Appendix 5.1.2.4B
Groundwater Quality
2012 - 2014 Baseline Report

Blackwater Gold Project

Groundwater Quality
2012-2014 Baseline Report

Prepared for:
New Gold Inc.
Suite 1800 – 555 Burrard Street
Vancouver, BC V7X 1M9

Prepared by:
AMEC Environment and Infrastructure
a division of AMEC Americas Ltd.
Suite 600, 4445 Lougheed Hwy
Burnaby, BC V5C 5A9

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ACRONYMS

Abbreviations and Units of Measure	Definition
ALS	ALS Laboratory Group
avg.	Average
BC	British Columbia
BC MOE	British Columbia Ministry of Environment
bg	Background
$CaCO_3$	calcium carbonate
CCME	Canadian Council of Ministers of the Environment
ClO	Chlorine
D	Dissolved
Ft	Feet
H_2S	hydrogen sulphide
Knight Piésold	Knight Piésold Consulting
LL	low level
LSA	Local Study Area
M	Metre
max,	Maximum
MeHg	Methylmercury
µg/L	micrograms per litre
µS/cm	microSiemens per centimetre
mg/L	milligrams per litre
NAG	non-acid generating
NTU	Nephelometric Turbidity Units
%	Percent
Project (the)	proposed Blackwater Gold Project
PVC	polyvinyl chloride
QA/QC	Quality Assurance / Quality Control
RSA	Regional Study Area
T	total
TDS	total dissolved solids
TCU	True Color Units
TKN	Total Kjeldahl Nitrogen
TRC	Total Residual Chlorine
TSF	Tailings Storage Facility
WAD	weak acid dissociable

EXECUTIVE SUMMARY

For the groundwater quality baseline program, 13 sets of wells were installed in 2012—deep and shallow piezometers. The wells were strategically placed to provide baseline results from up-gradient of the proposed mine site as well as from downstream for capturing potential future mine activity–impacted groundwater. The sampling started in May 2012 and has been ongoing on a quarterly basis.

Most of the analytical results show typical groundwater quality with no anomalies regarding potential groundwater contamination. High total dissolved solid (TDS) and turbidity values in some wells indicate more purging of the wells may be required. Except for measured concentrations of aluminum, lead, arsenic, iron, and manganese, the measured substance concentrations in the groundwater baseline samples meet the applicable AWWQG guidelines. However, the values measured slightly above the guidelines are not deemed to be material.

Baseline groundwater monitoring is continuing to provide a robust dataset to compare to operational and closure results.

1.0 INTRODUCTION

The Groundwater Quality Baseline Report identifies results of groundwater sampling and chemical analysis completed for the proposed Blackwater Gold Project (the Project). The first phase of groundwater chemical quality monitoring was conducted in May 2012. Since that time, groundwater monitoring has continued quarterly. The analysis for this document is based on five data sets, based on this document preparation cutoff date, however six data sampling events are available now. The main objective of this report is to document baseline groundwater chemical quality information obtained using piezometers installed within the proposed mine site footprint as shown on **Figure 2.1-1** based on the results of the five quarterly monitoring rounds completed.

1.1 Scope of Work

The scope of the baseline groundwater chemical quality assessment work was to:

- Install groundwater monitoring wells (piezometers) within and near the proposed mine site footprint;
- Monitor groundwater conditions during five quarterly groundwater monitoring rounds using the piezometers;
- Review the groundwater monitoring chemical analysis results;
- Assess groundwater chemical quality with respect to applicable standards and criteria; and
- Prepare this baseline report that documents the activities and their results.

1.2 Objectives

The objectives of the baseline groundwater chemical quality assessment were to:

- Help characterize baseline groundwater chemical quality within the predicted area of impact for the proposed mine development and operations;
- Help assess groundwater chemical quality to assist with the design of Project facilities and monitoring programs; and
- Identify groundwater chemical quality information to assist with baseline and effects assessments for the hydrogeology discipline and other disciplines, such as aquatic and fish resources and wetland habitats.

This baseline assessment was designed to identify groundwater quality–related data in the area of the proposed mine. The baseline assessment monitoring program was designed based on information identified by mine plans and complies with guidance identified by BC Ministry of Environment (BC MOE) document *Water and Air Baseline Monitoring Guidance Document for Mine Proponents and Operators* (2011) that identifies that groundwater chemical quality should be monitored quarterly for a minimum of one year to assess groundwater chemical baseline conditions and the potential for groundwater to vary seasonally.

2.0 METHODS

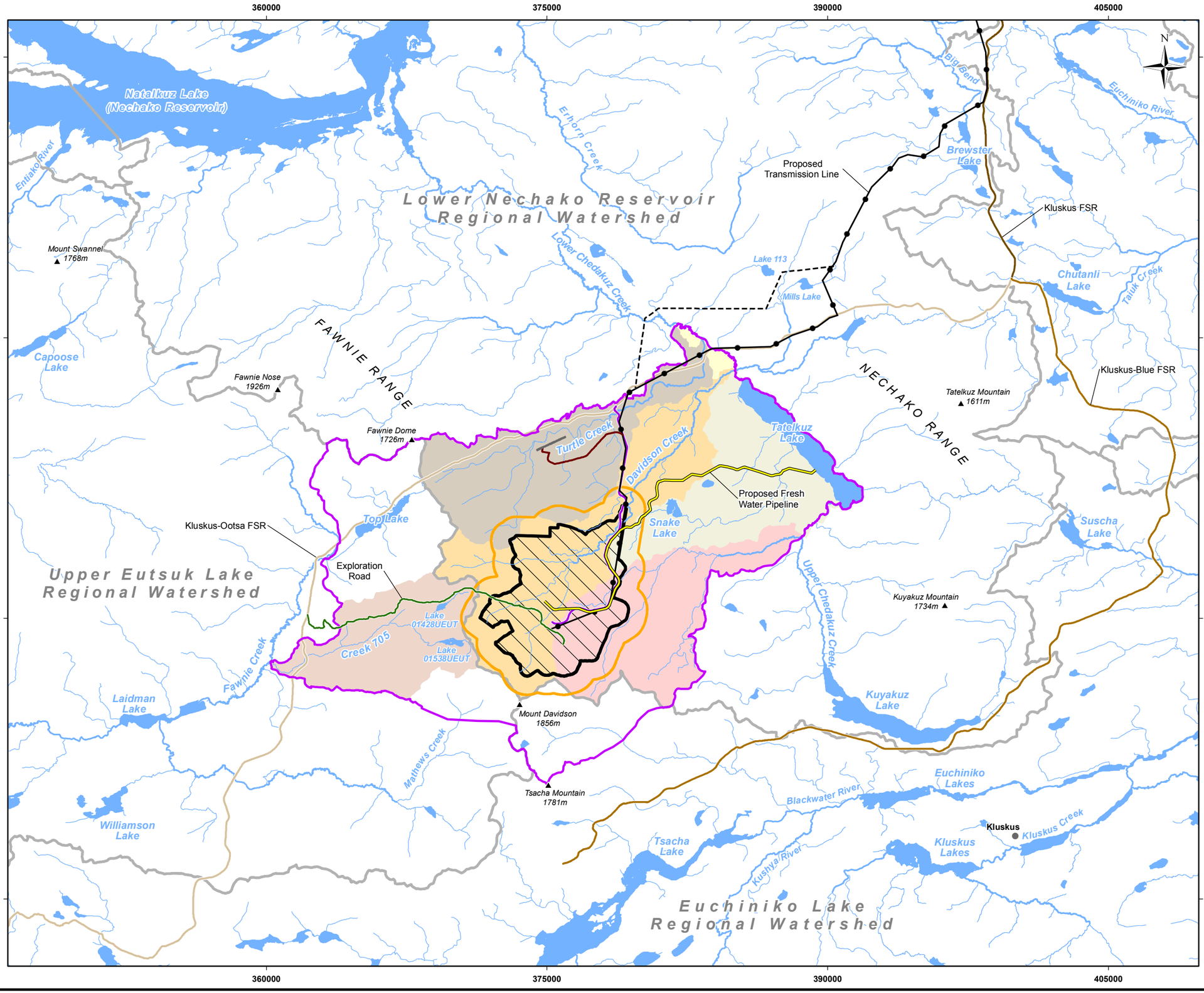
2.1 Methods for Data Collection and Data Analysis

A groundwater Local Study Area (LSA) and a groundwater Regional Study Area (RSA) were defined for the purpose of baseline groundwater chemical quality reporting (**Figure 2.1-1**) based on guidelines provided by BC MOE (2011). The groundwater LSA is the area within which Project activities may affect pre-Project groundwater flow conditions and chemical quality. The groundwater RSA is the area within which groundwater hydraulics must be understood to assess the potential for the Project to affect groundwater flow and chemical quality.

The baseline groundwater chemical quality monitoring locations were selected to allow groundwater conditions to be monitored where potential future Project impacts to groundwater may occur (**Figure 2.1-2**). The baseline groundwater monitoring locations are both hydraulically up-gradient and hydraulically down-gradient from Project developments and provide site-wide spatial coverage (Knight Piésold Consulting Ltd. (Knight Piésold), 2013). Rationales for monitoring groundwater conditions at the groundwater baseline monitoring locations are described in **Table 2.1-1**.

Under supervision of Knight Piésold, one shallow groundwater monitoring well and one deep groundwater monitoring well were installed at each baseline groundwater chemical quality monitoring location. Shallow and deep wells were installed to help assess lateral and vertical groundwater chemical quality characteristics at each location (Knight Piésold, 2013). Knight Piésold selected the well locations after considering the potential for future Project impacts to groundwater chemistry due to proposed mining activities, mine waste management activities, road construction, bridge construction, and proximity to waterways. The selection process also considered the need for safe access to the wells in summer and winter to facilitate groundwater monitoring during these seasons.

Each groundwater baseline monitoring well is constructed using 2-inch diameter polyvinyl chloride (PVC) riser pipe and a compatible 10-foot long schedule 80 PVC screen. Well completion details appear on borehole logs, copies of which are included in **Appendix 5.1.2.3A**. Following its construction, each well was developed using a high-capacity Waterra inertial pump system. Specifics regarding the well installations and well development details are identified by Knight Piésold in 2013 (Groundwater Quality data Collection Summary).



Legend

- Populated Place
- Kluskus FSR
- Kluskus-Blue FSR
- Kluskus-Ootsa FSR

Project Components

- Exploration Road
- Proposed Mine Access Road
- Proposed Fresh Water Pipeline
- Proposed Transmission Line
- Proposed Transmission Line (Mills Ranch Reroute)
- Proposed Airstrip Access Road
- Proposed Airstrip

Watersheds

- Chedakuz Creek Local
- Creek 661
- Creek 705
- Davidson Creek
- Tatelkuz Lake Tributaries
- Turtle Creek
- Regional Watersheds

Groundwater

- Regional Study Area
- Local Study Area

Scale:1:200,000

0 2.5 5 10

Kilometres

Reference

BC Government GeoBC Data Distribution

CLIENT: newgold

PROJECT: Blackwater Gold Project

Groundwater Flow and Groundwater Quality Study Areas

DATE: February, 2014	ANALYST: WR	**Figure** 2.1-1
JOB No: VE52277	QA/QC: AP	PDF FILE: 07-100-001_Groundwater_SA_v8.pdf
GIS FILE: 07-100-001_Groundwater_SA_v8.mxd		
PROJECTION: UTM Zone 10	DATUM: NAD83	amec

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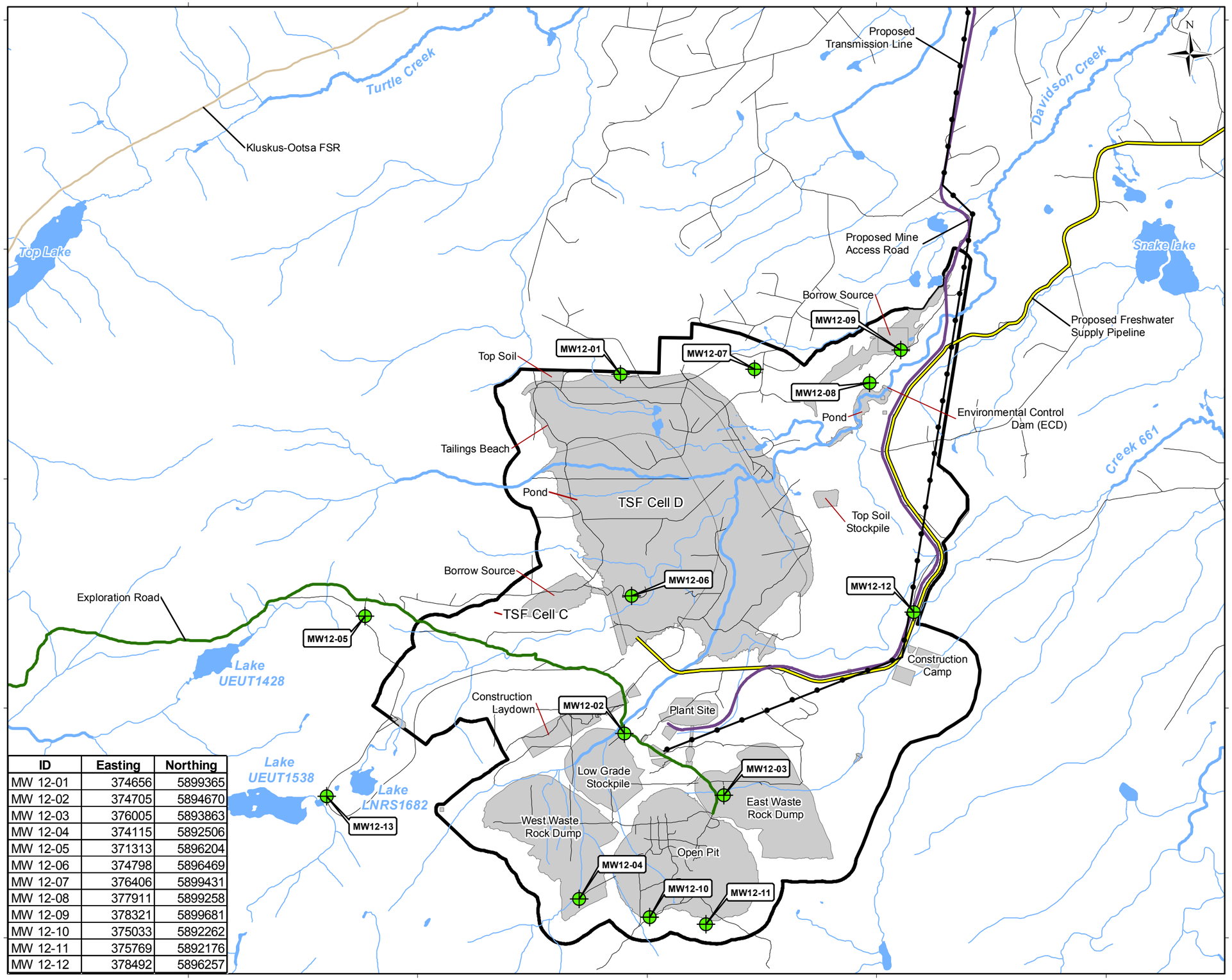

ID	Easting	Northing
MW 12-01	374656	5899365
MW 12-02	374705	5894670
MW 12-03	376005	5893863
MW 12-04	374115	5892506
MW 12-05	371313	5896204
MW 12-06	374798	5896469
MW 12-07	376406	5899431
MW 12-08	377911	5899258
MW 12-09	378321	5899681
MW 12-10	375033	5892262
MW 12-11	375769	5892176
MW 12-12	378492	5896257

Legend

- Sampling Well Locations
- Kluskus-Ootsa FSR
- Existing Road

Project Components

- Exploration Road
- Proposed Mine Access Road
- Proposed Transmission Line
- Proposed Freshwater Supply Pipeline
- Proposed Site Facilities
- Proposed Mine Site

KEY MAP

Scale:1:50,000

0 0.5 1 2

Kilometres

Reference

BC Goverenment GeoBC Data Distribution

CLIENT: newgold

PROJECT: Blackwater Gold Project

Groundwater Sampling Well Locations

DATE:	ANALYST:	Figure 2.1-2
April, 2014	KA	
JOB No: VE52277	QA/QC: WR	PDF FILE: 07-100-002_well_Location_DAIR_v4minsite.pdf
GIS FILE: 07-100-002_well_Location_DAIR_v4.mxd		
PROJECTION: UTM Zone 10	DATUM: NAD83	amec

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Representative groundwater samples were collected from the groundwater baseline monitoring wells after purging groundwater from the wells to increase the likelihood that the sampled groundwater in the well is representative of formation groundwater near the well's screened section. Well purging was completed using peristaltic pumps and dedicated compatible high density polyethylene and silicone tubes. The purging procedure consisted of removing three well volumes of groundwater from the well above the screen. Groundwater samples were collected using the same peristaltic pump and tubes that were used to purge groundwater from the wells.

Pumping tests were performed using two monitoring wells that are located inside the future mine pit. A groundwater sample was collected during one of these pumping tests in July 2013, and results have been included in **Annex 2**.

The groundwater purging and sampling methods were dictated by well-specific conditions. For wells in which groundwater recovered quickly, groundwater was purged and sampled using a peristaltic pump. For wells in which groundwater recovered slowly, groundwater was purged and sampled using a peristaltic pump and a slow-flow-rate method that involved phased purging and sampling to allow the groundwater in well to recover between purging and sampling. Groundwater field variables were monitored during well purging to confirm purge adequacy. Groundwater sampling details and groundwater sample handling and transport details are provided by Knight Piésold (2013).

Table 2.1-1 identifies monitoring well completion details for the baseline groundwater chemical quality monitoring wells and when groundwater was sampled using the wells. Several wells did not yield groundwater samples because they were dry during the scheduled sampling events. This is indicated in **Table 3.1-1** by presence of "N/A" in the sampling period column.

Table 2.1-1: Details for Groundwater Baseline Monitoring Wells

Monitoring Well	Location	Sampling			
		Total Depth (m below ground)	Sampling Information		Time Sampling Period
			Hydrogeologic Unit	No. of Samples	
MW12-01D	Northern abutment of TSF	41	bedrock	7	Jun 2012–May 2014
MW12-01S		14	(weathered) bedrock	0	N/A
MW12-02D	Downslope of East Waste Dump and Open Pit	42	silty sand	6	Sept 2012–May 2014
MW12-02S		12	silty sand	7	May 2012–May 2014
MW12-03D	Downslope of Open Pit	40	silty sand	0	N/A
MW12-03S		24	silty sand	0	N/A
MW12-04D	Outside Open Pit Area and upslope of West Waste rock	38	(weathered) bedrock	6	Sep 2012–April 2014
MW12-04S		15	sandy silt	4	Sep 2012 and May 2014
MW12-05D	Southern Starter Dam	28	(weathered) bedrock	6	May–Sep 2012 April–April 2014
MW12-05S		12	sandy silt	7	May 2012–April 2014
MW12-06D	Downstream of Southern Starter Dam	40	silt	2	April–Aug 2013
MW12-06S		23	sandy silt	7	Jun 2012–April 2014
MW12-07D	Downstream of TSF	40	sandy silt	7	Jun 2012–April 2014
MW12-07S		24	sand and gravel	7	Jun 2012–April 2014
MW12-08D	Downstream of TSF	36	sand and gravel	6	Sep 2012–April 2014
MW12-08S		20	silty sand and gravel	6	Sep 2012–April 2014
MW12-09D	Downstream of TSF	34	sand and gravel	6	Oct 2012–April 2014
MW12-09S		16	sand and gravel	0	N/A
MW12-10D	Upstream of Deposit, west	42	(weathered) bedrock	0	N/A
MW12-10S		7	silty sand and gravel	0	N/A
MW12-11D	Upstream of Deposit, east	47	(weathered) bedrock	6	Sept 2012–May 2014
MW12-11S		20	(weathered) bedrock	6	Sept 2012–May 2014
MW12-12D	Downstream of TSF and Camp area	35	silty sand and gravel	5	Sept–Dec 2012 – May 2014
MW12-12S		15	silty sand and gravel	5	Sept–Dec 2012 – May 2014
MW12-13D	West of TSF	40	gravely silt	0	N/A
MW12-13S		13	sand and gravel	6	Oct 2012–May 2014

Note: N/A = not applicable (dry well; TSF = Tailings Storage Facility.

The groundwater samples were transported in coolers on ice to ALS Laboratory Group in Vancouver, BC (ALS), accompanied by field and travel blanks for quality control. The samples were analyzed for substances listed in **Table 2.1-1**.

Table 2.1-2: 2012 Groundwater Baseline Chemical Analyses

Physical Tests	Total and Dissolved Metals
pH @ 25°C	Aluminum
Conductivity @ 25°C	Antimony
Total dissolved solids 180°C	Arsenic
Total suspended solids @ 105°C	Barium
Turbidity	Beryllium
Total hardness as $CaCO_3$	Boron
	Cadmium
Dissolved Anions	Calcium
Total alkalinity as $CaCO_3$	Chromium
Fluoride – D	Cobalt
Sulphate – D	Copper
Chloride – D	Iron
	Lithium
Nutrients	Magnesium
Ammonia-nitrogen	Manganese
Nitrate-nitrogen – D	Mercury
Nitrite-nitrogen – D	Molybdenum
Total Kjeldahl Nitrogen (TKN)	Nickel
Phosphorus-ortho – dissolved-LL	Phosphorus
Phosphorus – total dissolved-LL	Potassium
	Selenium
Organic Parameters	Silicon
Carbon (total organic)	Silver
Carbon (dissolved organic)	Sodium
	Strontium
Cyanide	Thallium
Cyanide, total	Tin
Cyanide, WAD	Titanium
Cyanate	Uranium
Thiocyanate	Vanadium
	Zinc

Note: $CaCO_3$ = calcium carbonate; D = dissolved; LL = low level; WAD = weak acid dissociable.

2.2 Quality Assurance and Quality Control

For Quality Assurance and Quality Control (QA/QC), field blanks and travel blanks were created and analyzed. Field blanks were created concurrent with groundwater sampling in the field by transferring blank samples provided by ALS from the original sampling bottle to a new empty sampling bottle. Travel blanks were created by ALS and were transported to the site and returned to the laboratory along with groundwater samples for analysis. Field blanks were created and analyzed to help confirm an absence of sampling bias. Trip blanks were

created and analyzed to help confirm absence of sample and sample bottle cross contamination during transport to and from the field.

Duplicate samples were created and analyzed to help assess analytical variability due to sample heterogeneity or laboratory sample preparation or analysis procedures.

The results of analyses of the field and travel blanks are presented in **Annex 1**. The key results of these analyses are summarized as follows:

- Slightly elevated measured cadmium, manganese, and other analyte concentrations were detected in one field blank that was created during the December 2012 sampling round.

Presence of the slightly elevated analyte concentrations in the December 2012 field blank is attributed to laboratory sample preparation or analytical procedures rather than presence of traces of the measured analytes on the sampling equipment or bottles because the measured analyte concentrations are slightly above the analytical detection limits, within a concentration range where analytical uncertainty may be elevated. In addition, field blanks collected in April 2013 and in July 2013 contained measurable dissolved concentrations of some metals but did not contain measurable total metals concentrations. This discrepancy suggests that the measured dissolved metals concentrations are due to presence of analytical uncertainty near the metals' detection limits rather than presence of traces of metals on the sampling equipment or bottles. The duplicate sample returned the same or very close to the same analysis results, indicating a high level of analytical reproducibility (precision).

The identified potential for presence of elevated analytical uncertainty for some analytes near their analytical detection limits indicates that close attention needs to be given to laboratory QA/QC. Creating and analyzing at least one field blank will be completed during future groundwater chemical quality monitoring events. In addition, results of quality control analyses completed by the project laboratory when groundwater samples are analyzed will be requested and reviewed to help assess the potential for analytical bias introduced by the laboratory. When it is important to estimate with high accuracy or high precision actual analyte concentrations in groundwater that are near analytical detection limits, consideration will be given to creating and analyzing one or more duplicate groundwater samples in addition to the groundwater sample.

3.0 RESULTS/DISCUSSION

3.1 Introduction

The baseline groundwater chemical quality analysis results are presented in **Annex 2**. Most analyzed groundwater samples contain an elevated (higher than guideline) total suspended solids (TSS) concentration. This is interpreted to be due to the sampling challenges described in the previous section.

The laboratory analyses provide a good characterization of baseline groundwater chemical conditions at the sampled locations, subject to the limited sampling and laboratory analysis completed. Because the sampling completed is limited (the information identified below is based on quarterly sampling completed between May 2012 and May 2014), measured analyte concentrations only (and not derived concentration statistics such as concentration means and standard deviations) are presented in **Annex 2**. Instead, the laboratory analyses are presented in **Annex 2** as they were reported. As the baseline groundwater chemical quality program continues, an increasingly robust groundwater chemical dataset will be generated. Maximum, minimum, and average values of selected groundwater analytes, based on the groundwater analyses completed, are identified in the following sections.

The available groundwater analysis results are compared with the applicable BC MOE approved and working drinking water quality guidelines (AWWQG). **Table 3.1-1** summarizes the AWWQG as identified by BC MOE (2006a, 2006b, 2008, 2009). Other water quality guidelines identified in **Table 3.1-1** are provided for reference. The AWWQG are used by BC MOE to assess surface water quality and water discharge quality, and to help establish site-specific water discharge criteria in British Columbia. The AWWQG guidelines identified in **Table 3.1-1** provide context for interpreting the significance of the baseline groundwater chemical quality results.

The following discussions of the baseline groundwater chemical quality analysis results are presented with respect to the following categories:

- Physical tests;
- Major ions;
- Nutrients; and
- Trace metals.

