/22/2012	4/23/2012	4/24/2012	4/26/2012	4/27/2012	4/28/2012	4/29/2012	4/30/2012	5/1/2012	5/2/2012	5/3/2012	5/6/2012	5/10/2012	5/12/2012	5/19/2012	5/25/2012	6/2/2012	6/9/2012	6/15/2012	6/22/2012	6/29/2012	7/8/2012
pH (field)	pH units	7.74	7.53	7.62	7.65	7.74	7.72	7.69	7.57	7.56	7.5	7.47	7.52	7.4	7.31	7.89	7.66	7.67	7.64	7.95	7.88	7.78	8.03	7.97	7.99
pH (lab)	pH units				7.78						7.82				7.97		7.83	7.94	7.97	8.09	8.08	8.04	8.1	8.21	8.28
Hardness (from dissolved)	mg/L				68.6						71.6				98.9		76.8	90.9	102	132	122	103	115	146	136
Hardness (from total)	mg/L				69.4						69.7				96.4		94.7	115	136	130	132	131	127	135	144
Total Dissolved Solids	mg/L				128						106				148		120	140	146	164	158	160	174	188	184
Total Suspended Solids	mg/L				10.6						52.5				55.8		430	544	631	75.3	148	465	143	43.6	51.8
Alkalinity, total	mg/L				61.2						59.8				85		71.4	86.8	101	124	119	96.7	116	139	138
Sulphate, dissolved	mg/L				<0.50						3.23				16.5		4.39	6.6	9.44	12.2	10.4	8.53	9.59	13.1	11.9
Chloride	mg/L				1.9						1.2				2.2		1.4	1.7	1.8	1.3	2	1.4	1.5	1.5	1.6
Fluoride	mg/L				0.15						0.16				0.21		0.19	0.21	0.23	0.29	0.29	0.23	0.28	0.31	0.3
Nitrite (N)	mg/L				<0.0050						<0.0050				0.0183		<0.0050	0.015	0.0244	0.0107	0.0058	<0.0050	0.0139	0.0055	<0.0050
Nitrate (N)	mg/L				0.496						0.642				0.953		0.124	0.132	0.123	0.192	0.135	0.109	0.158	0.22	0.166
Ammonia	mg/L				0.017						0.01				0.018		0.0328	0.031	0.12	0.063	0.11	0.049	0.027	0.093	0.018
Aluminum, total	mg/L				0.201						1.45				2.04		8.89	8.83	14.1	1.77	4.48	9.99	2.86	0.921	1.24
Arsenic, total	mg/L				0.00052						0.00094				0.00132		0.0039	0.00485	0.00693	0.00132	0.00245	0.00474	0.00207	0.00131	0.00136
Cadmium, total	mg/L				0.000031						0.000042				0.000043		0.000141	0.000199	0.00025	0.000024	0.000067	0.000233	0.000077	0.000035	0.000049
Calcium, total	mg/L				18.4						17.8				24.3		22.6	28.2	32.3	33.3	33.4	32.6	32.5	34.7	36.8
Chromium, total	mg/L				<0.0010						0.0026				0.0037		0.018	0.018	0.026	0.0036	0.0084	0.0192	0.0062	0.0021	0.0027
Copper, total	mg/L				0.00793						0.00758				0.0124		0.0203	0.0258	0.0329	0.00529	0.0287	0.0234	0.00739	0.00357	0.00403
Iron, total	mg/L				0.483						2.43				3.37		14.2	14.8	22.3	3.1	7.16	15.2	5	1.91	2.43
Lead, total	mg/L				<0.00020						0.00065				0.00084		0.00369	0.00429	0.00584	0.00093	0.00182	0.00404	0.00116	0.00041	0.00049
Magnesium, total	mg/L				5.69						6.16				8.71		9.28	10.7	13.4	11.4	11.9	12.1	11	11.9	12.7
Manganese, total	mg/L				0.0258						0.0855				0.144		0.452	0.574	0.882	0.137	0.25	0.529	0.133	0.0741	0.0869
Mercury, total	mg/L				<0.000010						<0.000010				<0.000010		0.000015	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Molybdenum, total	mg/L				0.0011						0.0012				0.0018		0.0011	0.0011	0.0016	0.0016	0.0015	0.0015	0.0014	0.0016	0.0015
Nickel, total	mg/L				0.0012						0.003				0.0042		0.0159	0.0195	0.0258	0.0042	0.0081	0.0188	0.0069	0.0028	0.0033
Phosphorus, total	mg/L				0.05						0.072				0.099		0.398	0.497	0.688	0.096	0.207	0.512	0.139	0.051	0.082
Potassium, total	mg/L				1.89						1.62				1.76		1.84	1.72	2.21	1.32	1.44	1.65	1.16	1.08	1.05
Selenium, total	mg/L				0.00023						0.00027				0.0004		0.0003	0.00031	0.00043	0.00016	0.00027	0.00049	0.00023	0.00019	0.00014
Silver, total	mg/L				<0.000020						<0.000020				0.000024		0.000066	0.000064	0.000095	<0.000020	0.000035	0.000074	0.000021	<0.000020	<0.000020
Sodium, total	mg/L				3.96						4.43				6.38		4.48	5.04	5.93	6.99	6.96	6.08	6.72	7.25	7.75
Thallium, total	mg/L				<0.000050						<0.000050				<0.000050		0.000076	0.000081	0.000126	<0.000050	<0.000050	0.000089	<0.000050	<0.000050	<0.000050
Zinc, total	mg/L				<0.0050						<0.0050				0.0088		0.028	0.0344	0.0548	0.0066	0.0143	0.0331	0.0097	<0.0050	<0.0050
Aluminum, dissolved	mg/L				0.0393						0.0337				0.0296		0.0343	0.0431	0.0229	0.0199	0.0242	0.0244	0.0256	0.0309	0.0217
Arsenic, dissolved	mg/L				0.00042						0.00056				0.0006		0.00078	0.00087	0.0008	0.00072	0.00085	0.00075	0.00072	0.00078	0.00088
Cadmium, dissolved	mg/L				0.000017						0.000021				0.00002		0.000013	0.000016	0.000017	0.000016	<0.000010	0.000011	0.00001	0.000016	0.000013
Calcium, dissolved	mg/L				18.2						18.9				26		20.4	23.7	26.3	34	32.1	27.2	29.5	37.9	35.5
Chromium, dissolved	mg/L				<0.0010						<0.0010				<0.0010		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Copper, dissolved	mg/L				0.00654						0.00525				0.00687		0.00269	0.00312	0.00189	0.00359	0.00209	0.0021	0.00211	0.00426	0.00207
Iron, dissolved	mg/L				0.242						0.369				0.389		0.761	0.826	0.796	0.441	0.519	0.444	0.39	0.458	0.538
Lead, dissolved	mg/L				<0.00020						<0.00020				<0.00020		<0.00020	0.00048	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Magnesium, dissolved	mg/L				5.63						5.94				8.22		6.28	7.7	8.72	11.4	10.2	8.52	10.1	12.4	11.5
Manganese, dissolved	mg/L				0.0203						0.0587				0.0898		0.163	0.157	0.226	0.0432	0.037	0.0521	0.0312	0.0233	0.0247
Mercury, dissolved	mg/L				<0.000010						<0.000010				<0.000010		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Molybdenum, dissolved	mg/L				<0.0010						0.0011				0.0017		<0.0010	0.0012	0.0013	0.0015	0.0013	0.0011	0.0013	0.0016	0.0015
Nickel, dissolved	mg/L				0.0011						0.0013				0.0014		0.0016	0.002	0.0025	0.0015	0.0017	0.0019	0.0018	0.0015	0.0016
Phosphorus, dissolved	mg/L				0.03						0.024				0.029		0.031	0.032	0.023	0.021	0.021	0.02	0.018	0.024	0.024
Potassium, dissolved	mg/L				1.78						1.58				1.64		1.04	0.96	0.982	2.24	1.03	0.757	0.875	1.08	0.902
Selenium, dissolved	mg/L				0.00026						0.00028				0.0004		0.0001	0.00013	0.00019	0.00015	0.00015	0.00011	0.00011	0.00013	0.00017
Silver, dissolved	mg/L				<0.000020						<0.000020				<0.000020		<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Sodium, dissolved	mg/L				3.97						4.53				6.3		4.14	4.95	5.57	7.47	6.73	5.89	6.62	7.93	7.35
Thallium, dissolved	mg/L				<0.000050						<0.000050				<0.000050		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Zinc, dissolved	mg/L				<0.0050						<0.0050				<0.0050		<0.0050	0.0098	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050

Data omitted from calculation of summary statistics

Station Name		MC1	MC1	MC1	MC1	MC1	MC1	MC1	MC1	MC1	MC1	MC1	MC1	MC1	MC1
Sample Date		7/15/2012	7/22/2012	7/29/2012	7/30/2012	8/8/2012	8/17/2012	8/27/2012	9/3/2012	9/13/2012	9/19/2012	9/24/2012	10/4/2012	10/12/2012	10/20/2012
pH (field)	pH units	8.15	7.93	8.01	8.01	7.92	7.65	7.98	8.16	7.83	7.89	7.91	7.44	7.74	8.6
pH (lab)	pH units	8.11	8.06	8.13	8.27	8.31	8.33	8.39	8.25	8.17	8.08	8.25	8.07	8.04	8.13
Hardness (from dissolved)	mg/L	150	144	152	153	156	156	174	154	137	152	153			160
Hardness (from total)	mg/L	142	162	151	150	159	165	145	171	141	146	155	169	179	153
Total Dissolved Solids	mg/L	192	196	210	206	202	204	200	158	178	200	208	206	230	214
Total Suspended Solids	mg/L	45.3	33.7	39.3	34.3	36.5	28.3	34.5	76	88.7	20.9	10.3	130	7.1	1
Alkalinity, total	mg/L	143	145	154	154	157	158	158	155	131	144	150	141	149	155
Sulphate, dissolved	mg/L	13	11.9	11	13.8	11.9	12.1	11.7	10.5	11.2	13.8	12.1	13.1	15.3	15.7
Chloride	mg/L	1.6	1.5	1.8	1.3	1.6	1.5	1.8	1.3	1.8	1.8	1.4	1.5	2.2	1.6
Fluoride	mg/L	0.31	0.33	0.33	0.36	0.37	0.34	0.33	0.32	0.26	0.31	0.28	0.28	0.29	0.25
Nitrite (N)	mg/L	<0.0050	<0.0050	0.008	0.0062	0.0064	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0064
Nitrate (N)	mg/L	0.163	0.169	0.155	0.162	0.156	0.161	0.106	0.067	0.102	0.104	0.078	0.15	0.122	0.174
Ammonia	mg/L	0.017	0.067	0.084	0.026	0.014	0.0085	0.0084	0.0088	0.008	0.059	0.12	0.074	0.018	0.023
Aluminum, total	mg/L	1.29	0.892	1.01	0.884	1.03	0.817	0.692	0.327	0.791	0.413	0.0809	0.957	0.0823	0.0238
Arsenic, total	mg/L	0.00126	0.00132	0.00139	0.00119	0.00115	0.00137	0.00116	0.00145	0.00116	0.00101	0.00086	0.00174	0.00089	0.00057
Cadmium, total	mg/L	0.000025	0.000021	0.000016	0.000015	0.000019	<0.000010	0.000025	0.000015	0.000016	<0.000010	<0.000010	0.000034	0.000011	<0.000010
Calcium, total	mg/L	36.3	41.9	38.6	38.3	40.1	42.5	36.9	43.6	36.6	38.3	40.5	42.8	44.4	39.1
Chromium, total	mg/L	0.0029	0.0024	0.0026	0.0018	0.0021	0.0018	0.0016	<0.0010	0.0017	0.0012	<0.0010	0.002	<0.0010	<0.0010
Copper, total	mg/L	0.00449	0.00362	0.00384	0.00448	0.00301	0.0027	0.00362	0.00335	0.00461	0.00238	0.00225	0.00609	0.0026	0.00146
Iron, total	mg/L	2.5	2.09	2.26	2.03	2.18	2.17	2.01	1.8	2.43	1.34	0.935	2.86	0.652	0.525
Lead, total	mg/L	0.00049	0.00037	0.00041	0.00041	0.00036	0.00032	0.00035	0.00031	0.00061	<0.00020	<0.00020	0.00086	<0.00020	<0.00020
Magnesium, total	mg/L	12.5	13.9	13.3	13.2	14.2	14.3	12.9	15.2	11.9	12.2	13.1	15.1	16.7	13.5
Manganese, total	mg/L	0.0971	0.0795	0.0839	0.0795	0.0996	0.0979	0.114	0.148	0.176	0.0968	0.0892	0.305	0.0975	0.068
Mercury, total	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Molybdenum, total	mg/L	0.0014	0.0017	0.0016	0.0015	0.0015	0.0017	0.0013	0.0013	<0.0010	0.0011	0.0013	0.001	0.0013	0.0012
Nickel, total	mg/L	0.0036	0.0033	0.0031	0.0028	0.0028	0.0025	0.0044	0.0027	0.0041	0.0024	0.0021	0.0047	0.0023	0.0016
Phosphorus, total	mg/L	0.08	0.065	0.064	0.064	0.068	0.062	0.052	0.068	0.099	0.045	0.033	0.149	0.041	0.024
Potassium, total	mg/L	1.07	1.16	1.12	1.47	1.11	1.19	1.09	1.18	0.791	0.945	1.03	1.06	1.06	0.917
Selenium, total	mg/L	0.00017	0.00021	0.00023	0.00017	0.00015	0.00011	0.00012	0.00016	0.00013	0.0001	0.00018	0.00018	0.00021	0.00018
Silver, total	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Sodium, total	mg/L	7.61	8.62	7.96	8.04	8.58	8.61	7.72	9.04	6.9	7.17	8.06	8.43	9.74	7.98
Thallium, total	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Zinc, total	mg/L	0.0061	<0.0050	0.0051	0.0055	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0086	<0.0050	<0.0050
Aluminum, dissolved	mg/L	0.0207	0.0198	0.0232	0.0296	0.0238	0.0172	0.0189	0.0173	0.0196	0.0173	0.02			0.011
Arsenic, dissolved	mg/L	0.00087	0.00087	0.00095	0.00094	0.00092	0.00092	0.00092	0.00097	0.00079	0.00086	0.00082			0.00063
Cadmium, dissolved	mg/L	<0.000010	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010			<0.000010
Calcium, dissolved	mg/L	38.8	36.5	38.9	39.3	40.1	40.1	46.9	39.3	35.6	39.4	40.6			41.5
Chromium, dissolved	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			<0.0010
Copper, dissolved	mg/L	0.0017	0.00168	0.00189	0.00347	0.0016	0.00132	0.00149	0.00147	0.00175	0.0019	0.0023			0.00148
Iron, dissolved	mg/L	0.567	0.509	0.61	0.611	0.594	0.648	0.801	0.78	0.601	0.684	0.644			0.436
Lead, dissolved	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020			<0.00020
Magnesium, dissolved	mg/L	12.8	12.7	13.4	13.4	13.5	13.6	13.7	13.5	11.7	13.1	12.7			13.6
Manganese, dissolved	mg/L	0.0294	0.0288	0.035	0.0366	0.0545	0.0539	0.068	0.0646	0.074	0.0751	0.0663			0.0672
Mercury, dissolved	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Molybdenum, dissolved	mg/L	0.0019	0.0017	0.0017	0.0016	0.0017	0.0016	0.0015	0.0015	0.0012	0.0013	0.0013			0.0013
Nickel, dissolved	mg/L	0.0017	0.0015	0.0017	0.0015	0.0016	0.0014	0.0017	0.0017	0.0019	0.0018	0.0019			0.0016
Phosphorus, dissolved	mg/L	0.023	0.022	0.025	0.022	0.024	0.023	0.023	0.026	0.02	0.024	0.026			0.019
Potassium, dissolved	mg/L	1.02	1.05	0.998	1.03	1.1	1.05	1.1	1.11	0.796	0.948	1.07			0.96
Selenium, dissolved	mg/L	0.00013	0.00012	0.00015	0.00014	0.00017	0.00013	<0.00010	0.00016	<0.00010	0.00013	0.00013			0.00013
Silver, dissolved	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020			<0.000020
Sodium, dissolved	mg/L	8.21	8.07	8.31	8.12	8.47	8.07	8.28	8.21	7.22	7.93	7.66			8.02
Thallium, dissolved	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050			<0.000050
Zinc, dissolved	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050			<0.0050

Data omitted from calculation of summary statistics

Station Name		C10	C10	C10	C10
Sample Date		5/12/2012	7/30/2012	8/10/2012	8/27/2012
pH (field)	pH units	7.89	8.16	8.71	8.3
pH (lab)	pH units	7.73	8.23	8.11	8.37
Hardness (from dissolved)	mg/L	67.2	130	135	141
Hardness (from total)	mg/L	215	207	245	264
Total Dissolved Solids	mg/L	132	180	216	184
Total Suspended Solids	mg/L	2210	995	1320	1650
Alkalinity, total	mg/L	65.1	132	146	154
Sulphate, dissolved	mg/L	<0.50	<0.50	<0.50	<0.50
Chloride	mg/L	1.1	1.2	0.75	2
Fluoride	mg/L	0.2	0.29	4	0.24
Nitrite (N)	mg/L	0.0114	0.0229	0.0111	0.0086
Nitrate (N)	mg/L	0.047	0.184	0.184	0.095
Ammonia	mg/L	0.18	0.2	0.12	<0.0050
Aluminum, total	mg/L	39.6	21.3	21.1	24.8
Arsenic, total	mg/L	0.0208	0.0123	0.0124	0.0156
Cadmium, total	mg/L	0.000982	0.000365	0.000486	0.000526
Calcium, total	mg/L	51.2	56.3	67.1	72.2
Chromium, total	mg/L	0.0779	0.0385	0.0378	0.0455
Copper, total	mg/L	0.1	0.0527	0.0597	0.0624
Iron, total	mg/L	73.2	37.5	38.9	45.6
Lead, total	mg/L	0.0214	0.00995	0.0125	0.013
Magnesium, total	mg/L	21.1	16.2	18.8	20.2
Manganese, total	mg/L	2.09	0.947	1.31	1.7
Mercury, total	mg/L	<0.000010	0.000062	<0.000010	<0.000010
Molybdenum, total	mg/L	0.0021	0.0021	0.0017	0.0023
Nickel, total	mg/L	0.074	0.041	0.0467	0.0524
Phosphorus, total	mg/L	2.08	0.967	1.15	1.39
Potassium, total	mg/L	4.64	3.36	3.11	3.37
Selenium, total	mg/L	0.00116	0.00073	0.00057	0.00086
Silver, total	mg/L	0.000337	0.0002	0.000187	0.000217
Sodium, total	mg/L	4.3	6.41	6.4	6.34
Thallium, total	mg/L	0.000369	0.000202	0.000202	0.000241
Zinc, total	mg/L	0.186	0.0956	0.105	0.119
Aluminum, dissolved	mg/L	0.0583	0.0571	0.0505	0.0262
Arsenic, dissolved	mg/L	0.0012	0.00142	0.00134	0.00149
Cadmium, dissolved	mg/L	0.000018	<0.000010	<0.000010	<0.000010
Calcium, dissolved	mg/L	19.9	38.8	39.8	41.8
Chromium, dissolved	mg/L	<0.0010	<0.0010	<0.0010	<0.0010
Copper, dissolved	mg/L	0.00212	0.00198	0.00189	0.00148
Iron, dissolved	mg/L	1.55	1.15	0.883	1
Lead, dissolved	mg/L	0.00025	0.00067	<0.00020	<0.00020
Magnesium, dissolved	mg/L	4.24	8.1	8.59	8.82
Manganese, dissolved	mg/L	0.305	0.189	0.252	0.27
Mercury, dissolved	mg/L	<0.000010	<0.000010	<0.000010	<0.000010
Molybdenum, dissolved	mg/L	<0.0010	0.0014	0.0019	0.0011
Nickel, dissolved	mg/L	0.0019	0.0023	0.0022	0.0023
Phosphorus, dissolved	mg/L	0.035	0.039	0.034	0.038
Potassium, dissolved	mg/L	1.08	0.921	0.824	1.02
Selenium, dissolved	mg/L	0.0001	0.00014	0.0001	0.00012
Silver, dissolved	mg/L	<0.000020	<0.000020	<0.000020	<0.000020
Sodium, dissolved	mg/L	2.95	5.64	5.34	5.26
Thallium, dissolved	mg/L	<0.000050	<0.000050	<0.000050	<0.000050
Zinc, dissolved	mg/L	<0.0050	<0.0050	<0.0050	<0.0050

Station Name		W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	
Sample Date		5/27/2005	5/27/2005	6/30/2005	7/28/2005	8/30/2005	9/28/2005	10/15/2005	4/8/2006	4/9/2006	4/10/2006	4/11/2006	4/12/2006	4/13/2006	4/14/2006	4/15/2006	4/16/2006	4/17/2006	4/18/2006	4/19/2006	4/20/2006	4/21/2006	4/22/2006	4/23/2006
pH (field)	pH units								8.10	8.30	8.50	8.50	8.40	8.40	8.4	8.6	8.4	8.5	8.4	8.5	8.5	8.45	8.45	8.45
pH (lab)	pH units	8.06	8.03	8.17	8.01	8.26	7.9	8.11	8.25	8.34	8.34	8.34	8.23	8.33	8.37	8.38	8.37	8.39	8.20	8.34	8.35	8.33	8.31	8.24
Hardness (from dissolved)	mg/L																							
Hardness (from total)	mg/L	99.8	72.2		153	138	134	137																
Total Dissolved Solids	mg/L	138	80	190	194	193	170	179	342	394	337	309	293	296	196	303	304	393	334	292	278	281	222	170
Total Suspended Solids	mg/L	20.5	79	<3.0	<3.0	3.5	9	5.5	4.1	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	22.4	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	3.7
Alkalinity, total	mg/L		67.1	140		143	115		261	273	245	224	210	218	218	222	235	286	246	222	235	203	165	135
Sulphate, dissolved	mg/L		9.64	22.1		12.6	11.6		43.6	63.1	55.8	47.8	44.4	44.5	44.4	44.9	46.3	58.2	49.3	39.5	38	36.3	27	18.7
Chloride	mg/L	<0.50	<0.5	1.23	0.66	0.53	0.72	0.88	1.50	1.79	1.57	1.37	1.32	1.32	1.29	1.32	1.48	2	1	1	1	1	1	1
Fluoride	mg/L								0.75	0.80	0.65	0.62	0.587	0.578	0.565	0.569	0.579	0.73	0.64	0.57	0.59	0.55	0.45	0.33
Nitrite (N)	mg/L	0.0015	<0.001	<0.0010	<0.0010	<0.0010	0.001	<0.0010	0.0012	0.0010	0.0011	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0
Nitrate (N)	mg/L	0.0565	0.0339	0.0621	0.0124	0.0141	0.0458	0.133	0.076	0.0426	0.016	0.0134	0.0088	<0.0050	0.0102	<0.0050	<0.0050	0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Ammonia	mg/L	0.026	<0.02	<0.020	<0.020	0.029	<0.020	<0.020	0.01	0.0133	0.016	0.0087	<0.0050	<0.0050	<0.0050	<0.0050	0.0173	0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Aluminum, total	mg/L	0.362	1.14	0.0111	0.0127	0.0475	0.133	0.0972	0.1490	0.031	0.0277	0.026	0.0222	0.0249	0.0214	0.0177	0.222	0.017	0.013	0.017	0.025	0.027	0.028	0.046
Arsenic, total	mg/L	0.00075	0.00104	0.00045	0.00046	0.00063	0.00069	0.00061	0.00086	0.00076	0.00064	0.00057	0.00053	0.00052	0.00053	0.00053	0.00056	0.00065	0.00061	0.00059	0.00053	0.00054	0.00047	0.00043
Cadmium, total	mg/L	<0.000050	<0.00005	<0.000050	<0.000050	<0.000017	<0.000017	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Calcium, total	mg/L	24.8	19.9	37.5	39.1	35.4	34.3	34.1	66.0	69.7	61.1	56.1	48.6	49.8	49.4	51.1	54.6	70.0	61.7	55.0	52.5	51.0	38.3	30.6
Chromium, total	mg/L	0.0012	0.0027	<0.00050	<0.00050	<0.0010	<0.0010	0.00059	0.00085	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Copper, total	mg/L	0.0049	0.0037	0.00207	0.00245	0.0026	0.0039	0.00404	0.00150	0.0013	0.00126	0.0012	0.00125	0.00146	0.00139	0.00162	0.00453	0.00190	0.00152	0.00146	0.00185	0.00175	0.00184	0.00137
Iron, total	mg/L	0.778	1.49	0.052	0.079	0.373	0.674	0.436	0.206	0.073	0.076	0.069	0.057	0.073	0.054	0.057	0.262	0.085	0.091	0.087	0.104	0.083	0.082	0.112
Lead, total	mg/L	<0.00050	0.00066	<0.000050	<0.000050	<0.00050	<0.00050	0.000078	0.000088	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	0.000137	<0.000050	<0.000050	<0.000050	0.000060	<0.000050	<0.000050	<0.000050
Magnesium, total	mg/L	8.37	5.78	12.5	13.1	11.6	11	10.8	28.3	32.5	28.8	26.7	22.2	22.2	22.2	22.3	23.2	31.3	29.0	24.4	23.5	23.0	18.3	13.8
Manganese, total	mg/L	0.0505	0.0536	0.00785	0.014	0.025	0.0543	0.0368	0.0485	0.0447	0.0387	0.0394	0.0410	0.0453	0.0384	0.0431	0.0468	0.0428	0.0369	0.0442	0.0481	0.0490	0.0459	0.0471
Mercury, total	mg/L	<0.000020				<0.000020	<0.000020																	
Molybdenum, total	mg/L	<0.0010		0.00103	0.00134	0.0011	<0.0010	0.000916	0.001340	0.00149	0.001410	0.00147	0.00152	0.00178	0.00156	0.00157	0.00163	0.00201	0.00164	0.00136	0.00137	0.00125	0.00115	0.00088
Nickel, total	mg/L	0.0026	0.0033	0.00105	0.00107	0.0016	0.002	0.00164	0.00054	<0.00050	<0.00050	<0.00050	<0.00050	0.00059	<0.00050	0.00052	0.00081	0.00057	<0.00050	0.00051	0.00054	0.00056	0.00058	0.00057
Phosphorus, total	mg/L			<0.30	<0.30			<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Potassium, total	mg/L	<2.0		<2.0	<2.0	<2.0	<2.0	<2.0	4.6	4.8	4	3.6	3.6	3.4	3.7	3.6	4.4	4.1	3.8	3.7	4.0	3.3	3.0	
Selenium, total	mg/L	<0.0010		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Silver, total	mg/L	<0.000020		<0.000010	<0.000010	<0.000020	<0.000020	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Sodium, total	mg/L	4.8		8.7	8.7	6.9	6	6	17.7	22.9	19.3	17.3	15.7	15.6	15.3	15.3	15.5	20.4	17.8	15.1	14.8	14.5	11.2	8.1
Thallium, total	mg/L	<0.00020		<0.00010	<0.00010	<0.00020	<0.00020	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Zinc, total	mg/L	<0.0050	0.006	<0.0010	<0.0010	<0.0050	<0.0050	0.0011	0.0020	0.0028	0.0015	0.0018	0.0015	0.0025	0.0014	0.0023	0.0033	0.0019	0.0010	0.0015	0.0021	0.0048	0.0026	0.0024
Aluminum, dissolved	mg/L	0.0163	0.0108	0.0073	0.0071	0.0119	0.0141	0.0129										0.0082						
Arsenic, dissolved	mg/L	<0.00050		0.00044	0.00044	0.00058	0.00059	0.00053										0.00063						
Cadmium, dissolved	mg/L	<0.000050		<0.000050	<0.000050	<0.000017	<0.000017	<0.000050										<0.000050						
Calcium, dissolved	mg/L	25.6	20.3	36.9	39.6	35.7	35.2	35.9										70.1						
Chromium, dissolved	mg/L	<0.0010		<0.00050	<0.00050	<0.0010	<0.0010	<0.00050										<0.00050						
Copper, dissolved	mg/L	0.0033		0.0021	0.00208	0.0024	0.0025	0.00271										0.0017						
Iron, dissolved	mg/L	0.164		0.039	0.05	0.234	0.338	0.246										0.063						
Lead, dissolved	mg/L	<0.00050		<0.000050	<0.000050	<0.00050	<0.00050	<0.000050										<0.000050						
Magnesium, dissolved	mg/L	8.72	5.19	12.3	13.2	11.7	11.2	11.5										31.4						
Manganese, dissolved	mg/L	0.00507	0.00345	0.00684	0.014	0.0152	0.0341	0.0208										0.0420						
Mercury, dissolved	mg/L	<0.000020				<0.000020	<0.000020																	
Molybdenum, dissolved	mg/L	<0.0010		0.00108	0.00127	0.001	<0.0010	0.000859										0.002						
Nickel, dissolved	mg/L	0.0015		0.00102	0.00112	0.0015	0.0017	0.00141										<0.00050						

Station Name		W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	
Sample Date		4/24/2006	4/25/2006	4/26/2006	4/27/2006	4/28/2006	4/29/2006	4/30/2006	5/1/2006	5/2/2006	5/3/2006	5/5/2006	5/6/2006	5/8/2006	5/10/2006	5/14/2006	5/17/2006	5/20/2006	5/23/2006	5/26/2006	5/29/2006	6/2/2006	6/7/2006	6/15/2006
pH (field)	pH units	8.55	8.5	8.6	8.1	8.1	8.3	8.5	8.3	8.3	8.2													
pH (lab)	pH units	8.15	7.75	7.82	7.89	7.88	7.93	7.97	7.99	7.95	7.86	7.63	7.60	7.65	7.65	7.61	7.69	7.81	7.93	7.71	7.66	7.19	7.92	
Hardness (from dissolved)	mg/L																							
Hardness (from total)	mg/L																							
Total Dissolved Solids	mg/L	140	128	139	146	73	144	148	161	129	102	86	88	94	101	103	115	115	129	145	119	140	142	
Total Suspended Solids	mg/L	4.2	22.1	14.1	20.6	20.6	17.6	17.6	23.1	51.4	116.0	141.0	110.0	40.9	98.3	232	59.6	28.1	22.1	11.4	79.9	257	47.1	
Alkalinity, total	mg/L	103	77	78	75.2	71.2	76.7	74.5	79.8						34.5	32.1	63.1	70.6	72.2	94.3	82	91.8	83.4	
Sulphate, dissolved	mg/L	13.4	8.41	9.62	10.1	8.73	8.69	8.72	9.28						3.4	3.21	5.43	7.6	10.7	13.2	8.76	9.14	10.6	
Chloride	mg/L	1	1	1	1.13	1.07	1.05	1.01	0.98	0.81	0.73	<0.50	<0.50	<0.50	<0.5	<0.5	0.57	0.54	0.55	0.54	<0.5	<0.5	<0.5	
Fluoride	mg/L	0.28	0.19	0.19	0.18	0.17	0.18	0.18	0.19	0.16	0.14	0.11	0.11	0.11	0.112	0.136	0.158	0.179	0.211	0.227	0.192	0.21	0.209	
Nitrite (N)	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0015	<0.0010	<0.0010	<0.0010	<0.0010	0.0013	0.0012	0.0016	<0.001	<0.001	0.0016	0.0014	0.0024	0.0013	
Nitrate (N)	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0082	0.0083	0.0171	0.0237	0.0368	0.0463	0.0415	0.0567	0.0716	
Ammonia	mg/L	0												0	0.05			0.0147			0.04	0.038	0.01	
Aluminum, total	mg/L	0.071	0.314	0.549	0.357	0.424	0.295	0.222	0.503	0.808	1.640	1.830	1.630	0.667	1.13	4.65	0.621	0.415	0.307	0.362	1.71	5.13	0.997	
Arsenic, total	mg/L	0.00044	0.00052	0.00060	0.00056	0.00054	0.00058	0.00055	0.00065	0.00071	0.00116	0.00120	0.00121	0.00067	0.0009	0.00242	0.00093	0.0008	0.00078	0.00076	0.00147	0.00296	0.00114	
Cadmium, total	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	0.000051	<0.000050	<0.000050	<0.000050	0.000096	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	0.000135	<0.000050	
Calcium, total	mg/L	25.5	19.1	20.1	20.6	19.0	21.1	21.7	22.5	18.4	16.9	11.9	12.3	12.4	14.3	15.4	17.2	18.6	22.1	26.3	22.1	26.7	23.6	
Chromium, total	mg/L	<0.00050	<0.00050	0.00071	0.00056	0.00054	0.00058	<0.00050	0.00101	0.0015	0.00297	0.00334	0.00295	0.00135	0.00218	0.00862	0.00142	0.00104	0.00082	0.00102	0.00361	0.0104	0.00238	
Copper, total	mg/L	0.00164	0.00501	0.00833	0.0064	0.0070	0.0064	0.0055	0.0069	0.0086	0.0106	0.0119	0.0222	0.00803	0.0323	0.0191	0.00806	0.00753	0.00653	0.00546	0.0121	0.0214	0.0104	
Iron, total	mg/L	0.126	0.492	0.691	0.582	0.596	0.434	0.400	0.690	1.310	2.710	3.010	2.880	1.140	1.76	7.23	1.74	1.22	0.917	0.707	2.89	8.09	1.75	
Lead, total	mg/L	<0.000050	0.000166	0.000251	0.000294	0.000193	0.000131	0.000125	0.000179	0.000362	0.000816	0.000926	0.000845	0.000329	0.00053	0.0022	0.000478	0.00034	0.000261	0.00019	0.000846	0.00264	0.000457	
Magnesium, total	mg/L	11.1	7.4	7.4	7.5	7.0	7.5	7.7	8.2	6.7	5.8	4.1	4.1	4.0	5.34	5.65	5.81	6.51	8.01	9.47	7.77	9.99	7.78	
Manganese, total	mg/L	0.0425	0.0767	0.0653	0.0628	0.0492	0.0648	0.0682	0.0501	0.0921	0.1960	0.1890	0.1650	0.0706	0.174	0.266	0.101	0.0821	0.0678	0.0573	0.139	0.294	0.0631	
Mercury, total	mg/L																							
Molybdenum, total	mg/L	0.00077	0.00064	0.00079	0.00067	0.000612	0.000511	0.000607	0.00073	0.000586	0.000524	0.000382	0.000375	0.00039	0.000699	0.000593	0.000502	0.000702	0.000907	0.00107	0.000943	0.00119	0.00104	
Nickel, total	mg/L	0.00073	0.00118	0.00170	0.0014	0.0015	0.0015	0.0013	0.0018	0.0025	0.0042	0.0048	0.0044	0.00274	0.00343	0.00948	0.00334	0.00285	0.00241	0.0023	0.00535	0.0115	0.00385	
Phosphorus, total	mg/L	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	
Potassium, total	mg/L	3.1	2.8	3.3	2.7	2.6	2.6	2.5	2.5	2.3	2.3	2.1	2	<2.0	<2	<2	<2	<2	<2	<2	<2	<2	<2	
Selenium, total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Silver, total	mg/L	<0.000010	0.000012	0.000016	0.000012	0.000014	<0.000010	0.000024	0.000014	0.000015	0.000018	0.000018	0.000025	0.000014	0.000029	0.000037	<0.00001	0.000012	<0.00001	<0.00001	0.000031	0.000066	0.000015	
Sodium, total	mg/L	6.2	3.8	4.0	4.6	4.4	4.4	4.2	4.2	3.2	2.6	<2.0	<2.0	<2.0	2.4	2.3	3.6	4.2	5.2	6.1	5	5.7	4.8	
Thallium, total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	
Zinc, total	mg/L	0.0026	0.0091	0.0124	0.0052	<0.0050	0.0089	0.0082	0.0048	0.0059	0.0101	0.0105	0.0099	0.0062	0.0073	0.0223	0.0049	0.0032	0.0039	<0.005	0.0084	0.022	0.0054	
Aluminum, dissolved	mg/L	0.0119												0.0654	0.0626			0.0234			0.0318			
Arsenic, dissolved	mg/L	0.00038												0.00038	0.00055			0.00054			0.00074			
Cadmium, dissolved	mg/L	<0.000050												<0.000050	<0.000050			<0.000050			<0.000050			
Calcium, dissolved	mg/L	25.4												12.2	12.8			23.1			23			
Chromium, dissolved	mg/L	<0.00050												<0.00050	<0.00050			<0.00050			<0.00050			
Copper, dissolved	mg/L	0.0013												0.0054	0.00582			0.00494			0.0038			
Iron, dissolved	mg/L	0.054												0.194	0.425			0.253			0.463			
Lead, dissolved	mg/L	<0.000050												0.000091	0.000064			<0.000050			0.000063			
Magnesium, dissolved	mg/L	10.9												3.8	3.79			8.14			7.73			
Manganese, dissolved	mg/L	0.0378												0.0209	0.0594			0.00274			0.0399			
Mercury, dissolved	mg/L																							
Molybdenum, dissolved	mg/L	0.000729												0.000307	0.000441			0.000977			0.000913			
Nickel, dissolved	mg/L	0.0006												0.0014	0.00165			0.0017			0.00183			
Phosphorus, dissolved	mg/L	<0.30												<0.30	<0.3			<0.3			<0.3			
Potassium, dissolved	mg/L	3.1												<2.0	<2			<2			<2			
Selenium, dissolved	mg/L	<0.0010												<0.0010	<0.001			<0.001			<0.001			
Silver, dissolved	mg/L	<0.000010												<0.000010	<0.00001			<0.00001			<0.00001			
Sodium, dissolved	mg/L	6.1																						

Station Name		W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2		
Sample Date		6/15/2006	6/23/2006	6/28/2006	7/7/2006	7/12/2006	7/31/2006	7/31/2006	8/2/2006	8/23/2006	8/23/2006	8/30/2006	9/6/2006	9/13/2006	9/20/2006	9/28/2006	10/4/2006	10/12/2006	10/18/2006	10/28/2006	4/17/2007	4/26/2007	5/19/2007	5/30/2007	
pH (field)	pH units																								
pH (lab)	pH units	8.11	7.92	8.05	7.91	7.93		7.82	7.86		8.03	7.87	7.93	7.99	7.87	7.64	8.32	7.54	8.2	7.77	8.34	7.44	8.03	8.1	
Hardness (from dissolved)	mg/L	139	154	142	140	143		153	10		154	154	161	167	164	161	160	158	160	163	216	52	116		
Hardness (from total)	mg/L																							127	
Total Dissolved Solids	mg/L	166	222	170	204						216	220				124		202	187	298	320	136	172	186	
Total Suspended Solids	mg/L	2	<2	7	<2	<2		<2	<2		<2	2	<2	<2	<2	<2	<2	<1	<2	101	98	<2	<2		
Alkalinity, total	mg/L	117	132	133	135	132		142	152		148	150	149	156	150	151	152	146	194	151	197	44	104	116	
Sulphate, dissolved	mg/L	19	20.9		21.7	21.3		22.5	20.9		22.3	13.9	21.3	22	22.3	20.9	23.7	20.9		22	32	3.4	15.1	19.6	
Chloride	mg/L																		1.3	1.42	2.7	1.4	0.9	1	
Fluoride	mg/L																								
Nitrite (N)	mg/L																			<0.005	<0.03	<0.05	<0.05	<0.05	<0.05
Nitrate (N)	mg/L	0.1	0.05	0.05	0.076	0.09		0.07	0.06		<0.03	<0.03	<0.03	0.003	<0.03	<0.03	0.04	0.04	0.08	0.06	<0.1	<0.1	0.6	0.8	
Ammonia	mg/L		0.01	0.003		0.008	0.003		0.006	<0.002		0.005	0.004	0.008	0.006	0.008	0.053	0.006	<0.05	0.01		<0.05	<0.05	<0.05	
Aluminum, total	mg/L	0.084	0.031	0.223	0.04	0.022		0.035	0.016		0.01	0.013	0.012	0.015	0.012	0.02	0.01	0.055	0.007	0.08	3.55	2.88	0.079	0.041	
Arsenic, total	mg/L	0.0006	0.0003	0.0006	<0.0001	0.0004		0.0005	0.0006		<0.0004	0.0004	0.0004	0.0004	0.0004	0.0005	0.0005	0.0003	0.0003	0.0004	0.0022	0.001	0.0005	0.0003	
Cadmium, total	mg/L	<0.00001	<0.00001	<0.00001	<0.00005	<0.00001		<0.00001	<0.00001		<0.00002	<0.00001	<0.00001	<0.00001	<0.00001	<0.00002	<0.00001	<0.00001	<0.00001	<0.00001	0.00007	0.00005	<0.00002	<0.00001	
Calcium, total	mg/L	32.7	37.8	36.4	39.6	39.8		39.7	39.5		39.5	39.9	41	42.2	40.2	41.3	38	40.4	41.2	43.6	56.5	17	30.6	33	
Chromium, total	mg/L	0.0007	<0.0005	<0.0005	<0.002	<0.0005		<0.0005	<0.0005		0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	0.001	<0.0005	<0.0005	<0.0005	0.0059	0.0049	<0.001	<0.0005	
Copper, total	mg/L	0.004	0.003	0.003	<0.005	0.002		0.002	0.002		0.002	0.002	0.004	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.012	0.009	0.003	0.003	
Iron, total	mg/L	0.2	<0.1	0.4	<0.1	<0.1		<0.1	<0.1		<0.2	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2	0.1	<0.1	0.1	5.1	3.7	0.2	<0.1	
Lead, total	mg/L	<0.0001	<0.0001	0.0001	<0.0005	<0.0001		<0.0001	<0.0001		<0.0002	<0.0001	0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0001	0.0001	<0.0001	0.0014	0.001	<0.0002	<0.0001	
Magnesium, total	mg/L	10.7	11.6	11.5	12	11.7		13.3	12.4		12	12.8	13	13.5	14	13	12	13.5	13.7	13.5	22.9	4.8	10	10.9	
Manganese, total	mg/L	0.008	0.02	0.018	0.013	0.014		0.014	0.013		0.02	0.011	0.018	0.015	0.019	0.01	0.01	0.022	0.025	0.035	0.189	0.2	0.02	0.006	
Mercury, total	mg/L																				<0.00005	<0.0001	<0.0001	<0.0001	<0.0001
Molybdenum, total	mg/L	0.001	0.001	0.001	<0.005	<0.001		0.001	0.001		<0.002	0.001	0.001	0.001	0.001	<0.002	<0.002	0.001	0.001	0.001	0.001	<0.002	<0.002	0.001	
Nickel, total	mg/L	0.0017	0.0013	0.0011	0.003	0.0012		0.0011	0.0012		0.001	0.0013	0.0013	0.0013	0.0016	0.002	0.0024	0.0013	0.0014	0.0013	0.0066	0.0061	0.002	0.0007	
Phosphorus, total	mg/L																		0.08		0.17	0.2	0.05	<0.05	
Potassium, total	mg/L	1.1	1.2	1.1	1.2	1.3		1.2	1.3		1.6	1.2	1.3	1.3	1.3	1.2	1.2	1.2	1.3	1.6	5.5	2.6	1	1.5	
Selenium, total	mg/L	0.0002	<0.0002	<0.0002	<0.001	<0.0002		<0.0002	0.0002		<0.0004	0.0003	0.0003	<0.0002	0.0004	<0.0004	0.0008	<0.0002	<0.0002	<0.0002	0.0004	<0.0004	<0.0004	<0.0002	
Silver, total	mg/L	<0.0001	0.0002	<0.0001	<0.0005	<0.0001		<0.0001	0.0002		<0.0002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0001	
Sodium, total	mg/L	7.4	7.9	7.7	9.1	8.7		8.6	9.7		9.4	9.2	9.5	9.8	8.6	8.8	8.6	8.1	8.6	10.2	15.3	3.5	6	7.6	
Thallium, total	mg/L	<0.00005	<0.00005	<0.00005	<0.0002	<0.00005		<0.00005	<0.00005		<0.0001	<0.00005	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001	<0.00005	
Zinc, total	mg/L	0.001	0.002	0.002	<0.005	0.002		0.002	<0.001		0.005	<0.001	0.001	0.002	0.001	0.004	<0.002	<0.001	0.002	0.003	0.025	0.023	0.007	0.006	
Aluminum, dissolved	mg/L	0.009	0.01	0.008	<0.005	<0.005		0.007	<0.005		0.007	0.007	<0.005	0.005	<0.005	0.008	<0.005	0.006	0.006	0.007	0.032	0.058	0.008	<0.005	
Arsenic, dissolved	mg/L	0.0006	0.0004	0.0006	0.0006	0.0005		0.0004	0.0005		0.0004	0.0005	0.0005	0.0004	0.0004	0.0004	<0.0002	0.0004	0.0003	0.0004	0.0008	0.0004	0.0005	0.0004	
Cadmium, dissolved	mg/L	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001		<0.00001	<0.00001		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.00003	0.00002	0.00002	<0.00001	<0.00001	
Calcium, dissolved	mg/L	36.3	40.8	33	34.7	36.1		39	3.8		39.3	40	42.2	40.7	42.4	42.1	41.8	41.6	42.7	42	51	14.5	29.4	32.6	
Chromium, dissolved	mg/L	<0.0005	0.0006	0.0007	0.0012	0.0012		<0.0005	0.0006		0.0007	0.0009	0.0006	0.001	0.0007	0.0005	0.0005	<0.0005	0.0005	0.0069	0.0017	<0.0005	0.0011	0.0008	
Copper, dissolved	mg/L	0.002	0.002	0.003	0.002	0.002		<0.001	0.002		0.002	0.002	0.003	0.002	0.002	0.002	<0.001	0.002	0.002	0.002	0.002	0.002	0.003	0.004	
Iron, dissolved	mg/L	0.04	0.05	0.03	0.02	0.02		0.04	0.02		0.05	0.06	0.05	0.06	0.06	0.04	0.05	0.03	0.02	0.02	0.05	0.14	0.13	0.03	
Lead, dissolved	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		<0.0001	<0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0003	<0.0001	<0.0001	
Magnesium, dissolved	mg/L	11.7	12.6	11.4	12.9	12.9		13.5	0.9		13.4	13.1	13.6	13.8	14.1	13.5	13.5	13.2	13.1	14	21.5	3.9	10.4	10.8	
Manganese, dissolved	mg/L	<0.005	0.016	<0.005	0.008	0.01		0.011	0.008		0.02	0.013	0.018	0.012	0.02	0.013	0.012	0.018	0.025	0.028	0.046	0.045	0.01	<0.005	
Mercury, dissolved	mg/L																				<0.0001	<0.0001	<0.0001	<0.0001	
Molybdenum, dissolved	mg/L	0.001	0.001	0.001	0.001	0.002		<0.001	<0.001		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	<0.001	0.001	0.001	<0.001	0.001	0.001	
Nickel, dissolved	mg/L	0.001	0.0014	0.0011	0.0016	0.0006		0.0005	0.0007		0.0009	0.0005	0.001	0.0009	<0.0005	0.0006	0.0008	0.0008	0.0011	0.0009	0.0011	0.0014	0.0008	<0.0005	
Phosphorus, dissolved	mg/L																					0.09			
Potassium, dissolved	mg/L	0.4	1.4	1.1	1.1	1.4		1.4	0.8		1.2	1.4	1.4	1.3	1.4	1.4	1.4	1.3	1.4	1.4	5.2	2.3	1.3	1.4	
Selenium, dissolved	mg/L	<0.0002	0.0002	<0.0002	<0.0002	<0.0002		<0.0002	<0.0002		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	
Silver, dissolved	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		<0.0001	<0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	
Sodium, dissolved	mg/L	8.4	8.2	7.9	8.3	8.9		8.9	9.1		9	9.3	9.8	9.6	8.9	9.5	8.7	8.3	9.7	8.8	14.7	3.2	6.3	7.5	
Thallium, dissolved	mg/L	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005		&																	

Station Name		W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	
Sample Date		6/20/2007	6/27/2007	7/4/2007	7/18/2007	8/15/2007	9/18/2007	10/17/2007	4/22/2008	5/13/2008	5/20/2008	6/3/2008	7/8/2008	7/23/2008	8/7/2008	8/28/2008	8/31/2008	9/7/2008	9/11/2008	9/19/2008	10/8/2008	10/29/2008	11/18/2008	4/22/2009
pH (field)	pH units																						8.23	8.2
pH (lab)	pH units	7.95			7.96	8.18	8.18	8.17	8.3	7.94	7.98	8.04	8.15	8.03		8.04	8.1	8.14	8.07	8.12	8.03		7.88	7.92
Hardness (from dissolved)	mg/L	149			161	160	129	139	162	70	89			120	153							169		151
Hardness (from total)	mg/L			124									120											
Total Dissolved Solids	mg/L	188			210	238	200	192	256	128	170	154	232	178		202	206	302	264	244	162		250	222
Total Suspended Solids	mg/L	<2			4	<2	10	<2	<2	5	5	<2	<2	10		59	35	48	28	9	3		<2	100
Alkalinity, total	mg/L	137			154	166	144	132	169	77	89	116	138	92		113	118	139	129	147	113		150	134
Sulphate, dissolved	mg/L	21.4			21.2	21	12		26.8	8.43	10.2	15.1	20.8	10.6		15	18.5	25.4	20.8	20.9	12.3		23.2	21.5
Chloride	mg/L	1.1			1.3	1.2	0.99	1.21	1.35	0.82	0.91	1.01	1.14	0.79		1.5	1.55	2.21	1.89	2.33	1.12		1.73	1.4
Fluoride	mg/L																							
Nitrite (N)	mg/L	<0.05			<0.05	<0.05	<0.02	<0.02	<0.02	<0.02	0.03	0.03	<0.01	0.03		0.02	<0.01	0.04	0.04	<0.01	<0.01			
Nitrate (N)	mg/L	0.9			0.5	0.3	0.04	0.34	<0.02	<0.02	0.02	0.04	0.06	0.15		0.12	0.16	0.16	0.09	0.08	0.15			
Ammonia	mg/L	<0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		<0.05			0.1	0.12	0.07		<0.05	
Aluminum, total	mg/L	0.065	0.036	4.15	0.253	0.071	0.09	0.125	0.01	0.11	0.17	0.01	0.01	0.385		1.41	0.798	0.944	0.614	0.312	0.118		0.062	2.62
Arsenic, total	mg/L	0.0004	0.0005	0.0023	0.0008	0.0005	0.0006	0.0005	0.0009	0.0012	<0.0002	0.0007	0.0004	0.0007		0.001	0.0008	0.0011	0.0011	0.0003	0.0006		0.0002	0.0018
Cadmium, total	mg/L	<0.00001	0.00002	0.00006	0.00001	<0.00001	<0.00001	0.00001	<0.00007	<0.00007	<0.00007	<0.00007	<0.00008	0.00002		0.00006	0.00002	0.00004	<0.00001	0.00004	<0.00001		0.00003	0.00006
Calcium, total	mg/L	39.2	38.2	32.6	41.6	43.4	33.3	36.8	42.6	20.4	24.2	31.2	41	30.8		37	38.9	40.9	35.6	39.4	35.3		41.5	42.9
Chromium, total	mg/L	0.0008	<0.0005	0.0074	0.0007	<0.0005	0.0007	0.0007	<0.0005	0.0009	0.0014	0.0024	0.0009	0.001		0.0036	0.0025	0.0033	0.0022	0.0017	0.0013		<0.0005	0.0052
Copper, total	mg/L	0.003	0.002	0.011	0.003	0.002	0.002	0.002	0.002	0.003	0.002	0.005	0.002	0.004		0.043	0.02	0.052	0.035	0.044	0.01		0.014	0.016
Iron, total	mg/L	0.1	<0.1	6.1	0.4	<0.2	0.3	0.3	0.03	0.46	0.44	0.12	0.05	0.61		3.55	2.05	2.14	1.39	0.72	0.38		0.1	4.08
Lead, total	mg/L	<0.0001	<0.0001	0.0016	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.0008	0.0001	0.0006		0.0007	0.0004	0.0006	0.0006	0.0002	0.0001		<0.0001	0.0018
Magnesium, total	mg/L	11.7	12.2	10.3	13.5	13	10.1	11	17.6	6.51	7.73	10.2	12.4	9.4		10.3	11.3	12.3	10	11.3	10.2		12.4	16.3
Manganese, total	mg/L	0.007	0.006	0.167	0.018	0.01	0.021	0.023	0.0244	0.0211	0.0223	0.0076	0.0058	0.032		0.103	0.0718	0.116	0.0852	0.102	0.034		0.021	0.113
Mercury, total	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.0001		0.00001	<0.00001	<0.00001	0.00001	<0.00001	<0.00001		<0.0001	0.00001
Molybdenum, total	mg/L	0.001	0.002	0.001	0.001	0.001	0.001	<0.001	0.00089	0.00066	0.00072	0.00097	0.00108	<0.001		0.00208	0.00273	0.00344	0.00276	0.00285	0.00099		0.001	0.00072
Nickel, total	mg/L	0.0013	0.0011	0.0087	0.0008	0.0013	0.0018	0.0015	<0.001	0.004	0.004	<0.001	0.001	0.0042		0.01	0.006	0.002	0.003	0.001	0.002		0.0014	0.004
Phosphorus, total	mg/L	<0.05				<0.05	<0.05		0.05	0.04	0.04	0.02	0.01			0.1	0.07	0.07	0.06	0.03	<0.01			0.18
Potassium, total	mg/L	1.3	1.3	1.4	1.5	1	1.2	1	3.04	1.22	1.25	1.24	1.4	1		2.34	2.86	4.56	3.59	4.3	1.2		1.4	3.7
Selenium, total	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0008	<0.0006	0.0006	0.0007	0.0008	0.0004		<0.0006	<0.0006	<0.0006	<0.0006	0.0006	<0.0006		<0.0002	<0.0006
Silver, total	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00001	0.00005		<0.00001	<0.00001	<0.00001	0.00005	0.00016	<0.00001		0.00005	<0.00001
Sodium, total	mg/L	8.4	8.9	7.3	9.5	9.6	7.6	7.2	11.4	5	6.4	8	8.8	11.7		9.4	10.4	12.6	10.5	10.7			9.6	9.83
Thallium, total	mg/L	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00004	<0.00001	<0.00001	<0.00001	<0.00001	<0.00005		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001		<0.00005	0.00003
Zinc, total	mg/L	0.004	0.003	0.03	0.003	0.006	0.006	0.007	0.006	0.002	0.004	0.003	0.011	0.008		0.015	0.007	0.011	0.008	0.008	0.008		0.008	0.015
Aluminum, dissolved	mg/L	0.016			0.013	0.009	0.016	0.008	<0.02	<0.02	0.03		<0.01	0.018	0.005	0.047				0.036	0.011	0.005	0.016	0.055
Arsenic, dissolved	mg/L	0.0005			0.0006	0.0005	0.0005	0.0004	0.0002	0.0011	0.0018		0.0007	0.0006	0.0003	0.0006				0.0007	0.0005	0.0004	0.0003	0.0005
Cadmium, dissolved	mg/L	<0.00001			<0.00001	<0.00001	<0.00001	<0.00001	<0.00008	<0.00008	<0.00008		<0.00008	<0.00001	<0.00001	<0.00001				<0.00001	0.00001	<0.00001	0.00002	0.00004
Calcium, dissolved	mg/L	39.6			41.9	42.4	34.5	37.1	38.4	18.5	23.7		39.4	31	40.8	34.2				37.6	28.5	43.9	39.4	36.6
Chromium, dissolved	mg/L	<0.0005			<0.0005	0.0005	0.0006	0.0007	<0.0006	<0.0006	0.0014		0.0012	<0.0005	<0.0005	0.0011				0.0021	0.0009	0.0008	<0.0005	0.0005
Copper, dissolved	mg/L	0.003			0.004	0.003	0.002	0.001	0.002	0.002	0.003		0.002	0.004	0.002	0.013				0.015	0.006	0.004	0.005	0.006
Iron, dissolved	mg/L	0.05			0.06	0.08	0.17	0.1	<0.02	0.12	0.11		0.02	0.11	0.04	0.33				0.31	0.112	0.06	0.05	0.08
Lead, dissolved	mg/L	<0.0001			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		0.0002	0.0001	0.0001	0.0002				0.0001	<0.0001	<0.0001	<0.0001	0.0003
Magnesium, dissolved	mg/L	12.1			13.8	13.2	10.5	11.3	16.1	5.71	7.22		12.1	9.4	12.3	9.65				11	8.47	14.4	12.5	14.5
Manganese, dissolved	mg/L	0.006			0.007	0.008	0.015	0.016	0.022	0.0093	0.0055		0.0049	<0.005	0.007	0.0185				0.0908	0.0176	0.0091	0.016	0.0344
Mercury, dissolved	mg/L	<0.0001			<0.0001	<0.0001	<0.0001		<0.00001	<0.00001	<0.00001		<0.00001	<0.0001	<0.0001	<0.00001				<0.00001	<0.00001	<0.00001	<0.0001	<0.00001
Molybdenum, dissolved	mg/L	0.001			0.001	0.001	<0.001	<0.001	0.00073	0.00055	0.00091		0.00099	0.001	0.001	0.00214				0.00254	0.00096	0.00098	0.001	0.00072
Nickel, dissolved	mg/L	<0.0005			<0.0005	0.0014	0.0014	<0.0005	<0.001	0.002	0.002		0.001	0.0013	0.0007	0.002				0.002	0.002	0.001	0.0012	<0.001
Phosphorus, dissolved	mg/L								0.04	<0.01	<0.01		<0.01			0.02				0.01	<0.01	0.01		0.11

Station Name		W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	
Sample Date		4/30/2009	5/5/2009	5/27/2009	6/17/2009	6/26/2009	6/27/2009	6/28/2009	6/29/2009	6/30/2009	6/30/2009	7/1/2009	7/2/2009	7/3/2009	7/4/2009	7/5/2009	7/6/2009	7/7/2009	7/8/2009	7/8/2009	7/9/2009	7/9/2009	7/10/2009	7/10/2009	7/11/2009
pH (field)	pH units	7.4		7.98	8.17		8.21	8.29	7.9	8.26		8.32	8.2	8.18	8.2	8.17	8.11	8.2	8.17		8.46		8.4		8.38
pH (lab)	pH units	7.07	7.03	7.98	7.98	8.2			8.2			8.3	8.2	8.3		8.2									
Hardness (from dissolved)	mg/L	30	35	117	129	147			164							182									
Hardness (from total)	mg/L					156			165							176									
Total Dissolved Solids	mg/L	64	52	176	138	180			230			250	270	240		240									
Total Suspended Solids	mg/L	72	87	8	<2	8			40			21	7	10		10				9		10		9	
Alkalinity, total	mg/L	23	24	110	122				130							150									
Sulphate, dissolved	mg/L	1.02	1.4	17.9	18				29							41									
Chloride	mg/L	0.54	0.5	0.87	1.22				2.6							2.7									
Fluoride	mg/L								0.43							0.43									
Nitrite (N)	mg/L					<0.005			0.044							0.024									
Nitrate (N)	mg/L					0.1			2.23							2.19									
Ammonia	mg/L					0.007			<0.005							<0.005									
Aluminum, total	mg/L	2.04	1.93	0.11	0.025	0.034			0.871							0.212									
Arsenic, total	mg/L	0.001	0.0011	0.0005	0.0003	0.0004			0.001							0.0006									
Cadmium, total	mg/L	0.00007	0.00006	0.00094	0.00001	0.00002			0.00003							0.00002									
Calcium, total	mg/L	10	11.4	32.4	35.2	41.4			43.7							47.5									
Chromium, total	mg/L	0.0043	0.0046	0.0012	0.0005	<0.001			0.002							<0.001									
Copper, total	mg/L	0.022	0.018	0.008	0.004	0.0049			0.0287							0.0231									
Iron, total	mg/L	3.45	2.98	0.26	0.06	0.07			1.37							0.427									
Lead, total	mg/L	0.0012	0.0011	0.0004	<0.0001	<0.0002			0.0006							0.0002									
Magnesium, total	mg/L	3.44	3.34	10.6	11.1	12.7			13.6							13.9									
Manganese, total	mg/L	0.155	0.135	0.0215	0.0042	0.006			0.112							0.028									
Mercury, total	mg/L	0.00002	0.00001	<0.00001	<0.00001	<0.00002			<0.00002							<0.00002									
Molybdenum, total	mg/L	0.00024	0.00028	0.00173	0.00162	0.002			0.007							0.007									
Nickel, total	mg/L	0.004	0.005	0.002	0.001	0.001			0.003							0.001									
Phosphorus, total	mg/L	0.19	0.162	<0.05	0.014																				
Potassium, total	mg/L	2.3	1.6	1.5	1.4	1.56			3.75							3.91									
Selenium, total	mg/L	<0.0006	<0.0006	<0.0006	<0.0006	0.0002			0.0015							0.0015									
Silver, total	mg/L	0.00004	<0.00001	<0.00001	0.00068	<0.00002			<0.00002							<0.00002									
Sodium, total	mg/L	1.73	1.7	8.08	8.25	9.04			12.9							13.1									
Thallium, total	mg/L	0.00002	0.00002	<0.00001	<0.00001	<0.00005			<0.00005							<0.00005									
Zinc, total	mg/L	0.07	0.016	0.007	0.004	<0.005			0.007							<0.005									
Aluminum, dissolved	mg/L	0.076	0.102	0.013	0.013	0.007			0.027							0.017									
Arsenic, dissolved	mg/L	0.0003	0.0003	0.0004	0.0004	0.0004			0.0005							0.0005									
Cadmium, dissolved	mg/L	0.00104	0.00008	0.00025	<0.00001	<0.00001			0.00002							0.00002									
Calcium, dissolved	mg/L	8.18	9.87	30.4	34	39			43.2							50									
Chromium, dissolved	mg/L	0.0008	0.0012	0.0015	<0.0004	<0.001			<0.001							<0.001									
Copper, dissolved	mg/L	0.01	0.006	0.01	0.003	0.0029			0.0167							0.0194									
Iron, dissolved	mg/L	0.14	0.28	0.1	0.04	0.022			0.127							0.081									
Lead, dissolved	mg/L	0.0003	0.0002	0.0003	<0.0001	<0.0002			<0.0002							<0.0002									
Magnesium, dissolved	mg/L	2.25	2.55	9.89	10.8	12.1			13.6							14									
Manganese, dissolved	mg/L	0.0263	0.0301	0.003	0.0033	0.003			0.003							0.004									
Mercury, dissolved	mg/L	0.00001	<0.00001	<0.00001	<0.00001	<0.00002			<0.00002							<0.00002									
Molybdenum, dissolved	mg/L	0.00018	0.00029	0.00145	0.00142	0.002			0.008							0.007									
Nickel, dissolved	mg/L	<0.001	0.001	0.001	0.001	0.001			0.001							<0.001									
Phosphorus, dissolved	mg/L	0.09	0.04	<0.01	0.01																				
Potassium, dissolved	mg/L	2	1.5	1.4	1.4	1.45			3.55							4.09									
Selenium, dissolved	mg/L	<0.0006	<0.0006	<0.0006	<0.0006	0.0001			0.0015							0.0014									
Silver, dissolved	mg/L	<0.00001	<0.00001	<0.00001	<0.00001	<0.00002			<0.00002							<0.00002									
Sodium, dissolved	mg/L	1.6	1.6	7.5	8.1	8.54			13.3							13.9									
Thallium, dissolved	mg/L	<0.00001	<0.00001	<0.00001	<0.00001	<0.00005			<0.00005							<0.00005									
Zinc, dissolved	mg/L	0.02	0.006	0.004	0.001	<0.005			<0.005							<0.005									