Table 3.1-1: BC MOE Water Quality Guidelines

Parameter	Drinking Water	Unit	Freshwater Aquatic (30 day avg.)	Freshwater Aquatic (Max. grab)	Unit	Wildlife	Unit
pH	6.5–8.5		6.5–9.0				
Conductivity	700	µS/cm					
Hardness (as mg $CaCO_3$)	80–100	mg/L					
Colour	15	TCU					
Dissolved oxygen			8		mg/L		
Total dissolved solids	500	mg/L					
Total suspended solids			25 in 24 hour (bg ≤25)		mg/L	20 (bg ≤100)	mg/L
			mean of 5 in 30 day (bg ≤25)		mg/L	20% (bg >100)	mg/L
			25 (bg 25–250)		mg/L		
			10% (bg >250)		mg/L		
Turbidity	0.1	NTU	8 in 24 hour (bg ≤8)		NTU	10 (bg ≤50)	NTU
			8 (bg 8–80)		NTU	20% (bg >50)	NTU
			10% (bg >80)		NTU		
Chlorine (as TRC or ClO)			2	100	µg/L		
Chloride (D)	250	mg/L	150		mg/L	600	mg/L
Fluoride	1	mg/L		0.4 (hardness ≤50 mg/L $CaCO_3$)	mg/L	1	mg/L
				0.6 (hardness >50 mg/L $CaCO_3$)	mg/L		
Sulphate	500	mg/L	**depends on H and SO_4**	**depends on H and SO_4**	mg/L[1]		
Sulphide (as H_2S)	50	µg/L					
Nitrate-nitrogen	10	mg/L	3	31.3	mg/L		
Nitrite-nitrogen	1	mg/L	0.02	0.06	mg/L		
Ammonia-nitrogen			1.95–1.94 (Temperature = 5ºC at pH 6.5–7.5)	26.8–13.4 (T=5ºC at pH 6.5–7.5)	mg/L		
Phosphorus (lakes)	10	µg/L	5–15		µg/L		
Total organic carbon	4	mg/L	±20% 30 day median background		mg/L	±20% 30-day median background	mg/L
Dissolved organic carbon			±20% 30 day median background		mg/L	±20% 30-day median background	mg/L
Cyanide							
Cyanide (t)	200	µg/L					

Parameter	Drinking Water	Unit	Freshwater Aquatic (30 day avg.)	Freshwater Aquatic (Max. grab)	Unit	Wildlife	Unit
Cyanide (WAD)		µg/L	5	10	µg/L		
Total Coliforms							
Fecal Coliforms	0	/100 mL		Shellfish harvesting ≤43, 90th percentile[5] ≤14, median[5]	/100 mL		
Aluminum (D)	0.2	mg/L	0.05 (pH ≥6.5)	0.1 (pH ≥6.5)	mg/L[2]		
			e(1.6 - 3.327 [median pH] + 0.402pH^2) (pH <6.5)	e(1.209 - 2.426pH + 0.286pH^2) (pH <6.5)	mg/L[3]		
Aluminum (T)						5	mg/L
Antimony (T)	6	µg/L		20 [w]	µg/L		
Arsenic (T)	5	µg/L	5		µg/L	25	µg/L
Barium (T)[4]	1	mg/L	1	5	mg/L		
Beryllium (T)				5.3 [w]	µg/L		
Boron (T)	5	mg/L	1.2		mg/L	5	mg/L
Cadmium (T)	5	µg/L		10e(0.86[log{hardness}] - 3.2) [w]	µg/L		
Calcium (D)				Up to 4, highly sensitive to acid inputs [w]	mg/L		
				4 to 8, moderately sensitive [w]	mg/L		
				Over 8, low sensitivity [w]	mg/L		
Chromium (T) ††	50	µg/L		1, maximum, Cr(VI) [w]	µg/L		
				8.9, interim max, Cr(III) [w]	µg/L		
Cobalt (T)			4	110	µg/L		
Copper (T)	1	mg/L	2 (hardness ≤50 mg/L)	(0.094[hardness]) + 2 (hardness ≤50 mg/L)	µg/L	300 (max)	µg/L
			0.04 x [mean hardness] (hardness >50 mg/L)	(0.094[hardness]) + 2 (hardness >50 mg/L)	µg/L		
Iron (T)	0.3	mg/L		1	mg/L		
Iron (D)				0.35	mg/L		

Parameter	Drinking Water	Unit	Freshwater Aquatic (30 day avg.)	Freshwater Aquatic (Max. grab)	Unit	Wildlife	Unit
Lead (T)	10	µg/L	none proposed (hardness <8 mg/L $CaCO_3$)	3 (hardness <8 mg/L $CaCO_3$)	µg/L	100	µg/L
			3.31 + e(1.273 ln [mean hardness] - 4.704) (hardness ≥8 mg/L $CaCO_3$)	e(1.273 ln [hardness] - 1.460) (hardness ≥ 8 mg/L CaCO3)	µg/L		
Lithium (T)				0.014, secondary chronic	mg/L		
				0.096, final chronic	mg/L		
				0.870, aquatic maximum	mg/L		
Magnesium (D)	100	mg/L					
Manganese (T)	50	µg/L	(0.0044 * hardness) + 0.605	(0.01102 * hardness) + 0.54	mg/L		
Mercury (T)	1	µg/L	0.02	0.1	µg/L	0.02 (<0.5% MeHg:Hg (T))	µg/L
Molybdenum (T)	0.25	mg/L max	1	2	mg/L	0.05	mg/L max
Nickel (T)				25 (hardness 0 to 60 mg/L as $CaCO_3$)	µg/L		
				65 (hardness 60 to 120 mg/L as $CaCO_3$)	µg/L		
				110 (hardness 120 to 180 mg/L as $CaCO_3$)	µg/L		
				150 (hardness >180 mg/L as $CaCO_3$)	µg/L		
Selenium (T)	10	µg/L	2		µg/L	4	µg/L
Silver (T)			0.05 (hardness ≤100 mg/L $CaCO_3$)	0.1 (hardness ≤100 mg/L $CaCO_3$)	µg/L		
			1.5 (hardness >100 mg/L $CaCO_3$)	3 (hardness >100 mg/L $CaCO_3$)	µg/L		
Sodium (T)	200	mg/L					
Thallium (T)				0.3	µg/L		
Titanium (T)				2000, median threshold level: *Scenedesmus*	µg/L		
				4600, median threshold level: *Daphnia*	µg/L		
Uranium (T)	20	µg/L		300	µg/L		
Vanadium (T)				6, Ontario WQO	µg/L		
				10, secondary chronic value	µg/L		
Zinc	5	mg/L	7.5 + 0.75 (hardness - 90)	33 + 0.75 (hardness - 90)	µg/L		
Naphthalene			1		µg/L		
Acenaphthene			6		µg/L		
Fluorene			12		µg/L		

Parameter	Drinking Water	Unit	Freshwater Aquatic (30 day avg.)	Freshwater Aquatic (Max. grab)	Unit	Wildlife	Unit
Anthracene			4		µg/L		
Phenanthrene			0.3		µg/L		
Acridene			3		µg/L		
Fluoranthene			4		µg/L		
Benz[a]anthracene	0.01	µg/L	0.1		µg/L		
Benzo[a]pyrene			0.01		µg/L		

Note: [(1)]Monitor mosses occasionally if above 50 mg/L; [(2)]pH >6.5; [(3)]pH <6.5; [(4)]barium, chromium, and iron criteria currently being developed; [(5)]medians and geometric means are calculated from at least 5 samples in a 30-day period; 10 samples are required for 90th percentiles; [w] 2006 A Compendium of Working Water Quality Guidelines for British Columbia.
avg. = average; max. = maximum; µS/cm = microSiemens per centimetre; $CaCO_3$ = calcium carbonate; mg/L = milligrams per litre; TCU = True Color Units; bg = background; NTU = Nephalometric Turbidity Units; TRC = Total Residual Chlorine; ClO = Chlorine; D = dissolved; T = total; H_2S = hydrogen sulphide; µg/L = micrograms per litre; WAD = weak acid dissociable; < = less than; ≤ = less than or equal to; > = greater than; ≥ = greater than or equal to; MeHg = methylmercury.

Source: BC MOE 2006a, 2006b, 2008, 2009, BC MOE 2006b, British Columbia approved water quality guidelines. Available at www.env.gov.bc.ca/wat/wq (accessed 2013), Gov of BC 1996, BC MOE 2008, BC MOE 2009, and CCME 2007.

3.2 Physical Tests

3.2.1 Turbidity and Conductivity

Measured groundwater turbidity ranges between 0.03 Nephelometric Turbidity Units (NTU) and 799 NTU. The measured turbidity of each sample analyzed exceeds the AWWQG drinking water guideline of 0.1 NTU, and is almost certainly due to incomplete well development.

Measured groundwater electrical conductivity ranges between 38 microSiemens per centimetre (µS/cm) and 463 µS/cm and averages 188 µS/cm.

3.2.2 Total Dissolved Solids and pH

Measured groundwater TDS concentrations range between 37 mg/L (in groundwater from well MW12-11S) and 319 mg/L (in groundwater from well MW12-11D) and average 127 mg/L. Most measured TDS concentrations are between 50 mg/L and 200 mg/L. In general, higher TDS concentrations occur in groundwater from the deeper bedrock wells. Each measured TDS concentration is below the AWWQG drinking water guideline of 500 mg/L.

Measured groundwater pH values range between 6.4 pH units (groundwater from well MW12-09D) to 8.9 pH units (groundwater from well MW12-12D) and average 7.7 pH units.

3.3 Major Ions

Ion concentrations in groundwater may be used to infer groundwater origin. Major ions typically used to assess groundwater origin are calcium, magnesium, sodium, potassium, chloride, sulphate, and carbonate. Because the Project baseline groundwater chemical quality program has been relatively short and thus the potential for seasonal or other groundwater quality variation has not yet been fully assessed, no further analysis of groundwater major ions is presented. In the future, after more quarterly baseline groundwater chemical quality monitoring results are available, the baseline groundwater chemistry dataset will be more robust and clear baseline trends should be apparent.

3.3.1 Dissolved Calcium

Measured groundwater dissolved calcium concentrations range between 4 mg/L (groundwater from well MW12-11S) and 47 mg/L (groundwater from well MW12-02D) and average 22 mg/L.

3.3.2 Dissolved Magnesium

Measured groundwater dissolved magnesium concentrations vary between 0.8 mg/L (in groundwater from well MW12-11S) and 22 mg/L (in groundwater from well MW12-01D) and average 6 mg/L. This average concentrations suggests that most measured dissolved magnesium concentrations will be less than 10 mg/L. All measured dissolved magnesium concentrations are below the AWWQG drinking water guideline of 100 mg/L.

3.3.3 Dissolved Sodium

Measured groundwater dissolved sodium concentrations vary between 1.8 mg/L (in groundwater from well MW12-13S) and 39 mg/L (in groundwater from well MW12-11D) and average 9 mg/L. The higher sodium concentration measured in groundwater from well MW 12-11D is associated with elevated measured sulphate and TDS concentrations in the groundwater. In general, the measured dissolved sodium concentrations are less than 10 mg/L. Each measured dissolved sodium concentration is below the AWWQG drinking water guideline of 200 mg/L.

3.3.4 Dissolved Potassium

Measured groundwater dissolved potassium concentrations vary between 0.2 mg/L (in groundwater from well MW12-13S) to 2 mg/L (in groundwater from well MW12-01D) and average 1.1 mg/L.

3.3.5 Alkalinity

Measured groundwater total alkalinity concentrations vary between 19.1 mg/L (in groundwater from well MW12-11S) and 206 mg/L (in groundwater from well MW12-01D) and average 86 mg/L.

3.3.6 Sulphate

Measured groundwater sulphate concentrations vary between 0.5 mg/L (in groundwater from well MW12-02S) and 146 mg/L (in groundwater from well MW12-11D) and average 14.1 mg/L. The AWWQG sulphate drinking water guideline is 500 mg/L. Most measured shallow groundwater sulphate concentrations are relatively low (approximately 4 mg/L). Most measured bedrock groundwater sulphate concentrations vary between approximately 10 mg/L and 40 mg/L.

3.3.7 Chloride

Very few groundwater samples contain a detectable chloride concentration (detection limit 0.5 mg/L). The highest measured chloride concentration is 9 mg/L (in groundwater from well MW12-11D). The AWWQG chloride drinking water guideline is 250 mg/L.

3.4 Nutrients

Measured nitrogen and phosphorous concentrations in the groundwater samples are all below drinking water guidelines. Below is a summary of the measured concentration ranges and average measured concentrations of these substances in analyzed groundwater samples:

- Measured dissolved nitrogen concentrations range between 0.05 mg/L and 2.83 mg/L and average 0.3 mg/L;
- Measured total nitrogen concentrations range between 0.03 mg/L and 0.67 mg/L and average 0.16 mg/L;
- Measured total Kjeldahl Nitrogen (TKN) concentrations range between 0.05 mg/L and 0.71 mg/L and average 0.20 mg/L;
- Measured total nitrate nitrogen (as N) concentrations range between 0.005 mg/L and 0.14 mg/L and average 0.05 mg/L;
- Measured nitrite nitrogen (as N) concentrations range between 0.001 mg/L and 0.008 mg/L and average 0.002 mg/L;
- Measured total ammonia nitrogen (as N) concentrations range between 0.0055 mg/L and 0.26 mg/L and average 0.04 mg/L;
- Measured dissolved phosphorous concentrations range between 0.002 mg/L and 0.24 mg/L and average 0.07 mg/L; and
- Measured total phosphorous concentrations range between 0.004 mg/L and 1.4 mg/L and average 0.1 mg/L.

3.5 Trace Metals

Dissolved metals concentrations are compared with the AWWQG guidelines presented in **Table 3.1-1**. Measured dissolved metals concentrations that exceed the AWWQG drinking water guidelines are included in the subsections below.

3.5.1 Aluminum

Measured aluminum concentrations range between 0.001 mg/L (in groundwater from MW12-02D) and 1.77 mg/L (in groundwater from well MW12-12S) and average 0.06 mg/L. Most measured aluminum concentrations are less than 0.2 mg/L, the AWWQG aluminum drinking water guideline.

3.5.2 Antimony

Measured groundwater antimony concentrations do not exceed 0.00114 mg/L. The AWWQG antimony drinking water guideline is 0.006 mg/L. Measured antimony concentrations are below the drinking water guideline.

3.5.3 Arsenic

Measured groundwater arsenic concentrations vary between 0.0007 mg/L (in groundwater from well MW12-13S) and 0.0287 mg/L (in groundwater from well MW12-04D) and average 0.005 mg/L. Eight exceedances of the 0.005 mg/L AWWQG arsenic drinking water guideline have been identified. Measured arsenic concentrations that exceed the guideline range between 0.00524 mg/L and 0.0283 mg/L.

3.5.4 Barium

Measured groundwater barium concentrations do not exceed 0.168 mg/L and are less than the AWWQG barium drinking water guideline of 1 mg/L.

3.5.5 Beryllium

Measured groundwater beryllium concentrations do not exceed 0.0008 mg/L. No AWWQG beryllium drinking water guideline has been established.

3.5.6 Cadmium

Measured groundwater cadmium concentrations vary between 0.000011 mg/L (in groundwater from well MW12-08D) and 0.0008 mg/L (in groundwater from well MW12-05S) and average 0.0002 mg/L. The measured cadmium concentrations are less than the AWWQG drinking water guideline of 0.005 mg/L.

3.5.7 Chromium

Measured groundwater chromium concentrations vary between 0.00011 mg/L (in groundwater from well MW12-13S) to 0.076 mg/L (in groundwater from well MW12-07D) and average 0.002 mg/L. The measured chromium concentrations are less than the AWWQG chromium drinking water guideline of 0.05 mg/L.

3.5.8 Copper

Measured groundwater copper concentrations vary between 0.0003 mg/L (in groundwater from well MW12-12S) and 0.015 mg/L (in groundwater from well MW12-08D) and average

0.002 mg/L. The measured copper concentrations are less than the AWWQG copper drinking water guideline of 1 mg/L.

3.5.9 Iron

The minimum measured iron concentration is 0.01 mg/L (in groundwater from well MW12-08S), the maximum measured iron concentration is 18.7 mg/L (in groundwater from well MW12-02D), and the average measured iron concentration is 1.3 mg/L. There are several exceedances of the AWWQG iron drinking water standard (0.3 mg/L), which is not unusual for iron around mine sites due to presence of pyrite and associated weathering products. Most measured iron concentrations are below 5 mg/L.

3.5.10 Lead

Except for the measured lead concentration in one groundwater sample from well MW12-02D (0.02 mg/L), measured lead concentrations in the analyzed groundwater samples are below the AWWQG lead drinking water guidelines (0.01 mg/L). Measured lead concentrations range between 0.00005 mg/L (in groundwater from well MW12-06S) to 0.02 mg/L (in groundwater from well MW12-02D). The average measured lead concentration is 0.0012 mg/L.

3.5.11 Manganese

The minimum and maximum measured manganese concentrations are 0.00012 mg/L (in groundwater from well MW12-07S) and 5 mg/L (in groundwater from well MW12-05S), respectively. The average measured manganese concentration is 0.4 mg/L. There are multiple exceedances of the manganese AWWWQG drinking water guideline of 0.050 mg/L, which is common around mine sites.

3.5.12 Molybdenum

No measured molybdenum concentration exceeds the AWWQG drinking water guideline (0.25 mg/L). The minimum measured molybdenum concentration (0.00032 mg/L), in well MW12-11S. The maximum measured molybdenum concentration is 0.02 mg/L (in groundwater from well MW12-05S). The average measured molybdenum concentration is 0.005 mg/L.

3.5.13 Nickel

The minimum and maximum measured nickel concentrations are 0.0005 mg/L (in groundwater from well MW12-13S) and 0.02 mg/L (in groundwater from well MW12-05S). The average measured nickel concentration is 0.003 mg/L.

3.5.14 Selenium

All measured selenium concentrations are below the AWWQG selenium drinking water guideline (0.01 mg/L). The minimum and maximum measured selenium concentrations are 0.0001 mg/L (in groundwater from well MW12-06S) and 0.003 mg/L (in groundwater from well MW12-07D), respectively. The average measured selenium concentration is 0.0004 mg/L.

3.5.15 Zinc

Detectable zinc concentrations were measured in most analyzed groundwater samples, which is to be expected because zinc is a metal associated with the Blackwater ore body. The measured zinc concentrations however are far below the AWWQG drinking water guideline (5 mg/L). The minimum and maximum measured zinc concentrations are 0.001 mg/L (in groundwater from well MW12-09D) and 0.17 mg/L (in groundwater from well MW12-05S), respectively. The average measured zinc concentration is 0.01 mg/L.

3.6 Discussion

The identified groundwater substance concentrations that exceed the AWWQG drinking water guidelines are near the guideline values, except for iron and manganese which is not unusual for these parameters. Most measured substance concentrations are less than the applicable AWWQG drinking water quality guidelines.

4.0 CONCLUSIONS

Based on the groundwater baseline chemical quality analyses completed, the following key findings are noted:

- Detectable analyte concentrations near the analytical detection limits were measured in five field blank samples. This suggests that the groundwater sampling procedures or the laboratory sample preparation or analysis procedures may have have slightly biased some analytical results for measured analyte concentrations near the detection limits. The significance of measured analyte concentrations near the analytical detection limits should, therefore, be interpreted with caution. However such results would be conservative.
- Presence of elevated measured TSS and turbidity concentrations were identified in some groundwater samples. Presence of elevated TSS concentrations or elevated turbidity concentrations in water samples that are analyzed for metals concentrations may result in metals containing soil or rock particles or colloids to be analyzed along with the sampled groundwater. The significance of measured metals concentrations in such samples should, therefore, be interpreted with caution. In any case the primary measure of groundwater quality is dissolved metals and these values would not be affected by elevated TSS and turbidity. Dissolved metal values will continue to be used to assess groundwater quality with metals used as a QC check (i.e. dissolved metal results should always be less than total metal results).
- Except for measured concentrations of aluminum, lead, arsenic, iron, and manganese in some analyzed groundwater samples, measured substance concentrations in the groundwater baseline samples are less than the AWWQG drinking water guidelines.
- Additional groundwater sampling and analysis will continue to better assess the potential for seasonal groundwater chemistry variability and to develop a robust baseline groundwater quality database for the Project.

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ANNEXES

Annex 1
QA/QC

Sample ID	FIELD BLANK	TRAVEL BLANK	TRAVEL BLANK	FIELD BLANK	FIELD BLANK	TRAVEL BLANK	FIELD BLANK	FIELD BLANK	TRAVEL BLANK	FIELD BLANK	TRAVEL BLANK	FIELD BLANK	TRAVEL BLANK	TRAVEL BLANK	TRAVEL BLANK	FIELD BLANK	TRAVEL BLANK
Date Sampled	27/May/2012	27/May/2012	19/Sep/2012	28/Sep/2012	04/Dec/2012	06/Dec/2012	12/Dec/2012	02-Apr-13	02-Apr-13	31-Jul-13	31-Jul-13	29-Aug-13	29-Aug-13	30-OCT-13	01-MAY-14	21-MAY-14
Lab ID	L1153413-1	L1153413-3	L1212753-3	L1217111-3	L1246398-3	L1247429-3	L1249574-3	L1285990-4	L1285990-5	L1342253	L1344582	L1355974	L1355974	L1386074-2	L1450068-2	L1459347-4
Physical Tests																
Alkalinity (Total as CaCO3)	<2	<2	1.3	1.4	<1	<1		<2	<2	<2	-	<2	<2	<2	<2	<2
Bicarbonate Alkalinity	<2	<2	1.3	1.4	<1	<1		<2	<2	<2	-	<2	<2	<2	<2	<2
Carbonate Alkalinity	<2	<2	<1	<1	<1	<1		<2	<2	<2	-	<2	<2	<2	<2	<2
Color TCU	<5	<5	<5	<5	<5	<5		<5	<5	<5.0	-	<5.0	<5.0	<5.0	<5.0	<5.0
Conductivity µS/cm	<2	<2	<2	<2	<2	<2		<2	<2	<2.0	-	<2.0	<2.0	<2.0	<2.0	<2.0
Hardness as CaCO3 (Dissolved)	<0.5			<0.5	<0.5			<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5
Hydroxide Alkalinity	<2	<2	<1	<1	<1	<1		<2	<2	<2	-	<2	<2	<2	<2	<2
pH pH	5.86	6.04		5.9	5.58	5.54		5.55	6.10	6.09	-	5.38	5.54	5.52	5.73	5.70
Total Dissolved Solids	<10	<10	<10	<10	<10	<10		<10	<10	<10	-	<10	<10	<10	<10	<10
Total Suspended Solids	<3	<3	<3	<3	<3	<3		<3.0	<3.0	<3	-	<3	<3	<3	<3	<3
Turbidity NTU	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Anions																
Bromide (Dissolved)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		<0.050	<0.050	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05
Chloride (Dissolved)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.50	<0.50	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoride (Dissolved)	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02		<0.020	<0.020	<0.02	-	<0.02	<0.02	<0.02	<0.02	<0.02
Sulphate (Dissolved)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5
Thiocyanate (Dissolved)				<0.2	<0.2			<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5
Nutrients																
Ammonia (Total)	<0.005	<0.005	<0.005	<0.005	<0.005	0.0093		<0.005.0	<0.005.0	<0.005.0	-	<0.005.0	<0.005.0	<0.005.0	<0.005.0	<0.005.0
Nitrate (as N)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005.0	<0.005.0	<0.005.0	-	<0.005.0	<0.005.0	<0.005.0	<0.005.0	<0.005.0
Nitrite (as N)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001
Nitrogen (Dissolved)	<0.05			<0.05	<0.05	<0.05		<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrogen (Total)	<0.0025	<0.0025	<0.05	<0.05	<0.05	0.088		<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrogen Kjeldahl (Total)	<0.05	<0.05	<0.05	<0.05	<0.05	0.088		<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05
Phosphate (Total)			<0.002					<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001
Phosphorus (Nutrient) Dissolved	<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
Phosphorus (Nutrient) Total	<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
Cyanide																
Cyanide (Free)	<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
Cyanide (Total)	<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
Cyanide (WAD)	<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
Thiocyante (SCN)	<0.5			<0.5	<0.5			<0.5	<0.5							
Dissolved Metals																
Aluminum (Dissolved)	<0.001			<0.001	<0.001			0.0060	<0.0010	<0.003	-	<0.0010	-	-	<0.0010	-
Antimony (Dissolved)	<0.0001			<0.0001	<0.0001			<0.00010	<0.00010	<0.00010	-	<0.00010	-	-	<0.00010	-
Arsenic (Dissolved)	<0.0001			<0.0001	<0.0001			0.00015	<0.00010	<0.00010	-	<0.00010	-	-	<0.00010	-
Barium (Dissolved)	<0.00005			<0.00005	0.00008			0.000383	<0.000050	<0.000050	-	<0.000050	-	-	<0.000050	-
Beryllium (Dissolved)	<0.0001			<0.0001	<0.0001			<0.00010	<0.00010	<0.00010	-	<0.00010	-	-	<0.00010	-
Bismuth (Dissolved)	<0.0005			<0.0005	<0.0005			<0.00050	<0.00050	<0.00050	-	<0.00050	-	-	<0.00050	-
Boron (Dissolved)	<0.01			<0.01	<0.01			<0.010	<0.010	<0.01	-	<0.010	-	-	<0.010	-
Cadmium (Dissolved)	<0.00001			<0.00001	<0.00001			0.000184	<0.000010	<0.00001	-	<0.000010	-	-	<0.000010	-
Calcium (Dissolved)	<0.05			<0.05	<0.05			0.117	<0.050	<50	-	<0.050	-	-	<0.050	-
Chromium (Dissolved)	<0.0001			<0.0001	<0.0001			0.00019	<0.00010	<0.0001	-	<0.00010	-	-	<0.00010	-
Cobalt (Dissolved)	<0.0001			<0.0001	<0.0001			<0.00010	<0.00010	<0.0001	-	<0.00010	-	-	<0.00010	-
Copper (Dissolved)	<0.0002			<0.0002	<0.0002			0.00105	<0.00020	<0.00050	-	<0.00020	-	-	<0.00020	-
Iron (Dissolved)	<0.01			<0.01	<0.01			<0.010	<0.010	<0.01	-	<0.010	-	-	<0.010	-
Lead (Dissolved)	<0.00005			<0.00005	<0.00005			0.000089	<0.000050	<0.000050	-	<0.000050	-	-	<0.000050	-
Lithium (Dissolved)	<0.0005			<0.0005	<0.0005			<0.00050	<0.00050	<0.00050	-	<0.00050	-	-	<0.00050	-
Magnesium (Dissolved)	<0.1			<0.1	<0.1			<0.10	<0.10	<0.1	-	<0.10	-	-	<0.10	-
Manganese (Dissolved)	<0.00005			<0.00005	<0.00005			0.00109	<0.000050	<0.000050	-	<0.000050	-	-	<0.000050	-
Mercury (Dissolved)	<0.00001			<0.00001	<0.00001			<0.000010	<0.000010	<0.00001	-	<0.000010	-	-	<0.000010	-
Molybdenum (Dissolved)	<0.00005			<0.00005	<0.00005			<0.000050	<0.000050	<0.000050	-	<0.000050	-	-	<0.000050	-
Nickel (Dissolved)	<0.0005			<0.0005	<0.0005			<0.00050	<0.00050	<0.00050	-	<0.00050	-	-	<0.00050	-
Phosphorus (Metal) Dissolved	<0.3			<0.3	<0.3			<0.050	<0.050	<0.05	-	<0.050	-	-	<0.050	-
Potassium (Dissolved)	<0.05			<0.05	<0.05			0.68	<0.10	<0.1	-	<0.10	-	-	<0.10	-
Selenium (Dissolved)	<0.0001			<0.0001	<0.0001			<0.00010	<0.00010	<0.0001	-	<0.00010	-	-	<0.00010	-
Silicon (Dissolved)	<0.05			<0.05	<0.05			<0.050	<0.050	<0.05	-	<0.050	-	-	<0.050	-
Silver (Dissolved)	<0.00001			<0.00001	<0.00001			<0.000010	<0.000010	0.00001	-	<0.000010	-	-	<0.000010	-
Sodium (Dissolved)	<0.05			<0.05	<0.05			0.402	<0.050	<0.05	-	<0.050	-	-	<0.050	-
Strontium (Dissolved)	<0.0002			<0.0002	<0.0002			0.00032	<0.00020	<0.0002	-	<0.00020	-	-	<0.00020	-
Thallium (Dissolved)	<0.00001			<0.00001	<0.00001			<0.000010	<0.000010	<0.000010	-	<0.000010	-	-	<0.000010	-
Tin (Dissolved)	<0.0001			<0.0001	<0.0001			<0.00010	<0.00010	<0.0001	-	<0.00010	-	-	<0.00010	-
Titanium (Dissolved)	<0.01			<0.01	<0.01			<0.010	<0.010	<0.01	-	<0.010	-	-	<0.010	-
Uranium (Dissolved)	<0.00001			<0.00001	<0.00001			<0.000010	<0.000010	<0.000010	-	<0.000010	-	-	<0.000010	-
Vanadium (Dissolved)	<0.001			<0.001	<0.001			<0.0010	<0.0010	<0.001	-	<0.0010	-	-	<0.0010	-
Zinc (Dissolved)	<0.001			<0.001	<0.001			0.0128	<0.0010	<0.003	-	<0.0010	-	-	<0.0010	-
Total Metals																
Aluminum (Total)	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003		<0.0030	<0.0030	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001
Antimony (Total)	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		<0.00010	<0.00010	<0.0001	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Arsenic (Total)	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		<0.00010	<0.00010	<0.0001	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Barium (Total)	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005		<0.000050	<0.000050	<0.00005	-	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Beryllium (Total)	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		<0.00010	<0.00010	<0.0001	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Bismuth (Total)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005		<0.00050	<0.00050	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Boron (Total)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.010	<0.010	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01
Cadmium (Total)	<0.00001	<0.00001	<0.00001	<0.00001	0.000011	<0.00001		<0.000010	<0.000010	<0.000010	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Calcium (Total)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		<0.050	<0.050	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05
Chromium (Total)	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		<0.00010	<0.00010	<0.0001	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cobalt (Total)	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		<0.00010	<0.00010	<0.0001	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Copper (Total)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005		<0.00050	<0.00050	<0.00020	-	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Iron (Total)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.010	<0.010	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01
Lead (Total)	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005		<0.000050	<0.000050	<0.00005	-	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Lithium (Total)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005		<0.00050	<0.00050	<0.00050	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Magnesium (Total)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.10	<0.10	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1
Manganese (Total)	<0.00005	<0.00005	<0.00005	<0.00005	0.000065	<0.00005		<0.000050	<0.000050	<0.000050	-	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Mercury (Total)	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001		<0.000010	<0.000010	<0.000010	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Molybdenum (Total)	<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
Nickel (Total)	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005		<0.00050	<0.00050	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Phosphorus (Metal) Total	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3		<0.050	<0.050	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05
Potassium (Total)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		<0.10	<0.10	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium (Total)	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		<0.00010	<0.00010	<0.00010	-	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Silicon (Total)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		<0.050	<0.050	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05

Sample ID	FIELD BLANK	TRAVEL BLANK	TRAVEL BLANK	FIELD BLANK	FIELD BLANK	TRAVEL BLANK	FIELD BLANK	FIELD BLANK	TRAVEL BLANK	FIELD BLANK	TRAVEL BLANK	FIELD BLANK	TRAVEL BLANK	TRAVEL BLANK	FIELD BLANK	TRAVEL BLANK
Date Sampled	**27/May/2012**	**27/May/2012**	**19/Sep/2012**	**28/Sep/2012**	**04/Dec/2012**	**06/Dec/2012**	**12/Dec/2012**	**02-Apr-13**	**02-Apr-13**	**31-Jul-13**	**31-Jul-13**	**29-Aug-13**	**29-Aug-13**	**30-OCT-13**	**01-MAY-14**	**21-MAY-14**
Lab ID	**L1153413-1**	**L1153413-3**	**L1212753-3**	**L1217111-3**	**L1246398-3**	**L1247429-3**	**L1249574-3**	**L1285990-4**	**L1285990-5**	**L1342253**	**L1344582**	**L1355974**	**L1355974**	**L1386074-2**	**L1450068-2**	**L1459347-4**
Silver (Total)	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001		<0.000010	<0.000010	<0.000010	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Sodium (Total)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		<0.050	<0.050	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05
Strontium (Total)	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002		<0.00020	<0.00020	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Thallium (Total)	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001		<0.000010	<0.000010	<0.000010	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Tin (Total)	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		<0.00010	<0.00010	<0.0001	-	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Titanium (Total)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.010	<0.010	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01
Uranium (Total)	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001		<0.000010	<0.000010	<0.00001	-	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Vanadium (Total)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.0010	<0.0010	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001
Zinc (Total)	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003		<0.0030	<0.0030	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001
Organics																
Carbon Organic (Dissolved)	<0.5			<0.5	<0.5	<0.5	**0.92**	1.55	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon Organic (Total)	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	<0.50	<0.50	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5
Nitrogen Organic (Dissolved)	<0.05			<0.05	<0.05	<0.05		<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrogen Organic (Total)	<0.06	<0.06	<0.06	<0.06	<0.06	**0.079**		<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05
Sulfur (S)-Dissolved								<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5
Sulfur (S)-Total								<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5
Cyanate								<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2

NOTES:

1. UNITS ARE IN mg/L UNLESS OTHERWISE STATED.
2. BOLD GREEN INDICATS THE RESULT EXCEEDS THE MDL FOR THAT ANALYTE.

Annex 2
Groundwater Quality Database

Site ID	Minimum Detection Limit	Drinking Water Guideline	Unit of Guideline	MW12-01D	MW12-01D	MW12-01D	MW12-01D	MW12-01-D	MW12-01-D	MW12-01-D	MW12-02D	MW12-02D	MW12-02D	MW12-02-D	MW12-02-D	MW12-02-D	MW12-02S
Date/Time Sampled				**7-Jun-12**	**14-Sep-12**	**12-Dec-12**	**10-Apr-13**	**30-Jul-13**	**24-OCT-13**	**01-MAY-14**	**25-May-12**	**13-Sep-12**	**5-Dec-12**	**31-Jul-13**	**30-OCT-13**	**21-MAY-14**	**28-May-12**
LAB File No.							L1289088	L1341432	L1384043-1	L1450068-1				L1342253	L1386074-1	L1459347-1	
In Situ Parameters																	
Conductivity µS/cm		700	µS/cm	407	456	398		461	408.8	247	350	341	192	338	344.6	229	147
Oxygen Dissolved %				62	26.2	14.3		11	16.4	29.4	89	108	171	79	42.5	22.1	30.6
Oxygen Dissolved				6.33	2.93	14.4		1.31	2.04	3.54	9.8	14.6	19.3	8.27	4.86	2.6	3.22
pH		6.5 - 8.5		8.04	7.71	7.36		7.65	7.98	8.09	7.8	7.76	7.82	7.47	7.78	7.42	7.52
Redox Potential mV				270		49.3		14	78.3	-124		-80.4	170	20	131.8	-84.1	
Salinity ppt				0.2		0.19		0.33	0.31	0.18		-0.16	0.11	0.22	0.25	0.16	
Specific Conductivity µS/cm				267	328	244		669	644.8	388	288	196	269	445	499.3	343	9.2
Temperature °C				6.06	6.61	4.74		8.2	5.9	6.1	2.9	2.69	10	11.5	8.6	7.53	5.32
Total Dissolved Solids		500	mg/L	203		259		435	417.9	247		221	151	289	328.3	214	
Turbidity NTU		0.1	NTU	3.9	8.03	8.52		0.86	1.79	2.64	781	14.6	160	174	799	411	21.7
Physical Tests																	
Alkalinity (Total as CaCO3)	1 - 2			194	201	195	206	202	194	195		91	83	81	81	97	75
Bicarbonate Alkalinity	1 - 2			194	201	195	206	202	194	195		91	83	81	81	97	75
Carbonate Alkalinity	1 - 2			<2	<1	<1	<1.0	<2	2	2		<1	<1	<2	2	2	<2
Color TCU	5	15	TCU	<5	<5	<5	<5.0	<5.0	5.00	5.00		<5	<5	<5.0	5.00	5.00	<5
Conductivity µS/cm	2	700	µS/cm	410	399	400	401	389	390	381		305	224	266	300	343	139
Hardness as CaCO3 (Dissolved)	0.5	80 - 100	mg/L	142	167	167	168	165	161	172		87	83	107	113	161	67
Total Dissolved Solids	10	500	mg/L	259	245	216	250	235	232	214		206	156	181	201	231	96
Turbidity NTU	0.1	0.1	NTU	11.8	6.74	4.44	4.35	2.32	2.78	3.12		37.2	231	67.2	640	106	19.1
Chloride (Dissolved)	0.5	250	mg/L	1.81	1.53	1.25	0.75	<0.5	1	1		<0.5	0.53	0.64	1	1	<0.5
Fluoride (Dissolved)	0.02	1	mg/L	0.158	0.119	0.115	0.11	0.102	0.096	0.105		0.076	0.07	0.065	0.064	0.067	0.094
Sulphate (Dissolved)	0.5	500	mg/L	45.1	30.3	24.9	24.1	24	24.80	24.40		69.6	36.8	55.50	69.10	83.20	1.65
Ammonia (Total)	0.005			<0.005	0.0203	0.0938	0.0948	0.038	0.041	0.0324		<0.005	<0.005	<0.005	0.005	0.0094	<0.005
Nitrate (as N)	0.005	10	mg/L	<0.005	<0.005	0.0067	<0.0050	<0.005	0.01	0.02		<0.005	<0.005	<0.005	0.01	0.01	<0.005
Nitrite (as N)	0.001	1	mg/L	<0.001	<0.001	0.0019	<0.0010	<0.001	0.00	0.00		<0.001	<0.001	<0.001	0.00	0.00	<0.001
Nitrogen (Dissolved)	0.05 - 0.1		mg/L	2.83	0.97	0.268	0.181	0.23	0.43	0.11		0.11	0.116	<0.05	0.23	0.28	0.18
Nitrogen (Total)	0.0025 - 0.05		mg/L	0.0779	0.293	0.379	0.221	0.36	0.11	0.20		0.068	0.087	0.06	0.05	0.10	0.12
Nitrogen Kjeldahl (Total)	0.05		mg/L	0.078	0.293	0.389	0.214	0.45	0.089	0.207		0.068	0.087	0.07	0.25	0.116	0.12
Phosphate (Total)	0.02		mg/L				0.0288	0.03	0.031					0.10	0.091	0.090	
Phosphorus Dissolved	0.002 - 0.02		mg/L	0.0214	0.035	0.0388	0.0307	0.03	0.03	0.03		0.109	0.1	0.11	0.09	0.09	0.11
Phosphorus Total	0.002 - 0.02		mg/L	0.0429	0.082	0.0831	0.0793	0.06	0.073	0.075		0.175	0.423	0.43	1.380	0.374	0.15
Cyanide																	
Cyanide (Free)	0.005		mg/L	<0.005	<0.005	<0.005	<0.0050	<0.005	0.005	0.005		<0.005	<0.005	<0.005	0.005	0.005	<0.005
Cyanide (Total)	0.005	0.200	mg/L	<0.005	<0.005	<0.005	<0.0050	<0.005	0.005	0.005		<0.005	<0.005	<0.005	0.005	0.005	<0.005
Cyanide (WAD)	0.005		mg/L	<0.005	<0.005	<0.005	<0.0050	<0.005	0.005	0.005		<0.005	<0.005	<0.005	0.005	0.005	<0.005
Thiocyante (SCN)	0.5		mg/L	<0.5	<0.5	<0.5	<0.50	<0.5				<0.5	<0.5	<0.5			<0.5
Dissolved Metals																	
Aluminum (Dissolved)	0.001	0.20	mg/L	0.0079	0.0061	0.0052	0.0051	1.2	0.0043	0.0041		0.0015	0.0023	0.0031	0.0027	0.001	0.0054
Antimony (Dissolved)	0.0001		mg/L	0.00044	0.00016	0.00055	0.00041	0.00321	0.00033	0.00036		<0.0001	<0.0001	<0.0001	0.00010	0.00010	0.00
Arsenic (Dissolved)	0.0001		mg/L	0.0007	0.00202	0.0058	0.00397	0.006	0.002	0.002		0.0025	0.00242	0.002	0.002	0.002	0.00
Barium (Dissolved)	0.00005		mg/L	0.047	0.0561	0.0563	0.0552	0.073	0.060	0.054		0.00739	0.00604	0.01	0.007	0.009	0.01
Beryllium (Dissolved)	0.0001		mg/L	<0.0001	<0.0001	<0.0001	<0.00010	<0.0001	0.0005	0.0001		<0.0001	<0.0001	<0.0001	0.0001	0.0001	<0.0001
Bismuth (Dissolved)	0.0005		mg/L	<0.0005	<0.0005	<0.0005	<0.00050	<0.0005	0.0005	0.0005		<0.0005	<0.0005	<0.0005	0.0005	0.0005	<0.0005
Boron (Dissolved)	0.01		mg/L	<0.01	0.017	0.011	<0.010	<0.01	0.01	0.01		<0.01	<0.01	<0.01	0.01	0.01	<0.01
Cadmium (Dissolved)	0.00001		mg/L	0.000083	0.000014	0.00009	0.000072	0.003	0.00005	0.000032		0.000054	0.000015	0.00002	0.000149	0.000176	0.00009
Calcium (Dissolved)	0.05		mg/L	29.1	33.5	33.7	33.4	31.900	33.00	33.50		24.9	23.5	30.80	32.60	47.20	19.10
Chromium (Dissolved)	0.0001		mg/L	0.00013	0.00019	0.00046	0.00037	0.016	0.0005	0.0001		0.00031	0.00046	0.0004	0.00029	0.0001	0.0001
Cobalt (Dissolved)	0.0001		mg/L	0.00030	0.00054	0.00061	0.00056	0.00111	0.00034	0.00061		<0.0001	<0.0001	<0.0001	0.00010	0.00022	0.00026
Copper (Dissolved)	0.0002		mg/L	0.00035	0.00028	0.00028	0.00058	0.008	0.00050	0.00025		0.00107	0.00072	<0.0002	0.00031	0.00020	0.0006
Iron (Dissolved)	0.01		mg/L	<0.01	0.218	0.118	0.079	1.570	0.143	0.034		<0.01	<0.01	<0.01	0.01	0.01	<0.01
Lead (Dissolved)	0.00005		mg/L	<0.00005	<0.00005	0.000113	<0.000050	0.002	0.00005	0.00005		<0.00005	<0.00005	<0.00005	0.00005	0.00005	<0.00005
Lithium (Dissolved)	0.0005		mg/L	0.0215	0.0187	0.0193	0.021	0.021	0.024	0.0197		<0.0005	<0.0005	<0.0005	0.0005	0.0005	<0.0005
Magnesium (Dissolved)	0.1	100	mg/L	16.9	20.2	20.1	20.5	20.100	18.20	21.60		6.02	5.76	7.21	7.76	10.60	4.74
Manganese (Dissolved)	0.00005		mg/L	0.227	0.59	0.543	0.493	0.449	0.39900	0.42600		0.048	0.0128	0.01	0.00975	0.29000	0.44
Mercury (Dissolved)	0.00001		mg/L	<0.00001	<0.00001	<0.00001	<0.000010	<0.010	0.00001	0.00001		<0.00001	<0.00001	<0.00001	0.00001	0.00001	<0.00001
Molybdenum (Dissolved)	0.00005		mg/L	0.00718	0.00746	0.0072	0.0065	0.006	0.0054	0.0059		0.00541	0.00353	0.0032	0.0035	0.0045	0.00
Nickel (Dissolved)	0.0005		mg/L	0.00087	0.00197	0.0068	0.00499	0.0089	0.00179	0.00313		0.00065	0.0006	<0.0005	0.0005	0.00093	0.00072
Phosphorus (Metal) Dissolved	0.3		mg/L	<0.3	<0.3	<0.3	<0.050	0.166		0.05		<0.3	<0.3	0.10	0.10	0.09	<0.3
Potassium (Dissolved)	0.05		mg/L	1.77	1.67	1.35	1.23	1.190	0.88	0.96		1.06	0.976	0.98	1.06	1.22	0.69
Selenium (Dissolved)	0.0001		mg/L	0.00018	0.0001	0.00013	0.00014	<0.0001	0.001	0.0001		0.00012	0.00011	0.0003	0.00027	0.00014	0.00
Silicon (Dissolved)	0.05		mg/L	5.61	6	5.99	6.22	7.640	6.30	6.68		8.93	9.1	9.25	9.45	9.28	8.53
Silver (Dissolved)	0.00001		mg/L	<0.00001	<0.00001	<0.00001	<0.000010	0.000	0.00001	0.00001		<0.00001	<0.00001	<0.00001	0.00001	0.00001	<0.00001
Sodium (Dissolved)	0.05		mg/L	37.5	29.6	25.6	22.9	19.700	21.60	21.00		31.6	14.7	14.40	15.70	13.60	4.45
Strontium (Dissolved)	0.0002		mg/L	3.05	3.91	4.02	4.18	4.290	4.34	4.40		0.146	0.135	0.18	0.19	0.26	0.10
Thallium (Dissolved)	0.00001		mg/L	<0.00001	<0.00001	<0.00001	<0.000010	0.00010	0.0001	0.00001		<0.00001	<0.00001	<0.00001	0.00001	0.00001	<0.00001
Tin (Dissolved)	0.0001		mg/L	<0.0001	0.00014	0.00011	<0.00010	0.002	0.0001	0.0001		<0.0001	<0.0001	<0.0001	0.0001	0.0001	0.00013
Titanium (Dissolved)	0.01		mg/L	<0.01	<0.01	<0.01	<0.010	0.057		0.01		<0.01	<0.01	<0.01	0.01	0.01	<0.01
Uranium (Dissolved)	0.00001		mg/L	0.0069	0.00449	0.00388	0.00367	0.00360	0.0033	0.0036		0.00153	0.00151	0.00203	0.0020	0.0036	0.00075
Vanadium (Dissolved)	0.001		mg/L	<0.001	<0.001	<0.001	<0.0010	0.003	0.001	0.001		0.0023	0.0025	0.0023	0.0024	0.0017	0.00150
Zinc (Dissolved)	0.001	5	mg/L	0.0022	0.00110	0.00690	0.0066	0.03790	0.00300	0.00250		0.00590	0.00370	<0.001	0.00180	0.00140	0.00160
Total Metals																	
Aluminum (Total)	0.003		mg/L	0.741	0.257	0.137	0.0892	0.006	0.05	0.19		1.34	15.7	4.87	3.00	5.14	0.76
Antimony (Total)	0.0001	0.006	mg/L	0.00046	0.00023	0.0010	0.00062	0.0003	0.0004	0.0005		0.00017	0.00074	0.0004	0.0003	0.0005	0.0002
Arsenic (Total)	0.0001	0.005	mg/L	0.00077	0.0022	0.0070	0.0049	0.003	0.0023	0.0019		0.00331	0.016	0.01	0.0051	0.0064	0.003
Barium (Total)	0.00005	1.000	mg/L	0.052	0.056	0.060	0.0568	0.056	0.0594	0.0557		0.016	0.112	0.05	0.0313	0.0496	0.02
Beryllium (Total)	0.0001		mg/L	<0.0001	<0.0001	<0.0001	<0.00010	<0.0001	0.0005	0.0001		<0.0001	0.00081	0.0003	0.00017	0.00028	<0.0001
Bismuth (Total)	0.0005		mg/L	<0.0005	<0.0005	<0.0005	<0.00050	<0.0005	0.0005	0.0005		<0.0005	<0.0005	<0.0005	0.0005	0.0005	<0.0005
Boron (Total)	0.01	5	mg/L	0.012	0.02	0.012	0.01	<0.01	0.012	0.01		<0.01	<0.01	<0.01	0.01	0.01	<0.01
Cadmium (Total)	0.00001	0.005	mg/L	0.000124	0.000333	0.000393	0.000416	0.000012	0.000185	0.000652		0.000074	0.000163	0.000162	0.000326	0.000504	0.000125
Calcium (Total)	0.05		mg/L	29.1	32.2	33.7	34	32.500	33.70	33.20		24	26.6	30.20	32.50	46.40	19.10
Chromium (Total)	0.0001	0.050	mg/L	0.0011	0.00091	0.00269	0.00234	<0.0001	0.0005	0.0009		0.0013	0.0113	0.01	0.0055	0.0052	0.001
Cobalt (Total)	0.0001		mg/L	0.00049	0.0007	0.0007	0.00065	0.0004	0.0004	0.0007		0.0005	0.0050	0.0020	0.0012	0.0020	0.0006
Copper (Total)	0.0005 - 0.003	1	mg/L	0.0017	0.0054	0.0022	0.00145	<0.0002	0.0008	0.0013		<0.003	0.0145	0.0050	0.0034	0.0048	0.0023
Iron (Total)	0.01	0.30	mg/L	0.36	0.503	0.422	0.328	0.190	0.23	0.39		1.39	18.7	6.52	3.71	6.14	0.77
Lead (Total)	0.00005	0.01	mg/L	0.0002	0.0004	0.0004	0.000265	<0.00005	0.0001	0.0003		0.0015	0.0191	0.0070	0.0043	0.0063	0.0005
Lithium (Total)	0.0005		mg/L	0.0215	0.0181	0.0183	0.0204	0.021	0.023	0.0198		<0.0005	0.00541	0.0015	0.00144	0.00209	0.001

Site ID	Minimum Detection Limit	Drinking Water Guideline	Unit of Guideline	MW12-01D	MW12-01D	MW12-01D	MW12-01D	MW12-01-D	MW12-01-D	MW12-01-D	MW12-02D	MW12-02D	MW12-02D	MW12-02-D	MW12-02-D	MW12-02-D	MW12-02S
Date/Time Sampled				**7-Jun-12**	**14-Sep-12**	**12-Dec-12**	**10-Apr-13**	**30-Jul-13**	**24-OCT-13**	**01-MAY-14**	**25-May-12**	**13-Sep-12**	**5-Dec-12**	**31-Jul-13**	**30-OCT-13**	**21-MAY-14**	**28-May-12**
Magnesium (Total)	0.1		mg/L	17.2	19.5	20.4	20.9	20.400	20.90	21.00		6.08	8.44	7.73	8.22	11.00	5.02
Manganese (Total)	0.00005	0.050	mg/L	0.235	0.608	0.559	0.507	0.458	0.38	0.43		0.0679	0.279	0.153	0.0892	0.437	0.48
Mercury (Total)	0.00001	0.001	mg/L	<0.00001	<0.00001	<0.00001	<0.000010	<0.00001	0.00001	0.00001		<0.00001	0.000014	<0.00001	0.00001	0.000012	<0.00001
Molybdenum (Total)	0.00005	0.25	mg/L	0.00740	0.00752	0.00747	0.00658	0.00595	0.00532	0.00595		0.00527	0.00343	0.00348	0.00365	0.00461	0.00173
Nickel (Total)	0.0005		mg/L	0.00147	0.00223	0.00816	0.00607	0.002	0.00207	0.00371		0.00123	0.0102	0.0047	0.00418	0.00495	0.0015
Phosphorus (Metal) Total	0.3		mg/L	<0.3	<0.3	<0.3	0.089	0.061		0.067		<0.3	0.64	0.38	0.251	0.327	<0.3
Potassium (Total)	0.05		mg/L	1.87	1.61	1.4	1.23	0.950	0.87	0.98		1.26	3.78	2.16	1.83	2.37	0.85
Selenium (Total)	0.0001	0.010	mg/L	0.00016	0.00012	0.00015	0.0003	<0.0001	0.00100	0.00010		0.00012	0.00014	0.00027	0.00027	0.00018	0.00033
Silicon (Total)	0.05		mg/L	7.1	6.2	6.3	6.52	6.1	6.4	6.7		11.8	38.8	18.6	14.8	19.5	10.4
Silver (Total)	0.00001		mg/L	<0.00001	<0.00001	0.00005	0.000083	<0.00001	0.00002	0.00005		0.00001	0.00010	0.00006	0.00005	0.00018	0.00001
Sodium (Total)	0.05	200	mg/L	36.6	28.9	26.1	23	21.3	21.30	19.90		28.8	16.2	15.30	15.10	13.90	4.44
Strontium (Total)	0.0002		mg/L	3.09	3.95	4.07	4.3	4.330	4.15	4.43		0.141	0.179	0.19	0.19	0.29	0.10
Thallium (Total)	0.00001		mg/L	<0.00001	<0.00001	<0.00001	<0.000010	<0.00001	0.00010	0.00001		0.00002	0.00021	0.00008	0.00004	0.00008	0.00002
Tin (Total)	0.0001		mg/L	0.0003	0.0004	0.0004	0.00025	<0.0001	0.0001	0.0002		0.0002	0.0005	0.0002	0.0001	0.0002	0.0002
Titanium (Total)	0.01		mg/L	0.04	0.02	0.01	<0.010	<0.01		0.01		0.10	1.15	0.41	0.23	0.38	0.07
Uranium (Total)	0.00001	0.020	mg/L	0.0068	0.0043	0.0039	0.00379	0.0036	0.0032	0.0035		0.0016	0.0028	0.0023	0.0023	0.0040	0.0008
Vanadium (Total)	0.001		mg/L	0.0012	<0.001	<0.001	<0.0010	<0.001	0.0010	0.0010		0.0050	0.0412	0.0163	0.0107	0.0151	0.0032
Zinc (Total)	0.003	5	mg/L	0.004	0.005	0.012	0.0097	0.001	0.006	0.009		0.009	0.060	0.024	0.014	0.023	0.007
Organics																	
Carbon Organic (Dissolved)	0.5 - 2		mg/L	3.94	9.57	3.04	2.29	7.64	3.09	5.39		2.24	1.45	10.00	4.39	7.47	4.33
Carbon Organic (Total)	0.5	4	mg/L	4.8	4.0	3.0	1.97	6.4	1.3	2.2		2.1	1.3	1.9	1.7	1.2	1.2
Nitrogen Organic (Dissolved)	0.05 - 0.1		mg/L	2.8	1.0	0.3	0.086	0.2	0.4	0.1		0.1	0.1	<0.05	0.2	0.3	0.2
Nitrogen Organic (Total)	0.05 - 0.06		mg/L	0.08	0.27	0.28	0.126	0.32	0.06	0.15		0.07	0.09	0.05	0.30	0.10	0.12
Sulfur (S)-Dissolved			mg/L				8.12	7.83		8.14				18.50	20.60	29.00	
Sulfur (S)-Total			mg/L				8.28	7.68		8.31				17.40	20.10	27.90	
Cyanate			mg/L				<0.20		0.20	0.20				<0.2	0.20	0.20	
Dissolved Metals Filtration Location							FIELD	FIELD						FIELD			
NOTES:																	
1. UNITS ARE IN mg/L UNLESS OTHERWISE STATED.																	
Denotes exceedance of Drinking Water Quality Guidelines																	