Data omitted from calculation of summary statistics

Station Name		W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2		
Sample Date		7/11/2009	7/12/2009	7/12/2009	7/13/2009	7/14/2009	7/15/2009	7/16/2009	7/17/2009	7/18/2009	7/19/2009	7/20/2009	7/21/2009	7/22/2009	7/22/2009	7/23/2009	7/24/2009	7/24/2009	7/25/2009	7/25/2009	7/26/2009	7/26/2009	7/27/2009	7/28/2009
pH (field)	pH units		8.39		8.4	8.42	8.36	8.41	8.3	8.61	8.34	8.19	8.34	8.43		8.32	8.37		8.39			8.43	8.4	7.94
pH (lab)	pH units			8.3			8.3	8.2	8.2	8	8.2			8.1	8			8.2		8.2	8.1	8.2	8.2	8.05
Hardness (from dissolved)	mg/L			180				179	175	131			160											155
Hardness (from total)	mg/L			185				199	194	150			158											
Total Dissolved Solids	mg/L			270			260	240	230	210	220				210	230			220					240
Total Suspended Solids	mg/L	7		6			11	10	8	31					5	6								14
Alkalinity, total	mg/L			160				160	160	84														140
Sulphate, dissolved	mg/L			39				47	46	46														42
Chloride	mg/L			2.8				3.1	3	8.6														5.6
Fluoride	mg/L			0.41				0.43	0.46	0.37														0.38
Nitrite (N)	mg/L			0.022				0.026	0.025	0.125			0.045											0.055
Nitrate (N)	mg/L			2.15				1.96	2.02	5.8			2.7											2.9
Ammonia	mg/L			<0.005				0.007	<0.005	0.83			0.029											0.013
Aluminum, total	mg/L			0.15				0.221	0.161	1.18			0.374											0.395
Arsenic, total	mg/L			0.0005				0.0006	0.0005	0.0015			0.0005											0.0005
Cadmium, total	mg/L			0.00003				0.00003	0.00002	0.00007			0.00004											<0.00001
Calcium, total	mg/L			49.4				53	51.5	41.5			43.2											49.3
Chromium, total	mg/L			<0.001				0.001	<0.001	0.003			0.001											<0.001
Copper, total	mg/L			0.0205				0.0352	0.0318	0.0611			0.0166											0.0243
Iron, total	mg/L			0.301				0.468	0.352	1.82			0.647											0.596
Lead, total	mg/L			0.0002				0.0002	0.0002	0.0017			0.0004											0.0005
Magnesium, total	mg/L			15.1				16.2	15.8	11.4			12.1											13.8
Manganese, total	mg/L			0.023				0.033	0.025	0.156			0.038											0.051
Mercury, total	mg/L			0.00003				<0.00002	0.00016	0.00004			<0.00002											<0.00002
Molybdenum, total	mg/L			0.007				0.009	0.009	0.017			0.007											0.009
Nickel, total	mg/L			0.001				0.002	0.001	0.004			0.002											0.002
Phosphorus, total	mg/L																							
Potassium, total	mg/L			3.87				4.52	4.48	3.71			2.66											3.64
Selenium, total	mg/L			0.0011				0.0014	0.0013	0.0022			0.0008											0.0013
Silver, total	mg/L			<0.00002				<0.00002	<0.00002	0.00002			<0.00002											<0.00002
Sodium, total	mg/L			13.6				15	14.9	11.7			9.89											13.3
Thallium, total	mg/L			<0.00005				<0.00005	<0.00005	<0.00005			<0.00005											<0.00005
Zinc, total	mg/L			0.006				<0.005	<0.005	0.011			0.009											0.01
Aluminum, dissolved	mg/L			0.013				0.016	0.015	0.046			0.011											0.013
Arsenic, dissolved	mg/L			0.0005				0.0005	0.0005	0.0009			0.0004											0.0005
Cadmium, dissolved	mg/L			0.00001				0.00001	<0.00001	0.00003			0.00002											0.00002
Calcium, dissolved	mg/L			48.4				48.2	47.2	37.1			43											43.5
Chromium, dissolved	mg/L			<0.001				<0.001	<0.001	<0.001			<0.001											<0.001
Copper, dissolved	mg/L			0.0163				0.0227	0.0226	0.0192			0.0084											0.0128
Iron, dissolved	mg/L			0.063				0.077	0.076	0.097			0.043											0.052
Lead, dissolved	mg/L			<0.0002				<0.0002	<0.0002	0.0003			<0.0002											<0.0002
Magnesium, dissolved	mg/L			14.4				14.2	13.8	9.37			12.8											12.3
Manganese, dissolved	mg/L			0.003				0.002	0.003	0.093			0.004											0.002
Mercury, dissolved	mg/L			<0.00002				<0.00002	<0.00002	0.00003			0.00007											<0.00002
Molybdenum, dissolved	mg/L			0.007				0.007	0.008	0.015			0.007											0.009
Nickel, dissolved	mg/L			<0.001				0.001	0.001	0.001			0.001											0.001
Phosphorus, dissolved	mg/L																							
Potassium, dissolved	mg/L			3.81				4.01	4.04	3.02			2.66											3.38
Selenium, dissolved	mg/L			0.0011				0.0013	0.0013	0.0021			0.0009											0.0014
Silver, dissolved	mg/L			<0.00002				<0.00002	<0.00002	<0.00002			<0.00002											<0.00002
Sodium, dissolved	mg/L			13.4				13.7	13.4	10.4			10.8											11.5
Thallium, dissolved	mg/L			<0.00005				<0.00005	<0.00005	<0.00005			<0.00005											<0.00005
Zinc, dissolved	mg/L			<0.005				<0.005	<0.005	<0.005			<0.005											<0.005

Data omitted from calculation of summary statistics

Station Name		W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2		
Sample Date		7/29/2009	7/30/2009	7/31/2009	8/1/2009	8/1/2009	8/2/2009	8/2/2009	8/3/2009	8/3/2009	8/4/2009	8/5/2009	8/8/2009	8/9/2009	8/10/2009	8/11/2009	8/12/2009	8/14/2009	8/15/2009	8/16/2009	8/17/2009	8/18/2009	8/19/2009	8/20/2009	8/21/2009
pH (field)	pH units	7.9	7.79	8.36		8.1		7.87		8.13	8	8.34		7.85	7.8			7.87	7.83	7.79	7.87	7.84	7.96	8.1	8.08
pH (lab)	pH units	8.1	8.1	8.1	8.2		8.2		8.1		8.3	8.3	8.2			8.05	8.1	8.1	8.2	8.2	8.2	8.2	8	8.1	8.1
Hardness (from dissolved)	mg/L				186											138	148		164				157		
Hardness (from total)	mg/L				180								194				157		166				225		
Total Dissolved Solids	mg/L	210	200	210	230		240		240		260	240	200			234	220	260	220	230	240	240	220	210	220
Total Suspended Solids	mg/L	<4	<4	4	5		4		<4		7	<4	<4			<2	<4	18	15	13	17	100	550	33	21
Alkalinity, total	mg/L				140											140	140		120				120	120	120
Sulphate, dissolved	mg/L				38											24	19		38				30	32	33
Chloride	mg/L				6.2											1.91	2.2		11				10	11	11
Fluoride	mg/L				0.37												0.32		0.27				0.26	0.28	0.28
Nitrite (N)	mg/L				0.014								<0.005				<0.005		0.04				0.014	0.023	0.024
Nitrate (N)	mg/L				1.56								0.38				0.33		3.4				3.2	3.4	3.6
Ammonia	mg/L				0.01								<0.005				<0.005		0.012				<0.005	<0.005	<0.005
Aluminum, total	mg/L				0.192								0.14			0.05	0.047		0.339				8.02		
Arsenic, total	mg/L				0.0005								0.0006			0.0007	0.0003		0.0005				0.0052		
Cadmium, total	mg/L				0.00003								0.00062			<0.00001	0.00003		0.00026				0.00018		
Calcium, total	mg/L				48.5								51.6			39.5	41.7		45.8				62.8		
Chromium, total	mg/L				<0.001								<0.001			0.001	<0.001		<0.001				0.014		
Copper, total	mg/L				0.0161								0.0127			0.004	0.0113		0.0118				0.0656		
Iron, total	mg/L				0.312								0.371			0.204	0.124		0.625				11.7		
Lead, total	mg/L				0.0005								0.0006			0.0003	0.0005		0.0008				0.0043		
Magnesium, total	mg/L				14.3								15.9			12.5	12.9		12.6				16.6		
Manganese, total	mg/L				0.025								0.026			0.014	0.012		0.056				0.443		
Mercury, total	mg/L				0.00002								<0.00002				0.00002		<0.00002				<0.00002		
Molybdenum, total	mg/L				0.008								0.003			0.0021	0.002		0.009				0.008		
Nickel, total	mg/L				0.001								0.002			0.002	0.001		0.002				0.015		
Phosphorus, total	mg/L															<0.01									
Potassium, total	mg/L				3.4								2.47			1.6	1.67		2.83				4.11		
Selenium, total	mg/L				0.0012								0.0003			<0.0006	0.0003		0.0011				0.0011		
Silver, total	mg/L				<0.00002								<0.00002			<0.00001	<0.00002		<0.00002				0.00005		
Sodium, total	mg/L				13.5								11.6			9.12	9.29		12.5				12		
Thallium, total	mg/L				<0.00005								<0.00005			<0.00001	<0.00005		<0.00005				0.0001		
Zinc, total	mg/L				<0.005								0.007			0.002	<0.005		0.006				0.032		
Aluminum, dissolved	mg/L				0.035											0.008	0.007		0.016				0.023		
Arsenic, dissolved	mg/L				0.0005											0.0004	0.0004		0.0004				0.0006		
Cadmium, dissolved	mg/L				0.00003											<0.00001	<0.00001		0.00001				0.00001		
Calcium, dissolved	mg/L				52.3											36.6	39.9		44.7				42.5		
Chromium, dissolved	mg/L				<0.001											0.0009	<0.001		<0.001				<0.001		
Copper, dissolved	mg/L				0.0097											0.001	0.0028		0.0037				0.0036		
Iron, dissolved	mg/L				0.047											0.05	0.042		0.027				0.041		
Lead, dissolved	mg/L				<0.0002											0.0009	<0.0002		<0.0002				<0.0002		
Magnesium, dissolved	mg/L				13.6											11.4	11.9		12.7				12.2		
Manganese, dissolved	mg/L				0.003											0.0046	0.005		0.001				<0.001		
Mercury, dissolved	mg/L				0.00004												<0.00002		<0.00002				<0.00002		
Molybdenum, dissolved	mg/L				0.008											0.0019	0.002		0.009				0.008		
Nickel, dissolved	mg/L				0.001											0.001	<0.001		<0.001				<0.001		
Phosphorus, dissolved	mg/L															0.01									
Potassium, dissolved	mg/L				3.46											1.4	1.65		2.75				2.54		
Selenium, dissolved	mg/L				0.0012											<0.0006	0.0002		0.0011				0.001		
Silver, dissolved	mg/L				<0.00002											<0.00001	<0.00002		<0.00002				<0.00002		
Sodium, dissolved	mg/L				13.2											8.4	8.72		12.5				11.6		
Thallium, dissolved	mg/L				<0.00005											<0.00001	<0.00005		<0.00005				<0.00005		
Zinc, dissolved	mg/L				<0.005											0.001	<0.005		<0.005				<0.005		

Data omitted from calculation of summary statistics

Station Name		W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2		
Sample Date		8/22/2009	8/23/2009	8/24/2009	8/25/2009	8/26/2009	8/27/2009	8/28/2009	8/29/2009	8/30/2009	8/31/2009	9/1/2009	9/2/2009	9/3/2009	9/4/2009	9/5/2009	9/6/2009	9/7/2009	9/8/2009	9/9/2009	9/10/2009	9/11/2009	9/12/2009	9/13/2009	9/14/2009	
pH (field)	pH units	7.93	8.08	8.07	7.97	8.01	8.02	7.97	8.04	7.87	7.95	7.94	7.97	7.95	7.91	8	8.07	8.13	8.24	8.2	8.14	8.2	8.39	8.19	8.22	
pH (lab)	pH units	8.1	8.1	8.2	8.2	8.2	8	8.1	8	8	8	8.1	8.1	8.1	8.1	8.1	8	8.1	8.1	8.1	8.1	8.1	7.9	8.1	8	
Hardness (from dissolved)	mg/L	167								167						155								170		
Hardness (from total)	mg/L	161								229						175									171	
Total Dissolved Solids	mg/L	230	230	180	240	240	240	240	250	230	230	230	240	250	230	250	240	240	240	250	260	260	270	270	250	
Total Suspended Solids	mg/L	15	20	13	13	22	15	15	13	71	50	20	14	13	14	11	12	7	10	17	8	7	7	6	6	
Alkalinity, total	mg/L	120	120	110						110						100								110		
Sulphate, dissolved	mg/L	35	35	34						39						42										
Chloride	mg/L	12	12	14						20						22										
Fluoride	mg/L	0.29	0.29	0.28						0.26						0.25										
Nitrite (N)	mg/L	0.024	0.025	0.029						0.023						0.012								0.019		
Nitrate (N)	mg/L	3.8	3.8	4						4.5						4.8								4.6		
Ammonia	mg/L	<0.005	<0.005	<0.005						<0.005						<0.005								<0.005		
Aluminum, total	mg/L	0.395								1.92						0.257								0.191		
Arsenic, total	mg/L	0.0006								0.0012						0.0005								0.0004		
Cadmium, total	mg/L	0.00004								0.00007						0.00003								0.00004		
Calcium, total	mg/L	44								61.6						48								46.9		
Chromium, total	mg/L	0.001								0.003						<0.001								<0.001		
Copper, total	mg/L	0.011								0.0247						0.0056								0.0035		
Iron, total	mg/L	0.614								2.24						0.411								0.237		
Lead, total	mg/L	0.0009								0.0013						0.0005								0.0004		
Magnesium, total	mg/L	12.5								18.3						13.4								13.1		
Manganese, total	mg/L	0.049								0.165						0.046								0.029		
Mercury, total	mg/L	0.00003								<0.00002						<0.00002								<0.00002		
Molybdenum, total	mg/L	0.009								0.011						0.009								0.009		
Nickel, total	mg/L	0.001								0.004						0.001								0.001		
Phosphorus, total	mg/L																									
Potassium, total	mg/L	2.66								3.74						2.75								2.7		
Selenium, total	mg/L	0.001								0.0015						0.0012								0.0012		
Silver, total	mg/L	<0.00002								<0.00002						<0.00002								<0.00002		
Sodium, total	mg/L	12.1								19						14.9								14.4		
Thallium, total	mg/L	<0.00005								<0.00005						<0.00005								<0.00005		
Zinc, total	mg/L	0.005								0.014						<0.005								<0.005		
Aluminum, dissolved	mg/L	0.018								0.072						0.03								0.048		
Arsenic, dissolved	mg/L	0.0004								0.0003						0.0004								0.0003		
Cadmium, dissolved	mg/L	0.00002								<0.00001						<0.00001								0.00001		
Calcium, dissolved	mg/L	46								44.9						42.7								46.8		
Chromium, dissolved	mg/L	<0.001								<0.001						<0.001								<0.001		
Copper, dissolved	mg/L	0.0035								0.0079						0.0016								0.0015		
Iron, dissolved	mg/L	0.035								0.033						0.024								0.032		
Lead, dissolved	mg/L	<0.0002								<0.0002						<0.0002								<0.0002		
Magnesium, dissolved	mg/L	12.7								13.3						11.8								12.8		
Manganese, dissolved	mg/L	0.002								0.005						0.002								0.01		
Mercury, dissolved	mg/L	<0.00002								<0.00002						<0.00002								<0.00002		
Molybdenum, dissolved	mg/L	0.009								0.008						0.009								0.009		
Nickel, dissolved	mg/L	<0.001								<0.001						<0.001								<0.001		
Phosphorus, dissolved	mg/L																									
Potassium, dissolved	mg/L	2.82								2.66						2.37								2.47		
Selenium, dissolved	mg/L	0.0011								0.0011						0.0011								0.0011		
Silver, dissolved	mg/L	<0.00002								<0.00002						<0.00002								<0.00002		
Sodium, dissolved	mg/L	12.5								14.8						13.6								14.5		
Thallium, dissolved	mg/L	<0.00005								<0.00005						<0.00005								<0.00005		
Zinc, dissolved	mg/L	<0.005								<0.005						<0.005								<0.005		

Data omitted from calculation of summary statistics

Station Name		W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	
Sample Date		9/15/2009	9/16/2009	9/17/2009	9/18/2009	9/19/2009	9/20/2009	9/21/2009	9/22/2009	9/23/2009	9/24/2009	9/25/2009	9/26/2009	9/27/2009	9/28/2009	9/29/2009	9/30/2009	10/1/2009	10/2/2009	10/3/2009	10/4/2009	10/5/2009	10/6/2009	10/7/2009
pH (field)	pH units	8.12	8.25	8.02	8.45	8.21	8.24	7.93	8.08	8.28	8.09	8.12	8.24	8.13	8.11	8.33	8.02	7.82	7.79	7.65	7.7	7.8	8.03	8.1
pH (lab)	pH units	8.1	7.9	8.1	7.6	8.1	8.1	8	8	8	8.1	8	8.1	8.1	8.1	8.1	8.1	8.2	8.1	8.1	8.1	8.1	8.1	8.1
Hardness (from dissolved)	mg/L						169						168										174	
Hardness (from total)	mg/L						188						177										183	
Total Dissolved Solids	mg/L	260	260	250	250	250	230	270	240	250	240	250	230	270	240	240	260	250	240	190	270	270	270	280
Total Suspended Solids	mg/L	7	4	6	6	<4	<4	<4	<4	<4	5	5	4	5	5	<4	<4	5	<4	6	5	<4	7	<4
Alkalinity, total	mg/L																							
Sulphate, dissolved	mg/L																							
Chloride	mg/L																							
Fluoride	mg/L																							
Nitrite (N)	mg/L						0.014						0.012									0.014		
Nitrate (N)	mg/L						5.1						5.3									4.9		
Ammonia	mg/L						<0.005						<0.005									<0.005		
Aluminum, total	mg/L						0.169						0.127									0.131		
Arsenic, total	mg/L						0.0004						0.0005									0.0004		
Cadmium, total	mg/L						0.00003						0.00016									0.00016		
Calcium, total	mg/L						51.2						48.1									50.9		
Chromium, total	mg/L						<0.001						<0.001									<0.001		
Copper, total	mg/L						0.0034						0.0109									0.008		
Iron, total	mg/L						0.199						0.178									0.177		
Lead, total	mg/L						0.0004						0.0007									0.0004		
Magnesium, total	mg/L						14.7						13.8									13.6		
Manganese, total	mg/L						0.03						0.03									0.038		
Mercury, total	mg/L						0.00003						0.00003									<0.00002		
Molybdenum, total	mg/L						0.01						0.01									0.011		
Nickel, total	mg/L						0.001						0.003									0.001		
Phosphorus, total	mg/L																							
Potassium, total	mg/L						2.9						2.44									2.62		
Selenium, total	mg/L						0.0012						0.0011									0.0013		
Silver, total	mg/L						<0.00002						<0.00002									<0.00002		
Sodium, total	mg/L						15.3						14.6									13.9		
Thallium, total	mg/L						<0.00005						<0.00005									<0.00005		
Zinc, total	mg/L						<0.005						0.012									<0.005		
Aluminum, dissolved	mg/L						0.038						0.033									0.032		
Arsenic, dissolved	mg/L						0.0004						0.0004									0.0004		
Cadmium, dissolved	mg/L						0.00002						0.00002									0.00002		
Calcium, dissolved	mg/L						46.8						45.9									47.8		
Chromium, dissolved	mg/L						<0.001						<0.001									<0.001		
Copper, dissolved	mg/L						0.0015						0.0015									0.0013		
Iron, dissolved	mg/L						0.029						0.03									0.025		
Lead, dissolved	mg/L						<0.0002						<0.0002									<0.0002		
Magnesium, dissolved	mg/L						12.7						12.9									13.2		
Manganese, dissolved	mg/L						0.013						0.013									0.017		
Mercury, dissolved	mg/L						0.00006						0.00003									0.00006		
Molybdenum, dissolved	mg/L						0.01						0.01									0.011		
Nickel, dissolved	mg/L						<0.001						<0.001									<0.001		
Phosphorus, dissolved	mg/L																							
Potassium, dissolved	mg/L						2.53						2.52									2.51		
Selenium, dissolved	mg/L						0.0013						0.0012									0.0013		
Silver, dissolved	mg/L						<0.00002						<0.00002									<0.00002		
Sodium, dissolved	mg/L						14.5						13.6									13.7		
Thallium, dissolved	mg/L						<0.00005						<0.00005									<0.00005		
Zinc, dissolved	mg/L						<0.005						<0.005									<0.005		

Data omitted from calculation of summary statistics

Station Name		W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	
Sample Date		10/8/2009	10/9/2009	10/10/2009	10/11/2009	10/12/2009	10/13/2009	10/14/2009	10/15/2009	10/16/2009	10/17/2009	10/18/2009	10/19/2009	10/20/2009	10/21/2009	10/22/2009	10/23/2009	10/24/2009	10/25/2009	10/25/2009	10/26/2009	10/27/2009
pH (field)	pH units	8.03	8	8.05	8.11	8.16	8.13	8.43	8.4	7.7	8.2	8.3	8.3	8.25	8.21	8.25	8.13	8.09	8.11	8.11	8.16	8.05
pH (lab)	pH units	8.1	8.1	8	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.2	8.1	8.1	8.1	8.1		8.1	8.1
Hardness (from dissolved)	mg/L				186									185							176	174
Hardness (from total)	mg/L				170									199							189	190
Total Dissolved Solids	mg/L	270	270	260	270	260	260	240	270	240	240	240	200	180	220	200	200	210	220		230	220
Total Suspended Solids	mg/L	5	5	<4	4	6	9	9	<4	9	12	<4	<4	<4	<4	47	<4	<4	4		<4	<4
Alkalinity, total	mg/L													130							130	130
Sulphate, dissolved	mg/L																					
Chloride	mg/L																					
Fluoride	mg/L													0.32								
Nitrite (N)	mg/L				0.013									<0.005						<0.005		<0.005
Nitrate (N)	mg/L				5.7									4.6						3.9		3.8
Ammonia	mg/L				<0.005									<0.005						<0.005		<0.005
Aluminum, total	mg/L				0.144									0.056						0.108		0.056
Arsenic, total	mg/L				0.0004									0.0003						0.0004		0.0003
Cadmium, total	mg/L				0.00005									<0.00001						0.00003		0.00005
Calcium, total	mg/L				46.8									55						51		51.3
Chromium, total	mg/L				<0.001									<0.001						<0.001		<0.001
Copper, total	mg/L				0.0034									0.003						0.0039		0.0036
Iron, total	mg/L				0.205									0.128						0.219		0.13
Lead, total	mg/L				<0.0002									<0.0002						<0.0002		<0.0002
Magnesium, total	mg/L				12.9									15.1						14.9		15.2
Manganese, total	mg/L				0.05									0.029						0.027		0.019
Mercury, total	mg/L				0.00005									<0.00002						<0.00002		<0.00002
Molybdenum, total	mg/L				0.01									0.008						0.007		0.007
Nickel, total	mg/L				0.001									0.001						0.001		0.001
Phosphorus, total	mg/L																					
Potassium, total	mg/L				2.41									2.44						2.26		2.13
Selenium, total	mg/L				0.0013									0.0011						0.001		0.0009
Silver, total	mg/L				<0.00002									<0.00002						<0.00002		<0.00002
Sodium, total	mg/L				13									13.4						13.3		13.5
Thallium, total	mg/L				<0.00005									<0.00005						<0.00005		<0.00005
Zinc, total	mg/L				<0.005									<0.005						<0.005		<0.005
Aluminum, dissolved	mg/L				0.039									0.018						0.014		0.014
Arsenic, dissolved	mg/L				0.0004									0.0003						0.0003		0.0004
Cadmium, dissolved	mg/L				0.00001									<0.00001						<0.00001		0.00002
Calcium, dissolved	mg/L				51.2									51.2						48.3		48
Chromium, dissolved	mg/L				<0.001									<0.001						<0.001		<0.001
Copper, dissolved	mg/L				0.0014									0.0016						0.0016		0.0015
Iron, dissolved	mg/L				0.029									0.029						0.026		0.042
Lead, dissolved	mg/L				<0.0002									<0.0002						<0.0002		<0.0002
Magnesium, dissolved	mg/L				14.1									13.9						13.4		13.1
Manganese, dissolved	mg/L				0.032									0.013						0.009		0.01
Mercury, dissolved	mg/L				<0.00002									<0.00002						<0.00002		0.00007
Molybdenum, dissolved	mg/L				0.011									0.008						0.007		0.007
Nickel, dissolved	mg/L				<0.001									<0.001						<0.001		<0.001
Phosphorus, dissolved	mg/L																					
Potassium, dissolved	mg/L				2.62									2.34						2.11		2.01
Selenium, dissolved	mg/L				0.0014									0.0013						0.0008		0.0009
Silver, dissolved	mg/L				<0.00002									<0.00002						<0.00002		<0.00002
Sodium, dissolved	mg/L				14.9									13.3						12.1		11.7
Thallium, dissolved	mg/L				<0.00005									<0.00005						<0.00005		<0.00005
Zinc, dissolved	mg/L				<0.005									<0.005						<0.005		<0.005

Data omitted from calculation of summary statistics

Station Name		W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2
Sample Date		5/6/2010	5/7/2010	5/8/2010	5/9/2010	5/10/2010	5/11/2010	5/12/2010	5/13/2010	5/14/2010	5/15/2010	5/16/2010	5/17/2010	5/18/2010	5/19/2010	5/20/2010	5/21/2010	5/22/2010	5/23/2010	5/24/2010	5/25/2010	5/26/2010	5/27/2010	5/28/2010
pH (field)	pH units	8.09	8.13	8.04	8.01	8.18				7.8	7.93	7.97	7.87	7.86	7.76	7.26	7.67	7.85	7.91	7.84	7.62	7.87	7.98	7.97
pH (lab)	pH units	8	8.1	8.1	8	7.9	8	8.1	8	8.1	8.2	8.1	7.8	8.2	8.2	8.1	8.1	8.2	8.1	8.1	8.3	7.9	8.2	8.3
Hardness (from dissolved)	mg/L	77.7	78.7	84.1	87.2	93.8	99.5	104	103	112	113	113	119	122	118	118	117	117	113	114	135	129	144	132
Hardness (from total)	mg/L	79.4	81.4	86.4	94.1	98.5	101	108	98.9	111	108	110	113	118	122	119	121	106	113	115	144	128	130	125
Total Dissolved Solids	mg/L	130	120	120	140	130	110	150	110	170	170	160	170	160	150	160	160	170	160	160	140	150	160	160
Total Suspended Solids	mg/L	5	<4	5	<4	<4	<4	<4	<4	<4	<4	<4	<4	1	<1	<1	<1	7	2	<1	1	37	6	20
Alkalinity, total	mg/L	74	78	81	81	89	93	98	98	110	110	110	100	110	110	110	110	110	110	110	120	120	120	120
Sulphate, dissolved	mg/L	5.5	7.9	8.1	2.7	13	13	14	14	17	15	14	15	15	16	16	16	16	16	16	15	17	17	17
Chloride	mg/L	1.1	1.2	1.1	<0.5	1.9	3.9	1.4	1.3	1.7	1.6	1.4	1.5	1.2	1.2	1.2	1.7	1.6	1.8	1	1.7	1.7	1.2	1.6
Fluoride	mg/L	0.17	0.19	0.2	0.2	0.23	0.17	0.16	0.22	0.24	0.23	0.24	0.24	0.27	0.28	0.26	0.29	0.31	0.3	0.31	0.29	0.29	0.3	0.37
Nitrite (N)	mg/L	<0.005	<0.005	<0.005	0.007	0.009	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Nitrate (N)	mg/L	0.03	0.02	0.02	0.12	0.11	0.04	0.03	0.08	0.05	0.04	0.03	0.05	0.03	0.05	0.03	0.05	0.05	0.05	0.05	0.04	0.08	0.09	0.08
Ammonia	mg/L	0.05	0.01	0.018	0.01	0.034	0.12	0.02	0.016	0.12	0.065	0.084	0.028	0.07	0.04	0.03	0.011	0.006	<0.005	0.08	0.07	0.18	0.025	0.008
Aluminum, total	mg/L	0.178	0.147	0.152	0.137	0.097	0.061	0.059	0.053	0.089	0.035	0.036	0.027	0.033	0.029	0.093	0.036	0.022	0.026	0.033	0.047	0.056	0.11	0.122
Arsenic, total	mg/L	0.0007	0.0005	0.0005	0.0006	0.0005	0.0005	0.0004	0.0004	0.0005	0.0004	0.0004	0.0004	<0.001	<0.001	<0.001	0.0004	<0.0004	<0.0004	0.0004	<0.001	<0.001	0.0004	<0.0004
Cadmium, total	mg/L	0.00002	<0.00001	0.00004	0.00005	0.00012	0.00003	0.00008	0.00006	0.00019	<0.00001	<0.00001	0.00002	0.00002	0.00001	<0.00001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium, total	mg/L	21.1	21.5	22.9	24.9	26.1	27.2	29	26.6	29.4	28.9	29.4	30.3	30.6	31.8	30.5	32	28	30	30	37	32	34	33
Chromium, total	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.001	0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Copper, total	mg/L	0.007	0.0048	0.0034	0.0089	0.0069	0.004	0.008	0.0066	0.0127	0.0031	0.0029	0.0032	0.0024	0.003	0.0032	0.003	0.002	0.002	0.002	0.004	0.003	0.002	0.003
Iron, total	mg/L	0.666	0.521	0.468	0.431	0.37	0.259	0.24	0.181	0.174	0.123	0.143	0.106	0.099	0.111	0.176	0.123	0.109	0.127	0.127	0.111	0.159	0.24	0.258
Lead, total	mg/L	0.0002	0.0009	<0.0002	0.0003	0.0003	<0.0002	0.0002	0.0003	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Magnesium, total	mg/L	6.47	6.71	7.09	7.75	8.07	7.92	8.63	7.89	9.19	8.66	8.94	9.15	10.1	10.4	10.5	10	9	9	10	13	12	11	11
Manganese, total	mg/L	0.02	0.017	0.016	0.013	0.011	0.009	0.007	0.007	0.015	0.006	0.005	0.006	0.006	0.007	0.012	0.007	0.005	0.007	0.007	0.007	0.008	0.012	0.015
Mercury, total	mg/L	0.00005	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.00006	<0.0002	<0.0002	<0.0002	<0.00002	<0.00002	<0.00002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00002	<0.00002	<0.00002	<0.00002
Molybdenum, total	mg/L	<0.001	<0.001	<0.001	<0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002
Nickel, total	mg/L	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.002	0.001	0.001	0.001	<0.003	<0.003	<0.003	0.001	<0.001	<0.001	0.001	<0.003	<0.003	<0.001	0.001
Phosphorus, total	mg/L	0.033	0.031	0.032	0.027	0.03	0.018	0.018	0.018	0.016	0.012	0.013	0.017	0.017	0.021									
Potassium, total	mg/L	1.2	1.14	1.16	1.22	1.25	1.27	1.36	1.17	1.46	1.18	1.2	1.2	1.31	1.34	1.3	1	1	1	1	2	1	1	1
Selenium, total	mg/L	0.0001	<0.0001	0.0001	0.0001	0.0001	<0.0001	0.0001	<0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0004	0.0002	<0.0008	<0.0008	<0.0008	<0.0008	<0.001	<0.001	<0.0008	<0.0008
Silver, total	mg/L	<0.00002	0.00002	<0.00002	<0.00002	0.00004	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Sodium, total	mg/L	4.46	4.44	4.7	5.05	5.32	5.33	5.92	4.83	6.34	5.54	5.7	5.78	7.18	7.32	7.19	7	6	6	6	9	8	7	7
Thallium, total	mg/L	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Zinc, total	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	0.006	0.014	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Aluminum, dissolved	mg/L	0.024	0.021	0.019	0.016	0.016	0.014	0.014	0.012	0.018	0.01	0.015	0.011	0.008	0.007	0.007	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Arsenic, dissolved	mg/L	0.0005	0.0005	0.0004	0.0005	0.0004	0.0005	0.0005	0.0004	0.0004	0.0004	0.0004	0.0004	0.0003	0.0003	0.0004	<0.0004	<0.0004	<0.0004	0.0004	<0.001	<0.001	<0.001	<0.0004
Cadmium, dissolved	mg/L	<0.00001	0.00001	<0.00001	<0.00001	0.00004	<0.00001	0.00001	0.00001	0.00005	<0.00001	0.00001	<0.00001	0.00001	<0.00001	<0.00001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium, dissolved	mg/L	21.1	21.1	22.4	23.3	24.7	26.6	27.8	27.4	29.9	30.5	30.5	32	32.1	30.5	30.2	31	31	30	31	34	33	36	35
Chromium, dissolved	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Copper, dissolved	mg/L	0.0026	0.0026	0.0025	0.0028	0.003	0.0022	0.0023	0.0022	0.0061	0.0022	0.002	0.0027	0.0019	0.0019	0.0019	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Iron, dissolved	mg/L	0.324	0.273	0.235	0.214	0.199	0.148	0.129	0.086	0.066	0.06	0.065	0.052	0.047	0.057	0.061	0.057	0.06	0.066	0.061	0.043	0.049	0.037	0.032
Lead, dissolved	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Magnesium, dissolved	mg/L	6.1	6.32	6.85	7.05	7.81	8.04	8.44	8.35	8.93	8.96	9.05	9.45	10.2	10.1	10.4	9	10	9	9	12	11	13	11
Manganese, dissolved	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Mercury, dissolved	mg/L	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.00006	<0.00002	<0.00002	<0.00002	<0.0002	<0.0002	<0.0002	<0.00002	<0.00002	<0.00002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00002	<0.00002	<0.00002	<0.00002
Molybdenum, dissolved	mg/L	<0.001	<0.001	<0.001	<0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002
Nickel, dissolved	mg/L	0.001	0.004	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.001	<0.001	<0.003	<0.003	<0.003	<0.001
Phosphorus, dissolved	mg/L	0.019	0.016	0																				

Station Name		W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	
Sample Date		6/25/2010	6/26/2010	6/26/2010	6/27/2010	6/28/2010	6/29/2010	6/30/2010	7/1/2010	7/2/2010	7/3/2010	7/4/2010	7/5/2010	7/6/2010	7/7/2010	7/8/2010	7/9/2010	7/10/2010	7/11/2010	7/12/2010	7/13/2010	7/14/2010	7/15/2010	7/16/2010	7/17/2010
pH (field)	pH units	7.76		7.78	7.53	7.49	7.89	7.94	8.13	7.13	8.11	8.16	8.14	8.07	8.11	8.15	8.02	8.15	8.03	8.11	7.82	8.31	8.26	7.9	7.85
pH (lab)	pH units	8.32	8.39		8.03	7.94	7.96	8.02	7.86	7.85	8.05	7.98	7.98	8.03	8.07	8.11	8.03	8.11	8.22	8.06	8.06	7.9	8.13	8.14	8.13
Hardness (from dissolved)	mg/L	136	139		140	139	145	141	105	102	119	118	124	132	142	144	138	140	144	149	150	147	120	130	137
Hardness (from total)	mg/L	132	136		136	139	140	142	113	115	107	123	135	127	141	141	146	152	151	146	153	156	143	145	137
Total Dissolved Solids	mg/L	170	160		190	190	200	190	190	180	180	170	180	190	190	200	170	170	170	170	180	220	170	200	210
Total Suspended Solids	mg/L	<1	<1		<1	<1	<1	<1	87	66	26	17	8	4	6	3	2	2	2	<1	<1	2	97	37	20
Alkalinity, total	mg/L	130	140		140	140	140	140	100	110	110	120	120	130	140	140	130	150	150	150	160	150	110	120	120
Sulphate, dissolved	mg/L	20	23		24	23	23	23	9.1	9.5	12	14	15	18	22	23	24	26	28	26	26	24	17	21	26
Chloride	mg/L	1.8	1.7		1.7	1.9	1.7	1.6	0.9	1	1	1.1	1.2	1.4	1.7	1.9	1.8	1.7	2.1	2.4	2.3	2.5	3.5	5.3	7.4
Fluoride	mg/L	0.33	0.32		0.29	0.28	0.29	0.29	0.25	0.24	0.25	0.26	0.28	0.28	0.3	0.3	0.29	0.3	0.29	0.35	0.28	0.31	0.26	0.26	0.28
Nitrite (N)	mg/L	<0.005	<0.005		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	0.013	0.015	0.014
Nitrate (N)	mg/L	0.38	0.39		0.26	0.15	0.12	0.04	0.1	0.16	0.18	0.27	0.34	0.38	0.45	0.49	0.53	0.53	0.4	0.53	0.51	0.35	1.31	1.78	2.11
Ammonia	mg/L	0.01	0.017		0.011	0.019	0.018	0.018	<0.05	<0.05	<0.05	<0.05	<0.05	0.018	0.014	0.011	<0.03	<0.03	0.036	0.063	0.02	0.009	0.02	0.1	<0.005
Aluminum, total	mg/L	0.014	0.01		0.012	<0.01	<0.01	0.017	1.92	1.31	0.543	0.367	0.189	0.066	0.115	0.037	0.029	0.033	0.032	0.031	0.021	0.029	1.86	0.738	0.411
Arsenic, total	mg/L	0.0004	<0.0004		<0.0004	<0.0004	<0.0004	<0.0004	0.0017	0.0011	0.0008	0.0006	0.0006	0.0005	0.0006	0.0005	<0.0004	<0.0004	<0.0004	<0.0004	0.0005	<0.0004	0.0014	0.0009	0.0006
Cadmium, total	mg/L	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium, total	mg/L	35	36		37	38	36	38	29	30	27	33	35	34	37	37	39	40	38	40	41	39	38	36	36
Chromium, total	mg/L	<0.002	<0.002		<0.002	<0.002	<0.002	<0.002	0.004	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.002	<0.002	<0.002
Copper, total	mg/L	0.002	0.002		0.002	0.003	0.002	0.003	0.016	0.009	0.006	0.005	0.005	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.003	0.003	0.013	0.007	0.005
Iron, total	mg/L	0.048	0.036		0.033	0.262	0.028	0.049	3.29	1.88	0.818	0.657	0.378	0.168	0.213	0.084	0.072	0.071	0.06	0.06	0.055	0.064	3.44	1.32	0.718
Lead, total	mg/L	<0.0002	<0.0002		0.0032	0.0008	<0.0002	<0.0002	0.0013	0.0006	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.001	0.0003	0.0002
Magnesium, total	mg/L	11	11		11	11	12	12	10	10	10	10	12	11	12	12	12	13	12	12	13	13	11	12	11
Manganese, total	mg/L	0.005	0.006		0.008	0.011	0.008	0.012	0.279	0.137	0.067	0.045	0.028	0.016	0.019	0.011	0.012	0.013	0.014	0.011	0.01	0.014	0.273	0.101	0.054
Mercury, total	mg/L	<0.0002	<0.0002		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum, total	mg/L	0.002	0.002		0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003
Nickel, total	mg/L	<0.001	<0.001		0.001	0.001	<0.001	<0.001	0.006	0.004	0.003	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.001	0.001	0.005	0.003	0.002
Phosphorus, total	mg/L																								
Potassium, total	mg/L	1	1		1	1	1	2	1	1	<1	<1	1	1	1	1	1	2	2	1	1	2	1	2	2
Selenium, total	mg/L	<0.0008	<0.0008		<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008
Silver, total	mg/L	<0.0001	<0.0001		<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Sodium, total	mg/L	8	8		8	8	9	8	7	7	7	7	8	8	9	9	9	10	10	10	10	9	9	10	10
Thallium, total	mg/L	<0.00005	<0.00005		<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Zinc, total	mg/L	<0.01	<0.01		<0.01	<0.01	<0.01	<0.01	0.013	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Aluminum, dissolved	mg/L	<0.01	<0.01		<0.01	<0.01	<0.01	<0.01	0.026	0.023	0.02	0.019	0.018	0.011	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.023	0.02	0.02
Arsenic, dissolved	mg/L	<0.0004	<0.0004		<0.0004	<0.0004	<0.0004	<0.0004	0.0005	0.0005	0.0005	0.0005	0.0004	0.0005	0.0005	0.0004	0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	0.0006	0.0005	0.0005
Cadmium, dissolved	mg/L	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium, dissolved	mg/L	35	36		38	37	40	38	28	29	32	31	33	34	37	38	37	38	38	39	40	39	32	35	37
Chromium, dissolved	mg/L	<0.002	<0.002		<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Copper, dissolved	mg/L	0.002	0.002		0.002	0.002	0.002	0.002	0.003	0.002	0.003	0.003	0.003	0.003	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003
Iron, dissolved	mg/L	0.028	0.023		<0.02	<0.02	0.035	<0.02	0.161	0.143	0.126	0.093	0.082	0.058	0.037	0.033	0.028	0.025	0.022	0.023	0.025	0.023	0.135	0.106	0.094
Lead, dissolved	mg/L	<0.0002	<0.0002		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Magnesium, dissolved	mg/L	12	12		11	11	11	11	9	7	9	10	10	11	12	12	11	11	12	12	12	12	10	10	11
Manganese, dissolved	mg/L	0.002	0.004		0.004	0.002	0.003	<0.001	0.0																

Station Name		W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	
Sample Date		8/12/2010	8/13/2010	8/14/2010	8/15/2010	8/16/2010	8/17/2010	8/18/2010	8/19/2010	8/20/2010	8/21/2010	8/22/2010	8/23/2010	8/24/2010	8/25/2010	8/26/2010	8/27/2010	8/28/2010	8/29/2010	8/30/2010	8/31/2010	9/1/2010	9/2/2010	9/3/2010
pH (field)	pH units	8.54	7.83	8.09	7.76	8.5	8.43	8.53	8.35	7.31	7.87	8.46	8.15	8.22	8.17	8.21	8.12	8.22	8.23	8.26	8.28	8.28	8.2	8.13
pH (lab)	pH units	8.1	8.07	8.07	8.23	8.23	8.23	8.23	8.14	8.04	8.24	8.28	8.23	8.2	8.13	8.17	8.2	8.21	8.01	8.17	8.07	8.09	8.17	8.12
Hardness (from dissolved)	mg/L	164	163	175	183	186	187	168	120	127	148	154	157	167	166	170	177	182	177	165	182	181	182	179
Hardness (from total)	mg/L	190	159	170	167	202	196	217	137	140	151	155	154	167	175	183	183	180	190	160	176	189	178	193
Total Dissolved Solids	mg/L	240	190	260	280	270	270	270	210	210	200	260	250	250	250	280	260	250	300	230	300	280	270	300
Total Suspended Solids	mg/L	9	3	7	6	5	4	310	72	53	28	19	18	24	13	9	7	8	6	19	6	6	6	7
Alkalinity, total	mg/L	130	130	130	130	140	140	130	110	110	120	120	120	130	120	120	120	120	120	130	130	130	130	130
Sulphate, dissolved	mg/L	37	32	44	50	50	55	42	25	27	30	38	41	37	47	55	53	54	54	37	53	50	49	47
Chloride	mg/L	9.7	6.4	12	13	14	14	11	5.5	5.9	8.4	10	13	9.1	12	14	15	15	15	9.7	16	14	15	14
Fluoride	mg/L	0.32	0.31	0.34	0.34	0.34	0.35	0.33	0.31	0.28	0.32	0.31	0.35	0.33	0.27	0.27	0.27	0.28	0.27	0.3	0.33	0.36	0.35	0.35
Nitrite (N)	mg/L	<0.005	<0.005	0.026	0.009	0.008	0.012	<0.005	0.006	0.006	0.009	0.005	0.006	0.009	0.017	0.019	0.021	0.019	0.016	<0.005	0.015	0.011	0.012	0.011
Nitrate (N)	mg/L	3.7	2.18	4.7	5.7	5.7	6.4	4.5	2.05	2.1	2.9	3.6	3.7	3.8	5.5	5.5	5.5	5.5	6	3.5	5.9	6.4	6.4	6.1
Ammonia	mg/L	0.042	0.045	0.023	0.03	0.026	0.035	0.038	<0.01	0.1	0.019	<0.005	<0.05	<0.005	<0.005	0.08	0.033	0.028	0.01	0.036	0.043	0.015	0.049	0.028
Aluminum, total	mg/L	0.238	0.063	0.123	0.103	0.109	0.072	4.93	1.43	0.943	0.558	0.329	0.314	0.431	0.371	0.212	0.16	0.146	0.143	0.346	0.151	0.211	0.141	0.167
Arsenic, total	mg/L	0.0005	0.0005	0.0005	0.0006	0.0007	0.0006	0.0034	0.0012	0.001	0.0008	0.0007	0.0007	0.0008	0.0006	0.0006	0.0005	0.0006	0.0007	0.0006	0.0006	0.0006	0.0005	0.0005
Cadmium, total	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium, total	mg/L	50	43	45	43	55	53	59	36	37	40	42	41	45	46	49	49	48	50	43	47	50	47	52
Chromium, total	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.01	0.003	0.003	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Copper, total	mg/L	0.004	0.004	0.003	0.004	0.003	0.003	0.043	0.012	0.01	0.007	0.005	0.005	0.006	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.006	0.004
Iron, total	mg/L	0.506	0.216	0.26	0.223	0.264	0.187	9.57	2.68	1.9	1.15	0.73	0.632	0.956	0.488	0.457	0.392	0.352	0.341	0.754	0.322	0.354	0.297	0.38
Lead, total	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0026	0.0007	0.0005	0.0003	<0.0002	0.0002	0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Magnesium, total	mg/L	16	13	14	15	16	16	17	11	12	12	12	13	13	15	15	15	15	16	13	14	15	15	16
Manganese, total	mg/L	0.045	0.018	0.025	0.024	0.024	0.02	0.709	0.188	0.134	0.077	0.054	0.052	0.073	0.035	0.03	0.029	0.027	0.028	0.063	0.026	0.026	0.023	0.03
Mercury, total	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum, total	mg/L	0.006	0.004	0.007	0.007	0.008	0.008	0.007	0.003	0.004	0.004	0.006	0.005	0.006	0.007	0.008	0.007	0.008	0.009	0.005	0.008	0.008	0.008	0.008
Nickel, total	mg/L	0.002	0.002	0.002	0.001	0.001	0.002	0.011	0.005	0.004	0.003	0.002	0.002	0.003	0.002	0.003	0.002	0.001	0.002	0.002	0.001	0.003	0.002	0.002
Phosphorus, total	mg/L																							
Potassium, total	mg/L	3	2	3	3	3	3	3	2	2	2	2	2	2	3	3	3	3	3	2	3	3	3	3
Selenium, total	mg/L	0.0013	<0.0008	0.0015	0.0016	0.0019	0.0022	0.0021	0.0009	0.001	0.0012	0.0014	0.0013	0.0014	0.0019	0.0021	0.0021	0.0021	0.0023	0.0013	0.0021	0.0022	0.002	0.0021
Silver, total	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Sodium, total	mg/L	16	13	14	18	20	20	15	11	11	13	12	13	13	18	16	16	17	18	12	16	17	17	18
Thallium, total	mg/L	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00006	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Zinc, total	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.026	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Aluminum, dissolved	mg/L	0.019	0.014	0.017	0.021	0.019	0.015	0.017	0.02	0.022	0.018	0.019	0.018	0.022	0.018	0.019	0.019	0.019	0.025	0.019	0.026	0.027	0.027	0.022
Arsenic, dissolved	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.0004	0.0006	0.0006	0.0006	0.0006	0.0005	0.0005	0.0005	0.0005	0.0005	0.0004	0.0004	0.0005	0.0004	0.0004	0.0005	0.0005	0.0005
Cadmium, dissolved	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium, dissolved	mg/L	43	45	47	49	50	50	45	31	34	40	42	42	45	46	46	48	49	47	45	49	48	49	47
Chromium, dissolved	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Copper, dissolved	mg/L	0.002	0.002	0.002	0.002	0.003	0.001	0.002	0.003	0.002	0.002	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.002	0.002
Iron, dissolved	mg/L	0.097	0.095	0.069	0.064	0.061	0.041	0.092	0.187	0.147	0.149	0.125	0.103	0.136	0.098	0.097	0.098	0.097	0.08	0.129	0.081	0.095	0.091	0.099
Lead, dissolved	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Magnesium, dissolved	mg/L	13	13	14	15	15	15	13	10	10	12	12	13	13	12	13	14	14	14	13	14	14	14	15
Manganese, dissolved	mg/L	0.005	0.007	0.004	0.005	0.005	0.004	0.013	0.01	0.006	0.005	0.005	0.007	0.006	0.005	0.006	0.006	0.006	0.006	0.004	0.005	0.007	0.008	0.008
Mercury, dissolved	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum, dissolved	mg/L	0.005	0.004	0.006	0.007	0.008	0.008	0.007	0.003	0.004	0.005	0.005	0.005	0.005	0.007	0.007	0.007	0.007	0.007	0.005	0.008	0.008	0.008	0.008
Nickel, dissolved	mg/L	0.001	0.001	0.001	0.001	<0.001	<0.001	0.001	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	<0.001	<0.001	0.001	0.001	<0.001	0.001	0.002	0.001
Phosphorus, dissolved	mg/L																							
Potassium, dissolved	mg/L	2	2	3	3	3	3	3	1	1	2	2	2	2	2	2	2	3	3	2	3	3	3	3
Selenium, dissolved	mg/L	0.0012	<0.0008	0.0014	0.0019	0.002	0.0022	0.0018	0.0008	0.001	0.0012	0.0014	0.0014	0.0014	0.0022	0.0021	0.002	0.002	0.0022	0.0012	0.0021	0.0022	0.0022	0.0021
Silver, dissolved	mg/L																							

Station Name		W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2		
Sample Date		9/4/2010	9/5/2010	9/6/2010	9/7/2010	9/8/2010	9/9/2010	9/10/2010	9/11/2010	9/12/2010	9/13/2010	9/14/2010	9/15/2010	9/16/2010	9/17/2010	9/18/2010	9/19/2010	9/20/2010	9/21/2010	9/22/2010	9/23/2010	9/24/2010	9/25/2010	9/26/2010	9/27/2010	
pH (field)	pH units	8.12	8.15	8.19	8.11	8.2	8.33	7.53	8.07	8.15	8.12	7.2	8.01	8.02	8.05	8.14	8.18	8.19	8.19	8.19	8.06	7.99	8.1	8.11	8.11	
pH (lab)	pH units	8.16	8.11	8.15	8.15		8.11	8.16	8.13	8.11	8.26	8.22	8.22	8.22	8.23	8.08	8.09	8.13	8.09	8.11	8.04	8.08	8.04	8.1	8.1	
Hardness (from dissolved)	mg/L	173	176	176	187	173	187	162	179	180	177	182	178	189	188	194	192	186	185	186	188	190	190	192	192	
Hardness (from total)	mg/L	175	180	177	172	186	184	156	180	208	174	169	170	203	201	191	181	173	184	180	188	187	194	191	185	
Total Dissolved Solids	mg/L	280	280	240	330	380	350	280	340	300	320	300	280	290	270	270	290	280	280	270	300	320	300	310	310	
Total Suspended Solids	mg/L	5	5	6	5	6	28	18	11	8	5	7	5	4	5	3	5	5	4	3	4	3	3	4	6	
Alkalinity, total	mg/L	130	130	130	120	130	130	120	120	120	120	120	130	130	130	130	130	130	130	130	130	130	130	130	130	
Sulphate, dissolved	mg/L	49	48	49	56	50	55	39	56	48	51	49	41	47	45	49	48	52	55	57	55	59	61	60	62	
Chloride	mg/L	15	14	14	13	13	12	11	12	13	27	13	13	12	9.2	9.2	9.8	10	11	11	10	12	11	12	13	
Fluoride	mg/L	0.35	0.36	0.35	0.35	0.3	0.35		0.34	0.3	0.32	0.34	0.34	0.37	0.39	0.35	0.41	0.36	0.37	0.38	0.37	0.37	0.37	0.36	0.37	
Nitrite (N)	mg/L	0.01	0.009	0.013	0.012	0.015	0.008	0.01	0.018	0.013	0.014	0.013	<0.005	0.007	0.008	0.008	0.011	0.008	0.01	0.012	0.014	0.014	0.019	0.019	0.019	
Nitrate (N)	mg/L	5.7	6.2	6.7	6.3	6	6.1	5.1	6.3	6	6.5	6.8	5.6	6.1	6.3	6.3	7	6.9	7	7	6.7	7.7	8.1	7.8	8.2	
Ammonia	mg/L	0.019	0.043	0.12	0.037	0.033	<0.005	0.1	0.049	0.03	0.029	0.044	0.005	0.022	0.039	0.025	0.018	0.035	0.046	0.047	0.044	0.017	0.032	0.011	0.022	
Aluminum, total	mg/L	0.103	0.118	0.148	0.111	0.134	0.518	0.331	0.204	0.172	0.103	0.159	0.021	0.102	0.141	0.069	0.09	0.079	0.087	0.069	0.096	0.086	0.086	0.112	0.128	
Arsenic, total	mg/L	0.0006	0.0006	<0.0004	0.0005	0.0006	0.0007	0.0006	0.0005	0.0004	<0.0004	<0.0004	<0.0004	0.0005	0.0005	<0.0004	<0.0004	0.0006	0.0006	0.0006	0.0005	0.0005	0.0006	0.0003	0.0003	
Cadmium, total	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.00001	<0.00001	<0.00001	<0.00001	0.00004	
Calcium, total	mg/L	46	48	47	46	50	49	42	48	57	47	46	46	53	53	49	44	49	47	50	49.8	51.9	49.7	49.1	49.1	
Chromium, total	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	
Copper, total	mg/L	0.003	0.011	0.003	0.003	0.003	0.006	0.004	0.004	0.006	0.008	0.003	0.002	0.004	0.003	0.004	0.003	0.008	0.004	0.003	0.003	0.0033	0.0033	0.0036	0.0035	
Iron, total	mg/L	0.269	0.334	0.306	0.266	0.297	0.984	0.641	0.443	0.021	0.252	0.329	0.11	0.248	0.305	0.226	0.254	0.196	0.217	0.172	0.223	0.21	0.203	0.246	0.265	
Lead, total	mg/L	<0.0002	0.0008	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	0.029	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Magnesium, total	mg/L	14	15	15	14	15	15	13	14	16	14	13	13	17	17	15	14	15	15	15	15	15.1	15.7	16.2	15.2	
Manganese, total	mg/L	0.022	0.025	0.027	0.023	0.025	0.084	0.049	0.036	0.069	0.022	0.025	0.008	0.022	0.024	0.018	0.021	0.021	0.022	0.017	0.023	0.023	0.023	0.026	0.031	
Mercury, total	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.00004	<0.00002	0.00003	<0.00002	
Molybdenum, total	mg/L	0.007	0.008	0.008	0.008	0.008	0.008	0.006	0.008	0.017	0.007	0.007	0.006	0.008	0.008	0.007	0.008	0.008	0.009	0.008	0.008	0.009	0.009	0.008	0.009	
Nickel, total	mg/L	0.001	0.002	0.001	0.001	0.002	0.002	0.002	0.002	0.001	0.004	0.001	0.001	0.002	0.002	0.001	0.001	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	
Phosphorus, total	mg/L																									
Potassium, total	mg/L	3	3	3	3	3	3	2	3	5	3	3	3	3	3	3	3	3	3	3	3	3.15	3.26	3.27	3.12	
Selenium, total	mg/L	0.0019	0.002	0.0021	0.002	0.0022	0.0023	0.0016	0.0023	0.0044	0.0021	0.0021	0.0016	0.002	0.002	0.0022	0.0021	0.002	0.0024	0.0023	0.0023	0.0023	0.0023	0.0025	0.0024	0.0025
Silver, total	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00002	<0.00002	<0.00002	<0.00002	
Sodium, total	mg/L	15	16	16	16	17	16	13	16	26	15	15	15	18	17	15	15	16	16	16	16	16.1	16.8	17.6	16.8	
Thallium, total	mg/L	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	
Zinc, total	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.017	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.005	<0.005	<0.005	<0.005	
Aluminum, dissolved	mg/L	0.02	0.02	0.021	0.03	0.044	0.021	0.02	0.02	0.02	0.022	0.019	0.057	0.024	0.02	0.021	0.021	0.018	0.018	0.018	0.018	0.028	0.018	0.02	0.019	
Arsenic, dissolved	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	<0.0004	<0.0004	<0.0004	<0.0004	0.0004	0.0004	0.0006	0.0005	
Cadmium, dissolved	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.00001	<0.00001	<0.00001	0.00001	
Calcium, dissolved	mg/L	47	48	48	50	46	50	43	49	48	48	49	48	51	50	52	51	51	49	51	50	51.2	50.8	51.3	51.5	
Chromium, dissolved	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	
Copper, dissolved	mg/L	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.002	0.002	0.002	0.003	0.003	0.002	0.002	0.0023	0.0022	0.0023	0.0023	
Iron, dissolved	mg/L	0.096	0.103	0.086	0.093	0.09	0.099	0.12	0.107	0.101	0.102	0.099	0.216	0.106	0.104	0.1	0.09	0.088	0.083	0.075	0.073	0.074	0.067	0.067	0.062	
Lead, dissolved	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Magnesium, dissolved	mg/L	13	13	13	15	14	15	13	14	15	14	15	14	15	15	15	15	14	15	14	15	15.1	15.4	15.5	15.4	
Manganese, dissolved	mg/L	0.007	0.006	0.008	0.009	0.008	0.007	0.007	0.007	0.007	0.01	0.009	0.022	0.01	0.009	0.01	0.01	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.012	0.013
Mercury, dissolved	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.00007	0.00003	<0.00002	<0.00002	
Molybdenum, dissolved	mg/L	0.007	0.007	0.008	0.008	0.008	0.008	0.007	0.008	0.008	0.008	0.009	0.007	0.007	0.007	0.008	0.008	0.008	0.009	0.009	0.008	0.009	0.009	0.009	0.009	
Nickel, dissolved	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	<0.001	0.001	<0.001	0.001	0.001	0.001	<0.001	
Phosphorus, dissolved	mg/L																									