Site ID	Minimum Detection Limit	MW12-02S	MW12-02S	MW12-02S	MW12-02S	MW 12-02-S	MW12-02-S	MW12-04D	MW12-04D	MW12-04D	MW12-04-D	MW-12-04-D	MW12-04-D	MW12-04S	MW12-04-S	MW-12-04-S	MW12-04-S
Date/Time Sampled		**20-Sep-12**	**4-Dec-12**	**11-Apr-13**	**25-Jul-13**	**11-OCT-13**	**21-MAY-14**	**19-Sep-12**	**4-Dec-12**	**5-Apr-13**	**28-Jul-13**	**17-OCT-13**	**23-APR-14**	**19-Sep-12**	**28-Jul-13**	**17-OCT-13**	**21-MAY-14**
LAB File No.				L1289088	L1339164	L1377562-4	L1459347-2			L1286947	L1339794	L1380479-2	L1447329-1		L1339794	L1380479-1	L1459347-3
In Situ Parameters																	
Conductivity µS/cm		202	104		151	141	82	145	82		130	123	66	159	143	133.9	70
Oxygen Dissolved %		14.2	15.3		11.4	20	22.2	17.1	45.5		6.7	18.7	18.9	73.1	8.9	21.5	84
Oxygen Dissolved		1.83	1.88		1.42	2.33	2.92	1.94	5.85		0.81	2.27	2.42	8.37	0.98	2.55	10.95
pH		7.81	7.72		7.76	7.81	7.27	7.92	8.07		7.63	7.62	7.16	7.8	7.78	7.74	7.35
Redox Potential mV		-292			-130	-125	-96.4	-271	-87.2		-87	-10.4	-93.5	-386	-12.4	103.6	-89.3
Salinity ppt		0.1			0.11	0.11	0.06	0.07	0.06		0.09	0.09	0.05	0.07	0.09	0.1	0.06
Specific Conductivity µS/cm		123	166		236	232.6	137	102	135		195	188.9	109	106	199	197.9	118
Temperature °C		4.1	5.63		5.9	8.4	3.51	8.24	4.26		7.3	6.5	4.06	7.27	8.7	7.9	3.59
Total Dissolved Solids		131			154	150.8	0.08	94	880		127	122.8	71	103	129	134.55	81.1
Turbidity NTU		10.6	30.8		31	15.77	13.95	23.3	19.1		42	9.09	10.58	31.5	3.23	2.93	7.39
Physical Tests																	
Alkalinity (Total as CaCO3)	1 - 2	110	95	79.3	79	84	81.1	57	55	57.1	62	52	55	61	70	59.1	66.4
Bicarbonate Alkalinity	1 - 2	110	95	79.3	79	84	81.1	57	55	57.1	62	52	55	61	70	59.1	66.4
Carbonate Alkalinity	1 - 2	<2	<1	<2.0	<2	2	2	<1	<1	<2.0	<2	2	2	<1	<2	2	2
Color TCU	5	<5	<5	<5.0	<5.0	5	5	<5	<5	<5.0	<5.0	5.00	5.00	<5	<5.0	5	5
Conductivity µS/cm	2	187	162	145	142			126	123	125	117	114	114	141	126		
Hardness as CaCO3 (Dissolved)	0.5	83	71	66.1	62			46	38	40.7	40	39	39	49	48		
Total Dissolved Solids	10	110	107	105	95			123	124	83	89	68	74	100	89		
Turbidity NTU	0.1	2.02	128	75.2	28.3	24.9	12.2	30.9	15.6	47.4	17	9.4	6.83	13.4	4.89	5.42	9.28
Chloride (Dissolved)	0.5	0.51	<0.5	<0.50	<0.5	0.5	0.5	0.63	0.56	0.75	<0.5	1	1	0.96	<0.5	0.5	0.5
Fluoride (Dissolved)	0.02	0.11	0.104	0.079	0.083	0.083	0.077	0.135	0.155	0.143	0.136	0.122	0.125	0.126	0.137	0.124	0.124
Sulphate (Dissolved)	0.5	0.71	<0.5	<0.50	<0.5	0.5	0.5	10.30	9.79	8.61	7.62	7.15	7.07	14.20	4.80	4.42	4.83
Ammonia (Total)	0.005	<0.005	0.01	0.041	0.01	0.0052	0.005	<0.005	0.01	0.0290	0.01	0.0179	0.0183	0.01	0.02	0.0254	0.0149
Nitrate (as N)	0.005	<0.005	<0.005	<0.0050	<0.005	0.005	0.005	<0.005	<0.005	<0.0050	<0.005	0.01	0.01	0.02	0.01	0.0746	0.0223
Nitrite (as N)	0.001	<0.001	0.00	<0.0010	<0.001	0.001	0.001	<0.001	<0.001	<0.0010	<0.001	0.00	0.00	0.01	0.00	0.0011	0.0083
Nitrogen (Dissolved)	0.05 - 0.1	0.64	0.32	<0.05	<0.1	0.051	0.05	0.55	0.93	0.145	0.09	0.10	0.25	0.21	0.08	0.066	0.058
Nitrogen (Total)	0.0025 - 0.05	0.08	0.13	<0.05	0.068	0.05	0.05	0.08	0.17	0.183	0.18	0.61	0.06	0.25	0.11	0.662	0.093
Nitrogen Kjeldahl (Total)	0.05	0.08	0.13	<0.05	0.081	0.05	0.05	0.08	0.17	0.185	0.18	0.129	0.085	0.22	0.11	0.085	0.1
Phosphate (Total)	0.02			0.0759	0.0813	0.078	0.0877	0.10		0.095	0.10	0.110	0.127	0.22	0.17	0.198	0.234
Phosphorus Dissolved	0.002 - 0.02	0.12	0.18	0.0754	0.0809	0.0791	0.0812	0.08	0.09	0.125	0.12	0.12	0.14	0.18	0.21	0.203	0.244
Phosphorus Total	0.002 - 0.02	0.15	0.32	0.37	0.3240	0.253	0.211		0.10	0.202	0.18	0.160	0.158		0.23	0.242	0.285
Cyanide																	
Cyanide (Free)	0.005	<0.005	<0.005	<0.0050	<0.005	0.005	0.005	<0.005	<0.005	<0.0050	<0.005	0.005	0.005	<0.005	<0.005	0.005	0.005
Cyanide (Total)	0.005	<0.005	<0.005	<0.0050	<0.005	0.005	0.005	<0.005	<0.005	<0.0050	<0.005	0.005	0.005	<0.005	<0.005	0.005	0.005
Cyanide (WAD)	0.005	<0.005	<0.005	<0.0050	<0.005	0.005	0.005	<0.005	<0.005	<0.0050	<0.005	0.005	0.005	<0.005	<0.005	0.005	0.005
Thiocyante (SCN)	0.5	<0.5	<0.5	<0.50	<0.5	0.5	0.5	<0.5	<0.5	<0.50	<0.5			<0.5	<0.5	0.5	0.5
Dissolved Metals																	
Aluminum (Dissolved)	0.001	0.0041	0.0069	0.0041	0.0045	0.01	0.0041	0.472	0.0046	0.0052	0.0058	0.0046	0.0041	0.0082	0.0053	0.0042	0.0068
Antimony (Dissolved)	0.0001	0.00	<0.0001	<0.00010	<0.0001	0.0005	0.0001	0.00	0.00	0.00015	0.00015	0.00010	0.00010	0.00	0.00014	0.00017	0.00014
Arsenic (Dissolved)	0.0001	0.01	0.01	0.0107	0.01	0.011	0.0106	0.02	0.02	0.0194	0.03	0.025	0.028	0.00	0.00	0.00242	0.00262
Barium (Dissolved)	0.00005	0.02	0.01	0.0166	0.02	0.02	0.013	0.01	0.02	0.0145	0.01	0.012	0.011	0.01	0.01	0.0133	0.0132
Beryllium (Dissolved)	0.0001	<0.0001	<0.0001	<0.00010	<0.0001	0.005	0.0001	<0.0001	<0.0001	<0.00010	<0.0001	0.0001	0.0001	<0.0001	<0.0001	0.0001	0.0001
Bismuth (Dissolved)	0.0005	<0.0005	<0.0005	<0.00050	<0.0005		0.0005	<0.0005	<0.0005	<0.00050	<0.0005	0.0005	0.0005	<0.0005	<0.0005	0.0005	0.0005
Boron (Dissolved)	0.01	<0.01	<0.01	<0.010	<0.01	0.1	0.01	<0.01	0.01	<0.010	<0.01	0.01	0.01	<0.01	<0.01	0.01	0.01
Cadmium (Dissolved)	0.00001	<0.00001	<0.00001	<0.000010	<0.00001	0.00005	0.00001	0.00002	<0.00001	0.000122	0.000016	0.00001	0.00001	0.00030	0.000059	0.000223	0.000104
Calcium (Dissolved)	0.05	23.70	20.50	18.7	17.70	18.1	18.7	14.70	12.10	13.3	12.80	12.60	12.60	14.50	14.00	14.3	15
Chromium (Dissolved)	0.0001	<0.0001	<0.0001	<0.00010	<0.0001	0.0005	0.0001	0.0001	0.0003	<0.00010	0.00048	0.00015	0.0001	0.0001	0.00014	0.0001	0.0001
Cobalt (Dissolved)	0.0001	0.00061	0.00042	0.00033	0.00024	0.0005	0.00016	0.00067	0.00060	0.00041	0.00060	0.00042	0.00028	0.00029	0.00045	0.00023	0.00033
Copper (Dissolved)	0.0002	<0.0002	<0.0002	<0.00020	<0.0002	0.001	0.0002	<0.0002	<0.0002	0.00042	<0.0002	0.00020	0.00020	0.0013	<0.0002	0.00048	0.00132
Iron (Dissolved)	0.01	0.21	0.29	0.733	0.70	0.705	0.638	0.13	0.12	0.015	0.22	0.104	0.029	<0.01	0.04	0.018	0.01
Lead (Dissolved)	0.00005	<0.00005	<0.00005	<0.000050	<0.00005	0.001	0.00005	0.0001	<0.00005	<0.000050	<0.00005	0.00005	0.00005	0.0001	<0.00005	0.00005	0.00005
Lithium (Dissolved)	0.0005	<0.0005	<0.0005	<0.00050	<0.0005	0.05	0.0005	0.0007	<0.0005	0.00114	<0.0005	0.0005	0.0005	<0.0005	<0.0005	0.0005	0.0005
Magnesium (Dissolved)	0.1	5.67	4.90	4.72	4.36	4.56	4.65	2.36	1.80	1.85	1.85	1.83	1.88	3.17	3.06	3.07	3.11
Manganese (Dissolved)	0.00005	1.89	1.90	1.21	1.15	1.09	0.762	0.26	0.27	0.221	0.24	0.19600	0.15300	0.33	0.29	0.196	0.209
Mercury (Dissolved)	0.00001	<0.00001	<0.00001	<0.000010	<0.00001	0.00001	0.000018	<0.00001	<0.00001	<0.000010	<0.00001	0.00001	0.00001	<0.00001	<0.00001	0.00001	0.00001
Molybdenum (Dissolved)	0.00005	0.00	0.00	0.00189	0.0020	0.0018	0.00167	0.02	0.02	0.0135	0.0117	0.0114	0.0096	0.00	0.0034	0.00318	0.00314
Nickel (Dissolved)	0.0005	0.00102	0.00087	<0.00050	<0.0005	0.005	0.0005	0.00129	0.00324	0.00402	0.00319	0.00227	0.00157	0.00094	0.00589	0.00487	0.00261
Phosphorus (Metal) Dissolved	0.3	<0.3	<0.3	0.205	0.19		0.183	<0.3	<0.3	0.110	0.14	0.14	0.14	<0.3	0.21	0.216	0.25
Potassium (Dissolved)	0.05	0.71	0.62	0.71	0.59		0.7	1.12	1.12	1.28	1.22	1.16	1.08	0.70	0.70	0.71	0.73
Selenium (Dissolved)	0.0001	<0.0001	0.00	<0.00010	<0.0001	0.001	0.00016	<0.0001	<0.0001	<0.00010	<0.0001	0.0001	0.0001	0.00	0.0003	0.00029	0.0003
Silicon (Dissolved)	0.05	7.63	8.09	9.18	8.50		9.67	9.58	7.81	8.00	8.42	8.69	8.88	6.73	6.72	6.83	6.94
Silver (Dissolved)	0.00001	<0.00001	<0.00001	<0.000010	<0.00001	0.00005	0.00001	<0.00001	<0.00001	<0.000010	<0.00001	0.00001	0.00001	<0.00001	<0.00001	0.00001	0.00001
Sodium (Dissolved)	0.05	7.27	6.15	4.32	5.14	4.8	4.67	9.77	11.00	9.29	8.85	8.68	8.44	11.30	7.61	7.42	7.93
Strontium (Dissolved)	0.0002	0.13	0.12	0.0987	0.10		0.102	0.12	0.11	0.107	0.11	0.11	0.10	0.11	0.10	0.0977	0.1
Thallium (Dissolved)	0.00001	<0.00001	<0.00001	<0.000010	<0.00001	0.0002	0.00001	<0.00001	<0.00001	<0.000010	<0.00001	0.00001	0.00001	<0.00001	<0.00001	0.00001	0.00001
Tin (Dissolved)	0.0001	<0.0001	<0.0001	<0.00010	<0.0001		0.0001	0.00020	0.00037	0.00015	0.00013	0.0001	0.0001	<0.0001	<0.0001	0.0001	0.0001
Titanium (Dissolved)	0.01	<0.01	<0.01	<0.010	<0.01	0.05	0.01	0.01	<0.01	<0.010	<0.01	0.01	0.01	<0.01	<0.01	0.01	0.01
Uranium (Dissolved)	0.00001	0.00095	0.00041	0.000078	0.00013	0.0002	0.000117	0.00072	0.00068	0.000504	0.00030	0.0004	0.0004	0.00104	0.00077	0.000739	0.000902
Vanadium (Dissolved)	0.001	<0.001	<0.001	<0.0010	<0.001	0.03	0.001	<0.001	<0.001	<0.0010	<0.001	0.001	0.001	0.00100	<0.001	0.001	0.001
Zinc (Dissolved)	0.001	<0.001	0.00110	<0.0010	0.00130	0.005	0.001	0.00140	<0.001	0.0023	0.00100	0.00100	0.00200	0.01000	0.00460	0.0046	0.0083
Total Metals																	
Aluminum (Total)	0.003	0.07	2.90	1.64	1.67	0.567	0.431	3.79	1.50	3.70	4.18	1.07	1.00	1.38	0.33	0.277	0.354
Antimony (Total)	0.0001	0.0002	0.0002	0.00014	0.0002	0.0005	0.0001	0.0002	0.0002	0.00023	0.0009	0.0004	0.0003	0.0003	0.0004	0.00025	0.0002
Arsenic (Total)	0.0001	0.01	0.01	0.0114	0.01	0.0112	0.0103	0.03	0.02	0.0262	0.03	0.0272	0.0279	0.003	0.0025	0.00271	0.0028
Barium (Total)	0.00005	0.02	0.04	0.0353	0.04	0.025	0.0173	0.02	0.02	0.0265	0.03	0.0154	0.0140	0.02	0.02	0.0161	0.0166
Beryllium (Total)	0.0001	<0.0001	0.0001	<0.00010	<0.0001	0.005	0.0001	0.0002	0.0001	0.00023	0.0002	0.0001	0.0001	<0.0001	<0.0001	0.0001	0.0001
Bismuth (Total)	0.0005	<0.0005	<0.0005	<0.00050	<0.0005		0.0005	<0.0005	<0.0005	<0.00050	<0.0005	0.0005	0.0005	<0.0005	<0.0005	0.0005	0.0005
Boron (Total)	0.01	<0.01	<0.01	<0.010	<0.01	0.1	0.01	0.01	0.02	0.012	0.01	0.01	0.01	<0.01	0.01	0.01	0.01
Cadmium (Total)	0.00001	0.000019	0.000084	0.000054	0.000091	0.000054	0.000061	0.000084	0.00014	0.000370	0.000632	0.000219	0.000259	0.000473	0.000224	0.000411	0.000275
Calcium (Total)	0.05	23.30	21.10	18.8	18.70	18	17.8	16.10	13.20	15.5	14.00	13.10	12.60	15.50	13.60	14.5	14.9
Chromium (Total)	0.0001	0.000	0.002	0.00132	0.0019	0.00104	0.00085	0.001	0.001	0.00231	0.0049	0.0017	0.0012	0.002	0.0028	0.00159	0.00258
Cobalt (Total)	0.0001	0.0006	0.0015	0.00108	0.0011	0.0005	0.00035	0.0016	0.0009	0.00145	0.0014	0.0006	0.0005	0.0007	0.0007	0.00038	0.00045
Copper (Total)	0.0005 - 0.003	<0.0008	0.0049	0.00213	0.0021	0.001	0.00063	0.0041	0.0013	0.00249	0.0033	0.0009	0.0009	0.0038	0.0012	0.00116	0.00106
Iron (Total)	0.01	0.23	2.85	2.35	2.60	1.36	1.07	1.75	0.65	1.89	1.96	0.54	0.47	0.89	0.43	0.299	0.401
Lead (Total)	0.00005	0.0001	0.0022	0.00124	0.0015	0.001	0.000362	0.0013	0.0005	0.00119	0.0013	0.0003	0.0004	0.0012	0.0004	0.000268	0.000405
Lithium (Total)	0.0005	<0.0005	0.001	0.00079	0.001	0.05	0.0005	0.002	0.001	0.00209	0.002	0.00058	0.00068	0.001	<0.50	0.0005	0.0005

Site ID	Minimum Detection Limit	MW12-02S	MW12-02S	MW12-02S	MW12-02S	MW 12-02-S	MW12-02-S	MW12-04D	MW12-04D	MW12-04D	MW12-04-D	MW-12-04-D	MW12-04-D	MW12-04S	MW12-04-S	MW-12-04-S	MW12-04-S
Date/Time Sampled		**20-Sep-12**	**4-Dec-12**	**11-Apr-13**	**25-Jul-13**	**11-OCT-13**	**21-MAY-14**	**19-Sep-12**	**4-Dec-12**	**5-Apr-13**	**28-Jul-13**	**17-OCT-13**	**23-APR-14**	**19-Sep-12**	**28-Jul-13**	**17-OCT-13**	**21-MAY-14**
Magnesium (Total)	0.1	5.61	5.46	5.06	4.79	4.59	4.41	3.13	2.38	2.96	2.86	2.18	2.03	3.48	3.06	3.23	3.2
Manganese (Total)	0.00005	1.8	1.91	1.31	1.23	1.1	0.773	0.32	0.295	0.298	0.242	0.206	0.158	0.372	0.311	0.218	0.239
Mercury (Total)	0.00001	<0.00001	<0.00001	<0.000010	<0.00001	0.00001	0.00001	<0.00001	<0.00001	<0.000010	<0.00001	0.00001	0.00001	<0.00001	<0.00001	0.00001	0.00001
Molybdenum (Total)	0.00005	0.00356	0.00324	0.00181	0.00198	0.0019	0.00173	0.01740	0.01750	0.0129	0.01130	0.01210	0.00983	0.00325	0.00372	0.00345	0.00339
Nickel (Total)	0.0005	0.0015	0.0030	0.00158	0.0026	0.005	0.001	0.0028	0.01	0.00683	0.01	0.0035	0.00233	0.0021	0.0080	0.00647	0.00396
Phosphorus (Metal) Total	0.3	<0.3	0.36	0.276	0.3010		0.201	<0.3	<0.3	0.165	0.17	0.151	0.158	<0.3	0.23	0.248	0.264
Potassium (Total)	0.05	0.70	1.28	1.34	1.04		0.77	1.41	1.25	1.69	1.58	1.36	1.14	0.91	0.77	0.84	0.76
Selenium (Total)	0.0001	<0.0001	<0.0001	<0.00010	<0.0001	0.001	0.0001	0.00015	0.00014	0.00013	0.00013	0.00010	0.00010	0.00023	0.00030	0.00031	0.0003
Silicon (Total)	0.05	7.7	13.3	13	12.2		10	16.7	13.7	18.8	19.3	12.2	10.4	10.2	6.9	7.68	7.47
Silver (Total)	0.00001	<0.00001	0.00005	0.000025	0.00002	0.00005	0.000017	0.00001	<0.00001	0.000049	0.00005	0.00004	0.00005	0.00002	0.00001	0.000025	0.000033
Sodium (Total)	0.05	7.13	6.20	4.65	5.39	4.8	4.52	9.71	11.50	9.68	8.31	8.68	8.24	11.50	7.34	7.56	7.73
Strontium (Total)	0.0002	0.12	0.13	0.104	0.11		0.103	0.14	0.12	0.130	0.13	0.12	0.11	0.12	0.10	0.102	0.107
Thallium (Total)	0.00001	<0.00001	0.00004	0.000025	0.00002	0.0002	0.00001	0.00005	0.00002	0.000041	0.00005	0.00002	0.00002	0.00002	<0.00001	0.000011	0.000011
Tin (Total)	0.0001	<0.0001	0.0001	<0.00010	0.0001		0.0001	0.0015	0.0008	0.00133	0.0016	0.0005	0.0003	0.0003	0.0002	0.00013	0.0001
Titanium (Total)	0.01	<0.01	0.18	0.1	0.13	0.053	0.029	0.05	0.04	0.024	0.06	0.02	0.02	0.07	0.02	0.013	0.019
Uranium (Total)	0.00001	0.0010	0.0006	0.000178	0.0003	0.0002	0.000154	0.0010	0.0009	0.000822	0.0006	0.0005	0.0005	0.0012	0.0008	0.000822	0.00101
Vanadium (Total)	0.001	<0.001	0.0062	0.0033	0.0040	0.03	0.0012	0.0036	0.0016	0.0029	0.0035	0.0013	0.0013	0.0029	0.0015	0.0016	0.0019
Zinc (Total)	0.003	<0.003	0.021	0.0191	0.031	0.0106	0.0044	0.010	0.004	0.0102	0.014	0.007	0.007	0.023	0.007	0.0082	0.0062
Organics																	
Carbon Organic (Dissolved)	0.5 - 2	7.17	8.62	2.29	3.56	0.92	1.47	6.16	6.13	2.77	5.49	4.98	1.56	1.98	4.16	4.11	1.61
Carbon Organic (Total)	0.5	1.8	1.9	1.23	1.90	0.76	0.92	2.3	4.9	1.95	2.7	1.5	0.7	2.1	1.2	1.37	0.81
Nitrogen Organic (Dissolved)	0.05 - 0.1	0.6	0.3	<0.050	<0.1	0.056	0.05	0.5	0.9	0.116	0.1	0.1	0.2	0.2	<0.05	0.167	0.104
Nitrogen Organic (Total)	0.05 - 0.06	0.08	0.12	<0.050	0.06	0.05	0.05	0.08	0.16	0.154	0.17	0.59	0.05	0.21	0.07	0.561	0.05
Sulfur (S)-Dissolved				1.49	<0.5		1.91			3.01	2.56	2.63	2.47		1.64	1.54	1.71
Sulfur (S)-Total				<0.50	<0.5		0.5			3.04	2.48	2.51	2.47		1.47	1.57	1.68
Cyanate				<0.20	0.87	0.83	0.45			<0.20	<0.2	0.20	0.20		<0.2	0.2	0.2
Dissolved Metals Filtration Location				FIELD	FIELD	FIELD	FIELD			FIELD	FIELD				FIELD	FIELD	FIELD
NOTES:																	
1. UNITS ARE IN mg/L UNLESS OTHERWISE STATED.																	
Denotes exceedance of Drinking Water Quality Guidelines																	

Site ID	Minimum Detection Limit	MW12-05D	MW12-05D	MW12-05D	MW12-05D	MW 12-05-D	MW12-05-D	MW12-05S	MW12-05S	MW12-05S	MW12-05S	MW12-05S	MW 12-05-S	MW12-05-S	MW12-06D	MW12-06D	MW12-06S
Date/Time Sampled		**28-Jun-12**	**26-Sep-12**	**09-APR-13**	**25-Jul-13**	**10-OCT-13**	**29-APR-14**	**28-May-12**	**26-Sep-12**	**29-Nov-12**	**4-Apr-13**	**25-Jul-13**	**11-OCT-13**	**29-APR-14**	**10-Apr-13**	**1-Aug-13**	**14-Jun-12**
LAB File No.				L1288025	L1339164	L1377562-2	L1449602-4				L1286947	L1339164	L1377562-3	L1449602-5	L1289088	L1344582	
In Situ Parameters																	
Conductivity µS/cm		778	285		351	282	135	288	355	235		464	347.6	192		396.00	68
Oxygen Dissolved %		32	17.4		7.5	13.3	17.3	28.3	30.9	18.4		14.9	14.5	18.8		11.30	63.8
Oxygen Dissolved		3	1.83		0.77	1.5	2.32	3.12	4.02	2.41		1.56	1.75	2.45		1.28	6.86
pH		7.96	7.99		7.81	7.87	7.31	7.55	7.62	8.3		7.51	7.45	7.14		7.46	8.03
Redox Potential mV		-0.1	-47.3		-140	-117.3	-119.8		-235	203		-149	-130	-137.5		-73.00	
Salinity ppt		0.13	0.14		0.21	0.19	0.11		0.17	0.19		0.29	0.3	0.15		0.27	
Specific Conductivity µS/cm		200	216		438	394	234	171	214	398		601	532.6	320		562.00	44
Temperature °C		9.95	12.1		14.3	9.9	2.7	3.79	4.26	3.61		12.5	6.3	3.8		9.00	5.54
Total Dissolved Solids		139	184		285	256.1	152		231	258		392	397.15	202		364.00	
Turbidity NTU		22.4	16.3		12.93	9.28	15.11	14.3	9.16	12.7		7.52	2.54	7.41		12.52	95.7
Physical Tests																	
Alkalinity (Total as CaCO3)	1 - 2	134	135	137	141	138	131	145	179	188	187	183	178	171	115	111.00	31
Bicarbonate Alkalinity	1 - 2	134	135	137	141	138	131	145	179	188	187	183	178	171	115	111.00	31
Carbonate Alkalinity	1 - 2	<2	<1	<2.0	<2	2	2	<2	<1	<1	<2.0	<2	2	2	<2.0	<2	<1
Color TCU	5	<5	5.70	7.7	0.01	7.10	6.30	<5	10.10	9.80	<5.0	0.02	5	5	<5.0	<5.0	<5
Conductivity µS/cm	2	274	244	244	259	239	236	258	302	320	331	321			428	309.00	66
Hardness as CaCO3 (Dissolved)	0.5	103	102	97.5	106	100	97	130	155	148	148	141			148	114.00	27
Total Dissolved Solids	10	181	153	136	164	150	144	145	193	194	183	195			303	215.00	65
Turbidity NTU	0.1	32.1	11.4	15.5	7.74	10.4	9.42	12.1	16	28.7	46.4	22.7	12.4	11.8	54.9	1.76	62.7
Chloride (Dissolved)	0.5	<0.5	<0.5	<0.50	<0.5	1	1	<0.5	<0.5	<0.5	1.00	<0.5	0.5	0.5	5.41	3.82	<0.5
Fluoride (Dissolved)	0.02	0.15	0.139	0.143	0.132	0.137	0.126	0.2	0.198	0.208	0.248	0.244	0.23	0.2	0.104	0.10	0.093
Sulphate (Dissolved)	0.5	12.10	7.27	3.12	5.52	2.72	2.95	5.91	1.39	0.90	0.75	0.86	1.06	1.61	99	50.10	5.36
Ammonia (Total)	0.005	0.04	0.05	0.0725	0.07	0.0641	0.0534	0.09	0.10	0.12	0.232	0.26	0.231	0.173	0.073	0.01	<0.005
Nitrate (as N)	0.005	<0.005	<0.005	<0.0050	<0.005	0.01	0.02	<0.005	<0.005	<0.005	0.0052	<0.005	0.0059	0.005	<0.0050	<0.005.0	<0.005
Nitrite (as N)	0.001	<0.001	0.00	<0.0010	<0.001	0.00	0.00	<0.001	<0.001	<0.001	<0.0010	<0.001	0.001	0.001	<0.0010	<0.001	<0.001
Nitrogen (Dissolved)	0.05 - 0.1	<0.05	0.81	0.142	0.20	0.13	0.11	0.12	0.49	1.20	0.363	0.56	0.085	0.05	0.21	0.13	<0.05
Nitrogen (Total)	0.0025 - 0.05	0.12	0.21	0.186	0.16	0.14	0.18	0.38	0.65	0.67	0.621	0.45	0.4	0.366	0.32	0.14	<0.0025
Nitrogen Kjeldahl (Total)	0.05	0.12	0.21	<0.05	0.14	0.152	0.222	0.38	0.65	0.67	0.708	0.42	0.506	0.429	0.321	0.17	<0.05
Phosphate (Total)	0.02			0.0467	0.05	0.048	0.043				<0.0010	<0.001	0.001	0.001	0.0027	0.02	
Phosphorus Dissolved	0.002 - 0.02	0.02	0.04	0.0518	0.06	0.06	0.05	0.01	<0.002	<0.002	<0.0020	<0.002	0.002	0.002	<0.0020	0.02	0.09
Phosphorus Total	0.002 - 0.02	0.06	0.09	0.151	0.17	0.145	0.120	0.04	0.08	0.13	0.236	0.14	0.157	0.134	0.144	0.14	0.13
Cyanide																	
Cyanide (Free)	0.005	<0.005	<0.005	<0.0050	<0.005	0.005	0.005	<0.005	<0.005	<0.005	<0.0050	<0.005	0.005	0.005	<0.0050	<0.005	<0.005
Cyanide (Total)	0.005	<0.005	<0.005	<0.0050	<0.005	0.005	0.005	<0.005	<0.005	<0.005	<0.0050	<0.005	0.005	0.005	<0.0050	<0.005	<0.005
Cyanide (WAD)	0.005	<0.005	<0.005	<0.0050	<0.005	0.005	0.005	<0.005	<0.005	<0.005	<0.0050	<0.005	0.005	0.005	<0.0050	<0.005	<0.005
Thiocyante (SCN)	0.5	<0.5	<0.5	<0.50	<0.5			<0.5	<0.5	<0.5	<0.50	<0.5	0.5	0.5	<0.50		<0.5
Dissolved Metals																	
Aluminum (Dissolved)	0.001	0.0045	0.0063	0.0057	0.0066	0.01	0.0048	0.0056	0.0066	0.0034	0.0072	0.0039	0.01	0.003	0.0019	0.68	0.012
Antimony (Dissolved)	0.0001	0.00	0.00	<0.00010	<0.0001	0.00050	0.00022	0.00	0.00	0.00	0.00031	<0.0001	0.0005	0.00015	0.00014	0.0002	0.00
Arsenic (Dissolved)	0.0001	0.00	0.00	0.00361	0.00	0.004	0.004	0.00	0.00	0.01	0.00689	0.01	0.007	0.00681	0.00491	0.0078	0.00
Barium (Dissolved)	0.00005	0.14	0.12	0.112	0.12	0.116	0.132	0.06	0.09	0.10	0.101	0.11	0.109	0.0998	0.0431	0.04	0.00
Beryllium (Dissolved)	0.0001	<0.0001	<0.0001	<0.00010	<0.0001	0.005	0.0001	<0.0001	<0.0001	<0.0001	<0.00010	<0.0001	0.005	0.0001	<0.00010	<0.00010	<0.0001
Bismuth (Dissolved)	0.0005	<0.0005	<0.0005	<0.00050	<0.0005		0.0005	<0.0005	<0.0005	<0.0005	<0.00050	<0.0005		0.0005	<0.00050	<0.00050	<0.0005
Boron (Dissolved)	0.01	0.01	0.02	<0.010	<0.01	0.1	0.01	<0.01	0.02	<0.01	<0.010	<0.01	0.1	0.01	0.021	0.01	<0.01
Cadmium (Dissolved)	0.00001	0.00004	0.00001	<0.000010	<0.00001	0.00005	0.00001	0.00055	0.00006	<0.00001	0.000047	0.000022	0.00005	0.000035	0.000015	0.000079	0.00005
Calcium (Dissolved)	0.05	26.90	26.80	25.6	28.00	26.30	25.50	36.30	42.60	39.40	40.4	38.10	41.2	37.9	45.9	35.10	8.59
Chromium (Dissolved)	0.0001	<0.0001	0.0002	0.00019	<0.0001	0.0005	0.0001	<0.0001	0.0002	<0.0001	0.00011	<0.0001	0.0005	0.0001	0.00118	0.0020	0.0026
Cobalt (Dissolved)	0.0001	0.00030	0.00046	0.00057	0.00046	0.00050	0.00057	0.00075	0.00396	0.00412	0.00311	0.00263	0.00194	0.00164	0.0032	0.0018	<0.0001
Copper (Dissolved)	0.0002	<0.0002	<0.0002	<0.00020	<0.0002	0.00100	0.00020	0.0017	0.0015	<0.0002	0.00129	<0.0002	0.001	0.0002	0.00044	0.0011	0.0008
Iron (Dissolved)	0.01	<0.01	0.09	0.356	0.45	0.457	0.257	<0.01	1.36	3.19	4.18	4.23	3.23	2.86	0.724	1.38	<0.01
Lead (Dissolved)	0.00005	<0.00005	<0.00005	<0.000050	<0.00005	0.001	0.00005	0.0001	0.0001	<0.00005	0.000089	<0.00005	0.001	0.00005	<0.000050	0.0003	0.0001
Lithium (Dissolved)	0.0005	0.02	0.01	0.00903	0.01060	0.05	0.0105	0.0026	0.0017	0.0012	0.00219	0.00149	0.05	0.00239	0.00081	0.0007	<0.0005
Magnesium (Dissolved)	0.1	8.66	8.60	8.15	8.73	8.33	8.14	9.53	11.70	12.10	11.5	11.00	11.6	10.9	8.17	6.55	1.27
Manganese (Dissolved)	0.00005	0.10	0.24	0.391	0.42	0.43100	0.35400	0.51	3.27	5.14	4.26	3.71	3.41	2.89	1.03	1.170	0.00
Mercury (Dissolved)	0.00001	<0.00001	<0.00001	<0.000010	<0.00001	0.00001	0.000014	<0.00001	<0.00001	<0.00001	<0.000010	<0.00001	0.00001	0.00001	<0.000010	<0.00001	<0.00001
Molybdenum (Dissolved)	0.00005	0.01	0.01	0.00522	0.0069	0.0050	0.0051	0.02	0.02	0.02	0.0181	0.0187	0.0174	0.0175	0.00374	0.003	0.00
Nickel (Dissolved)	0.0005	0.00053	0.00211	0.00126	0.00064	0.005	0.00177	0.00245	0.0142	0.00376	0.00241	0.00392	0.005	0.00266	0.0196	0.0052	0.00055
Phosphorus (Metal) Dissolved	0.3	<0.3	<0.3	0.11	0.12		0.08	<0.3	<0.3	<0.3	<0.050	0.07		0.05	0.071	0.13	<0.3
Potassium (Dissolved)	0.05	0.93	0.91	0.97	0.94		0.92	1.69	1.68	1.70	2.23	1.54		1.42	1.59	1.35	0.57
Selenium (Dissolved)	0.0001	0.00	<0.0001	<0.00010	<0.0001	0.001	0.0001	<0.0001	<0.0001	<0.0001	<0.00010	<0.0001	0.001	0.0001	0.00026	0.0002	<0.0001
Silicon (Dissolved)	0.05	6.17	6.30	6.34	6.23		6.51	5.32	6.04	6.15	6.12	5.81		6.02	7.73	9.37	7.72
Silver (Dissolved)	0.00001	<0.00001	<0.00001	<0.000010	<0.00001	0.00005	0.00001	<0.00001	<0.00001	<0.00001	<0.000010	<0.00001	0.00005	0.00001	<0.000010	0.00002	<0.00001
Sodium (Dissolved)	0.05	20.60	16.60	14.7	16.70	15.30	15.00	10.90	11.50	14.60	12.4	12.40	12.8	12.4	30.6	22.70	3.09
Strontium (Dissolved)	0.0002	0.82	0.80	0.882	0.96		0.92	0.37	0.44	0.53	0.517	0.54		0.607	0.41	0.37	0.06
Thallium (Dissolved)	0.00001	<0.00001	<0.00001	<0.000010	<0.00001	0.0002	0.00001	0.00002	<0.00001	<0.00001	<0.000010	<0.00001	0.0002	0.00001	<0.000010	<0.000010	<0.00001
Tin (Dissolved)	0.0001	<0.0001	0.00	<0.00010	<0.0001		0.0001	0.00021	0.00	<0.0001	0.00011	<0.0001		0.0001	0.00036	0.0001	<0.0001
Titanium (Dissolved)	0.01	<0.01	<0.01	<0.010	<0.01	0.05	0.01	<0.01	<0.01	<0.01	<0.010	<0.01	0.05	0.01	<0.010	0.02	<0.01
Uranium (Dissolved)	0.00001	0.00063	0.00042	0.00021	0.00019	0.0002	0.0002	0.00263	0.00184	0.00108	0.000489	0.00040	0.00028	0.000278	0.00058	0.0005	0.00016
Vanadium (Dissolved)	0.001	<0.001	<0.001	<0.0010	<0.001	0.03	0.001	<0.001	<0.001	<0.001	<0.0010	<0.001	0.03	0.001	<0.0010	0.002	0.00360
Zinc (Dissolved)	0.001	0.00750	0.00140	<0.0010	<0.001	0.00500	0.00180	0.01640	0.01330	0.01010	0.0668	0.00240	0.0098	0.0043	0.0042	0.01	0.01230
Total Metals																	
Aluminum (Total)	0.003	1.01	0.75	0.431	0.28	0.25	0.27	0.40	1.30	0.13	0.272	0.11	0.243	0.105	1.71	0.003	4.86
Antimony (Total)	0.0001	0.0010	0.0003	0.00022	0.0003	0.0005	0.0004	0.0003	0.0006	0.0004	0.00114	0.0002	0.0005	0.00031	0.00034	0.00013	0.0002
Arsenic (Total)	0.0001	0.004	0.004	0.00392	0.0040	0.0042	0.0047	0.001	0.004	0.01	0.00804	0.0083	0.0082	0.00857	0.00704	0.007	0.0052
Barium (Total)	0.00005	0.17	0.12	0.117	0.13	0.1220	0.1340	0.06	0.11	0.10	0.119	0.12	0.118	0.112	0.0607	0.031	0.03
Beryllium (Total)	0.0001	<0.0001	<0.0001	<0.00010	<0.0001	0.005	0.0001	<0.0001	<0.0001	<0.0001	<0.00010	<0.0001	0.005	0.0001	0.00015	<0.0001	0.0003
Bismuth (Total)	0.0005	<0.0005	<0.0005	<0.00050	<0.0005		0.0005	<0.0005	<0.0005	<0.0005	<0.00050	<0.0005		0.0005	<0.00050	<0.0005	<0.0005
Boron (Total)	0.01	0.01	0.02	0.01	0.0140	0.1	0.011	0.01	0.02	<0.01	<0.010	0.01	0.1	0.01	0.023	<0.01	0.01
Cadmium (Total)	0.00001	0.000167	0.000143	0.000135	0.000077	0.000056	0.00014	0.00084	0.000731	0.000166	0.000493	0.000137	0.000291	0.000406	0.000348	0.000040	0.000042
Calcium (Total)	0.05	30.90	25.90	25.8	28.50	27.90	25.70	34.00	40.50	40.40	39.7	39.20	40.2	38.6	44.3	35.10	9.66
Chromium (Total)	0.0001	0.001	0.002	0.00093	0.0007	0.0006	0.0008	0.001	0.003	0.001	0.00078	0.0009	0.00108	0.00131	0.0063	0.0002	0.01
Cobalt (Total)	0.0001	0.0007	0.0008	0.00083	0.0008	0.0006	0.0008	0.0009	0.0046	0.0045	0.00350	0.0029	0.0021	0.00183	0.00428	0.00	0.0016
Copper (Total)	0.0005 - 0.003	0.0046	0.0020	0.0014	0.0012	0.0010	0.0011	0.0046	0.0060	0.0023	0.00337	0.0012	0.0013	0.00128	0.0059	<0.00020	0.0028
Iron (Total)	0.01	0.73	0.76	0.706	0.82	0.82	0.66	0.41	2.86	4.23	5.83	5.39	4.62	4.35	3.43	0.52	3.44
Lead (Total)	0.00005	0.0011	0.0008	0.000421	0.0003	0.0010	0.0003	0.0009	0.0024	0.0006	0.000847	0.0005	0.001	0.000481	0.00107	<0.00005	0.0017
Lithium (Total)	0.0005	0.02	0.01	0.00853	0.01	0.05	0.0105	0.002	0.002	0.001	0.00218	0.0016	0.05	0.0023	0.00146	0.00	0.001

Site ID	Minimum Detection Limit	MW12-05D	MW12-05D	MW12-05D	MW12-05D	MW 12-05-D	MW12-05-D	MW12-05S	MW12-05S	MW12-05S	MW12-05S	MW12-05S	MW 12-05-S	MW12-05-S	MW12-06D	MW12-06D	MW12-06S
Date/Time Sampled		**28-Jun-12**	**26-Sep-12**	**09-APR-13**	**25-Jul-13**	**10-OCT-13**	**29-APR-14**	**28-May-12**	**26-Sep-12**	**29-Nov-12**	**4-Apr-13**	**25-Jul-13**	**11-OCT-13**	**29-APR-14**	**10-Apr-13**	**1-Aug-13**	**14-Jun-12**
Magnesium (Total)	0.1	9.47	8.52	8.27	9.02	8.43	8.22	9.06	11.50	12.50	11.6	11.40	11.2	11.1	8.22	6.37	1.96
Manganese (Total)	0.00005	0.124	0.256	0.404	0.492	0.453	0.368	0.502	3.26	5.14	4.34	3.89	3.32	2.93	1.04	1.120	0.0611
Mercury (Total)	0.00001	<0.00001	<0.00001	<0.000010	<0.00001	0.00001	0.00001	<0.00001	<0.00001	0.00002	<0.000010	<0.00001	0.00001	0.00001	<0.000010	<0.000010	0.00004
Molybdenum (Total)	0.00005	0.00824	0.00633	0.00532	0.00752	0.00530	0.00560	0.01810	0.01570	0.01720	0.0184	0.02020	0.0177	0.0191	0.00333	0.0025	0.00115
Nickel (Total)	0.0005	0.0014	0.0032	0.00233	0.0016	0.005	0.0024	0.0028	0.02	0.00	0.00308	0.0046	0.005	0.00349	0.0235	0.00	0.0032
Phosphorus (Metal) Total	0.3	<0.3	<0.3	0.137	0.14		0.107	<0.3	<0.3	<0.3	0.216	0.21		0.156	0.122	0.10	<0.3
Potassium (Total)	0.05	1.29	1.03	1.16	1.05		1.00	1.60	1.81	1.73	2.18	1.62		1.45	1.92	1.16	0.95
Selenium (Total)	0.0001	0.00011	<0.0001	<0.00010	<0.0001	0.00100	0.00010	<0.0001	0.00013	0.00013	<0.00010	<0.0001	0.001	0.0001	0.0003	0.000	0.00010
Silicon (Total)	0.05	9.1	7.5	7.34	6.8		7.0	5.8	8.1	6.6	6.58	6.1		6.2	11.2	7.56	18.9
Silver (Total)	0.00001	0.00003	0.00001	<0.000010	0.00002	0.00005	0.00006	0.00002	0.00003	<0.00001	0.000046	0.00002	0.00005	0.000051	0.000037	<0.000010	0.00002
Sodium (Total)	0.05	19.80	16.10	15.4	17.40	15.20	14.80	10.20	11.20	14.70	12.6	12.60	12.2	12.6	30.6	22.70	3.20
Strontium (Total)	0.0002	0.90	0.79	0.861	1.00		0.99	0.36	0.44	0.55	0.523	0.58		0.64	0.437	0.36	0.08
Thallium (Total)	0.00001	0.00002	<0.00001	<0.000010	<0.00001	0.00020	0.00001	0.00003	0.00002	<0.00001	<0.000010	<0.00001	0.0002	0.00001	0.000027	<0.000010	0.00006
Tin (Total)	0.0001	0.0002	0.0005	0.0003	0.0002		0.0002	0.0004	0.0007	0.0002	0.00031	0.0001		0.00013	0.00097	<0.0001	0.0005
Titanium (Total)	0.01	0.05	0.05	0.019	<0.01	0.05	0.01	0.02	0.08	0.01	0.011	<0.01	0.05	0.01	0.035	<0.01	0.17
Uranium (Total)	0.00001	0.0010	0.0005	0.000268	0.0003	0.0002	0.0002	0.0025	0.0019	0.0012	0.000526	0.0004	0.00032	0.000314	0.000896	0.0005	0.0004
Vanadium (Total)	0.001	0.0023	0.0020	0.0018	0.0011	0.0300	0.0015	0.0012	0.0030	<0.001	<0.0010	<0.001	0.03	0.001	0.0054	<0.001	0.0101
Zinc (Total)	0.003	0.006	0.006	0.0038	0.004	0.005	0.005	0.008	0.020	0.045	0.172	0.012	0.0233	0.0121	0.0141	0.003	0.012
Organics																	
Carbon Organic (Dissolved)	0.5 - 2	2.45	6.25	3.95	6.27	3.04	6.49	2.64	7.45	19.00	11.4	16.30	10.5	9.03	8.69	14.50	4.71
Carbon Organic (Total)	0.5	2.6	3.3	3.12	3.6	3.5	3.0	3.5	7.3	12.4	12.5	15.1	11.5	6.61	9.5	6.50	0.9
Nitrogen Organic (Dissolved)	0.05 - 0.1	<0.05	0.8	0.069	0.1	0.1	0.1	<0.05	0.4	1.1	0.126	0.3	0.322	0.057	0.137	0.12	<0.05
Nitrogen Organic (Total)	0.05 - 0.06	0.08	0.15	0.114	0.09	0.08	0.11	0.29	0.55	0.55	0.38	0.19	0.162	0.193	0.246	0.12	<0.06
Sulfur (S)-Dissolved				1.72	1.92		1.38				<0.50	<0.5		0.73	32.7	16.00	
Sulfur (S)-Total				1.22	1.89		1.17				0.51	<0.5		0.72	32.1	16.40	
Cyanate				<0.20	<0.2	0.20	0.20				<0.20	<0.2	0.51	0.2	<0.20	<0.2	
Dissolved Metals Filtration Location				FIELD	FIELD						FIELD	FIELD	FIELD	FIELD	FIELD	FIELD	
NOTES:																	
1. UNITS ARE IN mg/L UNLESS OTHERWISE STATED.																	
Denotes exceedance of Drinking Water Quality Guidelines																	

Site ID	Minimum Detection Limit	MW12-06S	MW12-06S	MW12-06S	MW12-06-S	MW12-06-S	MW12-06S	MW12-07D	MW12-07D	MW12-07D	MW12-07D	MW12-07-D	MW12-07-D	MW 12-07-D	MW12-07S	MW12-07S
Date/Time Sampled		**26-Sep-12**	**10-Dec-12**	**10-Apr-13**	**28-Aug-13**	**29-OCT-13**	**22-MAY-14**	**7-Jun-12**	**21-Sep-12**	**29-Nov-12**	**9-Apr-13**	**30-Jul-13**	**22-OCT-13**	**24-APR-14**	**6-Jun-12**	**14-Sep-12**
LAB File No.				L1289088	L1355974-1	L1385530-4	L1460096-3				L1288851	L1341432	L1382753-4	L1447781-2		
In Situ Parameters																
Conductivity µS/cm		81	51		44	63.9	42	243	289	1.55		292	255.1	135	171	172
Oxygen Dissolved %		84.2	102		106	94.6	99.7	15.4	9.3	12.1		7.4	13.2	15.2	53.1	87.6
Oxygen Dissolved		9.93	12.2		12.2	11.7	11.52	1.31	1.06	1.53		0.78	1.59	1.94	3.87	10.8
pH		7.81	6.91			8.08	7	8.04	8.09	7.91		8.03	8.15	7.45	6.93	8.8
Redox Potential mV		-36.8	18.4		-144	164.1	-92.8	178	-268	-106		8	44.1		313	-93.5
Salinity ppt		0.04	0.04		0.03	0.05	0.03	0.11	0.14	0.12		0.18	0.18		0.08	0.08
Specific Conductivity µS/cm		54	79			101.2	61	194	201	2.48		382	381	221	106	109
Temperature °C		6.98	6.42		7.8	5.7	8.39	14.2	8.02	5.27		12	7.3	4.53	5.06	5.98
Total Dissolved Solids		53	51		53	65.65	39.9	119	187	162		248	248.3		85	111
Turbidity NTU		6.08	3.45		25.2	17.71	17.22	14.5	4.88	1.28		16.9	12.07	0.78	3.87	1.55
Physical Tests																
Alkalinity (Total as CaCO3)	1 - 2	32	30	29.9	29.4	30.1	31.6	111	106	106	103	105	105	110	90	84
Bicarbonate Alkalinity	1 - 2	32	30	29.9	29.4	30.1	31.6	111	106	106	103	105	105	110	90	84
Carbonate Alkalinity	1 - 2	<1	<1	<2.0	<2000	2	1	<2	<2	<1	<2.0	<2	2	2	<2	<1
Color TCU	5	<5	<5	<5.0		5	5	<5	<5	<5	<5.0	<5.0	5.00	5.00	<5	<5
Conductivity µS/cm	2	70	75	69.7				245	261	240	235	227	233	225	161	158
Hardness as CaCO3 (Dissolved)	0.5	29	29	27.3	25			112	114	111	102	99	105	99	81	80
Total Dissolved Solids	10	53	52	57	53			164	166	158	142	142	142	140	98	96
Turbidity NTU	0.1	4.08	2	3.64	17.4	7.88	6.31	26.6	2.12	1.33	1.86	4.79	9.64	0.45	1.67	0.84
Chloride (Dissolved)	0.5	<0.5	<0.5	<0.50	<0.5	0.5	0.5	<0.5	<0.5	<0.5	<0.50	<0.5	1	1	<0.5	<0.5
Fluoride (Dissolved)	0.02	0.089	0.094	0.091	0.092	0.083	0.094	0.141	0.17	0.169	0.169	0.16	0.15	0.157	0.074	0.072
Sulphate (Dissolved)	0.5	6.75	7.81	4.81	2.68	2.22	1.81	27.60	37.20	29.30	20.2	16.90	18.70	15.50	3.57	3.86
Ammonia (Total)	0.005	<0.005	<0.005	0.0365		0.005	0.005	<0.005	<0.005	<0.005	0.0054	0.01	0.0091	0.005	<0.005	<0.005
Nitrate (as N)	0.005	<0.005	<0.005	0.0152	0.0239	0.0261	0.0244	<0.005	<0.005	<0.005	<0.0050	<0.005	0.01	0.01	0.03	0.07
Nitrite (as N)	0.001	<0.001	<0.001	<0.0010	<0.001	0.001	0.001	<0.001	<0.001	<0.001	<0.0010	<0.001	0.00	0.00	0.00	<0.001
Nitrogen (Dissolved)	0.05 - 0.1	0.66	0.29	<0.05	<0.1	0.221	0.05	2.14	0.41	0.69	0.06	<0.05	0.05	0.07	0.07	0.84
Nitrogen (Total)	0.0025 - 0.05	<0.05	<0.05	0.099	0.063	0.056	0.053	0.09	0.12	0.11	<0.05	0.06	0.06	0.05	0.03	0.07
Nitrogen Kjeldahl (Total)	0.05	<0.05	<0.05	<0.05	0.065	0.052	0.071	0.09	0.12	0.11	0.061	0.09	0.069	0.066	<0.05	<0.05
Phosphate (Total)	0.02			0.0811			0.0824				0.0698	0.07	0.063	0.066		
Phosphorus Dissolved	0.002 - 0.02	0.08	0.08	0.0841	0.0904	0.0888	0.0838	0.04	0.06	0.07	0.0707	0.07	0.07	0.07	0.02	0.02
Phosphorus Total	0.002 - 0.02	0.10	0.09	0.0929	0.134	0.117	0.0913	0.08	0.07	0.08	0.0783	0.08	0.086	0.068	0.02	0.02
Cyanide																
Cyanide (Free)	0.005	<0.005	<0.005	<0.0050	<0.005	0.005	0.005	<0.005	<0.005	<0.005	<0.0050	<0.005	0.005	0.005	<0.005	<0.005
Cyanide (Total)	0.005	<0.005	<0.005	<0.0050	<0.005	0.005	0.005	<0.005	<0.005	<0.005	<0.0050	<0.005	0.005	0.005	<0.005	<0.005
Cyanide (WAD)	0.005	<0.005	<0.005	<0.0050	<0.005	0.005	0.005	<0.005	<0.005	<0.005	<0.0050	<0.005	0.005	0.005	<0.005	<0.005
Thiocyante (SCN)	0.5	<0.5	<0.5	<0.50	<0.5	0.5	0.5	<0.5	<0.5	<0.5	<0.50	<0.5			<0.5	<0.5
Dissolved Metals																
Aluminum (Dissolved)	0.001	0.0043	0.0044	0.0056	<0.010	0.0036	0.0039	0.0058	0.0137	0.0064	0.0064	0.445	0.0058	0.006	0.0032	0.0018
Antimony (Dissolved)	0.0001	<0.0001	<0.0001	<0.00010	<0.00050	0.0001	0.0001	0.00	<0.0001	<0.0001	<0.00010	<0.0001	0.00010	0.00010	<0.0001	<0.0001
Arsenic (Dissolved)	0.0001	0.0039	0.0035	0.00414	0.0044	0.00446	0.00433	0.0009	0.0016	0.0018	0.0018	0.0019	0.002	0.002	0.0020	0.0022
Barium (Dissolved)	0.00005	0.01	0.005	0.00545	<0.020	0.00391	0.00409	0.03	0.03	0.03	0.0281	0.03	0.028	0.027	0.01	0.01
Beryllium (Dissolved)	0.0001	<0.0001	<0.0001	<0.00010	<0.0050	0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.00010	<0.0001	0.0001	0.0001	<0.0001	<0.0001
Bismuth (Dissolved)	0.0005	<0.0005	<0.0005	<0.00050		0.0005	0.0005	<0.0005	<0.0005	<0.0005	<0.00050	<0.0005	0.0005	0.0005	<0.0005	<0.0005
Boron (Dissolved)	0.01	<0.01	<0.01	<0.010	<0.100	0.01	0.01	<0.01	<0.01	<0.01	<0.010	<0.01	0.01	0.01	<0.01	<0.01
Cadmium (Dissolved)	0.00001	0.00003	0.00003	0.000013	<0.000050	0.000033	0.000039	0.00007	<0.00001	<0.00001	<0.000010	0.000052	0.00001	0.000021	0.00001	<0.00001
Calcium (Dissolved)	0.05	9.22	9.07	8.78	8.02	8.01	8.3	33.70	34.30	33.00	30.4	30.30	31.50	29.60	26.90	26.60
Chromium (Dissolved)	0.0001	0.0027	0.0027	0.00274	0.00248	0.00259	0.00239	0.0008	<0.0001	<0.0001	<0.00010	0.00080	0.0001	0.0001	0.0007	0.0007
Cobalt (Dissolved)	0.0001	<0.0001	<0.0001	<0.00010	<0.00050	0.0001	0.0001	0.00026	0.00036	0.00024	0.00022	0.00046	0.00015	0.00022	<0.0001	<0.0001
Copper (Dissolved)	0.0002	0.0002	0.0003	0.00047	<0.0010	0.0002	0.00035	0.0022	0.0002	<0.0002	0.00036	0.00197	0.00020	0.00087	0.0002	0.0003
Iron (Dissolved)	0.01	<0.01	<0.01	<0.010	<0.030	0.01	0.01	<0.01	0.04	0.01	0.015	0.41	0.01	0.01	<0.01	<0.01
Lead (Dissolved)	0.00005	<0.00005	0.0001	<0.000050	<0.0010	0.00005	0.00005	<0.00005	<0.00005	<0.00005	<0.000050	0.00029	0.00005	0.00005	<0.00005	<0.00005
Lithium (Dissolved)	0.0005	<0.0005	<0.0005	<0.00050	<0.050	0.0005	0.0005	<0.0005	<0.0005	<0.0005	<0.00050	0.00066	0.0005	0.0005	<0.0005	<0.0005
Magnesium (Dissolved)	0.1	1.44	1.46	1.31	1.2	1.22	1.24	6.88	6.93	6.96	6.35	6.44	6.34	6.08	3.27	3.41
Manganese (Dissolved)	0.00005	0.01	0.01	0.00637	<0.010	0.0105	0.0246	0.16	0.28	0.25	0.22	0.22	0.19100	0.12700	0.00	0.00
Mercury (Dissolved)	0.00001	<0.00001	<0.00001	<0.000010	0.000015	0.00001	0.00001	<0.00001	<0.00001	<0.00001	<0.000010	<0.00001	0.00001	0.00001	<0.00001	<0.00001
Molybdenum (Dissolved)	0.00005	0.00	0.00	0.000722	<0.0010	0.000673	0.000699	0.01	0.01	0.01	0.00601	0.0061	0.0052	0.0048	0.00	0.00
Nickel (Dissolved)	0.0005	<0.0005	<0.0005	<0.00050	<0.0005	0.0005	0.0005	0.00098	0.001	<0.0005	0.00057	0.00112	0.0005	0.00075	<0.0005	<0.0005
Phosphorus (Metal) Dissolved	0.3	<0.3	<0.3	0.078		0.087	0.081	<0.3	<0.3	<0.3	0.078	0.09	0.07	0.08	<0.3	<0.3
Potassium (Dissolved)	0.05	0.39	0.39	0.46		0.37	0.39	1.16	1.11	1.07	1.14	1.21	1.05	0.96	0.68	0.66
Selenium (Dissolved)	0.0001	<0.0001	<0.0001	<0.00010	<0.0010	0.0001	0.0001	0.00	0.00	0.00	<0.00010	0.0001	0.0001	0.0001	0.00	0.00
Silicon (Dissolved)	0.05	7.84	7.59	7.92		8.13	8.16	5.87	5.05	5.13	5.16	6.21	5.39	5.40	7.06	6.92
Silver (Dissolved)	0.00001	<0.00001	<0.00001	<0.000010	<0.000050	0.00001	0.00001	<0.00001	<0.00001	<0.00001	<0.000010	0.00	0.00001	0.00001	<0.00001	<0.00001
Sodium (Dissolved)	0.05	3.09	3.38	2.95	3.1	2.8	2.78	12.20	12.10	12.30	10.3	9.63	10.00	10.30	3.12	3.28
Strontium (Dissolved)	0.0002	0.06	0.07	0.0589		0.0591	0.0578	0.23	0.22	0.24	0.212	0.22	0.22	0.21	0.09	0.11
Thallium (Dissolved)	0.00001	<0.00001	<0.00001	<0.000010	<0.00020	0.00001	0.00001	<0.00001	<0.00001	<0.00001	<0.000010	0.00003	0.00001	0.00001	<0.00001	<0.00001
Tin (Dissolved)	0.0001	<0.0001	<0.0001	<0.00010		0.0001	0.0001	0.00022	<0.0001	<0.0001	<0.00010	0.00012	0.0001	0.0001	<0.0001	<0.0001
Titanium (Dissolved)	0.01	<0.01	<0.01	<0.010	<0.050	0.01	0.01	<0.01	<0.01	<0.01	<0.010	0.02	0.01	0.01	<0.01	<0.01
Uranium (Dissolved)	0.00001	0.00009	0.00009	0.000097	<0.00020	0.00011	0.000115	0.00174	0.00157	0.00135	0.00133	0.00139	0.0015	0.0015	0.00022	0.00024
Vanadium (Dissolved)	0.001	0.00360	0.00360	0.0041	<0.030	0.0046	0.0045	0.00120	<0.001	<0.001	<0.0010	0.0016	0.001	0.001	0.00130	0.00140
Zinc (Dissolved)	0.001	<0.001	0.00240	0.0026	<0.0050	0.0013	0.0022	0.00190	<0.001	<0.001	0.0029	<0.003	0.00240	0.00510	0.00280	<0.001
Total Metals																
Aluminum (Total)	0.003	0.26	0.06	0.156	0.931	0.544	0.18	1.16	0.06	0.05	0.054	0.0064	0.30	0.04	0.03	0.02
Antimony (Total)	0.0001	<0.0001	<0.0001	0.00011	<0.00050	0.00017	0.00011	0.0002	0.0001	<0.0001	<0.00010	<0.0001	0.0001	0.0001	<0.0001	<0.0001
Arsenic (Total)	0.0001	0.004	0.004	0.00415	0.0045	0.00483	0.00421	0.001	0.002	0.002	0.00193	0.0018	0.0020	0.0016	0.002	0.002
Barium (Total)	0.00005	0.01	0.01	0.00639	<0.020	0.00824	0.00724	0.05	0.04	0.03	0.0292	0.0280	0.0313	0.0266	0.01	0.01
Beryllium (Total)	0.0001	<0.0001	<0.0001	<0.00010	<0.0050	0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.00010	<0.0001	0.0001	0.0001	<0.0001	<0.0001
Bismuth (Total)	0.0005	<0.0005	<0.0005	<0.00050		0.0005	0.0005	<0.0005	<0.0005	<0.0005	<0.00050	<0.0005	0.0005	0.0005	<0.0005	<0.0005
Boron (Total)	0.01	<0.01	<0.01	<0.010	<0.100	0.01	0.01	<0.01	<0.01	<0.01	<0.010	<0.01	0.01	0.01	<0.01	<0.01
Cadmium (Total)	0.00001	0.000057	0.000031	0.000026	0.000125	0.000073	0.000084	0.000082	0.00002	0.000015	0.000021	<0.00001	0.000037	0.000021	<0.00001	0.000012
Calcium (Total)	0.05	9.07	8.83	8.67	7.7	8.43	8.12	36.50	33.60	33.20	30.7	29.50	32.70	29.80	27.50	24.90
Chromium (Total)	0.0001	0.003	0.003	0.00309	0.00363	0.00409	0.00288	0.002	0.000	0.000	0.00024	<0.0001	0.0005	0.0760	0.001	0.001
Cobalt (Total)	0.0001	0.0001	<0.0001	0.00016	<0.00050	0.00034	0.00032	0.0007	0.0004	0.0003	0.00025	0.0002	0.0003	0.0001	<0.0001	<0.0001
Copper (Total)	0.0005 - 0.003	0.0008	0.0011	0.00064	0.0012	0.00079	0.0007	0.0045	<0.00085	0.0007	0.00054	<0.0002	0.0012	0.0005	0.0006	<0.002
Iron (Total)	0.01	0.23	0.05	0.156	0.992	0.617	0.261	0.87	0.08	0.05	0.057	0.02	0.23	0.05	0.02	0.013
Lead (Total)	0.00005	0.0002	0.0001	0.000098	<0.0010	0.000318	0.000324	0.0004	0.0001	0.0001	0.000061	<0.00005	0.0002	0.0001	<0.00005	<0.00005
Lithium (Total)	0.0005	<0.0005	<0.0005	<0.00050	<0.050	0.0005	0.0005	0.001	<0.0005	<0.0005	<0.00050	0.0005	0.0005	0.0005	0.001	<0.0005