Station Name		W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2		
Sample Date		4/27/2011	5/5/2011	5/10/2011	5/15/2011	5/23/2011	5/30/2011	6/7/2011	6/13/2011	6/16/2011	6/20/2011	6/27/2011	7/3/2011	7/9/2011	7/19/2011	7/26/2011	8/2/2011	8/16/2011	8/29/2011	9/8/2011	9/12/2011	9/19/2011	9/27/2011	10/6/2011	10/11/2011	
pH (field)	pH units																			8.03	8.04	8.06	8.07	7.92	7.79	
pH (lab)	pH units	7.62	7.32	7.6	7.84	8.03	8.07	7.74	8.08	8.01	7.9	7.97	8.17	8.03	8.02	8.12	7.86	7.97	8.06	8.23	8.11	8.17	8.17	8.08	8.01	
Hardness (from dissolved)	mg/L	57.2	40.3	47.5	70.2	88.6	117	87.2	118	120	115	126	121	128	111	126	76.3	106	118	132	138	127	143	146	144	
Hardness (from total)	mg/L	61.5	49.2	51	81.2	92.4	110	109	129	140	150	125	111	137	126	130	149	116	123	122	137	121	119	142	129	
Total Dissolved Solids	mg/L	98	78	96	98	140	150	140	160	170	170	160	150	160	170	190	130	180	180	180	170	180	210	180	160	
Total Suspended Solids	mg/L	5	110	73	140	26	18	370	76	190	250	66	61	76	150	43	710	120	47	13	29	29	33	<4	13	
Alkalinity, total	mg/L	51	36	46	65	88	110	80	110	110	110	120	110	110	110	130	72	110	120	120	120	120	120	140	130	
Sulphate, dissolved	mg/L	<5	<0.5	<0.5	<0.5	8.6	15	7.1				13	11	11	7	15						9.2	8.4	15		
Chloride	mg/L	2.9	2.1	2	1.6	1.4	1.6										2			1.6	1.9	1.9	1.9	2	1.3	
Fluoride	mg/L	0.15	0.1	0.13	0.18	0.22	0.29	0.24									0.19									
Nitrite (N)	mg/L	<0.005	0.007	<0.005	0.012	0.008	<0.005	0.017	0.009	0.006	0.021	0.007	0.006	0.007	0.009	0.007	0.01	0.008	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
Nitrate (N)	mg/L	<0.02	<0.02	0.03	0.1	0.14	0.28	0.16	0.26	0.24	0.21	0.16	0.16	0.17	0.14	0.18	0.04	0.12	0.11	0.12	0.11	0.12	0.12	0.22	0.17	
Ammonia	mg/L	0.008	0.018	0.006	0.027	0.269	0.015	0.038		0.033		0.023	0.015	0.012	0.023	0.047		0.018	0.006	0.008	0.11	0.008	0.015	0.013	0.037	
Aluminum, total	mg/L	0.161	2.06	1.42	4.11	1.04	0.524	6.04	3.67	7.22	8.07	1.77	1.2	1.88	3.13	1.71	18.5	2.29	0.939	0.299	0.647	0.703	0.785	0.184	0.299	
Arsenic, total	mg/L	0.0004	0.0014	0.001	0.0023	0.0013	0.0007	0.0034	0.0022	0.0036	0.004	0.0014	0.0011	0.0015	0.0023	0.0016	0.0094	0.0023	0.0014	0.001	0.0012	0.0012	0.0011	0.0007	0.0008	
Cadmium, total	mg/L	0.00008	0.00006	0.00003	0.00008	0.00006	0.00001	0.00014	0.00009	0.00019	0.00014	0.00013	0.00004	0.00003	0.00009	0.00005	0.00048	0.00007	0.00005	0.00002	0.00005	0.00002	0.00003	0.00004	0.00002	
Calcium, total	mg/L	16	13	13.4	20.8	23.9	28.5	28.7	32.7	35.5	38.3	32.8	29.3	35.9	34.3	34.5	36.6	31.4	33.9	32.6	36.6	31.4	31.8	38.3	34.5	
Chromium, total	mg/L	<0.001	0.004	0.003	0.008	0.002	0.001	0.013	0.008	0.015	0.016	0.003	0.002	0.004	0.006	0.003	0.038	0.005	0.002	<0.001	0.002	0.002	0.002	<0.001	<0.001	
Copper, total	mg/L	0.0108	0.0115	0.0075	0.0157	0.0072	0.005	0.0228	0.0097	0.0171	0.0201	0.0126	0.0067	0.0074	0.0096	0.0129	0.0551	0.0095	0.0038	0.0023	0.0031	0.0037	0.0059	0.0032	0.0027	
Iron, total	mg/L	0.304	3.29	2.22	6.93	2.43	1.06	11.3	5.19	11.1	13.1	2.99	2.21	3.39	5.1	3.17	31.7	4.74	2.45	1.29	1.96	1.85	1.82	0.76	1.05	
Lead, total	mg/L	<0.0002	0.0011	0.0006	0.0019	0.0006	0.0003	0.0036	0.0015	0.003	0.0034	0.0009	0.0007	0.0008	0.0016	0.0008	0.009	0.0012	0.0005	<0.0002	0.0004	0.0004	0.0004	<0.0002	<0.0002	
Magnesium, total	mg/L	5.25	4.07	4.24	7.08	7.96	9.3	9.08	11.5	12.6	13.2	10.5	9.09	11.5	9.85	10.6	14	9.08	9.41	9.87	11	10.4	9.64	11.2	10.5	
Manganese, total	mg/L	0.042	0.161	0.115	0.243	0.127	0.036	0.307	0.102	0.178	0.216	0.068	0.068	0.08	0.194	0.103	1.34	0.205	0.155	0.141	0.164	0.14	0.14	0.096	0.106	
Mercury, total	mg/L	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	
Molybdenum, total	mg/L	<0.001	<0.001	<0.001	0.001	0.001	0.002	0.001	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.002	0.001	0.001	0.001	0.001	0.001	<0.001	<0.001	0.001	<0.001
Nickel, total	mg/L	0.001	0.005	0.004	0.008	0.004	0.002	0.016	0.008	0.013	0.017	0.005	0.004	0.005	0.008	0.005	0.041	0.007	0.004	0.002	0.003	0.003	0.003	0.002	0.002	
Phosphorus, total	mg/L	0.09	0.134	0.099	0.181	0.075	0.037	0.28	0.128	0.283	0.315	0.133	0.078	0.097		0.086	0.992	0.129	0.06	0.037	0.056	0.052	0.051	0.03	0.03	
Potassium, total	mg/L	2.44	1.74	1.36	1.68	1.24	1.32	1.32	1.55	1.83	1.77	1.14	0.86	1.11	1.11	1.01	2.22	0.9	0.81	0.81	0.87	0.91	0.8	0.89	0.8	
Selenium, total	mg/L	0.0001	0.0002	<0.0001	0.0002	0.0002	0.0002	0.0003	0.0003	0.0004	0.0003	0.0001	0.0002	0.0003	0.0003	0.0002	0.0006	0.0002	0.0002	0.0001	0.0001	<0.0001	0.0001	0.0001	0.0001	
Silver, total	mg/L	<0.00002	<0.00002	<0.00002	0.00003	<0.00002	<0.00002	0.00005	0.00004	0.00007	0.00006	<0.00002	<0.00002	<0.00002	0.00003	<0.00002	0.00013	0.00003	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	
Sodium, total	mg/L	3.16	1.96	2.46	3.88	5.19	6.23	5.16	8.43	7.88	7.29	7.03	5.7	7.26	5.6	6.75	5.27	5.01	5.44	5.75	6.41	5.97	5.42	6.46	5.92	
Thallium, total	mg/L	<0.00005	<0.00005	<0.00005	0.00005	<0.00005	<0.00005	0.00005	<0.00005	0.00008	0.00007	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00016	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	
Zinc, total	mg/L	<0.005	0.011	0.007	0.016	0.008	<0.005	0.03	0.016	0.03	0.031	0.011	0.007	0.008	0.012	0.008	0.068	0.014	<0.005	<0.005	<0.005	<0.005	0.007	<0.005	<0.005	
Aluminum, dissolved	mg/L	0.027	0.061	0.063	0.03	0.02	0.017	0.029	0.041	0.031	0.041	0.031	0.033	0.034	0.041	0.025	0.078	0.043	0.027	0.054	0.024	0.027	0.05	0.025	0.021	
Arsenic, dissolved	mg/L	0.0004	0.0005	0.0006	0.0008	0.0007	0.0005	0.0008	0.0006	0.0007	0.0006	0.0007	0.0007	0.0007	0.0009	0.001	0.0009	0.001	0.0009	0.001	0.0009	0.0008	0.0008	0.0007	0.0007	
Cadmium, dissolved	mg/L	0.00002	0.00002	0.00002	0.00001	<0.00001	<0.00001	0.00001	0.00013	0.00002	0.00006	0.00002	<0.00001	0.00006	<0.00001	<0.00001	0.00002	0.00001	0.00001	0.00001	0.00001	0.00001	0.00002	0.00001	0.00003	
Calcium, dissolved	mg/L	15.1	11.1	13	18.9	23.4	30.8	23.4	30.1	32.2	30.5	33.5	31.7	35.1	29.9	33.8	21.1	27.8	32.4	35.8	37.2	34.6	39.1	39	38.2	
Chromium, dissolved	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Copper, dissolved	mg/L	0.0065	0.0056	0.007	0.0031	0.0019	0.0026	0.0031	0.0049	0.0025	0.0029	0.0042	0.0028	0.0033	0.0026	0.0042	0.007	0.0067	0.0019	0.0051	0.0018	0.0026	0.004	0.0021	0.0024	
Iron, dissolved	mg/L	0.194	0.303	0.462	0.73	0.681	0.222	0.503	0.225	0.28	0.207	0.249	0.324	0.353	0.499	0.475	0.695	0.603	0.682	0.811	0.671	0.59	0.745	0.455	0.458	
Lead, dissolved	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Magnesium, dissolved	mg/L	4.72	3.06	3.69	5.59	7.33	9.71	6.97	10.4	9.62	9.55	10.3	10.1	9.9	8.72	10	5.7	8.99	9.08	10.3	10.8	9.8	11.1	11.7	11.7	
Manganese, dissolved	mg/L	0.03	0.061	0.058	0.071	0.049	0.005	0.026	0.01	0.018	0.014	0.007	0.009	0.017	0.034	0.047	0.064	0.108	0.108	0.132	0.138	0.129	0.112	0.096	0.095	
Mercury, dissolved	mg/L	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	
Molybdenum, dissolved	mg/L	<0.001	<0.001	<0.001	<0.001	0.001	0.002	0.001	0.002	0.001	0.001	0.002	0.001	0.001	0.001	0.001	<0.001	<0								

Station Name		W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	W2	
Sample Date		10/19/2011	10/26/2011	10/30/2011	11/3/2011	11/8/2011	11/13/2011	11/22/2011	11/28/2011	4/6/2012	4/12/2012	4/14/2012	4/15/2012	4/16/2012	4/17/2012	4/18/2012	4/19/2012	4/20/2012	4/21/2012	4/22/2012	4/23/2012	4/24/2012	4/25/2012
pH (field)	pH units	7.81	8.01	7.8	7.7	7.61	8			7.99	7.78	7.95	8.13	8.23	8.07	8.11	8	7.48	7.44	7.54	7.61	8.04	7.81
pH (lab)	pH units	8.13	8.14	8.18	8.17	8.2	8.32	7.98	8.14	8.23	8.23	8.19	8.14	8.08							7.68		7.8
Hardness (from dissolved)	mg/L	153	147	147	154	177	149	183	175	206	195	162	134	117							60.8		62.7
Hardness (from total)	mg/L	145	148	108	148	166	163	177	175	210	177	158	137	127							58.6		57.3
Total Dissolved Solids	mg/L	180	180	170	150	206	210	208	238	286	260	196	170	164							108		120
Total Suspended Solids	mg/L	<4	15	7	4	25.8	6.3	<1.0	6.8	4.3	2	7.1	31.2	39.9							29.6		32.3
Alkalinity, total	mg/L	140	140	150	150	150	158	169	171	199	185	156	131	110							49.5		54.9
Sulphate, dissolved	mg/L	13							26.9	37.6	29.9	23.2	18	12.7							<0.50		<0.50
Chloride	mg/L	1.4	1.4	1.3	1.6	1.4	2	2.2	2.5	3.2	2.3	2.2	1.8	2							1.7		1.9
Fluoride	mg/L								0.33	0.39	0.43	0.39	0.35	0.3							0.11		0.13
Nitrite (N)	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0050	0.005	<0.0050							<0.0050		<0.0050
Nitrate (N)	mg/L	0.4	0.26	0.28	0.27	0.3	0.478	0.807	0.344	0.048	<0.020	<0.020	<0.020	<0.020							0.172		0.387
Ammonia	mg/L	0.021	0.018	0.014	<0.005	0.0264	0.0168	0.0055	0.0121	0.0067	<0.0050	0.0081	0.0082	0.011							0.0079		0.0051
Aluminum, total	mg/L	0.089	0.342	0.12	0.107	0.461	0.112	0.027	0.174	0.236	0.097	0.218	1.01	1.21							0.458		0.681
Arsenic, total	mg/L	0.0007	0.0009	0.0004	0.0006	0.0008	0.0005	0.0004	0.0004	0.0006	0.0004	0.00061	0.00099	0.00103							0.00056		0.00073
Cadmium, total	mg/L	0.00002	0.00018	0.00002	<0.00001	0.00003	<0.00001	0.00002	0.00002	0.00002	0.00002	0.000013	0.000028	0.000036							0.000025		0.00004
Calcium, total	mg/L	39.1	39.2	26.7	39.8	44.9	43.2	47	46.3	53.7	43.9	39.4	34.3	31.1							15.8		15
Chromium, total	mg/L	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	0.002	0.0021							<0.0010		0.0013
Copper, total	mg/L	0.0033	0.0042	0.0025	0.0017	0.125	0.0047	0.0018	0.0051	0.0113	0.0055	0.0044	0.0114	0.0126							0.00746		0.00654
Iron, total	mg/L	0.657	0.883	0.378	0.496	1.27	0.451	0.135	0.398	0.365	0.158	0.413	1.64	1.88							0.899		1.22
Lead, total	mg/L	<0.0002	0.0065	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.00020	0.00046	0.00051							0.00022		0.00031
Magnesium, total	mg/L	11.4	12.1	10.1	11.8	13.1	13.4	14.6	14.5	18.5	16.3	14.4	12.5	11.9							4.67		4.81
Manganese, total	mg/L	0.117	0.123	0.076	0.093	0.126	0.077	0.018	0.029	0.029	0.014	0.0223	0.0582	0.0732							0.0668		0.093
Mercury, total	mg/L	<0.00002	<0.00002	<0.00002	<0.00002	<0.000020	<0.000020	<0.000020	<0.000020	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010							<0.000010		<0.000010
Molybdenum, total	mg/L	0.001	0.001	0.001	0.001	0.001	0.002	0.001	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010							<0.0010		<0.0010
Nickel, total	mg/L	0.002	0.002	0.001	0.001	0.003	0.001	0.001	0.001	0.001	<0.001	<0.0010	0.0028	0.0024							0.0018		0.0021
Phosphorus, total	mg/L	0.031	0.037	0.02	0.012	0.035	0.021	<0.01	0.016	0.047	0.03	0.049	0.085	0.091							0.086		0.074
Potassium, total	mg/L	0.93	1.08	0.86	1.08	1.15	1.17	1.46	1.48	3.92	2.65	3.01	2.92	3.06							2.09		1.67
Selenium, total	mg/L	0.0002	0.0001	0.0001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.00015	0.0001	0.00017							0.00014		0.00017
Silver, total	mg/L	<0.00002	<0.00002	<0.00002	<0.00002	0.00008	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.000020	<0.000020	<0.000020							<0.000020		<0.000020
Sodium, total	mg/L	6.85	7.26	5.98	7.15	7.64	8.45	8.94	9.28	12.9	10.6	9.59	7.95	7.29							2.89		3
Thallium, total	mg/L	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.000050	<0.000050	<0.000050							<0.000050		<0.000050
Zinc, total	mg/L	<0.005	0.008	<0.005	<0.005	<0.005	<0.005	<0.005	0.006	<0.005	<0.005	<0.0050	<0.0050	0.0055							<0.0050		<0.0050
Aluminum, dissolved	mg/L	0.012	0.011	0.012	0.013	0.0215	0.0123	0.0075	0.0303	0.0066	0.013	0.006	0.0067	0.0095							0.041		0.0412
Arsenic, dissolved	mg/L	0.0006	0.0006	0.0005	0.0005	0.0005	0.00045	0.00036	0.00041	0.0005	0.00037	0.00042	0.00046	0.00041							0.00043		0.00052
Cadmium, dissolved	mg/L	<0.00001	0.00001	0.00001	0.00001	0.00006	<0.000010	<0.000010	0.000037	0.000017	0.000047	0.000012	<0.000010	0.000018							0.000024		0.000023
Calcium, dissolved	mg/L	42.8	40	39.1	40.6	47	37.4	48.1	44	52.3	48.6	39.9	33.5	29.2							16.6		17.1
Chromium, dissolved	mg/L	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010							<0.0010		<0.0010
Copper, dissolved	mg/L	0.0014	0.0015	0.0019	0.0018	0.0124	0.00171	0.00206	0.00283	0.00597	0.00468	0.0028	0.00358	0.00379							0.0055		0.00564
Iron, dissolved	mg/L	0.43	0.298	0.218	0.228	0.218	0.166	0.0771	0.0907	0.0265	0.0439	0.0506	0.0561	0.0835							0.271		0.403
Lead, dissolved	mg/L	<0.0002	<0.0002	0.0002	<0.0002	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020							<0.00020		<0.00020
Magnesium, dissolved	mg/L	11.2	11.5	11.9	12.7	14.6	13.5	15.3	15.7	18.4	18	15.1	12.2	10.6							4.7		4.89
Manganese, dissolved	mg/L	0.11	0.098	0.082	0.09	0.123	0.0726	0.0164	0.0193	0.0207	0.0131	0.0138	0.015	0.0229							0.0446		0.064
Mercury, dissolved	mg/L	<0.00002	<0.00002	<0.00002	<0.00002	<0.000020	<0.000020	<0.000020	<0.000020	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010							<0.000010		<0.000010
Molybdenum, dissolved	mg/L	0.001	0.001	0.001	0.001	0.0013	0.0017	0.0013	0.0014	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010							<0.0010		<0.0010
Nickel, dissolved	mg/L	0.001	0.001	0.001	0.001	0.0018	0.0014	0.0011	0.0012	<0.0010	0.0011	<0.0010	<0.0010	<0.0010							0.0011		0.0012
Phosphorus, dissolved	mg/L	0.031	0.014	0.015	0.013	0.018	0.013	<0.01	0.012	0.042	0.027	0.037	0.052	0.049							0.048		0.038
Potassium, dissolved	mg/L	0.93	0.93	1.03	1.21	1.29	1.27	1.28	1.62	3.74	3.09	2.87	2.76	2.59							1.96		1.74
Selenium, dissolved	mg/L	0.0002	0.0002	0.0002	0.0002	0.00024	0.00022	0.00022	0.00018	0.00021	0.00019	0.00018	0.00012	0.00013							0.00015		0.00017
Silver, dissolved	mg/L	<0.00002	<0.00002	<0.00002	<0.00002	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020							<0.000020		<0.000020
Sodium, dissolved	mg/L	6.83	6.99	7.19																			

Station Name		W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	
Sample Date		5/27/2005	6/30/2005	7/29/2005	8/30/2005	9/28/2005	10/15/2005	5/8/2006	5/14/2006	5/17/2006	5/20/2006	5/23/2006	5/29/2006	6/2/2006	6/8/2006	6/15/2006	6/15/2006	6/23/2006	6/28/2006	7/7/2006	7/12/2006	8/2/2006	8/10/2006	9/6/2006	9/13/2006
pH (field)	pH units																								
pH (lab)	pH units	7.78	7.83	7.45	8.12	7.96	7.06	7.34	7.45	7.51	7.65	7.69	7.6	7.58	7.97		7.82	7.4	7.84	7.69	7.6	7.56	7.58	7.83	7.71
Hardness (from dissolved)	mg/L															120	93	113	83	134	120	120	146	154	
Hardness (from total)	mg/L	62.3		116	99.8	95	99.4																		
Total Dissolved Solids	mg/L	111	144	141	147	135	140	116	107	105	116	113	104	110	127		150	154	138	224					
Total Suspended Solids	mg/L	<3.0	<3.0	24.7	<3.0	<3.0	5.5	9.4	12.8	<3	70.6	<3	<3	5.4	<3		8	<2	18	<2	<2	4	<2	<2	<2
Alkalinity, total	mg/L	174	89		99.2	74.7			27.6	32.3	39	42.1	41.6	48	46.4		89	84	92	87	114	108	118	152	145
Sulphate, dissolved	mg/L	166	<1		5.1	7.72			1.92	2.14	4.22	4.97	4.88	5.35	5.07		32	7.9		7.6	39	6.5	4	7.4	8
Chloride	mg/L	<0.50	0.86	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5										
Fluoride	mg/L							0.049	0.133	0.088	0.096	0.098	0.098	0.098	0.091										
Nitrite (N)	mg/L	<0.0010	<0.0010	<0.0010	0.0011	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001										
Nitrate (N)	mg/L	0.0225	<0.0050	<0.0050	<0.0050	<0.0050	0.0374	<0.0050	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.03	<0.03	<0.002	<0.002	0.06	<0.03	<0.03	<0.03	0.003
Ammonia	mg/L	<0.020	0.041	<0.020	0.023	<0.020	0.026	<0.020	0.037					0.034	0.042	0.02		0.026	0.003		0.025	0.009	0.009	0.004	0.005
Aluminum, total	mg/L	0.0506	0.0807	0.033	0.0688	0.0509	0.116	0.176	0.137	0.0681	0.0744	0.0523	0.0798	0.116	0.0604		0.242	0.039	0.321	0.045	0.045	0.088	0.026	0.022	0.025
Arsenic, total	mg/L	<0.00050	0.00048	0.00047	0.00052	<0.00050	0.00054	0.00034	0.00046	0.00037	0.00035	0.00038	0.0004	0.00045	0.00042		0.0004	0.0004	0.0006	0.0005	0.0004	0.0006	0.0004	0.0004	0.0004
Cadmium, total	mg/L	<0.000050	<0.000050	<0.000050	<0.000017	<0.000017	<0.000050	<0.000050	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Calcium, total	mg/L	16.9	24.3	30.9	25.6	24.7	25.1	8.15	11.6	12.3	14.7	15.5	15.1	16.2	16.2		29.1	24.1	30.9	26.2	40.3	30.6	33.4	36.3	37.5
Chromium, total	mg/L	<0.0010	0.00073	0.00056	<0.0010	<0.0010	<0.00050	<0.00050	0.00053	<0.0005	<0.0005	<0.0005	0.00052	0.00064	<0.0005		0.0008	0.0007	<0.0005	0.0006	<0.0005	0.0008	<0.0005	0.0006	0.0005
Copper, total	mg/L	0.0143	0.0103	0.00891	0.0094	0.0088	0.0104	0.0168	0.019	0.0185	0.0176	0.0168	0.0164	0.0175	0.0175		0.034	0.013	0.043	0.012	0.01	0.01	0.008	0.006	0.006
Iron, total	mg/L	0.23	0.503	0.435	0.722	0.706	0.887	0.442	0.5	0.198	0.181	0.195	0.232	0.323	0.269		0.6	0.2	1.1	0.4	0.4	0.4	0.3	0.4	0.4
Lead, total	mg/L	<0.00050	0.000066	0.000059	<0.00050	<0.00050	0.000064	0.000099	0.000082	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005		0.0001	<0.0001	0.0002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Magnesium, total	mg/L	5.03	7.57	9.43	8.04	7.45	7.41	2.23	3.22	3.59	4.22	4.2	4.44	4.81	4.57		8.3	6.8	8	7.3	10.7	9	9.8	11	11.4
Manganese, total	mg/L	0.00512	0.0445	0.0268	0.0447	0.0487	0.24	0.051	0.0952	0.0016	0.00117	0.00374	0.00652	0.0155	0.00631		0.135	0.018	0.154	0.018	0.204	0.026	0.093	0.033	0.042
Mercury, total	mg/L	<0.000020			<0.000020	<0.000020																			
Molybdenum, total	mg/L	<0.0010	0.000512	0.000565	<0.0010	<0.0010	0.00171	0.000212	0.000367	0.000408	0.000471	0.000513	0.000496	0.000471	0.00054		0.003	<0.001	0.002	<0.001	0.003	<0.001	<0.001	<0.001	<0.001
Nickel, total	mg/L	0.0018	0.00172	0.00146	0.0018	0.0017	0.00109	0.00138	0.00193	0.00204	0.002	0.002	0.00196	0.00211	0.00194		0.0019	0.0021	0.0016	0.0023	0.001	0.0018	0.0017	0.0015	0.0015
Phosphorus, total	mg/L		<0.30	<0.30			<0.30	<0.30	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3										
Potassium, total	mg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2	<2	<2	<2	<2	<2		1.2	<0.4	1.2	<0.4	1.4	<0.4	0.4	0.6	0.7
Selenium, total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	0.0002	<0.0002
Silver, total	mg/L	<0.000020	<0.000010	<0.000010	<0.000020	<0.000020	<0.000010	0.000014	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001		<0.0001	0.0002	<0.0001	<0.0001	<0.0001	0.0003	<0.0001	<0.0001	<0.0001
Sodium, total	mg/L	2.6	4.5	3.9	3.8	3.7	4.5	<2.0	<2	2.3	2.3	2.2	3	3.2	2.8		5.5	4.3	5.3	4.7	7.4	5.1	5.3	5.8	6
Thallium, total	mg/L	<0.00020	<0.00010	<0.00010	<0.00020	<0.00020	<0.00010	<0.00010	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Zinc, total	mg/L	<0.0050	<0.0020	0.0011	<0.0050	<0.0050	0.0011	0.0047	0.0027	0.0019	<0.001	<0.001	<0.001	0.0014	0.002		0.002	<0.001	0.002	<0.001	0.002	0.002	0.001	0.003	<0.001
Aluminum, dissolved	mg/L	0.0427	0.0193	0.0201	0.0259	0.0305	0.0258	0.0919	0.0709					0.0642			0.023	0.024	0.15	0.017	0.006	0.015	0.022	0.012	0.015
Arsenic, dissolved	mg/L	<0.00050	0.00043	0.00045	<0.00050	<0.00050	0.0005	0.00025	0.00037					0.0004			0.0004	0.0004	0.0006	0.0006	0.0004	0.0004	0.0004	0.0005	0.0004
Cadmium, dissolved	mg/L	<0.000050	<0.000050	<0.000050	<0.000017	<0.000017	<0.000050	<0.000050	<0.00005					<0.00005			<0.00001	<0.00001	0.00001	0.00003	0.00002	<0.00001	<0.00001	<0.00001	<0.00001
Calcium, dissolved	mg/L	16.6	24.8	30.9	26.3	25.3	26.8	8.55	12.1					16.3			32.4	25.4	26.9	21	34.7	31.4	31.6	38.8	39.1
Chromium, dissolved	mg/L	<0.0010	0.00061	0.00052	<0.0010	<0.0010	<0.00050	<0.00050	<0.0005					0.00052			<0.0005	0.0009	0.0008	0.0007	0.0008	0.0006	0.0014	0.001	0.0009
Copper, dissolved	mg/L	0.0141	0.00942	0.00863	0.0081	0.0081	0.00561	0.0159	0.0174					0.017			0.013	0.011	0.042	0.011	0.007	0.007	0.008	0.007	0.006
Iron, dissolved	mg/L	0.194	0.249	0.352	0.544	0.556	0.711	0.196	0.291					0.188			0.28	0.22	0.34	0.31	0.19	0.28	0.29	0.39	0.37
Lead, dissolved	mg/L	<0.00050	<0.000050	<0.000050	<0.00050	<0.00050	<0.000050	<0.000050	<0.00005					<0.00005			<0.0001	<0.0001	0.0002	<0.0001	0.0023	<0.0001	<0.0001	0.0001	<0.0001
Magnesium, dissolved	mg/L	5.05	7.68	9.39	8.28	7.73	7.92	2.33	3.35					4.85			9	7.2	8.4	7.4	11.5	9.3	9.2	11.9	12.6
Manganese, dissolved	mg/L	0.00284	0.0142	0.0206	0.0296	0.0387	0.223	0.034	0.0782					0.00329			0.133	0.018	0.098	0.012	0.147	0.02	0.077	0.037	0.041
Mercury, dissolved	mg/L	<0.000020			<0.000020	<0.000020																			
Molybdenum, dissolved	mg/L	<0.0010	0.000547	0.000589	<0.0010	<0.0010	0.00169	0.000179	0.000363					0.000474			0.002	<0.001	0.002	<0.001	0.003	<0.001	<0.001	<0.001	<0.001
Nickel, dissolved	mg/L	0.0018	0.00144	0.00157	0.0016	0.0015	0.00096	0.00113	0.00185					0.00204			0.001	0.002	0.002	0.0023	0.0011	0.0011	0.0015	0.0014	0.0013
Phosphorus, dissolved	mg/L		<0.30	<0.30			<0.30	<0.30	<0.3					<0.3											
Potassium, dissolved	mg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2					<2			0.5	0.4	1.3	<0.4	1.2	<0.4	0.4	0.5	0.7
Selenium, dissolved	mg/L	<0.0010	<0.0010	<0.0010	<0.																				

Station Name		W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	
Sample Date		9/20/2006	10/4/2006	12/28/2006	5/3/2008	5/7/2008	5/27/2008	5/10/2009	5/28/2009	6/4/2009	6/7/2009	6/10/2009	6/16/2009	6/29/2009	7/6/2009	7/13/2009	7/27/2009	8/5/2009	8/10/2009	8/11/2009	8/19/2009	8/31/2009	9/7/2009	9/18/2009	9/23/2009
pH (field)	pH units								7.4	7.57		7.27	7.94	7.5	7.37	7.35			8.16		8.15		8.2	7.19	8.01
pH (lab)	pH units	7.7	7.89					7.8	7.8	7.91	7.7	7.71		7.7		7.8	8.07	7.76		7.98	7.73	7.73	7.77	7.87	7.85
Hardness (from dissolved)	mg/L	154	145	236	64		303	348	389	157	550	171		470		611	728	697		401	768	726	386	543	528
Hardness (from total)	mg/L					426																			
Total Dissolved Solids	mg/L							610	648	208	820	280		634		<5	1040	1030		490	1010	1120	1170	730	738
Total Suspended Solids	mg/L	<2	<2					12	14	<5	12	5		15		6	6	10		<3	6	8	14	8	12
Alkalinity, total	mg/L	142	143					162	180	135	237	144		226		261	303	332		247	372	325	330	390	278
Sulphate, dissolved	mg/L	7	6.8					96.3	42.2	144	48.1		140		124	155	132		68	184	157	60	79.3	129	
Chloride	mg/L							3.5	3.61	3.8	3.98	6.9		3.75		4.37	1.12	5.41		4.81	5.4	5.27	4.97	2.64	3.74
Fluoride	mg/L																								
Nitrite (N)	mg/L							2.53																	
Nitrate (N)	mg/L	<0.03	<0.03					41.6												12.1	60.3	75.2	69.4	15.9	39.7
Ammonia	mg/L	0.006	0.03																						
Aluminum, total	mg/L	0.018	0.02		3.41	1.77	0.48	0.116	0.438	0.112	0.615	0.118		0.445		0.145	0.709	0.187		0.062	0.12	0.22	0.072	0.086	0.224
Arsenic, total	mg/L	0.0005	0.0004		<0.0002	0.0003	0.0006	0.0004	0.0004	0.0004	0.0006	0.0005		0.0006		0.0003	0.0008	0.0009		0.0007	0.0005	0.0008	0.001	0.0012	0.0007
Cadmium, total	mg/L	<0.00001	<0.00002		0.00035	0.00016	0.00014	0.00009	0.00024	0.00003	0.00011	0.00001		0.00011		0.00011	0.0002	0.0002		0.00005	0.00023	0.00019	0.0002	0.0001	0.00014
Calcium, total	mg/L	38.4	37.9		12.1	115	78.9	107	125	46.3	170	49		145		185	228	223	145	108	216	239	238	128	166
Chromium, total	mg/L	0.0006	0.001		0.0028	0.0016	0.0029	0.001	0.0006	<0.0004	0.0008	0.0005		0.0008		0.002	0.001	0.0012		0.001	0.0008	0.0005	0.0012	0.0014	0.0013
Copper, total	mg/L	0.006	0.006		0.395	0.247	0.201	0.123	0.264	0.031	0.188	0.027		0.201		0.235	0.466	0.393		0.133	0.415	0.374	0.349	0.079	0.179
Iron, total	mg/L	0.3	0.3		9.89	4.92	4.09	0.18	0.91	1.09	1.27	1.21		1.21		0.36	1.95	0.487		0.71	0.403	0.6	0.41	1.21	0.541
Lead, total	mg/L	<0.0001	<0.0002		0.0022	0.0005	0.0007	<0.0001	0.0003	<0.0001	0.0002	0.0001		0.0002		<0.0001	0.0003	0.0005		0.0004	0.0004	0.0002	0.0004	0.0005	0.0007
Magnesium, total	mg/L	12.8	12		4.1	33.7	17.7	19.2	23.1	13	28.8	13.9		25.9		32.3	41.7	42		25.2	42.2	43.8	42.4	56.8	31.4
Manganese, total	mg/L	0.05	0.053		0.259	0.401	0.224	0.157	0.496	0.9	0.659	0.878		0.582		0.796	1.23	1.36		0.965	1.98	2.14	2.48	1.86	1.06
Mercury, total	mg/L				0.00004	<0.00001	0.00002	<0.0001	<0.00001	<0.00001	0.00002			0.00002		<0.00001	0.00001				0.00002	0.00003	0.00003	<0.00001	<0.00001
Molybdenum, total	mg/L	<0.001	<0.002		0.0025	0.0211	0.011	0.012	0.00918	0.00481	0.00893	0.00581		0.0108		0.00656	0.0063	0.007		0.0059	0.0063	0.006	0.006	0.0067	0.0214
Nickel, total	mg/L	0.0017	0.0026		0.071	0.037	0.002	0.0024	0.002	<0.001	0.002	0.001		0.002		0.002	0.004	0.004		0.002	0.003	0.003	0.003	0.003	0.002
Phosphorus, total	mg/L				0.2	0.2	0.27	<0.05	0.06	<0.05	0.078	0.017		0.058		0.056	0.109	0.056		0.031	0.055	0.077	0.045	0.064	<0.05
Potassium, total	mg/L	0.6	<0.8		2.51	9.23	4.23	7.7	6.5	2.4	6.6	2.8		6.7		6.9	7.1	6.9		4.2	6.1	7	6.8	5.4	7.1
Selenium, total	mg/L	0.0003	<0.0004		<0.0006	0.005	0.0016	0.004	0.0051	<0.0006	0.0049	<0.0006		0.0058		0.0039	0.003	0.0034		<0.0006	0.0026	0.003	0.0033	0.0022	0.0052
Silver, total	mg/L	<0.0001	<0.0002		0.0009	0.0001	<0.0001	0.00003	<0.00001	<0.00001	0.00018	<0.00001		0.00066		0.00036	0.00027	0.00007		0.00002	<0.00001	<0.00001	<0.00001	<0.00001	0.00001
Sodium, total	mg/L	5.6	6		2.2	24.1	12.5	20	20.4	12.1	25.5	13.5		24.9		23.4	25.4	23.6		18.5	23.5	28	28.9	28.1	26
Thallium, total	mg/L	<0.00005	<0.0001		0.00013	0.00004	<0.00001	<0.00005	0.00001	<0.00001	<0.00001	<0.00001		<0.00001		<0.00001	0.00001	<0.00001		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.00012
Zinc, total	mg/L	0.001	<0.002		0.047	0.032	0.02	0.007	0.013	0.022	0.012	0.024		0.013		0.01	0.019	0.023		0.004	0.009	0.015	0.005	0.012	0.009
Aluminum, dissolved	mg/L	0.015	0.012	<0.005	0.05		0.99	0.009	0.021	0.029	0.023	0.014		<0.005		0.054	<0.005	0.021		<0.005	<0.005	0.01	0.022	0.027	<0.005
Arsenic, dissolved	mg/L	0.0004	0.0005	0.0002	0.0003		0.0006	0.0006	0.0004	0.0003	0.0005	0.0004		0.0006		0.0005	0.0005	0.0007		0.0006	0.001	0.0005	0.0005	0.0009	0.0005
Cadmium, dissolved	mg/L	<0.00001	0.00011	<0.00001	<0.00008		0.00008	0.00009	0.00211	0.00002	0.00011	<0.00001		0.0001		0.00014	0.00017	0.00017		0.00008	0.00021	0.00018	0.00006	0.00008	0.00008
Calcium, dissolved	mg/L	40.4	38.5	50.2	18.4		89.1	107	120	43.2	172	46.6		146		191	224	213		118	231	224	97.3	125	161
Chromium, dissolved	mg/L	0.001	0.0007	0.0011	0.0014		0.0012	0.0006	<0.0004	<0.0004	0.0004	<0.0004		<0.0004		<0.0004	0.0013	0.0014		<0.0004	0.0053	0.0014	0.0016	0.0018	0.001
Copper, dissolved	mg/L	0.006	0.005	<0.001	0.05		0.038	0.096	0.165	0.024	0.107	0.018		0.1		0.207	0.31	0.333		0.13	0.352	0.345	0.064	0.061	0.134
Iron, dissolved	mg/L	0.29	0.27	<0.01	0.09		0.15	0.02	0.06	0.61	0.1	0.5		0.04		0.17	0.1	0.17		0.07	0.05	0.09	0.24	0.47	0.02
Lead, dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001		<0.0001	<0.0001	0.0002	<0.0001	0.0001	<0.0001		<0.0001		<0.0001	0.0004	0.0005		<0.0001	<0.0001	0.0005	0.0007	0.0003	<0.0001
Magnesium, dissolved	mg/L	13	11.9	26.9	4.29		19.6	19.8	21.8	11.9	29	13.2		25.9		32.4	40.6	40.2		25.7	46.4	40.6	34.6	56.2	30.7
Manganese, dissolved	mg/L	0.053	0.049	0.013	0.0611		0.13	0.147	0.396	0.848	0.642	0.811		0.575		0.854	1.12	1.09		0.998	2.04	2.16	1.55	1.88	1.07
Mercury, dissolved	mg/L			<0.0001	0.00001		<0.00001	<0.0001	<0.00001	<0.00001	0.00001			0.00002		<0.00001	<0.00001				0.00003	0.00003	<0.00001	<0.00001	<0.00001
Molybdenum, dissolved	mg/L	<0.001	<0.001	0.002	0.00354		0.0124	0.013	0.00799	0.00459	0.00898	0.00534		0.0113		0.0062	0.0062	0.0063		0.0057	0.006	0.0056	0.005	0.0064	0.0214
Nickel, dissolved	mg/L	0.0007	0.0017	<0.0005	0.002		0.001	0.0014	0.002	<0.001	0.002	0.001		0.002		0.002	0.003	0.004		0.002	0.005	0.004	0.002	0.003	0.003
Phosphorus, dissolved	mg/L				<0.01		0.02		0.02	0.01	0.02	<0.01		0.02		0.03	0.03	0.04		0.03	0.03	0.03	0.02	0.04	<0.01
Potassium, dissolved	mg/L	0.6	0.6	1.5</																					

Station Name		W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	
Sample Date		10/5/2009	10/12/2009	10/19/2009	4/19/2010	4/20/2010	4/21/2010	4/22/2010	4/23/2010	4/25/2010	4/26/2010	4/27/2010	4/28/2010	4/29/2010	4/30/2010	5/1/2010	5/2/2010	5/3/2010	5/4/2010	5/5/2010	5/6/2010	5/7/2010	5/8/2010	5/9/2010	5/10/2010
pH (field)	pH units	7.8	7.35	8.06	7.33	6.62					7.89	7.56	7.96	8		7.52	7.58	7.6	7.65		7.52				
pH (lab)	pH units	7.57	7.78	7.84	7.89	7.94	7.49	7.78	7.68	7.54	8	7.9	8.2	7.9	8	8.1	8.2	8	8.1	8.1	8.1	8.1	8.2	8.2	8.3
Hardness (from dissolved)	mg/L	609	528	276						440	81	524	216	563	196	215	216	206	223	222	377	596	363	321	
Hardness (from total)	mg/L				397	626	82	249	110	92	439	83.3	535	218	627	198	202	210	216	230	212	377	692	376	323
Total Dissolved Solids	mg/L	910	774	520	532	860	164	400	186	140	570	120	710	470	780	440	350	420	380	410	410	520	890	510	430
Total Suspended Solids	mg/L	16	22	<2	13	10	77	45	20	36	36	9	8	24	11	5	<4	10	<4	<4	<4	39	42	18	12
Alkalinity, total	mg/L	261	263	168	237	390	80	182	109	98	300	84	360	140	390	140	150	150	160	160	150	260	410	240	220
Sulphate, dissolved	mg/L	174	132	103	95.2	138	8.2	34.6	10	2	92	<0.5	110	100	130	93	73	88	77	85	92	93	120	90	80
Chloride	mg/L	4.49	4.51	8.78	<0.02	53.2	3.16	8.56	6.56	3.31	30	3.8	30	24	31	21	15	20	17	18	20	13	28	13	12
Fluoride	mg/L										0.24	0.18	0.25	1.85	0.25	1.38	1.03	1.27	1.11	1.19	1.42	0.34	0.27	0.3	0.27
Nitrite (N)	mg/L										1.63	<0.005	2.08	0.96	2.39	0.76	0.58	0.65	0.57	0.53	0.69	0.076	2.51	0.068	0.065
Nitrate (N)	mg/L	48.4	41.1	19.8		18.6	<0.01	10.1			12.4	0.04	15.8	21.9	22.1	17.8	11.6	17.2	13.6	14.7	18.3	14.1	27.6	14.9	11.9
Ammonia	mg/L										2.4	0.25	0.45	0.41	0.52	0.45	0.28	0.48	0.32	0.34	0.39	0.21	0.47	0.14	0.086
Aluminum, total	mg/L	0.413	0.625	0.068	0.31	0.081	2.31	1.84	0.351	0.396	0.327	0.077	0.144	1.33	0.335	0.367	0.123	0.112	0.101	0.099	0.082	0.201	0.356	0.517	0.42
Arsenic, total	mg/L	0.0005	0.0009	0.0005	0.0005	0.0009	0.0005	0.001	0.0008	0.001	0.0007	0.0008	0.0007	0.0007	0.0008	0.0005	0.0005	0.0004	0.0004	0.0005	0.0005	0.0007	0.0009	0.0008	0.0007
Cadmium, total	mg/L	0.00011	0.0001	0.00013	0.00012	0.00013	0.00018	0.00008	0.00034	0.00006	0.00017	0.00004	0.00017	0.00016	0.00019	<0.00001	0.00004	0.00008	0.00011	0.00006	0.00004	0.00011	0.00028	0.00012	0.00022
Calcium, total	mg/L	197	172	80.1	116	194	28	72	39.5	29.3	131	24.3	162	66.8	189	58.4	59	61.5	63	67.3	62.3	107	209	99.4	84.8
Chromium, total	mg/L	0.0014	0.0007	<0.0004	0.0006	0.0009	0.0007	0.0013	0.0006	0.0005	<0.001	<0.001	<0.001	0.001	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper, total	mg/L	0.21	0.19	0.045	0.14	0.12	0.428	0.202	0.083	0.113	0.227	0.0472	0.203	0.201	0.319	0.0358	0.0291	0.0251	0.0378	0.0288	0.025	0.135	0.388	0.123	0.0933
Iron, total	mg/L	1	1.41	0.316	0.702	0.61	2.55	1.61	0.769	1.41	0.968	0.612	0.688	2.61	1.12	0.645	0.382	0.24	0.368	0.349	0.251	0.393	1.22	1.05	0.645
Lead, total	mg/L	0.0006	0.0002	0.0001	0.0002	0.0001	0.0008	0.0006	0.0004	0.0002	0.0004	<0.0002	0.0002	0.0005	0.0003	0.0003	0.0002	<0.0002	0.0016	0.0007	<0.0002	0.0004	0.0003	0.0003	0.0003
Magnesium, total	mg/L	33.8	31	20.3	23.9	41.6	6.52	19.9	8.92	6.96	26.9	5.49	31.6	12.3	37.7	12.7	13.2	13.7	14.1	15	13.8	27.1	41.1	31	27.1
Manganese, total	mg/L	1.51	1.73	0.571	2.2	3.51	0.312	0.544	0.715	0.733	2.43	0.627	2.82	0.601	3.47	0.376	0.411	0.321	0.374	0.417	0.382	0.624	3.67	0.288	0.266
Mercury, total	mg/L	<0.00001	0.00001	<0.00001	<0.00001	<0.00001	0.00002	0.00002	<0.00001	<0.00001	0.00003	<0.00002	<0.00002	<0.00002	<0.00002	0.00003	<0.00002	<0.00002	<0.00002	<0.00002	0.00004	0.00003	0.00003	0.00003	<0.00002
Molybdenum, total	mg/L	0.0059	0.0063	0.0231	0.0081	0.0105	0.0007	0.0062	0.0023	0.0022	0.009	0.002	0.01	0.055	0.012	0.037	0.028	0.036	0.029	0.03	0.041	0.01	0.012	0.009	0.007
Nickel, total	mg/L	0.006	0.006	0.002	0.002	0.004	0.002	0.002	0.002	0.002	0.002	0.001	0.002	0.001	0.003	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.003	0.001
Phosphorus, total	mg/L	<0.05	<0.05	<0.05	0.1	0.1	0.84	0.18	0.14	0.12					0.126			0.024	0.032	0.032	0.024	0.053	0.074	0.048	
Potassium, total	mg/L	6.4	6.2	10.7	4.6	6.5	3.8	4.5	3.8	3.1	4.62	2.99	5.65	23.1	6.39	17.5	14.1	17.7	16.3	17.4	20.8	4.89	7.32	5.03	4.3
Selenium, total	mg/L	0.0049	0.0034	0.0055	0.0023	0.0032	<0.0006	0.0018	<0.0006	<0.0006	0.0017	<0.0001	0.0022	0.0056	0.0024	0.0054	0.0039	0.0062	0.0047	0.0052	0.0073	0.0038	0.0026	0.0039	0.0031
Silver, total	mg/L	0.00002	0.00005	<0.00001	0.00004	0.00002	0.0002	<0.00001	<0.00001	0.00002	<0.00002	<0.00002	0.00003	0.00007	0.00007	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.00004	0.00005	<0.00002	<0.00002
Sodium, total	mg/L	28.3	25.2	31.1	14.3	25.2	3.53	11	5.22	3.53	17.8	2.82	20.8	56.1	25	45.2	35	44.6	37.4	40.8	53.2	19	27.1	20.4	17.7
Thallium, total	mg/L	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.00001	0.00001	<0.00001	<0.00001	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Zinc, total	mg/L	0.011	0.013	0.008	0.022	0.024	0.028	0.011	0.016	0.007	0.009	<0.005	0.007	0.016	0.008	0.005	<0.005	<0.005	0.006	<0.005	<0.005	0.005	0.008	0.011	0.007
Aluminum, dissolved	mg/L	<0.005	<0.005	0.017	0.022	0.013	<0.005	0.016	<0.005	<0.005	0.004	0.007	0.004	0.014	0.003	0.01	0.008	0.008	0.009	0.009	0.01	0.01	0.005	0.007	0.008
Arsenic, dissolved	mg/L	0.0005	0.0006	0.0085	0.0004	0.0005	0.0003	0.0008	0.0005	0.0008	0.0006	0.0007	0.0008	0.0005	0.0007	0.0005	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0006	0.0007	0.0006
Cadmium, dissolved	mg/L	0.00009	0.00011	0.00016	0.00024	0.00011	0.00004	0.00003	<0.00001	0.00001	0.00003	<0.00001	0.00013	0.00007	0.00017	0.00003	0.00004	0.00002	0.00003	0.00005	0.00004	0.00007	0.00023	0.00006	0.00018
Calcium, dissolved	mg/L	190	164	78	118	185	24	68.9	31.6	26.5	132	23.8	157	66.6	168	58	63.7	64.2	60.1	65.5	66.7	105	178	95	84.6
Chromium, dissolved	mg/L	0.0008	0.0004	<0.0004	0.0008	0.0012	<0.0004	<0.0004	<0.0004	<0.0004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper, dissolved	mg/L	0.137	0.115	0.038	0.053	0.069	0.063	0.152	0.036	0.023	0.112	0.0235	0.139	0.026	0.151	0.0172	0.0197	0.0177	0.019	0.0168	0.0173	0.115	0.242	0.0683	0.0621
Iron, dissolved	mg/L	0.02	0.03	0.22	0.13	0.19	0.03	0.14	0.12	0.2	0.124	0.186	0.151	0.089	0.146	0.096	0.124	0.07	0.095	0.078	0.081	0.064	0.127	0.038	0.033
Lead, dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0007	0.0002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Magnesium, dissolved	mg/L	32.9	29	19.8	24.9	39.6	5.4	18.8	7.2	6.2	26.6	5.21	32.1	12	35	12.4	13.6	13.4	13.5	14.3	13.6	28.1	37	30.5	26.7
Manganese, dissolved	mg/L	1.39	1.62																						

Station Name		W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8		
Sample Date		5/13/2010	5/17/2010	5/20/2010	5/24/2010	5/27/2010	5/31/2010	6/3/2010	6/14/2010	6/17/2010	6/21/2010	6/25/2010	7/4/2010	7/11/2010	7/18/2010	7/25/2010	8/2/2010	8/9/2010	8/15/2010	8/22/2010	8/29/2010	9/5/2010	9/9/2010	9/16/2010	9/23/2010	
pH (field)	pH units		6.67	7.42	7.61	7.65	7.89	7.85	7.19	6.94	7.24	7.66	7.88	7.97	7.93	7.65	7.5	7.56	7.61	7.97	7.97	7.65	7.92	7.55	7.63	
pH (lab)	pH units	8.2	8	8	7.9	8.1	8.1	8	8	8.4	8.1	8.12	8.04	8.18	8	7.89	7.99	8.15	8.13	8.23	7.76	7.93	7.94	8.19	7.97	
Hardness (from dissolved)	mg/L	416	670	919	801	786	785	720	776	246	791	759	313	616	557	682	747	737	741	785	163	622	646	606	586	
Hardness (from total)	mg/L	388	661	793	789	803	872	800	873	250	853	844	338	620	622	748	730	1220	735	709	162	636	661	711	611	
Total Dissolved Solids	mg/L	500	950	1100	1100	1000	1200	1200	1200	460	1300	1100	590	970	1000	1400	1400	1200	1200	1400	450	1000	1200	920	1000	
Total Suspended Solids	mg/L	6	27	5	15	74	5	41	4	5	3	2	96	110	660	120	19	660	19	82	30	110	55	42	32	
Alkalinity, total	mg/L	280	440	470	440	410	350	420	350	180	410	440	180	290	280	200	210	230	230	180	120	230	220	220	240	
Sulphate, dissolved	mg/L	100	140	150	130	120	150	130	140	95	140	130	130	170	140	160	160	230	250	250	130	200	200	190	180	
Chloride	mg/L	13	26	29	34	24	28	24	40	21	54	32	17	14	12	7.8	7.8	8.9	9.4	8.7	16	7.2	6.6	6.3	6.9	
Fluoride	mg/L	0.34	0.28	0.31	0.29	0.32	0.32	0.3	0.32	1.31	0.3	0.28	1.17	0.36	0.31	0.34	0.29	0.25	0.24	0.33	1.67	0.37	0.32	0.29	0.29	
Nitrite (N)	mg/L	0.047	2.4	2.76		2.78		2.93	2.5	0.39	2.13	1.83	0.398	1.32	1.51	1.9	0.009	0.61	1.24	0.64	0.407	0.62	0.369	0.337	0.361	
Nitrate (N)	mg/L	13.8	34	36.5		43		59	62	20.3	75	64	31.5	65	69	106	116	103	97	99	16.1	72	70	69	60	
Ammonia	mg/L	0.32	0.75	0.61		0.82		0.87	0.82	0.2	4.2	0.68	0.5	0.91		1.4	0.9	0.46	0.48	0.62	0.24	0.72	0.53	0.54	0.64	
Aluminum, total	mg/L	0.19	0.179	0.029	0.343	0.246	0.052	0.419	0.101	0.131	0.06	0.076	2.37	3.97	12.2	3.57	0.51	65.4	0.376	2.05	0.94	2.03	1.55	1.18	0.826	
Arsenic, total	mg/L	0.0007	0.0009	<0.001	0.0009	0.0008	0.0009	0.001	0.0009	<0.0004	0.0007	0.0008	0.0007	0.0007	0.0016	0.0009	<0.0004	0.0212	0.0004	0.0007	0.0006	0.0005	<0.0004	0.0005	0.0006	
Cadmium, total	mg/L	0.00009	0.00036	0.00029	0.0004	0.0003	0.0003	0.0003	0.0003	<0.0001	0.0002	0.0002	0.0001	0.0003	0.0006	0.0003	0.0001	0.0035	0.0002	0.0002	<0.0001	0.0002	0.0002	0.0002	0.0002	
Calcium, total	mg/L	110	201	232	238	241	261	241	260	70	244	250	98	183	180	223	222	327	222	216	45	187	200	215	185	
Chromium, total	mg/L	<0.001	0.001	0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.003	0.008	<0.002	<0.002	0.11	<0.002	0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
Copper, total	mg/L	0.13	0.368	0.332	0.461	0.466	0.441	0.434	0.391	0.045	0.298	0.319	0.308	0.531	1.42	0.293	0.131	6.08	0.159	0.265	0.07	0.271	0.321	0.291	0.203	
Iron, total	mg/L	0.34	0.775	0.43	1.09	0.958	0.608	1.32	0.721	0.248	0.46	0.674	4.68	7.98	28.8	6.75	1.13	183	0.916	5.08	0.831	4.24	3.49	2.36	1.96	
Lead, total	mg/L	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	0.0008	0.001	0.0039	0.0007	<0.0002	0.0287	<0.0002	0.0005	0.0004	0.0005	0.0005	0.0003	0.0002	
Magnesium, total	mg/L	27.6	39	51.9	47	49	53	48	54	19	59	53	23	40	42	46	43	97	44	41	12	41	40	42	36	
Manganese, total	mg/L	0.753	3.67	3.99	4.14	3.96	4.39	3.96	4.07	0.592	3.23	3.45	0.677	1.5	1.72	1.37	0.919	6.11	1.02	1.03	0.195	0.846	0.892	0.955	0.941	
Mercury, total	mg/L	<0.00002	<0.0002	<0.00002	<0.0002	<0.00002	<0.00002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Molybdenum, total	mg/L	0.012	0.012	0.013	0.014	0.014	0.015	0.014	0.014	0.037	0.012	0.011	0.037	0.013	0.01	0.015	0.009	0.01	0.007	0.013	0.056	0.018	0.013	0.008	0.009	
Nickel, total	mg/L	0.001	0.004	<0.003	0.004	0.003	0.003	0.004	0.004	0.001	0.003	0.003	0.002	0.004	0.007	0.007	0.003	0.104	0.002	0.003	0.001	0.002	0.002	0.002	0.002	
Phosphorus, total	mg/L	0.049	0.102	0.077																						
Potassium, total	mg/L	5.09	6.87	7.71	8	8	8	8	8	20	8	7	19	10	13	12	9	38	8	10	34	9	9	9	7	
Selenium, total	mg/L	0.0037	0.0026	0.003	0.0031	0.0031	0.004	0.0038	0.0033	0.006	0.0038	0.003	0.0069	0.0042	0.0041	0.009	0.0079	0.0123	0.0093	0.0131	0.0136	0.0129	0.014	0.0125	0.0124	
Silver, total	mg/L	<0.00002	0.00004	0.00005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0002	0.0004	0.0012	0.0002	<0.0001	0.0039	<0.0001	0.0002	<0.0001	0.0002	0.0002	0.0001	<0.0001	
Sodium, total	mg/L	19.1	25.1	36	30	32	35	30	33	46	35	33	42	30	29	28	28	32	29	27	51	26	26	29	25	
Thallium, total	mg/L	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00016	<0.00005	<0.00005	0.0011	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	
Zinc, total	mg/L	<0.005	0.006	<0.005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.025	0.041	0.124	0.036	<0.01	0.823	<0.01	0.03	<0.01	0.024	0.02	0.014	0.013	
Aluminum, dissolved	mg/L	0.007	0.004	0.006	<0.01	<0.01	<0.01	<0.01	<0.01	0.018	<0.01	<0.01	0.016	<0.01	0.012	<0.01	<0.01	<0.01	<0.01	0.011	0.1	<0.01	0.011	<0.01	<0.01	
Arsenic, dissolved	mg/L	0.0007	0.0008	<0.001	0.0009	<0.001	0.001	0.0009	0.0007	<0.0004	0.0008	0.0006	<0.0004	0.0005	0.0005	0.0004	0.0004	<0.0004	0.0005	0.0005	0.0005	0.0005	0.0006	0.0004	<0.0004	<0.0004
Cadmium, dissolved	mg/L	0.00007	0.00028	0.00031	0.0003	0.0002	0.0003	0.0002	0.0002	<0.0001	0.0002	0.0002	0.0001	0.0002	0.0002	0.0002	0.0001	0.0002	0.0002	0.0002	<0.0001	0.0001	0.0002	0.0002	0.0001	
Calcium, dissolved	mg/L	118	201	273	244	225	236	216	227	71	235	222	89	190	167	207	225	225	224	244	46	188	195	184	177	
Chromium, dissolved	mg/L	<0.001	<0.001	0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
Copper, dissolved	mg/L	0.115	0.265	0.341	0.321	0.344	0.337	0.283	0.254	0.031	0.226	0.228	0.058	0.14	0.163	0.073	0.075	0.096	0.121	0.08	0.008	0.082	0.094	0.115	0.1	
Iron, dissolved	mg/L	0.058	0.091	0.117	0.092	0.121	0.108	0.098	0.125	0.066	0.082	0.099	<0.02	<0.02	<0.02	0.069	0.028	<0.02	0.037	0.054	<0.02	0.032	0.173	<0.02	0.021	
Lead, dissolved	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Magnesium, dissolved	mg/L	29.6	40.8	57.5	47	54	47	44	51	17	49	50	22	35	34	40	45	43	44	43	12	37	39	35	35	
Manganese, dissolved	mg/L	0.782	3.6	5.04	3.93	3.85	3.98	3.56	3.18	0.456	2.98	3.2	0.55	1.35	1.19	1.16	0.95	1	1.02	0.936	0.157	0.719	0.815	0.778	0.832	
Mercury, dissolved	mg/L	<0.00002	<0.0002	<0.00002	<0.0002	<0.00002	<0.00002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Molybdenum, dissolved	mg/L	0.013	0.012	0.015	0.014	0.013	0.014	0.019	0.013	0.037	0.011	0.012	0.04	0.013	0.011	0.015	0.009	0.008	0.008	0.012	0.057	0.018	0.011	0.007	0.009	
Nickel, dissolved	mg/L	0.001	0.009	<0.003	0.003	<0.003	0.003	0.003	0.003	0.001	0.003	0.005	0.001	0.002	0.002	0.002	0.002	0.002	0.007	0.001	<0.001	0.003	0.002	0.004	0.001	
Phosphorus, dissolved	mg/L	0.019	0.031	0.041																						
Potassium, dissolved	mg/L	5.49	7.19	9.03	8	7	8	7	7	19	8	7														