Site ID	Minimum Detection Limit	MW12-06S	MW12-06S	MW12-06S	MW12-06-S	MW12-06-S	MW12-06S	MW12-07D	MW12-07D	MW12-07D	MW12-07D	MW12-07-D	MW12-07-D	MW 12-07-D	MW12-07S	MW12-07S
Date/Time Sampled		**26-Sep-12**	**10-Dec-12**	**10-Apr-13**	**28-Aug-13**	**29-OCT-13**	**22-MAY-14**	**7-Jun-12**	**21-Sep-12**	**29-Nov-12**	**9-Apr-13**	**30-Jul-13**	**22-OCT-13**	**24-APR-14**	**6-Jun-12**	**14-Sep-12**
Magnesium (Total)	0.1	1.43	1.43	1.37	1.31	1.43	1.27	7.64	6.80	7.08	6.44	6.10	6.84	6.29	3.44	3.25
Manganese (Total)	0.00005	0.0118	0.0141	0.0167	0.024	0.0286	0.0558	0.181	0.282	0.251	0.231	0.205	0.204	0.136	0.00216	0.00397
Mercury (Total)	0.00001	<0.00001	<0.00001	<0.000010	<0.000010	0.00001	0.00001	<0.00001	<0.00001	<0.00001	<0.000010	<0.00001	0.00001	0.00001	<0.00001	<0.00001
Molybdenum (Total)	0.00005	0.00064	0.00061	0.000667	<0.0010	0.000709	0.000467	0.00593	0.00733	0.00666	0.00648	0.00568	0.00538	0.00498	0.00080	0.00078
Nickel (Total)	0.0005	0.0006	<0.0005	<0.00050	<0.0050	0.00119	0.00089	0.0019	0.0011	0.0006	0.00074	0.0005	0.00078	0.00064	<0.0005	<0.0005
Phosphorus (Metal) Total	0.3	<0.3	<0.3	0.096		0.107	0.096	<0.3	<0.3	<0.3	0.074	0.07	0.071	0.068	<0.3	<0.3
Potassium (Total)	0.05	0.43	0.36	0.48		0.57	0.41	1.48	1.10	1.07	1.11	0.97	1.31	0.99	0.68	0.68
Selenium (Total)	0.0001	<0.0001	<0.0001	<0.00010	<0.0010	0.0001	0.0001	0.00338	0.00075	0.00042	0.00013	<0.0001	0.00010	0.00010	0.00013	0.00015
Silicon (Total)	0.05	8.0	7.4	8.17		9.58	8.24	9.1	5.0	5.3	5.24	5.1	6.2	5.5	7.3	6.6
Silver (Total)	0.00001	<0.00001	<0.00001	<0.000010	<0.000050	0.000016	0.00001	0.00002	<0.00001	<0.00001	<0.000010	<0.00001	0.00001	0.00001	<0.00001	<0.00001
Sodium (Total)	0.05	3.07	3.30	2.98	2.9	2.75	2.71	12.70	11.80	12.20	10.2	9.35	10.50	10.40	3.11	3.48
Strontium (Total)	0.0002	0.06	0.06	0.0626		0.0608	0.0591	0.24	0.23	0.24	0.23	0.21	0.23	0.22	0.09	0.12
Thallium (Total)	0.00001	<0.00001	<0.00001	<0.000010	<0.00020	0.000016	0.00001	0.00002	<0.00001	<0.00001	0.00001	<0.00001	0.00002	0.00001	<0.00001	<0.00001
Tin (Total)	0.0001	0.0001	<0.0001	<0.00010		0.0001	0.0001	0.0005	<0.0001	<0.0001	<0.00010	<0.0001	0.0001	0.0001	<0.0001	<0.0001
Titanium (Total)	0.01	0.01	<0.01	<0.010	<0.050	0.02	0.01	0.05	<0.01	<0.01	<0.010	<0.01	0.01	0.01	<0.01	<0.01
Uranium (Total)	0.00001	0.0001	0.0001	0.000121	0.00021	0.000158	0.000164	0.0018	0.0016	0.0014	0.00137	0.0012	0.0016	0.0016	0.0002	0.0002
Vanadium (Total)	0.001	0.0042	0.0036	0.0046	<0.030	0.0063	0.0054	0.0033	<0.001	<0.001	<0.0010	<0.001	0.0015	0.0010	0.0016	0.0016
Zinc (Total)	0.003	<0.003	<0.003	<0.0030	0.0057	0.0042	0.003	0.006	0.004	<0.003	<0.0030	<0.001	0.004	0.003	<0.003	<0.003
Organics																
Carbon Organic (Dissolved)	0.5 - 2	4.54	3.45	0.88	1.54	1.89	0.75	21.30	4.48	1.83	0.97	6.14	3.04	0.63	1.75	7.23
Carbon Organic (Total)	0.5	1.3	0.8	0.71	0.53	0.73	0.5	2.0	1.6	1.7	0.88	1.4	0.8	0.5	0.9	0.8
Nitrogen Organic (Dissolved)	0.05 - 0.1	0.7	0.3	<0.050	<0.100	0.249	0.05	2.1	0.4	0.7	0.055	<0.05	0.1	0.1	<0.05	0.8
Nitrogen Organic (Total)	0.05 - 0.06	<0.06	<0.06	<0.050	0.065	0.05	0.05	0.09	0.12	0.11	<0.050	0.05	0.05	0.05	<0.06	<0.06
Sulfur (S)-Dissolved				1.67		0.82	0.62				6.93	5.59	6.13	5.34		
Sulfur (S)-Total				1.66		0.82	0.61				7.04	5.73	6.39	5.51		
Cyanate				<0.20	<0.200	0.2	0.2				<0.20	<0.2	0.20	0.20		
Dissolved Metals Filtration Location				FIELD	FIELD	FIELD	FIELD				FIELD	FIELD				
NOTES:																
1. UNITS ARE IN mg/L UNLESS OTHERWISE STATED.																
Denotes exceedance of Drinking Water Quality Guidelines																

Site ID	Minimum Detection Limit	MW12-07S	MW12-07S	MW12-07-S	MW12-07-S DUP	MW12-07-S	MW 12-07-S	MW12-08D	MW12-08D	MW12-08D	MW12-08-D	MW12-08-D	MW12-08-D	MW12-08S	MW12-08S	MW12-08S
Date/Time Sampled		**29-Nov-12**	**9-Apr-13**	**30-Jul-13**	**30-Jul-13**	**22-OCT-13**	**24-APR-14**	**27-Sep-12**	**6-Dec-12**	**2-Apr-13**	**29-Aug-13**	**28-OCT-13**	**29-APR-14**	**27-Sep-12**	**6-Dec-12**	**2-Apr-13**
LAB File No.			L1288851	L1341432	L1341432	L1382753-3	L1447781-1			L1285990	L1355974-3	L1385530-1	L1449602-1			L1285990
In Situ Parameters																
Conductivity µS/cm		96		176	158	174.9	95	141	0.89			160.1	86	138	0.84	
Oxygen Dissolved %		87		76.5	76.5	99.9	83.8	53	62.2			69.3	60.9	58.1	62.6	
Oxygen Dissolved		11.5		9.13	9.13	11.89	10.72	5.83	7.48			7.95	7.5	6.53	7.74	
pH		8.36		8.21	8.21	8.3	7.57	7.77	8.16			7.91	7.49	7.85	7.39	
Redox Potential mV		124		105	105	74.1	-103.3	-63.5	-195			148.2	-121.9	-1.8	-170	
Salinity ppt		0.08		0.13	0.13	0.13	0.07	0.07	0.06			0.11	0.06	0.07	0.06	
Specific Conductivity µS/cm		162		262	262	265.3	155	103	1.37			228.6	135	98	1.3	
Temperature °C		3.55		7.3	7.3	6.9	4.64	10.3	6.37			9.1	5.8	9.36	6.34	
Total Dissolved Solids		105		170	170	172.25	100	91	89			148.85	88	91	84	
Turbidity NTU		5.9		0.67	0.67	8.12		6.89	1.51			8.22	20.6	2.42	0.63	
Physical Tests																
Alkalinity (Total as CaCO3)	1 - 2	82	81.4	82	81	81.9	84.4	69	70	73.6	70.4	68	71	66	65	66.9
Bicarbonate Alkalinity	1 - 2	82	81.4	82	81	81.9	84.4	69	70	73.6	70.4	68	71	66	65	66.9
Carbonate Alkalinity	1 - 2	<1	<2.0	<2	<2	2	2	<1	<1	<2.0	<2000	2	2	<1	<1	<2.0
Color TCU	5	<5	<5.0	<5.0	<5.0	5	5	<5	<5	<5.0		5.00	5.00	<5	<5	<5.0
Conductivity µS/cm	2	153	165	158	158			128	133	139		142	138	128	129	134
Hardness as CaCO3 (Dissolved)	0.5	80	79.7	76	76			66	65	63.9	64.8	65	64	65	63	62.7
Total Dissolved Solids	10	99	104	103	105			81	85	99	99	93	90	85	82	92
Turbidity NTU	0.1	0.4	0.14	0.31	0.32	4.58	0.42	3.86	2.24	45.4	14	4.67	13.5	1	0.28	0.17
Chloride (Dissolved)	0.5	<0.5	<0.50	<0.5	<0.5	0.5	0.5	<0.5	<0.5	<0.50	<0.5	1	1	<0.5	<0.5	<0.50
Fluoride (Dissolved)	0.02	0.074	0.08	0.07	0.07	0.071	0.074	0.063	0.059	0.063	0.06	0.055	0.058	0.078	0.076	0.081
Sulphate (Dissolved)	0.5	3.63	3.56	3.46	3.46	3.59	3.33	4.10	3.97	4.08	4	3.86	3.86	4.52	4.01	3.88
Ammonia (Total)	0.005	<0.005	<0.0050	0.01		0.005	0.005	<0.005	<0.005	<0.0050		0.005	0.005	<0.005	<0.005	<0.0050
Nitrate (as N)	0.005	0.08	0.0671	0.07	0.07	0.0679	0.061	0.03	0.08	0.0846	0.0702	0.07	0.08	0.07	0.07	0.0776
Nitrite (as N)	0.001	<0.001	<0.0010	<0.001	<0.001	0.001	0.001	0.00	<0.001	<0.0010	<0.001	0.00	0.00	<0.001	<0.001	<0.0010
Nitrogen (Dissolved)	0.05 - 0.1	0.65	0.087	0.07	0.11	0.05	0.05	0.16	0.11		<0.1	0.29	0.08	0.17	0.10	
Nitrogen (Total)	0.0025 - 0.05	0.08	0.06	0.07	0.07	0.096	0.067	<0.05	0.08	0.105	0.179	0.09	0.10	0.07	0.07	0.061
Nitrogen Kjeldahl (Total)	0.05	<0.05	<0.05	<0.05	<0.05	0.05	0.05	<0.05	<0.05	<0.050	0.145	0.05	0.051	<0.05	<0.05	<0.050
Phosphate (Total)	0.02		0.0194	0.02		0.018	0.0194			0.110			0.088			0.0488
Phosphorus Dissolved	0.002 - 0.02	0.02	0.0195	0.02	0.02	0.02	0.0194	0.12	0.12	0.115	0.0115	0.12	0.10	0.05	0.05	0.0505
Phosphorus Total	0.002 - 0.02	0.02	0.02	0.02	0.02	0.0288	0.0197	0.13	0.12	0.168	0.148	0.132	0.143	0.05	0.05	0.0505
Cyanide																
Cyanide (Free)	0.005	<0.005	<0.0050	<0.005	<0.005	0.005	0.005	<0.005	<0.005	<0.0050	<0.005	0.005	0.005	<0.005	<0.005	<0.0050
Cyanide (Total)	0.005	<0.005	<0.0050	<0.005	<0.005	0.005	0.005	<0.005	<0.005	<0.0050	<0.005	0.005	0.005	<0.005	<0.005	<0.0050
Cyanide (WAD)	0.005	<0.005	<0.0050	<0.005	<0.005	0.005	0.005	<0.005	<0.005	<0.0050	<0.005	0.005	0.005	<0.005	<0.005	<0.0050
Thiocyante (SCN)	0.5	<0.5	<0.50	<0.5	<0.5	0.5	0.5	<0.5	<0.5	<0.50	<0.5			<0.5	<0.5	<0.50
Dissolved Metals																
Aluminum (Dissolved)	0.001	0.0023	0.0024	0.0254	0.02	0.0024	0.0028	0.0041	0.0025	0.0065	<0.010	0.0025	0.0046	0.008	0.0035	0.0070
Antimony (Dissolved)	0.0001	<0.0001	<0.00010	<0.0001	<0.0001	0.0001	0.0001	<0.0001	<0.0001	<0.00010	<0.00050	0.00010	0.00010	<0.0001	<0.0001	<0.00010
Arsenic (Dissolved)	0.0001	0.0020	0.00207	0.0022	0.0021	0.00209	0.00208	0.0010	0.0010	0.00101	0.001	0.001	0.001	0.0012	0.0012	0.00126
Barium (Dissolved)	0.00005	0.01	0.00858	0.01	0.01	0.00767	0.00762	0.02	0.02	0.0181	<0.020	0.019	0.019	0.01	0.01	0.00466
Beryllium (Dissolved)	0.0001	<0.0001	<0.00010	<0.0001	<0.0001	0.0001	0.0001	<0.0001	<0.0001	<0.00010	<0.0050	0.0001	0.0001	<0.0001	<0.0001	<0.00010
Bismuth (Dissolved)	0.0005	<0.0005	<0.00050	<0.0005	<0.0005	0.0005	0.0005	<0.0005	<0.0005	<0.00050		0.0005	0.0005	<0.0005	<0.0005	<0.00050
Boron (Dissolved)	0.01	<0.01	<0.010	<0.01	<0.01	0.01	0.01	<0.01	<0.01	<0.010	<0.100	0.01	0.01	<0.01	<0.01	<0.010
Cadmium (Dissolved)	0.00001	<0.00001	<0.000010	<0.00001	<0.00001	0.000033	0.00001	0.000073	0.000013	<0.000010	<0.000050	0.00001	0.00002	0.000070	0.000014	0.000014
Calcium (Dissolved)	0.05	26.60	26.5	25.40	25.10	25.6	25.2	19.80	19.30	19.2	19.4	19.50	19.20	20.10	19.50	19.6
Chromium (Dissolved)	0.0001	0.0006	0.00069	0.00091	0.00057	0.00068	0.00067	0.0012	0.0011	0.00113	0.00108	0.00102	0.00101	0.0014	0.0014	0.00138
Cobalt (Dissolved)	0.0001	<0.0001	<0.00010	<0.0001	<0.0001	0.0001	0.0001	<0.0001	<0.0001	0.00012	<0.00050	0.00012	0.00015	0.00012	<0.0001	<0.00010
Copper (Dissolved)	0.0002	<0.0002	0.00028	<0.0005	<0.0005	0.0002	0.0002	0.0006	0.0005	0.00044	<0.0010	0.00020	0.00020	0.0006	0.0004	<0.00020
Iron (Dissolved)	0.01	<0.01	<0.010	0.02	<0.0001	0.01	0.01	<0.01	<0.01	<0.010	<0.030	0.01	0.017	<0.01	<0.01	<0.010
Lead (Dissolved)	0.00005	<0.00005	<0.000050	<0.00005	<0.00005	0.00005	0.00005	<0.00005	<0.00005	<0.000050	<0.0010	0.00005	0.00005	<0.00005	<0.00005	<0.000050
Lithium (Dissolved)	0.0005	<0.0005	<0.00050	0.00073	0.00079	0.0005	0.0005	<0.0005	<0.0005	<0.00050	<0.050	0.0005	0.0005	<0.0005	0.0006	<0.00050
Magnesium (Dissolved)	0.1	3.37	3.28	3.22	3.13	3.22	3.13	4.05	4.13	3.86	3.98	3.99	3.93	3.49	3.55	3.35
Manganese (Dissolved)	0.00005	0.00	0.000246	0.00122	0.00100	0.00066	0.000287	0.00	0.00	0.00744	0.017	0.01020	0.02200	0.00	0.00	0.000863
Mercury (Dissolved)	0.00001	<0.00001	<0.000010	<0.00001	<0.00001	0.00001	0.00001	<0.00001	<0.00001	<0.000010	<0.000010	0.00001	0.00001	<0.00001	<0.00001	<0.000010
Molybdenum (Dissolved)	0.00005	0.00	0.000784	0.0007	0.0007	0.000715	0.000664	0.00	0.00	0.00191	0.0019	0.0018	0.0019	0.00	0.00	0.00181
Nickel (Dissolved)	0.0005	<0.0005	<0.00050	<0.0005	<0.0005	0.0005	0.0005	0.00072	<0.0005	<0.00050	<0.0005	0.0005	0.0005	0.00072	<0.0005	<0.00050
Phosphorus (Metal) Dissolved	0.3	<0.3	<0.050	<50	<50	0.05	0.05	<0.3	<0.3	0.124		0.12	0.11	<0.3	<0.3	<0.050
Potassium (Dissolved)	0.05	0.68	0.77	0.69	0.63	0.72	0.65	0.53	0.54	0.61		0.57	0.62	0.69	0.70	0.77
Selenium (Dissolved)	0.0001	0.00	0.00013	0.0001	0.0001	0.0001	0.00017	0.00	0.00	0.00017	<0.0010	0.00016	0.00017	0.00	0.00	0.00015
Silicon (Dissolved)	0.05	6.94	6.88	6.72	6.69	7.03	6.82	8.02	8.08	7.99		8.48	8.26	7.08	7.11	7.05
Silver (Dissolved)	0.00001	<0.00001	<0.000010	<0.00001	<0.00001	0.00001	0.00001	<0.00001	<0.00001	<0.000010	<0.000050	0.00001	0.00001	<0.00001	<0.00001	<0.000010
Sodium (Dissolved)	0.05	3.29	3.39	3.07	2.90	3.16	3.24	3.98	3.53	3.95	4.2	4.07	4.22	3.73	3.37	3.53
Strontium (Dissolved)	0.0002	0.09	0.0896	0.10	0.09	0.0881	0.0897	0.13	0.13	0.129		0.14	0.15	0.13	0.12	0.109
Thallium (Dissolved)	0.00001	<0.00001	<0.000010	<0.00001	<0.00001	0.00001	0.00001	<0.00001	<0.00001	<0.000010	<0.00020	0.00001	0.00001	<0.00001	<0.00001	<0.000010
Tin (Dissolved)	0.0001	<0.0001	<0.00010	<0.0001	<0.0001	0.0001	0.0001	<0.0001	<0.0001	<0.00010		0.0001	0.0001	<0.0001	<0.0001	<0.00010
Titanium (Dissolved)	0.01	<0.01	<0.010	<0.01	<0.01	0.01	0.01	<0.01	<0.01	<0.010	<0.050	0.01	0.01	<0.01	<0.01	<0.010
Uranium (Dissolved)	0.00001	0.00022	0.000211	0.00023	0.00022	0.000217	0.000211	0.00041	0.00042	0.000439	0.00044	0.0004	0.0004	0.00047	0.00041	0.000408
Vanadium (Dissolved)	0.001	0.00140	0.0015	0.0017	0.0015	0.0015	0.0015	<0.001	<0.001	<0.0010	<0.030	0.001	0.001	0.00190	0.00200	0.0021
Zinc (Dissolved)	0.001	<0.001	0.0021	<0.003	<0.003	0.0019	0.0016	0.01790	0.00350	0.0029	<0.0050	0.00100	0.00100	0.01480	0.00320	<0.0010
Total Metals																
Aluminum (Total)	0.003	0.01	0.006	0.0043	0.0021	0.179	0.0165	0.28	0.07	1.32	1.41	0.27	0.46	0.03	0.01	0.0146
Antimony (Total)	0.0001	<0.0001	<0.00010	<0.0001	<0.0001	0.00011	0.0001	0.0001	0.0001	0.00021	<0.00050	0.0001	0.0003	<0.0001	<0.0001	<0.00010
Arsenic (Total)	0.0001	0.002	0.00211	0.0021	0.0021	0.00233	0.00209	0.001	0.001	0.00149	0.0015	0.0011	0.0014	0.001	0.001	0.00130
Barium (Total)	0.00005	0.01	0.00798	0.0080	0.0079	0.00946	0.00746	0.02	0.02	0.0265	0.034	0.0214	0.0226	0.01	0.00	0.00471
Beryllium (Total)	0.0001	<0.0001	<0.00010	<0.0001	<0.0001	0.0001	0.0001	<0.0001	<0.0001	0.00035	<0.0050	0.0001	0.0001	<0.0001	<0.0001	<0.00010
Bismuth (Total)	0.0005	<0.0005	<0.00050	<0.0005	<0.0005	0.0005	0.0005	<0.0005	<0.0005	<0.00050		0.0005	0.0005	<0.0005	<0.0005	<0.00050
Boron (Total)	0.01	<0.01	<0.010	<0.01	<0.01	0.01	0.01	<0.01	<0.01	<0.010	<0.100	0.01	0.01	<0.01	<0.01	<0.010
Cadmium (Total)	0.00001	<0.00001	<0.000010	<0.00001	<0.00001	0.000065	0.00001	0.000026	0.000011	0.000040	0.000142	0.000035	0.000063	0.000019	0.000018	<0.000010
Calcium (Total)	0.05	26.90	26.7	25.20	25.80	26.3	26.1	19.70	18.60	18.9	19.1	19.70	19.60	20.00	19.60	19.3
Chromium (Total)	0.0001	0.001	0.00074	0.0006	0.0001	0.00102	0.00089	0.002	0.001	0.00287	0.00474	0.0022	0.0028	0.002	0.002	0.00162
Cobalt (Total)	0.0001	<0.0001	<0.00010	<0.0001	<0.0001	0.00014	0.0001	0.0002	0.0001	0.00113	0.00151	0.0003	0.0008	<0.0001	<0.0001	<0.00010
Copper (Total)	0.0005 - 0.003	<0.0005	<0.00050	<0.0002	<0.0002	0.00059	0.0005	0.0008	<0.0005	0.0147	0.0032	0.0008	0.0013	<0.0005	<0.0005	<0.00050
Iron (Total)	0.01	<0.01	<0.010	<0.01	0.0250	0.169	0.018	0.25	0.07	1.09	1.93	0.27	0.60	0.02	0.010	0.036
Lead (Total)	0.00005	<0.00005	<0.000050	<0.00005	<0.00005	0.000121	0.00005	0.0002	0.0001	0.00129	0.0015	0.0003	0.0005	<0.00005	<0.00005	<0.000050
Lithium (Total)	0.0005	<0.0005	<0.00050	0.0007	0.0008	0.00054	0.0005	<0.0005	<0.0005	<0.00050	<0.050	0.0005	0.0005	<0.0005	<0.0005	<0.00050

Site ID	Minimum Detection Limit	MW12-07S	MW12-07S	MW12-07-S	MW12-07-S DUP	MW12-07-S	MW 12-07-S	MW12-08D	MW12-08D	MW12-08D	MW12-08-D	MW12-08-D	MW12-08-D	MW12-08S	MW12-08S	MW12-08S
Date/Time Sampled		**29-Nov-12**	**9-Apr-13**	**30-Jul-13**	**30-Jul-13**	**22-OCT-13**	**24-APR-14**	**27-Sep-12**	**6-Dec-12**	**2-Apr-13**	**29-Aug-13**	**28-OCT-13**	**29-APR-14**	**27-Sep-12**	**6-Dec-12**	**2-Apr-13**
Magnesium (Total)	0.1	3.41	3.32	3.16	3.28	3.46	3.23	4.17	4.04	4.17	4.32	4.21	4.07	3.58	3.61	3.39
Manganese (Total)	0.00005	0.000767	0.000291	0.00021	0.000124	0.0099	0.00112	0.0081	0.00579	0.0309	0.061	0.0183	0.0379	0.00286	0.0011	0.00104
Mercury (Total)	0.00001	<0.00001	<0.000010	<0.00001	<0.00001	0.00001	0.00001	<0.00001	<0.00001	<0.000010	<0.000010	0.00001	0.00001	<0.00001	<0.00001	<0.000010
Molybdenum (Total)	0.00005	0.00080	0.000737	0.00067	0.00077	0.000731	0.000703	0.00209	0.00190	0.00206	0.0017	0.00199	0.00197	0.00216	0.00217	0.00194
Nickel (Total)	0.0005	<0.0005	<0.00050	<0.0005	<0.0005	0.0005	0.0005	0.0007	<0.0005	0.00120	<0.0050	0.00078	0.00124	0.0006	<0.0005	<0.00050
Phosphorus (Metal) Total	0.3	<0.3	<0.050	<0.05	<0.05	0.05	0.05	<0.3	<0.3	0.153		0.127	0.128	<0.3	<0.3	0.055
Potassium (Total)	0.05	0.69	0.74	0.65	0.70	0.88	0.65	0.55	0.53	0.82		0.70	0.67	0.69	0.69	0.84
Selenium (Total)	0.0001	0.00013	0.00014	0.00013	0.00012	0.00011	0.00015	0.00023	0.00015	0.00018	<0.0010	0.00017	0.00016	0.00021	0.00017	0.00016
Silicon (Total)	0.05	7.0	6.92	6.8	6.8	7.6	6.95	8.9	8.0	11.0		9.0	9.0	7.2	7.2	7.00
Silver (Total)	0.00001	<0.00001	<0.000010	<0.00001	<0.00001	0.00001	0.00001	<0.00001	<0.00001	0.000020	0.000067	0.00001	0.00004	<0.00001	<0.00001	<0.000010
Sodium (Total)	0.05	3.38	3.28	2.89	3.06	3.2	3.15	4.07	3.49	3.81	4.1	4.21	3.93	3.80	3.36	3.67
Strontium (Total)	0.0002	0.10	0.0938	0.09	0.09	0.0933	0.0905	0.16	0.14	0.135		0.15	0.15	0.12	0.12	0.116
Thallium (Total)	0.00001	<0.00001	<0.000010	<0.00001	<0.00001	0.00001	0.00001	<0.00001	<0.00001	0.000018	<0.00020	0.00001	0.00001	<0.00001	<0.00001	<0.000010
Tin (Total)	0.0001	<0.0001	<0.00010	<0.0001	<0.0001	0.0001	0.0001	0.0001	<0.0001	0.00038		0.0001	0.0001	0.0002	<0.0001	<0.00010
Titanium (Total)	0.01	<0.01	<0.010	<0.01	<0.01	0.01	0.01	0.02	<0.01	0.043	0.115	0.01	0.02	<0.01	<0.01	<0.010
Uranium (Total)	0.00001	0.0002	0.000232	0.0002	0.0002	0.000238	0.000218	0.0005	0.0005	0.000638	0.00053	0.0005	0.0005	0.0004	0.0004	0.000433
Vanadium (Total)	0.001	0.0016	0.0016	0.0015	0.0016	0.0019	0.0015	<0.001	<0.001	0.0021	<0.030	0.0010	0.0013	0.0021	0.0020	0.0021
Zinc (Total)	0.003	<0.003	<0.0030	<0.001	<0.001	0.004	0.003	0.004	<0.003	0.0111	0.0177	0.004	0.008	<0.003	<0.003	<0.0030
Organics																
Carbon Organic (Dissolved)	0.5 - 2	6.60	0.99	4.39	2.00	3.03	0.71	1.01	0.66	0.67	1.56	2.56	3.88	1.09	0.57	2.04
Carbon Organic (Total)	0.5	0.9	0.69	1.3	1.1	0.69	0.55	<0.5	<0.5	0.58	1.3	0.5	0.8	<0.5	<0.5	0.64
Nitrogen Organic (Dissolved)	0.05 - 0.1	0.6	<0.050	<0.05	<0.05	0.091	0.091	0.1	<0.05		<0.100	0.2	0.1	0.1	<0.05	
Nitrogen Organic (Total)	0.05 - 0.06	<0.06	<0.050	<0.05	<0.05	0.05	0.05	<0.06	<0.06	<0.050	0.145	0.05	0.05	<0.06	<0.06	<0.050
Sulfur (S)-Dissolved			1.35	1.19	1.15	1.27	1.24			1.42		1.36	1.42			1.36
Sulfur (S)-Total			1.39	1.24	1.30	1.32	1.27			1.43		1.40	1.54			1.41
Cyanate			<0.20	<0.2	<0.2	0.2	0.2			<0.20	<0.200	0.35	0.20			<0.20
Dissolved Metals Filtration Location			FIELD	FIELD		FIELD	FIELD			FIELD	FIELD					FIELD
NOTES:																
1. UNITS ARE IN mg/L UNLESS OTHERWISE STATED.																
Denotes exceedance of Drinking Water Quality Guidelines																

Site ID	Minimum Detection Limit	MW12-08-S	MW12-08-S	MW12-08-S	MW12-09D	MW12-09D	MW12-09D	MW12-09-D	MW12-09-D	MW12-09-D	MW12-11D	MW12-11D	MW12-11D	MW12-11D	MW12-11-D	MW12-11-D-dup
Date/Time Sampled		**29-Aug-13**	**28-OCT-13**	**29-APR-14**	**17-Oct-12**	**30-Nov-12**	**2-Apr-13**	**28-Aug-13**	**28-OCT-13**	**29-APR-14**	**21-Sep-12**	**5-Dec-12**	**4-Apr-13**	**25-Jul-13**	**25-OCT-13**	**24-OCT-13**
LAB File No.		L1355974-4	L1385530-2	L1449602-2			L1285990	L1355974-2	L1385530-3	L1449602-3			L1286947	L1339164	L1384043-2	L1384043-3
In Situ Parameters																
Conductivity µS/cm		98	154.5	89	114	1.03		115	190.6	100	176	2.61		180	132.6	
Oxygen Dissolved %		80.8	69.7	61.9	32.8	33.6		57.5	45.6	28	45.2	18.7		76.5	84.7	
Oxygen Dissolved		9.41	7.98	7.58	4.3	4.09		6.82	5.08	3.48	5.25	1.85		8.73	10.38	
pH			7.92	7.45	8.7	6.42		7.92	8.2	7.79	8.53	6.87		7.98	8.05	
Redox Potential mV		-282	173	-113	77.8	41.4		-235	173.1	-118.4	-225	-82.8		135	107.2	
Salinity ppt		0.07	0.11	0.06	0.09	0.08		0.08	0.13	0.08	0.08	0.16		0.12	0.1	
Specific Conductivity µS/cm		143	221.9	131	192	1.59		171	264.8	159	107	3.24		258	207.3	
Temperature °C		8.41	9.1	6.16	3.83	6.5		7.9	10.4	5.63	4.37	14.7		9.1	6	
Total Dissolved Solids		94	143.7	86	125	103		107	172.25	103	115	210		166	138.45	
Turbidity NTU		4.7	0.2	0.66	4.06	1.58		2.48	3.3	0.028	11.9	4.03		15	4.21	
Physical Tests																
Alkalinity (Total as CaCO3)	1 - 2	68.2	68.4	69.8	83	80	83.7	77.2	81	79	47	67	71.7	48	42	194
Bicarbonate Alkalinity	1 - 2	68.2	68.4	69.8	83	80	83.7	77.2	81	79	47	67	71.7	48	42	194
Carbonate Alkalinity	1 - 2	<2000	2	2	<2	<1	<2.0	<2000	2	2	<2	<1	<2.0	<2	2	2
Color TCU	5		5	5	<5	<5	<5.0		5.00	5.00	<5	7.20	<5.0	<5.0	5.00	5.00
Conductivity µS/cm	2				167	155	169		165	163	142	308	463	132	126	394
Hardness as CaCO3 (Dissolved)	0.5	60.4			74	76	74.0	73.6	76	74	51	112	133	40	37	164
Total Dissolved Solids	10	81			107	121	119	107	103	105	98	202	319	96	92	238
Turbidity NTU	0.1	0.48	0.19	0.17	2.2	0.75	63.4	1.11	1.43	0.83	21.5	4.99	22.8	10.2	5.99	1.57
Chloride (Dissolved)	0.5	<0.5	0.5	0.5	<0.5	<0.5	<0.50	<0.5	1	1	1.44	5.37	9.04	1.19	1	1
Fluoride (Dissolved)	0.02	0.075	0.07	0.078	0.107	0.097	0.107	0.093	0.085	0.09	0.117	0.142	0.160	0.103	0.086	0.106
Sulphate (Dissolved)	0.5	3.79	3.64	3.59	12.30	7.32	8.04	7.72	6.50	6.91	22.60	81.80	146	18.10	18.60	25.00
Ammonia (Total)	0.005		0.005	0.005	<0.005	<0.005	0.0265		0.005	0.005	<0.005	0.01	0.0185	0.07	0.0151	0.0551
Nitrate (as N)	0.005	0.0685	0.0686	0.0685	0.04	0.06	0.0601	0.0463	0.05	0.05	<0.005	<0.005	<0.0050	0.06	0.08	0.01
Nitrite (as N)	0.001	<0.001	0.001	0.001	0.00	<0.001	0.0012	<0.001	0.00	0.00	<0.001	<0.001	<0.0010	0.00	0.00	0.00
Nitrogen (Dissolved)	0.05 - 0.1	<0.1	0.223	0.05	0.57	0.10		<0.1	0.30	0.07	0.72	0.98	0.086	0.29	0.38	0.10
Nitrogen (Total)	0.0025 - 0.05	0.066	0.064	0.07	<0.05	0.06	0.155	0.056	0.06	0.06	0.11	0.12	0.274	0.31	0.16	0.10
Nitrogen Kjeldahl (Total)	0.05	<0.050	0.05	0.05	<0.05	<0.05	0.147	<0.050	0.058	0.05	0.11	0.12	0.312	0.30	0.086	0.109
Phosphate (Total)	0.02			0.0484			0.0549			0.045			0.0303	0.0727	0.032	0.033
Phosphorus Dissolved	0.002 - 0.02	0.0524	0.0504	0.0516	0.06	0.06	0.0805	0.0511	0.05	0.05	0.04	0.04	0.0319	0.0731	0.03	0.03
Phosphorus Total	0.002 - 0.02	0.076	0.0505	0.0548	0.07	0.06	0.270	0.0521	0.052	0.048	0.08	0.06	0.158	0.1860	0.169	0.058
Cyanide																
Cyanide (Free)	0.005	<0.005	0.005	0.005	<0.005	<0.005	<0.0050	<0.005	0.005	0.005	<0.005	<0.005	<0.0050	<0.005	0.005	0.005
Cyanide (Total)	0.005	<0.005	0.005	0.005	<0.005	<0.005	<0.0050	<0.005	0.005	0.005	<0.005	<0.005	<0.0050	<0.005	0.005	0.005
Cyanide (WAD)	0.005	<0.005	0.005	0.005	<0.005	<0.005	<0.0050	<0.005	0.005	0.005	<0.005	<0.005	<0.0050	<0.005	0.005	0.005
Thiocyante (SCN)	0.5	<0.5	0.5	0.5	<0.5	<0.5	<0.50	<0.5			<0.5	<0.5	<0.50	<0.5		
Dissolved Metals																
Aluminum (Dissolved)	0.001	<0.010	0.0027	0.0023	0.0064	0.0066	0.0099	<0.010	0.0048	0.0051	0.0088	0.0041	0.0058	0.0065	0.0078	0.0044
Antimony (Dissolved)	0.0001	<0.00050	0.0001	0.0001	0.0001	0.0001	0.00022	<0.00050	0.00011	0.00010	0.0009	0.0008	0.00069	0.00078	0.00062	0.00032
Arsenic (Dissolved)	0.0001	0.0013	0.00128	0.0013	0.0030	0.0030	0.00325	0.0032	0.003	0.003	0.0022	0.001	0.00131	0.003	0.002	0.002
Barium (Dissolved)	0.00005	<0.020	0.00473	0.00446	0.01	0.01	0.0121	<0.020	0.011	0.010	0.01	0.03	0.0408	0.013	0.009	0.060
Beryllium (Dissolved)	0.0001	<0.0050	0.0001	0.0001	<0.0001	<0.0001	<0.00010	<0.0050	0.0001	0.0001	<0.0001	<0.0001	<0.00010	<0.0001	0.0005	0.0005
Bismuth (Dissolved)	0.0005		0.0005	0.0005	<0.0005	<0.0005	<0.00050		0.0005	0.0005	<0.0005	<0.0005	<0.00050	<0.0005	0.0005	0.0005
Boron (Dissolved)	0.01	<0.100	0.01	0.01	<0.01	<0.01	<0.010	<0.100	0.01	0.01	<0.01	<0.01	0.016	0.02	0.01	0.01
Cadmium (Dissolved)	0.00001	<0.000050	0.00001	0.00001	0.000022	0.000021	0.000067	<0.000050	0.000026	0.000037	0.000051	0.000059	0.000055	0.000091	0.00005	0.00005
Calcium (Dissolved)	0.05	18.8	19.4	19.4	22.30	23.00	22.3	22.2	22.80	22.50	16.30	35.50	42.1	12.90	12.10	33.00
Chromium (Dissolved)	0.0001	0.00141	0.00138	0.0014	0.0014	0.0015	0.00132	0.0012	0.00135	0.00138	0.0001	<0.0001	<0.00010	0.00028	0.0005	0.0005
Cobalt (Dissolved)	0.0001	<0.00050	0.0001	0.0001	<0.0001	<0.0001	<0.00010	<0.00050	0.00010	0.00010	0.00013	0.00051	0.00085	0.00035	0.00010	0.00035
Copper (Dissolved)	0.0002	<0.0010	0.0002	0.0003	0.00	0.0004	0.00078	<0.0010	0.00024	0.00020	0.0007	0.0004	0.00066	0.00071	0.00050	0.00050
Iron (Dissolved)	0.01	<0.030	0.01	0.01	<0.01	<0.01	<0.010	<0.030	0.01	0.01	<0.01	<0.01	0.017	<0.01	0.03	0.141
Lead (Dissolved)	0.00005	<0.0010	0.00005	0.00005	<0.00005	<0.00005	<0.000050	<0.0010	0.00005	0.00005	<0.00005	<0.00005	0.000063	<0.00005	0.00005	0.00005
Lithium (Dissolved)	0.0005	<0.050	0.0005	0.0005	0.0006	<0.0005	<0.00050	<0.050	0.00056	0.00071	0.0029	0.0037	0.00744	0.00332	0.005	0.0269
Magnesium (Dissolved)	0.1	3.28	3.34	3.36	4.43	4.56	4.45	4.42	4.48	4.42	2.57	5.70	6.66	2.00	1.79	18.90
Manganese (Dissolved)	0.00005	<0.010	0.000215	0.00029	0.02	0.01	0.00782	<0.010	0.00413	0.00279	0.03	0.15	0.406	0.07	0.01870	0.41100
Mercury (Dissolved)	0.00001	<0.000010	0.00001	0.00001	<0.00001	<0.00001	<0.000010	<0.000010	0.00001	0.00001	<0.00001	<0.00001	<0.000010	<0.00001	0.00001	0.00001
Molybdenum (Dissolved)	0.00005	0.0018	0.00183	0.00181	0.00	0.00	0.00306	0.0027	0.0026	0.0024	0.01	0.01	0.00952	0.0065	0.0047	0.0054
Nickel (Dissolved)	0.0005	<0.0005	0.0005	0.0005	0.0007	0.00053	0.00067	<0.0005	0.0005	0.0005	0.00261	0.00397	0.00376	0.00688	0.00083	0.00176
Phosphorus (Metal) Dissolved	0.3		0.054	0.05	<0.3	<0.3	0.079		0.05	0.05	<0.3	<0.3	0.051	0.08		
Potassium (Dissolved)	0.05		0.74	0.78	0.75	0.75	0.88		0.76	0.74	0.89	1.53	2.01	0.92	0.68	0.88
Selenium (Dissolved)	0.0001	<0.0010	0.00015	0.00016	0.00	0.00	0.00065	<0.0010	0.0005	0.0005	0.00	0.00	0.00057	0.0005	0.001	0.001
Silicon (Dissolved)	0.05		7.35	7.21	6.06	6.36	6.11		6.68	6.43	6.08	5.20	5.51	6.21	6.53	6.24
Silver (Dissolved)	0.00001	<0.000050	0.00001	0.00001	<0.00001	<0.00001	<0.000010	<0.000050	0.00001	0.00001	<0.00001	<0.00001	<0.000010	<0.00001	0.00001	0.00001
Sodium (Dissolved)	0.05	3.8	3.78	3.94	8.02	5.61	5.56	5.5	4.81	5.12	10.20	18.20	39.4	11.60	9.15	22.30
Strontium (Dissolved)	0.0002		0.118	0.126	0.15	0.15	0.157		0.16	0.17	0.08	0.18	0.262	0.11	0.09	4.45
Thallium (Dissolved)	0.00001	<0.00020	0.00001	0.00001	<0.00001	<0.00001	<0.000010	<0.00020	0.00001	0.00001	<0.00001	0.00001	<0.000010	<0.00001	0.0001	0.0001
Tin (Dissolved)	0.0001		0.0001	0.0001	<0.0001	<0.0001	<0.00010		0.0001	0.0001	0.00028	0.00018	0.00011	0.00026	0.0001	0.0001
Titanium (Dissolved)	0.01	<0.050	0.01	0.01	<0.01	<0.01	<0.010	<0.050	0.01	0.01	<0.01	<0.01	<0.010	<0.01		
Uranium (Dissolved)	0.00001	0.00043	0.000405	0.00041	0.00075	0.00052	0.000588	0.00051	0.0005	0.0004	0.00120	0.00357	0.00511	0.00137	0.0013	0.0032
Vanadium (Dissolved)	0.001	<0.030	0.0021	0.0021	0.00200	0.00250	0.0029	<0.030	0.003	0.003	<0.001	<0.001	<0.0010	<0.001	0.001	0.001
Zinc (Dissolved)	0.001	<0.0050	0.0014	0.001	<0.001	0.00270	0.0026	<0.0050	0.00140	0.00160	<0.001	0.00120	0.0060	0.00670	0.00300	0.00300
Total Metals																
Aluminum (Total)	0.003	0.535	0.0134	0.0232	0.52	0.07	1.91	0.121	0.13	0.11	2.98	0.43	0.935	0.32	0.28	0.04
Antimony (Total)	0.0001	<0.00050	0.0001	0.0001	0.0002	0.0001	0.00031	<0.00050	0.0001	0.0001	0.0009	0.0009	0.00086	0.0007	0.0007	0.0005
Arsenic (Total)	0.0001	0.0014	0.00131	0.00127	0.003	0.003	0.00411	0.0033	0.0033	0.0033	0.003	0.001	0.00181	0.0023	0.0020	0.0022
Barium (Total)	0.00005	<0.020	0.00506	0.00483	0.02	0.01	0.0326	<0.020	0.0119	0.0104	0.02	0.03	0.0441	0.0139	0.0107	0.0610
Beryllium (Total)	0.0001	<0.0050	0.0001	0.0001	<0.0001	<0.0001	0.00021	<0.0050	0.0001	0.0001	0.0001	<0.0001	<0.00010	<0.0001	0.0005	0.0005
Bismuth (Total)	0.0005		0.0005	0.0005	<0.0005	<0.0005	<0.00050		0.0005	0.0005	<0.0005	<0.0005	<0.00050	<0.0005	0.0005	0.0005
Boron (Total)	0.01	<0.100	0.01	0.01	<0.01	<0.01	<0.010	<0.100	0.01	0.01	<0.01	0.01	0.018	0.02	0.01	0.01
Cadmium (Total)	0.00001	<0.000050	0.00001	0.00001	0.000035	0.000016	0.000133	<0.000050	0.000044	0.00005	0.00017	0.000103	0.000415	0.000107	0.000086	0.000163
Calcium (Total)	0.05	19.1	20.1	19.5	22.30	22.80	23.3	22.4	23.30	22.60	16.10	35.40	41.5	12.60	12.40	33.80
Chromium (Total)	0.0001	0.00232	0.0017	0.00164	0.002	0.002	0.00353	0.00188	0.0026	0.0020	0.001	0.001	0.00228	0.0014	0.0012	0.0005
Cobalt (Total)	0.0001	0.00051	0.0001	0.0001	0.0003	0.0001	0.00122	<0.00050	0.0001	0.0001	0.0005	0.0006	0.00105	0.0004	0.0002	0.0004
Copper (Total)	0.0005 - 0.003	<0.0010	0.0005	0.0005	0.0011	0.0008	0.0117	<0.0010	0.0006	0.0005	0.0015	0.0009	0.00240	0.0011	0.0009	0.0011
Iron (Total)	0.01	0.623	0.011	0.027	0.53	0.06	2.46	0.114	0.12	0.07	0.92	0.18	0.642	0.32	0.24	0.23
Lead (Total)	0.00005	<0.0010	0.00005	0.00005	0.0002	0.0001	0.000969	<0.0010	0.0001	0.0001	0.0028	0.0007	0.00154	0.0006	0.0003	0.0001
Lithium (Total)	0.0005	<0.050	0.0005	0.0005	0.001	<0.0005	<0.00050	<0.050	0.00063	0.00062	0.003	0.004	0.00763	0.003	0.005	0.0247

Site ID	Minimum Detection Limit	MW12-08-S	MW12-08-S	MW12-08-S	MW12-09D	MW12-09D	MW12-09D	MW12-09-D	MW12-09-D	MW12-09-D	MW12-11D	MW12-11D	MW12-11D	MW12-11D	MW12-11-D	MW12-11-D-dup
Date/Time Sampled		**29-Aug-13**	**28-OCT-13**	**29-APR-14**	**17-Oct-12**	**30-Nov-12**	**2-Apr-13**	**28-Aug-13**	**28-OCT-13**	**29-APR-14**	**21-Sep-12**	**5-Dec-12**	**4-Apr-13**	**25-Jul-13**	**25-OCT-13**	**24-OCT-13**
Magnesium (Total)	0.1	3.44	3.62	3.37	4.50	4.58	5.03	4.47	4.74	4.50	2.93	5.75	6.85	1.96	2.09	21.10
Manganese (Total)	0.00005	0.024	0.000497	0.00115	0.032	0.01	0.0686	0.011	0.00932	0.00604	0.101	0.159	0.417	0.0749	0.0294	0.394
Mercury (Total)	0.00001	<0.000010	0.00001	0.00001	<0.00001	<0.00001	<0.000010	<0.000010	0.00001	0.00001	<0.00001	<0.00001	<0.000010	<0.00001	0.00001	0.00001
Molybdenum (Total)	0.00005	0.0019	0.002	0.00192	0.00291	0.00275	0.00305	0.0029	0.00289	0.00271	0.00709	0.00713	0.00939	0.00668	0.00515	0.00572
Nickel (Total)	0.0005	<0.0050	0.0005	0.0005	0.0016	0.0006	0.00266	<0.0050	0.00121	0.00076	0.0032	0.0042	0.00507	0.01	0.00157	0.00206
Phosphorus (Metal) Total	0.3		0.052	0.05	<0.3	<0.3	0.206		0.058	0.05	<0.3	<0.3	0.112	0.11		
Potassium (Total)	0.05		0.88	0.75	0.85	0.75	1.29		0.93	0.79	1.18	1.58	2.09	0.93	0.71	0.89
Selenium (Total)	0.0001	<0.0010	0.00018	0.00015	0.00085	0.00081	0.00066	<0.0010	0.00053	0.00048	0.00057	0.00054	0.00074	0.00057	0.00100	0.00100
Silicon (Total)	0.05		7.51	7.07	7.2	6.4	9.93		7.0	6.5	14.5	6.4	7.79	6.6	7.3	6.4
Silver (Total)	0.00001	<0.000050	0.00001	0.00001	<0.00001	<0.00001	0.000041	<0.000050	0.00001	0.00001	0.00002	0.00001	0.000087	0.00002	0.00002	0.00001
Sodium (Total)	0.05	3.9	3.88	3.69	8.38	5.45	5.81	5.6	5.02	5.06	9.95	18.50	39.0	11.70	9.38	22.60
Strontium (Total)	0.0002		0.125	0.131	0.15	0.16	0.168		0.16	0.17	0.08	0.19	0.268	0.09	0.10	4.54
Thallium (Total)	0.00001	<0.00020	0.00001	0.00001	<0.00001	<0.00001	0.000027	<0.00020	0.00001	0.00001	0.00003	0.00002	0.000015	<0.00001	0.00010	0.00010
Tin (Total)	0.0001		0.0001	0.0001	<0.0001	<0.0001	0.00020		0.0001	0.0001	0.0008	0.0003	0.00076	0.0004	0.0001	0.0001
Titanium (Total)	0.01	<0.050	0.01	0.01	0.06	0.01	0.153	<0.050	0.01	0.01	0.05	0.01	0.019	<0.01		
Uranium (Total)	0.00001	0.00044	0.000442	0.000414	0.0008	0.0005	0.000672	0.00053	0.0005	0.0005	0.0015	0.0038	0.00522	0.0017	0.0015	0.0034
Vanadium (Total)	0.001	<0.030	0.0022	0.0022	0.0035	0.0027	0.0087	<0.030	0.0034	0.0033	0.0022	<0.001	0.0012	<0.001	0.0011	0.0010
Zinc (Total)	0.003	<0.0050	0.003	0.003	<0.003	<0.003	0.0118	<0.0050	0.003	0.003	0.011	<0.003	0.0106	0.005	0.005	0.006
Organics																
Carbon Organic (Dissolved)	0.5 - 2	3.79	2.13	4.34	5.82	0.67	2.59	3.92	3.29	1.96	7.37	2.67	4.51	2.39	2.76	1.41
Carbon Organic (Total)	0.5	<0.500	0.5	0.5	0.7	0.6	0.91	<0.500	0.5	0.5	1.8	3.0	6.09	2.5	1.1	1.1
Nitrogen Organic (Dissolved)	0.05 - 0.1	<0.100	0.291	0.068	0.5	<0.05		<0.100	0.2	0.1	0.7	1.0	0.067	0.2	0.3	0.1
Nitrogen Organic (Total)	0.05 - 0.06	<0.060	0.05	0.05	<0.06	<0.06	0.067	<0.060	0.05	0.05	0.11	0.12	0.255	0.17	0.07	0.05
Sulfur (S)-Dissolved			1.27	1.32			2.67		2.30	2.37			45.5	5.76		
Sulfur (S)-Total			1.36	1.35			2.63		2.39	2.41			45.6	6.45		
Cyanate		<0.200	0.2	0.2			<0.20	<0.200	0.20	0.20			<0.20	0.38	0.20	0.20
Dissolved Metals Filtration Location		FIELD	FIELD	FIELD			FIELD	FIELD					FIELD	FIELD		
NOTES:																
1. UNITS ARE IN mg/L UNLESS OTHERWISE STATED.																
Denotes exceedance of Drinking Water Quality Guidelines																

Site ID	Minimum Detection Limit	MW12-11-D	MW12-11S	MW12-11S	MW12-11S	MW12-11S	MW-12-11-S	MW12-11-S	MW12-11-S-dup	MW12-12D	MW12-12D	MW 12-12 D	MW12-12-D	MW 12-12 D	MW12-12S	MW12-12S
Date/Time Sampled		28-MAY-14	20-Sep-12	5-Dec-12	4-Apr-13	25-Jul-13	18-OCT-13	28-MAY-14	28-MAY-14	21-Sep-12	12-Dec-12	7-Aug-13	22-OCT-13	23-MAY-14	21-Sep-12	2-Dec-12
LAB File No.		L1462226-2			L1286947	L1339164	L1380479-3	L1462226-3	L1462226-4			L1344535	L1382753-2	L1460096-1		
In Situ Parameters																
Conductivity µS/cm		65	46	0.23		49.2	43.6	24	24	202	1.34	209.00	183.7	100	144	0.78
Oxygen Dissolved %		75.5	96.2	79.6		88.2	98.4	93.9	93.9	86.5	20.3	23.60	25.2	48.7	95.9	126
Oxygen Dissolved		9.49	11.3	10.2		9.93	11.7	11.99	11.99	10.3	2.45	2.71	2.86	5.67	11.7	15.9
pH		7.87	6.75	7.86		7.42	7.56	7.34	7.34	8.4	8.04	8.04	7.76	7.55	7.81	6.5
Redox Potential mV		-64.4	-121	-239		127	142.7	-52	-52	180	24.9	147.00	121.1	-90.4	-16.5	-251
Salinity ppt		0.05	0.02	0.02		0.03	0.03	0.02	0.02	0.15	0.1	0.16	0.13	0.07	0.07	0.06
Specific Conductivity µS/cm		105	30	0.37		69	64.8	39	39	306	2.04	326.00	260.8	148	94	1.25
Temperature °C		4.87	6.96	4.68		9.3	7.4	4.51	4.51	3.23	6.98	8.80	9.4	7.6	6.72	5.37
Total Dissolved Solids		72	30	24		45	42.25	26	26	199	133	211.00	170.3	96	94	81
Turbidity NTU		2.91	31	11.5		32	12.13	8.42	8.42	29.9	15.8	7.65	4	8.03	44.9	5.77
Physical Tests																
Alkalinity (Total as CaCO3)	1 - 2	39	20	21	19.1	19	19.5	20.2	20.4	83	84	76.20	77	77	73	67
Bicarbonate Alkalinity	1 - 2	39	20	21	19.1	19	19.5	20.2	20.4	83	84	76.20	77	77	73	67
Carbonate Alkalinity	1 - 2	2	<2	<1	<2.0	<2	2	2	2	<2	<1	<2	2	1	<2	<1
Color TCU	5	5.00	<5	<5	<5.0	<5.0	5	5	5	<5	<5	<5.0	5.00	5.00	<5	<5
Conductivity µS/cm	2	105	42	38	39.4	39				220	204	163.00	161	154	128	126
Hardness as CaCO3 (Dissolved)	0.5	36	15	13	13.1	13				63	66	60.90	65	65	59	61
Total Dissolved Solids	10	70	57	43	37	43				169	122	107.00	103	100	116	85
Turbidity NTU	0.1	5.91	38.6	11.7	24.0	8.94	9.51	11.2	7.38	3.75	15.1	13.50	11.9	5.9	39.9	5.79
Chloride (Dissolved)	0.5	1	<0.5	<0.5	<0.50	<0.5	0.5	0.5	0.5	<0.5	<0.5	<0.5	1	1	<0.5	<0.5
Fluoride (Dissolved)	0.02	0.084	0.065	0.059	0.061	0.056	0.053	0.057	0.057	0.123	0.119	0.10	0.097	0.092	0.117	0.109
Sulphate (Dissolved)	0.5	12.20	1.16	0.83	0.75	0.72	0.68	1	1.11	35.40	24.20	9.63	7.51	5.47	4.52	3.00
Ammonia (Total)	0.005	0.0118	<0.005	<0.005	<0.0050	<0.005	0.005	0.005	0.005	0.02	0.03	0.01	0.0227	0.005	<0.005	0.01
Nitrate (as N)	0.005	0.09	0.04	0.06	0.0746	0.06	0.0547	0.0472	0.0454	0.04	0.06	0.10	0.14	0.11	<0.005	0.01
Nitrite (as N)	0.001	0.00	0.00	<0.001	<0.0010	<0.001	0.001	0.001	0.001	0.00	0.00	0.00	0.01	0.00	<0.001	<0.001
Nitrogen (Dissolved)	0.05 - 0.1	0.29	0.13	0.76	0.075	0.21	0.05	0.05	0.05	0.55	0.14	0.24	0.17	0.16	0.84	<0.05
Nitrogen (Total)	0.0025 - 0.05	0.16	<0.05	0.06	0.062	0.07	0.272	0.058	0.05	0.23	0.22	0.29	0.22	0.17	0.07	0.10
Nitrogen Kjeldahl (Total)	0.05	0.25	<0.05	<0.05	<0.050	<0.05	0.05	0.05	0.05	0.19	0.18	0.29	0.106	0.116	0.07	0.09
Phosphate (Total)	0.02	0.063			0.102	0.10	0.098	0.0922	0.0933			0.06	0.058	0.060		
Phosphorus Dissolved	0.002 - 0.02	0.06	0.10	0.10	0.122	0.15	0.116	0.0946	0.0942	0.05	0.05	0.06	0.06	0.07	0.04	0.05
Phosphorus Total	0.002 - 0.02	0.087	0.12	0.11	0.155	0.18	0.128	0.11	0.098	0.28	0.11	0.13	0.092	0.068	0.09	0.06
Cyanide																
Cyanide (Free)	0.005	0.005	<0.005	<0.005	<0.0050	<0.005	0.005	0.005	0.005	<0.005	<0.005	<0.005	0.005	0.005	<0.005	<0.005
Cyanide (Total)	0.005	0.005	<0.005	<0.005	<0.0050	<0.005	0.005	0.005	0.005	<0.005	<0.005	<0.005	0.005	0.005	<0.005	<0.005
Cyanide (WAD)	0.005	0.005	<0.005	<0.005	<0.0050	<0.005	0.005	0.005	0.005	<0.005	<0.005	<0.005	0.005	0.005	<0.005	<0.005
Thiocyante (SCN)	0.5		<0.5	<0.5	<0.50	<0.5	0.5	0.5	0.5	<0.5	<0.5				<0.5	<0.5
Dissolved Metals																
Aluminum (Dissolved)	0.001	0.009	0.0147	0.0051	0.0060	0.005	0.0032	0.0032	0.0031	0.0026	0.0031	0.93	0.0039	0.0037	0.0033	0.0036
Antimony (Dissolved)	0.0001	0.00065	0.00	<0.0001	<0.00010	<0.0001	0.0001	0.0001	0.0001	0.0002	0.0002	0.0003	0.00017	0.00014	0.0001	0.0001
Arsenic (Dissolved)	0.0001	0.002	0.001	0.001	0.00064	0.001	0.00074	0.00049	0.0005	0.0014	0.0015	0.0019	0.002	0.002	0.0010	0.0012
Barium (Dissolved)	0.00005	0.006	0.005	0.004	0.00420	0.004	0.00357	0.00352	0.00357	0.02	0.02	0.03	0.023	0.027	0.01	0.01
Beryllium (Dissolved)	0.0001	0.0001	<0.0001	<0.0001	<0.00010	<0.0001	0.0001	0.0001	0.0001	<0.0001	<0.0001	<0.00010	0.0001	0.0001	<0.0001	<0.0001
Bismuth (Dissolved)	0.0005	0.0005	<0.0005	<0.0005	<0.00050	<0.0005	0.0005	0.0005	0.0005	<0.0005	<0.0005	<0.00050	0.0005	0.0005	<0.0005	<0.0005
Boron (Dissolved)	0.01	0.01	<0.01	<0.01	<0.010	<0.01	0.01	0.01	0.01	<0.01	0.02	0.01	0.01	0.01	<0.01	<0.01
Cadmium (Dissolved)	0.00001	0.000056	0.000023	0.000019	0.000031	0.000025	0.000025	0.000032	0.000033	0.000067	0.000061	0.000324	0.000154	0.000193	0.000032	0.000080
Calcium (Dissolved)	0.05	11.20	4.52	4.04	3.99	3.90	3.94	4.52	4.64	18.50	19.50	17.70	18.80	18.90	17.20	17.90
Chromium (Dissolved)	0.0001	0.0001	0.0002	0.0002	0.00019	0.00043	0.00019	0.00026	0.00023	0.0013	0.0011	0.0044	0.001	0.00109	0.0002	0.0004
Cobalt (Dissolved)	0.0001	0.00010	0.00014	<0.0001	<0.00010	<0.0001	0.0001	0.0001	0.0001	<0.0001	0.00014	0.0005	0.00010	0.00010	0.00031	0.00028
Copper (Dissolved)	0.0002	0.00024	0.0004	<0.0002	0.00036	<0.0002	0.0002	0.0002	0.0002	0.0004	0.0005	0.0018	0.00040	0.00061	0.0004	0.0008
Iron (Dissolved)	0.01	0.01	<0.01	<0.01	<0.010	<0.01	0.01	0.01	0.01	<0.01	<0.01	0.87	0.01	0.01	<0.01	<0.01
Lead (Dissolved)	0.00005	0.00005	0.0041	<0.00005	<0.000050	<0.00005	0.00005	0.00005	0.00005	<0.00005	0.0001	0.0007	0.00005	0.00005	<0.00005	<0.00005
Lithium (Dissolved)	0.0005	0.00425	<0.0005	<0.0005	0.00094	<0.0005	0.0005	0.0005	0.0005	0.0008	0.0007	0.0007	0.0005	0.0005	0.0005	<0.0005
Magnesium (Dissolved)	0.1	1.90	0.87	0.81	0.76	0.78	0.82	1.02	1.05	4.15	4.29	4.42	4.31	4.34	3.81	4.00
Manganese (Dissolved)	0.00005	0.00454	0.02	0.01	0.00557	0.00429	0.00296	0.000929	0.000965	0.03	0.06	0.058	0.01690	0.00506	0.15	0.13
Mercury (Dissolved)	0.00001	0.00001	<0.00001	<0.00001	<0.000010	<0.00001	0.00001	0.00001	0.00001	<0.00001	<0.00001	<0.00001	0.00001	0.00001	<0.00001	<0.00001
Molybdenum (Dissolved)	0.00005	0.0051	0.00	0.00	0.000374	0.0004	0.000371	0.000267	0.000265	0.00	0.00	0.001	0.0010	0.0008	0.00	0.00
Nickel (Dissolved)	0.0005	0.00054	0.00096	0.00062	0.00055	<0.0005	0.0005	0.0005	0.0005	0.00111	0.00215	0.0039	0.00096	0.0007	0.00184	0.00168
Phosphorus (Metal) Dissolved	0.3	0.07	<0.3	<0.3	0.105	0.10	0.103	0.094	0.091	<0.3	<0.3	0.10	0.06	0.06	<0.3	<0.3
Potassium (Dissolved)	0.05	0.65	0.35	0.33	0.38	0.30	0.33	0.33	0.34	0.92	0.92	1.32	1.00	0.96	0.80	0.83
Selenium (Dissolved)	0.0001	0.00018	0.00	<0.0001	<0.00010	<0.0001	0.0001	0.0001	0.0001	0.00	0.00	0.0006	0.00056	0.00056	0.00	0.00
Silicon (Dissolved)	0.05	7.05	9.40	9.13	9.37	8.93	9.49	9.32	9.52	9.13	8.99	11.40	10.20	10.60	8.15	8.29
Silver (Dissolved)	0.00001	0.00001	<0.00001	<0.00001	<0.000010	<0.00001	0.00001	0.00001	0.00001	<0.00001	<0.00001	0.00004	0.00001	0.00001	<0.00001	<0.00001
Sodium (Dissolved)	0.05	7.72	2.88	2.76	2.85	3.00	2.96	3.09	3.07	23.20	16.00	9.12	8.90	8.02	5.29	4.64
Strontium (Dissolved)	0.0002	0.08	0.03	0.03	0.0300	0.03	0.0348	0.0435	0.0439	0.18	0.18	0.15	0.15	0.14	0.08	0.08
Thallium (Dissolved)	0.00001	0.00001	<0.00001	<0.00001	<0.000010	<0.00001	0.00001	0.00001	0.00001	<0.00001	<0.00001	0.000014	0.00001	0.00001	<0.00001	<0.00001
Tin (Dissolved)	0.0001	0.0001	0.01	<0.0001	<0.00010	<0.0001	0.0001	0.0001	0.0001	<0.0001	0.00	0.0004	0.0001	0.0001	<0.0001	<0.0001
Titanium (Dissolved)	0.01	0.01	<0.01	<0.01	<0.010	<0.01	0.01	0.01	0.01	<0.01	<0.01	0.05	0.01	0.01	<0.01	<0.01
Uranium (Dissolved)	0.00001	0.0013	0.00003	0.00002	0.000020	0.00002	0.00002	0.000022	0.000021	0.00112	0.00104	0.0007	0.0006	0.0005	0.00037	0.00036
Vanadium (Dissolved)	0.001	0.001	<0.001	<0.001	<0.0010	<0.001	0.001	0.001	0.001	0.00170	0.00130	0.003	0.0015	0.0018	<0.001	<0.001
Zinc (Dissolved)	0.001	0.00100	0.00270	0.00150	0.0036	0.00130	0.0025	0.0018	0.0022	<0.001	0.00220	0.03	0.00370	0.00470	<0.001	0.03250
Total Metals																
Aluminum (Total)	0.003	0.44	3.48	0.96	1.02	1.27	0.602	0.636	0.416	4.64	1.08	0.005	0.34	0.29	2.27	0.30
Antimony (Total)	0.0001	0.0008	0.0003	0.0002	0.00014	0.0002	0.00015	0.00014	0.00011	0.0003	0.0003	0.00016	0.0003	0.0002	0.0002	0.0001
Arsenic (Total)	0.0001	0.0019	0.002	0.001	0.00132	0.0012	0.00103	0.00081	0.0007	0.003	0.002	0.002	0.0019	0.0019	0.002	0.001
Barium (Total)	0.00005	0.0106	0.03	0.01	0.0125	0.01	0.00952	0.00943	0.00676	0.05	0.03	0.024	0.0254	0.0298	0.03	0.01
Beryllium (Total)	0.0001	0.0001	0.0002	<0.0001	<0.00010	<0.0001	0.0001	0.0001	0.0001	0.0002	<0.0001	<0.0001	0.0001	0.0001	<0.0001	<0.0001
Bismuth (Total)	0.0005	0.0005	<0.0005	<0.0005	<0.00050	<0.0005	0.0005	0.0005	0.0005	<0.0005	<0.0005	<0.0005	0.0005	0.0005	<0.0005	<0.0005
Boron (Total)	0.01	0.01	<0.01	<0.01	<0.010	<0.01	0.01	0.01	0.01	<0.01	0.02	<0.01	0.01	0.01	<0.01	<0.01
Cadmium (Total)	0.00001	0.000216	0.000126	0.000049	0.000067	0.000077	0.000052	0.000074	0.000053	0.00018	0.000116	0.000170	0.000268	0.000363	0.000059	0.000032
Calcium (Total)	0.05	11.50	4.95	4.24	4.11	4.18	4.04	4.66	4.64	20.80	20.30	17.60	18.40	17.90	17.30	17.00
Chromium (Total)	0.0001	0.0014	0.0024	0.0008	0.00095	0.0016	0.00093	0.00103	0.00092	0.0043	0.0030	0.0010	0.0019	0.0034	0.0019	0.0008
Cobalt (Total)	0.0001	0.0005	0.0010	0.0004	0.00043	0.0006	0.00035	0.00044	0.00025	0.0015	0.0004	<0.0001	0.0002	0.0002	0.0015	0.0005
Copper (Total)	0.0005 - 0.003	0.0011	<0.002	0.0008	0.00066	0.0008	0.0005	0.00059	0.0005	0.0040	0.0016	0.0009	0.0017	0.0011	0.0034	0.0008
Iron (Total)	0.01	0.41	2.30	0.61	0.823	1.03	0.493	0.561	0.349	3.53	0.73	<0.01	0.30	0.28	1.66	0.22
Lead (Total)	0.00005	0.0006	0.0082	0.0021	0.00259	0.0033	0.00145	0.00176	0.00102	0.0025	0.0008	<0.00005	0.0004	0.0006	0.0012	0.0002
Lithium (Total)	0.0005	0.00422	0.002	0.001	0.00136	0.001	0.0005	0.0005	0.0005	0.002	0.001	<0.00050	0.0007	0.0005	0.001	<0.0005