Station Name		W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	
Sample Date		10/7/2010	4/1/2011	4/7/2011	4/21/2011	4/30/2011	5/6/2011	5/13/2011	5/20/2011	5/25/2011	6/10/2011	6/17/2011	6/24/2011	6/30/2011	7/8/2011	7/15/2011	7/21/2011	7/31/2011	8/5/2011	8/8/2011	8/9/2011	8/10/2011	8/11/2011	8/12/2011	8/13/2011
pH (field)	pH units	7.61																							
pH (lab)	pH units	8.15	7.87	7.86	8.15	8.24	8.04	8.08	8.05	8.1	8.24	8	8.06	7.87	7.91	7.92	7.91	8.11	7.94	7.96	7.79	8.02	8.2	8.21	8.04
Hardness (from dissolved)	mg/L	562	213	229	276	558	243	505	178	655	663	391	589	495	555	550	492	657	642	649	679	645	524	575	108
Hardness (from total)	mg/L	575	222	229	345	522	237	315	176	756	810	423	538	482	531	592	644	663	659	566	642	613	548	539	104
Total Dissolved Solids	mg/L	920	450	550	390	780	320	530	260	940	1000	500	870	790	820	910	800	1000	1000	1100	1200	1100	950	1100	150
Total Suspended Solids	mg/L	68	7	3	150	16	56	9	12	21	70	3	46	15	33	87	130	64	2	24	7	98	15	24	23
Alkalinity, total	mg/L	240	130	140	180	330	200	190	140	350	360	370	220	210	220	210	210	240	230	220	220	230	220	220	98
Sulphate, dissolved	mg/L	200	110	120	74	180	65	120	57	190	190		150	150	150	200	160	190	190						
Chloride	mg/L	6.5	29	28	2.7	7.8	2.8	4.3	3.2	8.7	7.7					6.3									
Fluoride	mg/L	0.29	1.43	1.5	0.42	0.38	0.37	0.47	0.34	0.33	0.33					0.33									
Nitrite (N)	mg/L	0.331	0.83	0.63	0.177	0.499	0.03	0.177	0.109	0.265	0.159	0.03	0.122	0.108	0.102	0.087	0.068	0.087	0.095	0.09	0.103	0.112	0.088	0.094	0.028
Nitrate (N)	mg/L	59	26.3	31	19.2	27.9	5.1	41	8.5	46	50	6	53	53	53	59	56	67	69	23	48	86	63	68	0.06
Ammonia	mg/L	0.57	1.1	1.5	0.094	0.161	0.042	0.41	0.802	0.141	0.124		0.227	0.135	0.005	0.11	0.044	0.083	0.12	0.071	0.07			0.112	0.011
Aluminum, total	mg/L	1.56	0.202	0.133	4.4	0.168	0.97	0.028	0.268	0.008	0.217	0.077	0.938	0.206	0.749	1.98	7.21	0.28	0.045	0.858	0.484	0.477	0.501	0.321	1.48
Arsenic, total	mg/L	0.0006	0.0004	0.0005	0.0007	0.0005	0.0007	0.0003	0.0004	0.0007	0.0007	0.0005	0.0005	0.0004	0.0006	0.0007	0.0013	0.0004	0.0005	0.0005	0.0004	0.0005	0.0004	0.0004	0.0007
Cadmium, total	mg/L	0.00019	0.00005	0.00005	0.00044	0.00016	0.00008	0.00015	0.00009	0.00013	0.0002	0.00021	0.00014	0.00009	0.0001	0.00022	0.00043	0.00014	0.00009	0.00013	0.00013	0.00013	0.00013	0.00011	0.00003
Calcium, total	mg/L	174	63.9	63.2	89.5	150	58	88.1	47.3	221	236	92.1	162	146	158	180	195	201	194	170	197	186	163	164	31.6
Chromium, total	mg/L	<0.001	<0.001	<0.001	0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper, total	mg/L	0.267	0.037	0.0286	1.56	0.25	0.156	0.0966	0.155	0.217	0.216	0.179	0.185	0.12	0.161	0.302	0.887	0.164	0.126	0.188	0.142	0.165	0.153	0.14	0.134
Iron, total	mg/L	3.31	0.394	0.321	7.77	0.315	1.57	0.054	0.65	0.063	0.581	0.365	2.27	0.47	1.59	4.54	20.1	0.674	0.112	1.79	1.47	1.1	0.913	0.519	2.75
Lead, total	mg/L	0.0005	<0.0002	<0.0002	0.0022	<0.0002	0.0005	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	0.0003	<0.0002	0.0004	0.0007	0.0019	0.0002	<0.0002	0.0003	<0.0002	0.0002	<0.0002	<0.0002	0.0005
Magnesium, total	mg/L	34.5	15.1	17.4	29.6	36	22.3	23	14	49.5	53.9	46.9	32.4	28.3	33	34.6	38.2	38.9	42.3	34.5	36.2	36	34	31.7	6.04
Manganese, total	mg/L	1.1	0.564	0.638	0.462	1.41	0.206	0.332	2.06	1.9	1.74	0.887	0.45	0.396	0.514	0.796	1.05	0.839	0.796	0.621	0.689	0.776	0.496	0.517	0.224
Mercury, total	mg/L	0.00003	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00005	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Molybdenum, total	mg/L	0.009	0.059	0.067	0.017	0.015	0.009	0.014	0.019	0.013	0.014	0.007	0.01	0.013	0.011	0.011	0.011	0.006	0.007	0.008	0.007	0.007	0.008	0.007	0.002
Nickel, total	mg/L	0.002	<0.001	0.001	0.001	0.002	0.002	0.003	0.002	0.002	0.003	0.002	0.001	<0.001	0.001	0.002	0.004	0.002	0.001	0.001	0.001	0.001	0.002	0.001	0.001
Phosphorus, total	mg/L		0.026	0.017	0.4	0.056	0.068	0.034	0.12	0.035	0.054	0.036	0.101	0.048	0.053	0.126	0.054	0.031	0.053	0.033	0.047	0.032	0.047	0.025	0.113
Potassium, total	mg/L	7.83	20.7	25.9	6.77	6.09	4	5.18	6.34	7.9	8.58	5.21	7.11	6.91	7.57	9.3	11.3	7.71	8.14	7.55	7.59	7.14	7.02	6.66	1.67
Selenium, total	mg/L	0.0126	0.0124	0.0154	0.0046	0.0039	0.0019	0.0155	0.0012	0.0059	0.0055	0.002	0.0135	0.0133	0.0118	0.0112	0.0144	0.0135	0.0129	0.0106	0.0119	0.0137	0.0123	0.0117	<0.0001
Silver, total	mg/L	0.00013	0.00002	<0.00002	0.0012	0.00004	0.0001	<0.00002	0.00007	0.00002	0.00005	0.00003	0.00009	0.00003	0.00006	0.00014	0.00047	<0.00002	<0.00002	0.00007	0.00005	0.00004	0.00004	0.00003	0.00007
Sodium, total	mg/L	24.2	62.8	63.1	17.1	22.9	16.6	15	12.6	29.7	31.8	29.2	22.5	21.7	22.6	26.3	25.2	26.1	29.6	23.6	24.7	24.4	22.7	21.6	3.2
Thallium, total	mg/L	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00012	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Zinc, total	mg/L	0.02	0.009	<0.005	0.043	<0.005	0.008	<0.005	<0.005	<0.005	0.007	<0.005	0.013	0.005	0.011	0.025	0.09	0.009	<0.005	0.008	0.007	0.007	0.005	0.005	0.017
Aluminum, dissolved	mg/L	0.008	0.012	0.077	0.006	0.004	0.013	0.144	0.007	0.005	0.005	0.006	0.034	0.005	0.013	0.007	0.008	0.01	0.016	0.013	0.02	0.009	0.005	0.005	0.008
Arsenic, dissolved	mg/L	0.0005	0.0005	0.0005	0.0002	0.0005	0.0004	0.0004	0.0003	0.0006	0.0005	0.0005	0.0005	0.0005	0.0028	0.0004	0.0003	0.0004	0.0004	0.0003	0.0004	0.0004	0.0004	0.0004	0.0004
Cadmium, dissolved	mg/L	0.00017	0.00006	0.00006	0.00009	0.00018	0.00003	0.00022	0.00006	0.00012	0.00012	0.00016	0.00042	0.00007	0.00014	0.00013	0.00009	0.00013	0.00012	0.00012	0.00012	0.00013	0.00009	0.00011	0.00001
Calcium, dissolved	mg/L	171	61.4	65	70.5	163	59.8	139	48.6	189	194	82	180	151	169	161	148	198	193	201	212	196	155	177	33.2
Chromium, dissolved	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper, dissolved	mg/L	0.112	0.014	0.0132	0.0791	0.207	0.0887	0.323	0.0566	0.195	0.154	0.131	0.0936	0.0751	0.0872	0.0986	0.098	0.127	0.113	0.106	0.109	0.106	0.103	0.0999	0.0226
Iron, dissolved	mg/L	0.022	0.055	0.042	0.019	0.056	0.05	0.344	0.062	0.042	0.052	0.106	0.106	0.1	0.033	0.027	0.014	0.045	0.052	0.023	0.062	0.034	0.016	0.02	0.085
Lead, dissolved	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002
Magnesium, dissolved	mg/L	33.1	14.5	16.2	24.4	36.7	22.7	38.6	13.8	44.3	43.3	45.2	34.1	28.5	32.3	35.7	29.5	39.2	39	36.1	36	37.7	33.5	32.7	6.06
Manganese, dissolved	mg/L																								

Station Name		W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8	W8
Sample Date		8/14/2011	8/15/2011	8/16/2011	8/17/2011	8/18/2011	8/19/2011	8/20/2011	8/21/2011	8/27/2011	9/10/2011	9/16/2011	9/23/2011	9/30/2011
pH (field)	pH units										7.38	7.71	7.62	7.41
pH (lab)	pH units	7.92	8	7.95	8.09	7.97	8.02	8.01	8.1	7.94	7.95		8.01	7.96
Hardness (from dissolved)	mg/L	552	579	590	607	633	382	675	712	751	887	726	780	786
Hardness (from total)	mg/L	540	565	574	584	619	383	651	689	689	692	679	675	725
Total Dissolved Solids	mg/L	1000	1100	1100	1100	1100	560	1100	1100	1200	1100	1200	1200	1100
Total Suspended Solids	mg/L	43	56	13	6	14	6	18	6	7	21	130	15	80
Alkalinity, total	mg/L	230	230	230	230	240	310	250	260	270	240		300	320
Sulphate, dissolved	mg/L									180			230	230
Chloride	mg/L										9.8		9	9.4
Fluoride	mg/L													
Nitrite (N)	mg/L	0.102	0.094	0.121	0.134	0.141	0.014	0.175	0.178	0.171	0.083		0.083	0.076
Nitrate (N)	mg/L	69	69	72	74	75	10.5	80	82	83	80		74	67
Ammonia	mg/L	0.09	0.095	0.067	0.085	0.079	0.026	0.087	0.098	0.108	0.118	0.11	0.071	0.06
Aluminum, total	mg/L	0.68	2.34	0.415	0.31	0.17	0.152	0.311	0.285	0.034	0.562	413	0.531	1.73
Arsenic, total	mg/L	0.0005	0.0008	0.0005	0.0004	0.0004	0.0005	0.0005	0.0009	0.0005	0.0004	0.5	0.0005	0.0007
Cadmium, total	mg/L	0.00009	0.00019	0.00014	0.00013	0.00017	0.00026	0.00015	0.00015	0.00015	0.00017	0.2	0.00026	0.00028
Calcium, total	mg/L	164	173	175	178	182	91.1	196	208	207	209	207	196	214
Chromium, total	mg/L	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.009	<0.001	<1	<0.001	0.002
Copper, total	mg/L	0.182	0.322	0.17	0.152	0.143	0.15	0.149	0.16	0.147	0.19	170	0.289	0.31
Iron, total	mg/L	1.2	5.59	0.834	0.607	0.336	0.315	0.709	0.743	0.157	1.27	1010	1.3	4.05
Lead, total	mg/L	0.0003	0.0008	0.0003	<0.0002	0.001	0.0002	<0.0002	<0.0002	<0.0002	0.0002	0.3	0.0003	0.0005
Magnesium, total	mg/L	31.9	32.5	33.4	33.6	40.2	37.7	39.1	41.3	41.8	41.3	39.2	45.1	46.2
Manganese, total	mg/L	0.533	0.682	0.67	0.681	0.765	0.357	0.82	0.867	0.895	0.763	879	1.06	1.04
Mercury, total	mg/L	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Molybdenum, total	mg/L	0.007	0.008	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	6	0.006	0.006
Nickel, total	mg/L	0.001	0.003	0.002	0.002	0.002	0.003	0.002	0.002	0.002	0.002	2	0.002	0.003
Phosphorus, total	mg/L	0.031	0.153	0.035	0.029	0.027	0.036	0.039	0.039	0.039	0.059	47	0.083	0.122
Potassium, total	mg/L	6.75	7.55	6.95	6.74	7.56	4.81	7.17	7.57	6.99	7.59	7.61	7.95	8.19
Selenium, total	mg/L	0.0123	0.0128	0.013	0.0128	0.0129	0.0051	0.0123	0.013	0.0123	0.0144	12.4	0.0111	0.0103
Silver, total	mg/L	0.00005	0.00017	0.00003	0.00004	0.00002	0.00003	0.00003	0.00003	<0.00002	0.00007	0.05	0.00007	0.00015
Sodium, total	mg/L	21.7	20.7	22.6	22.4	27.4	25.2	24.9	26.2	25.9	27.5	25.9	29.8	29
Thallium, total	mg/L	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.05	<0.00005	<0.00005
Zinc, total	mg/L	0.007	0.033	0.016	<0.005	0.009	0.009	0.013	0.007	<0.005	0.008	12	0.012	0.024
Aluminum, dissolved	mg/L	0.007	0.011	0.006	0.006	0.007	0.008	0.006	0.01	0.005	0.006	0.027	0.019	0.022
Arsenic, dissolved	mg/L	0.0004	0.0004	0.0004	0.0004	0.0005	0.0005	0.0004	0.0005	0.0003	0.0003	0.0003	0.0004	0.0004
Cadmium, dissolved	mg/L	0.00011	0.00011	0.00013	0.00013	0.00015	0.00011	0.00014	0.00014	0.00016	0.00017	0.00021	0.00023	0.0002
Calcium, dissolved	mg/L	168	175	177	184	193	89.5	204	216	227	283	220	235	237
Chromium, dissolved	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper, dissolved	mg/L	0.0969	0.158	0.117	0.115	0.128	0.133	0.128	0.131	0.137	0.132	0.169	0.182	0.201
Iron, dissolved	mg/L	0.374	0.027	0.025	0.056	0.036	0.056	0.034	0.057	0.039	0.045	0.084	0.077	0.081
Lead, dissolved	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002
Magnesium, dissolved	mg/L	32.1	34.5	36	36	36.6	38.5	40.5	41.8	44.8	44.1	43.1	47.1	46.9
Manganese, dissolved	mg/L	0.527	0.555	0.653	0.691	0.792	0.364	0.819	0.849	0.914	0.77	0.807	0.94	1.04
Mercury, dissolved	mg/L	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Molybdenum, dissolved	mg/L	0.007	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.005	0.005	0.005	0.006	0.005
Nickel, dissolved	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.001	0.002	0.003	0.002
Phosphorus, dissolved	mg/L	0.014	0.014	0.015	0.011	0.013	0.023	0.016	0.014		0.013	0.02	0.023	0.011
Potassium, dissolved	mg/L	7.18	7.68	7.14	7.12	6.9	4.1	7.06	7.62	7.79	8.01	7.31	8.11	7.96
Selenium, dissolved	mg/L	0.0139	0.0144	0.0132	0.0136	0.0132	0.0055	0.0126	0.0131	0.0126	0.0193	0.0135	0.0123	0.0116
Silver, dissolved	mg/L	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Sodium, dissolved	mg/L	21.6	23	24.2	24.5	23.9	25	25.3	26.9	28.2	29.5	28.9	31.7	30.8
Thallium, dissolved	mg/L	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Zinc, dissolved	mg/L	<0.005	0.032	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.008	0.011	0.007

Station Name		W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	
Sample Date		5/3/2008	5/7/2008	5/1/2009	5/2/2009	5/10/2009	5/28/2009	6/4/2009	6/7/2009	6/10/2009	6/16/2009	6/29/2009	7/6/2009	7/13/2009	7/27/2009	8/6/2009	8/10/2009	8/11/2009	8/19/2009	8/21/2009	8/31/2009	9/7/2009	9/18/2009	9/23/2009	9/30/2009
pH (field)	pH units			7.1			7.44	7.69		7.76	7.98	8	8.13	6.87		8.26	8.27		8.33			8.54	7.4	8.46	8.06
pH (lab)	pH units				7.45	7.76	7.92	7.86	8.09	7.8		7.98		8.18	8.32	8.13		8.15	7.94	8.2	7.95	8.08	7.86	8.11	7.99
Hardness (from dissolved)	mg/L	57			156	191	336	406	401	454		359		334	398	371		377	349	436	508	648	546	435	489
Hardness (from total)	mg/L		94																	438					
Total Dissolved Solids	mg/L				254	308	476	658	578	758		514		<5	498	516		536	496	540	648	600	726	606	646
Total Suspended Solids	mg/L				6540	311	146	502	11	127		10		4	6	4		8	21	10	28	14	10	26	8
Alkalinity, total	mg/L				212	195	328	192	227	190		219		228	332	339		388	310	390	373	336	389	288	303
Sulphate, dissolved	mg/L				24.7		54.3	114	103	138		93		67.6	66.4	55.2		51.1	58.5	52	98.2	131	84.8	88.3	95.6
Chloride	mg/L				1.4	1.6	1.04	5	3.75	5.8		3.34		4.01	0.64	3.18		1.52	3	2.6	3.09	3.38	2.79	3.43	4.01
Fluoride	mg/L																			0.3					
Nitrite (N)	mg/L					0.106															0.33				
Nitrate (N)	mg/L					1.58												0.8	3.95	7.4	14.8	14.9	17	21.8	21.9
Ammonia	mg/L																			0.015					
Aluminum, total	mg/L	0.69	3.43		151	44.2	10.7	19	0.268	2.39		0.31		0.069	0.179	0.15		0.242	0.661	0.287	0.874	0.104	0.078	0.544	0.22
Arsenic, total	mg/L	<0.0002	0.0019		0.015	0.0046	0.002	0.0011	0.0007	0.0009		0.0005		0.0003	0.001	0.0008		0.0013	0.0009	0.001	0.0013	0.001	0.0013	0.0009	0.0007
Cadmium, total	mg/L	<0.00007	<0.00007		0.00464	0.00093	0.0115	0.00059	0.00007	0.00029		0.00006		0.00003	0.00004	0.00005		0.00008	0.00008	0.00009	0.00009	0.00006	0.0001	0.0001	0.00009
Calcium, total	mg/L	12.4	20.3		133	62.8	75.6	141	117	147		101		90.7	87.8	88.5		84.9	80.1	100	124	116	138	125	134
Chromium, total	mg/L	0.0024	0.0057		0.0854	0.0234	0.0067	0.007	0.0007	0.0019		0.0007		0.0005	0.0012	0.0012		0.0013	0.0013	0.001	0.0017	0.0014	0.0016	0.0027	0.0016
Copper, total	mg/L	0.03	0.053		30	5.85	1.63	1.79	0.101	0.91		0.123		0.077	0.109	0.084		0.174	0.143	0.109	0.125	0.083	0.093	0.092	0.104
Iron, total	mg/L	0.96	4.82		365	64.6	18.3	28.2	0.72	6.12		0.86		0.34	0.864	0.528		0.807	1.16	1.03	2.07	0.788	1.31	1.2	0.746
Lead, total	mg/L	0.0005	0.0018		0.043	0.0092	0.004	0.003	<0.0001	0.0011		0.0001		<0.0001	0.0006	0.0004		0.0005	0.0006	0.0005	0.0007	0.0004	0.0004	0.0017	0.0008
Magnesium, total	mg/L	6.89	10.6		99.6	31.1	45.9	30.8	26.9	26		25.4		24.3	45.5	40.2		50.1	33.2	45.7	56	41.6	56.5	33.7	39
Manganese, total	mg/L	0.0514	0.105		6.78	1.58	1.33	1.02	0.696	0.508		0.727		0.771	0.972	1.04		1.06	1.32	1.63	1.78	1.46	2.2	0.899	1.6
Mercury, total	mg/L	0.00002	0.00002		0.00021	<0.0001	0.00003	0.00004	<0.00001			0.00001		<0.00001	<0.00001				<0.00001	0.00005	0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Molybdenum, total	mg/L	0.00034	0.00058		0.0142	0.02	0.00884	0.00718	0.0079	0.00862		0.00847		0.00645	0.0081	0.0053		0.007	0.0062	0.007	0.0051	0.005	0.0071	0.0165	0.006
Nickel, total	mg/L	0.008	0.042		0.32	0.015	0.005	0.006	0.002	0.003		0.002		0.002	0.002	0.002		0.003	0.002	0.002	0.003	0.002	0.003	0.004	0.005
Phosphorus, total	mg/L	0.09	0.13		3.55	0.96	0.21	0.47	0.056	0.171		0.372		<0.01	0.041	0.034		0.062	0.053		0.105	0.047	0.073	0.05	<0.05
Potassium, total	mg/L	1.97	3.55		60.2	18	11	12.1	5.6	7.2		5.7		4.8	6.1	4.9		5.7	4.7	5.73	6	5	5.8	6.3	5.2
Selenium, total	mg/L	<0.0006	<0.0006		0.0077	0.003	<0.003	0.0062	0.0031	0.0077		0.0028		<0.0006	0.0008	<0.0006		<0.0006	<0.0006	0.0015	0.0014	<0.0006	0.003	0.0038	0.0025
Silver, total	mg/L	<0.0001	<0.0001		0.0121	0.00485	<0.00005	0.00055	0.00012	0.00015		0.00034		0.00013	0.0001	0.00003		0.00005	<0.00001	0.00003	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Sodium, total	mg/L	4.6	7.7		26.4	20.7	28.1	22.9	22.2	21.9		21.6		20.1	27.8	23.9		24.4	19.4	22.2	25.9	24.1	28.4	22.1	24.6
Thallium, total	mg/L	<0.00001	0.00003		0.00135	0.00033	0.00011	0.00017	<0.00001	0.00003		<0.00001		<0.00001	<0.00001	<0.00001		<0.00001	<0.00001	<0.00005	<0.00001	<0.00001	<0.00001	0.00014	<0.00001
Zinc, total	mg/L	0.009	0.018		1.59	0.348	0.1	0.15	0.008	0.033		0.008		0.003	0.013	0.005		0.007	0.008	0.007	0.015	0.009	0.012	0.006	0.009
Aluminum, dissolved	mg/L	0.05			0.028	0.024	0.088	0.092	0.007	0.021		0.007		0.023	0.016	0.019		0.051	0.009	0.007	0.022	0.013	0.023	<0.005	<0.005
Arsenic, dissolved	mg/L	<0.0002			0.0004	0.0007	0.0008	0.0004	0.0006	0.0004		0.0006		0.0005	0.0008	0.0004		0.0014	0.0008	0.0009	0.001	0.0005	0.0012	0.0008	0.0008
Cadmium, dissolved	mg/L	<0.00008			0.00007	0.00008	0.00097	0.00015	0.00005	0.00014		0.00006		0.00004	0.00004	0.00003		0.00009	0.00004	0.00006	0.00005	0.00017	0.0001	0.00006	0.00007
Calcium, dissolved	mg/L	11.6			43.6	46.5	65.9	127	117	142		102		93.6	86.6	85.2		77.6	82.2	99.3	114	201	130	120	132
Chromium, dissolved	mg/L	0.0018			<0.0004	<0.0005	0.0011	<0.0004	<0.0004	0.0007		<0.0004		<0.0004	0.0013	0.0014		0.0014	0.0015	<0.001	0.0016	0.001	0.0019	0.0016	0.0009
Copper, dissolved	mg/L	0.023			0.094	0.172	0.121	0.164	0.067	0.171		0.071		0.068	0.08	0.069		0.084	0.066	0.0676	0.064	0.272	0.072	0.059	0.069
Iron, dissolved	mg/L	0.09			0.05	0.06	0.31	0.24	0.11	0.07		0.14		0.2	0.3	0.26		0.44	0.17	0.262	0.37	0.09	0.55	0.07	0.1
Lead, dissolved	mg/L	<0.0001			<0.0001	<0.0001	0.0003	<0.0001	<0.0001	0.0003		<0.0001		<0.0001	0.0005	0.0005		0.0001	0.0005	<0.0002	0.0005	0.0005	0.0003	<0.0001	<0.0001
Magnesium, dissolved	mg/L	6.74			11.5	18.1	41.8	21.7	26.5	24		25.6		24.3	44.2	38.4		44.5	34.9	45.6	54.6	35.8	53.9	32.7	39.1
Manganese, dissolved	mg/L	0.0178			0.255	0.345	0.858	0.392	0.662	0.352		0.7		0.805	0.945	0.896		1.05	1.33	1.53	1.8	2.39	2.24	0.897	1.5
Mercury, dissolved	mg/L	0.00002			<0.00001	<0.0001	<0.00001	<0.00001	0.00001			0.00001		<0.00001	<0.00001				<0.00001	<0.00002	<0.00001	0.00002	<0.00001	<0.00001	<0.00001
Molybdenum, dissolved	mg/L	0.00033			0.0192	0.017	0.00877	0.00885	0.00768	0.00882		0.00841		0.00629	0.0083	0.0057		0.0066	0.0059	0.007	0.0054	0.0052	0.007	0.0169	0.0058
Nickel, dissolved	mg/L	0.002			0.005	0.0046	0.003	0.002	0.002	0.002		0.002		0.001	0.002	0.002		0.003	0.002	0.002	0.003	0.003	0.003	0.003	0.004
Phosphorus, dissolved	mg/L	0.03			0.02		0.03	0.02	0.01	0.01		0.02		0.01	0.01	<0.01		0.04	0.03		0.05	0.03	0.05	0.01	0.02
Potassium, dissolved	mg/L	2.05																							

Station Name		W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A
Sample Date		10/5/2009	10/12/2009	10/19/2009	11/9/2009	11/16/2009	4/19/2010	4/20/2010	4/21/2010	4/22/2010	4/23/2010	4/24/2010	4/25/2010	4/26/2010	4/27/2010	4/28/2010	4/29/2010	4/30/2010	5/1/2010	5/2/2010	5/3/2010	5/4/2010	5/5/2010	5/6/2010	5/7/2010
pH (field)	pH units	8.04	8.04	7.73	7.25	7.49	7.3	6.98						7.84	7.84	7.89	7.93		7.95	8	8.07		7.52		
pH (lab)	pH units	8	8.1	8.04	7.88	7.86	8.16	8.13	7.68	7.84	7.75	7.82	7.85	8.1	8	8.1	8	8.1	8.2	8.2	8	8.1	8.2	8.2	8.4
Hardness (from dissolved)	mg/L	383	408	349	381	358								225	92.1	235	240	268	252	284	293	285	327	328	378
Hardness (from total)	mg/L						130	393	276	303	244	266	248	226	221	239	249	291	274	280	282	299	318	331	361
Total Dissolved Solids	mg/L	520	578	568	534	566	196	560	416	438	404	448	410	370	240	350	360	430	400	400	440	430	460	480	520
Total Suspended Solids	mg/L	2	5	2	<2	7	31	18	79	21	82	136	99	39	14	63	75	47	110	48	30	29	19	34	120
Alkalinity, total	mg/L	261	303	235	274	273	122	332	202	224	158	157	159	140	150	150	150	170	170	180	180	190	210	210	250
Sulphate, dissolved	mg/L	75.5	74.3	95	89.5	87.5	14	59.3	46	45.2	49.5	66	55.1	57	51	53	55	72	71	68	80	80	83	85	92
Chloride	mg/L	3.69	4.12	6.95	6.54	7.01	5.96	14.2	9.98	24.8	6.96	7.86	7.17	6	5.9	5.9	6.1	6.8	7.9	8.8	11	11	13	12	15
Fluoride	mg/L													0.36	0.32	0.29	0.31	0.37	0.3	0.28	0.29	0.28	0.29	0.3	0.34
Nitrite (N)	mg/L													0.21	0.121	0.14	0.12	0.125	0.118	0.12	0.103	0.088	0.084	0.074	0.079
Nitrate (N)	mg/L	13.8	13.7	18.3	10.8	15.8		10	11.8	7.59				11.7	11.1	11.4	11.2	13.9	13.2	12.8	14.3	13.1	13.6	14.1	15.3
Ammonia	mg/L													0.12	0.039	0.083	0.2	0.16	0.1	0.1	0.15	0.04	0.07	0.06	0.17
Aluminum, total	mg/L	0.083	0.151	0.096	0.059	0.069	0.096	0.126	2.39	0.87	2.03	5.19	3.7	1.07	1.11	1.37	1.36	0.494	2.9	1.96	0.563	0.974	0.514	0.672	0.202
Arsenic, total	mg/L	0.0005	0.0008	0.0007	0.0007	0.0006	0.0003	0.0009	0.0012	0.0007	0.0011	0.0019	0.0014	0.001	0.001	0.0012	0.0012	0.0009	0.0016	0.0014	0.0006	0.0009	0.0007	0.0008	0.0007
Cadmium, total	mg/L	0.00003	0.00007	0.0001	0.00017	0.00011	0.00003	0.00006	0.0001	0.00018	0.00008	0.00011	0.00014	0.00008	0.00009	0.00017	0.00012	0.00008	0.00011	0.00012	0.00012	0.00007	0.00007	0.00007	0.00005
Calcium, total	mg/L	108	114	97.1	110	99.6	32.2	109	80.1	103	78	85.8	81	63	60.8	66	68.9	83.6	74.6	76	76.1	80.5	84	87	98.6
Chromium, total	mg/L	0.0012	0.0005	0.0005	0.0005	0.0005	<0.0004	0.0004	0.0019	0.0009	0.0017	0.0033	0.0025	0.001	0.002	0.002	0.002	0.001	0.005	0.004	0.001	0.002	0.001	0.001	<0.001
Copper, total	mg/L	0.066	0.09	0.072	0.066	0.068	0.05	0.074	0.205	0.154	0.238	0.403	0.529	0.209	0.155	0.324	0.188	0.172	0.325	0.189	0.0897	0.122	0.1	0.137	0.0877
Iron, total	mg/L	0.555	0.456	0.383	0.41	0.353	0.137	0.256	2.39	0.989	2.57	5.7	4.8	1.83	1.83	2.71	2.46	0.773	5.43	3.35	0.869	1.67	0.854	1.33	0.342
Lead, total	mg/L	0.0003	<0.0001	0.0003	0.0001	0.0001	0.0001	0.0002	0.0008	0.0003	0.0008	0.0016	0.0012	0.0005	0.0006	0.001	0.0008	0.0004	0.0018	0.0009	0.0004	0.0013	0.0003	0.0004	0.0002
Magnesium, total	mg/L	31.2	34.6	27.6	33	31.6	12.3	35.1	23.6	22.1	21.6	23	21.1	16.7	16.8	18.1	18.6	19.9	21.4	21.8	22.5	23.8	26.2	27.6	27.9
Manganese, total	mg/L	1.18	1.42	0.945	1.11	0.943	0.232	0.542	0.681	1.66	0.566	0.77	0.675	0.334	0.282	0.38	0.318	0.397	0.384	0.315	0.252	0.28	0.272	0.281	0.356
Mercury, total	mg/L	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.00001	<0.00001	0.00002	<0.00001	0.00002	0.00002	0.00002	<0.00002	0.00002	<0.00002	0.00003	<0.00002	0.00007	<0.00002	0.00005	<0.00002	0.00007	0.00004	<0.00002
Molybdenum, total	mg/L	0.0049	0.0057	0.0165	0.0103	0.013	0.0013	0.0048	0.0068	0.0049	0.0083	0.0121	0.0127	0.011	0.008	0.008	0.008	0.014	0.008	0.008	0.007	0.007	0.007	0.008	0.011
Nickel, total	mg/L	0.003	0.004	0.003	0.003	0.003	<0.001	0.002	0.003	0.003	0.003	0.004	0.004	0.002	0.002	0.003	0.003	0.002	0.005	0.004	0.002	0.003	0.002	0.002	<0.001
Phosphorus, total	mg/L	<0.05	<0.05	<0.05	0.06	0.08	0.08	0.11	0.22	0.1	0.25	0.35	0.42					0.049			0.069	0.138	0.066	0.122	0.044
Potassium, total	mg/L	4.3	4.7	8.6	7.6	7.8	3.4	5.7	5.1	5	5	5.3	5.3	4.14	4.21	4.45	4.36	4.52	4.84	4.51	4.02	4.32	4.35	4.65	4.56
Selenium, total	mg/L	0.0015	0.0013	0.0041	0.0024	0.0026	<0.0006	0.002	0.0024	0.0009	0.0025	0.0044	0.0041	0.0035	0.003	0.003	0.0033	0.0043	0.0038	0.0037	0.0036	0.0034	0.0036	0.0037	0.0036
Silver, total	mg/L	<0.00001	<0.00001	<0.00001	<0.00001	0.00001	0.00001	0.00002	0.00001	<0.00001	0.00005	0.0002	0.00012	0.00004	0.00002	0.00006	0.00004	0.00005	0.0001	0.00004	<0.00002	<0.00002	0.00002	0.00004	0.00003
Sodium, total	mg/L	20.7	22.4	28.4	31.3	30.4	7.3	20.5	13.2	12.9	13.2	15.2	14.9	12.5	11.9	12.4	12.6	16	14.7	15.8	15.6	15.5	18.9	19.6	18
Thallium, total	mg/L	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.00002	<0.00001	0.00002	0.00003	0.00003	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Zinc, total	mg/L	0.003	0.006	0.007	0.014	0.011	0.016	0.008	0.021	0.01	0.018	0.028	0.031	0.014	0.009	0.018	0.014	0.008	0.028	0.016	0.006	0.009	0.006	0.008	<0.005
Aluminum, dissolved	mg/L	<0.005	<0.005	0.067	<0.005	0.11	<0.005	0.017	0.006	<0.005	0.016	0.011	0.016	0.021	0.038	0.023	0.019	0.015	0.021	0.015	0.011	0.011	0.009	0.01	0.008
Arsenic, dissolved	mg/L	0.0005	0.0005	0.0066	0.0006	0.0005	0.0003	0.0009	0.001	0.0006	0.0007	0.0008	0.0007	0.0007	0.0004	0.0007	0.0006	0.0007	0.0006	0.0006	0.0006	0.0005	0.0006	0.0006	0.0006
Cadmium, dissolved	mg/L	0.00003	0.00005	0.00012	0.00008	0.0013	0.00002	0.00006	0.00002	0.00004	0.00004	0.00004	0.00004	0.00005	0.00003	0.00006	0.00005	0.00009	0.00008	0.00005	0.00006	0.00004	0.00003	0.00005	0.00005
Calcium, dissolved	mg/L	103	110	94.8	102	94.1	31.7	103	74.8	87.9	67.3	74.4	69.5	63	25.7	64.8	66.4	78.5	69.8	78.1	80.1	75.4	88.2	88.1	102
Chromium, dissolved	mg/L	0.0008	0.0006	<0.0004	0.0004	0.001	0.002	0.0008	<0.0004	<0.0004	0.0006	0.0006	0.0005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper, dissolved	mg/L	0.048	0.062	0.07	0.052	0.084	0.032	0.051	0.115	0.064	0.128	0.131	0.193	0.109	0.0322	0.124	0.103	0.128	0.108	0.082	0.0674	0.0589	0.071	0.0773	0.0794
Iron, dissolved	mg/L	0.08	0.05	0.41	0.15	0.28	0.02	0.09	0.1	0.1	0.12	0.1	0.1	0.095	0.065	0.098	0.086	0.081	0.072	0.055	0.043	0.042	0.043	0.039	0.046
Lead, dissolved	mg/L	<0.0001	<0.0001	<0.0001	0.0001	0.0005	<0.0001	0.0002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Magnesium, dissolved	mg/L	30.4	32.7	27.2	30.6	29.8	12.4	33.1	21.7	20.3	18.6	19.6	18	16.5	6.76	17.7	18	17.6	19	21.6	22.6	23.5	25.9	26.3	29.8
Manganese, dissolved	mg/L	1.16	1.32	0.897	1.07	0.956	0.195	0.524	0.534	1.5	0.379	0.447	0.412	0.249	0.019	0.239	0.231	0.344	0.208	0.203	0.219	0.192	0.243	0.225	0.35
Mercury, dissolved	mg/L	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.00001	<0.00001	<0.00001	<0.00001	0.00001	<0.00002	<0.00002	<0.00002	0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Molybdenum, dissolved	mg/L	0.005	0.0057	0.0167	0.0099	0.013	0.0013	0.0046	0.0065	0.0045	0.008	0.0125	0.012	0.011	0.004	0.008	0.008	0.014	0.008	0.008	0.008	0.007	0.007	0.008	0.011
Nickel, dissolved	mg/L	0.003	0.004	0.003	0.003	0.003	<0.001	0.002	0.002	0.002	0.002	0.001	0.002	0.001	<0.001	0.001	0.001	<0.001	0.001	0.001	0.001	0.001	0.001	0.001	<0.001
Phosphorus, dissolved	mg/L	0.02	0.02	0.02	<0.01	0.05	0.02	0.03	0.03	0.02	0.04	0.03	0.02					0.0							

Station Name		W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A		
Sample Date		5/8/2010	5/9/2010	5/10/2010	5/13/2010	5/17/2010	5/20/2010	5/24/2010	5/27/2010	5/31/2010	6/3/2010	6/14/2010	6/17/2010	6/25/2010	7/4/2010	7/11/2010	7/18/2010	7/25/2010	8/2/2010	8/9/2010	8/15/2010	8/22/2010	8/29/2010	9/5/2010	9/9/2010	
pH (field)	pH units		7.82			7.94	7.6	7.39	7.72	7.52	7.63	7.31	7.08	7.99	7.50	8.09	8.09	7.94	7.89	7.86	8.03	8.06	7.8	7.97	8.06	
pH (lab)	pH units	7.8	8.1	8.2	8.1	8.4	8.5	8.4	8.5	8.2	8.4	8.5	8.2	8.6	7.94	8.41	8.19	8.04	8.2	8.35	8.33	8.47	7.95	8.22	8.24	
Hardness (from dissolved)	mg/L	371	217	120	286	371	428	408	400	404	334	316	460	403	338	412	363	371	480	482	474	475	439	442	463	
Hardness (from total)	mg/L	411	230	124	264	365	439	417	418	421	1740	310	456	426	352	450	358	415	537	533	458	432	415	455	452	
Total Dissolved Solids	mg/L	550	470	160	400	530	620	610	490	570	470	540	610	530	520	600	580	560	630	610	640	650	640	640	780	
Total Suspended Solids	mg/L	13	7	<4	18	20	8	6	24	41	7	4	4	4	4	2	4	60	2	19	19	100	10	3	25	
Alkalinity, total	mg/L	260	150	120	190	280	300	310	310	330	240	250	400	360	220	320	270	220	310	350	350	270	270	360	350	
Sulphate, dissolved	mg/L	89	97	14	94	88	94	79	71	80	82	92	74	76	110	91	97	110	110	100	100	120	120	97	100	
Chloride	mg/L	13	22	6.9	19	16	17	17	11	11	15	18	11	9.3	4.8	7.8	5.7	4.7	8.3	6.2	5.7	7.1	5.1	5.9	4.4	
Fluoride	mg/L	0.37	1.6	0.44	0.98	0.33	0.4	0.42	0.39	0.4	0.86	0.84	0.38	0.38	0.37	0.37	0.35	0.42	0.39	0.37	0.36	0.44	0.4	0.4	0.39	
Nitrite (N)	mg/L	0.089	0.55	0.055	0.485	0.064	0.09	0.374	0.098		0.253	0.159	0.015	0.018	0.113	0.035	0.074	0.142	0.06	0.068	0.114	0.61	0.068	0.044	0.051	
Nitrate (N)	mg/L	14	19.6	0.65	15	10.5	10.4	8.8	8.2		14	14.3	10.5	10.9	20.1	23.2	23	22.8	29	23.5	23	32	27	19.3	8.9	
Ammonia	mg/L	0.18	0.36	0.065	0.62	0.18	0.28	0.32	0.32		0.31	0.22	0.15	0.05	0.19	0.045		0.28	0.15	0.062	0.11	0.22	0.09	0.15	0.039	
Aluminum, total	mg/L	0.202	0.082	0.08	0.329	0.149	0.126	0.069	0.532	0.16	0.264	0.089	0.099	0.047	0.14	0.032	0.103	1.41	0.084	0.437	0.539	2.56	0.139	0.132	0.912	
Arsenic, total	mg/L	0.0008	0.0004	0.0006	0.0005	0.0006	<0.001	0.0008	<0.001	0.0007	0.0005	0.0004	0.0007	0.0008	0.0006	0.0006	0.0006	0.0014	0.0006	0.0008	0.0009	0.0013	0.0007	0.0005	0.0005	
Cadmium, total	mg/L	0.00011	0.00008	0.00025	0.00009	0.00008	0.00005	0.0001	0.0002	0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0002	0.0001	0.0002	0.0002	0.0002	<0.0001	0.0002	0.0001	
Calcium, total	mg/L	115	68	36	77.6	100	111	110	103	106	96	80	108	102	95	108	94	111	149	142	119	120	116	109	110	
Chromium, total	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.002	<0.002	<0.002	<0.002	0.003	<0.002	<0.002	<0.002	
Copper, total	mg/L	0.149	0.0208	0.0243	0.106	0.101	0.117	0.119	0.191	0.136	0.073	0.07	0.107	0.116	0.162	0.129	0.111	0.147	0.173	0.202	0.191	0.332	0.124	0.139	0.228	
Iron, total	mg/L	0.343	0.251	0.229	1.1	0.292	0.284	0.181	1.11	0.369	0.389	0.204	0.221	0.161	0.356	0.144	0.216	2.04	0.2	0.834	0.887	4.69	0.262	0.277	1.59	
Lead, total	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0009	<0.0002	0.0003	0.0003	0.001	<0.0002	<0.0002	0.0004	
Magnesium, total	mg/L	30	14.7	8.35	17	27.8	39.1	34	39	38	26	27	45	42	28	44	30	34	40	43	39	32	30	44	43	
Manganese, total	mg/L	0.758	0.364	0.425	1.07	0.463	0.609	0.699	0.831	0.849	0.569	0.476	0.779	0.663	0.976	0.728	0.618	0.648	1.02	0.994	0.882	0.871	0.594	0.753	0.758	
Mercury, total	mg/L	0.00002	<0.00002	<0.00002	<0.00002	<0.0002	<0.00002	<0.0002	<0.00002	<0.00002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Molybdenum, total	mg/L	0.012	0.049	0.01	0.032	0.01	0.013	0.013	0.011	0.011	0.025	0.021	0.009	0.008	0.012	0.009	0.01	0.014	0.011	0.01	0.009	0.013	0.01	0.008	0.008	
Nickel, total	mg/L	0.002	0.001	0.002	0.001	0.001	<0.003	0.001	<0.003	0.002	0.002	0.001	0.002	0.001	0.001	0.001	0.001	0.002	0.009	0.003	0.003	0.003	0.004	0.001	0.002	0.002
Phosphorus, total	mg/L		0.025	0.034	0.049	0.036	0.045																			
Potassium, total	mg/L	5.43	24.8	5.1	16	4.45	5.73	5	6	6	13	12	6	6	6	7	5	6	7	7	6	7	6	6	6	
Selenium, total	mg/L	0.0041	0.0079	0.0004	0.0043	0.003	0.003	0.0028	0.003	0.002	0.0032	0.0034	0.002	0.0022	0.0048	0.0034	0.0047	0.0064	0.0069	0.0064	0.0053	0.0084	0.0051	0.0039	0.0039	
Silver, total	mg/L	0.00004	<0.00002	<0.00002	<0.00002	0.00003	0.00005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	0.0002	<0.0001	<0.0001	0.0001	
Sodium, total	mg/L	21.8	56.4	11.8	35	19.2	28	23	28	26	39	34	26	25	18	30	21	23	27	26	25	20	22	26	26	
Thallium, total	mg/L	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	
Zinc, total	mg/L	<0.005	<0.005	<0.005	0.007	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.015	<0.01	<0.01	<0.01	0.022	<0.01	<0.01	0.011	
Aluminum, dissolved	mg/L	0.009	0.009	0.007	0.006	0.011	0.007	<0.01	<0.01	<0.01	0.022	0.02	<0.01	0.01	0.061	<0.01	0.013	<0.01	<0.01	0.012	0.01	0.011	<0.01	0.012	<0.01	
Arsenic, dissolved	mg/L	0.0006	0.0004	0.0006	0.0004	0.0005	<0.001	0.0007	<0.001	0.0007	0.0005	<0.0004	0.0007	0.0005	0.0006	0.0006	0.0006	0.0007	0.0006	0.0007	0.0007	0.0007	0.0007	0.0008	0.0007	0.0005
Cadmium, dissolved	mg/L	0.00007	0.00006	0.00007	0.00006	0.00005	0.00006	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0001	0.0002	0.0002	0.0001	0.0001	0.0001	
Calcium, dissolved	mg/L	104	63.5	35.3	84.6	99.9	112	110	97	105	93	82	113	100	86	110	96	102	130	128	124	133	122	110	112	
Chromium, dissolved	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
Copper, dissolved	mg/L	0.124	0.0125	0.0175	0.0279	0.0693	0.0986	0.093	0.117	0.105	0.043	0.047	0.09	0.089	0.147	0.097	0.099	0.096	0.146	0.138	0.153	0.121	0.117	0.115	0.114	
Iron, dissolved	mg/L	0.058	0.049	0.073	0.12	0.036	0.064	0.056	0.064	0.058	0.03	0.053	0.06	0.067	0.138	0.063	0.055	0.083	0.065	0.07	0.07	0.068	0.034	0.065	0.043	
Lead, dissolved	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Magnesium, dissolved	mg/L	27	14.2	7.85	18.1	29.4	36	32	38	34	25	27	43	37	30	34	30	28	38	40	40	34	33	41	44	

Station Name		W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A
Sample Date		9/16/2010	9/23/2010	10/7/2010	4/1/2011	4/7/2011	4/21/2011	4/25/2011	4/30/2011	5/6/2011	5/13/2011	5/21/2011	5/25/2011	6/10/2011	6/17/2011	6/24/2011	6/30/2011	7/8/2011	7/15/2011	7/21/2011	7/31/2011	8/5/2011	8/8/2011	8/9/2011	8/10/2011
pH (field)	pH units	8.08	8.16	8.16																					
pH (lab)	pH units	8.35	8.26	8.41	7.94	7.78	8.03	8.13	8.14	8.09	8.37	8.33	8.19	8.42	7.91	8.28	7.98	7.88	7.99	7.97	8.21	8.04	7.8	7.85	8.09
Hardness (from dissolved)	mg/L	448	446	403	215	219	313	288	220	227	302	323	347	383	676	391	319	377	350	371	437	405	397	380	372
Hardness (from total)	mg/L	467	425	448	218	231	335	306	236	237	292	321	404	415	758	358	299	379	368	385	389	430	362	362	336
Total Dissolved Solids	mg/L	420	610	550	450	520	370	390	320	290	380	430	480	490	990	480	410	510	470	550	550	520	570	540	550
Total Suspended Solids	mg/L	9	3	4	3	1	3	11	42	37	18	100	30	35	170	25	49	44	270	43	3	19	30	16	13
Alkalinity, total	mg/L	370	380	390	130	140	290	240	170	190	240	280	280	330	360	330	280	310	300	270	310	280	240	240	250
Sulphate, dissolved	mg/L	86	83	79	110	110	76	75	71	56	73	74	80	71		63	55	85	73	100	97	94			
Chloride	mg/L	3.5	4.4	2.6	27	26	2.8	3	4.7	2.8	3.1	3.8	4.6	<0.5					3.5						
Fluoride	mg/L	0.41	0.37	0.37	1.19	1.24	0.4	0.38	0.42	0.35	0.38	0.38	0.4	0.41					0.34						
Nitrite (N)	mg/L	0.033	0.016	0.012	0.57	0.56	0.017	0.04	0.058	0.029	0.026	0.077	0.025	0.02	0.328	0.013	0.017	0.012	0.022	0.024	0.016	0.026	0.046	0.038	0.031
Nitrate (N)	mg/L	15.1	10.4	7.7	23.3	30	4.9	6.6	7.8	4.8	6.5	6.8	8.6	6.2	54	5.6	6.1	5.9	8.5	16.6	14.6	14.4	7.8	12.8	14.2
Ammonia	mg/L	0.093	0.06	0.041	0.51	0.8	0.085	0.084	0.161	0.051	0.019	0.007	0.042	0.029		0.032	0.019	0.04	0.008	0.024	0.042	0.043	0.022	0.009	
Aluminum, total	mg/L	0.106	0.107	0.13	0.086	0.032	0.222	0.473	1.52	0.846	0.514	2.19	0.669	1.48	1.23	0.498	0.956	2.54	3.63	0.225	0.077	0.637	0.777	0.693	0.468
Arsenic, total	mg/L	0.0006	0.0006	0.0004	0.0004	0.0004	0.0003	0.0004	0.0007	0.0007	0.0007	0.0016	0.0009	0.0012	0.0008	0.0007	0.0009	0.0011	0.0028	0.0006	0.0005	0.0008	0.0007	0.0008	0.0007
Cadmium, total	mg/L	0.0002	0.0002	0.0001	0.00005	0.00003	0.00009	0.0001	0.00011	0.00007	0.00013	0.0002	0.00005	0.00012	0.00023	0.00013	0.00013	0.00018	0.00026	0.00015	0.00016	0.00017	0.00015	0.00015	0.00014
Calcium, total	mg/L	109	99	101	63	65.4	78.3	76.1	60.3	58.3	72.7	77.1	91.5	90.5	225	78.7	68.1	82.9	86.8	91	88.1	94.5	89.5	88	81.7
Chromium, total	mg/L	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	0.001	0.003	0.001	0.001	0.001	0.001	0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper, total	mg/L	0.138	0.138	0.139	0.0445	0.0219	0.137	0.16	0.304	0.217	0.149	0.301	0.0856	0.121	0.334	0.0945	0.226	0.305	0.442	0.161	0.168	0.217	0.22	0.232	0.2
Iron, total	mg/L	0.262	0.27	0.343	0.162	0.073	0.371	0.618	1.77	1.44	0.86	3.4	1.19	2.43	2.53	0.95	1.68	4.18	5.82	0.339	0.203	0.834	1.25	1.01	0.755
Lead, total	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	0.0006	0.0005	0.0003	0.0014	0.0004	0.0007	0.0004	0.0005	0.0005	0.0009	0.002	<0.0002	<0.0002	0.0003	0.0003	0.0004	0.0002
Magnesium, total	mg/L	47	43	47.5	14.7	16.5	34	28.1	20.7	22.1	26.9	31.3	42.7	46	47.8	39.3	31.2	41.7	36.8	38.3	41.1	47.1	33.6	34.5	32
Manganese, total	mg/L	0.694	0.677	0.66	0.211	0.126	0.348	0.399	0.365	0.233	0.35	0.779	0.19	0.398	1.42	0.194	0.438	0.557	0.689	0.416	0.438	0.447	0.335	0.35	0.337
Mercury, total	mg/L	<0.0002	<0.0002	0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00005	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Molybdenum, total	mg/L	0.007	0.007	0.006	0.035	0.04	0.006	0.008	0.014	0.009	0.008	0.007	0.011	0.008	0.012	0.006	0.006	0.006	0.006	0.008	0.006	0.008	0.008	0.009	0.008
Nickel, total	mg/L	0.002	0.002	0.002	<0.001	<0.001	<0.001	<0.001	0.001	0.001	0.001	0.006	0.002	0.004	0.003	0.003	0.003	0.002	0.007	0.001	0.001	0.002	0.003	0.002	0.001
Phosphorus, total	mg/L				0.029	0.02	0.035	0.046	0.075	0.075	0.052	0.198	0.077	0.099	0.127	0.058	0.115	0.167	0.521		0.038	0.058	0.054	0.046	0.037
Potassium, total	mg/L	6	5	5.43	17.5	21.8	4.39	4.55	4.28	4.11	4.67	4.91	5.59	5.6	8.25	4.6	4.52	5.76	5.74	5.8	5.09	6.51	5.84	5.79	4.96
Selenium, total	mg/L	0.003	0.0023	0.0022	0.0105	0.0131	0.0017	0.0021	0.0026	0.0018	0.0024	0.0023	0.003	0.002	0.0051	0.0019	0.0023	0.0031	0.0034	0.0064	0.0061	0.0073	0.0069	0.0074	0.0081
Silver, total	mg/L	<0.0001	<0.0001	0.00003	<0.00002	<0.00002	0.00006	0.00008	0.00016	0.00014	0.00007	0.00011	0.00004	0.00004	0.00013	0.00004	0.00005	0.00012	0.00052	0.00002	<0.00002	0.00004	0.00005	0.00007	0.00005
Sodium, total	mg/L	28	26	28	59.9	60	24.4	20.6	16.5	16.3	18.9	20.1	26.1	28.6	29.6	25.2	19.8	26.1	22.2	23.7	24.8	31.1	23.4	23.8	21.8
Thallium, total	mg/L	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Zinc, total	mg/L	<0.01	<0.01	<0.005	0.008	<0.005	<0.005	<0.005	0.009	0.007	0.005	0.016	<0.005	0.009	0.024	0.017	0.011	0.026	0.021	<0.005	<0.005	<0.005	0.007	0.01	0.005
Aluminum, dissolved	mg/L	<0.01	<0.01	0.008	0.017	0.005	0.003	0.006	0.008	0.01	0.01	0.014	0.008	0.025	0.062	0.008	0.016	0.013	0.014	0.016	0.013	0.03	0.015	0.019	0.022
Arsenic, dissolved	mg/L	0.0006	0.0005	0.0005	0.0004	0.0004	0.0003	0.0003	0.0004	0.0004	0.0005	0.0006	0.0006	0.0005	0.0006	0.0006	0.0006	0.0006	0.0006	0.0005	0.0006	0.0006	0.0006	0.0006	0.0006
Cadmium, dissolved	mg/L	0.0001	0.0001	0.00017	0.00005	0.00003	0.00007	0.00007	0.00006	0.00003	0.00007	0.00014	0.00003	0.00014	0.00014	0.00008	0.00009	0.00012	0.0002	0.00013	0.00015	0.00018	0.00012	0.00012	0.00014
Calcium, dissolved	mg/L	105	103	91.3	62.4	62.8	76	74.1	58.3	55.6	74.2	80.7	78.8	83.2	199	85.3	74.3	84.2	77.6	84.7	98.9	94.5	103	96.4	91.8
Chromium, dissolved	mg/L	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper, dissolved	mg/L	0.117	0.12	0.102	0.0169	0.0145	0.0844	0.0897	0.123	0.0775	0.11	0.133	0.0468	0.0678	0.193	0.0679	0.163	0.144	0.167	0.144	0.162	0.162	0.155	0.151	0.153
Iron, dissolved	mg/L	0.076	0.094	0.065	0.026	0.017	0.035	0.041	0.045	0.043	0.057	0.128	0.043	0.08	0.129	0.056	0.1	0.09	0.075	0.074	0.08	0.11	0.091	0.084	0.083
Lead, dissolved	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	<0.0002	<0.0002	<0.0002
Magnesium, dissolved	mg/L	45	46	42.5	14.3	15.2	30	24.9	18	21.5	28.4	29.6	36.4	42.5	43.5	43.2	32.4	40.6							

Station Name		W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A
Sample Date		8/11/2011	8/12/2011	8/13/2011	8/14/2011	8/15/2011	8/16/2011	8/17/2011	8/18/2011	8/19/2011	8/20/2011	8/21/2011	8/27/2011	9/3/2011	9/10/2011	9/16/2011	9/23/2011	9/30/2011	10/8/2011	11/8/2011	11/21/2011	11/28/2011	12/5/2011	9/20/2012
pH (field)	pH units													7.68	7.64	7.59	7.66	7.62	7.6	7.64				7.49
pH (lab)	pH units	8.3	8.06	8.06	8	8.1	8.09	8.19	8.06	7.87	8.22	8.3	7.93	8.37	8.18	8.07	8.2	8.21	8.24	8.26	8.09	8.24	7.77	7.87
Hardness (from dissolved)	mg/L	423	381	375	384	387	376	411	407	691	377	405	421	407	450	418	401	414	483	448	465	406	422	470
Hardness (from total)	mg/L	357	358	367	381	369	376	366	378	694	354	375	392	350	412	368	376	381	411	411	424	392	369	423
Total Dissolved Solids	mg/L	540	640	640	620	630	660	700	580	1200	540	550	520	540	560	510	530	500	510	518	524	524	506	752
Total Suspended Solids	mg/L	12	15	7	7	94	70	10	8	21	7	6	5	2	1	2	7	<4	1	10.6	6.3	2.4	<4.0	23.3
Alkalinity, total	mg/L	260	280	280	290	300	300	310	300	250	310	310	320	350	360	360	370	370	370	380	394	393	392	358
Sulphate, dissolved	mg/L												91			87	85	85				92.3	83.3	131
Chloride	mg/L													3.8	4.6	3.2	2.9	3.8	3.8	3.4	3.8	3.3	3.2	4.7
Fluoride	mg/L																					0.43		0.49
Nitrite (N)	mg/L	0.022	0.023	0.021	0.017	0.018	0.02	0.017	0.016	0.157	0.015	0.013	0.015	0.006	0.005	0.007	<0.005	<0.005	<0.005	0.007	<0.005	<0.005	0.007	0.0233
Nitrate (N)	mg/L	13.9	15.2	14.6	14	17.7	13.3	12.5	11.1	72	9.9	9.7	12.1	7	8.8	7.7	6.3	5.3	5.5	6.07	5.29	4.37	3.54	12.4
Ammonia	mg/L		0.039	0.043	0.038	0.035	0.038	0.042	0.018	0.076	0.02	0.013	0.048	0.042	0.032	0.019	0.028	0.055	0.009	0.0273	0.0222	0.028	0.0351	0.11
Aluminum, total	mg/L	0.981	0.42	0.236	0.187	0.991	0.65	0.333	0.328	4.1	0.148	0.167	0.203	0.042	0.043	126	0.049	0.047	0.029	0.195	0.079	0.077	0.058	0.707
Arsenic, total	mg/L	0.0007	0.0006	0.0005	0.0005	0.0009	0.0007	0.0006	0.0005	0.001	0.0005	0.0007	0.0006	0.0004	0.0004	0.4	0.0004	0.0004	0.0003	0.0005	0.0003	0.0003	0.0003	0.00064
Cadmium, total	mg/L	0.00013	0.00012	0.00014	0.00012	0.00016	0.00016	0.00012	0.00013	0.00036	0.0001	0.00012	0.00014	0.00009	0.00009	0.14	0.00012	0.00007	0.00008	0.00017	0.00014	0.0001	0.00009	0.000174
Calcium, total	mg/L	84.8	87.4	87.9	93.7	89.1	88.8	86	84	209	80.8	87.5	90.9	75.9	87.2	78.3	73.2	81	87.6	78.2	83.6	76.1	72.1	95.6
Chromium, total	mg/L	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<1	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.0010
Copper, total	mg/L	0.214	0.175	0.16	0.151	0.191	0.212	0.158	0.161	0.495	0.142	0.151	0.175	0.103	0.108	124	0.141	0.0986	0.0989	0.146	0.145	0.147	0.145	0.184
Iron, total	mg/L	1.44	0.689	0.415	0.377	1.69	1.27	0.508	0.488	10.1	0.262	0.321	0.429	0.107	0.106	264	0.127	0.118	0.1	0.373	0.229	0.21	0.186	1.31
Lead, total	mg/L	0.0005	0.0003	<0.0002	<0.0002	0.0005	0.0004	<0.0002	<0.0002	0.0015	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	0.4	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.00034
Magnesium, total	mg/L	35.1	33.8	35.9	35.7	35.6	37.6	36.8	40.8	41.6	37	38.1	40.2	39.1	47.3	41.9	46.9	43.5	46.7	52.3	52.4	49.1	45.8	44.7
Manganese, total	mg/L	0.357	0.36	0.374	0.368	0.427	0.433	0.384	0.373	1.08	0.345	0.347	0.39	0.264	0.298	314	0.308	0.226	0.233	0.303	0.359	0.351	0.34	0.478
Mercury, total	mg/L	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.000020	<0.000020	<0.000020	<0.000020	<0.000010
Molybdenum, total	mg/L	0.007	0.007	0.007	0.006	0.007	0.007	0.007	0.007	0.005	0.006	0.006	0.007	0.005	0.005	5	0.006	0.005	0.004	0.005	0.005	0.005	0.005	0.007
Nickel, total	mg/L	0.002	0.002	0.002	0.001	0.003	0.002	0.002	0.002	0.005	0.001	0.001	0.001	<0.001	0.001	2	0.001	0.001	<0.001	0.002	<0.001	0.001	<0.001	0.0053
Phosphorus, total	mg/L	0.095	0.039	0.036	0.035	0.086	0.071	0.035	0.045	0.494	0.035	0.03		0.023	0.023	28	0.025	0.021	0.016	0.047	0.03	0.019	0.022	0.078
Potassium, total	mg/L	5.17	4.75	4.73	4.61	4.86	5.12	4.86	5.14	9.1	4.63	4.87	4.68	4.24	4.62	4.62	4.64	4.08	4.2	4.66	4.97	4.33	4.01	5.14
Selenium, total	mg/L	0.0074	0.0069	0.0067	0.0069	0.0063	0.0066	0.0059	0.0051	0.0134	0.0045	0.0048	0.0056	0.0037	0.0036	3.2	0.0027	0.0022	0.0026	0.0024	0.0026	0.002	0.0019	0.00589
Silver, total	mg/L	0.00006	0.00003	0.00002	0.00002	0.00005	0.00005	0.00003	0.00003	0.00023	0.00002	0.00002	0.00003	<0.00002	<0.00002	<0.02	<0.00002	<0.00002	<0.00002	<0.00002	0.00003	<0.00002	<0.00002	0.000021
Sodium, total	mg/L	23.3	22.8	23.9	23.5	22.6	25	24.8	28.1	25.6	24.4	25.1	25.8	25.6	29.8	26.5	30.1	26.7	28.6	32.5	31.8	30.2	28.3	28.2
Thallium, total	mg/L	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00007	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.05	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.000050
Zinc, total	mg/L	0.008	0.007	0.009	<0.005	0.01	0.344	<0.005	0.006	0.054	<0.005	<0.005	0.006	<0.005	<0.005	9	<0.005	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	1.65
Aluminum, dissolved	mg/L	0.011	0.012	0.008	0.009	0.009	0.01	0.007	0.007	0.028	0.009	0.008	0.006	0.008	0.007	0.005	0.012	0.014	0.011	0.0065	0.0125	0.0126	0.011	0.0159
Arsenic, dissolved	mg/L	0.0006	0.0006	0.0005	0.0005	0.0005	0.0005	0.0005	0.0006	0.0005	0.0005	0.0005	0.0004	0.0004	0.0004	0.0003	0.0004	0.0003	0.0004	0.0003	0.00035	0.00033	0.00025	0.00038
Cadmium, dissolved	mg/L	0.00012	0.00013	0.00012	0.00012	0.00013	0.00013	0.00012	0.00012	0.00015	0.00011	0.00011	0.00015	0.00009	0.0001	0.00011	0.00012	0.00007	0.00009	0.000114	0.000284	0.000128	0.000098	0.000168
Calcium, dissolved	mg/L	110	92	91.1	90.8	90.9	87.3	98.3	98.2	211	89.6	94.2	98.3	91.6	96.4	88.1	85	86.5	107	88.9	91.6	83.4	82.6	105
Chromium, dissolved	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Copper, dissolved	mg/L	0.15	0.147	0.136	0.132	0.129	0.129	0.133	0.144	0.13	0.129	0.134	0.146	0.102	0.103	0.124	0.125	0.104	0.108	0.112	0.141	0.123	0.136	0.126
Iron, dissolved	mg/L	0.092	0.069	0.069	0.061	0.056	0.057	0.058	0.056	0.055	0.05	0.046	0.054	0.036	0.033	0.033	0.05	0.042	0.045	0.0249	0.0678	0.0515	0.0488	0.075
Lead, dissolved	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00020	0.00033	<0.00020	<0.00020	<0.00020
Magnesium, dissolved	mg/L	35.7	36.7	35.9	38.2	38.8	38.4	40.2	39.4	39.7	37.3	41.2	42.7	43.2	51	48.1	45.8	48	52.6	55	57.4	47.9	52.4	50.4
Manganese, dissolved	mg/L	0.336	0.385	0.375	0.397	0.394	0.409	0.393	0.402	0.79	0.355	0.366	0.375	0.302	0.325	0.334	0.323	0.252	0.251	0.285	0.379	0.341	0.353	0.468
Mercury, dissolved	mg/L	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.000020	<0.000020	<0.000020	<0.000020	<0.000010
Molybdenum, dissolved	mg/L	0.008	0.008	0.007	0.007	0.007	0.007	0.007	0.006	0.006	0.006	0.007	0.006	0.005	0.005	0.005	0.005	0.005	0.005	0.0055	0.0053	0.0048	0.0047	0.0085
Nickel, dissolved	mg/L	0.001	0.001	0.001	0.001	0.001	0.002	0.001	0.001	0.002	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.001	<0.0010	<0.0010	<0.0010	<0.0010	0.0019
Phosphorus, dissolved	mg/L	0.024	0.024	0.021	0.026	0.023	0.025	0.021	0.025	0.029	0.022													

Station Name		W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A	W8A
Sample Date		9/25/2012	10/12/2012	10/19/2012	10/25/2012	11/5/2012	11/9/2012	11/18/2012	12/11/2012	12/28/2012
pH (field)	pH units	7.3	7.35	7.52	8.2		8.2	7.48	7.47	
pH (lab)	pH units	8.2	7.92	7.92	8.05	8.35	8.19	8.23	8.27	8.19
Hardness (from dissolved)	mg/L	434		428	450	509	477	482	487	461
Hardness (from total)	mg/L	470	502	452	447	472	471	432	470	442
Total Dissolved Solids	mg/L	584	576	556	752	602	796	650	628	448
Total Suspended Solids	mg/L	5.1	20.3	34.6	19.9	8.2	8.8	12	15.7	24.9
Alkalinity, total	mg/L	332	370	391	381	406	296	429	435	434
Sulphate, dissolved	mg/L	150	107	97.4	118	110	179	94.4	90.1	96.4
Chloride	mg/L	4.6	3.5	2.9	3.8	3.6	6.7	3.3	2.9	2.8
Fluoride	mg/L	0.42	0.41	0.36	0.42	0.42	0.54	0.39	0.4	0.38
Nitrite (N)	mg/L	0.0373	0.0111	0.0114	0.0136	0.0108	0.036	0.0075	0.0085	<0.0050
Nitrate (N)	mg/L	24.9	9.41	6	13.5	9.8	33.3	5.56	4.17	3.23
Ammonia	mg/L	0.041	0.03	0.051	0.037	0.024	0.031	0.02	0.012	0.014
Aluminum, total	mg/L	0.596	0.465	0.101	0.179	0.208	0.21	0.27	0.197	0.929
Arsenic, total	mg/L	0.00059	0.00053	0.00042	0.00049	0.00047	0.000413	0.00034	0.00033	0.0004
Cadmium, total	mg/L	0.00013	0.000154	0.000117	0.000083	0.00015	0.000129	0.000121	0.000094	0.000136
Calcium, total	mg/L	98.3	105	93.7	90.9	101	103	87.8	88.8	82.1
Chromium, total	mg/L	<0.0020	<0.0010	<0.0010	<0.0010	0.02	0.00024	<0.0010	<0.0010	0.0013
Copper, total	mg/L	0.23	0.176	0.118	0.109	0.1	0.133	0.133	0.124	0.206
Iron, total	mg/L	1.28	0.909	0.23	0.433	0.436	0.503	0.591	0.41	2.11
Lead, total	mg/L	0.00058	0.00054	<0.00020	<0.00020	0.00033	0.00032	0.00027	<0.00020	0.00093
Magnesium, total	mg/L	54.6	58.3	53	53.4	53.5	51.6	51.8	60.2	57.6
Manganese, total	mg/L	0.487	0.459	0.421	0.365	0.358	0.379	0.351	0.34	0.34
Mercury, total	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010		<0.000010	<0.000010	<0.000010
Molybdenum, total	mg/L	0.0064	0.0085	0.0072	0.0066	0.0075	0.00801	0.0063	0.0056	0.0046
Nickel, total	mg/L	0.0023	0.0013	0.0012	0.0013	0.0109	0.000744	<0.0010	0.0013	<0.0010
Phosphorus, total	mg/L	0.161	0.128	0.046	0.043	0.043		0.047	0.023	0.101
Potassium, total	mg/L	5.42	5.82	5.11	5.01	5.2	5.22	4.49	4.73	4.75
Selenium, total	mg/L	0.00523	0.0052	0.00482	0.00424	0.00526	0.00699	0.00419	0.00336	0.00211
Silver, total	mg/L	<0.000040	0.000039	0.000021	<0.000020	0.0001	0.000013	0.000023	<0.000020	0.000023
Sodium, total	mg/L	34.1	37.1	32.3	33.1	33.3	32.4	31.3	36.3	33
Thallium, total	mg/L	<0.00010	<0.000050	<0.000050	<0.000050	<0.000050	0.000015	<0.000050	<0.000050	<0.000050
Zinc, total	mg/L	1.14	1.85	1.33	0.446	1.94	1.86	0.928	0.811	1.95
Aluminum, dissolved	mg/L	0.004		0.0051	0.0042	0.157	0.00262	0.004	0.0071	0.004
Arsenic, dissolved	mg/L	0.00039		0.00036	0.00038	0.00043	0.000288	0.0003	0.00039	0.00029
Cadmium, dissolved	mg/L	0.000123		0.000104	0.000089	0.000102	0.000142	0.000119	0.000112	0.000088
Calcium, dissolved	mg/L	93.5		89.8	92.4	119	105	97.6	91.2	83.7
Chromium, dissolved	mg/L	<0.0010		<0.0010	<0.0010	<0.0010	0.0001	<0.0010	<0.0010	<0.0010
Copper, dissolved	mg/L	0.0959		0.0804	0.0843	0.136	0.0998	0.0928	0.0878	0.0965
Iron, dissolved	mg/L	0.0312		0.0388	0.0419	0.336	0.022	0.031	0.0366	0.0273
Lead, dissolved	mg/L	<0.00020		<0.00020	<0.00020	0.00021	0.000013	<0.00020	<0.00020	<0.00020
Magnesium, dissolved	mg/L	48.7		49.5	53.2	51.5	52.4	54.8	63	61.1
Manganese, dissolved	mg/L	0.431		0.386	0.362	0.36	0.36	0.345	0.326	0.307
Mercury, dissolved	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010		<0.000010	<0.000010	<0.000010
Molybdenum, dissolved	mg/L	0.007		0.0067	0.0074	0.0093	0.00875	0.0076	0.0056	0.0049
Nickel, dissolved	mg/L	<0.0010		<0.0010	<0.0010	<0.0010	0.000677	<0.0010	0.002	<0.0010
Phosphorus, dissolved	mg/L	0.022		0.022	0.021	0.058		0.02	0.012	0.013
Potassium, dissolved	mg/L	5.22		4.94	4.84	5.34	5.14	4.95	4.69	4.69
Selenium, dissolved	mg/L	0.00522		0.00474	0.00577	0.0093	0.00785	0.00544	0.00305	0.00237
Silver, dissolved	mg/L	<0.000020		<0.000020	<0.000020	<0.000020	0.000007	<0.000020	<0.000020	<0.000020
Sodium, dissolved	mg/L	31.2		30.9	33.6	33.6	33.9	34	37.6	36.2
Thallium, dissolved	mg/L	<0.000050		<0.000050	<0.000050	<0.000050	0.000007	<0.000050	<0.000050	<0.000050
Zinc, dissolved	mg/L	1.89		1.13	0.791	3.76	1.87	1.31	0.739	0.75

Station Name		W12	W12	W12	W12	W12	W12	W12	W12	W12	W12	W12	W12	W12	W12	W12	W12	W12	W12	W12	W12	W12	W12	W12		
Sample Date		5/19/2007	6/20/2007	6/27/2007	8/1/2007	8/12/2007	10/23/2007	10/30/2007	11/27/2007	12/18/2007	12/18/2007	1/15/2008	1/16/2008	2/13/2008	4/22/2008	5/7/2008	5/13/2008	5/20/2008	5/27/2008	6/18/2008	6/27/2008	7/22/2008	9/18/2008	11/18/2008		
pH (field)	pH units					308			7.44	8.17			8.25	7.6				7.9		7.85		8.1		8.5		
pH (lab)	pH units	7.67	7.52			7.8	7.96	8.03	8.02	8.08	8.08	8.21	8.21	7.82	8.18			7.88		7.93		8.03	7.92	8.12		
Hardness (from dissolved)	mg/L	622															82		116		126					
Hardness (from total)	mg/L	622	621		489	442	366	330	302	335	335	312		600		112	82		116		126		242	152		
Total Dissolved Solids	mg/L	1100	1050			718	636	556	530	572	572	602	602	1090	294				286			300	458	352	626	
Total Suspended Solids	mg/L	66	34				<2	<2	<2	<2	<2	6	6	2	19				14			19	15	44	27	
Alkalinity, total	mg/L	201	238				132	126	142		140	116		214	111				70			83		80	91	184
Sulphate, dissolved	mg/L	18	262				244	221	196		239	290		282	79.5				52.2			74.2		141	84.7	221
Chloride	mg/L	1.3	1.9			1.6	1.62	0.96	1.63	0.95	0.95	0.84	0.84	1.87	1.71				1.18			1.24		1.39	1.63	2.01
Fluoride	mg/L																									
Nitrite (N)	mg/L	6.38	8.78			3.87	0.97	0.48	0.34	0.14	0.14	0.18	0.18	3	0.5				0.73			0.4	0.35	0.19	0.06	
Nitrate (N)	mg/L	100	66			41	35.1	20.4	19.3	9.8	9.8	9.95	9.95	68	5.77				5.75			7.28	7.88	10.6	6.68	
Ammonia	mg/L	10.8	8.17				9.91	8.66	5.47	3.64		3.43	3.43	16.3	2.16				2.02			1.73		1.68	1.11	0.71
Aluminum, total	mg/L	0.301	1.02	4.92	0.546	13.8	0.108	0.016	0.049	0.098	0.098	0.463	0.463	0.106	0.29	3.5	4.42	3.61	1.46	1.24	0.92	0.798	1.7	0.611		
Arsenic, total	mg/L	0.0006	0.0032	0.0196	0.0012	0.0051	0.001	0.0008	0.0014	0.0008	0.0008	0.0005	0.0005	0.0009	<0.0002	0.0025	0.0035	0.0021	0.0019	0.0015	0.0009	0.0008	0.0016	0.001		
Cadmium, total	mg/L	0.00002	0.00065	0.00055	0.00057	0.00109	0.00008	0.00006	0.00005	0.00011	0.00011	0.00003	0.00003	0.00019	0.00009	0.00026	0.00026	0.00026	0.00019	0.00024	0.00026	0.00024	0.00016	0.00047		
Calcium, total	mg/L	187	187	146	142	131	99.9	90.2	84.3	91.2	91.2	80.4	80.4	166	50.2	31.4	33.5	37.3	35.8	46.2	47	69.7	48	102		
Chromium, total	mg/L	<0.001	<0.0005	0.0012	<0.0005	0.0037	<0.0005	<0.0005	0.0006	<0.0005	<0.0005	0.0007	0.0007	<0.0005	<0.0005	0.0045	0.0056	0.0054	0.002	0.0021	0.0022	0.0006	0.0032	0.0013		
Copper, total	mg/L	0.205	0.469	1.884	0.172	3.59	0.027	0.015	0.016	0.053	0.053	0.051	0.051	0.288	0.129	0.569	0.675	0.519	0.458	0.465	0.539	0.318	0.393	0.48		
Iron, total	mg/L	0.6	1.6	9.1	0.9	23.3	0.1	<0.1	<0.1	0.1	0.1	0.6	0.6	0.5	0.61	4.99	6.61	4.51	1.88	1.71	1.42	0.91	3.38	0.99		
Lead, total	mg/L	0.0003	0.001	0.0032	0.0003	0.0056	<0.0001	<0.0001	0.0002	0.0001	0.0001	0.0002	0.0002	0.0001	0.0002	0.0042	0.004	0.004	0.0018	0.0015	0.0013	0.0006	0.0018	0.0003		
Magnesium, total	mg/L	44	37.3	30.8	32.4	33.8	28.2	25.5	22.1	26.1	26.1	27	27	45.1	11.9	8.26	9.28	9.79	8.7	11.2	11	16.5	13.1	25.3		
Manganese, total	mg/L	0.486	0.822	0.865	0.309	1.15	0.137	0.133	0.067	0.079	0.079	0.051	0.051	0.13	0.0364	0.187	0.231	0.172	0.125	0.123	0.121	0.129	0.165	0.295		
Mercury, total	mg/L	0.0002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00001	0.0005	0.0005	0.0004	0.0003	0.0002	0.00002	<0.0001	0.0001	<0.0001		
Molybdenum, total	mg/L	0.02	0.015	0.029	0.022	0.028	0.042	0.044	0.023	0.038	0.038	0.042	0.042	0.039	0.024	0.0232	0.0202	0.0234	0.0208	0.0245	0.024	0.036	0.0213	0.042		
Nickel, total	mg/L	<0.001	0.0013	0.0017	<0.0005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.003	0.003	0.0014	0.005	0.042	0.051	0.035	0.003	0.002	0.002	<0.0005	0.002	0.0017		
Potassium, total	mg/L	6.7	9	17.5	9.2	16	4.9	4.4	4.2	3.4	3.4	3.3	3.3	8.3	2.98	3.47	3.41	3.78	3.09	3.55	3.31	3.9	4.39	6		
Selenium, total	mg/L	0.0046	0.0065	0.0102	0.0066	0.0065	0.013	0.0093	0.0096	0.0032	0.0032	0.004	0.004	0.0185	0.0016	0.0044	0.0034	0.003	0.0042	0.004	0.0038	0.007	0.0078	0.0067		
Silver, total	mg/L	0.0003	0.0003	0.0006	0.0001	0.002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.00006	<0.0001	0.0004	0.0003	0.0004	0.0001	0.00015	0.00006	0.00008	0.00016	0.00016		
Sodium, total	mg/L	19	34.5	39.6	22.4	25.8	26.9	21.3	27.8	19.6	19.6	50.3	50.3	41	9.8	8.6	10.1	11.3	10.1	14.4	14.2	20.2	16.1	28.6		
Thallium, total	mg/L	<0.0001	<0.00005	0.00012	<0.00005	0.00025	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00001	0.00003	0.00003	0.00005	<0.00001	<0.00001	<0.00001	<0.00005	0.00002	<0.00005		
Zinc, total	mg/L	0.01	0.027	0.073	0.016	0.17	0.007	0.004	0.013	0.012	0.012	0.011	0.011	0.015	0.009	0.023	0.038	0.018	0.01	0.016	0.013	0.01	0.016	0.04		
Aluminum, dissolved	mg/L	<0.005				0.013											0.05	0.04	0.0016	0.04	0.03		0.051			
Arsenic, dissolved	mg/L	0.0005				0.001											0.0016	0.003	0.0021	0.0015	0.0014		0.0011			
Cadmium, dissolved	mg/L	0.00005				0.00049											0.00008	0.00009	0.00012	0.00017	0.00019		0.00009			
Calcium, dissolved	mg/L	178				129											23.4	33.5	36.6	46.8	50.6		42.4			
Chromium, dissolved	mg/L	0.0011				<0.0005											<0.0006	0.0011	0.0013	0.001	0.0025		0.0007			
Copper, dissolved	mg/L	0.099				0.141											0.15	0.217	0.318	0.318	0.396		0.217			
Iron, dissolved	mg/L	<0.01				0.02											0.12	0.15	0.14	0.09	0.09		0.1			
Lead, dissolved	mg/L	<0.0001				0.0002											0.0004	0.0005	0.0004	0.0004	0.0002		0.0003			
Magnesium, dissolved	mg/L	43.4				29											5.8	7.8	8.52	0.0798	11.8		11.3			
Manganese, dissolved	mg/L	0.36				0.538											0.0505	0.0672	0.0763	0.0798	0.093		0.107			
Mercury, dissolved	mg/L	0.0001				<0.0001											0.0002	0.0001	0.0001	<0.0001	<0.00001		<0.0001			
Molybdenum, dissolved	mg/L	0.016				0.024											0.0174	0.0226	0.0217	0.0262	0.026		0.0211			
Nickel, dissolved	mg/L	0.0008				<0.0005											0.001	0.001	<0.001	<0.001	<0.001		0.001			
Potassium, dissolved	mg/L	10.4				10.1											1.46	2.75	3	4.42	3.36		3.56			
Selenium, dissolved	mg/L	0.0048				0.0071											<0.0006	0.0036	0.0055	0.006	0.009		0.009			
Silver, dissolved	mg/L	0.0002				<0.0001											<0.0010	<0.0010	<0.0010	0.00002	<0.00001		<0.00001			
Sodium, dissolved	mg/L	20.1				32.9											7.01	9.99	11	13.8	15.1		14.5			
Thallium, dissolved	mg/L	<0.00005				<0.00005											<0.00001	<0.00001	<0.00001	0.00001	<0.00001		<0.00001			
Zinc, dissolved	mg/L	0.015				0.016											0.002	0.003	0.005	0.006	0.00					

Station Name		W12	W12	W12	W12	W12	W12	W12	W12	W12	W12	W12	W12	W12	W12	W12	W12	W12	W12	W12	W12	W12	W12	W12		
Sample Date		2/2/2009	4/21/2009	5/2/2009	5/3/2009	5/5/2009	6/3/2009	7/13/2009	7/19/2009	9/21/2009	11/5/2009	11/6/2009	12/2/2009	2/1/2010	2/2/2010	3/2/2010	4/7/2010	4/19/2010	4/26/2010	5/3/2010	5/11/2010	5/18/2010	5/26/2010	6/1/2010	12/6/2010	
pH (field)	pH units	6.88	8.1				7.85				6.97		7.96		7.05	7.87	6.99	7.69	7.26	8.05		7.92	8.02	7.87	7.87	
pH (lab)	pH units	8.02	7.8	7.28	10.6	7.27			7.9	7.58		7.79	7.68	7.77		7.9	8.06	8.05	7.6	8	7.9	8.1	8.1	8.1	7.9	
Hardness (from dissolved)	mg/L	535		68	156	86				120	124	177		398	1180				135	188	198	175	186	203	674	
Hardness (from total)	mg/L							129	120					671		749	170	178	130	183	192	191	192	1140	692	
Total Dissolved Solids	mg/L	776	458	140	252	136				190	304		722	1860	1130			1220	260	324	240	320	280	310	300	330
Total Suspended Solids	mg/L	16	40	251	25	157				<4	<2		24	68	<5		38	13	45	21	66	41	54	18	19	
Alkalinity, total	mg/L	158	131	39	136	45				66	80		193	342	200		217	102	114	65	88	88	93	95	99	150
Sulphate, dissolved	mg/L	298	98.2	14.8		20.8				43	63.3		121	452	335		394	46.4	48.7	46	74	69	76	73	76	320
Chloride	mg/L	0.96	4.84	1.05	1.6	1.1				16	32.4		1.57	4.49	2.42		3.48	1.54	1.88	2.5	3.6	2.4	2.9	2.9	2.9	4.8
Fluoride	mg/L									0.3										0.34	0.53	0.44	0.68	0.69	0.71	
Nitrite (N)	mg/L				0.132					0.057										0.292	0.351	0.355	0.353	0.318	0.242	2.36
Nitrate (N)	mg/L				2.9					6.4	8.04		48.1	141	66.4		71.4		<0.01	6.5	11.5	11.6	12.3	13.3	13.9	119
Ammonia	mg/L									1.09										1	2.2	2.2	1.8	1.6	2.1	24
Aluminum, total	mg/L	0.354	1.94	5.08	1.5	4.54		0.196	0.214	0.266		0.288	3.58	0.02		2.47	1.11	1.86	0.934	2.31	1.36	2.05	0.73	0.837	0.886	
Arsenic, total	mg/L	0.0004	0.0008	0.0025	0.0015	0.0025		0.0009	0.0009	0.0006		0.0008	0.0017	0.0006		0.0023	0.0007	0.0007	0.0009	0.0017	0.0014	<0.001	0.0014	0.0012	0.0007	
Cadmium, total	mg/L	0.00029	0.00039	0.00016	0.00029	0.00135		0.00006	0.00008	0.00003		0.00018	0.00126	0.00034		0.00056	0.00032	0.00007	0.00005	0.00013	0.00013	0.0001	<0.0001	<0.0001	0.00039	
Calcium, total	mg/L		80	22.2	66	27.2				36.5	34.1	52.1		127	364	212		261	53.2	54.4	38.2	54.2	57.8	52.6	57	198
Chromium, total	mg/L	0.0009	0.0011	0.0076	0.0035	0.0065		<0.001	<0.001	0.0009		<0.0004	0.0022	<0.0004		0.0024	0.0008	0.0008	<0.001	0.003	0.002	0.003	<0.002	<0.002	<0.001	
Copper, total	mg/L	0.171	0.511	0.372	0.256	0.348		0.0467	0.0335	0.01		0.186	6.21	0.123		3.21	1.07	0.158	0.183	0.225	0.168	0.447	0.173	0.189	1.18	
Iron, total	mg/L		2.6	8.17	1.87	6.7		0.298	0.245	0.054		0.269	8.79	0.052		6.02	2.91	2.51	1.37	3.17	2.1	3.22	1.22	1.18	2.39	
Lead, total	mg/L	0.0003	0.0012	0.004	0.001	0.0034		0.0008	0.0005	0.0007		0.0002	0.003	<0.0001		0.0037	0.0027	0.001	0.0008	0.0017	0.0011	0.0011	0.0008	0.0006	0.0005	
Magnesium, total	mg/L		20.1	7.19	1.3	8		9.25	8.36	13.2		29.9	88	44.1		56.9	12.8	13.8	8.35	11.7	11.6	14.5	12	14	48.1	
Manganese, total	mg/L	0.413	0.196	0.271	0.062	0.266		0.118	0.118	0.324		0.419	0.532	0.0961		0.355	0.132	0.105	0.143	0.184	0.158	0.196	0.133	0.138	0.172	
Mercury, total	mg/L	<0.00001	0.00002	0.00003	<0.0001	0.00002		<0.00002	<0.00002	<0.00001		<0.00001	0.00003	<0.00001		0.00002	0.00001	0.00001	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.00002	
Molybdenum, total	mg/L	0.0425	0.0263	0.0036	0.006	0.00568		0.016	0.016	0.017		0.0391	0.0514	0.0488		0.0598	0.0394	0.0269	0.009	0.015	0.017	0.018	0.019	0.023	0.034	
Nickel, total	mg/L	0.001	0.001	0.007	0.0006	0.008		0.001	0.001	0.001		0.003	0.005	0.003		0.002	<0.001	0.001	0.002	0.004	0.002	<0.003	0.002	0.002	<0.001	
Potassium, total	mg/L		5	3.8	5	3.3		3.2	2.97	3.6		5.1	14.2	5.7		7.1	2.8	3.1	2.62	3.19	3.68	4	3	4	7.52	
Selenium, total	mg/L	0.0029	0.005	0.0009	0.002	0.001		0.0022	0.002	0.0018		0.0062	0.0142	0.0178		0.0167	0.0076	0.0041	0.0019	0.0031	0.0034	0.0039	0.004	0.004	0.0092	
Silver, total	mg/L	<0.00001	0.00003	0.00006	0.00006	0.00009		<0.00002	0.00002	<0.00001		<0.00001	0.00251	<0.00001		0.00059	0.00029	0.00011	0.00006	0.00006	<0.00002	0.00016	<0.0001	<0.0001	0.00052	
Sodium, total	mg/L		23.4	4.88	4.5	6.81		11.2	11	19.5		47.2	53	48.6		51	10.2	13.2	8.71	13.1	16.3	20.3	17	21	99.1	
Thallium, total	mg/L	<0.00001	0.00002	0.00004	<0.00005	0.00005		<0.00005	<0.00005	0.00014		<0.00001	0.00003	<0.00001		0.00002	<0.00001	<0.00001	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	
Zinc, total	mg/L	0.014	0.023	0.047	0.01	0.036		0.007	0.017	0.011		0.004	0.075	0.004		0.03	0.022	0.025	0.012	0.015	0.011	0.016	<0.01	<0.01	0.013	
Aluminum, dissolved	mg/L	<0.005		0.032	<0.005	0.034		0.075	0.07	0.021								<0.005	0.057	0.025	0.023	0.019	0.019	0.023	0.079	
Arsenic, dissolved	mg/L	0.0004		0.0007	0.001	0.001		0.0009	0.0008	0.0003								0.0004	0.0007	0.0008	0.0008	0.0005	<0.001	0.0009	0.0007	
Cadmium, dissolved	mg/L	0.00025		0.00005	<0.00001	0.00004		0.00003	0.00003	0.00001								0.00003	0.00005	0.0001	0.00028	0.00006	<0.0001	<0.0001	0.00015	
Calcium, dissolved	mg/L	152		19.5	62.6	24.9		34.2	35.6	50.1								50.8	40.4	57.3	60.6	49	53	61	190	
Chromium, dissolved	mg/L	0.0004		<0.0004	<0.0005	<0.0004		<0.001	<0.001	<0.0004								<0.0004	<0.001	<0.001	<0.001	<0.001	<0.002	<0.002	<0.001	
Copper, dissolved	mg/L	0.126		0.077	0.117	0.081		0.0276	0.0191	0.001								0.018	0.109	0.113	0.107	0.108	0.122	0.131	0.476	
Iron, dissolved	mg/L	<0.01		0.12	0.02	0.15		0.101	0.07	<0.01								0.03	0.173	0.103	0.094	0.081	0.064	0.069	0.386	
Lead, dissolved	mg/L	0.0001		0.0002	<0.0001	0.0002		0.0003	0.0002	<0.0001								0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Magnesium, dissolved	mg/L	37.9		4.61	<0.2	5.82		8.3	8.59	12.7								12.5	8.3	10.9	11.3	12.7	13	12	48.6	
Manganese, dissolved	mg/L	0.382		0.0841	<0.005	0.0951		0.098	0.11	0.336								0.036	0.119	0.108	0.094	0.085	0.088	0.088	0.132	
Mercury, dissolved	mg/L	<0.00001		<0.00001	<0.0001	<0.00001		0.00002	<0.00002	<0.00001								<0.00001	<0.00002	<0.00002	0.00003	<0.00002	<0.00002	<0.00002	<0.00002	
Molybdenum, dissolved	mg/L	0.0407		0.00492	0.006	0.0074		0.016	0.017	0.017								0.0264	0.009	0.016	0.017	0.018	0.021	0.021	0.029	
Nickel, dissolved	mg/L	0.001		<0.001	<0.0005	0.001		<0.001	<0.001	0.002								<0.001	<0.001	<0.001	<0.001	<0.001	<0.003	<0.001	<0.001	
Potassium, dissolved	mg/L	5.2		2.9	4.6	2.6		3.06	3.1	3.5								2.7	2.68	2.97	3.41	3.41	4	3	7.21	
Selenium, dissolved	mg/L	0.0029		0.0009	0.0018	0.0014		0.0023	0.0023	0.0023								0.0039	0.0021	0.0033	0.0038	0.0038	0.005	0.0044	0.0098</	

Station Name		W15	W15	W15	W15	W15	W15	W15	W15	W15	W15	W15	W15	W15	W15	W15	W15	W15	W15	W15	W15	W15	W15		
Sample Date		5/19/2007	6/20/2007	7/18/2007	8/14/2007	9/17/2007	10/17/2007	11/20/2007	4/22/2008	5/7/2008	5/20/2008	6/18/2008	7/22/2008	8/26/2008	9/18/2008	10/27/2008	11/18/2008	4/30/2009	5/18/2009	6/4/2009	6/16/2009	7/7/2009	7/13/2009	8/11/2009	
pH (field)	pH units																7.6		6.16	6.9	7.63	7.71		8.18	
pH (lab)	pH units	7.43	7.26	7.41	7.67	7.66	7.3	7.64	7.57		7.43	7.22	7.4	7.14	7.42	7.31	7.47	6.39	7.12	7.43		7.84	7.9	7.84	
Hardness (from dissolved)	mg/L	89																22			96		299	362	319
Hardness (from total)	mg/L		83	143	152	98	139	250		42		106	62												
Total Dissolved Solids	mg/L	150	140	234	268	182	266	494	190		160	176	146	162	198	186	322	94	138	166		364	452	424	
Total Suspended Solids	mg/L	<2	2	<2	<2	20	<2	<5	14		<2	<2	<2	<2	4	134	2	8	3	5		6	18	6	
Alkalinity, total	mg/L	72	76	130	99	68	64	118	54		37	49	29	34	50	75	236	8	33	59		274	345	290	
Sulphate, dissolved	mg/L	8.1	6.7	18.6	52	35.2			44.5		19.1	59.7	17.5	8.8	21.1	36.1	1.27	1.77	20.2	34.5		10	6.7	13	
Chloride	mg/L	0.5	0.5	1.1	2.5	1.96	3.01	9.94	1.87		0.76	1.3	0.27	0.24	0.49	0.97	2.1	0.35	0.46	4.1		0.82	0.97	1.09	
Fluoride	mg/L																								
Nitrite (N)	mg/L	<0.05	<0.05	<0.05	0.09	<0.02	<0.02	<0.02	0.15		0.02	0.01	0.02	<0.01	<0.01										
Nitrate (N)	mg/L	<0.1	0.1	0.2	3.2	3.75	8.1	4.69	1.24		0.19	0.14	0.02	<0.01	0.4										
Ammonia	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05								
Aluminum, total	mg/L	0.1	0.093	0.052	0.047	0.036	0.033	0.127	0.7	0.23	0.17	0.04	0.135	0.308	0.203	3.09	0.398	0.504	0.153	0.101		0.099	0.346	0.046	
Arsenic, total	mg/L	0.0005	0.0006	0.0005	0.0004	0.0004	0.0003	0.0006	0.001	0.0005	0.0007	0.0008	0.0004	0.0006	0.0002	0.0011	0.0004	0.0003	0.0004	0.0004		0.0018	0.0025	0.0019	
Cadmium, total	mg/L	0.00003	<0.00001	0.00002	<0.00001	<0.00001	0.00001	0.00003	<0.00007	<0.00007	<0.00007	<0.00008	<0.00001	<0.00001	0.00002	0.00008	0.00003	0.00004	0.00001	<0.00001		0.00008	<0.00001	0.00003	
Calcium, total	mg/L	24.5	22.8	38.5	41.1	26	37	59.5	23.3	11.4	15.4	27.4	16.4	14.2	21.2	38.5	59.3	5.72	19.3	27.2		83.7	100	88.5	
Chromium, total	mg/L	<0.001	0.0006	0.0007	<0.0005	0.0005	<0.0005	0.0009	0.0007	<0.0005	0.0014	0.0014	0.0006	0.0024	0.0014	0.0022	0.0008	0.0015	0.0021	0.0004		0.001	0.0018	0.0015	
Copper, total	mg/L	0.027	0.008	0.049	0.013	0.003	0.002	0.017	0.066	0.018	0.009	0.003	0.009	0.02	0.011	0.275	0.073	0.049	0.015	0.011		0.028	0.026	0.024	
Iron, total	mg/L	0.8	0.7	0.8	0.1	0.2	0.4	0.4	1.01	0.55	0.51	0.35	0.32	0.62	0.87	6.1	0.54	0.73	0.28	0.4		4.02	6.91	3.67	
Lead, total	mg/L	0.0004	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0002	0.0006	0.0006	<0.0001	<0.0001	0.0001	<0.0001	0.0002	0.0013	<0.0001	0.0002	0.0001	<0.0001		0.0001	0.0002	0.0004	
Magnesium, total	mg/L	7.5	6.4	11.3	11.9	8.1	11.4	24.6	7.16	3.42	5.02	9.11	5.1	4.16	6.2	13.9	18.9	1.95	5.66	8.59		22.2	27.7	24.3	
Manganese, total	mg/L	0.078	0.15	0.254	0.047	0.009	0.025	0.299	0.379	0.37	0.101	0.0661	0.01	0.0097	0.0422	0.248	0.087	0.109	0.0129	0.0492		4.57	7.73	3.8	
Mercury, total	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.00001	0.00001	<0.00001	<0.01	<0.0001	0.00001	<0.00001	<0.00001	<0.0001	0.00002	<0.00001	<0.00001		<0.00001	0.00001		
Molybdenum, total	mg/L	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.00225	0.00027	0.00034	0.00046	<0.001	0.0004	0.00051	0.00051	<0.001	0.00016	0.00075	0.00049		0.0029	0.00293	0.0027	
Nickel, total	mg/L	0.002	0.0022	0.0009	0.0011	<0.0005	0.0007	<0.0005	0.009	0.005	0.005	<0.001	0.0015	0.003	<0.001	0.002	0.0013	0.001	0.002	0.002		0.004	0.005	0.004	
Phosphorus, total	mg/L	0.07	<0.05		<0.05	<0.05			0.11	0.06	0.05	<0.05		0.05	0.04	0.245		0.07	<0.05	<0.05		0.045	0.084	0.056	
Potassium, total	mg/L	0.9	<0.4	2.2	2.2	1.5	1.6	5.1	3.63	1.89	2.04	1.26	<0.4	0.65	0.83	2	1	1.9	1.7	1.2		2.2	2.6	2	
Selenium, total	mg/L	<0.0004	<0.0002	0.0004	0.0011	0.0003	0.0012	0.0011	0.0013	<0.0006	<0.0006	<0.0006	<0.0002	<0.0006	<0.0006	<0.0006	<0.0002	<0.0006	<0.0006	<0.0006		<0.0006	0.0009	<0.0006	
Silver, total	mg/L	<0.0002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00001	<0.00001	<0.00001	0.00006	0.00009	0.00007	<0.00001	<0.00001	<0.00001		0.00012	0.00051	0.00001	
Sodium, total	mg/L	3.1	4.3	6	8.6	6.3	7.5	17	5.1	2.5	4.1	6.9	4.6	3.3	3.6	5.44	8.8	1.11	3.16	4.61		7.06	7.8	8.88	
Thallium, total	mg/L	<0.0001	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00001	<0.00001	<0.00001	<0.00001	<0.00005	<0.00001	<0.00001	<0.00001	<0.00005	<0.00001	<0.00001	<0.00001		<0.00001	<0.00001	<0.00001	
Zinc, total	mg/L	0.01	0.005	0.003	0.003	0.007	0.006	0.016	0.017	0.01	0.002	0.005	0.006	0.005	0.006	0.044	0.013	0.014	0.005	0.006		0.01	0.005	0.007	
Aluminum, dissolved	mg/L	0.072												0.226				0.2		0.049		0.025	0.055		
Arsenic, dissolved	mg/L	0.0005												0.0004				<0.0002		0.0004		0.0017	0.002		
Cadmium, dissolved	mg/L	<0.00001												<0.00001				0.00003		<0.00001		0.00002	<0.00001		
Calcium, dissolved	mg/L	23.4												14				5.59		25.6		83.1	100		
Chromium, dissolved	mg/L	0.0008												0.0017				0.0009		0.0004		0.0008	0.0008		
Copper, dissolved	mg/L	0.009												0.016				0.018		0.009		0.017	0.015		
Iron, dissolved	mg/L	0.39												0.57				0.24		0.28		2.68	2.91		
Lead, dissolved	mg/L	<0.0001												0.0001				0.0002		<0.0001		<0.0001	0.0001		
Magnesium, dissolved	mg/L	7.4												4.17				1.86		7.96		22.2	27		
Manganese, dissolved	mg/L	0.07												0.0076				0.0898		0.0427		<2	7.34		
Mercury, dissolved	mg/L	<0.0001												<0.00001				0.00002		<0.00001		<0.00001	<0.00001		
Molybdenum, dissolved	mg/L	<0.001												0.00044				0.0001		0.00043		0.00273	0.00303		
Nickel, dissolved	mg/L	0.0009												0.003				<0.001		0.001		0.004	0.004		
Phosphorus, dissolved	mg/L													0.03				0.04		<0.01		0.03	0.02		
Potassium, dissolved	mg/L	0.9												0.65				1.7		1.2		2.1	2.1		
Selenium, dissolved	mg/L	<0.0002												<0.0006				<0.0006		<0.0006		<0.0006	<0.0006		
Silver, dissolved	mg/L	<0.0001												<0.00001				<0.00001		<0.00001		<0.00001	0.00018		
Sodium, dissolved	mg/L	3.2												3.29				1.1		4.2		6.9	7.5		
Thallium, dissolved	mg/L	<0.00005												<0.00001				<0.0							

Station Name		W15	W15	W15	W15	W15	W15	W15	W15	W15	W15	W15	W15	W15	W15	W15	W15	W15	W15	W15	W15	W15	W15	W15	W15
Sample Date		8/25/2009	9/2/2009	9/3/2009	9/18/2009	10/12/2009	4/19/2010	4/20/2010	4/21/2010	4/22/2010	4/23/2010	4/24/2010	4/25/2010	4/25/2010	4/26/2010	4/27/2010	4/28/2010	4/29/2010	4/30/2010	5/1/2010	5/2/2010	5/3/2010	5/4/2010	5/5/2010	5/6/2010
pH (field)	pH units	7.47	7.88		7.02	7.51	7.73	7.18		7.06	6.95	6.97		7.12	7.05	7.38	7.71	7.95	8.01	7.4	7.18	7.28	7.88	7.6	7.55
pH (lab)	pH units	7.85		7.83	7.63	7.9	7.55	7.61	7.18	6.88	7.08	7.31	7.7	7.25	7.6	7.6	7.5	7.3	7.4	7.7	7.7	7.8	7.6	7.8	7.8
Hardness (from dissolved)	mg/L	388		330	186								132		79.6	128	55.1	57.5	58.9	61.2	74.7	72.5	83.4	94.3	89.8
Hardness (from total)	mg/L					166	164	99	72	130	90	143	79	78	129	58.3	60.9	67.5	67.5	277	77.2	76.8	78.5	88.8	91.4
Total Dissolved Solids	mg/L	548		510	298	318	292	306	218	186	264	192	230	180	150	130	72	64	100	120	94	96	100	170	150
Total Suspended Solids	mg/L	23		9	<3	8	38	48	31	77	370	24	12	48	7	190	5	9	4	27	<4	16	62	67	24
Alkalinity, total	mg/L	306		261	130	178	121	112	57	42	99	54	95	49	51	78	39	40	46	47	55	58	66	72	71
Sulphate, dissolved	mg/L	13		21	49.5		37.6	34.7	21	12	25	12	37	10	<0.5	25	9	<5	5	<5	8	6	<0.5	<0.5	2.1
Chloride	mg/L	1.37		1.06	3.26	2.53	5	5.4	1.53	1.03	2.93	1.4	2.8	1.18	2.3	1.7	2.2	2.2	2.1	1.9	2.1	4.6	2.3	2.1	2.4
Fluoride	mg/L												0.17		0.1	0.23	0.08	0.07	0.07	0.08	0.08	0.09	0.1	0.1	0.09
Nitrite (N)	mg/L												0.24		0.221	0.05	0.115	0.11	0.13	0.163	0.215	0.24	0.26	0.276	0.265
Nitrate (N)	mg/L	26.3		18	1.2	4.67	3	6.36	6.65	3.12			4.3		2.81	1.8	1.58	1.51	2.2	2.02	2.45	3.3	2.9	2.66	2.65
Ammonia	mg/L												0.093		0.056	0.016	0.036	0.06	0.082	0.081	0.055	0.079	0.089	0.07	0.45
Aluminum, total	mg/L	1.25		0.137	0.054	0.166	1.13	1.74	2.8	1.24	9.42	0.638	0.566	1.03	0.451	5.2	0.276	1.04	0.432	0.309	0.411	0.313	0.184	0.422	0.569
Arsenic, total	mg/L	0.0024		0.002	0.0009	0.001	0.0009	0.001	0.0009	0.0006	0.0019	0.0005	0.0005	0.0007	0.0005	0.0022	0.0004	0.0006	0.0007	0.0005	0.0008	0.0006	0.0006	0.0006	0.0007
Cadmium, total	mg/L	0.00024		0.00002	0.00014	0.00003	0.00005	0.00009	0.00008	0.00013	0.00016	0.00009	0.00007	0.00006	0.00003	0.00025	0.00006	0.00009	0.00001	0.00001	0.00003	<0.00001	<0.00001	0.0001	0.00002
Calcium, total	mg/L	114		95.7	54.7	64.5	44.5	45.1	30.1	28.5	42.9	25.9	38.4	23.3	21.1	37	15.5	16.5	18.3	73.5	20.9	20.6	20.9	23.5	24.4
Chromium, total	mg/L	0.0026		0.0014	0.0012	0.0006	0.0012	0.0016	0.0015	0.0008	0.0046	0.0008	<0.001	0.0009	<0.001	0.006	<0.001	0.001	0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001
Copper, total	mg/L	0.09		0.024	0.034	0.038	0.089	0.158	0.145	0.093	0.31	0.062	0.0673	0.08	0.0502	0.469	0.0382	0.064	0.0383	0.0231	0.0406	0.0393	0.0307	0.0431	0.051
Iron, total	mg/L	6.93		3.67	0.634	1.31	2.38	2.62	2.29	1.03	10.7	0.981	1.02	1.21	0.823	6.71	0.649	1.85	1.11	0.467	1.23	1.04	0.843	1.22	1.3
Lead, total	mg/L	0.0011		0.0004	0.0004	<0.0001	0.0006	0.0008	0.001	0.0004	0.0045	0.0003	0.0003	0.0006	0.0003	0.0033	0.0002	0.001	0.0002	<0.0002	0.0003	0.0004	0.0003	0.0018	0.0004
Magnesium, total	mg/L	30		24.4	16.7	17.2	14.8	14.6	9.12	8.62	15.4	7.89	11.5	7.13	6.14	8.83	4.74	4.81	5.3	22.8	6.08	6.15	6.38	7.3	7.41
Manganese, total	mg/L			4.67	0.147	1.82	0.985	0.941	0.55	0.495	1.2	0.493	0.562	0.488	0.377	0.594	0.415	0.572	0.629	2.23	0.609	0.591	0.545	0.61	0.544
Mercury, total	mg/L	0.00002		<0.00001	<0.00001	<0.00001	0.00002	0.00001	0.00002	0.00002	0.00002	0.00001	<0.00002	0.00001	<0.00002	<0.00002	0.00004	0.00003	0.00004	<0.00002	<0.00002	0.00009	0.00006	<0.00002	0.00003
Molybdenum, total	mg/L	0.003		0.0036	0.0012	0.0024	0.0032	0.0038	0.0028	0.0023	0.0017	0.0017	0.005	0.0016	0.001	0.005	0.001	<0.001	0.001	0.007	0.001	0.001	0.001	0.001	0.002
Nickel, total	mg/L	0.005		0.003	0.002	0.004	0.002	0.002	0.002	0.002	0.005	0.002	0.001	0.002	0.002	0.002	0.001	0.002	0.003	0.003	0.002	0.002	0.002	0.002	0.002
Phosphorus, total	mg/L	0.099		0.051	0.04	<0.05	0.19	0.15	0.14	0.12	2.5	0.12	0.073	0.16					0.024					0.096	0.086
Potassium, total	mg/L	2.8		2.9	2.6	3.1	4.6	4.6	3.1	3.2	4.8	2.7	3.64	2.6	2.02	2.8	1.78	1.82	1.88	4.14	2.01	1.98	1.94	2.22	2.22
Selenium, total	mg/L	0.0016		0.0011	<0.0006	<0.0006	<0.0006	0.0011	0.0015	0.001	0.0006	<0.0006	0.0016	0.0007	0.0005	0.0016	0.0002	0.0002	0.0002	0.0008	0.0003	0.0003	0.0003	0.0001	0.0002
Silver, total	mg/L	<0.00001		<0.00001	<0.00001	<0.00001	0.00003	0.00004	<0.00001	<0.00001	0.00009	0.0001	0.00003	<0.00001	<0.00002	0.00005	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.00003	0.00004	<0.00002	0.00002
Sodium, total	mg/L	10.4		9.31	7.88	6.8	7.29	7.5	4.64	4.26	5.96	3.69	6.27	3.44	2.74	4.37	2.12	1.97	2.37	20.6	2.75	2.89	2.88	3.1	3.75
Thallium, total	mg/L	<0.00001		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.00003	<0.00001	<0.00005	<0.00001	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Zinc, total	mg/L	0.014		0.009	0.007	0.006	0.026	0.03	0.015	0.012	0.048	0.013	0.007	0.014	0.011	0.05	0.009	0.014	0.009	<0.005	0.011	0.008	0.005	0.005	0.007
Aluminum, dissolved	mg/L	0.109					0.04	0.208	0.174	0.367	0.12	0.159	0.065	0.21	0.17	2.65	0.169	0.171	0.136	0.154	0.125	0.102	0.091	0.074	0.076
Arsenic, dissolved	mg/L	0.0015					0.0005	0.0006	0.0005	0.0005	0.0006	0.0004	0.0003	0.0004	0.0004	0.0016	0.0004	0.0004	0.0005	0.0005	0.0006	0.0005	0.0005	0.0006	0.0006
Cadmium, dissolved	mg/L	0.00038					0.00004	0.00023	0.00004	0.00008	0.00003	0.00004	0.00005	0.00004	0.00005	0.00234	0.00004	0.00005	0.00004	0.00003	0.00003	0.00003	<0.00001	0.00003	0.00002
Calcium, dissolved	mg/L	109					43.1	43.3	26.9	19.4	34.5	24	36.3	21	21.8	38.7	14.6	15.7	15.9	16.4	20	19.5	22.3	25.4	24.4
Chromium, dissolved	mg/L	0.0018					0.0005	0.0005	0.0004	0.0007	0.0005	<0.0004	<0.001	0.0004	<0.001	0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper, dissolved	mg/L	0.014					0.046	0.063	0.071	0.054	0.059	0.038	0.034	0.039	0.04	0.415	0.027	0.0289	0.027	0.0265	0.0257	0.0245	0.0244	0.0248	0.0259
Iron, dissolved	mg/L	1.32					0.7	0.74	0.26	0.39	0.33	0.43	0.366	0.44	0.437	2.91	0.449	0.522	0.564	0.568	0.684	0.634	0.588	0.563	0.487
Lead, dissolved	mg/L	0.001					0.0003	0.0004	<0.0001	<0.0001	0.0002	<0.0001	<0.0002	<0.0001	<0.0002	0.0027	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Magnesium, dissolved	mg/L	28.3					14.2	13.6	7.8	5.6	10.7	7.2	10.1	6.4	6.08	7.57	4.51	4.48	4.67	4.91	5.99	5.8	6.73	7.47	7.01
Manganese, dissolved	mg/L	5.54					0.9	0.855	0.404	0.375	0.582	0.434	0.501	0.376	0.363	0.569	0.369	0.466	0.359	0.316	0.506	0.501	0.524	0.449	0.418
Mercury, dissolved	mg/L	<0.00001					<0.00001	<0.00001	0.00001	0.00001	<0.00001	<0.00001	<0.00002	0.00001	<0.00002	<0.00002									

Station Name		W15	W15	W15	W15	W15	W15
Sample Date		11/5/2012	11/9/2012	11/18/2012	11/26/2012	12/4/2012	12/12/2012
pH (field)	pH units		7.66	8.13	7.66	7.67	7.05
pH (lab)	pH units	8.35	8.24	7.74	8	8.2	8
Hardness (from dissolved)	mg/L	580	400	455	510	491	537
Hardness (from total)	mg/L	600	397	482	447	524	542
Total Dissolved Solids	mg/L	814	534	656	640	670	676
Total Suspended Solids	mg/L	6.1	2.5	13.2	3.5	1.7	2
Alkalinity, total	mg/L	342	248	272	263	309	331
Sulphate, dissolved	mg/L	145	104	135	114	125	129
Chloride	mg/L	8.7	6	8.3	6.9	8.1	8.5
Fluoride	mg/L	0.25	0.18	0.18	0.16	0.18	0.19
Nitrite (N)	mg/L	0.07	0.0368	0.0722	0.118	0.171	0.269
Nitrate (N)	mg/L	42.5	18.9	17.8	24.4	28.6	26.9
Ammonia	mg/L	0.0058	0.016	0.0072	0.03	0.18	0.12
Aluminum, total	mg/L	0.0906	0.0337	0.127	0.0866	0.0279	0.0304
Arsenic, total	mg/L	0.00072	0.000449	0.00046	0.00041	0.00041	0.00045
Cadmium, total	mg/L	0.000053	0.000024	0.000063	0.000126	0.000033	0.00008
Calcium, total	mg/L	174	114	134	127	149	151
Chromium, total	mg/L	0.0123	0.00027	<0.0010	<0.0010	<0.0010	<0.0010
Copper, total	mg/L	0.0462	0.0261	0.0397	0.035	0.0309	0.0343
Iron, total	mg/L	0.371	0.204	0.348	0.296	0.18	0.284
Lead, total	mg/L	<0.00020	0.000063	<0.00020	0.0002	<0.00020	<0.00020
Magnesium, total	mg/L	40.3	27.2	35.6	31.6	36.8	39.8
Manganese, total	mg/L	0.348	0.151	0.184	0.245	0.383	0.685
Mercury, total	mg/L	<0.000010		<0.000010	<0.000010	<0.000010	<0.000010
Molybdenum, total	mg/L	0.0047	0.0026	0.0033	0.0027	0.0029	0.0033
Nickel, total	mg/L	0.0057	0.00101	0.0013	0.0023	0.0024	0.0017
Phosphorus, total	mg/L	0.043		0.034	0.024	0.024	0.023
Potassium, total	mg/L	7.39	4.27	5.54	4.82	5.48	5.81
Selenium, total	mg/L	0.00659	0.00429	0.00554	0.00428	0.00538	0.00482
Silver, total	mg/L	0.00002	<0.0000050	<0.000020	<0.000020	<0.000020	<0.000020
Sodium, total	mg/L	20.2	13.7	17.5	15.7	18.1	19.6
Thallium, total	mg/L	<0.000050	0.000002	<0.000050	<0.000050	<0.000050	<0.000050
Zinc, total	mg/L	0.0086	0.00371	0.0074	0.0242	0.0083	0.0111
Aluminum, dissolved	mg/L	0.0153	0.0115	0.0092	0.0092	0.0107	0.015
Arsenic, dissolved	mg/L	0.00057	0.000405	0.00046	0.00054	0.0004	0.00052
Cadmium, dissolved	mg/L	0.000034	0.000022	0.000031	0.000052	0.000039	0.00006
Calcium, dissolved	mg/L	168	113	126	144	138	150
Chromium, dissolved	mg/L	<0.0010	0.00022	<0.0010	<0.0010	<0.0010	<0.0010
Copper, dissolved	mg/L	0.0396	0.0245	0.0246	0.0258	0.0289	0.028
Iron, dissolved	mg/L	0.151	0.0994	0.0685	0.107	0.0889	0.154
Lead, dissolved	mg/L	<0.00020	0.000031	<0.00020	<0.00020	<0.00020	<0.00020
Magnesium, dissolved	mg/L	39.2	28.6	34.2	36.6	35.4	39.3
Manganese, dissolved	mg/L	0.359	0.15	0.154	0.253	0.349	0.644
Mercury, dissolved	mg/L	<0.000010		<0.000010	<0.000010	<0.000010	<0.000010
Molybdenum, dissolved	mg/L	0.0038	0.00267	0.0044	0.003	0.0029	0.0031
Nickel, dissolved	mg/L	0.0017	0.000956	<0.0010	0.0012	0.0023	0.0018
Phosphorus, dissolved	mg/L	0.013		0.016	0.012	0.023	<0.01
Potassium, dissolved	mg/L	7.46	4.23	5.32	5.23	5.22	5.69
Selenium, dissolved	mg/L	0.00715	0.00419	0.0055	0.00513	0.00472	0.00521
Silver, dissolved	mg/L	0.000023	<0.0000050	<0.000020	<0.000020	0.000029	<0.000020
Sodium, dissolved	mg/L	19.9	14.8	17.3	18	17.2	19.2
Thallium, dissolved	mg/L	<0.000050	<0.0000020	<0.000050	<0.000050	<0.000050	<0.000050
Zinc, dissolved	mg/L	0.0066	0.00295	0.0068	<0.0050	0.0083	0.0052

Station Name		W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	
Sample Date		11/22/2006	12/19/2006	1/4/2007	1/10/2007	1/16/2007	1/30/2007	2/7/2007	2/15/2007	2/22/2007	3/2/2007	3/23/2007	4/17/2007	5/11/2007	5/19/2007	5/30/2007	6/13/2007	6/20/2007	6/27/2007	7/4/2007	7/5/2007	7/11/2007	7/18/2007	7/25/2007	8/1/2007	
pH (field)	pH units																									
pH (lab)	pH units	7.83	7.5	7.4	8.52	7.41	8.12	7.34	7.33	8.25	7.97	7.82	8.27	7.61	7.46	7.72	8.59	8.76				7.81	7.77	7.66	7.73	
Hardness (from dissolved)	mg/L													115	122		132					146				
Hardness (from total)	mg/L	392	419	415	415	412	399		375	947	394	404	223			125		137			135	139		155	156	164
Total Dissolved Solids	mg/L	502	536	484	500	492	484	484	470	1440	473	432	318	250	220	244	226	266				258	244	270	276	
Total Suspended Solids	mg/L	2	<2	<2	<2	41	<2	<2	<2	<2	181	126	31	28	15	8	5	<2				<2	2	<2	2	
Alkalinity, total	mg/L	335	383	385	366	387	371	361	364	582	369	340	185	73	74	79	93	98				115	121	128	137	
Sulphate, dissolved	mg/L	83	64	56	54	52	48	47	51	286		52	67	21.4	21.6	25.1	25.9	26.9				30	26	27	30	
Chloride	mg/L						0.81	0.84		0.9	1.4	1.7	2.4	0.9	0.9	1.1	1.1	1.1				1.2	1	1.2	1.3	
Fluoride	mg/L																									
Nitrite (N)	mg/L	<0.03	<0.1	<0.03	<0.03	<0.03	0.31	<0.03	<0.05	3.75	0.022	<0.05	0.18	0.62	0.62	0.64	0.3	0.23				0.24	0.21	0.21	0.19	
Nitrate (N)	mg/L	0.14	0.1	0.09	0.08	<0.05	<0.05	<0.05	<0.1	35	0.17	0.2	1.1	5.7	5.6	5.4	4.8	4.3				3	3.2	3.2	2.9	
Ammonia	mg/L	0.004	0.066	0.15	0.09	0.033	0.058	0.11	0.101	2		0.082		0.48	0.51	0.37	0.07	0.1				0.13	0.15	0.17		
Aluminum, total	mg/L	0.1	0.031	0.056	0.026	0.92	0.012	0.053	0.072	0.094	4.72	6.06	1.55	1.96	1.21	0.552	0.09	0.127	0.038	0.071	0.062	0.365	0.035	0.031	0.135	
Arsenic, total	mg/L	0.0005	0.0011	0.0008	0.0008	0.0011	0.0009	0.0008	0.0008	0.0022	0.002	0.002	0.0008	0.001	0.001	0.0007	0.0003	0.0006	0.0007	0.0005	0.0005	0.0008	0.0008	0.0005	0.0008	
Cadmium, total	mg/L	<0.00002	0.00009	<0.00001	0.00009	0.00004	<0.00001	0.00002	<0.00001	<0.00002	0.00004	0.00003	0.00003	0.00004	0.00006	0.00005	0.00003	0.00003	0.00001	0.00003	0.00003	0.00002	0.00001	0.00002	0.00002	
Calcium, total	mg/L	97.8	112	114	114	113	111	115	107	221		110	46	32.3	33.1	32.6	32.7	35.8	34.6	33.8	34.8	38.3	38.8	39.1	41.8	
Chromium, total	mg/L	<0.001	0.0013	<0.0005	<0.0005	0.0012	0.0006	<0.0005	<0.0005	<0.001	0.0047	0.0066	0.0012	0.0026	0.001	0.0011	0.0006	0.0006	<0.0005	<0.0005	<0.0005	0.0007	<0.0005	<0.0005	<0.0005	
Copper, total	mg/L	0.007	0.006	0.009	0.006	0.006	0.003	0.004	0.007	0.1	0.017	0.01	0.042	0.082	0.07	0.054	0.047	0.052	0.041	0.035	0.038	0.059	0.031	0.029	0.028	
Iron, total	mg/L	0.2	<0.1	<0.1	<0.1	1.2	<0.1	0.1	0.2	0.6		8.2	1.9	2.6	2	0.8	0.2	0.2	0.1	0.2	0.1	0.6	0.1	0.1	0.2	
Lead, total	mg/L	0.0006	0.0002	0.0003	0.0006	0.0005	0.0003	0.0002	0.0002	0.0002	0.0016	0.002	0.0005	0.0009	0.0006	0.0002	<0.0001	<0.0001	<0.0001	<0.0001	0.0004	0.0002	<0.0001	<0.0001	0.0001	
Magnesium, total	mg/L	35.8	34	31.8	31.9	31.4	29.5	29	25.9	95.8		31.4	26.4	11	11	10.6	11.3	11.6	12.2	12.4	12.6	13.5	14.2	14.2	14.5	
Manganese, total	mg/L	0.271	0.62	1.04	1.08	1.35	1.78	1.96	1.97	0.333		2.41	0.162	0.19	0.17	0.125	0.085	0.077	0.046	0.028	0.03	0.055	0.049	0.043	0.085	
Mercury, total	mg/L	<0.00005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	
Molybdenum, total	mg/L	0.004	0.005	0.004	0.005	0.004	0.004	0.004	0.004	0.02	0.004	0.003	0.006	0.003	0.003	0.003	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.004	0.004	0.005
Nickel, total	mg/L	0.0039	0.003	0.0023	0.0018	0.0018	0.0018	0.0076	0.0018	0.0046	0.0063	0.0083	0.0019	0.0027	0.0033	0.0019	0.001	0.0021	0.0019	0.002	0.002	0.0018	0.0011	0.0007	0.0018	
Phosphorus, total	mg/L			0.16	<0.05		0.04	0.04		0.28				0.1	0.11	0.06	<0.05	0.06				<0.05	<0.05	<0.05	<0.05	
Potassium, total	mg/L	3.8	4.4	4.8	4.4	4.4	4.2	4.2	4.2	21		5.2	3.7	2.3	2.2	2.3	2.4	2.4	2.4	2.4	2.4	2.5	2.8	3	3.3	3.4
Selenium, total	mg/L	<0.0004	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.002	<0.0002	0.0004	0.0004	<0.0004	<0.0004	<0.0002	0.0003	0.0002	<0.0002	0.0002	0.0002	0.0002	0.0007	0.0006	0.0006	0.0011
Silver, total	mg/L	<0.0002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.001	<0.0001	<0.0002	<0.0001	<0.0002	0.0002	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0002	<0.0001	<0.0001	<0.0001	<0.0001	
Sodium, total	mg/L	21.1	17.8	15.8	15.9	14.2	13.1	12.8	12.5	64.6		13	17.3	5.7	5.6	6.6	7.1	7.1	7.6	7.8	8.2	9	10	10.2	11.4	
Thallium, total	mg/L	<0.0001	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0001	<0.00005	<0.0001	<0.00005	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Zinc, total	mg/L	0.01	0.004	0.025	0.009	0.008	0.005	0.004	0.003	0.01	0.033	0.029	0.009	0.02	0.02	0.015	0.006	0.007	0.007	0.005	0.011	0.012	0.005	0.005	0.006	
Aluminum, dissolved	mg/L						<0.005							0.072	0.068		0.037					0.022				
Arsenic, dissolved	mg/L						0.0012							0.0007	0.0006		0.0005					0.0007				
Cadmium, dissolved	mg/L						0.00002							0.00002	0.00004		0.00003					0.00002				
Calcium, dissolved	mg/L						116							29.2	31.3		33.8					37.1				
Chromium, dissolved	mg/L						0.0032							0.0013	0.001		0.0006					<0.0005				
Copper, dissolved	mg/L						0.002							0.045	0.05		0.043					0.034				
Iron, dissolved	mg/L						0.02							0.27	0.22		0.14					0.09				
Lead, dissolved	mg/L						<0.0001							<0.0001	0.0001		<0.0001					<0.0001				
Magnesium, dissolved	mg/L						28.7							10.1	10.7		11.6					13				
Manganese, dissolved	mg/L						1.79							0.114	0.131		0.079					0.036				
Mercury, dissolved	mg/L						<0.0001							<0.0001	<0.0001		<0.0001					<0.0001				
Molybdenum, dissolved	mg/L						0.004							0.003	0.003		0.003					0.004				
Nickel, dissolved	mg/L						<0.0005							0.0015	0.0012		0.0009					0.0011				
Phosphorus, dissolved	mg/L										<0.05															
Potassium, dissolved	mg/L						4.6							2.1	2		2.4					2.5				
Selenium, dissolved	mg/L						<0.0002							<0.0002	<0.0002		<0.0002					0.0004				
Silver, dissolved	mg/L						<0.0001							<0.0001	<0.0001		<0.0001					<0.0001				
Sodium, dissolved	mg/L						14.6							5.9	5.7		7.4					8.7				
Thallium, dissolved	mg/L						<0.00005							<0.00005	<0.00005		<0.00005					<0.00005				
Zinc, dissolved	mg/L						0.001							0.008	0.012		0.004					0.008				