Site ID	Minimum Detection Limit	MW12-11-D	MW12-11S	MW12-11S	MW12-11S	MW12-11S	MW-12-11-S	MW12-11-S	MW12-11-S-dup	MW12-12D	MW12-12D	MW 12-12 D	MW12-12-D	MW 12-12 D	MW12-12S	MW12-12S
Date/Time Sampled		**28-MAY-14**	**20-Sep-12**	**5-Dec-12**	**4-Apr-13**	**25-Jul-13**	**18-OCT-13**	**28-MAY-14**	**28-MAY-14**	**21-Sep-12**	**12-Dec-12**	**7-Aug-13**	**22-OCT-13**	**23-MAY-14**	**21-Sep-12**	**2-Dec-12**
Magnesium (Total)	0.1	1.99	1.29	0.95	0.93	0.97	0.93	1.11	1.1	5.78	4.74	4.12	4.39	4.19	4.26	3.92
Manganese (Total)	0.00005	0.0507	0.0916	0.03	0.0336	0.0386	0.02	0.0244	0.0139	0.124	0.0815	0.011	0.0326	0.0237	0.232	0.154
Mercury (Total)	0.00001	0.00001	<0.00001	<0.00001	<0.000010	<0.00001	0.00001	0.00001	0.00001	0.00	<0.00001	<0.000010	0.00001	0.00001	<0.00001	<0.00001
Molybdenum (Total)	0.00005	0.00588	0.00058	0.00049	0.000511	0.00044	0.000492	0.000325	0.000302	0.00210	0.00207	0.0012	0.00109	0.00108	0.00171	0.00154
Nickel (Total)	0.0005	0.00173	0.0026	0.0011	0.00104	0.0013	0.00079	0.00092	0.00075	0.0043	0.0035	0.00	0.00166	0.00237	0.0035	0.0017
Phosphorus (Metal) Total	0.3	0.095	<0.3	<0.3	0.123	0.14	0.112	0.119	0.101	<0.3	<0.3	0.07	0.073	0.074	<0.3	<0.3
Potassium (Total)	0.05	0.76	1.03	0.52	0.61	0.66	0.58	0.52	0.46	1.73	1.13	1.00	1.16	0.97	1.31	0.85
Selenium (Total)	0.0001	0.00019	0.00017	<0.0001	<0.00010	<0.0001	0.0001	0.0001	0.0001	0.00082	0.00067	0.001	0.00053	0.00051	0.00046	0.00045
Silicon (Total)	0.05	8.0	16.5	11.3	11.3	11.5	11.1	10.7	10.2	34.0	12.6	9.42	10.5	10.7	13.2	8.7
Silver (Total)	0.00001	0.00008	0.00004	0.00001	0.000015	0.00002	0.000011	0.000022	0.000013	0.00002	0.00002	<0.000010	0.00002	0.00005	0.00005	<0.00001
Sodium (Total)	0.05	7.90	3.04	3.00	3.01	3.14	2.95	2.85	2.9	24.70	16.90	9.63	8.64	7.69	5.30	4.61
Strontium (Total)	0.0002	0.08	0.04	0.03	0.0356	0.04	0.0367	0.044	0.0427	0.21	0.20	0.15	0.14	0.14	0.09	0.08
Thallium (Total)	0.00001	0.00001	0.00008	0.00002	0.000027	0.00003	0.000018	0.000018	0.000012	0.00004	0.00001	<0.000010	0.00001	0.00001	0.00003	<0.00001
Tin (Total)	0.0001	0.0002	0.0002	0.0001	<0.00010	0.0001	0.0001	0.0001	0.0001	0.0007	0.0005	<0.0001	0.0002	0.0002	0.0002	<0.0001
Titanium (Total)	0.01	0.02	0.16	0.05	0.041	0.05	0.024	0.026	0.016	0.41	0.07	<0.01	0.01	0.01	0.08	0.01
Uranium (Total)	0.00001	0.0014	0.0003	0.0001	0.000110	0.0001	0.000082	0.000092	0.000064	0.0016	0.0012	0.0007	0.0007	0.0005	0.0005	0.0004
Vanadium (Total)	0.001	0.0018	0.0056	0.0022	0.0024	0.0028	0.0019	0.0018	0.0014	0.0082	0.0029	0.0014	0.0021	0.0023	0.0038	0.0013
Zinc (Total)	0.003	0.008	0.025	0.008	0.0096	0.012	0.0079	0.0074	0.0052	0.014	0.007	0.007	0.009	0.009	0.009	<0.003
Organics																
Carbon Organic (Dissolved)	0.5 - 2	1.09	0.98	<0.5	0.57	4.02	1.87	0.56	0.96	6.59	1.40	0.78	3.45	0.88	6.65	0.82
Carbon Organic (Total)	0.5	1.0	<0.5	0.6	<0.50	<0.5	0.65	0.56	0.5	2.3	1.6	2.72	1.0	0.8	1.0	0.6
Nitrogen Organic (Dissolved)	0.05 - 0.1	0.2	0.1	0.7	<0.050	0.2	0.053	0.052	0.079	0.5	<0.05	0.13	0.1	0.1	0.8	<0.05
Nitrogen Organic (Total)	0.05 - 0.06	0.05	<0.06	<0.06	<0.050	<0.05	0.213	0.05	0.05	0.17	0.12	0.18	0.05	0.05	0.07	0.08
Sulfur (S)-Dissolved		4.30			<0.50	<0.5	0.5	0.5	0.5			3.46	2.55	1.91		
Sulfur (S)-Total		4.18			<0.50	<0.5	0.5	0.5	0.5			3.08	2.53	1.82		
Cyanate		0.20			<0.20	<0.2	0.2	0.2	0.2			0.45	0.20	0.20		
Dissolved Metals Filtration Location					FIELD	FIELD	FIELD	FIELD	FIELD			FIELD				
NOTES:																
1. UNITS ARE IN mg/L UNLESS OTHERWISE STATED.																
Denotes exceedance of Drinking Water Quality Guidelines																

Site ID	Minimum Detection Limit	MW 12-12 S	MW12-12-S	MW12-12S	MW12-13S	MW12-13S	MW12-13S	MW12-13S	MW 12-13-S	MW12-13-S	PUMP TEST
Date/Time Sampled		**6-Aug-13**	**22-OCT-13**	**22-MAY-14**	**1-Oct-12**	**29-Nov-12**	**9-Apr-13**	**25-Jul-13**	**10-OCT-13**	**27-MAY-14**	**31-Jul-13**
LAB File No.		L1344535	L1382753-1	L1460096-2			L1288025	L1339164	L1377562-1	L1462226-1	L1342253
In Situ Parameters											
Conductivity µS/cm		159.60	145.8	83	80	55		77	86.7	35	
Oxygen Dissolved %		80.70	103.8	59.5	40.9	74.9		52	60	91.2	
Oxygen Dissolved		8.83	12.25	7.01	4.77	8.77		5.57	7.04	10.65	
pH		7.77	7.88	7.26	7.05	7.15		6.83	6.83	7.14	
Redox Potential mV		83.00	164.1	-102.8	-110	94.3		94.2	216.5	69.7	
Salinity ppt		0.11	0.1	0.06	0.04	0.04		0.05	0.06	0.02	
Specific Conductivity µS/cm		220.00	218.4	122	55	10.8		102.6	127.2	52	
Temperature °C		9.90	7.6	6.96	8.23	7.05		12.4	8.3	7.18	
Total Dissolved Solids		144.00	141.7	79	52	50		66.95	83.2	34	
Turbidity NTU		43.00	23.9	5.17	2.67	30		0.57	0.6	0.16	
Physical Tests											
Alkalinity (Total as CaCO3)	1 - 2	72.20	67.9	65.9	36	35	35.9	31	37.8	23.5	19
Bicarbonate Alkalinity	1 - 2	72.20	67.9	65.9	36	35	35.9	31	37.8	23.5	19
Carbonate Alkalinity	1 - 2	<2	2	1	<2	<1	<2.0	<2	2	2	<2
Color TCU	5	<5.0	5	5	<5	<5	<5.0	<5.0	5	5	<5.0
Conductivity µS/cm	2	131.00			72	72	79.6	60			88
Hardness as CaCO3 (Dissolved)	0.5	56.10			33	34	34.7	27			28
Total Dissolved Solids	10	92.00			52	46	44	48			70
Turbidity NTU	0.1	23.30	18.5	3.02	0.57	0.42	2.91	1.04	0.22	0.64	45.4
Chloride (Dissolved)	0.5	<0.5	0.5	0.5	<0.5	<0.5	<0.50	<0.5	0.5	0.5	<0.5
Fluoride (Dissolved)	0.02	0.10	0.095	0.1	0.022	0.021	0.022	0.022	0.023	0.026	0.138
Sulphate (Dissolved)	0.5	2.50	2.43	2.61	3.06	3.68	4.6	1.83	2.8	1.68	23.40
Ammonia (Total)	0.005	<0.005.0	0.005	0.005	<0.005	<0.005	<5.0	<0.005	0.005	0.005	0.008
Nitrate (as N)	0.005	0.03	0.0407	0.0324	0.04	0.06	0.096	0.01	0.0507	0.085	<0.005.0
Nitrite (as N)	0.001	<0.001	0.001	0.001	0.00	<0.001	<0.0010	<0.001	0.001	0.001	<0.001
Nitrogen (Dissolved)	0.05 - 0.1	0.06	0.05	0.05	0.86	0.76	0.134	0.13	0.347	0.533	<0.05
Nitrogen (Total)	0.0025 - 0.05	0.06	0.081	0.05	0.09	0.06	0.105	0.06	0.063	0.171	<0.05
Nitrogen Kjeldahl (Total)	0.05	0.07	0.05	0.056	0.05	<0.05	<0.05	<0.05	0.057	0.074	<0.05
Phosphate (Total)	0.02	0.06	0.0576	0.0575			0.0043	0.002	0.0039	0.0017	<0.001.0
Phosphorus Dissolved	0.002 - 0.02	0.05	0.0599	0.0619	0.003	0.004	0.0053	0.01	0.0037	0.0035	<0.002
Phosphorus Total	0.002 - 0.02	0.09	0.0899	0.077	0.01	0.004	0.0067	0.005	0.0039	0.0048	0.158
Cyanide											
Cyanide (Free)	0.005	<0.005	0.005	0.005	<0.005	<0.005	<0.0050	<0.005	0.005	0.005	<0.005
Cyanide (Total)	0.005	<0.005	0.005	0.005	<0.005	<0.005	<0.0050	<0.005	0.005	0.005	<0.005
Cyanide (WAD)	0.005	<0.005	0.005	0.005	<0.005	<0.005	<0.0050	<0.005	0.005	0.005	<0.005
Thiocyante (SCN)	0.5		0.5	0.5	<0.5	<0.5	<0.50	<0.5	0.5	0.5	
Dissolved Metals											
Aluminum (Dissolved)	0.001	1.77	0.0034	0.0026	0.0027	0.0017	0.0013	0.0042	0.01	0.0061	0.004
Antimony (Dissolved)	0.0001	0.0003	0.0001	0.0001	0.0001	0.0001	<0.00010	0.00013	0.0005	0.00013	0.00051
Arsenic (Dissolved)	0.0001	0.0024	0.00133	0.00136	0.0008	0.0006	0.00057	0.001	0.001	0.00079	0.012
Barium (Dissolved)	0.00005	0.03	0.0077	0.00758	0.004	0.003	0.00274	0.002	0.02	0.0017	0.008
Beryllium (Dissolved)	0.0001	<0.00010	0.0001	0.0001	<0.0001	<0.0001	<0.00010	<0.0001	0.005	0.0001	<0.00010
Bismuth (Dissolved)	0.0005	<0.00050	0.0005	0.0005	<0.0005	<0.0005	<0.00050	<0.0005		0.0005	<0.00050
Boron (Dissolved)	0.01	<0.01	0.01	0.01	<0.01	<0.01	<0.010	<0.01	0.1	0.01	<0.01
Cadmium (Dissolved)	0.00001	0.000267	0.000015	0.000031	0.000022	<0.00001	0.000011	<0.00001	0.00005	0.000016	<0.00001
Calcium (Dissolved)	0.05	16.70	17.6	16.8	10.10	10.20	10.5	8.03	10.8	5.97	8.72
Chromium (Dissolved)	0.0001	0.0037	0.00033	0.00036	<0.0001	<0.0001	<0.00010	<0.0001	0.0005	0.0001	<0.0001
Cobalt (Dissolved)	0.0001	0.0032	0.0001	0.0001	<0.0001	<0.0001	<0.00010	<0.0001	0.0005	0.0001	<0.0001
Copper (Dissolved)	0.0002	0.0035	0.0002	0.00029	<0.0002	0.0002	0.00034	0.00032	0.001	0.00042	<0.00050
Iron (Dissolved)	0.01	1.61	0.01	0.01	<0.01	<0.01	<0.010	<0.01	0.03	0.01	9.04
Lead (Dissolved)	0.00005	0.0011	0.00005	0.00005	<0.00005	<0.00005	<0.000050	<0.00005	0.001	0.00005	0.00007
Lithium (Dissolved)	0.0005	0.0011	0.0005	0.0005	0.0007	<0.0005	<0.00050	<0.0005	0.05	0.0005	0.00628
Magnesium (Dissolved)	0.1	4.39	4	3.55	1.89	2.00	2.07	1.56	2.13	1.16	1.66
Manganese (Dissolved)	0.00005	0.788	0.000412	0.00037	0.00	0.00	0.000293	0.00036	0.01	0.000247	0.95600
Mercury (Dissolved)	0.00001	<0.00001	0.00001	0.00001	<0.00001	<0.00001	<0.000010	<0.00001	0.00001	0.00001	<0.00001
Molybdenum (Dissolved)	0.00005	0.002	0.00117	0.00129	0.00	0.00	0.00118	0.0016	0.0013	0.00169	0.0004
Nickel (Dissolved)	0.0005	0.0061	0.0005	0.0005	<0.0005	<0.0005	<0.00050	<0.0005	0.005	0.0005	<0.00050
Phosphorus (Metal) Dissolved	0.3	0.10	0.055	0.051	<0.3	<0.3	<0.050	<50		0.05	0.16
Potassium (Dissolved)	0.05	1.30	0.84	0.79	0.30	0.29	0.34	0.23		0.18	2.16
Selenium (Dissolved)	0.0001	0.0003	0.00035	0.00027	<0.0001	<0.0001	<0.00010	<0.0001	0.001	0.0001	<0.0001
Silicon (Dissolved)	0.05	11.50	8.46	8.9	5.19	4.91	4.55	4.87		3.94	8.82
Silver (Dissolved)	0.00001	0.00004	0.00001	0.00001	<0.00001	<0.00001	<0.000010	<0.00001	0.00005	0.00001	<0.0000010
Sodium (Dissolved)	0.05	4.32	4.16	5.22	2.33	2.28	2.59	2.08	2.5	1.81	2.02
Strontium (Dissolved)	0.0002	0.08	0.0815	0.0757	0.06	0.06	0.0603	0.05		0.0393	0.04
Thallium (Dissolved)	0.00001	0.000059	0.00001	0.00001	<0.00001	<0.00001	<0.000010	<0.00001	0.0002	0.00001	<0.000010
Tin (Dissolved)	0.0001	0.0003	0.0001	0.0001	<0.0001	<0.0001	<0.00010	<0.0001		0.0001	<0.0001
Titanium (Dissolved)	0.01	0.06	0.01	0.01	<0.01	<0.01	<0.010	<0.01	0.05	0.01	<0.01
Uranium (Dissolved)	0.00001	0.0004	0.000271	0.000203	0.00047	0.00040	0.000387	0.0004	0.00043	0.000374	0.0002
Vanadium (Dissolved)	0.001	0.004	0.001	0.001	<0.001	<0.001	<0.0010	<0.001	0.03	0.001	<0.001
Zinc (Dissolved)	0.001	0.01	0.0016	0.002	<0.001	<0.001	<0.0010	0.00110	0.005	0.0013	0.02510
Total Metals											
Aluminum (Total)	0.003	0.003	1.36	0.0999	0.03	0.03	0.174	0.03	0.01	0.0357	0.00
Antimony (Total)	0.0001	<0.0001	0.00024	0.0001	0.0001	0.0001	0.0001	0.0001	0.0005	0.00012	0.0005
Arsenic (Total)	0.0001	0.001	0.0021	0.0014	0.001	0.001	0.00071	0.0009	0.001	0.00087	0.0123
Barium (Total)	0.00005	0.006	0.0251	0.00845	0.004	0.003	0.00325	0.0023	0.02	0.00202	0.0084
Beryllium (Total)	0.0001	<0.0001	0.0001	0.0001	<0.0001	<0.0001	<0.00010	<0.0001	0.005	0.0001	<0.0001
Bismuth (Total)	0.0005	<0.0005	0.0005	0.0005	<0.0005	<0.0005	<0.00050	<0.0005		0.0005	<0.0005
Boron (Total)	0.01	<0.01	0.01	0.01	<0.01	<0.01	<0.010	<0.01	0.1	0.01	<0.01
Cadmium (Total)	0.00001	0.000016	0.000371	0.000109	0.000028	<0.00001	0.000016	<0.00001	0.00005	0.000012	<0.000010
Calcium (Total)	0.05	16.20	17.9	16.1	10.50	10.10	10.5	8.19	10.8	6.94	8.62
Chromium (Total)	0.0001	0.0003	0.00261	0.00072	0.0003	0.0001	0.00022	0.0003	0.0005	0.0008	<0.0001
Cobalt (Total)	0.0001	<0.0001	0.00207	0.0002	<0.0001	<0.0001	<0.00010	<0.0001	0.0005	0.0001	<0.0001
Copper (Total)	0.0005 - 0.003	0.0003	0.00403	0.0005	0.0009	<0.0005	0.00073	0.0006	0.001	0.00055	<0.00020
Iron (Total)	0.01	<0.01	1.34	0.108	0.02	0.013	0.072	0.02	0.03	0.034	8.82
Lead (Total)	0.00005	<0.00005	0.0009	0.000152	<0.00005	<0.00005	0.000117	<0.00005	0.001	0.00007	<0.00005
Lithium (Total)	0.0005	<0.00050	0.00099	0.0005	0.001	<0.0005	<0.00050	<0.0005	0.05	0.0005	0.00591

Site ID	Minimum Detection Limit	MW 12-12 S	MW12-12-S	MW12-12S	MW12-13S	MW12-13S	MW12-13S	MW12-13S	MW 12-13-S	MW12-13-S	PUMP TEST
Date/Time Sampled		**6-Aug-13**	**22-OCT-13**	**22-MAY-14**	**1-Oct-12**	**29-Nov-12**	**9-Apr-13**	**25-Jul-13**	**10-OCT-13**	**27-MAY-14**	**31-Jul-13**
Magnesium (Total)	0.1	3.83	4.38	3.44	1.95	2.00	2.13	1.61	2.13	1.36	1.63
Manganese (Total)	0.00005	0.001	0.453	0.0339	0.00233	0.00102	0.00632	0.00185	0.01	0.000981	0.935
Mercury (Total)	0.00001	<0.000010	0.00001	0.00001	<0.00001	<0.00001	<0.000010	<0.00001	0.00001	0.00001	<0.000010
Molybdenum (Total)	0.00005	0.0013	0.00142	0.00115	0.00168	0.00134	0.00129	0.00174	0.0015	0.00192	0.00040
Nickel (Total)	0.0005	<0.0005	0.00457	0.00085	<0.0005	0.0005	<0.00050	<0.0005	0.005	0.00075	<0.0005
Phosphorus (Metal) Total	0.3	0.06	0.091	0.068	<0.3	<0.3	<0.050	<0.05		0.05	0.153
Potassium (Total)	0.05	0.80	1.24	0.79	0.32	0.29	0.36	0.26		0.22	2.08
Selenium (Total)	0.0001	0.000	0.00034	0.00026	<0.0001	<0.0001	<0.00010	<0.0001	0.001	0.0001	<0.00010
Silicon (Total)	0.05	7.94	11.1	8.71	5.4	4.9	5.12	5.0		4.61	8.8
Silver (Total)	0.00001	<0.000010	0.000037	0.000011	<0.00001	<0.00001	<0.000010	<0.00001	0.00005	0.00001	<0.000010
Sodium (Total)	0.05	3.61	4.29	5.24	2.41	2.28	2.58	2.14	2.5	1.82	2.07
Strontium (Total)	0.0002	0.08	0.087	0.0768	0.07	0.06	0.0651	0.05		0.0413	0.04
Thallium (Total)	0.00001	<0.000010	0.000045	0.00001	<0.00001	<0.00001	<0.000010	<0.00001	0.0002	0.00001	<0.000010
Tin (Total)	0.0001	<0.0001	0.00022	0.0001	<0.0001	<0.0001	<0.00010	<0.0001		0.0001	<0.0001
Titanium (Total)	0.01	<0.01	0.052	0.01	<0.01	<0.01	<0.010	<0.01	0.05	0.01	<0.01
Uranium (Total)	0.00001	0.0003	0.000358	0.000207	0.0005	0.0004	0.000465	0.0005	0.00049	0.000436	0.0002
Vanadium (Total)	0.001	<0.001	0.0034	0.0011	<0.001	<0.001	<0.0010	<0.001	0.03	0.001	<0.001
Zinc (Total)	0.003	<0.001	0.0102	0.003	<0.003	<0.003	<0.0030	<0.003	0.005	0.003	0.024
Organics											
Carbon Organic (Dissolved)	0.5 - 2	3.13	1.9	2.23	7.37	5.86	2.05	6.56	2.76	5.53	1.38
Carbon Organic (Total)	0.5	1.03	0.59	0.5	1.0	1.1	0.84	2.2	0.85	2.87	1.1
Nitrogen Organic (Dissolved)	0.05 - 0.1	<0.05	0.051	0.056	0.8	0.7	<0.050	0.1	0.399	0.619	<0.05
Nitrogen Organic (Total)	0.05 - 0.06	<0.05	0.05	0.05	<0.06	<0.06	<0.050	<0.05	0.05	0.085	<0.05
Sulfur (S)-Dissolved		0.98	0.86	0.9			1.62	0.67		0.66	7.62
Sulfur (S)-Total		0.95	0.91	0.95			1.68	0.71		0.67	7.73
Cyanate		<0.2	0.2	0.2			<0.20	1.41	0.2	0.2	<0.2
Dissolved Metals Filtration Location		FIELD	FIELD	FIELD			FIELD	FIELD	FIELD	FIELD	FIELD
NOTES:											
1. UNITS ARE IN mg/L UNLESS OTHERWISE STATED.											
Denotes exceedance of Drinking Water Quality Guidelines											