Station Name		W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	
Sample Date		8/9/2007	8/14/2007	8/29/2007	9/6/2007	9/11/2007	9/18/2007	9/25/2007	10/3/2007	10/11/2007	10/17/2007	10/22/2007	10/30/2007	11/8/2007	11/13/2007	11/20/2007	11/27/2007	12/11/2007	12/18/2007	12/18/2007	12/26/2007	1/9/2008	1/16/2008	1/22/2008
pH (field)	pH units																							
pH (lab)	pH units	7.76	7.99	7.97	8	7.87	7.9	7.86	7.94	8	7.91	7.96	7.89	7.56	8.16	7.83	7.9	7.74		7.94	7.64	7.66	7.58	7.65
Hardness (from dissolved)	mg/L														219					234				
Hardness (from total)	mg/L	171	178	188	195	189	180	182	191	189	194	195	202	204	208		214	218			221	241	236	247
Total Dissolved Solids	mg/L	282	328	334	322	316	304	320	320	306	298	322	322	352	364	374	368	380		412	378	390	394	412
Total Suspended Solids	mg/L	<2	<2	<2	<2	<2	19	<2	14	<2	<2	8	<2	4	4	3	2	2		<2	<5	<2	<5	<2
Alkalinity, total	mg/L	152	161	178	188	174	179	163	162	162	160	162	168	177	182	184	182	189		192	203	203	208	208
Sulphate, dissolved	mg/L	34	35	39	41	39.9	39.7	40.2	41.5	40		40.4	38.8	40.7	43		40.7	44.5		49.7	43.7	48	47.1	51.8
Chloride	mg/L	1.6	1.8	2.2	2.2	2.32	2.38	2.42	2.56	2.51	2.61	2.5	2.72	3.37	3.42	2.96	3.74	3.88		3.77	3.63	4.41	4.31	4.83
Fluoride	mg/L																							
Nitrite (N)	mg/L	0.32	0.32	0.47	0.46	0.53	0.47	0.48	0.41	0.36	0.34	0.3	8.62	0.35	0.27	0.17	0.25	0.27		0.35	0.34	0.4	0.52	0.52
Nitrate (N)	mg/L	3.7	4.2	7.4	7.4	8.51	7.47	8.33	8.96	6.8	6.8	8.73	0.26	9.11	9.11	8	7.7	9.85		8.6	9.75	9.14	9.27	8.69
Ammonia	mg/L	0.31	0.41	0.68	0.69	0.74	0.6	0.77	0.55		0.65	0.63	0.57	0.61	0.64	0.52	0.54	0.63	0.44		0.64	0.61	0.6	0.67
Aluminum, total	mg/L	0.066	0.065	0.101	0.103	0.137	0.151	0.123	0.125	0.126	0.142	0.093	0.073	0.114	0.404	0.128	0.067	0.053		0.047	0.043	0.046	0.034	0.029
Arsenic, total	mg/L	0.0007	0.0007	0.0007	0.0007	0.0008	0.0007	0.0006	0.0007	0.0007	0.0006	0.0007	0.0006	0.0005	0.0008	0.0007	0.0006	0.0007		0.001	0.0007	0.0007	0.0004	0.0008
Cadmium, total	mg/L	0.00002	0.00002	0.00002	0.00002	0.00003	0.00002	0.00003	0.00005	0.00002	0.00002	0.00002	0.00004	0.00004	0.00005	0.00004	0.00003	0.00004		0.00009	0.00003	0.00007	0.00002	0.00004
Calcium, total	mg/L	43.1	46.1	48.8	51.7	50.4	47	47.4	50.4	49.9	51.2	51.6	53.4	54	55.8	55.8	56.8	57.5		57.4	59.2	64.2	63.3	66.4
Chromium, total	mg/L	<0.0005	<0.0005	<0.0005	0.0005	0.0007	0.0006	<0.0005	0.0016	0.0007	0.0006	<0.0005	0.0005	0.0008	0.0009	0.0009	0.0013	0.0006		0.0008	0.0006	0.0013	<0.0005	<0.0005
Copper, total	mg/L	0.031	0.031	0.033	0.032	0.031	0.03	0.034	0.036	0.032	0.029	0.03	0.026	0.035	0.044	0.032	0.028	0.031		0.032	0.04	0.053	0.029	0.028
Iron, total	mg/L	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.6	0.2	0.5	0.1		0.1	0.1	0.2	<0.1	<0.1
Lead, total	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0002	<0.0001	<0.0001	<0.0001	0.0004	0.0004	0.0006	0.0001	<0.0001		0.0002	0.0001	0.0024	<0.0001	0.0002
Magnesium, total	mg/L	15.3	15.4	16.2	16	15.4	15.2	15.4	15.9	15.6	16	16	16.6	16.7	16.8	17.3	17.6	18.1		18.8	17.8	19.5	18.9	19.7
Manganese, total	mg/L	0.091	0.091	0.123	0.137	0.15	0.144	0.148	0.14	0.127	0.115	0.107	0.098	0.106	0.115	0.108	0.11	0.109		0.12	0.114	0.152	0.153	0.213
Mercury, total	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	0.0001	<0.0001	<0.0001
Molybdenum, total	mg/L	0.007	0.008	0.011	0.012	0.012	0.012	0.012	0.012	0.011	0.012	0.011	0.011	0.012	0.012	0.012	0.012	0.014		0.014	0.013	0.016	0.015	0.017
Nickel, total	mg/L	0.0017	0.0014	0.0015	0.0018	0.0024	0.0009	0.0016	0.002	0.0015	0.0015	<0.0005	0.0008	0.0018	0.0008	<0.0005	0.0014	0.0018		0.002	0.0017	0.0026	0.0019	0.0021
Phosphorus, total	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05	0.13	<0.05	0.18	<0.05	0.07		0.02	<0.05	<0.05	<0.05	0.09		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Potassium, total	mg/L	4.3	4.5	6.7	6.6	7.6	7.6	7	6.8	6.5	6.6	6.4	6.6	8.8	7.8	8	8	9.9		8.6	8.1	9	9	9.8
Selenium, total	mg/L	0.0009	0.001	0.0012	0.0014	0.0015	0.0018	0.0017	0.0013	0.0018	0.0021	0.0014	0.0014	0.0017	0.0013	0.0017	0.0012	0.0021		0.0018	0.0014	0.0026	0.0022	0.0029
Silver, total	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Sodium, total	mg/L	13.1	13.7	17.2	16.4	17.5	17.4	16.4	16.7	16.7	16.4	16.6	16.9	19.3	18.4	18.3	18.7	20.8		21	19.5	21.2	21.3	22.7
Thallium, total	mg/L	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005		<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Zinc, total	mg/L	0.006	0.01	0.013	0.011	0.009	0.014	0.014	0.01	0.013	0.012	0.012	0.014	0.019	0.021	0.016	0.014	0.019		0.022	0.016	0.033	0.016	0.02
Aluminum, dissolved	mg/L															0.017				0.017				
Arsenic, dissolved	mg/L															0.0004				0.0009				
Cadmium, dissolved	mg/L															0.00004				0.00002				
Calcium, dissolved	mg/L															58.3				61.6				
Chromium, dissolved	mg/L															0.0009				0.0007				
Copper, dissolved	mg/L															0.025				0.029				
Iron, dissolved	mg/L															0.06				0.06				
Lead, dissolved	mg/L															<0.0001				0.0001				
Magnesium, dissolved	mg/L															17.9				19.5				
Manganese, dissolved	mg/L															0.104				0.113				
Mercury, dissolved	mg/L															<0.0001				<0.0001				
Molybdenum, dissolved	mg/L															0.011				0.014				
Nickel, dissolved	mg/L															<0.0005				0.0006				
Phosphorus, dissolved	mg/L								0.08															
Potassium, dissolved	mg/L															8				8.5				
Selenium, dissolved	mg/L															0.0018				0.0021				
Silver, dissolved	mg/L															<0.0001				<0.0001				
Sodium, dissolved	mg/L															18.5				21.1				
Thallium, dissolved	mg/L															<0.00005				<0.00005				
Zinc, dissolved	mg/L															0.01				0.021				

Station Name		W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	
Sample Date		12/2/2009	1/4/2010	2/1/2010	3/2/2010	4/5/2010	4/28/2010	5/4/2010	5/11/2010	5/18/2010	5/26/2010	6/2/2010	6/14/2010	6/15/2010	6/16/2010	6/17/2010	6/23/2010	6/24/2010	6/29/2010	7/4/2010	7/11/2010	7/14/2010	7/19/2010	7/25/2010	8/2/2010
pH (field)	pH units	7.88	7.98	7.17	6.8	6.73	7.93	7.77		7.58	7.58	7.24	7.29	7.2	7.47	7.07	7.97	7.94	7.94	7.91	8.06	8.13	8.07	7.77	7.89
pH (lab)	pH units	7.8	7.68	7.85	7.68	7.7	7.4	8.1	8	8.2	8.1	8.2	8.2	8.34	8.1	8.1	8.17	8.2	7.87	8.03	8.17		8.12	7.99	8.15
Hardness (from dissolved)	mg/L	228	239				24.6	165	155	180	209	187	180	181	183	183	176	178	183	188	181		190	191	201
Hardness (from total)	mg/L		239	243	247	265	32.9	165	163	179	179	1080	185	194	180	186	187	193	187	188	183		193	205	184
Total Dissolved Solids	mg/L	364	392	388	414	418	76	290	220	290	260	290	320	310	300	300	320	340	340	340	300		320	360	340
Total Suspended Solids	mg/L	<2	<5	<5	<5	4	7	8	24	8	5	7	1	2	4	<1	2	1	1	2	<1		3	10	4
Alkalinity, total	mg/L	123	141	94	160	156	21	110	100	120	130	130	120	130	130	130	130	130	130	130	130		130	130	140
Sulphate, dissolved	mg/L	79	80.6	73.9	82.6	88	4.4	54	45	54	53	59	70	66	68	66	65	64	71	75	68		68	69	67
Chloride	mg/L	23.9	23	20.5	18.5	18.2	0.7	10	8.3	9.6	9.4	9.6	9.1	8.5	8.3	8.8	8	8.2	7.1	7.8	8		7.6	7.1	7.1
Fluoride	mg/L						0.12	0.33	0.21	<0.01	0.39	0.49	0.56	0.56	0.55	0.57	0.54	0.54	0.57	0.55	0.55		0.56	0.59	0.59
Nitrite (N)	mg/L						0.052	0.279	0.241	0.264	0.232	0.219	0.182	0.187	0.181	0.178	0.187	0.183	0.175	0.176	0.187		0.188	0.214	0.006
Nitrate (N)	mg/L	10.1	11.4	11	10.9		0.86	5.4	5.1	5.7	5.8	7.9	9.6	9.7	9.2	9.3	9.3	9.2	9.8	9.6	9.7		9.6	9.8	10.6
Ammonia	mg/L						0.11	0.02	0.15	0.05	0.11	0.34	0.94	0.6	0.61	0.38	0.27	0.39	0.52	0.45	0.32		0.25	0.18	0.16
Aluminum, total	mg/L	0.092	0.096	0.036	0.136	0.154	0.455	0.528	0.863	0.723	0.151	0.287	0.11	0.071	0.072	0.048	0.049	0.035	0.068	0.082	0.097		0.085	0.589	0.138
Arsenic, total	mg/L	0.0006	0.0006	0.0005	0.0005	0.0006	0.0002	0.0004	0.0006	<0.001	0.0005	0.0006	0.0006	0.0007	0.0005	0.0006	0.0005	0.0005	0.0005	0.0006	0.0004		<0.0004	0.0009	0.0005
Cadmium, total	mg/L	0.00002	0.00004	0.00008	0.00006	0.00002	0.00007	0.00002	0.00041	0.00004	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001
Calcium, total	mg/L	63.7	69.2	69.3	68.2	72.5	9.82	44.1	44.5	46.2	48	61	50	53	49	50	48	52	51	51	50		55	55	51
Chromium, total	mg/L	<0.0004	0.0005	<0.0004	<0.0004	0.0005	<0.001	<0.001	<0.001	0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002		<0.002	<0.002	<0.002
Copper, total	mg/L	0.019	0.02	0.011	0.047	0.018	0.0227	0.0572	0.0653	0.0504	0.038	0.051	0.082	0.078	0.068	0.066	0.066	0.068	0.083	0.082	0.073		0.06	0.053	0.042
Iron, total	mg/L	0.127	0.139	0.064	0.242	0.331	0.689	0.899	1.52	1.31	0.429	0.555	0.217	0.175	0.16	0.121	0.132	0.1	0.168	0.188	0.164		0.161	0.763	0.408
Lead, total	mg/L	0.0002	0.0002	0.0004	0.0002	0.0002	0.0003	0.0004	0.0005	0.0002	<0.0002	0.0003	<0.0002	0.0002	0.0007	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002		<0.0002	0.0003	<0.0002
Magnesium, total	mg/L	17.9	19.7	20.5	20.7	23	2.03	13.2	12.5	15.5	14	15	15	15	14	15	16	15	14	15	14		13	16	14
Manganese, total	mg/L	0.386	0.431	0.346	0.345	0.262	0.069	0.267	0.254	0.212	0.204	0.18	0.065	0.059	0.053	0.051	0.045	0.049	0.071	0.078	0.066		0.035	0.057	0.023
Mercury, total	mg/L	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002		<0.00002	<0.00002	<0.00002
Molybdenum, total	mg/L	0.0184	0.0183	0.0159	0.0156	0.0127	0.002	0.007	0.007	0.008	0.008	0.014	0.015	0.016	0.014	0.015	0.014	0.016	0.016	0.016	0.016		0.015	0.017	0.015
Nickel, total	mg/L	0.002	0.003	0.002	<0.001	0.002	<0.001	0.002	0.002	<0.003	0.001	0.001	0.001	0.001	0.001	0.001	0.001	<0.001	0.001	0.001	0.001		0.001	0.006	0.003
Phosphorus, total	mg/L	0.06	<0.05	0.05	<0.05	0.06		0.042	0.042	0.075															
Potassium, total	mg/L	5.4	5.8	5.5	5.6	6	1.16	4.36	4.33	4.65	5	6	5	5	5	5	5	5	5	5	5		5	6	5
Selenium, total	mg/L	0.0026	0.003	0.0024	0.0022	0.0019	0.0003	0.0014	0.0011	0.0016	0.0014	0.0019	0.0026	0.0028	0.0025	0.0025	0.0024	0.0026	0.0027	0.0026	0.0027		0.0027	0.0032	0.0028
Silver, total	mg/L	<0.00001	<0.00001	<0.00001	0.00002	<0.00001	0.00003	<0.00002	<0.00002	0.00002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001
Sodium, total	mg/L	22.9	23.3	23.7	23.2	25.5	2.92	15.7	13.7	17.7	15	21	19	20	18	19	21	19	19	19	22		20	21	20
Thallium, total	mg/L	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005		<0.00005	<0.00005	<0.00005
Zinc, total	mg/L	0.013	0.012	0.006	0.024	0.007	0.008	0.009	0.009	0.008	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01	<0.01
Aluminum, dissolved	mg/L		0.03				0.016	0.032	0.033	0.024	0.025	0.028	0.022	0.023	0.021	0.028	0.022	0.024	0.019	0.023	0.034		0.03	<0.01	<0.01
Arsenic, dissolved	mg/L		0.0006				<0.0001	0.0004	0.0005	0.0003	<0.001	0.0005	0.0005	0.0005	0.0005	0.0006	0.0005	0.0005	0.0005	0.0005	0.0005		0.0006	0.0005	0.0006
Cadmium, dissolved	mg/L		0.00018				0.00005	0.00003	0.00006	0.00002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001
Calcium, dissolved	mg/L		65.3				7.74	45.7	42.2	47.9	55	53	48	49	51	50	48	50	50	51	50		52	53	55
Chromium, dissolved	mg/L		<0.0004				<0.001	<0.001	<0.001	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002		<0.002	<0.002	<0.002
Copper, dissolved	mg/L		0.009				0.0073	0.0282	0.0407	0.0306	0.033	0.03	0.055	0.055	0.06	0.058	0.058	0.052	0.07	0.074	0.054		0.053	0.027	0.016
Iron, dissolved	mg/L		0.04				0.012	0.123	0.126	0.126	0.138	0.094	0.071	0.074	0.075	0.078	0.055	0.075	0.08	0.098	0.062		0.065	0.036	0.022
Lead, dissolved	mg/L		0.0004				<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002		<0.0002	<0.0002	<0.0002
Magnesium, dissolved	mg/L		18.4				1.29	12.3	12	14.8	18	14	14	14	14	14	14	13	14	15	14		15	15	15
Manganese, dissolved	mg/L		0.36				0.032	0.072	0.168	0.151	0.106	0.021	0.029	0.034	0.035	0.026	0.033	0.041	0.056	0.074	0.056		0.002	0.01	0.004
Mercury, dissolved	mg/L		<0.00001				<0.00002	0.00003	0.00003	<0.00002	<0.00002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002		<0.0002	<0.0002	<0.0002
Molydenum, dissolved	mg/L		0.0172				0.001	0.008	0.007	0.008	0.01	0.013	0.014	0.014	0.015	0.015	0.015	0.015	0.016	0.017	0.015		0.016	0.016	0.016
Nickel, dissolved	mg/L		0.007				<0.001	0.001	0.001	<0.001	<0.003	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001		0.001	0.001	0.001
Phosphorus, dissolved	mg/L		0.03					0.013	0.011	0.013															
Potassium, dissolved	mg/L		5.8				0.87	4.17	4.01	4.41	5	6	5	5	5	5	5	5	5	5	5		5	6	5
Selenium, dissolved	mg/L		0.0028				0.0002	0.0014	0.0012	0.0015	0.002	0.0022	0.0025	0.0024	0.0027	0.0026	0.0025	0.0025	0.0025	0.0027	0.0029		0.0028	0.0031	0.0033
Silver, dissolved	mg/L		<0.00001				<0.00002																		

Station Name		W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	
Sample Date		6/4/2011	6/13/2011	6/27/2011	7/3/2011	7/9/2011	7/16/2011	7/23/2011	8/7/2011	8/11/2011	8/28/2011	8/30/2011	9/5/2011	9/10/2011	9/24/2011	9/30/2011	10/6/2011	10/18/2011	11/13/2011	11/21/2011	2/13/2012	3/24/2012	3/31/2012	4/1/2012	4/2/2012
pH (field)	pH units												7.98	7.87	7.71	7.77	7.72	7.69	7.77						7.7
pH (lab)	pH units	7.97	8.01	8.19	8.18	8.02	8.05	7.98	7.96	8.05	8.13	8.08	8.24	8.13	8.01	8.08	8.21	8.15	8.36	8.01	8.19	8.22	8.32	8.3	8.22
Hardness (from dissolved)	mg/L	152	163	170	184	184	174	172	178	175	178	172	183	185	188	185	189	190	355	222	219	236	209	214	182
Hardness (from total)	mg/L	140	148	156	167	184	176	178	168	168	166	145	165	154	178	169	188	195	374	203	200	231	184	205	180
Total Dissolved Solids	mg/L	260	250	270	260	280	270	270	240	190	240	270	300	260	270	240	260	280	546	284	298	322	284	278	280
Total Suspended Solids	mg/L	4	1	6	26	5	3	2	6	3	3	3	2	3	<4	<4	2	7	3.7	5.1	<4.0	1.3	26.8	14.6	19.1
Alkalinity, total	mg/L	110	120	130	130	130	130	140	130	120	130	130	130	130	140	150	150	150	302	165	188	191	178	179	161
Sulphate, dissolved	mg/L	47		49	58	46	49	47	37		36				41	46	41	48				56.3	50.1	40.2	43.2
Chloride	mg/L						5.3						4.3	5.3	4.6	4.7	4.4	5	10	5.5	5.4	5.7	4.8	4.9	4.1
Fluoride	mg/L	0.35					0.34															0.39	0.37	0.37	0.35
Nitrite (N)	mg/L	0.034	0.022	0.025	0.022	0.023	0.023	0.02	0.027	0.033	0.034	0.027	0.028	0.024	0.019	0.018	<0.05	0.015	0.032	0.012	0.012	0.01	0.01	0.012	0.013
Nitrate (N)	mg/L	4.9	4.9	4.7	4.4	4.2	4.5	4.2	4.3	4.6	4.5	3.6	4.2	4.7	4.3	4.6	5.3	5.3	8.77	4.98	4.52	4.81	4.29	4.95	3.76
Ammonia	mg/L	0.051		0.065	0.056	0.049	0.036	0.029	0.038	0.026	0.012	0.057	0.042	0.043	0.023	0.035	0.029	0.009	0.0755	0.0359	0.0067	<0.0050	0.0076	0.0118	<0.0050
Aluminum, total	mg/L	0.087	0.12	0.084	0.101	0.111	0.125	0.162	0.352	0.154	0.065	0.072	0.036	0.067	0.034	0.037	0.052	0.041	0.127	0.118	0.048	0.012	0.634	0.327	1.21
Arsenic, total	mg/L	0.0004	0.0005	0.0004	0.0004	0.0004	0.0004	0.0004	0.0006	0.0005	0.0005	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0005	0.0008	0.0004	0.0004	0.0005	0.0005	0.0004	0.0006
Cadmium, total	mg/L	0.00003	0.00045	0.00005	0.00004	0.00002	0.00005	0.00002	0.00001	0.00003	0.00001	0.00002	0.00003	0.00002	0.00001	0.00002	0.00003	0.00001	0.00004	0.00004	0.00008	0.00002	0.00003	0.00002	0.00004
Calcium, total	mg/L	36.7	37.8	41	44.1	48.3	46.8	46.8	43.5	46.1	44.4	39.6	44.1	39.6	48.3	44.1	51.4	52.4	100	54.5	53	60.5	48.3	53.6	49
Chromium, total	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper, total	mg/L	0.0322	0.044	0.0309	0.0324	0.0314	0.0315	0.0304	0.0483	0.04	0.0333	0.0272	0.0316	0.0329	0.0314	0.0296	0.0325	0.032	0.0761	0.0321	0.0207	0.0237	0.0434	0.0349	0.0789
Iron, total	mg/L	0.223	0.239	0.245	0.259	0.303	0.258	0.253	0.481	0.353	0.129	0.123	0.105	0.123	0.104	0.091	0.135	0.103	0.386	0.237	0.124	0.033	1.07	0.59	1.85
Lead, total	mg/L	<0.0002	0.0006	0.0025	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	0.0003	<0.0002	0.0004
Magnesium, total	mg/L	11.7	13.1	13	13.7	15.4	14.4	14.7	14.4	12.9	13.5	11.2	13.3	13.5	13.9	14.3	14.4	15.7	29.8	16.4	16.4	19.3	15.3	17.3	14.1
Manganese, total	mg/L	0.154	0.138	0.142	0.144	0.125	0.077	0.045	0.073	0.048	0.013	0.014	0.015	0.017	0.026	0.032	0.038	0.032	0.059	0.036	0.038	0.032	0.072	0.053	0.097
Mercury, total	mg/L	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.000020	<0.000020	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Molybdenum, total	mg/L	0.006	0.007	0.007	0.006	0.007	0.007	0.006	0.006	0.004	0.005	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.01	0.006	0.006	0.006	0.005	0.005	0.005
Nickel, total	mg/L	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.002	0.001	0.001	0.003	0.002	0.001	0.001	0.001	0.001	0.001
Phosphorus, total	mg/L	0.021	0.042	0.027	0.019	0.022	0.022	0.025	0.034	0.022	0.029	0.018	0.036	0.017	0.014	0.012	0.066	0.128	0.023	0.011	<0.01	0.03	0.022	0.115	
Potassium, total	mg/L	3.37	3.74	3.43	3.48	3.73	3.7	3.41	3.25	2.7	2.52	2.31	2.64	2.66	2.73	2.89	2.98	3.19	6.52	3.63	3.27	3.76	3.07	3.36	3.16
Selenium, total	mg/L	0.0012	0.0012	0.0011	0.0012	0.0011	0.0012	0.001	0.0012	0.0011	0.0012	0.0011	0.0012	0.0011	0.0015	0.0013	0.0014	0.0014	0.0028	0.0015	0.0012	0.0016	0.0011	0.0014	0.0011
Silver, total	mg/L	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.00007	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.00004
Sodium, total	mg/L	14.1	14.9	15.3	15.1	17.3	15.5	15.8	13.9	11.7	11.7	9.64	12	12.2	13.1	13	12.9	14.8	29.6	15.1	15.3	18.3	13.8	15.9	12.6
Thallium, total	mg/L	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Zinc, total	mg/L	<0.005	0.009	<0.005	0.006	<0.005	<0.005	<0.005	<0.005	0.009	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.018	0.01	<0.005	<0.005	0.006	<0.005	0.008	
Aluminum, dissolved	mg/L	0.031	0.073	0.029	0.234	0.029	0.019	0.016	0.02	0.017	0.015	0.018	0.027	0.016	0.02	0.023	0.026	0.013	0.0162	0.0191	0.006	0.0063	0.0056	0.0075	0.0058
Arsenic, dissolved	mg/L	0.0004	0.0004	0.0004	0.0005	0.0004	0.0004	0.0004	0.0005	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.00079	0.00041	0.00042	0.00049	0.00041	0.00038	0.00036
Cadmium, dissolved	mg/L	0.00003	0.00021	0.00004	0.00003	0.00002	0.00006	0.00002	0.00003	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.00003	0.00002	0.000045	0.000031	0.000018	0.000025	0.000025	0.000028	0.000021
Calcium, dissolved	mg/L	40.1	42.4	44.6	48	48.9	45.5	45.9	47.5	47.9	48.6	46.5	51	49.7	51.8	48.5	50.6	50.6	93.2	61	58	62.7	55.1	57.3	48.4
Chromium, dissolved	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Copper, dissolved	mg/L	0.0319	0.038	0.0322	0.0385	0.0294	0.0271	0.0259	0.0398	0.032	0.0297	0.0307	0.0303	0.0308	0.0297	0.0318	0.0315	0.0287	0.0568	0.03	0.0181	0.0245	0.0244	0.0259	0.0294
Iron, dissolved	mg/L	0.145	0.224	0.14	0.454	0.115	0.064	0.049	0.082	0.091	0.065	0.063	0.105	0.058	0.066	0.079	0.089	0.065	0.0934	0.072	0.0289	0.0352	0.029	0.033	0.0286
Lead, dissolved	mg/L	<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Magnesium, dissolved	mg/L	12.5	13.8	14.1	15.5	15.1	14.7	13.9	14.4	13.5	13.7	13.5	14.7	14.1	15.4	15.1	15.4	29.6	16.9	17.9	19.4	17.4	17.3	14.9	
Manganese, dissolved	mg/L	0.158	0.131	0.154	0.165	0.101	0.019	0.025	0.02	0.006	0.006	0.007	0.008	0.008	0.019	0.024	0.028	0.026	0.0555	0.0289	0.0333	0.0322	0.0331	0.0343	0.0393
Mercury, dissolved	mg/L	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.000020	<0.000020	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Molybdenum, dissolved	mg/L	0.006																							

Station Name		W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	
Sample Date		4/3/2012	4/4/2012	4/5/2012	4/6/2012	4/8/2012	4/10/2012	4/11/2012	4/12/2012	4/13/2012	4/14/2012	4/15/2012	4/16/2012	4/17/2012	4/18/2012	4/19/2012	4/20/2012	4/21/2012	4/22/2012	4/23/2012	4/24/2012	4/25/2012	4/26/2012	4/27/2012
pH (field)	pH units						7.7	8.27	7.66	7.7	7.73	7.68	7.67	7.83	7.74	8.4	8.37	7.62	7.47	7.99	8.06		7.58	7.78
pH (lab)	pH units	8.24	8.16	8.05	8.08	8.13	7.87	7.79	7.68	7.67	7.68	7.86	7.79	7.73	7.8	7.82	7.56	7.56	7.57	7.55	7.48	7.68	7.52	7.55
Hardness (from dissolved)	mg/L	218	209	184	200	224	83.2	43.5	47.9	219	55.7	52.5	44.9	45.4	43.9	39.4	35.7	35.9	33.9	29.5	30.4	29.2	28.5	26.5
Hardness (from total)	mg/L	223	205	161	169	208	85	52.6	44.8	32.1	56.5	50.8	47.7	42.2	39.7	40.8	35.2	34.7	32.8	35.3	29.9	30.9	29.6	25.7
Total Dissolved Solids	mg/L	296	288	292	320	300	114	76	72	58	54	62	54	56	56	48	40	46	46	48	40	46	52	32
Total Suspended Solids	mg/L	14	20.7	31.3	42.1	9.3	36.2	39.8	23	11	5.9	2.5	3.6	3.2	3.4	4.9	3.7	17.8	8.1	4.1	2.3	8.3	2.6	1.7
Alkalinity, total	mg/L	178	168	149	173	179	73.6	48.5	39.5	32.3	44	47.4	39.6	38.8	38.5	36.8	32.2	31.1	28.2	28.7	26.7	26.4	26	24
Sulphate, dissolved	mg/L	44.4	45.6	36.1	47.4	47.4	14.2	10.7	8.19	4.43	8.05	8.14	6.94	6.92	5.56	6.61	3.46	3.71	2.38	2.83	2.44	2.45	2.88	2.41
Chloride	mg/L	4.7	4.9	3.9	4.5	4.7	2.2	2	1.5	0.6	1.2	0.83	1.1	0.71	0.68	0.84	0.68	0.81	0.65	0.61	0.76	<0.50	<0.50	<0.50
Fluoride	mg/L	0.37	0.36	0.32	0.35	0.37	0.2	0.21	0.18	0.12	0.16	0.16	0.14	0.13	0.12	0.12	0.11	0.11	0.099	0.11	0.099	0.1	0.096	0.083
Nitrite (N)	mg/L	0.01	0.014	0.014	0.013	0.01	0.031	0.037	0.041	0.0132	0.015	0.0094	0.0095	0.0083	0.0076	0.008	0.007	0.0078	<0.0050	0.0058	<0.0050	<0.0050	<0.0050	<0.0050
Nitrate (N)	mg/L	4.41	4.26	3.31	4.08	4.31	1.39	0.769	0.592	0.476	0.838	0.974	0.786	0.72	0.612	0.535	0.449	0.439	0.386	0.338	0.345	0.315	0.305	0.293
Ammonia	mg/L	0.0123	0.0101	0.0099	0.009	0.0191	<0.0050	<0.0050	<0.0050	0.089	0.012	0.019	0.012	0.04	0.0268	0.0212	0.013	0.032	0.015	0.013	0.0098	0.017	0.023	0.02
Aluminum, total	mg/L	0.877	1.22	1.03	1.22	0.21	1.99	2.68	1.98	0.628	0.668	0.339	0.42	0.244	0.246	0.298	0.261	0.489	0.224	0.27	0.236	0.336	0.184	0.128
Arsenic, total	mg/L	0.0006	0.0006	0.0006	0.0006	0.0005	0.0006	0.0007	0.0006	0.00023	0.00037	0.00026	0.00022	0.00022	0.00022	0.00023	0.0002	0.00024	0.0002	<0.00025	0.00018	0.00022	0.00011	0.00022
Cadmium, total	mg/L	0.00004	0.00003	0.00003	0.00004	0.00002	0.00004	0.00005	0.00005	0.000017	0.000018	0.000011	0.00001	0.000014	0.000037	0.000015	0.000013	0.000019	0.000015	<0.000025	0.000013	0.000015	0.000022	<0.000010
Calcium, total	mg/L	60	54.8	43	45.5	55.5	23	14.4	12.4	9.27	15.9	14.8	14.2	12.3	11.5	11.8	10.4	10.1	9.72	10.9	8.91	9.28	8.93	7.78
Chromium, total	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.001	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0025	<0.0010	<0.0010	<0.0010	<0.0010
Copper, total	mg/L	0.0766	0.0936	0.0774	0.0828	0.0319	0.112	0.143	0.119	0.0416	0.045	0.0309	0.0284	0.0245	0.0236	0.0291	0.0254	0.0355	0.0439	0.0255	0.0255	0.0275	0.0293	0.0231
Iron, total	mg/L	1.4	1.78	1.53	1.81	0.33	2.68	3.47	2.5	0.724	0.838	0.429	0.508	0.314	0.331	0.435	0.292	0.757	0.382	0.55	0.279	0.423	0.251	0.252
Lead, total	mg/L	0.0004	0.0005	0.0004	0.0005	<0.0002	0.0008	0.001	0.0009	0.00029	0.00027	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00022	<0.00020	<0.00020	0.00021	0.0005	0.00021	<0.00020
Magnesium, total	mg/L	17.9	16.6	12.9	13.4	16.8	6.71	4.04	3.36	2.18	4.08	3.35	2.97	2.81	2.65	2.75	2.27	2.29	2.08	1.97	1.86	1.87	1.79	1.51
Manganese, total	mg/L	0.091	0.099	0.096	0.113	0.04	0.12	0.109	0.084	0.0376	0.0447	0.0301	0.0293	0.0425	0.0417	0.042	0.0332	0.0442	0.0375	0.0314	0.0321	0.0356	0.0298	0.0256
Mercury, total	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Molybdenum, total	mg/L	0.006	0.006	0.004	0.005	0.006	0.002	0.002	0.002	<0.0010	0.0017	0.0013	0.0011	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0025	<0.0010	<0.0010	<0.0010	<0.0010
Nickel, total	mg/L	0.001	0.001	0.001	0.001	<0.001	0.001	0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0025	<0.0010	<0.0010	<0.0010	<0.0010
Phosphorus, total	mg/L	0.048	0.045	0.043	0.048	0.019	0.054	0.064	0.05	0.022	0.025	0.02	0.029	0.019	0.017	0.02	0.018	0.054	0.037	<0.025	0.019	0.017	0.019	0.017
Potassium, total	mg/L	3.85	3.59	2.99	3.15	3.3	2.01	1.79	1.53	0.918	1.38	1.03	0.911	0.9	0.932	0.98	0.873	0.88	0.898	1.03	0.806	0.816	0.773	0.634
Selenium, total	mg/L	0.0012	0.0012	0.0009	0.001	0.0013	0.0006	0.0005	0.0004	0.00025	0.00044	0.00031	0.00026	0.0003	0.0003	0.00025	0.0002	0.00022	0.00021	0.00033	0.00022	0.0003	0.00025	0.00018
Silver, total	mg/L	0.00003	0.00004	0.00003	0.00003	<0.00002	0.00005	0.00007	0.00007	0.000023	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000050	<0.000020	<0.000020	<0.000020	<0.000020
Sodium, total	mg/L	16.6	14.9	11.6	11.4	15.4	5.39	3.62	3.07	1.85	3.79	3.04	2.59	2.52	2.24	2.28	1.85	1.72	1.6	1.78	1.47	1.5	1.47	1.28
Thallium, total	mg/L	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.00013	<0.000050	<0.000050	<0.000050	<0.000050
Zinc, total	mg/L	0.008	0.009	0.006	0.008	<0.005	0.01	0.014	0.011	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0064	<0.0050	<0.013	<0.0050	<0.0050	<0.0050	<0.0050
Aluminum, dissolved	mg/L	0.0051	0.0173	0.021	0.0094	0.007	0.0068	0.0094	0.006	0.0064	0.0072	0.008	0.0085	0.0083	0.0068	0.0106	0.0104	0.0091	0.0088	0.0106	0.0106	0.0099	0.0116	0.0084
Arsenic, dissolved	mg/L	0.00043	0.00039	0.00035	0.00035	0.0004	0.00015	0.00011	0.0002	0.00035	0.00012	0.00012	0.00012	0.00014	<0.00010	0.00011	<0.00010	<0.00010	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Cadmium, dissolved	mg/L	0.000015	0.000023	0.000028	0.000022	0.000013	0.00002	<0.000010	0.000014	0.000012	0.000014	<0.000010	0.000011	0.000011	<0.000010	0.000012	0.000015	0.000011	0.000013	0.000014	0.000014	<0.000010	0.00001	0.000012
Calcium, dissolved	mg/L	57.8	55.8	49.2	53.4	59.6	23.4	12.9	14	57.9	15.9	15.2	13	13.1	13	11.8	10.7	10.8	10.2	8.96	9.29	8.86	8.71	8.21
Chromium, dissolved	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Copper, dissolved	mg/L	0.0269	0.0289	0.0317	0.0265	0.0223	0.0212	0.0121	0.0157	0.00658	0.0155	0.0148	0.0128	0.0164	0.0145	0.0154	0.0175	0.0167	0.0176	0.0145	0.0151	0.0154	0.0156	0.0131
Iron, dissolved	mg/L	0.0247	0.0551	0.0597	0.0365	0.0327	0.0208	0.0181	0.016	0.0131	0.0134	0.0156	0.02	0.0269	0.0246	0.0345	0.0299	0.0222	0.0292	0.0254	0.0242	0.0231	0.0267	0.0186
Lead, dissolved	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Magnesium, dissolved	mg/L	17.9	17	14.7	16.2	18.2	6	2.75	3.13	18.1	3.88	3.54	3	3.08	2.78	2.44	2.17	2.14	2.03	1.72	1.74	1.73	1.63	1.46
Manganese, dissolved	mg/L	0.0347	0.0405	0.0497	0.0446	0.0328	0.0522	0.0144	0.0231	0.0759	0.0249	0.02	0.0181	0.0338	0.0358	0.0316	0.0279	0.0221	0.0284	0.0217	0.0236	0.0244	0.0252	0.0202
Mercury, dissolved	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Molybdenum, dissolved	mg/L	0.0059</																						

Station Name		W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	
Sample Date		4/28/2012	4/29/2012	4/30/2012	5/1/2012	5/2/2012	5/3/2012	5/4/2012	5/5/2012	5/6/2012	5/7/2012	5/8/2012	5/9/2012	5/13/2012	5/14/2012	5/24/2012	6/3/2012	6/8/2012	6/15/2012	6/24/2012	6/28/2012	7/5/2012	7/15/2012	7/17/2012	7/24/2012
pH (field)	pH units		9.03	8.27	7.67	7.36	7.72	7.16	7.33	7.41	7.35	6.81	7.32	7.66	8.02	8.42	8.31	8.01	7.71	8.26	8.28	7.88	8.13	8.22	8.49
pH (lab)	pH units	7.61	7.53	7.54	7.5	7.59	7.65	7.72	7.78	7.84	7.63	7.78		8.15	8.14	8.09	8.21	8.05	7.98	7.96	8.19	8.29	8.09	8.15	8.24
Hardness (from dissolved)	mg/L	24.8	20.6	19.6	18.2	15.4	17.1	69.7	70	103	96.3	98.7		138	142	109	97.7	90.4	97.4	110	121	125	136	142	144
Hardness (from total)	mg/L	20.6	22.1	25.7	24	24.6	41.6	66.3	69.6	102	85.2	84.8		131	130	117	97.7	94.6	97.2	105	110	122	131	136	140
Total Dissolved Solids	mg/L	38	24	26	52	26	70	76	114	156	140	148		196	212	130	140	138	168	188	172	192	210	196	206
Total Suspended Solids	mg/L	5.3	4.4	7.7	5.7	<1.0	4.1	4.3	3.8	5.7	10.7	6.2		7	6.6	8.2	12.7	2.6	3.5	15.8	2.7	1.8	1.8	2.9	4.3
Alkalinity, total	mg/L	24.9	20.1	16.5	20.6	21.9	32.6	51.9	59	86.3	77.1	77.4		116	116	99.1	92.8	85.1	82.3	93.1	99.4	109	111	116	120
Sulphate, dissolved	mg/L	<0.50	<0.50	<0.50	1.08	2.05	0.82	3.11	3.1	19.3	13.9	14.7		28.2	27.8	21.1	20	19.6	22	25	25	26.4	29.5	28.4	28.4
Chloride	mg/L	0.55	<0.50	<0.50	<0.50	<0.50	1.5	1.8	2.3	2.8	2.6	2.7		3.4	3.6	3	3.5	2.5	2.3	2.5	2.6	2.3	2.8	2.6	3
Fluoride	mg/L	0.11	0.09	0.39	0.084	0.086	0.11	0.13	0.14	0.2	0.17	0.17		0.23	0.23	0.18	0.16	0.15	0.14	0.16	0.16	0.17	0.18	0.18	0.2
Nitrite (N)	mg/L	0.0053	<0.0050	<0.0050	<0.0050	0.0053	<0.0050	0.0056	0.0053	<0.0050	0.0058	0.0088		0.0073	0.0102	0.0122	0.0084	0.0083	0.0478	0.0451	0.0357	0.0289	0.0226	0.022	0.0163
Nitrate (N)	mg/L	0.191	0.115	0.113	0.161	0.208	0.298	0.615	0.713	1.26	1.02	1.04		1.82	1.83	1.71	1.66	1.49	2.68	3.19	3.12	3.12	2.92	2.14	2.84
Ammonia	mg/L	0.025	0.021	0.015	0.02	0.0084	0.02	0.023	0.017	0.019	0.017	0.088		0.063	0.08	0.025	0.068	0.026	0.15	0.043	0.053	0.0074	0.012	0.025	0.077
Aluminum, total	mg/L	0.323	0.17	0.157	0.332	0.0965	0.119	0.439	0.218	0.249	0.248	0.361		0.279	0.25	0.324	0.367	0.0794	0.159	0.265	0.0241	0.041	0.0262	0.0401	0.226
Arsenic, total	mg/L	0.00023	0.00024	0.0002	0.00016	0.00013	0.00026	0.00059	0.00038	0.00045	0.00039	0.00043		0.00049	0.00048	0.00024	0.00031	0.00029	0.00032	0.00063	0.00028	0.00037	0.00033	0.00035	0.00043
Cadmium, total	mg/L	0.000064	0.000033	0.000026	0.000018	0.000036	0.000232	0.000131	0.000031	0.000052	0.000043	0.000037		0.000032	0.000035	0.000063	0.000018	<0.000010	0.00002	0.000032	0.000027	0.000011	<0.000010	0.000019	0.000025
Calcium, total	mg/L	6.54	7.04	8.04	7.08	7.24	11.7	17.4	18.6	27.5	22.6	22.7		34.1	33.8	30.8	25.6	25.2	25.5	28.4	29.6	31.9	35.2	36	36.9
Chromium, total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		<0.0010	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Copper, total	mg/L	0.0308	0.0212	0.0253	0.031	0.0207	0.0272	0.0689	0.0376	0.0415	0.039	0.0416		0.0385	0.0365	0.0348	0.0398	0.0199	0.035	0.0386	0.0199	0.0206	0.0194	0.0214	0.0556
Iron, total	mg/L	0.572	0.274	0.23	0.568	0.238	0.192	0.744	0.359	0.476	0.448	0.619		0.564	0.527	0.705	0.761	0.246	0.413	0.618	0.137	0.175	0.129	0.165	0.482
Lead, total	mg/L	0.00021	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00026	<0.00020	<0.00020	<0.00020	0.0002		<0.00020	<0.00020	<0.00040	0.00038	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Magnesium, total	mg/L	1.03	1.1	1.37	1.54	1.59	3.04	5.55	5.65	8.15	7.01	6.83		11.2	11.1	9.75	8.2	7.67	8.16	8.22	8.82	10.2	10.4	11.3	11.5
Manganese, total	mg/L	0.0351	0.0204	0.0209	0.0404	0.0286	0.0422	0.127	0.0973	0.124	0.13	0.145		0.173	0.171	0.147	0.13	0.0782	0.0763	0.0704	0.0302	0.0242	0.0104	0.0116	0.0263
Mercury, total	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Molybdenum, total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0013	0.0014	0.0026	0.0019	0.0018		0.0027	0.003	0.0023	0.0022	0.0022	0.0022	0.0025	0.0026	0.0028	0.003	0.0031	0.0032
Nickel, total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0018	0.0017	0.0011	0.0011	0.0012	0.0012		0.0016	0.0016	0.0022	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.001	<0.0010	0.0011
Phosphorus, total	mg/L	0.023	0.023	0.018	0.027	0.014	0.024	0.088	0.036	0.037	0.035	0.04		0.038	0.039	0.032	0.033	0.016	0.024	0.023	0.016	0.018	0.014	0.018	0.034
Potassium, total	mg/L	0.564	0.563	0.703	0.852	0.603	1.02	3.41	1.58	2.03	1.69	1.65		2.25	2.23	2.12	1.9	1.7	1.83	1.87	1.79	1.91	1.99	2.11	2.2
Selenium, total	mg/L	0.00011	0.00018	0.00013	0.00017	0.00011	0.00027	0.0003	0.00035	0.00057	0.00044	0.00039		0.00057	0.00064	0.00093	0.00047	0.00046	0.00035	0.00055	0.00061	0.00073	0.00055	0.0006	0.00062
Silver, total	mg/L	0.000022	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020		<0.000020	<0.000020	<0.000040	0.000025	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	0.000025
Sodium, total	mg/L	0.746	0.844	1.02	1.46	1.28	2.15	4.49	4.52	6.69	5.73	5.55		9.58	10	11.3	10.2	9.84	8.86	8.12	8.53	9.47	9.52	9.97	9.93
Thallium, total	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050		<0.000050	<0.000050	<0.00010	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Zinc, total	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.023	0.0141	<0.0050	<0.0050	<0.0050	<0.0050		<0.0050	<0.0050	0.011	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Aluminum, dissolved	mg/L	0.0253	0.021	0.0196	0.0184	0.0093	0.0173	0.16	0.0451	0.0304	0.0326	0.0315		0.021	0.0207	0.0749	0.0168	0.0116	0.0104	0.0092	0.004	0.0066	0.0041	0.0067	0.0076
Arsenic, dissolved	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00054	0.00031	0.00036	0.00033	0.00032		0.00038	0.00039	0.00032	0.00031	0.00025	0.00029	0.00035	0.00035	0.00033	0.00038	0.00037	0.00036
Cadmium, dissolved	mg/L	<0.000010	0.00001	0.000013	<0.000010	0.00001	0.000012	0.000109	0.000043	0.000034	0.000035	0.000032		0.000031	0.000033	0.000029	0.000012	0.000015	0.000015	0.000016	0.000011	0.00004	<0.000010	0.00001	<0.000010
Calcium, dissolved	mg/L	7.94	6.79	6.49	5.69	4.87	5.4	18.9	19.2	27.9	26	26.7		36.4	37.2	29.4	25.8	23.9	25.8	29.3	32.6	34.4	36.5	38.1	38.8
Chromium, dissolved	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Copper, dissolved	mg/L	0.0138	0.0116	0.0117	0.0111	0.00795	0.0109	0.0509	0.0311	0.0373	0.0326	0.0299		0.0293	0.0301	0.0253	0.0213	0.0186	0.0212	0.0232	0.0193	0.0179	0.0189	0.0188	0.0198
Iron, dissolved	mg/L	0.0398	0.0276																						

Station Name		W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	W16	
Sample Date		8/2/2012	8/7/2012	8/16/2012	8/27/2012	9/3/2012	9/5/2012	9/5/2012	9/10/2012	9/17/2012	9/24/2012	10/6/2012	10/12/2012	10/19/2012	10/22/2012	10/25/2012	11/4/2012	11/5/2012	11/9/2012	11/18/2012	11/24/2012	11/25/2012
pH (field)	pH units	8.14	8.13	8.1	8.41	7.98	6.71		7.92	7.79	7.67	7.8	7.77	7.9	8.4	8.2		7.01	7.93	8		7.71
pH (lab)	pH units	8.24	8.21	8.3	8.38	8.24			8.26	8.19	8.01	8.22	8.02	8	8.07	8.02	8.09	8.29		8.23	7.95	8.09
Hardness (from dissolved)	mg/L	157	155	163	164	168			167	175	177	179		118	183	201	206		190	244	195	
Hardness (from total)	mg/L	148	166	170	166	161			194	168	158	185	190	180	179	189	198	200		189	179	203
Total Dissolved Solids	mg/L	218	250	248	222	246			248	244	276	252	258	272	248	244	284	262		272	254	260
Total Suspended Solids	mg/L	1.8	6.9	9.4	2.3	2.3			1.8	5.5	4.7	8.1	2.1	2	5.7	2	2.2	1.5		4.7	1.5	<1.0
Alkalinity, total	mg/L	129	133	135	145	143			146	146	144	146	147	150	148	152	159	160		156	157	159
Sulphate, dissolved	mg/L	31	19.8	30.2	35.9	33.8			34.1	32.8	33.9	34.8	36.7	37.3	42.4	38.8	40.4	40.8		39.8	41.2	39.2
Chloride	mg/L	2.6	21	2.8	3.4	2.7			3.2	3.4	3.3	3.1	3.2	3.3	3.5	3	3.6	3.6		3.4	3.8	3.7
Fluoride	mg/L	0.22	0.21	0.22	0.22	0.23			0.24	0.23	0.23	0.23	0.24	0.24	0.22	0.22	0.24	0.26		0.26	0.24	0.24
Nitrite (N)	mg/L	0.0159	<0.050	0.0134	0.0112	0.0132			0.0164	0.0191	0.0203	0.0179	0.0153	0.0128	0.0107	0.0165	0.0114	0.0116		0.0101	0.0114	0.0095
Nitrate (N)	mg/L	2.96	3	3.42	3.15	3.16			3.38	3.31	3.86	3.73	3.82	3.48	3.45	3.29	4.15	4.07		3.93	1.85	3.86
Ammonia	mg/L	0.0055	0.025	0.024	<0.0050	0.032			0.012	0.068	0.11	0.14	0.21	0.045	0.048	0.032	0.045	0.023		0.028	0.024	0.038
Aluminum, total	mg/L	0.0195	0.188	0.225	0.0309	0.0183			0.027	0.101	0.0999	0.0874	0.0467	0.0447	0.0471	0.0741	0.0398	0.0497		0.0434	0.0272	0.0127
Arsenic, total	mg/L	0.00037	0.00042	0.00038	0.00032	0.00025			0.00039	0.00038	0.00032	0.00039	0.0004	0.0004	0.00044	0.0004	0.00045	0.00054		0.000361	0.00029	0.00035
Cadmium, total	mg/L	<0.00010	0.000012	0.000015	<0.000010	<0.000010			<0.000010	<0.000010	<0.000010	0.000015	0.000011	<0.000010	<0.000010	0.000015	0.000013	0.000143		0.000008	0.000023	0.000059
Calcium, total	mg/L	39.7	44	45.5	44.9	43.2			51.7	45.2	41.9	49.7	50	47.5	48.1	49.9	52.3	53.7		51.1	47.5	54.4
Chromium, total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			0.00013	<0.0010	<0.0010
Copper, total	mg/L	0.0175	0.0341	0.109	0.0196	0.018			0.022	0.0263	0.0272	0.0267	0.0224	0.0223	0.0249	0.0298	0.0253	0.0307		0.0215	0.023	0.0201
Iron, total	mg/L	0.0835	0.36	0.519	0.103	0.0698			0.0963	0.196	0.178	0.202	0.102	0.103	0.0999	0.173	0.122	0.116		0.103	0.0923	0.0407
Lead, total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020			<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00109		0.000046	<0.00020	<0.00020
Magnesium, total	mg/L	11.9	13.6	13.7	13	12.9			15.7	13.5	12.9	14.7	15.9	14.9	14.4	15.6	16.4	16		15	14.6	16.3
Manganese, total	mg/L	0.008	0.0231	0.0274	0.0075	0.0124			0.0178	0.0466	0.0484	0.0444	0.0383	0.0312	0.0235	0.0227	0.0139	0.0088		0.0056	0.0046	0.0039
Mercury, total	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010			<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010			<0.000010	<0.000010
Molybdenum, total	mg/L	0.0033	0.0034	0.0036	0.0034	0.0034			0.004	0.0036	0.0033	0.0039	0.0043	0.0041	0.0037	0.0039	0.0042	0.0043		0.00393	0.0039	0.0041
Nickel, total	mg/L	<0.0010	0.0011	<0.0010	<0.0010	0.001			0.0012	<0.0010	0.0011	0.0081	<0.0010	0.0011	0.0013	<0.0010	0.0014	0.002		0.000799	<0.0010	<0.0010
Phosphorus, total	mg/L	0.012	0.029	0.048	0.012	0.016			0.013	0.015	0.018	0.02	0.016	<0.01	0.016	0.121	0.018	0.069			0.02	0.017
Potassium, total	mg/L	2.1	2.4	2.47	2.31	2.27			2.68	2.29	2.25	2.53	2.7	2.52	2.57	3.07	2.96	4.42		2.81	2.56	3.05
Selenium, total	mg/L	0.0008	0.00091	0.00087	0.00065	0.00062			0.00084	0.00093	0.00074	0.00087	0.00105	0.00107	0.00088	0.0009	0.00104	0.00088		0.000949	0.0011	0.00099
Silver, total	mg/L	<0.000020	<0.000020	0.000052	<0.000020	<0.000020			<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020		<0.0000050	<0.000020	<0.000020
Sodium, total	mg/L	10.1	11.2	11.2	10.6	10.9			12.8	11	10.3	11.9	12.4	11.7	11.3	12.3	13.1	12.8		11.6	11.5	12.9
Thallium, total	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050			<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050		0.000002	<0.000050	<0.000050
Zinc, total	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050			<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.009	0.0069	0.0056	0.0164		0.0026	0.0082	0.0064
Aluminum, dissolved	mg/L	<0.0030	0.0058	<0.0030	0.0036	<0.0030			<0.0030	0.13	0.0053	0.0062			<0.0030	<0.0030	<0.0030	0.0124		0.00432	0.0034	0.0388
Arsenic, dissolved	mg/L	0.00036	0.00038	0.00036	0.00034	0.00037			0.00038	0.00037	0.00041	0.00038			0.00018	0.00036	0.00038	0.00043		0.000382	0.00042	0.00038
Cadmium, dissolved	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010			<0.000010	0.000011	<0.000010	<0.000010			0.000022	<0.000010	<0.000010	0.000059		0.000007	0.00003	0.00007
Calcium, dissolved	mg/L	43.2	42.4	44.8	44.8	44.8			44.5	46.8	47.8	49.1			33.3	50.1	53.6	54.2		50.5	64.8	51.9
Chromium, dissolved	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			<0.0010	<0.0010	<0.0010	<0.0010			<0.0010	<0.0010	<0.0010	<0.0010		0.00013	<0.0010	<0.0010
Copper, dissolved	mg/L	0.0161	0.0168	0.0164	0.0176	0.0165			0.0173	0.0277	0.019	0.0178			0.023	0.0181	0.0186	0.023		0.0183	0.019	0.0264
Iron, dissolved	mg/L	0.0465	0.0465	0.0388	0.0344	0.0257			0.0264	0.174	0.0312	0.0368			0.0107	0.0207	0.0207	0.0394		0.0213	0.0289	0.105
Lead, dissolved	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020			<0.00020	<0.00020	<0.00020	<0.00020			<0.00020	<0.00020	<0.00020	0.00037		0.00002	<0.00020	<0.00020
Magnesium, dissolved	mg/L	12	11.9	12.4	12.7	13.8			13.4	14.2	14	13.7			8.46	14.1	16.3	17.2		15.5	18.6	16
Manganese, dissolved	mg/L	0.0022	0.0052	0.0038	0.0013	<0.0010			<0.0010	0.0567	0.0033	0.0015			0.0024	0.0013	0.0014	0.0018		0.00118	0.0242	0.0109
Mercury, dissolved	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010			<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010			<0.000010	<0.000010
Molybdenum, dissolved	mg/L	0.0033	0.0033	0.0034	0.0036	0.0037			0.0037	0.0036	0.0038	0.0035			0.0019	0.0037	0.0041	0.0045		0.00431	0.0043	0.0041
Nickel, dissolved	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010			<0.0010	<0.0010	<0.0010	<0.0010			<0.0010	<0.0010	<0.0010	0.0014		0.000841	<0.0010	0.0018
Phosphorus, dissolved	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01			<0.01	0.018	<0.01	<0.01			<0.01	<0.01	<0.01	0.046			0.012	0.033
Potassium, dissolved	mg/L	2.24	2.29	2.19	2.41	2.5			2.36	2.56	2.42											

Station Name		W35A	W35A	W35A	W35A	W35A	W35A	W35A	W35A	W35A	W35A	W35A	W35A	W35A	W35A	W35A	W35A	W35A	W35A	W35A	W35A	W35A	W35A	W35A	W35A
Sample Date		4/22/2009	4/27/2009	5/10/2009	5/25/2009	6/16/2009	7/8/2009	7/27/2009	8/11/2009	9/1/2009	4/19/2010	4/20/2010	4/21/2010	4/23/2010	4/24/2010	4/25/2010	4/26/2010	4/27/2010	4/28/2010	4/29/2010	4/30/2010	5/1/2010	5/2/2010	5/3/2010	5/4/2010
pH (field)	pH units				7	7.62	7.32		7.88	7.98	7.32	7	6.44	7.02	7	7.5	7.03	7.66	7.14	7.44	6.8	6.5	6.77	7.54	7.41
pH (lab)	pH units			7.3	7.59		7.82	8.01	7.75	7.67	7.1	7.02	6.89	6.96	7.31	7.38	7.3	7.2	7.4	7.3	7.3	7.4	7.3	7.4	7.5
Hardness (from dissolved)	mg/L	51		36	72		117	139	120	110							31.2	34.1	36.5	40	35.8	41.1	43.9	44.8	40.6
Hardness (from total)	mg/L										32	36	30	36	44	45	33.6	33.3	36.5	42.9	39.8	40.9	42.3	41.6	46.6
Total Dissolved Solids	mg/L			82	128		164	192	192	170	116	<5	106	128	106	120	60	58	62	70	60	62	80	82	68
Total Suspended Solids	mg/L			<2	3		<5	<2	<2	<3	8	16	<7	6	22	8	15	6	<4	<4	<4	<4	<4	<4	<4
Alkalinity, total	mg/L			31	60		109	129	124	106	26	23	16	23	32	32	25	23	27	31	27	29	30	32	36
Sulphate, dissolved	mg/L				12.4		9	5.7	7.1	12	8.4	8.7	5.3	5.2	4.6	5	11	24	7	<0.5	<5	<5	<0.5	<0.5	5
Chloride	mg/L			1.2	0.28		0.1	1.9	2.04	0.37	1.92	1.38	1.05	0.81	1.12	1.18	2	1.6	1.7	1.5	1.7	1.7	1.8	1.6	1.3
Fluoride	mg/L																0.11	0.11	0.1	0.08	0.1	0.09	0.09	0.08	0.09
Nitrite (N)	mg/L			<0.005													0.011	0.013	<0.03	0.02	<0.05	<0.005	<0.05	<0.005	<0.005
Nitrate (N)	mg/L			<0.01						<0.01		0.07	0.06				0.08	0.11	<0.1	0.3	<0.2	0.03	<0.2	<0.02	<0.02
Ammonia	mg/L																0.031	<0.005	0.031	0.18	0.028	0.05	0.039	0.017	0.01
Aluminum, total	mg/L		5.74	0.11	0.032		0.028	0.022	0.024	0.027	0.51	0.434	0.199	0.383	1.04	0.405	1.04	0.118	0.27	0.181	0.189	0.218	0.172	0.083	0.112
Arsenic, total	mg/L		0.001	0.0002	0.0002		0.0003	0.001	0.0006	0.0007	0.0006	0.0005	0.0004	0.0005	0.0005	0.0005	0.0007	0.0002	0.0004	0.0004	0.0004	0.0004	0.0004	0.0005	0.0004
Cadmium, total	mg/L		0.00006	0.00001	<0.00001		<0.00001	<0.00001	0.00001	<0.00001	0.00005	0.00021	0.00003	0.00003	0.00055	0.00115	0.00007	0.00004	0.00035	0.00004	<0.00001	0.00003	<0.00001	0.00001	0.00017
Calcium, total	mg/L		18.7	10.2	20.3		33.3	37.5	34.6	30.9	9.05	8.82	8.11	9.63	14.7	14.6	8.24	9.24	9.92	11.9	10.6	10.8	10.9	11.3	12.7
Chromium, total	mg/L		0.003	0.0018	0.0013		0.0006	0.0011	0.0011	0.0011	0.0006	0.0006	0.0004	0.0009	0.001	0.0007	0.002	<0.001	<0.001	<0.001	0.001	0.001	0.001	<0.001	<0.001
Copper, total	mg/L		0.39	0.021	0.008		0.007	0.006	0.006	0.005	0.061	0.05	0.022	0.068	0.147	0.092	0.119	0.0126	0.0506	0.0338	0.0598	0.0634	0.0608	0.0287	0.0254
Iron, total	mg/L		6.84	0.21	0.08		0.22	0.269	0.232	0.203	0.704	0.6	0.13	0.454	1.22	0.457	1.19	0.317	0.361	0.418	0.284	0.325	0.258	0.201	0.23
Lead, total	mg/L		0.002	<0.0001	0.0001		<0.0001	0.0003	0.0004	0.0004	0.0003	0.0002	0.0002	0.0002	0.0004	0.0004	0.0005	<0.0002	<0.0002	<0.0002	<0.0002	0.0004	0.0003	<0.0002	0.0011
Magnesium, total	mg/L		4.2	2.6	6.22		10.8	12	11	9.83	3.15	2.82	2.7	3.51	3.87	3.66	3.17	2.49	2.85	3.24	3.23	3.41	3.64	3.22	3.59
Manganese, total	mg/L		0.191	0.013	0.0047		0.0281	0.0429	0.0489	0.0374	0.044	0.0258	0.0069	0.0324	0.0797	0.0646	0.077	0.082	0.014	0.037	0.02	0.023	0.016	0.006	0.012
Mercury, total	mg/L		0.00002	<0.0001	<0.00001		<0.00001	<0.00001		<0.00001	0.00002	0.00001	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	<0.00002	<0.00002	0.00002	<0.00002	0.00005	<0.00002	<0.00002
Molybdenum, total	mg/L		0.0012	<0.001	0.00086		0.00096	0.0011	0.001	0.0009	0.0007	0.0005	0.0004	0.0009	0.0008	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel, total	mg/L		<0.005	0.0013	0.001		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.001	0.004	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.003
Phosphorus, total	mg/L		0.22	0.05	<0.05		<0.010	<0.01	<0.01	0.015	0.21	0.14	0.13	0.13	0.11	0.1					0.05				0.037
Potassium, total	mg/L		4	1	1		0.6	0.4	0.5	0.8	5.3	3.7	2.9	2.5	2.4	2.2	1.98	1.33	1.51	1.5	1.54	1.19	1.06	0.88	0.93
Selenium, total	mg/L		<0.003	<0.0002	<0.0006		<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	0.0002	<0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0002	0.0001	<0.0001
Silver, total	mg/L		<0.00005	0.00002	<0.00001		0.0027	0.00002	<0.00001	<0.00001	0.00003	0.00002	<0.00001	<0.00001	<0.00001	<0.00001	0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Sodium, total	mg/L		4	1.8	3.75		5.47	5.02	4.94	4.44	3.41	2.53	1.93	2.67	2.55	2.63	2.04	1.62	2.01	2.25	2.27	2.35	2.59	2.18	2.13
Thallium, total	mg/L		<0.00005	<0.00005	<0.00001		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Zinc, total	mg/L		0.03	0.004	0.005		0.007	0.015	0.006	0.006	0.01	0.016	0.008	0.01	0.009	0.005	0.013	0.008	0.006	0.007	<0.005	<0.005	0.008	<0.005	<0.005
Aluminum, dissolved	mg/L	0.073		0.054	0.031		0.063	0.012	0.018	0.022	0.045	0.061	0.074	0.209	0.062	0.059	0.271	0.182	0.138	0.065	0.129	0.146	0.118	0.079	0.053
Arsenic, dissolved	mg/L	0.0004		0.0002	0.0002		0.0003	0.0004	0.0003	0.0003	0.0004	0.0003	0.0004	0.0003	0.0003	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0005	0.0004	0.0003
Cadmium, dissolved	mg/L	0.00061		<0.00001	<0.00001		0.00002	<0.00001	<0.00001	<0.00001	0.00009	0.00006	<0.00001	<0.00001	<0.00001	0.00002	0.00002	0.00002	0.00007	<0.00001	0.00001	0.00002	0.00002	<0.00001	0.00007
Calcium, dissolved	mg/L	16.3		10.1	19.2		33.4	36.6	30.9	29.8	8.3	9.2	7.9	9	12.5	12.8	7.92	9.05	9.92	11	9.48	10.8	11.4	12	11.1
Chromium, dissolved	mg/L	0.0014		<0.0005	0.0007		0.0007	0.0011	0.001	0.0013	<0.0004	0.0004	<0.0004	0.0006	<0.0004	<0.0004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper, dissolved	mg/L	0.098		0.02	0.007		0.013	0.005	0.005	0.004	0.022	0.023	0.067	0.062	0.07	0.064	0.094	0.061	0.0429	0.0214	0.0545	0.0602	0.0605	0.0277	0.0188
Iron, dissolved	mg/L	0.13		0.13	0.08		0.34	0.22	0.17	0.16	0.11	0.1	0.12	0.25	0.1	0.11	0.306	0.245	0.186	0.222	0.205	0.215	0.216	0.162	0.131
Lead, dissolved	mg/L	0.0003		<0.0001	<0.0001		0.0002	0.0003	0.0005	0.0006	0.0002	0.0009	0.0002	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Magnesium, dissolved	mg/L	2.52		2.7	5.8		10.5	11.7	9.6	9.2	2.7	3.3	2.6	3.2	3.1	3.2	2.79	2.8	2.86	3.07	2.95	3.44	3.78	3.62	3.14
Manganese, dissolved	mg/L	0.0397		<0.005	0.0053		0.0369	0.0447	0.044	0.0345	0.0225	0.0109	0.0072	0.0086	0.0196	0.0324	<0.001	<0.001	0.002	<0.001	0.001	0.002	0.003	<0.001	<0.001
Mercury, dissolved	mg/L	<0.00001		<0.0001	<0.00001		<0.00001	<0.00001		<0.00001	<0.00001	0.00001	0.00002	0.00001	0.00001	0.00001	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Molybdenum, dissolved	mg/L	0.00117		<0.001	0.00077		0.001	0.001	0.0009	0.0009	0.0006	0.0008	0.0003	0.0008	0.0007	0.0009	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel, dissolved	mg/L	<0.001		0.0014	0.001		0.002	0.001	0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	<0.001	0.002	0.002	0.001	0.001	0.002	0.002	0.002	0.002	0.002
Phosphorus, dissolved	mg/L	0.04		<0.01			0.02	<0.01	<0.01	0.04	0.12	0.06	0.05	0.05	0.03	0.03					0.029				0.02
Potassium, dissolved	mg/L	3		1	0.9		0.4	0.5	0.5	0.9	4.8	3.8	2.7	2.4	2	1.9	1.86	1.61	1.52	1.36	1.13	1.21	1.12	0.96	0.76
Selenium, dissolved	mg/L	<0.0006		<0.0002	<0.0006		<0.0006	<0.0006	<0.00																

Station Name		W35A	W35A	W35A	W35A	W35A	W35A	W35A	W35A	W35A	W35A	W35A	W35A	W35A	W35A	W35A	W35A	W35A	W35A	W35A	W35A	W35A	W35A	W35A	
Sample Date		9/22/2010	10/6/2010	10/11/2010	10/29/2010	4/4/2011	5/3/2011	6/2/2011	7/6/2011	8/13/2011	9/13/2011	10/8/2011	11/13/2011	4/10/2012	5/1/2012	5/2/2012	5/3/2012	5/4/2012	5/5/2012	5/6/2012	5/7/2012	5/8/2012	5/9/2012	5/10/2012	5/18/2012
pH (field)	pH units	7.63	7.56		7.35						7.55	7.15	7.06	8.16	7.51	7.17	7.14	7	7.13	7.29	7.63	7.3	7.79	8.72	7.25
pH (lab)	pH units	7.89	7.85	7.72	7.86	7.67	7.18	7.82	7.54	7.66	8.1	7.91	8.03	7.99	7.57	7.59	7.6	7.59	5.72	7.58	7.5	7.46		7.56	7.74
Hardness (from dissolved)	mg/L	95.2	88.1	103	127	200	33	74.3	84.2	91.4	119	150	144		40.2	41.2	41	42.4	46.4	43.6	46.8	49		46.7	56.3
Hardness (from total)	mg/L	94	92.7	101	125	222	35.8	82.5	83.9	91.6	113	137	166	335	39.8	42.6	40.9	50.4	45.9	44.3	41.9	43.5		43.8	55.1
Total Dissolved Solids	mg/L	140	160	170	160	490	60	130	140	180	170	180	196	132	72	74	68	76	86	60	80	80		88	106
Total Suspended Solids	mg/L	<1	<1	<1	6	12	6	1	1	2	2	10	5.3	1460	1.8	1.7	1.2	2.7	<1.0	20.5	2.1	<1.0		<1.0	3.7
Alkalinity, total	mg/L	89	87	100	110	72	28	68	76	85	110	140	165	84.8	31.8	32.6	32.9	34	10.5	37.7	38.9	40.3		40.2	50.5
Sulphate, dissolved	mg/L	8.5	12	12	20	140	<0.5	12	<0.5		5.8			5.52	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50		<0.50	<0.50
Chloride	mg/L	0.8	<0.5	0.9	1.3	61	2.2	<0.5			1.5	1	2.6	2.1	1	1.4	1.2	0.91	0.86	0.81	1.4	0.68		1.2	1.1
Fluoride	mg/L	0.11	0.1	0.11	0.12	0.22	0.07	0.1						0.2	0.071	0.072	0.073	0.072	0.071	0.08	0.075	0.072		0.087	0.091
Nitrite (N)	mg/L	<0.005	<0.005	<0.005	<0.005	0.181	0.009		<0.005	<0.005	<0.005	<0.005	<0.005	0.078	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050		<0.0050	<0.0050
Nitrate (N)	mg/L	<0.02	<0.02	<0.02	0.15	16.9	8.4		0.04	<0.02	<0.02	<0.02	<0.020	0.281	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020		<0.020	<0.020
Ammonia	mg/L	0.33	0.06	0.064	0.054	0.17	0.007	0.017	0.009	0.011	0.022	0.008	0.0129	0.0064	0.0098	0.0071	0.0095	0.01	0.0086	0.011	0.0067	<0.0050		0.011	0.024
Aluminum, total	mg/L	0.033	0.032	0.028	0.107	0.304	0.309	0.082	0.178	0.081	0.04	0.043	0.174	70.6	0.119	0.821	0.1	0.391	0.0575	0.0832	0.195	0.0362		0.0735	0.226
Arsenic, total	mg/L	<0.0004	0.0002	0.0002	0.0004	0.0005	0.0004	0.0002	0.0004	0.0004	0.0002	0.0003	0.0007	0.0157	0.00028	0.00046	0.00029	0.00082	0.00033	0.00034	0.00028	0.00024		0.00028	0.00051
Cadmium, total	mg/L	<0.0001	<0.00001	<0.00001	0.00008	0.00006	0.00002	0.00004	0.00002	<0.00001	0.0028	<0.00001	0.00005	0.00126	0.000014	0.000042	0.000061	0.000193	0.000055	0.000031	0.00002	0.000015		<0.000010	0.000014
Calcium, total	mg/L	25	24.8	27.5	32.6	68.1	10.1	21.9	22.5	26	30.6	37.1	45.6	67.3	11.5	12.2	11.7	14.1	13	12.9	11.9	12.5		12.2	15.1
Chromium, total	mg/L	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.03	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		<0.0010	0.0010
Copper, total	mg/L	0.006	0.0064	0.0066	0.0191	0.113	0.0478	0.0205	0.0185	0.0149	0.0077	0.0082	0.0266	6.69	0.0153	0.164	0.0203	0.102	0.0137	0.0166	0.0361	0.00708		0.0174	0.0349
Iron, total	mg/L	0.149	0.138	0.235	0.799	0.397	0.593	0.199	0.323	0.271	0.156	0.263	2.17	130	0.327	1.46	0.253	0.695	0.193	0.242	0.439	0.161		0.245	0.567
Lead, total	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0276	<0.00020	0.00039	<0.00020	0.00034	<0.00020	<0.00020	<0.00020	<0.00020		<0.00020	<0.00020
Magnesium, total	mg/L	8	7.48	7.83	10.6	12.6	2.59	6.78	6.76	6.49	8.84	10.9	12.7	40.6	2.7	2.96	2.83	3.69	3.27	2.92	2.93	2.97		3.25	4.22
Manganese, total	mg/L	0.011	0.009	0.039	0.215	0.216	0.049	0.024	0.025	0.017	0.019	0.045	0.33	3.98	0.0521	0.1	0.0129	0.0761	0.0098	0.0136	0.0245	0.0125		0.0087	0.0229
Mercury, total	mg/L	<0.0002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.00008	<0.00002	<0.00002	<0.000020	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010		<0.000010	<0.000010
Molybdenum, total	mg/L	<0.001	<0.001	<0.001	<0.001	0.011	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.008	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010		<0.0010	0.0011
Nickel, total	mg/L	0.002	0.001	0.001	0.002	<0.001	0.001	0.002	0.002	0.001	0.001	0.001	0.001	0.021	0.0011	0.0015	0.0016	0.0024	0.0013	0.0013	0.0014	0.0011		0.0013	0.0015
Phosphorus, total	mg/L					0.042	0.062	0.015	0.016	0.014	0.01	0.011	0.044	1.36	0.033	0.075	0.03	0.1	0.029	0.036	0.04	0.024		0.025	0.024
Potassium, total	mg/L	<1	0.37	0.34	0.43	8.99	1.9	0.79	0.38	0.4	0.62	0.49	0.527	16	1.46	1.44	1.23	7.41	1.15	1.11	1.65	0.887		0.923	0.872
Selenium, total	mg/L	<0.0008	0.0005	0.0002	0.0004	0.0054	<0.0001	<0.0001	0.0001	0.0002	0.0001	<0.0001	0.0001	0.0024	<0.00010	<0.00010	<0.00010	<0.00010	0.00017	<0.00010	<0.00010	<0.00010		0.0001	<0.00010
Silver, total	mg/L	<0.0001	<0.00002	<0.00002	<0.00002	0.00003	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.00211	<0.000020	0.000022	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020		<0.000020	<0.000020
Sodium, total	mg/L	4	4.28	4.66	5.91	58.7	1.69	4.66	4.94	3.86	4.19	5.05	5.98	5.3	1.59	1.45	1.56	2.55	1.82	1.7	1.7	1.74		1.88	2.55
Thallium, total	mg/L	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00054	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050		<0.000050	<0.000050
Zinc, total	mg/L	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.039	<0.005	<0.005	0.512	<0.0050	0.0072	0.0075	0.0181	0.0357	<0.0050	<0.0050	<0.0050		<0.0050	<0.0050
Aluminum, dissolved	mg/L	0.032	0.026	0.027	0.048	0.012	0.072	0.037	0.037	0.034	0.021	0.02	0.0216		0.0613	0.22	0.0544	0.0421	0.044	0.0448	0.0532	0.0436		0.0425	0.0617
Arsenic, dissolved	mg/L	<0.0004	0.0003	0.0003	0.0004	0.0004	0.0002	0.0002	0.0003	0.0003	0.0003	0.0003	0.00061		0.0003	0.00031	0.0003	0.00029	0.00026	0.00032	0.00029	0.00023		0.00029	0.00049
Cadmium, dissolved	mg/L	<0.0001	0.00003	0.00001	0.00006	0.00006	0.00004	0.00002	0.00001	<0.00001	0.00004	0.00001	0.00004		0.000017	0.00003	0.000022	0.000019	0.000018	0.000012	0.000038	0.000018		0.00001	0.000022
Calcium, dissolved	mg/L	25	23.3	28.2	33	60.5	9.58	20.6	23.2	25.6	32.3	41.4	38.7		11.7	11.9	11.8	12.3	13.3	12.6	13.5	14.2		13.1	15.8
Chromium, dissolved	mg/L	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0010		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0011	<0.0010		<0.0010	<0.0010
Copper, dissolved	mg/L	0.007	0.0063	0.0069	0.0129	0.0785	0.0254	0.0123	0.0103	0.0086	0.006	0.0059	0.00309		0.0185	0.0653	0.0149	0.0132	0.0129	0.0134	0.0142	0.00952		0.0153	0.0301
Iron, dissolved	mg/L	0.133	0.105	0.212	0.5	0.022	0.14	0.107	0.119	0.146	0.115	0.232	1.38		0.225	0.431	0.272	0.18	0.173	0.17	0.188	0.177		0.188	0.286
Lead, dissolved	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00020		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020		<0.00020	<0.00020
Magnesium, dissolved	mg/L	8	7.26	7.9	10.8	11.9	2.21	5.56	6.38	6.65	9.28	11.2	11.6		2.65	2.77	2.79	2.86	3.2	2.93	3.2	3.27		3.4	4.07
Manganese, dissolved	mg/L	0.011	0.007	0.041	0.231	0.19	0.032	0.011	0.016	0.011	0.011	0.044	0.318		0.0486	0.0486	0.0092	0.0223	0.0072	0.0096	0.0081	0.0091		0.0056	0.0123
Mercury, dissolved	mg/L	<0.0002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.000020		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010		<0.000010	<0.000010
Molybdenum, dissolved	mg/L	<0.001	<0																						

Station Name		W35A	W35A	W35A	W35A	W35A	W35A
Sample Date		6/5/2012	6/27/2012	7/22/2012	8/11/2012	9/11/2012	9/11/2012
pH (field)	pH units	7.21	8.2	8.33	8.14	8.28	8.28
pH (lab)	pH units	7.76	8.22	8.06	8.28		8
Hardness (from dissolved)	mg/L	89.3	113	125	137		136
Hardness (from total)	mg/L	89.1	114	135	151		150
Total Dissolved Solids	mg/L	128	176	166	196		238
Total Suspended Solids	mg/L	<1.0	1.1	<1.0	<1.0		60.1
Alkalinity, total	mg/L	85.4	109	125	149		107
Sulphate, dissolved	mg/L	2.03	<0.50	<0.50	<0.50		27.5
Chloride	mg/L	1.3	1.4	0.81	0.99		1.8
Fluoride	mg/L	0.11	0.12	0.12	0.13		0.66
Nitrite (N)	mg/L	<0.0050	<0.0050	<0.0050	<0.0050		0.195
Nitrate (N)	mg/L	<0.020	<0.020	<0.020	<0.020		7.58
Ammonia	mg/L	0.033	0.036	0.027	0.0069		0.89
Aluminum, total	mg/L	0.052	0.0499	0.0294	0.0472		0.757
Arsenic, total	mg/L	0.00032	0.00045	0.00043	0.00054		0.00066
Cadmium, total	mg/L	0.000016	0.00001	0.000017	<0.000010		0.000028
Calcium, total	mg/L	25	33.1	38.1	42.2		37.3
Chromium, total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010		<0.0010
Copper, total	mg/L	0.0377	0.0555	0.0485	0.0441		0.272
Iron, total	mg/L	0.171	0.17	0.13	0.206		1.38
Lead, total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020		0.00066
Magnesium, total	mg/L	6.51	7.72	9.62	11.1		13.8
Manganese, total	mg/L	0.0208	0.0193	0.0148	0.0245		0.138
Mercury, total	mg/L	0.00001	<0.000010	<0.000010	<0.000010		<0.000010
Molybdenum, total	mg/L	0.0013	0.0015	0.0016	0.0018		0.0035
Nickel, total	mg/L	0.0011	0.0013	0.0016	0.0014		0.0017
Phosphorus, total	mg/L	0.015	0.015	0.011	0.014		0.058
Potassium, total	mg/L	1.15	1.42	1.37	1.36		1.94
Selenium, total	mg/L	0.00012	0.00019	0.00014	0.00011		0.00307
Silver, total	mg/L	<0.000020	<0.000020	<0.000020	<0.000020		0.00004
Sodium, total	mg/L	3.72	4.38	5.21	5.58		8.06
Thallium, total	mg/L	<0.000050	<0.000050	<0.000050	<0.000050		<0.000050
Zinc, total	mg/L	<0.0050	<0.0050	<0.0050	<0.0050		0.0083
Aluminum, dissolved	mg/L	0.0264	0.0173	0.0142	0.0182		0.0228
Arsenic, dissolved	mg/L	0.00038	0.00044	0.00043	0.00053		0.0005
Cadmium, dissolved	mg/L	0.000016	0.000022	0.000015	<0.000010		<0.000010
Calcium, dissolved	mg/L	24.9	32.4	35.5	38.1		34.5
Chromium, dissolved	mg/L	<0.0010	<0.0010	<0.0010	<0.0010		<0.0010
Copper, dissolved	mg/L	0.0355	0.0536	0.0437	0.0405		0.0351
Iron, dissolved	mg/L	0.101	0.0748	0.0969	0.0916		0.132
Lead, dissolved	mg/L	<0.00020	<0.00020	<0.00020	<0.00020		<0.00020
Magnesium, dissolved	mg/L	6.57	7.71	8.77	10.1		12
Manganese, dissolved	mg/L	0.0178	0.0176	0.0118	0.0209		0.0395
Mercury, dissolved	mg/L	<0.000010	<0.000010	<0.000010	<0.000010		<0.000010
Molybdenum, dissolved	mg/L	0.0013	0.0016	0.0016	0.0017		0.0041
Nickel, dissolved	mg/L	0.0016	0.0014	0.0013	0.0014		0.0014
Phosphorus, dissolved	mg/L	0.012	<0.01	<0.01	<0.01		0.011
Potassium, dissolved	mg/L	1.24	1.45	1.29	1.27		1.65
Selenium, dissolved	mg/L	0.00011	0.00017	0.00012	0.00012		0.00293
Silver, dissolved	mg/L	<0.000020	<0.000020	<0.000020	<0.000020		<0.000020
Sodium, dissolved	mg/L	3.9	4.39	4.73	5.09		7.39
Thallium, dissolved	mg/L	<0.000050	<0.000050	<0.000050	<0.000050		<0.000050
Zinc, dissolved	mg/L	0.0053	<0.0050	<0.0050	<0.0050		<0.0050

APPENDIX C

BACKGROUND DATASET AND OUTLIER ASSESSMENT

BACKGROUND DATASET 2005 - 2013							
Parameter	# of Samples	# of Outliers	# Outliers Associated with Elevated TSS	# Outliers Associated with High RDL	Other Reason for Outlier	Date (day/month/year)	Comment
pH (field)	92	1			1	W7: 7/12/2013	
pH (lab)	194	3			3	W7: 15/10/2005, 30/4/2009, 6/5/2012	
Hardness (from dissolved)	134	1			1	C4: 17/11/2013	
Hardness (from total)	152	2	1		1	C4: 17/11/2013; C10: 27/8/2012	
Total Dissolved Solids (lab)	184	1			1	W7: 6/9/2013	
Total Suspended Solids	191	6				W6: 17/7/2012 & 25/8/2012; C4: 6/5/2012; C10: 12/5/2012, 10/8/2012, 27/8/2012	2012 tributaries; TSS 1130 mg/L to 2210 mg/L
Alkalinity, total	176	2			2	W7: 16/5/2010; C4: 17/11/2013	
Dissolved Organic Carbon	108	1			1	C4: 17/11/2013	
Sulphate, dissolved	167	1			1	W8: 27/5/2005	
Chloride	169	1			1	W7: 8/6/2009	
Fluoride	97	1	1			C10: 10/8/2012	
Nitrite (N)	166	3			3	W6: 17/6/2008; W7: 30/10/2007, 22/4/2008	
Nitrate (N)	187	2	1		1	W7: 24/1/2012; C4: 22/6/2013	
Ammonia (N)	180	4	2		2	W7: 4/6/2010; C4: 22/6/2013, 19/7/2013, 17/11/2013	other reason for outlier W7: 4/6/2010 & C4: 17/11/2013
Aluminum (Al), total	194	7	7			W6: 17/7/2012; C4: 6/5/2012, 22/6/2013; C10: 12/5/2012, 30/7/2012, 10/8/2012, 27/8/2012	6 of 7 are 2012 tributaries
Arsenic (As), total	194	6	6			C4: 6/5/2012, 22/6/2013; C10: 12/5/2012, 30/7/2012, 10/8/2012, 27/8/2012	5 of 6 are 2012 'chocolate milk' tributaries
Cadmium (Cd), total	174	5	4		1	W6: 17/7/2012; W7: 7/10/2009; C10: 12/5/2012, 10/8/2012, 27/8/2012	4 of 5 are 2012 tributaries
Calcium (Ca), total	194	3	2		1	C4: 17/11/2013; C10: 10/8/2012, 27/8/2012	chocolate milk tributaries
Chromium (Cr), total	194	7	7			W6: 17/7/2012; C4: 6/5/2012, 22/6/2013; C10: 12/5/2012, 30/7/2012, 10/8/2012, 27/8/2012	6 of 7 are 2012 tributaries
Copper (Cu), total	194	6	6			C4: 6/5/2012, 22/6/2013; C10: 12/5/2012, 30/7/2012, 10/8/2012, 27/8/2012	chocolate milk tributaries
Iron (Fe), total	194	6	6			C4: 6/5/2012, 22/6/2013; C10: 12/5/2012, 30/7/2012, 10/8/2012, 27/8/2012	chocolate milk tributaries
Lead (Pb), total	194	7	7			W6: 17/7/2012; C4: 6/5/2012, 22/6/2013; C10: 12/5/2012, 30/7/2012, 10/8/2012, 27/8/2012	6 of 7 are 2012 tributaries
Magnesium (Mg), total	194	0					
Manganese (Mn), total	194	5	4		1	C4: 25/8/2012, 17/11/2013; C10: 12/5/2012, 10/8/2012, 27/8/2012	chocolate milk tributaries
Mercury (Hg), total	144	0					
Molybdenum (Mo), total	194	0					
Nickel (Ni), total	194	6	6			C4: 6/5/2012, 22/6/2013; C10: 12/5/2012, 30/7/2012, 10/8/2012, 27/8/2012	chocolate milk tributaries
Phosphorus (P), total	95	2	2			C10: 12/5/2012, 27/8/2012	chocolate milk tributary (all 2005 - 2006 values <3.0 mg/L removed, very high RDL)
Potassium (K), total	194	6	6			W7: 27/5/2010; C4: 6/5/2012; C10: 12/5/2012, 30/7/2012, 10/8/2012, 27/8/2012	2012 'chocolate milk' tributaries
Selenium (Se), total	194	1	1			C10: 12/5/2012	Highest TSS = 2210 mg/L
Silver (Ag), total	194	7	6		1	W7: 23/6/2006, 2/8/2006; C4: 6/5/2012; C10: 12/5/2012, 30/7/2012, 10/8/2012, 27/8/2012	other reason for outlier at W7: 2/8/2006
Sodium (Na), total	194	3			3	W3: 30/6/2005; W7: 22/4/2008; 29/12/2012	29/12/2012 overflow sampled
Thallium (Tl), total	194	5	5			C4: 6/5/2012; C10: 12/5/2012, 30/7/2012, 10/8/2012, 27/8/2012	2012 'chocolate milk' tributaries
Zinc (Zn), total	194	6	6			C4: 6/5/2012, 22/6/2013; C10: 12/5/2012, 30/7/2012, 10/8/2012, 27/8/2012	chocolate milk tributaries
Aluminum (Al), dissolved	184	2			2	W10: 27/5/2005; W7: 28/6/2006	W7 28/6/2006 TSS = 103 mg/L
Arsenic (As), dissolved	184	2	1		1	C4: 22/6/2013, 17/11/2013	2012 'chocolate milk' tributaries
Cadmium (Cd), dissolved	164	1			1	W7: 20/9/2006	
Calcium (Ca), dissolved	184	1			1	C4: 17/11/2013	
Chromium (Cr), dissolved	184	4			4	W7: 28/6/2006, 18/9/2007, 18/9/2008; C10: 8/9/2013	
Copper (Cu), dissolved	183	3			3	W8: 27/5/2005, 30/6/2005; W10: 27/5/2005	erroneous W7 25/2/2012 result removed
Iron (Fe), dissolved	184	1			1	C4: 17/11/2013	
Lead (Pb), dissolved	184	2	1		1	W7: 18/9/2007; C10: 30/7/2012	other reason for outlier at W7: 18/9/2007
Magnesium (Mg), dissolved	184	2			2	W7: 22/4/2008, 29/12/2012	29/12/2012 overflow sampled
Manganese (Mn), dissolved	184	1			1	C4: 17/11/2013	
Mercury (Hg), dissolved	139	0					
Molybdenum (Mo), dissolved	184	0					
Nickel (Ni), dissolved	184	2			2	W7: 26/6/2010; C4: 17/11/2013	
Phosphorus (P), dissolved	84	1			1	C4: 17/11/2013	all 2005 - 2006 values <3.0 mg/L removed, very high RDL
Potassium (K), dissolved	183	4			4	W7: 22/4/2008, 19/4/2010, 29/12/2012, 30/4/2013	29/12/2012 overflow sampled
Selenium (Se), dissolved	184	2			2	W6: 18/9/2008; W7: 17/6/2008	
Silver (Ag), dissolved	182	0					
Sodium (Na), dissolved	183	3			3	W3: 30/6/2005; W7: 22/4/2008, 29/12/2012	29/12/2012 overflow sampled
Thallium (Tl), dissolved	181	0					
Zinc (Zn), dissolved	184	3			3	W3: 30/6/2005; W6: 30/6/2005; W10: 30/6/2005	All 30/6/2005

Parameter	Units	W1	W1	W1	W1	W1	W1	W2	W2	W2	W2	W2	W2	W3	W3	W3
		27/05/2005	30/06/2005	28/07/2005	29/08/2005	28/09/2005	15/10/2005	27/05/2005	30/06/2005	28/07/2005	30/08/2005	28/09/2005	15/10/2005	27/05/2005	30/06/2005	29/07/2005
pH (field)	pH units															
pH (lab)	pH units	8.05	8.2	8.0	8.28	7.59	8.13	8.06	8.2	8.0	8.26	7.9	8.11	7.99	8.2	8.06
Hardness (from dissolved)	mg/L															
Hardness (from total)	mg/L	97.3		157	138	134	140	99.8		153	138	134	137	93.9		166
Total Dissolved Solids	mg/L	137	189	189	186	178	181	138	190	194	193	170	179	141	224	198
Total Suspended Solids	mg/L	26.5	<3.0	<3.0	4	9.5	14.5	20.5	<3.0	<3.0	3.5	9	5.5	8.5	<3.0	25.7
Alkalinity, total	mg/L	78.7	141		138	117			140		143	115		61.2	153	
Dissolved Organic Carbon	mg/L															
Sulphate, dissolved	mg/L	19.7	22.4		12.4	11.8			22.1		12.6	11.6		2.4	45.5	
Chloride	mg/L	<0.50	1.2	0.64	0.52	0.73	0.91	<0.50	1.23	0.66	0.53	0.72	0.88	<0.50	0.86	<0.50
Fluoride	mg/L															
Nitrite (N)	mg/L	0.002	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0015	<0.0010	<0.0010	<0.0010	0.001	<0.0010	<0.0010	<0.0010	<0.0010
Nitrate (N)	mg/L	0.0539	0.0626	0.0584	0.0217	0.0482	0.132	0.0565	0.0621	0.0124	0.0141	0.0458	0.133	0.0121	0.0519	0.0284
Ammonia	mg/L	0.039	<0.020	<0.020	0.041	0.026	0.02	0.026	<0.020	<0.020	0.029	<0.020	<0.020	<0.020	<0.020	<0.020
Aluminum, total	mg/L	0.613	0.0218	0.0174	0.0524	0.127	0.15	0.362	0.0111	0.0127	0.0475	0.133	0.0972	0.152	0.0313	0.732
Arsenic, total	mg/L	0.0009	0.00047	0.00045	0.00062	0.00068	0.00062	0.00075	0.00045	0.00046	0.00063	0.00069	0.00061	<0.00050	0.00037	0.00081
Cadmium, total	mg/L	<0.000050	<0.000050	<0.000050	<0.000017	<0.000017	<0.000050	<0.000050	<0.000050	<0.000050	<0.000017	<0.000017	<0.000050	<0.000050	<0.000050	<0.000050
Calcium, total	mg/L	25.9	36.7	38.5	35	35.5	34.2	24.8	37.5	39.1	35.4	34.3	34.1	20.9	39.1	37.3
Chromium, total	mg/L	0.002	<0.00050	<0.00050	<0.0010	<0.0010	0.00068	0.0012	<0.00050	<0.00050	<0.0010	<0.0010	0.00059	<0.0010	0.0005	0.002
Copper, total	mg/L	0.0059	0.00204	0.00229	0.0026	0.0039	0.00458	0.0049	0.00207	0.00245	0.0026	0.0039	0.00404	0.0078	0.00374	0.0149
Iron, total	mg/L	1.05	0.088	0.079	0.387	0.691	0.526	0.778	0.052	0.079	0.373	0.674	0.436	0.32	0.081	1.32
Lead, total	mg/L	<0.00050	<0.000050	<0.000050	<0.00050	<0.00050	0.00012	<0.00050	<0.000050	<0.000050	<0.00050	<0.00050	0.000078	<0.00050	0.000292	0.000359
Magnesium, total	mg/L	8.65	12.3	12.7	11.5	11.3	10.9	8.37	12.5	13.1	11.6	11	10.8	9.03	17.6	17.2
Manganese, total	mg/L	0.0612	0.00663	0.0164	0.0258	0.0559	0.0483	0.0505	0.00785	0.014	0.025	0.0543	0.0368	0.023	0.0084	0.0641
Mercury, total	mg/L	<0.000020			<0.000020	<0.000020		<0.000020			<0.000020	<0.000020		<0.000020		
Molybdenum, total	mg/L	0.0011	0.00107	0.00153	0.001	<0.0010	0.000867	<0.0010	0.00103	0.00134	0.0011	<0.0010	0.000916	0.0011	0.00163	0.0019
Nickel, total	mg/L	0.0032	0.00101	0.00113	0.0016	0.0019	0.0024	0.0026	0.00105	0.00107	0.0016	0.002	0.00164	0.0017	0.00087	0.00257
Phosphorus, total	mg/L															
Potassium, total	mg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Selenium, total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Silver, total	mg/L	0.000036	<0.000010	<0.000010	<0.000020	<0.000020	<0.000010	<0.000020	<0.000010	<0.000010	<0.000020	<0.000020	<0.000010	<0.000020	<0.000010	<0.000030
Sodium, total	mg/L	4.9	8.6	8.5	6.8	6.3	5.9	4.8	8.7	8.7	6.9	6	6	4.9	12.1	9.4
Thallium, total	mg/L	<0.00020	<0.00010	<0.00010	<0.00020	<0.00020	<0.00010	<0.00020	<0.00010	<0.00010	<0.00020	<0.00020	<0.00010	<0.00020	<0.00010	<0.00010
Zinc, total	mg/L	0.0096	<0.0010	<0.0010	<0.0050	<0.0050	0.001	<0.0050	<0.0010	<0.0010	<0.0050	<0.0050	0.0011	<0.0050	<0.0020	<0.0070
Aluminum, dissolved	mg/L	0.0176	0.0065	0.0072	0.0106	0.0143	0.0137	0.0163	0.0073	0.0071	0.0119	0.0141	0.0129	0.0267	0.008	0.0113
Arsenic, dissolved	mg/L	0.00051	0.00048	0.00048	0.0006	0.00058	0.00054	<0.00050	0.00044	0.00044	0.00058	0.00059	0.00053	<0.00050	0.00034	0.00041
Cadmium, dissolved	mg/L	<0.000050	<0.000050	<0.000050	<0.000017	<0.000017	<0.000050	<0.000050	<0.000050	<0.000050	<0.000017	<0.000017	<0.000050	<0.000050	<0.000050	<0.000050
Calcium, dissolved	mg/L	25	37.5	40.4	35.9	35.3	36.8	25.6	36.9	39.6	35.7	35.2	35.9	22	38.5	38
Chromium, dissolved	mg/L	<0.0010	<0.00050	<0.00050	<0.0010	<0.0010	<0.00050	<0.0010	<0.00050	<0.00050	<0.0010	<0.0010	<0.00050	<0.0010	<0.00050	<0.00050
Copper, dissolved	mg/L	0.0034	0.00204	0.00211	0.0024	0.0026	0.00279	0.0033	0.0021	0.00208	0.0024	0.0025	0.00271	0.0066	0.00336	0.00478
Iron, dissolved	mg/L	0.172	0.046	0.056	0.25	0.331	0.266	0.164	0.039	0.05	0.234	0.338	0.246	0.116	0.042	0.134
Lead, dissolved	mg/L	<0.00050	<0.000050	0.000073	<0.00050	<0.00050	<0.000050	<0.00050	<0.000050	<0.000050	<0.00050	<0.00050	<0.000050	<0.00050	0.000241	<0.000050
Magnesium, dissolved	mg/L	8.46	12.6	13.6	11.7	11.2	11.7	8.72	12.3	13.2	11.7	11.2	11.5	9.48	17.4	17.3
Manganese, dissolved	mg/L	0.00579	0.00391	0.0119	0.0157	0.0355	0.0228	0.00507	0.00684	0.014	0.0152	0.0341	0.0208	0.0094	0.0052	0.0311
Mercury, dissolved	mg/L	<0.000020			<0.000020	<0.000020		<0.000020			<0.000020	<0.000020		<0.000020		
Molybdenum, dissolved	mg/L	<0.0010	0.00106	0.00131	0.001	<0.0010	0.000892	<0.0010	0.00108	0.00127	0.001	<0.0010	0.000859	<0.0010	0.00163	0.00158
Nickel, dissolved	mg/L	0.0015	0.00096	0.0011	0.0014	0.0016	0.0014	0.0015	0.00102	0.00112	0.0015	0.0017	0.00141	0.0014	0.00078	0.00115
Phosphorus, dissolved	mg/L															
Potassium, dissolved	mg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Selenium, dissolved	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Silver, dissolved	mg/L	<0.000020	<0.000010	<0.000010	<0.000020	<0.000020	<0.000010	<0.000020	<0.000010	<0.000010	<0.000020	<0.000020	<0.000010	<0.000020	<0.000010	<0.000010
Sodium, dissolved	mg/L	4.9	8.8	9.2	6.9	6.2	6.4	5	8.6	8.7	7	6.2	6.3	5.2	11.7	9.7
Thallium, dissolved	mg/L	<0.00020	<0.00010	<0.00010	<0.00020	<0.00020	<0.00010	<0.00020	<0.00010	<0.00010	<0.00020	<0.00020	<0.00010	<0.00020	<0.00010	<0.00010
Zinc, dissolved	mg/L	<0.0050	<0.0010	0.0025	<0.0050	<0.0050	0.0014	<0.005	0.0015	0.0011	<0.0050	<0.0050	<0.0010	<0.0050	0.0116	0.0015

Parameter	Units	W3	W3	W3	W6	W6	W6	W6	W6	W6	W6	W6	W6	W6	W6	W6	W6	W6		
		29/08/2005	28/09/2005	15/10/2005	27/05/2005	30/06/2005	29/07/2005	30/08/2005	28/09/2005	15/10/2005	02/06/2006	25/08/2006	06/09/2006	20/06/2007	18/09/2007	17/06/2008	18/09/2008	17/07/2012		
pH (field)	pH units																		7.92	
pH (lab)	pH units	8.24	7.99	8.1	7.91	7.41	8.01	8.2	7.95	7.9	7.64	8.01	7.86	7.77	7.95	7.82	7.8		7.98	
Hardness (from dissolved)	mg/L											120	110						104	
Hardness (from total)	mg/L	135	129	134	65.4		171	106	106	98.3				81	93	86			163	
Total Dissolved Solids	mg/L	182	174	176	103	123	198	147	133	128	96	160		130	172	120	150		122	
Total Suspended Solids	mg/L	7.5	8	<3.0	13.5	11.5	22.2	<3.0	3.5	<3.0	115		4	16	8	17	4		1130	
Alkalinity, total	mg/L	122	101		32	99.1		109	93		76.6	120	112	83	112	93	87		103	
Dissolved Organic Carbon	mg/L																		17.7	7.98
Sulphate, dissolved	mg/L	25.5	23.9		11.8	<1		2.62	4.04		1.88	2.4	2.3	2.1	2.51	1.64	3.29		1.82	
Chloride	mg/L	<0.50	<0.50	<0.50	<0.50	0.73	<0.50	<0.50	0.5	0.52	<0.5			0.4	0.59	0.29	0.41		1	
Fluoride	mg/L										0.176								0.25	
Nitrite (N)	mg/L	<0.0010	<0.0010	<0.0010	0.0016	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.07	<0.01	<0.0050	
Nitrate (N)	mg/L	<0.0050	0.0132	0.0393	0.0316	0.0086	0.0223	<0.0050	<0.0050	0.0061	0.0241	<0.03	<0.03	0.1	<0.02	0.01	<0.01	<0.01	0.026	
Ammonia	mg/L	0.042	<0.020	0.023	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.021			<0.05	<0.05	<0.05	<0.05	<0.05	0.14	
Aluminum, total	mg/L	0.267	0.236	0.09	0.229	0.17	0.598	0.0181	0.0321	0.0251	1.95	0.024	0.035	0.042	0.023	0.14	0.022		20.8	
Arsenic, total	mg/L	0.00054	0.00055	0.00045	0.00052	0.00045	0.00063	<0.00050	<0.00050	0.00043	0.00131	0.0006	0.0005	0.0004	0.0004	0.0004	<0.0002	<0.0002	0.00898	
Cadmium, total	mg/L	<0.000017	<0.000017	<0.000050	<0.000050	<0.000050	<0.000050	<0.000017	<0.000017	<0.000050	<0.000050	<0.000050	<0.000050	<0.00001	<0.00001	<0.00001	<0.00008	<0.00001	0.000468	
Calcium, total	mg/L	30.8	28.7	29.4	17.4	24.7	41.1	28.6	28.2	25.1	18.9	31.5	29	23.2	25.8	23.8	24.6		41.2	
Chromium, total	mg/L	<0.0010	<0.0010	<0.00050	<0.0010	0.00057	0.00145	<0.0010	<0.0010	<0.00050	0.00384	<0.001	0.0005	<0.0005	<0.0005	0.0011	0.001		0.0388	
Copper, total	mg/L	0.0086	0.01	0.00855	0.0021	0.00148	0.0118	0.0012	0.0012	0.00107	0.00531	<0.002	0.001	0.002	0.001	0.001	0.001		0.0402	
Iron, total	mg/L	0.698	0.794	0.497	0.363	0.266	1.08	0.088	0.148	0.116	2.74	<0.2	0.1	0.1	<0.1	0.35	0.09		29.8	
Lead, total	mg/L	<0.00050	<0.00050	<0.000050	<0.00050	0.000134	0.00035	<0.00050	<0.00050	<0.000050	0.000851	<0.0002	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.00971	
Magnesium, total	mg/L	13.2	12	12.5	4.88	6.65	15.4	7.97	8.02	7.18	5.63	7.8	7.3	5.6	6.9	6.44	6.61		14.6	
Manganese, total	mg/L	0.0806	0.12	0.124	0.0169	0.0113	0.0536	0.0224	0.0267	0.0188	0.0835	0.04	0.042	0.011	0.023	0.0215	0.0098		0.771	
Mercury, total	mg/L	<0.000020	<0.000020		<0.000020			<0.000020	<0.000020					<0.0001	<0.0001		<0.00001	<0.000010		
Molybdenum, total	mg/L	0.0014	0.0012	0.00126	<0.0010	0.000448	0.00133	<0.0010	<0.0010	0.000392	0.000411	<0.002	<0.001	<0.001	<0.001	0.00045	0.00031		0.0012	
Nickel, total	mg/L	0.0017	0.0018	0.00136	0.0021	0.00135	0.00204	0.0011	0.0013	0.00131	0.00535	0.001	0.0015	0.0017	0.0012	0.001	0.001		0.0348	
Phosphorus, total	mg/L													0.18	<0.05	0.11	0.02		0.99	
Potassium, total	mg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<0.8	0.5	0.4	0.4	0.46	0.4		2.03	
Selenium, total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.001	<0.0004	0.0003	0.0002	<0.0002	<0.0006	<0.0006		0.00068	
Silver, total	mg/L	0.000027	0.000029	<0.000010	<0.000020	<0.000010	<0.000020	<0.000020	<0.000020	<0.000010	0.000021	<0.0002	<0.0001	<0.0001	<0.0001	<0.00001	0.00008		0.00172	
Sodium, total	mg/L	7.8	7.1	7	2.7	4.6	8.4	4.5	4.2	4	3.4	4.8	4.6	4.3	5	4.8	4.1		4.89	
Thallium, total	mg/L	<0.00020	<0.00020	<0.00010	<0.00020	<0.00010	<0.00010	<0.00020	<0.00020	<0.00010	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00001	<0.00001		0.00147	
Zinc, total	mg/L	<0.0050	<0.0050	<0.0010	<0.0050	<0.0030	<0.0060	<0.0050	<0.0050	<0.0010	0.0085	0.005	<0.001	0.004	0.008	0.007	0.004		0.073	
Aluminum, dissolved	mg/L	0.0184	0.0257	0.0223	0.0144	0.0056	0.007	0.0067	0.0067	0.0769	0.0252		0.008				0.012		0.0161	
Arsenic, dissolved	mg/L	<0.00050	<0.00050	0.00043	<0.00050	0.00039	0.00026	<0.00050	<0.00050	0.00042	0.00044		0.0005				0.0004		0.00053	
Cadmium, dissolved	mg/L	<0.000017	<0.000017	<0.000050	<0.000050	<0.000050	<0.000050	<0.000017	<0.000017	<0.000050	<0.00005		<0.00001				<0.00001		<0.000010	
Calcium, dissolved	mg/L	31.8	30.4	31.6	17.9	25.2	46.9	29	28.8	26.7	17.8	31.7	30				23.7		29.7	
Chromium, dissolved	mg/L	<0.0010	<0.0010	<0.00050	<0.0010	<0.00050	<0.0010	<0.0010	<0.0010	<0.00050	<0.0005		0.0006				0.0013		<0.0010	
Copper, dissolved	mg/L	0.005	0.0057	0.00608	0.0016	0.00101	0.00247	0.001	0.0011	0.00108	0.00175		0.001				0.002		0.00105	
Iron, dissolved	mg/L	0.306	0.421	0.39	0.072	<0.030	0.062	0.064	0.1	0.088	0.096		0.11				0.09		0.0679	
Lead, dissolved	mg/L	<0.00050	<0.00050	<0.000050	<0.00050	<0.000050	0.000083	<0.00050	<0.00050	<0.000050	<0.00005		<0.0001				<0.0001		<0.00020	
Magnesium, dissolved	mg/L	13.6	12.8	13.4	5.01	6.72	13.2	8.1	8.25	7.66	4.95	8.7	7.7				6.33		7.16	
Manganese, dissolved	mg/L	0.0657	0.102	0.112	0.00543	0.00324	0.0145	0.0211	0.0245	0.0162	0.00673		0.046				0.0099		0.0542	
Mercury, dissolved	mg/L	<0.000020	<0.000020		<0.000020			<0.000020	<0.000020								<0.00001		<0.000010	
Molybdenum, dissolved	mg/L	0.0013	0.0011	0.00122	<0.0010	0.000448	0.000818	<0.0010	<0.0010	0.000395	0.000305		<0.001				0.00027		<0.0010	
Nickel, dissolved	mg/L	0.0014	0.0014	0.00121	0.0015	0.00099	0.0006	0.0011	0.0012	0.00118	0.00182		0.0006				0.002		0.001	
Phosphorus, dissolved	mg/L																0.02		<0.01	
Potassium, dissolved	mg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2		0.6				0.4		0.52	
Selenium, dissolved	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.001		<0.0002				0.0012		0.00012	
Silver, dissolved	mg/L	<0.000020	<0.000020	<0.000010	<0.000020	<0.000010	<0.000020	<0.000020	<0.000020	<0.000010	<0.00001						<0.00001		<0.000020	
Sodium, dissolved	mg/L	8	7.7	7.5	2.8	4.8	7.3	4.6	4.4	4.5	3.3		4.8				4.27		4.31	
Thallium, dissolved	mg/L	<0.00020	<0.00020	<0.00010	<0.00020	<0.00010	<0.00010	<0.00020	<0.00020	<0.00010	<0.0001		<0.00005				<0.00001		<0.000050	
Zinc, dissolved	mg/L	<0.0050	<0.0050	0.0018	<0.0050	0.021	0.0025	<0.0050	<0.0050	0.0015	0.003		0.002				0.003		<0.0050	

Parameter	Units	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	
		30/08/2005	28/09/2005	15/10/2005	02/06/2006	08/06/2006	15/06/2006	23/06/2006	28/06/2006	07/07/2006	12/07/2006	20/07/2006	26/07/2006	02/08/2006	10/08/2006	25/08/2006	30/08/2006	06/09/2006	
pH (field)	pH units																		
pH (lab)	pH units	8.19	8.02	6.75	7.61			7.86	7.78	7.9	7.91	7.77	7.88	7.87	7.79	7.8	7.92	7.79	7.88
Hardness (from dissolved)	mg/L							100	122	107	110	110	130	128	128	126	129	132	130
Hardness (from total)	mg/L	109	107	106															
Total Dissolved Solids	mg/L	148	142	145	104			114	176	120	184						180	200	
Total Suspended Solids	mg/L	3	361	7.5	705			53	328	103	3	<2	2	9	4	<2		<2	4
Alkalinity, total	mg/L	113	95.9		49.4			95	130	106	120	120	122	121	125	125	131	129	129
Dissolved Organic Carbon	mg/L																		
Sulphate, dissolved	mg/L	6.02	5.62		2.98			10.5	15.1		10.8	10.4	10.5	11.6	10	10	11	10.5	10.3
Chloride	mg/L	<0.50	<0.50	<0.50	<0.5														
Fluoride	mg/L				0.155														
Nitrite (N)	mg/L	<0.0010	<0.0010	<0.0010	0.0015														
Nitrate (N)	mg/L	0.0226	0.0586	0.102	0.0449			0.18	0.23	0.112	0.205	0.18	0.19	0.18	0.15	0.16	0.12	0.11	0.08
Ammonia	mg/L	0.02	<0.020	0.021	0.062			0.027	0.028	0.01		0.014	0.012	0.016	0.015	0.014	0.027	0.012	0.011
Aluminum, total	mg/L	0.0436	1.65	0.0738	11.4	0.648		1.48	5.09	1.69	0.096	0.078	0.058	0.099	0.06	0.034	0.048	0.054	0.049
Arsenic, total	mg/L	0.00053	0.00149	0.00052	0.00496	0.00078		0.0008	0.0022	0.001	0.0004	0.0004	0.0005	0.0005	0.0006	0.0005	0.0004	0.0005	0.0004
Cadmium, total	mg/L	<0.000017	0.000061	<0.000050	0.000237	<0.000050		0.00002	0.00008	0.00003	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00002	<0.00001	<0.00001
Calcium, total	mg/L	27.8	27.8	25.5	23.9	20.4		25.4	34.5	27.4	31.2	31	31.8	33.9	32.9	34.6	31.8	30.8	31.1
Chromium, total	mg/L	<0.0010	0.0037	0.00062	0.0234	0.0016		0.0032	0.0091	0.0031	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	0.0008	0.0008
Copper, total	mg/L	0.0015	0.0061	0.00147	0.0225	0.00403		0.004	0.01	0.004	0.001	0.001	0.001	0.001	0.001	<0.001	<0.002	<0.001	0.001
Iron, total	mg/L	0.363	3.42	0.37	17.2	1.09		1.7	7.2	2.5	0.2	0.2	0.2	0.3	0.1	0.1	<0.2	0.1	0.1
Lead, total	mg/L	<0.00050	0.0011	0.000061	0.00547	0.00045		0.0006	0.002	0.0007	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0002	<0.0001	0.0002
Magnesium, total	mg/L	9.67	9.57	8.77	10.7	7.12		8.8	12.5	9.3	10.1	9.5	11.2	11.7	10.8	11.3	10	10.3	10.3
Manganese, total	mg/L	0.0368	0.314	0.0473	0.589	0.0645		0.079	0.226	0.086	0.035	0.035	0.042	0.051	0.033	0.04	0.039	0.035	0.035
Mercury, total	mg/L	<0.000020	<0.000020																
Molybdenum, total	mg/L	0.0011	<0.0010	0.000959	0.000988	0.000843		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	<0.002	0.001	0.001
Nickel, total	mg/L	0.0016	0.0068	0.00176	0.0275	0.00402		0.0052	0.0117	0.0042	0.0019	0.0014	0.0011	0.0009	0.001	0.0009	0.001	0.0013	0.0013
Phosphorus, total	mg/L				0.77														
Potassium, total	mg/L	<2.0	<2.0	<2.0	<2	<2		1.1	1.6	1.1	1	1	0.9	1.1	1	1.1	1.2	1	1
Selenium, total	mg/L	<0.0010	<0.0010	<0.0010	<0.001	<0.001		0.0002	0.0004	<0.0002	0.0002	0.0002	<0.0002	<0.0002	0.0005	<0.0002	<0.0004	<0.0002	0.0004
Silver, total	mg/L	<0.000020	<0.000020	<0.000010	0.000069	<0.00001		<0.0001	0.0003	<0.0001	<0.0001	<0.0001	<0.0001	0.0002	<0.0001	<0.0002	<0.0001	<0.0001	<0.0001
Sodium, total	mg/L	5.9	4.9	5.1	4.5	4.4		5.8	7	6	7.4	6.5	6.4	6.5	6.9	7.2	6.7	6.7	6.8
Thallium, total	mg/L	<0.00020	<0.00020	<0.00010	<0.0001	<0.0001		<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0001	<0.00005	<0.00005
Zinc, total	mg/L	<0.0050	0.0101	0.0017	0.0484	0.0048		0.006	0.022	0.006	<0.001	0.015	0.002	0.002	0.001	0.002	0.004	0.003	0.001
Aluminum, dissolved	mg/L	0.0156	0.0186	0.0155	0.0714			0.013	0.011	0.407	<0.005	0.006	0.006	0.008	0.008	0.009	0.012	0.013	0.005
Arsenic, dissolved	mg/L	0.00051	0.00054	0.00048	0.00062			0.0004	0.0005	0.0008	0.0006	0.0005	0.0004	0.0004	<0.0002	0.0005	0.0004	0.0004	0.0005
Cadmium, dissolved	mg/L	<0.000017	<0.000017	<0.000050	<0.00005			<0.00001	<0.00001	0.00003	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Calcium, dissolved	mg/L	27.8	27.4	27.1	14.4			26.9	31.8	22.8	26.5	26.9	33	33.4	33.3	32.9	32.4	33.6	33.5
Chromium, dissolved	mg/L	<0.0010	<0.0010	<0.00050	0.00055			<0.0005	0.0007	0.0015	0.0011	0.001	0.0007	<0.0005	<0.0005	0.0007	0.0006	0.0008	0.0008
Copper, dissolved	mg/L	0.0014	0.0016	0.00127	0.00212			0.001	<0.001	0.003	0.001	0.001	<0.001	0.002	0.001	0.001	0.001	0.002	0.002
Iron, dissolved	mg/L	0.292	0.32	0.253	0.546			0.09	0.09	0.06	0.06	0.06	0.11	0.1	0.07	0.08	0.08	0.1	0.1
Lead, dissolved	mg/L	<0.00050	<0.00050	<0.000050	0.000054			<0.0001	<0.0001	0.0005	<0.0001	<0.0001	0.0002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Magnesium, dissolved	mg/L	9.7	9.32	9.35	4.85			8.9	10.4	9.2	10.7	10.5	11.7	10.9	11	10.8	11.7	11.7	11.2
Manganese, dissolved	mg/L	0.0315	0.0414	0.0383	0.0882			0.044	0.043	0.011	0.023	0.022	0.042	0.044	0.033	0.039	0.037	0.038	0.036
Mercury, dissolved	mg/L	<0.000020	<0.000020																
Molybdenum, dissolved	mg/L	0.001	<0.0010	0.000925	0.000697			0.001	0.001	<0.001	0.002	0.001	0.001	<0.001	<0.001	0.001	0.001	0.001	0.001
Nickel, dissolved	mg/L	0.0015	0.0018	0.00146	0.0022			0.001	0.0013	0.0036	0.0015	0.0007	0.0006	0.0021	0.0006	0.0006	0.0009	0.0012	0.001
Phosphorus, dissolved	mg/L																		
Potassium, dissolved	mg/L	<2.0	<2.0	<2.0	<2			<0.4	1.1	0.8	0.8	0.9	1	1	1.1	1	0.9	1.2	0.8
Selenium, dissolved	mg/L	<0.0010	<0.0010	<0.0010	<0.001			0.0002	0.0003	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Silver, dissolved	mg/L	<0.000020	<0.000020	<0.000010	<0.00001			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Sodium, dissolved	mg/L	5.9	5.3	5.5	3.8			5.9	5.9	6.2	6.7	6.6	6.7	7	7.2	7.2	6.7	7.7	7.5
Thallium, dissolved	mg/L			<0.00010	<0.0001			<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Zinc, dissolved	mg/L	<0.0050	<0.0050	<0.0010	<0.001			<0.001	0.002	0.005	0.001	<0.001	<0.001	<0.001	0.001	0.003	0.005	0.002	

Parameter	Units	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7
		13/09/2006	20/09/2006	28/09/2006	04/10/2006	12/10/2006	05/06/2007	20/06/2007	18/07/2007	24/08/2007	18/09/2007	30/10/2007	22/04/2008	03/06/2008	17/06/2008	06/08/2008	18/09/2008	28/10/2008
pH (field)	pH units																	
pH (lab)	pH units	7.84	7.85	7.26	7.94	7.39	7.98	7.84	7.72	8.04	8	7.74	8.4	8.01	7.95	7.9	7.89	7.84
Hardness (from dissolved)	mg/L	130	132	129	126	132		110	128		110		186	92		123		123
Hardness (from total)	mg/L					108		126	122		130		97		123			
Total Dissolved Solids	mg/L			182		164	162	164	170	198	182	176	264	134	156	162	170	192
Total Suspended Solids	mg/L	5	3		2	4	76	6	4	4	20	3	<2	<2	10	92	28	4
Alkalinity, total	mg/L	128	127	128	122	130	118	116	128	139	124	128	187	94	115	128	82	108
Dissolved Organic Carbon	mg/L							8.2	14.3		11				9	17.4	11	
Sulphate, dissolved	mg/L	10	11	11	10.9	11.3	11	12.2	11.9	10.3	8.21	13	27.6	10.4	12.9	9.89	5.44	9.43
Chloride	mg/L						0.7	0.6	0.6	0.3	0.46	0.96	0.8	0.38	0.42	0.29	0.57	0.34
Fluoride	mg/L																	
Nitrite (N)	mg/L						<0.05	<0.05	<0.05	<0.05	<0.02	0.14	0.07	0.04	0.05	<0.01	<0.01	
Nitrate (N)	mg/L	0.094	0.11	0.08	0.1	0.12	<0.1	0.3	0.3	0.2	0.05	<0.02	<0.02	0.03	0.14	0.14	0.03	
Ammonia	mg/L	0.011	0.008	0.011	0.079	0.024	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Aluminum, total	mg/L	0.025	0.074	0.042	0.082	0.264	1.56	0.172	0.231	0.205	0.33	0.121	<0.02	0.4	0.21	0.817	0.469	0.084
Arsenic, total	mg/L	<0.0002	0.0005	<0.0004	0.0004	0.0004	0.0008	0.0004	0.0005	0.0003	0.0005	0.0004	0.0005	0.0007	0.0006	0.0006	0.0005	0.0004
Cadmium, total	mg/L	<0.00001	<0.00001	<0.00002	<0.00002	<0.00001	0.00003	<0.00001	0.00002	<0.00001	<0.00001	<0.00001	0.00004	<0.00007	<0.00007	<0.00008	0.00002	0.00002
Calcium, total	mg/L	32.2	32.4	32.5	31.6	33.5	26.4	30.2	32.2	31.2	27	33.5	40.2	24.4	29.2	31.5	23	32.4
Chromium, total	mg/L	<0.0005	<0.0005	<0.001	<0.001	0.0007	0.0031	0.0005	0.0008	0.0008	0.0011	0.0007	<0.0005	0.0028	0.0012	0.002	0.0022	0.0013
Copper, total	mg/L	<0.001	0.001	<0.002	<0.002	0.002	0.003	0.002	0.002	0.002	0.003	0.012	0.004	0.002	0.001	0.002	0.003	0.004
Iron, total	mg/L	<0.2	0.2	<0.2	<0.2	0.5	2	0.2	0.3	0.2	0.5	0.3	0.05	0.78	0.4	1.02	0.91	0.34
Lead, total	mg/L	<0.0001	0.0001	<0.0002	<0.0002	0.0002	0.0006	0.0001	0.0004	0.0001	0.0002	0.0023	<0.0001	0.0002	0.0001	0.0003	0.0003	0.0001
Magnesium, total	mg/L	11	11.7	11	11	11.8	10.2	9.8	11	10.7	9.5	11.2	19	8.68	10.1	10.8	7.62	11.6
Manganese, total	mg/L	0.033	0.042	0.037	0.038	0.063	0.126	0.044	0.03	0.033	0.034	0.054	0.0257	0.0693	0.0833	0.064	0.0347	0.0347
Mercury, total	mg/L						<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00001	<0.00001		<0.0001	<0.0001	<0.00001
Molybdenum, total	mg/L	<0.001	0.001	<0.002	<0.002	0.001	0.001	0.002	0.001	0.001	0.001	0.002	0.00165	0.00131	0.00148	0.001	0.00082	0.00107
Nickel, total	mg/L	0.0007	0.0014	0.002	0.002	0.0015	0.0033	0.0016	<0.0005	0.0014	0.0015	0.0008	<0.001	0.002	0.001	0.003	0.002	0.001
Phosphorus, total	mg/L						0.14	<0.05		<0.05	<0.05		0.02	0.05	0.06	0.04	0.04	0.016
Potassium, total	mg/L	0.9	0.9	1.1	0.9	1	1.1	1	1	1	0.9	1.6	2.56	0.94	1.01	1	0.68	0.9
Selenium, total	mg/L	0.0002	0.0004	0.0004	0.0006	<0.0002	<0.0002	0.0003	0.0004	<0.0002	<0.0002	0.0007	<0.0006	<0.0006	0.0008	<0.0002	0.0008	<0.0006
Silver, total	mg/L	<0.0001	<0.0001	<0.0002	<0.0002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.00001	0.00006	<0.00001
Sodium, total	mg/L	7.1	6.6	6.9	7	6.6	5.8	7.2	7.7	7.9	7.3	8.1	11.8	6.6	7.5	7	5.1	6.52
Thallium, total	mg/L	<0.00005	<0.00005	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00001	<0.00001	<0.00001	<0.00005	<0.00001	<0.00001
Zinc, total	mg/L	<0.001	0.005	0.008	<0.002	0.006	0.009	0.004	0.005	0.01	0.008	0.013	0.004	0.004	0.007	0.01	0.009	0.008
Aluminum, dissolved	mg/L	0.008	0.007	0.011	<0.005	0.007		0.014	0.011		0.007		<0.02	<0.01	0.02	0.014	0.07	0.009
Arsenic, dissolved	mg/L	0.0003	0.0005	0.0004	0.0003	0.0004		0.0004	0.0005		0.0004		<0.0002	<0.0002	<0.0002	0.0004	0.0003	0.0005
Cadmium, dissolved	mg/L	<0.00001	0.00028	<0.00001	<0.00001	<0.00001		<0.00001	<0.00001		<0.00001		<0.00008	<0.00008	<0.00008	<0.00001	<0.00001	<0.00001
Calcium, dissolved	mg/L	32.3	33.5	33.3	32.6	34		29.6	32		26.9		40.9	23.2		31.8	20	30.5
Chromium, dissolved	mg/L	0.0009	0.0007	0.0008	<0.0005	<0.0005		0.0006	0.001		0.0016		0.0012	0.0013	0.0013	0.0006	0.0016	0.0005
Copper, dissolved	mg/L	0.001	0.001	0.001	<0.001	0.001		0.002	0.002		0.001		<0.001	<0.001	0.001	0.002	0.004	0.001
Iron, dissolved	mg/L	0.11	0.09	0.08	0.11	0.09		0.05	0.04		0.08		<0.02	0.05	0.07	0.07	0.2	0.078
Lead, dissolved	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		<0.0001	<0.0001		<0.0001		<0.0001	<0.0001	<0.0001	<0.0001	0.0017	<0.0001
Magnesium, dissolved	mg/L	11.4	11.6	11.1	10.9	11.4		9.8	11.6		9.8		20.4	8.39		10.6	6.63	11.4
Manganese, dissolved	mg/L	0.03	0.04	0.035	0.035	0.043		0.031	0.019		0.018		0.025	0.0418	0.0682	0.02	0.0198	0.0338
Mercury, dissolved	mg/L							<0.0001	<0.0001		<0.0001		<0.00001	<0.00001		<0.0001	<0.00001	<0.00001
Molybdenum, dissolved	mg/L	0.001	0.001	0.001	0.001	0.001		0.001	0.001		0.002		0.00161	0.00124	0.00149	0.001	0.00072	0.00108
Nickel, dissolved	mg/L	0.0009	<0.0005	0.0008	0.0007	0.0006		<0.0005	0.0007		0.0008		<0.001	0.001	0.001	0.001	0.001	0.001
Phosphorus, dissolved	mg/L												<0.01			<0.05	0.02	<0.01
Potassium, dissolved	mg/L	0.9	1	1.1	1.1	1.1		1	0.9		0.9		2.68	0.84		1	0.53	0.8
Selenium, dissolved	mg/L	<0.0002	0.0002	<0.0002	<0.0002	0.0003		<0.0002	<0.0002		<0.0002		<0.0006	<0.0006	0.0022	<0.0002	<0.0006	<0.0006
Silver, dissolved	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		<0.0001	<0.0001		<0.0001		<0.00001	<0.00001	<0.00001	<0.00006	<0.00001	<0.00001
Sodium, dissolved	mg/L	7.4	6.6	7.4	7.3	7.4		7.4	7.6		7.2		12.6	6.82		7.4	4.92	6.4
Thallium, dissolved	mg/L	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005		<0.00005	<0.00005		<0.00005		<0.00001	<0.00001	<0.00001	<0.00005	<0.00001	<0.00001
Zinc, dissolved	mg/L	0.001	<0.001	0.002	0.001	0.002		0.004	0.006		0.002		0.001	0.002	0.002	0.006	0.003	0.001

Parameter	Units	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7
		30/04/2009	08/06/2009	28/07/2009	06/08/2009	31/08/2009	07/10/2009	25/10/2009	19/04/2010	27/04/2010	29/04/2010	01/05/2010	03/05/2010	05/05/2010	07/05/2010	09/05/2010	10/05/2010	12/05/2010
pH (field)	pH units	7.6	7.74		7.5		8.24	8.23	7.31	7.65	7.72	7.15	7.74	7.95	8.03	8.06		
pH (lab)	pH units	6.84	7.9	8.07	8.35		7.87	8.1	7.81	7.6	7.5	7.7	7.7	7.8	7.8	8	8.1	8
Hardness (from dissolved)	mg/L	20	93	137	121	110	123	126		36.3	36.2	40.8	44.9	49.1	56.9	79.9	80.9	81.6
Hardness (from total)	mg/L							141	80	35	36.2	43.6	46.2	55.1	56	71	90.3	84.6
Total Dissolved Solids	mg/L	52	156	184	202		180	130	142	62	62	74	80	76	62	130	130	100
Total Suspended Solids	mg/L	<2	32	4	2		7	<4	<7	<4	<4	15	12	12	18	<4	<4	<4
Alkalinity, total	mg/L	12	95	128	159		116	130	82	32	31	40	42	53	58	86	83	83
Dissolved Organic Carbon	mg/L	17.6	9.2				6.9	8.7		22.7	19.3	19	22.2	14.5	12.8	13.2	11.7	10.4
Sulphate, dissolved	mg/L	0.65	8.6	13	13		9.9		8.2	7	<5	<5	<0.5	<0.5	<0.5	9.1	3.9	5.4
Chloride	mg/L	0.38	4.1	0.82	0.39		0.61		0.91	1.4	0.9	1.2	0.8	0.9	0.8	1.2	0.6	<0.5
Fluoride	mg/L									0.08	0.09	0.11	0.11	0.13	0.13	0.22	0.2	0.11
Nitrite (N)	mg/L						<0.005			<0.005	<0.01	0.008	<0.005	<0.005	0.007	<0.005	0.006	<0.005
Nitrate (N)	mg/L				0.18		0.12	0.15		<0.02	<0.04	0.07	<0.02	<0.02	0.1	0.07	0.13	0.03
Ammonia	mg/L							0.01		0.015	0.016	0.031	0.016	<0.01	0.051	<0.005	0.015	<0.05
Aluminum, total	mg/L	0.138	0.595		0.071		0.189	0.052	0.033	0.113	0.11	0.502	0.406	0.394	0.407	0.183	0.125	0.123
Arsenic, total	mg/L	<0.0002	0.0005		0.0007		0.0004	0.0004	0.0004	0.0003	0.0004	0.0006	0.0007	0.0007	0.0005	0.0004	0.0005	0.0004
Cadmium, total	mg/L	0.00008	0.00001		<0.00001		0.00091	0.00001	0.00001	0.00003	0.00002	0.00002	0.00003	0.00004	0.00003	0.00005	0.00011	0.00009
Calcium, total	mg/L	5.54	27		35.1		34.2	35.7	20.5	9.35	9.54	11.5	12.3	14.3	14.7	18.2	23.3	22.1
Chromium, total	mg/L	0.0012	0.0014		0.0009		0.0014	<0.001	0.0004	<0.001	<0.001	0.002	0.001	0.001	<0.001	0.001	<0.001	<0.001
Copper, total	mg/L	0.013	0.003		0.001		0.006	0.0021	0.006	0.0055	0.0037	0.0074	0.0045	0.0058	0.0045	0.0147	0.0059	0.0075
Iron, total	mg/L	0.19	0.92		0.126		0.357	0.141	0.104	0.211	0.259	0.902	0.983	1.14	0.92	0.468	0.452	0.378
Lead, total	mg/L	0.0002	0.0003		0.0004		0.0015	<0.0002	0.0001	<0.0002	<0.0002	0.0003	0.0003	0.002	0.0003	0.0003	0.0003	0.0002
Magnesium, total	mg/L	1.97	9.53		12.2		11.9	12.6	7.53	2.83	3.01	3.62	3.78	4.7	4.7	6.2	7.83	7.14
Manganese, total	mg/L	0.0153	0.0449		0.0278		0.0346	0.029	0.0207	0.007	0.01	0.03	0.033	0.03	0.039	0.016	0.018	0.021
Mercury, total	mg/L	0.00002	<0.00001				<0.00001	<0.00002	<0.00001	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Molybdenum, total	mg/L	0.00016	0.00141		0.0015		0.0013	0.002	0.0008	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.001
Nickel, total	mg/L	<0.001	0.002		0.001		0.002	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.003	0.002	0.002	0.001
Phosphorus, total	mg/L	0.09	<0.05		0.011		<0.05		0.1			0.052		0.058	0.049	0.027	0.03	0.022
Potassium, total	mg/L	1.5	0.9		1.1		0.7	1.02	2.1	1.01	0.9	0.81	0.72	0.72	0.68	0.74	0.91	0.98
Selenium, total	mg/L	<0.0006	<0.0006		<0.0006		<0.0006	0.0001	<0.0006	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.0002	0.0001
Silver, total	mg/L	<0.00001	0.00002		0.00002		<0.00001	<0.00002	<0.00001	<0.00002	<0.00002	<0.00002	0.00003	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Sodium, total	mg/L	1.29	6.08		7.17		7.38	7.41	5.17	1.89	1.91	2.25	2.55	3.03	3.01	3.97	5.1	4.83
Thallium, total	mg/L	<0.00001	<0.00001		<0.00001		<0.00001	<0.00005	<0.00001	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Zinc, total	mg/L	0.008	0.002		0.003		0.008	<0.005	0.008	<0.005	<0.005	<0.005	<0.005	0.007	<0.005	<0.005	0.005	0.007
Aluminum, dissolved	mg/L	0.053	0.013			0.01		0.007	0.019	0.075	0.065	0.053	0.047	0.038	0.028	0.023	0.021	0.017
Arsenic, dissolved	mg/L	<0.0002	0.0003			0.0004		0.0003	0.0003	0.0003	0.0003	0.0004	0.0004	0.0005	0.0004	0.0004	0.0004	0.0004
Cadmium, dissolved	mg/L	0.00008	<0.00001			<0.00001		0.00004	0.00002	<0.00001	<0.00001	0.00002	<0.00001	<0.00001	0.00001	<0.00001	0.00002	<0.00001
Calcium, dissolved	mg/L	5.23	23.8			29.1		32.6	19.9	9.79	9.79	11	12	12.9	14.7	20.5	20.7	21.1
Chromium, dissolved	mg/L	0.0006	<0.0004			0.0012		<0.001	0.0004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper, dissolved	mg/L	0.005	0.002			0.004		0.0012	0.006	0.0041	0.0034	0.0032	0.0027	0.0025	0.0026	0.0018	0.0022	0.0016
Iron, dissolved	mg/L	0.07	0.05			0.1		0.046	0.09	0.15	0.18	0.26	0.378	0.574	0.359	0.297	0.276	0.173
Lead, dissolved	mg/L	0.0001	<0.0001			0.0004		<0.0002	0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Magnesium, dissolved	mg/L	1.68	8.18			9.9		10.8	7.3	2.87	2.86	3.26	3.67	4.09	4.9	6.97	7.08	7.06
Manganese, dissolved	mg/L	0.0114	0.0129			0.0128		0.024	0.0188	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Mercury, dissolved	mg/L	0.00001	<0.00001			<0.00001		<0.00002	<0.00001	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.00002
Molybdenum, dissolved	mg/L	0.00013	0.00127			0.0011		0.001	0.0008	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001
Nickel, dissolved	mg/L	<0.001	0.001			0.001		<0.001	<0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.001	0.001	0.001
Phosphorus, dissolved	mg/L	0.06	0.01			0.03		0.02				0.023		0.021	0.017	0.014	0.013	<0.01
Potassium, dissolved	mg/L	1.5	0.7			0.9		0.95	2.1	1.04	0.9	0.71	0.64	0.57	0.68	0.78	0.8	0.77
Selenium, dissolved	mg/L	<0.0006	<0.0006			<0.0006		0.0002	<0.0006	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0001
Silver, dissolved	mg/L	<0.00001	<0.00001			<0.00001		<0.00002	<0.00001	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Sodium, dissolved	mg/L	1.2	5.3			6.8		6.68	5	1.86	1.92	2.22	2.6	2.85	3.35	4.54	4.69	4.6
Thallium, dissolved	mg/L	<0.00001	<0.00001			<0.00001		<0.00005	<0.00001	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Zinc, dissolved	mg/L	0.009	0.002			0.001		<0.005	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

Parameter	Units	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7
		14/05/2010	16/05/2010	17/05/2010	19/05/2010	21/05/2010	23/05/2010	25/05/2010	27/05/2010	29/05/2010	31/05/2010	02/06/2010	04/06/2010	06/06/2010	14/06/2010	16/06/2010	18/06/2010	20/06/2010
pH (field)	pH units	7.26	7.32	7.52	7.62	8.02	7.61	7.24	7.53	7.73	7.83	7.26	7.48		6.78	7.03	7.1	
pH (lab)	pH units	8.1	8.3	8.2	8.2	8.1	8.1	7.9	8	8.2	8.2	8.2	8.2	8.2	8.29	8.3	8.17	8.2
Hardness (from dissolved)	mg/L	72.6	85.6	80.4	98.6	91.5	98.1	125	113	111	109	113	111	128	122	120	122	112
Hardness (from total)	mg/L	71.4	76.3	75.6	103	95.6	103	124	148	129	130	676	125	133	128	128	123	118
Total Dissolved Solids	mg/L	130	120	130	120	120	150	140	140	160	160	140	140	170	150	150	140	140
Total Suspended Solids	mg/L	15	12	11	4	22	33	140	350	200	290	81	60	39	43	17	28	33
Alkalinity, total	mg/L	73	260	80	98	96	100	100	110	110	120	120	130	130	130	130	130	120
Dissolved Organic Carbon	mg/L	9.2	8.8	7.2	7.5	8.7	8.2	8.1	8.1	6.3	7.2	4.9	6.4		5.9	6.1	6.2	7.6
Sulphate, dissolved	mg/L	5.2	7.6	5.6	9.7	9.3	9.9	11	12	12	12	12	13	12	13	14	12	10
Chloride	mg/L	<0.5	0.6	<0.5	<0.5	0.8	1	0.8	<0.5	0.7	0.7	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	0.5
Fluoride	mg/L	0.18	0.2	0.19	0.25	0.26	0.28	0.28	0.3	0.32	0.32	0.31	0.31	0.32	0.35	0.35	0.34	0.31
Nitrite (N)	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	0.006	0.025	<0.005	0.011	0.023	0.023	0.014	0.013	<0.005	<0.005	<0.005	0.008
Nitrate (N)	mg/L	<0.02	0.03	<0.02	0.06	0.05	0.06	0.08	0.13	0.22	0.12	0.14	0.16	0.16	0.16	0.17	0.15	0.13
Ammonia	mg/L	0.034	0.068	0.037	0.02	0.017	0.013	0.07	0.052	0.1	<0.05	<0.01	0.34	0.1	0.016	0.016		
Aluminum, total	mg/L	0.286	0.207	0.219	0.105	0.457	2.14	4.2	10.3	3.93	4.54	2.91	1.64	2.05	1.1	0.43	0.504	1.17
Arsenic, total	mg/L	0.0004	0.0004	0.0005	<0.001	0.0005	0.0014	0.002	0.006	0.0025	0.0027	0.0016	0.0012	0.0013	0.0009	0.0005	0.0006	0.0009
Cadmium, total	mg/L	0.00005	0.00005	0.00001	0.00001													
Calcium, total	mg/L	18.2	19.8	19.6	25.6	24	25	28	31	31	31	33	31	33	31	31	30	29
Chromium, total	mg/L	<0.001	0.001	<0.001	0.001	<0.002	0.004	0.01	0.025	0.01	0.011	0.008	0.004	0.006	0.002	<0.002	<0.002	0.003
Copper, total	mg/L	0.0055	0.0031	0.0035	0.0049	0.003	0.008	0.013	0.027	0.013	0.013	0.008	0.009	0.006	0.004	0.002	0.002	0.006
Iron, total	mg/L	0.556	0.369	0.405	0.248	0.628	3.49	5.54	15.6	6.13	6.96	4.39	2.42	3.12	1.62	0.573	0.768	1.74
Lead, total	mg/L	0.0002	<0.0002	0.0002	<0.0002	0.0002	0.0013	0.0018	0.0052	0.0025	0.0028	0.0014	0.001	0.0012	0.0006	<0.0002	0.0003	0.0007
Magnesium, total	mg/L	6.29	6.52	6.47	9.58	8	10	13	17	13	13	13	11	12	12	12	11	11
Manganese, total	mg/L	0.042	0.037	0.045	0.019	0.035	0.13	0.158	0.391	0.248	0.226	0.148	0.081	0.091	0.073	0.036	0.042	0.059
Mercury, total	mg/L	<0.00002	<0.0002	<0.0002	<0.00002	<0.0002	<0.0002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.0002		<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum, total	mg/L	<0.001	<0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Nickel, total	mg/L	0.003	0.001	0.001	<0.003	0.002	0.007	0.008	0.03	0.013	0.015	0.009	0.006	0.006	0.004	0.002	0.002	0.004
Phosphorus, total	mg/L	0.041	0.031	0.024														
Potassium, total	mg/L	0.71	0.72	0.77	0.96	<1	1	2	3	2	2	2	1	2	1	1	1	1
Selenium, total	mg/L	0.0001	0.0001	0.0002	0.0002	<0.0008	<0.0008	<0.001	<0.001	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008
Silver, total	mg/L	<0.00002	<0.00002	<0.00002	<0.00002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Sodium, total	mg/L	4.05	4.02	3.92	6.7	5	5	8	8	6	7	8	7	7	7	7	7	7
Thallium, total	mg/L	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00005	0.00017	0.00006	0.00007	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Zinc, total	mg/L	<0.005	<0.005	<0.005	<0.005	<0.01	0.012	0.017	0.049	0.021	0.023	0.011	<0.01	0.011	<0.01	<0.01	<0.01	<0.01
Aluminum, dissolved	mg/L	0.096	0.012	0.018	0.016	0.013	0.017	0.024	0.028	0.017	0.02	0.012	0.013	<0.01	0.011	<0.01	<0.01	0.014
Arsenic, dissolved	mg/L	0.0004	0.0003	0.0004	0.0003	<0.0004	<0.0004	<0.001	<0.001	0.0005	<0.0004	0.0004	0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
Cadmium, dissolved	mg/L	0.00001	<0.00001	<0.00001	<0.00001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium, dissolved	mg/L	18.7	22.3	20.9	24.4	24	25	30	27	29	27	29	29	33	31	30	30	28
Chromium, dissolved	mg/L	<0.001	<0.001	<0.001	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Copper, dissolved	mg/L	0.0031	0.0013	0.0012	0.0017	0.001	0.001	0.003	0.003	0.002	0.002	0.001	0.001	0.001	<0.001	<0.001	<0.001	0.001
Iron, dissolved	mg/L	0.339	0.08	0.068	0.069	0.057	0.069	0.062	0.069	0.051	0.05	0.03	0.03	0.024	0.025	0.026	0.023	0.028
Lead, dissolved	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Magnesium, dissolved	mg/L	6.27	7.28	6.82	9.16	8	9	12	11	10	10	10	10	11	11	11	11	10
Manganese, dissolved	mg/L	0.039	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.014	0.015	0.012	<0.001	0.001	0.004	0.002	0.004	<0.001	0.003
Mercury, dissolved	mg/L	<0.00002	<0.0002	<0.0002	<0.00002	<0.0002	<0.0002	<0.00002	<0.00002	<0.00002	<0.00002	<0.0002	<0.0002		<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum, dissolved	mg/L	<0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Nickel, dissolved	mg/L	0.002	<0.001	<0.001	<0.001	0.001	0.001	<0.003	<0.003	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Phosphorus, dissolved	mg/L		<0.01	<0.01	<0.01													
Potassium, dissolved	mg/L	0.71	0.8	0.78	0.85	<1	<1	1	1	1	<1	<1	<1	1	1	1	1	<1
Selenium, dissolved	mg/L	0.0001	0.0001	0.0001	0.0003	<0.0008	<0.0008	<0.001	<0.001	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008
Silver, dissolved	mg/L	<0.00002	<0.00002	<0.00002	<0.00002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Sodium, dissolved	mg/L	4.05	4.75	4.36	6.6	6	6	8	8	6	7	6	6	7	8	7	7	7
Thallium, dissolved	mg/L	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Zinc, dissolved	mg/L	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Parameter	Units	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7
		22/06/2010	24/06/2010	26/06/2010	28/06/2010	05/07/2010	05/08/2010	12/09/2010	08/10/2010	27/04/2011	02/05/2011	01/06/2011	16/06/2011	01/07/2011	02/08/2011	16/08/2011	19/08/2011	12/09/2011
pH (field)	pH units	7.92	7.95	8.03	7.89	8.02	7.91	8.02	7.85									
pH (lab)	pH units	8.03	8.03	8.26	8.03	8.06	8.09	7.98	8.1	7.41	7.11	8.09	8	7.76	7.67	7.9	8.12	8.03
Hardness (from dissolved)	mg/L	97.6	99.7	106	114	92.5	118	107	111	42.6	31.8	92.3	97.4	77.1	58.9	97.6	93	118
Hardness (from total)	mg/L	115	116	106	107	106	116	102	126	42.6	33.1	94	108	87.5	85.8	96.8	93.4	119
Total Dissolved Solids	mg/L	140	130	120	150	150	170	210	150	72	40	120	130	120	110	150	140	170
Total Suspended Solids	mg/L	300	64	21	9	53	11	11	3	<1	7	23	85	150	400	22	22	1
Alkalinity, total	mg/L	110	110	120	120	100	120	100	120	34	27	96	92	73	54	94	92	110
Dissolved Organic Carbon	mg/L	10.4	10.2	9.3	8.7	16.1	13.2	16.7	12.7	23	22	10.7	12.6	21.1	24.2	18.3	18.8	13.2
Sulphate, dissolved	mg/L	8.2	6.4	7.8	9.7	2.5		6.4	8.8	<5	<5	6.1		<0.5				
Chloride	mg/L	<0.5	<0.5	<0.5	<0.5	<0.5		0.7	<0.5	1.9	1.7	0.5			1.8			1.3
Fluoride	mg/L	0.25	0.28	0.3	0.29	0.22	0.36	0.22	0.23	0.1	0.08	0.24			0.14			
Nitrite (N)	mg/L	<0.005	0.007	<0.005	<0.005	<0.005		<0.005	<0.005	<0.005	<0.005		<0.005	0.007	<0.005	<0.005	<0.005	<0.005
Nitrate (N)	mg/L	0.12	0.07	0.1	0.13	0.07		0.03	0.07	<0.02	<0.02		0.1	0.05	0.06	0.06	0.04	0.05
Ammonia	mg/L	0.014	0.012	0.009	0.022	0.027		0.039	0.069	0.01		0.012	0.013	0.016		0.015	0.006	0.025
Aluminum, total	mg/L	5.52	1.21	0.503	0.298	1.59	0.22	0.273	0.064	0.101	0.25	0.454	2.48	3.4	9.23	0.403	0.444	0.08
Arsenic, total	mg/L	0.0029	0.0013	0.0005	0.0005	0.0011	0.0005	0.0005	0.0002	0.0003	0.0003	0.0005	0.0014	0.0025	0.0037	0.001	0.0009	0.0008
Cadmium, total	mg/L								0.00003	0.00005	0.00005	0.00002	0.00008	0.00022	0.00017	0.00004	0.00002	0.00005
Calcium, total	mg/L	28	27	26	28	27	29	27	32.2	10.9	8.66	22.9	26.4	22.2	20.7	25.4	24.1	30.1
Chromium, total	mg/L	0.012	0.003	<0.002	<0.002	0.003	<0.002	<0.002	<0.001	<0.001	<0.001	0.001	0.005	0.009	0.021	0.001	0.001	<0.001
Copper, total	mg/L	0.014	0.005	0.002	0.002	0.01	0.003	0.003	0.0017	0.0119	0.0285	0.0027	0.0075	0.0127	0.0197	0.0143	0.0028	0.0024
Iron, total	mg/L	8.61	2.05	0.761	0.491	2.4	0.428	0.594	0.26	0.187	0.452	0.775	4.02	6.28	13.8	1.25	1.21	0.738
Lead, total	mg/L	0.0031	0.0006	0.0003	0.0003	0.0008	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	0.0012	0.0021	0.0035	0.0004	0.0002	<0.0002
Magnesium, total	mg/L	11	12	10	9	9	10	9	11.1	3.72	2.78	8.93	10.2	7.82	8.29	8.1	8.05	10.6
Manganese, total	mg/L	0.26	0.067	0.032	0.021	0.078	0.029	0.026	0.036	0.03	0.039	0.035	0.097	0.162	0.304	0.081	0.078	0.083
Mercury, total	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Molybdenum, total	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	<0.001	0.001	<0.001	<0.001	0.001	0.001	0.001	<0.001	<0.001	<0.001	0.001
Nickel, total	mg/L	0.016	0.006	0.002	0.002	0.005	0.003	0.002	0.002	<0.001	0.001	0.002	0.008	0.012	0.019	0.003	0.003	0.002
Phosphorus, total	mg/L									0.067		0.043	0.226	0.267	0.412	0.058	0.043	0.033
Potassium, total	mg/L	2	1	<1	<1	<1	<1	<1	0.77	1.88	1.46	0.86	1.04	0.76	1.11	0.53	0.47	0.6
Selenium, total	mg/L	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0001	<0.0001	<0.0001	0.0001	0.0002	0.0003	0.0003	0.0001	0.0001	0.0002
Silver, total	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00002	<0.00002	<0.00002	<0.00002	0.00004	0.00008	<0.00002	<0.00002	<0.00002	<0.00002
Sodium, total	mg/L	6	8	6	6	6	6	5	6.52	2.16	1.51	5.45	5.94	5.16	4.04	4.64	4.62	6.09
Thallium, total	mg/L	0.00007	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00008	<0.00005	<0.00005	<0.00005
Zinc, total	mg/L	0.027	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.005	<0.005	0.019	<0.005	0.013	0.016	0.029	0.017	<0.005	<0.005
Aluminum, dissolved	mg/L	0.033	0.018	0.012	<0.01	0.019	0.011	0.016	0.011	0.057	0.076	0.013	0.022	0.034	0.051	0.036	0.033	0.024
Arsenic, dissolved	mg/L	0.0005	<0.0004	0.0004	<0.0004	<0.0004	0.0004	0.0005	0.0004	0.0003	0.0002	0.0003	0.0004	0.0007	0.0007	0.0007	0.0008	0.0007
Cadmium, dissolved	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00001	0.00003	0.00004	<0.00001	<0.00001	0.00001	0.00002	<0.00001	0.00001	0.00001
Calcium, dissolved	mg/L	25	25	26	29	23	30	28	29.2	11.2	8.48	23.5	24.9	20.6	15.6	26	24.2	30.8
Chromium, dissolved	mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper, dissolved	mg/L	0.002	0.001	0.001	0.001	0.002	0.002	0.001	0.0012	0.0077	0.007	0.0016	0.0019	0.0031	0.0041	0.0019	0.002	0.0016
Iron, dissolved	mg/L	0.082	0.056	0.038	0.028	0.104	0.112	0.231	0.127	0.148	0.169	0.099	0.207	0.441	0.614	0.593	0.556	0.616
Lead, dissolved	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Magnesium, dissolved	mg/L	9	9	10	10	8	10	9	9.34	3.57	2.57	8.19	8.56	6.25	4.85	7.96	7.89	10.1
Manganese, dissolved	mg/L	0.001	0.001	0.003	0.002	0.003	0.023	0.017	0.027	0.027	0.021	0.011	0.011	0.037	0.064	0.054	0.06	0.079
Mercury, dissolved	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.00005	<0.00002	<0.00002	<0.00002	<0.00002
Molybdenum, dissolved	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	<0.001	<0.001	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel, dissolved	mg/L	0.001	0.001	0.004	<0.001	0.001	0.001	0.002	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.002	0.002	0.002
Phosphorus, dissolved	mg/L									0.048		0.011	0.014	0.017	0.02	0.023	0.032	0.023
Potassium, dissolved	mg/L	<1	<1	<1	<1	<1	<1	<1	0.71	1.75	1.39	0.85	0.67	0.39	0.29	0.46	0.41	0.62
Selenium, dissolved	mg/L	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	<0.0008	0.0001	<0.0001	<0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Silver, dissolved	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Sodium, dissolved	mg/L	6	6	7	7	6	6	5	5.34	2.12	1.43	5.09	5.67	4.4	3.69	4.81	4.58	5.73
Thallium, dissolved	mg/L	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Zinc, dissolved	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.005	0.005	0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

Parameter	Units	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7	W7
		06/10/2011	22/11/2011	24/01/2012	25/02/2012	05/03/2012	24/04/2012	06/05/2012	19/06/2012	17/07/2012	30/07/2012	08/08/2012	23/08/2012	13/09/2012	16/10/2012	02/11/2012	29/12/2012	30/04/2013
pH (field)	pH units				7.2	6.72	7.43	7.1	7.59	7.76	7.86	8.44	7.79	7.98	7.89	8.0	8.18	
pH (lab)	pH units	8.07	7.96	8.1	8.0	8.17	7.63	5.74	8.12	8.15	8.2	8.26	8.25	8.13	8.17	7.93	8.1	8.27
Hardness (from dissolved)	mg/L	110	148	169	165	161	38.7	46.4	91.8	128	135	141	142	116	129	158	223	192
Hardness (from total)	mg/L	113	144	158	160	159	37	44.7	105	124	128	141	151	121	143	153	206	198
Total Dissolved Solids	mg/L	150	156	226	216	176	100	88	128	164	180	192	200	154	166	214	262	246
Total Suspended Solids	mg/L	<4	26.7	<4.0	<4.0	3.2	11.2	4.2	165	34.1	9.2	3.3	1.5	15.3	9.9	2.2	<1.0	5.8
Alkalinity, total	mg/L	120	134	165	155	154	36.2	8.45	87.4	128	138	143	147	115	132	150	207	187
Dissolved Organic Carbon	mg/L	11.7	7.73	5.33	6.08	5.17	13.6	17	16.2	13.3	12.7	12.6	10.3	16.3	12.6	8.19	10.2	4.64
Sulphate, dissolved	mg/L	8.9		18	17.8	19	<0.50	<0.50	<0.50	4.63	5.31	5.43	5.23	3.85	7.47	14.4	29.1	24.1
Chloride	mg/L	1	0.8	0.8	0.9	0.5	1.4	<0.50	1.1	0.96	0.58	1.2	1.2	1.2	1.2	0.82	1.9	1.4
Fluoride	mg/L			0.43	0.42	0.42	0.1	0.12	0.17	0.23	0.28	0.29	0.27	0.18	0.19	0.29	0.43	0.53
Nitrite (N)	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	0.0101	<0.0050	0.0148	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Nitrate (N)	mg/L	0.11	0.136	0.324	0.289	0.195	<0.020	<0.020	0.083	0.089	0.124	0.13	0.21	0.078	0.125	0.219	0.063	0.132
Ammonia	mg/L	0.019	0.0214	0.005	0.006	0.0067	<0.0050	0.011	0.18	0.065	0.13	0.014	0.049	0.0087	0.028	0.026	0.025	0.0082
Aluminum, total	mg/L	0.065	0.407	0.01	0.018	0.043	0.766	0.131	5.38	0.93	0.2	0.0828	0.0342	0.139	0.127	0.0576	0.0127	0.0111
Arsenic, total	mg/L	0.0005	0.0006	0.0004	0.0003	0.0004	0.00074	0.00049	0.02232	0.00118	0.00095	0.00085	0.00093	0.0007	0.00065	0.00058	0.00042	0.00019
Cadmium, total	mg/L	0.00001	0.00025	0.00001	0.00003	0.00001	0.000029	0.000016	0.000119	0.000034	0.000014	<0.000010	<0.000010	<0.000010	<0.000010	0.000015	0.000015	<0.000010
Calcium, total	mg/L	28.4	36.4	39.5	41	39.7	9.61	11.1	26.4	31.7	32.1	35.7	39.1	31.2	36	37.3	49.6	47.8
Chromium, total	mg/L	<0.001	0.001	<0.001	<0.001	<0.001	0.0015	<0.0010	0.0112	0.0024	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Copper, total	mg/L	0.0012	0.0108	0.0013	0.0055	0.0068	0.00635	0.00373	0.0102	0.0035	0.0045	0.00108	0.00134	0.00208	0.00144	0.00231	0.0028	0.0021
Iron, total	mg/L	0.49	0.865	0.113	0.043	0.108	1.32	0.572	7.88	2.28	1.32	1.13	1.12	1.15	0.995	0.289	0.0724	0.0288
Lead, total	mg/L	<0.0002	0.0008	<0.0002	<0.0002	<0.0002	0.00029	<0.00020	0.00178	0.00026	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Magnesium, total	mg/L	10.2	12.8	14.5	13.9	14.6	3.17	4.12	9.46	11	11.6	12.7	13	10.5	13	14.4	19.9	19
Manganese, total	mg/L	0.073	0.093	0.06	0.004	0.005	0.0582	0.0145	0.199	0.0937	0.0683	0.0626	0.0627	0.126	0.101	0.103	0.0405	0.053
Mercury, total	mg/L	<0.00002	<0.000020	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Molybdenum, total	mg/L	0.001	0.001	0.001	0.001	0.001	<0.0010	<0.0010	0.0012	0.0015	0.0014	0.0014	0.0016	<0.0010	0.0012	0.0013	0.0012	0.0013
Nickel, total	mg/L	0.001	0.002	<0.001	<0.001	<0.001	0.0019	0.0014	0.0107	0.0032	0.0025	0.0016	0.0016	0.0022	0.0023	0.0014	0.0016	<0.0010
Phosphorus, total	mg/L	0.023	0.077	0.014	0.012	0.016	0.048	0.034	0.222	0.074	0.044	0.036	0.035	0.034	0.046	0.023	0.022	<0.01
Potassium, total	mg/L	0.62	1.09	1.57	1.51	1.46	1.2	0.912	1.09	0.824	1.14	0.894	0.929	0.589	0.748	1.16	2.29	1.95
Selenium, total	mg/L	0.0001	0.0002	0.0003	0.0003	0.0004	<0.00010	0.00011	0.0002	0.00019	0.00022	0.00028	0.00017	0.00021	0.0002	0.00023	0.00032	0.00042
Silver, total	mg/L	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.000020	<0.000020	0.00003	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Sodium, total	mg/L	5.59	6.69	8.39	8.08	8.36	1.84	2.53	5.45	6.4	6.83	7.25	7.39	6	7.25	7.87	11.7	10.1
Thallium, total	mg/L	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.000050	<0.000050	0.00005	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Zinc, total	mg/L	<0.005	0.009	<0.005	<0.005	<0.005	<0.0050	<0.0050	0.015	<0.0050	0.0063	<0.0050	<0.0050	0.0055	<0.0050	0.0062	<0.0050	<0.0050
Aluminum, dissolved	mg/L	0.013	0.0076	0.0053	0.0211	0.0031	0.0499	0.0442	0.0265	0.0197	0.0171	0.0184	0.0178	0.0239	0.0114	0.0095	0.0061	0.0031
Arsenic, dissolved	mg/L	0.0006	0.0004	0.00041	0.00033	0.00039	0.00048	0.00044	0.0007	0.00086	0.00095	0.001	0.00088	0.00074	0.0006	0.00053	0.00051	0.00025
Cadmium, dissolved	mg/L	0.00003	<0.000010	0.000035	0.000064	<0.000010	0.000023	0.000016	<0.000010	0.000012	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	0.000031	<0.000010	<0.000010
Calcium, dissolved	mg/L	27.9	38.3	43	41.2	41.2	10.2	11.9	23.5	33	33.9	35.9	35.7	30.1	33.2	39.3	56.1	46.8
Chromium, dissolved	mg/L	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Copper, dissolved	mg/L	0.0012	0.00109	0.00114		0.00122	0.00523	0.00273	0.00163	0.00127	0.00123	0.00112	0.0017	0.00244	0.00094	0.00236	0.00232	0.00108
Iron, dissolved	mg/L	0.346	0.167	0.0944	0.0488	0.0124	0.475	0.462	0.56	0.965	0.964	1.06	0.978	0.734	0.603	0.183	0.0301	0.0143
Lead, dissolved	mg/L	<0.0002	<0.00020	<0.00020	0.00024	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00021	<0.00020	<0.00020
Magnesium, dissolved	mg/L	9.89	12.8	14.9	15.1	14.2	3.2	4.04	8.07	11	12.1	12.6	13	9.91	11.2	14.6	20.2	18.3
Manganese, dissolved	mg/L	0.07	0.0626	0.0614	0.007	0.0015	0.0486	0.0113	0.0433	0.0366	0.0534	0.0554	0.057	0.0956	0.073	0.101	0.0374	0.0528
Mercury, dissolved	mg/L	<0.00002	<0.000020	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Molybdenum, dissolved	mg/L	0.001	0.0013	0.0015	0.0014	0.0011	<0.0010	<0.0010	0.0013	0.0015	0.0015	0.0016	0.0016	<0.0010	0.0011	0.0013	0.0012	0.0013
Nickel, dissolved	mg/L	0.001	0.0012	<0.0010	<0.0010	<0.0010	0.0012	0.0012	0.002	0.0016	0.0015	0.0017	0.0016	0.0036	0.0015	0.0012	0.0011	<0.0010
Phosphorus, dissolved	mg/L	0.015	0.014	0.012	0.031	<0.01	0.027	0.021	0.02	0.035	0.032	0.033	0.031	0.023	0.021	0.031	<0.01	<0.01
Potassium, dissolved	mg/L	0.62	0.864	1.6	1.63	1.5	1.18	0.948	0.583	0.791	0.833	0.882	0.942	0.567	0.675	1.34	2.54	1.92
Selenium, dissolved	mg/L	0.0001	0.00016	0.00043	0.00034	0.00031	<0.00010	<0.00010	0.00015	0.00013	0.00016	0.00014	0.00015	0.00014	0.00014	0.00018	0.00045	0.00043
Silver, dissolved	mg/L	<0.00002	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Sodium, dissolved	mg/L	5.68	6.99	8.72	8.86	8.03	1.9	2.44	5.29	6.55	6.98	7.09	7.35	5.77	6.34	8.07	12.2	10.1
Thallium, dissolved	mg/L	<0.00005	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Zinc, dissolved	mg/L	<0.005	<0.0050	<0.0050	0.0083	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050

Parameter	Units	W7	W7	W7	W7	W7	W7	W7	W7	W8	W8	W8	W8	W8	W8	W9	W9	W9
		14/05/2013	19/06/2013	13/07/2013	21/08/2013	06/09/2013	21/10/2013	16/11/2013	07/12/2013	27/05/2005	30/06/2005	29/07/2005	30/08/2005	28/09/2005	15/10/2005	27/05/2005	30/06/2005	29/07/2005
pH (field)	pH units	8.2	8.6	7.74	7.81	7.75	7.58	7.69	6.30									
pH (lab)	pH units	7.58	8.07	8.1	8.23	8.02	8.16	8.24	8.14	7.8	7.8	7.45	8.1	8.0	7.06	7.6	7.6	7.51
Hardness (from dissolved)	mg/L	33.3	114	132	140	138	147	153	168									
Hardness (from total)	mg/L	36.4	115	137	144	154	126	164	189	62.3		116	99.8	95	99.4	49.4		95.3
Total Dissolved Solids	mg/L	70	164	156	172	280	168	164	220	111	144	141	147	135	140	104	126	129
Total Suspended Solids	mg/L	55.3	10.1	5	3.8	11.8	7.4	1.5	<1.0	<3.0	<3.0	24.7	<3.0	<3.0	5.5	<3.0	<3.0	3.7
Alkalinity, total	mg/L	29.4	113	127	143	140	138	153	166	174	89		99.2	74.7		142	56.1	
Dissolved Organic Carbon	mg/L	15.3	10.5	9.88	9.84	11	11.9	7.47	7.3									
Sulphate, dissolved	mg/L	<0.50	7.87	9.73	8.32	5.66	10.3	15.1	16.7	166	<1		5.1	7.72		35.3	18.4	
Chloride	mg/L	1.5	1.1	0.99	0.93	1.3	1.3	1	1.2	<0.50	0.86	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50
Fluoride	mg/L	0.064	0.25	0.26	0.27	0.24	0.25	0.35	0.31									
Nitrite (N)	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0010	<0.0010	<0.0010	0.0011	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Nitrate (N)	mg/L	<0.020	0.141	0.17	0.157	0.128	0.168	0.257	0.206	0.0225	<0.0050	<0.0050	<0.0050	<0.0050	0.0374	<0.0050	<0.0050	<0.0050
Ammonia	mg/L	0.066	0.04	0.023	0.051	0.017	0.048	0.027	0.025	<0.020	0.041	<0.020	0.023	<0.020	0.026	<0.020	0.02	<0.020
Aluminum, total	mg/L	1.34	0.213	0.127	0.137	0.37	0.0931	0.0389	0.0098	0.0506	0.0807	0.033	0.0688	0.0509	0.116	0.0732	0.0401	0.0478
Arsenic, total	mg/L	0.00072	0.00058	0.00063	0.0007	0.00099	0.00061	0.00052	0.00059	<0.00050	0.00048	0.00047	0.00052	<0.00050	0.00054	<0.00050	0.00058	0.00061
Cadmium, total	mg/L	0.000025	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	0.000013	<0.000050	<0.000050	<0.000050	<0.000017	<0.000017	<0.000050	<0.000050	<0.000050	<0.000050
Calcium, total	mg/L	9.61	29.7	35.1	35.8	38.7	31.8	39.8	46.7	16.9	24.3	30.9	25.6	24.7	25.1	12.9	18.9	25.1
Chromium, total	mg/L	0.0027	<0.0010	<0.0010	<0.0010	0.0014	<0.0010	<0.0010	<0.0010	<0.0010	0.00073	0.00056	<0.0010	<0.0010	<0.00050	<0.0010	<0.00050	0.0006
Copper, total	mg/L	0.0084	0.00191	0.00143	0.00138	0.0017	0.00119	0.00124	0.00141	0.0143	0.0103	0.00891	0.0094	0.0088	0.0104	0.0035	0.0021	0.00345
Iron, total	mg/L	2.2	0.657	0.631	0.619	1.48	0.683	0.296	0.227	0.23	0.503	0.435	0.722	0.706	0.887	0.277	0.799	0.894
Lead, total	mg/L	0.00046	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00050	0.000066	0.000059	<0.00050	<0.00050	0.000064	<0.00050	<0.000050	0.000099
Magnesium, total	mg/L	3	9.92	12.1	13.3	13.9	11.3	15.6	17.5	5.03	7.57	9.43	8.04	7.45	7.41	4.1	6.04	7.18
Manganese, total	mg/L	0.164	0.042	0.0336	0.0492	0.102	0.0934	0.0906	0.162	0.00512	0.0445	0.0268	0.0447	0.0487	0.24	0.00703	0.0432	0.0638
Mercury, total	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000020			<0.000020	<0.000020		0.000023		
Molybdenum, total	mg/L	<0.0010	0.0014	0.0016	0.0016	0.0013	0.0011	0.0017	0.0013	<0.0010	0.000512	0.000565	<0.0010	<0.0010	0.00171	<0.0010	0.000356	0.00112
Nickel, total	mg/L	0.0029	0.0019	0.0017	0.0014	0.0019	0.0016	<0.0010	0.001	0.0018	0.00172	0.00146	0.0018	0.0017	0.00109	0.0013	0.00125	0.00152
Phosphorus, total	mg/L	0.116	0.028	0.027	0.028	0.044	0.027	0.026	0.021									
Potassium, total	mg/L	1.18	0.872	0.856	0.951	0.968	0.754	1.14	1.52	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Selenium, total	mg/L	0.00011	0.00012	0.0002	0.00014	0.00017	0.00021	0.00017	0.00019	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Silver, total	mg/L	<0.000020	<0.000020	0.000024	<0.000020	<0.000020	<0.000020	<0.000020	0.000046	<0.000020	<0.000010	<0.000010	<0.000020	<0.000020	<0.000010	<0.000020	<0.000010	<0.000010
Sodium, total	mg/L	1.5	6.28	7.03	7.75	8.11	6.34	8.83	10.1	2.6	4.5	3.9	3.8	3.7	4.5	2.3	4.2	3.8
Thallium, total	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.00020	<0.00010	<0.00010	<0.00020	<0.00020	<0.00010	<0.00020	<0.00010	<0.00010
Zinc, total	mg/L	0.0059	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0020	0.0011	<0.0050	<0.0050	0.0011	<0.0050	<0.0050	<0.0040
Aluminum, dissolved	mg/L	0.0436	0.0134	0.0138	0.0122	0.016	0.0093	0.0053	0.0035	0.0427	0.0193	0.0201	0.0259	0.0305	0.0258	0.0718	0.0345	0.0298
Arsenic, dissolved	mg/L	0.00029	0.00051	0.00053	0.00056	0.00081	0.00067	0.00048	0.00053	<0.00050	0.00043	0.00045	<0.00050	<0.00050	0.0005	<0.00050	0.00054	0.00057
Cadmium, dissolved	mg/L	0.00001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000050	<0.000050	<0.000050	<0.000017	<0.000017	<0.000050	<0.000050	<0.000050	<0.000050
Calcium, dissolved	mg/L	8.81	30	34.9	35.2	34.9	38	39.4	43.3	16.6	24.8	30.9	26.3	25.3	26.8	12.9	18.9	25.9
Chromium, dissolved	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.00061	0.00052	<0.0010	<0.0010	<0.00050	<0.0010	<0.00050	<0.00050
Copper, dissolved	mg/L	0.00365	0.00124	0.00121	0.00101	0.00113	0.00111	0.0008	0.00078	0.0141	0.00942	0.00863	0.0081	0.0081	0.00561	0.0035	0.00184	0.00334
Iron, dissolved	mg/L	0.306	0.291	0.416	0.3	0.663	0.549	0.169	0.109	0.194	0.249	0.352	0.544	0.556	0.711	0.251	0.53	0.647
Lead, dissolved	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00050	<0.000050	<0.000050	<0.00050	<0.00050	<0.000050	<0.00050	<0.000050	0.000185
Magnesium, dissolved	mg/L	2.75	9.47	11	12.7	12.3	12.6	13.3	14.5	5.05	7.68	9.39	8.28	7.73	7.92	4.18	6.05	7.46
Manganese, dissolved	mg/L	0.103	0.0339	0.026	0.0355	0.081	0.1	0.0809	0.143	0.00284	0.0142	0.0206	0.0296	0.0387	0.223	0.00696	0.0378	0.057
Mercury, dissolved	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000020			<0.000020	<0.000020		0.000038		
Molybdenum, dissolved	mg/L	<0.0010	0.0016	0.0015	0.0015	0.0013	0.0012	0.0016	0.0011	<0.0010	0.000547	0.000589	<0.0010	<0.0010	0.00169	<0.0010	0.000365	0.00108
Nickel, dissolved	mg/L	0.001	0.0012	0.0013	0.0012	0.0016	0.0012	<0.0010	<0.0010	0.0018	0.00144	0.00157	0.0016	0.0015	0.00096	0.0013	0.00119	0.00132
Phosphorus, dissolved	mg/L	0.027	0.019	0.016	0.017	0.026	0.025	0.017	<0.01									
Potassium, dissolved	mg/L	1.03	0.955	0.91	0.934	0.887	0.878	1.15	1.38	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Selenium, dissolved	mg/L	<0.00010	0.00019	0.00015	0.00015	0.00017	0.00017	0.00024	0.00024	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Silver, dissolved	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000010	<0.000010	<0.000020	<0.000020	0.000031	<0.000020	<0.000010	<0.000010
Sodium, dissolved	mg/L	1.52	5.88	6.52	7.34	7.31	7.03	7.71	8.17	2.6	4.5	3.9	3.9	3.9	4.8	2.3	4.1	4
Thallium, dissolved	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.00020	<0.00010	<0.00010	<0.00020	<0.00020	<0.00010	<0.00020	<0.00010	<0.00010
Zinc, dissolved	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0012	0.0019	<0.0050	<0.0050	<0.0010	<0.0050	<0.0010	0.004

Parameter	Units	W9	W9	W9	W10	W10	W10	W10	W10	W10	C4	C4	C4	C4	C4	C4	C4	C4
		29/08/2005	28/09/2005	15/10/2005	27/05/2005	30/06/2005	29/07/2005	29/08/2005	28/09/2005	15/10/2005	06/05/2012	01/08/2012	08/08/2012	25/08/2012	22/06/2013	19/07/2013	22/08/2013	06/09/2013
pH (field)	pH units										7.51	7.75	7.81	7.81	7.68	8.20	7.88	7.69
pH (lab)	pH units	7.8	7.6	7.2	7.5	7.31	7.34	7.74	7.77	7.3	7.59	8.04	8.14	7.94	7.97	8.12	7.98	7.93
Hardness (from dissolved)	mg/L										43.9	117	125	130	126	128	123	125
Hardness (from total)	mg/L	73.6	67.8	64.4	46.3		54.9	70	101	100	119	133	142	173	222	200	199	166
Total Dissolved Solids	mg/L	126	118	111	115	116	105	117	141	138	84	166	170	192	204	184	182	176
Total Suspended Solids	mg/L	<3.0	<3.0	<3.0	<3.0	6	4.2	13	14.5	6.5	1260	246	253	855	886	487	784	172
Alkalinity, total	mg/L	57.7	44			41.5		79.1	92.3		40.1	115	126	128	120	125	118	120
Dissolved Organic Carbon	mg/L										10.5	16.2		0.25	17.4		18.9	15.1
Sulphate, dissolved	mg/L	17.9	16.7			<10		1.82	4.13		<0.50	3.37	<5.0	2.19	10.6	7.45	4.75	4.27
Chloride	mg/L	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	<0.50	0.54	0.89	<5.0	1.4	1.4	1.5	1.5	1.3
Fluoride	mg/L										0.14	0.2	0.22	0.22	0.27	0.27	0.21	0.19
Nitrite (N)	mg/L	0.0016	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0050	0.0177	0.012	<0.0050	0.0066	0.0069	0.0084	<0.0050
Nitrate (N)	mg/L	<0.0050	<0.0050	<0.0050	0.0094	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.029	0.074	0.095	<0.020	0.371	0.082	0.086	0.07
Ammonia	mg/L	0.026	<0.020	<0.020	0.027	0.036	<0.020	0.033	<0.020	<0.020	0.088	0.089	0.09	0.005	0.36	0.26	0.2	0.12
Aluminum, total	mg/L	0.0564	0.0642	0.0622	0.151	0.142	2.59	0.587	0.0818	0.089	29.7	7.06	7.01	4.45	20.4	13.5	13.8	5.43
Arsenic, total	mg/L	0.00064	0.00051	0.00042	<0.00050	0.00076	0.00095	<0.00050	<0.00050	0.0003	0.0125	0.00497	0.00635	0.00759	0.0123	0.00864	0.00939	0.00462
Cadmium, total	mg/L	<0.000017	<0.000017	<0.000050	<0.000050	<0.000050	0.000097	0.000038	<0.000017	<0.000050	0.000416	0.000114	0.000107	0.000202	0.000317	0.000209	0.000308	0.000066
Calcium, total	mg/L	18.3	17.2	15.6	12.9	13.1	15.5	18.5	25.4	24	23.9	34.3	36.5	45.6	55.7	54	51	43.1
Chromium, total	mg/L	<0.0010	<0.0010	0.00051	<0.0010	0.00069	0.00499	0.0012	<0.0010	<0.00050	0.06	0.0135	0.0148	0.0079	0.0426	0.0287	0.0268	0.0107
Copper, total	mg/L	0.002	0.0024	0.00214	0.02	0.00534	0.0138	0.0056	0.0035	0.0045	0.0585	0.0167	0.015	0.0218	0.0479	0.0323	0.0347	0.0103
Iron, total	mg/L	1.01	0.783	0.543	0.113	1.01	2.84	0.681	0.097	0.121	45.8	13.9	16.1	18.2	36.2	24.4	26.2	11
Lead, total	mg/L	<0.00050	<0.00050	<0.000050	<0.00050	0.000388	0.00178	<0.00050	<0.00050	<0.000050	0.0126	0.00303	0.00371	0.00439	0.00977	0.00631	0.00784	0.00208
Magnesium, total	mg/L	6	5.52	5.17	3.25	3.71	5	6.02	8.84	8.41	14.4	11.5	12.3	14.3	20.2	15.8	17.3	14.2
Manganese, total	mg/L	0.0669	0.0485	0.0363	0.00326	0.0457	0.174	0.0422	0.00236	0.00586	0.936	0.868	1	1.32	1.24	0.913	1.25	0.732
Mercury, total	mg/L	<0.000020	<0.000020		<0.000020			<0.000020	<0.000020		<0.000010	<0.000010	<0.000010	<0.000010	0.000018	0.000015	0.000033	<0.000010
Molybdenum, total	mg/L	<0.0010	<0.0010	0.000349	<0.0010	0.000177	0.000273	<0.0010	<0.0010	0.000277	0.0015	<0.0010	0.001	<0.0010	0.0023	0.002	0.0014	0.0014
Nickel, total	mg/L	0.0013	0.0012	0.00105	0.0018	0.00191	0.00411	0.0016	<0.0010	0.00086	0.0498	0.0139	0.0151	0.0179	0.0483	0.0314	0.0352	0.0124
Phosphorus, total	mg/L										1.11	0.41	0.478	0.657	1.28	0.591	1.01	0.342
Potassium, total	mg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	3.02	1.34	1.45	1.19	2.77	2.21	2.02	1.5
Selenium, total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.00069	0.00019	0.00021	0.00016	0.00059	0.00071	0.00053	0.00016
Silver, total	mg/L	<0.000020	<0.000020	<0.000010	<0.000020	<0.000010	<0.000030	<0.000020	<0.000020	<0.000010	0.00021	0.000056	0.000051	0.00002	0.000074	0.000087	0.000063	0.000021
Sodium, total	mg/L	3.5	3.1	2.9	<2.0	3.6	4.7	5.3	5.4	4.4	3.45	5.22	5.55	5.64	7.08	6.66	6.83	6.74
Thallium, total	mg/L	<0.00020	<0.00020	<0.00010	<0.00020	<0.00010	<0.00010	<0.00020	<0.00020	<0.00010	0.000244	0.000063	0.000066	<0.000050	<0.000050	0.000122	0.000103	0.000053
Zinc, total	mg/L	<0.0050	<0.0050	<0.0010	<0.0050	0.0289	0.017	0.0071	<0.0050	0.0014	0.0961	0.0272	0.0279	0.0325	0.0872	0.0502	0.0597	0.0172
Aluminum, dissolved	mg/L	0.0449	0.0578	0.056	0.135	0.113	0.0683	0.0433	0.0302	0.0361	0.0622	0.059	0.0425	0.04	0.0342	0.0317	0.0455	0.0405
Arsenic, dissolved	mg/L	0.00058	<0.00050	0.00039	<0.00050	0.00059	0.00037	<0.00050	<0.00050	0.0003	0.00104	0.00184	0.00203	0.00197	0.00225	0.00207	0.00179	0.00196
Cadmium, dissolved	mg/L	0.000022	<0.000017	<0.000050	<0.000050	<0.000050	<0.000050	<0.000017	<0.000017	<0.000050	0.000029	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Calcium, dissolved	mg/L	19.1	17.7	16.6	13.1	13.1	14.7	18.2	25.8	25.4	12	31.9	33.7	35	35	36	33.1	34.2
Chromium, dissolved	mg/L	<0.0010	<0.0010	<0.00050	<0.0010	0.00062	<0.00050	<0.0010	<0.0010	<0.00050	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Copper, dissolved	mg/L	0.0017	0.0022	0.00209	0.0184	0.00472	0.00437	0.004	0.0033	0.00412	0.00314	0.00181	0.00132	0.00176	0.0017	0.00137	0.00143	0.00161
Iron, dissolved	mg/L	0.67	0.602	0.438	0.106	0.401	0.099	0.081	0.048	0.055	1.11	1.5	1.6	1.68	1.2	1.56	1.44	1.78
Lead, dissolved	mg/L	<0.00050	<0.00050	<0.000050	<0.00050	0.000082	0.000112	<0.00050	<0.00050	<0.000050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Magnesium, dissolved	mg/L	6.3	5.69	5.55	3.31	3.68	4.39	5.95	8.93	8.98	3.4	9.12	9.81	10.3	9.29	9.31	9.87	9.52
Manganese, dissolved	mg/L	0.0606	0.0451	0.0335	0.00042	0.0299	0.00483	0.00447	0.00069	0.000385	0.243	0.622	0.683	0.682	0.405	0.385	0.448	0.495
Mercury, dissolved	mg/L	<0.000020	<0.000020		<0.000020			<0.000020	<0.000020		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Molybdenum, dissolved	mg/L	<0.0010	<0.0010	0.000313	<0.0010	0.000144	0.000137	<0.0010	<0.0010	0.000241	<0.0010	0.0011	0.0011	0.0012	0.0018	0.0017	0.0013	0.001
Nickel, dissolved	mg/L	0.0012	0.0011	0.00096	0.0016	0.00179	0.00123	0.0016	<0.0010	0.00073	0.0023	0.0031	0.0027	0.0029	0.0027	0.0025	0.0027	0.0028
Phosphorus, dissolved	mg/L										0.037	0.049	0.047	0.06	0.041	0.04	0.043	0.048
Potassium, dissolved	mg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	0.895	0.754	0.759	0.989	0.983	0.845	0.776	0.777
Selenium, dissolved	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00010	0.00011	0.00011	<0.00010	0.00013	0.00012	0.00012	<0.00010
Silver, dissolved	mg/L	<0.000020	<0.000020	<0.000010	<0.000020	<0.000010	<0.000010	<0.000020	<0.000020	<0.000010	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Sodium, dissolved	mg/L	3.6	3.2	3.1	<2.0	3.5	4.7	5.4	5.4	4.7	2.4	4.95	5.16	5.21	5.62	5.66	5.49	5.28
Thallium, dissolved	mg/L	<0.00020	<0.00020	<0.00010	<0.00020	<0.00010	<0.00010	<0.00020	<0.00020	<0.00010	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Zinc, dissolved	mg/L	<0.0050	<0.0050	0.0017	0.0085	0.0223	0.0074	0.0052	<0.0050	0.0015	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050

Parameter	Units	C4	C4	C10	C10	C10	C10	C10	C10	C10	C10	C10
		18/10/2013	17/11/2013	12/05/2012	30/07/2012	10/08/2012	27/08/2012	22/06/2013	23/07/2013	22/08/2013	08/09/2013	18/10/2013
pH (field)	pH units	7.16	7.17	7.89	8.16	8.71	8.3	8.29	8.31	8.18	8.16	7.78
pH (lab)	pH units	8.24	7.9	7.73	8.23	8.11	8.37	8.26	8.19	8.23	8.13	8.25
Hardness (from dissolved)	mg/L	129	258	67.2	130	135	141	148	125	160	150	136
Hardness (from total)	mg/L	139	264	215	207	245	264	151	156	168	162	160
Total Dissolved Solids	mg/L	220	272	132	180	216	184	192	174	218	206	212
Total Suspended Solids	mg/L	16.3	22.4	2210	995	1320	1650	43.4	199	65.5	21.7	61.2
Alkalinity, total	mg/L	126	244	65.1	132	146	154	143	133	159	151	136
Dissolved Organic Carbon	mg/L	12.5	31.6	13.3	17.8		17.8	15.3		17.2	16.2	14.3
Sulphate, dissolved	mg/L	38.1	6.33	<0.50	<0.50	<0.50	<0.50	0.97	<0.50	<0.50	<0.50	3.24
Chloride	mg/L	2.4	2.4	1.1	1.2	0.75	2	1.3	1.3	1.6	1.3	1.5
Fluoride	mg/L	0.2	0.29	0.2	0.29	4	0.24	0.21	0.21	0.21	0.2	0.17
Nitrite (N)	mg/L	<0.0050	<0.050	0.0114	0.0229	0.0111	0.0086	0.0198	<0.050	0.0072	0.007	<0.0050
Nitrate (N)	mg/L	0.065	<0.20	0.047	0.184	0.184	0.095	0.152	<0.20	0.135	0.192	0.167
Ammonia	mg/L	0.08	0.28	0.18	0.2	0.12	<0.0050	0.19	0.14	0.056	0.055	0.1
Aluminum, total	mg/L	0.358	0.0856	39.6	21.3	21.1	24.8	1.31	4.86	0.947	0.483	1.14
Arsenic, total	mg/L	0.00151	0.00545	0.0208	0.0123	0.0124	0.0156	0.00203	0.00386	0.00213	0.00194	0.00177
Cadmium, total	mg/L	0.000012	0.000022	0.000982	0.000365	0.000486	0.000526	0.000019	0.000071	0.000016	0.000093	0.00002
Calcium, total	mg/L	36.9	70.5	51.2	56.3	67.1	72.2	44.4	45.1	49.5	48	46.8
Chromium, total	mg/L	0.0013	0.0015	0.0779	0.0385	0.0378	0.0455	0.0022	0.0095	0.0019	0.0012	0.0024
Copper, total	mg/L	0.00263	0.00357	0.1	0.0527	0.0597	0.0624	0.00492	0.0114	0.00344	0.00237	0.00355
Iron, total	mg/L	2.1	14.7	73.2	37.5	38.9	45.6	3.18	9.35	2.95	2.64	3.33
Lead, total	mg/L	<0.00020	<0.00020	0.0214	0.00995	0.0125	0.013	0.0006	0.00212	0.00044	0.00025	0.00054
Magnesium, total	mg/L	11.3	21.5	21.1	16.2	18.8	20.2	9.68	10.6	10.7	10.3	10.4
Manganese, total	mg/L	0.425	3.19	2.09	0.947	1.31	1.7	0.0986	0.407	0.11	0.174	0.321
Mercury, total	mg/L	<0.000010	<0.000010	<0.000010	0.000062	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Molybdenum, total	mg/L	<0.0010	0.0011	0.0021	0.0021	0.0017	0.0023	0.0012	0.0012	<0.0010	<0.0010	<0.0010
Nickel, total	mg/L	0.0029	0.0077	0.074	0.041	0.0467	0.0524	0.0044	0.0099	0.0038	0.0032	0.0038
Phosphorus, total	mg/L	0.065	0.158	2.08	0.967	1.15	1.39	0.083	0.239	0.073	0.067	0.105
Potassium, total	mg/L	0.833	1.05	4.64	3.36	3.11	3.37	1.46	1.71	1.18	1.17	1.1
Selenium, total	mg/L	0.00011	0.00027	0.00116	0.00073	0.00057	0.00086	0.0001	0.00024	0.00013	0.00014	0.00015
Silver, total	mg/L	0.000124	<0.000020	0.000337	0.0002	0.000187	0.000217	<0.000020	0.000021	<0.000020	<0.000020	0.000068
Sodium, total	mg/L	6.01	8.09	4.3	6.41	6.4	6.32	6.32	6.52	6.49	6.4	6.3
Thallium, total	mg/L	<0.000050	<0.000050	0.000369	0.000202	0.000202	0.000241	<0.000050	0.000067	<0.000050	<0.000050	<0.000050
Zinc, total	mg/L	<0.0050	<0.0050	0.186	0.0956	0.105	0.119	0.0055	0.0198	<0.0050	<0.0050	0.0054
Aluminum, dissolved	mg/L	0.0249	0.033	0.0583	0.0571	0.0505	0.0262	0.0785	0.0252	0.0197	0.0241	0.0108
Arsenic, dissolved	mg/L	0.00107	0.00559	0.0012	0.00142	0.00134	0.00149	0.00123	0.00116	0.00141	0.00158	0.00089
Cadmium, dissolved	mg/L	<0.000010	0.000022	0.000018	<0.000010	<0.000010	<0.000010	0.000019	<0.000010	<0.000010	0.00001	<0.000010
Calcium, dissolved	mg/L	34.5	72.1	19.9	38.8	39.8	41.8	45.1	37.4	48	44.8	40.1
Chromium, dissolved	mg/L	<0.0010	0.0013	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0017	<0.0010
Copper, dissolved	mg/L	0.00118	0.00095	0.00212	0.00198	0.00189	0.00148	0.00313	0.00135	0.00134	0.00133	0.00091
Iron, dissolved	mg/L	1.16	14.2	1.55	1.15	0.883	1	0.802	0.54	0.992	1.28	0.761
Lead, dissolved	mg/L	<0.00020	<0.00020	0.00025	0.00067	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Magnesium, dissolved	mg/L	10.4	18.8	4.24	8.1	8.59	8.82	8.63	7.65	9.84	9.37	8.73
Manganese, dissolved	mg/L	0.408	3.09	0.305	0.189	0.252	0.27	0.0628	0.154	0.063	0.139	0.187
Mercury, dissolved	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Molybdenum, dissolved	mg/L	0.0012	0.0011	<0.0010	0.0014	0.0019	0.0011	0.0012	0.001	0.0015	<0.0010	<0.0010
Nickel, dissolved	mg/L	0.0025	0.0061	0.0019	0.0023	0.0022	0.0023	0.0025	0.0022	0.0023	0.0025	0.0019
Phosphorus, dissolved	mg/L	0.036	0.117	0.035	0.039	0.034	0.038	0.053	0.025	0.032	0.043	0.027
Potassium, dissolved	mg/L	0.762	0.985	1.08	0.921	0.824	1.02	1.45	0.848	0.979	1.03	0.844
Selenium, dissolved	mg/L	<0.00010	0.00024	0.0001	0.00014	0.0001	0.00012	0.00011	<0.00010	<0.00010	<0.00010	<0.00010
Silver, dissolved	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Sodium, dissolved	mg/L	5.38	8.06	2.95	5.64	5.34	5.26	6.07	5.75	6.05	5.79	5.44
Thallium, dissolved	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Zinc, dissolved	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0104	<0.0050	<0.0050	<0.0050	<0.0050